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# Modeling the distributions of marine birds at sea to inform planning of energy development on the US Atlantic Outer Continental Shelf

**U.S. Department of the Interior**
**Bureau of Ocean Energy Management**
**Office of Renewable Energy Programs**
**Sterling, VA**

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# DISCLAIMER

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# ABOUT THE COVER

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# Contents

**List of Figures** ..... **iv**

**List of Tables** ..... **xv**

**List of Abbreviations and Acronyms** ..... **xviii**

**1 Introduction** ..... **1**

**2 Methods** ..... **2**

2.1 Overview ..... 2
2.2 Marine bird data ..... 2
2.3 Species modeled ..... 4
2.4 Historical and future environmental conditions ..... 4
2.4.1 Retrospective model ..... 4
2.4.2 Model projections ..... 5
2.4.3 Static data ..... 6
2.5 Modeling framework ..... 6
2.5.1 Sampling environmental conditions to match bird data ..... 6
2.5.2 Statistical model ..... 7
2.5.3 Map prediction ..... 8
2.5.4 Uncertainty ..... 8
2.5.5 Model fit ..... 9
2.5.6 Model selection ..... 9
2.5.7 Implementation ..... 10
2.6 Comparison of retrospective and future map predictions ..... 10
2.7 Expert review of retrospective maps ..... 11
2.8 Predicted proportional abundance by BOEM wind energy planning and lease areas ..... 11

**3 Results** ..... **12**

3.1 Model fit ..... 12
3.2 Model selection ..... 12
3.3 Environmental variables ..... 13
3.4 Retrospective model predictions ..... 13
3.4.1 Spatial and seasonal patterns ..... 13
3.4.2 Uncertainty ..... 17
3.4.3 Questionable predictions ..... 17
3.4.4 Proportional abundance by BOEM wind energy planning and lease areas ..... 18
3.5 Future model predictions ..... 19
3.5.1 Spatial and seasonal patterns ..... 19
3.5.2 Questionable predictions ..... 20

**4 Discussion** ..... **20**

4.1 Interpretation of model predictions ..... 20
4.2 Combining model predictions ..... 21
4.3 Environmental variables ..... 22
4.4 Retrospective model predictions ..... 23
4.4.1 Other species distribution models ..... 24
4.4.2 Colony-centered foraging range analyses ..... 24
4.4.3 Tracking studies ..... 24
4.5 Future model predictions ..... 26
4.6 Conclusion ..... 27

**5 References** ..... **28**

**Appendix A: Spatial distribution of survey effort by dataset group** ..... **56**
**Appendix B: Monthly climatologies of environmental variables** ..... **63**
**Appendix C: Observed density** ..... **71**
**Appendix D: Retrospective predicted density** ..... **120**
**Appendix E: Coefficient of variation of retrospective predicted density** ..... **169**
**Appendix F: Future predicted density** ..... **218**
**Appendix G: Difference between retrospective and future predicted density** ..... **267**
**Appendix H: Predicted proportional abundance by BOEM wind energy planning and lease areas** ..... **316**

## List of Figures

Figure 1. Study area with BOEM wind energy areas (boundaries as of July 2023) ..... 46
Figure 2. Segmentation of survey data ..... 47
Figure 3. Annual distribution of survey effort ..... 48
Figure 4. Monthly distribution of survey effort ..... 49
Figure 5. Spatial distribution of survey effort ($km^2$) by month ..... 50
Figure 6. Spatial distribution of survey effort ($km^2$) by survey platform type ..... 51
Figure 7. Pairwise Spearman rank correlation coefficients for sampled environmental variables ..... 52
Figure 8. Environmental variables in best models ..... 53
Figure 9. Annual average predicted density of Common Eider during the retrospective period (1993–2019) ..... 54
Figure 10. Annual average predicted distribution for all modeled species combined during the retrospective period (1993–2019) ..... 55
Figure A-1. Spatial distribution of survey effort ($km^2$) by dataset group ..... 56
Figure B-1. Monthly climatologies of sea surface temperature (°C) ..... 63
Figure B-2. Monthly climatologies of sea surface salinity (psu) ..... 64
Figure B-3. Monthly climatologies of sea surface current magnitude (m/s) ..... 65
Figure B-4. Monthly climatologies of sea surface current direction (°) ..... 66
Figure B-5. Monthly climatologies of sea surface height (m) ..... 67
Figure B-6. Monthly climatologies of ocean mixed layer depth (m) ..... 68
Figure B-7. Monthly climatologies of sea surface wind speed (m/s) ..... 69
Figure B-8. Static environmental variables: depth (m) and slope (% rise) ..... 70
Figure C-1. Observed density (number of birds per $km^2$) of Common Eider by month ..... 71
Figure C-2. Observed density (number of birds per $km^2$) of Surf Scoter by month ..... 72
Figure C-3. Observed density (number of birds per $km^2$) of White-winged Scoter by month ..... 73
Figure C-4. Observed density (number of birds per $km^2$) of Black Scoter by month ..... 74
Figure C-5. Observed density (number of birds per $km^2$) of Long-tailed Duck by month ..... 75
Figure C-6. Observed density (number of birds per $km^2$) of Red-breasted Merganser by month ..... 76
Figure C-7. Observed density (number of birds per $km^2$) of Horned Grebe by month ..... 77
Figure C-8. Observed density (number of birds per $km^2$) of Red-necked Phalarope by month ..... 78
Figure C-9. Observed density (number of birds per $km^2$) of Red Phalarope by month ..... 79
Figure C-10. Observed density (number of birds per $km^2$) of Great Skua by month ..... 80
Figure C-11. Observed density (number of birds per $km^2$) of South Polar Skua by month ..... 81
Figure C-12. Observed density (number of birds per $km^2$) of Pomarine Jaeger by month ..... 82
Figure C-13. Observed density (number of birds per $km^2$) of Parasitic Jaeger by month ..... 83
Figure C-14. Observed density (number of birds per $km^2$) of Dovekie by month ..... 84
Figure C-15. Observed density (number of birds per $km^2$) of Common Murre by month ..... 85

Figure C-16. Observed density (number of birds per km$^2$) of Thick-billed Murre by month ..... 86
Figure C-17. Observed density (number of birds per km$^2$) of Razorbill by month ..... 87
Figure C-18. Observed density (number of birds per km$^2$) of Black Guillemot by month ..... 88
Figure C-19. Observed density (number of birds per km$^2$) of Atlantic Puffin by month ..... 89
Figure C-20. Observed density (number of birds per km$^2$) of Black-legged Kittiwake by month ..... 90
Figure C-21. Observed density (number of birds per km$^2$) of Bonaparte's Gull by month ..... 91
Figure C-22. Observed density (number of birds per km$^2$) of Laughing Gull by month ..... 92
Figure C-23. Observed density (number of birds per km$^2$) of Ring-billed Gull by month ..... 93
Figure C-24. Observed density (number of birds per km$^2$) of Herring Gull by month ..... 94
Figure C-25. Observed density (number of birds per km$^2$) of Lesser Black-backed Gull by month ..... 95
Figure C-26. Observed density (number of birds per km$^2$) of Great Black-backed Gull by month ..... 96
Figure C-27. Observed density (number of birds per km$^2$) of Sooty Tern by month ..... 97
Figure C-28. Observed density (number of birds per km$^2$) of Least Tern by month ..... 98
Figure C-29. Observed density (number of birds per km$^2$) of Black Tern by month ..... 99
Figure C-30. Observed density (number of birds per km$^2$) of Roseate Tern by month ..... 100
Figure C-31. Observed density (number of birds per km$^2$) of Common Tern by month ..... 101
Figure C-32. Observed density (number of birds per km$^2$) of Arctic Tern by month ..... 102
Figure C-33. Observed density (number of birds per km$^2$) of Forster's Tern by month ..... 103
Figure C-34. Observed density (number of birds per km$^2$) of Royal Tern by month ..... 104
Figure C-35. Observed density (number of birds per km$^2$) of Red-throated Loon by month ..... 105
Figure C-36. Observed density (number of birds per km$^2$) of Common Loon by month ..... 106
Figure C-37. Observed density (number of birds per km$^2$) of Wilson's Storm-Petrel by month ..... 107
Figure C-38. Observed density (number of birds per km$^2$) of Leach's Storm-Petrel by month ..... 108
Figure C-39. Observed density (number of birds per km$^2$) of Band-rumped Storm-Petrel by month ..... 109
Figure C-40. Observed density (number of birds per km$^2$) of Northern Fulmar by month ..... 110
Figure C-41. Observed density (number of birds per km$^2$) of Black-capped Petrel by month ..... 111
Figure C-42. Observed density (number of birds per km$^2$) of Cory's Shearwater by month ..... 112
Figure C-43. Observed density (number of birds per km$^2$) of Sooty Shearwater by month ..... 113
Figure C-44. Observed density (number of birds per km$^2$) of Great Shearwater by month ..... 114
Figure C-45. Observed density (number of birds per km$^2$) of Manx Shearwater by month ..... 115
Figure C-46. Observed density (number of birds per km$^2$) of Audubon's Shearwater by month ..... 116
Figure C-47. Observed density (number of birds per km$^2$) of Northern Gannet by month ..... 117
Figure C-48. Observed density (number of birds per km$^2$) of Double-crested Cormorant by month ..... 118
Figure C-49. Observed density (number of birds per km$^2$) of Brown Pelican by month ..... 119
Figure D-1. Average predicted density of Common Eider by month during the retrospective period (1993–2019) ..... 120
Figure D-2. Average predicted density of Surf Scoter by month during the retrospective period (1993–2019) ..... 121

Figure D-3. Average predicted density of White-winged Scoter by month during the retrospective period (1993–2019) ..... 122
Figure D-4. Average predicted density of Black Scoter by month during the retrospective period (1993–2019) ..... 123
Figure D-5. Average predicted density of Long-tailed Duck by month during the retrospective period (1993–2019) ..... 124
Figure D-6. Average predicted density of Red-breasted Merganser by month during the retrospective period (1993–2019) ..... 125
Figure D-7. Average predicted density of Horned Grebe by month during the retrospective period (1993–2019) ..... 126
Figure D-8. Average predicted density of Red-necked Phalarope by month during the retrospective period (1993–2019) ..... 127
Figure D-9. Average predicted density of Red Phalarope by month during the retrospective period (1993–2019) ..... 128
Figure D-10. Average predicted density of Great Skua by month during the retrospective period (1993–2019) ..... 129
Figure D-11. Average predicted density of South Polar Skua by month during the retrospective period (1993–2019) ..... 130
Figure D-12. Average predicted density of Pomarine Jaeger by month during the retrospective period (1993–2019) ..... 131
Figure D-13. Average predicted density of Parasitic Jaeger by month during the retrospective period (1993–2019) ..... 132
Figure D-14. Average predicted density of Dovekie by month during the retrospective period (1993–2019) ..... 133
Figure D-15. Average predicted density of Common Murre by month during the retrospective period (1993–2019) ..... 134
Figure D-16. Average predicted density of Thick-billed Murre by month during the retrospective period (1993–2019) ..... 135
Figure D-17. Average predicted density of Razorbill by month during the retrospective period (1993–2019) ..... 136
Figure D-18. Average predicted density of Black Guillemot by month during the retrospective period (1993–2019) ..... 137
Figure D-19. Average predicted density of Atlantic Puffin by month during the retrospective period (1993–2019) ..... 138
Figure D-20. Average predicted density of Black-legged Kittiwake by month during the retrospective period (1993–2019) ..... 139
Figure D-21. Average predicted density of Bonaparte's Gull by month during the retrospective period (1993–2019) ..... 140
Figure D-22. Average predicted density of Laughing Gull by month during the retrospective period (1993–2019) ..... 141
Figure D-23. Average predicted density of Ring-billed Gull by month during the retrospective period (1993–2019) ..... 142
Figure D-24. Average predicted density of Herring Gull by month during the retrospective period (1993–2019) ..... 143

Figure D-25. Average predicted density of Lesser Black-backed Gull by month during the retrospective period (1993–2019) ..... 144
Figure D-26. Average predicted density of Great Black-backed Gull by month during the retrospective period (1993–2019) ..... 145
Figure D-27. Average predicted density of Sooty Tern by month during the retrospective period (1993–2019) ..... 146
Figure D-28. Average predicted density of Least Tern by month during the retrospective period (1993–2019) ..... 147
Figure D-29. Average predicted density of Black Tern by month during the retrospective period (1993–2019) ..... 148
Figure D-30. Average predicted density of Roseate Tern by month during the retrospective period (1993–2019) ..... 149
Figure D-31. Average predicted density of Common Tern by month during the retrospective period (1993–2019) ..... 150
Figure D-32. Average predicted density of Arctic Tern by month during the retrospective period (1993–2019) ..... 151
Figure D-33. Average predicted density of Forster's Tern by month during the retrospective period (1993–2019) ..... 152
Figure D-34. Average predicted density of Royal Tern by month during the retrospective period (1993–2019) ..... 153
Figure D-35. Average predicted density of Red-throated Loon by month during the retrospective period (1993–2019) ..... 154
Figure D-36. Average predicted density of Common Loon by month during the retrospective period (1993–2019) ..... 155
Figure D-37. Average predicted density of Wilson's Storm-Petrel by month during the retrospective period (1993–2019) ..... 156
Figure D-38. Average predicted density of Leach's Storm-Petrel by month during the retrospective period (1993–2019) ..... 157
Figure D-39. Average predicted density of Band-rumped Storm-Petrel by month during the retrospective period (1993–2019) ..... 158
Figure D-40. Average predicted density of Northern Fulmar by month during the retrospective period (1993–2019) ..... 159
Figure D-41. Average predicted density of Black-capped Petrel by month during the retrospective period (1993–2019) ..... 160
Figure D-42. Average predicted density of Cory's Shearwater by month during the retrospective period (1993–2019) ..... 161
Figure D-43. Average predicted density of Sooty Shearwater by month during the retrospective period (1993–2019) ..... 162
Figure D-44. Average predicted density of Great Shearwater by month during the retrospective period (1993–2019) ..... 163
Figure D-45. Average predicted density of Manx Shearwater by month during the retrospective period (1993–2019) ..... 164
Figure D-46. Average predicted density of Audubon's Shearwater by month during the retrospective period (1993–2019) ..... 165

Figure D-47. Average predicted density of Northern Gannet by month during the retrospective period (1993–2019) ..... 166

Figure D-48. Average predicted density of Double-crested Cormorant by month during the retrospective period (1993–2019) ..... 167

Figure D-49. Average predicted density of Brown Pelican by month during the retrospective period (1993–2019) ..... 168

Figure E-1. Bootstrapped coefficient of variation of average predicted density of Common Eider by month during the retrospective period (1993–2019) ..... 169

Figure E-2. Bootstrapped coefficient of variation of average predicted density of Surf Scoter by month during the retrospective period (1993–2019) ..... 170

Figure E-3. Bootstrapped coefficient of variation of average predicted density of White-winged Scoter by month during the retrospective period (1993–2019) ..... 171

Figure E-4. Bootstrapped coefficient of variation of average predicted density of Black Scoter by month during the retrospective period (1993–2019) ..... 172

Figure E-5. Bootstrapped coefficient of variation of average predicted density of Long-tailed Duck by month during the retrospective period (1993–2019) ..... 173

Figure E-6. Bootstrapped coefficient of variation of average predicted density of Red-breasted Merganser by month during the retrospective period (1993–2019) ..... 174

Figure E-7. Bootstrapped coefficient of variation of average predicted density of Horned Grebe by month during the retrospective period (1993–2019) ..... 175

Figure E-8. Bootstrapped coefficient of variation of average predicted density of Red-necked Phalarope by month during the retrospective period (1993–2019) ..... 176

Figure E-9. Bootstrapped coefficient of variation of average predicted density of Red Phalarope by month during the retrospective period (1993–2019) ..... 177

Figure E-10. Bootstrapped coefficient of variation of average predicted density of Great Skua by month during the retrospective period (1993–2019) ..... 178

Figure E-11. Bootstrapped coefficient of variation of average predicted density of South Polar Skua by month during the retrospective period (1993–2019) ..... 179

Figure E-12. Bootstrapped coefficient of variation of average predicted density of Pomarine Jaeger by month during the retrospective period (1993–2019) ..... 180

Figure E-13. Bootstrapped coefficient of variation of average predicted density of Parasitic Jaeger by month during the retrospective period (1993–2019) ..... 181

Figure E-14. Bootstrapped coefficient of variation of average predicted density of Dovekie by month during the retrospective period (1993–2019) ..... 182

Figure E-15. Bootstrapped coefficient of variation of average predicted density of Common Murre by month during the retrospective period (1993–2019) ..... 183

Figure E-16. Bootstrapped coefficient of variation of average predicted density of Thick-billed Murre by month during the retrospective period (1993–2019) ..... 184

Figure E-17. Bootstrapped coefficient of variation of average predicted density of Razorbill by month during the retrospective period (1993–2019) ..... 185

Figure E-18. Bootstrapped coefficient of variation of average predicted density of Black Guillemot by month during the retrospective period (1993–2019) ..... 186

Figure E-19. Bootstrapped coefficient of variation of average predicted density of Atlantic Puffin by month during the retrospective period (1993–2019) ..... 187

Figure E-20. Bootstrapped coefficient of variation of average predicted density of Black-legged Kittiwake by month during the retrospective period (1993–2019) ..... 188
Figure E-21. Bootstrapped coefficient of variation of average predicted density of Bonaparte's Gull by month during the retrospective period (1993–2019) ..... 189
Figure E-22. Bootstrapped coefficient of variation of average predicted density of Laughing Gull by month during the retrospective period (1993–2019) ..... 190
Figure E-23. Bootstrapped coefficient of variation of average predicted density of Ring-billed Gull by month during the retrospective period (1993–2019) ..... 191
Figure E-24. Bootstrapped coefficient of variation of average predicted density of Herring Gull by month during the retrospective period (1993–2019) ..... 192
Figure E-25. Bootstrapped coefficient of variation of average predicted density of Lesser Black-backed Gull by month during the retrospective period (1993–2019) ..... 193
Figure E-26. Bootstrapped coefficient of variation of average predicted density of Great Black-backed Gull by month during the retrospective period (1993–2019) ..... 194
Figure E-27. Bootstrapped coefficient of variation of average predicted density of Sooty Tern by month during the retrospective period (1993–2019) ..... 195
Figure E-28. Bootstrapped coefficient of variation of average predicted density of Least Tern by month during the retrospective period (1993–2019) ..... 196
Figure E-29. Bootstrapped coefficient of variation of average predicted density of Black Tern by month during the retrospective period (1993–2019) ..... 197
Figure E-30. Bootstrapped coefficient of variation of average predicted density of Roseate Tern by month during the retrospective period (1993–2019) ..... 198
Figure E-31. Bootstrapped coefficient of variation of average predicted density of Common Tern by month during the retrospective period (1993–2019) ..... 199
Figure E-32. Bootstrapped coefficient of variation of average predicted density of Arctic Tern by month during the retrospective period (1993–2019) ..... 200
Figure E-33. Bootstrapped coefficient of variation of average predicted density of Forster's Tern by month during the retrospective period (1993–2019) ..... 201
Figure E-34. Bootstrapped coefficient of variation of average predicted density of Royal Tern by month during the retrospective period (1993–2019) ..... 202
Figure E-35. Bootstrapped coefficient of variation of average predicted density of Red-throated Loon by month during the retrospective period (1993–2019) ..... 203
Figure E-36. Bootstrapped coefficient of variation of average predicted density of Common Loon by month during the retrospective period (1993–2019) ..... 204
Figure E-37. Bootstrapped coefficient of variation of average predicted density of Wilson's Storm-Petrel by month during the retrospective period (1993–2019) ..... 205
Figure E-38. Bootstrapped coefficient of variation of average predicted density of Leach's Storm-Petrel by month during the retrospective period (1993–2019) ..... 206
Figure E-39. Bootstrapped coefficient of variation of average predicted density of Band-rumped Storm-Petrel by month during the retrospective period (1993–2019) ..... 207
Figure E-40. Bootstrapped coefficient of variation of average predicted density of Northern Fulmar by month during the retrospective period (1993–2019) ..... 208
Figure E-41. Bootstrapped coefficient of variation of average predicted density of Black-capped Petrel by month during the retrospective period (1993–2019) ..... 209

Figure E-42. Bootstrapped coefficient of variation of average predicted density of Cory's Shearwater by month during the retrospective period (1993–2019) ..... 210
Figure E-43. Bootstrapped coefficient of variation of average predicted density of Sooty Shearwater by month during the retrospective period (1993–2019) ..... 211
Figure E-44. Bootstrapped coefficient of variation of average predicted density of Great Shearwater by month during the retrospective period (1993–2019) ..... 212
Figure E-45. Bootstrapped coefficient of variation of average predicted density of Manx Shearwater by month during the retrospective period (1993–2019) ..... 213
Figure E-46. Bootstrapped coefficient of variation of average predicted density of Audubon's Shearwater by month during the retrospective period (1993–2019) ..... 214
Figure E-47. Bootstrapped coefficient of variation of average predicted density of Northern Gannet by month during the retrospective period (1993–2019) ..... 215
Figure E-48. Bootstrapped coefficient of variation of average predicted density of Double-crested Cormorant by month during the retrospective period (1993–2019) ..... 216
Figure E-49. Bootstrapped coefficient of variation of average predicted density of Brown Pelican by month during the retrospective period (1993–2019) ..... 217
Figure F-1. Average predicted density of Common Eider by month during the future period (next 30 years) ..... 218
Figure F-2. Average predicted density of Surf Scoter by month during the future period (next 30 years)219
Figure F-3. Average predicted density of White-winged Scoter by month during the future period (next 30 years) ..... 220
Figure F-4. Average predicted density of Black Scoter by month during the future period (next 30 years) ..... 221
Figure F-5. Average predicted density of Long-tailed Duck by month during the future period (next 30 years) ..... 222
Figure F-6. Average predicted density of Red-breasted Merganser by month during the future period (next 30 years) ..... 223
Figure F-7. Average predicted density of Horned Grebe by month during the future period (next 30 years) ..... 224
Figure F-8. Average predicted density of Red-necked Phalarope by month during the future period (next 30 years) ..... 225
Figure F-9. Average predicted density of Red Phalarope by month during the future period (next 30 years) ..... 226
Figure F-10. Average predicted density of Great Skua by month during the future period (next 30 years) ..... 227
Figure F-11. Average predicted density of South Polar Skua by month during the future period (next 30 years) ..... 228
Figure F-12. Average predicted density of Pomarine Jaeger by month during the future period (next 30 years) ..... 229
Figure F-13. Average predicted density of Parasitic Jaeger by month during the future period (next 30 years) ..... 230
Figure F-14. Average predicted density of Dovekie by month during the future period (next 30 years) .. 231
Figure F-15. Average predicted density of Common Murre by month during the future period (next 30 years) ..... 232

Figure F-16. Average predicted density of Thick-billed Murre by month during the future period (next 30 years) ..... 233
Figure F-17. Average predicted density of Razorbill by month during the future period (next 30 years) . 234
Figure F-18. Average predicted density of Black Guillemot by month during the future period (next 30 years) ..... 235
Figure F-19. Average predicted density of Atlantic Puffin by month during the future period (next 30 years) ..... 236
Figure F-20. Average predicted density of Black-legged Kittiwake by month during the future period (next 30 years) ..... 237
Figure F-21. Average predicted density of Bonaparte's Gull by month during the future period (next 30 years) ..... 238
Figure F-22. Average predicted density of Laughing Gull by month during the future period (next 30 years) ..... 239
Figure F-23. Average predicted density of Ring-billed Gull by month during the future period (next 30 years) ..... 240
Figure F-24. Average predicted density of Herring Gull by month during the future period (next 30 years) ..... 241
Figure F-25. Average predicted density of Lesser Black-backed Gull by month during the future period (next 30 years) ..... 242
Figure F-26. Average predicted density of Great Black-backed Gull by month during the future period (next 30 years) ..... 243
Figure F-27. Average predicted density of Sooty Tern by month during the future period (next 30 years) ..... 244
Figure F-28. Average predicted density of Least Tern by month during the future period (next 30 years) ..... 245
Figure F-29. Average predicted density of Black Tern by month during the future period (next 30 years) ..... 246
Figure F-30. Average predicted density of Roseate Tern by month during the future period (next 30 years) ..... 247
Figure F-31. Average predicted density of Common Tern by month during the future period (next 30 years) ..... 248
Figure F-32. Average predicted density of Arctic Tern by month during the future period (next 30 years) ..... 249
Figure F-33. Average predicted density of Forster's Tern by month during the future period (next 30 years) ..... 250
Figure F-34. Average predicted density of Royal Tern by month during the future period (next 30 years) ..... 251
Figure F-35. Average predicted density of Red-throated Loon by month during the future period (next 30 years) ..... 252
Figure F-36. Average predicted density of Common Loon by month during the future period (next 30 years) ..... 253
Figure F-37. Average predicted density of Wilson's Storm-Petrel by month during the future period (next 30 years) ..... 254

Figure F-38. Average predicted density of Leach's Storm-Petrel by month during the future period (next 30 years) ..... 255
Figure F-39. Average predicted density of Band-rumped Storm-Petrel by month during the future period (next 30 years) ..... 256
Figure F-40. Average predicted density of Northern Fulmar by month during the future period (next 30 years) ..... 257
Figure F-41. Average predicted density of Black-capped Petrel by month during the future period (next 30 years) ..... 258
Figure F-42. Average predicted density of Cory's Shearwater by month during the future period (next 30 years) ..... 259
Figure F-43. Average predicted density of Sooty Shearwater by month during the future period (next 30 years) ..... 260
Figure F-44. Average predicted density of Great Shearwater by month during the future period (next 30 years) ..... 261
Figure F-45. Average predicted density of Manx Shearwater by month during the future period (next 30 years) ..... 262
Figure F-46. Average predicted density of Audubon's Shearwater by month during the future period (next 30 years) ..... 263
Figure F-47. Average predicted density of Northern Gannet by month during the future period (next 30 years) ..... 264
Figure F-48. Average predicted density of Double-crested Cormorant by month during the future period (next 30 years) ..... 265
Figure F-49. Average predicted density of Brown Pelican by month during the future period (next 30 years) ..... 266
Figure G-1. Difference in average predicted density of Common Eider by month between the retrospective and future periods ..... 267
Figure G-2. Difference in average predicted density of Surf Scoter by month between the retrospective and future periods ..... 268
Figure G-3. Difference in average predicted density of White-winged Scoter by month between the retrospective and future periods ..... 269
Figure G-4. Difference in average predicted density of Black Scoter by month between the retrospective and future periods ..... 270
Figure G-5. Difference in average predicted density of Long-tailed Duck by month between the retrospective and future periods ..... 271
Figure G-6. Difference in average predicted density of Red-breasted Merganser by month between the retrospective and future periods ..... 272
Figure G-7. Difference in average predicted density of Horned Grebe by month between the retrospective and future periods ..... 273
Figure G-8. Difference in average predicted density of Red-necked Phalarope by month between the retrospective and future periods ..... 274
Figure G-9. Difference in average predicted density of Red Phalarope by month between the retrospective and future periods ..... 275
Figure G-10. Difference in average predicted density of Great Skua by month between the retrospective and future periods ..... 276

Figure G-11. Difference in average predicted density of South Polar Skua by month between the retrospective and future periods ..... 277
Figure G-12. Difference in average predicted density of Pomarine Jaeger by month between the retrospective and future periods ..... 278
Figure G-13. Difference in average predicted density of Parasitic Jaeger by month between the retrospective and future periods ..... 279
Figure G-14. Difference in average predicted density of Dovekie by month between the retrospective and future periods ..... 280
Figure G-15. Difference in average predicted density of Common Murre by month between the retrospective and future periods ..... 281
Figure G-16. Difference in average predicted density of Thick-billed Murre by month between the retrospective and future periods ..... 282
Figure G-17. Difference in average predicted density of Razorbill by month between the retrospective and future periods ..... 283
Figure G-18. Difference in average predicted density of Black Guillemot by month between the retrospective and future periods ..... 284
Figure G-19. Difference in average predicted density of Atlantic Puffin by month between the retrospective and future periods ..... 285
Figure G-20. Difference in average predicted density of Black-legged Kittiwake by month between the retrospective and future periods ..... 286
Figure G-21. Difference in average predicted density of Bonaparte's Gull by month between the retrospective and future periods ..... 287
Figure G-22. Difference in average predicted density of Laughing Gull by month between the retrospective and future periods ..... 288
Figure G-23. Difference in average predicted density of Ring-billed Gull by month between the retrospective and future periods ..... 289
Figure G-24. Difference in average predicted density of Herring Gull by month between the retrospective and future periods ..... 290
Figure G-25. Difference in average predicted density of Lesser Black-backed Gull by month between the retrospective and future periods ..... 291
Figure G-26. Difference in average predicted density of Great Black-backed Gull by month between the retrospective and future periods ..... 292
Figure G-27. Difference in average predicted density of Sooty Tern by month between the retrospective and future periods ..... 293
Figure G-28. Difference in average predicted density of Least Tern by month between the retrospective and future periods ..... 294
Figure G-29. Difference in average predicted density of Black Tern by month between the retrospective and future periods ..... 295
Figure G-30. Difference in average predicted density of Roseate Tern by month between the retrospective and future periods ..... 296
Figure G-31. Difference in average predicted density of Common Tern by month between the retrospective and future periods ..... 297
Figure G-32. Difference in average predicted density of Arctic Tern by month between the retrospective and future periods ..... 298

Figure G-33. Difference in average predicted density of Forster's Tern by month between the retrospective and future periods ..... 299
Figure G-34. Difference in average predicted density of Royal Tern by month between the retrospective and future periods ..... 300
Figure G-35. Difference in average predicted density of Red-throated Loon by month between the retrospective and future periods ..... 301
Figure G-36. Difference in average predicted density of Common Loon by month between the retrospective and future periods ..... 302
Figure G-37. Difference in average predicted density of Wilson's Storm-Petrel by month between the retrospective and future periods ..... 303
Figure G-38. Difference in average predicted density of Leach's Storm-Petrel by month between the retrospective and future periods ..... 304
Figure G-39. Difference in average predicted density of Band-rumped Storm-Petrel by month between the retrospective and future periods ..... 305
Figure G-40. Difference in average predicted density of Northern Fulmar by month between the retrospective and future periods ..... 306
Figure G-41. Difference in average predicted density of Black-capped Petrel by month between the retrospective and future periods ..... 307
Figure G-42. Difference in average predicted density of Cory's Shearwater by month between the retrospective and future periods ..... 308
Figure G-43. Difference in average predicted density of Sooty Shearwater by month between the retrospective and future periods ..... 309
Figure G-44. Difference in average predicted density of Great Shearwater by month between the retrospective and future periods ..... 310
Figure G-45. Difference in average predicted density of Manx Shearwater by month between the retrospective and future periods ..... 311
Figure G-46. Difference in average predicted density of Audubon's Shearwater by month between the retrospective and future periods ..... 312
Figure G-47. Difference in average predicted density of Northern Gannet by month between the retrospective and future periods ..... 313
Figure G-48. Difference in average predicted density of Double-crested Cormorant by month between the retrospective and future periods ..... 314
Figure G-49. Difference in average predicted density of Brown Pelican by month between the retrospective and future periods ..... 315

## List of Tables

Table 1. Bird survey data analyzed ..... 39

Table 2. Marine bird species modeled ..... 42

Table 3. Environmental variables ..... 44

Table 4. Best models and their performance ..... 45

Table H-1. Predicted proportional abundance of Common Eider by BOEM area and month during the retrospective period (1993–2019) ..... 316

Table H-2. Predicted proportional abundance of Surf Scoter by BOEM area and month during the retrospective period (1993–2019) ..... 318

Table H-3. Predicted proportional abundance of White-winged Scoter by BOEM area and month during the retrospective period (1993–2019) ..... 320

Table H-4. Predicted proportional abundance of Black Scoter by BOEM area and month during the retrospective period (1993–2019) ..... 322

Table H-5. Predicted proportional abundance of Long-tailed Duck by BOEM area and month during the retrospective period (1993–2019) ..... 324

Table H-6. Predicted proportional abundance of Red-breasted Merganser by BOEM area and month during the retrospective period (1993–2019) ..... 326

Table H-7. Predicted proportional abundance of Horned Grebe by BOEM area and month during the retrospective period (1993–2019) ..... 328

Table H-8. Predicted proportional abundance of Red-necked Phalarope by BOEM area and month during the retrospective period (1993–2019) ..... 330

Table H-9. Predicted proportional abundance of Red Phalarope by BOEM area and month during the retrospective period (1993–2019) ..... 332

Table H-10. Predicted proportional abundance of Great Skua by BOEM area and month during the retrospective period (1993–2019) ..... 334

Table H-11. Predicted proportional abundance of South Polar Skua by BOEM area and month during the retrospective period (1993–2019) ..... 336

Table H-12. Predicted proportional abundance of Pomarine Jaeger by BOEM area and month during the retrospective period (1993–2019) ..... 338

Table H-13. Predicted proportional abundance of Parasitic Jaeger by BOEM area and month during the retrospective period (1993–2019) ..... 340

Table H-14. Predicted proportional abundance of Dovekie by BOEM area and month during the retrospective period (1993–2019) ..... 342

Table H-15. Predicted proportional abundance of Common Murre by BOEM area and month during the retrospective period (1993–2019) ..... 344

Table H-16. Predicted proportional abundance of Thick-billed Murre by BOEM area and month during the retrospective period (1993–2019) ..... 346

Table H-17. Predicted proportional abundance of Razorbill by BOEM area and month during the retrospective period (1993–2019) ..... 348

Table H-18. Predicted proportional abundance of Black Guillemot by BOEM area and month during the retrospective period (1993–2019) ..... 350

Table H-19. Predicted proportional abundance of Atlantic Puffin by BOEM area and month during the retrospective period (1993–2019) ..... 352

Table H-20. Predicted proportional abundance of Black-legged Kittiwake by BOEM area and month during the retrospective period (1993–2019) ..... 354
Table H-21. Predicted proportional abundance of Bonaparte's Gull by BOEM area and month during the retrospective period (1993–2019) ..... 356
Table H-22. Predicted proportional abundance of Laughing Gull by BOEM area and month during the retrospective period (1993–2019) ..... 358
Table H-23. Predicted proportional abundance of Ring-billed Gull by BOEM area and month during the retrospective period (1993–2019) ..... 360
Table H-24. Predicted proportional abundance of Herring Gull by BOEM area and month during the retrospective period (1993–2019) ..... 362
Table H-25. Predicted proportional abundance of Lesser Black-backed Gull by BOEM area and month during the retrospective period (1993–2019) ..... 364
Table H-26. Predicted proportional abundance of Great Black-backed Gull by BOEM area and month during the retrospective period (1993–2019) ..... 366
Table H-27. Predicted proportional abundance of Sooty Tern by BOEM area and month during the retrospective period (1993–2019) ..... 368
Table H-28. Predicted proportional abundance of Least Tern by BOEM area and month during the retrospective period (1993–2019) ..... 370
Table H-29. Predicted proportional abundance of Black Tern by BOEM area and month during the retrospective period (1993–2019) ..... 372
Table H-30. Predicted proportional abundance of Roseate Tern by BOEM area and month during the retrospective period (1993–2019) ..... 374
Table H-31. Predicted proportional abundance of Common Tern by BOEM area and month during the retrospective period (1993–2019) ..... 376
Table H-32. Predicted proportional abundance of Arctic Tern by BOEM area and month during the retrospective period (1993–2019) ..... 378
Table H-33. Predicted proportional abundance of Forster's Tern by BOEM area and month during the retrospective period (1993–2019) ..... 380
Table H-34. Predicted proportional abundance of Royal Tern by BOEM area and month during the retrospective period (1993–2019) ..... 382
Table H-35. Predicted proportional abundance of Red-throated Loon by BOEM area and month during the retrospective period (1993–2019) ..... 384
Table H-36. Predicted proportional abundance of Common Loon by BOEM area and month during the retrospective period (1993–2019) ..... 386
Table H-37. Predicted proportional abundance of Wilson's Storm-Petrel by BOEM area and month during the retrospective period (1993–2019) ..... 388
Table H-38. Predicted proportional abundance of Leach's Storm-Petrel by BOEM area and month during the retrospective period (1993–2019) ..... 390
Table H-39. Predicted proportional abundance of Band-rumped Storm-Petrel by BOEM area and month during the retrospective period (1993–2019) ..... 392
Table H-40. Predicted proportional abundance of Northern Fulmar by BOEM area and month during the retrospective period (1993–2019) ..... 394
Table H-41. Predicted proportional abundance of Black-capped Petrel by BOEM area and month during the retrospective period (1993–2019) ..... 396

Table H-42. Predicted proportional abundance of Cory's Shearwater by BOEM area and month during the retrospective period (1993–2019) ..... 398

Table H-43. Predicted proportional abundance of Sooty Shearwater by BOEM area and month during the retrospective period (1993–2019) ..... 400

Table H-44. Predicted proportional abundance of Great Shearwater by BOEM area and month during the retrospective period (1993–2019) ..... 402

Table H-45. Predicted proportional abundance of Manx Shearwater by BOEM area and month during the retrospective period (1993–2019) ..... 404

Table H-46. Predicted proportional abundance of Audubon's Shearwater by BOEM area and month during the retrospective period (1993–2019) ..... 406

Table H-47. Predicted proportional abundance of Northern Gannet by BOEM area and month during the retrospective period (1993–2019) ..... 408

Table H-48. Predicted proportional abundance of Double-crested Cormorant by BOEM area and month during the retrospective period (1993–2019) ..... 410

Table H-49. Predicted proportional abundance of Brown Pelican by BOEM area and month during the retrospective period (1993–2019) ..... 412

# List of Abbreviations and Acronyms

| Acronym | Expansion |
|---|---|
| AIC | Akaike information criterion |
| AOGCM | Atmosphere-ocean general circulation model |
| BOEM | Bureau of Ocean Energy Management |
| CMIP6 | Coupled Model Intercomparison Project Phase 6 |
| CV | Coefficient of variation |
| ECSAS | Eastern Canada Seabirds at Sea |
| GAM | Generalized additive model |
| GFDL | Geophysical Fluid Dynamics Laboratory |
| NCCOS | National Centers for Coastal Ocean Science |
| NOAA | National Oceanic and Atmospheric Administration |
| OCS | Outer Continental Shelf |
| PDE | Percent deviance explained |
| RMSE | Root mean square error |
| SD | Standard deviation |

# 1 Introduction

The development of offshore wind energy production in US waters is accelerating. In 2021 the president issued an executive order that outlined a goal of doubling production by 2030 (United States 2021). The Bureau of Ocean Energy Management (BOEM) is responsible for managing renewable energy resources on the Atlantic Outer Continental Shelf (OCS) from the limit of state waters out to the boundary of the Exclusive Economic Zone. In order to minimize the impacts of offshore wind development on wildlife, BOEM requires information about the spatial distributions of marine species to inform their planning, leasing, and environmental assessments.

Numerous species of birds can be found on the Atlantic OCS, many of which forage in shelf waters or even further offshore beyond the shelf break. These marine bird species represent a number of avian orders and families including but not limited to sea ducks, gulls, terns, auks, and petrels. Some species breed along the US Atlantic coast, while others visit the OCS during their non-breeding season. Some species are present in the Atlantic OCS year-round, while others migrate out of the region seasonally. Much research has been conducted to describe the spatial distributions of these species on the Atlantic OCS (e.g., see Nisbet et al. 2013 for one review), historically relying on at-sea observations (e.g., Powers 1983) but more recently also including tracking studies (e.g., Jodice et al. 2015, Spiegel et al. 2017, Loring et al. 2019, Powers et al. 2020). Habitat-based species distribution modeling is an analytical technique that has commonly been employed in this field of research (Zipkin et al. 2010, Winiarski et al. 2013, 2014a, b, Goyert 2014, Lieske et al. 2014, Flanders et al. 2015, Balderama et al. 2016, Goyert et al. 2016, Sollmann et al. 2016, Fifield et al. 2017, Smith et al. 2019, Lamb et al. 2020). Species distribution models leverage estimated relationships between observed species' occurrence or abundance and the environment to predict distributions throughout space, despite often patchy survey effort. BOEM previously partnered with the National Oceanic and Atmospheric Administration (NOAA) National Ocean Service National Centers for Coastal Ocean Science (NCCOS) to apply habitat-based species distribution modeling to describe the spatial distributions of marine bird species on the Atlantic OCS (Winship et al. 2018). During the past several years, BOEM has used the products from that study to inform their offshore wind energy planning and assessment processes, and the products have been shared on regional ocean data portals (Curtice et al. 2019).

The maps from the previous NCCOS modeling study represent estimated long-term spatial distributions of marine bird species on the Atlantic OCS from the late 1970s through the mid-2010s (Winship et al. 2018). However, the spatial distributions of at least some of these species change over time in response to changes in environmental conditions, prey distributions, and fisheries (Nisbet and Veit 2015, Veit and Manne 2015). Many new survey data have been collected since the previous study, particularly aerial digital data (e.g., Robinson Willmott 2021). Furthermore, BOEM is required to consider impacts of future activities under some regulatory frameworks such as US National Environmental Policy Act cumulative effects analyses and US Endangered Species Act consultations. Thus, there is a need for information about not only the past and current spatial distributions of marine birds on the Atlantic OCS but also their future distributions, particularly how those distributions may change during the time frame of an offshore wind energy development (e.g., 30 years). Habitat-based species distribution modeling can be applied to project species distributions when projected environmental conditions are available. Such projecting has been conducted for other marine taxa on the Atlantic OCS (e.g., Hare et al. 2012, Lynch et al. 2015, Grieve et al. 2017, Morley et al. 2018, Allyn et al. 2020, Tanaka et al. 2020) and for marine birds in other regions (e.g., Russell et al. 2015, Dick 2016, Legrand et al. 2016, Krüger et al. 2018).

The first goal of this study was to provide updated estimates of the spatial distributions of marine bird species on the Atlantic OCS during the past 30 years to inform BOEM's offshore wind energy planning, leasing, and assessment. The second goal of this study was to explore how those spatial distributions may

change in the next 30 years given potential future environmental change during that time. Habitat-based species distribution modeling was employed to relate at-sea counts of birds to environmental conditions matched in space and time, and those relationships were then used to predict past and future spatial distributions of bird density throughout the study area. Future distributions were necessarily predicted from projected environmental conditions. The results of this study provide important information, for example, exposure risk, when assessing potential impacts of offshore wind energy development on marine birds on the Atlantic OCS (Goodale et al. 2019, Croll et al. 2022).

# 2 Methods

## 2.1 Overview

Species distribution modeling was employed to predict and map the distributions of marine birds on the US Atlantic OCS (Figure 1) during a retrospective time period and a future time period. The retrospective period was 27 years (1993–2019), selected to match the period of time over which complete years of retrospective environmental information were available (see Section 2.4.1) and to approximately match the duration of the future period. The future period was the 30 years following the retrospective period, selected to capture the expected construction and operation period for an offshore wind energy project.

In brief, a statistical modeling framework was used to relate marine bird sighting data from at-sea surveys to spatial environmental predictor variables. During model fitting, bird and environmental conditions were matched in space and time at a 10-km spatial resolution and monthly temporal resolution, respectively—a "contemporaneous" approach *sensu* Mannocci et al. (2017). The estimated relationships between bird counts and the predictor variables were then used to predict the spatial distributions of bird species across the entire study area during the retrospective and future time periods. Model predictions of bird distributions were also monthly, and were averaged across years within the two time periods to characterize the average monthly distributions during those periods. The following sections contain more details about the data and modeling framework.

## 2.2 Marine bird data

The marine bird observation data were drawn from two sources: the Northwest Atlantic Seabird Catalog (currently managed by NCCOS), hereafter referred to as the Catalog, and the Eastern Canada Seabirds at Sea (ECSAS) database (Gjerdrum et al. 2012). Both of these databases contain sightings and auxiliary information from at-sea surveys for marine birds on the US Atlantic OCS. A sighting was defined as a single observation of either an individual bird or flock of birds. Only datasets that were collected using scientific survey protocols were analyzed. The datasets were collected by a range of entities including government agencies, non-governmental organizations, environmental consultants, and academic researchers (Table 1; Figure A-1). Each individual dataset was reviewed prior to analysis for apparent issues and errors. A variety of issues were identified across multiple datasets, and issues that would have substantially affected the analysis were rectified. Nevertheless, as is typically the case with large heterogeneous databases, some issues remain, including those unknown, but the data review suggested that the remaining issues would have a negligible effect on the results of our analysis.

The survey datasets analyzed varied in terms of the type of survey platform used, observer identity and expertise, species focus, and environmental conditions. The type of survey platform used (i.e., boat or aerial), characteristics of the survey platform (e.g., observation height), detection method (visual or digital photographic/videographic), and observer expertise all likely influenced the probability that individual birds were detected and correctly identified to the species level. For some surveys the primary target was

marine birds, while for others, birds were surveyed along with other components of the ecosystem. Even among bird-focused surveys, there was variability in the target species (e.g., sea ducks). The level of focus on marine birds and target species also presumably influenced the probability that individual birds were detected and correctly identified. Sighting conditions (e.g., sea state and visibility) may have also affected sighting rates. Ideally these factors would be explicitly accounted for in any model of density (Matthiopoulos et al. 2022). Unfortunately, standardized data on many of these factors were not readily available for all of the survey datasets analyzed here. Nevertheless, the applied analytical framework attempted to account for some of this heterogeneity across survey datasets through model effects of survey platform type and dataset group (see Section 2.5.2).

Quantification of survey effort was critical for standardizing and integrating the bird observation data across datasets. Survey effort was defined as the amount of area viewed by observers (visual surveys) or photographed (aerial digital surveys). Visual boat and aerial surveys typically followed a strip transect survey protocol (Tasker et al. 1984). For datasets from the Catalog, the spatial data in the "transect" table of that database provided either lines (visual surveys) or polygons (aerial digital surveys) representing survey tracks or photographed areas, respectively. The latter directly translated to survey effort, while the former was converted to survey effort assuming reported dataset-specific strip widths (Table 1). ECSAS data were formatted as discrete "watches" of fixed duration, and the effort associated with each watch was calculated from the reported watch distance and strip width. When there were two simultaneous observers viewing areas off separate sides of the survey platform, their observations and effort were pooled during the data segmentation described below. Third, rear-seat observers were used in some aerial visual surveys, and data from those observers were excluded from analysis.

The data samples for analysis were derived by applying a grid-based segmentation framework (Figure 2). The grid had a spatial resolution of 10 km and a projected coordinate reference system: oblique Mercator (origin = 35°N 75°W; azimuth = 40°; scale = 0.9996; NAD83 earth datum). The grid resolution approximated the spatial resolution of the environmental data (Section 2.4). The selected coordinate reference system minimized distortion of distance as much as possible within the study area. The amount of effort and total number of individual birds of each species counted within the surveyed area (e.g., within the strip transect) were summed for each combination of grid cell, dataset ID, and date. Each of these combinations was treated as a data sample and represented data from a single boat or plane. For line and polygon effort data, the lines and polygons were cut at grid cell boundaries to determine the amount of effort within cells. For the ECSAS data, the mid-point location for each watch was calculated from the shortest path on an ellipsoid between the reported start and end locations (Hijmans 2021), and the effort and counts for a given watch were assigned to the grid cell that contained that watch's mid-point location. Some datasets in the Catalog exhibited a lack of exact spatial correspondence between bird observations and the associated effort line or polygon, for example, when observation locations indicated the estimated locations of the birds rather than the locations of the survey platform when the birds were sighted. To avoid separation of associated effort and sightings during grid-based segmentation, observations that did not coincide exactly with the associated effort line or polygon were "snapped" to the nearest point on the effort line or polygon prior to segmentation. Snapping was not conducted for three datasets (Catalog dataset IDs 90, 112, and 118) where issues with those datasets would have caused the snapping algorithm to produce incorrect results. After segmentation, any data samples that contained bird counts but no associated effort were discarded prior to analysis. Data samples with <0.3 $km^2$ of effort (e.g., <1 km of 300-m strip transect) were also discarded to avoid model fitting instability. Those samples composed <0.2% of the total effort. For the data samples analyzed, effort per data sample in an individual 100-$km^2$ grid cell ranged from 0.3–80.8 $km^2$.

The analysis considered bird data from the 1990s onward, to match the retrospective time period (1993–2019). The earliest year of survey data was 1998, and the latest year was 2020 (Table 1). All years in between, except 2000, were represented by at least some survey effort. Survey effort tended to increase

over time, but it was highly variable across years (Figure 3). All months of the year had survey effort with the most survey effort in February and August, and the least effort in January (Figure 4). The spatial coverage of survey effort varied across months (Figure 5). Spatial coverage was greatest in summer (June–August; 43% of study grid cells with survey effort) and least in early winter (December–January; 9% of study grid cells with survey effort), at least partially reflecting environmental conditions and the ability to conduct surveys offshore. In general, survey effort decreased with distance from shore, and there was little or no survey effort in the outermost part of the study area. The greatest concentration of survey effort was in Nantucket Sound from multiple surveys conducted there (dataset groups 6, 17, and 18 in Table 1; Appendix A).

Data from three survey platform types were included in the analysis: boat, aerial visual, and aerial digital. The spatial coverage of survey effort varied by these survey platform types (Figure 6). Across all datasets, boat surveys covered much of the study area (44% of study grid cells), while aerial surveys were closer to the coast (11% and 7% of study grid cells for visual and digital, respectively). Aerial visual surveys covered the full latitudinal range of the study area, while aerial digital surveys did not occur in more southerly or more northerly parts of the study area. Total survey effort was fairly similar among survey platform types: boat = 62,590 $km^2$; aerial visual = 85,125 $km^2$; and aerial digital = 71,135 $km^2$.

The marine bird data analyzed here included some of the data analyzed previously by Winship et al. (2018), but also differed in a few ways. First, Winship et al. (2018) included many data prior to the 1990s, dating as far back as the late 1970s. Second, the data analyzed here included four more recent years (2017–2020). There were also additional datasets from the period of overlap that were analyzed here but were not available to Winship et al. (2018). Lastly, aerial digital survey data composed a much larger portion of the data in this study. The results presented here represent more recent spatial distributions of marine birds on the Atlantic OCS than those presented by Winship et al. (2018).

## 2.3 Species modeled

Species with sightings in ≥100 samples were selected for analysis. By this criterion 49 species were analyzed representing sightings of 2,202,029 individual birds (Table 2). These species represented 13 families. The five species with the most samples containing at least one sighting, in decreasing order, were Northern Gannet, Herring Gull, Great Black-backed Gull, Common Loon, and Great Shearwater. The five species with the most individuals sighted, in decreasing order, were Common Eider, Long-tailed Duck, Northern Gannet, Black Scoter, and Surf Scoter. The five species with the fewest samples containing at least one sighting, in increasing order, were Black Tern, Horned Grebe, Sooty Tern, Great Skua, and Black Guillemot. Great Skua and Horned Grebe also had the fewest individuals sighted.

## 2.4 Historical and future environmental conditions

The modeling framework employed in this study relied on comprehensive, spatially referenced environmental information throughout the study area and study timespan. Retrospective environmental conditions were derived from ocean model output and remotely sensed wind data that were matched in time to the marine bird survey data. Future environmental conditions were derived from a global climate model output and were used to project future bird distributions. The same set of environmental variables was required for the retrospective and future time periods.

### 2.4.1 Retrospective model

Modeled retrospective environmental conditions were focused on for consistency with the projected future conditions. The target was an ocean circulation model with a spatial domain that covered the study area and had a fine spatial resolution, all of the environmental variables in the projected output, and data

assimilation to represent retrospective environmental conditions accurately. The Copernicus Marine Environment Monitoring Service global reanalysis product GLORYS12V1 met almost all of these requirements and was chosen as the source of retrospective environmental time series (Jean-Michel et al. 2021). GLORYS12V1 is a global ocean simulation with 1/12° horizontal resolution (approximately 9 km at the equator) and 50 vertical levels covering the time period from 1993 up to the present. At the time of modeling, output was available through May 2020. The reanalysis assimilated satellite and *in situ* observations. The model provided daily mean values for water temperature, salinity, current speed (eastward and northward), sea surface height, mixed layer depth, and sea-ice features, all but the last of which were used in this study (Table 3; Figures B-1 to B-7). Daily values were averaged for each month-year combination to derive average monthly grids for each variable. The monthly current variables were converted to current magnitude and current direction (0–360°) for analysis.

The only variable in the projected output that was not available from GLORYS12V1 was surface wind speed. Retrospective data on surface wind speed (10-m height) were sourced from the French Research Institute for Exploitation of the Sea CERSAT Global Blended Mean Wind Fields product distributed by Copernicus Marine Environment Monitoring Service (Table 3; Figure B-7). This product was derived from remotely sensed data collected from scatterometers and radiometers as well as an atmospheric model reanalysis (Bentamy et al. 2020). The data covered the entire globe from 1992–2020 and had a time step of 6 h and a spatial resolution of 1/4° (approximately 28 km at the equator). The data were sub-sampled to a daily temporal resolution by using the data at 1200 hours, and those daily values were averaged for each month-year combination to derive average monthly grids of surface wind speed.

### 2.4.2 Model projections

Climate change model projections are typically conducted using atmosphere-ocean general circulation models (AOGCMs) that predict the values or changes in the values of environmental variables in the future relative to some past or current state. A large number of AOGCMs have been developed and used for climate change projections, and they vary in terms of their past and future timespans as well as their horizontal and vertical spatial resolutions. Multiple projections are commonly conducted with each model to capture the range of uncertainties about future conditions. For example, the most recent large, multi-model, future climate-change exercise is the Coupled Model Intercomparison Project Phase 6 (CMIP6; Eyring et al. 2016; https://www.wcrp-climate.org/wgcm-cmip/wgcm-cmip6), coordinated through the World Climate Research Programme. CMIP6 projections are produced for alternative future scenarios referred to as "shared socioeconomic pathways" that translate to predicted future levels of greenhouse gas emissions.

Given the regional focus of our study, models with a relatively high spatial resolution were sought. Global AOGCMs often have a relatively coarse spatial resolution (e.g., 0.5–1°) given their large spatial domain, but techniques exist for "downscaling" their output to finer spatial resolutions. Alternatively, regional and some global AOGCMs are constructed with inherently finer spatial resolution, for example, 1–10 km. Two sets of projected model output were identified that had relatively high spatial resolution for the US Atlantic OCS. The first set of model output was from the NOAA Earth System Research Laboratories and used a high-resolution regional ocean modeling system (ROMS; 7 km) to dynamically downscale lower-resolution projections from multiple global AOGCMs under a single future emissions scenario (Alexander et al. 2020). Their projections corresponded to the latter part of the 21st century (2070–2099), but projections were also derived for the year 2050 in a study of the Gulf of Maine (Pershing et al. 2021).

The second set of model output was from the NOAA Geophysical Fluid Dynamics Laboratory (GFDL) and Northeast Fisheries Science Center. GFDL has developed multiple AOGCMs, and the CM2.6 model had a high spatial resolution for the ocean components (0.1°; approximately 11 km at the equator), although the spatial resolution of the atmosphere component was 0.5°. Saba et al. (2016) described a

simulation experiment conducted with the CM2.6 model whereby ocean conditions were projected for 80 years under a single future emissions scenario where global atmospheric $CO_2$ increased by 1% per year. This scenario represents a doubling of $CO_2$ over 70 years and an increase in global mean surface temperature of 2°C within 60–80 years and is comparable to the highest greenhouse gas emission scenario (Representative Concentration Pathway 8.5) from the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC 2014, Crear et al. 2020, Tanaka et al. 2020). Output from this simulation experiment with the CM2.6 model has been used in multiple studies to project the spatial distributions of marine species on the US Atlantic OCS (Grieve et al. 2017, Kleisner et al. 2017, Selden et al. 2018, McHenry et al. 2019, Crear et al. 2020, Tanaka et al. 2020).

The GFDL CM2.6 model was focused on for projected environmental conditions given that its time frame overlapped with the time frame of primary interest here (next 20–30 years). Nevertheless, the data processing workflows and modeling framework developed here can accommodate projections from other AOGCMs and future scenarios. The GFDL model provided monthly "delta" values for each year of the simulation for water temperature, salinity, currents (eastward and northward), sea surface height, mixed layer depth, and surface wind speed (Table 3). The deltas represented absolute differences in the values of these variables between the future and a reference point in the recent past or current time. To obtain projected values of the variables, the deltas were first resampled to the corresponding retrospective environmental spatial grids. Then the deltas for each month and year from the model were added to monthly climatologies derived from the retrospective environmental time series (Figures B-1 to B-7). The monthly climatologies were averages of the retrospective time series from a single month of the year throughout the retrospective time period. As with the retrospective time series, projected monthly current variables were converted to current magnitude and current direction.

An additional adjustment was required when deriving projected values of mixed layer depth. The addition of the delta values to the reference climatologies sometimes resulted in very shallow or unrealistic mixed layer depths (e.g., above the sea surface). The projected mixed layer depth was constrained to be 10 m or deeper on the basis of the range of mixed layer depth values in the retrospective time series.

### 2.4.3 Static data

In addition to the dynamic retrospective and projected environmental variables, two static environmental variables were included in the modeling framework: seafloor depth and slope (Figure B-8). These variables were assumed not to have changed during the retrospective period and not to change within the projected time period. Depth and slope data described by Winship et al. (2018) were converted from a 2-km to 10-km spatial resolution by averaging the values for each study grid cell, within which were nested the study grid cells of Winship et al. (2018) by design. The slope variable used was derived from depth smoothed at a 10-km scale by Winship et al. (2018).

## 2.5 Modeling framework

### 2.5.1 Sampling environmental conditions to match bird data

Prior to modeling, the segmented bird data were matched to the retrospective environmental conditions in time and space so that each data sample had a count for each species and associated values for each environmental variable. For each data sample, its date and the coordinates of the center point of its study grid cell were used to sample the retrospective environmental variables from their respective monthly grids. Pairwise correlations among the sampled environmental variables ranged from −0.58 to 0.62 with 80% of correlations between −0.3 and 0.3 (Figure 7).

### 2.5.2 Statistical model

The segmented bird data and their corresponding retrospective environmental conditions were modeled statistically to estimate relationships between bird density and the environmental variables. The models were generalized additive models (GAMs) implemented with the "mgcv" package (Wood 2017) in the statistical software R (R Core Team 2022). GAMs allowed for flexible nonlinear relationships between bird density and the environment and for an appropriate statistical likelihood. The negative binomial distribution with an estimated "theta" parameter ("nb" family) was used for the likelihood because the response data were counts and it allowed for overdispersion. The log link function was used, and the model was fit using the restricted maximum likelihood method.

Models were fit to the data for each species separately. A set of "base" explanatory variables were included in every model. The base set of variables included survey platform type (factor with three levels: boat, aerial visual, or aerial digital), dataset group (random effect), Julian day (smooth), and day of the year (cyclic smooth). The random and cyclic terms were implemented using the "re" and "cc" basis functions, respectively. The effects of platform type and dataset group were designed to account for variation in counts arising from heterogeneity in the characteristics of the survey platform (e.g., observation height), observer identity and expertise, and species focus, all of which influence the probability that individual birds will be detected (Heinänen et al. 2017) and correctly identified to the species level. Dataset groups (Table 1) were designed to represent either individual surveys or programs of surveys with similar methods. Temporal variables (Julian day and day of the year) were included to account for variation in counts over time that was not explained by the environmental variables. Julian day was used to account for changes in the number of birds in the study area across years during the study time period, for example, arising from changes in population abundance or distributional shifts. Day of the year was used to account for changes in the numbers of birds in the study area over the course of a year, for example, arising from migratory movements in and out of the study area. An effort offset was also included in the base model—the log of survey area for each data sample centered at its mean (2.8 $km^2$).

Each environmental variable was treated as a smooth term in the model. A cyclic smooth was used for surface current direction. Environmental variables entered or exited the model for each species through a forward/backward stepwise variable selection procedure. The purpose of the variable selection procedure was to identify important explanatory variables while avoiding overfitting through the inclusion of too many explanatory variables. To start, the base model was fit with the addition of each environmental variable separately. The added variable in the resulting model with the lowest Akaike information criterion (AIC) was then included in the starting model for the next iteration. During that iteration, new models were fit with the addition of each remaining environmental variable not already in the model as well as the removal of each environmental variable already in the model. The added/removed variable in the resulting model with the lowest AIC was then added/removed in the starting model for the next iteration. The variable selection procedure continued in that fashion until no new models had a lower AIC than the current model.

Preliminary results indicated that model performance was sensitive to particular characteristics of the GAMs including the basis functions used for non-random and non-cyclic effects, and the level of penalization or smoothness. For that reason, six different model types were tried for each species. The first and second model types considered thin plate ("tp") and cubic ("cr") regression spline basis functions. The third and fourth model types used versions of these basis functions that allowed for additional penalization ("ts" and "cs"). The fifth and sixth model types also used the "ts" and "cs" basis functions but allowed for increased smoothness by setting the "gamma" argument to 2 and limiting the degrees of freedom for the day-of-year effect ($k = 5$). All other GAM settings were left at their default values (e.g., restricted maximum likelihood estimation of smoothing parameter). All environmental variables were considered for all model types.

### 2.5.3 Map prediction

For retrospective and future map prediction, the monthly environmental conditions were first resampled to the study grid using bilinear interpolation. The fitted models were then used to calculate monthly predicted densities throughout the study area. Predictions were marginalized over survey platform type, Julian day, and dataset group because these variables did not affect the spatial pattern of predicted density, and there was no focus on the effects of these variables on model predictions. The value of survey platform type was set to "boat," and Julian day was set to its mean value. Dataset group was effectively removed from the model altogether for prediction. The effort offset was set to its mean value. Predictions were made for each day of the month and averaged. Finally, the monthly predictions were averaged across years within each of the retrospective (1993–2019) and future (subsequent 30 years) time periods to derive monthly "multi-year average" predictions (Becker et al. 2016). Multi-year average predictions are the most appropriate way to characterize predictions for the future period in particular. The projected environmental conditions are the outcome of a simulation necessarily uninformed by data on actual future conditions. The environment varies over time at multiple frequencies, and while the projected environmental conditions are expected to provide a reasonable prediction of future conditions averaged over longer periods of time (e.g., decades), the predicted conditions over shorter periods of time (e.g., sub-decadal) are expected to be less accurate.

Model-predicted values technically represent the number of birds sighted per unit area conditional on the assumed values of the environmental and non-environmental variables. While these predicted values are expected to be proportional to actual bird density, it is important to recognize that the model predictions do not represent actual density. During visual surveys, individual birds may be missed either because they are below the surface of the water (availability bias) or simply because observers failed to notice them (perception bias) (Barlow 2015). These misses cause estimates of density to be biased downward relative to actual density. Animal movement can also bias estimates of density (Clarke et al. 2003). Birds may be attracted or repelled by ships, small boats, and planes, biasing estimates upward or downward, respectively. Flying birds can also bias estimates, with the direction of the bias depending on the speed and direction of the animals' movement relative to those of the survey platform (Spear et al. 1999). Furthermore, non-randomized survey data can result in biased estimates of abundance and density in species distribution models (Conn et al. 2017). The model predictions have intentionally been presented here without units to emphasize that they should only be interpreted as indices of density. The model predictions can be interpreted as being proportional to the number of individuals per a given unit of area, but they do not represent the actual number of individuals per a specific unit of area. For this reason, comparing predicted values between species is not recommended.

For display purposes, the monthly map predictions for each species were scaled on an annual basis such that all months had the same scale bar, and the maximum scale bar value corresponded to the maximum predicted value across the entire year for that species. This scaling conveyed predicted changes in density throughout the course of the year for each species, but it also reduced the ability to resolve spatial patterns in months when the overall abundance of a species in the study area was lower (e.g., Common Eider during summer; Figure D-1). An alternative scaling may be better for analyses of the distributions of species in individual months of interest.

### 2.5.4 Uncertainty

The precision of retrospective model predictions was estimated using bootstrapping. The data were resampled with replacement 1,000 times, and the final model for a given species was fit to each data sample providing a set of 1,000 map predictions. A series of statistics was calculated from the set of map predictions including the mean, median, standard deviation (SD), coefficient of variation (CV), and the 5% and 95% quantiles from which the 90% probability interval width was calculated. The CV was chosen as the main indicator of model uncertainty because it was less correlated with the mean prediction than

was the SD or the probability interval width. Infinite or undefined CV values occurred in some bootstrap iterations for some species due to extreme predicted values. Those bootstrap iterations were discarded, and replacement bootstrap iterations were conducted. For efficiency, bootstrapped predictions were made only for the 15th of each month in each year. Nevertheless, the bootstrapped estimates of uncertainty (e.g., CV) were expected to be similar for the retrospective predictions that were averaged across all days of the month.

The estimated CV of the retrospective model predictions was conditional on the model and the data. It did not necessarily capture all of the uncertainty associated with our model predictions (e.g., variable selection uncertainty). The map predictions for the future period entail substantial additional uncertainty. Only one future environmental scenario was explored here, and uncertainty in future environmental conditions would not be well represented by the bootstrapped CV of model predictions, so the CV is not presented for future predictions. Nevertheless, the CV is an important indication of the precision of the retrospective model predictions, and it should be an integral consideration when interpreting them.

### 2.5.5 Model fit

The fit of each model to the observed bird data during the retrospective period was assessed using six statistical measures: AIC, mean and median error (expected - observed), mean and median absolute error, percent deviance explained (PDE), and root mean square error (RMSE). Upon inspection of the results, it was apparent that none of these measures of statistical fit consistently indicated a model type with good retrospective map predictions. In many cases the retrospective map predictions from the best model indicated by one or more of these measures exhibited unrealistic predictions, for example, localized predictions of the highest densities or unrealistic predictions of higher density in areas where the species does not occur, such as far offshore. These issues can arise because measures of statistical fit by definition reflect model predictions only for areas where there were data; they do not directly reflect the quality of model predictions away from the data. Some map predictions are essentially interpolations/extrapolations from data in other parts of the study area, and the accuracy of those predictions is not necessarily reflected by measures of fit. Because there were no observations from the future period, it was not possible to assess the fit of the model with respect to the future period.

### 2.5.6 Model selection

Given that measures of statistical fit did not consistently indicate a model type with good retrospective map predictions, a new additional measure of model performance, *P*, was developed in an attempt to distinguish the model type that gave the best retrospective map predictions. The intent of this measure was to penalize predictions of higher density in areas where a species would be unlikely to occur on a monthly basis. To maintain objectivity, the measure relied on the sighting data for a given species to indicate where it was unlikely to occur. In many cases the absence of a sighting in a particular area was a result of less or no survey effort in that area rather than the species not occurring in that area; however, with sufficient survey coverage, this new measure of model performance can still indicate a model with relatively better predictions in areas where a species is unlikely to occur. The measure was calculated for each species as follows:

[1] $$P = \frac{\sum_m \sum_{i \in I_m} {d_{im}}^2}{\sum_m \sum_i {d_{im}}^2}$$

where $d_{im}$ is the predicted average density in study grid cell $i$ for month $m$ during the retrospective period, and $I_m$ is the set of grid cells where a species was never sighted during month $m$. $P$ represented the proportion of the total predicted density that occurred in cells where a species was not observed, irrespective of whether there was survey effort in those cells or not. The value of $P$ ranged between 0 and 1, with a lower value indicating better performance. This measure should be compared only among

models for the same species. It should not be compared across species because it is highly influenced by the temporal and spatial nature of a species' distribution and the distribution of survey effort.

The model with the lowest value of *P* was deemed the best model for each species, except in cases when that model still exhibited obviously unrealistic retrospective map predictions as described in the preceding section. In those cases, if there was an alternative model without unrealistic predictions and with a value of *P* within 0.05 of the lowest value, then that model was deemed best.

Because *P* was derived from observed data, and because there were no observations from the future period, this measure was not used to evaluate future map predictions. Nevertheless, in cases when the model with the lowest *P* had obviously unrealistic future predictions and there was an alternative model with a value of *P* within 0.05 of the lowest value, the alternative model was deemed best. This aspect of model selection was conducted merely to help eliminate some models with clearly erroneous future predictions. In general, it did not constrain predicted future distributions on the basis of observed data from the retrospective period.

### 2.5.7 Implementation

The modeling was conducted with R 64-bit (R Core Team 2022) version 4.2.1 running under Windows 10 using custom scripts that relied on multiple existing contributed packages, including "gamlss" version 5.4-3 (Rigby and Stasinopoulos 2005), "MASS" version 7.3-57 (Venables and Ripley 2002), "mgcv" version 1.8-40 (Wood 2017), "sf" versions 1.0-7 and 1.0-8 (Pebesma 2018), and "terra" versions 1.5-34 and 1.6-3 (Hijmans 2022).

## 2.6 Comparison of retrospective and future map predictions

Comparisons of retrospective and future map predictions focused on differences in spatial distribution and in temporal distribution across months within a year. The models were not designed to predict changes in population size across years, so differences in the overall magnitude of predicted values between the retrospective and future periods should not be interpreted.

In order to emphasize spatial and within-year differences between retrospective and future map predictions, map predictions were standardized prior to differencing. The monthly multi-year average predictions for each species for each of the retrospective period and future period were divided by their respective annual sums as follows:

[2] $$\tilde{d}_{im} = \frac{d_{im}}{\sum_m \sum_i d_{im}}$$

where $\tilde{d}_{im}$ is the standardized prediction and $d_{im}$ is the prediction for study grid cell *i* and month *m*. The standardized retrospective predictions were then subtracted from the standardized future predictions for each month of the year as follows:

[3] $$\Delta_{im} = \tilde{d}^f_{im} - \tilde{d}^r_{im}$$

where $\Delta_{im}$ is the difference between the standardized prediction for the future (*f*) and retrospective (*r*) periods. These differences should primarily be interpreted as qualitative indications of where and in what month a species' density may increase or decrease in a relative sense. These differences should not be interpreted as predictions of the actual magnitude of those changes.

## 2.7 Expert review of retrospective maps

Feedback was solicited on the accuracy of the retrospective model predictions (Figures D-1 to D-49) from 37 experts with experience and knowledge of marine birds in the study area. These experts were from a range of organizations including federal and state government agencies, academic institutions, nonprofits, and consultants. Comments were received from 10 experts, and their feedback was incorporated into this report.

## 2.8 Predicted proportional abundance by BOEM wind energy planning and lease areas

To facilitate comparisons of relative marine bird abundance among BOEM wind energy planning and lease areas, the predicted abundance during the retrospective period in each BOEM area as a proportion of the total predicted abundance in the entire study area was tabulated by BOEM area and month for each species (Appendix H). As noted above, the models predicted only indices of density and thus indices of abundance, but proportional abundances by BOEM area would be the same whether derived from indices of abundance or from actual abundance.

For each species, the proportional abundance $\pi$ in BOEM area $b$ in month $m$ was calculated as follows:

[4] $$\pi_{bm} = \frac{\sum_{i \in I_b} d_{im} w_{ib}}{\sum_{i=1}^{C} \sum_{m=1}^{12} d_{im}}$$

where $d_{im}$ is the model-predicted density during the retrospective period for study grid cell $i$ and month $m$, $w_{ib}$ is the proportion of grid cell $i$ covered by BOEM area $b$, $I_b$ is the set of grid cells overlapped by BOEM area $b$, and $C$ is the total number of study grid cells. Computer files defining the BOEM areas for this analysis were downloaded from the Office of Renewable Energy Programs webpage (https://www.boem.gov/renewable-energy/boem-renewable-energy-shapefiles) in July 2023.

These proportional abundances ($\pi_{bm}$) represent the proportion of the total abundance of a species *across the entire year* that is within a given BOEM area during a given month. They do not represent the proportion of a species' abundance in a given month that is within a given BOEM area. For example, if a species was found solely within BOEM areas and that species' distribution did not change during the year, the sum of these proportions across BOEM areas would be 1/12 (= 0.083) in each month, and the sum of these proportions across all BOEM areas and months would be 1. These proportions are interpreted differently than the analogous proportions presented by Winship et al. (2018; their Appendix D) who presented the proportion of a species' abundance in a given season that was within a given BOEM area. In their case, under the same scenario, the proportions would sum to 1 across BOEM areas in each season. One important implication of the formulation used here is that the proportions will tend to be smaller in months when the overall abundance of a species in the study area is lower. Depending on the objective of a given analysis, an alternative scaling may be preferable.

The tables presenting predicted proportional abundance (Appendix H) include summary rows and a summary column that integrate information across BOEM areas and months, respectively. There are three summary rows presenting the proportional abundances ($\pi_{bm}$) in each month calculated for all planning areas, all lease areas, and all planning and lease areas combined, respectively. Note that some of the BOEM areas overlap each other, and this was taken into account during summation so that abundance in an area of overlap was not counted more than once. The summary column presents the proportional abundance in each BOEM area calculated for all months combined. This column can be interpreted as the proportion of a species' abundance in each BOEM area *integrated across the entire year*. In a scenario where a species was found solely within BOEM areas, this column would sum to 1 across BOEM areas.

It is important to recognize that these predicted proportional abundances represent only the proportion of a species' abundance *within the study area*. They do not account for birds outside of the study area. If instead the entire range of a species were to be considered, then the proportional abundance in BOEM areas could decrease.

# 3 Results

## 3.1 Model fit

The relative performance of different model types for a single species often differed depending on the measure of statistical fit to the observed data, although some measures were correlated with each other. Median error and absolute error were highly correlated with each other across species and models (Spearman rank correlation coefficient $r_s = 0.99$), and both were negatively correlated with PDE ($r_s = -0.85$ and $-0.86$, respectively). AIC had a high correlation with RMSE ($r_s = 0.82$). For all other correlations among pairs of fit measures, $-0.6 < r_s < 0.6$. The performance measure used for model selection, *P*, had unexpected and substantial negative correlations with AIC and RMSE (−0.73 and −0.71, respectively) and low correlations with the other measures of statistical fit ($-0.26 < r_s < 0.25$).

## 3.2 Model selection

The best model type (lowest value of *P*) varied across species (Table 4). For four species (Long-tailed Duck, Northern Gannet, Parasitic Jaeger, and Razorbill), the models with the lowest *P* still had obviously unrealistic retrospective map predictions such as predictions of higher density in areas where the species is highly unlikely to occur (e.g., a coastal species far offshore) or very localized predictions of the highest densities. For those species, there were alternative models with better retrospective map predictions whose values of *P* were within 0.01 of the lowest value, so those models were chosen as the best models. For six additional species (Bonaparte's Gull, Band-rumped Storm-Petrel, Common Loon, Common Tern, Great Shearwater, and Red Phalarope), the models with the lowest *P* had similarly unrealistic future map predictions, so alternative models with better future map predictions were chosen as the best models. Those alternative models all had values of *P* within 0.05 of the lowest value, and all but one were within 0.02. The best models for a number of other species also had obviously unrealistic future map predictions (see Section 3.5.2), but no other models had qualitatively better future map predictions and a value of *P* within 0.05 of the lowest value. The future map predictions for those species are presented here for completeness, but they should not be used or considered further.

Across all species, all model types were represented in the best models, although the model type with the "cs" basis function and no additional smoothness settings was best for only one species (Table 4). The model type with the "cs" basis function and additional smoothness settings was most frequently the best (14 species), and the other model types were best for 6–12 species. The value of *P* tended to be high (73% of values were ≥0.8) indicating that much of the predicted density was in areas without sightings on a monthly basis. Three sea duck species (Surf Scoter, Black Scoter, and Common Eider) had the lowest values of *P* (0.10–0.34). PDE ranged from 37–89% exceeding 70% for almost half of the best models (49%). The five species whose best model had the highest PDE were Thick-billed Murre, Sooty Tern, Long-tailed Duck, Common Eider, and Roseate Tern. The five species whose model had the lowest PDE were Parasitic Jaeger, Herring Gull, Lesser Black-backed Gull, Manx Shearwater, and Great Black-backed Gull. Median error was positive for all best models, and mean error tended to be positive (30 out 49 species), corresponding to predicted values greater than observed values. The best models for Common Eider and Red-necked Phalarope had substantially greater mean and absolute mean errors than

the best models for other species, while the best models for Common Eider and Long-tailed Duck had substantially higher RMSEs than the best models for other species.

## 3.3 Environmental variables

The environmental variables selected in the best models varied across species (Figure 8). The best models for four species (Horned Grebe, Black Tern, Great Skua, and Parasitic Jaeger) had only one or two environmental variables, and those species had some of the lowest numbers of samples with sightings and lowest numbers of individuals sighted. The only environmental variable in the best Horned Grebe model was static (depth), so retrospective and projected densities were identical for that species. The best models for most species had many more environmental variables; >80% had five or more variables. The best models for 13 species had all nine of the environmental variables.

Each individual environmental variable occurred in the best model for 29 or more species. Sea surface temperature was the most frequently selected variable (46 species) followed by depth (40 species) and sea surface salinity (39 species). Sea surface current magnitude was selected least frequently. There did not appear to be strong taxonomic patterns in the environmental variables selected (Figure 8), although there were some similarities among a few related species. None of the best models for jaeger or skua species included sea surface current magnitude or direction or seafloor slope, and the models for three of these four species did not include sea surface height. The best models for four tern species (Black Tern, Least Tern, Roseate Tern, and Royal Tern) did not include mixed layer depth, wind speed, or seafloor slope. The best models for six tern species did not include sea surface current magnitude (Arctic Tern, Black Tern, Common Tern, Forster's Tern, Least Tern, and Sooty Tern), and for all but two of these species (Arctic Tern and Common Tern) also did not include sea surface current direction. The best models for four of the five sea duck species did not include seafloor depth (Black Scoter), seafloor slope (White-winged Scoter), or both (Long-tailed Duck and Surf Scoter).

## 3.4 Retrospective model predictions

### 3.4.1 Spatial and seasonal patterns

Broadly speaking, spatial and seasonal patterns in retrospective model predictions (Figures D-1 to D-49) matched expectations and aligned with the sighting data (Figures C-1 to C-49). The model predictions effectively smoothed out variation in the raw data while interpolating and extrapolating into temporal and spatial data gaps. Predictions varied widely across species, reflecting different uses of the study area (breeding, foraging, and migration), different seasonal timing of presence in the study area, and use of different parts of the study area (e.g., coastal and offshore). The degree of geographic concentration of predicted density also varied among species with relatively localized distributions for some species and broader distributions for others, sometimes changing seasonally. The monthly resolution of model predictions afforded flexibility to capture the gradation of species-specific seasonal transitions.

Coastal waterfowl and similar species were generally predicted to occur in nearshore waters, as expected, with the lowest predicted density in summer when species would have mostly left the study area for their breeding areas elsewhere (Figures D-1 to D-7, D-35, and D-36). The highest predicted densities for three sea duck species (Common Eider, Long-tailed Duck, and White-winged Scoter) were in and around Nantucket Sound and Cape Cod Bay, but lower predicted densities extended south to the mouth of the Chesapeake Bay and north to Nova Scotia. In some months there were localized predictions of relatively moderate to high density in other spots for Common Eider (e.g., east of Casco Bay, Maine and the southern tip of Nova Scotia) and White-winged Scoter (e.g., Massachusetts Bay, off Rhode Island, and south of Halifax as well as the southern tip of Nova Scotia). The highest predicted densities of Black Scoter and Surf Scoter were further south near the mouth of Chesapeake Bay, along with relatively

moderate predicted density of Black Scoter even further south along the coasts of South Carolina and Georgia. Common Eider was the only sea duck species with noticeable predicted density during the summer, occurring in the northern part of the study area at the southern extent of their breeding range. The distributions of Long-tailed Duck and White-winged Scoter extended further offshore than Black Scoter, Common Eider, or Surf Scoter, with noticeable predicted density in offshore areas of the Gulf of Maine (e.g., Georges Bank). Red-breasted Merganser predicted density tended to be higher further north in the study area, and there were unrealistic, albeit lower, predictions of density far offshore in the southern half of the study area. The predicted distributions of loons spanned most of the study area latitudinally with the exception of southern Florida. The highest predicted densities of Red-throated Loon were off the mid-Atlantic coast from Maryland to North Carolina, while the highest densities of Common Loon were spread more evenly with respect to latitude. In summer there were still noticeable but lower predicted densities of Common Loon in the northernmost part of the study area, but Red-throated Loon predicted density was essentially zero. The predicted distribution of Horned Grebe spanned the entire study area latitudinally and exhibited extremely higher predictions in a single study grid cell in the vicinity of Bar Harbor, Maine.

Brown Pelican and Double-crested Cormorant also had coastal distributions with noticeable predicted densities in most, if not all months (Figures D-48 and D-49). The highest predicted densities of Brown Pelican were along the southeast coast of Florida, with relatively low to moderate density north along the coast of the South Atlantic Bight as far north as the mouth of the Chesapeake Bay in June and July. Most of the predicted distribution of Double-crested Cormorant was along the coast of the South Atlantic Bight during winter and early spring. The predicted distribution then shifted north to primarily the Gulf of Maine in summer, although predicted density at that time of year was lower presumably because of some birds breeding inland. The predicted density increased again in the fall and shifted southward.

Model predictions for phalaropes primarily reflected the spring and fall migrations of these species through the study area to and from their breeding grounds (Figures D-8 and D-9). For Red Phalarope, predicted density increased and progressed northward from January to May, peaking in April offshore of the Mid-Atlantic Bight shelf break. The species was predicted to be largely absent in June and July, followed by generally increasing density moving progressively southward through December, peaking in November along the Mid-Atlantic Bight shelf break. Throughout winter there was lower predicted density relatively coastally in the South Atlantic Bight. Predicted Red-necked Phalarope density was relatively low from late fall through early spring, with an increase in May in the northern half of the study area along and inside the shelf break. Predicted density was then essentially zero in June and July, followed by an increase in August in the Gulf of Maine and further offshore, and peak annual predicted densities in parts of this same area in September. Relatively moderate to high densities were predicted off the mouth of the Chesapeake Bay during the spring and fall shifts.

The predicted distributions of jaegers and skuas were among the broadest, covering much of the study area at certain times of the year (Figures D-10 to D-13). Predictions for the jaegers appeared to somewhat capture their spring and fall migrations. Pomarine Jaeger predicted density increased somewhat between March and May and then again between August and November to much higher densities in the northern half of the study area, especially in the Gulf of Maine and Northeast Channel and along the shelf break and further offshore. Parasitic Jaeger predicted density was lowest from January to March with peaks in May and September–October. The predicted distribution shifted northward from April to August and then shifted southward through December. The predicted density of Great Skua was highest from August–December, peaking in October. The predicted distribution was most restricted in August, to the northern part of the study area, and it extended progressively more southward before and after this month. The southern-breeding South Polar Skua was essentially predicted to be absent during the winter, and its predicted density peaked in September over Georges Bank.

The predicted distributions of alcids were mostly restricted to the northern half of the study area (Figures D-14 to D-19). Predicted densities tended to be highest during winter and spring and lowest in summer and fall, although species that breed in the study area also had noticeable densities coastally in the most northerly part of the study area near their breeding sites during the summer (Atlantic Puffin, Black Guillemot, Common Murre, and Razorbill). Dovekie had the broadest predicted distribution with the highest density along the shelf break from south of Georges Bank to the Mid-Atlantic Bight, and even relatively low predicted density as far south as the South Atlantic Bight. Black Guillemot had the most coastally restricted predicted distribution of the alcids, circumscribing the Gulf of Maine. Localized areas of relatively high predicted density for that species included southwest of Bar Harbor, south of Halifax and the southern tip of Nova Scotia, and south of Grand Manan (June and July). The predicted distributions of the other four species covered much of the area inshore of the shelf break from Cape Hatteras north during the winter and spring. Atlantic Puffin and Thick-billed Murre had highest predicted densities along the shelf break, the latter being further north with an additional area of higher density along the north edge of Georges Bank. Common Murre and Razorbill predicted densities tended to be higher closer to shore. Peak Razorbill densities were predicted off Cape Cod and along the coast of the western Gulf of Maine in April and May, respectively, while peak Common Murre densities were further north and/or offshore from January–March. The predicted distribution for Razorbill in February did not reflect the substantial observed sighting rates off the coast of the South Atlantic Bight during that month (Figure C-17).

The predicted densities of gulls and Black-legged Kittiwake tended to be lowest during the summer and highest during the winter or sometimes fall, with the exception of Laughing Gull, whichhad the highest predicted densities in the summer (Figures D-20 to D-26). Lower densities in the summer are consistent with species that wholly or partially breed at that time inland (Bonaparte's Gull, Herring Gull, and Ring-billed Gull), further north (Black-legged Kittiwake, Great Black-backed Gull, and Herring Gull), or elsewhere (Lesser Black-backed Gull). Laughing Gull had the most coastal predicted distribution with a concentration in the far south of the study area along the Florida Keys and relatively low to moderate density predicted in other places along the coast as far north as the Gulf of Maine. The southernmost predictions were not matched by observations in that area, but there was less survey effort there. Ring-billed Gull also had a fairly coastal predicted distribution extending furthest south and furthest offshore in the north during the winter. Bonaparte's Gull had a somewhat wider predicted coastal distribution spanning the entire study area latitudinally, extending furthest north in November and December and furthest south in January–March. The highest predicted densities of Bonaparte's Gull were off the Carolinas south of Cape Hatteras from January–March. Great Black-backed Gull and Herring Gull had noticeable predicted density over much of the shelf north of Cape Hatteras including the Gulf of Maine. The highest predicted density of Great Black-backed Gull was near the mouth of the Chesapeake Bay (winter–spring), and there was relatively moderate density along the coast of the western Gulf of Maine in September and October. The highest predicted densities of Herring Gull were along the Gulf of Maine coast in September and October with the very highest densities in a couple of localized spots at times (e.g., Ipswich Bay, Massachusetts, and south of Bar Harbor). Black-legged Kittiwake had a predicted distribution covering the shelf north of Cape Hatteras and the Gulf of Maine, with the highest predicted densities around Cape Cod and off southwest Nova Scotia. The predicted distribution of Lesser Black-backed Gull also covered most of the shelf with at times relatively moderate density along the coast and a band of relatively moderate to high density beyond the shelf break north of Cape Hatteras. Localized predictions of the highest densities occurred near Cape Hatteras and/or Bar Harbor in April, October, and November.

The predicted distributions of terns varied by species but broadly matched known migratory patterns, with most species absent during the winter (Figures D-27 to D-34). Arctic Tern had noticeable predicted density from March–October with broader offshore distributions during migration and the highest predicted densities along the coast of the northern Gulf of Maine and Nova Scotia in June and July.

Roseate Tern also had noticeable predicted density from March-October with a coastal distribution. In summer, predicted densities reflected breeding sites, being relatively low to moderate in the south (Florida Keys and South Atlantic Bight) and relatively low to high in the north, especially off Massachusetts with essentially zero predicted density in between. Common Tern had noticeable predicted density from May-October with a fairly coastal distribution. Predicted density was higher and more widespread latitudinally during migration and was lower and more northerly during summer. Specific coastal areas with relatively high densities during migration included the Florida Keys, South Atlantic Bight, the mouth of the Chesapeake Bay, and Nantucket Sound. The predicted distribution of Black Tern showed some evidence of the spring migration with a minor peak in density in May followed by greater evidence of the "fall" migration with peak densities in August and September, especially coastally in the southern half of the study area. The predicted distribution of Least Tern was dominated by relatively moderate to high predicted densities in the southernmost part of the study area (Florida Keys) from May–September with much lower predicted density further north in the South Atlantic Bight in some of these months. There were few sightings of Least Tern in the southernmost part of the study area, but there was less survey effort there. Predicted densities of Sooty Tern also peaked in summer (August and September) in the southern part of the study area, but its distribution was broader with noticeable density across the Blake Plateau and beyond. The highest predicted densities were off southeast Florida and along the southern end of the Blake Escarpment. Unlike most tern species, Royal Tern had noticeable predicted densities in winter, coastally in the southernmost part of the study area. Predicted densities in this area were highest from March–May and September–October, and lower predicted densities extended much further north at these times of year. Forster's Tern had the highest predicted densities in winter, unlike any other tern species, with their coastal distribution centered in the South Atlantic Bight (South Carolina and Georgia). Predicted densities were lower in other months, but the distribution extended further north, for example, with relatively moderate density in Nantucket Sound in October and November.

The nine species of procellariiforms had mostly offshore predicted distributions, and temporal changes in density generally aligned with the timing of their migrations (Figures D-37 to D-46). The predicted densities of shearwater species generally peaked in late spring or summer, except for Manx Shearwater, whose density peaked in fall. Audubon's, Cory's, and Manx Shearwater had the most offshore predicted distributions. The highest densities of Audubon's and Cory's Shearwater coincided with the Gulf Stream around and north of Cape Hatteras, as well as along the Blake Escarpment for Cory's Shearwater. The highest predicted densities of Manx Shearwater, which breeds in the study area, were further north along the shelf break north of Cape Hatteras and into the Northeast Channel and Gulf of Maine off Cape Cod. The predicted distributions of Great and Sooty Shearwaters were similar but almost entirely along the shelf break or over the shelf, especially in the Gulf of Maine, sometimes relatively close to shore. The predicted densities of storm-petrels were highest during summer along or beyond the shelf break over the Gulf Stream around and north of Cape Hatteras (Band-rumped Storm-Petrel) or further north off Georges and Browns Banks (Leach's Storm-Petrel, which breeds in the study area). The predicted distribution of Black-capped Petrel was mostly south of Cape Hatteras with the highest densities from late spring to early fall around Cape Hatteras and along the Blake Escarpment; but there were also relatively low to moderate densities over the Blake Plateau and in the Straits of Florida, and north of Cape Hatteras beyond the shelf break. The seasonal pattern of predicted density for Northern Fulmar differed from the other procellariiforms, being lowest during summer when birds were breeding further north. The highest predicted densities were in the Gulf of Maine, especially the north-central part, northeast of Cape Cod, and along the north edge of Georges Bank. Lower predicted densities extended south primarily along the shelf break and over the shelf reaching as far as Cape Hatteras or even further south in February.

The predicted distribution of Northern Gannet was relatively coastal with hardly any predicted density beyond the shelf break (Figure D-47). The predicted distribution spanned the entire study area latitudinally during the winter, although the highest predicted densities were along the mid-Atlantic coast

from Cape Hatteras to north of the mouth of the Chesapeake Bay. Predicted density decreased through summer with the distribution shifting north, reflecting migration to breeding sites further north.

### 3.4.2 Uncertainty

The CVs of the retrospective map predictions were variable across species and space (Figures E1–E49). The CV tended to be higher further offshore, likely reflecting less survey effort and greater uncertainty in those areas (Figure 4) as well as extremely low predicted values for many species, which can inflate the CV. The spatial pattern of the CV sometimes reflected the influence of particular environmental variables (e.g., Bonaparte's Gull and Audubon's Shearwater; Figures E-21 and E-46), but this was often in areas far offshore where the predicted density of many species was much lower. Commonly the CVs indicated substantial uncertainty in model predictions, for example, a CV of 0.5 equates to an SD that is 50% of the mean prediction. High CVs should be especially considered when they are associated with predictions of higher density; for example, Common Eider along the coast of the Gulf of Maine in summer (Figures D-1 and E-1) and Brown Pelican off the southwest end of Florida (Figures D-49 and E-49).

### 3.4.3 Questionable predictions

While the retrospective model predictions seemed reasonable on the whole, there were questionable features of the predictions for some species. For multiple species with coastal distributions, there were sometimes individual study grid cells with substantially higher predicted density than neighboring cells (e.g., Black Guillemot, Brown Pelican, Herring Gull, and White-winged Scoter, to name a few). Sometimes this issue was apparent in the same cell for multiple species, for example, one of the cells in the vicinity of Bar Harbor. In some cases, predictions of higher density in those cells may be at least partially realistic, for example, Black Guillemot predictions in a cell adjacent to Grand Manan Island where they breed in June and July (Figure D-18). Nevertheless, extremely localized predictions of relatively high density at the spatial resolution of the model were suspect. The model might also have underpredicted density in some areas for some coastal species. For example, Great Gull Island in eastern Long Island Sound has a large breeding colony of the endangered Roseate Tern, and breeding adults forage up to at least 50 km from the colony (Loring et al. 2023). Long Island Sound was outside of our study area, but the predicted density of Roseate Tern was relatively low at the edge of the study area adjacent to the eastern end of Long Island Sound, within that foraging range (Figure D-30). The model might have underpredicted Roseate Tern density in that area at that time of year. The model for Common Eider might also have underpredicted density in the vicinity of some of their breeding sites along the coast of the Gulf of Maine during summer, although overall abundance of Common Eider in the study area was lower during summer than winter, as expected, which makes it more difficult to resolve areas of highest density during summer when the maps are scaled on an annual basis (Figure D-1).

Coastal predictions were likely challenging for the model for a couple of reasons. By design the coast was at the edge of the study area where many predictors assumed their most extreme values (e.g., depth and salinity). Model estimation and prediction at or beyond the edges of data ranges can be challenging and may entail unrealistic extrapolations, especially with nonlinear models such as those used here. Also, the distribution of more coastal species (e.g., Brown Pelican, Laughing Gull, and Least Tern, to name a few) relative to the survey coverage and study area might have limited the number of sightings, the number of cells with sightings, or the range of environmental variable values in areas with sightings, all of which can be challenging to model estimation and prediction. Small population sizes for some species (e.g., Roseate Tern) exacerbated those issues. Overly complex estimated relationships between bird density and one or more environmental variables (i.e., "overfitted" relationships) are another possible cause of extreme localized predictions.

Features of offshore predictions were also questionable for some species. There was much less survey effort offshore to inform the models in those areas, especially in winter (Figure 5). For at least one coastal

species, Red-breasted Merganser, there were noticeable predictions of density, albeit lower, far offshore beyond the shelf break, which is unrealistic (Figure D-6). Offshore predictions for that species should be ignored. For other species that do occur far offshore, for example, Pomarine Jaeger or Cory's Shearwater, the predicted distributions in those areas sometimes exhibited relatively fine-scale patterns that reflected patterns in the environmental variables but may not be realistic with respect to the distribution of birds (Figures D-12 and D-42). There were predictions of relatively high density in localized areas offshore for some species that deserve further investigation (e.g., along the Blake Escarpment south of the Blake Spur for Wilson's Storm-Petrel, Black-capped Petrel, and Cory's Shearwater; Figures D-37, D-41, and D-42, respectively). Offshore components of other species' distributions may have been underpredicted (e.g., Herring Gull offshore in the South Atlantic Bight during winter; Figure D-24) or overpredicted (e.g., Lesser Black-backed Gull beyond the shelf break in the Mid-Atlantic Bight, Figure D-25; Great Black-backed Gull in the South Atlantic Bight during winter, Figure D-26; Forster's Tern in the fall, Figure D-33) due to a lack of survey data.

Temporal changes in predicted density through the course of the year appeared realistic for most species but in some cases were questionable. For example, the predicted density of Double-crested Cormorant was lowest in summer and higher at other times of year as expected, but density fluctuated from month to month between November and April in a potentially unrealistic manner (Figure D-48). The predictions for Red-necked Phalarope suggested the species was essentially absent from the study area altogether in February and March (Figure D-8), which may not have been realistic. Most sightings of Band-rumped Storm-Petrel were during June–August (Figure C-39), but the model predicted substantial densities in adjacent months (e.g., May, September, and October) and noticeable density throughout the year (Figure D-39). One potential cause of unrealistic predicted temporal patterns could have been temporal gaps in survey effort and the model conflating survey effort with density.

More generally, there were large gaps in survey effort (Figure 5), and model predictions in those areas at those times of year should be interpreted cautiously. One example is the Gulf of Maine during winter. A species that was predicted to overwinter in that area was Black Guillemot, and the model predicted relatively moderate to high densities of that species far offshore in parts of the Gulf of Maine like along Georges Bank during winter (Figure D-18). However, there were very few, if any, sightings of Black Guillemot in the limited survey data from those areas at that time of year (Figure C-18). Another gap in survey effort was the southernmost part of the study area in the Straits of Florida during most months (Figure 5). Multiple species had noticeable predicted densities in that area that deserve further scrutiny (e.g., Horned Grebe; Figure D-7). Density might have been underpredicted in that same area for other species (e.g., Sooty Tern; Figure D-27). Model predictions coinciding with survey data gaps should be considered more uncertain than predictions in areas at times of year with good survey coverage.

### 3.4.4 Proportional abundance by BOEM wind energy planning and lease areas

The proportion of predicted abundance in BOEM wind energy planning and lease areas during the retrospective period varied widely by species, month, and area (Appendix H). The proportional abundance in call areas tended to be greater than in lease areas, primarily because call areas were often much larger than lease areas. For example, the proportional abundance of many northern species was highest in the relatively large Gulf of Maine call area. Some of the Central Atlantic call areas were the areas of greatest overlap for several procellariiforms (e.g., Band-rumped Storm-Petrel, Black-capped Petrel, and Audubon's Shearwater; Tables H-39, H-41, and H-46, respectively), while the South Carolina Grand Strand call area was the area of greatest overlap for Brown Pelican and several species of terns and gulls (e.g., Bonaparte's Gull, Laughing Gull, Sooty Tern, and Royal Tern; Tables H-21, H-22, H-27, and H-34, respectively). Proportional abundance for Common Loon, when integrated across the entire year, was nearly equal between call areas and lease areas (Table H-36). The only species that had greater overall proportional abundance in lease areas than in call areas was White-winged Scoter (Table H-3).

Seasonal patterns of overlap between BOEM areas and the predicted retrospective distributions of abundance often reflected seasonal patterns of species occurrence and migration (Appendix H). For a given species, overlap was highest during the months that the species was present in the study area in large numbers (e.g., Wilson's Storm-Petrel in summer, Table H-37; Long-tailed Duck in winter and spring, Table H-5). Patterns of overlap also reflected the North–South seasonal movements of species whose migrations at least partially overlapped BOEM areas across the study area (e.g., Red Phalarope, Forster's Tern, Northern Gannet, and Double-crested Cormorant; Tables H-9, H-33, H-47, and H-48, respectively). Expanded distributions outside the breeding season were also evident in the patterns of overlap (e.g., southward extension of Dovekie and Atlantic Puffin and overlap with Central Atlantic call areas during winter; Tables H-14 and H-19, respectively).

When integrated across the entire year, the total predicted proportional abundance in all BOEM wind energy planning and lease areas ranged from 0.3–37% across species (Appendix H). Sooty Tern (Table H-27), Black-capped Petrel (Table H-41), and Least Tern (Table H-28) had the smallest proportional abundances in BOEM areas (<1%). Northern Fulmar (Table H-40), Black-legged Kittiwake (Table H-20), and Great Black-backed Gull (Table H-26) had the largest proportional abundances in BOEM areas (20-37%), mostly the Gulf of Maine call area. The majority of species (41 out of 49) had <2% of their predicted abundance in BOEM lease areas on an annual basis. Common Loon (Table H-36), White-winged Scoter (Table H-3), and Long-tailed Duck (Table H-5) had the greatest proportional abundances in lease areas on an annual basis ranging from 2.9–4.1%.

## 3.5 Future model predictions

### 3.5.1 Spatial and seasonal patterns

For the majority of species, spatial and seasonal patterns in future model predictions were not drastically different from retrospective model predictions (compare Figures F-1 to F-49 with D-1 to D-49). This result was a product of the magnitude of projected differences in the environmental variables between the retrospective and future periods (Figures B-1 to B-7) and the estimated strength of the relationships between bird density and the environmental variables. Nevertheless, the future predictions for every species except Horned Grebe exhibited positive and negative changes in their monthly distributions (Figures G-1 to G-49). The areas and months with increases and decreases were highly variable across species, and the areas with increases and decreases were also often variable across months for a given species. Differences between predicted future and retrospective distributions offshore often suggested increases or decreases in broad bands or swaths paralleling the shelf break or Gulf Stream (e.g., Great Skua and Audubon's Shearwater; Figures G-10 and G-46). Differences in distributions over the shelf sometimes suggested increases or decreases over broad areas like the Gulf of Maine (e.g., South Polar Skua; Figure G-11), but more often there was a mix of increases and decreases (e.g., Dovekie and Manx Shearwater; Figures G-14 and G-45). Differences along the coast sometimes suggested consistent increases or decreases over large stretches (e.g., Red-throated Loon; Figure G-35) but other times suggested opposite changes over shorter distances (e.g., White-winged Scoter; Figure G-3). There was rarely a continuous gradient of change along a single spatial axis at the scale of the study area, although Leach's Storm-Petrel provided an example of this with a mainly northwest to southeast shift (Figure G-38). In some cases, differences in predicted future and retrospective monthly distributions appeared to suggest relative shifts in density between months as well as in space, for example, an increase in August and decrease in November and December for Common Eider (Figure G-1), an increase in February for Red Phalarope (Figure G-9), and an increase in winter months for Band-rumped Storm Petrel (Figure G-39).

### 3.5.2 Questionable predictions

The future model predictions were questionable or almost certainly unrealistic for 12 species, representing approximately one quarter of species modeled: Long-tailed Duck, Red-breasted Merganser, Atlantic Puffin, Sooty Tern, Roseate Tern, Forster's Tern, Northern Fulmar, Cory's Shearwater, Sooty Shearwater, Northern Gannet, Double-crested Cormorant, and Brown Pelican. Unrealistic future predictions arose from the interplay between the predicted changes in the environmental variables and the estimated relationships between bird density and the environmental variables during the retrospective period. For example, the predicted future distributions of six species exhibited an issue with relatively localized occurrences of the highest densities in the vicinity of Cape Hatteras (Atlantic Puffin, Sooty Tern, Roseate Tern, Forster's Tern, Cory's Shearwater, and Northern Gannet; Figures F-19, F-27, F-30, F-33, F-42, and F-47, respectively). For Forster's Tern and Northern Gannet this unrealistic prediction additionally occurred during a season when the retrospective density was predicted to be relatively lower (summer). The predicted future distribution of Northern Gannet also had an unrealistic prediction of localized higher density far offshore in the northeast part of the study area at the same time of year.

The localized nature of these unrealistic predictions, especially the one that occurred near Cape Hatteras for six species, might suggest that one environmental variable was responsible. None of the monthly climatologies show obvious big changes in environmental variables in that area between the retrospective and future periods (Figures B-1 to B-7). Sea surface current magnitude shows perhaps the greatest change (Figure B-3), but that variable was not in the model for two of the species (Forster's Tern and Sooty Tern). Depth and sea surface temperature and height were the only variables in the models for all six species. It is possible that a combination of more than one environmental variable was responsible, although the models did not allow for interaction effects between variables. Regardless, part of the cause was likely overfitted relationships between bird density and one or more environmental variables during the retrospective period that resulted in unrealistic values when applied to the future environmental variables.

As discussed above, coastal predictions were sometimes challenging for the model even in the retrospective period, so unrealistic future predictions for some coastal species were not surprising. A few of the coastally distributed species (Long-tailed Duck, Double-crested Cormorant, and Brown Pelican) had future predictions that were dominated by the highest densities in one or a few coastal cells (Figures F-5, F-48, and F-49, respectively). Two species (Red-breasted Merganser and Northern Fulmar) had future predictions dominated by one or two small areas far offshore (Figures F-6 and F-40, respectively). In the case of Northern Fulmar, the predicted values in that area were extremely high and certainly erroneous. In the case of Red-breasted Merganser, it is not believable that the species would largely be found that far offshore in any month.

Finally, the predicted future distribution of Sooty Shearwater was quite different from the retrospective distribution with a shift inshore and northward in the Gulf of Maine with density peaking later (August; Figure F-43). The likelihood of such a dramatic shift in distribution during the next few decades is questionable.

# 4 Discussion

## 4.1 Interpretation of model predictions

The model predictions presented in this report represent species-specific indices of density. They should be interpreted as being proportional to but not equal to actual density, and their magnitude should not be compared between species. The predicted maps indicate where species are relatively more abundant or

less abundant. The model predictions do not represent the actual number of birds in any particular area, and, thus, they cannot be used on their own to derive the number of birds exposed to or impacted by a particular activity (e.g., collision risk modeling). Estimates of actual abundance or mortality would require additional information, for example, independent estimates of population size.

The predicted maps (Figures D-1 to D-49 and F-1 to F-49) represent average spatial distributions over several decades. For example, the retrospective predicted maps represent the average monthly distributions from 1993–2019. Marine bird distributions can change from year to year as a result of changes in environmental conditions, prey, and other factors (Ballance et al. 2006, Renner et al. 2013, Suryan et al. 2016, Cushing et al. 2023). The average distributions presented here do not necessarily reflect the distributions in any particular year during the study time frame.

When considering the retrospective predicted maps (Figures D-1 to D-49), one should also consider auxiliary information presented in this report as an indication of the uncertainty in those predictions. There were large gaps in survey effort (Figure 5) both throughout the year (e.g., far offshore) and in particular areas during particular months (e.g., Gulf of Maine in December and January). Model predictions in those areas at those times are essentially interpolations or extrapolations from survey data from other places or times and entail greater uncertainty. The observed sighting data (Figures C-1 to C-49) indicate where each species was seen more or less frequently on surveys, and this information can be used to assess how well the model predictions reflect actual observations; although it is important to recognize the strong influence of sampling effort on the observed sighting data. Some example discrepancies between model predictions and observations were Razorbill off the coast of the South Atlantic Bight during February (Figures C-17 and D-17) and Great Skua in the South Atlantic Bight from November–April (Figures C-10 and D-10). Finally, the CVs of the model predictions (Figures E-1 to E-49) indicate the estimated precision of those predictions within the context of the model. Predictions with higher CVs entail greater uncertainty.

The model predictions apply only to the study area. Very nearshore waters and coastal sounds and bays (e.g., Bay of Fundy, Long Island Sound, Delaware Bay, Chesapeake Bay) were not modeled, yet multiple marine bird species use these areas sometimes in large numbers at certain times of year (e.g., wintering sea ducks). More generally, the ranges of many species extend beyond the study area. Areas with the highest predicted densities in a given month are not necessarily the areas of highest density for a species were its entire range to be considered.

## 4.2 Combining model predictions

For some applications it may be of interest to consider the annual average spatial distribution for individual species or the monthly or annual average spatial distribution of a group of species. For example, the Marine-life Data and Analysis Team (Curtice et al. 2019) combined the model predictions of Winship et al. (2018) across species for multiple species groups based on spatial distributions, ecological characteristics, conservation concern, and sensitivity to stressors. These combined distributions have been used in offshore wind energy planning, for example, the Final Environmental Impact Statement for the Ocean Wind 1 Offshore Wind Farm off New Jersey (BOEM 2023; their Figures 3.7-2 and 3.7-3 in Appendix G). Combining model predictions can be done several ways, each of which entails important assumptions that affect how the average distribution should be interpreted. The following are our recommendations regarding combining model predictions.

To derive the annual average spatial distribution for a single species, it is recommended to simply average the monthly average model predictions for the time period of interest on a grid cell–by–grid cell basis. As with the monthly average model predictions, annual average model predictions calculated in this way will represent the average annual distribution throughout that study time period, either the retrospective or

future period. It is important to recognize that an annual average spatial distribution calculated in this way will be more influenced by and thus more representative of a species' spatial distribution in months when that species is more abundant in the study area. For example, the annual average model predictions for Common Eider (Figure 9) largely reflect fall and winter rather than summer (Figure D-1). As discussed previously, the model predictions are only indices of density, and they do not explicitly account for several potential biases in the estimation of actual density (e.g., detectability). Any changes in these biases across months for an individual species will not be reflected in its average annual spatial distribution calculated as described here.

Averaging of model predictions across species entails additional considerations. As already noted, it is not recommended to compare model-predicted values between species because they represent only indices of density and do not account for biases in the estimation of abundance that vary across species. As a result, it is advised to first standardize the model predictions for individual species prior to averaging them across species. It is important to recognize that by standardizing the model predictions for individual species, each species will then essentially contribute equally to a multi-species average spatial distribution. Less-abundant species will contribute as much as more-abundant species. Equal weighting of species may or may not be desirable for a given application. If a different weighting is desirable, then additional decisions or information beyond the model predictions would be needed. For example, weighting by abundance would require independent estimates of population size.

Standardization can be done multiple ways. Dividing the model predictions for an individual species by the sum of the predicted values is suggested. If the grid dimensions are identical among species, as they are here, dividing by the mean predicted value will achieve an equivalent standardization. For example, to standardize the annual average distribution for a given species, one would divide the annual average value in each study grid cell by the sum of annual average values in all grid cells. When model predictions are standardized by their sum or mean, species with more localized distributions will tend to have greater influence on the combined multi-species distribution than species with more even, widespread distributions. An alternative approach could be to standardize the model predictions for an individual species by their maximum value, in which case more even, widespread species may have more influence on the multi-species distribution. The objective of any given application should be considered when choosing among standardization approaches and their inherent assumptions.

As one example of combining model predictions across species, Figure 10 shows the annual average spatial distribution for all species modeled here, derived using the approaches outlined above. Note that the predicted localized distributions of some species around the mouth of the Chesapeake Bay and in the far southern part of the study area have a large influence on this multi-species distribution. Depending on the application, it may be more appropriate to combine the model predictions for only a subset of the species modeled here, or to weight species differently.

## 4.3 Environmental variables

In this study the spatial distributions of marine bird species were modeled as functions of seven dynamic and two static environmental variables. The dynamic variables were mostly derived from model outputs rather than *in situ* or remotely sensed measurements, but model outputs can perform as well as measured data when used as predictors in species distribution models (Becker et al. 2016); and they allow for predictions into the future when measured data are unavailable. The models were "correlative" in the sense that physiological, demographic, and ecological mechanisms explaining the relationships between bird density and the environment were not explicitly specified. "Process-explicit" models can provide a deeper understanding of how species' distributions are related to the environment, and they may perform better than correlative models when projecting to new environmental conditions (Briscoe et al. 2019). While some of the environmental variables used here could have direct effects on bird distributions (e.g.,

wind speed), the majority would be at best proxies for variables that more directly affect bird distributions. Nevertheless, the set of environmental variables used was still able to capture the major features of species' distributions at the resolution and scale of the study area. Also, many fewer environmental variables were used than by Winship et al. (2018), yet for the most part, the models still performed well. Of particular note, static relationships between bird density and the set of environmental variables used were able to capture changes in spatial distribution throughout the year within a single model, whereas Winship et al. (2018) fit separate seasonal models.

Ideally, marine bird distributions would be modeled as functions of variables that more directly influence the occurrence and abundance of animals. Perhaps the most obvious example is prey. The foraging distributions of birds at sea are by definition related to the distributions of their prey (Silva et al. 2021), and prey data can be more useful than environmental data for informing species distribution models (de la Cruz et al. 2022). Future changes in climate are most likely to affect marine bird distributions indirectly through changes in the distributions of their prey (Durant et al. 2004), although birds may not necessarily respond to climate in the same way as ectothermic prey (Thorne and Nye 2021). Even information on lower trophic levels could be useful; for example, Winship et al. (2018) found that chlorophyll was a useful predictor for capturing the distributions of some sea ducks, and Gulka et al. (2023) found that the movement behaviors of three of the species modeled here were related to chlorophyll concentration. Comprehensive information on prey distributions throughout our study area and retrospective time period were not available, nor were projections of prey distributions throughout our study area. As more climate and ocean models are integrated with models of lower trophic levels (e.g., Fiechter et al. 2016), prey outputs should be considered as predictors in marine bird distribution models.

Spatial terms (e.g., spatial coordinates) can be incorporated in species distribution models to capture components of spatial distributions not represented by environmental variables. Spatial terms can result in better-fitting models, but they also limit the ability of models to predict to new areas (Brodie et al. 2020). By accounting for a component of a species' distribution, spatial terms can also reduce the scope of predicted future changes in distribution as a function of changes in environmental variables, although that can be a good thing by avoiding overestimation of future changes (Crase et al. 2014). For marine birds, the locations of terrestrial breeding sites influence spatial distributions during the breeding season, and that information could be incorporated through a spatial term, for example, proximity to a colony. Furthermore, the future distributions of marine birds will be affected by environmental changes on land as well as at sea (Durant et al. 2004, Blondin et al. 2022), so potential changes in the distribution of terrestrial breeding sites should be considered when projecting future distribution changes.

## 4.4 Retrospective model predictions

The models and retrospective map predictions presented here have some key differences, largely improvements, from those presented by Winship et al. (2018). First, this study excluded bird survey data prior to the 1990s and included data as recent as 2020, while the data used by Winship et al. (2018) spanned the late 1970s through 2016. This change in time period means that the results presented here should be more reflective of recent bird distributions. Second, the spatial and temporal resolutions used in this study were coarser and finer, respectively, than those used by Winship et al. (2018). The coarser spatial resolution (10 km versus 2 km) was a better match to the spatial information content in the environmental variables that were input to the model. The finer temporal resolution (monthly versus seasonal) allowed for a more precise representation of changes in spatial distributions during the course of the year and was better able to capture the timing of migratory movements by different species but was still limited to a monthly resolution. Third, in contrast to the seasonal models of Winship et al. (2018), this study developed a single model for each species, and observed bird counts were modeled as a function of contemporaneous environmental variables. The use of contemporaneous environmental conditions allowed predicted spatial distributions to change during the course of the year and across years

as a function of environmental variation over time. Monthly and inter-annual variability can be important with respect to the predictability of species' distributions in space and time (Brodie et al. 2021). Fitting a single model to all of the data for a given species maximized the information available to estimate effects, especially non-spatial, non-temporal effects like survey platform. It also enforced consistent and continuous temporal and environmental effects over time. Finally, while the retrospective maps presented here still exhibit some unrealistic predictions (see Section 3.4.3), there were fewer than in the maps presented by Winship et al. (2018), for example, with respect to predictions of higher density far offshore for species that do not occur there.

The retrospective-predicted distributions of marine bird species presented here broadly aligned with what is known about these species' ranges and migrations. It is beyond the scope of this report to compare the model predictions to all that is known about the spatial distributions of all of these species in this region. Nevertheless, there are a few key types of information that can be consulted for comparison to the map predictions presented here, and the following are some example comparisons.

### 4.4.1 Other species distribution models

There have been many other marine bird species distribution models derived from at-sea survey data in this region (e.g., Zipkin et al. 2010, Winiarski et al. 2013, 2014a, b, Goyert 2014, Lieske et al. 2014, Flanders et al. 2015, Balderama et al. 2016, Goyert et al. 2016, Sollmann et al. 2016). Typically, those studies focused on fewer species in a smaller area, during a shorter period of time, using a subset of the survey data analyzed here. By focusing on smaller areas and more homogeneous survey data, those studies were often able to achieve a higher spatial resolution and provide a more detailed treatment of the survey data (e.g., distance sampling). A recent example is that of Smith et al. (2019) who developed species distribution models for the abundance of wintering sea duck species in Nantucket Sound from aerial survey data collected over the course of four years (Dataset Group 18 in Table 1). Their model predictions had a spatial resolution of 1.5 km. Despite major study differences, there are some similarities between their predicted distributions and those presented here; for example, relatively lower Common Eider abundance in the center and southeast quadrant of the Sound and the highest Long-tailed Duck abundance in the northeast quadrant. The distributions of scoters do not appear to correspond as well between studies, but Smith et al. (2019) pooled the data for all three scoter species in a single model.

### 4.4.2 Colony-centered foraging range analyses

A second type of information for comparison to the retrospective map predictions presented here is colony-centered foraging range analyses (Soanes et al. 2016, Critchley et al. 2020). Marine birds who breed in the study area typically make foraging trips during the breeding season, and tracking data can be used to determine how far from the colony the birds range on these trips. The defined foraging areas are then sometimes weighted by known colony sizes to reflect the expected relative densities of birds among areas. While this type of information is informed by the known locations and sizes of breeding colonies, our models incorporated no information about colonies, only the locations and counts of birds at sea. Stepanuk et al. (2022) provided an example of such an analysis for 13 of the species of marine birds modeled here in part of our study area, the Gulf of Maine. Broadly speaking, most of the predicted distributions of these species along the US coast of the Gulf of Maine during the breeding season are within the areas identified by Stepanuk et al., and in some cases the models predicted higher density in areas near larger breeding colonies (e.g., Atlantic Puffin, Common Murre, and Common Eider).

### 4.4.3 Tracking studies

A third type of information for comparison to our retrospective map predictions comes from animal tracking. Tracking of marine birds has increased during the past few decades, resulting in large multi-species datasets covering entire ocean basins (e.g., Ramos et al. 2017, Davies et al. 2021). These data

have also been incorporated into species distribution models to predict habitat usage over large areas (e.g., Fauchald et al. 2021, Ronconi et al. 2022). Tracking provides longitudinal data on individual animals that are not constrained to a pre-defined study area and thus provides complementary information to at-sea surveys (Fischer et al. 2023). Multiple species of marine birds have been tracked within our study area in numerous studies, and an exhaustive comparison of those studies to our map predictions is beyond the scope of this report. Nevertheless, the following are some example comparisons.

Baran et al. (2022) and Symons and Diamond (2022) described two example tracking studies of alcids from the northern Gulf of Maine. In those studies, areas used by tracked Atlantic Puffin and Razorbill during the summer breeding season overlapped with areas of highest predicted density in our retrospective maps, and the areas used by Atlantic Puffin during the non-breeding season extended as far south as Cape Hatteras during late winter and spring as also suggested by our model predictions (Figure D-19). Hedd et al. (2018) tracked breeding Leach's Storm-Petrel from Canadian colonies, some bordering the Gulf of Maine, and found that birds ranged widely over the shelf and beyond on foraging trips during the incubation period, which is consistent with the broad distribution predicted at that time of year in this study (Figure D-38).

Stenhouse et al. (2020) and Gulka et al. (2023) reported on the tracking of four species during the non-breeding season (Surf Scoter, Long-tailed Duck, Red-throated Loon, and Northern Gannet), and there was some correspondence between areas used most frequently by those birds and areas of highest predicted density in this study (Figures D-2, D-5, D-35, and D-47, respectively). There were also differences; for example, areas with relatively low or moderate predicted density extended further south for Red-throated Loon, predicted density at the mouth of Delaware Bay did not stand out for Red-throated Loon, predicted density of Surf Scoter was higher around the mouth of the Chesapeake Bay than spots further north (mouth of Delaware Bay and Nantucket Sound), and the predicted density of Northern Gannet was not noticeably higher in the New York Bight. Some of these differences could have arisen from differences in the way space use was quantified in those studies ("persistence" or utilization distributions versus average density) or from differences between the sample of birds tracked and the overall populations using the study area. Lamb et al. (2020) applied species distribution modeling to tracking data for all five sea duck species. Their predicted areas of high habitat suitability were generally broader but encapsulated our predicted distributions, and some qualitative features of their distributions were similar (e.g., more northerly distributions of Common Eider, Long-tailed Duck, and White-winged Scoter). Note that Lamb et al. (2020) also included coastal bays and inland bodies of water in their study, which are important wintering habitats for these species that were outside of our study area.

Powers et al. (2020) reported on tracking of Great Shearwaters in the Gulf of Maine during summer over six years. Areas the birds used most included the southwestern Gulf of Maine off Massachusetts extending southwest of Nantucket and along the northern side of Georges Bank, as well as some other smaller areas in the northern Gulf. Our model predictions also indicated relatively high density in a band starting north of Cape Cod approximately following the 100-m isobath down, across, and along the north side of Georges Bank (Figure D-44). Nevertheless, there were differences between the model predictions and the tracking data. For example, the model predicted somewhat higher density north and east of Cape Cod in August than in July, but this was not indicated in the tracking data (Kevin Powers, personal communication). Also, predicted density was relatively lower over Stellwagen Bank, in Cape Cod Bay, and especially over Nantucket Shoals, all areas used by tracked birds. One reason for this difference could be gaps in the survey data. Another could be that the sample of tracked birds, which were all captured in the southwestern Gulf of Maine, differed from the overall population in the study area and therefore some areas appeared less important in our predictions when area usage was integrated across the entire population in the study area.

Satgé et al. (2022) presented tracking data for Black-capped Petrel in the western North Atlantic during the breeding and non-breeding periods. Their utilization distributions coincided with some of the areas of

higher density predicted by our model (e.g., off Cape Hatteras) but also suggested greater use of areas further north in pelagic waters beyond the shelf break off the Mid-Atlantic Bight. This difference was especially apparent in data from the species' light form. There were relatively few survey data from this area, especially farther offshore (Figures 5 and C-41), which could have resulted in underprediction of Black-capped Petrel density there.

Harrison et al. (2021) tracked four Parasitic Jaeger from their arctic breeding grounds, and the birds migrated to the western Atlantic Ocean. The timing of their fall migrations through the latitudes of our study area was consistent with our model predictions of increased density shifting progressively southward from September to November (Figure D-13). For two of the birds whose return migration was tracked, the timing was also consistent with our model predictions of spring density peaking in May.

Tracking data can provide different information than survey data, and full assessments of the spatial distributions of marine birds should consider both types of information when available. Tracking data provide continuous series of locations from the same animals at a very high temporal resolution; thus, they can reveal the timing of movements and distributional shifts over very short periods of time. Survey data, on the other hand, are typically patchy in time, which limits the appropriate temporal resolution of analysis. Our analysis of survey data was limited to a monthly resolution, yet the migrations of many marine birds occur more rapidly with movements across large areas within days or weeks. Our monthly model predictions do not necessarily represent the spatial distributions of these species during shorter periods accurately, for example, during migration. More generally, tracking data can indicate areas or movement paths used consistently but only for short amounts of time. Our model predictions, by design, reflect only the areas of highest use integrated across entire months and averaged across years.

## 4.5 Future model predictions

Future projection is now a prominent aspect of ecological research (Lewis et al. 2023), especially regarding the effects of changing climate. The marine environment of the Atlantic OCS and beyond has already changed substantially during the past several decades (e.g., Chen et al. 2020) and is projected to change further during the next century (Saba et al. 2016, Alexander et al. 2020). These environmental changes have occurred alongside changes in species' abundances, distributions, and phenologies (Nye et al. 2009, Pinsky et al. 2013, Friedland et al. 2020, Friedland et al. 2021, Langan et al. 2021), and further such changes are expected (Morley et al. 2018, Allyn et al. 2020, Pershing et al. 2021). Marine birds are no exception as changes in their distributions have been documented in this region (e.g., Viet and Manne 2015) and are expected to continue. Our study represents an attempt to explore possible changes in marine bird distributions during the next three decades as a result of environmental change. Our model predictions should not be interpreted as predictions of exactly how bird distributions will change or not change during that time, but rather as an example of how they may or may not change.

The predicted future changes in marine bird distributions presented here were variable across species. That variability was not surprising given that the 49 species modeled represented a wide range of life histories and ecologies. Different species will be affected by environmental changes in different ways as determined by their unique physiology, foraging behavior, prey species, etc. (Kuletz et al. 2020, Sojitra et al. 2022, Cushing et al. 2023). For about one quarter of the species modeled, the predicted future distributions were questionable or obviously unrealistic, and those predictions should not be used or considered further. In some of those cases, the poor predictions were not surprising. For example, it was challenging to estimate the retrospective distributions of highly coastal species (see Section 3.4.3) let alone their future distributions. Accurate representation of coastal environments is challenging for global climate models (Drenkard et al. 2021). Other questionable predictions might have arisen from overfitting of the models to the environmental variables, extrapolation to novel environmental conditions, or more generally a lack of transferability of the models to different, future combinations of environmental

conditions. It is impossible to assess the accuracy of these predictions at the present time, although retrospective assessments of projection skill could provide some indication of how one might expect models to perform (Araújo et al. 2005, Winship et al. 2015, Becker et al. 2019). Regardless, the biological realism of the predictions should always be considered, especially when the projected environmental conditions are novel or anomalous (Muhling et al. 2020, Hodgdon et al. 2021).

The future predictions presented here were derived from a single ocean model and a single future environmental scenario. Future environmental conditions are themselves highly uncertain; therefore the use of multiple climate models and scenarios, or ensembles of model predictions, has been encouraged in the projection of living marine resources (Drenkard et al. 2021). Different models have produced different predictions of the future marine environment of the Atlantic OCS; for example, different degrees of warming or cooling, changes in salinity, and shifts in the position of the Gulf Stream (Saba et al. 2016, Alexander et al. 2020). While large sets of global climate model predictions are available (e.g., CMIP6), those predictions have limitations for modeling living marine resources, such as limited spatial resolution (Stock et al. 2011). Our chosen future time period further limited the available higher-resolution climate projections that were available. As additional high-resolution climate models and environmental projections become available for this region, our models could be applied to more fully explore uncertainty in future environmental conditions and their effects on marine bird distributions. Our model, including the CM2.6 model outputs used here, could also be applied to projections further in the future. Projected changes in the near term do not necessarily reflect projected changes in the long term (Bryndum-Buchholz et al. 2020).

A wide range of factors should be considered when anticipating how to manage and mitigate impacts of changing climate on marine bird populations (Hakkinen et al. 2022). Projected changes in spatial distribution, such as those presented here, are only one piece of information. Also important will be changes in overall population abundance, which were not modeled. Changes in population abundance would result from climate effects on demography via physiology, prey, etc. (d'Entremont et al. 2022, Searle et al. 2022) and are better investigated through other types of studies (e.g., Giroux et al. 2021).

## 4.6 Conclusion

The models presented in this report provide a key piece of information for assessing and mitigating potential impacts of offshore wind energy development on marine bird species across the Atlantic OCS. The models indicate where the densities of species are likely to be higher or lower at different times of the year and thus indicate the potential for relative exposure. This information can be combined with other aspects of risk exposure and vulnerability to more fully assess risk (Garthe and Hüppop 2004, Robinson Willmott et al. 2013, Bradbury et al. 2014). The models are regional in scale and so are most informative at that scale. Assessments of smaller areas (e.g., a development site) should take into consideration finer, local information. Future work should continue to update these species distribution models with new at-sea survey data as they become available, consider ways to integrate survey data with other types of data like tracking, and explore additional climate projection models and scenarios. The model predictions of future bird distributions presented here are an initial step toward more fully anticipating how those distributions may change in the future and ensuring that management decisions are robust to those potential changes.

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**Table 1. Bird survey data analyzed**

| Dataset group | Catalog dataset ID | Institution | Survey type | Effort format | Strip width (m)[a] | Years | Months | Number of samples | Area ($km^2$)[b] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 30, 31, 33–35, 38, 39, 42, 69–71, 76–85, 94, 111, 112, 116, 117, 120–123, 131, 132, 149, 158–160, 171, 174, 393, 394, 411, 412, 433, 524–536 | National Oceanic and Atmospheric Administration, City University of New York | boat | lines | 300 | 1998–1999, 2004, 2006–2019 | 2–11 | 15,440 | 36,512 |
| 2 | n/a | Canadian Wildlife Service, Environment and Climate Change Canada | boat | points | 50–300[c] | 2006–2008, 2011–2020 | 1–12 | 3,878 | 7,040 |
| 3 | 91 | GeoMarine Inc., New Jersey Department of Environmental Protection | boat | lines | 300 | 2008–2009 | 1–12 | 2,162 | 6,177 |
| 4 | 114, 124–130, 150–157 | Biodiversity Research Institute | boat | lines | 300 | 2012–2014 | 1–12 | 1,180 | 3,175 |
| 5 | 5, 6 | U.S. Fish and Wildlife Service, College of the Atlantic, Bar Harbor Whale Watching Company | boat | lines | 300 | 2005–2006 | 6–10 | 836 | 2,686 |
| 6 | 9[d] | ESS Group Inc. | boat | lines | 805 | 2002–2003 | 4–9 | 95 | 1,840 |
| 7 | 165 | Western Ecosystems Technology Inc., FPL Energy | boat | lines | 300 | 2004–2006 | 1–12 | 193 | 1,442 |
| 8 | 90 | University of Massachusetts | boat | lines | 300 | 2009–2010 | 1–12 | 237 | 1,157 |
| 9 | 540[d] | Biodiversity Research Institute, Avangrid Copenhagen Infrastructure Partners | boat | lines | 300 | 2018–2019 | 1–12 | 194 | 885 |
| 10 | 133 | Tetra Tech Inc., Statoil | boat | lines | 300 | 2012–2013 | 1–3, 5–12 | 80 | 468 |
| 11 | 182–199 | Stellwagen Bank National Marine Sanctuary | boat | lines | 300 | 2012–2015 | 1, 4, 6, 8–10, 12 | 177 | 406 |

| Dataset group | Catalog dataset ID | Institution | Survey type | Effort format | Strip width (m)[a] | Years | Months | Number of samples | Area ($km^2$)[b] |
|---|---|---|---|---|---|---|---|---|---|
| 12 | 7 | Duke University | boat | lines | 300 | 2004–2005 | 1, 2, 8 | 150 | 386 |
| 13 | 134 | Tetra Tech Inc., Dominion Resources Inc. | boat | lines | 300 | 2013–2014 | 1–10, 12 | 39 | 286 |
| 14 | 15 | Duke University | boat | lines | 300[e] | 2004 | 8 | 42 | 130 |
| 15 | 113, 118, 137–142, 146, 147, 164, 395–397 | U.S. Fish and Wildlife Service | aerial visual | lines | 200 | 2008–2014, 2017–2018 | 1–3, 7–12 | 17,320 | 60,564 |
| 16 | 135, 161, 162 | City University of New York, Massachusetts Clean Energy Center, Bureau of Ocean and Energy Management | aerial visual | lines | 200 | 2011–2015 | 1–12 | 2,335 | 8,778 |
| 17 | 8[d] | ESS Group Inc. | aerial visual | lines | 200 | 2002–2004 | 1–12 | 715 | 7,488 |
| 18 | 22 | Massachusetts Audubon Society | aerial visual | lines | 91 | 2002–2006 | 1–12 | 1,004 | 3,480 |
| 19 | 89 | University of Massachusetts | aerial visual | lines | 107 | 2009–2010 | 1–8, 12 | 1200 | 2,137 |
| 20 | 75 | University of Southern Maine | aerial visual | lines | 170 | 2005 | 7 | 271 | 1,178 |
| 21 | 10 | U.S. Fish and Wildlife Service | aerial visual | lines | 60 | 2001–2003 | 1–3, 12 | 478 | 762 |
| 22 | 99 | Western Ecosystems Technology Inc., FPL Energy | aerial visual | lines | 178 | 2004–2006 | 3, 4, 7, 9, 10 | 92 | 406 |
| 23 | 178–181 | City University of New York, Bureau of Ocean Energy Management | aerial visual | lines | 200 | 2013 | 7–9 | 50 | 332 |
| 24 | 173, 398–404, 406, 408, 419, 421, 423, 425, 427, 429 | Normandeau, APEM, New York State Energy Research and Development Authority | aerial digital | polygons | n/a | 2016–2019 | 2–5, 7, 8, 11, 12 | 6,291 | 39,812 |
| 25 | 537, 538 | Normandeau, APEM, Bureau of Ocean Energy Management | aerial digital | polygons | n/a | 2018–2020 | 1, 2, 5, 6, 8–12 | 3,216 | 18,183 |
| 26 | 115, 148, 168 | Biodiversity Research Institute | aerial digital | lines | 200[f] | 2012–2014 | 1–3, 5–10, 12 | 2,348 | 9,811 |

| Dataset group | Catalog dataset ID | Institution | Survey type | Effort format | Strip width (m)[a] | Years | Months | Number of samples | Area ($km^2$)[b] |
|---|---|---|---|---|---|---|---|---|---|
| 27 | 541 | Normandeau, APEM, Equinor Wind US | aerial digital | polygons | n/a | 2017–2019 | 1–12 | 360 | 2,624 |
| 28 | 539[d] | Normandeau, APEM, Mayflower Wind Energy LLC | aerial digital | polygons | n/a | 2019–2020 | 1–5, 11, 12 | 144 | 705 |
| All | | | | | | 1998–1999, 2001–2022 | 1–12 | 60,527 | 218,849 |

[a] Individual observer strip width
[b] Area surveyed does not necessarily represent unique area surveyed; some surveys covered similar areas over multiple days, months, or years
[c] Majority (>95%) of strip widths were 300 m
[d] Restricted use agreement
[e] Assumed
[f] Four cameras each with strip width of 50 m

**Table 2. Marine bird species modeled**

| Species code | Common name | Scientific name | Family | Sightings | | |
|---|---|---|---|---|---|---|
| | | | | Months | Number of samples | Number of individuals |
| COEI | Common Eider | *Somateria mollissima* | Anatidae | 1–12 | 1,953 | 92,0912 |
| SUSC | Surf Scoter | *Melanitta perspicillata* | Anatidae | 1–6, 9–12 | 1,569 | 97,905 |
| WWSC | White-winged Scoter | *Melanitta deglandi* | Anatidae | 1–5, 7–12 | 1,573 | 68,989 |
| BLSC | Black Scoter | *Melanitta americana* | Anatidae | 1–5, 8–12 | 1,654 | 98,690 |
| LTDU | Long-tailed Duck | *Clangula hyemalis* | Anatidae | 1–6, 8, 10–12 | 2,115 | 219,251 |
| RBME | Red-breasted Merganser | *Mergus serrator* | Anatidae | 1–5, 9–12 | 204 | 1,477 |
| HOGR | Horned Grebe | *Podiceps auritus* | Podicipedidae | 1–6, 10–12 | 114 | 276 |
| RNPH | Red-necked Phalarope | *Phalaropus lobatus* | Scolopacidae | 2, 4–12 | 410 | 4,122 |
| REPH | Red Phalarope | *Phalaropus fulicarius* | Scolopacidae | 2–12 | 1,143 | 52,700 |
| GRSK | Great Skua | *Stercorarius skua* | Stercorariidae | 1–12 | 152 | 180 |
| SPSK | South Polar Skua | *Stercorarius maccormicki* | Stercorariidae | 4–11 | 250 | 339 |
| POJA | Pomarine Jaeger | *Stercorarius pomarinus* | Stercorariidae | 3–12 | 494 | 813 |
| PAJA | Parasitic Jaeger | *Stercorarius parasiticus* | Stercorariidae | 2–12 | 233 | 282 |
| DOVE | Dovekie | *Alle alle* | Alcidae | 1–12 | 1,618 | 16,787 |
| COMU | Common Murre | *Uria aalge* | Alcidae | 1–8, 10–12 | 441 | 1,550 |
| TBMU | Thick-billed Murre | *Uria lomvia* | Alcidae | 1–6, 8, 10–12 | 290 | 1,687 |
| RAZO | Razorbill | *Alca torda* | Alcidae | 1–12 | 2,646 | 47,710 |
| BLGU | Black Guillemot | *Cepphus grylle* | Alcidae | 1–12 | 166 | 513 |
| ATPU | Atlantic Puffin | *Fratercula arctica* | Alcidae | 1–12 | 1,366 | 6,367 |
| BLKI | Black-legged Kittiwake | *Rissa tridactyla* | Laridae | 1–6, 8–12 | 2,196 | 13,079 |
| BOGU | Bonaparte's Gull | *Chroicocephalus philadelphia* | Laridae | 1–12 | 2,657 | 49,661 |
| LAGU | Laughing Gull | *Leucophaeus atricilla* | Laridae | 1–12 | 2,903 | 18,248 |
| RBGU | Ring-billed Gull | *Larus delawarensis* | Laridae | 1–5, 7–12 | 1,194 | 5,048 |
| HERG | Herring Gull | *Larus argentatus* | Laridae | 1–12 | 11,498 | 84,817 |
| LBBG | Lesser Black-backed Gull | *Larus fuscus* | Laridae | 1–12 | 257 | 491 |
| GBBG | Great Black-backed Gull | *Larus marinus* | Laridae | 1–12 | 8,051 | 37,615 |
| SOTE | Sooty Tern | *Onychoprion fuscatus* | Laridae | 5–9 | 131 | 706 |
| LETE | Least Tern | *Sternula antillarum* | Laridae | 2, 3, 5–12 | 409 | 2,593 |

| Species code | Common name | Scientific name | Family | Sightings | | |
|---|---|---|---|---|---|---|
| | | | | Months | Number of samples | Number of individuals |
| BLTE | Black Tern | *Chlidonias niger* | Laridae | 4–6, 8, 9 | 102 | 708 |
| ROST | Roseate Tern | *Sterna dougallii* | Laridae | 2, 4–10 | 253 | 1,563 |
| COTE | Common Tern | *Sterna hirundo* | Laridae | 2, 4–12 | 2,231 | 18,553 |
| ARTE | Arctic Tern | *Sterna paradisaea* | Laridae | 4–10 | 189 | 607 |
| FOTE | Forster's Tern | *Sterna forsteri* | Laridae | 2–12 | 534 | 3,593 |
| ROYT | Royal Tern | *Thalasseus maximus* | Laridae | 2–12 | 1,006 | 2,448 |
| RTLO | Red-throated Loon | *Gavia stellata* | Gaviidae | 1–6, 8–12 | 4,183 | 31,042 |
| COLO | Common Loon | *Gavia immer* | Gaviidae | 1–12 | 7,087 | 33,139 |
| WISP | Wilson's Storm-Petrel | *Oceanites oceanicus* | Oceanitidae | 1, 4–11 | 4,626 | 51,179 |
| LESP | Leach's Storm-Petrel | *Hydrobates leucorhous* | Hydrobatidae | 3–11 | 2,169 | 10,398 |
| BRSP | Band-rumped Storm-Petrel | *Hydrobates castro* | Hydrobatidae | 5–11 | 362 | 806 |
| NOFU | Northern Fulmar | *Fulmarus glacialis* | Procellariidae | 1–12 | 2,744 | 17,943 |
| BCPE | Black-capped Petrel | *Pterodroma hasitata* | Procellariidae | 2–11 | 403 | 1,015 |
| COSH | Cory's Shearwater | *Calonectris diomedea* | Procellariidae | 1–3, 5–12 | 3,597 | 17,893 |
| SOSH | Sooty Shearwater | *Ardenna grisea* | Procellariidae | 3–12 | 1,433 | 12,261 |
| GRSH | Great Shearwater | *Ardenna gravis* | Procellariidae | 2, 3, 5–12 | 6,383 | 86,790 |
| MASH | Manx Shearwater | *Puffinus puffinus* | Procellariidae | 1–12 | 783 | 1,933 |
| AUSH | Audubon's Shearwater | *Puffinus lherminieri* | Procellariidae | 1–3, 5–11 | 878 | 3,067 |
| NOGA | Northern Gannet | *Morus bassanus* | Sulidae | 1–12 | 13,234 | 137,907 |
| DCCO | Double-crested Cormorant | *Nannopterum auritum* | Phalacrocoracidae | 1–12 | 713 | 14,553 |
| BRPE | Brown Pelican | *Pelecanus occidentalis* | Pelecanidae | 2, 3, 5–12 | 382 | 1,823 |

Taxonomy follows Chesser et al. (2022)

**Table 3. Environmental variables**

| Variable | Details | Unit | Source | |
|---|---|---|---|---|
| | | | Retrospective | Projected |
| Sea surface temperature | | °C | GLORYS12V1 | CM2.6 |
| Sea surface salinity | | psu | GLORYS12V1 | CM2.6 |
| Sea surface current magnitude | | m/s | GLORYS12V1 | CM2.6 |
| Sea surface current direction | | ° (0 = N, 90 = E) | GLORYS12V1 | CM2.6 |
| Sea surface height | Difference between the actual sea surface height at any given time and place, and that which it would have if the ocean were at rest[a] | m | GLORYS12V1 | CM2.6 |
| Ocean mixed layer depth | Depth where the density increase compared to density at 10-m depth corresponds to a temperature decrease of 0.2°C in local surface conditions[a] | m | GLORYS12V1 | CM2.6 |
| Sea surface wind speed | 10-m height | m/s | CERSAT Global Blended Mean Wind Fields | CM2.6 |

[a] Fernandez and Lellouche (2021)

**Table 4. Best models and their performance**

| Species | Basis | Additional smoothness | *P* | PDE | Error | | Absolute error | | RMSE |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Mean | Median | Mean | Median | |
| COEI | ts | no | 0.34 | 86 | 10.76 | 0.00 | 11.89 | 0.00 | 4140.31 |
| SUSC | ts | yes | 0.10 | 70 | 1.63 | 0.00 | 2.81 | 0.00 | 46.99 |
| WWSC | ts | yes | 0.78 | 70 | 0.29 | 0.00 | 1.88 | 0.00 | 36.37 |
| BLSC | ts | yes | 0.19 | 63 | 1.39 | 0.00 | 3.03 | 0.01 | 81.51 |
| LTDU | ts | no | 0.45 | 87 | 2.91 | 0.00 | 3.98 | 0.00 | 262.46 |
| RBME | ts | yes | 0.97 | 60 | 0.07 | 0.04 | 2.01 | 0.04 | 1.19 |
| HOGR | ts | no | 0.96 | 68 | 0.09 | 0.00 | 1.80 | 0.00 | 0.15 |
| RNPH | cr | no | 0.96 | 73 | 10.32 | 0.01 | 11.99 | 0.01 | 16.56 |
| REPH | cs | yes | 0.93 | 68 | 0.00 | 0.00 | 1.72 | 0.00 | 20.59 |
| GRSK | ts | yes | 0.99 | 48 | –0.04 | 0.03 | 1.89 | 0.03 | 0.06 |
| SPSK | cr | no | 0.94 | 59 | –0.05 | 0.00 | 1.78 | 0.00 | 0.10 |
| POJA | ts | yes | 0.97 | 60 | –0.06 | 0.02 | 1.76 | 0.02 | 0.24 |
| PAJA | ts | no | 0.99 | 37 | –0.02 | 0.13 | 1.93 | 0.13 | 0.08 |
| DOVE | ts | yes | 0.91 | 75 | 1.09 | 0.00 | 2.42 | 0.00 | 6.53 |
| COMU | cr | no | 0.95 | 77 | 0.24 | 0.00 | 1.88 | 0.00 | 0.85 |
| TBMU | cr | no | 0.92 | 89 | –0.23 | 0.00 | 1.49 | 0.00 | 1.32 |
| RAZO | cr | no | 0.92 | 75 | 0.13 | 0.00 | 1.51 | 0.00 | 15.00 |
| BLGU | cs | yes | 0.92 | 73 | –0.22 | 0.01 | 1.55 | 0.01 | 0.26 |
| ATPU | tp | no | 0.93 | 69 | –0.10 | 0.00 | 1.45 | 0.00 | 1.55 |
| BLKI | ts | yes | 0.93 | 63 | 0.04 | 0.01 | 1.61 | 0.02 | 3.00 |
| BOGU | ts | yes | 0.71 | 55 | –0.05 | 0.02 | 1.54 | 0.03 | 12.63 |
| LAGU | cs | yes | 0.86 | 65 | 1.28 | 0.03 | 2.68 | 0.05 | 20.37 |
| RBGU | cr | no | 0.88 | 61 | 0.04 | 0.03 | 1.70 | 0.03 | 1.97 |
| HERG | cs | yes | 0.71 | 38 | 0.06 | 0.18 | 1.53 | 0.31 | 16.59 |
| LBBG | cr | no | 0.99 | 45 | –0.20 | 0.10 | 1.75 | 0.10 | 0.29 |
| GBBG | tp | no | 0.88 | 48 | 0.07 | 0.11 | 1.47 | 0.19 | 7.64 |
| SOTE | tp | no | 0.98 | 88 | –0.05 | 0.00 | 1.74 | 0.00 | 0.53 |
| LETE | ts | no | 1.00 | 75 | 0.00 | 0.00 | 1.83 | 0.00 | 1.23 |
| BLTE | cs | yes | 0.97 | 77 | –0.29 | 0.00 | 1.60 | 0.00 | 0.55 |
| ROST | cs | yes | 0.90 | 83 | 0.32 | 0.00 | 1.97 | 0.00 | 0.96 |
| COTE | cs | yes | 0.89 | 62 | 0.42 | 0.02 | 1.85 | 0.03 | 5.27 |
| ARTE | ts | no | 0.97 | 78 | –0.11 | 0.00 | 1.67 | 0.00 | 0.30 |
| FOTE | ts | no | 0.90 | 75 | –0.07 | 0.01 | 1.63 | 0.01 | 1.48 |
| ROYT | cs | yes | 0.93 | 67 | 0.10 | 0.00 | 1.63 | 0.01 | 0.47 |
| RTLO | cs | yes | 0.38 | 67 | –0.25 | 0.01 | 1.30 | 0.01 | 22.60 |
| COLO | ts | yes | 0.53 | 60 | –0.03 | 0.02 | 1.10 | 0.06 | 3.99 |
| WISP | cs | yes | 0.78 | 72 | 0.05 | 0.00 | 1.54 | 0.00 | 20.50 |
| LESP | tp | no | 0.84 | 81 | 0.04 | 0.00 | 1.44 | 0.00 | 3.16 |
| BRSP | ts | no | 0.96 | 77 | –0.05 | 0.00 | 1.58 | 0.00 | 0.24 |
| NOFU | tp | no | 0.83 | 75 | 0.04 | 0.00 | 1.42 | 0.01 | 7.03 |
| BCPE | cs | yes | 0.97 | 77 | –0.13 | 0.01 | 1.44 | 0.01 | 0.51 |
| COSH | cs | yes | 0.94 | 56 | 0.03 | 0.05 | 1.60 | 0.09 | 3.89 |
| SOSH | cs | yes | 0.81 | 82 | –0.11 | 0.00 | 1.46 | 0.00 | 5.55 |
| GRSH | cs | yes | 0.78 | 73 | 0.17 | 0.01 | 1.43 | 0.01 | 13.93 |
| MASH | ts | yes | 0.97 | 47 | –0.06 | 0.12 | 1.83 | 0.12 | 0.88 |
| AUSH | cr | no | 0.96 | 79 | 0.15 | 0.00 | 1.62 | 0.00 | 1.52 |
| NOGA | ts | yes | 0.43 | 52 | 0.02 | 0.06 | 1.36 | 0.16 | 23.95 |
| DCCO | tp | no | 0.61 | 60 | 1.51 | 0.02 | 3.28 | 0.02 | 14.73 |
| BRPE | cs | no | 0.95 | 80 | 0.19 | 0.00 | 1.92 | 0.00 | 0.99 |

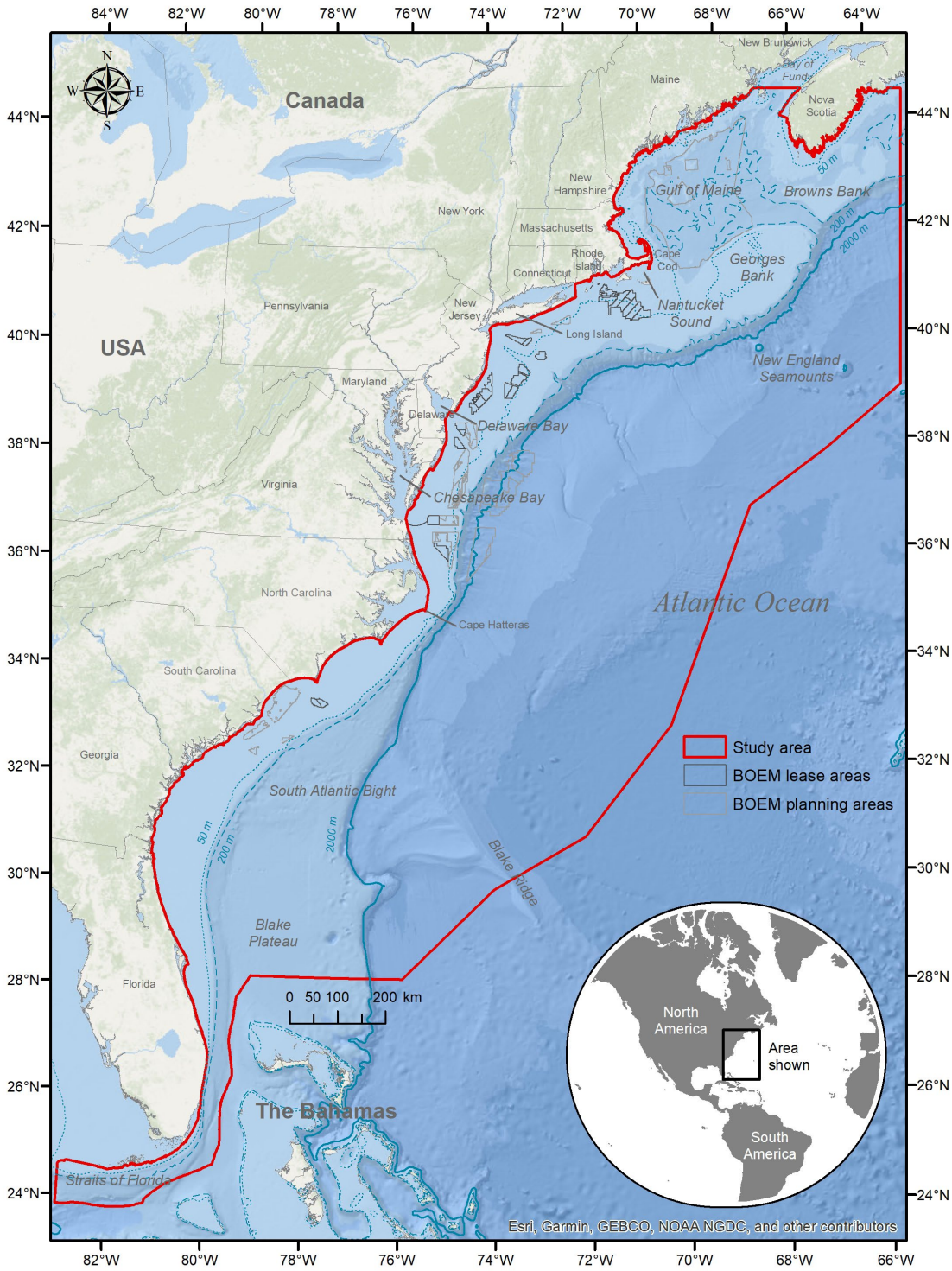


**Figure 1. Study area with BOEM wind energy areas (boundaries as of July 2023)**

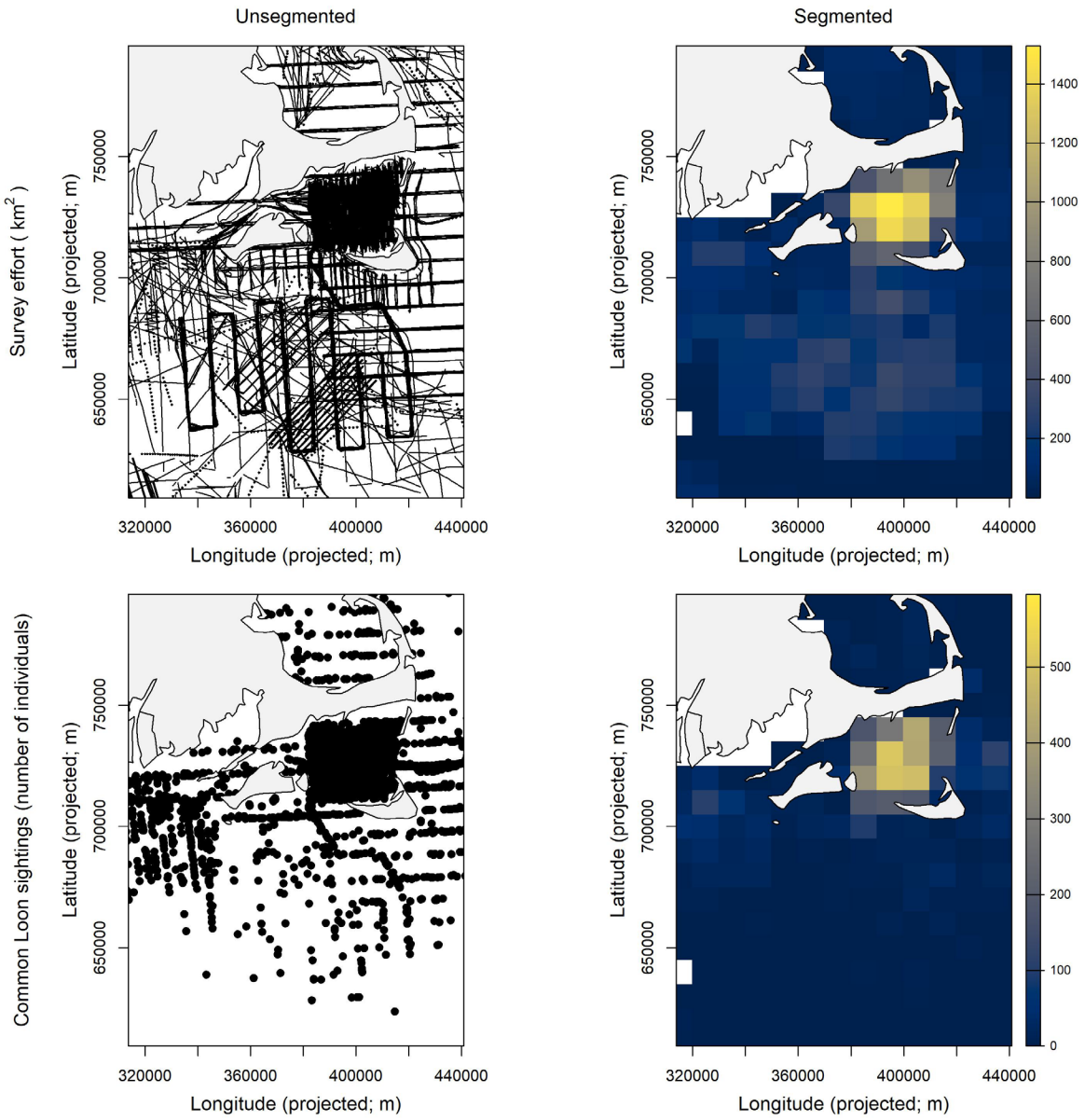


**Figure 2. Segmentation of survey data**
Example shown is for a sub-area of the study area and one species. For illustrative purposes all effort and counts were summed in each cell rather than by combination of cell, dataset ID, and date as was done for the analysis.

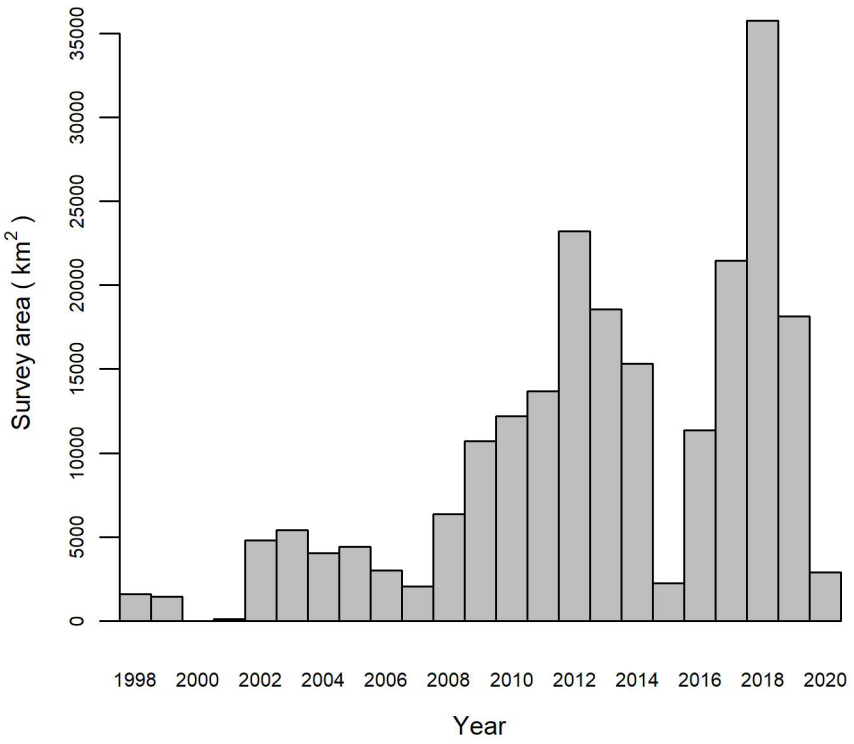


**Figure 3. Annual distribution of survey effort**

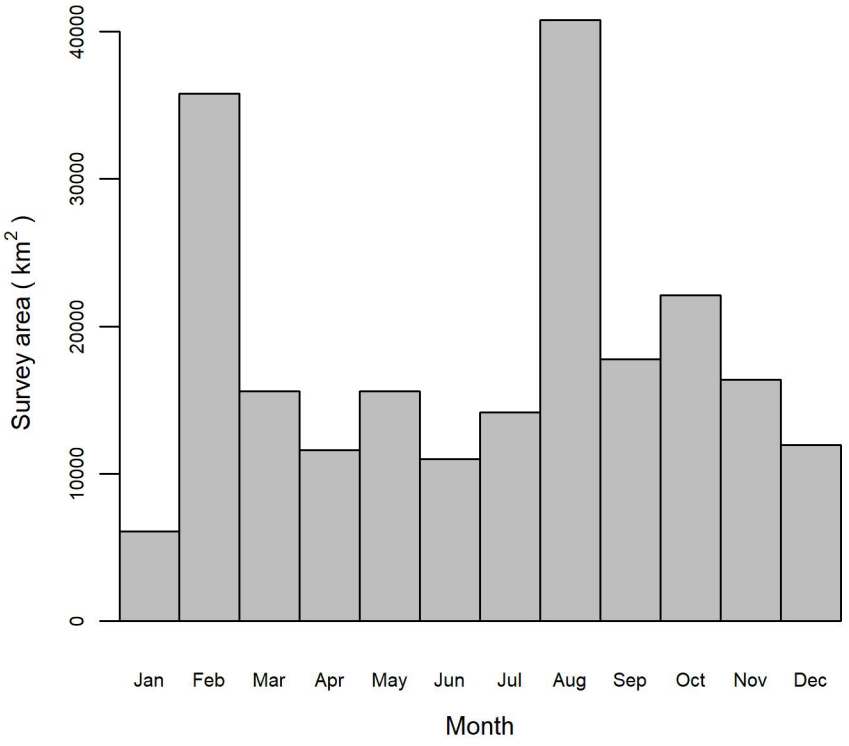


**Figure 4. Monthly distribution of survey effort**

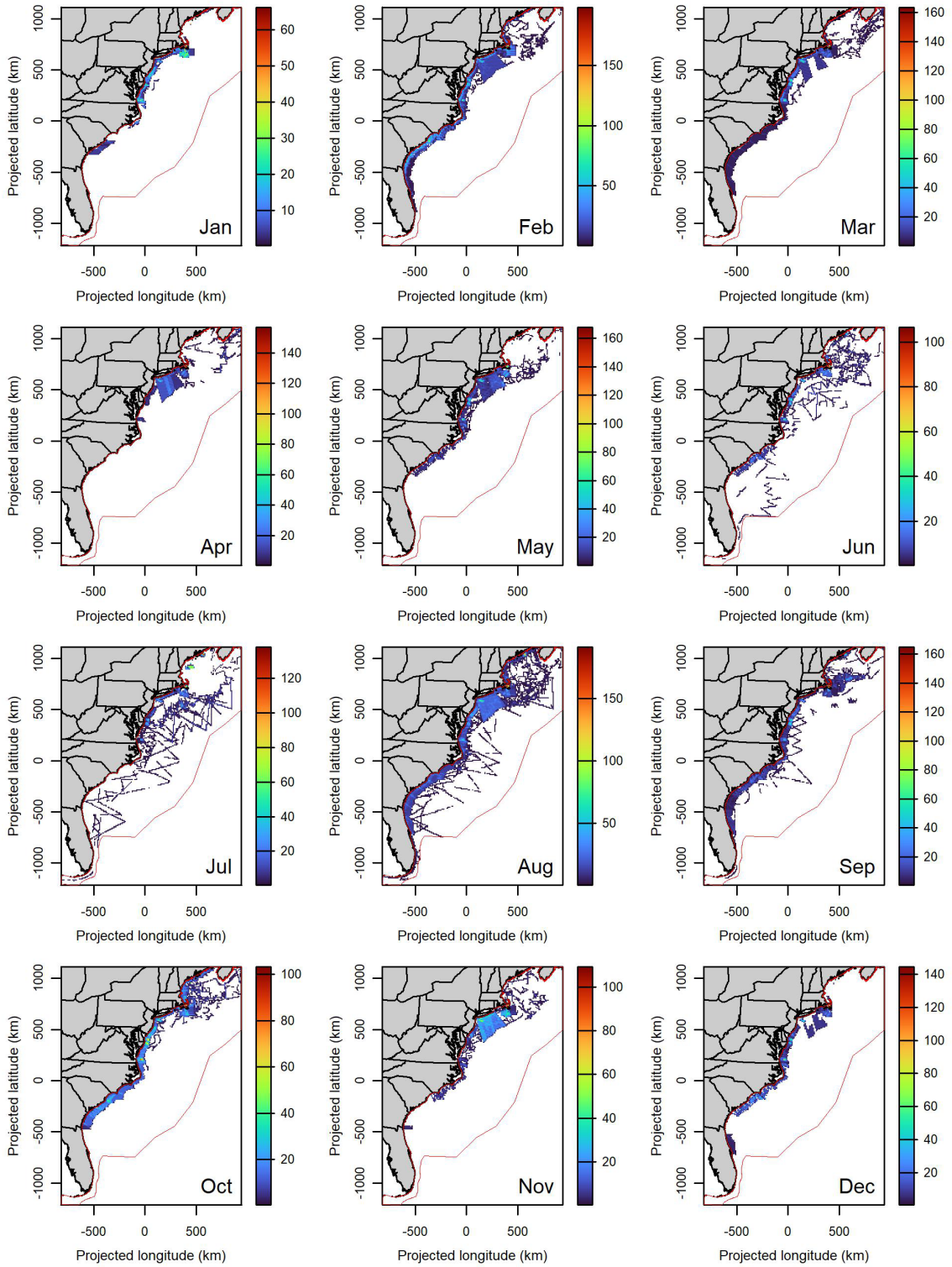


**Figure 5. Spatial distribution of survey effort (km$^2$) by month**
Red line indicates the study area.

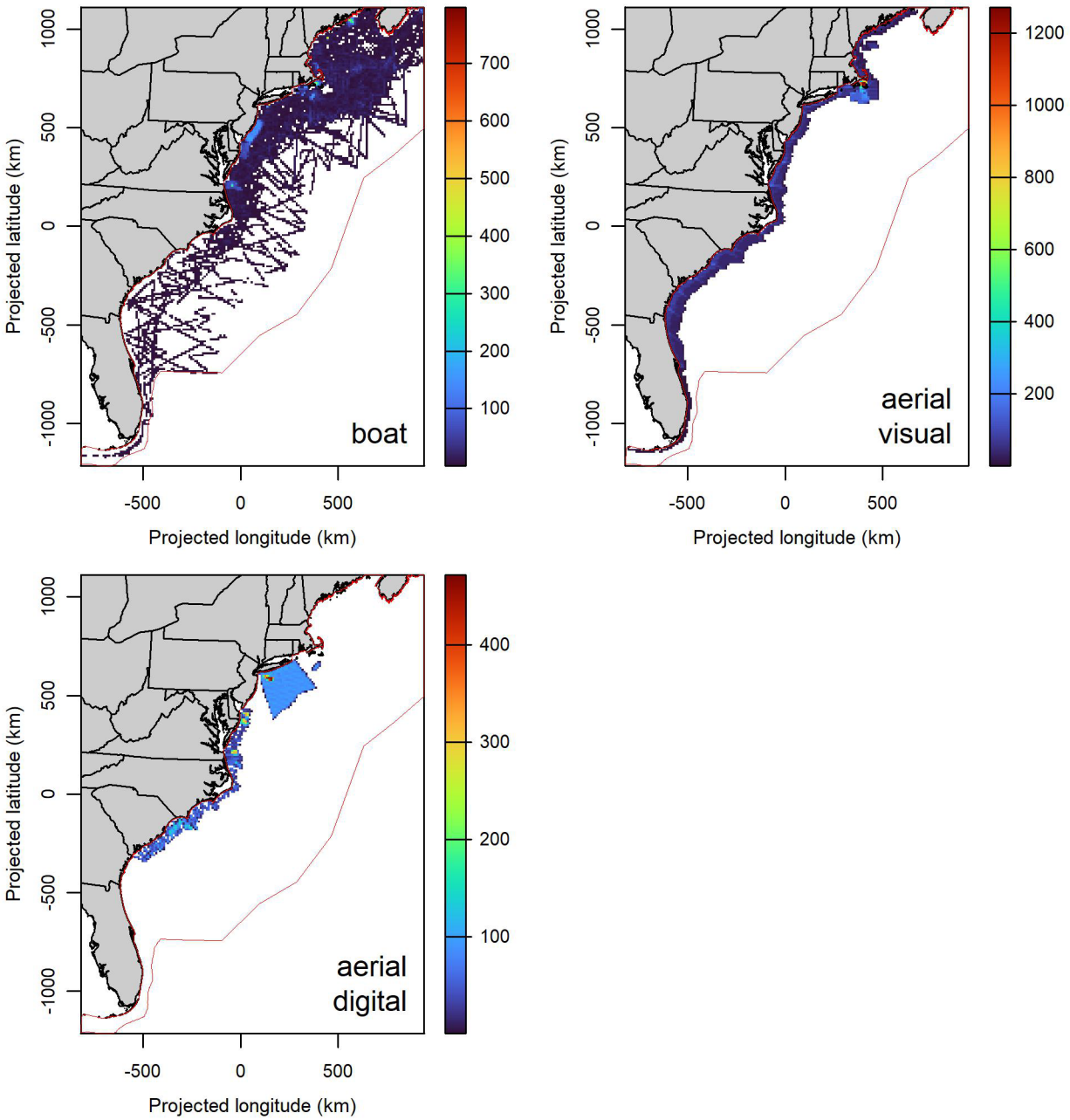


**Figure 6. Spatial distribution of survey effort (km$^2$) by survey platform type**
Red line indicates the study area.

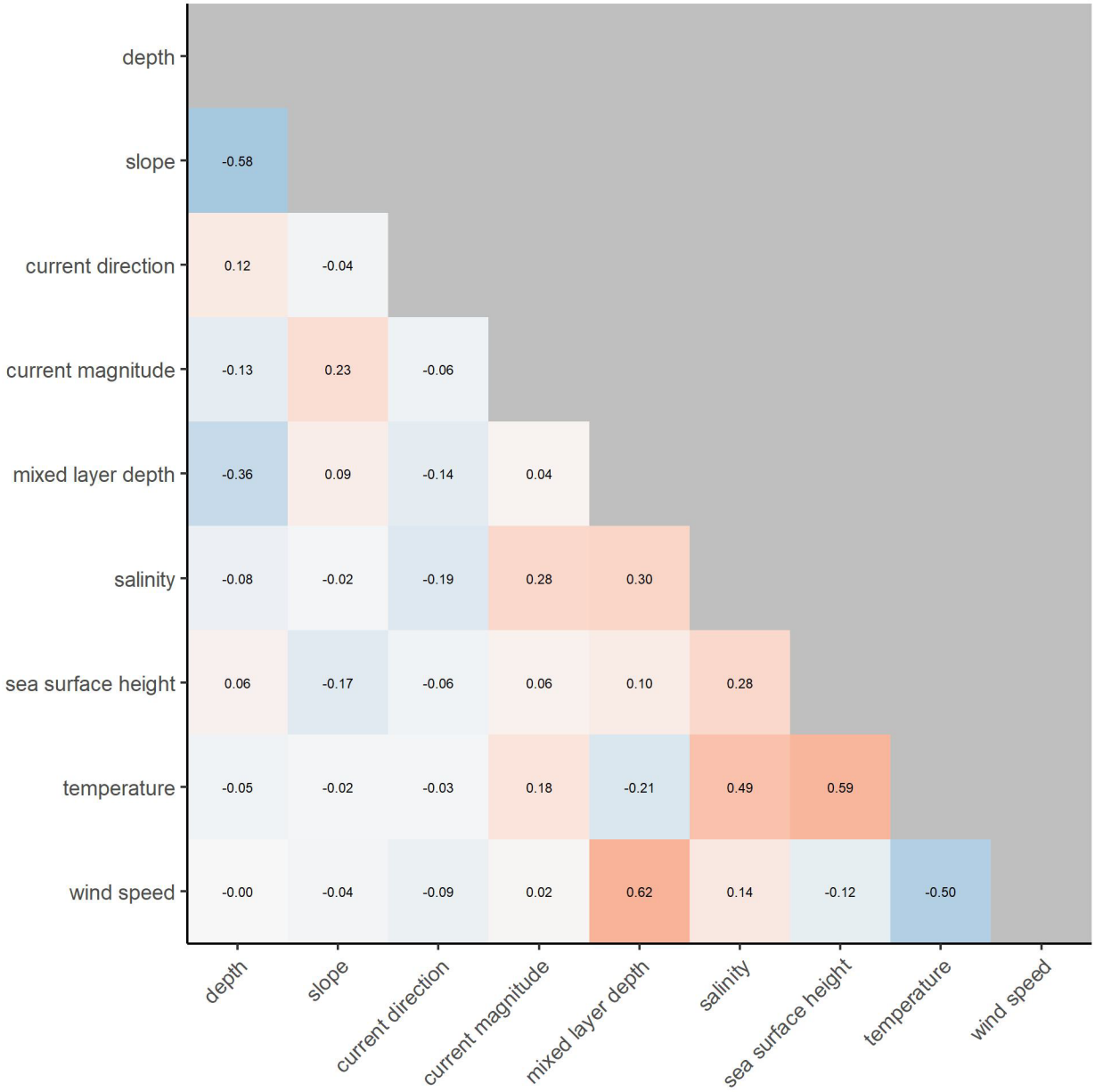


**Figure 7. Pairwise Spearman rank correlation coefficients for sampled environmental variables**
Positive correlations are indicated in red, and negative correlations in blue, with the shading increasing relative to the strength of the correlation. Environmental variables are described in Table 3.

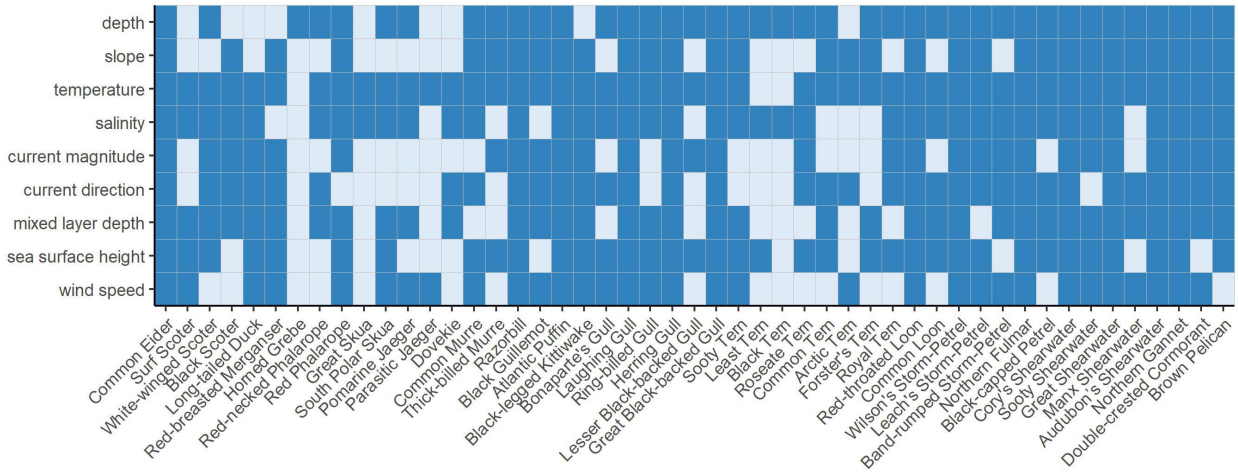


**Figure 8. Environmental variables in best models**
Darker cells indicate variables that were in the best model for a given species

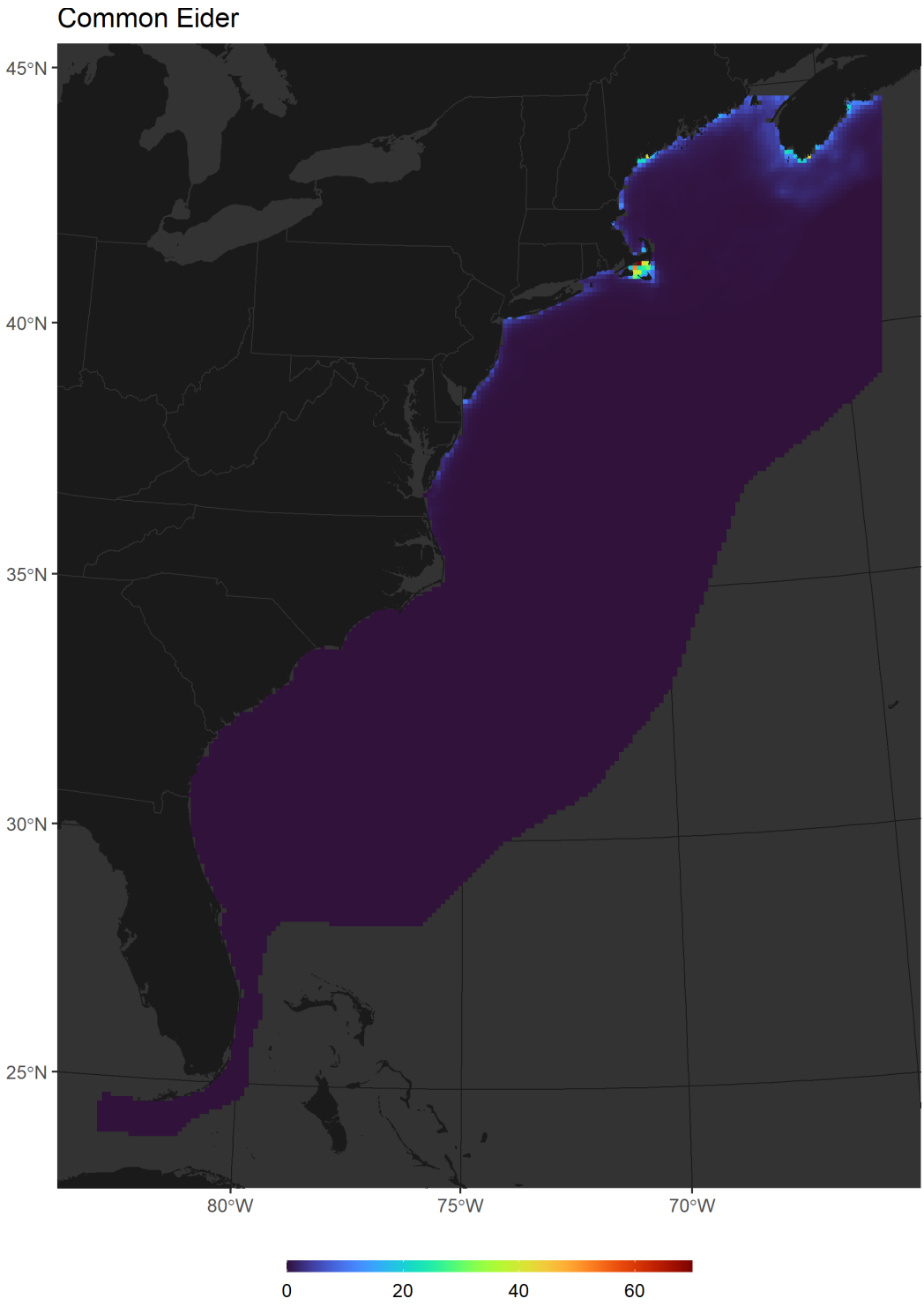


**Figure 9. Annual average predicted density of Common Eider during the retrospective period (1993–2019)**

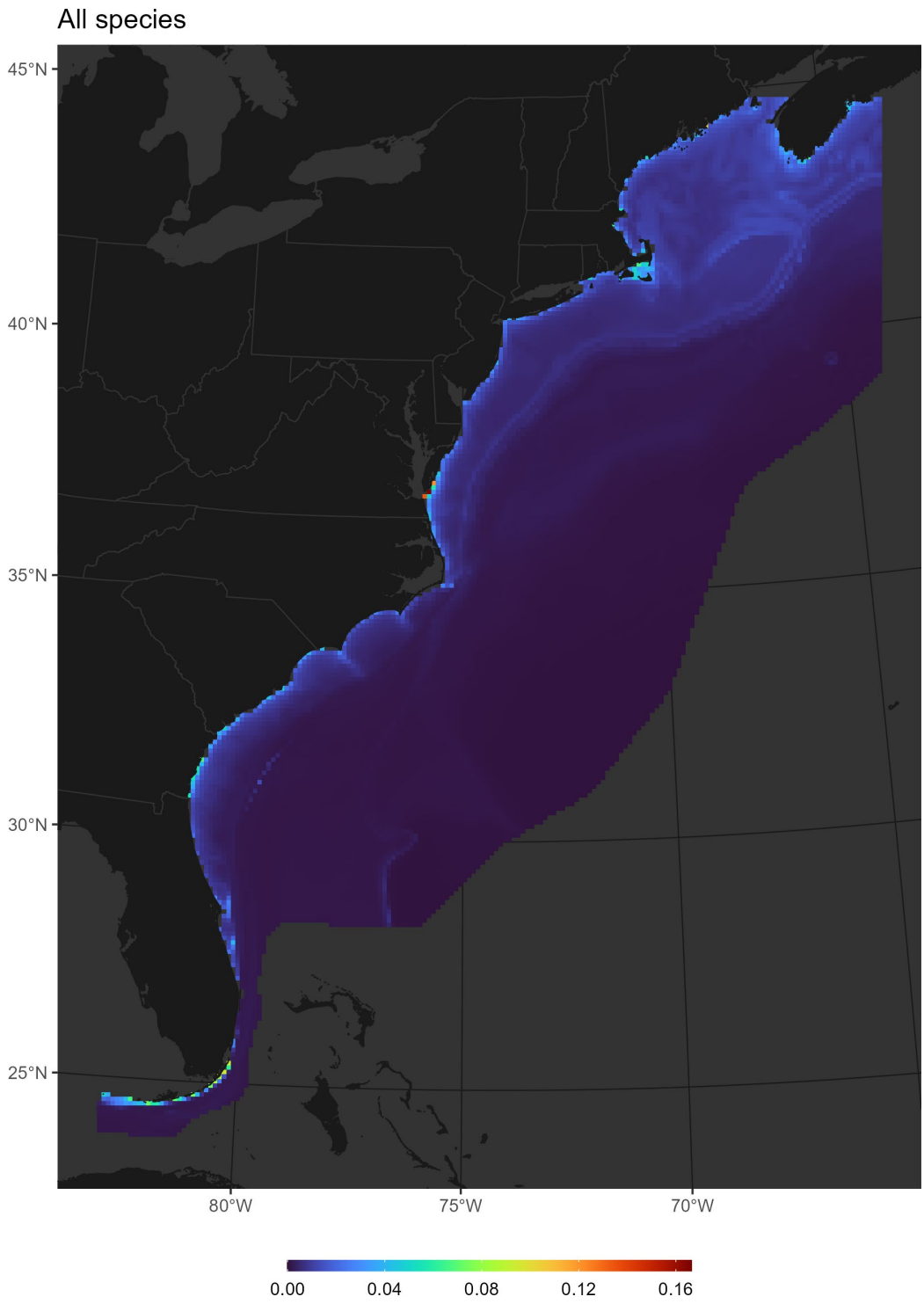


**Figure 10. Annual average predicted distribution for all modeled species combined during the retrospective period (1993–2019)**

# Appendix A: Spatial distribution of survey effort by dataset group

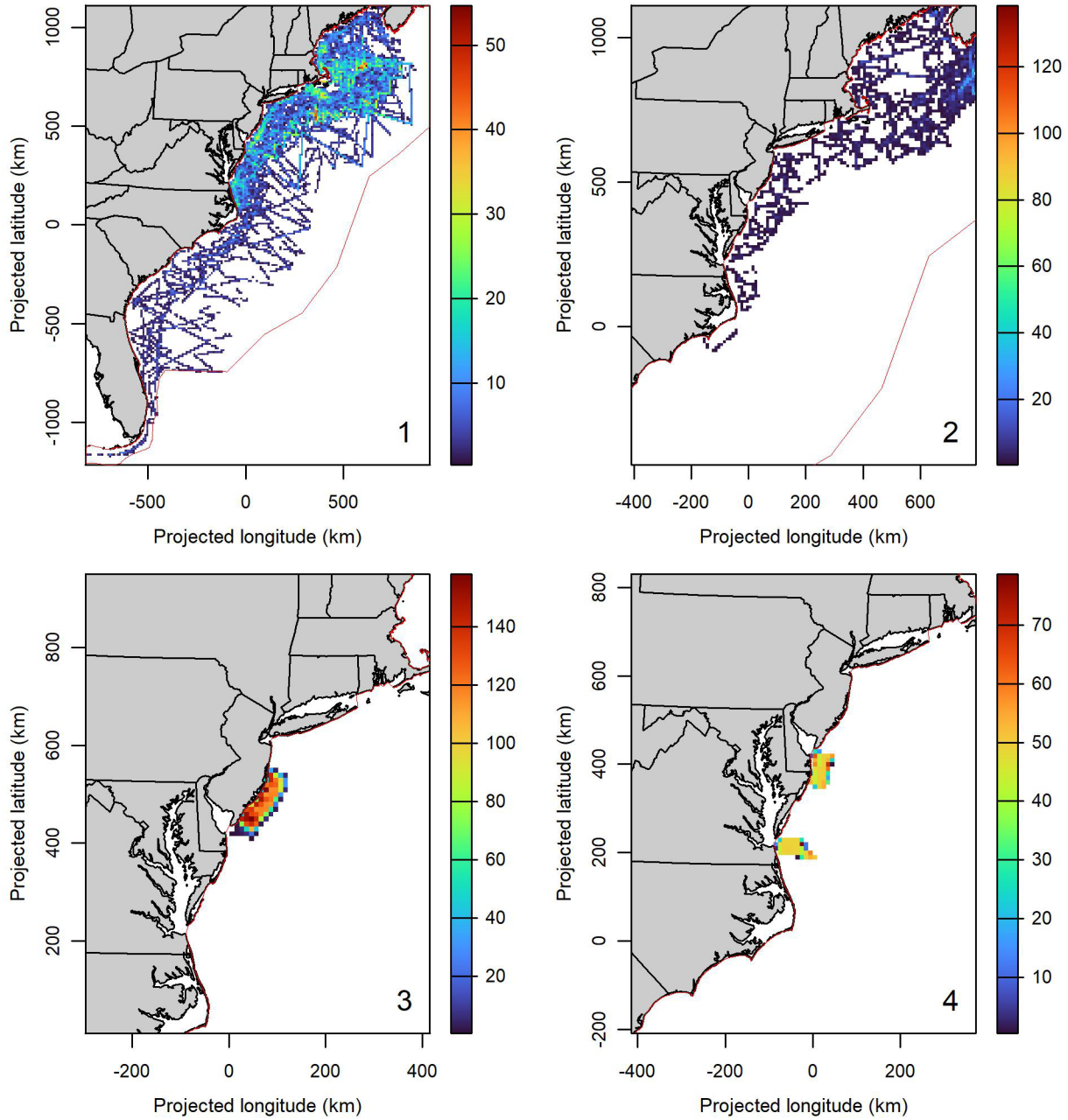


**Figure A-1. Spatial distribution of survey effort (km$^2$) by dataset group**
Dataset group (Table 1) is indicated by the number in the lower right of each plot.

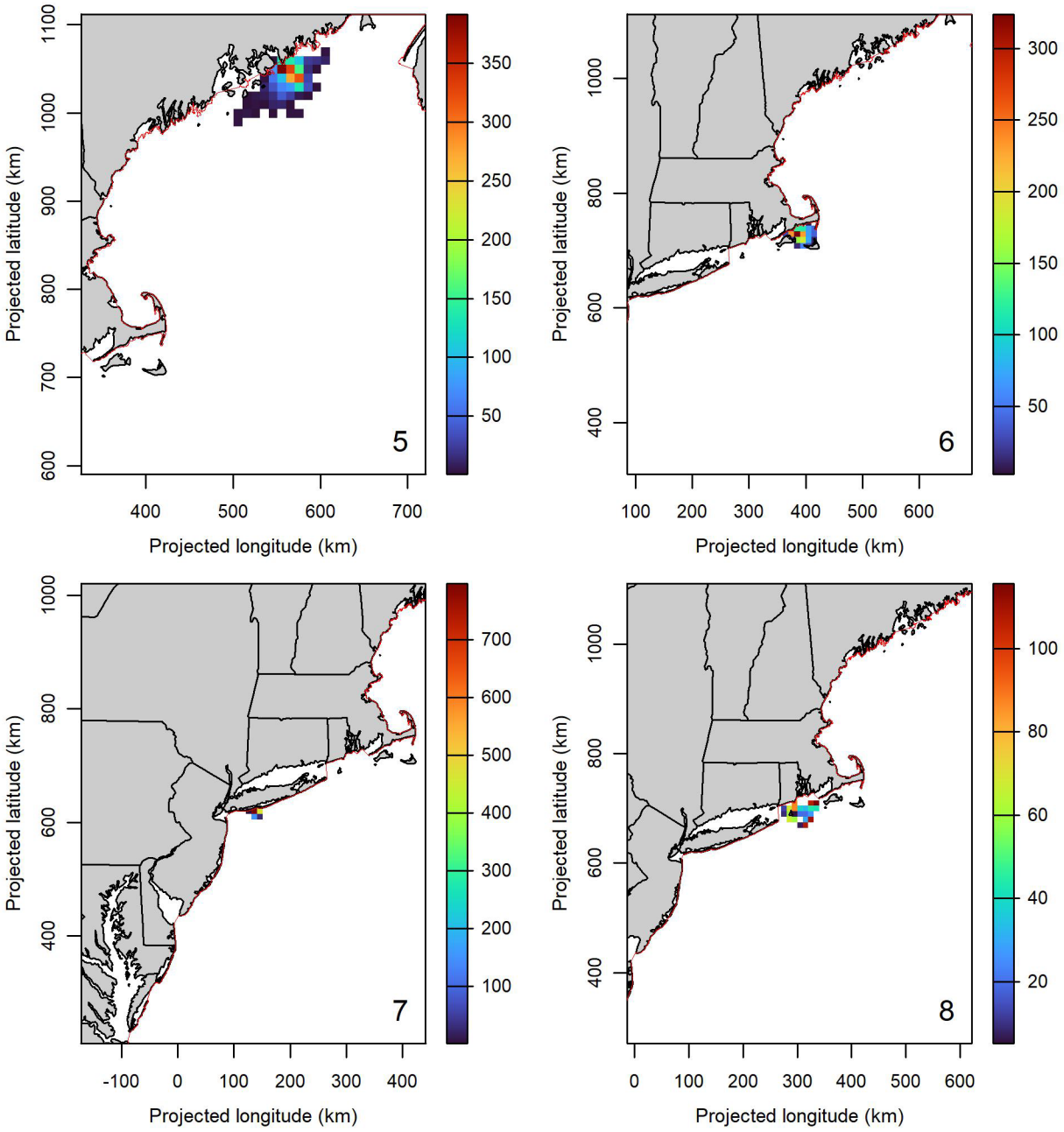


**Figure A-1. Continued**

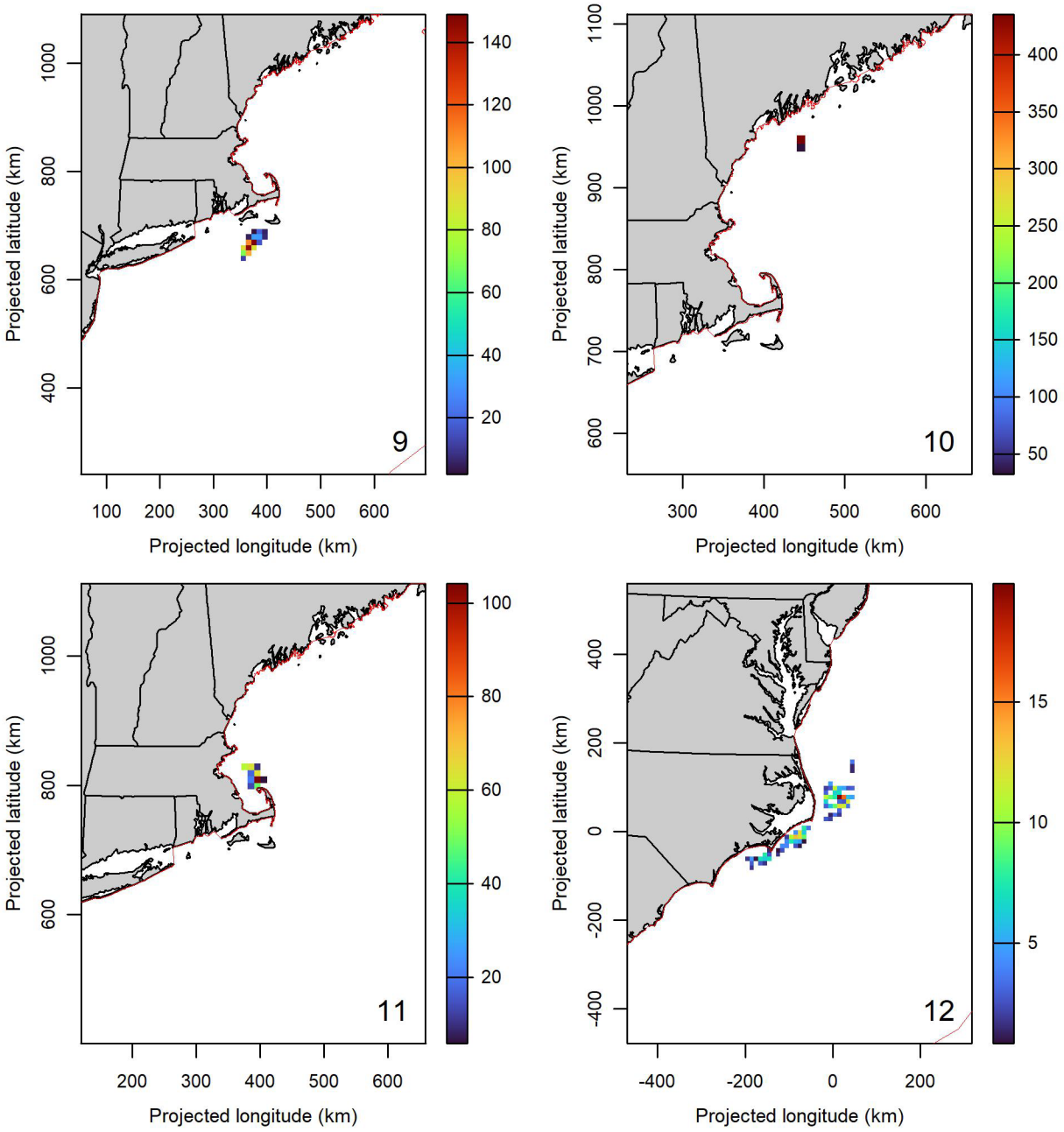


**Figure A-1. Continued**

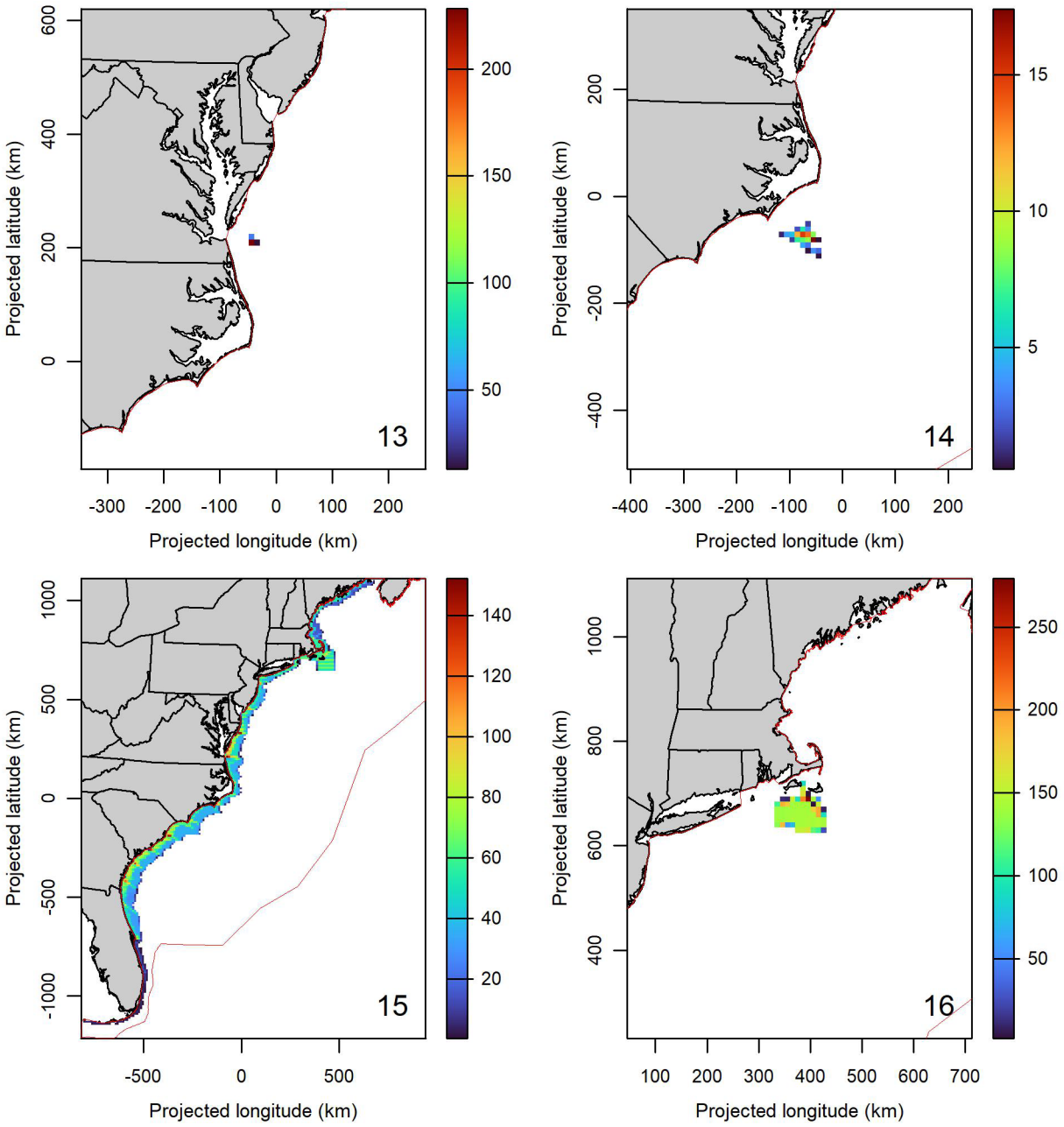


**Figure A-1. Continued**

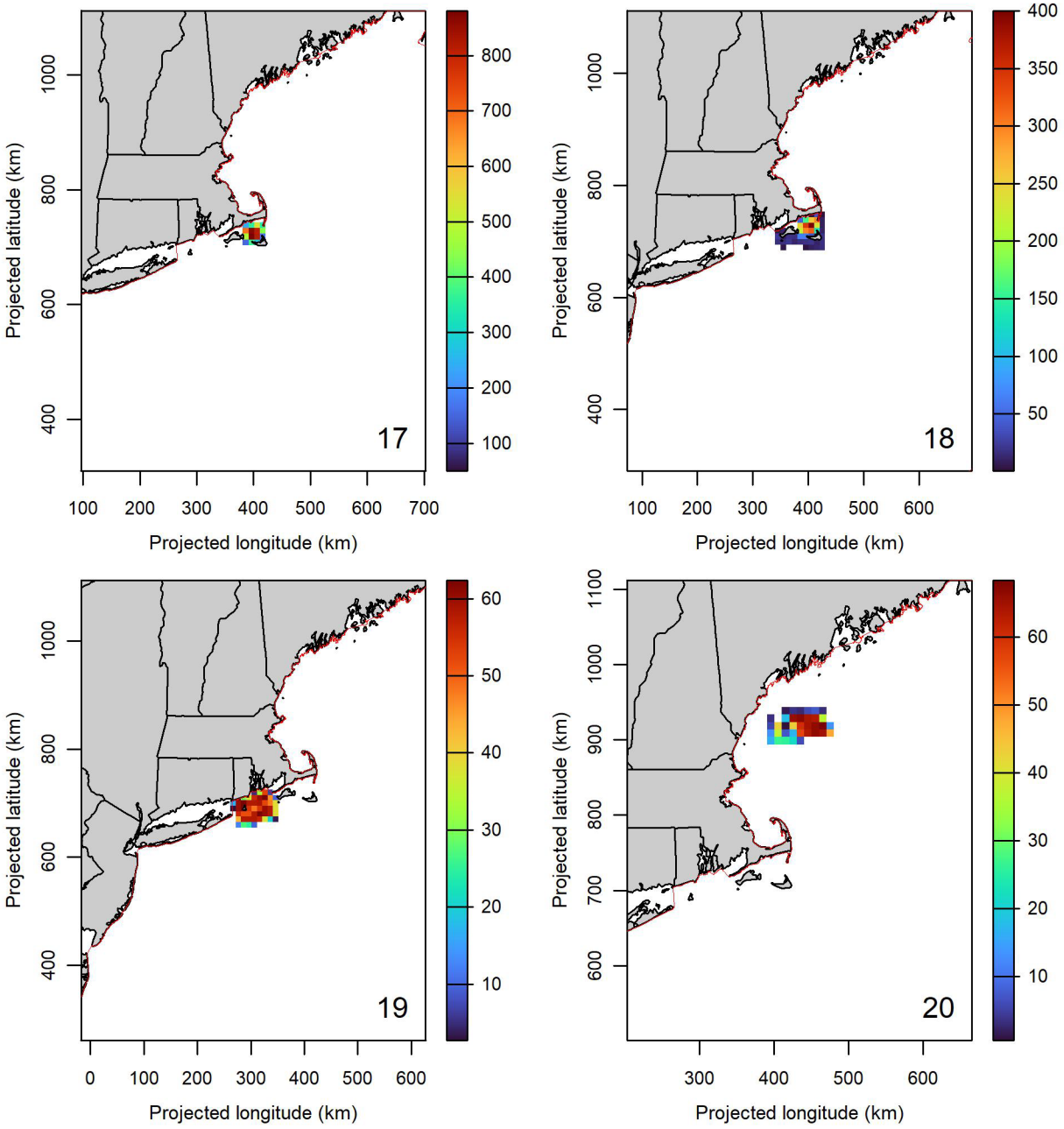


**Figure A-1. Continued**

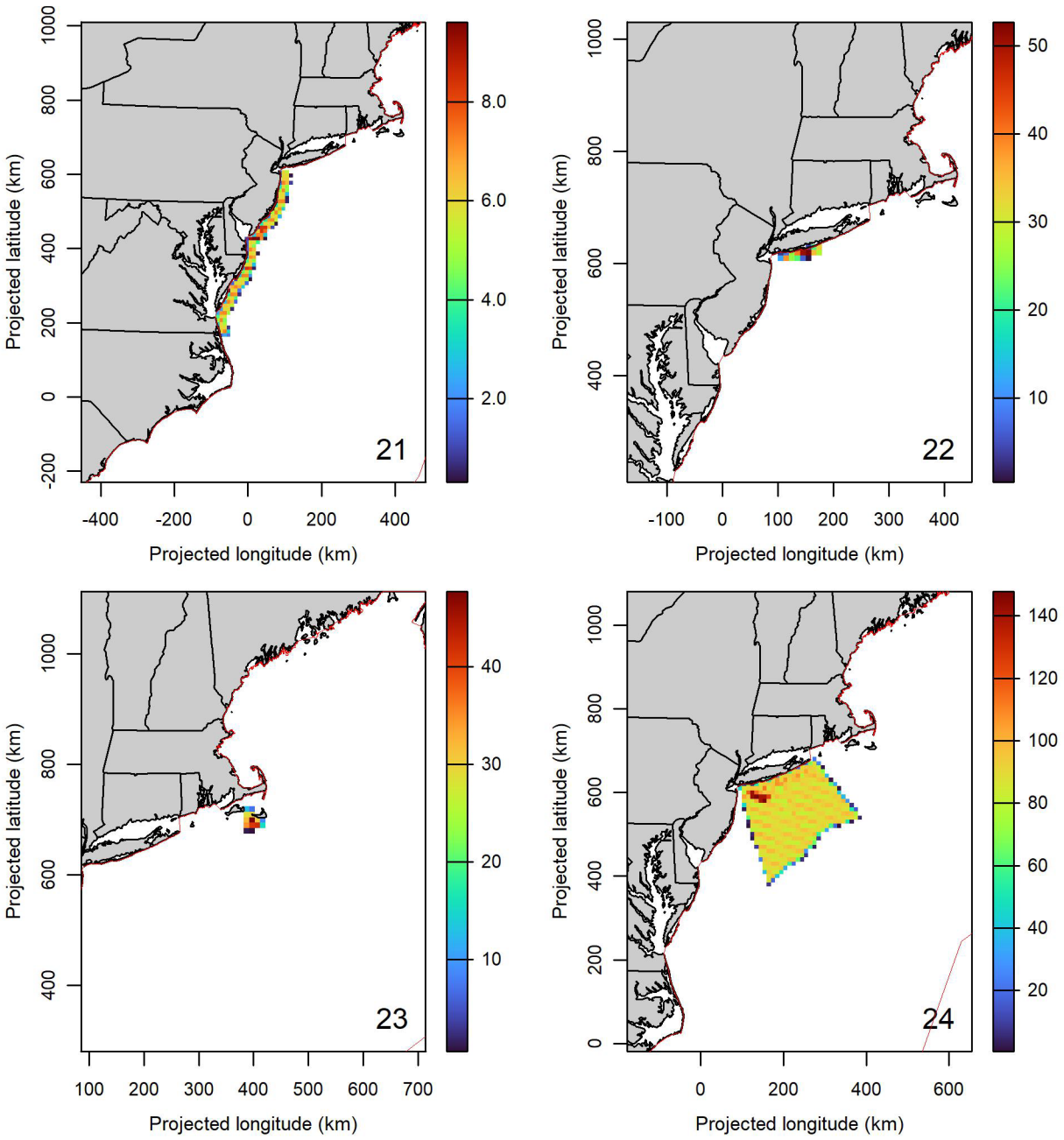


**Figure A-1. Continued**

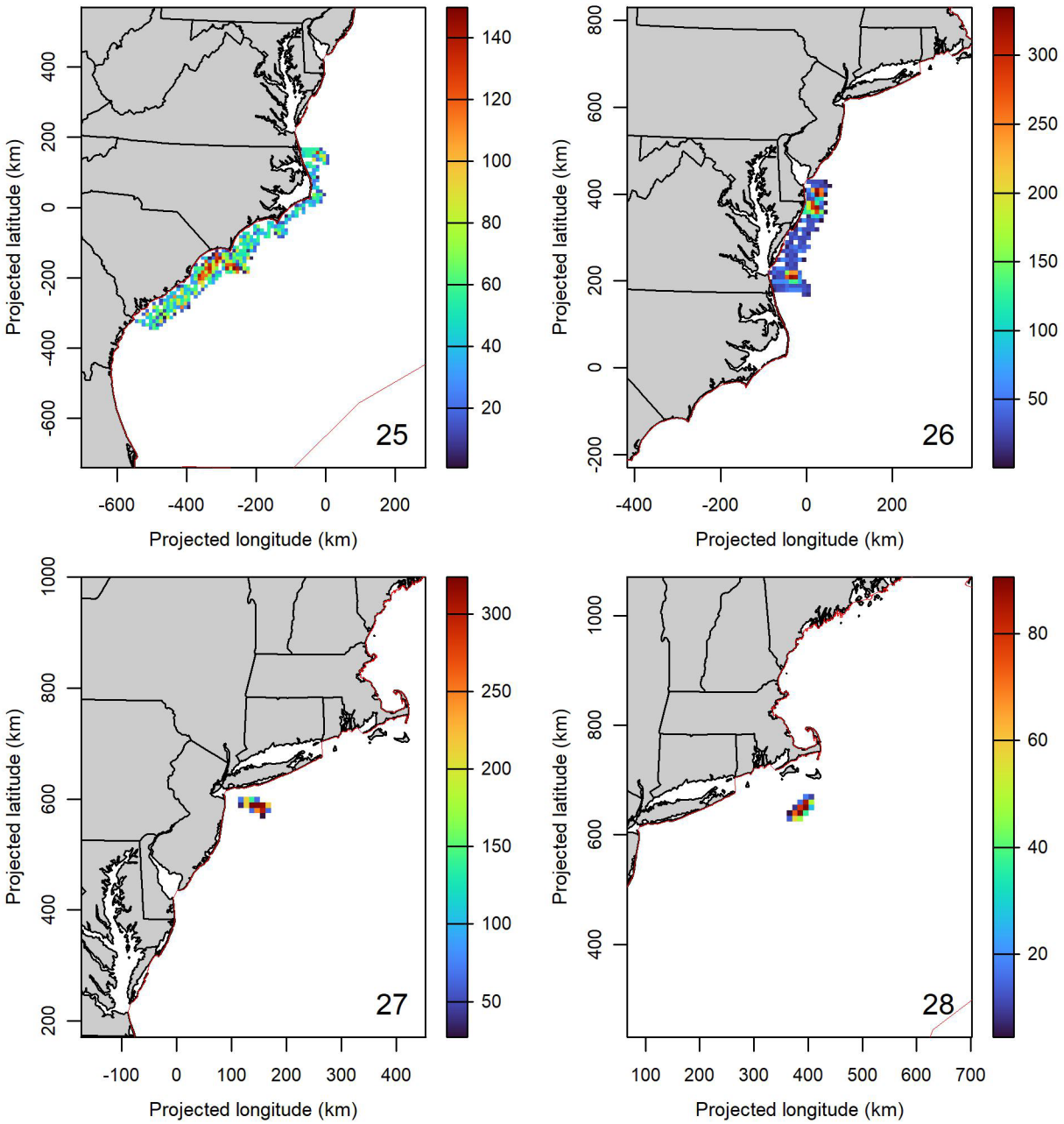


**Figure A-1. Continued**

# Appendix B: Monthly climatologies of environmental variables

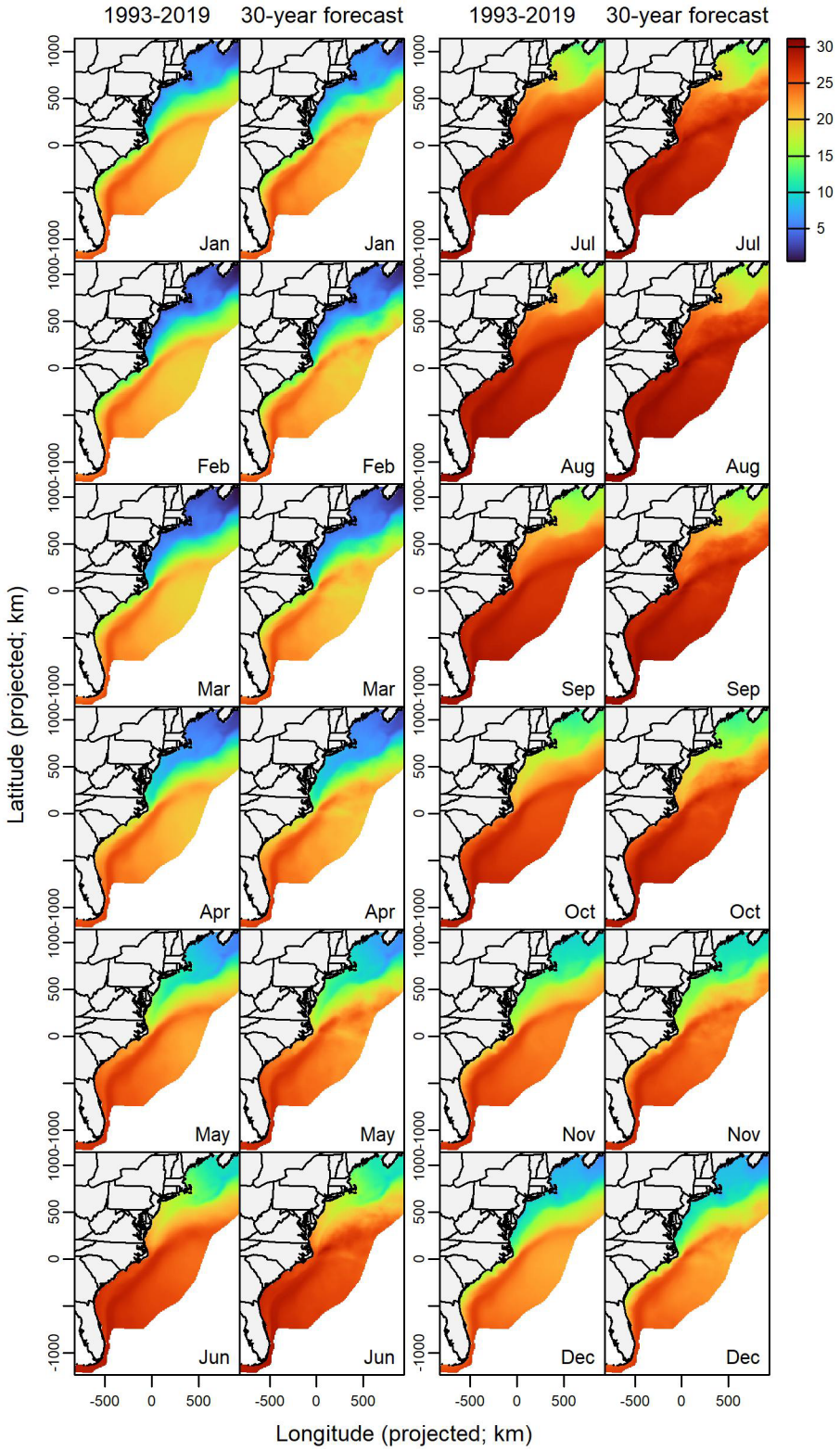


**Figure B-1. Monthly climatologies of sea surface temperature (°C)**

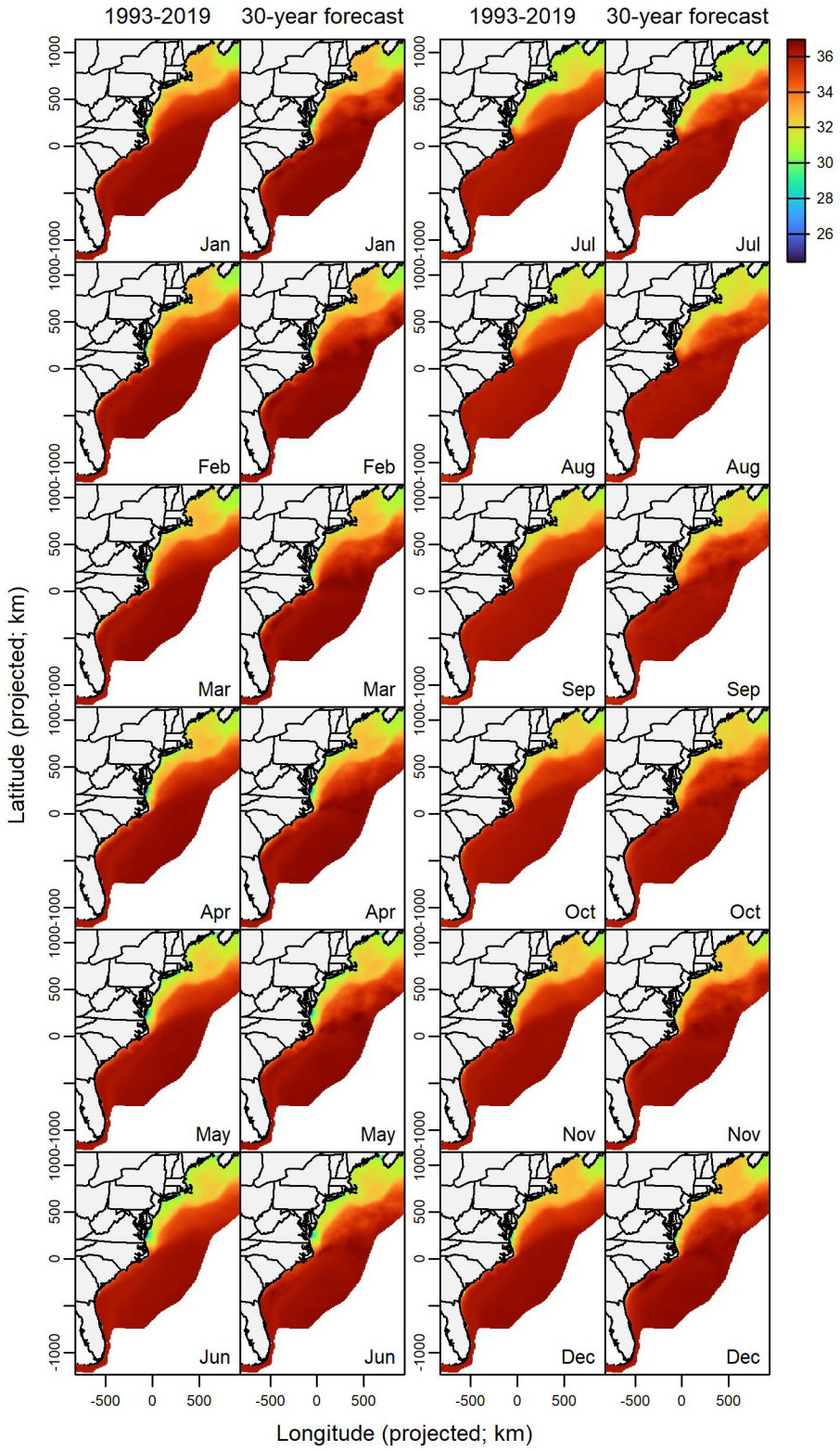


**Figure B-2. Monthly climatologies of sea surface salinity (psu)**

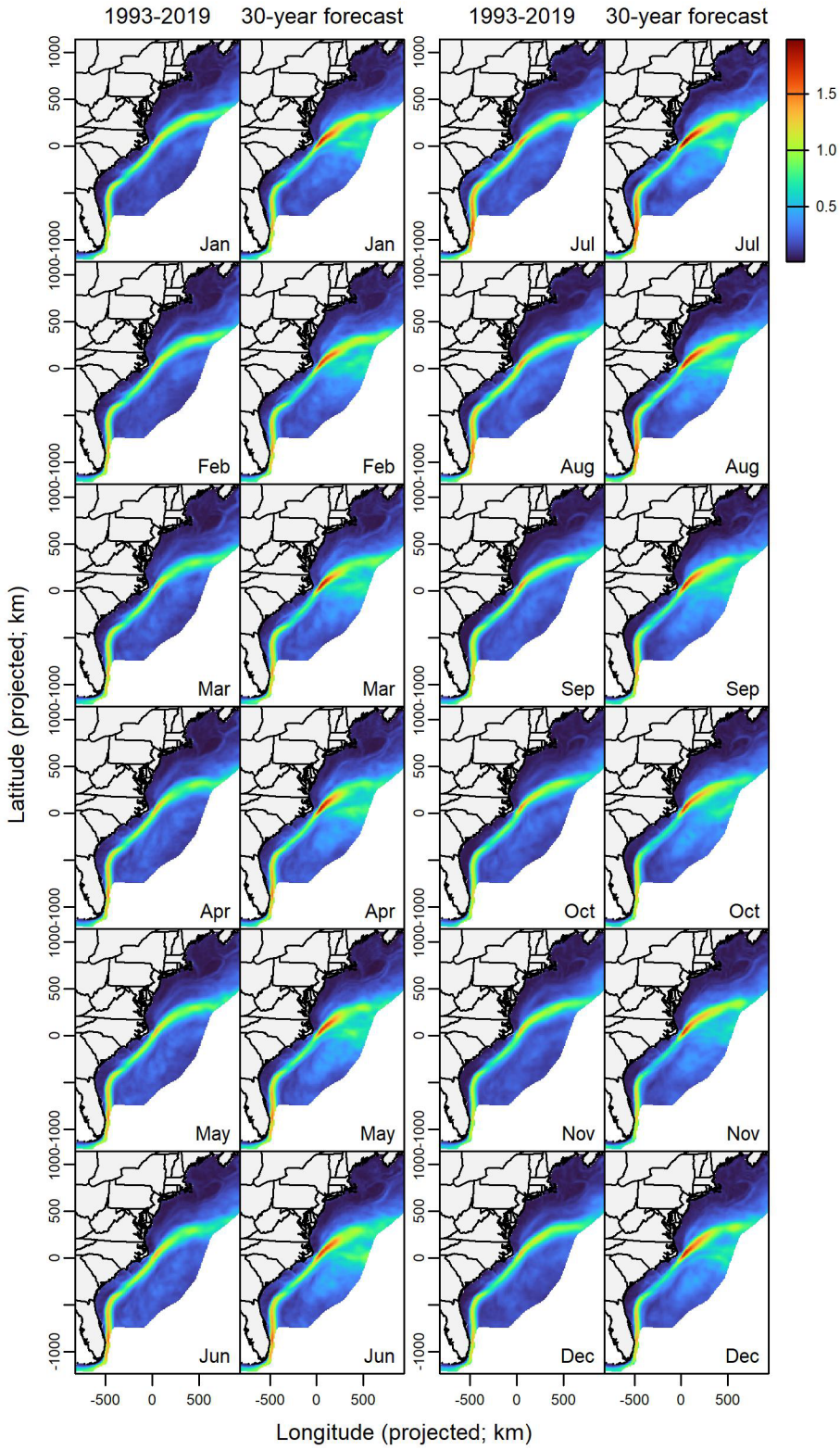


**Figure B-3. Monthly climatologies of sea surface current magnitude (m/s)**

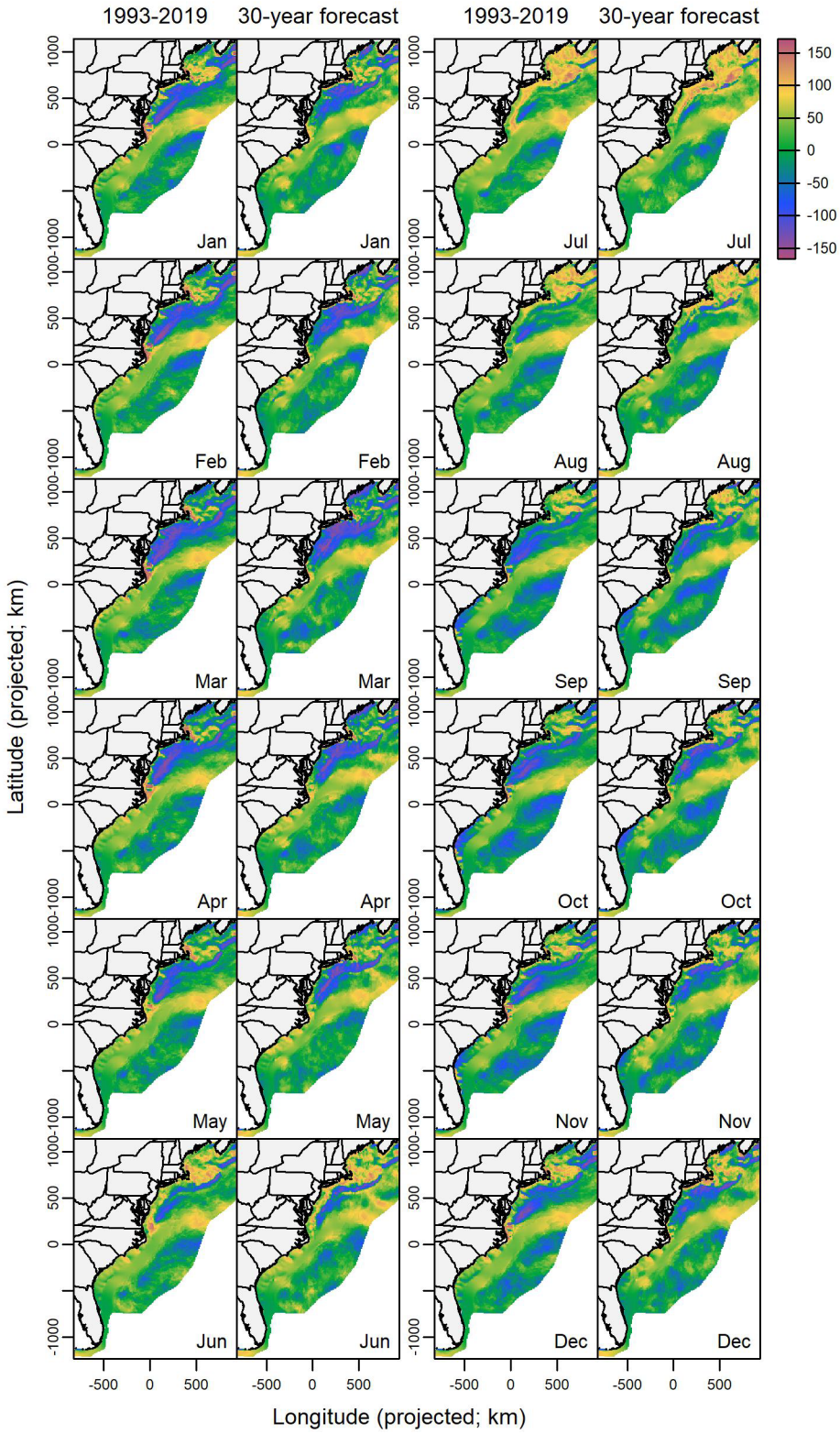


**Figure B-4. Monthly climatologies of sea surface current direction (°)**

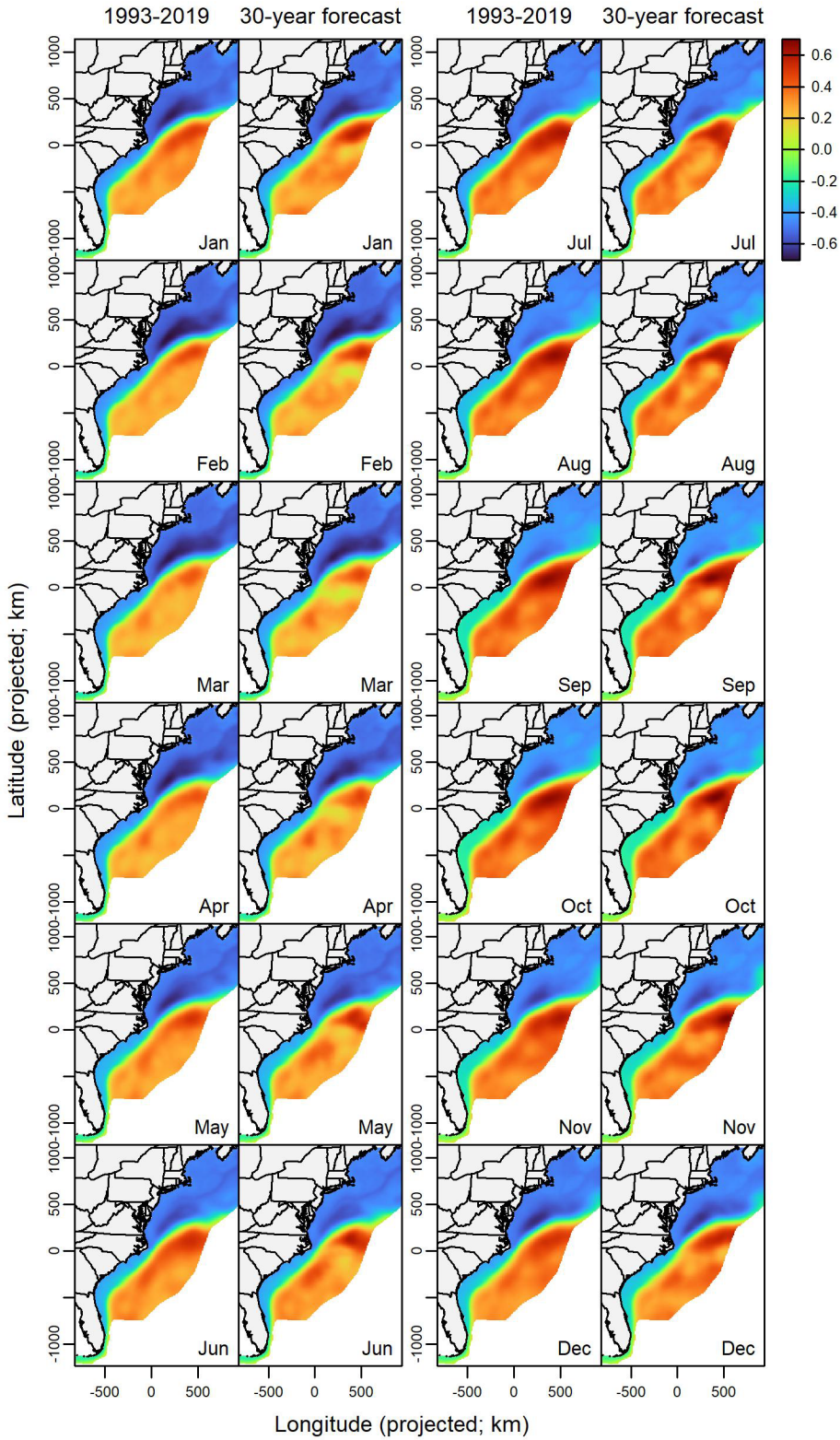


**Figure B-5. Monthly climatologies of sea surface height (m)**

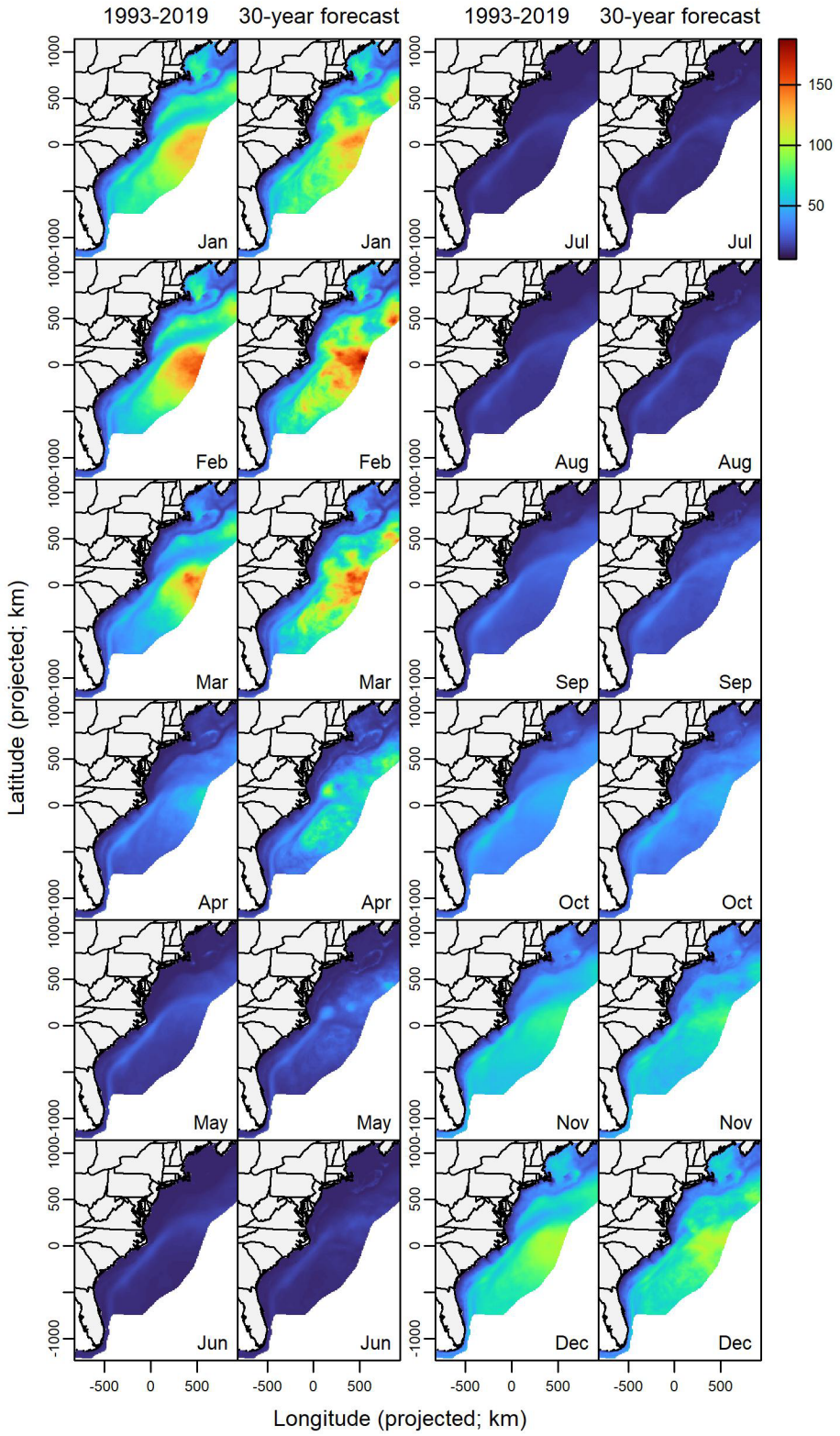


**Figure B-6. Monthly climatologies of ocean mixed layer depth (m)**

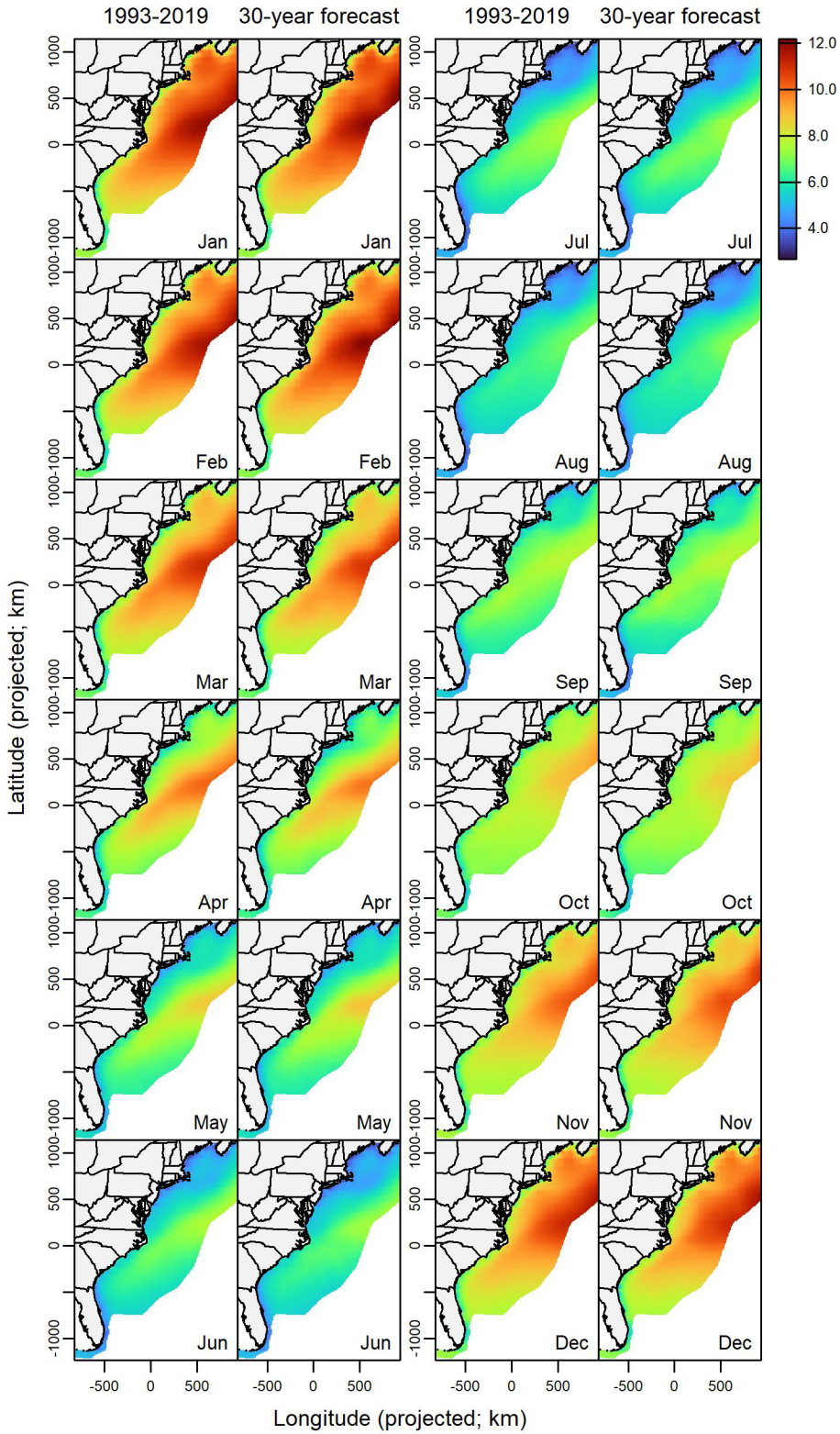


**Figure B-7. Monthly climatologies of sea surface wind speed (m/s)**

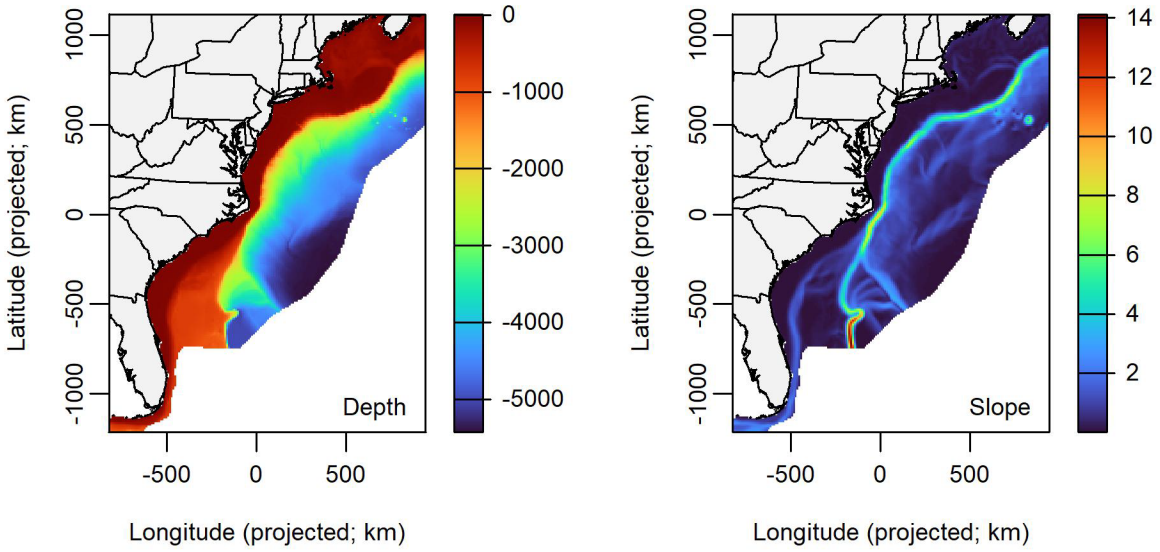


**Figure B-8. Static environmental variables: depth (m) and slope (% rise)**

# Appendix C: Observed density

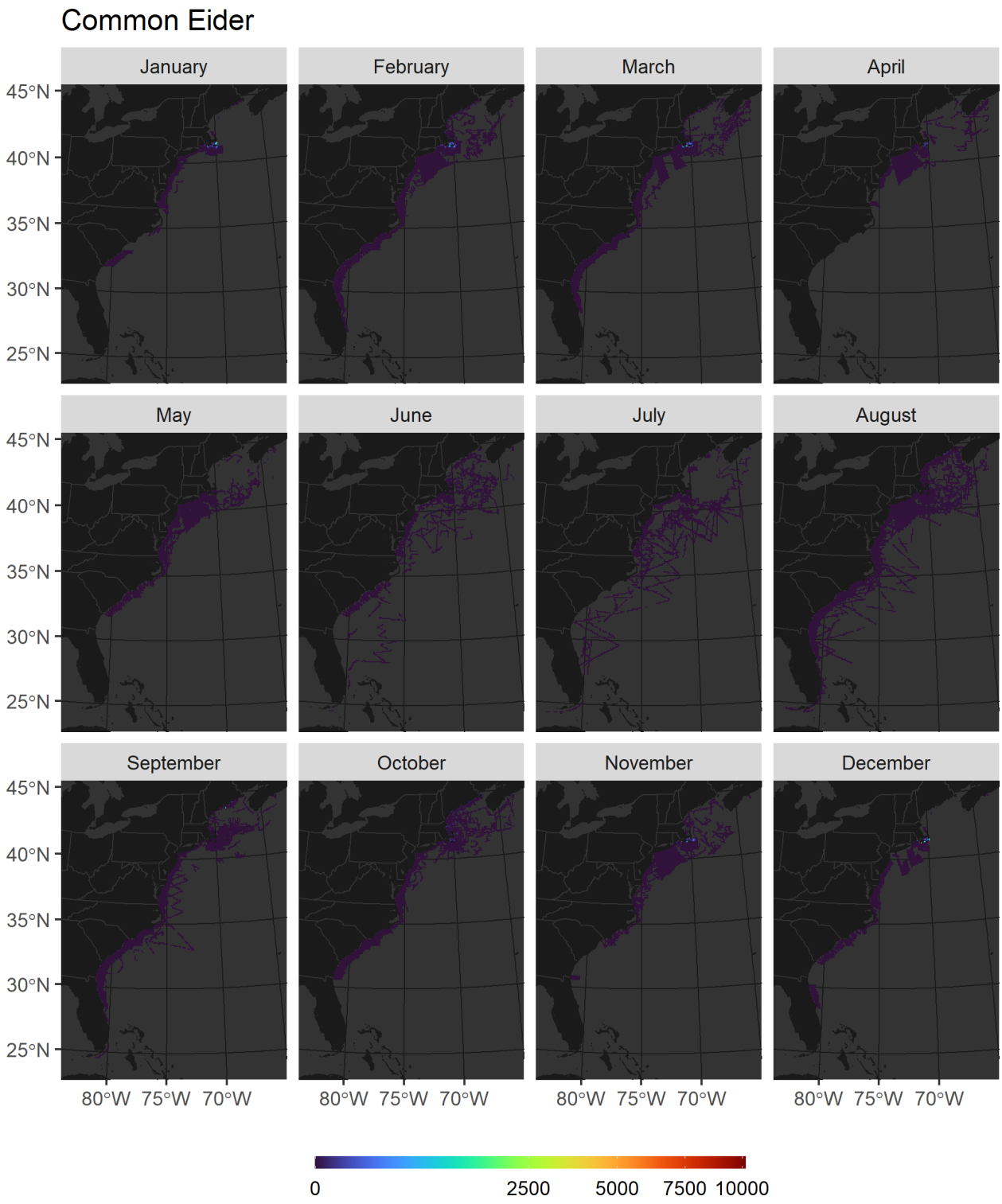


**Figure C-1. Observed density (number of birds per km$^2$) of Common Eider by month**
Density is scaled by its square root to improve visualization.

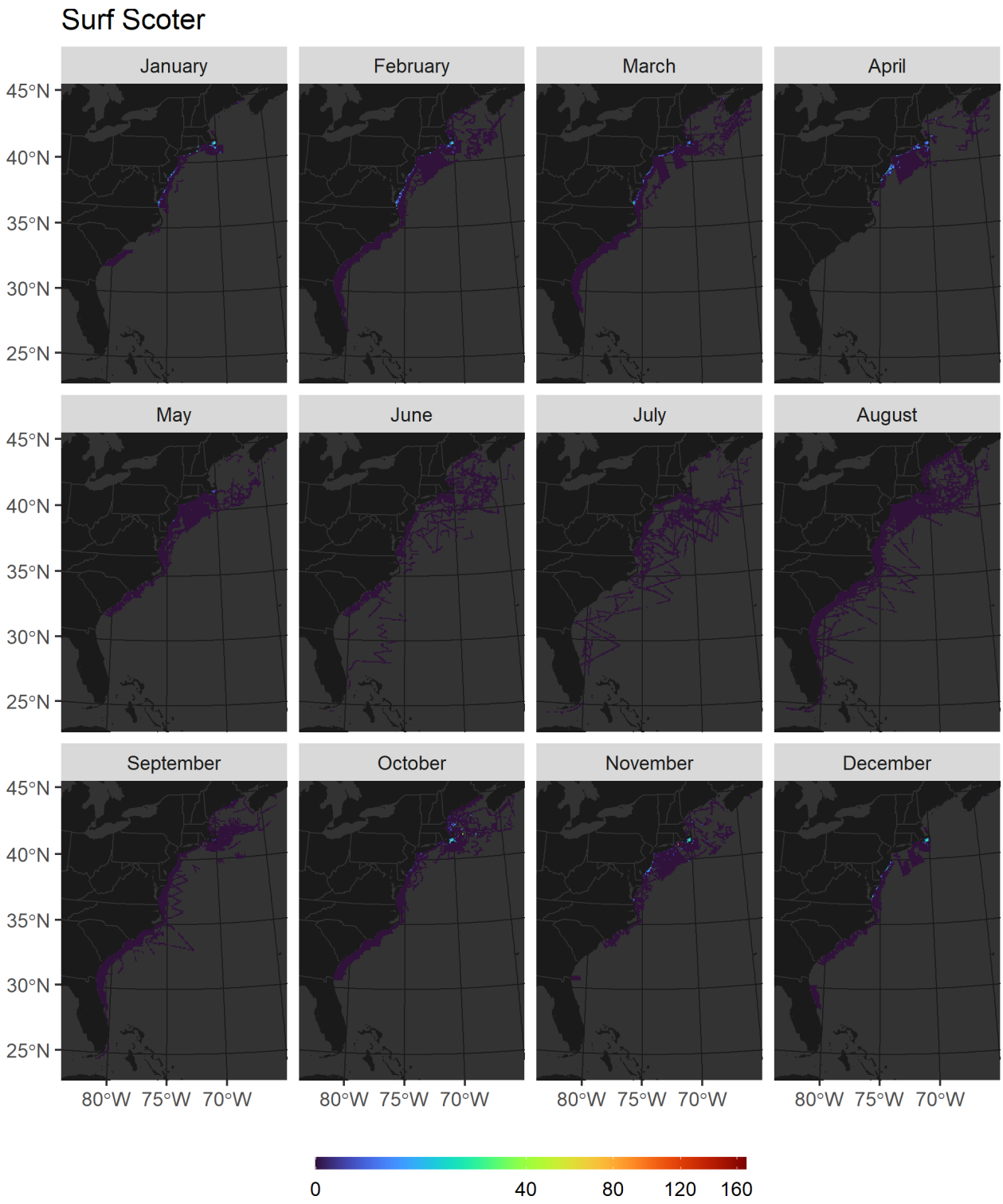


**Figure C-2. Observed density (number of birds per km$^2$) of Surf Scoter by month**
Density is scaled by its square root to improve visualization.

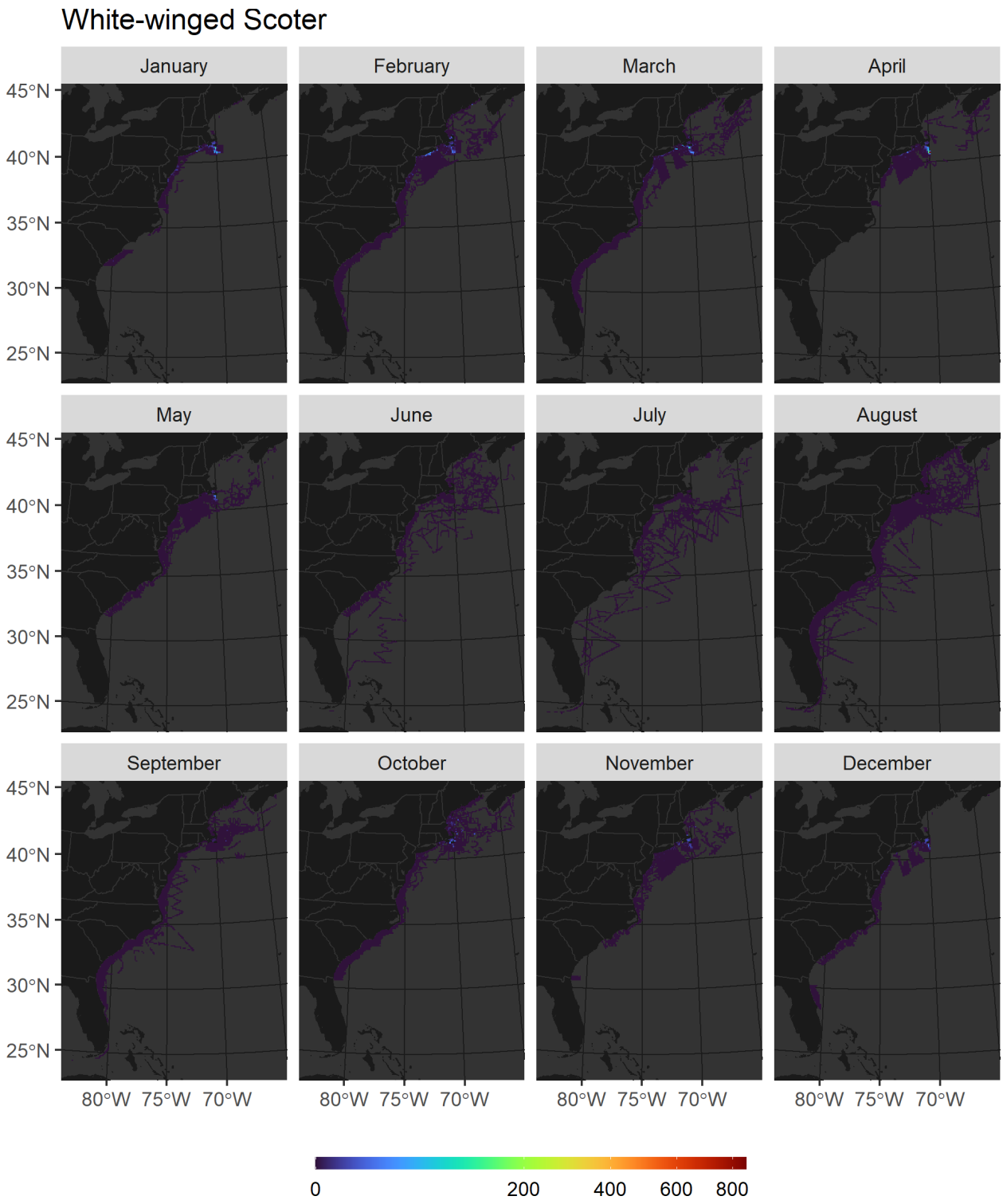


**Figure C-3. Observed density (number of birds per km$^2$) of White-winged Scoter by month**
Density is scaled by its square root to improve visualization.

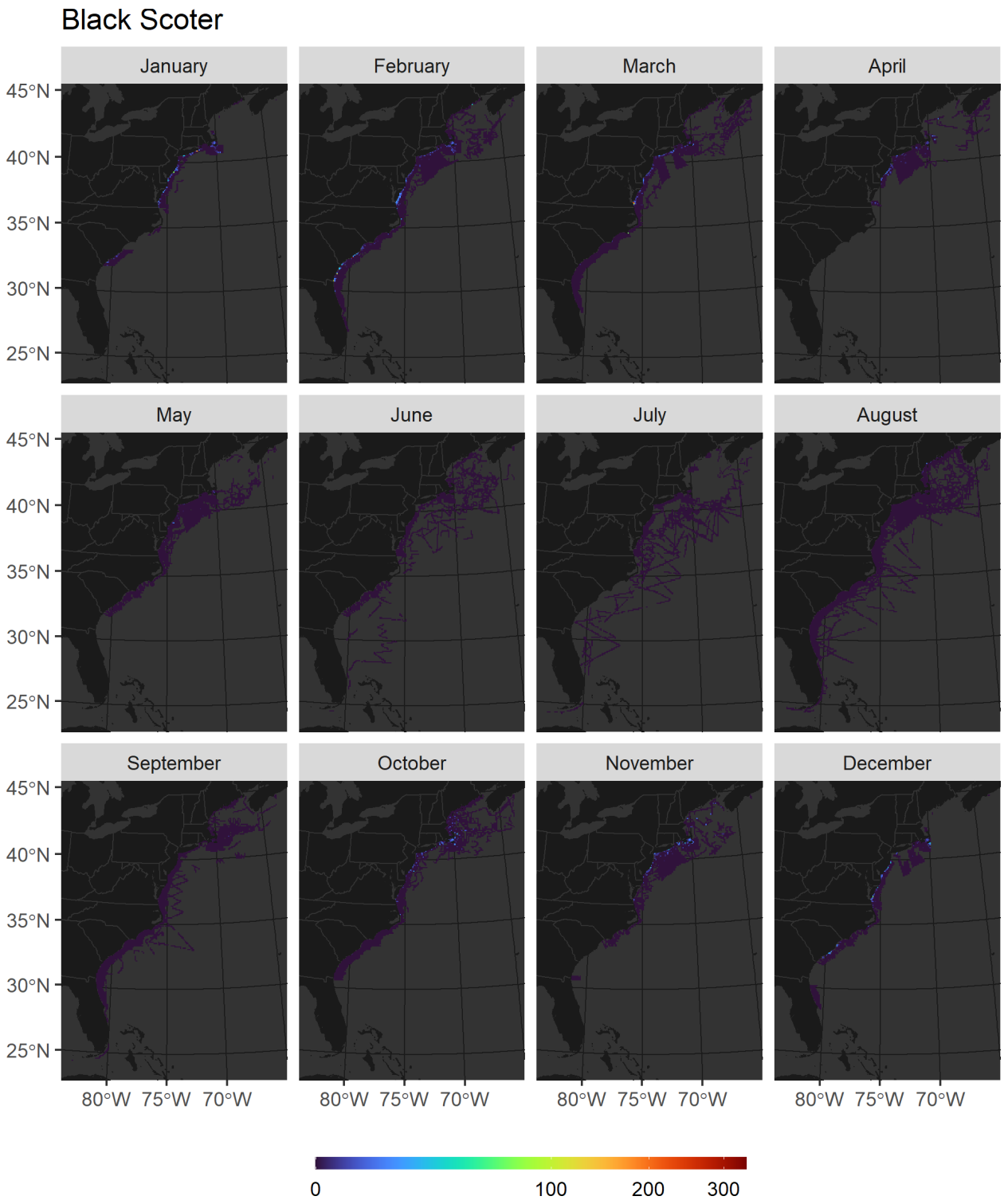


**Figure C-4. Observed density (number of birds per km$^2$) of Black Scoter by month**
Density is scaled by its square root to improve visualization.

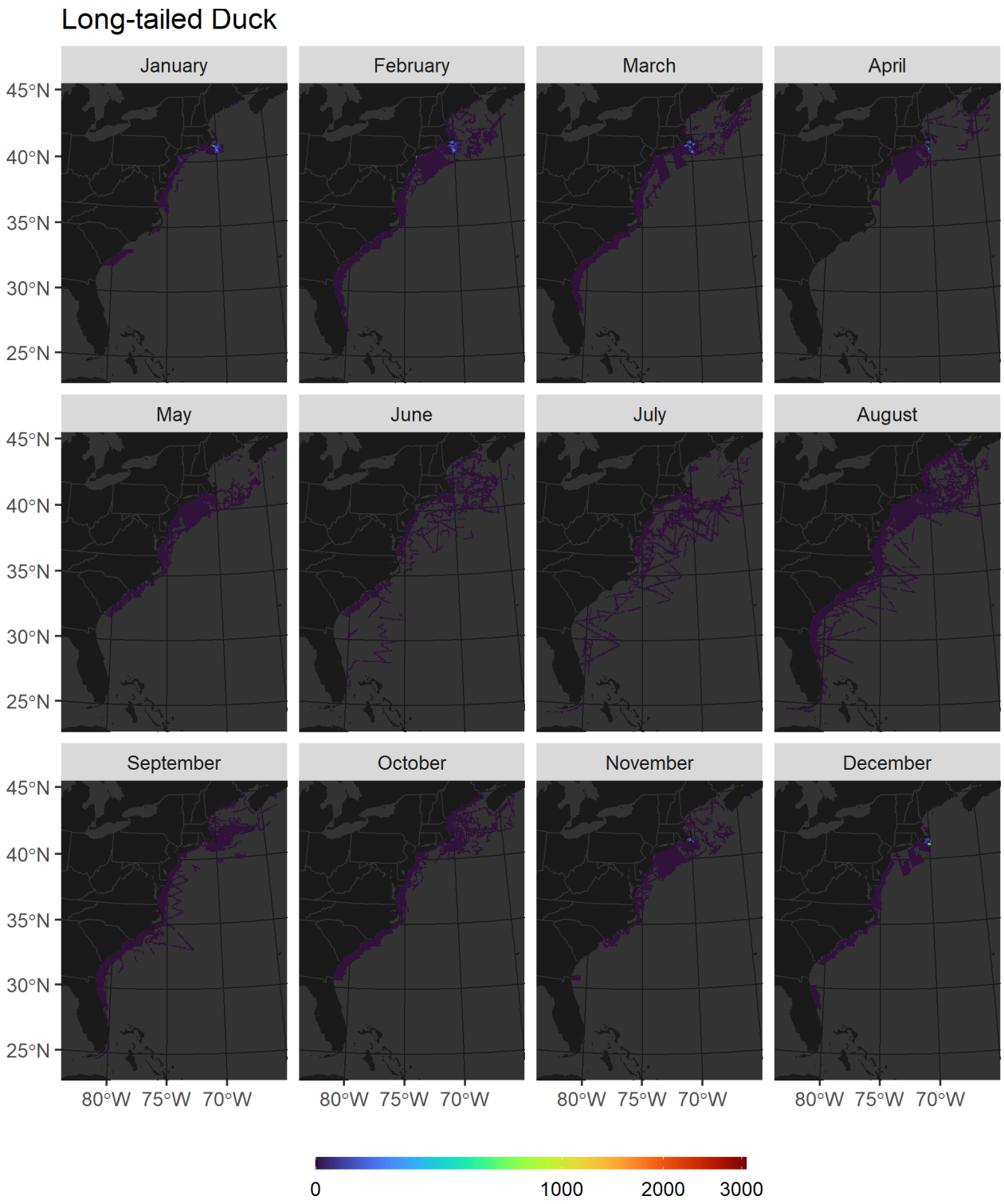


**Figure C-5. Observed density (number of birds per km$^2$) of Long-tailed Duck by month**
Density is scaled by its square root to improve visualization.

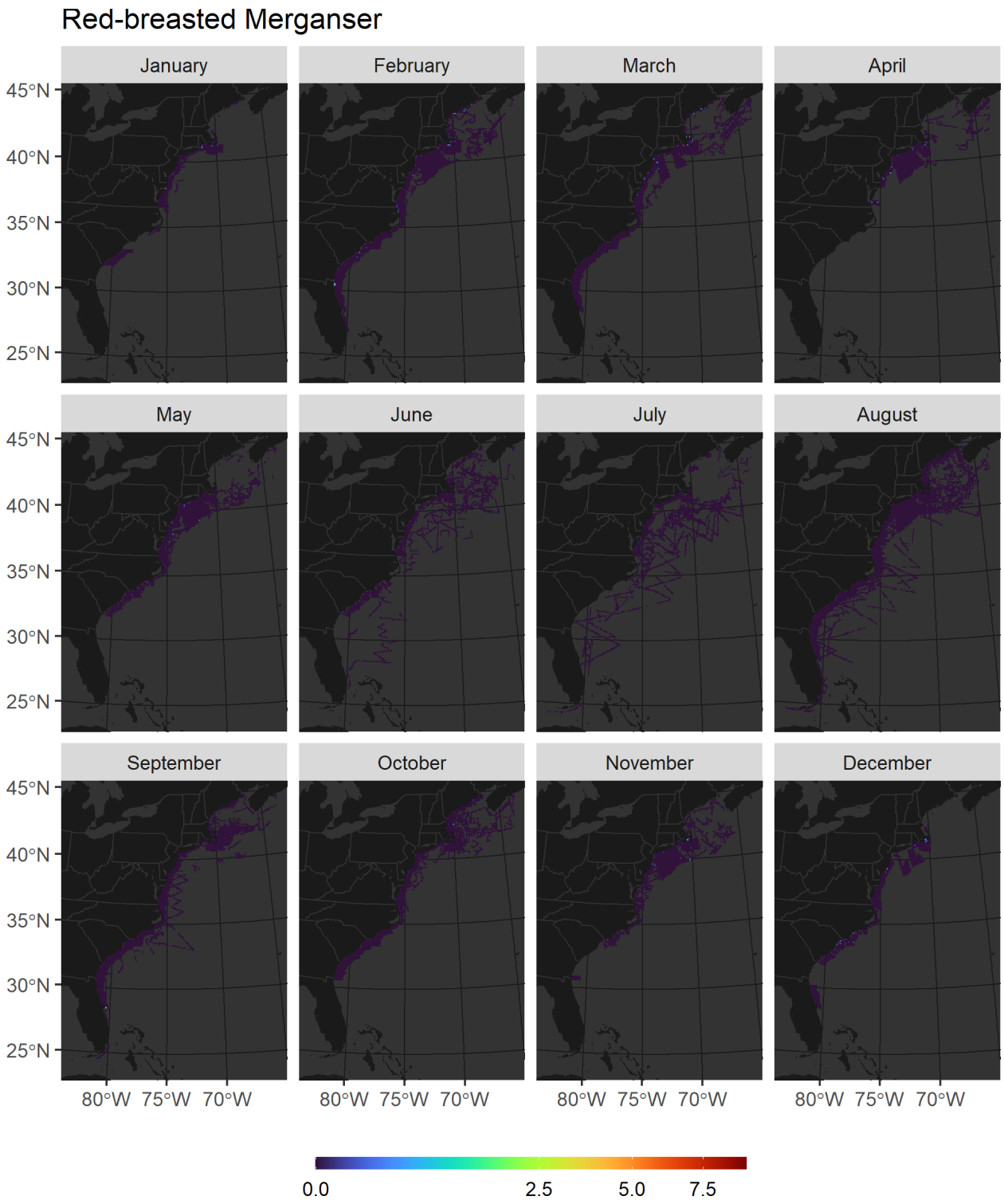


**Figure C-6. Observed density (number of birds per km$^2$) of Red-breasted Merganser by month**
Density is scaled by its square root to improve visualization.

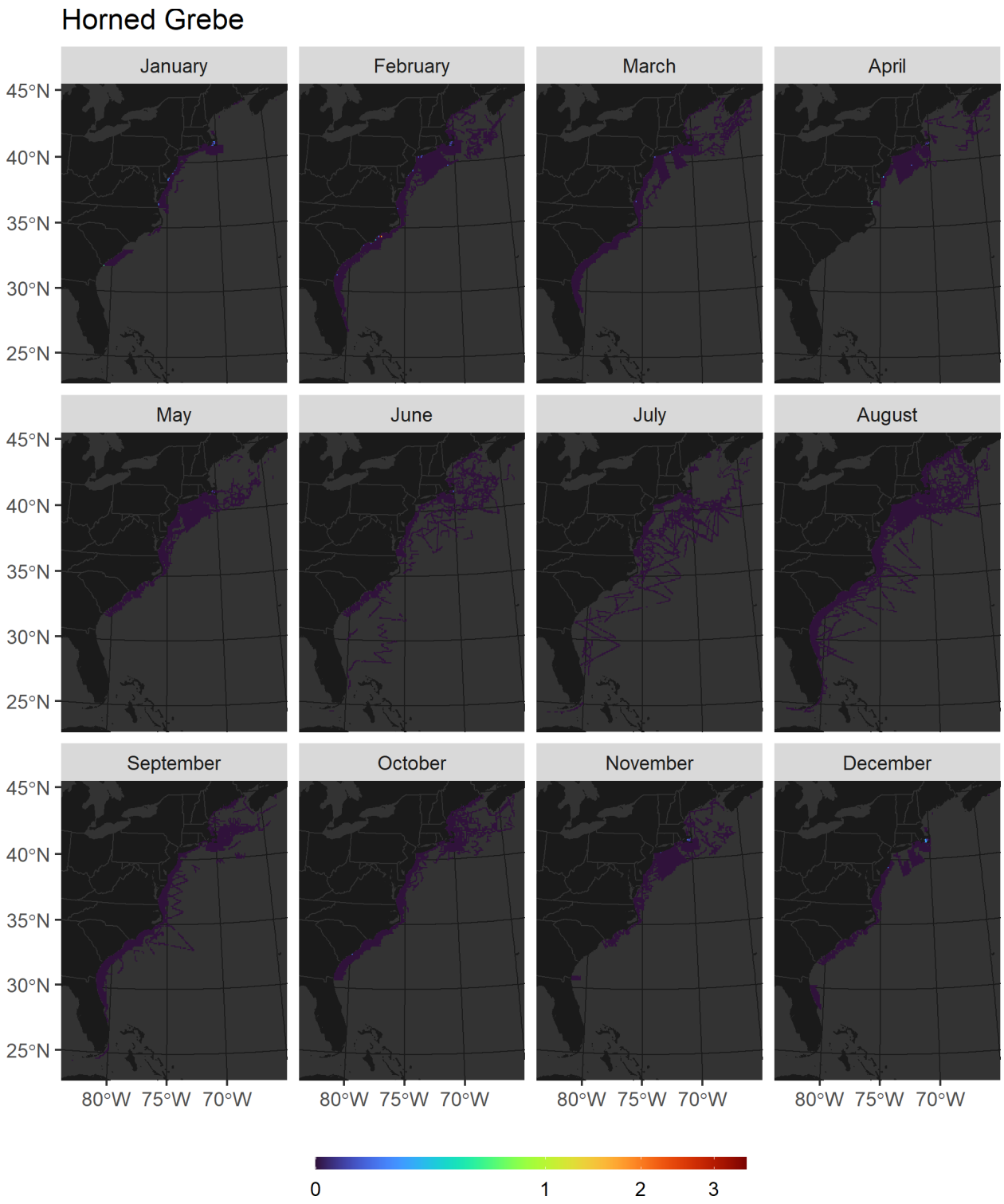


**Figure C-7. Observed density (number of birds per km$^2$) of Horned Grebe by month**
Density is scaled by its square root to improve visualization.

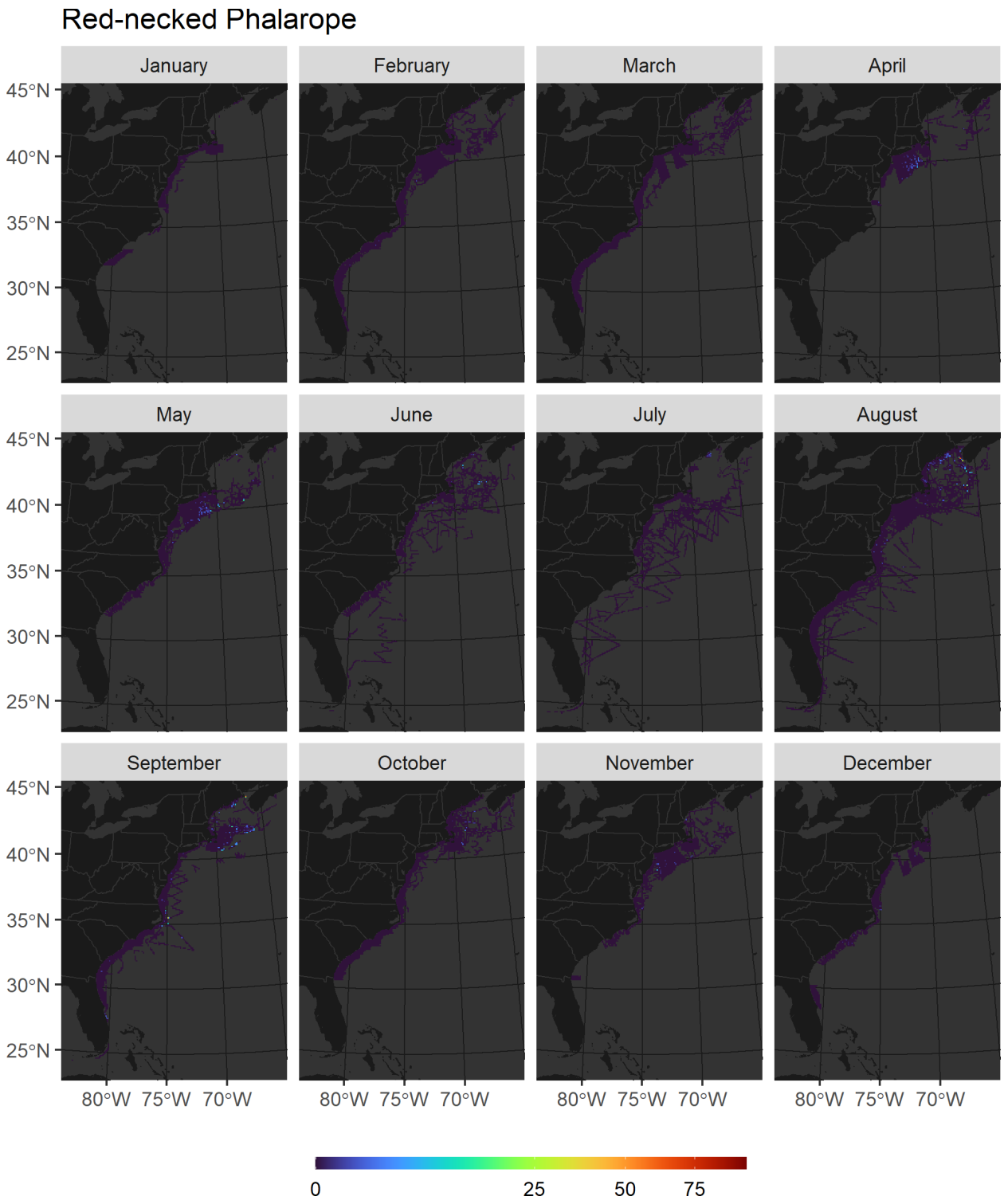


**Figure C-8. Observed density (number of birds per km$^2$) of Red-necked Phalarope by month**
Density is scaled by its square root to improve visualization.

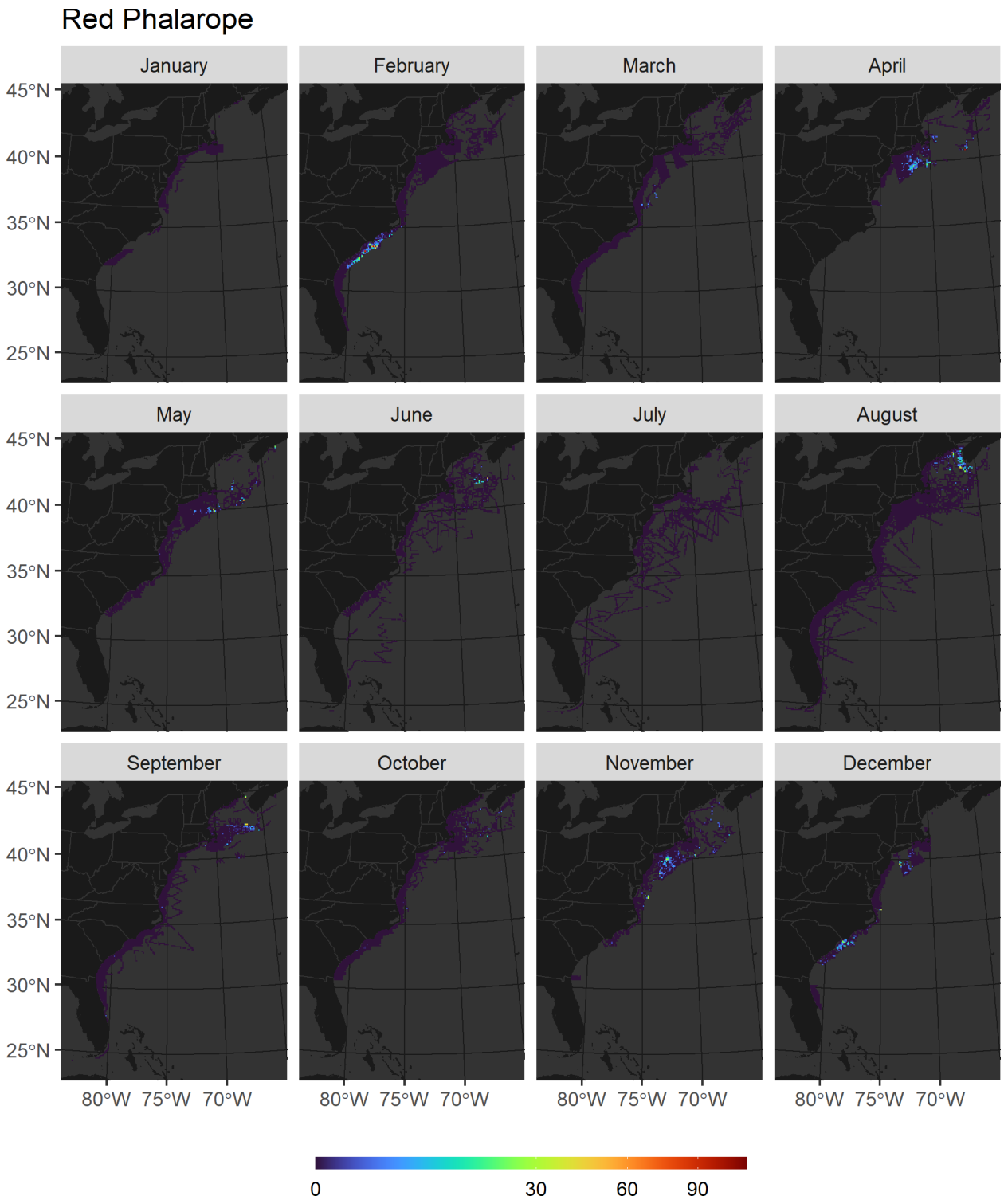


**Figure C-9. Observed density (number of birds per km$^2$) of Red Phalarope by month**
Density is scaled by its square root to improve visualization.

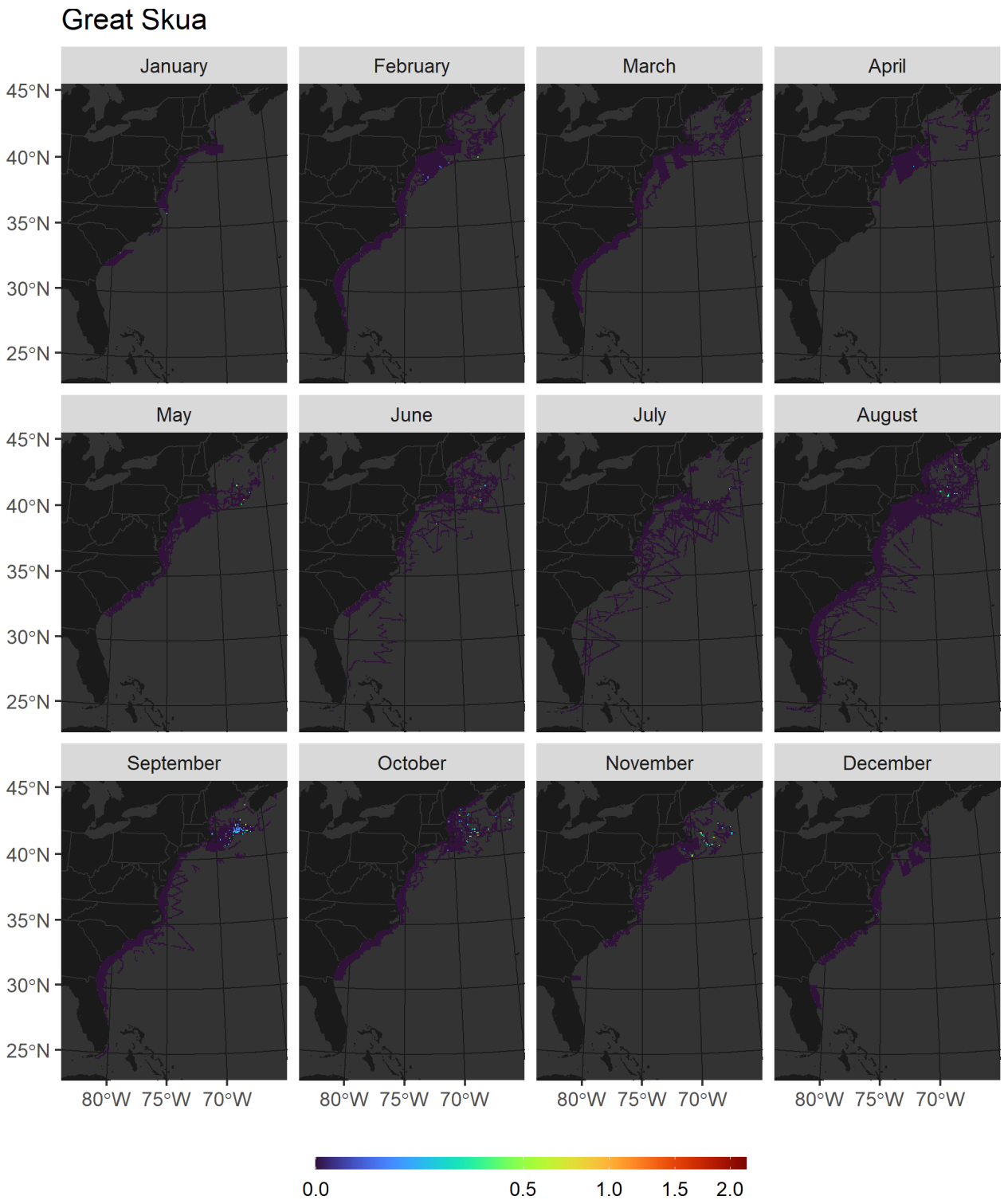


**Figure C-10. Observed density (number of birds per km$^2$) of Great Skua by month**
Density is scaled by its square root to improve visualization.

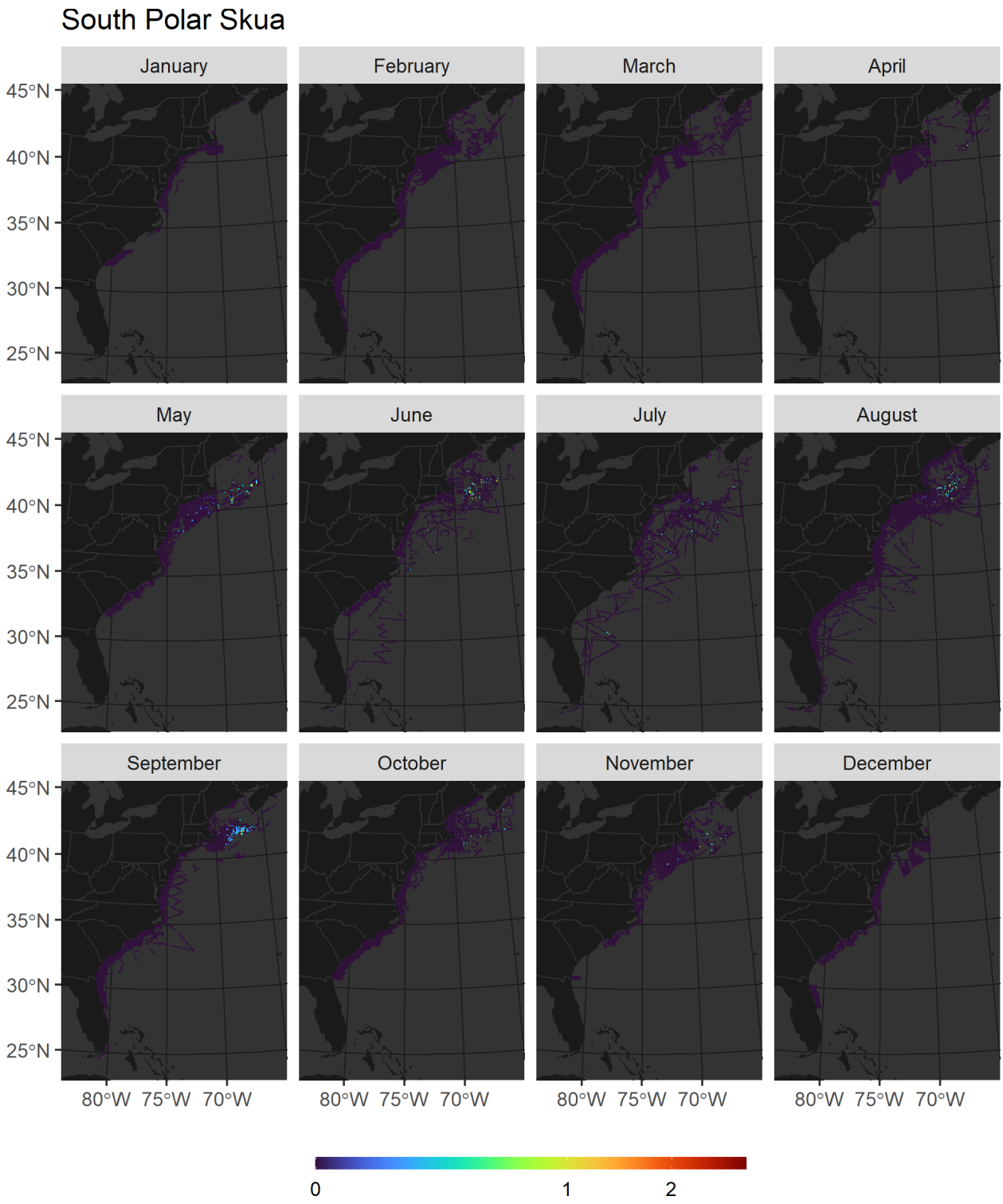


**Figure C-11. Observed density (number of birds per km$^2$) of South Polar Skua by month**
Density is scaled by its square root to improve visualization.

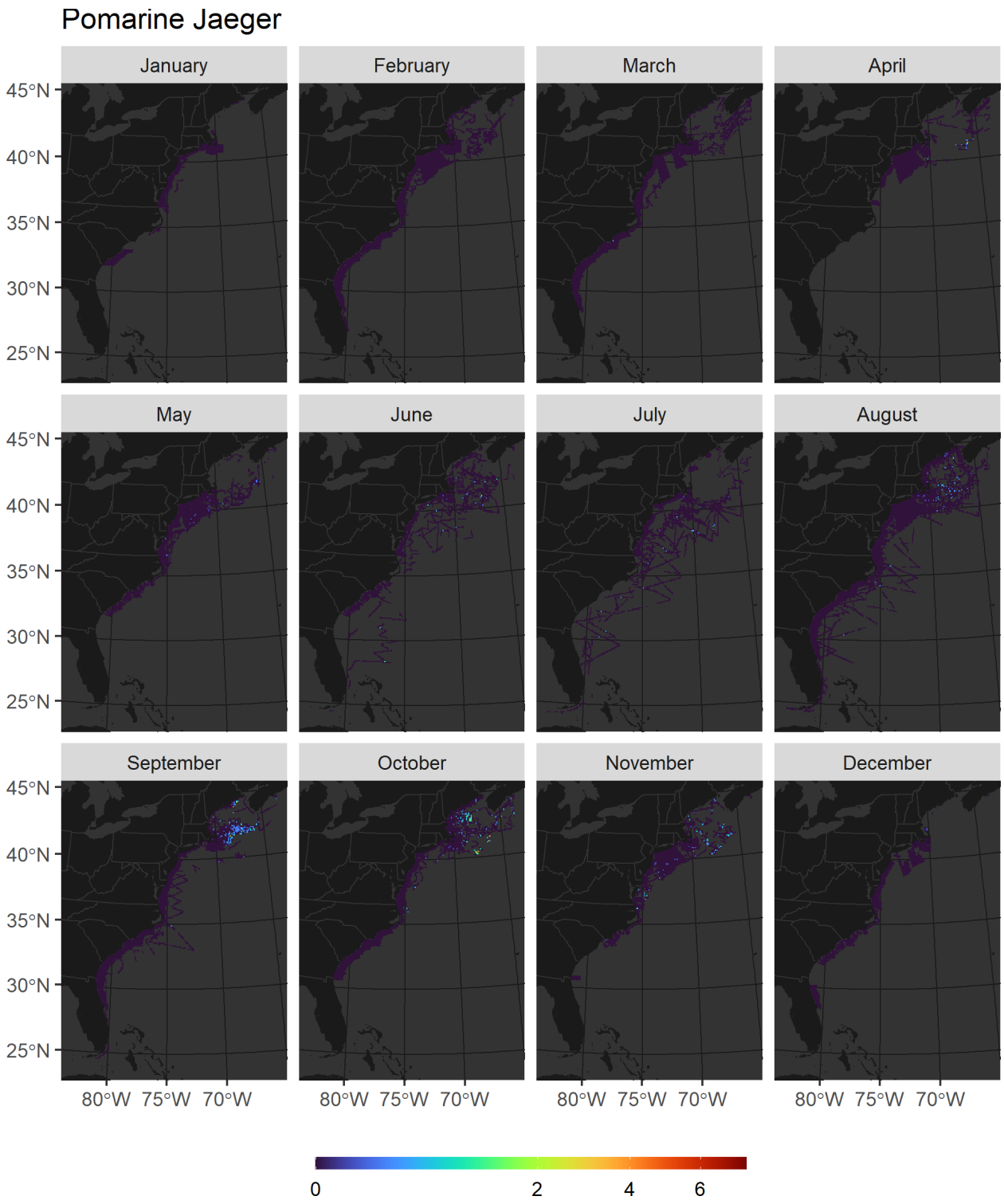


**Figure C-12. Observed density (number of birds per km$^2$) of Pomarine Jaeger by month**
Density is scaled by its square root to improve visualization.

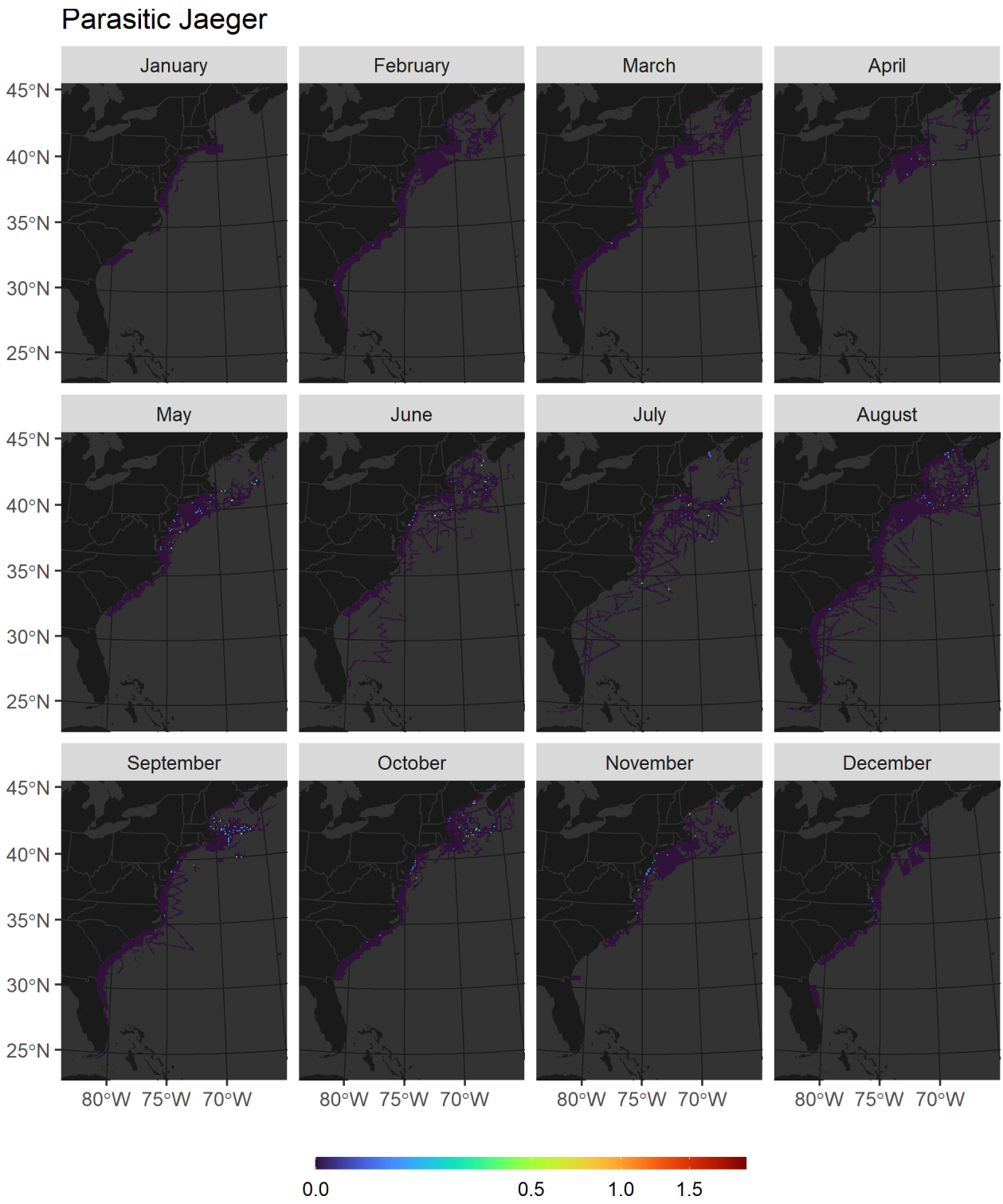


**Figure C-13. Observed density (number of birds per km$^2$) of Parasitic Jaeger by month**
Density is scaled by its square root to improve visualization.

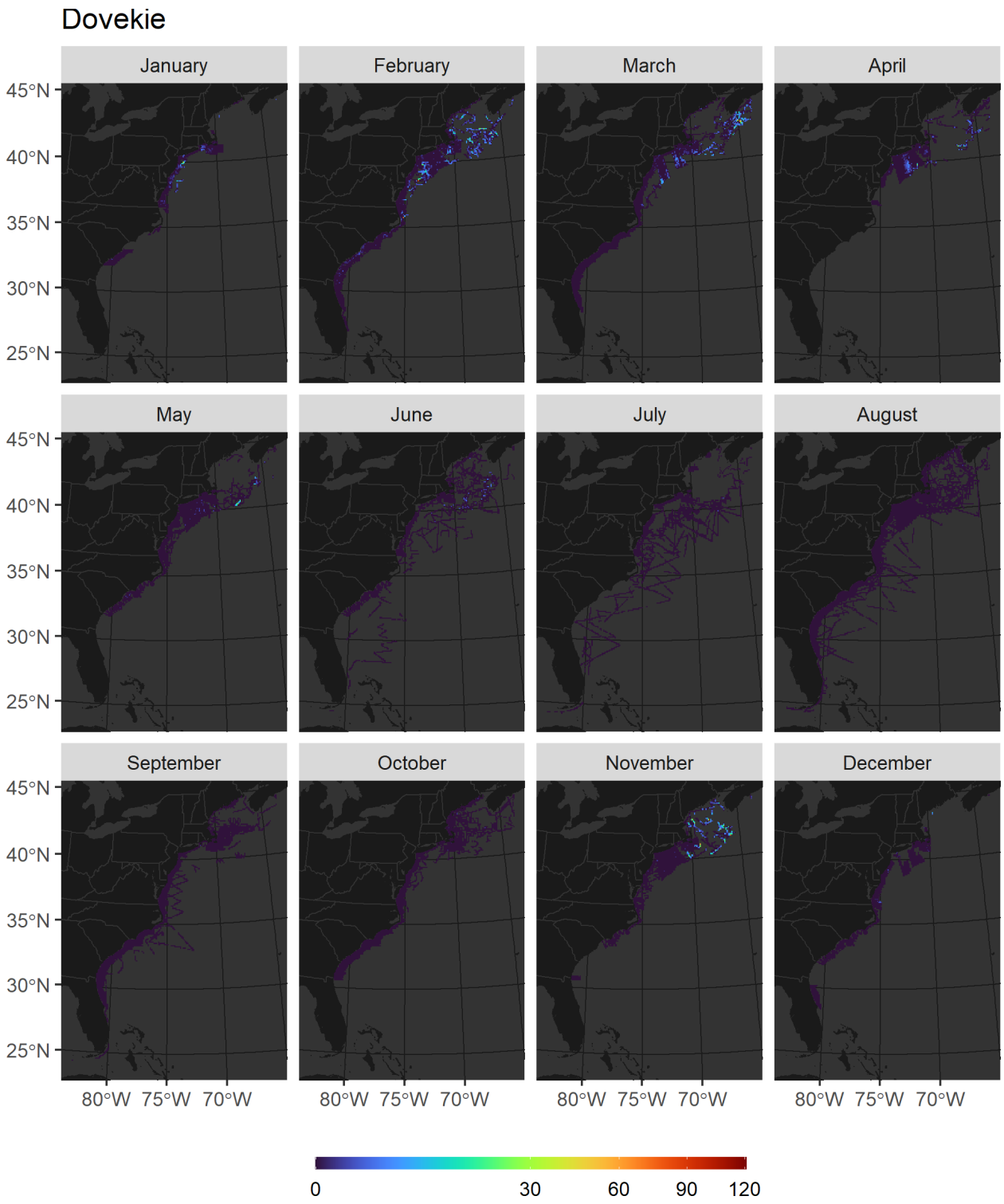


**Figure C-14. Observed density (number of birds per km$^2$) of Dovekie by month**
Density is scaled by its square root to improve visualization.

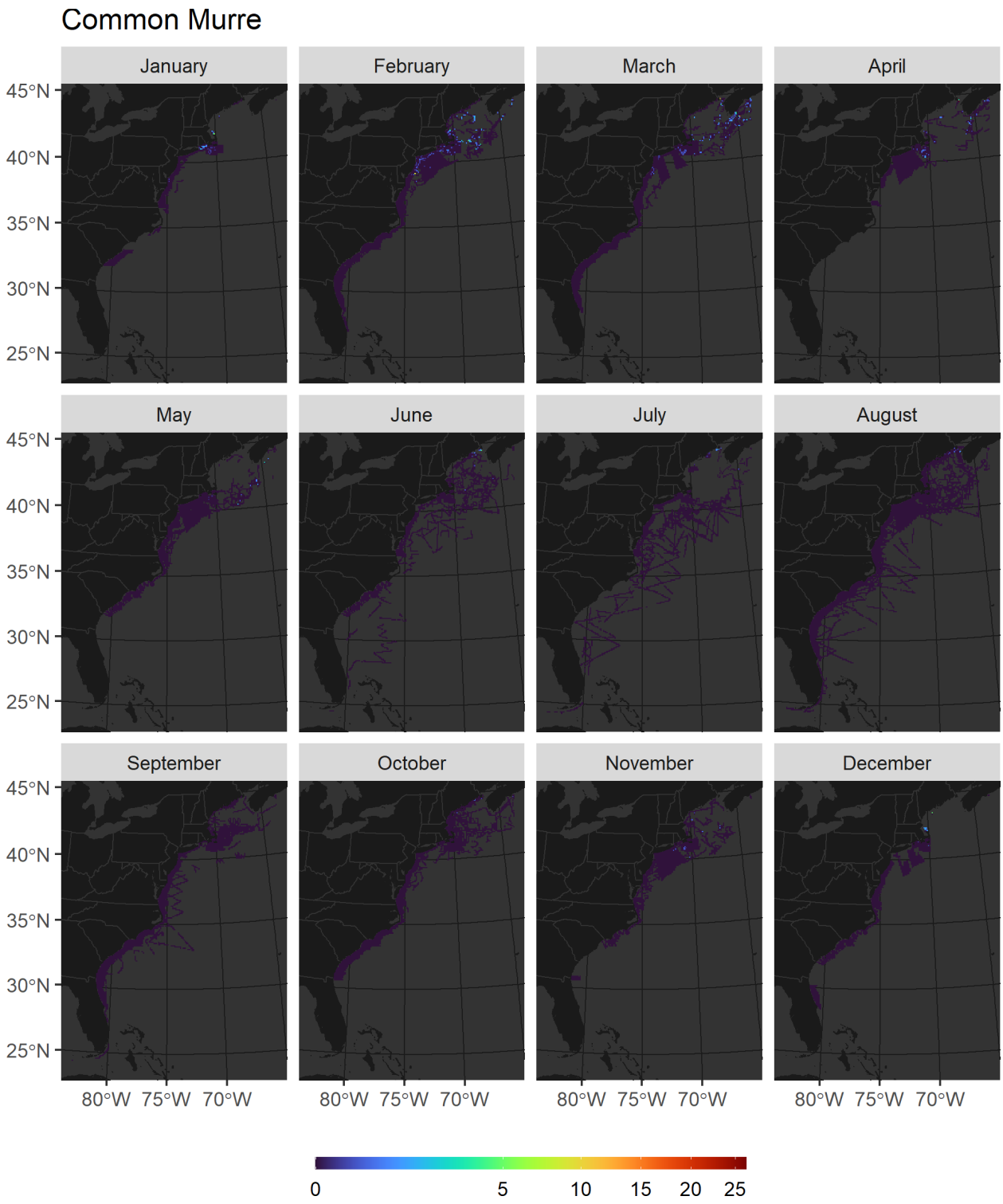


**Figure C-15. Observed density (number of birds per km$^2$) of Common Murre by month**
Density is scaled by its square root to improve visualization.

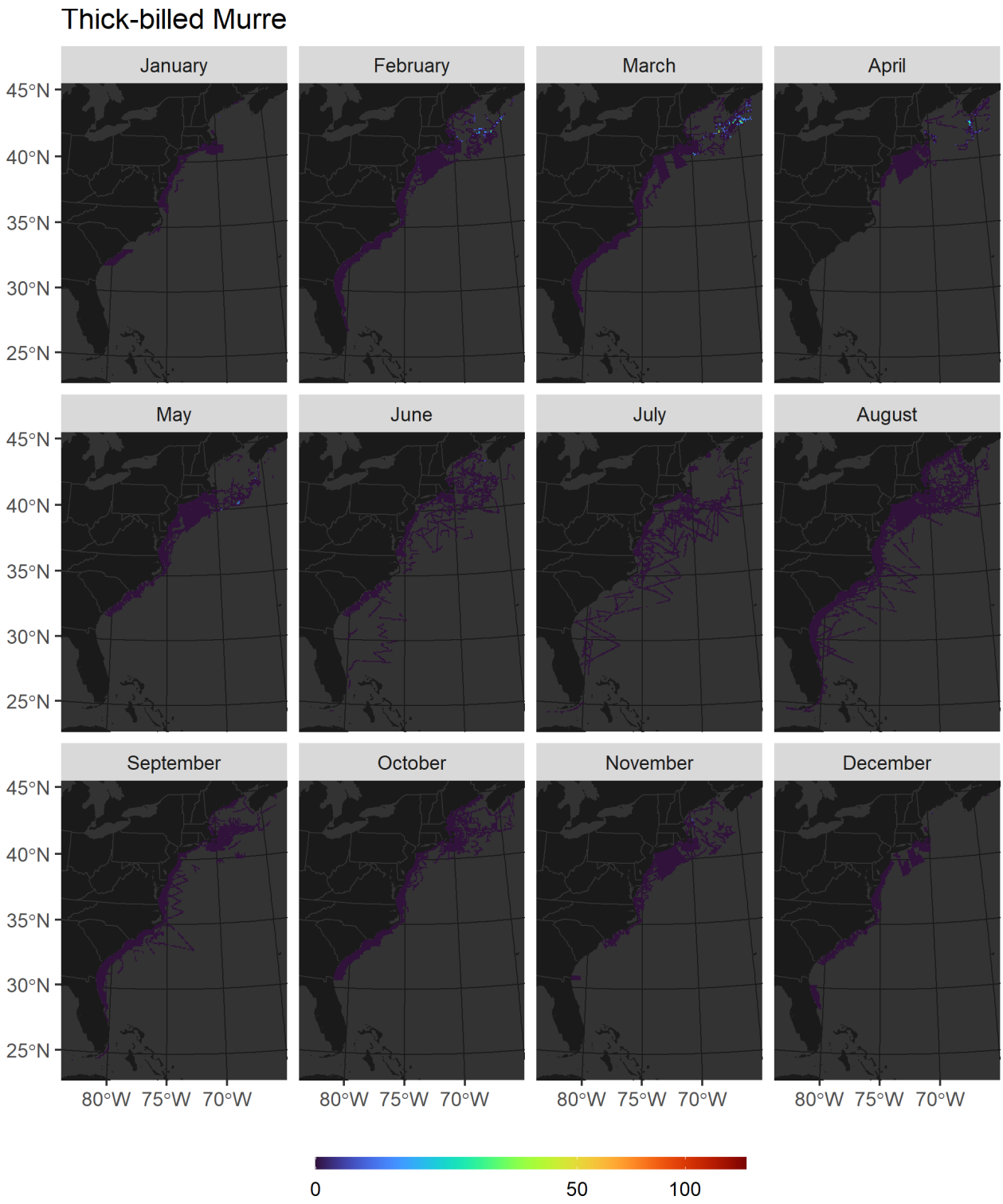


**Figure C-16. Observed density (number of birds per km$^2$) of Thick-billed Murre by month**
Density is scaled by its square root to improve visualization.

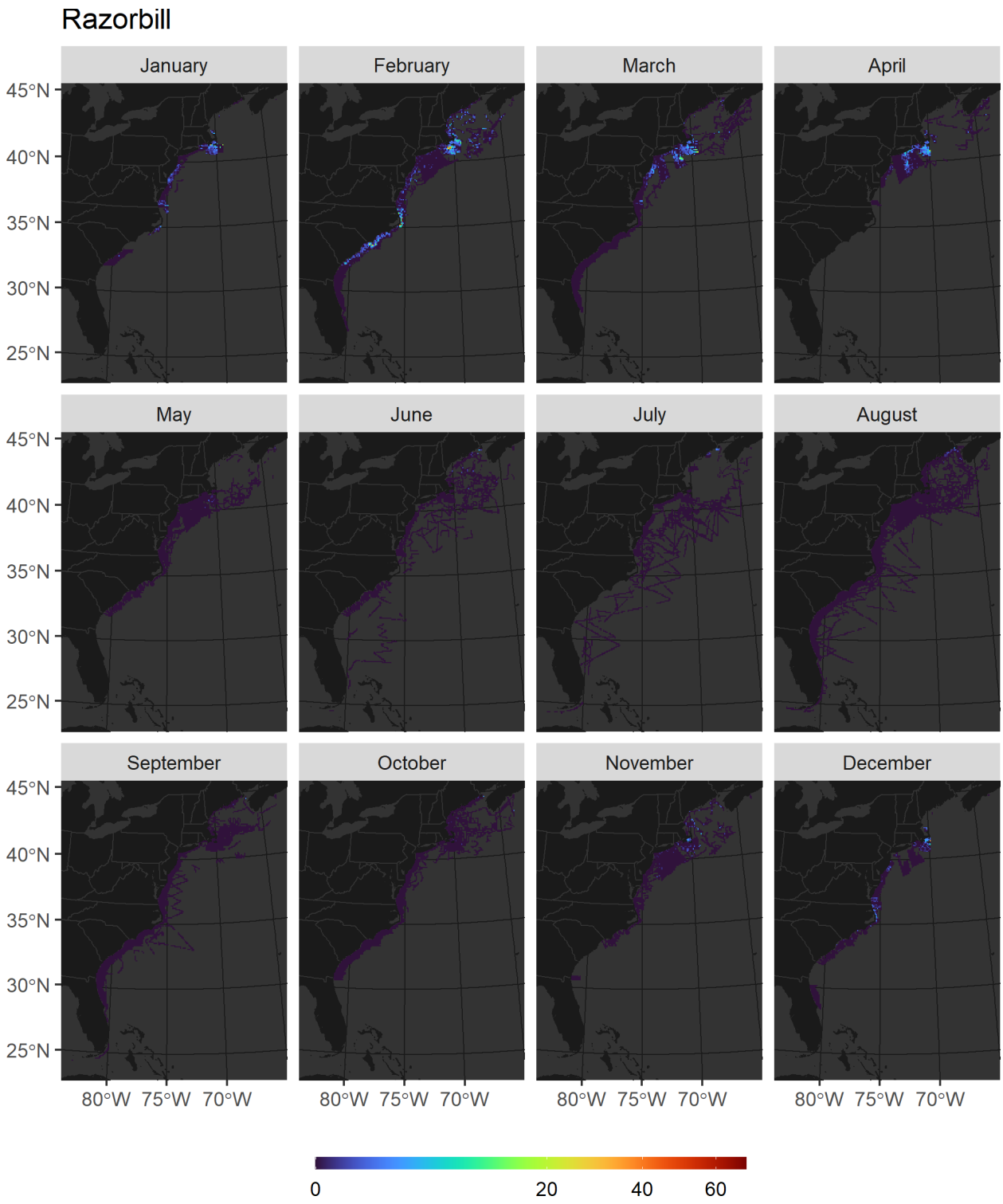


**Figure C-17. Observed density (number of birds per km$^2$) of Razorbill by month**
Density is scaled by its square root to improve visualization.

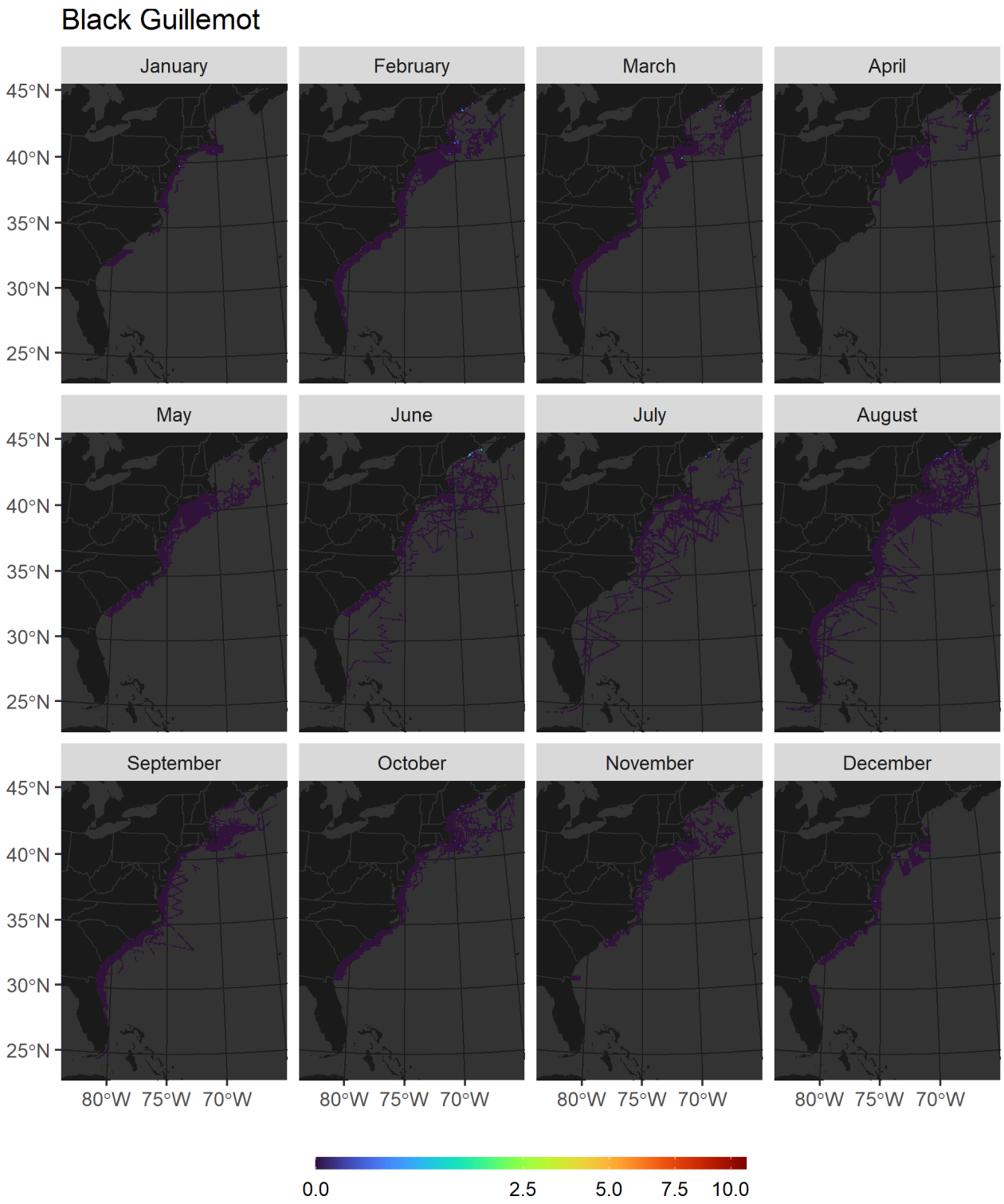


**Figure C-18. Observed density (number of birds per km$^2$) of Black Guillemot by month**
Density is scaled by its square root to improve visualization.

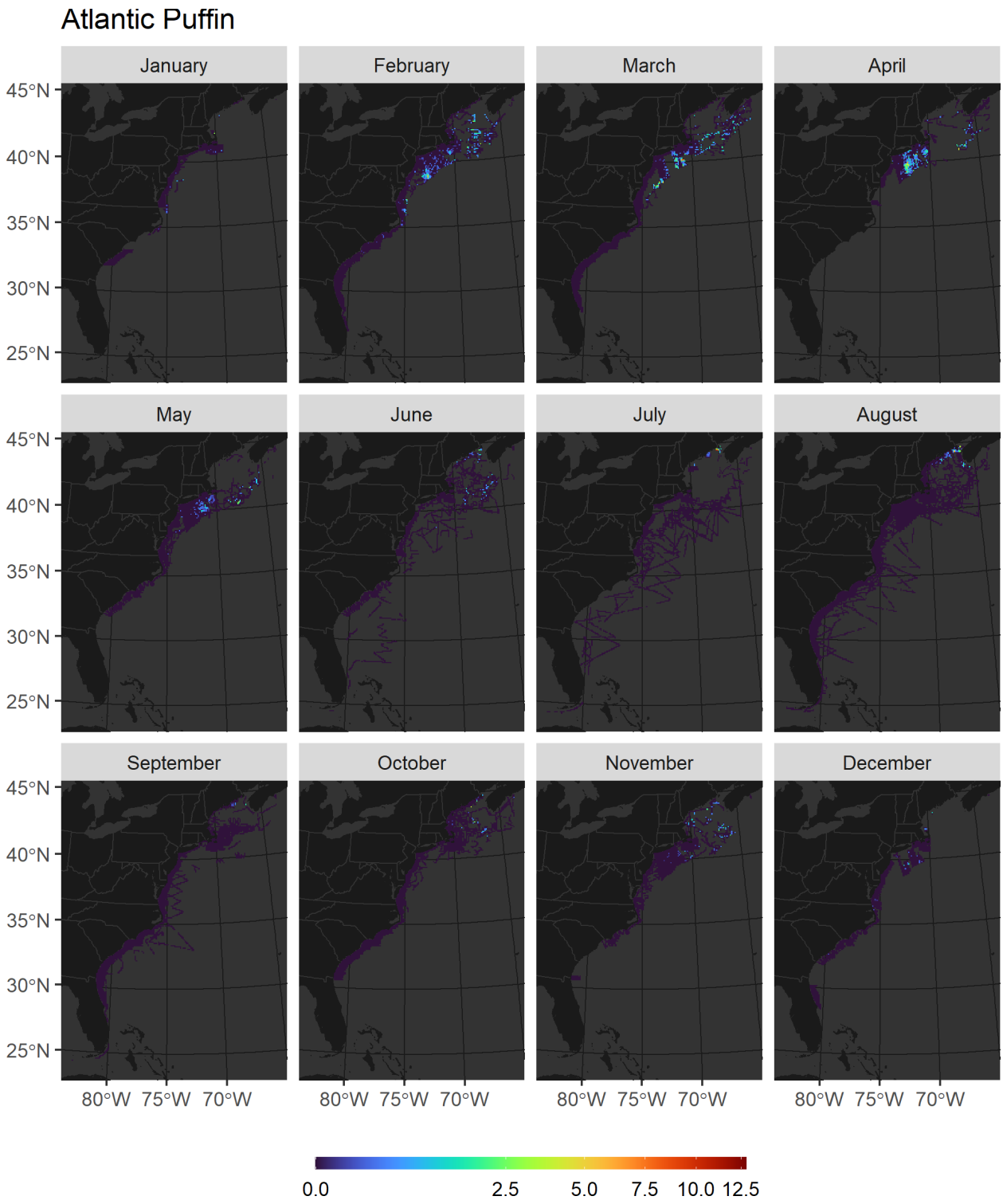


**Figure C-19. Observed density (number of birds per km$^2$) of Atlantic Puffin by month**
Density is scaled by its square root to improve visualization.

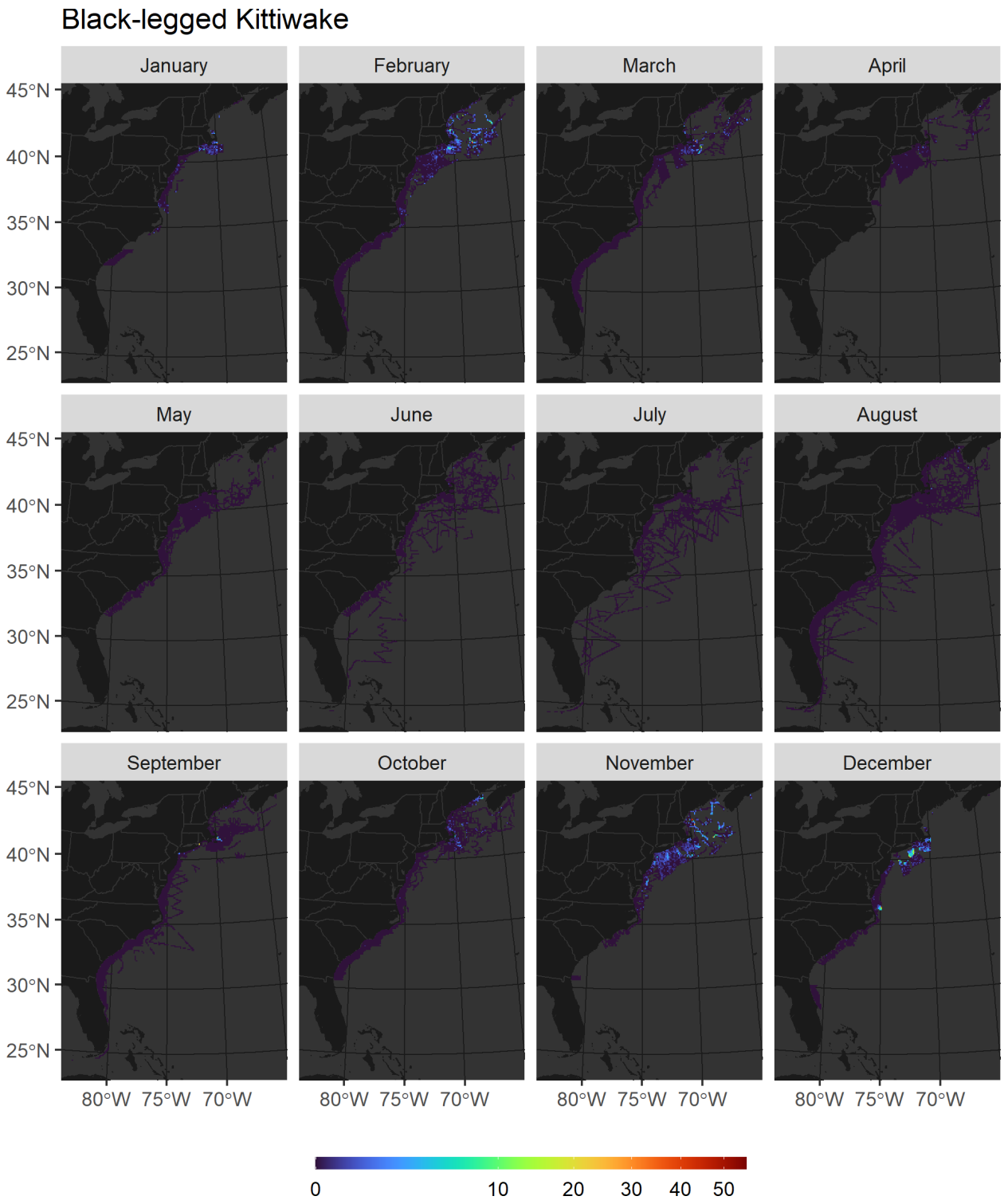


**Figure C-20. Observed density (number of birds per km$^2$) of Black-legged Kittiwake by month**
Density is scaled by its square root to improve visualization.

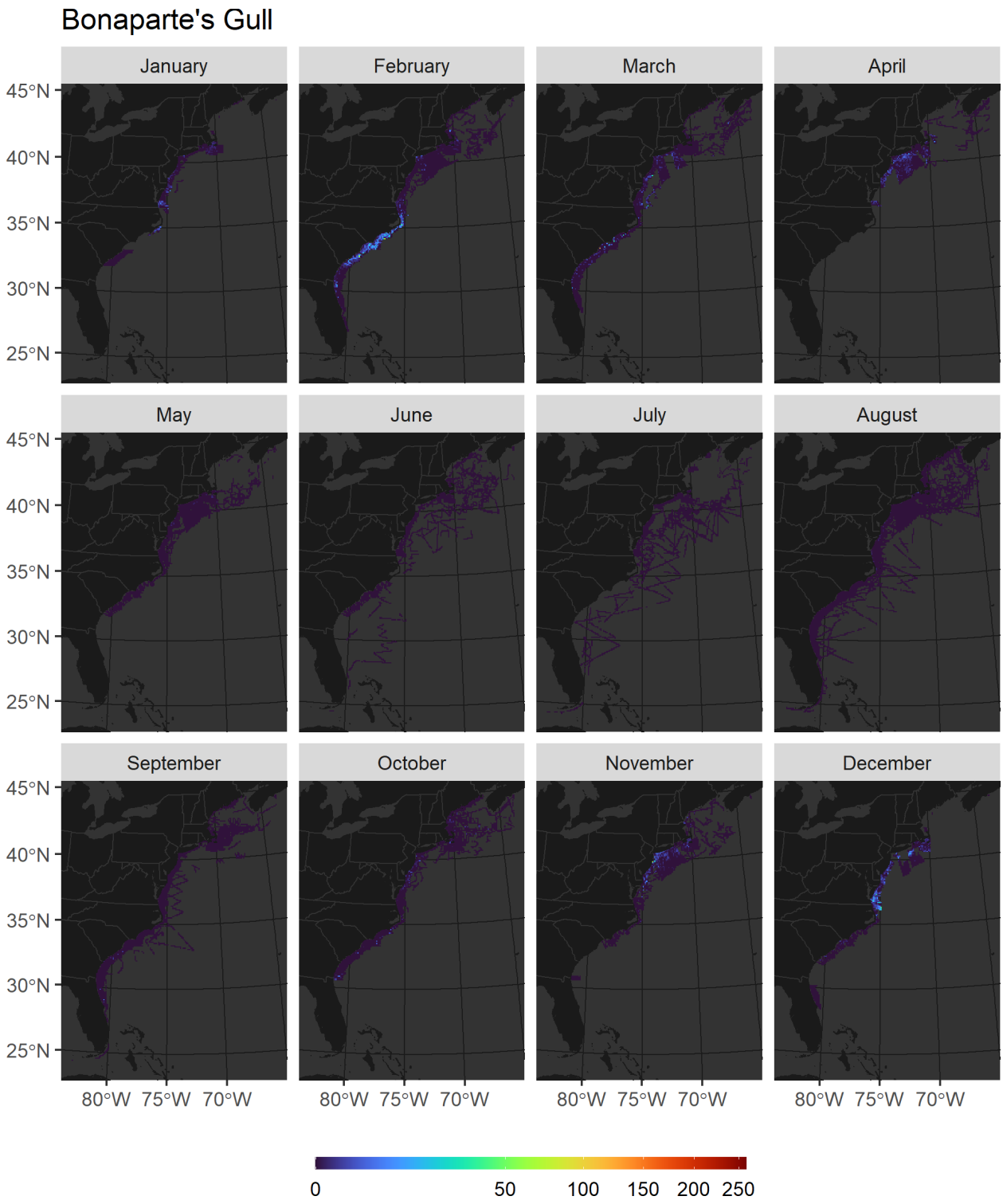


**Figure C-21. Observed density (number of birds per km$^2$) of Bonaparte's Gull by month**
Density is scaled by its square root to improve visualization.

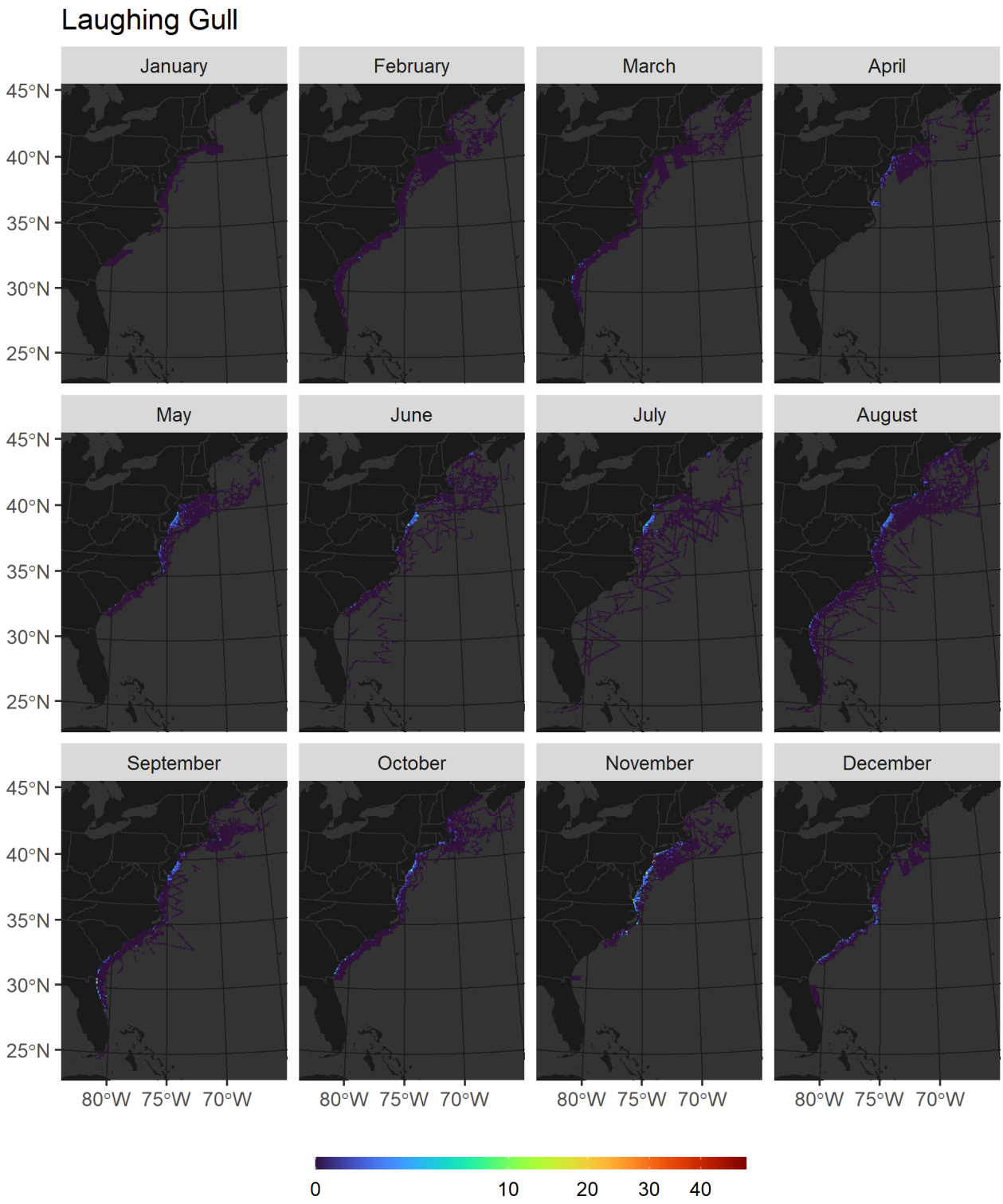


**Figure C-22. Observed density (number of birds per km$^2$) of Laughing Gull by month**
Density is scaled by its square root to improve visualization.

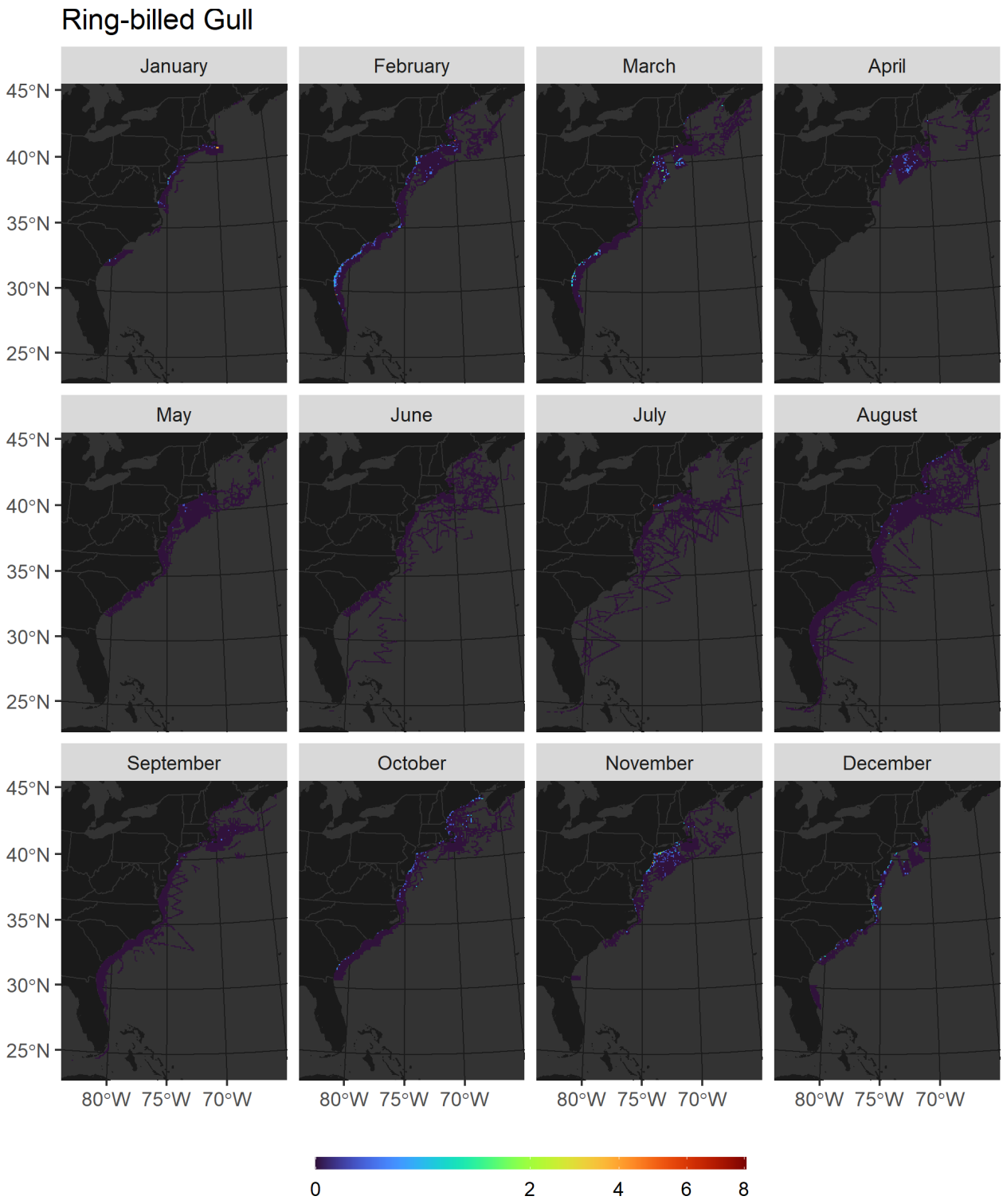


**Figure C-23. Observed density (number of birds per km$^2$) of Ring-billed Gull by month**
Density is scaled by its square root to improve visualization.

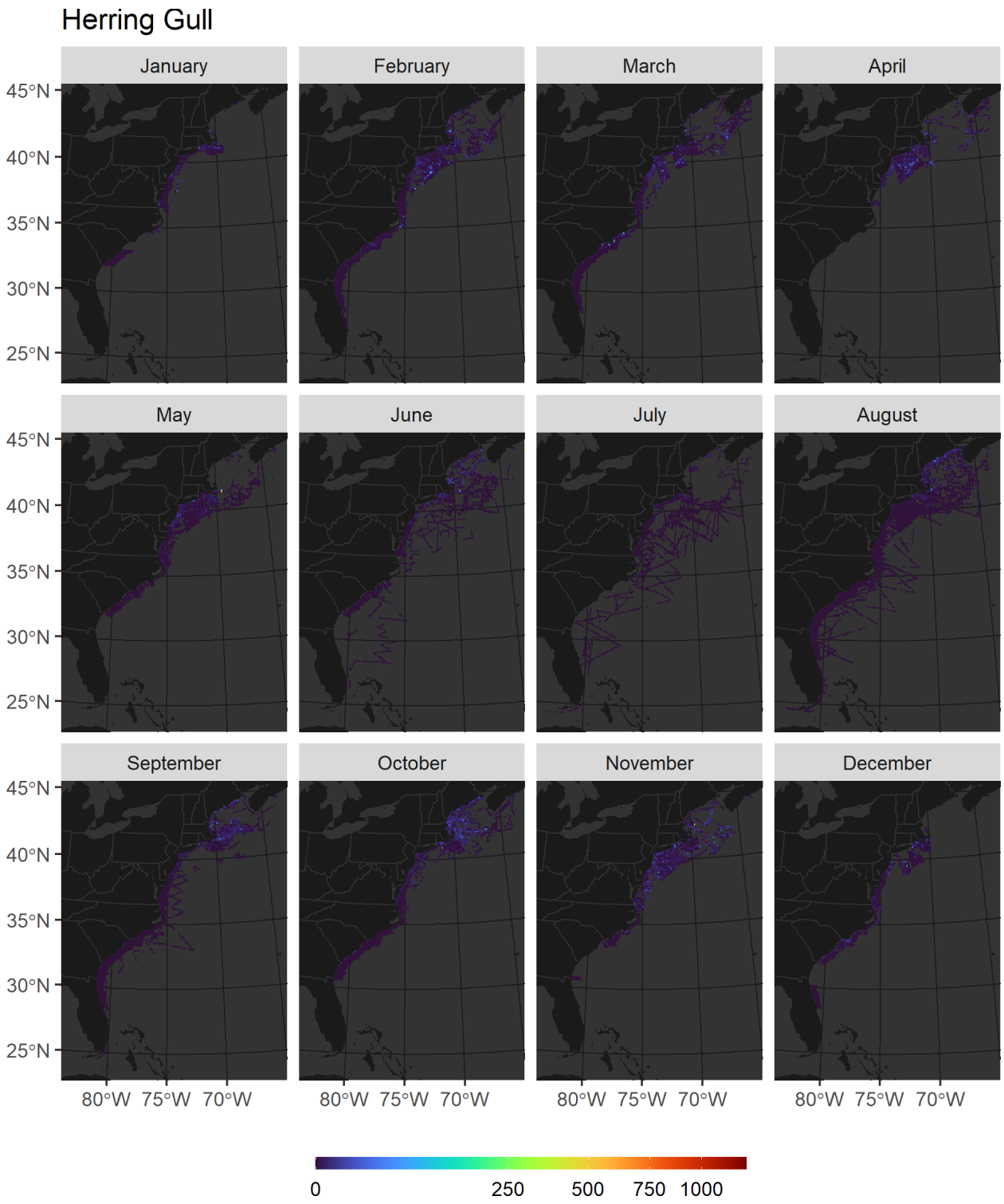


**Figure C-24. Observed density (number of birds per km$^2$) of Herring Gull by month**
Density is scaled by its square root to improve visualization.

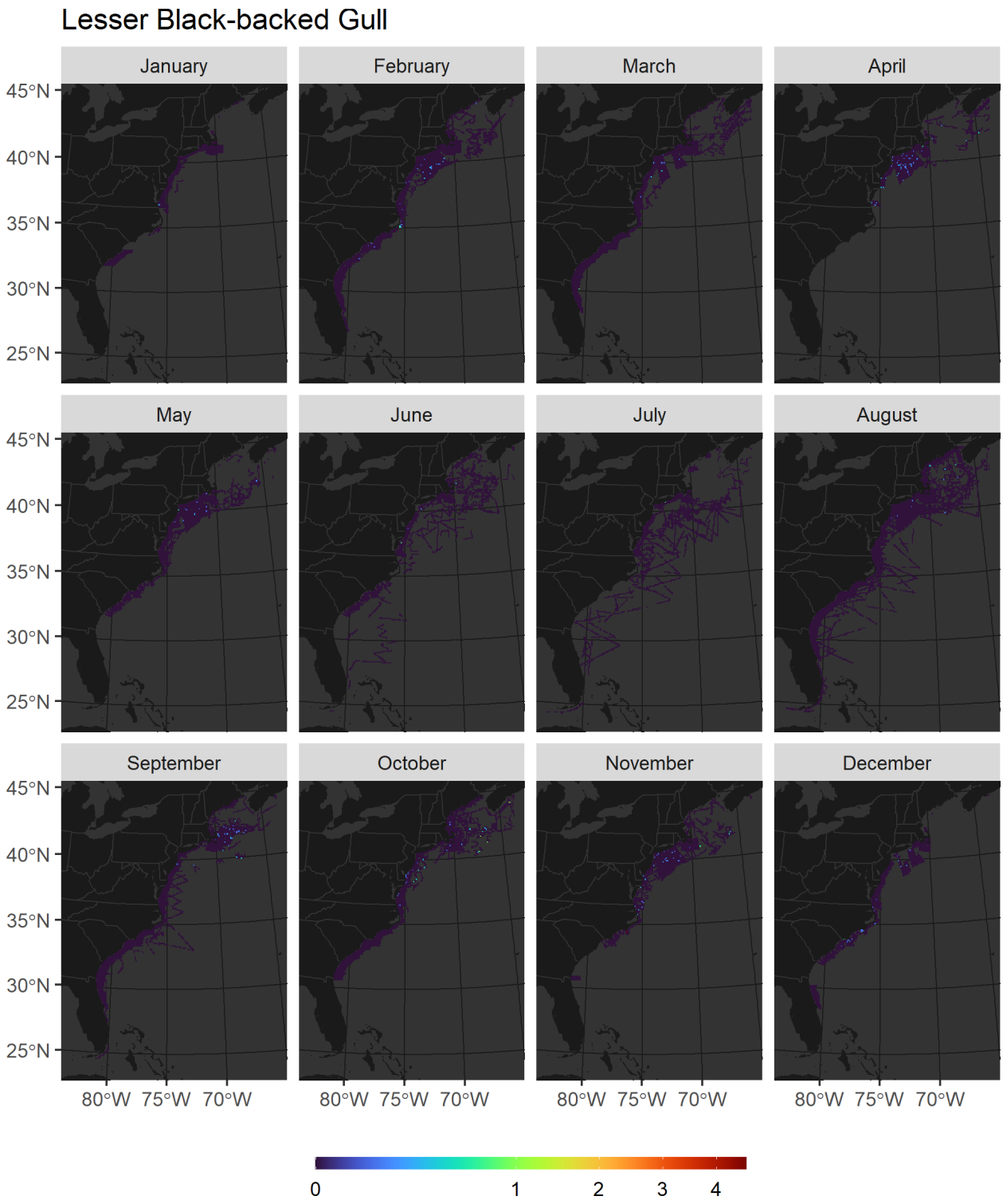


**Figure C-25. Observed density (number of birds per km$^2$) of Lesser Black-backed Gull by month**
Density is scaled by its square root to improve visualization.

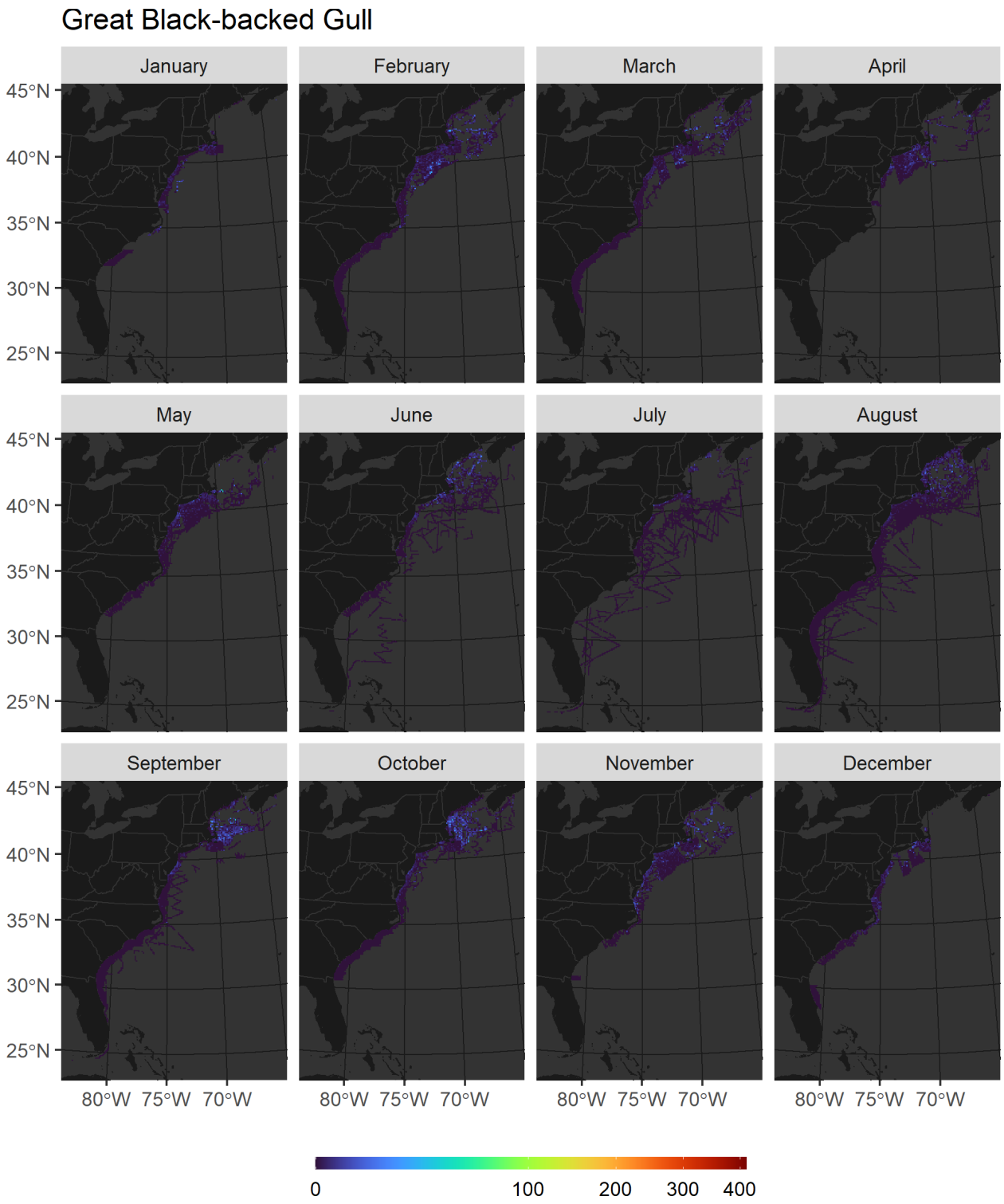


**Figure C-26. Observed density (number of birds per km$^2$) of Great Black-backed Gull by month**
Density is scaled by its square root to improve visualization.

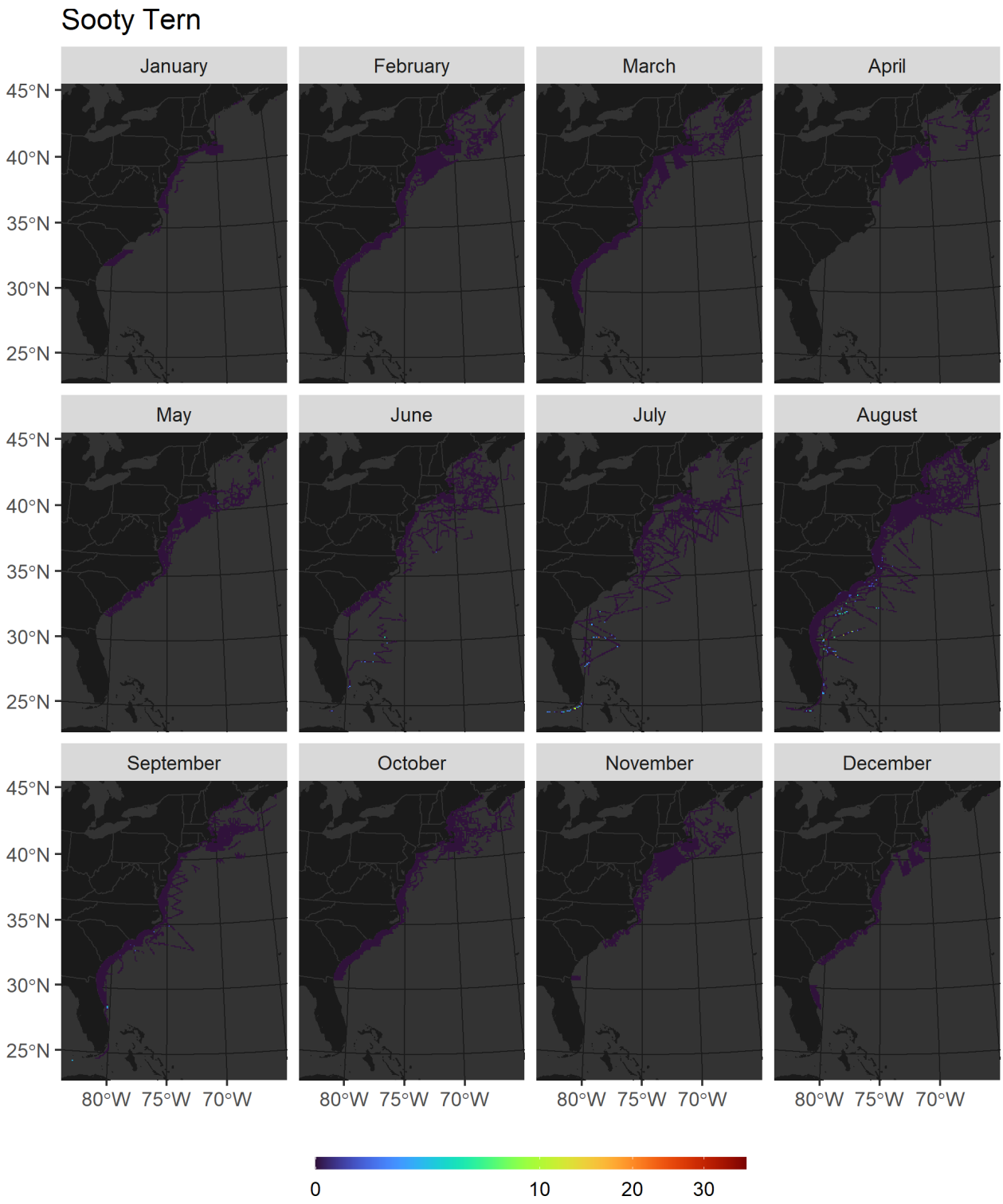


**Figure C-27. Observed density (number of birds per km$^2$) of Sooty Tern by month**
Density is scaled by its square root to improve visualization.

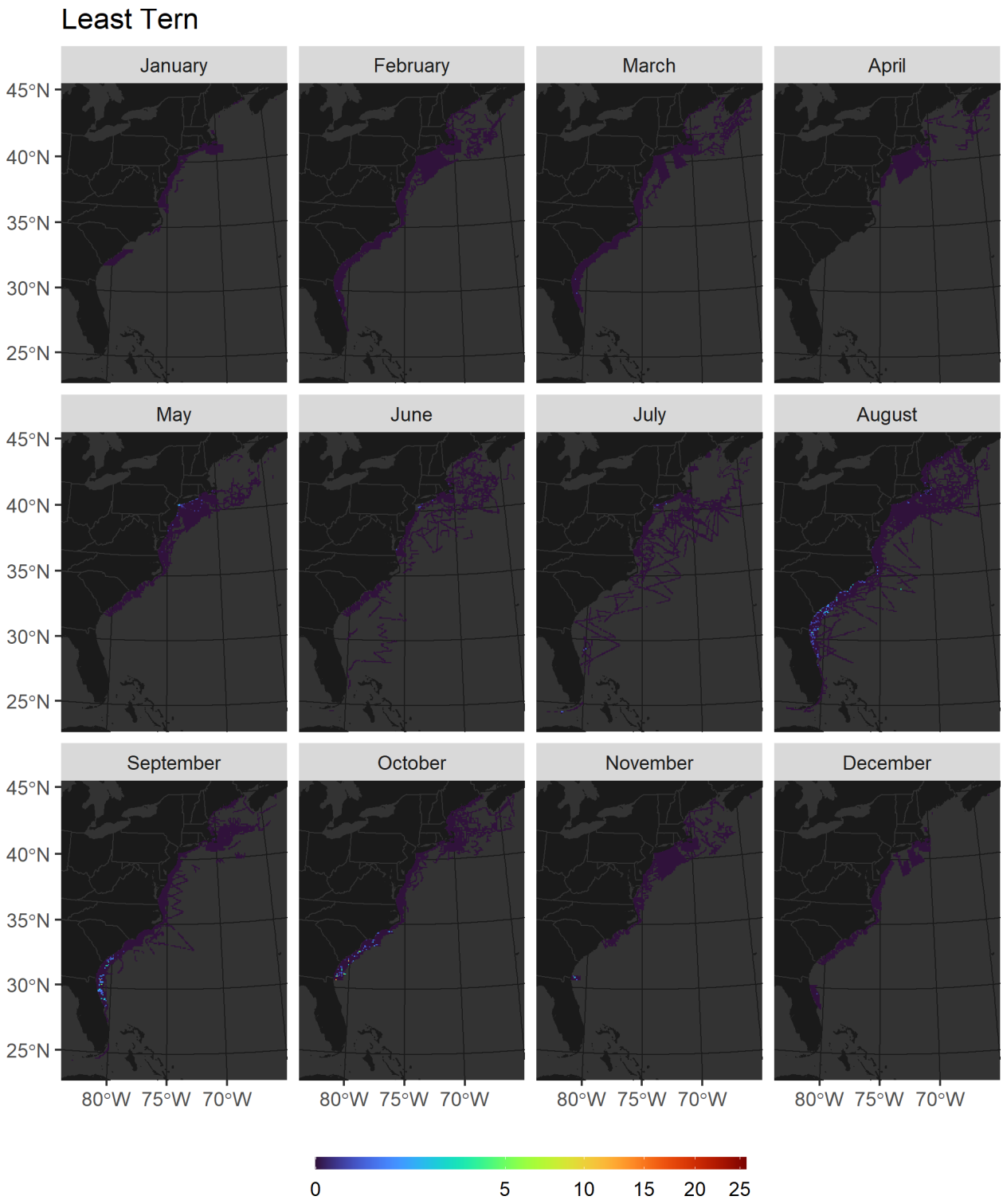


**Figure C-28. Observed density (number of birds per km$^2$) of Least Tern by month**
Density is scaled by its square root to improve visualization.

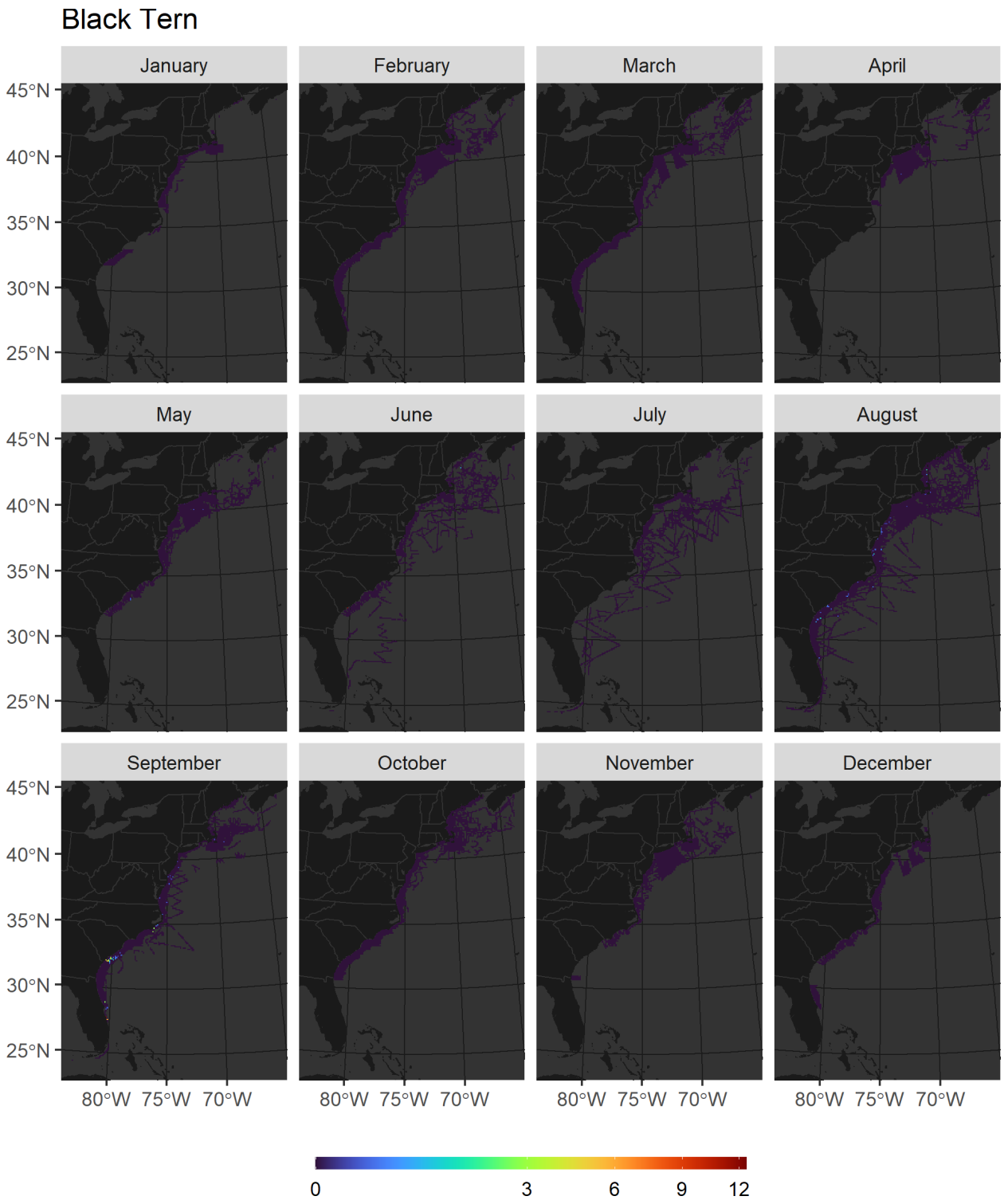


**Figure C-29. Observed density (number of birds per km$^2$) of Black Tern by month**
Density is scaled by its square root to improve visualization.

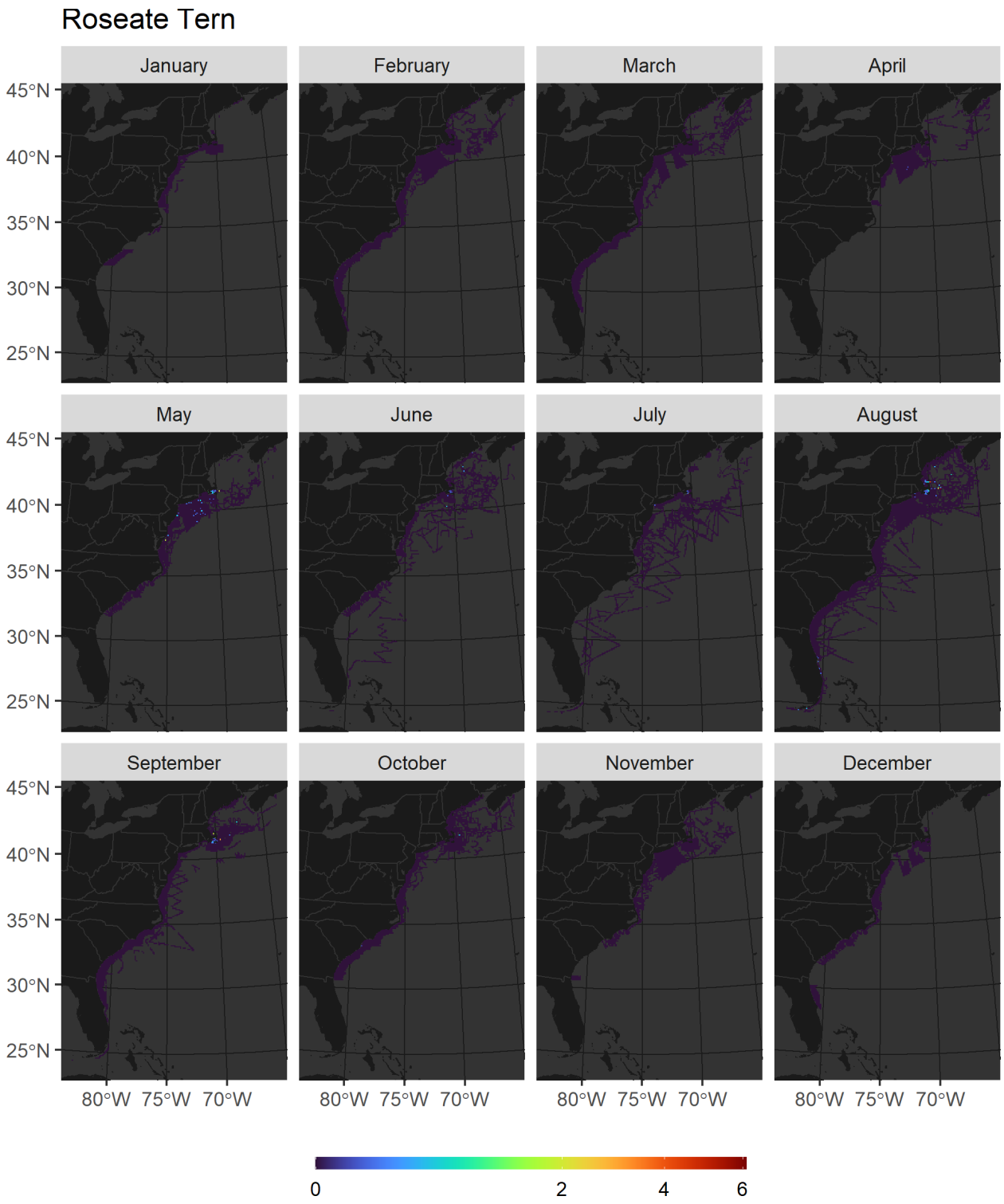


**Figure C-30. Observed density (number of birds per km$^2$) of Roseate Tern by month**
Density is scaled by its square root to improve visualization.

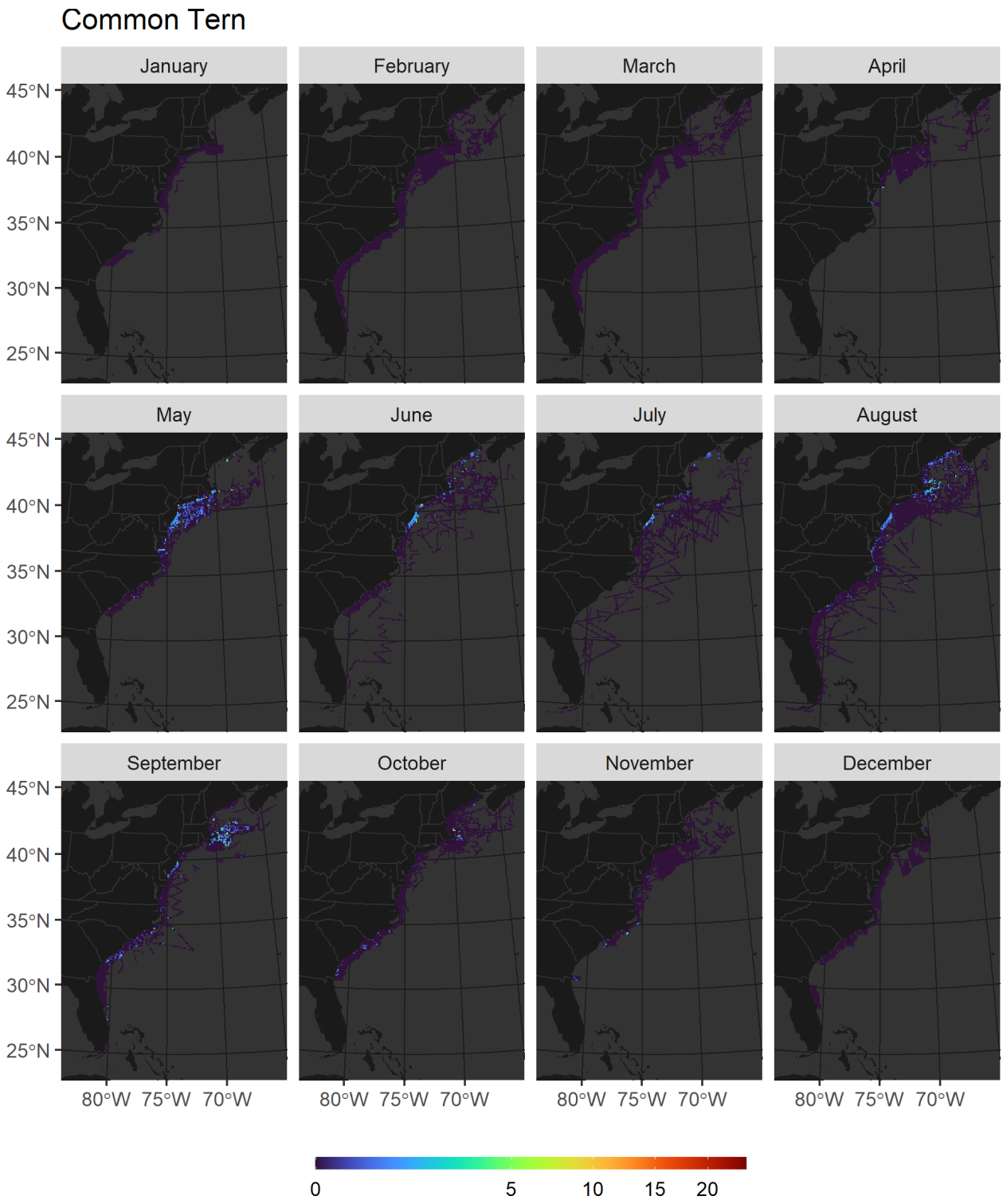


**Figure C-31. Observed density (number of birds per km$^2$) of Common Tern by month**
Density is scaled by its square root to improve visualization.

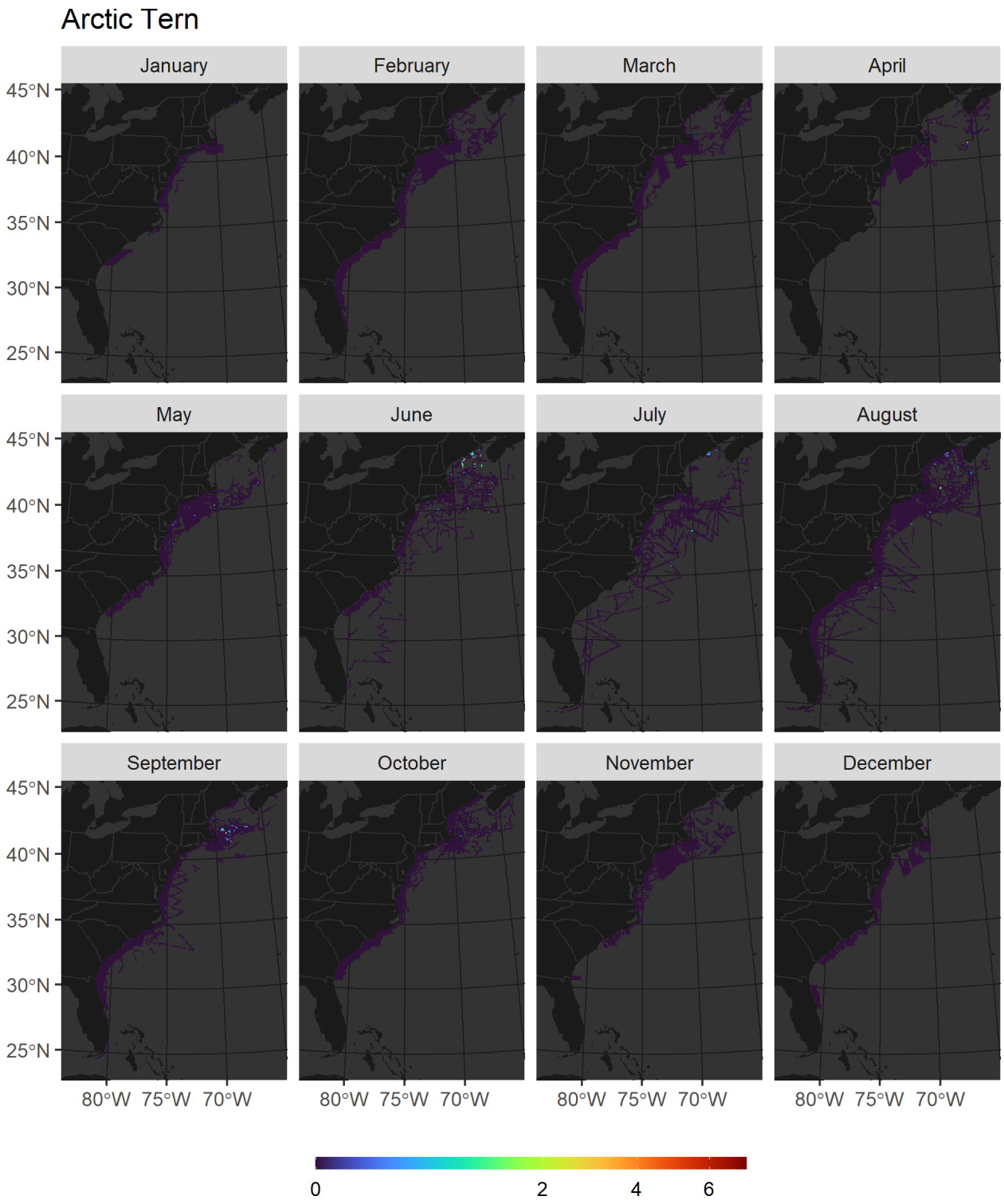


**Figure C-32. Observed density (number of birds per km$^2$) of Arctic Tern by month**
Density is scaled by its square root to improve visualization.

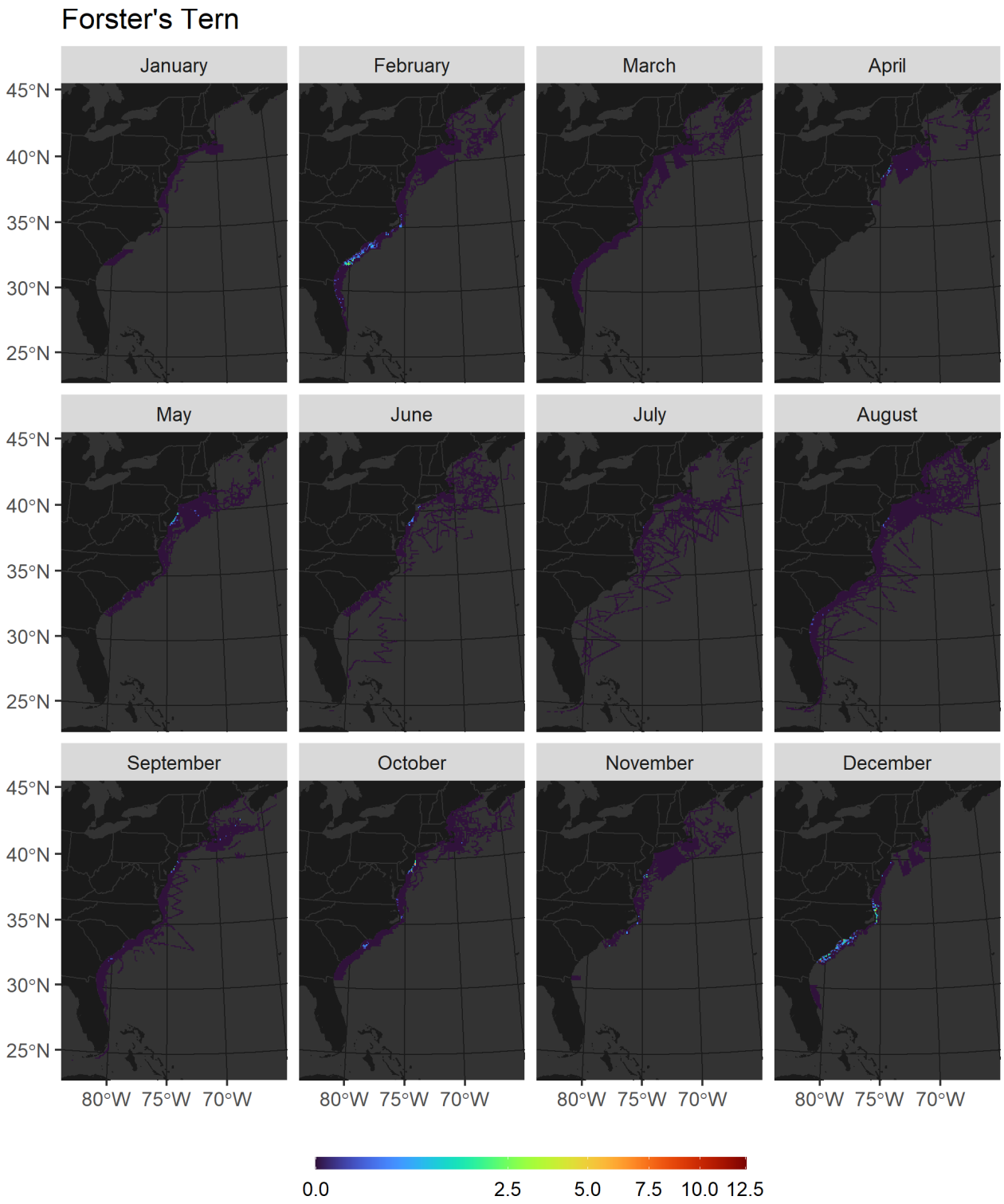


**Figure C-33. Observed density (number of birds per km$^2$) of Forster's Tern by month**
Density is scaled by its square root to improve visualization.

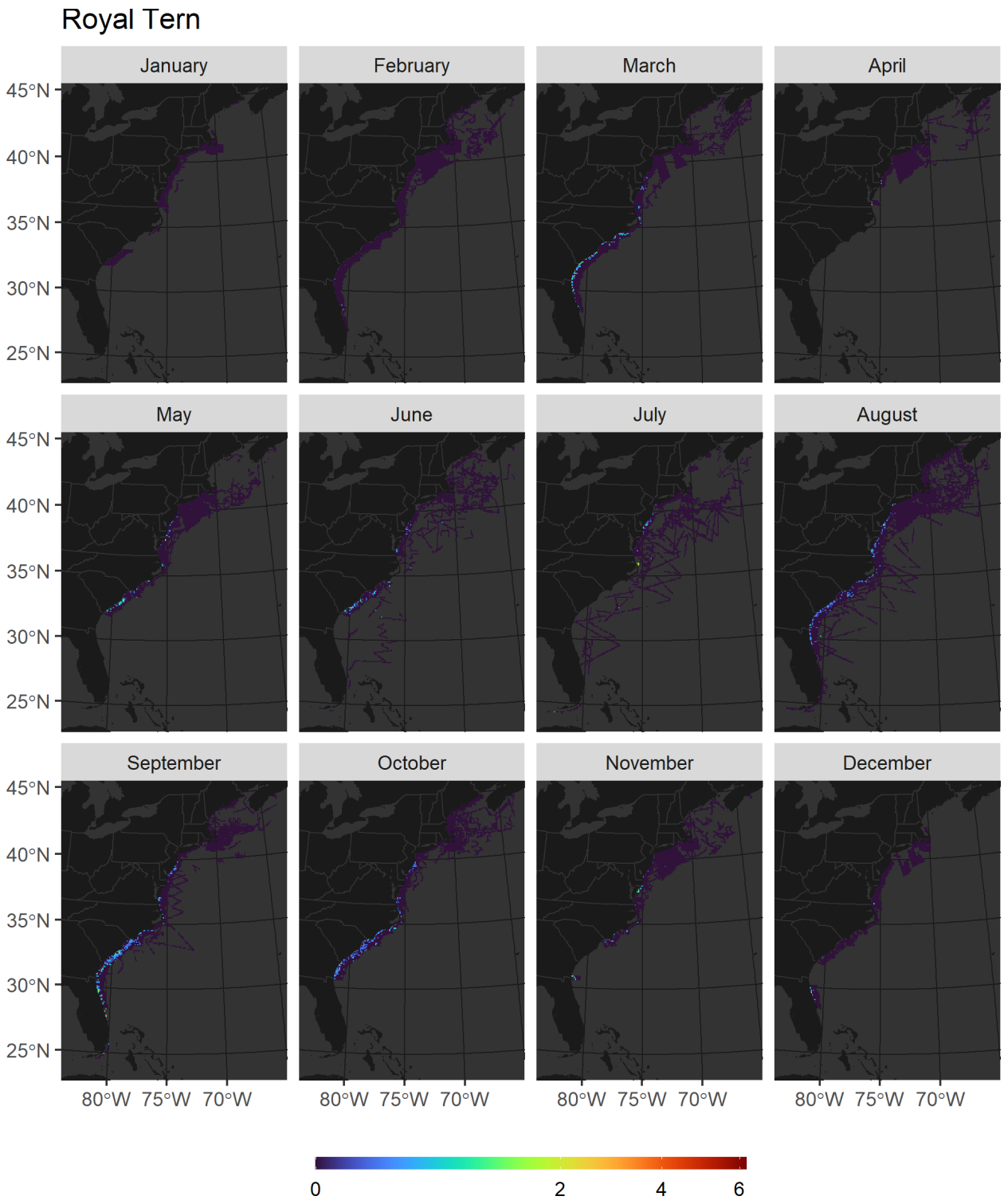


**Figure C-34. Observed density (number of birds per km$^2$) of Royal Tern by month**
Density is scaled by its square root to improve visualization.

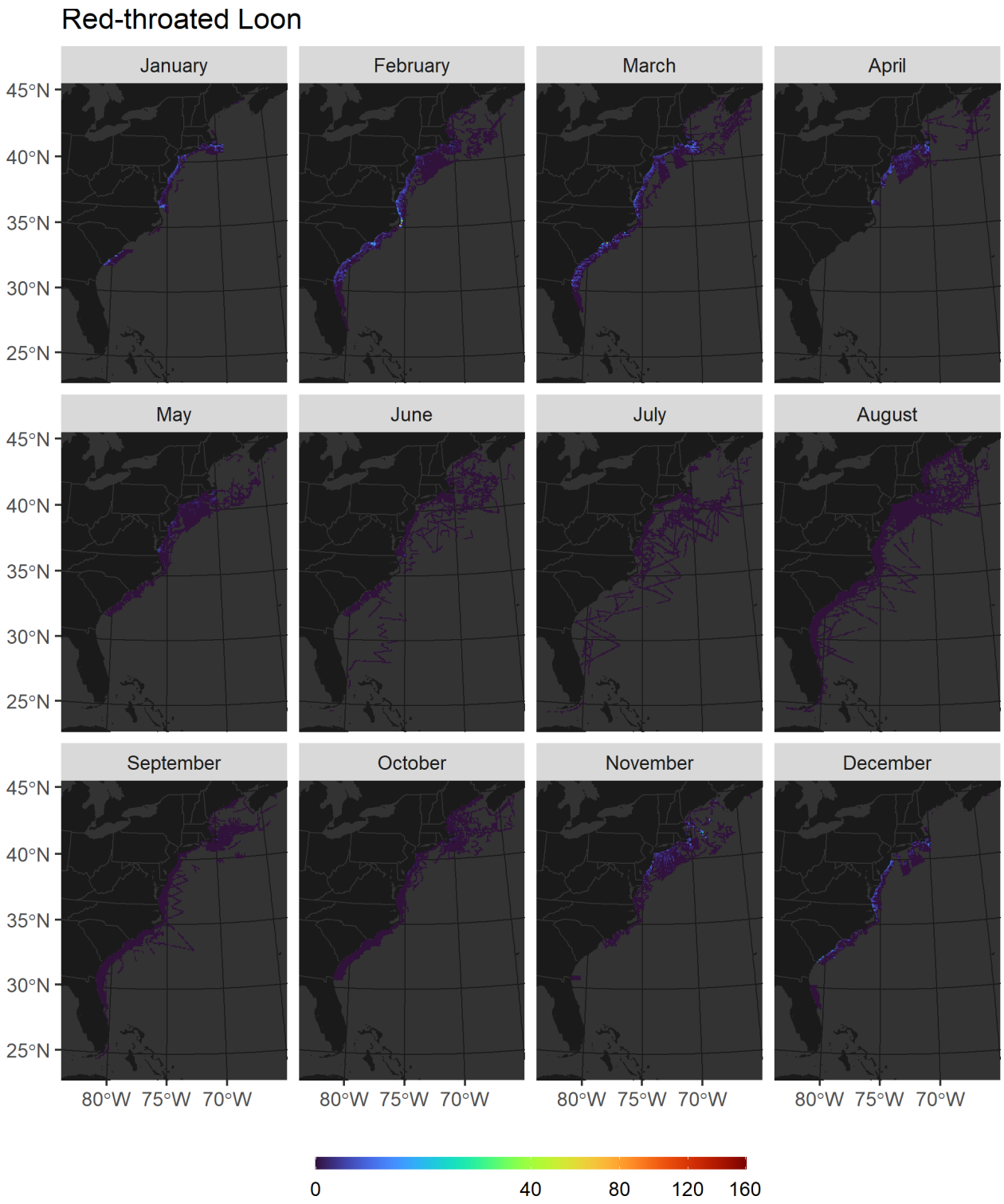


**Figure C-35. Observed density (number of birds per km$^2$) of Red-throated Loon by month**
Density is scaled by its square root to improve visualization.

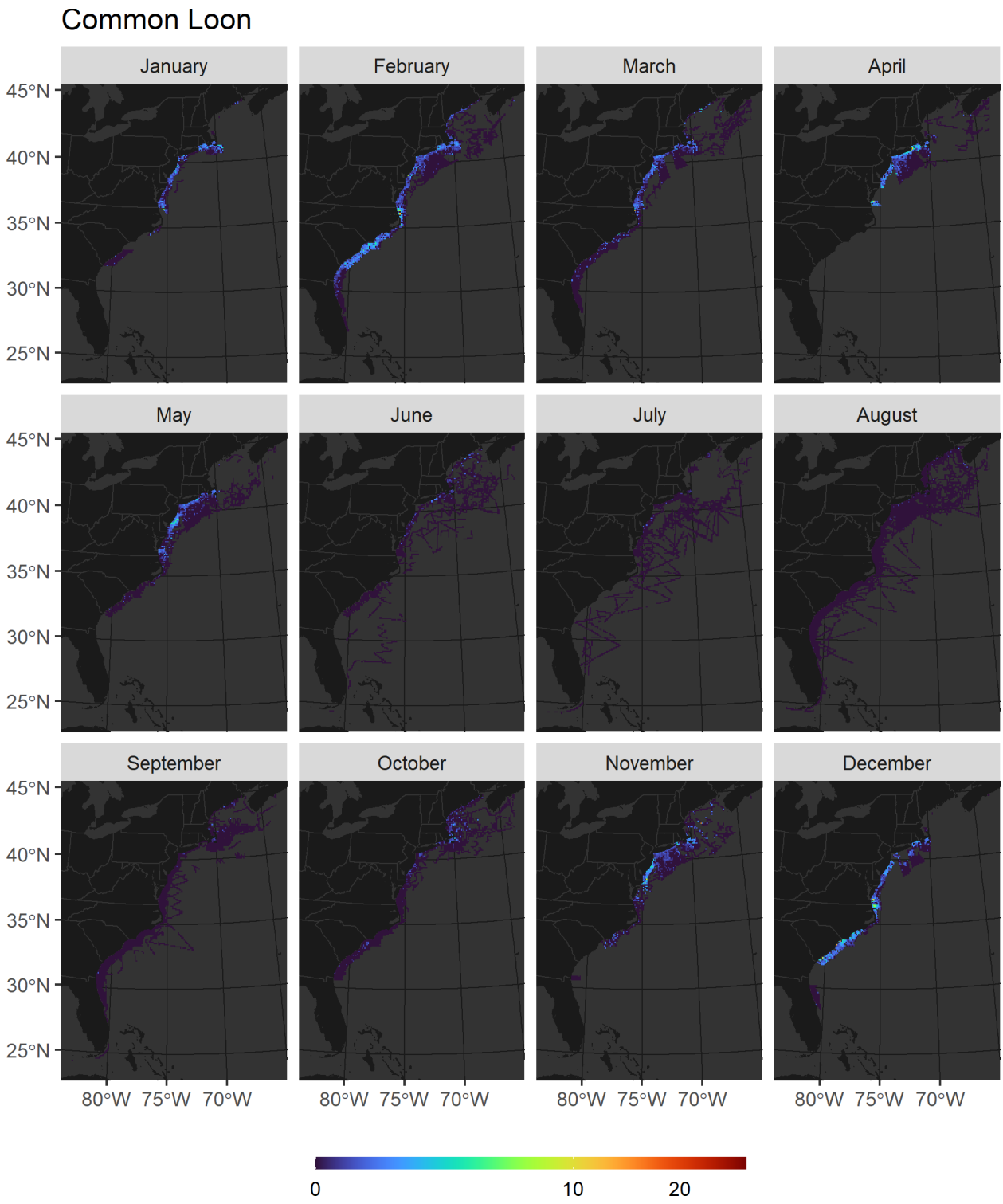


**Figure C-36. Observed density (number of birds per km$^2$) of Common Loon by month**
Density is scaled by its square root to improve visualization.

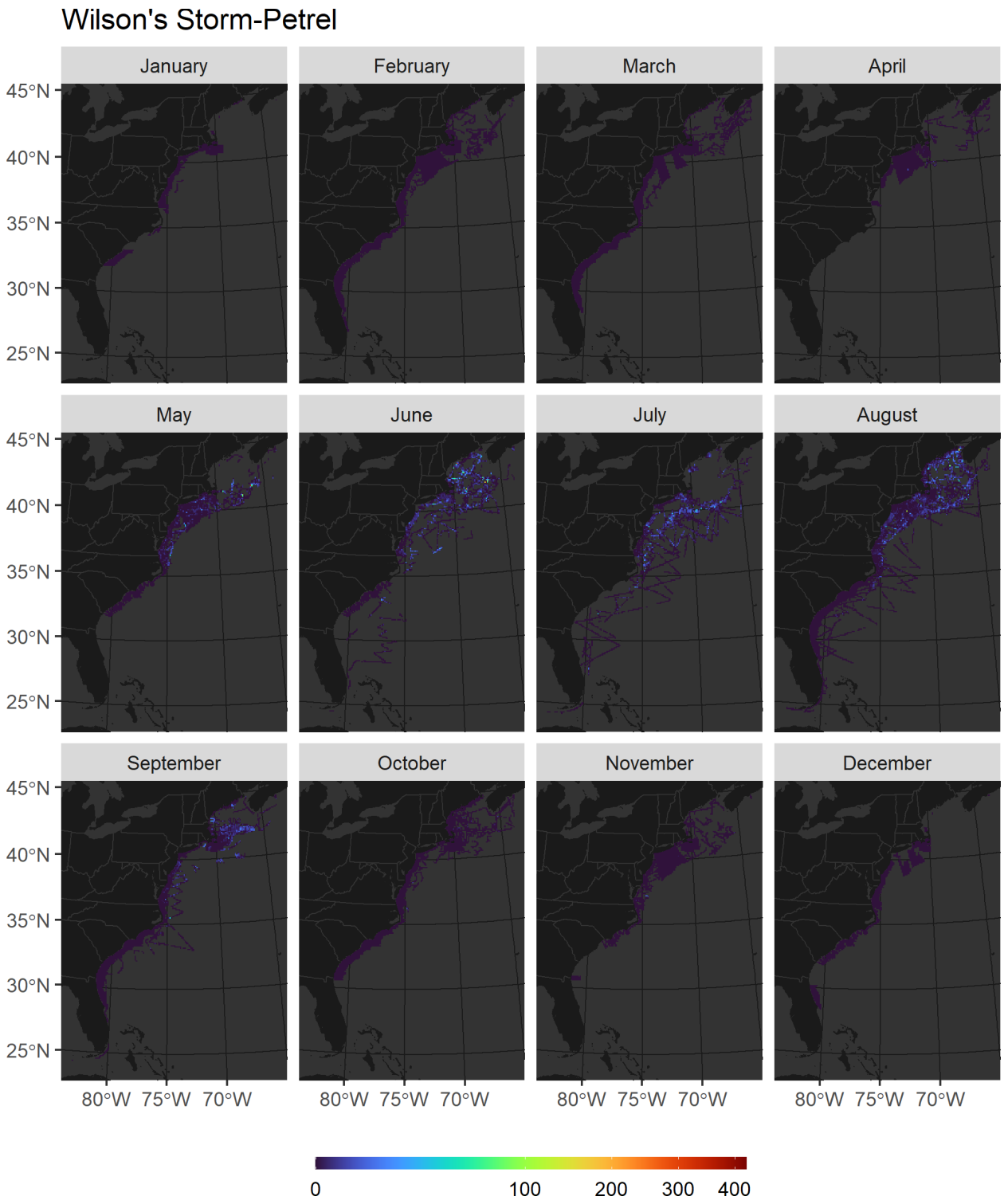


**Figure C-37. Observed density (number of birds per km$^2$) of Wilson's Storm-Petrel by month**
Density is scaled by its square root to improve visualization.

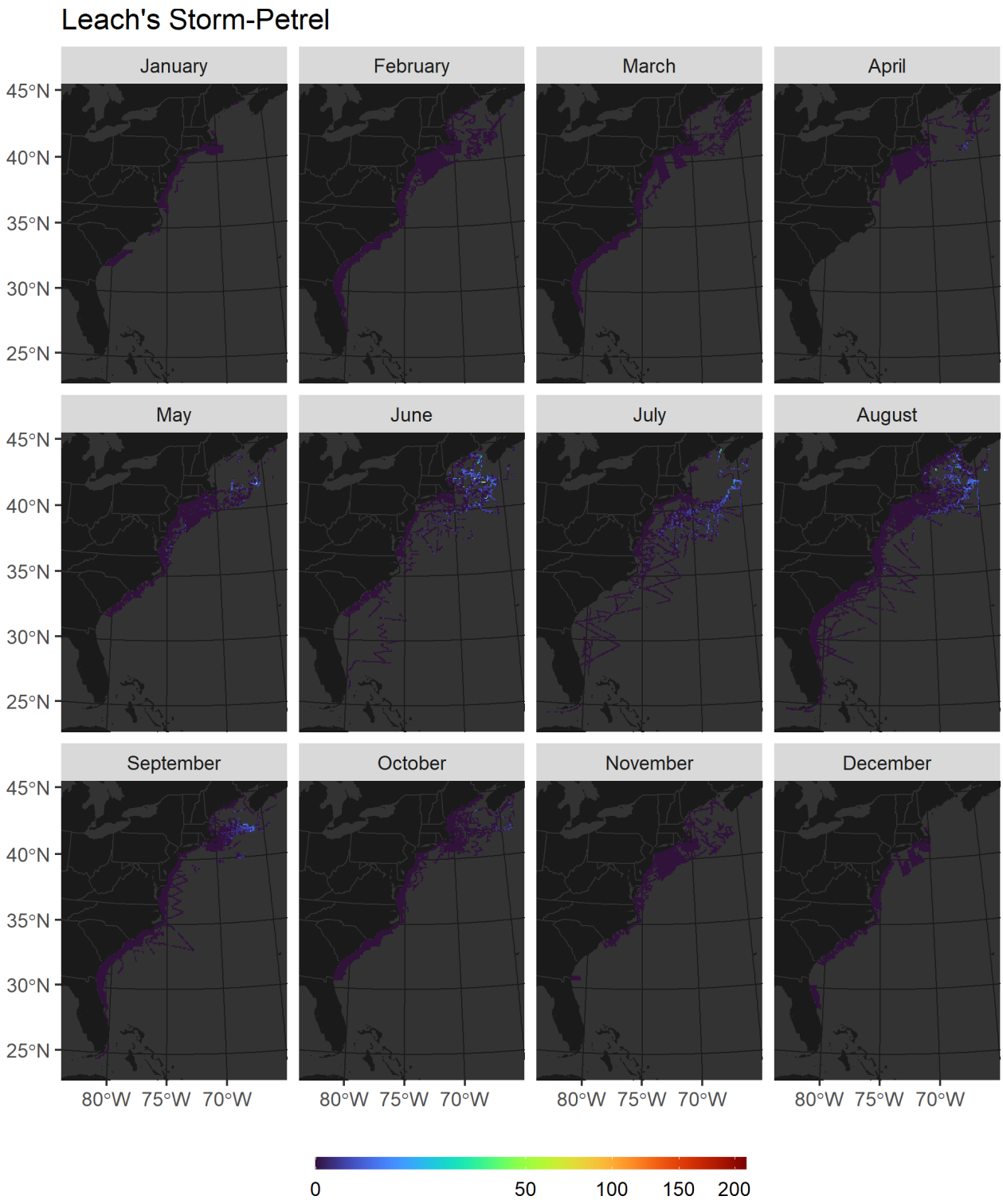


**Figure C-38. Observed density (number of birds per km$^2$) of Leach's Storm-Petrel by month**
Density is scaled by its square root to improve visualization.

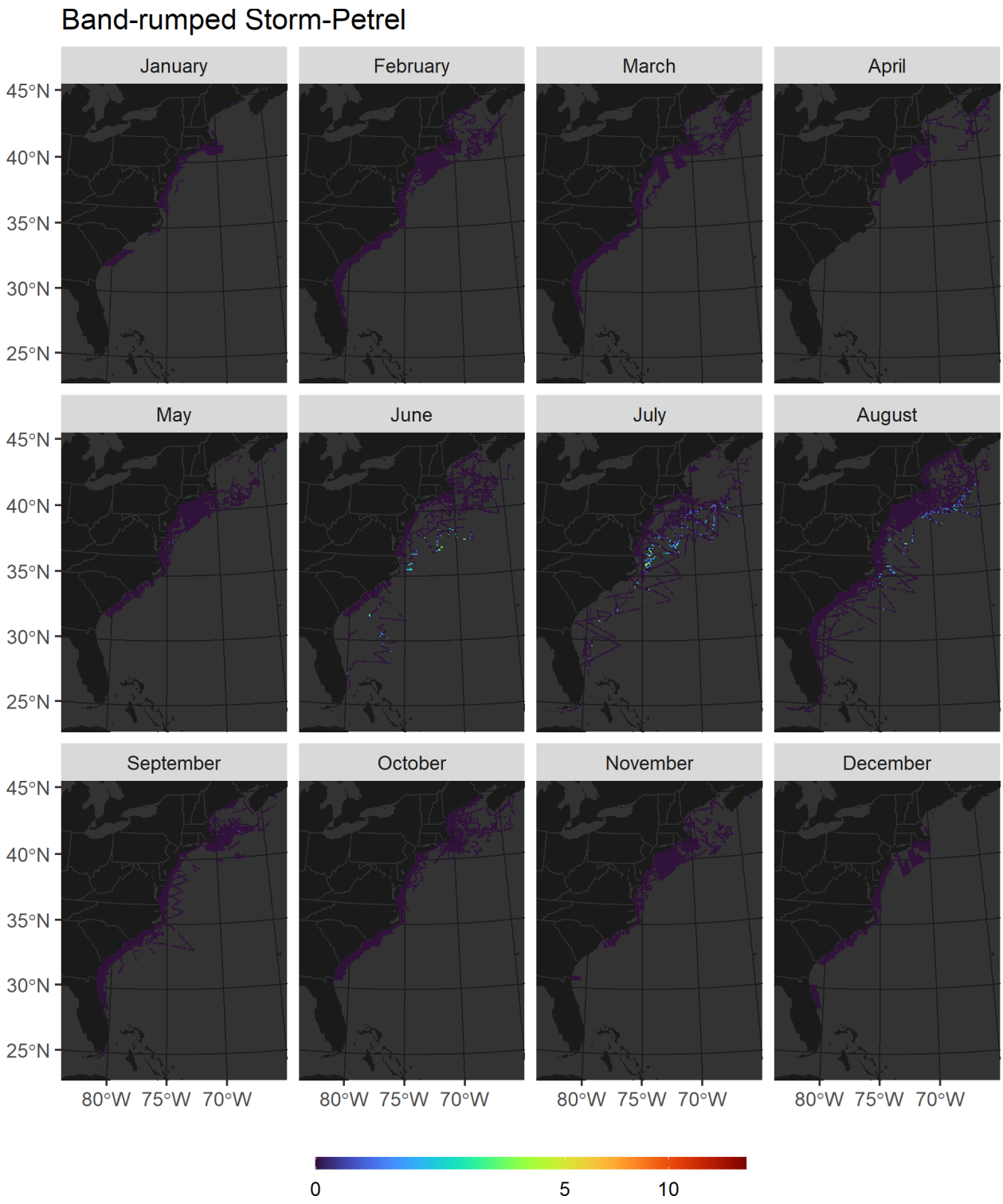


**Figure C-39. Observed density (number of birds per km$^2$) of Band-rumped Storm-Petrel by month**
Density is scaled by its square root to improve visualization.

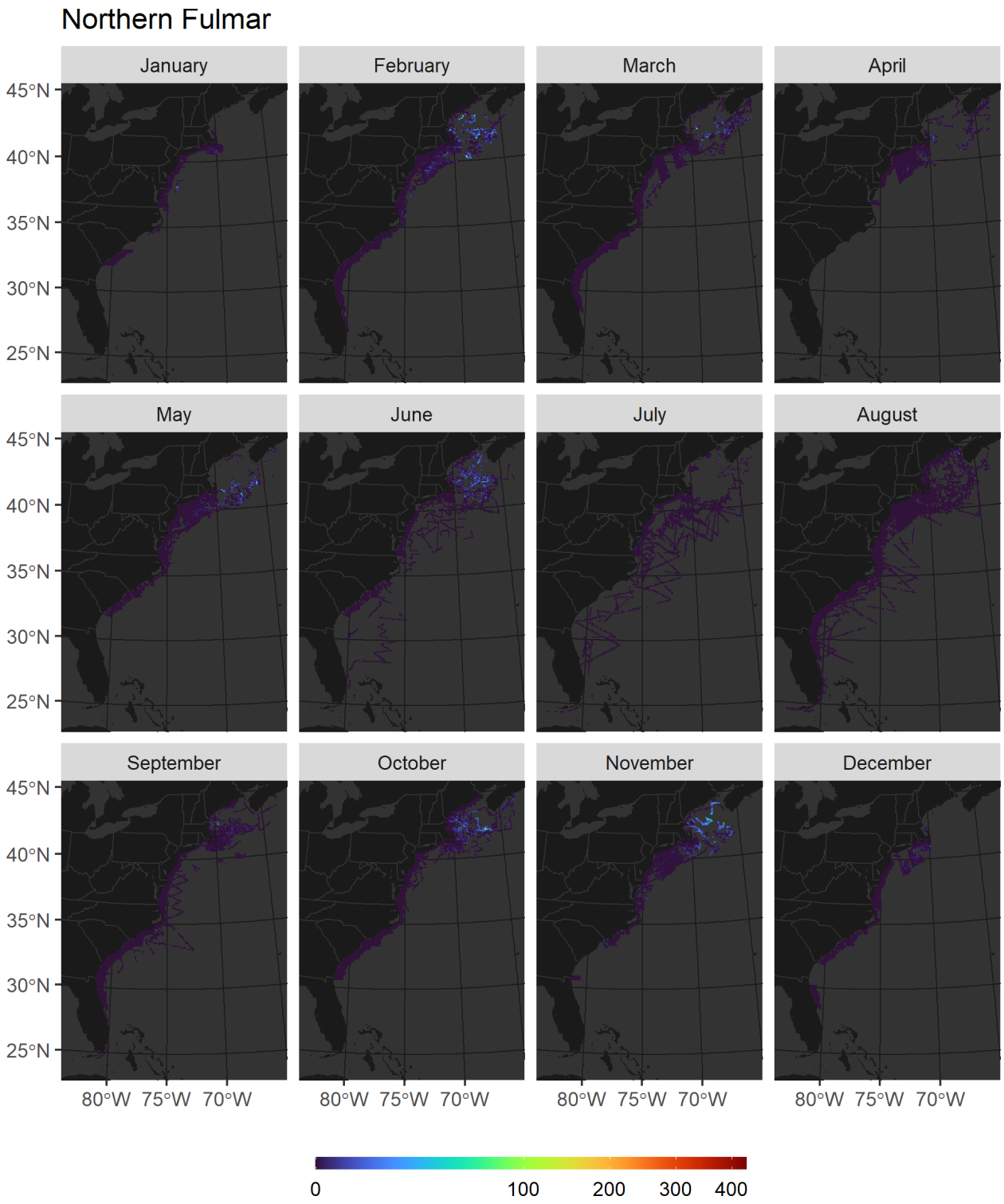


**Figure C-40. Observed density (number of birds per km$^2$) of Northern Fulmar by month**
Density is scaled by its square root to improve visualization.

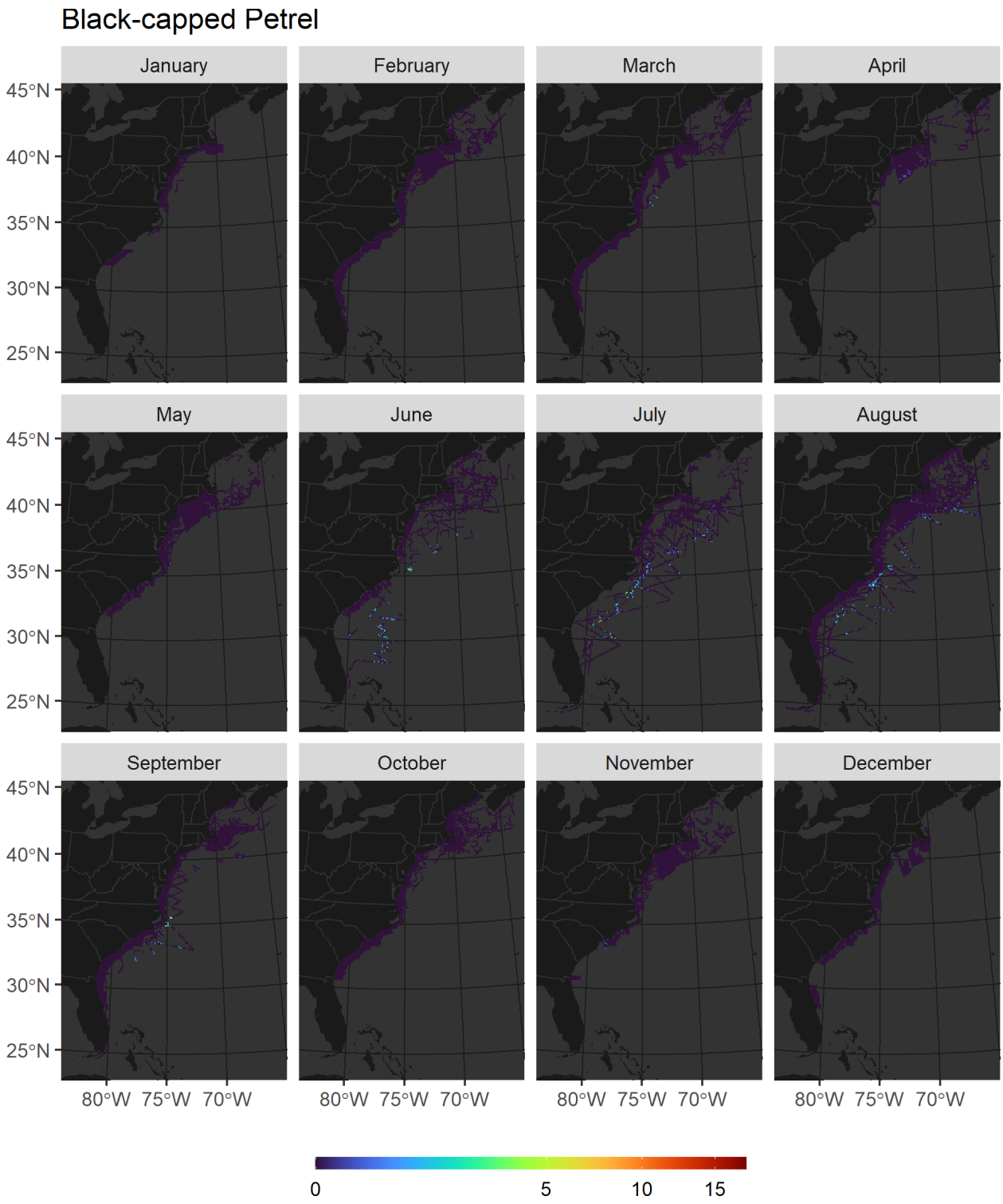


**Figure C-41. Observed density (number of birds per km$^2$) of Black-capped Petrel by month**
Density is scaled by its square root to improve visualization.

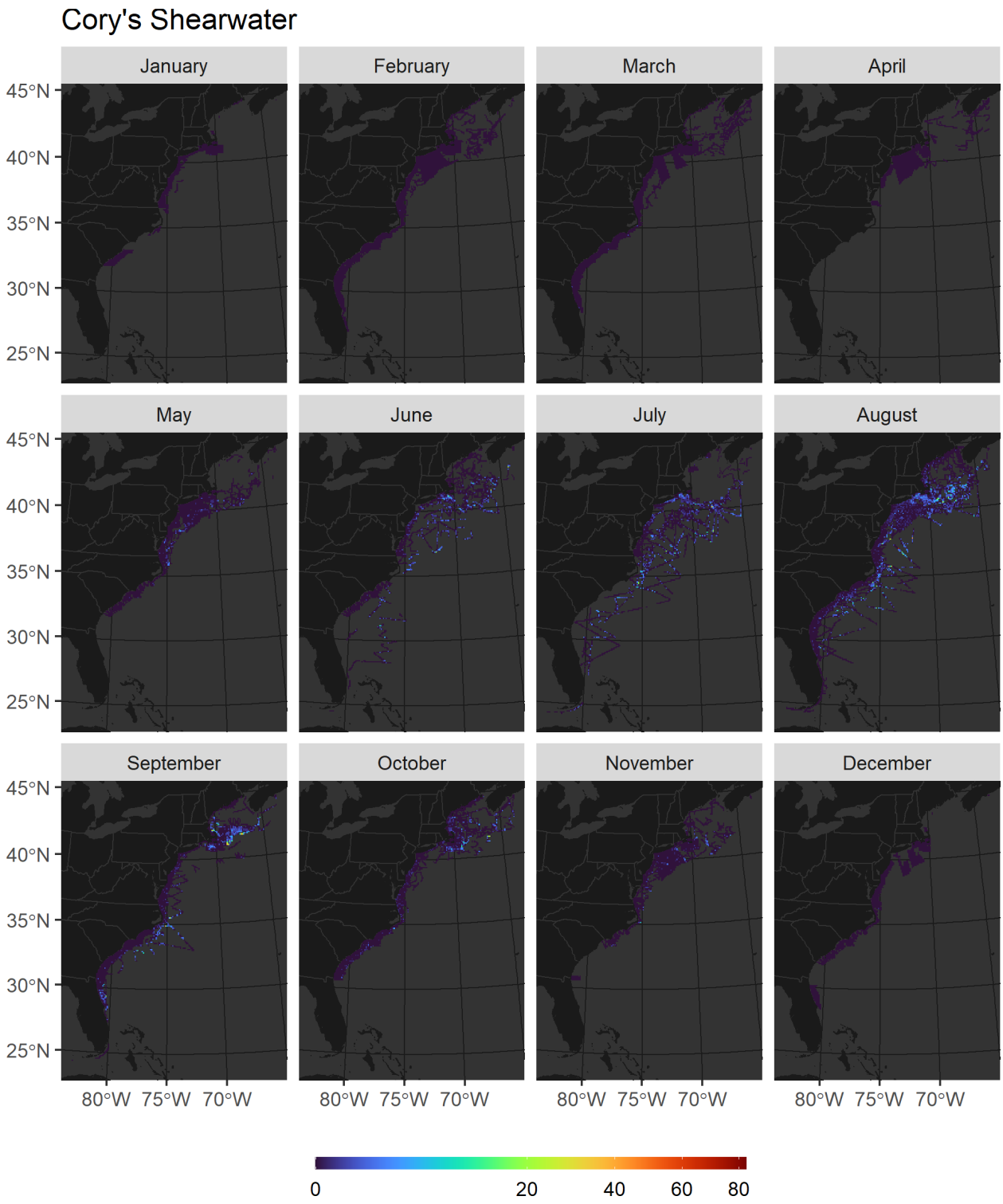


**Figure C-42. Observed density (number of birds per km$^2$) of Cory's Shearwater by month**
Density is scaled by its square root to improve visualization.

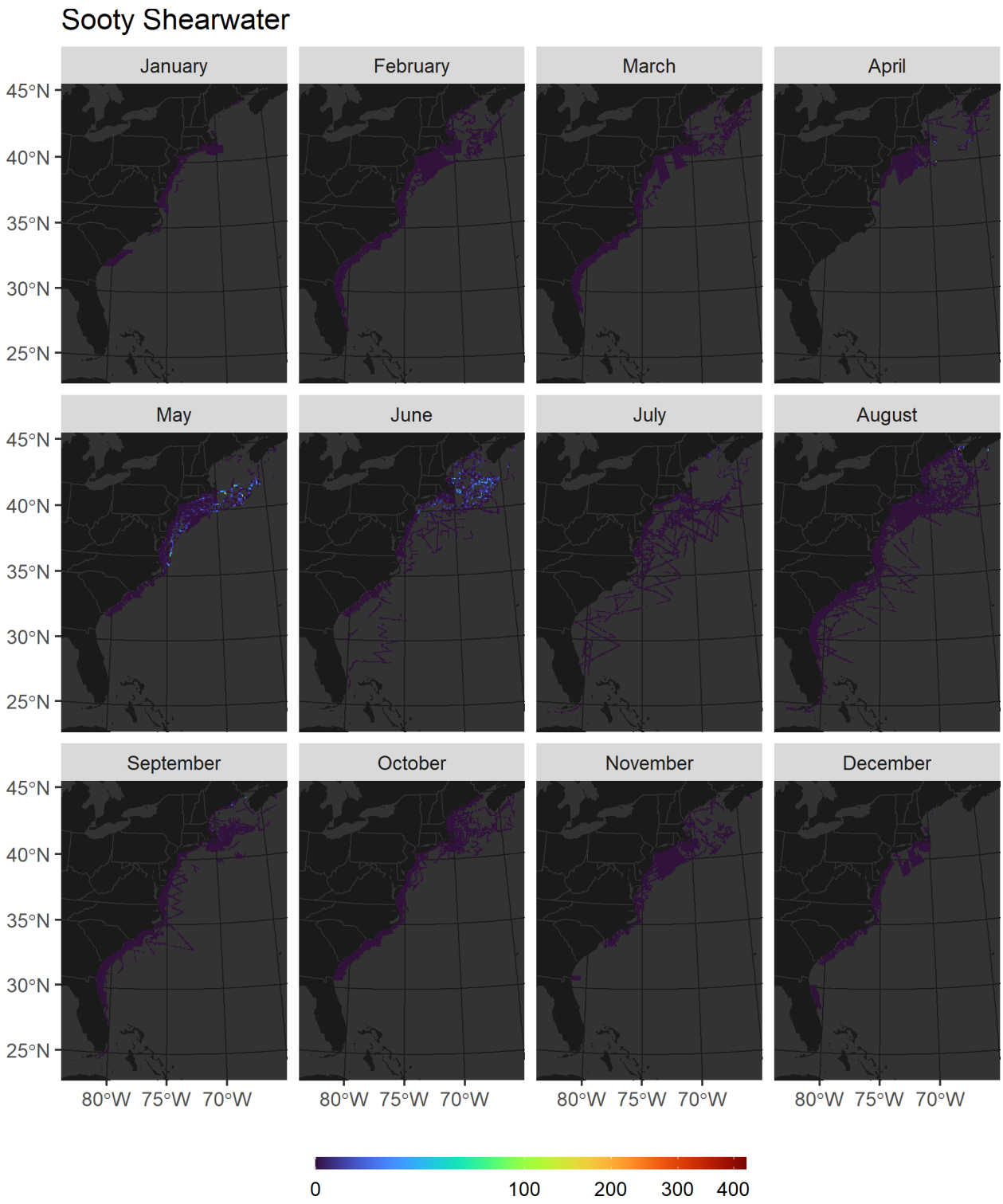


**Figure C-43. Observed density (number of birds per km$^2$) of Sooty Shearwater by month**
Density is scaled by its square root to improve visualization.

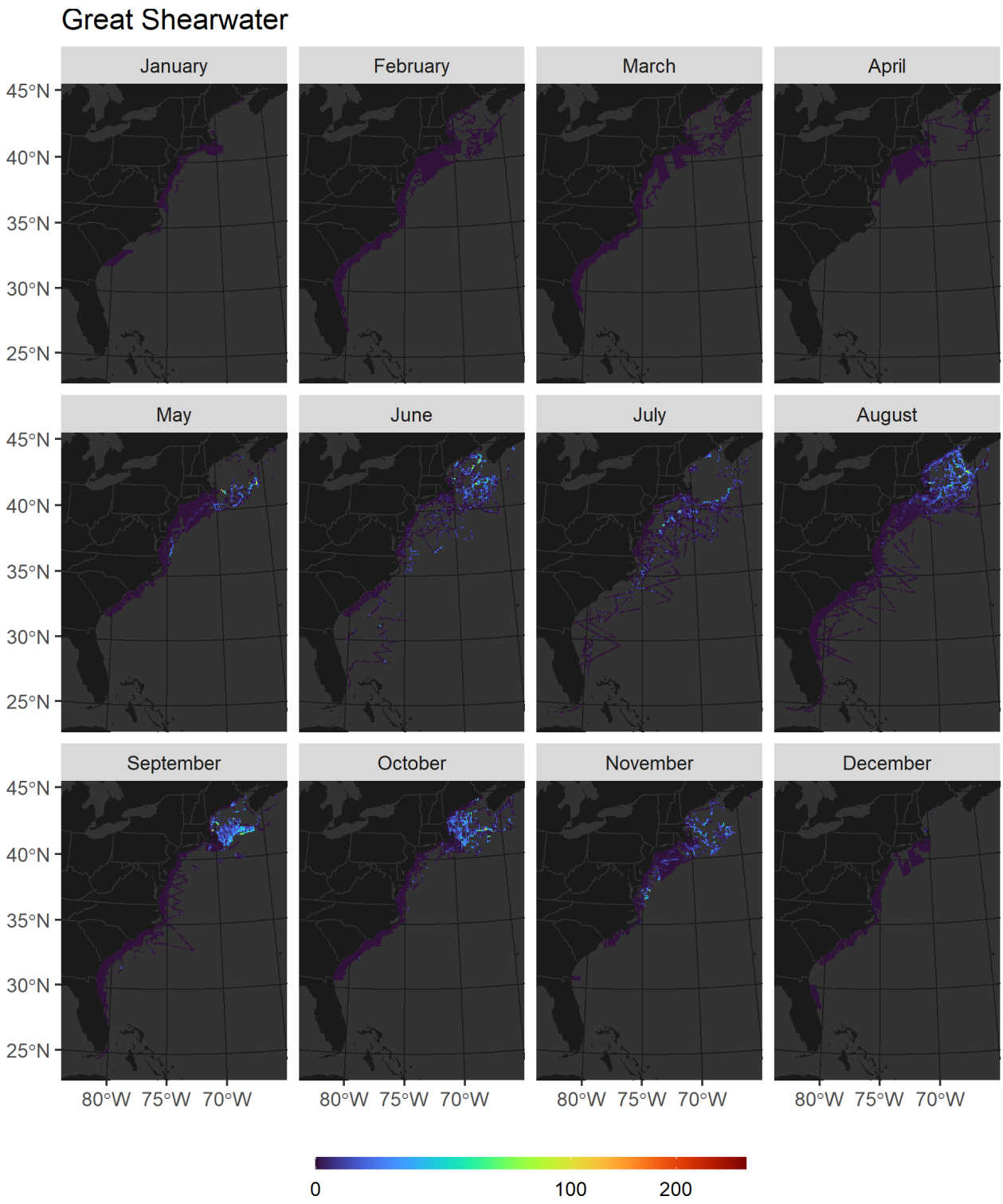


**Figure C-44. Observed density (number of birds per km$^2$) of Great Shearwater by month**
Density is scaled by its square root to improve visualization.

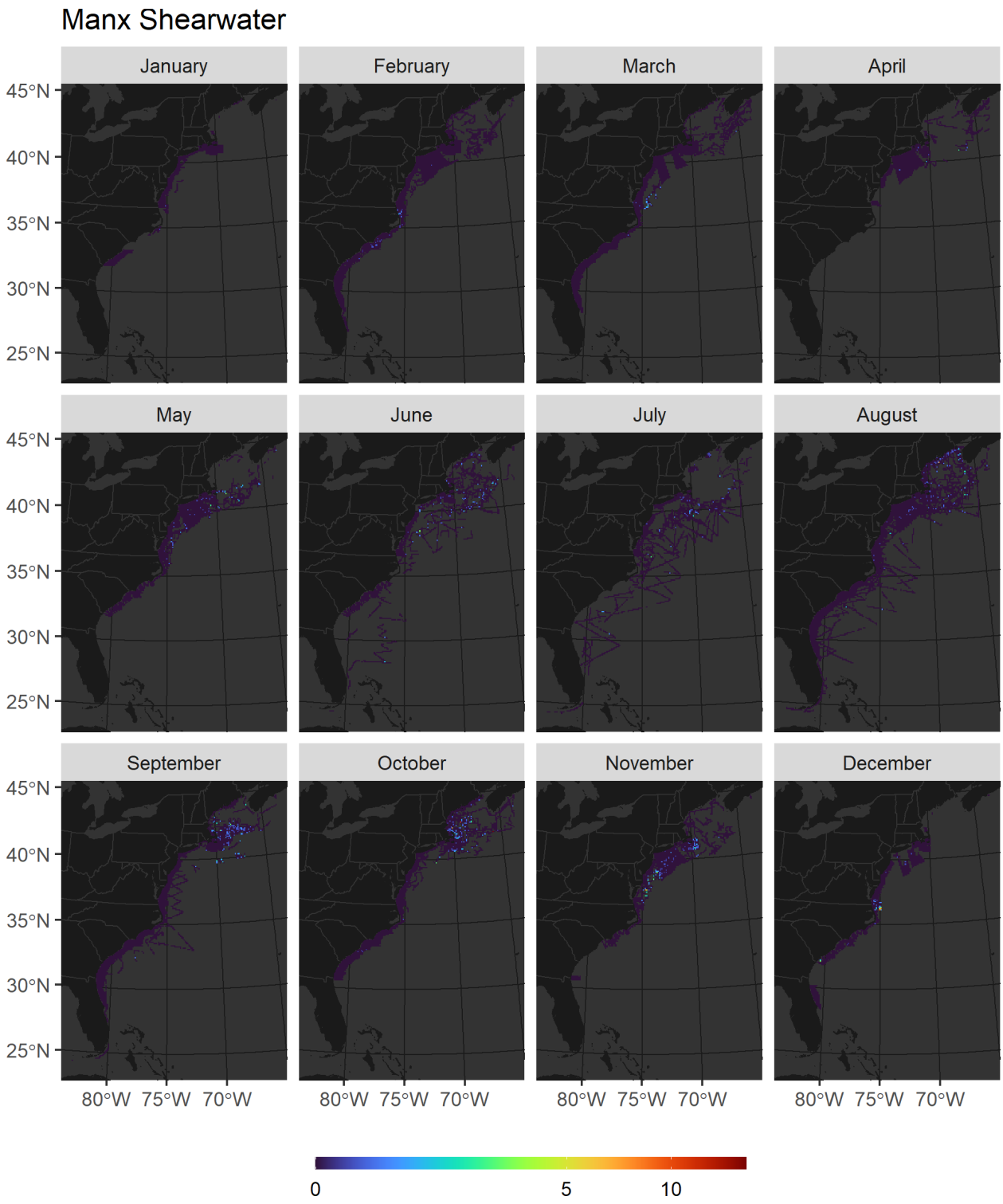


**Figure C-45. Observed density (number of birds per km$^2$) of Manx Shearwater by month**
Density is scaled by its square root to improve visualization.

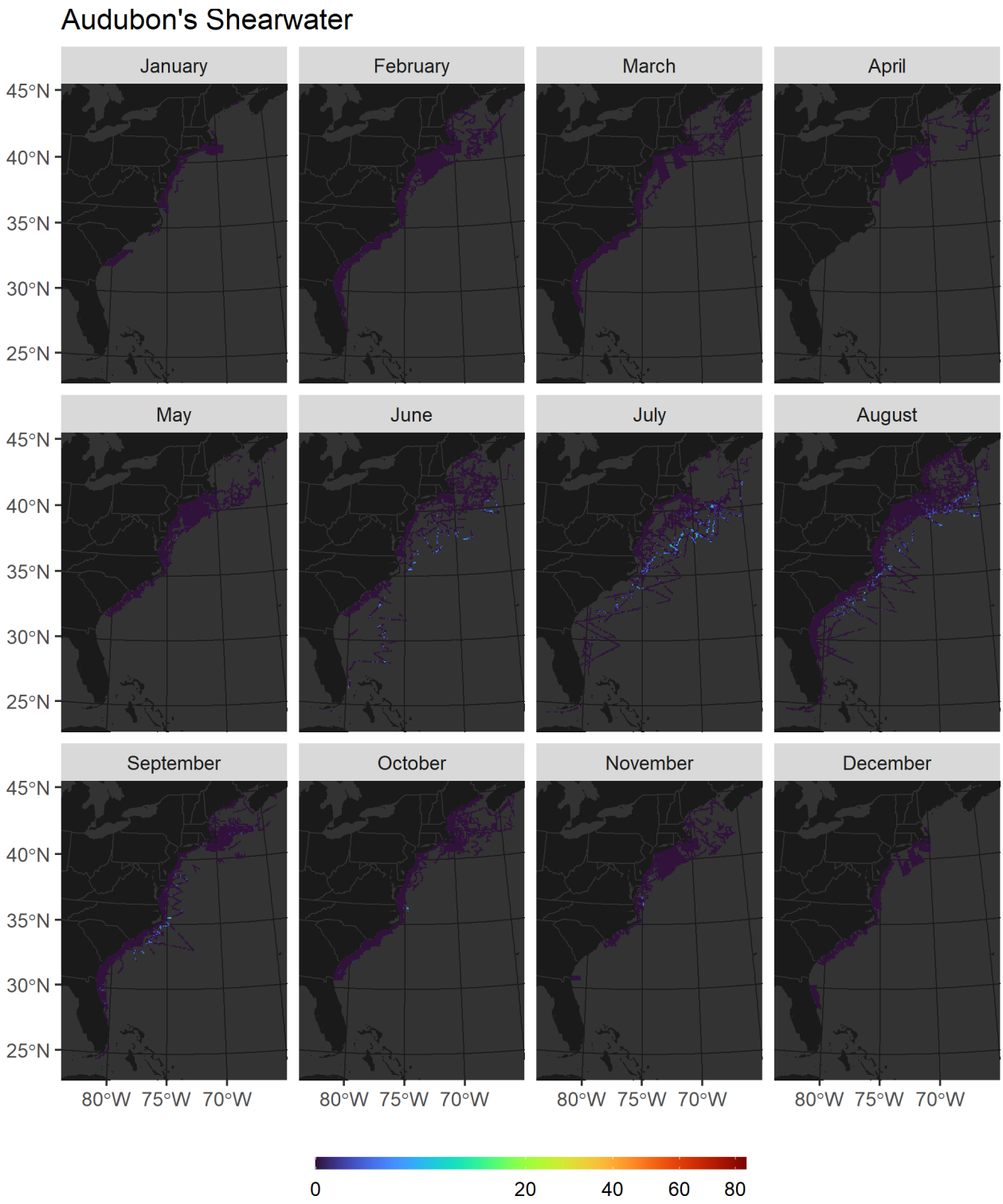


**Figure C-46. Observed density (number of birds per km$^2$) of Audubon's Shearwater by month**
Density is scaled by its square root to improve visualization.

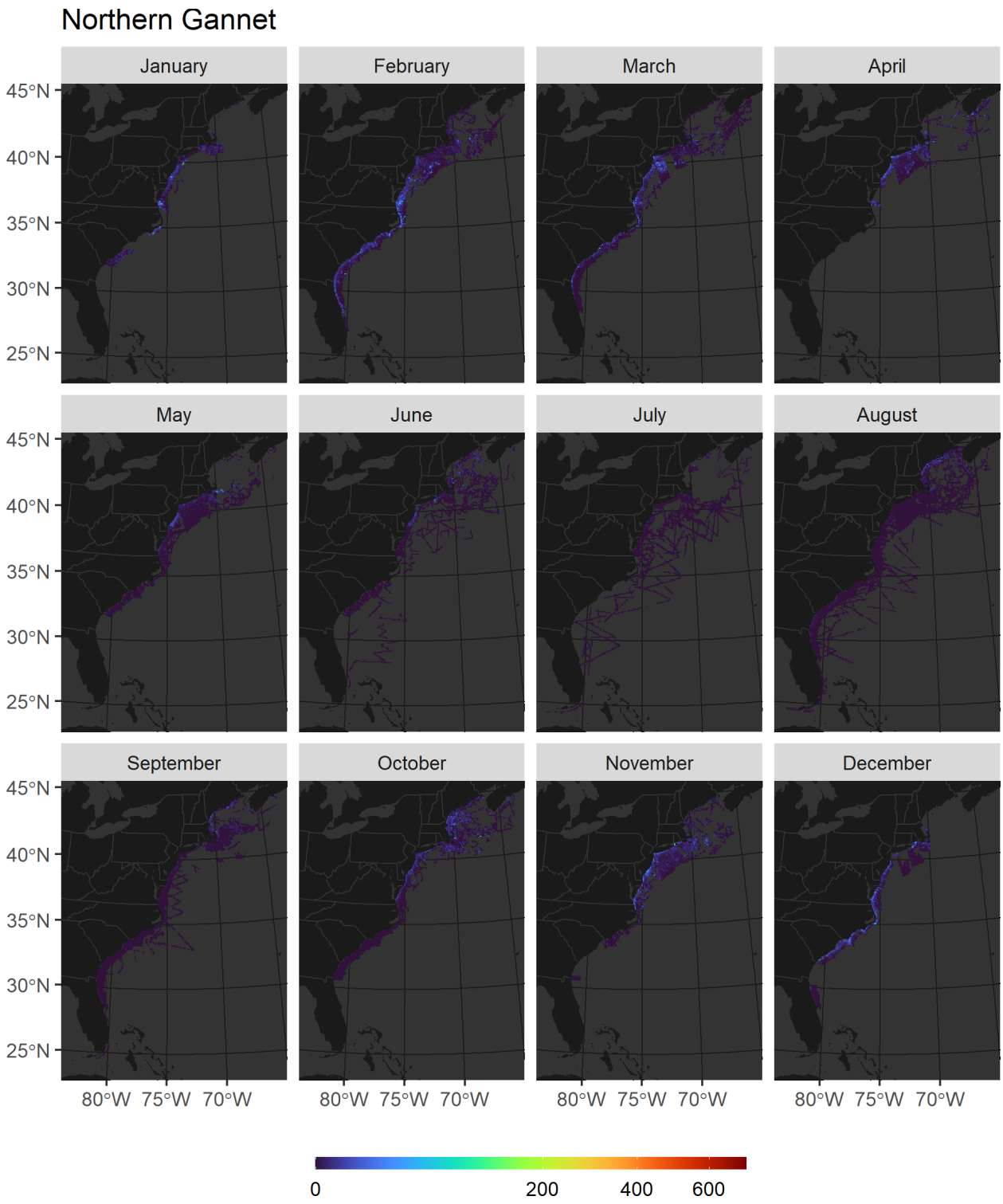


**Figure C-47. Observed density (number of birds per km$^2$) of Northern Gannet by month**
Density is scaled by its square root to improve visualization.

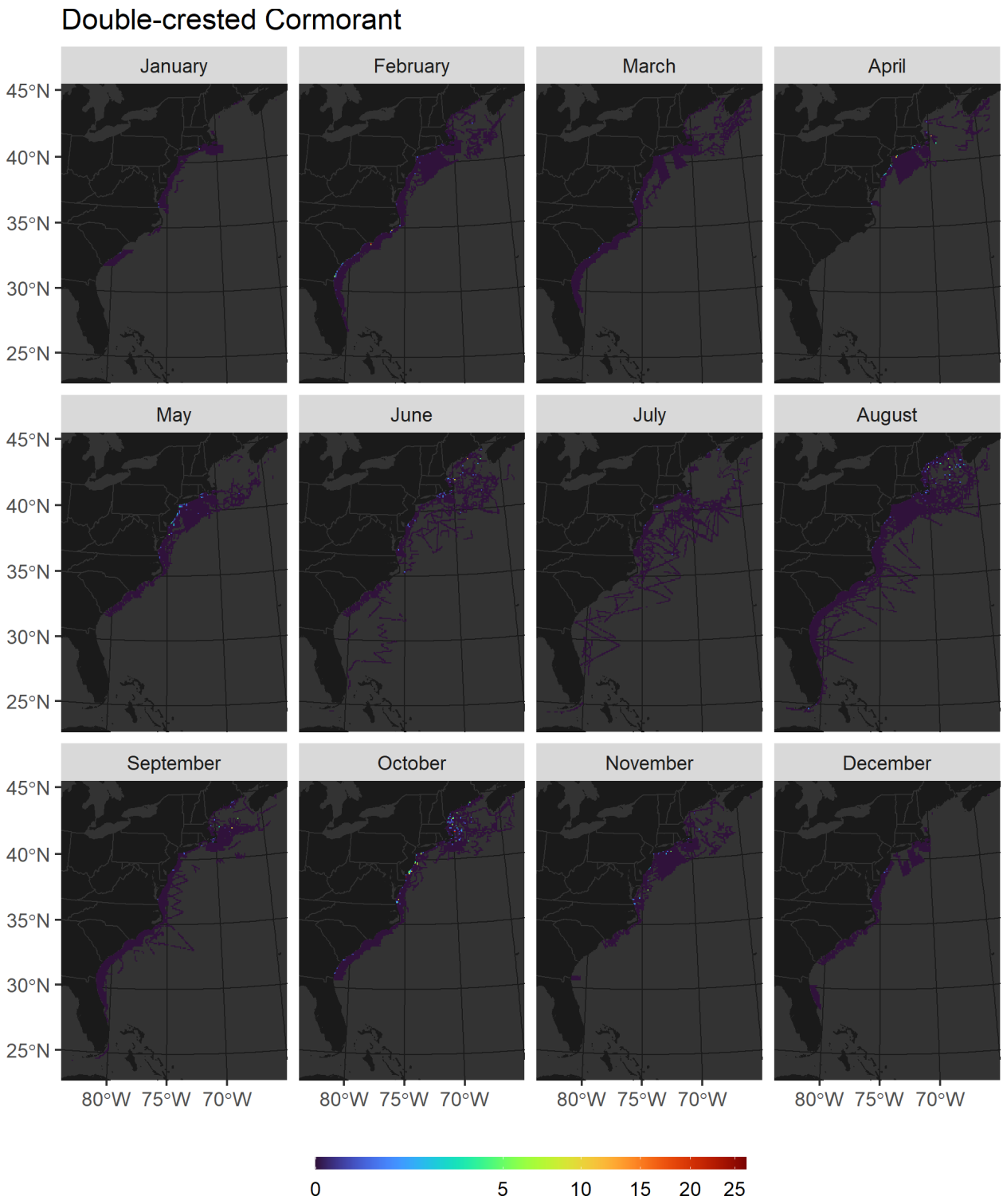


**Figure C-48. Observed density (number of birds per km$^2$) of Double-crested Cormorant by month**
Density is scaled by its square root to improve visualization.

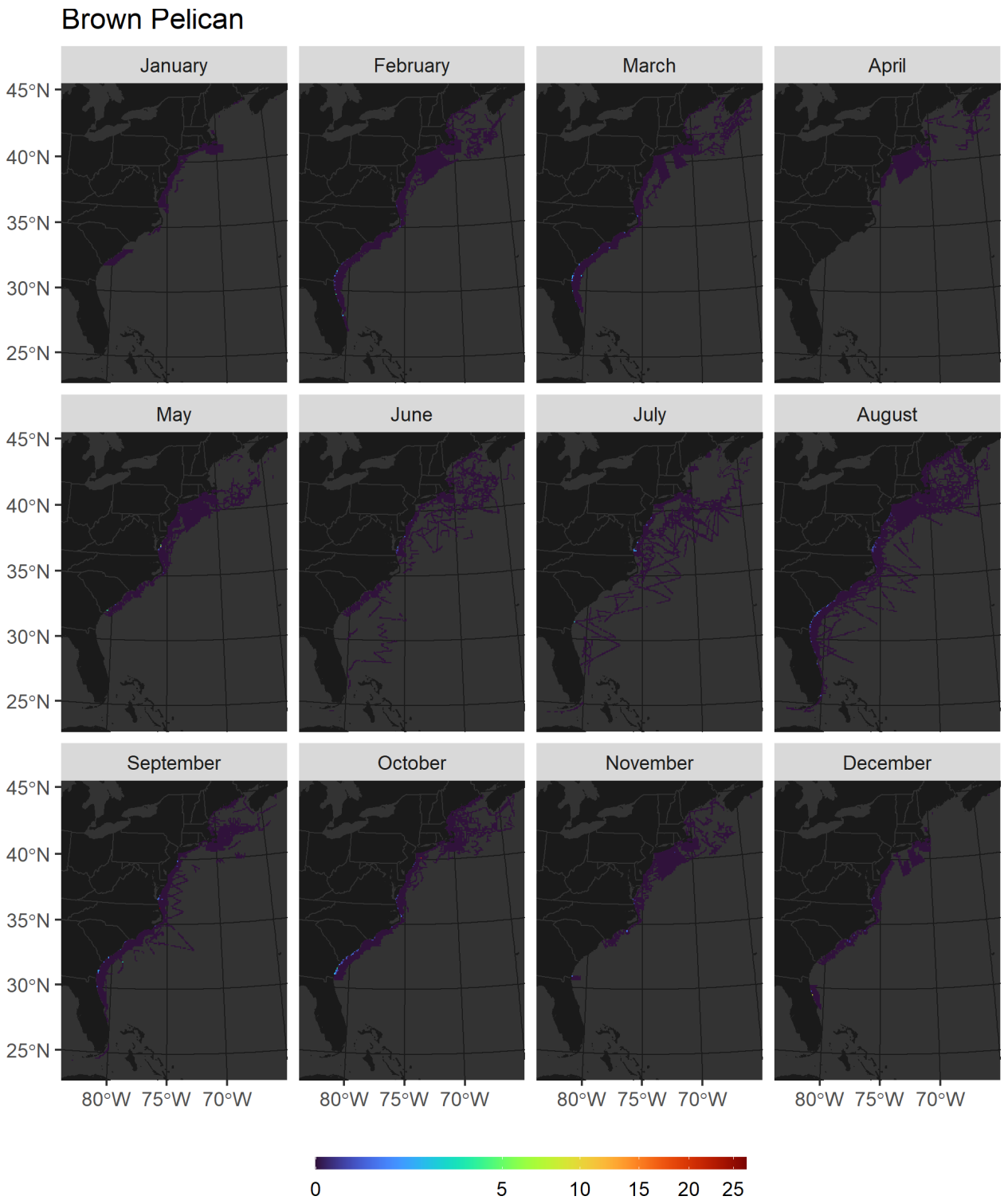


**Figure C-49. Observed density (number of birds per km$^2$) of Brown Pelican by month**
Density is scaled by its square root to improve visualization.

# Appendix D: Retrospective predicted density

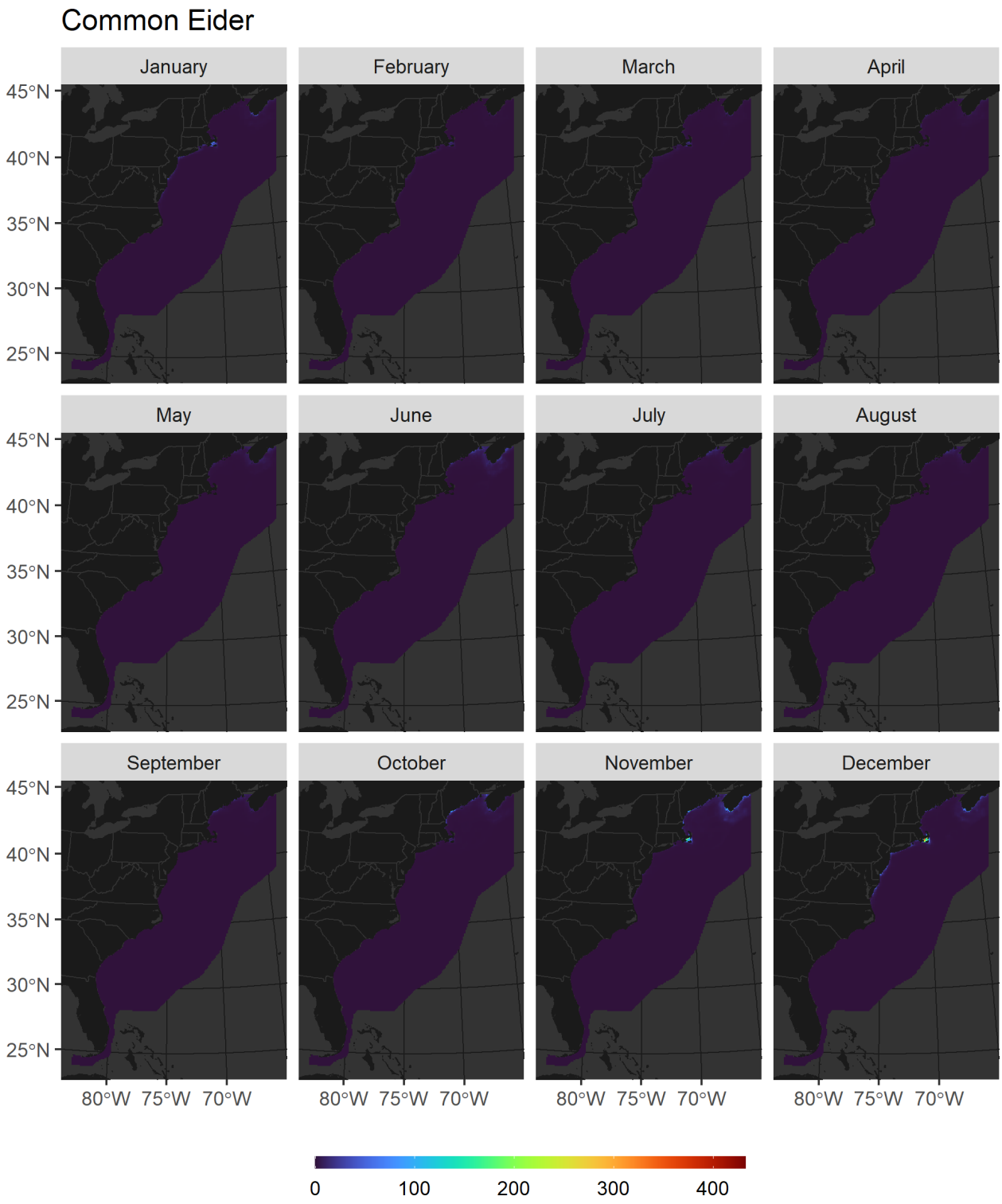


**Figure D-1. Average predicted density of Common Eider by month during the retrospective period (1993–2019)**

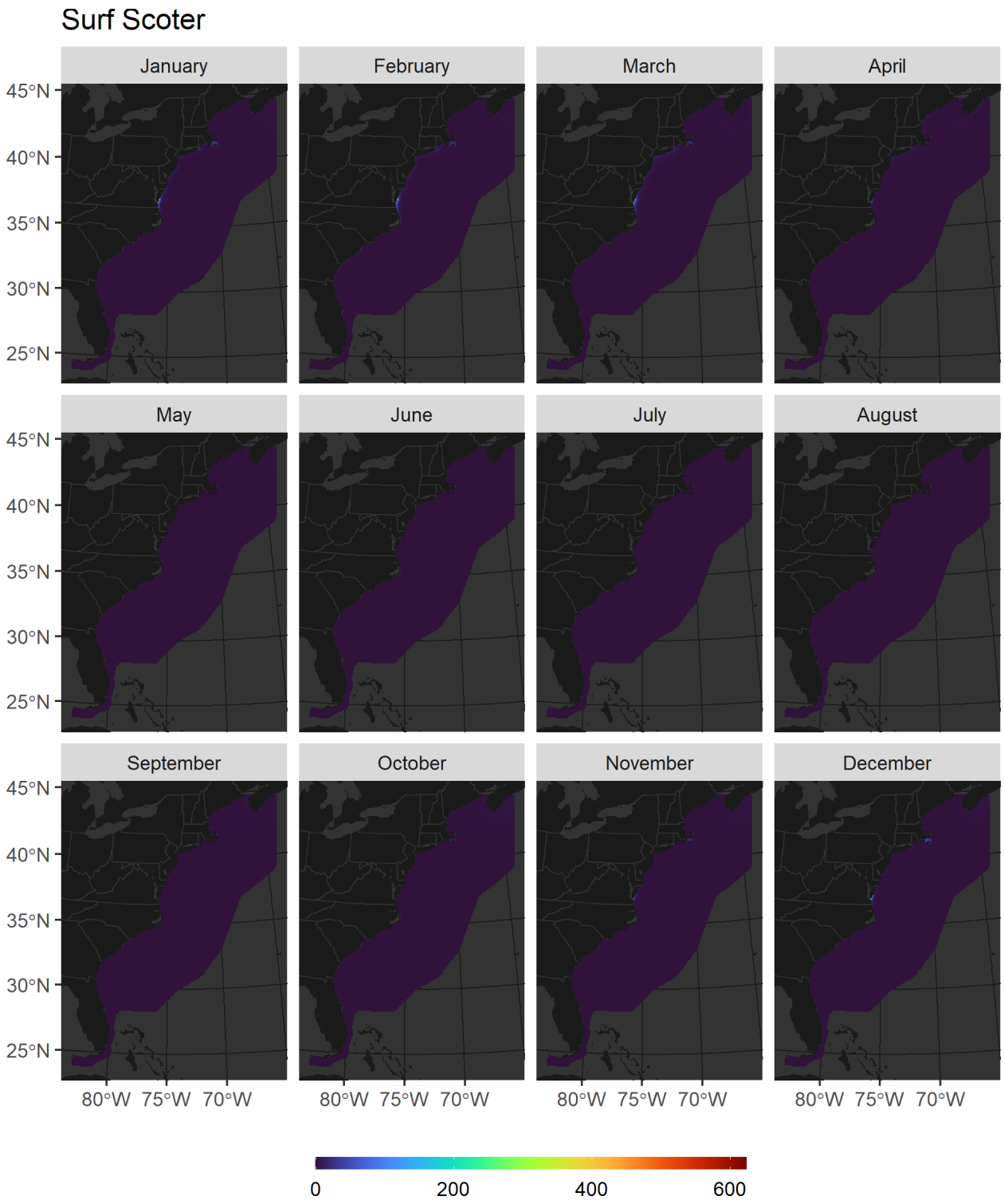


**Figure D-2. Average predicted density of Surf Scoter by month during the retrospective period (1993–2019)**

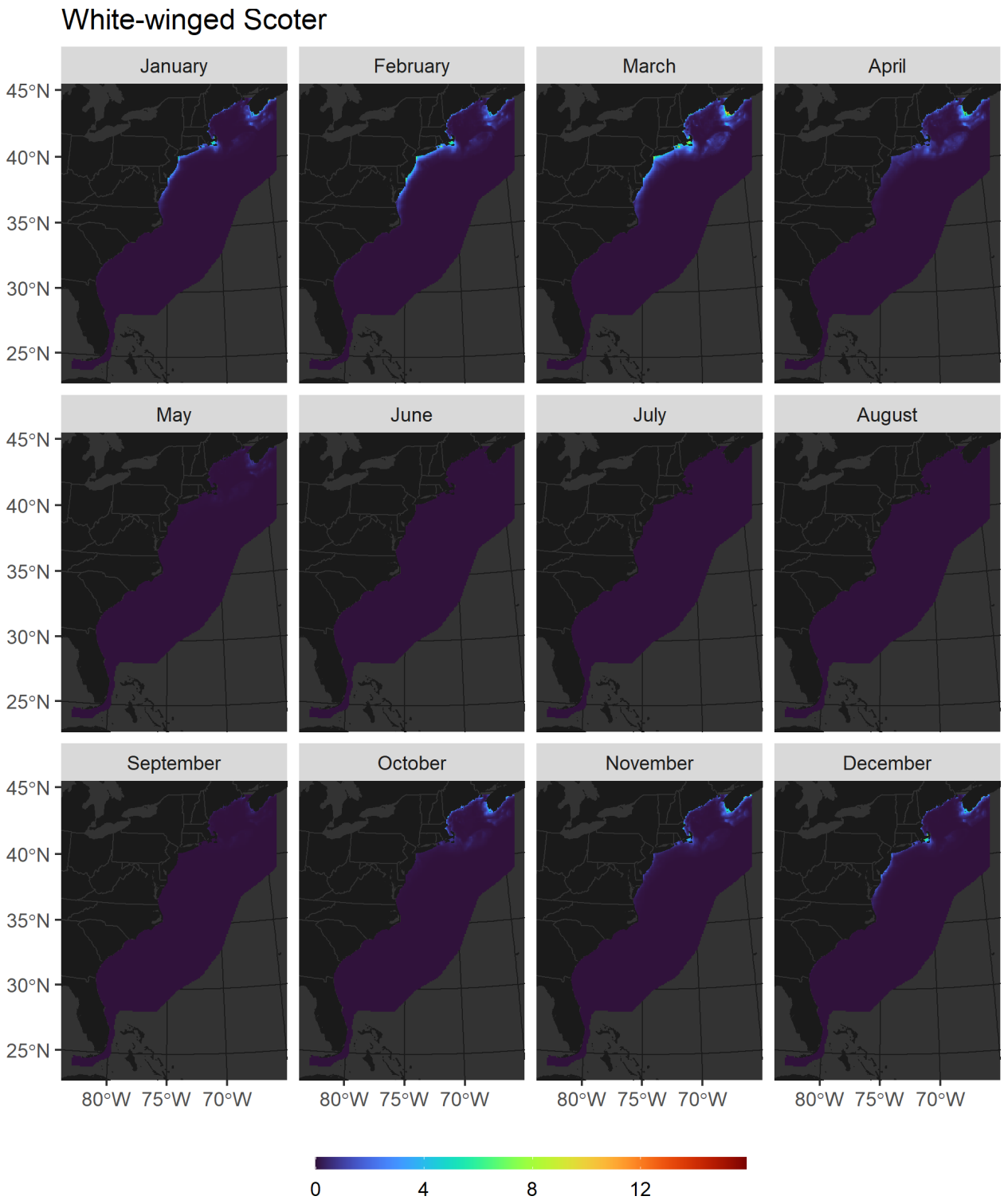


**Figure D-3. Average predicted density of White-winged Scoter by month during the retrospective period (1993–2019)**

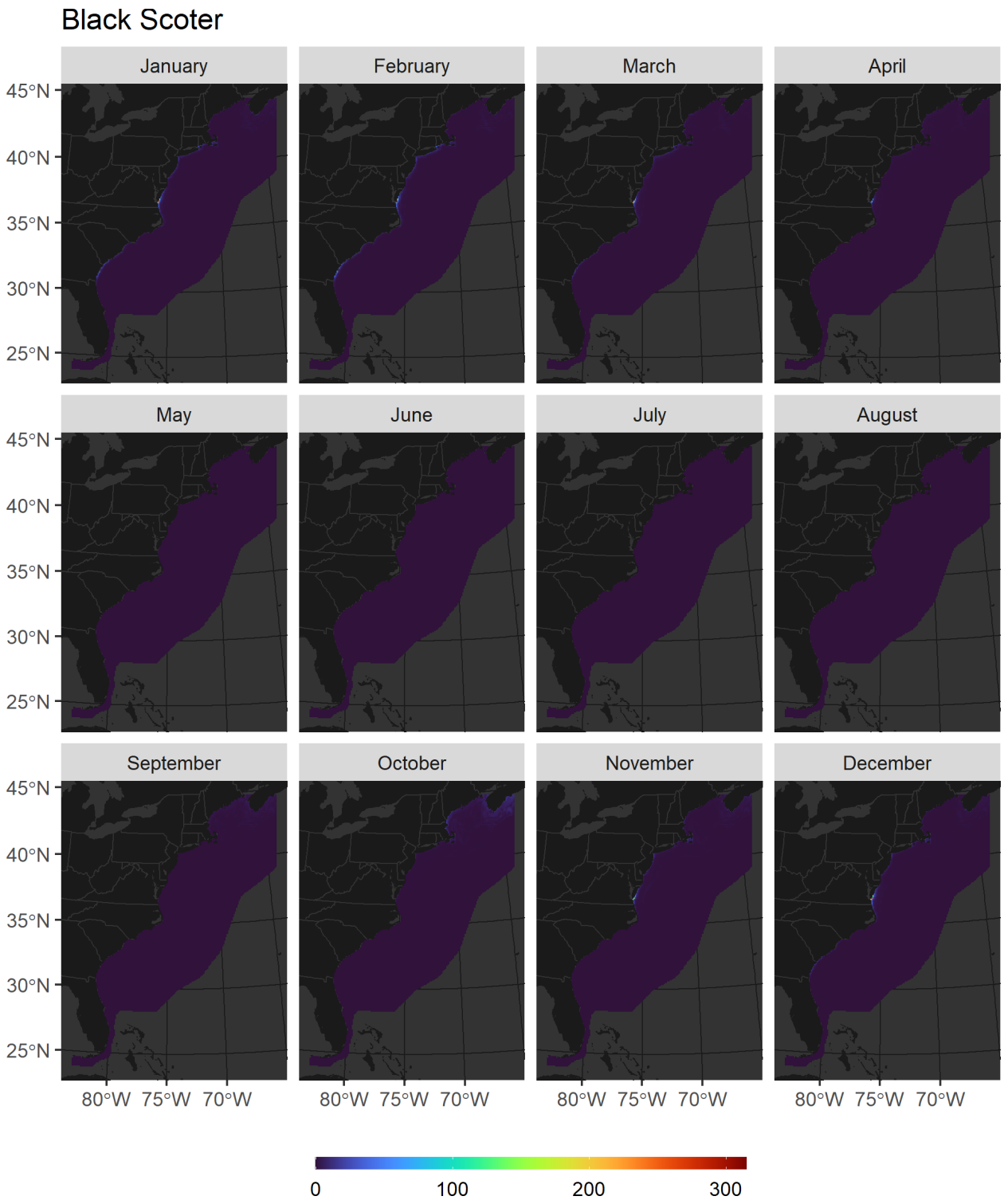


**Figure D-4. Average predicted density of Black Scoter by month during the retrospective period (1993–2019)**

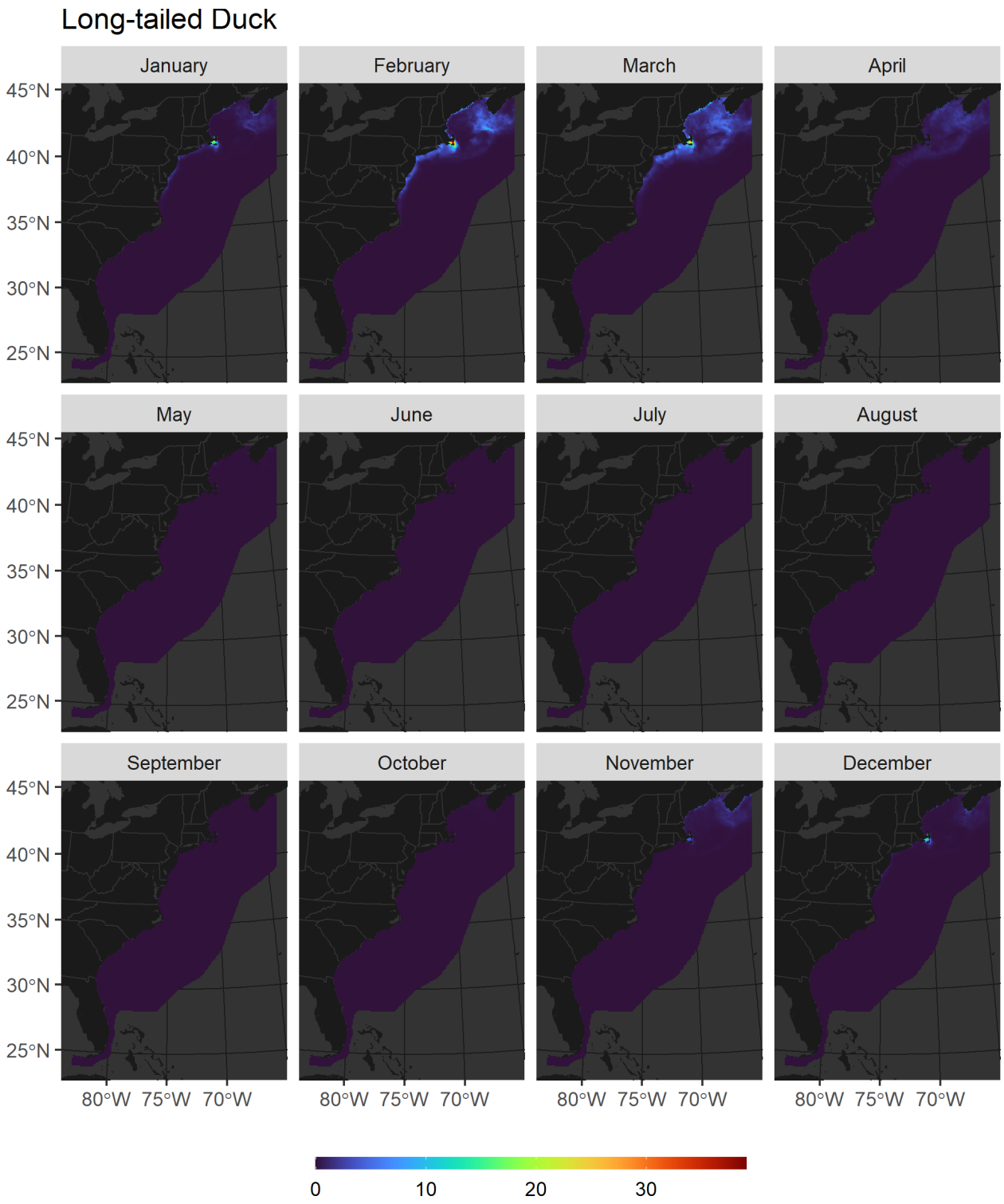


**Figure D-5. Average predicted density of Long-tailed Duck by month during the retrospective period (1993–2019)**

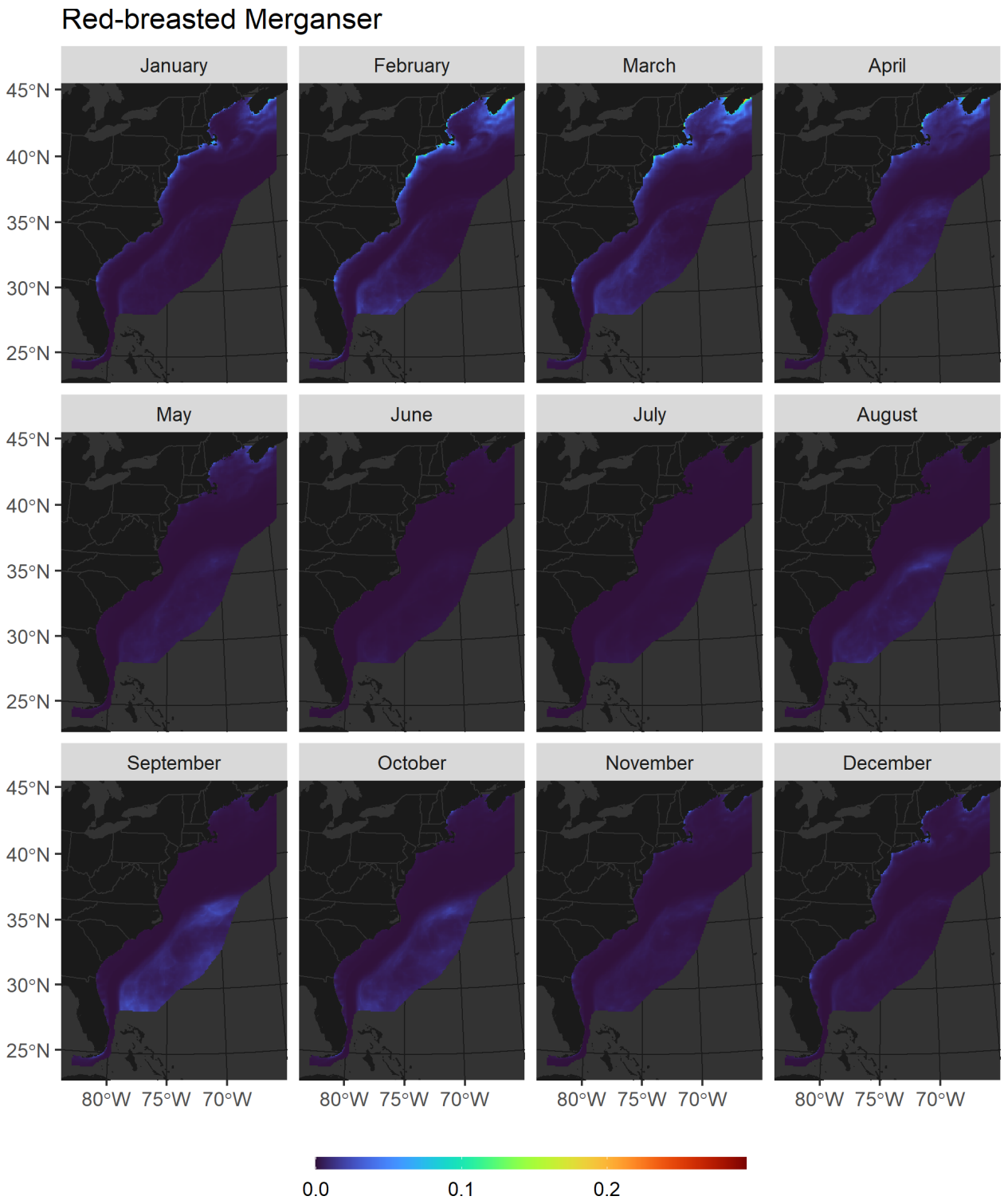


**Figure D-6. Average predicted density of Red-breasted Merganser by month during the retrospective period (1993–2019)**
The offshore predictions beyond the shelf break were unrealistic for this species, so these predictions should be ignored.

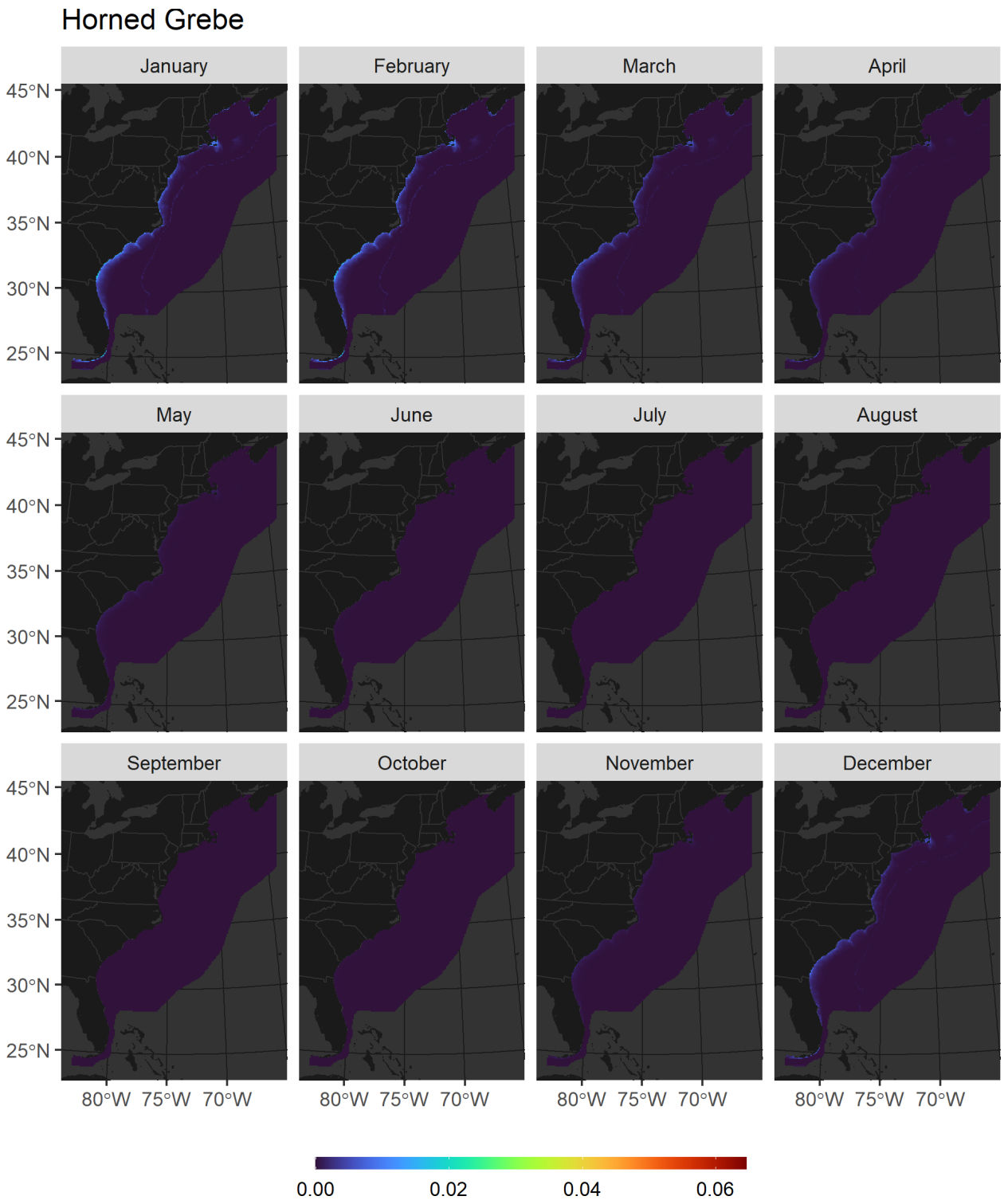


**Figure D-7. Average predicted density of Horned Grebe by month during the retrospective period (1993–2019)**

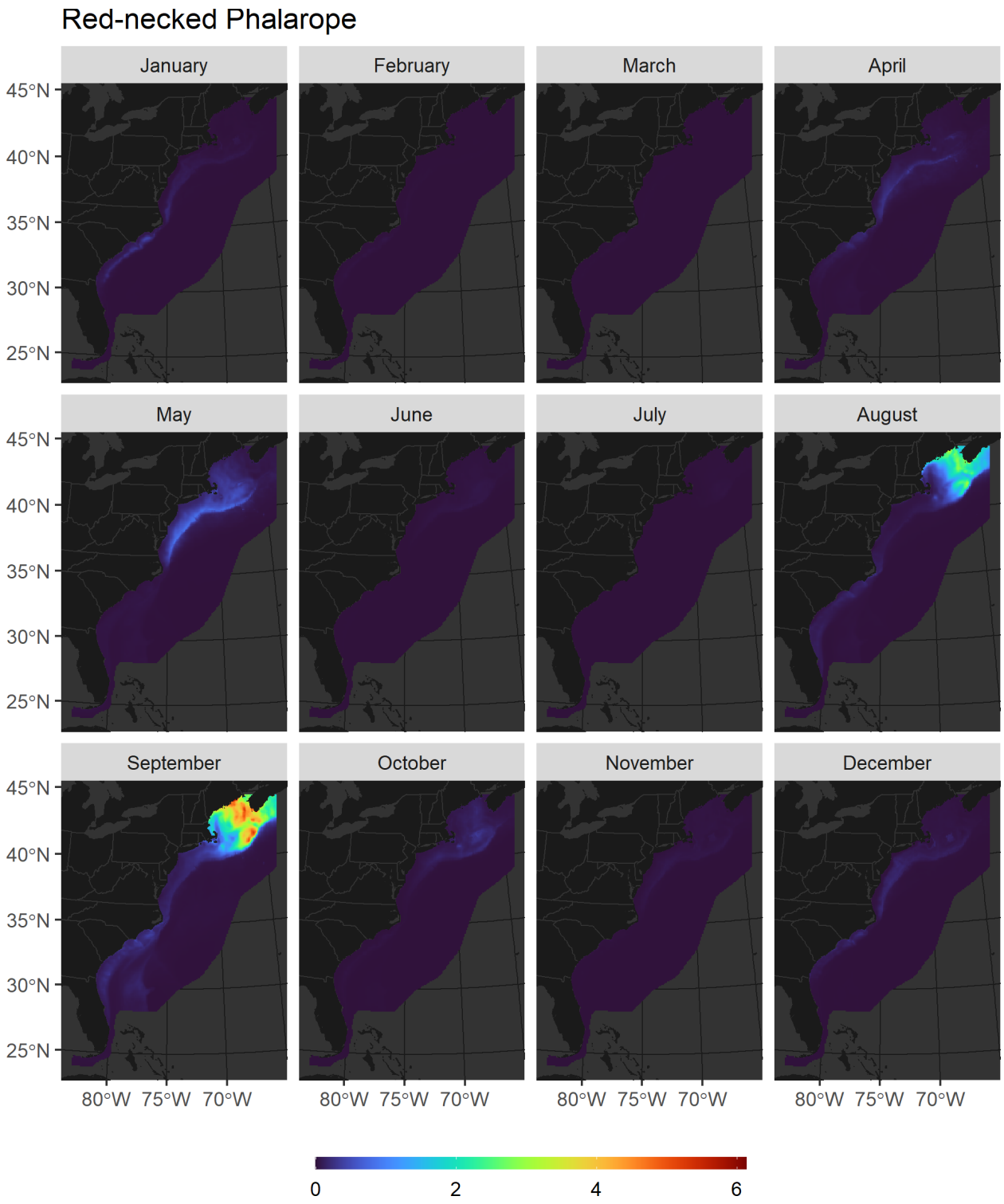


**Figure D-8. Average predicted density of Red-necked Phalarope by month during the retrospective period (1993–2019)**

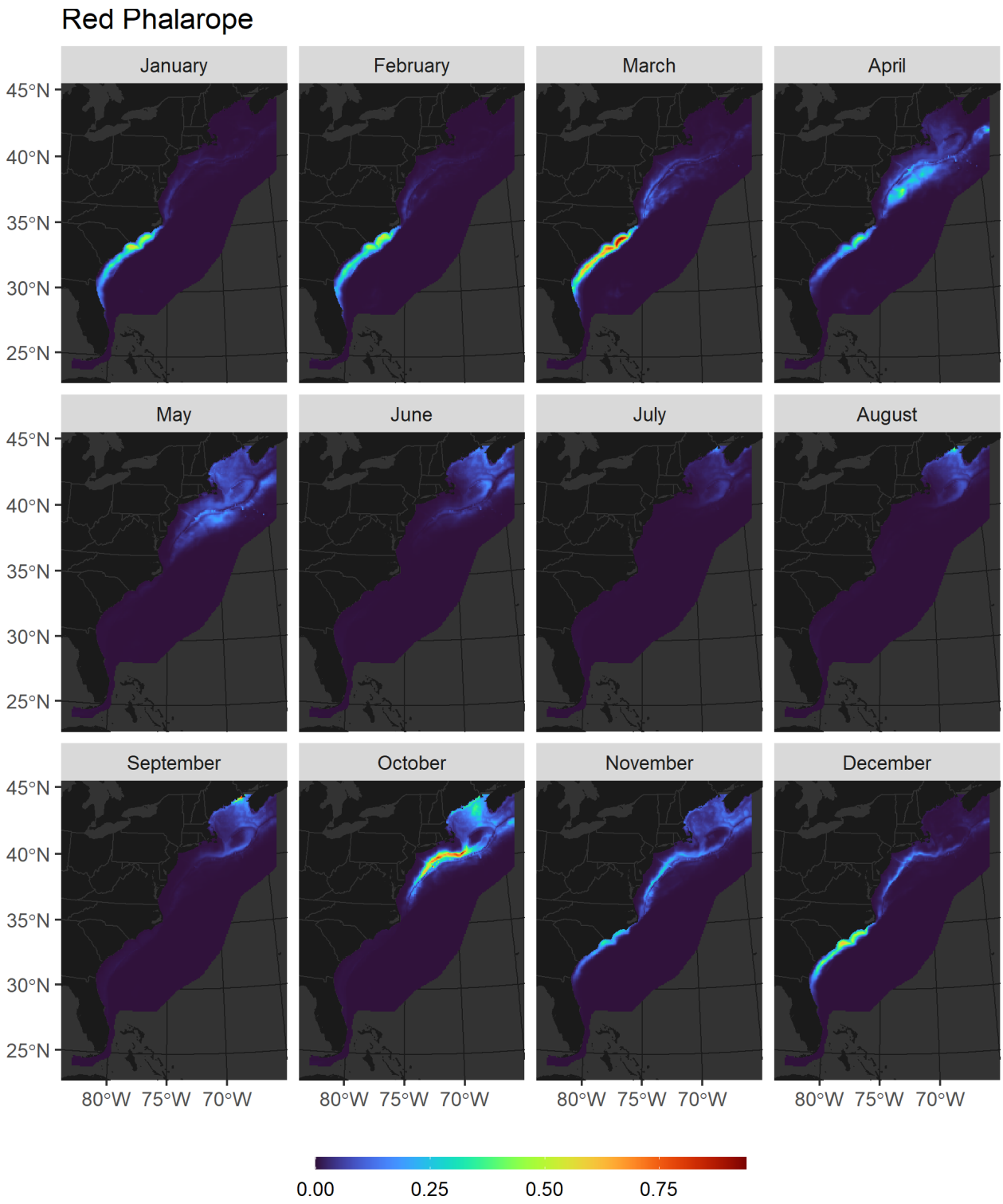


**Figure D-9. Average predicted density of Red Phalarope by month during the retrospective period (1993–2019)**

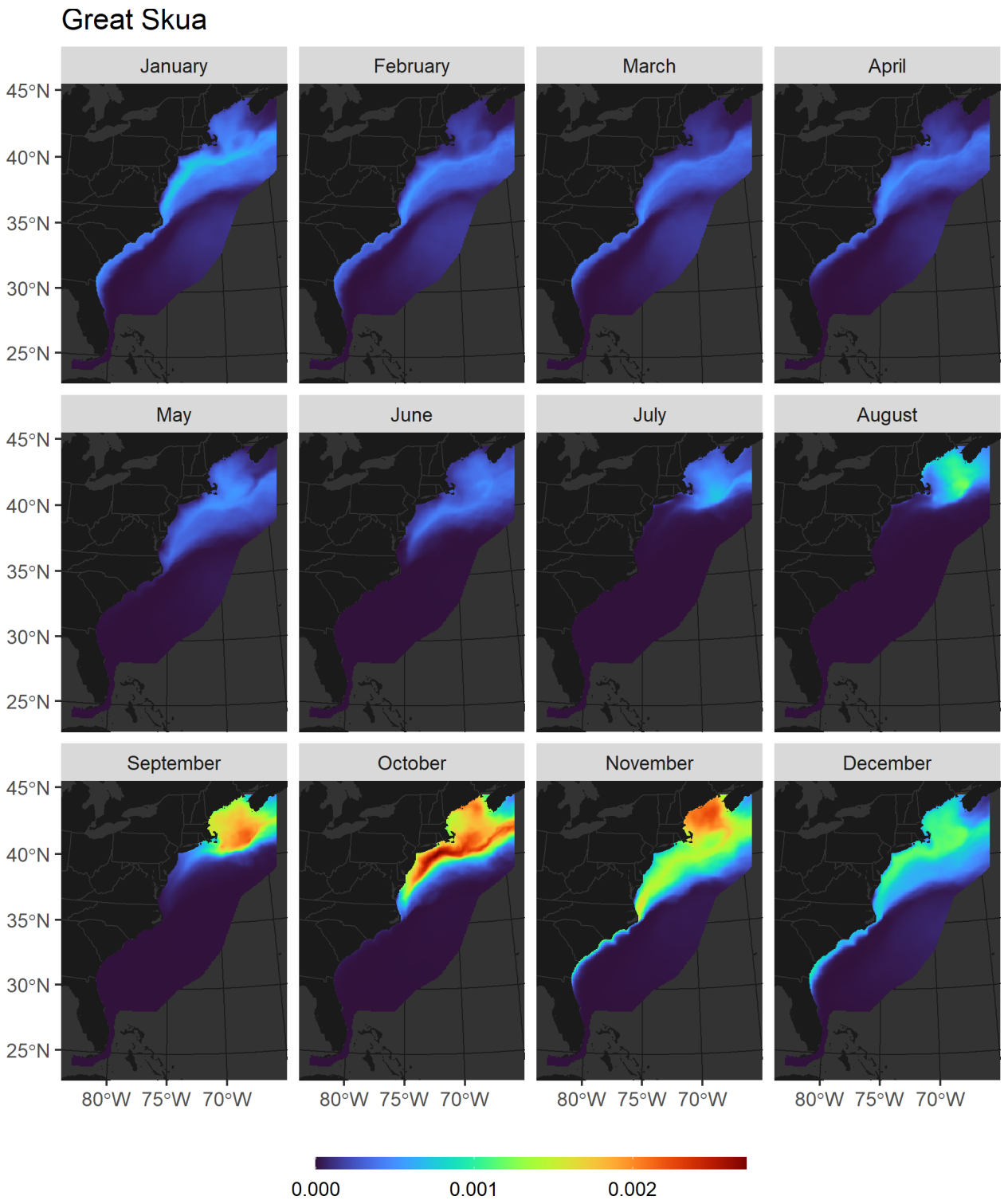


**Figure D-10. Average predicted density of Great Skua by month during the retrospective period (1993–2019)**

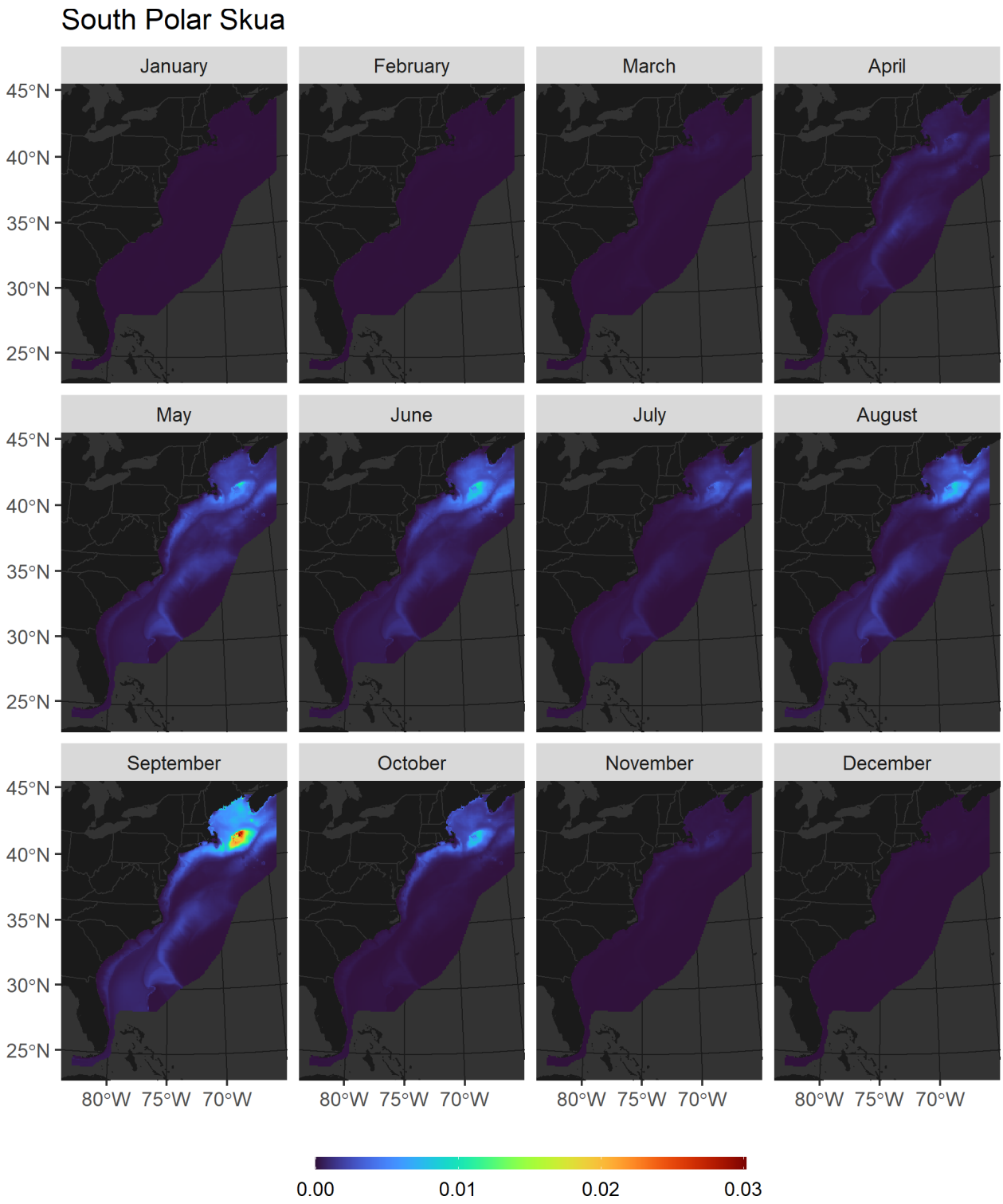


**Figure D-11. Average predicted density of South Polar Skua by month during the retrospective period (1993–2019)**

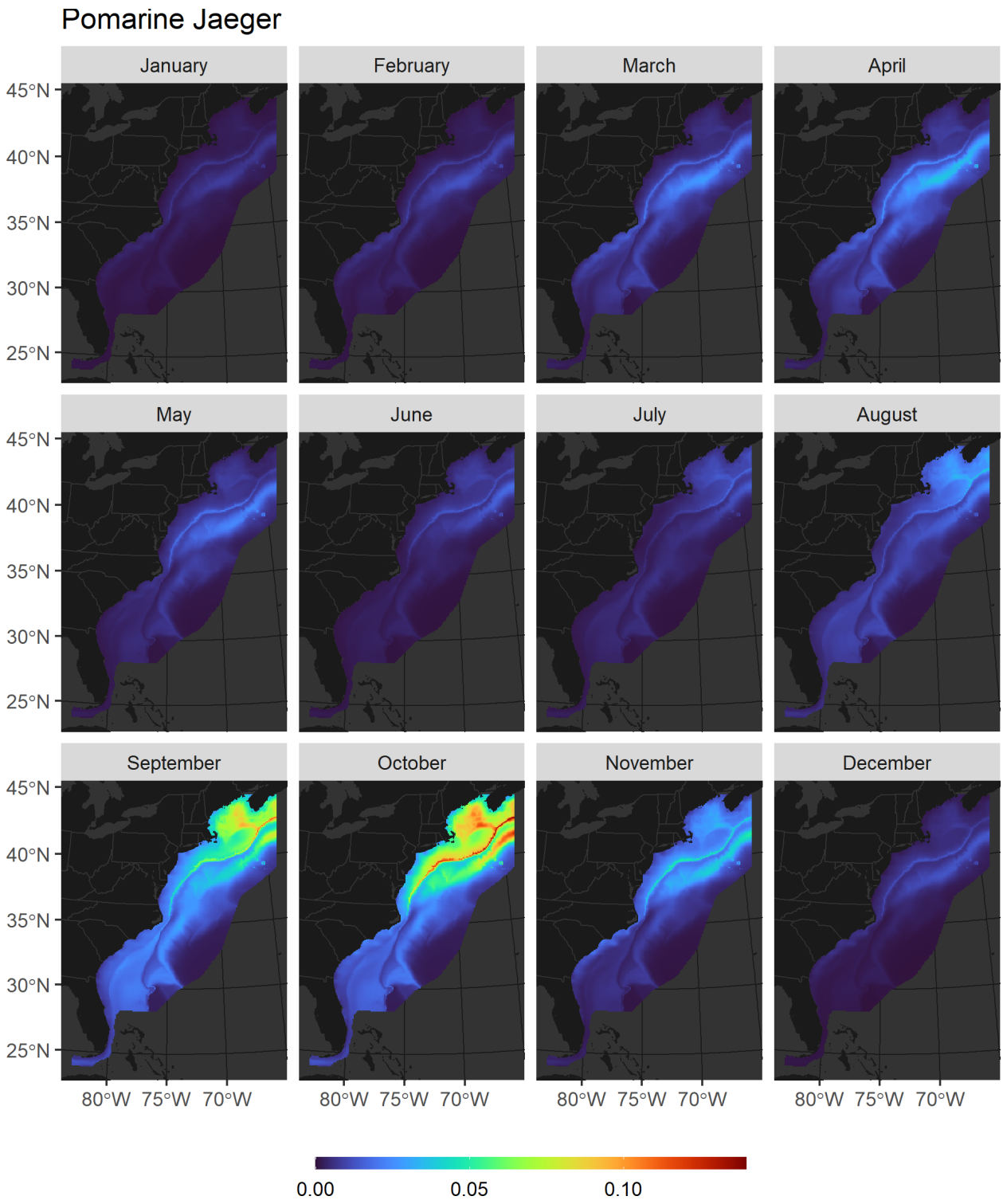


**Figure D-12. Average predicted density of Pomarine Jaeger by month during the retrospective period (1993–2019)**

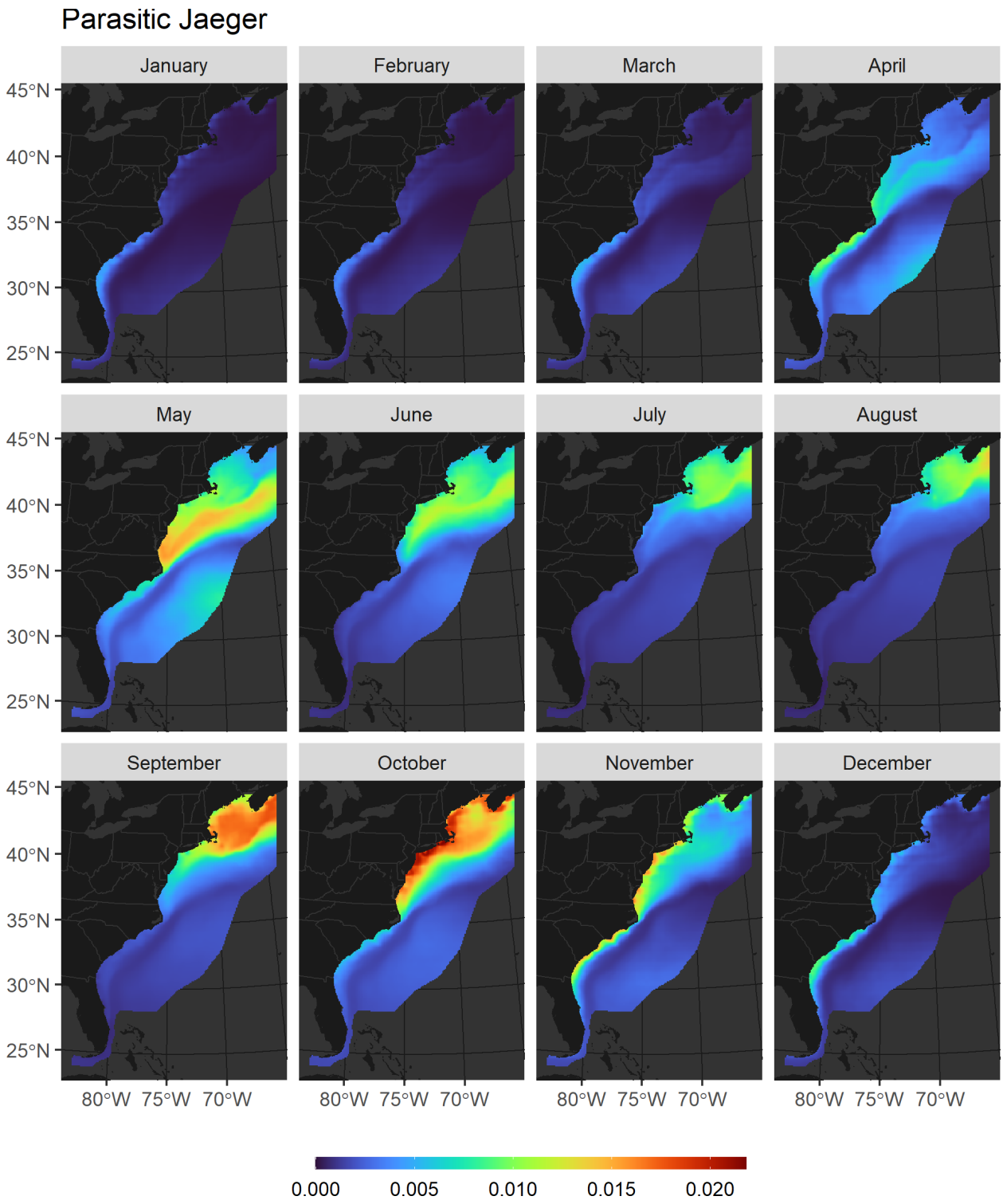


**Figure D-13. Average predicted density of Parasitic Jaeger by month during the retrospective period (1993–2019)**

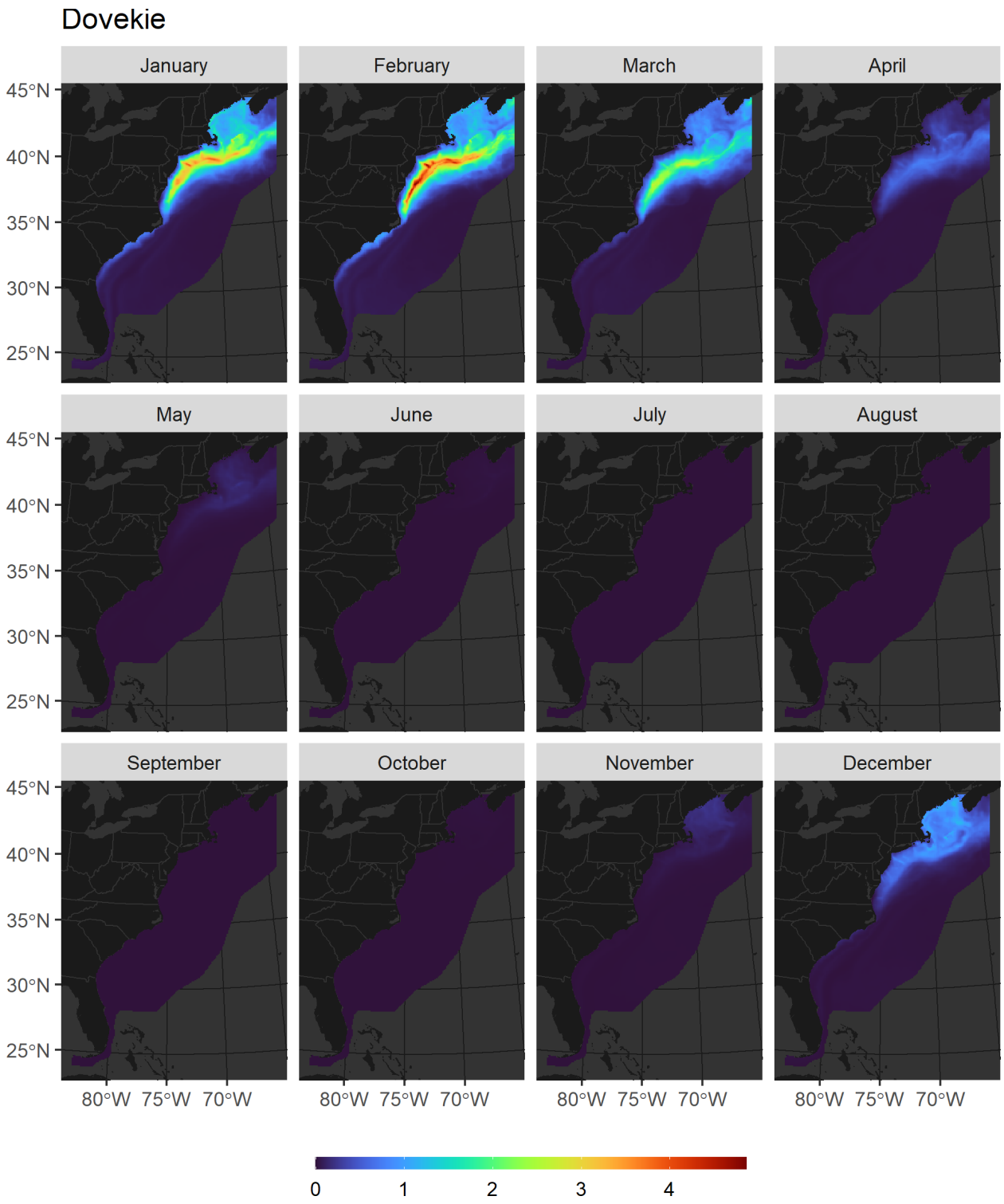


**Figure D-14. Average predicted density of Dovekie by month during the retrospective period (1993–2019)**

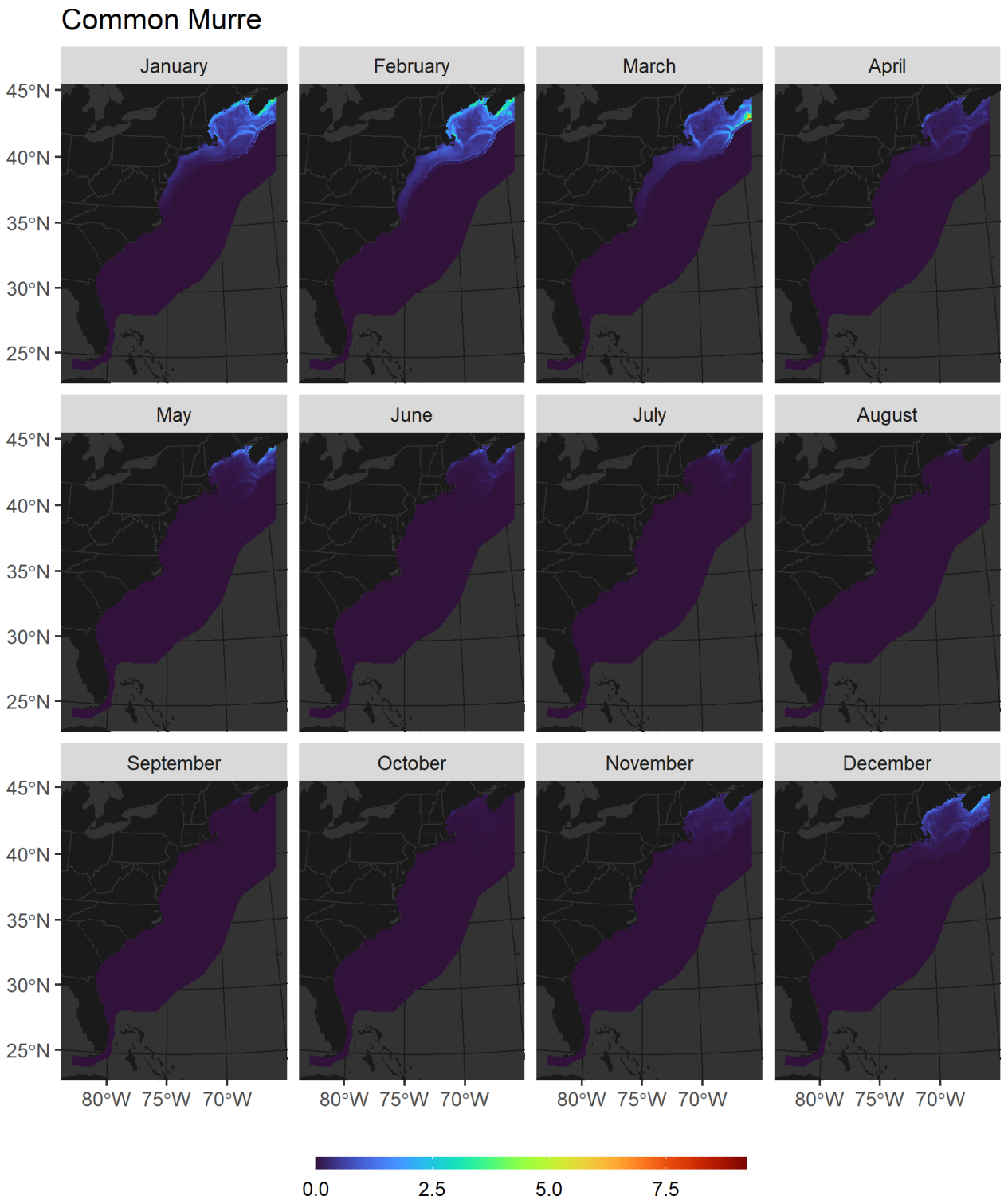


**Figure D-15. Average predicted density of Common Murre by month during the retrospective period (1993–2019)**

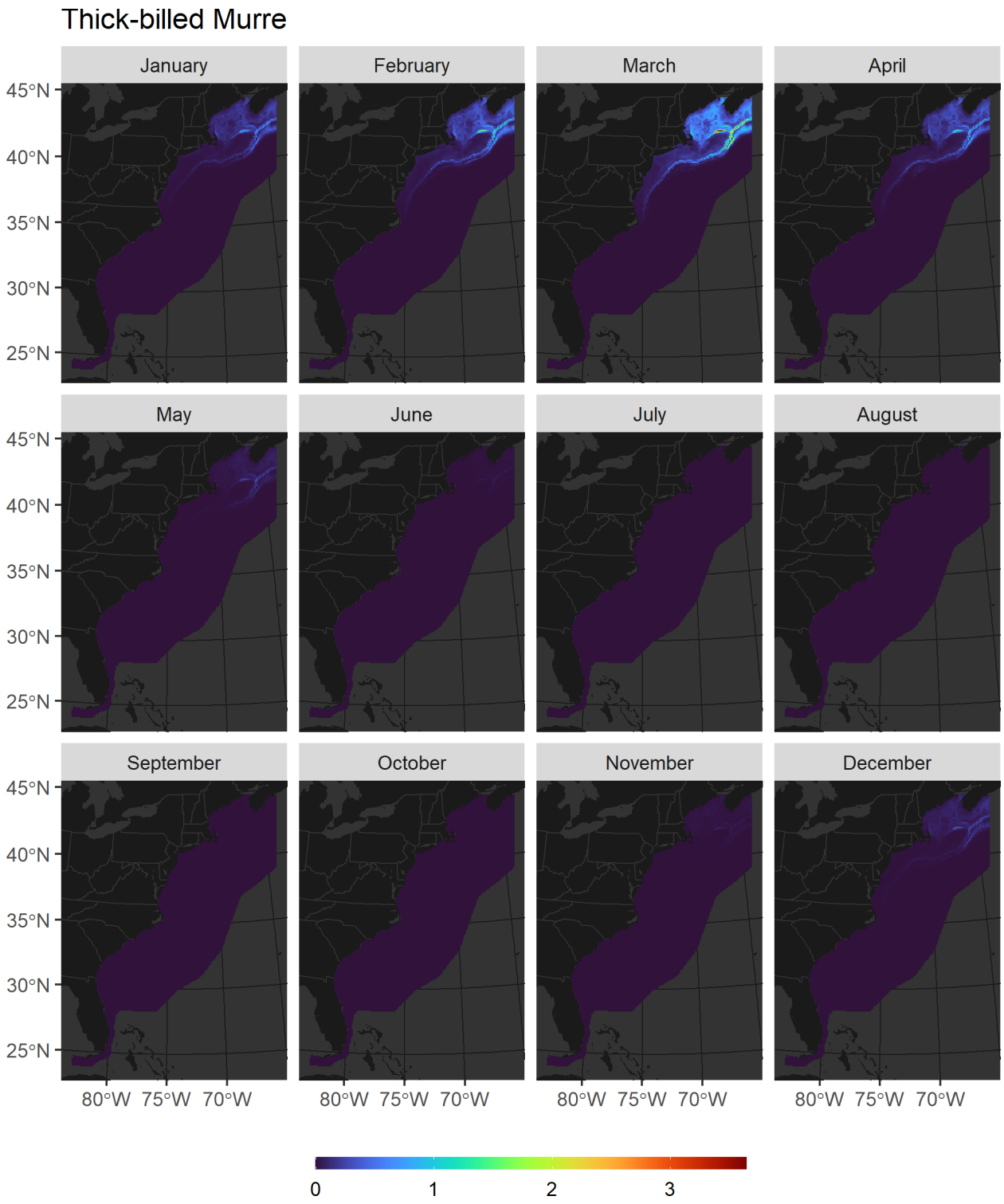


**Figure D-16. Average predicted density of Thick-billed Murre by month during the retrospective period (1993–2019)**

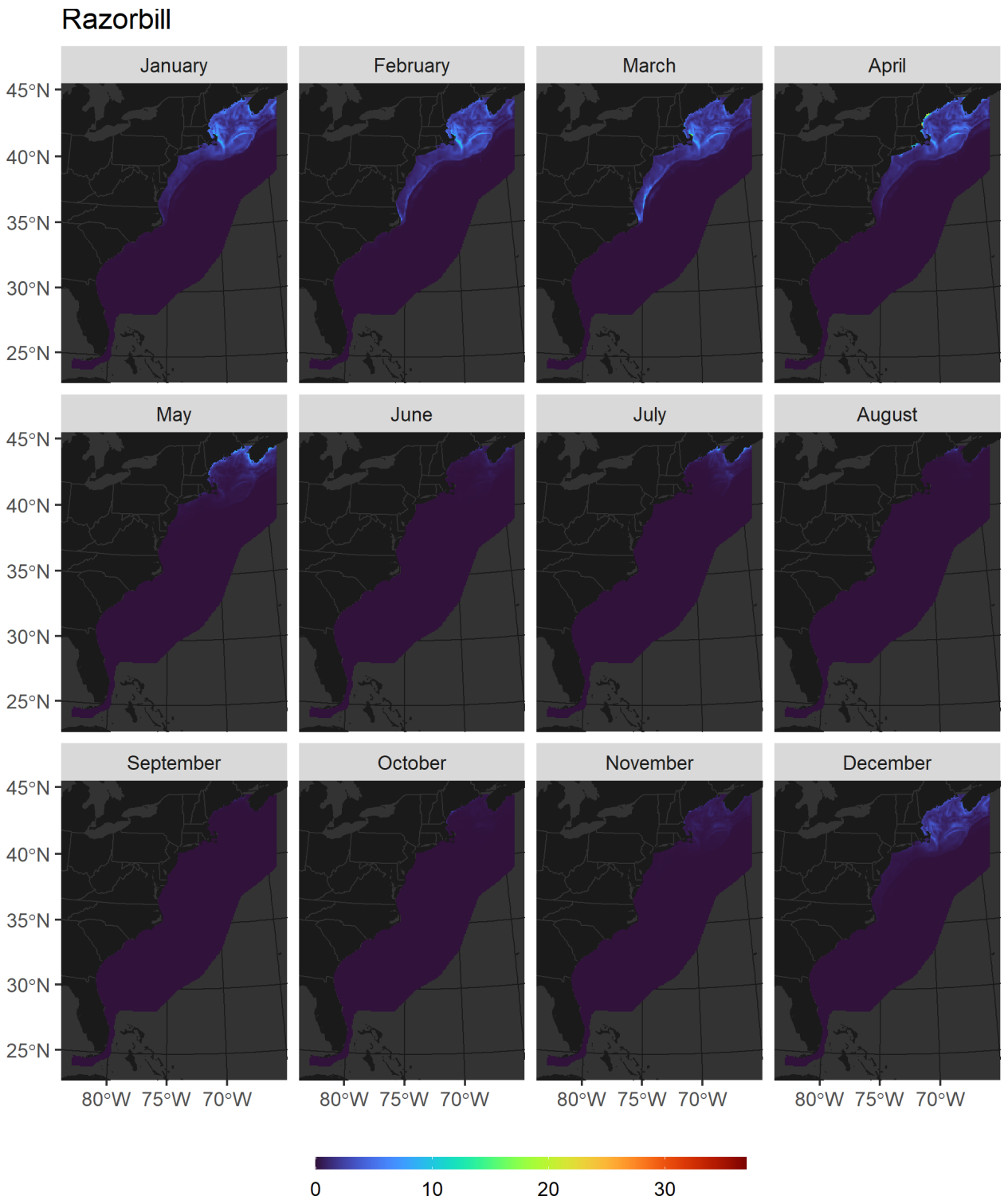


**Figure D-17. Average predicted density of Razorbill by month during the retrospective period (1993–2019)**

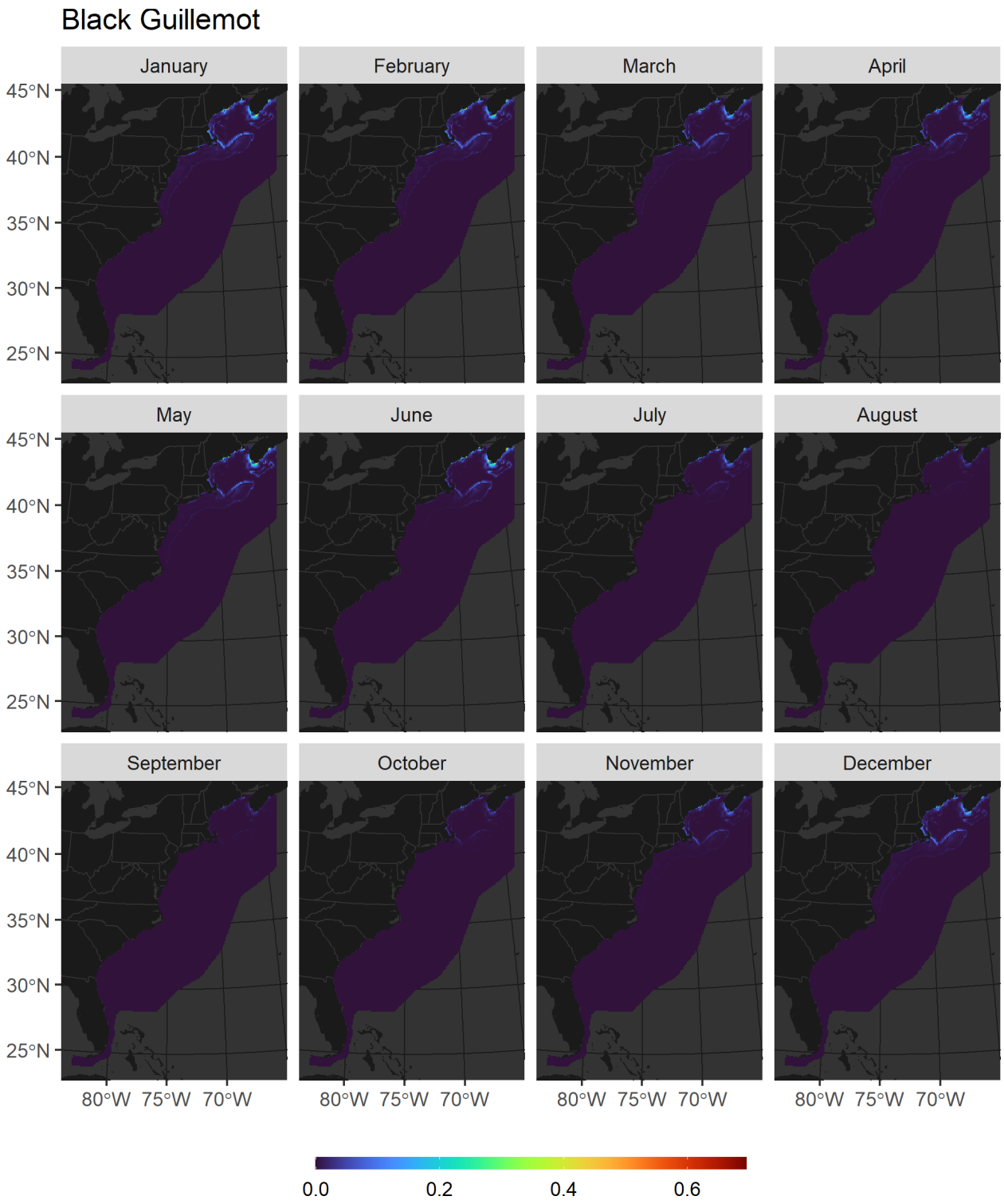


**Figure D-18. Average predicted density of Black Guillemot by month during the retrospective period (1993–2019)**

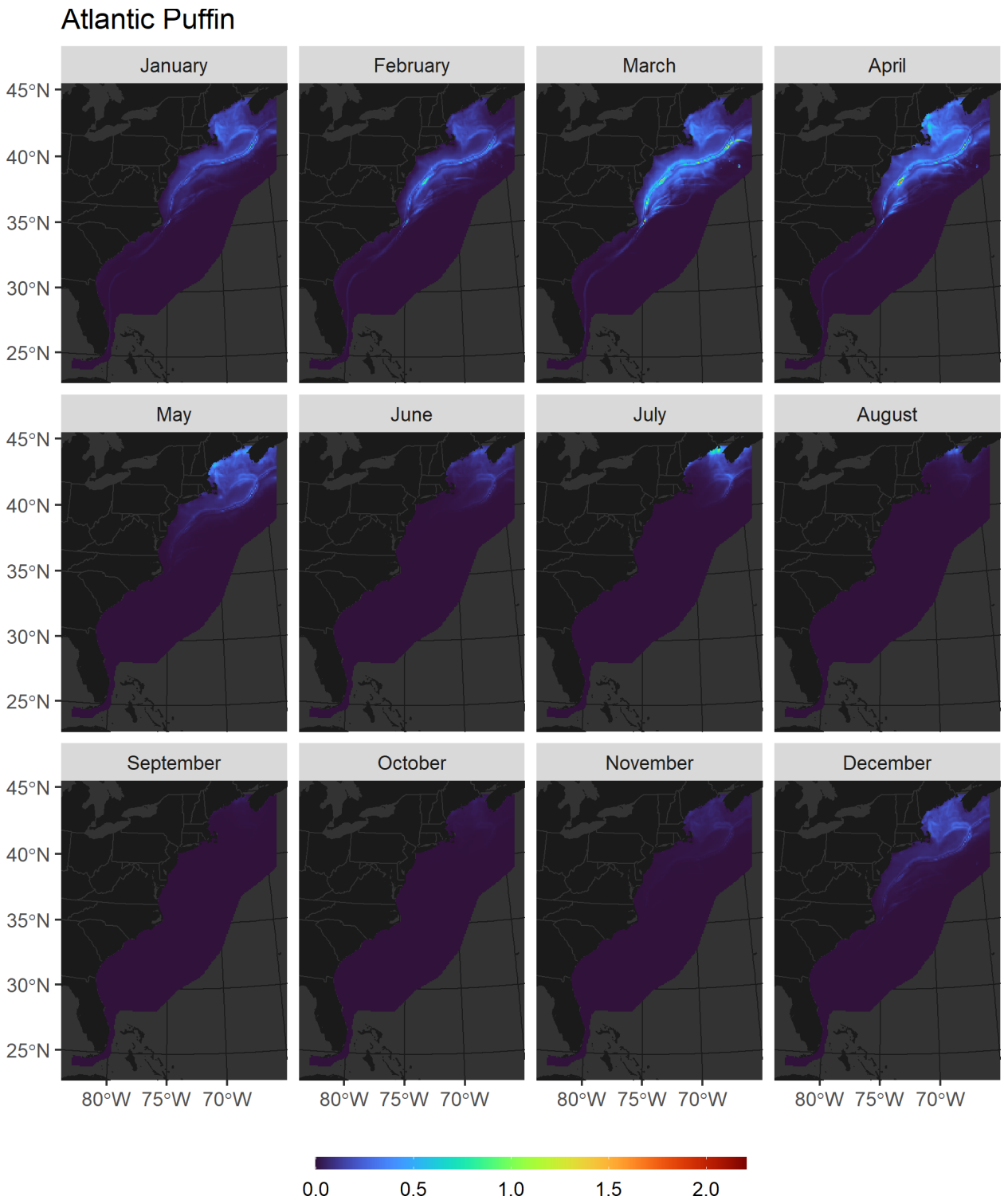


**Figure D-19. Average predicted density of Atlantic Puffin by month during the retrospective period (1993–2019)**

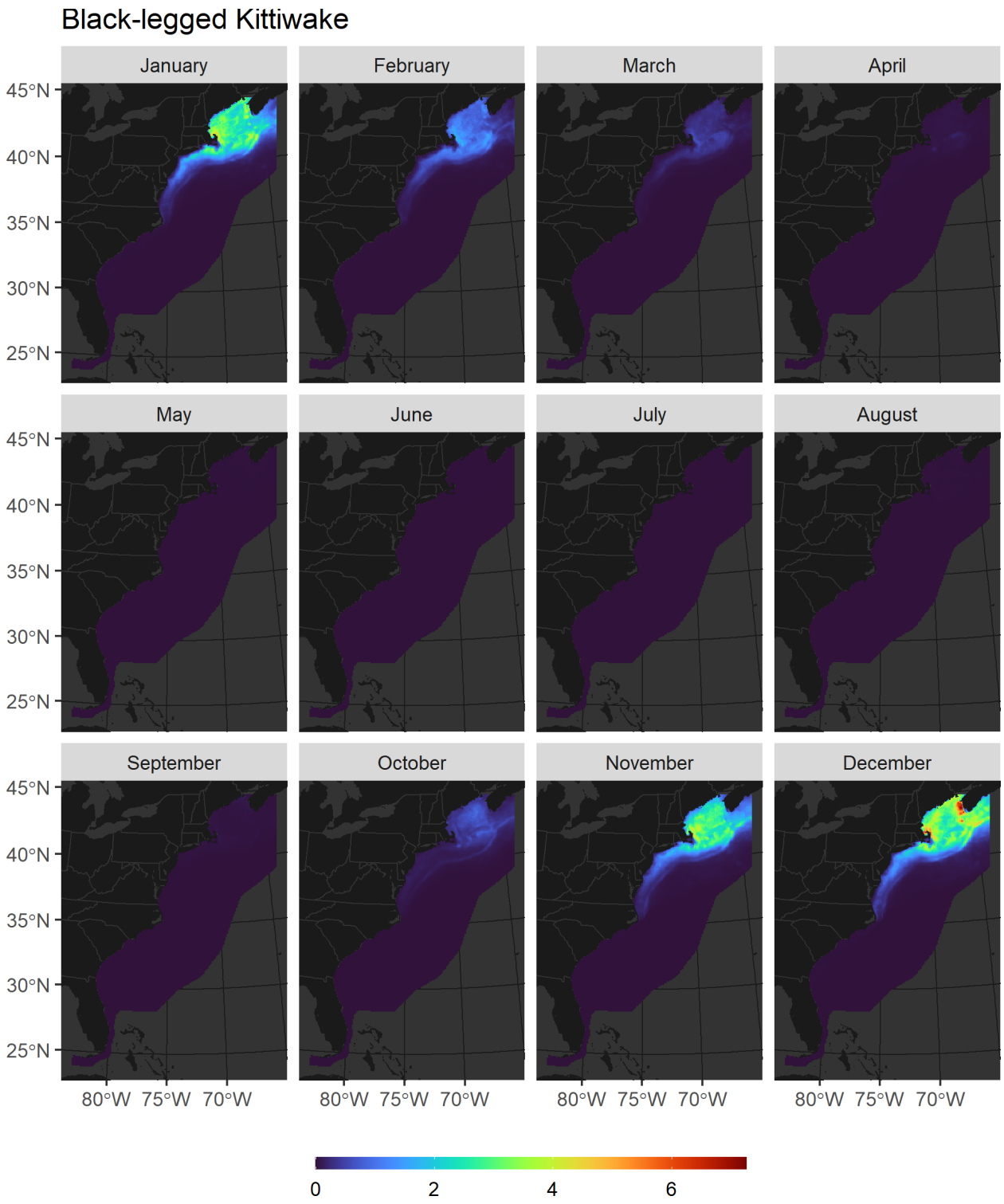


**Figure D-20. Average predicted density of Black-legged Kittiwake by month during the retrospective period (1993–2019)**

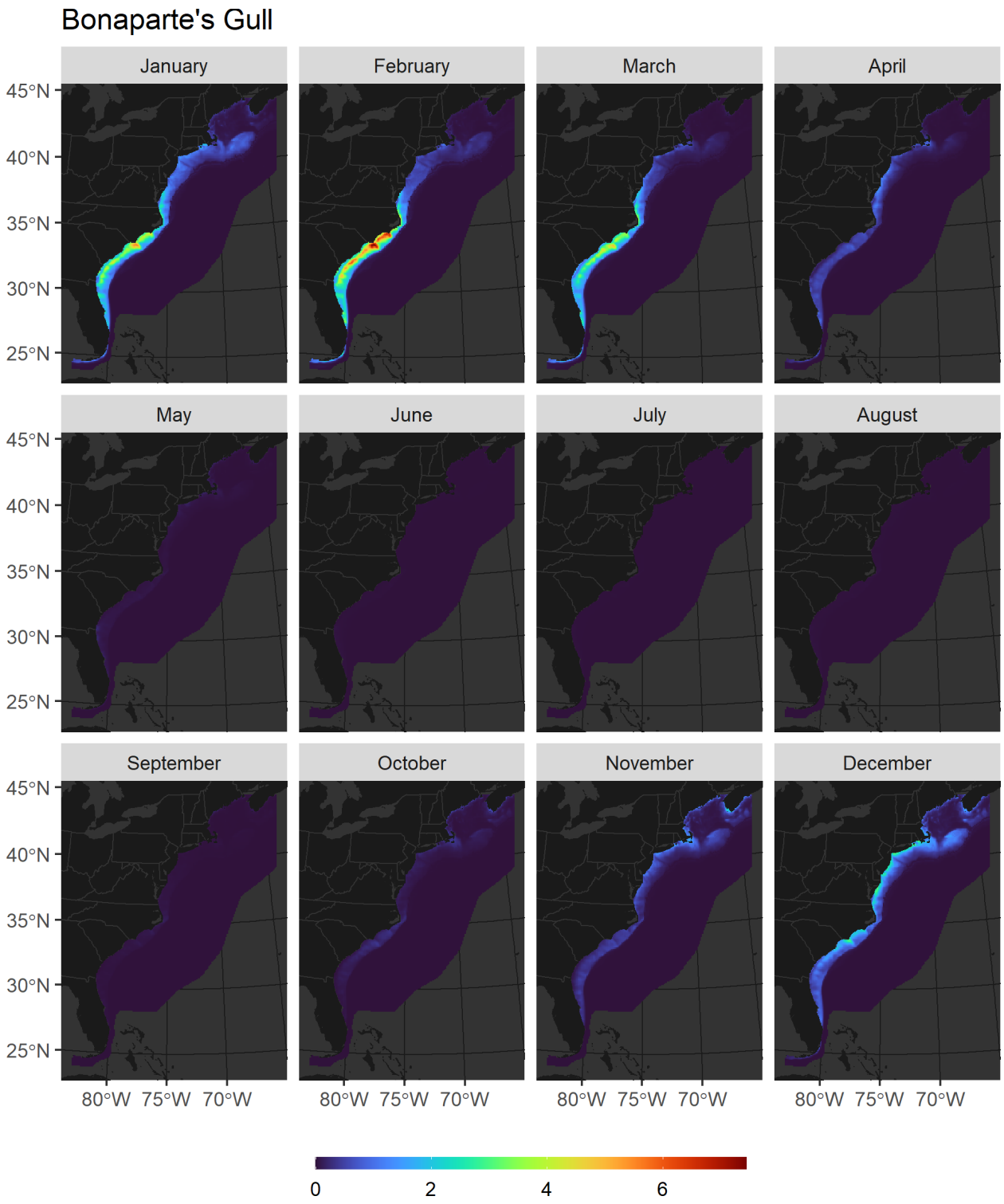


**Figure D-21. Average predicted density of Bonaparte's Gull by month during the retrospective period (1993–2019)**

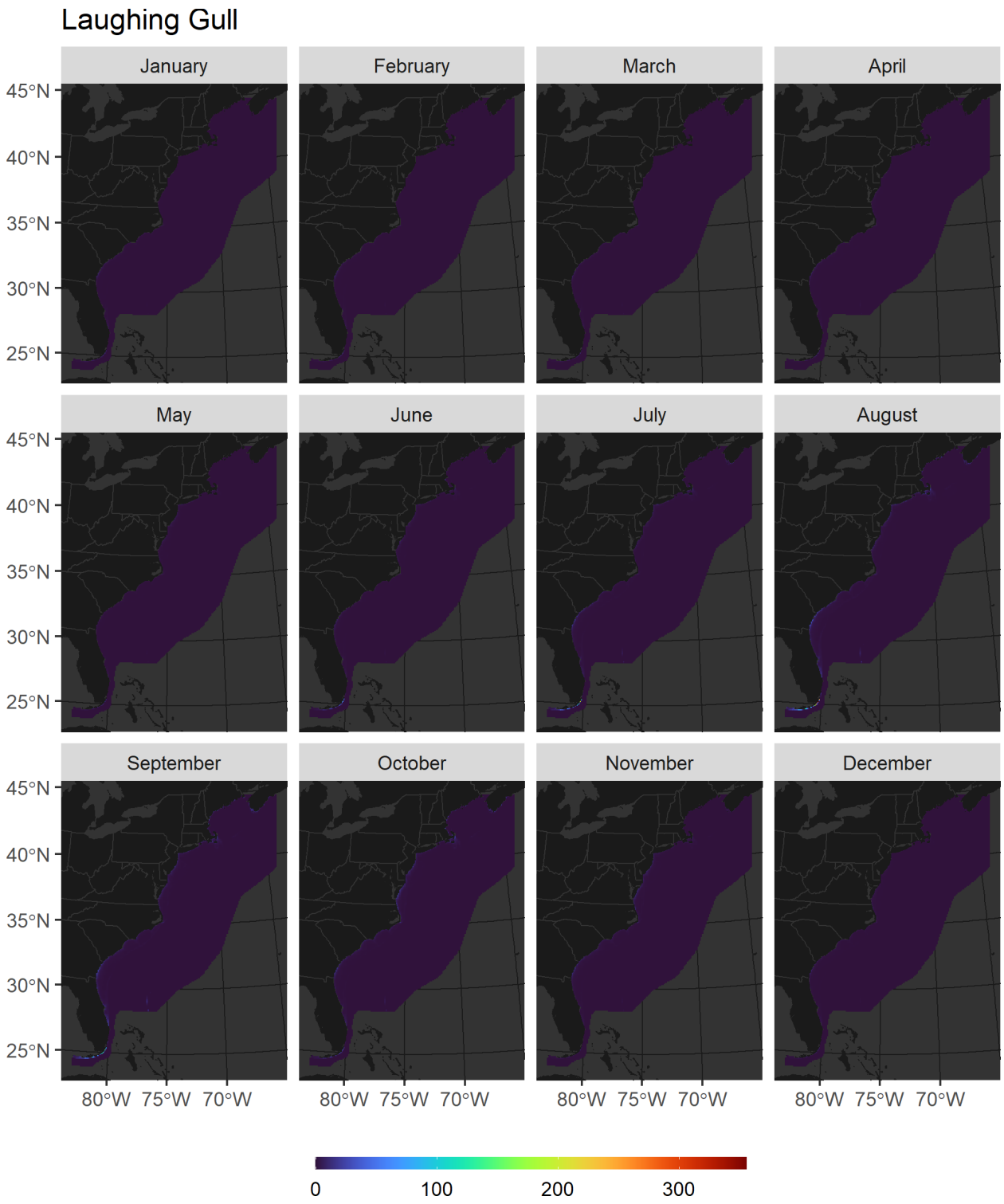


**Figure D-22. Average predicted density of Laughing Gull by month during the retrospective period (1993–2019)**

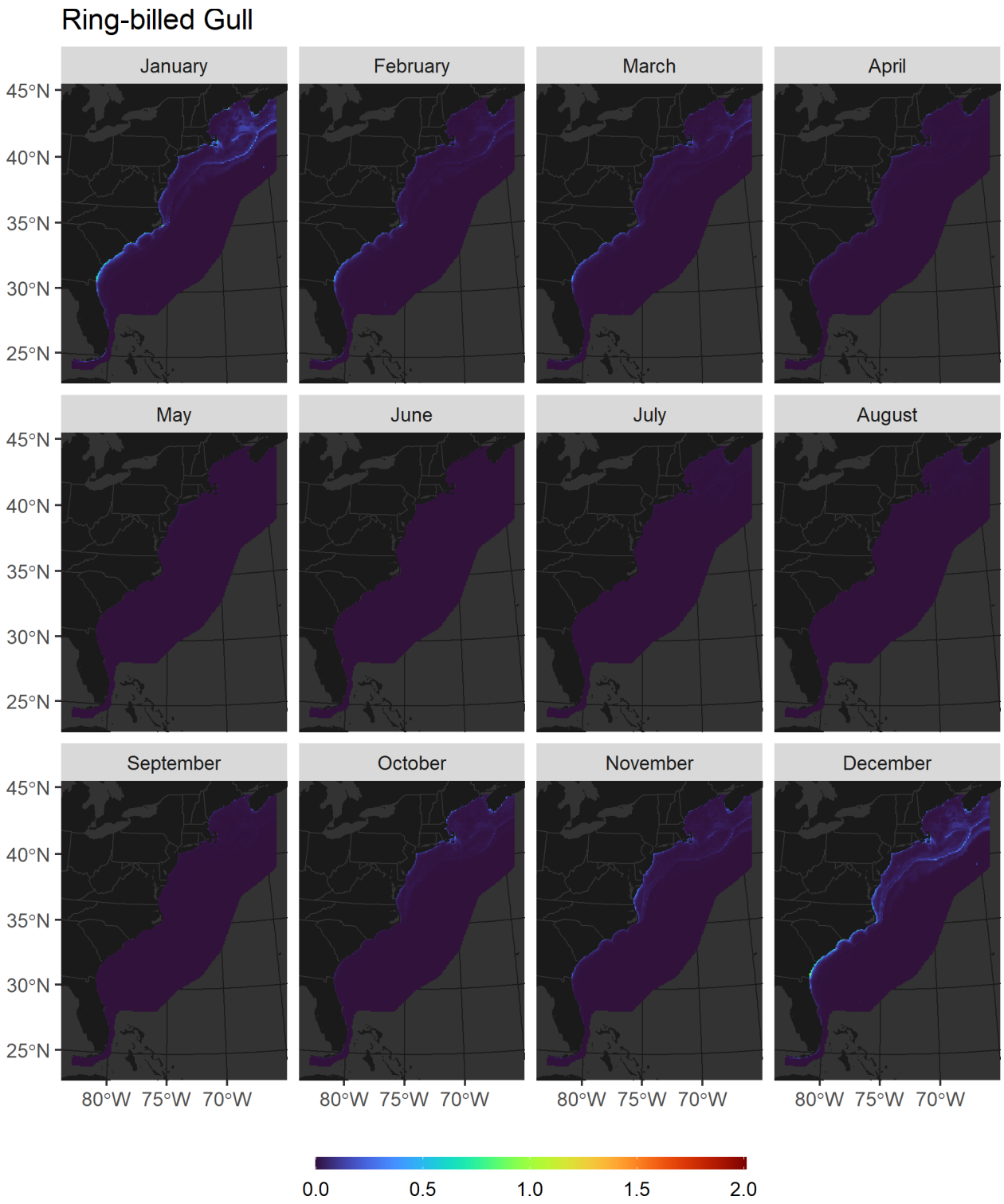


**Figure D-23. Average predicted density of Ring-billed Gull by month during the retrospective period (1993–2019)**

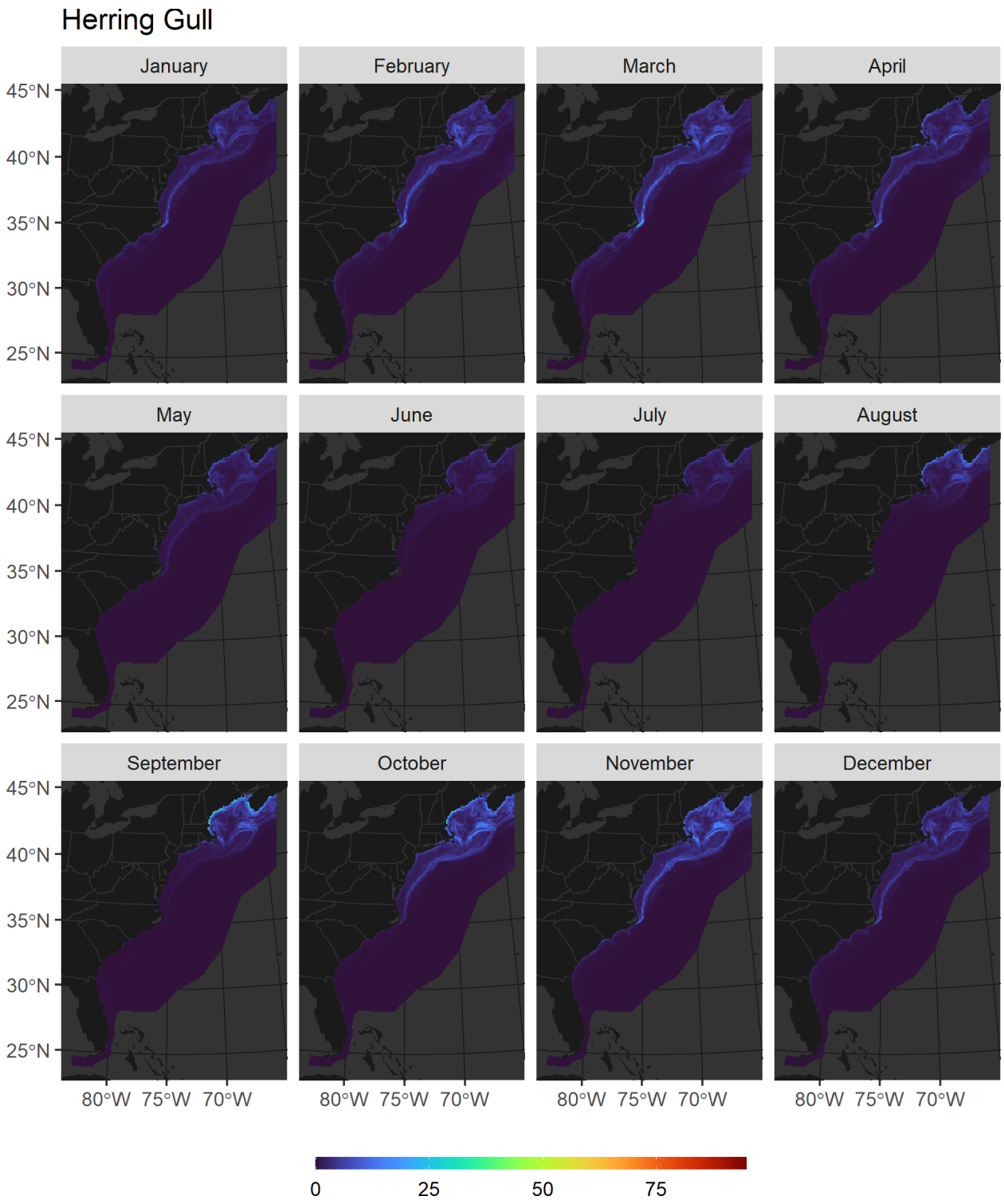


**Figure D-24. Average predicted density of Herring Gull by month during the retrospective period (1993–2019)**

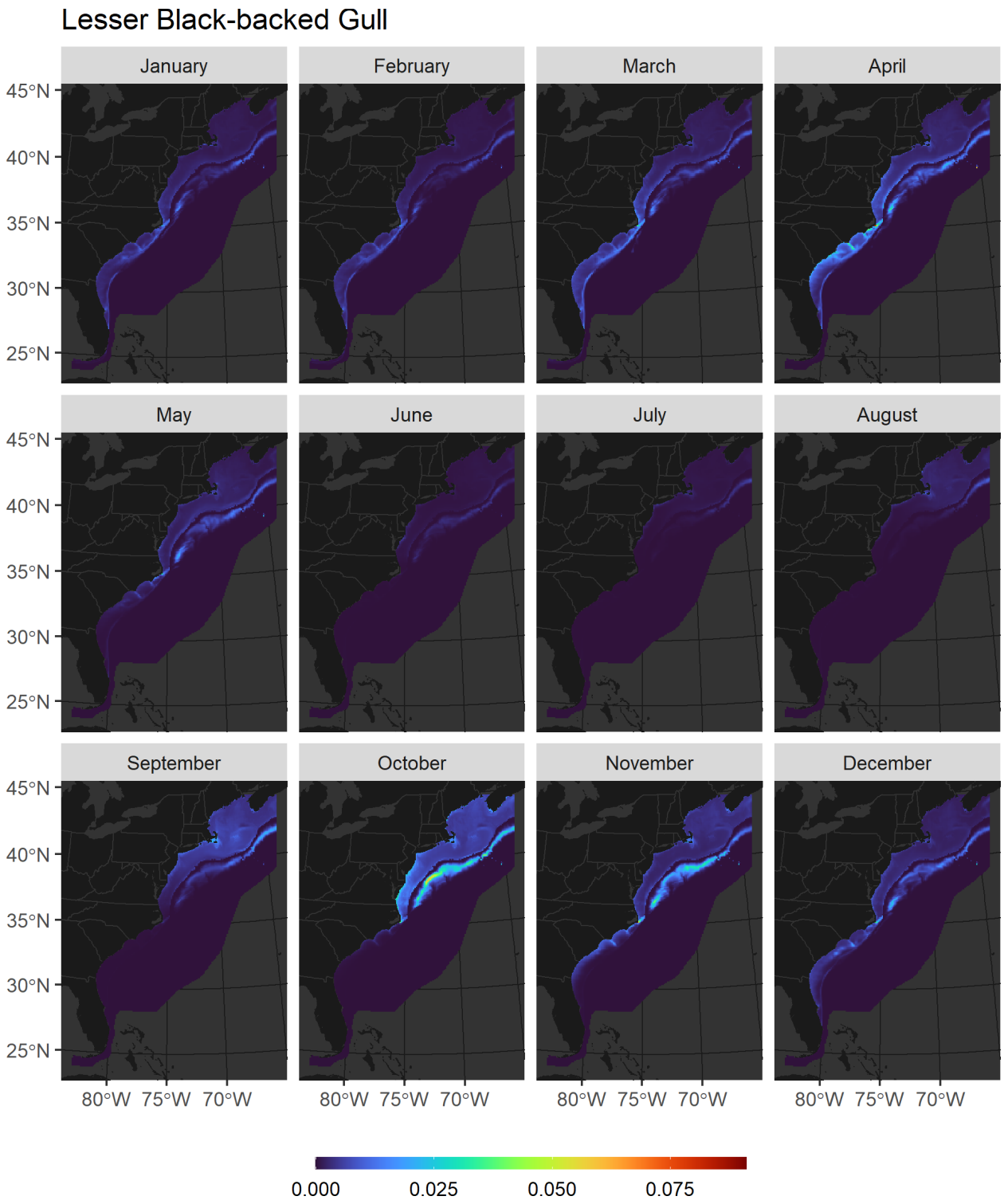


**Figure D-25. Average predicted density of Lesser Black-backed Gull by month during the retrospective period (1993–2019)**

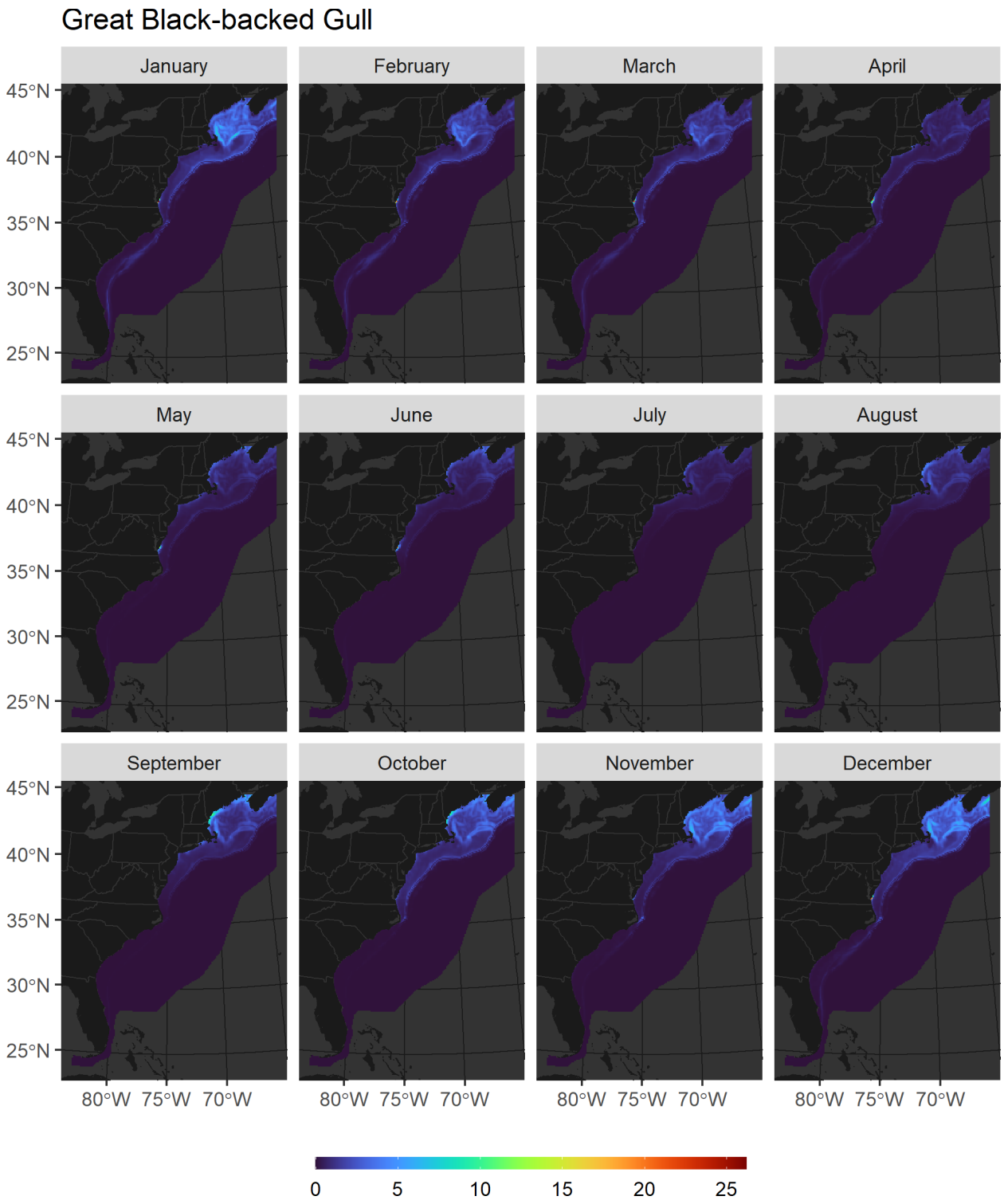


**Figure D-26. Average predicted density of Great Black-backed Gull by month during the retrospective period (1993–2019)**

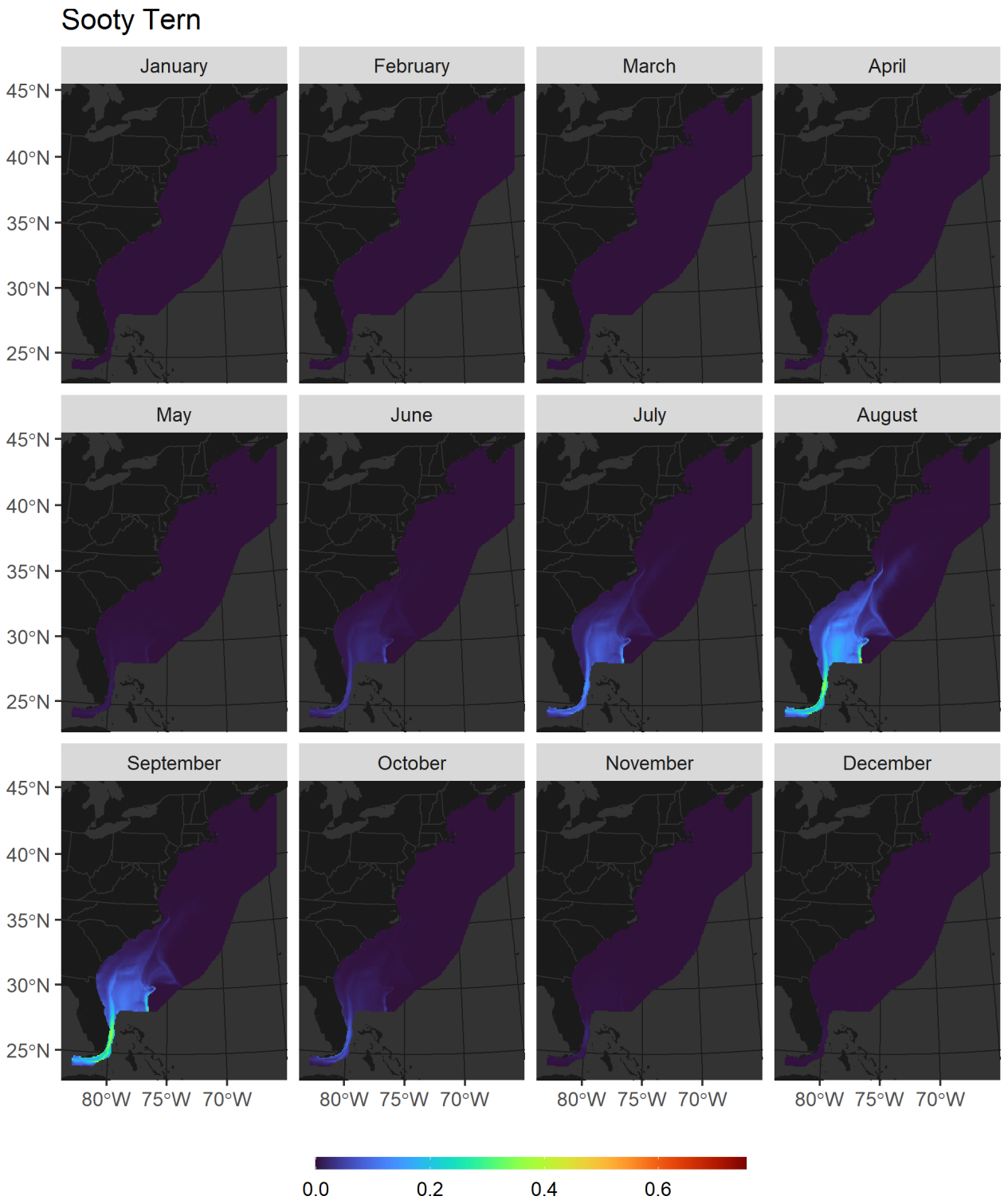


**Figure D-27. Average predicted density of Sooty Tern by month during the retrospective period (1993–2019)**

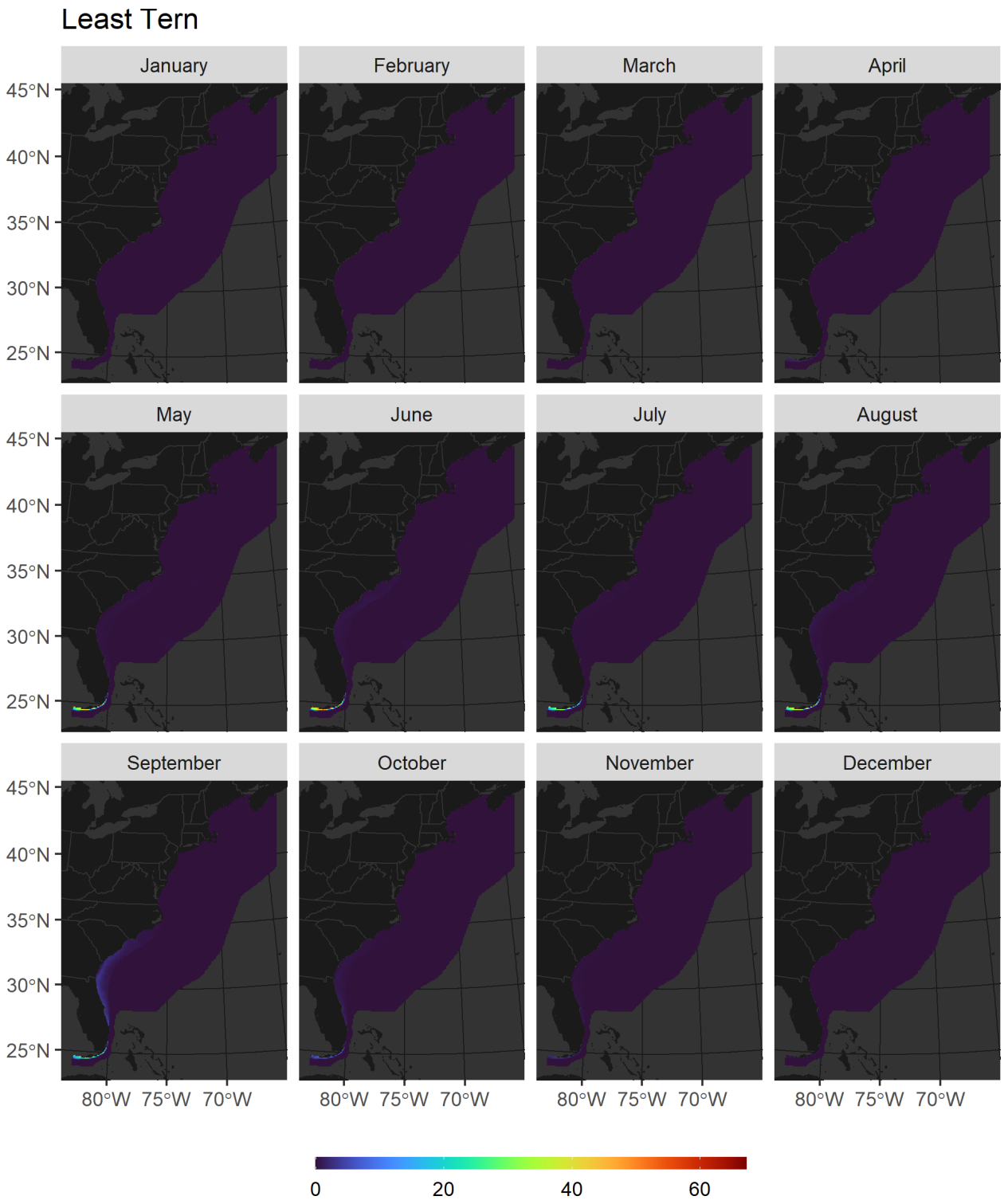


**Figure D-28. Average predicted density of Least Tern by month during the retrospective period (1993–2019)**

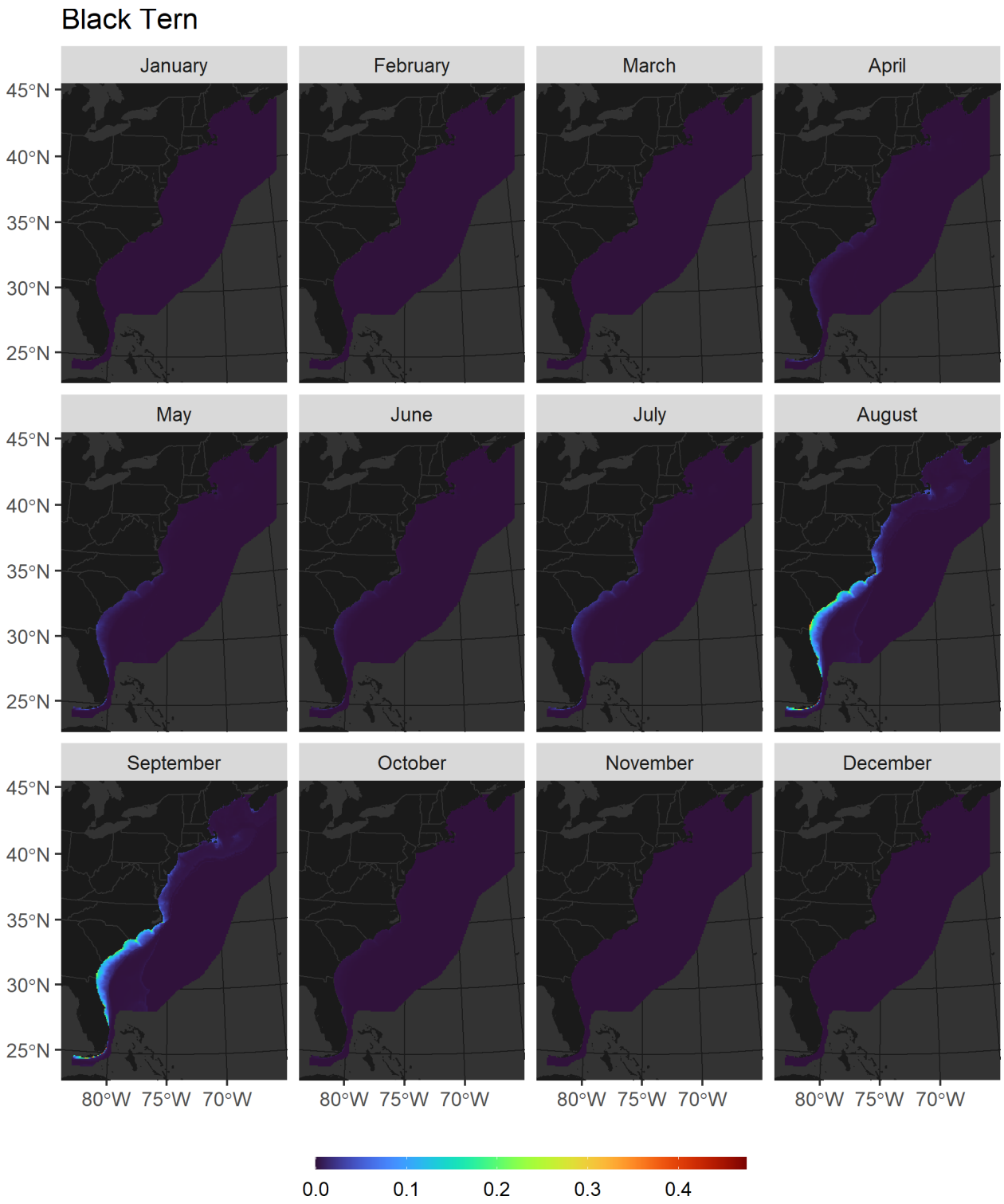


**Figure D-29. Average predicted density of Black Tern by month during the retrospective period (1993–2019)**

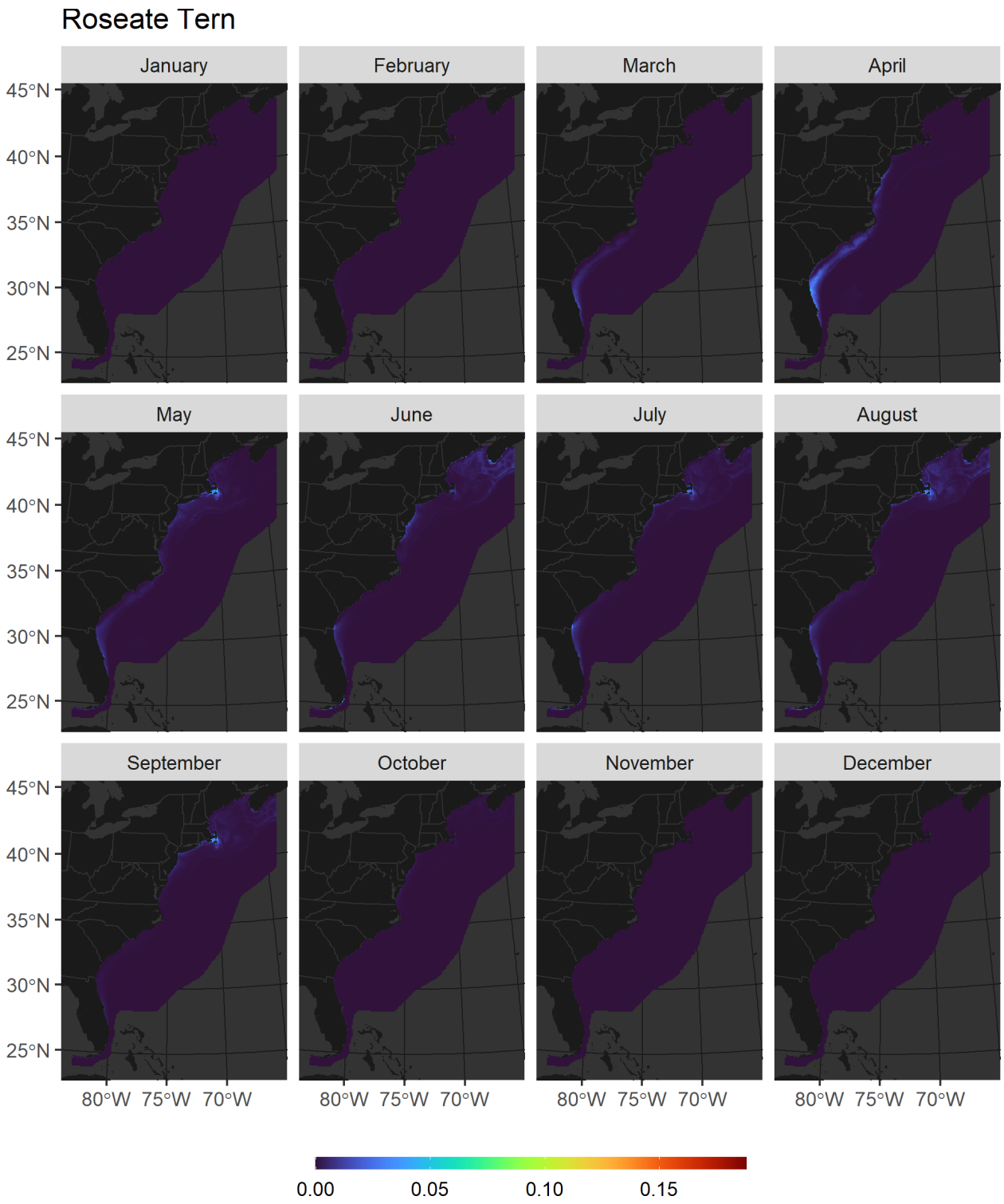


**Figure D-30. Average predicted density of Roseate Tern by month during the retrospective period (1993–2019)**

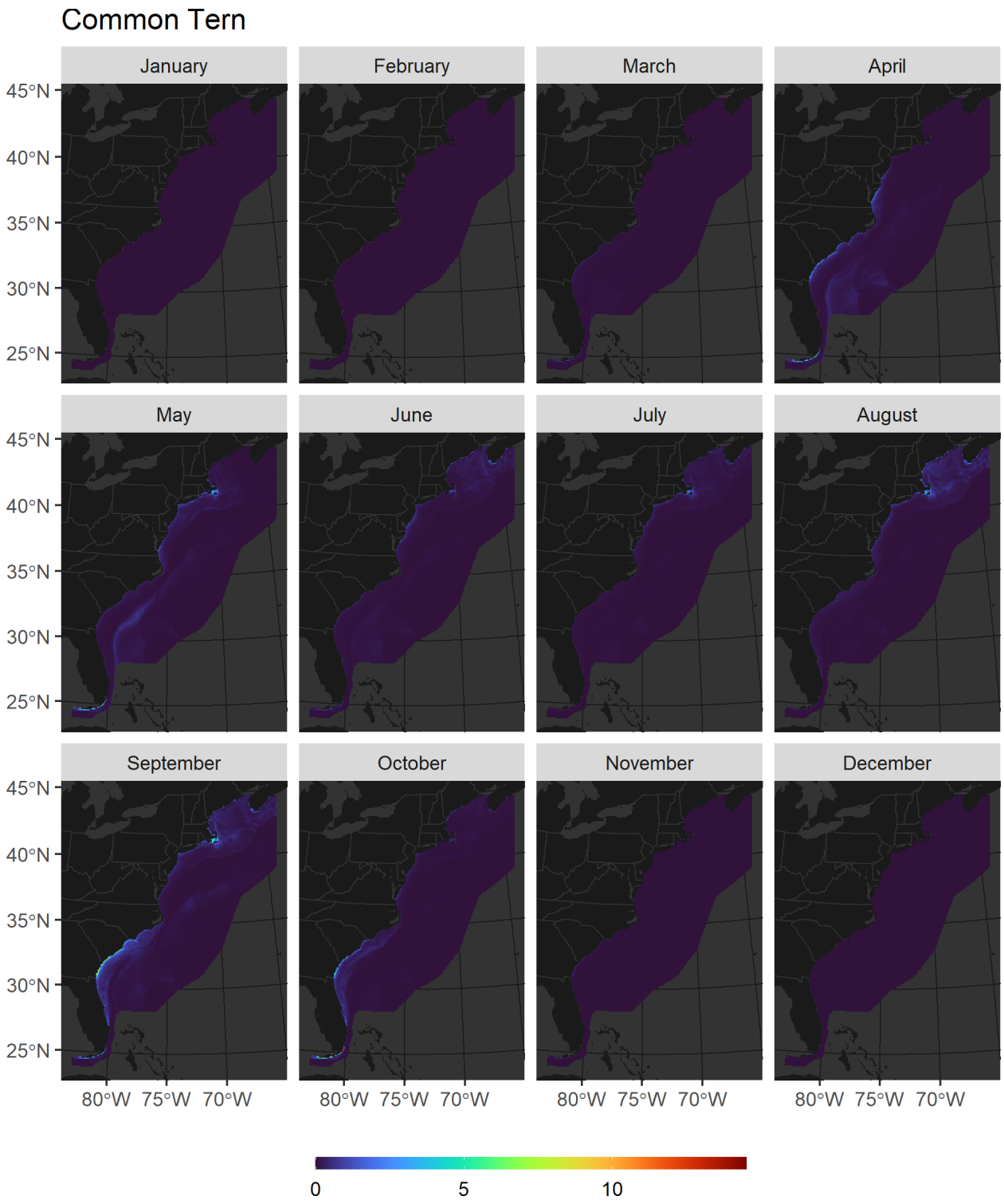


**Figure D-31. Average predicted density of Common Tern by month during the retrospective period (1993–2019)**

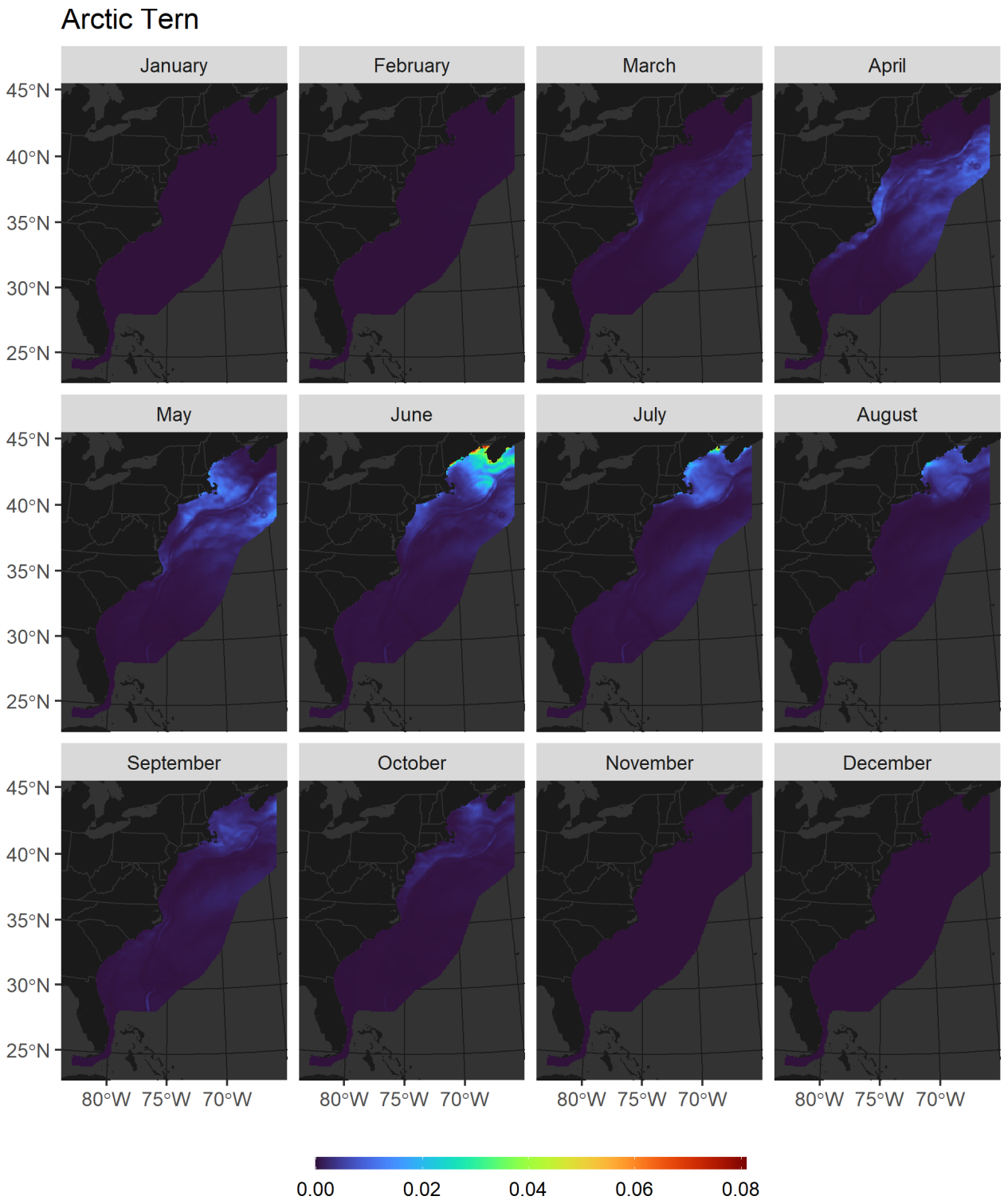


**Figure D-32. Average predicted density of Arctic Tern by month during the retrospective period (1993–2019)**

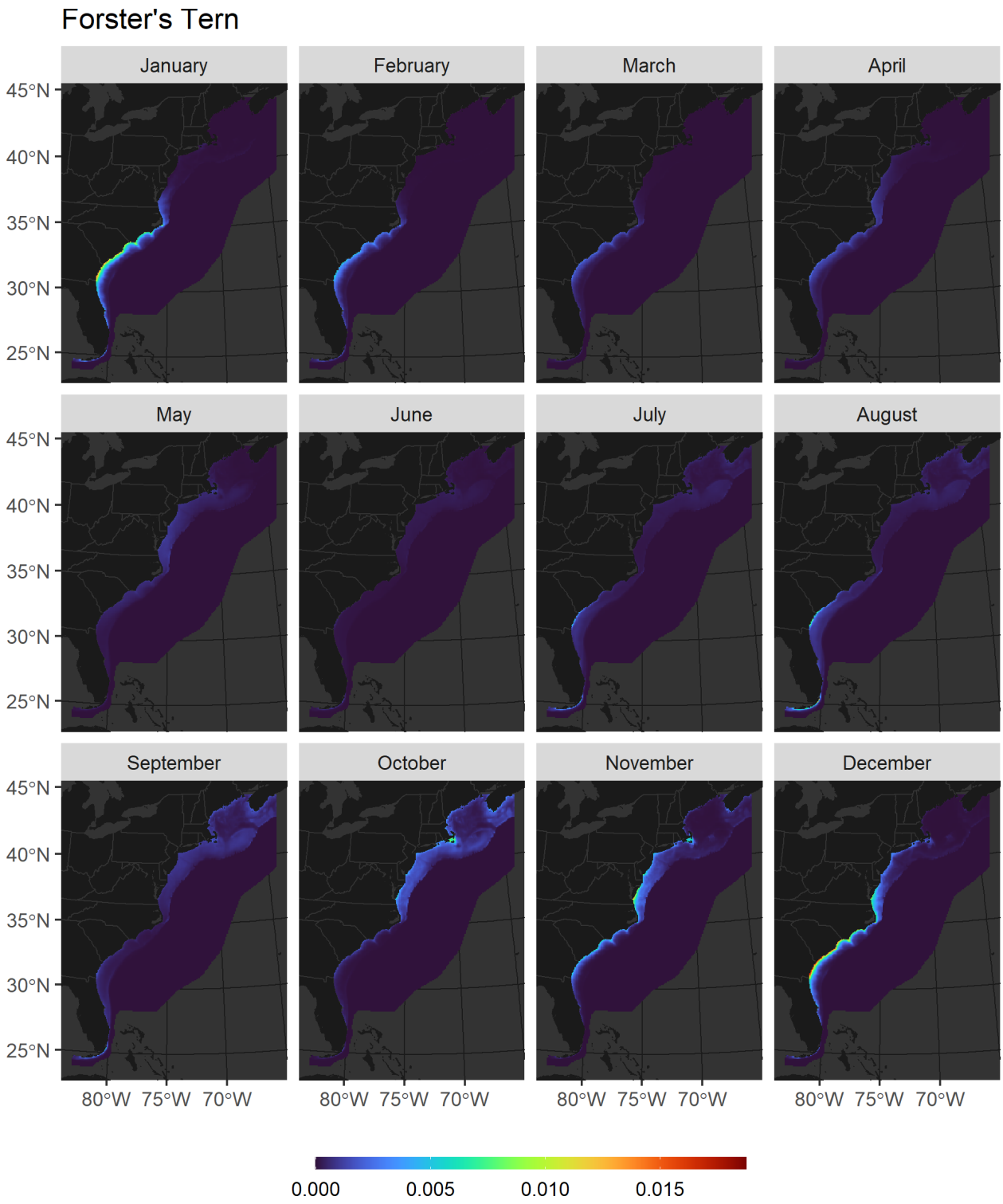


**Figure D-33. Average predicted density of Forster's Tern by month during the retrospective period (1993–2019)**

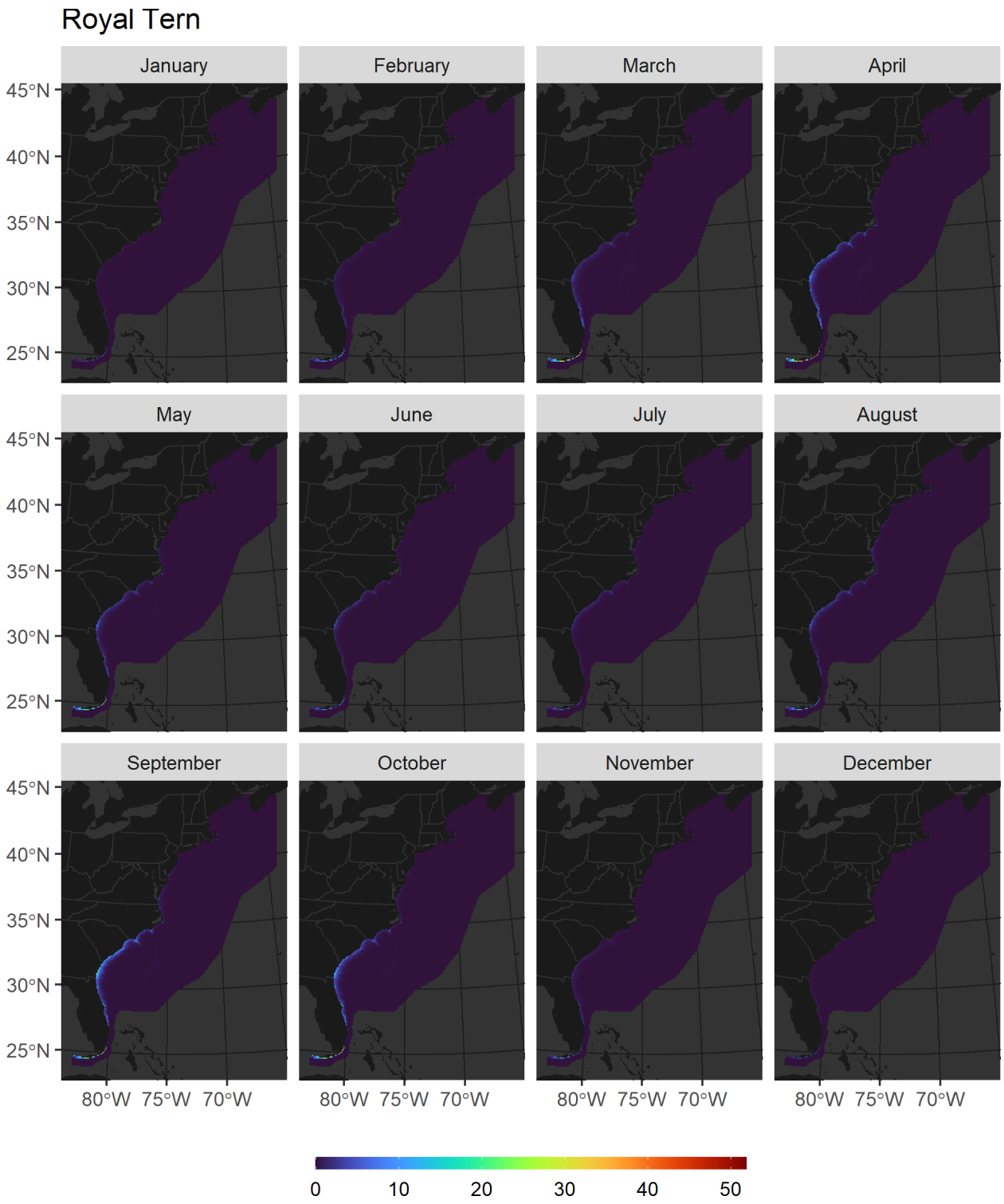


**Figure D-34. Average predicted density of Royal Tern by month during the retrospective period (1993–2019)**

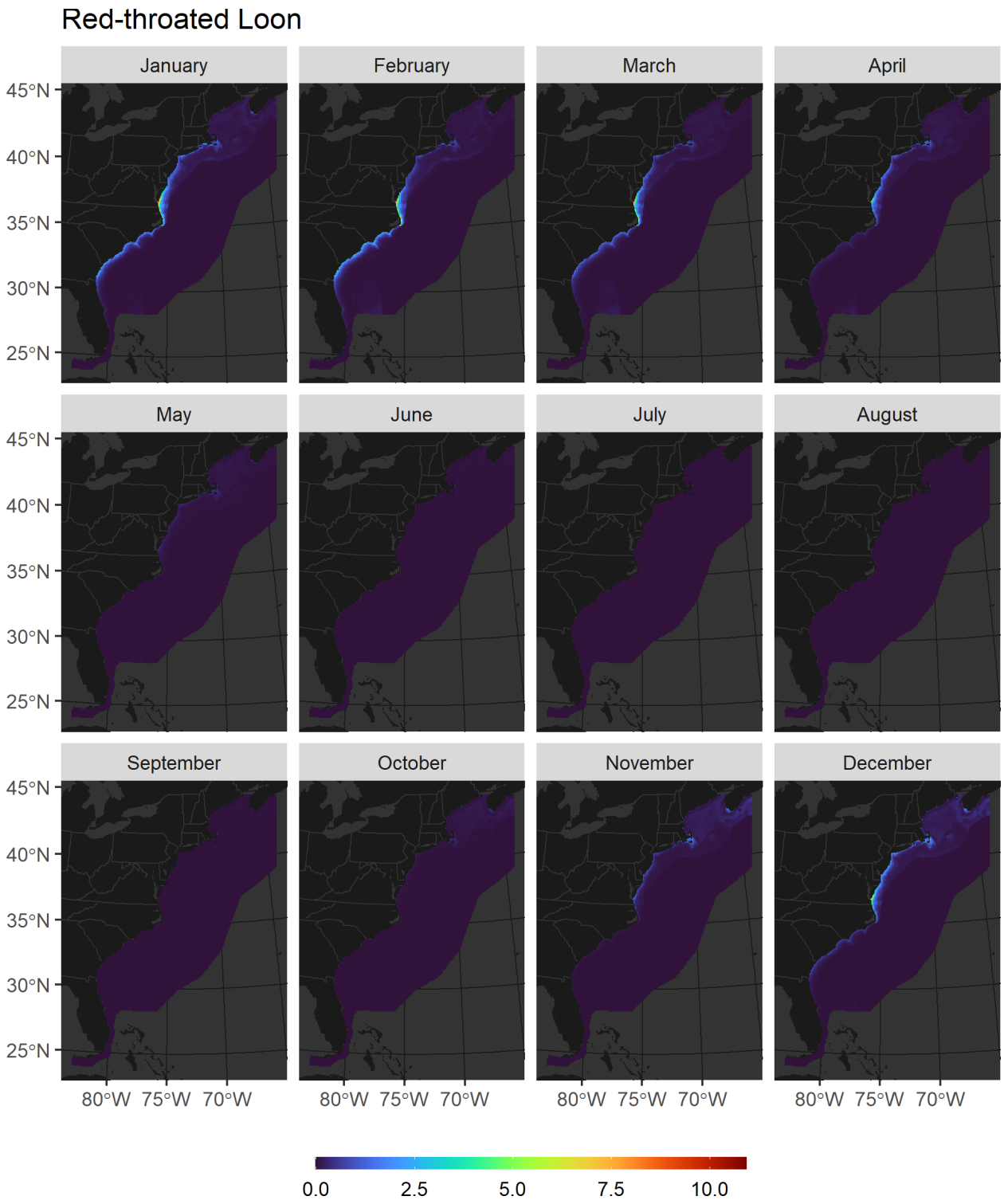


**Figure D-35. Average predicted density of Red-throated Loon by month during the retrospective period (1993–2019)**

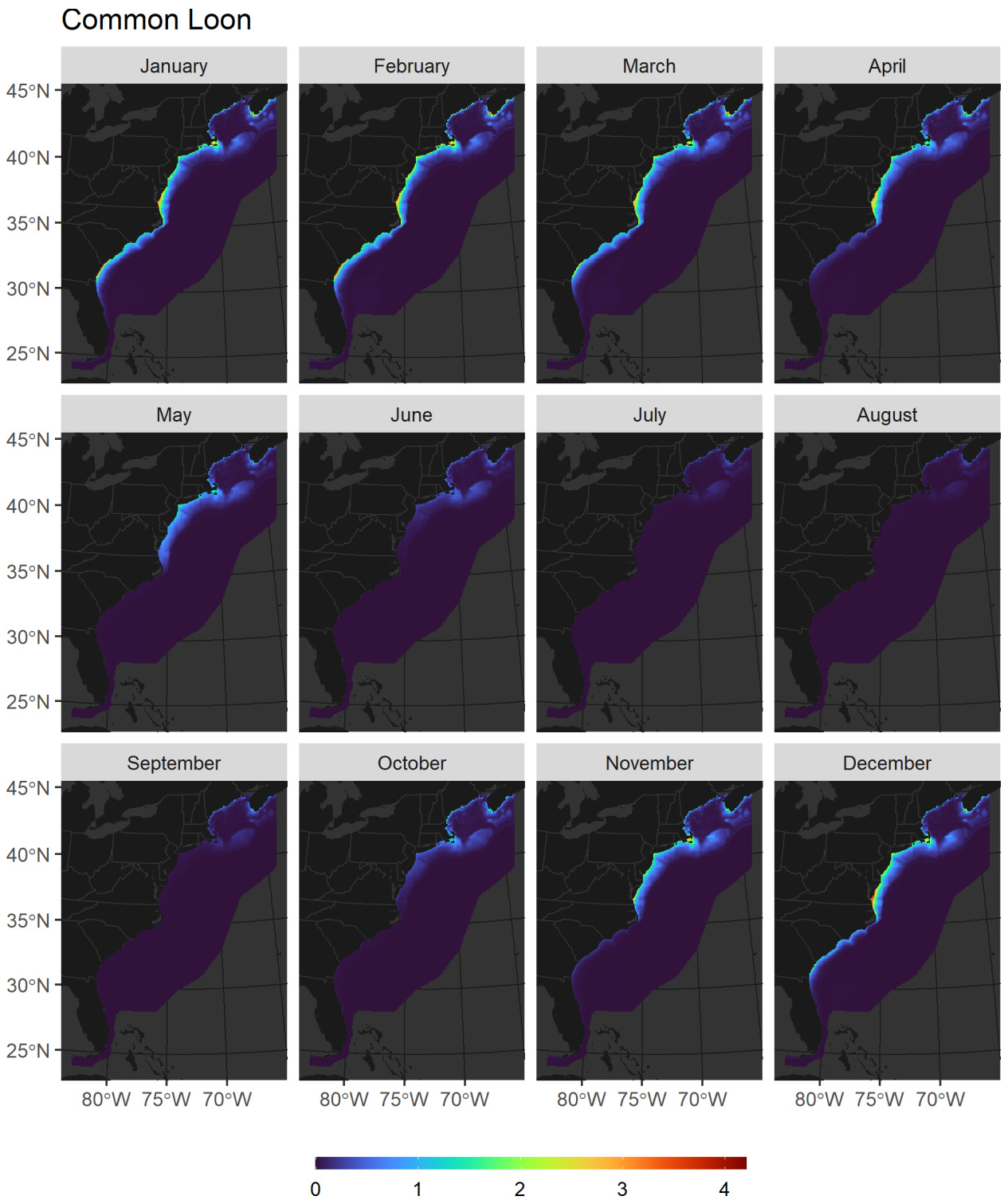


**Figure D-36. Average predicted density of Common Loon by month during the retrospective period (1993–2019)**

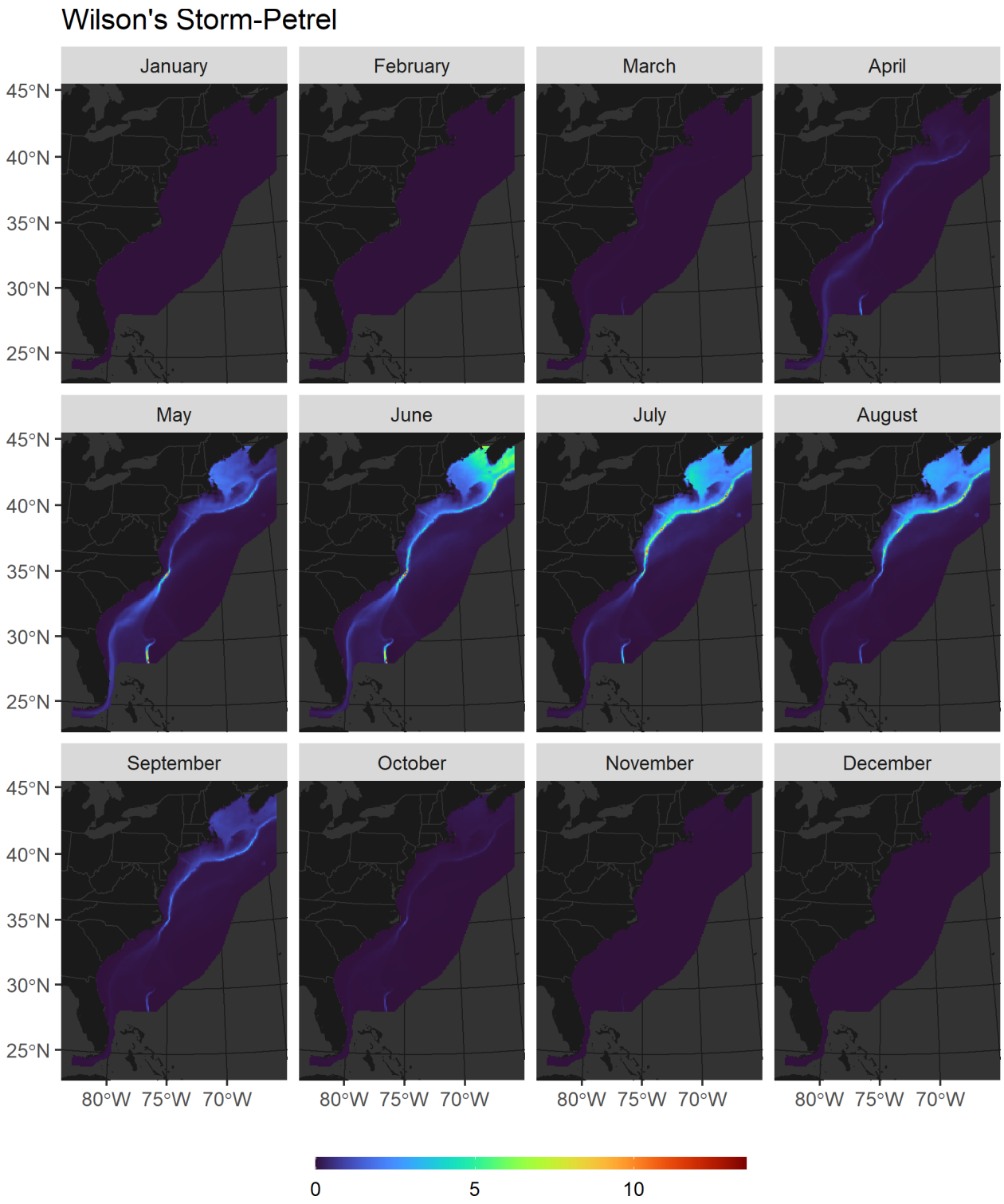


**Figure D-37. Average predicted density of Wilson's Storm-Petrel by month during the retrospective period (1993–2019)**

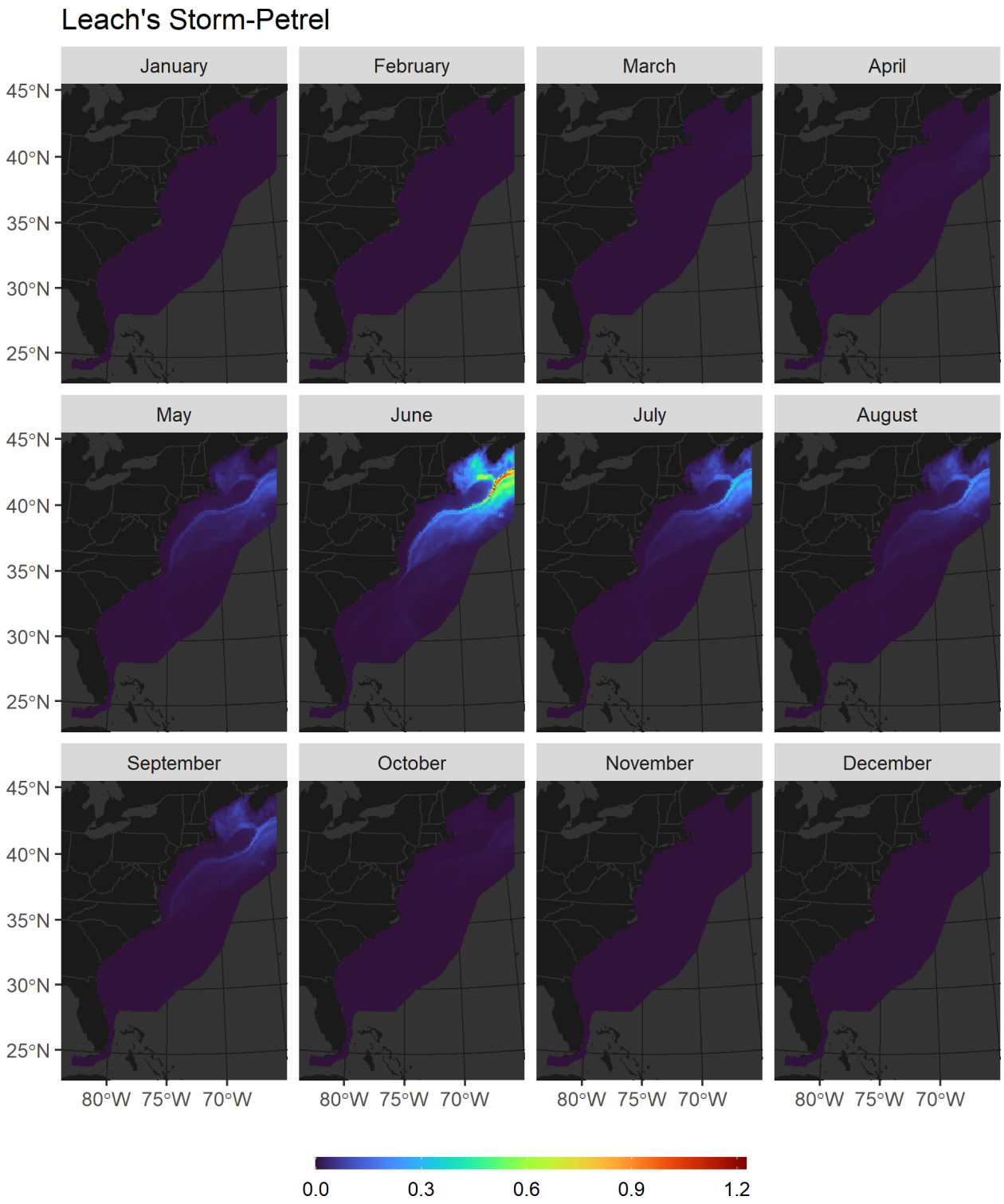


**Figure D-38. Average predicted density of Leach's Storm-Petrel by month during the retrospective period (1993–2019)**

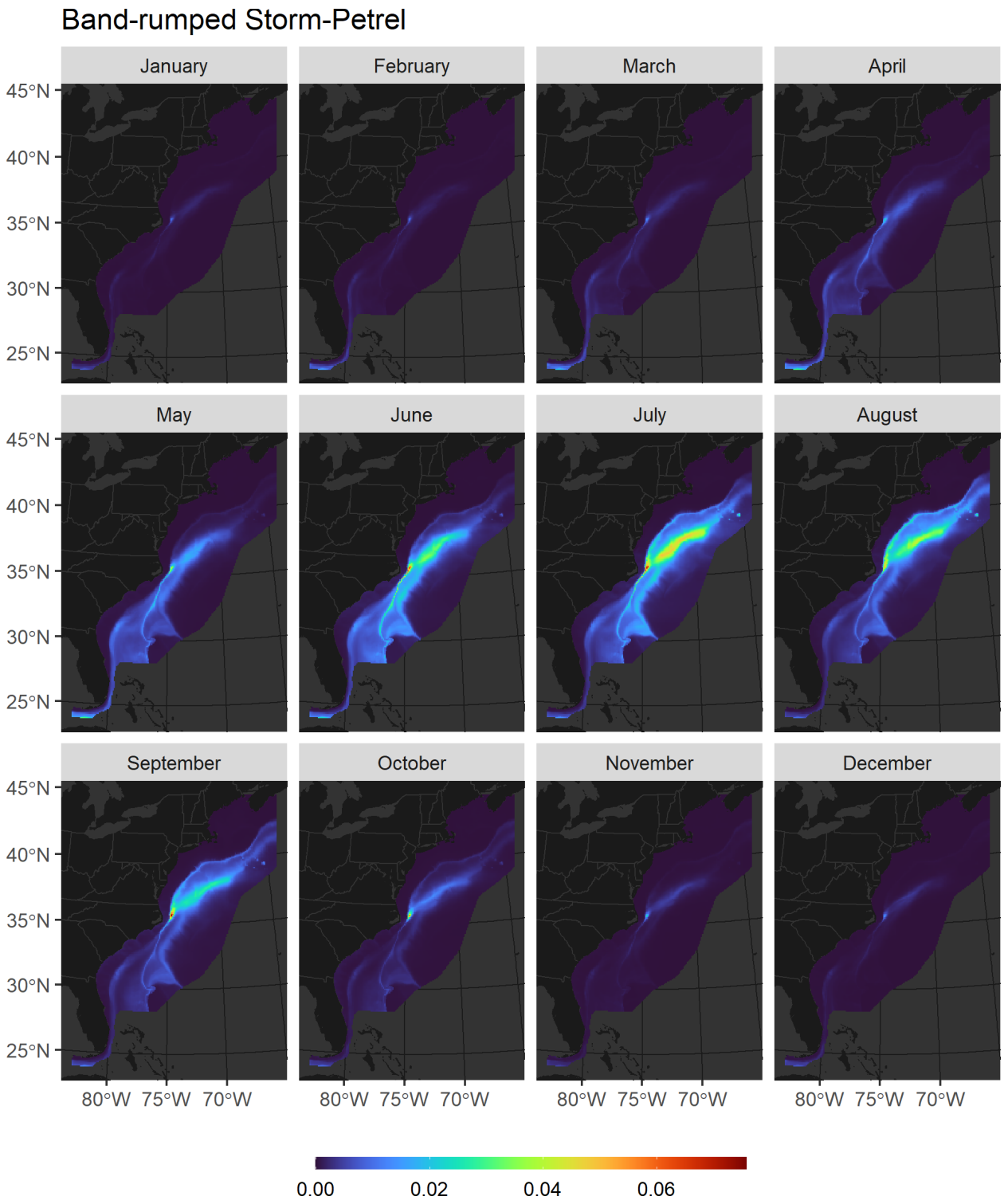


**Figure D-39. Average predicted density of Band-rumped Storm-Petrel by month during the retrospective period (1993–2019)**

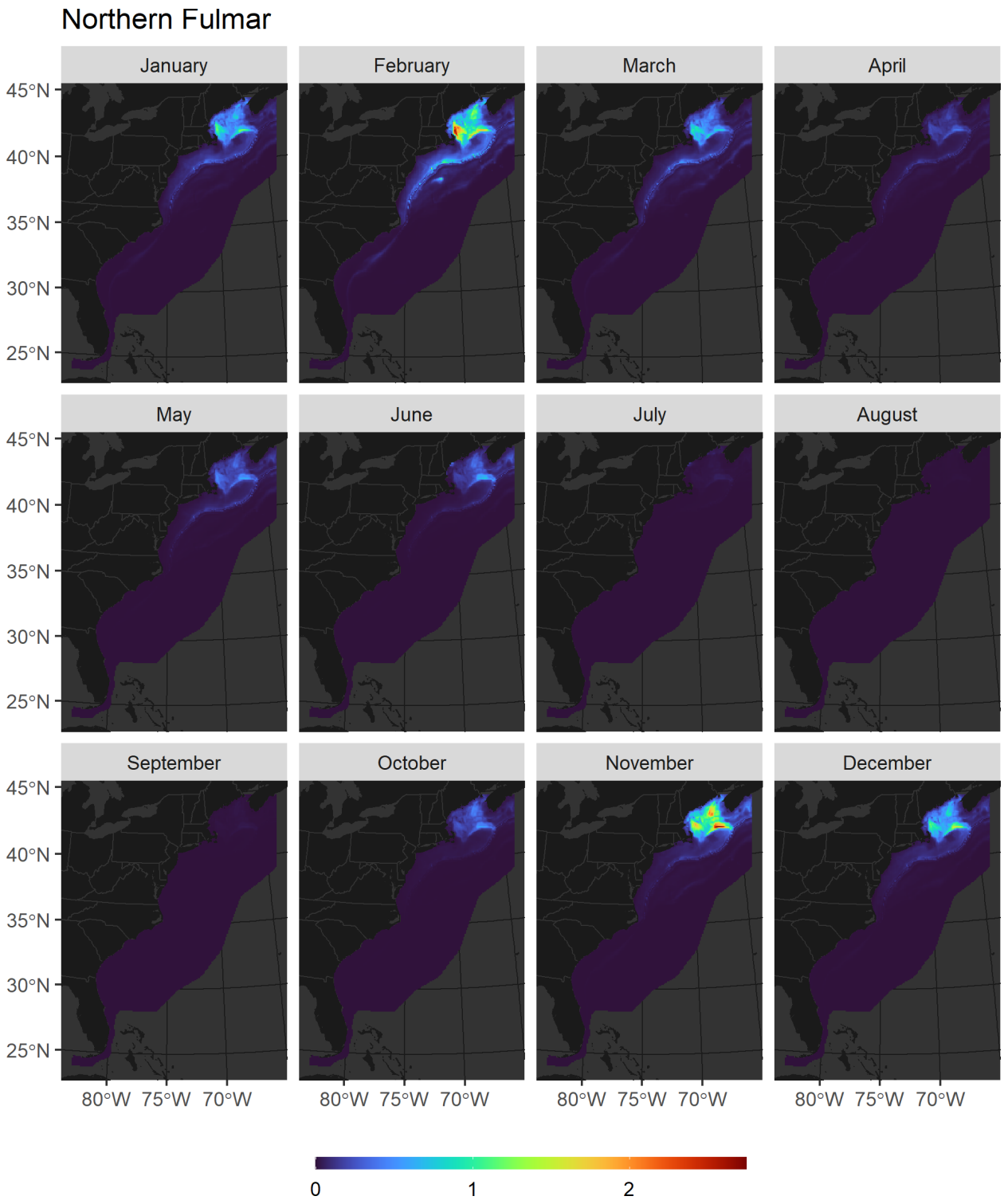


**Figure D-40. Average predicted density of Northern Fulmar by month during the retrospective period (1993–2019)**

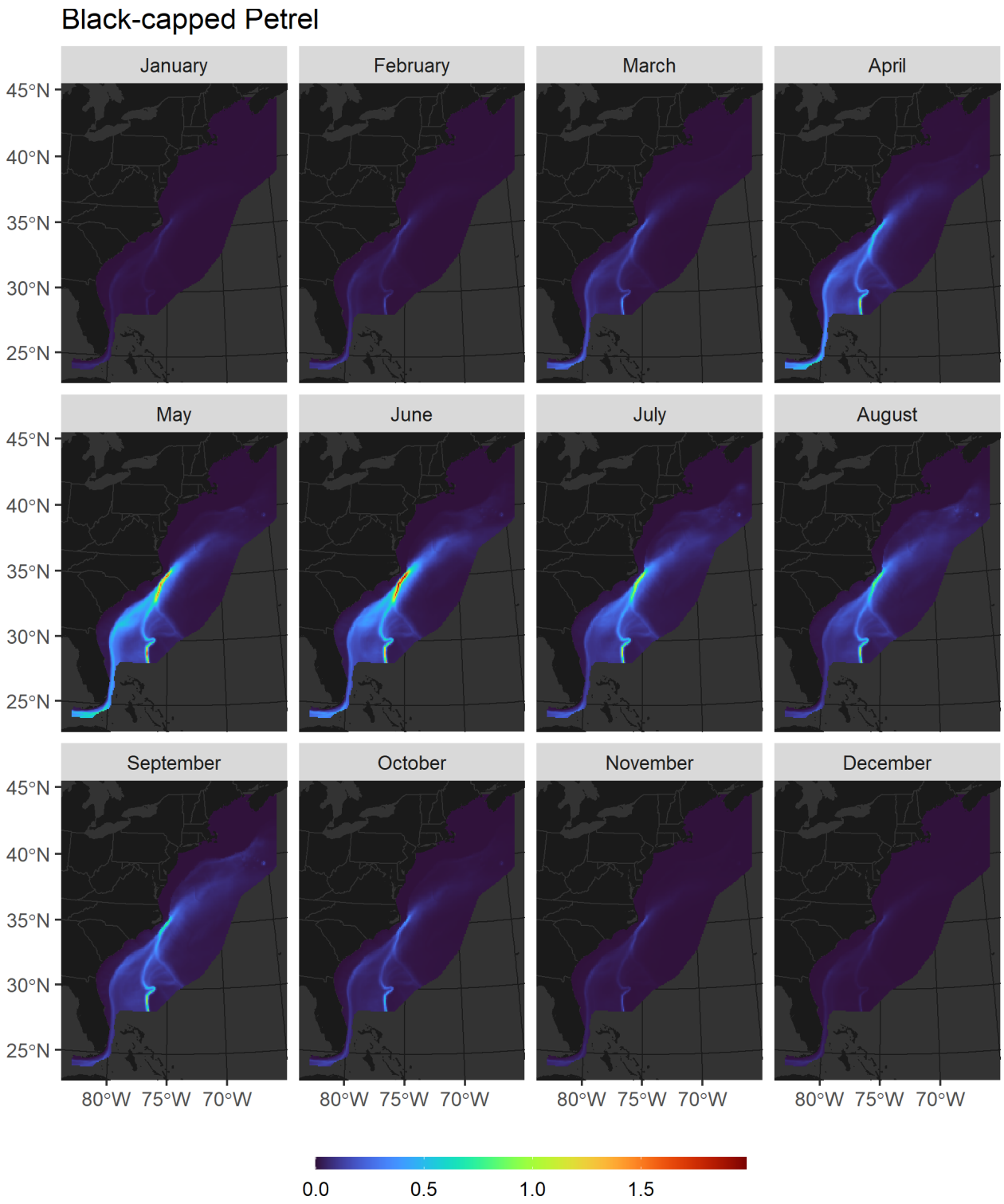


**Figure D-41. Average predicted density of Black-capped Petrel by month during the retrospective period (1993–2019)**

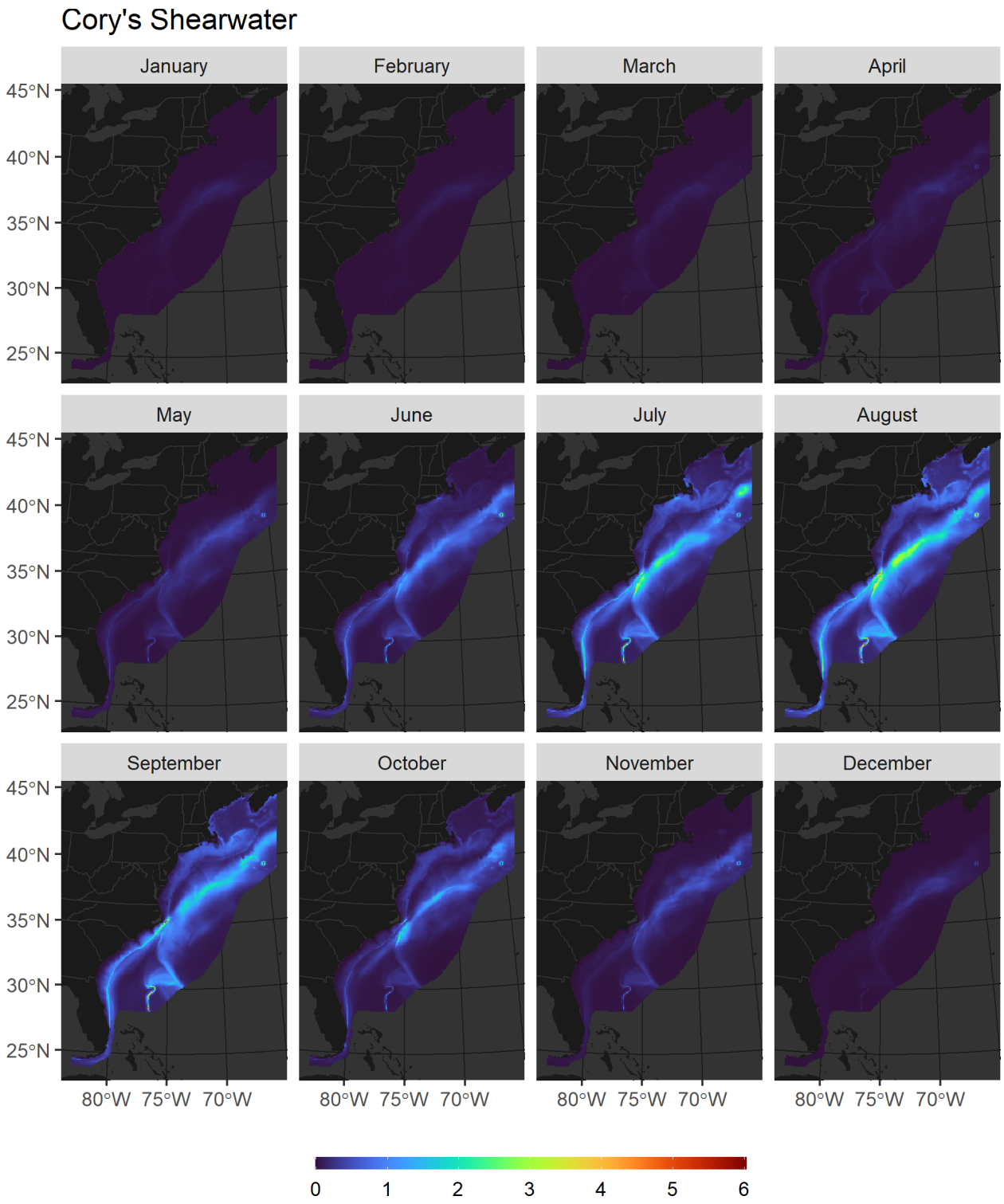


**Figure D-42. Average predicted density of Cory's Shearwater by month during the retrospective period (1993–2019)**

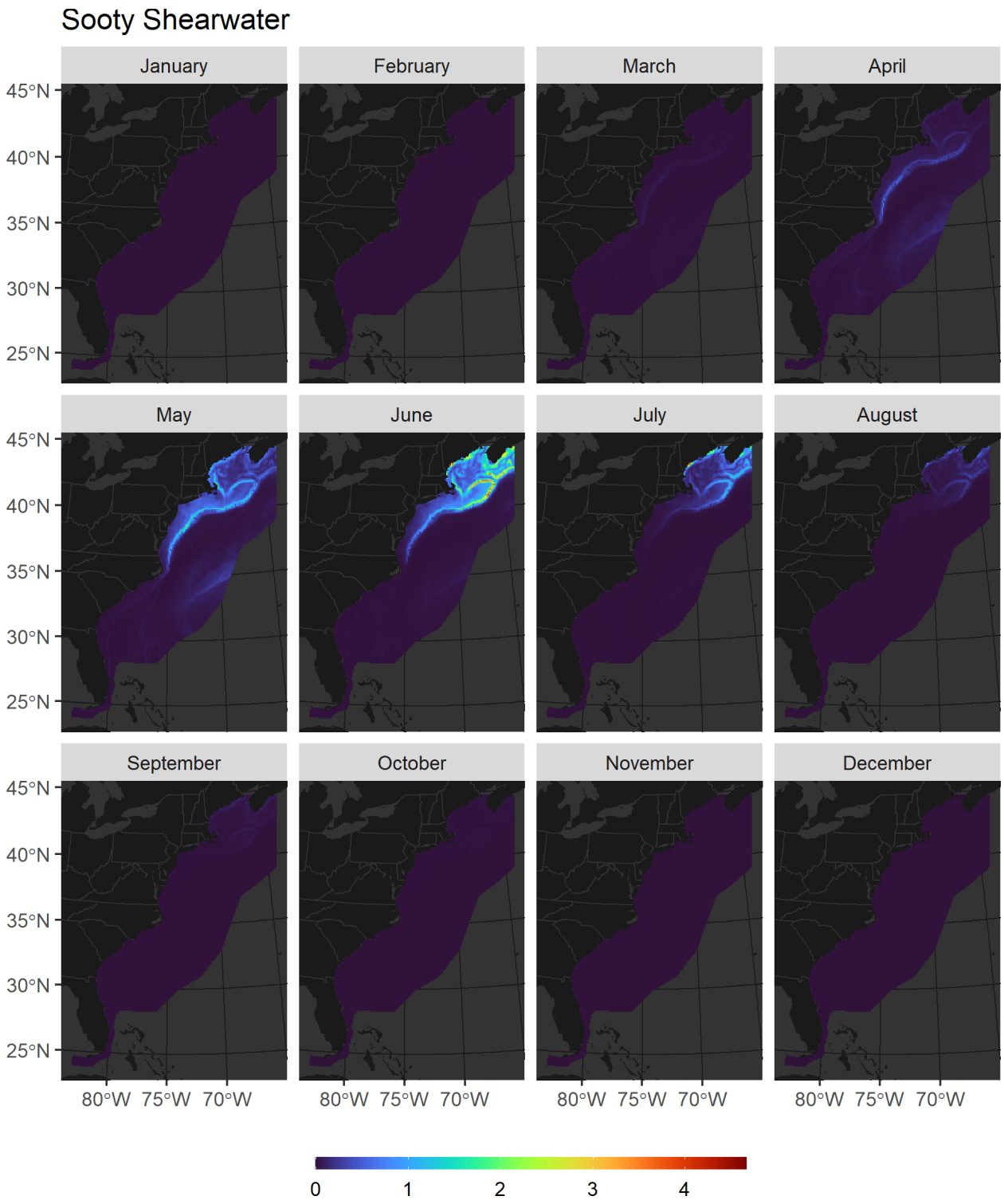


**Figure D-43. Average predicted density of Sooty Shearwater by month during the retrospective period (1993–2019)**

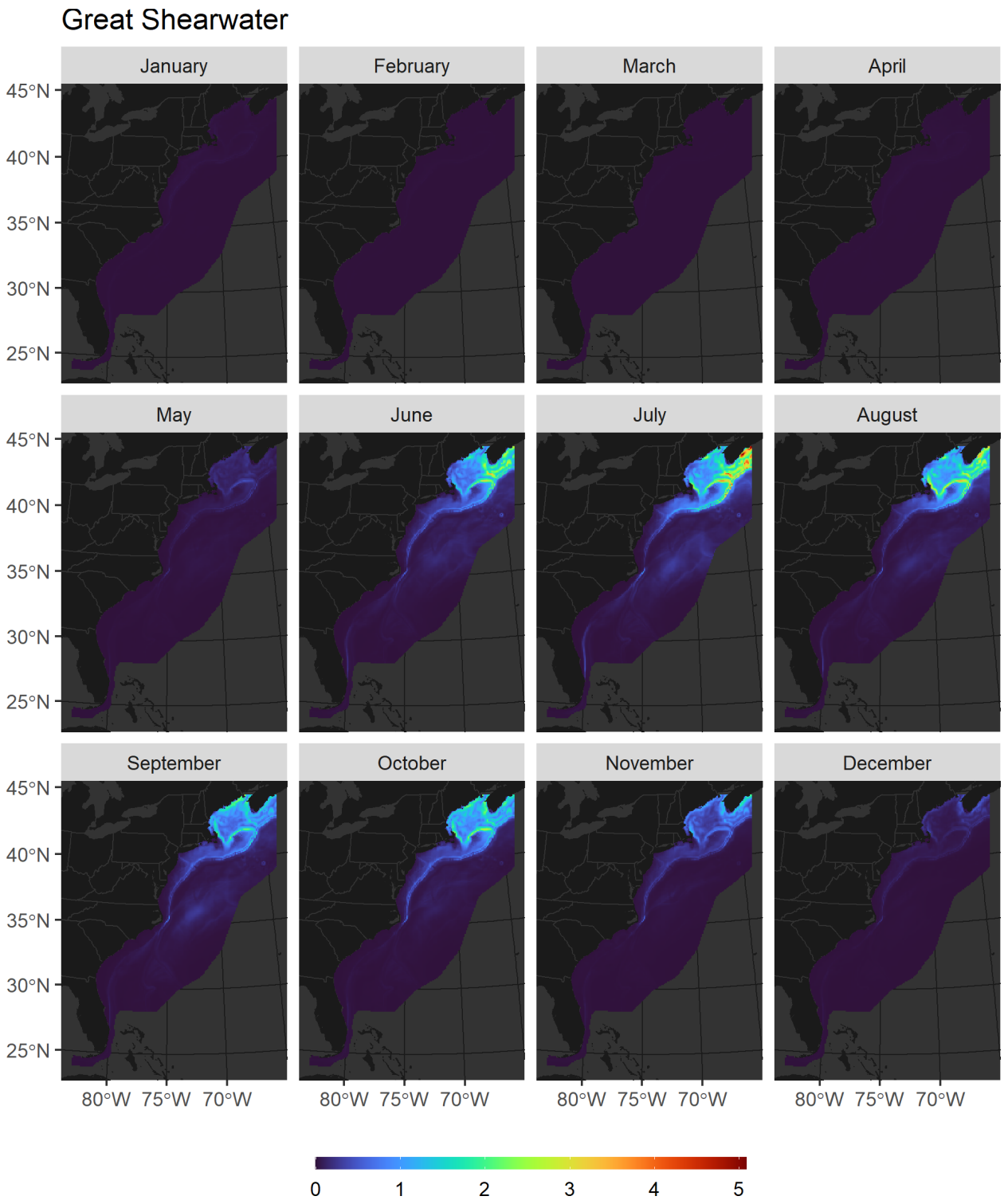


**Figure D-44. Average predicted density of Great Shearwater by month during the retrospective period (1993–2019)**

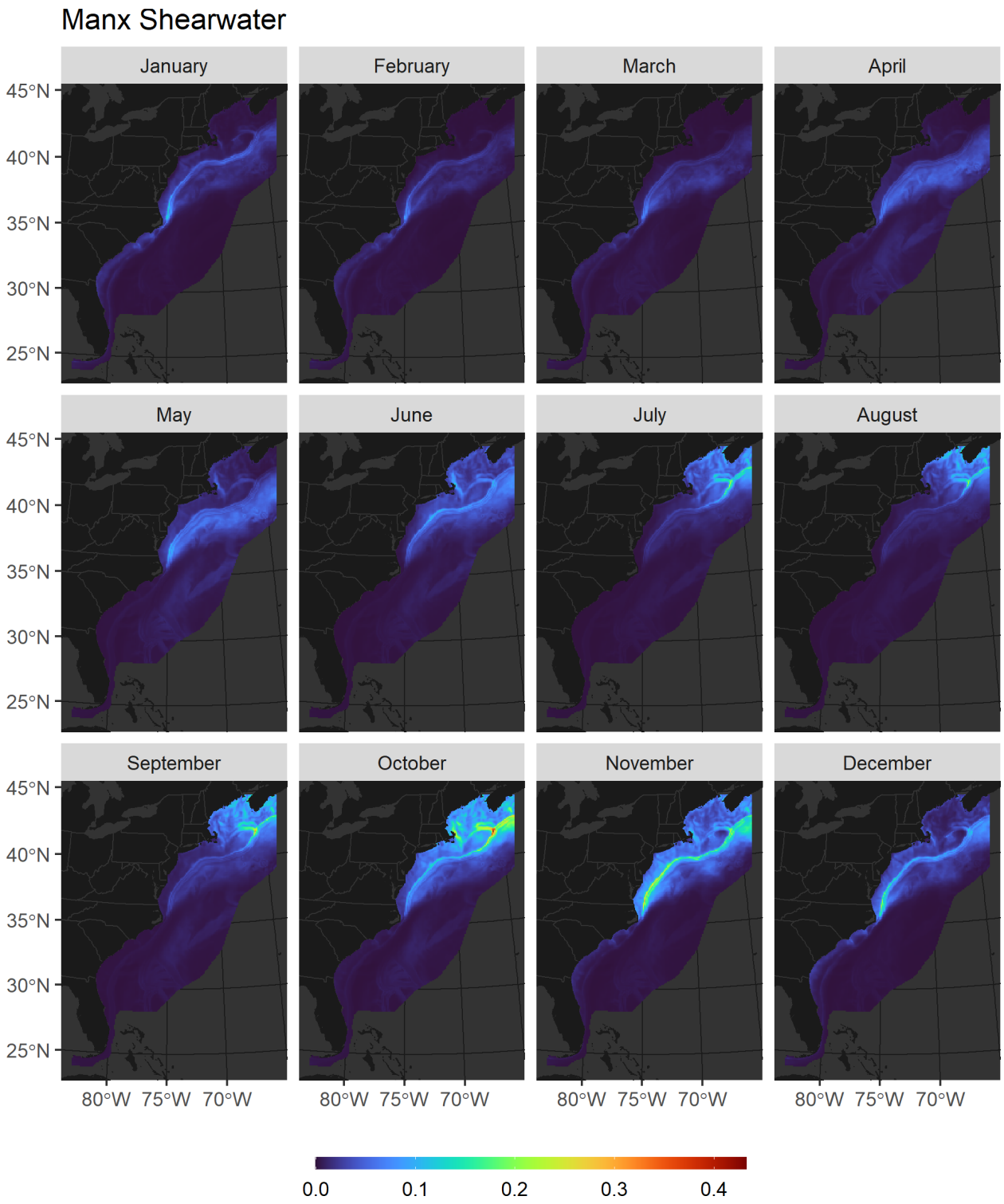


**Figure D-45. Average predicted density of Manx Shearwater by month during the retrospective period (1993–2019)**

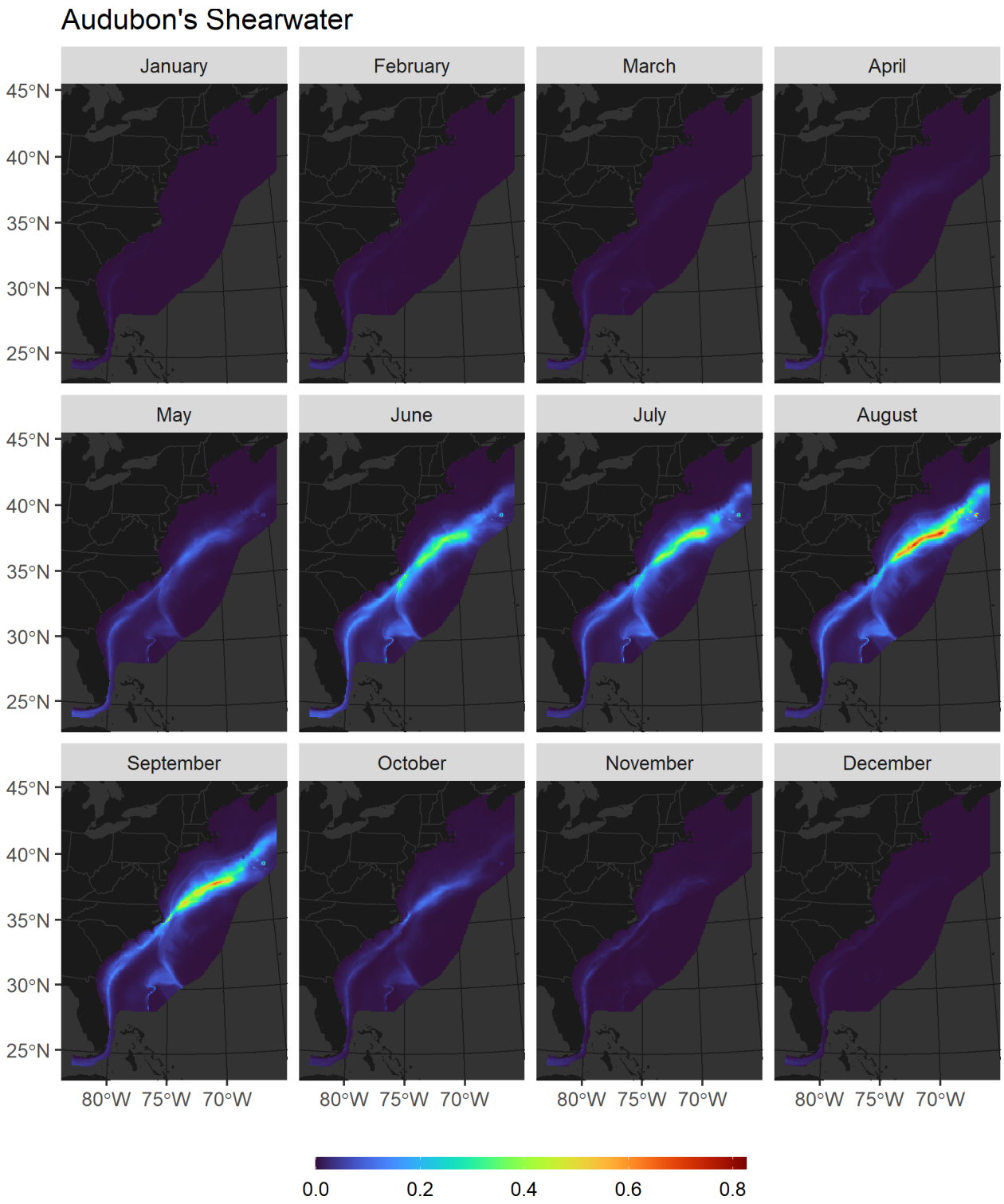


**Figure D-46. Average predicted density of Audubon's Shearwater by month during the retrospective period (1993–2019)**

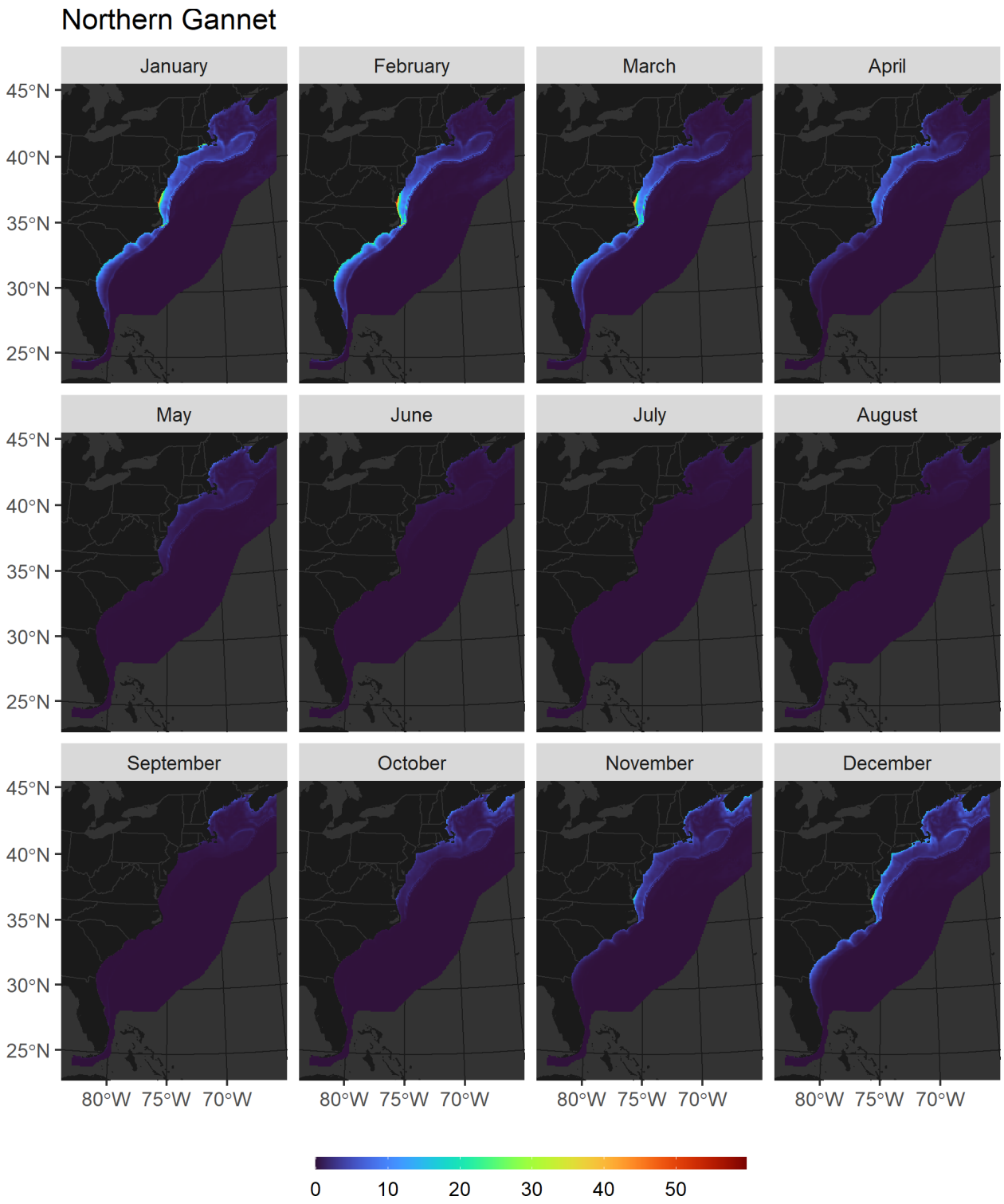


**Figure D-47. Average predicted density of Northern Gannet by month during the retrospective period (1993–2019)**

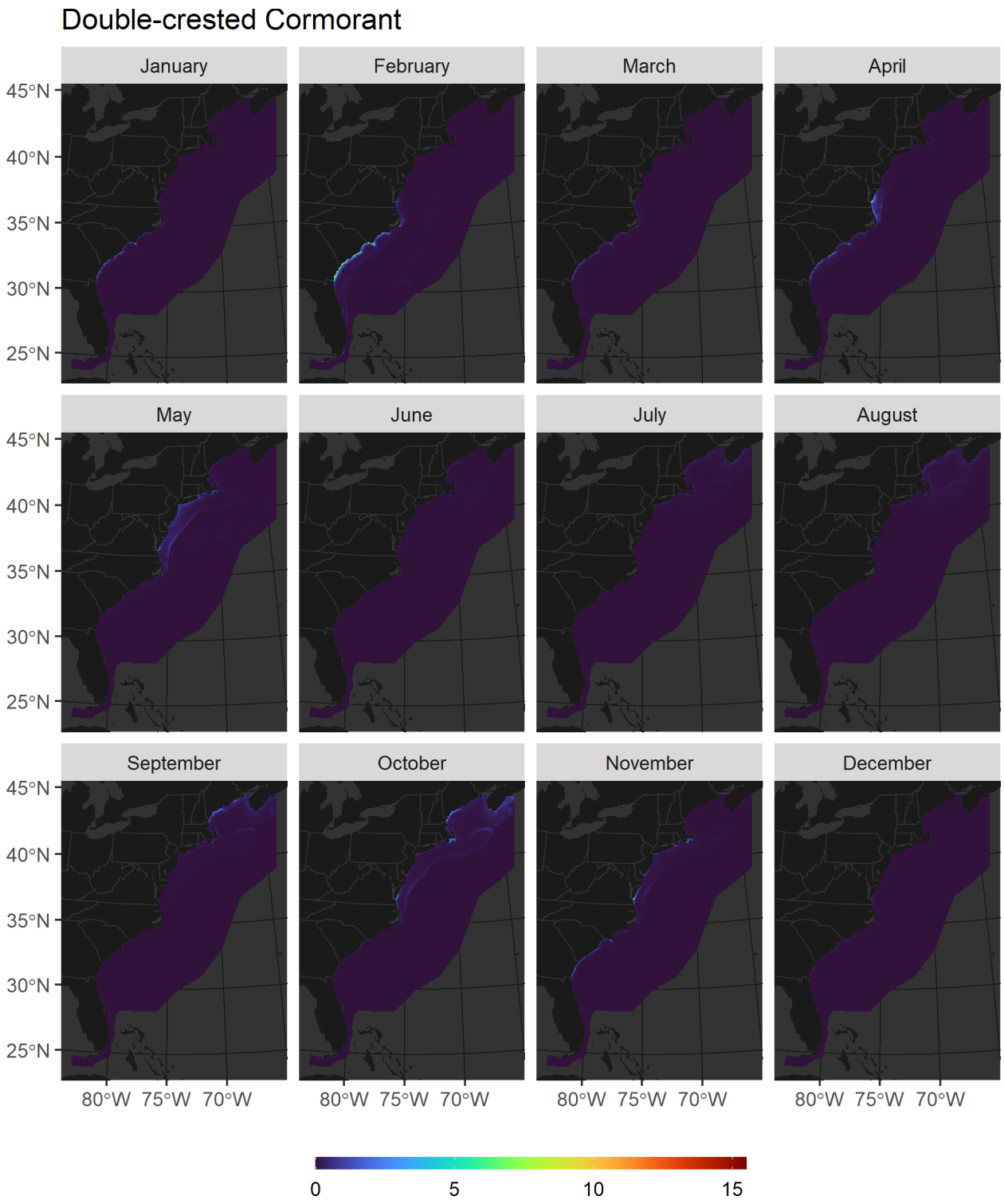


**Figure D-48. Average predicted density of Double-crested Cormorant by month during the retrospective period (1993–2019)**

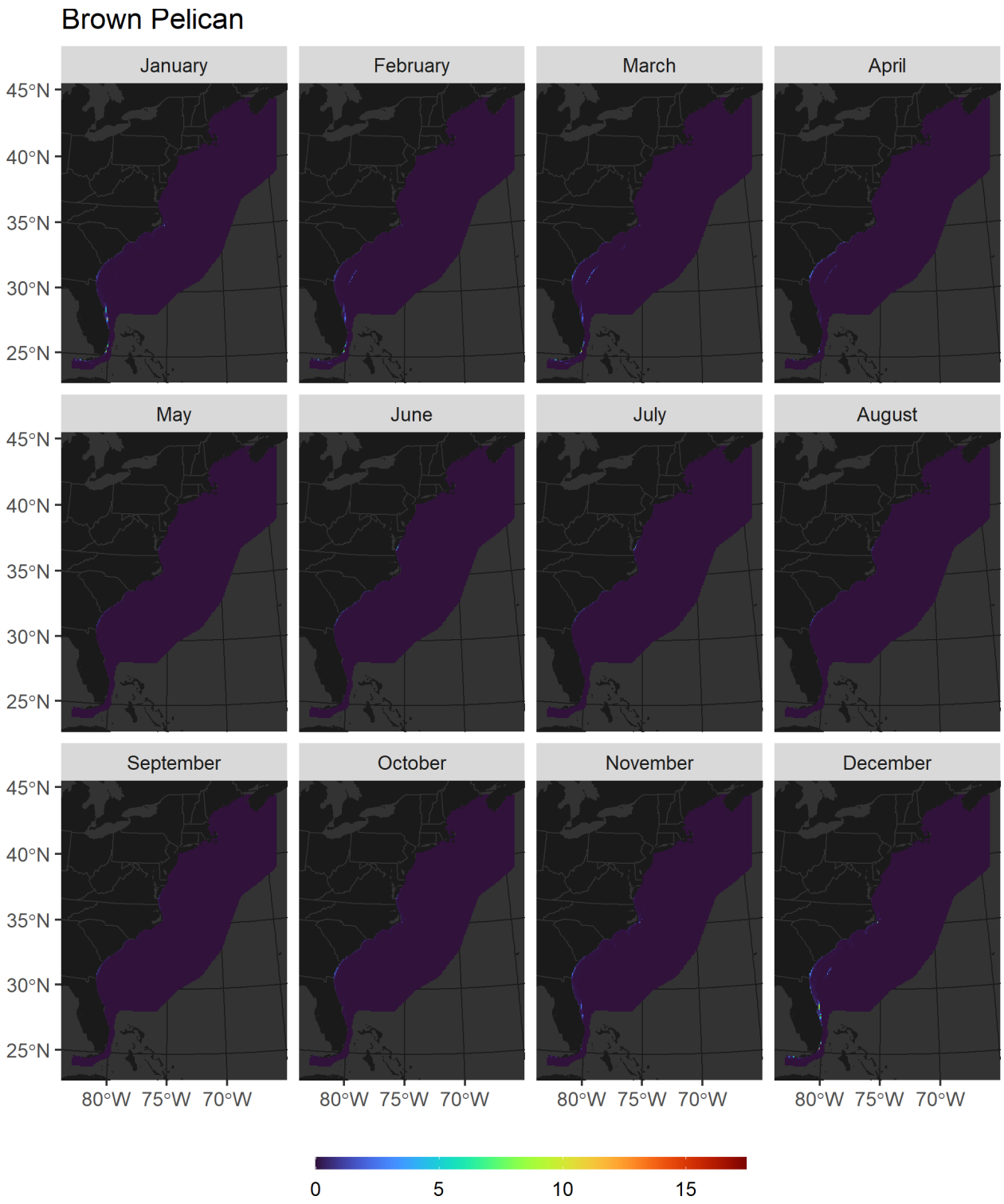


**Figure D-49. Average predicted density of Brown Pelican by month during the retrospective period (1993–2019)**

# Appendix E: Coefficient of variation of retrospective predicted density

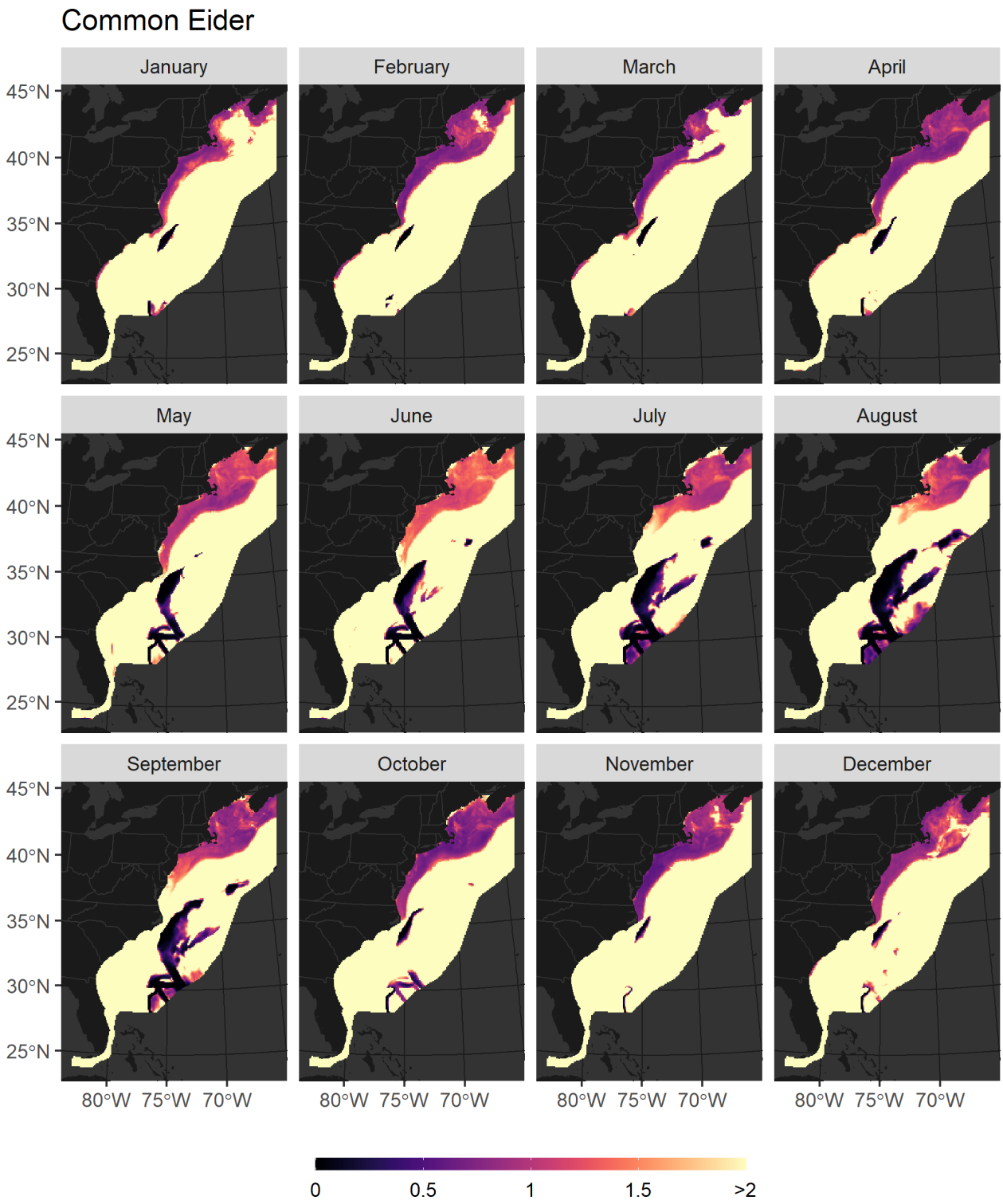


**Figure E-1. Bootstrapped coefficient of variation of average predicted density of Common Eider by month during the retrospective period (1993–2019)**

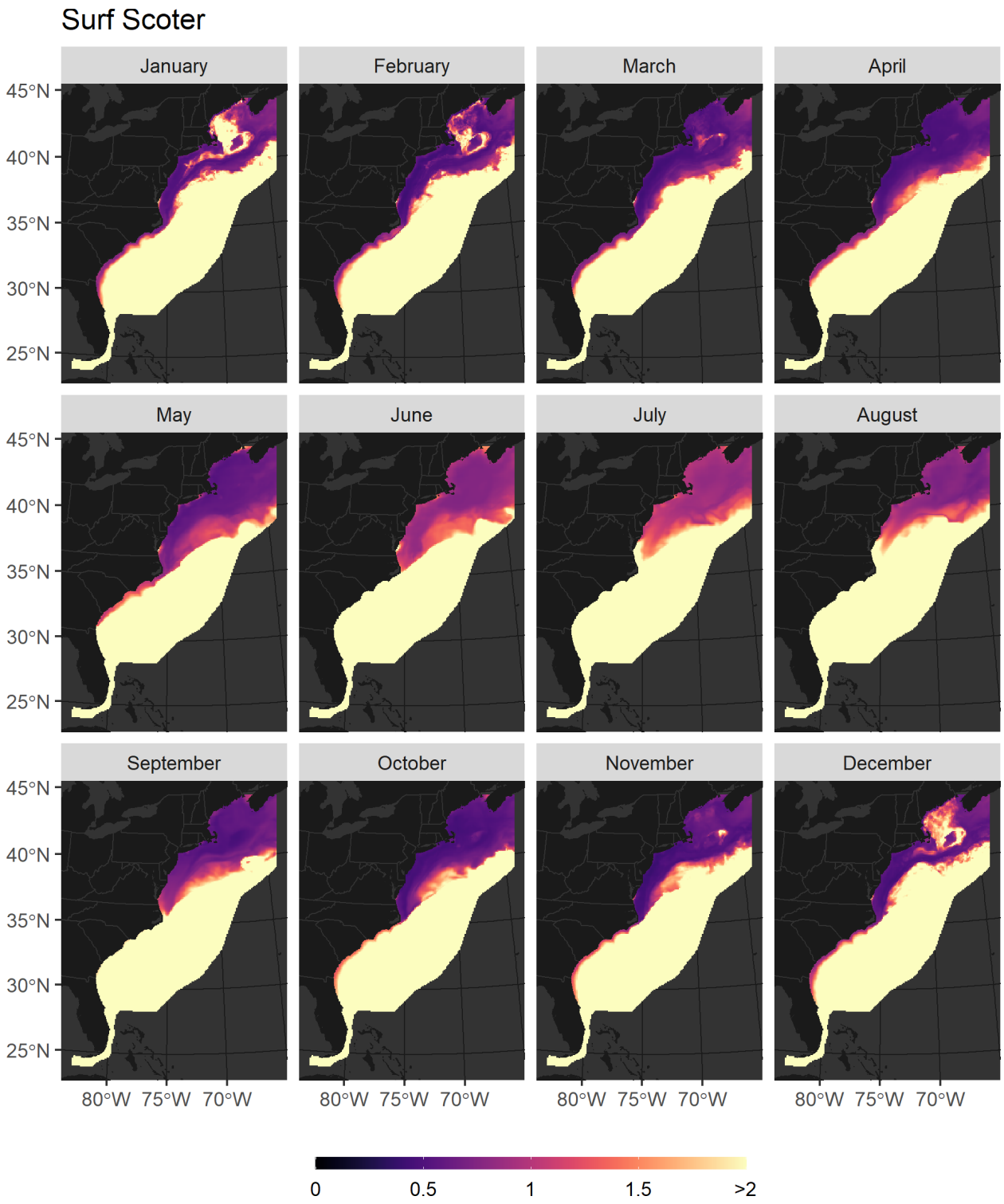


**Figure E-2. Bootstrapped coefficient of variation of average predicted density of Surf Scoter by month during the retrospective period (1993–2019)**

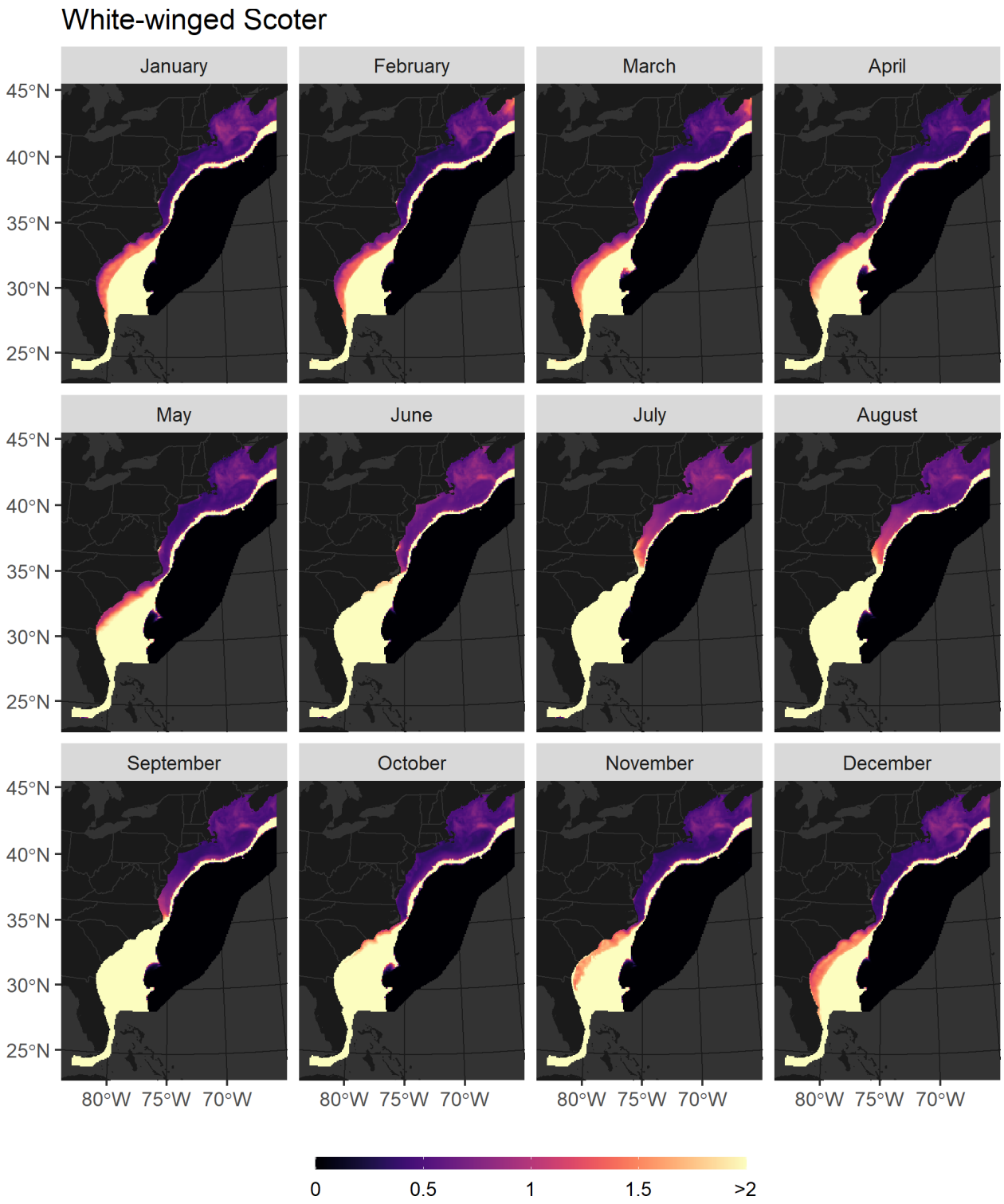


**Figure E-3. Bootstrapped coefficient of variation of average predicted density of White-winged Scoter by month during the retrospective period (1993–2019)**

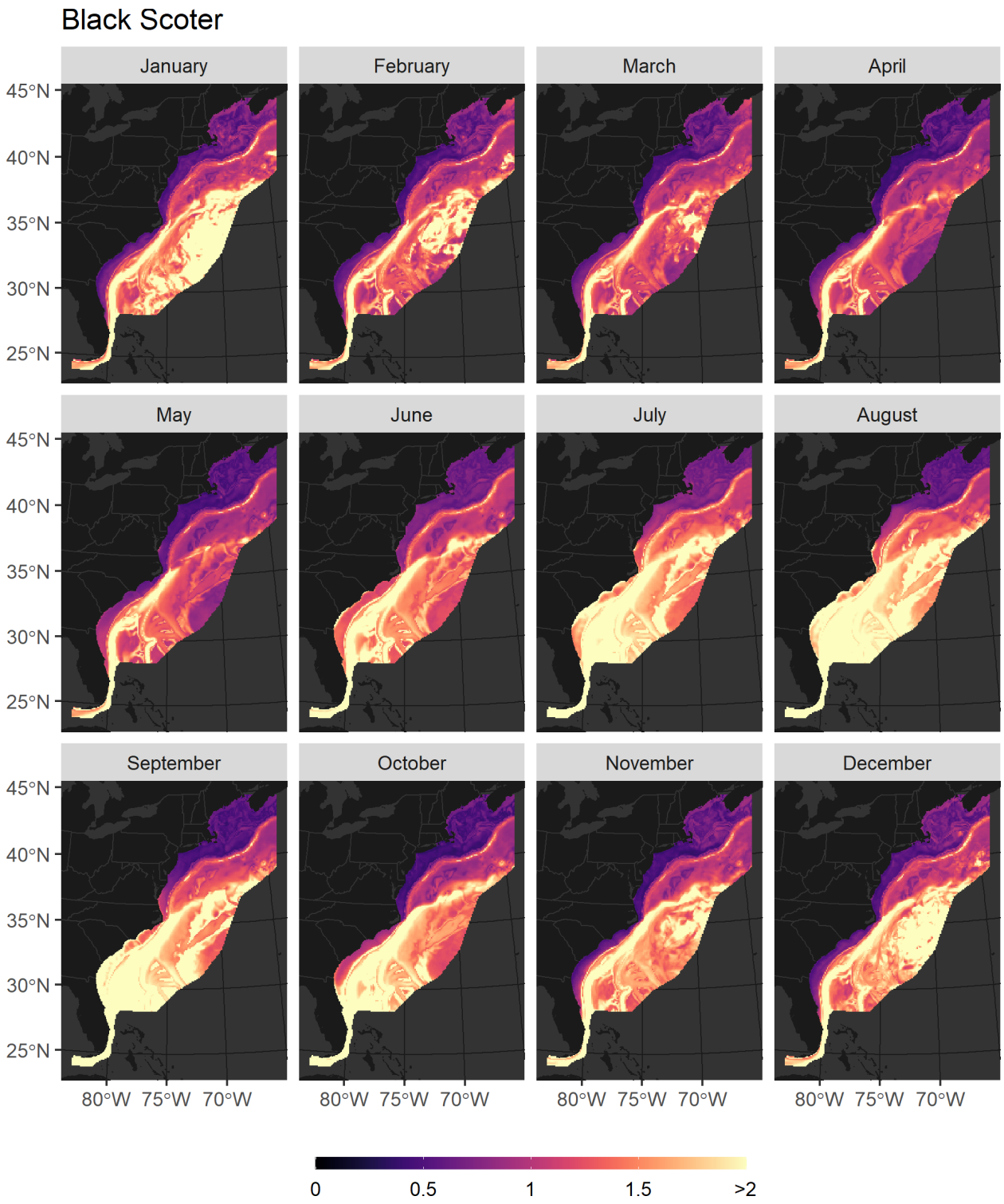


**Figure E-4. Bootstrapped coefficient of variation of average predicted density of Black Scoter by month during the retrospective period (1993–2019)**

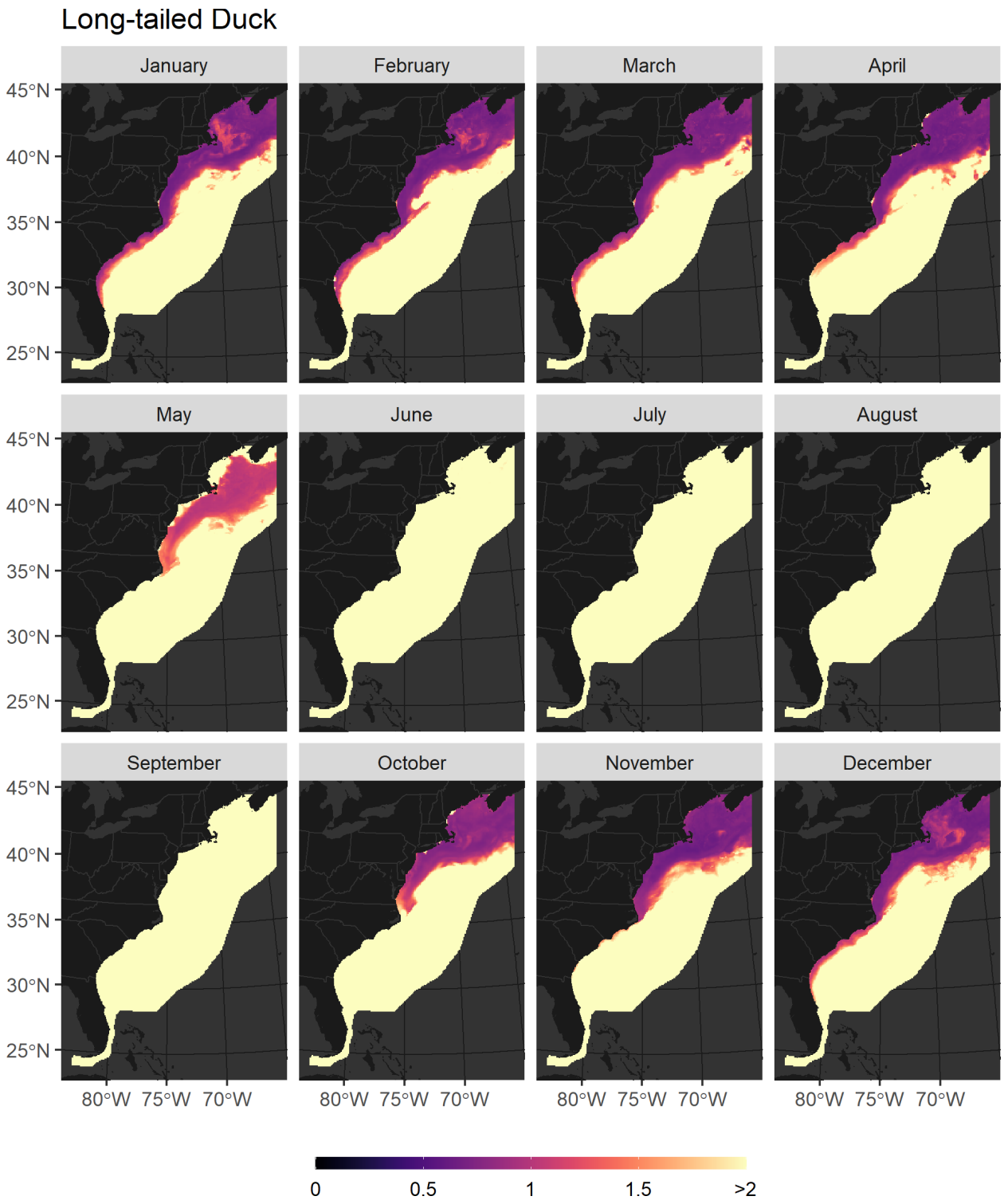


**Figure E-5. Bootstrapped coefficient of variation of average predicted density of Long-tailed Duck by month during the retrospective period (1993–2019)**

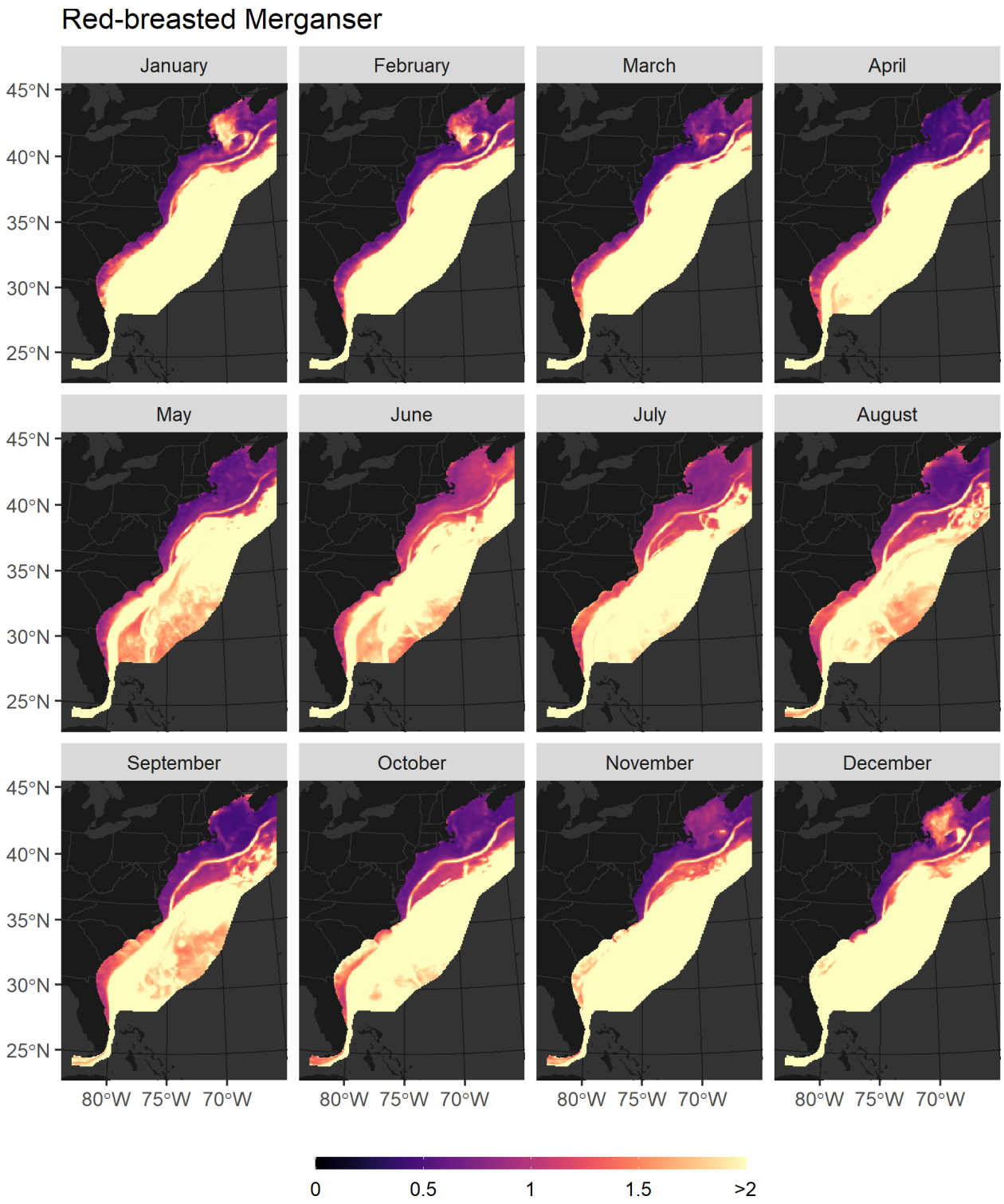


**Figure E-6. Bootstrapped coefficient of variation of average predicted density of Red-breasted Merganser by month during the retrospective period (1993–2019)**

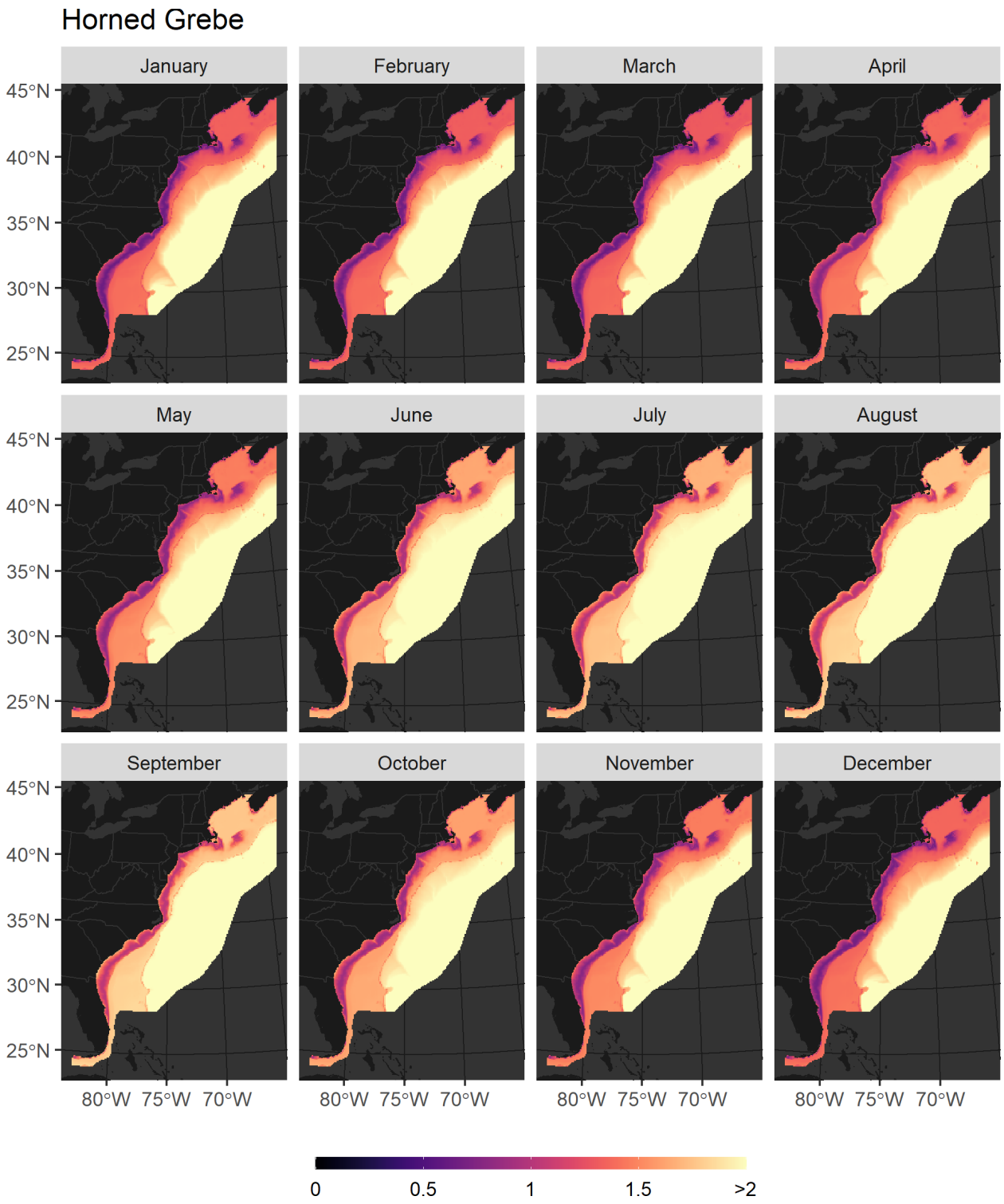


**Figure E-7. Bootstrapped coefficient of variation of average predicted density of Horned Grebe by month during the retrospective period (1993–2019)**

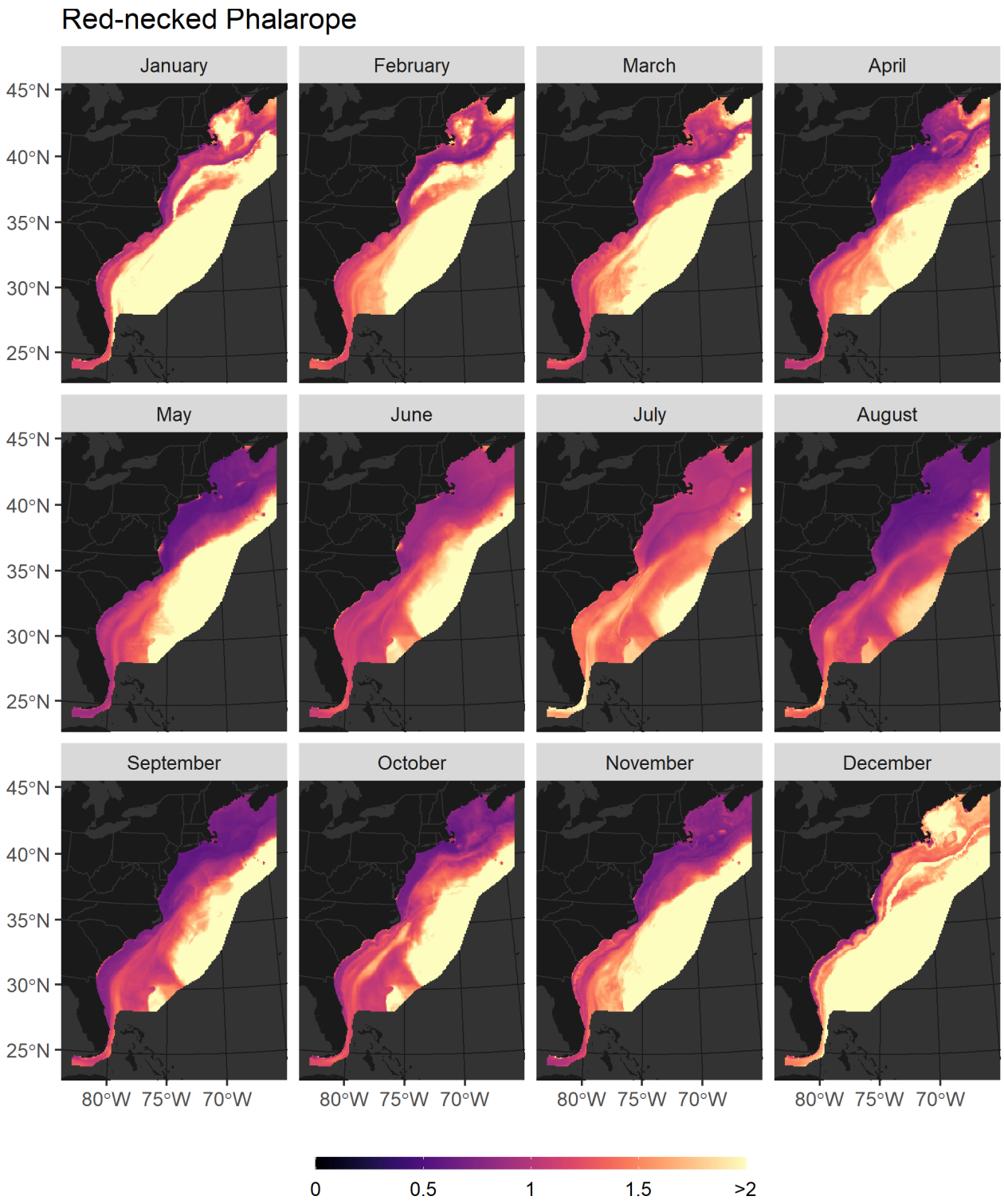


**Figure E-8. Bootstrapped coefficient of variation of average predicted density of Red-necked Phalarope by month during the retrospective period (1993–2019)**

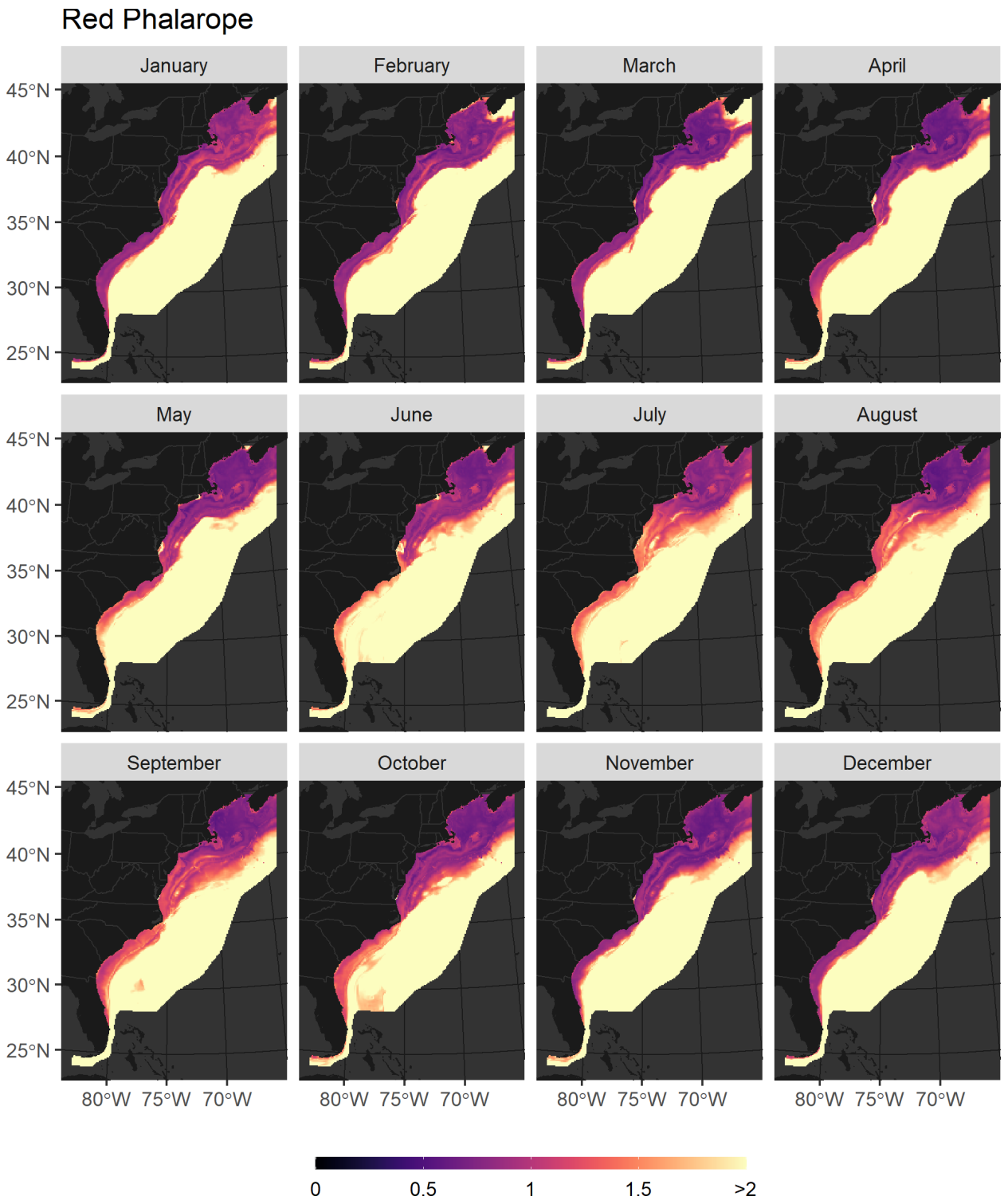


**Figure E-9. Bootstrapped coefficient of variation of average predicted density of Red Phalarope by month during the retrospective period (1993–2019)**

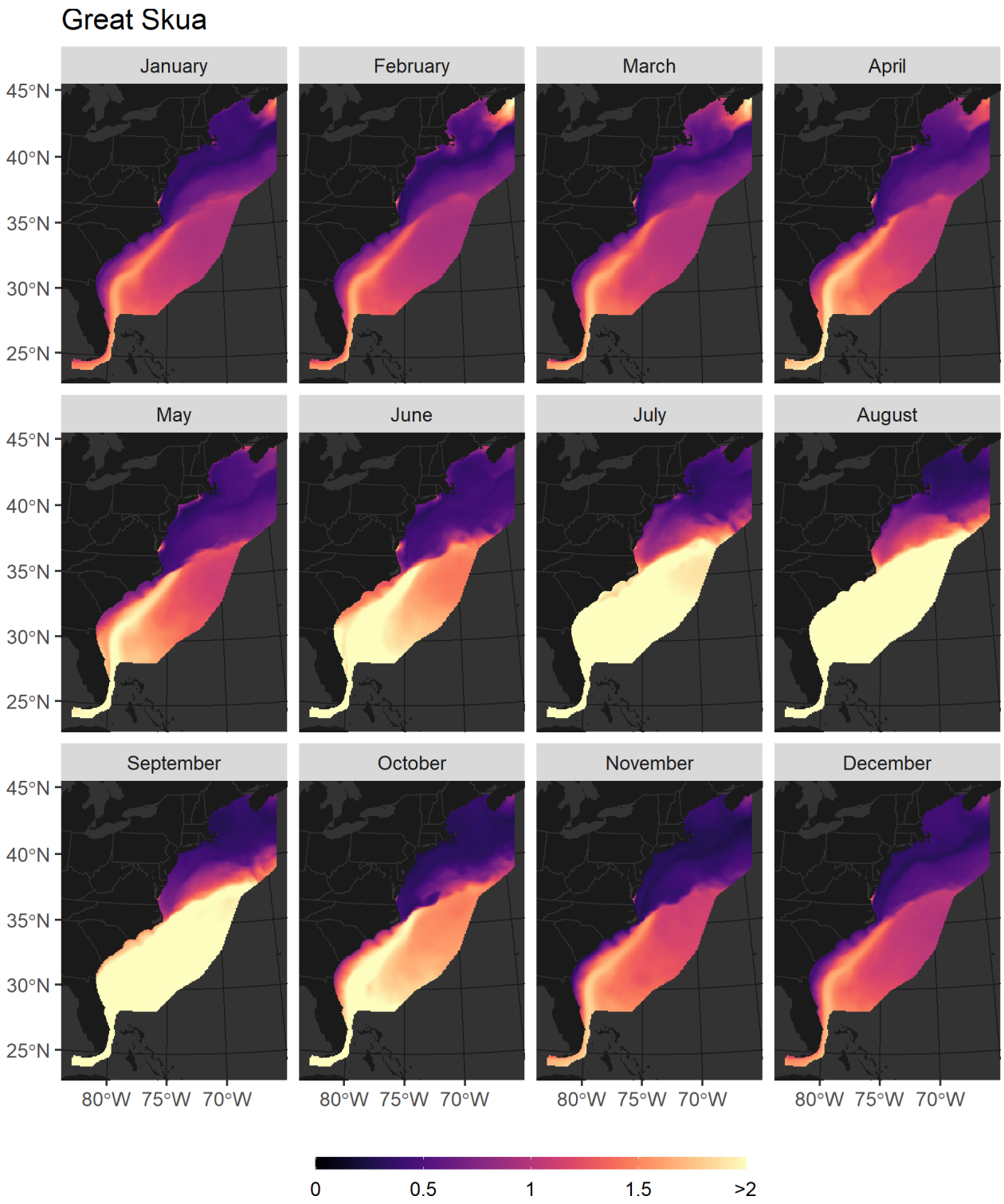


**Figure E-10. Bootstrapped coefficient of variation of average predicted density of Great Skua by month during the retrospective period (1993–2019)**

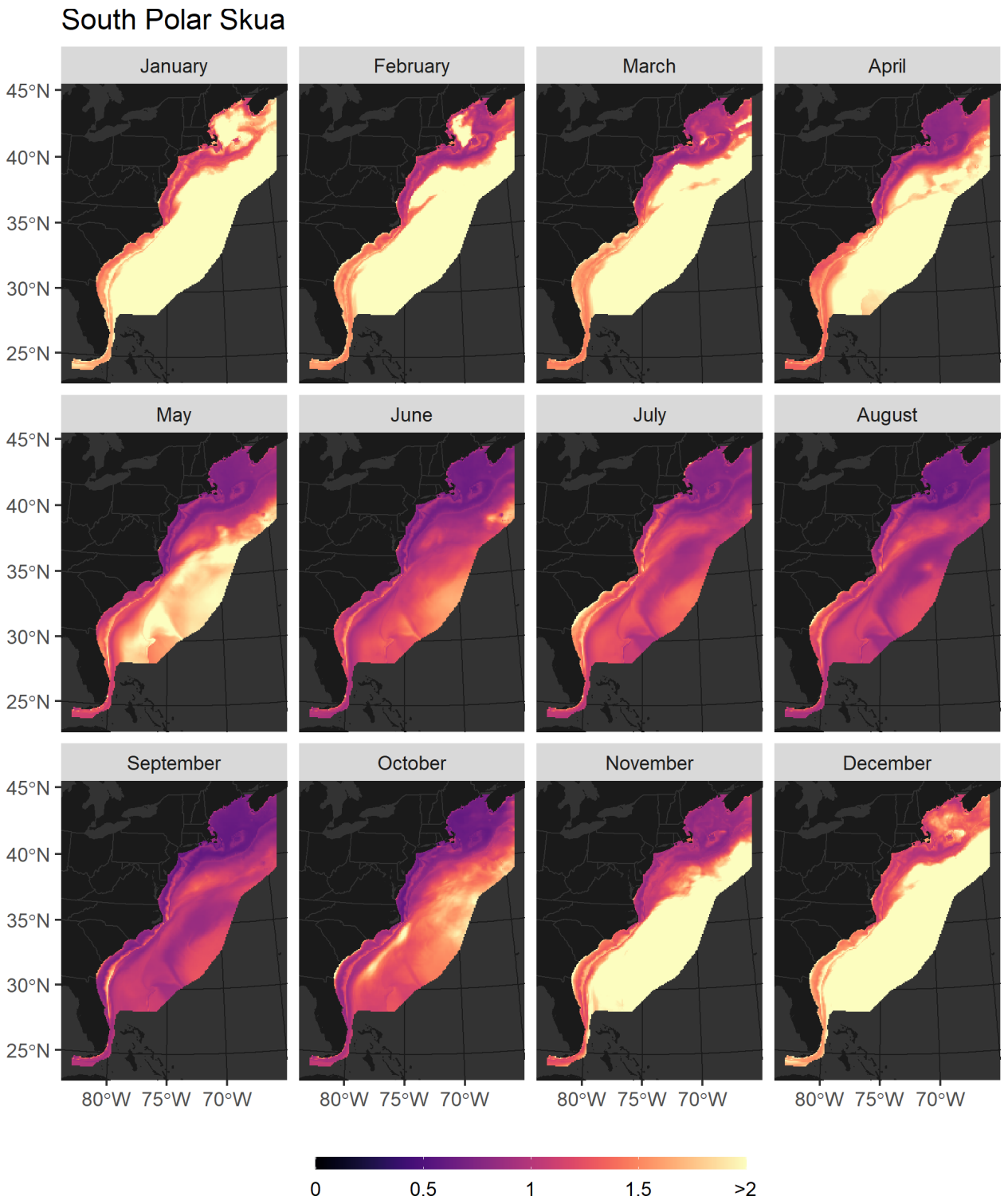


**Figure E-11. Bootstrapped coefficient of variation of average predicted density of South Polar Skua by month during the retrospective period (1993–2019)**

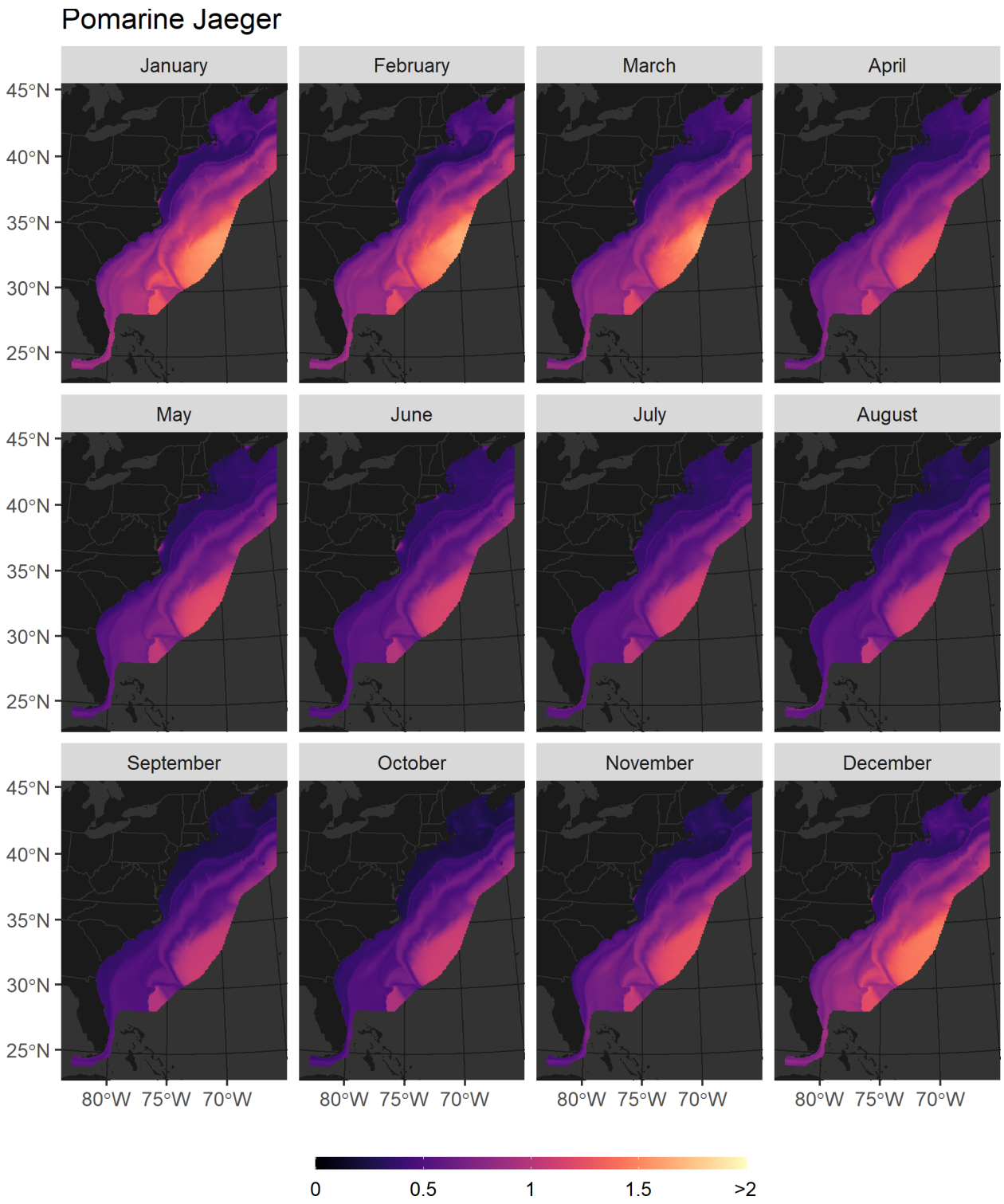


**Figure E-12. Bootstrapped coefficient of variation of average predicted density of Pomarine Jaeger by month during the retrospective period (1993–2019)**

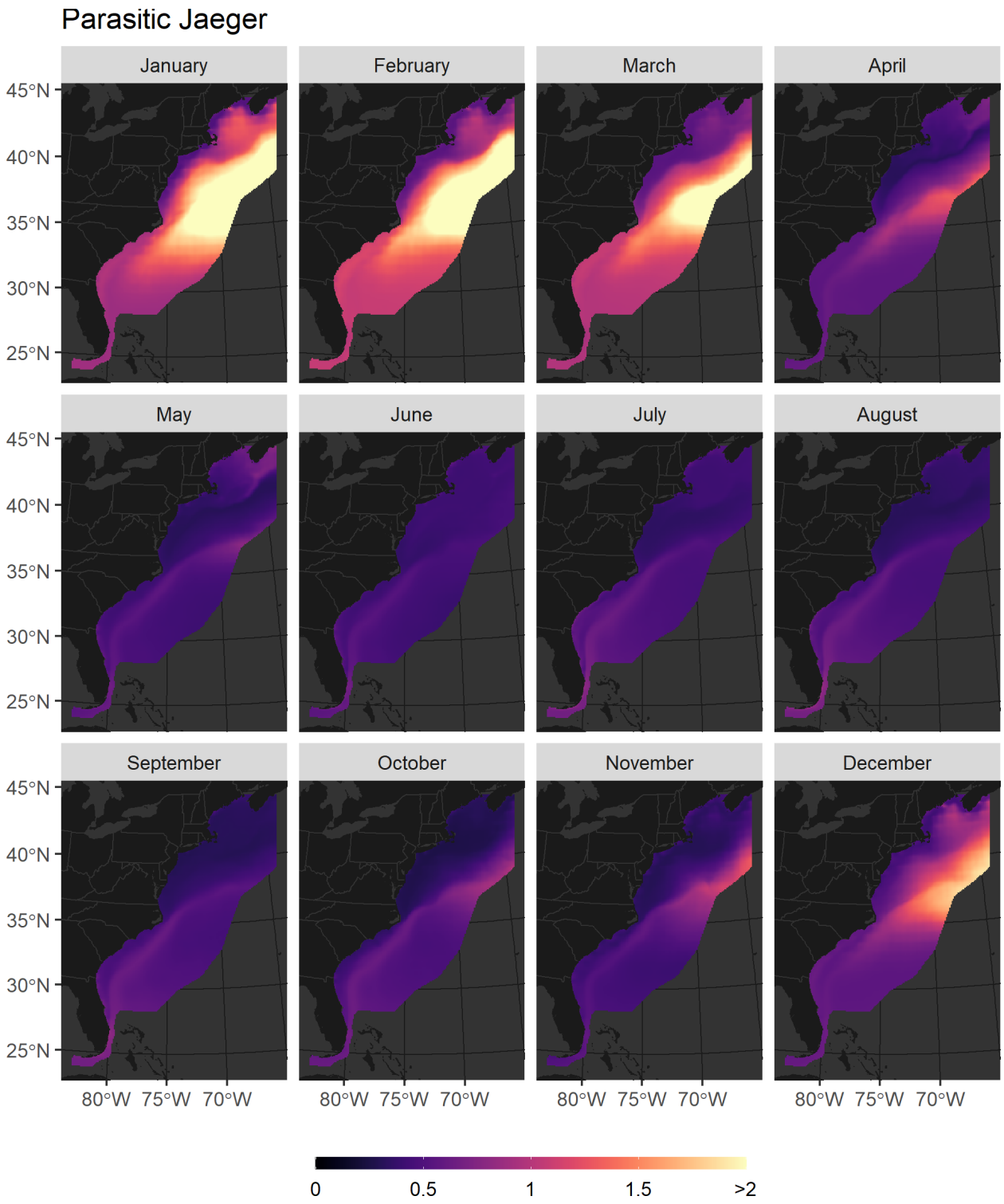


**Figure E-13. Bootstrapped coefficient of variation of average predicted density of Parasitic Jaeger by month during the retrospective period (1993–2019)**

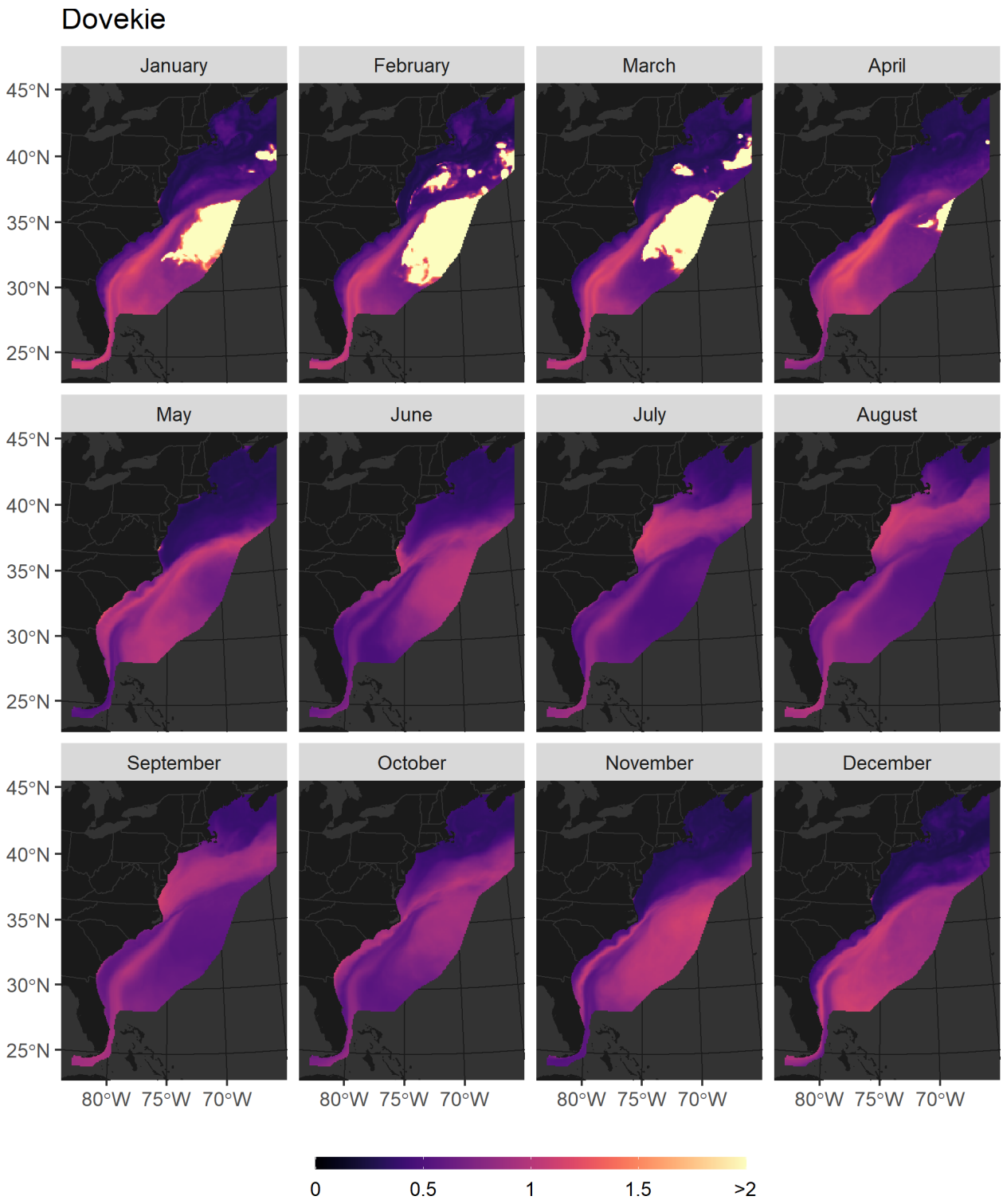


**Figure E-14. Bootstrapped coefficient of variation of average predicted density of Dovekie by month during the retrospective period (1993–2019)**

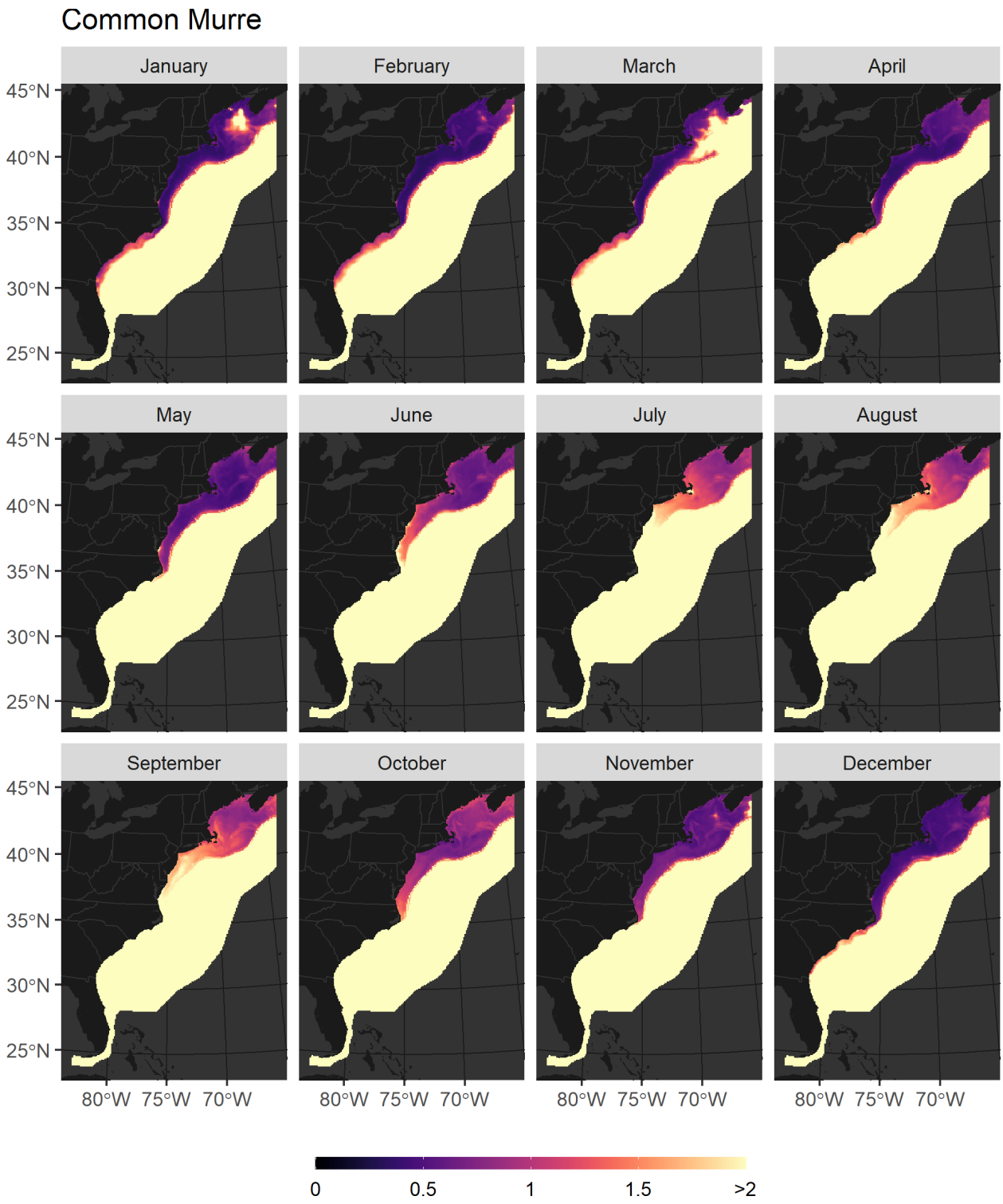


**Figure E-15. Bootstrapped coefficient of variation of average predicted density of Common Murre by month during the retrospective period (1993–2019)**

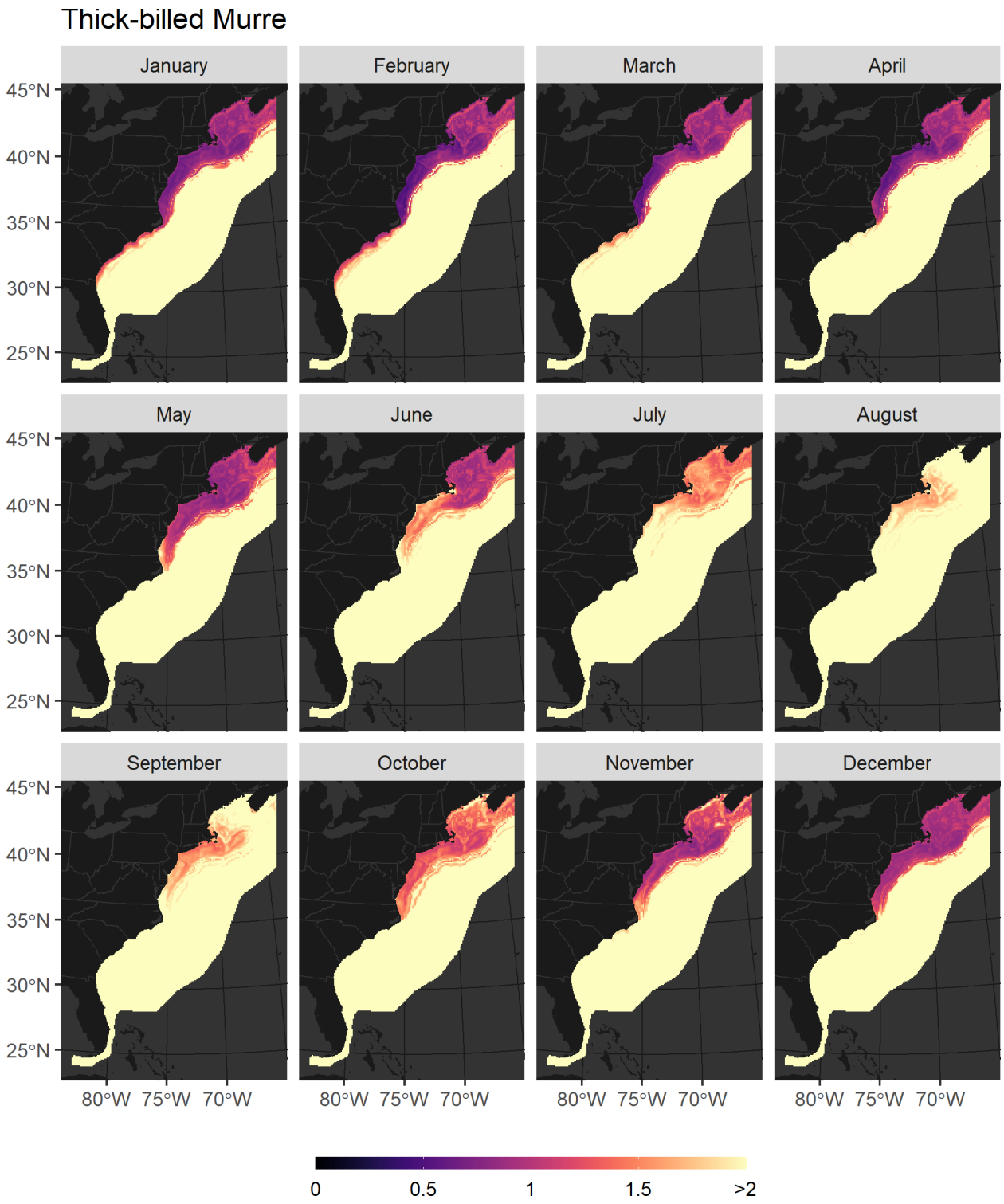


**Figure E-16. Bootstrapped coefficient of variation of average predicted density of Thick-billed Murre by month during the retrospective period (1993–2019)**

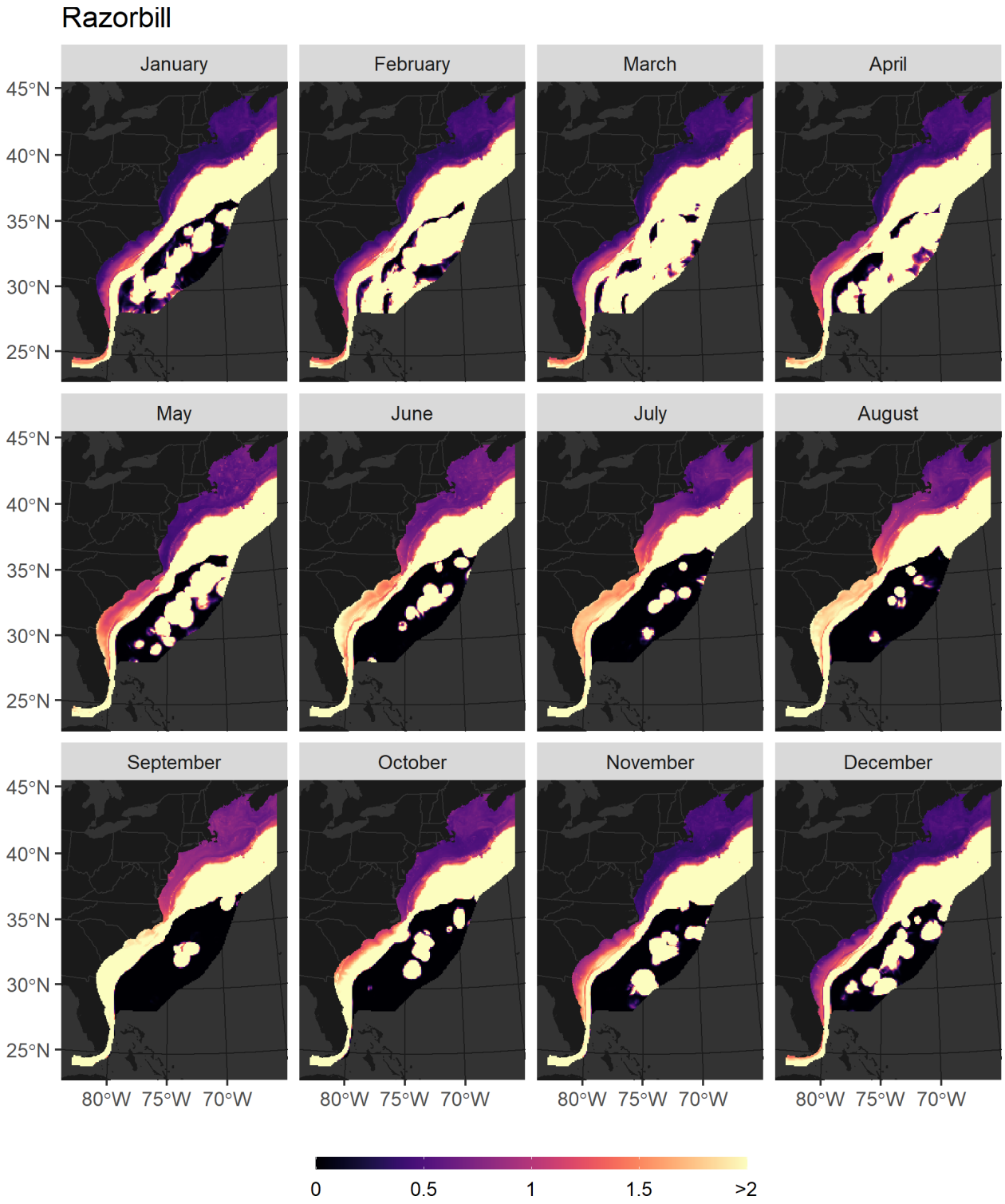


**Figure E-17. Bootstrapped coefficient of variation of average predicted density of Razorbill by month during the retrospective period (1993–2019)**

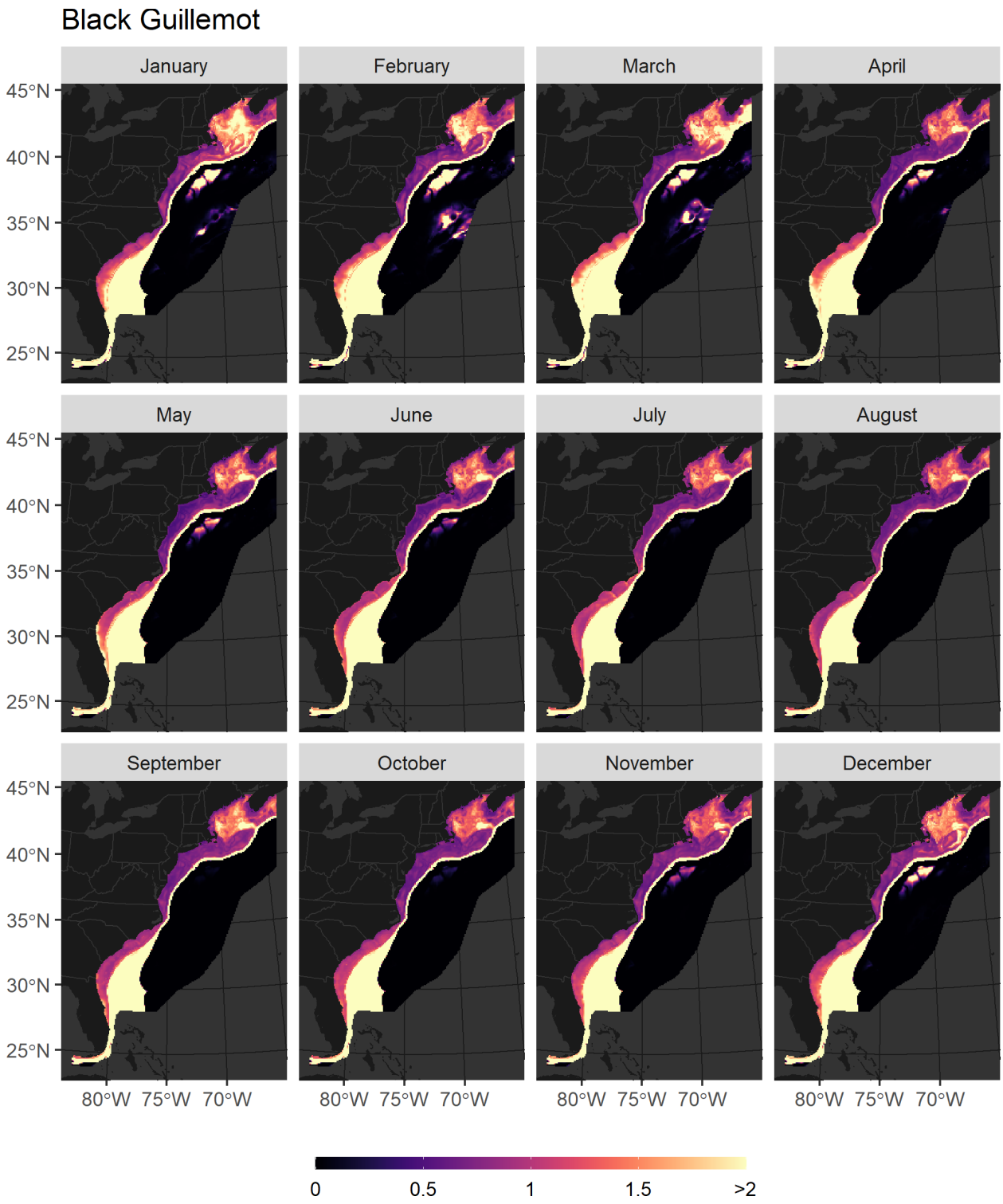


**Figure E-18. Bootstrapped coefficient of variation of average predicted density of Black Guillemot by month during the retrospective period (1993–2019)**

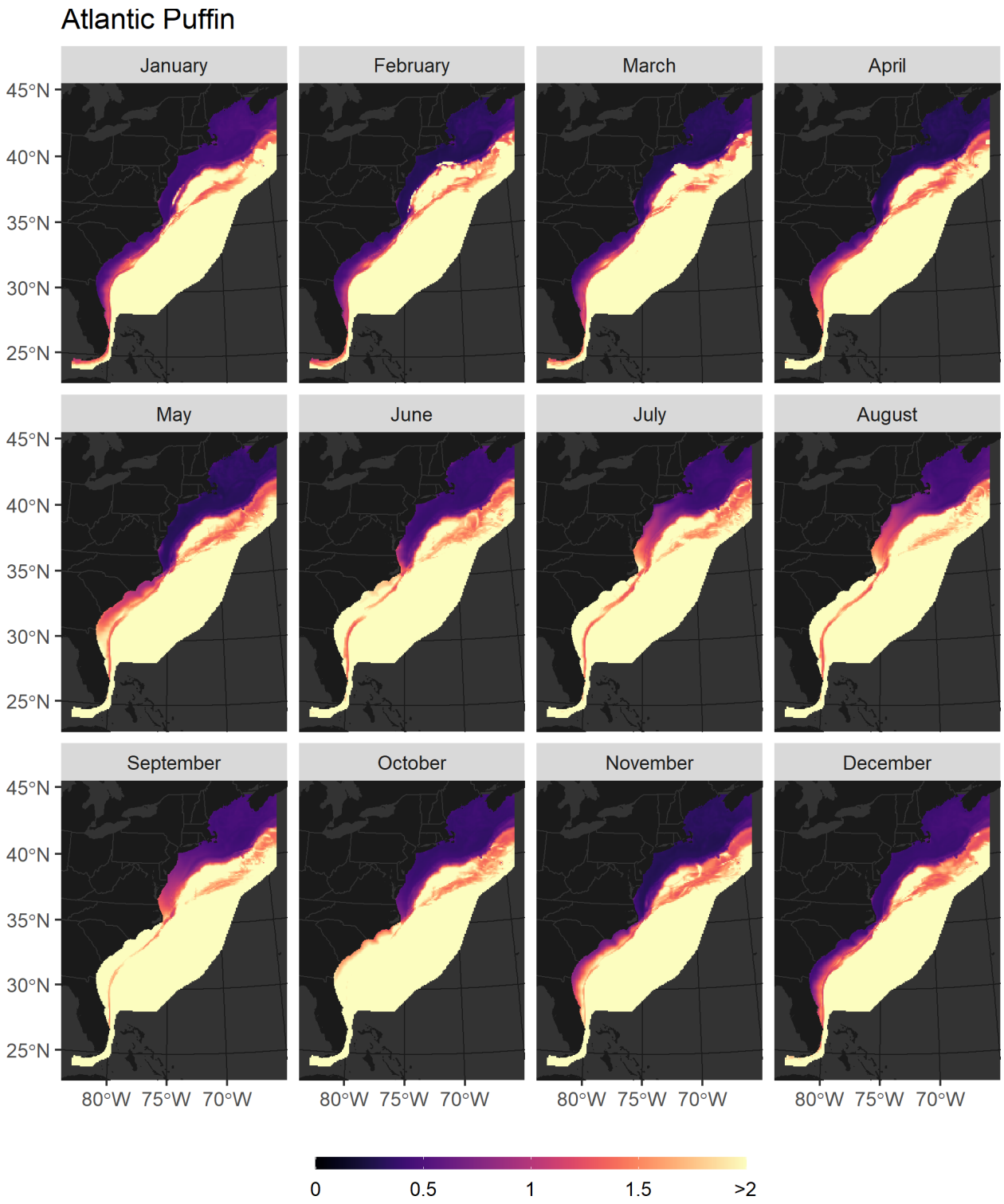


**Figure E-19. Bootstrapped coefficient of variation of average predicted density of Atlantic Puffin by month during the retrospective period (1993–2019)**

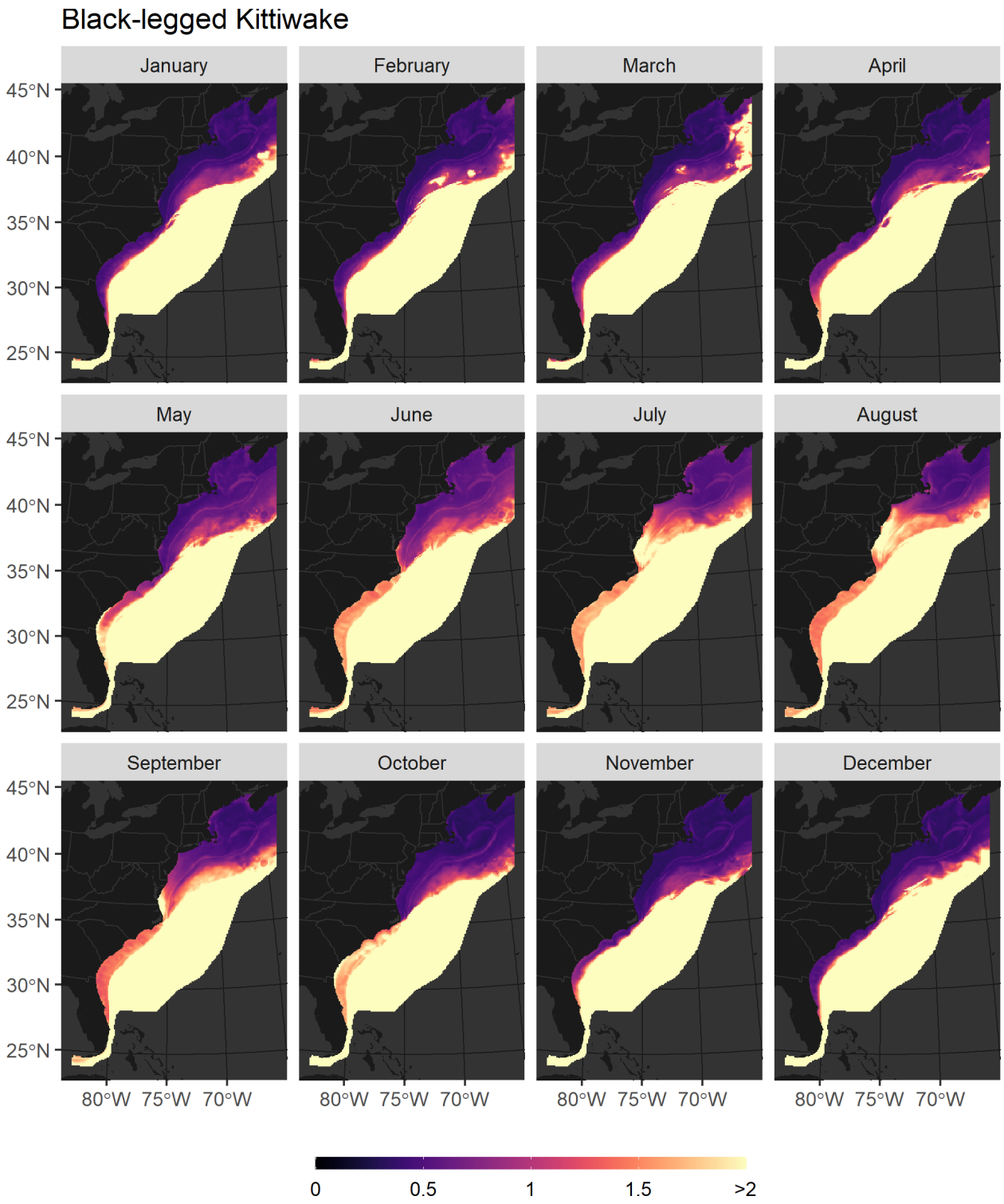


**Figure E-20. Bootstrapped coefficient of variation of average predicted density of Black-legged Kittiwake by month during the retrospective period (1993–2019)**

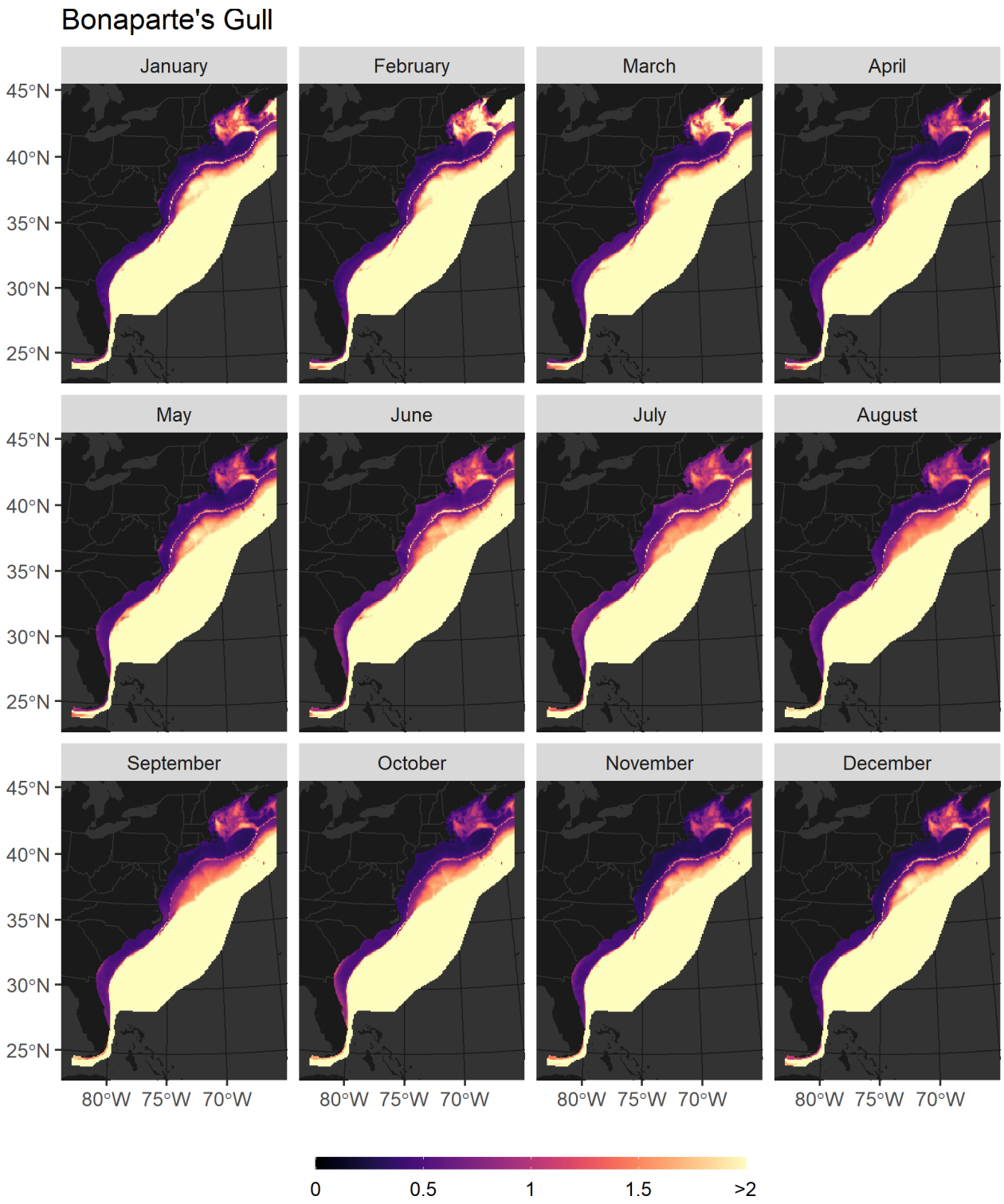


**Figure E-21. Bootstrapped coefficient of variation of average predicted density of Bonaparte's Gull by month during the retrospective period (1993–2019)**

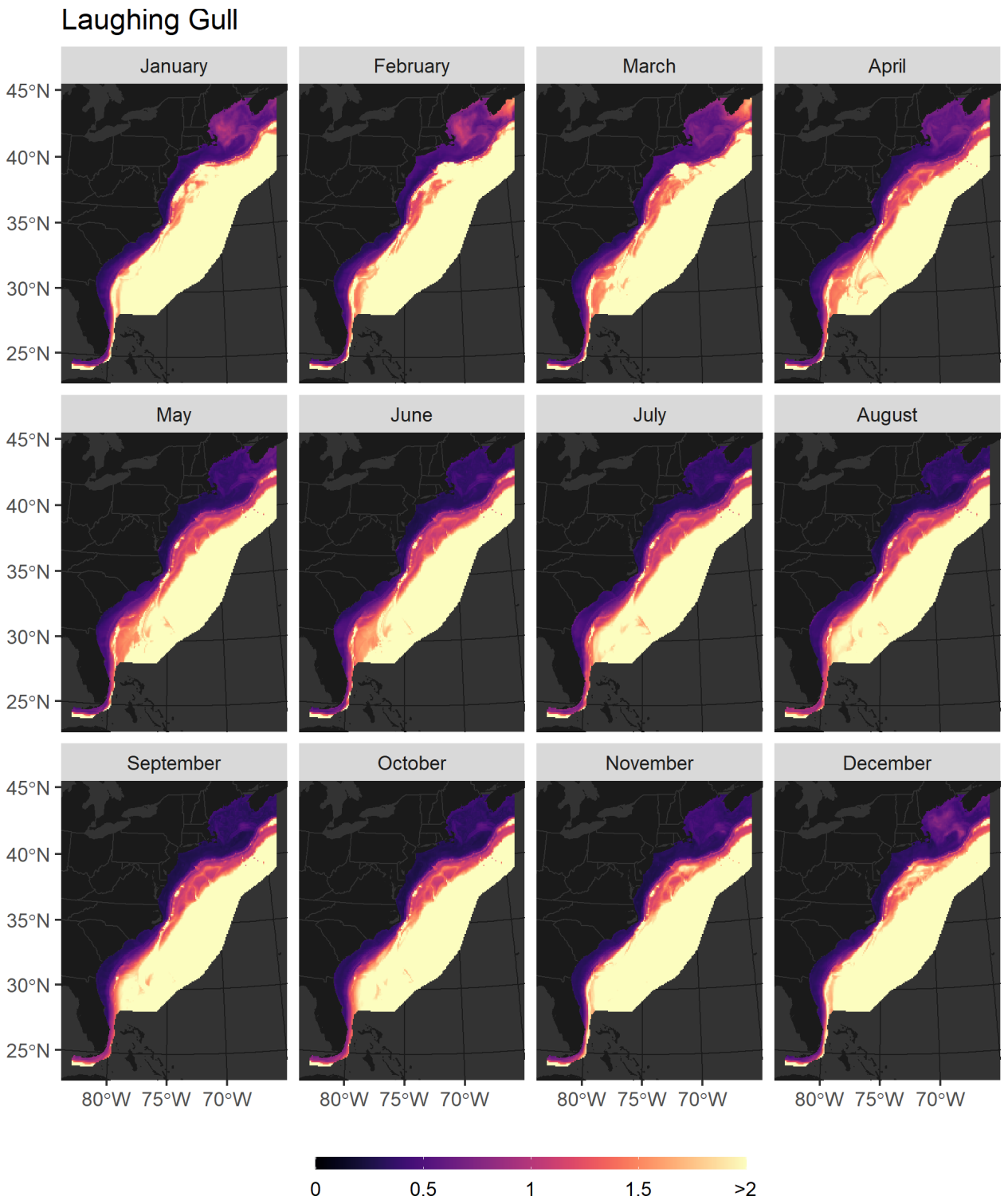


**Figure E-22. Bootstrapped coefficient of variation of average predicted density of Laughing Gull by month during the retrospective period (1993–2019)**

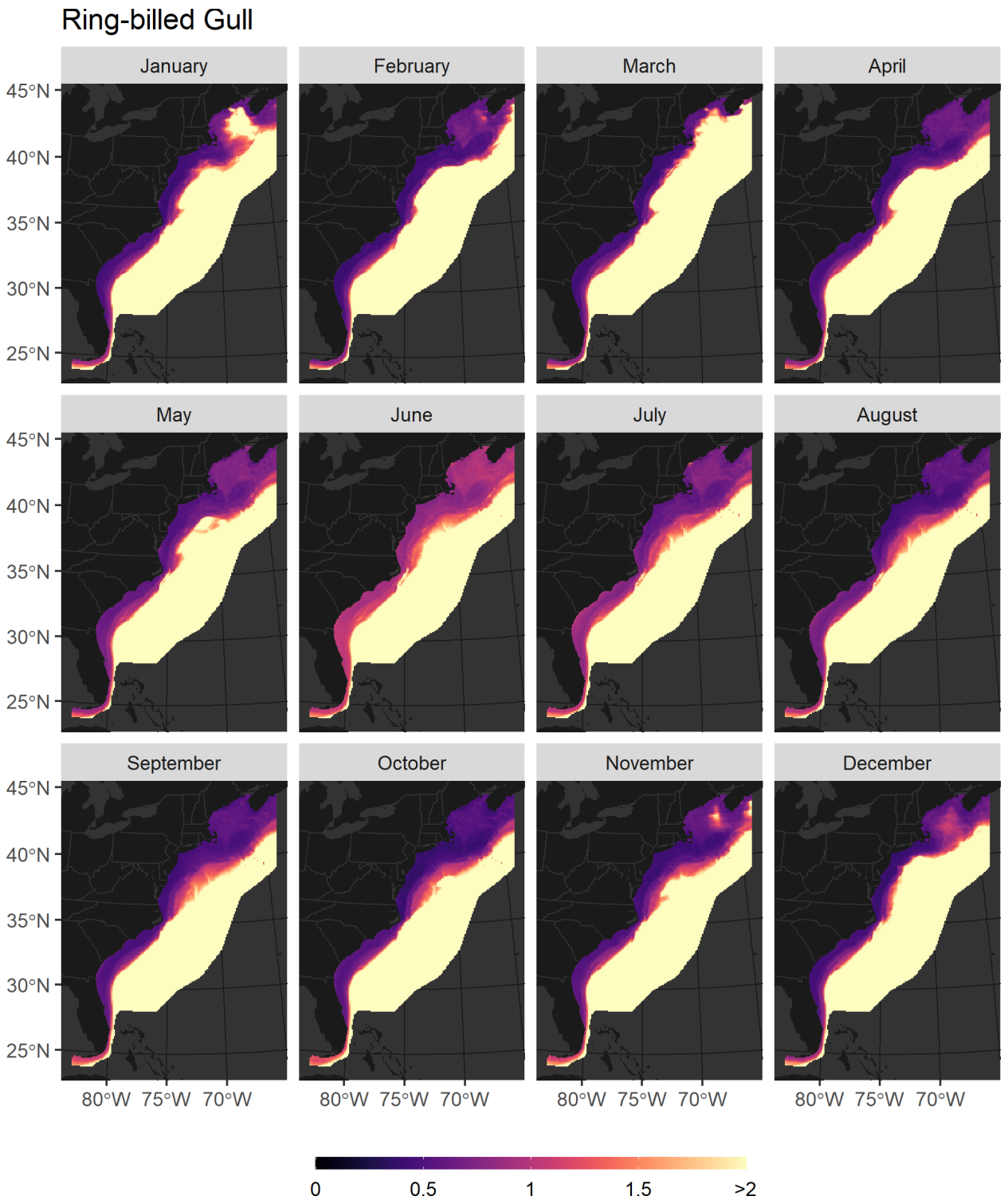


**Figure E-23. Bootstrapped coefficient of variation of average predicted density of Ring-billed Gull by month during the retrospective period (1993–2019)**

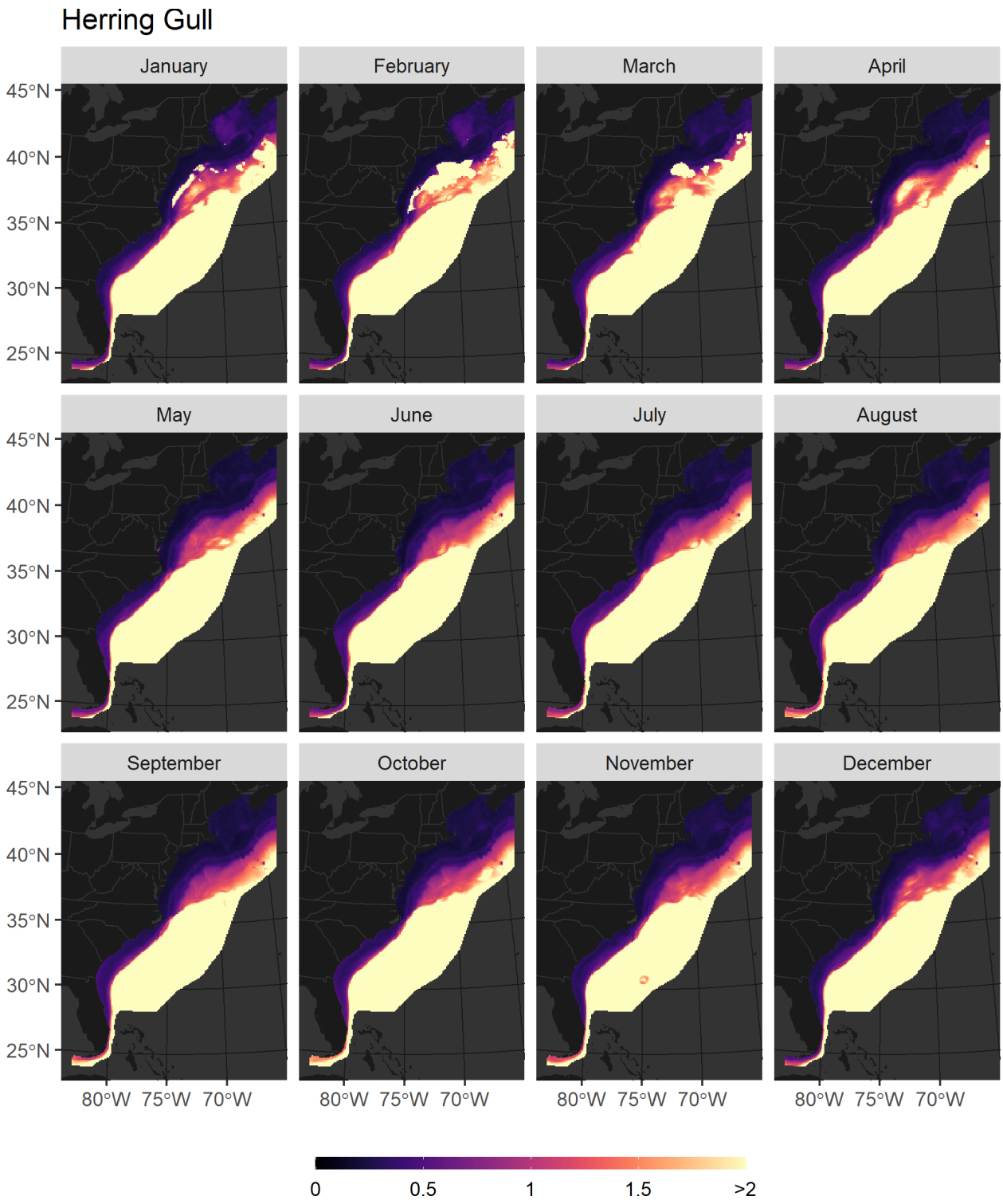


**Figure E-24. Bootstrapped coefficient of variation of average predicted density of Herring Gull by month during the retrospective period (1993–2019)**

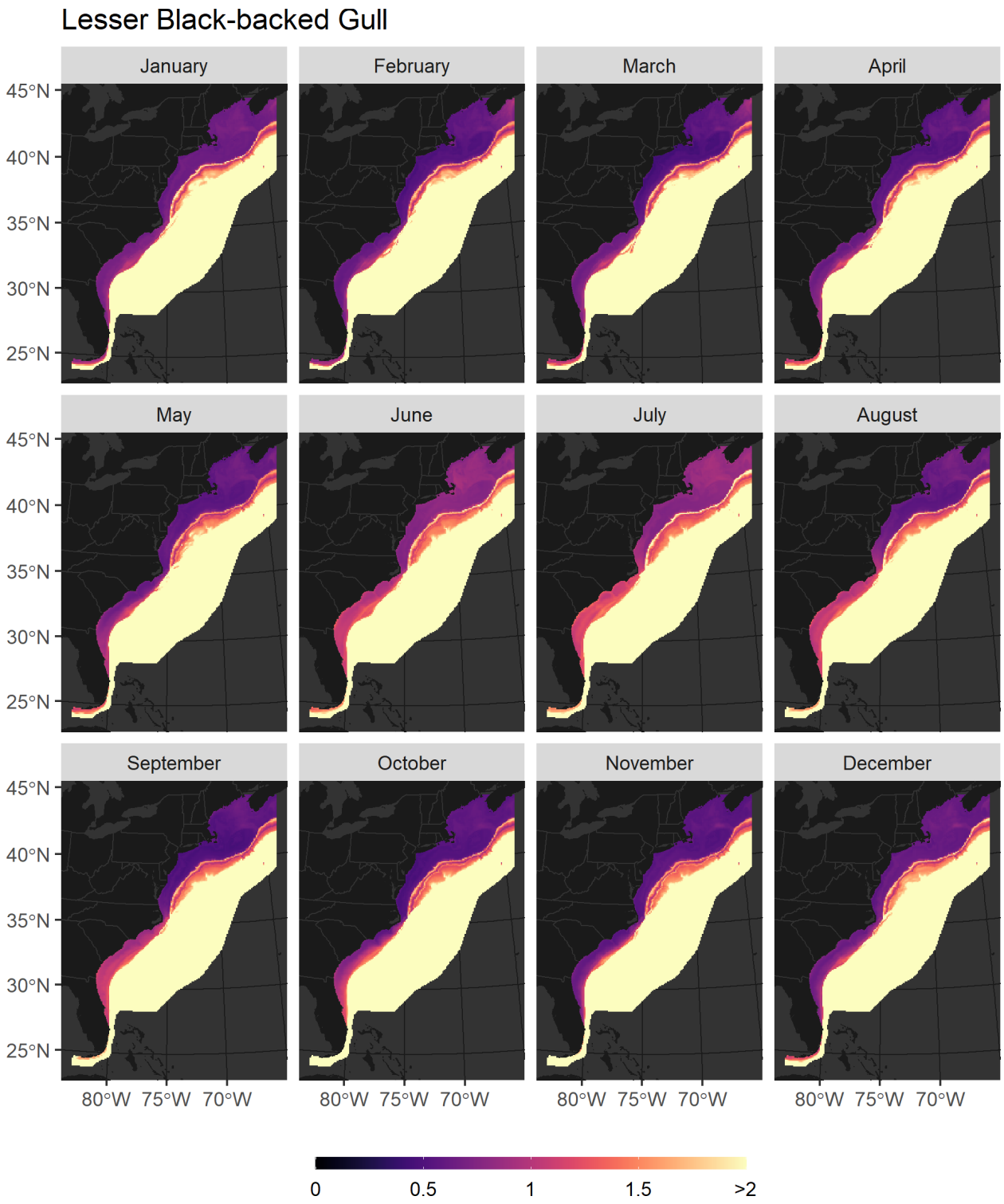


**Figure E-25. Bootstrapped coefficient of variation of average predicted density of Lesser Black-backed Gull by month during the retrospective period (1993–2019)**

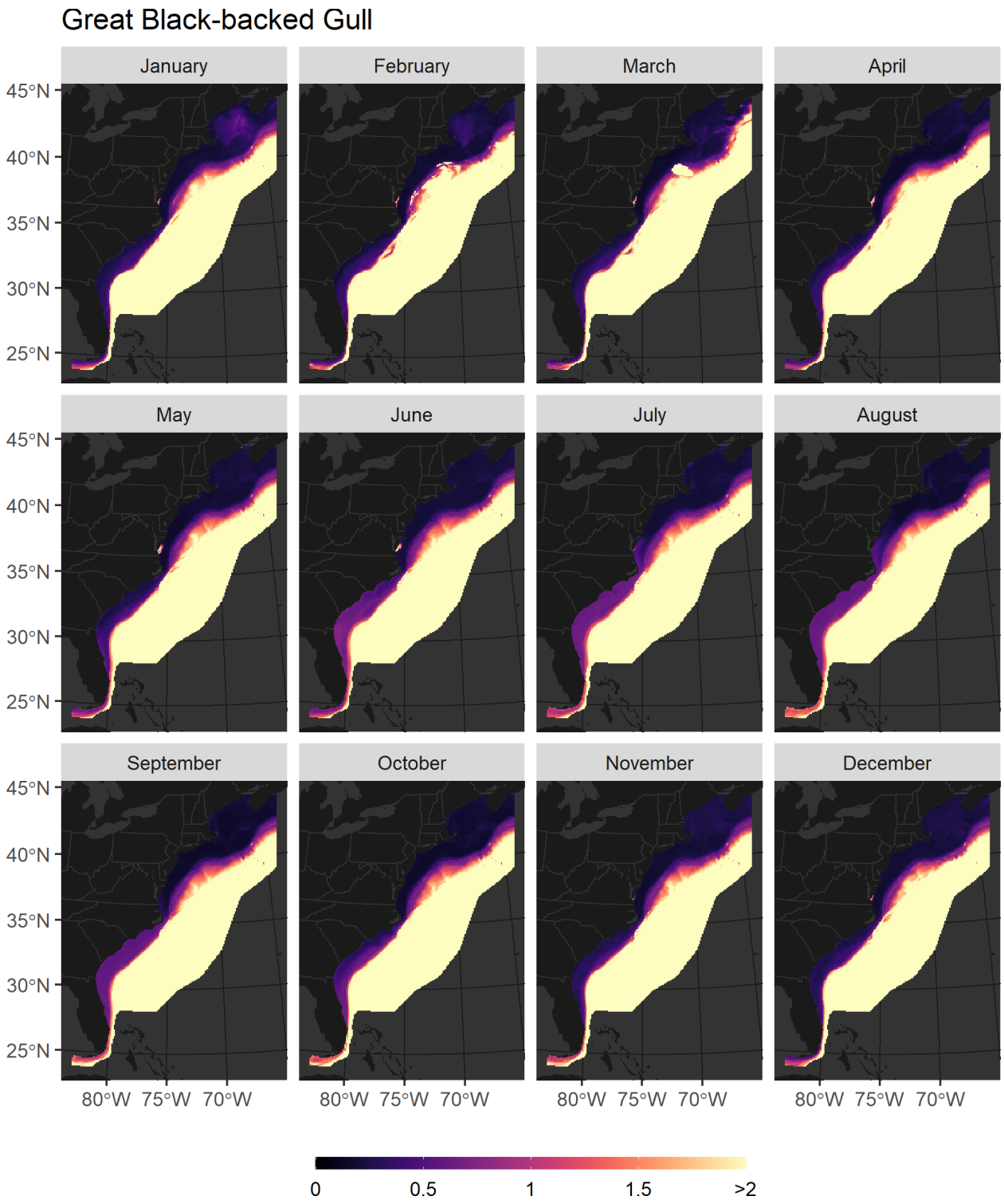


**Figure E-26. Bootstrapped coefficient of variation of average predicted density of Great Black-backed Gull by month during the retrospective period (1993–2019)**

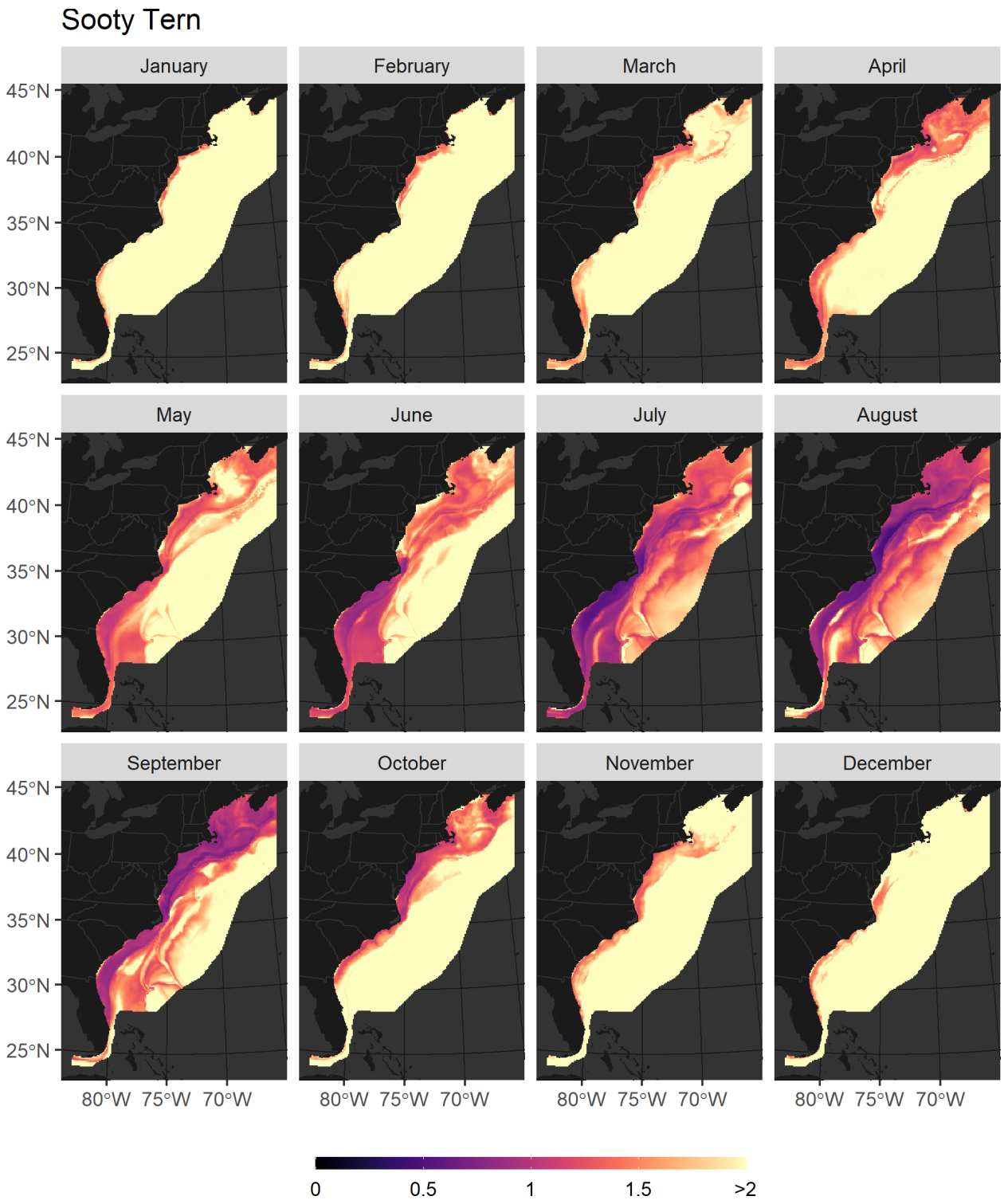


**Figure E-27. Bootstrapped coefficient of variation of average predicted density of Sooty Tern by month during the retrospective period (1993–2019)**

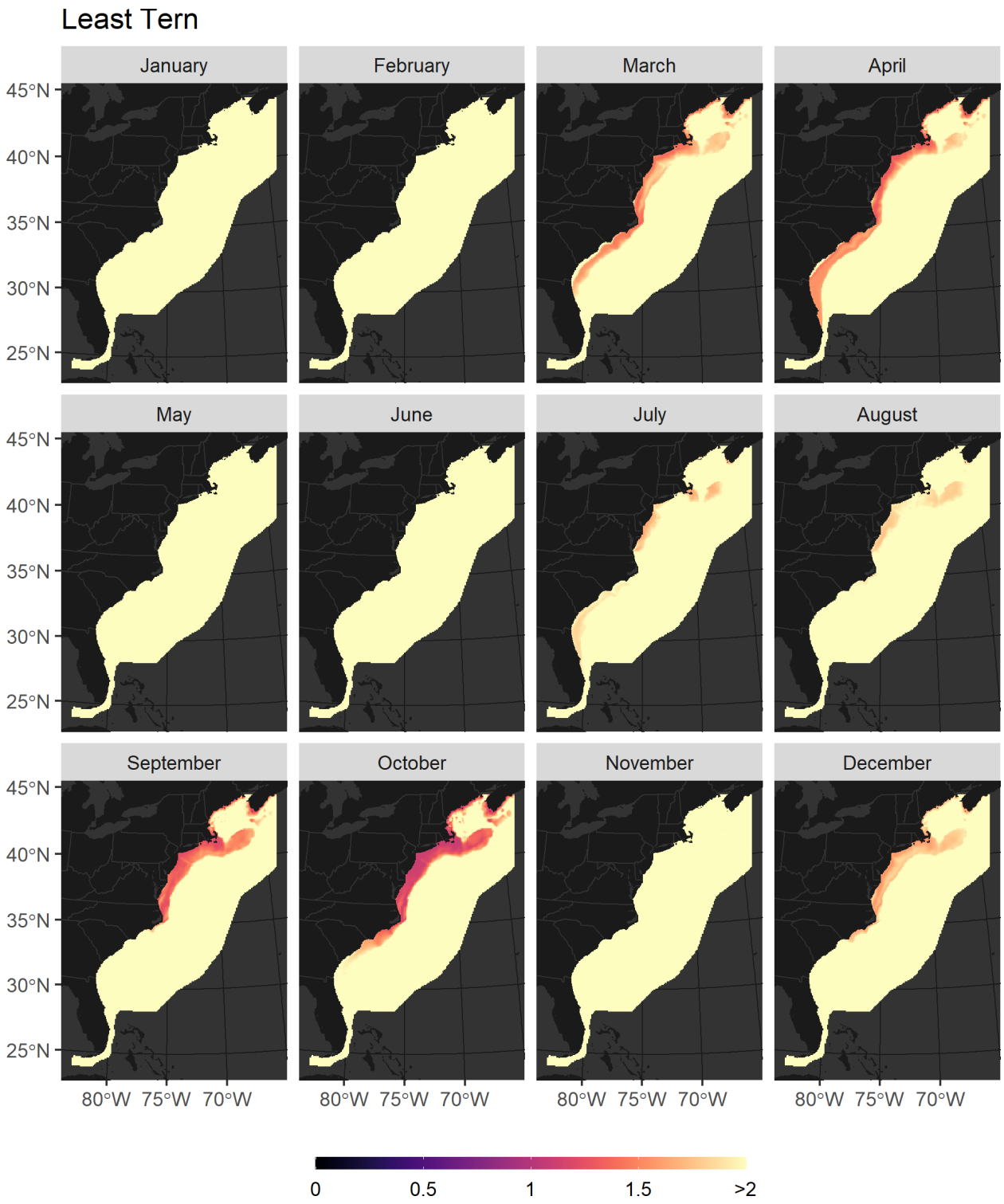


**Figure E-28. Bootstrapped coefficient of variation of average predicted density of Least Tern by month during the retrospective period (1993–2019)**

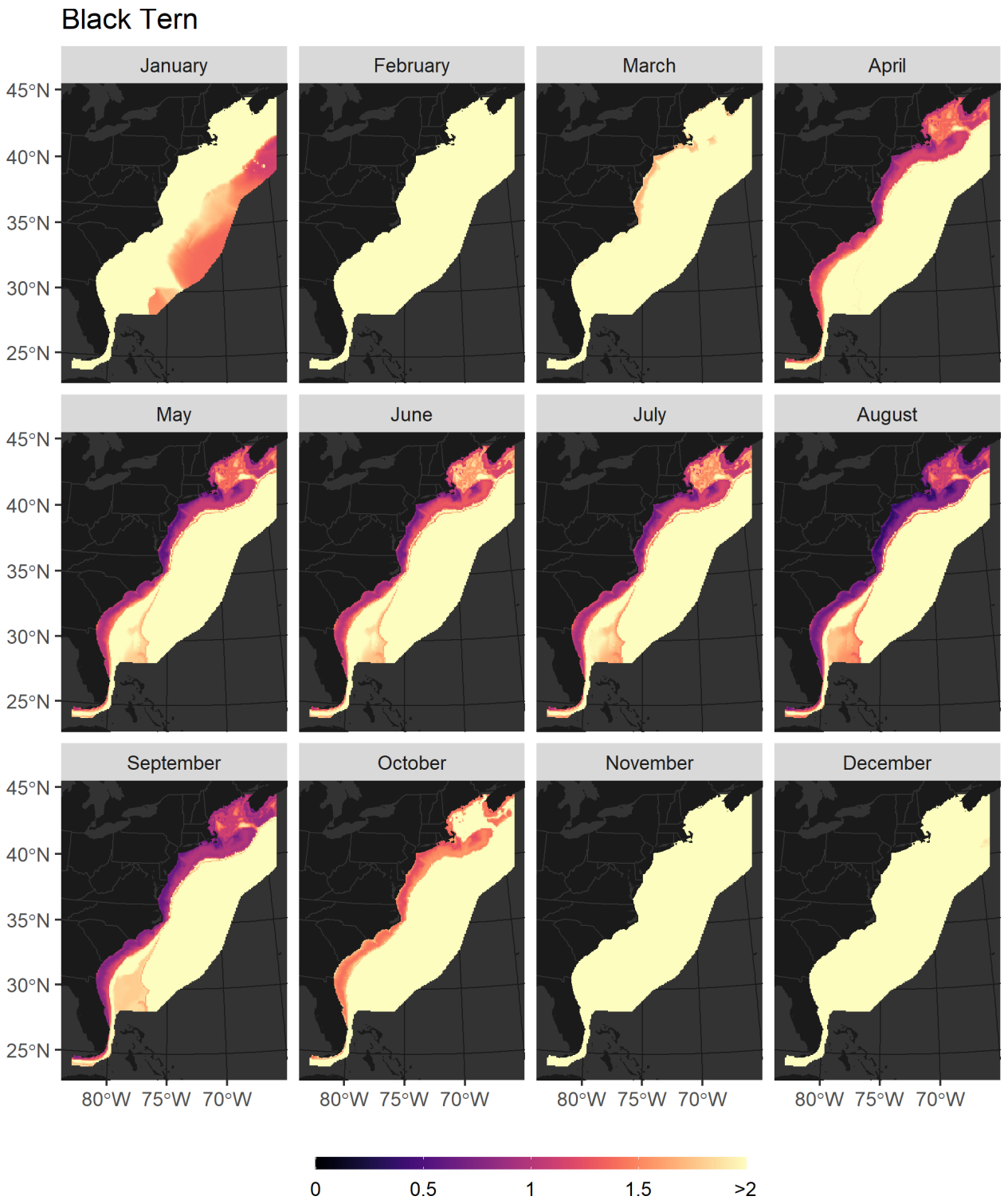


**Figure E-29. Bootstrapped coefficient of variation of average predicted density of Black Tern by month during the retrospective period (1993–2019)**

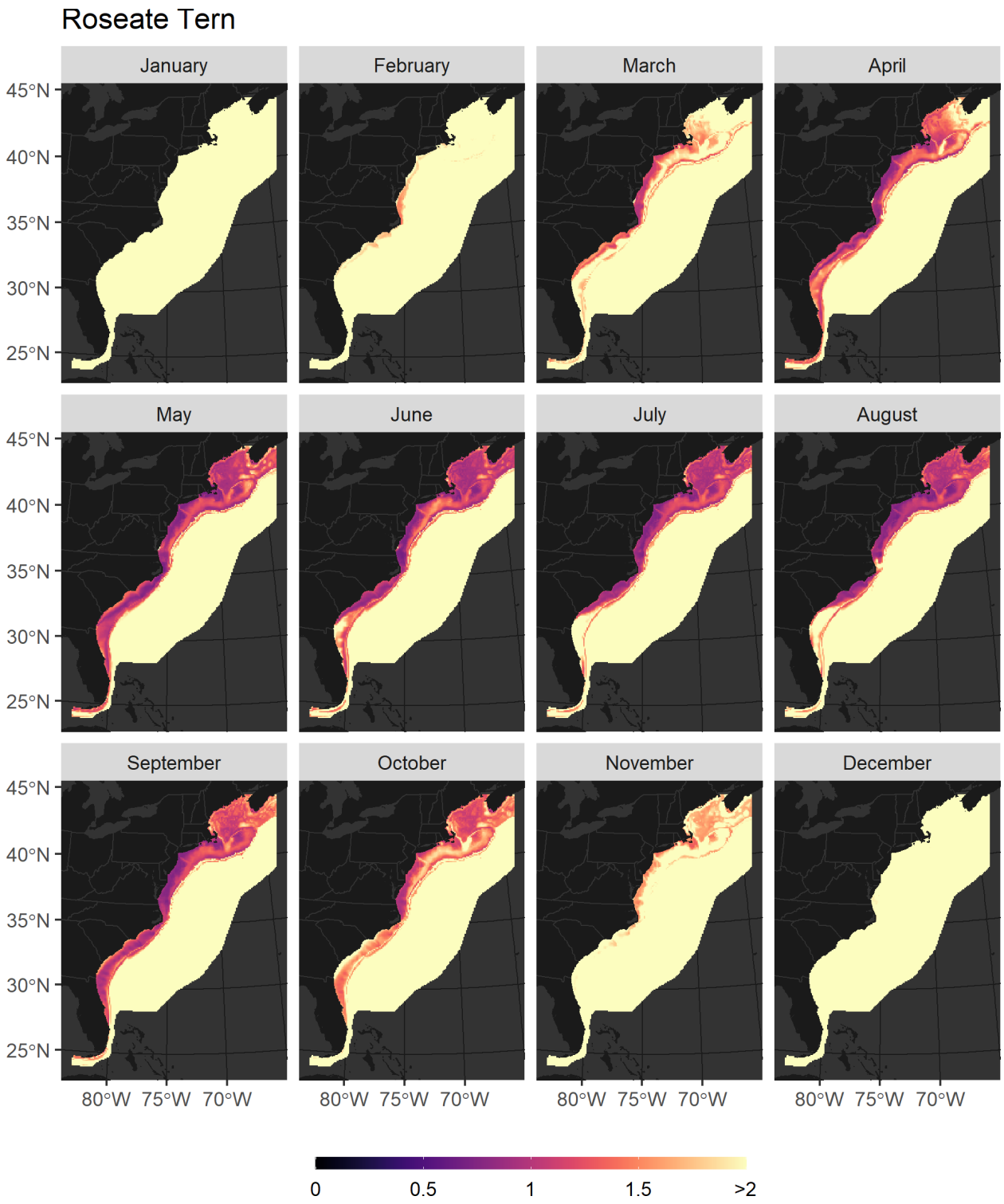


**Figure E-30. Bootstrapped coefficient of variation of average predicted density of Roseate Tern by month during the retrospective period (1993–2019)**

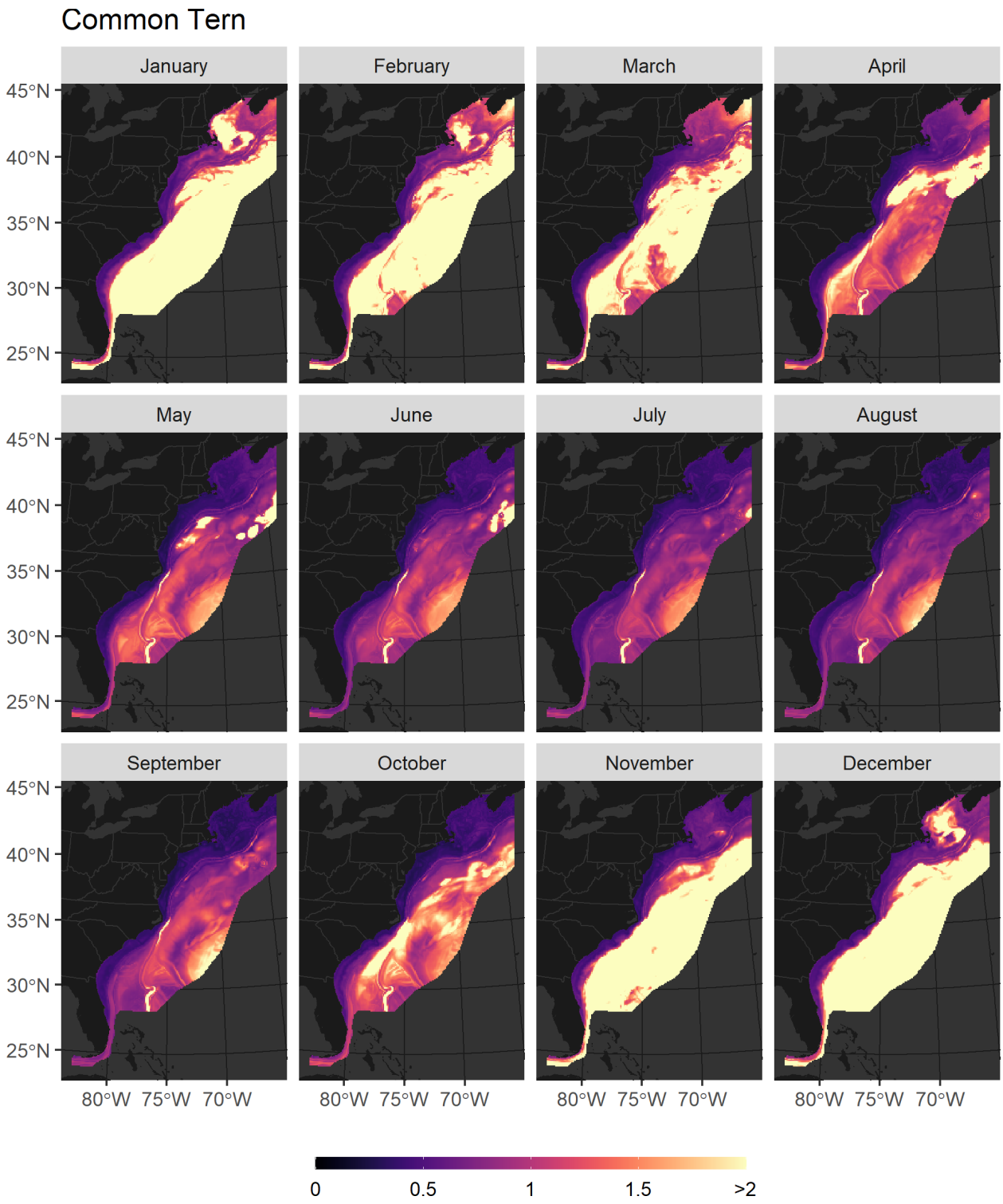


**Figure E-31. Bootstrapped coefficient of variation of average predicted density of Common Tern by month during the retrospective period (1993–2019)**

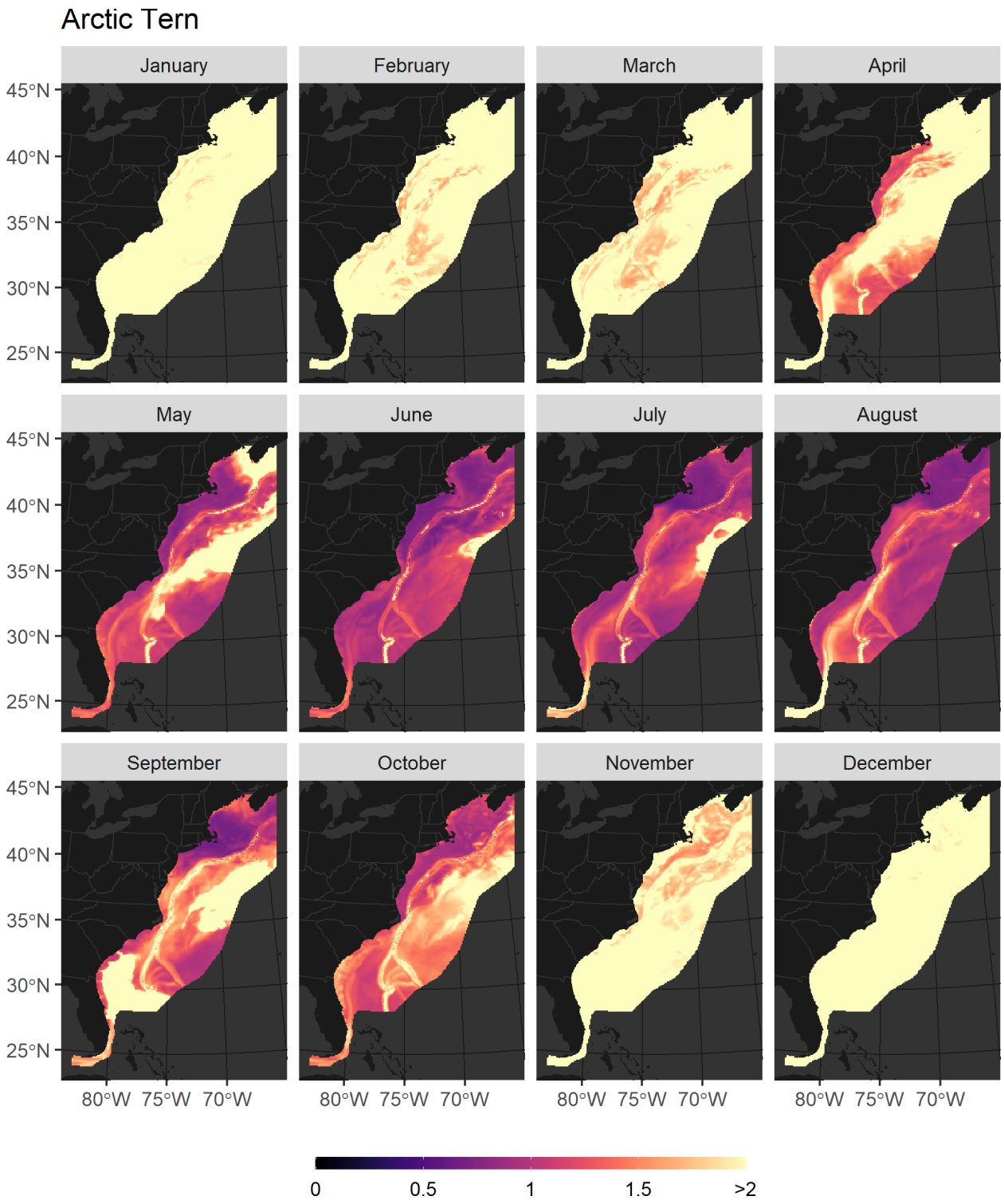


**Figure E-32. Bootstrapped coefficient of variation of average predicted density of Arctic Tern by month during the retrospective period (1993–2019)**

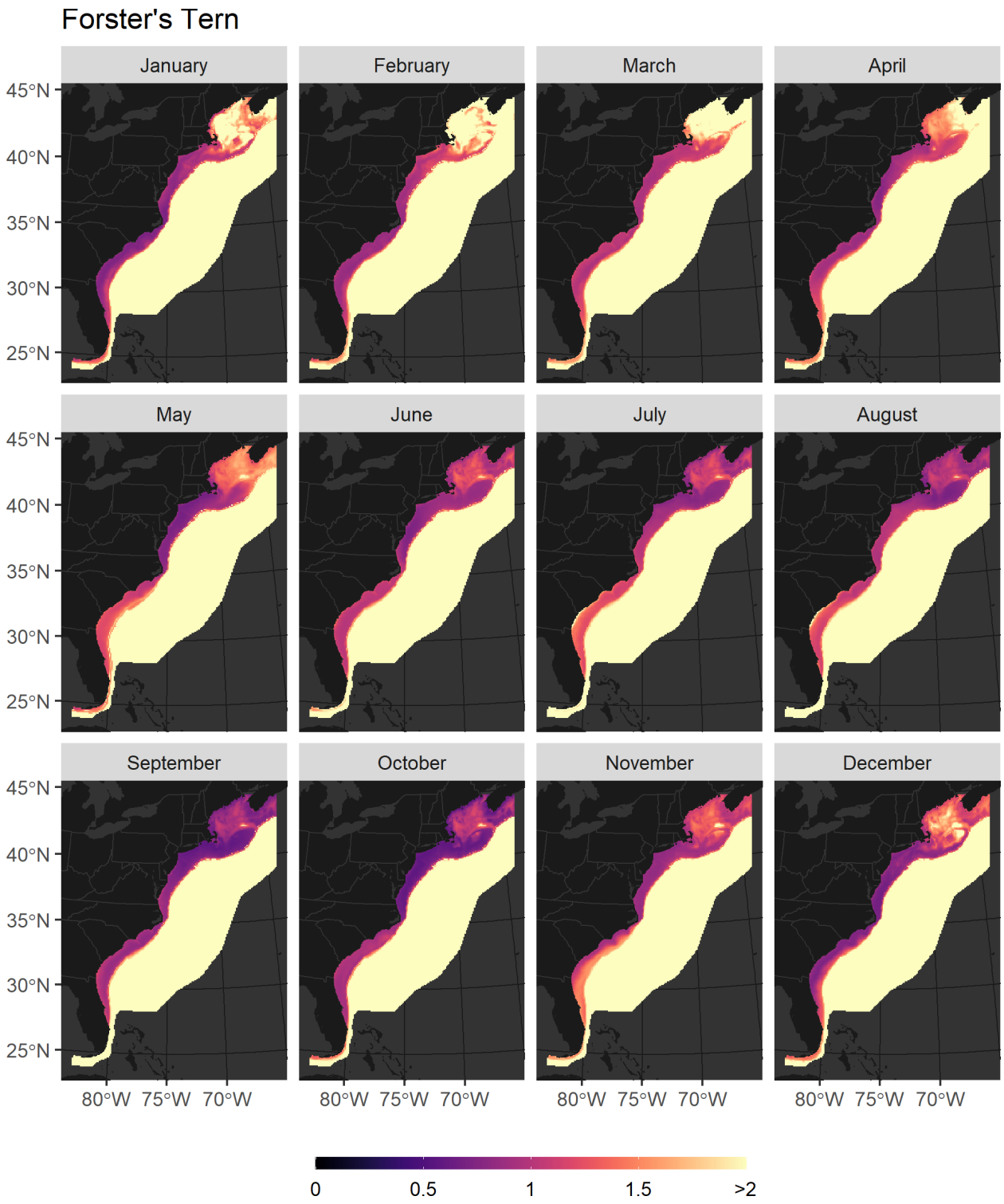


**Figure E-33. Bootstrapped coefficient of variation of average predicted density of Forster's Tern by month during the retrospective period (1993–2019)**

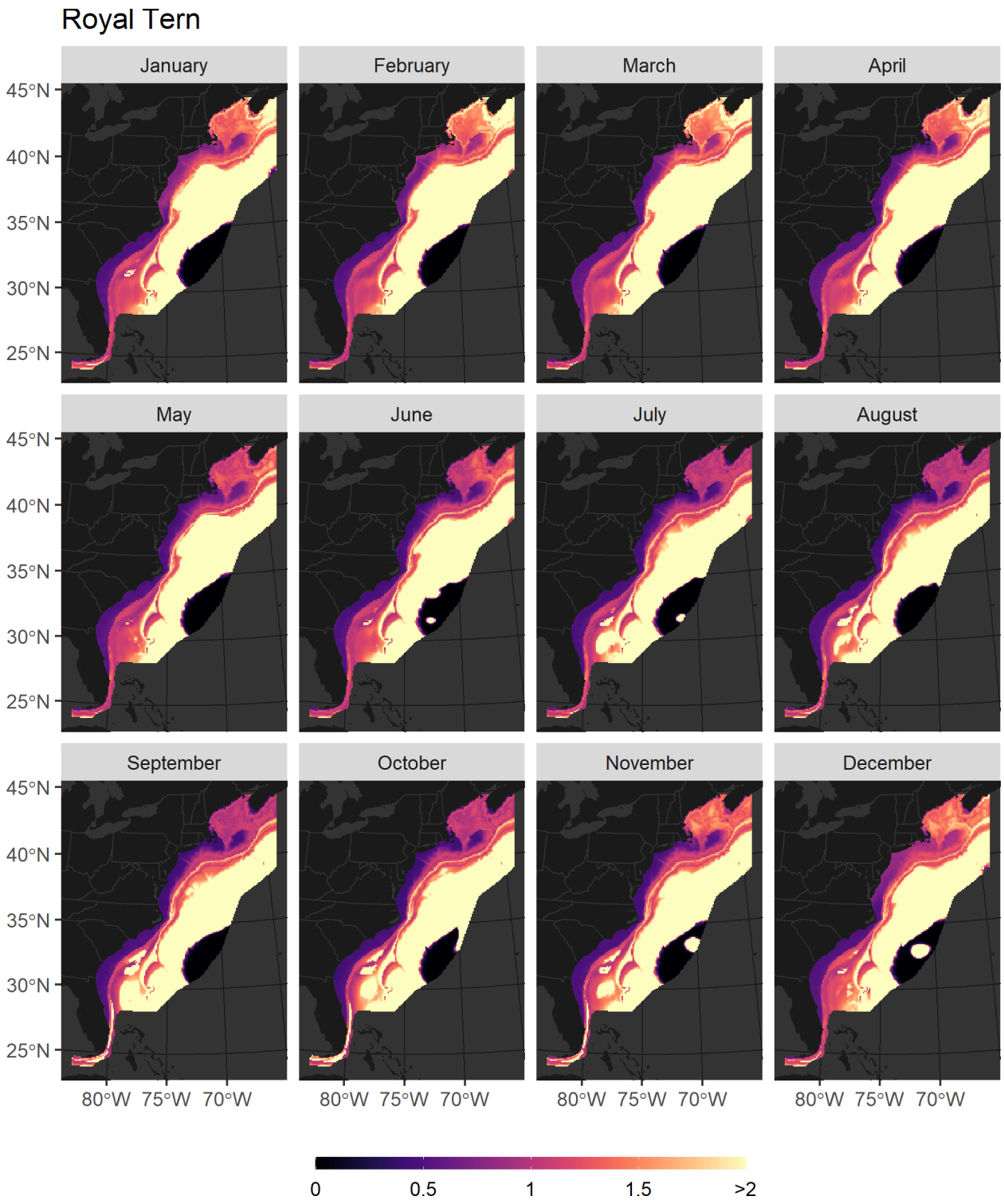


**Figure E-34. Bootstrapped coefficient of variation of average predicted density of Royal Tern by month during the retrospective period (1993–2019)**

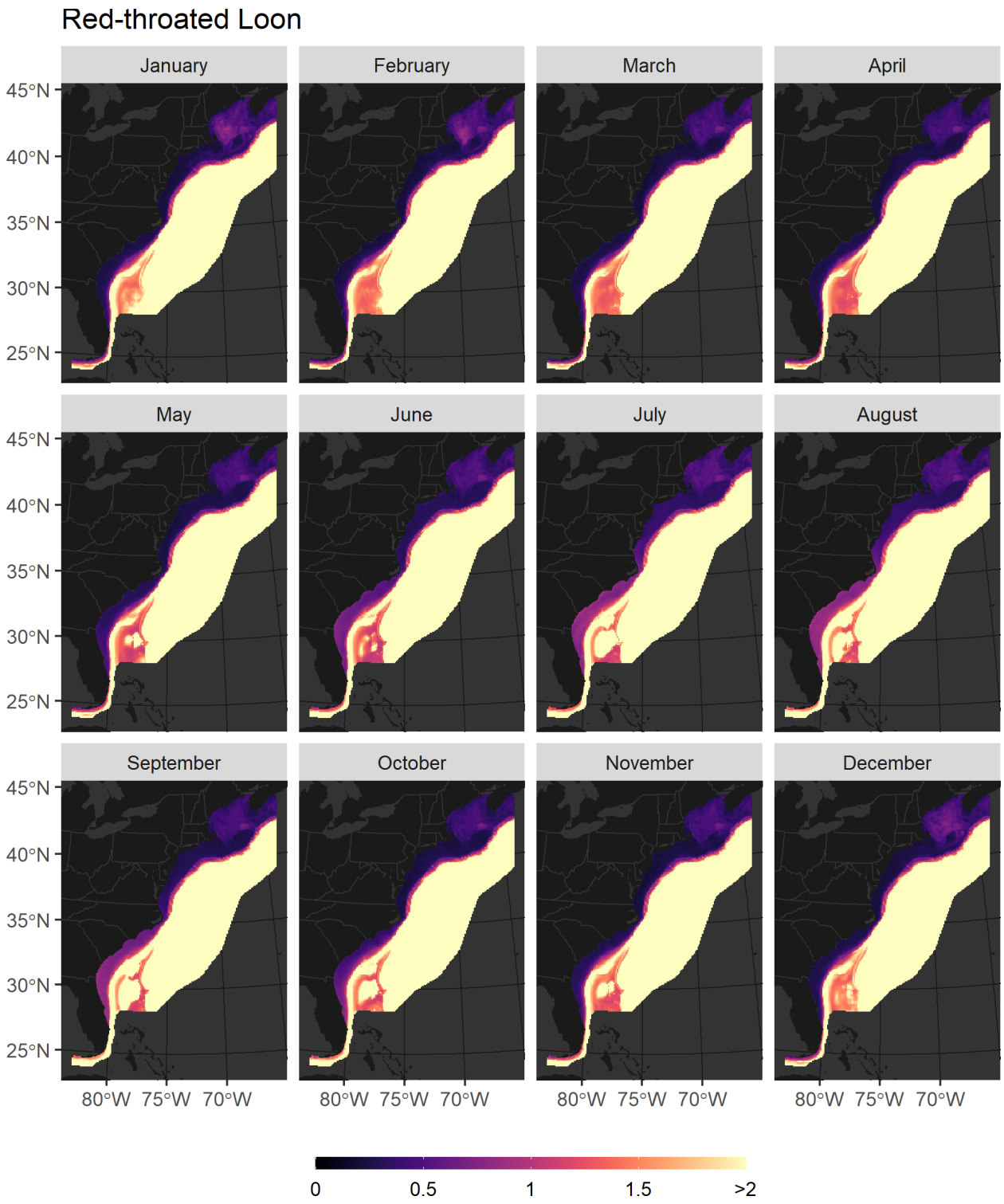


**Figure E-35. Bootstrapped coefficient of variation of average predicted density of Red-throated Loon by month during the retrospective period (1993–2019)**

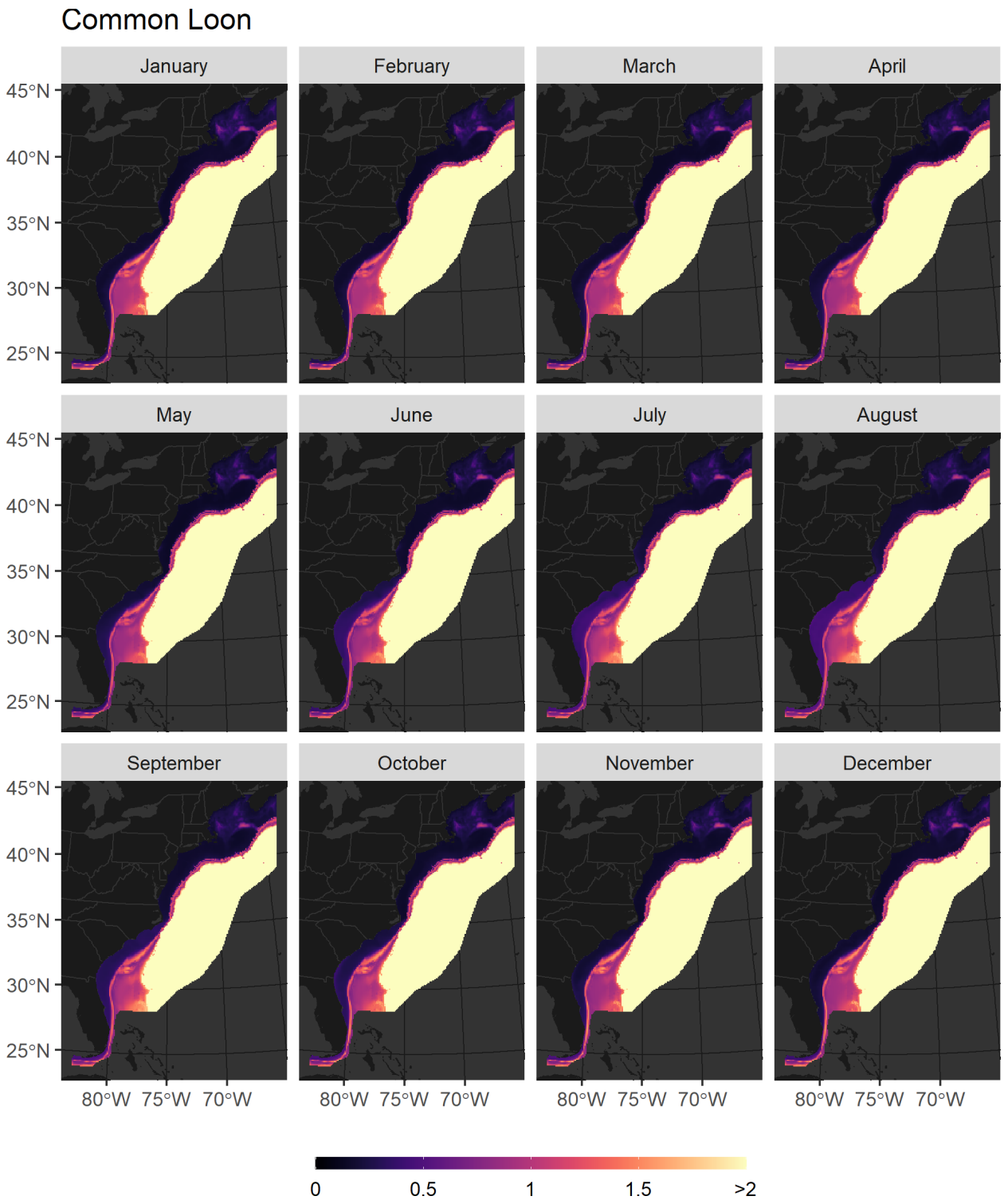


**Figure E-36. Bootstrapped coefficient of variation of average predicted density of Common Loon by month during the retrospective period (1993–2019)**

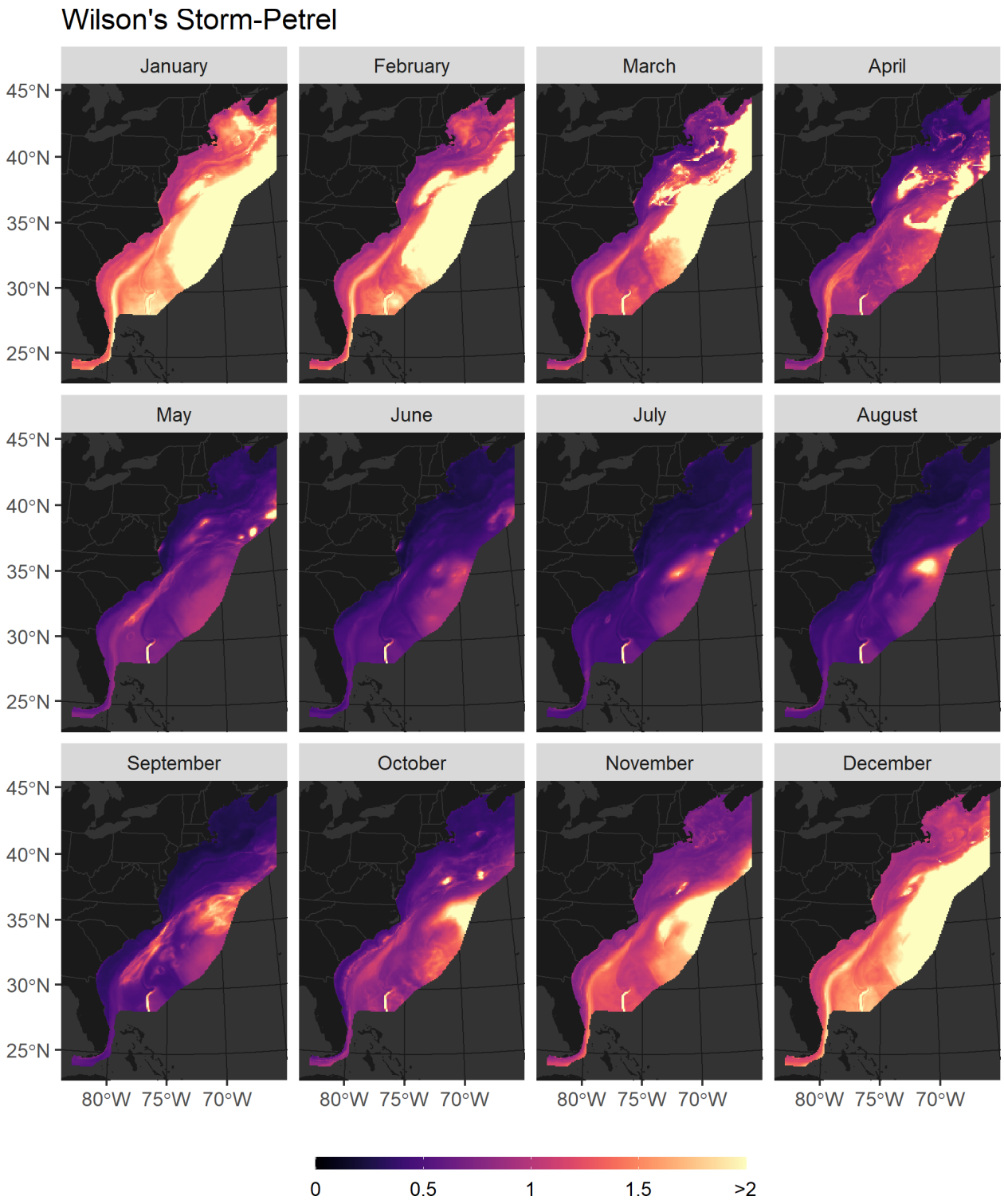


**Figure E-37. Bootstrapped coefficient of variation of average predicted density of Wilson's Storm-Petrel by month during the retrospective period (1993–2019)**

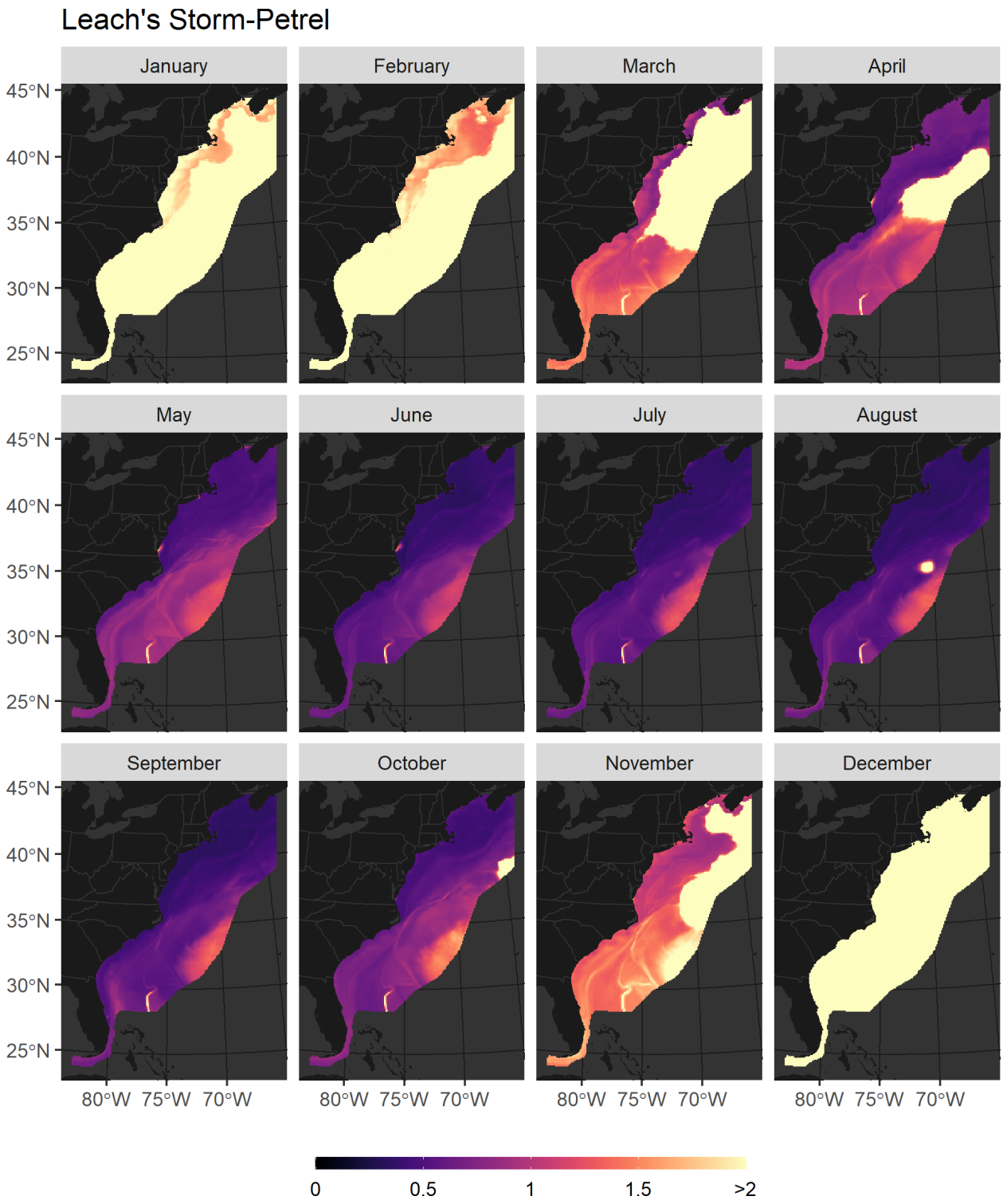


**Figure E-38. Bootstrapped coefficient of variation of average predicted density of Leach's Storm-Petrel by month during the retrospective period (1993–2019)**

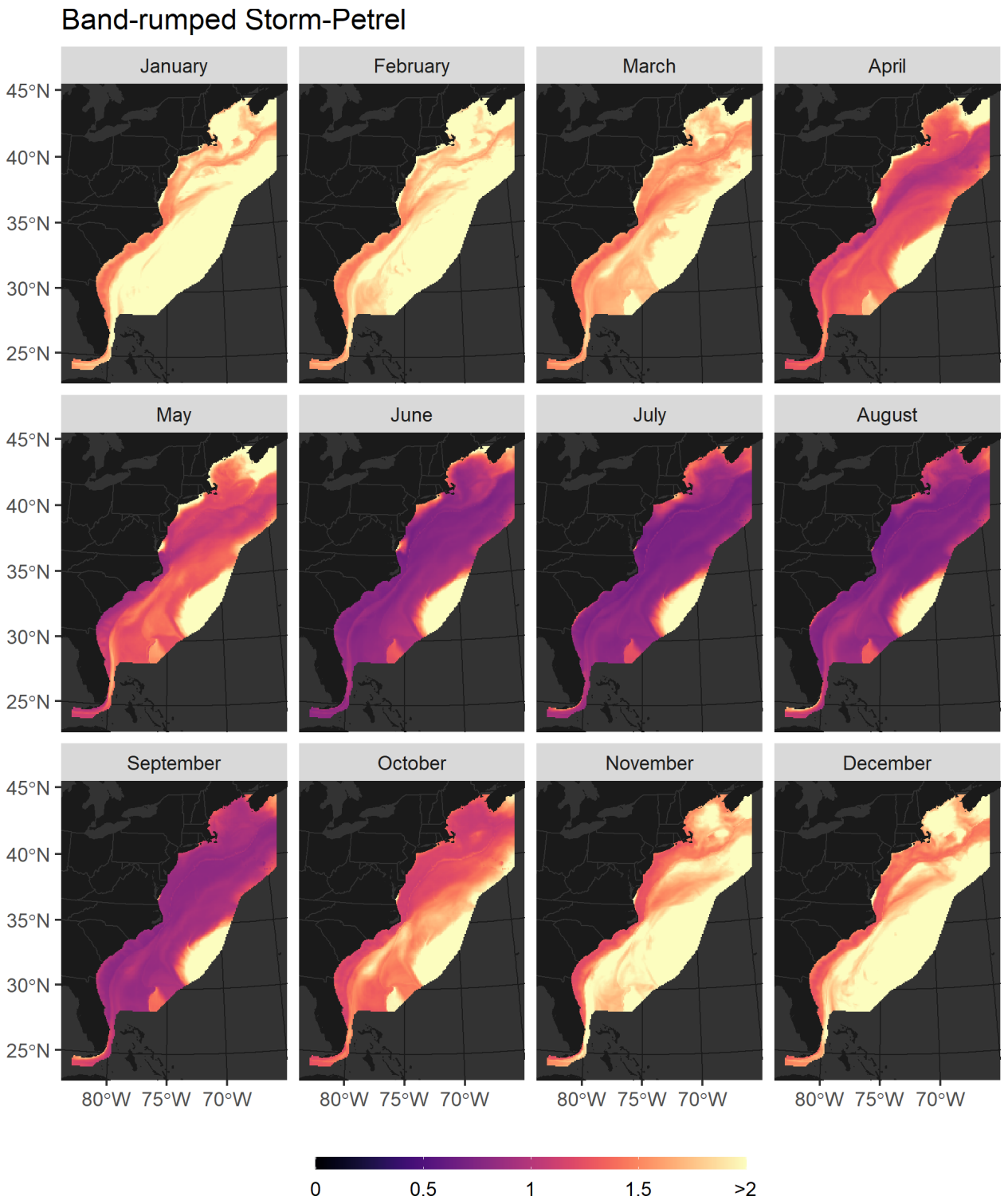


**Figure E-39. Bootstrapped coefficient of variation of average predicted density of Band-rumped Storm-Petrel by month during the retrospective period (1993–2019)**

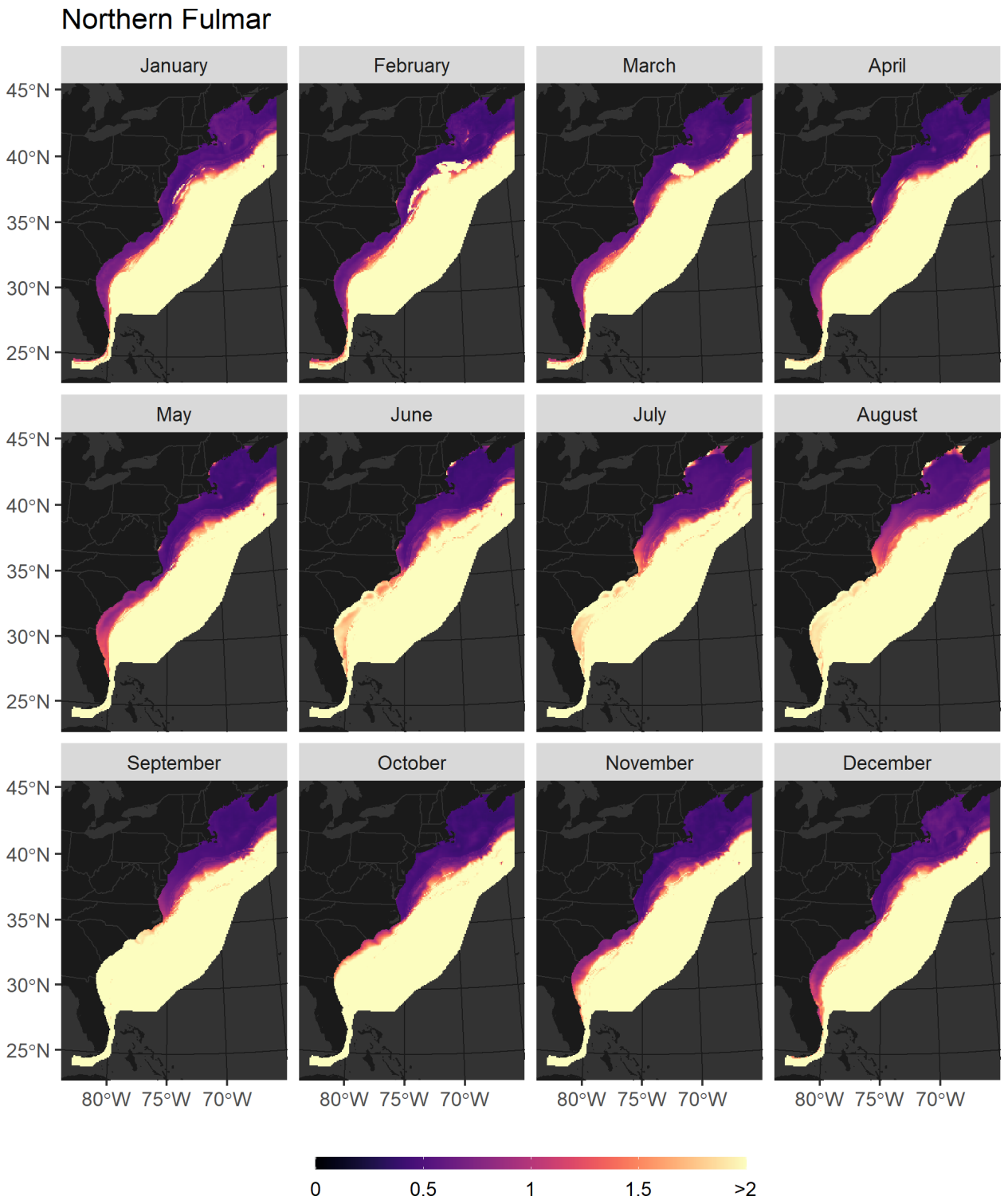


**Figure E-40. Bootstrapped coefficient of variation of average predicted density of Northern Fulmar by month during the retrospective period (1993–2019)**

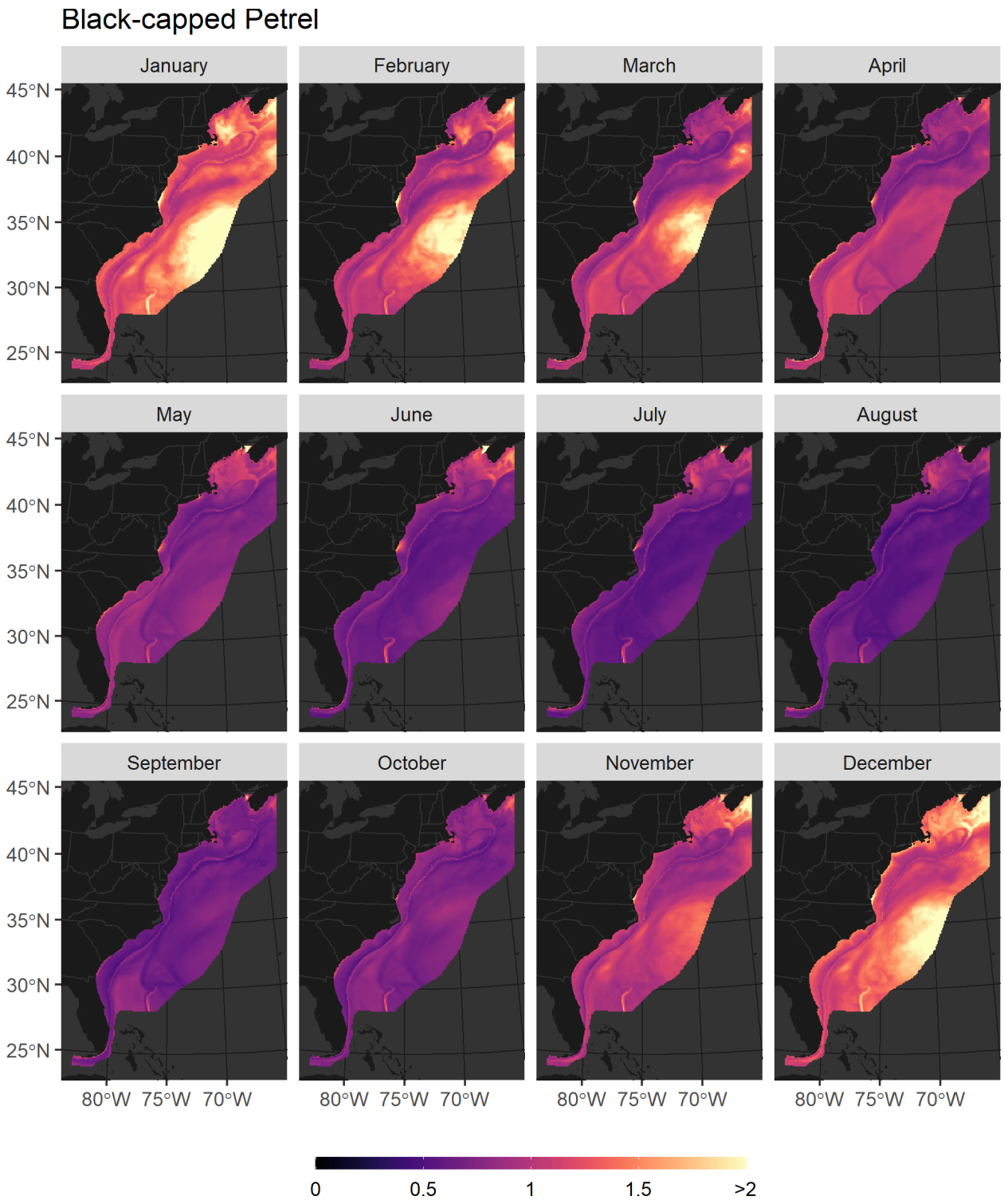


**Figure E-41. Bootstrapped coefficient of variation of average predicted density of Black-capped Petrel by month during the retrospective period (1993–2019)**

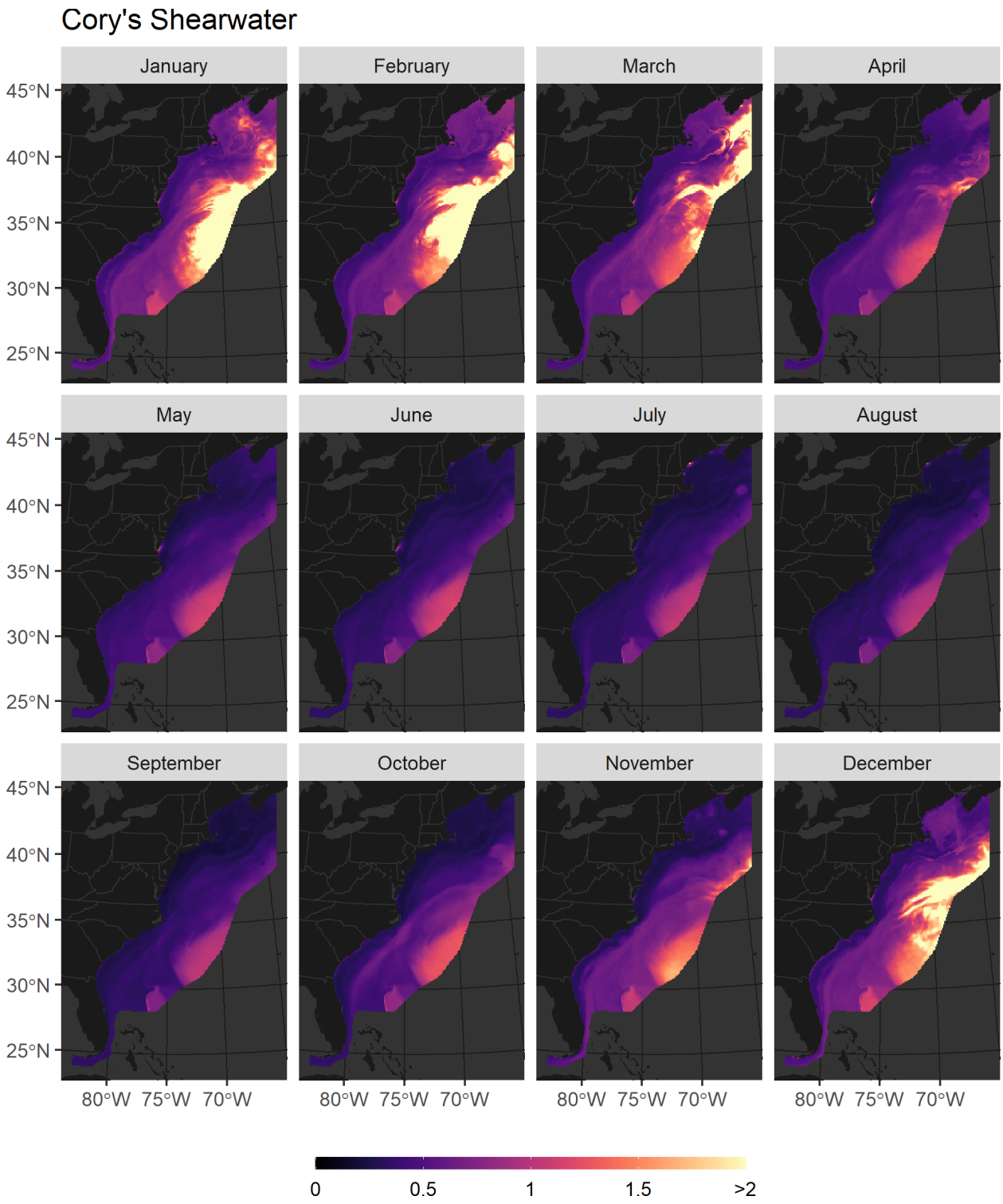


**Figure E-42. Bootstrapped coefficient of variation of average predicted density of Cory's Shearwater by month during the retrospective period (1993–2019)**

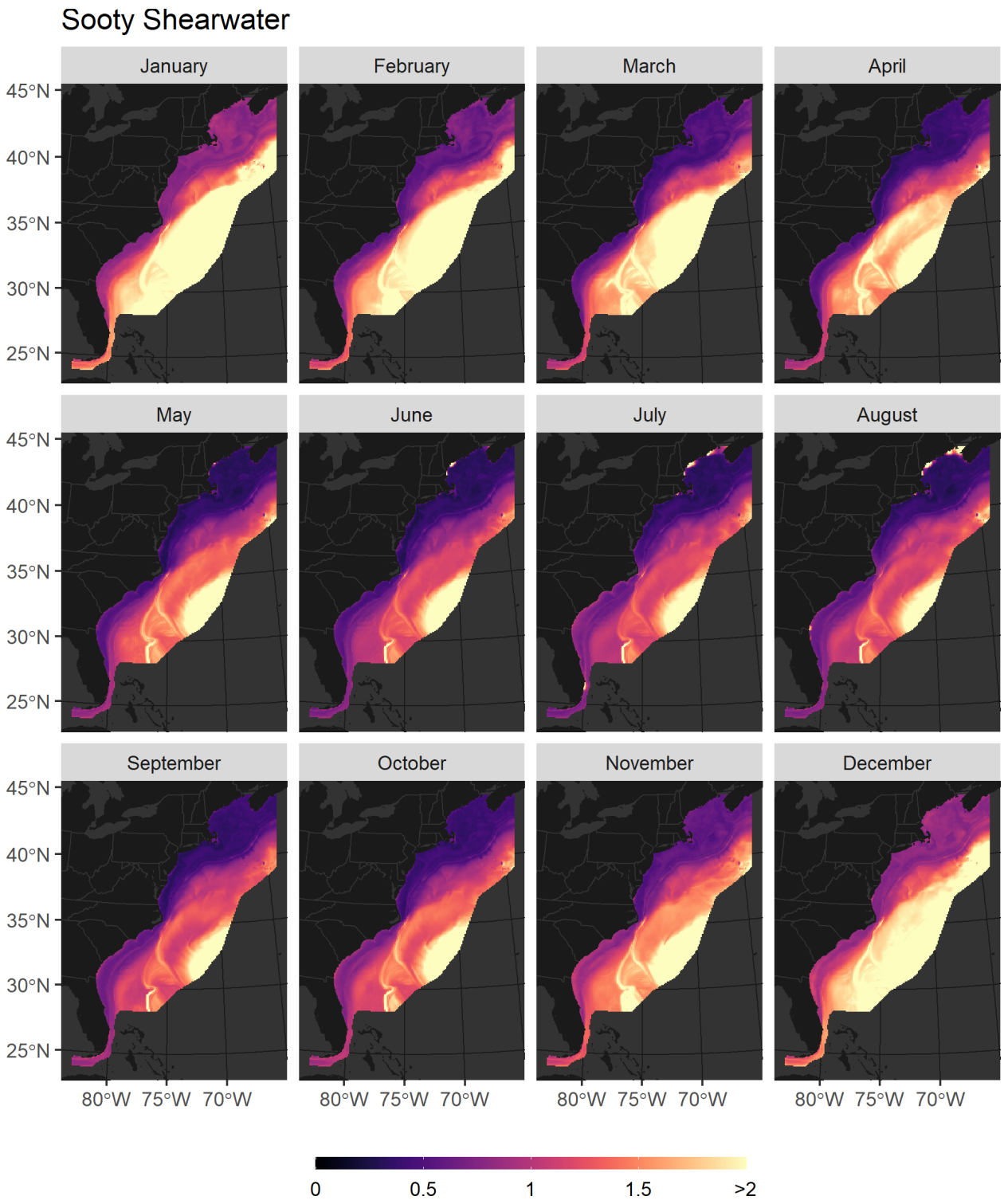


**Figure E-43. Bootstrapped coefficient of variation of average predicted density of Sooty Shearwater by month during the retrospective period (1993–2019)**

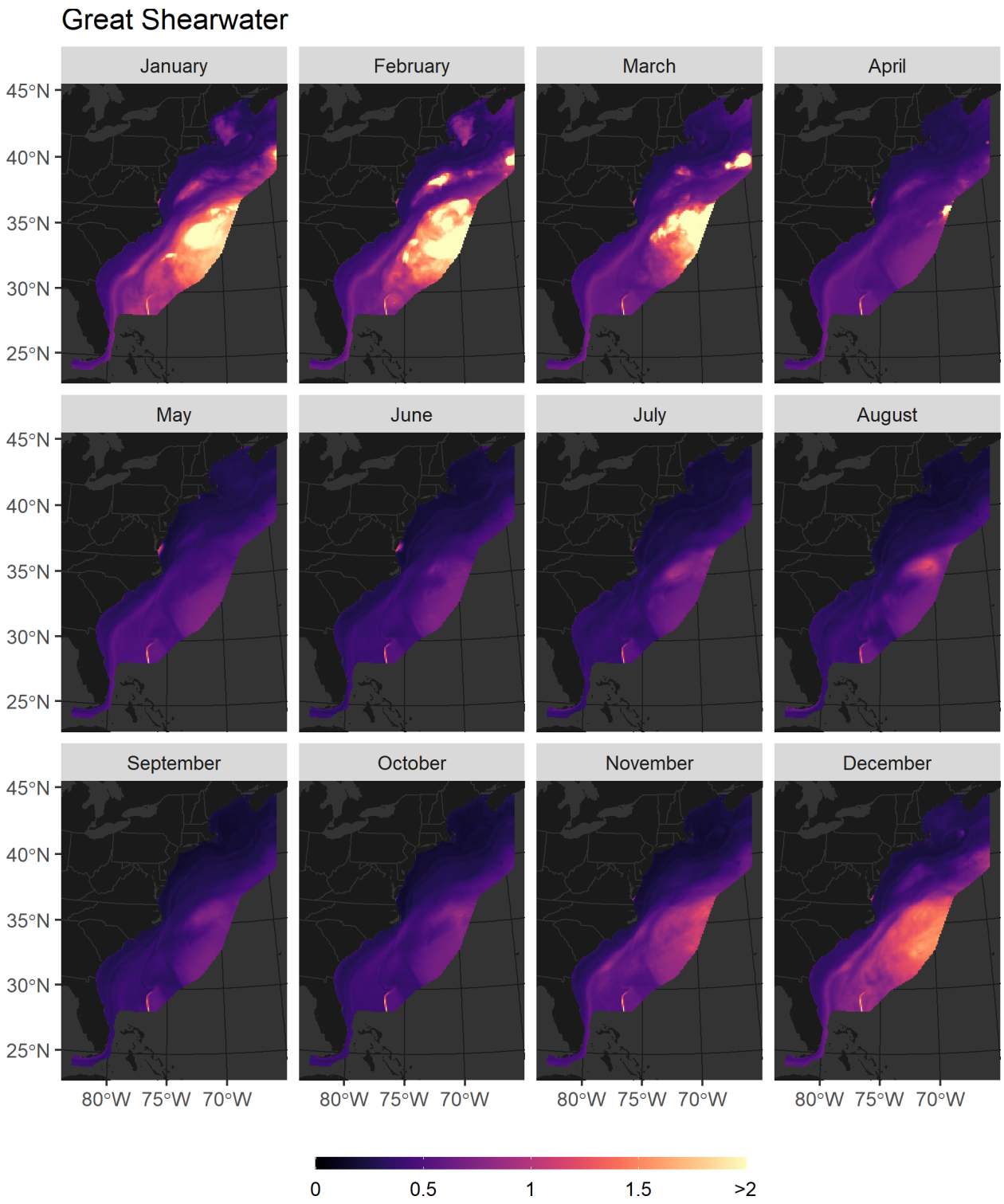


**Figure E-44. Bootstrapped coefficient of variation of average predicted density of Great Shearwater by month during the retrospective period (1993–2019)**

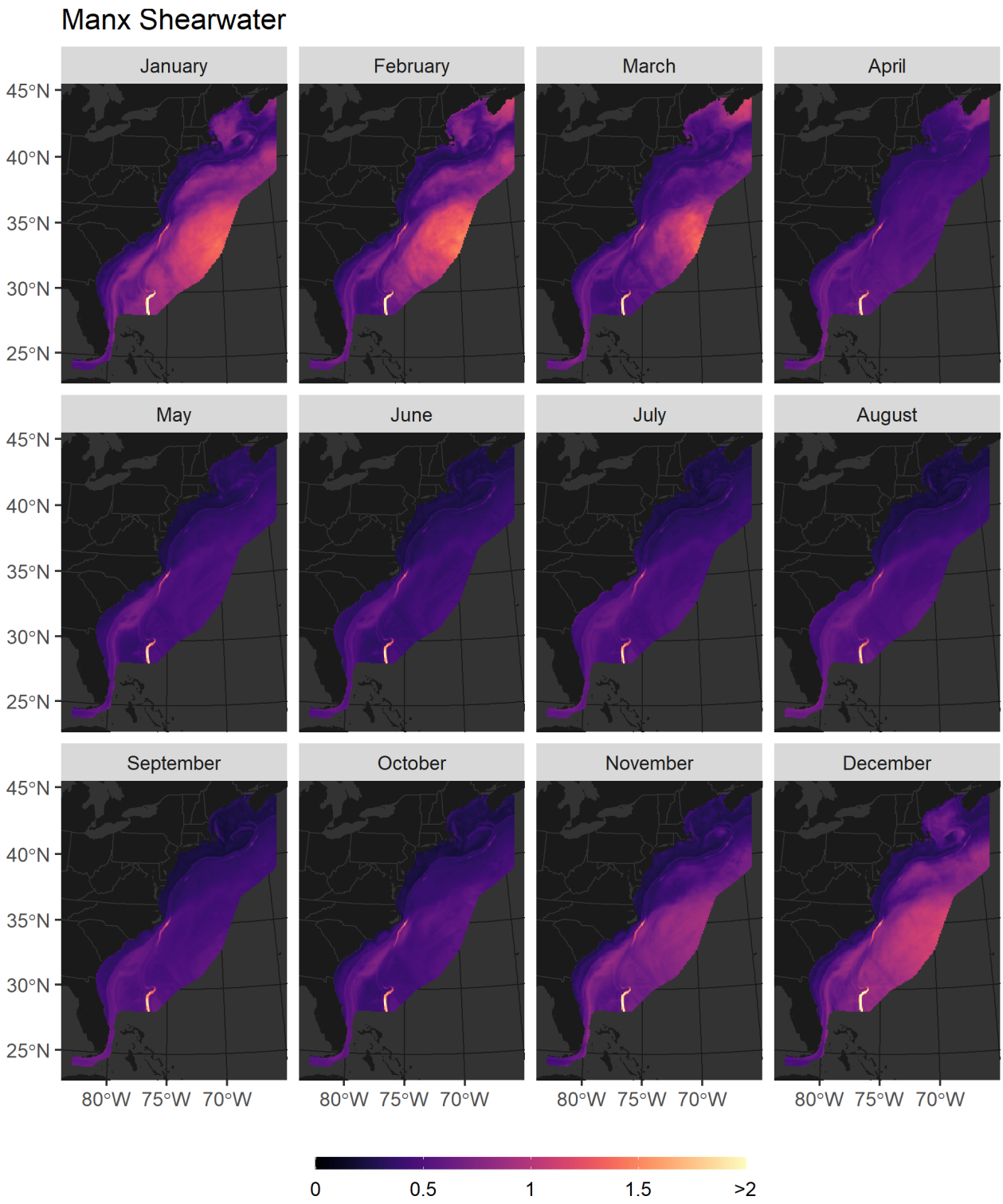


**Figure E-45. Bootstrapped coefficient of variation of average predicted density of Manx Shearwater by month during the retrospective period (1993–2019)**

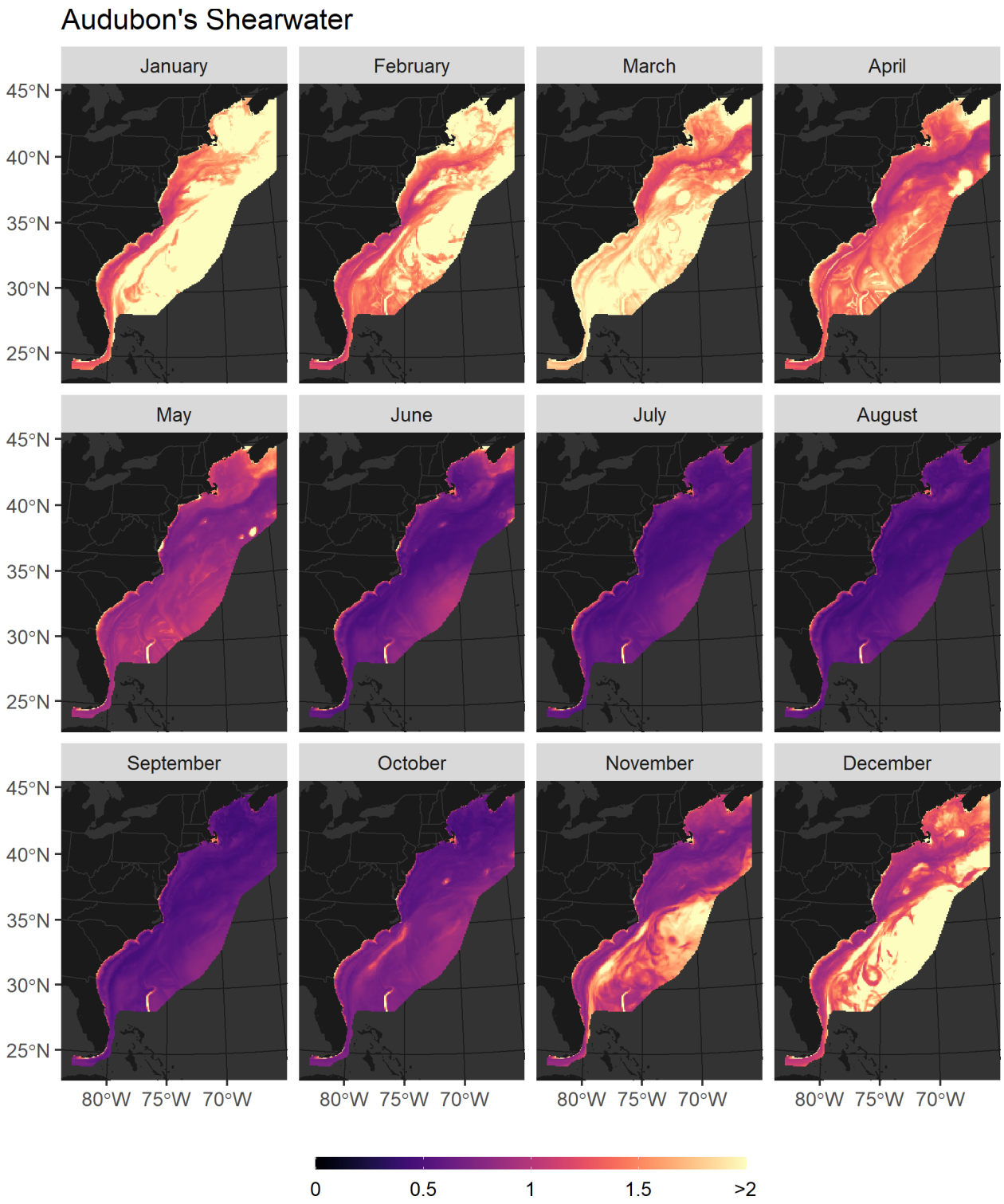


**Figure E-46. Bootstrapped coefficient of variation of average predicted density of Audubon's Shearwater by month during the retrospective period (1993–2019)**

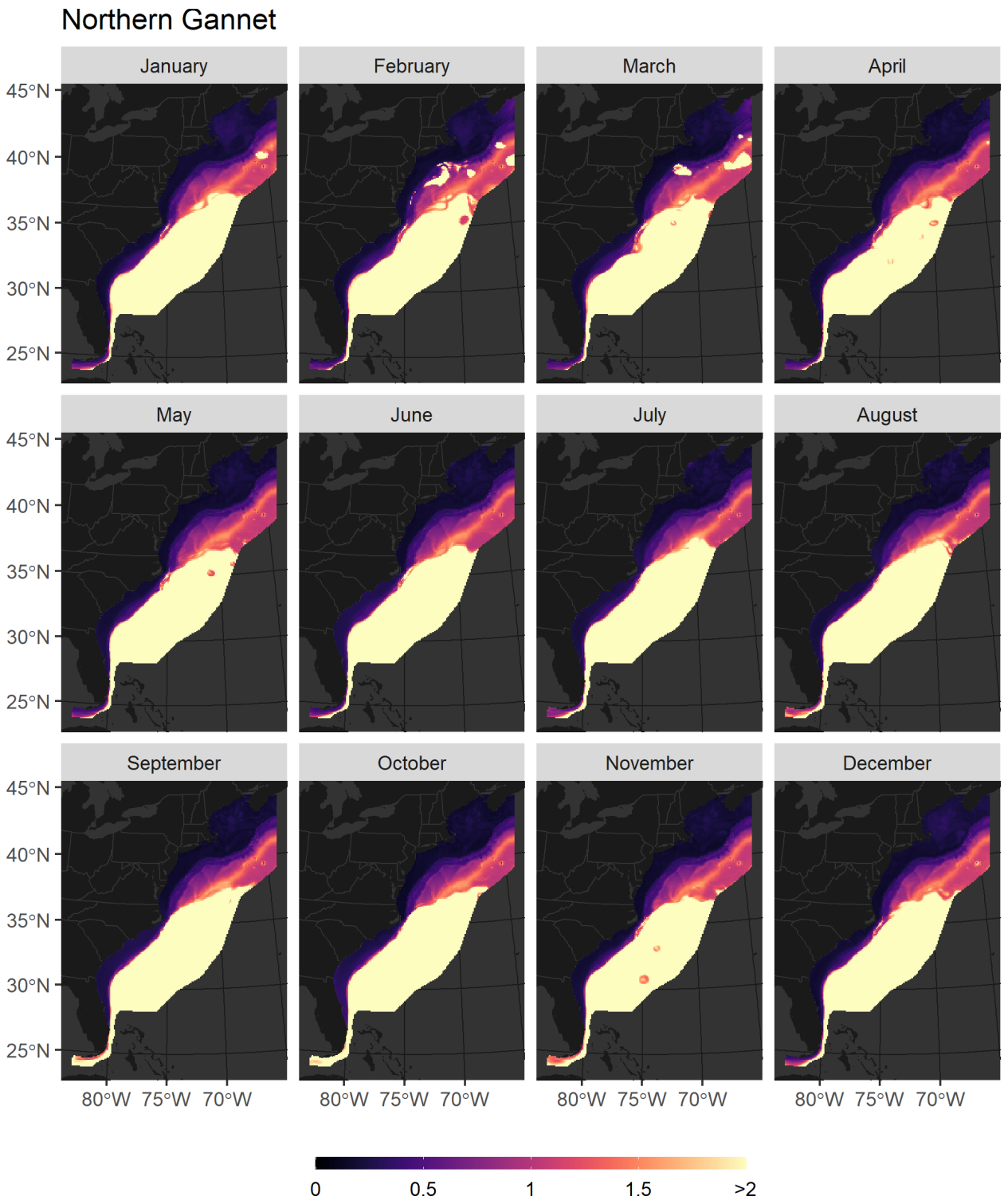


**Figure E-47. Bootstrapped coefficient of variation of average predicted density of Northern Gannet by month during the retrospective period (1993–2019)**

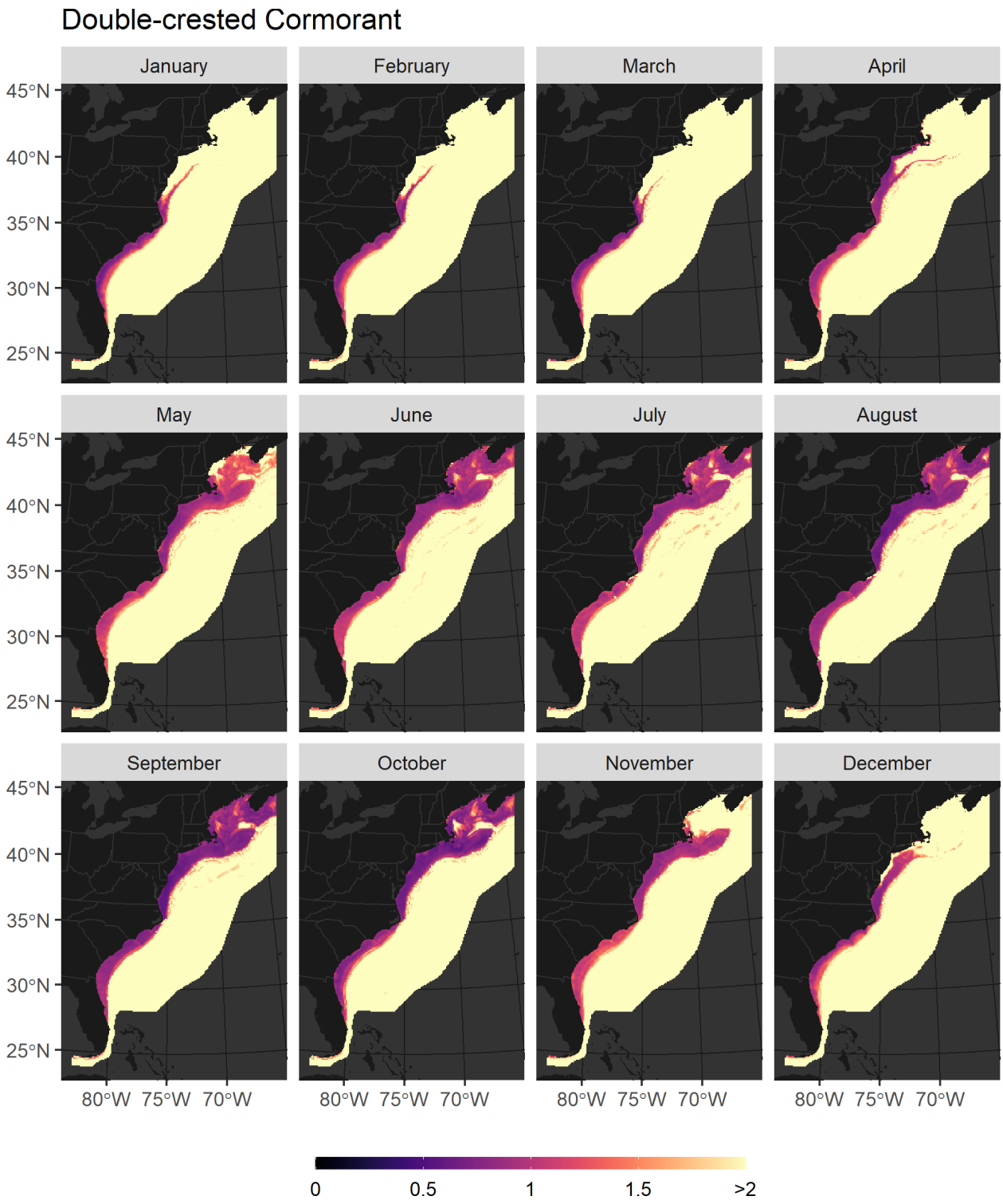


**Figure E-48. Bootstrapped coefficient of variation of average predicted density of Double-crested Cormorant by month during the retrospective period (1993–2019)**

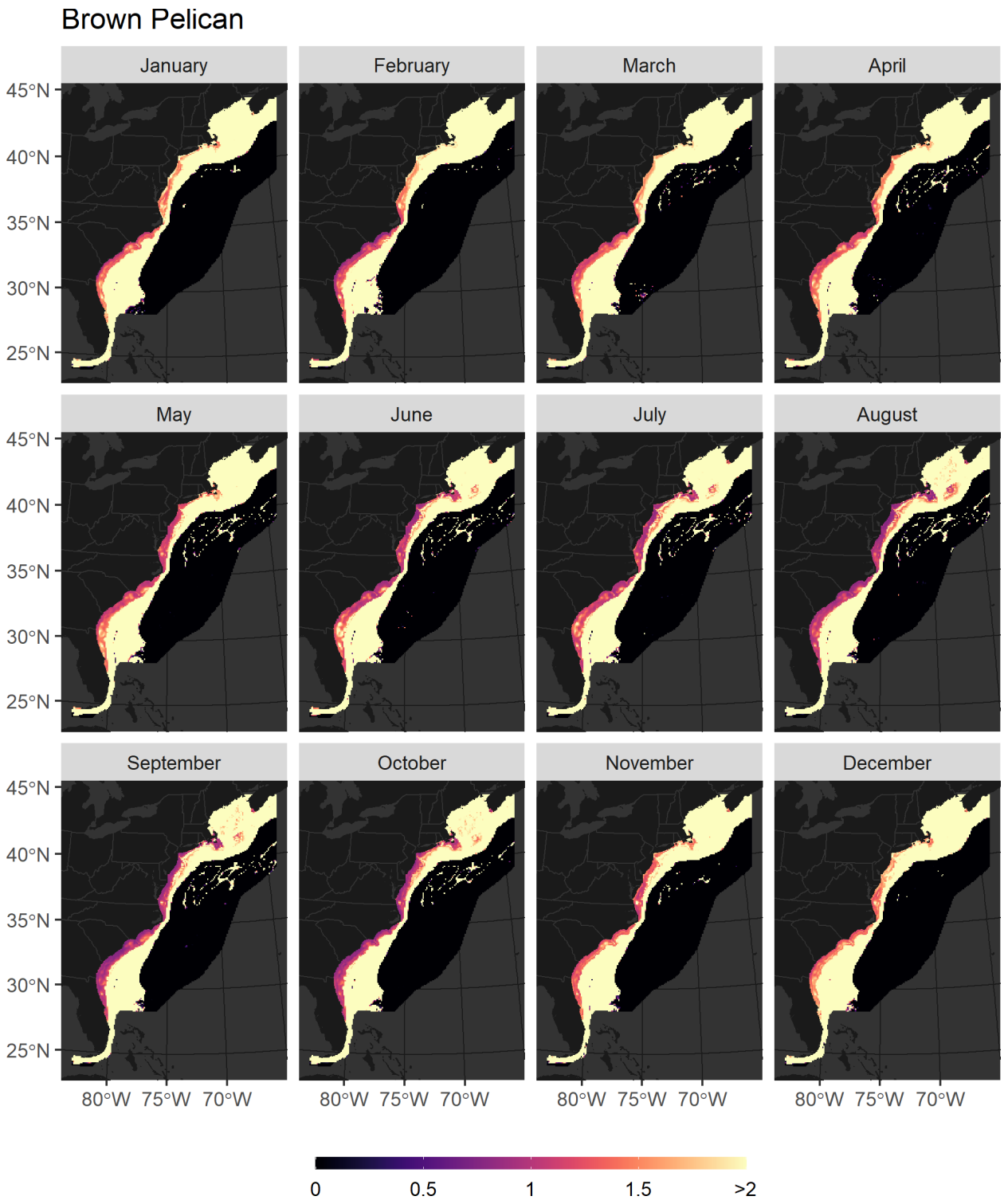


**Figure E-49. Bootstrapped coefficient of variation of average predicted density of Brown Pelican by month during the retrospective period (1993–2019)**

# Appendix F: Future predicted density

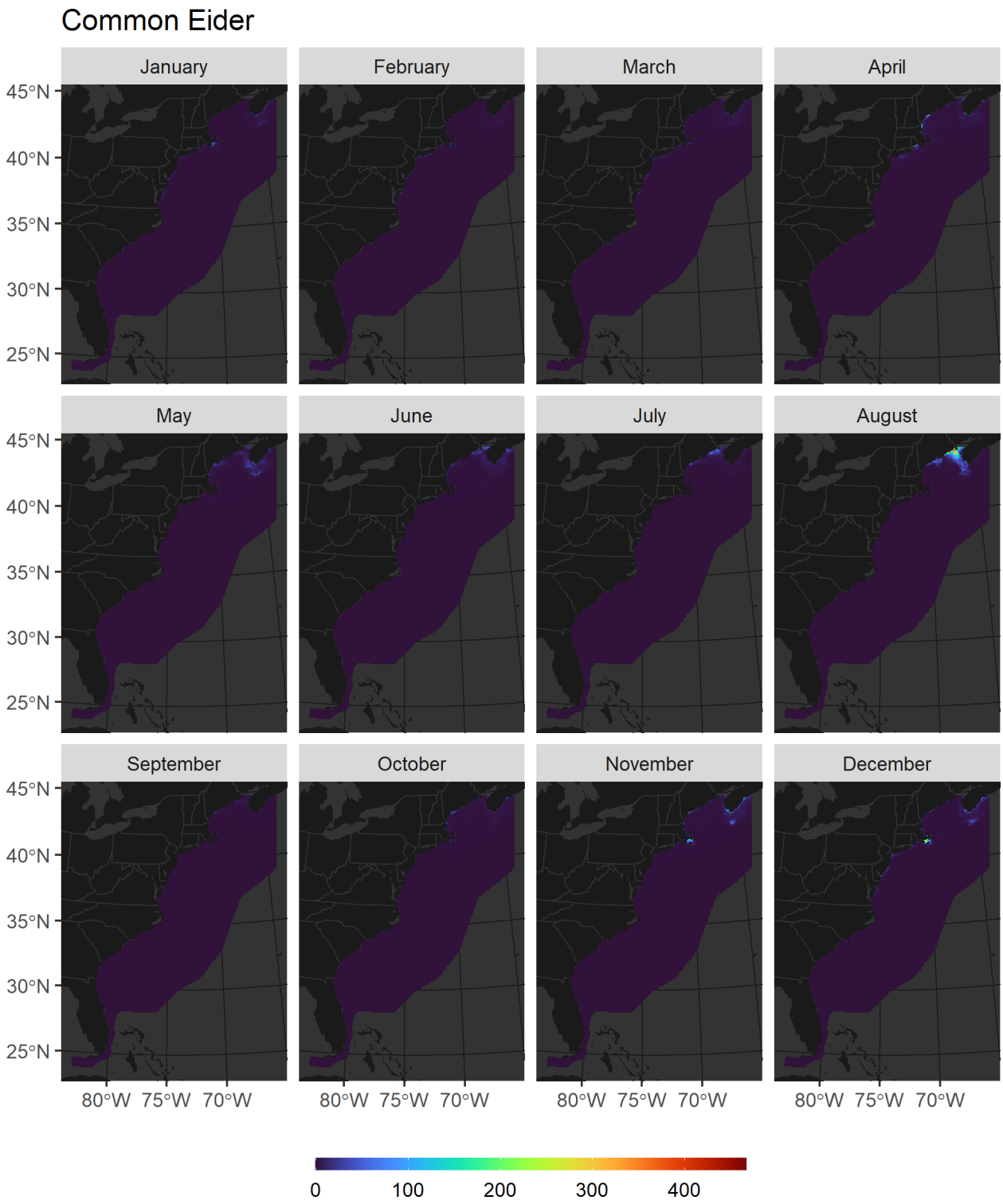


**Figure F-1. Average predicted density of Common Eider by month during the future period (next 30 years)**

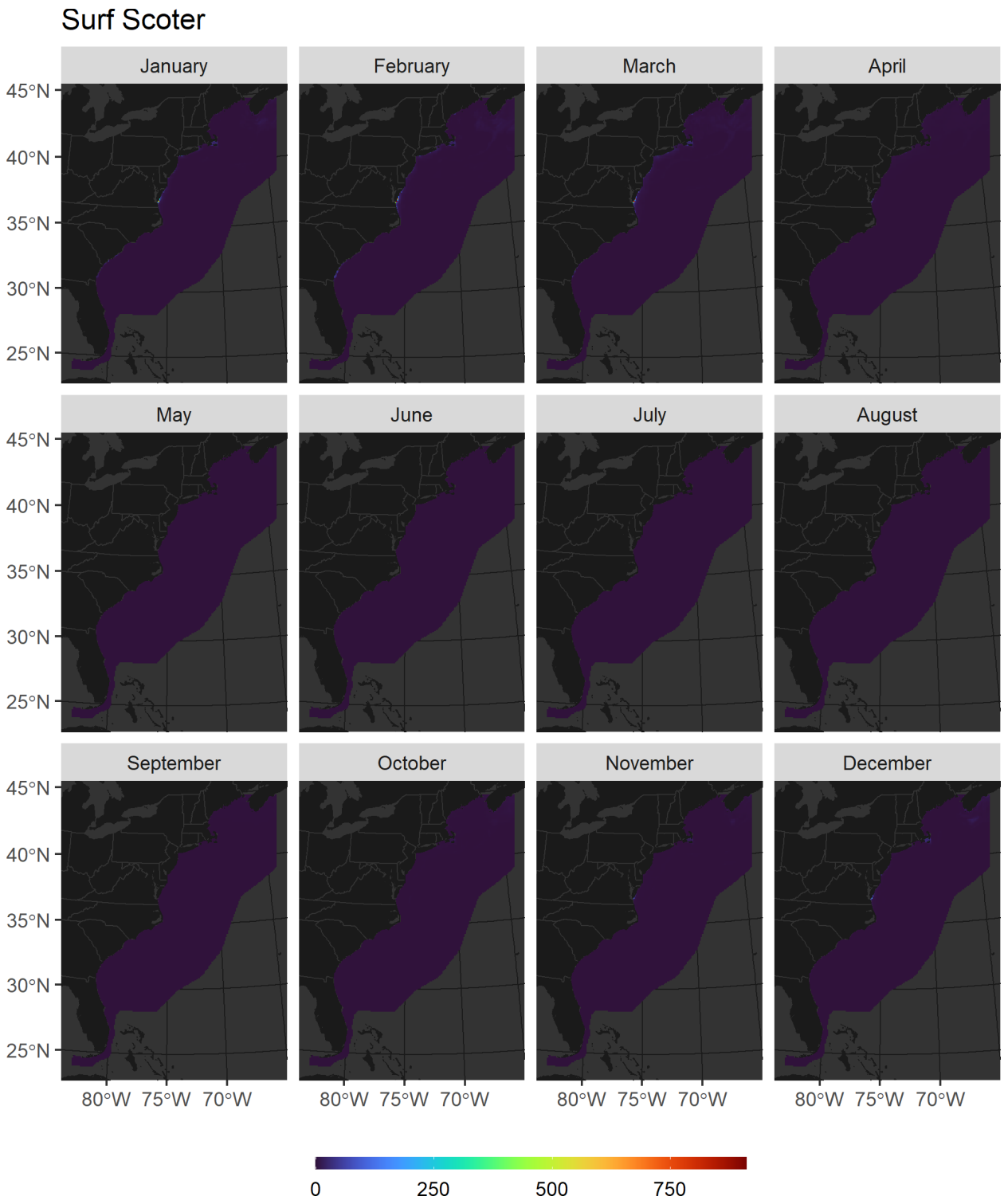


**Figure F-2. Average predicted density of Surf Scoter by month during the future period (next 30 years)**

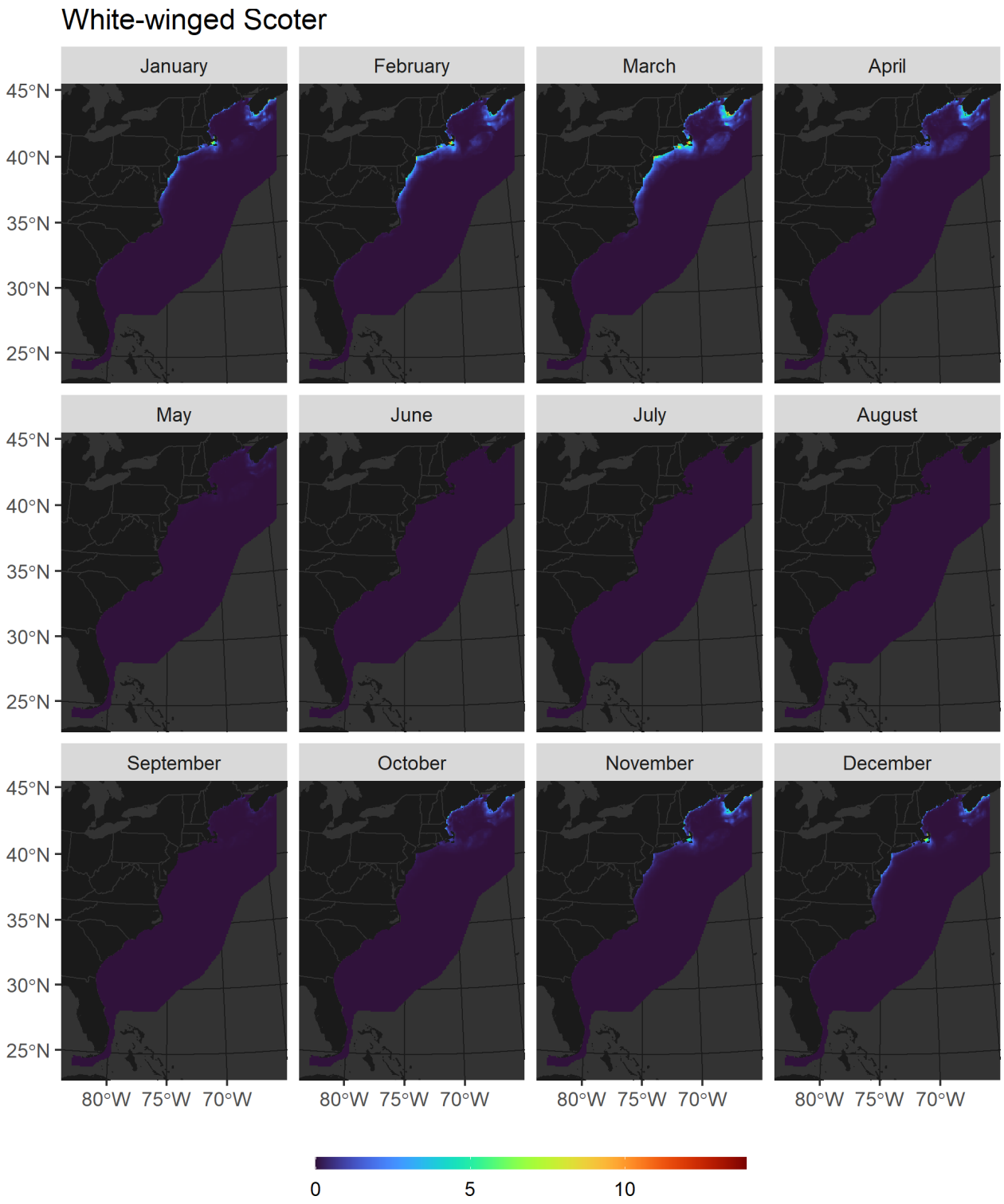


**Figure F-3. Average predicted density of White-winged Scoter by month during the future period (next 30 years)**

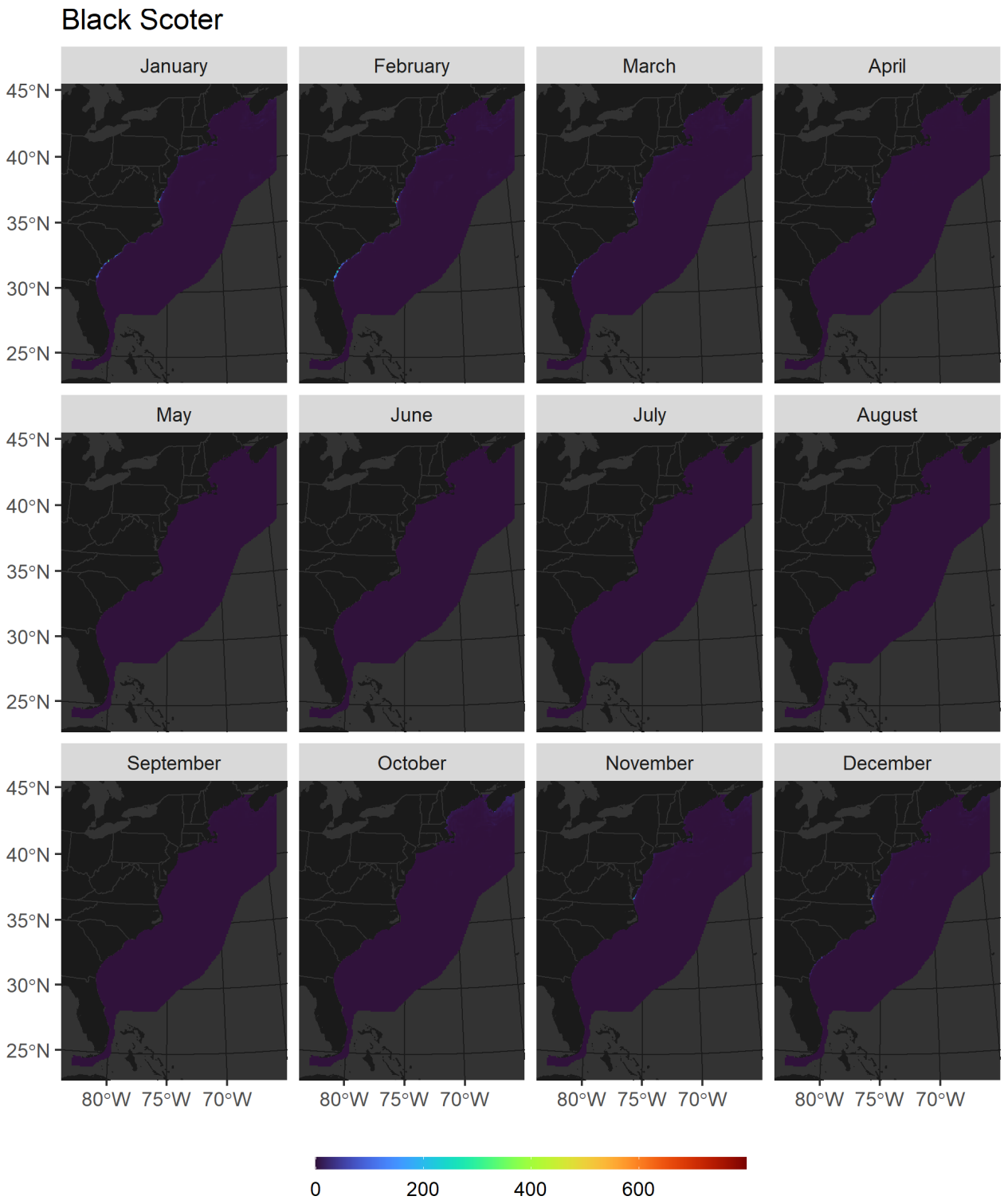


**Figure F-4. Average predicted density of Black Scoter by month during the future period (next 30 years)**

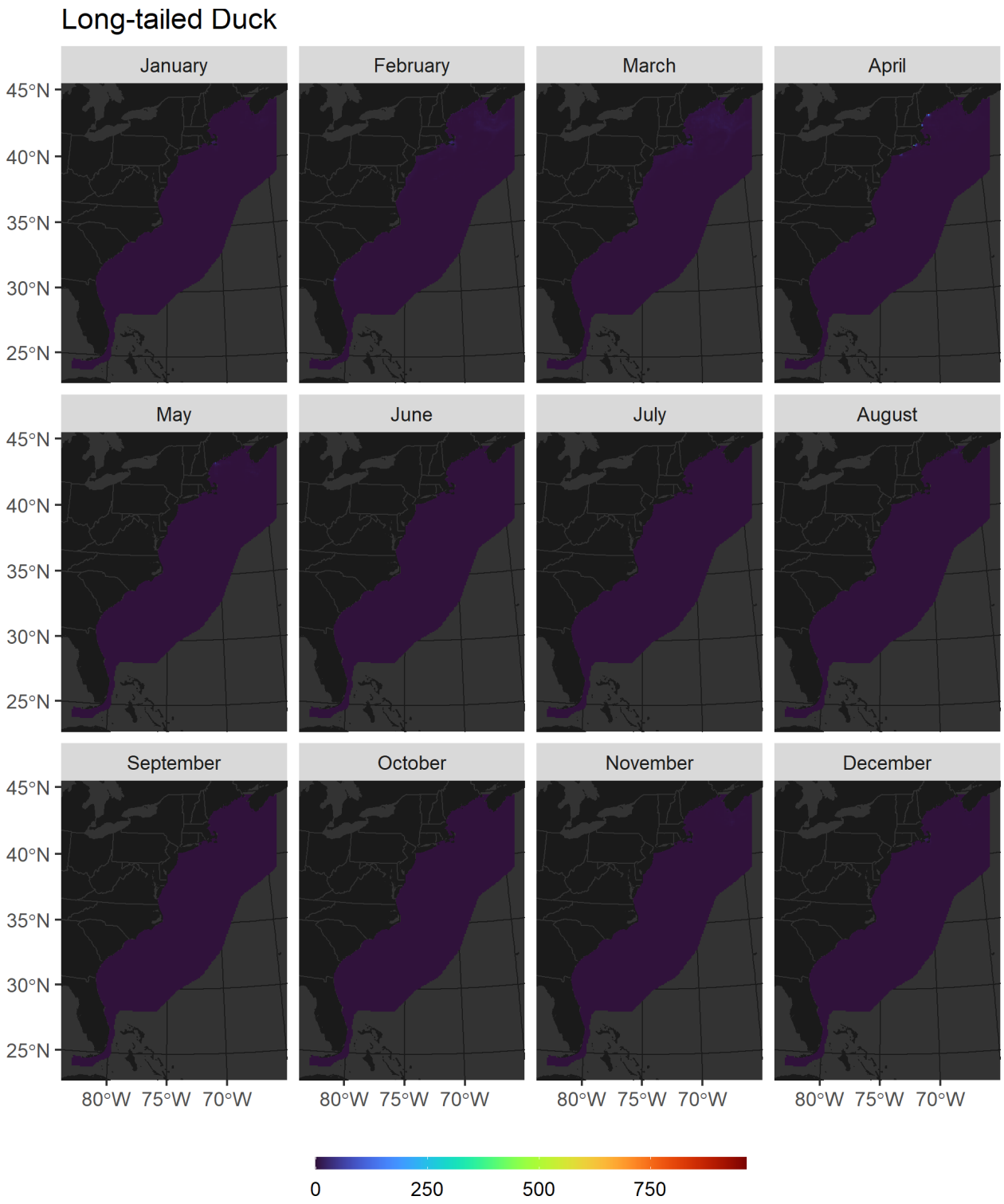


**Figure F-5. Average predicted density of Long-tailed Duck by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

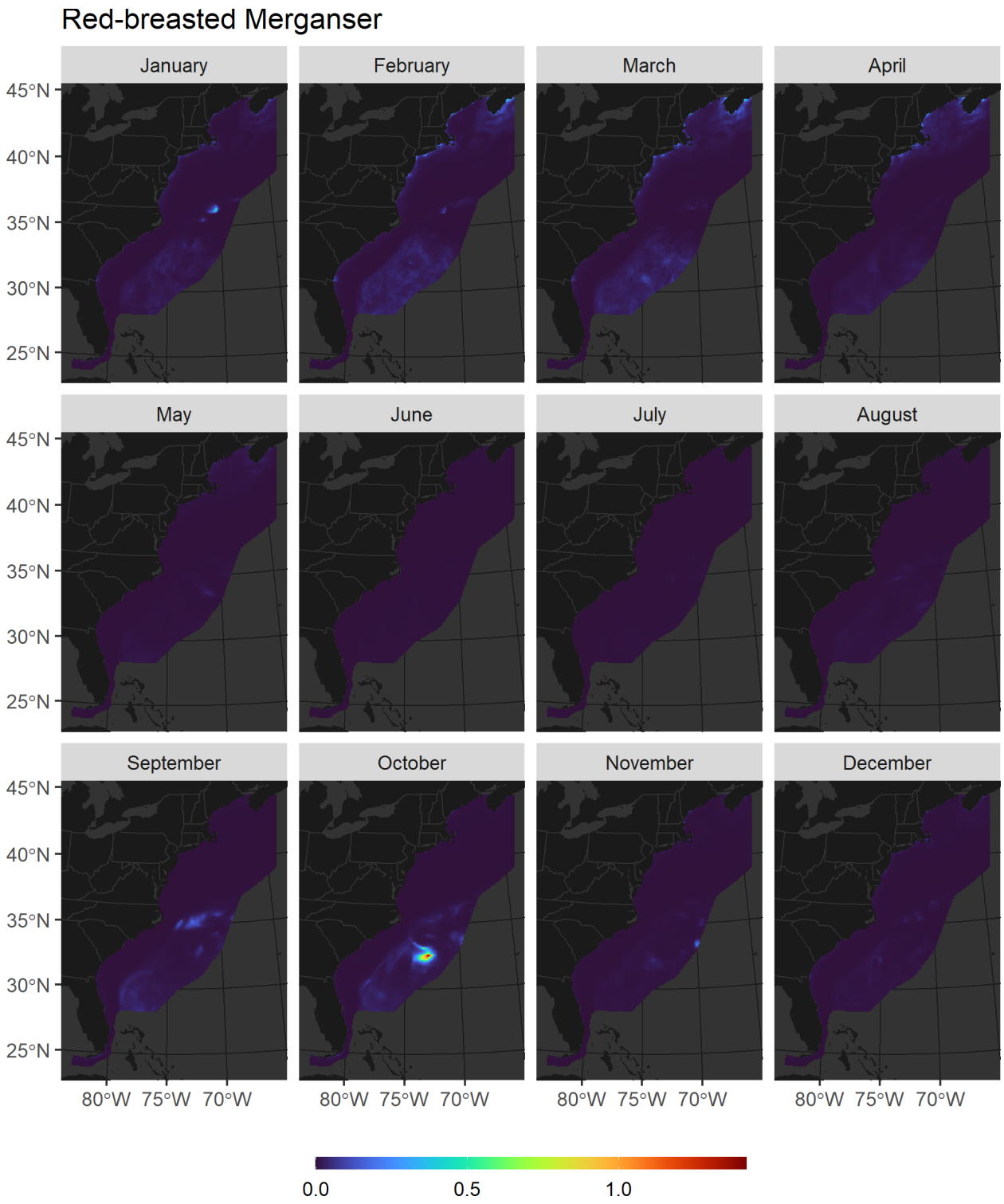


**Figure F-6. Average predicted density of Red-breasted Merganser by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

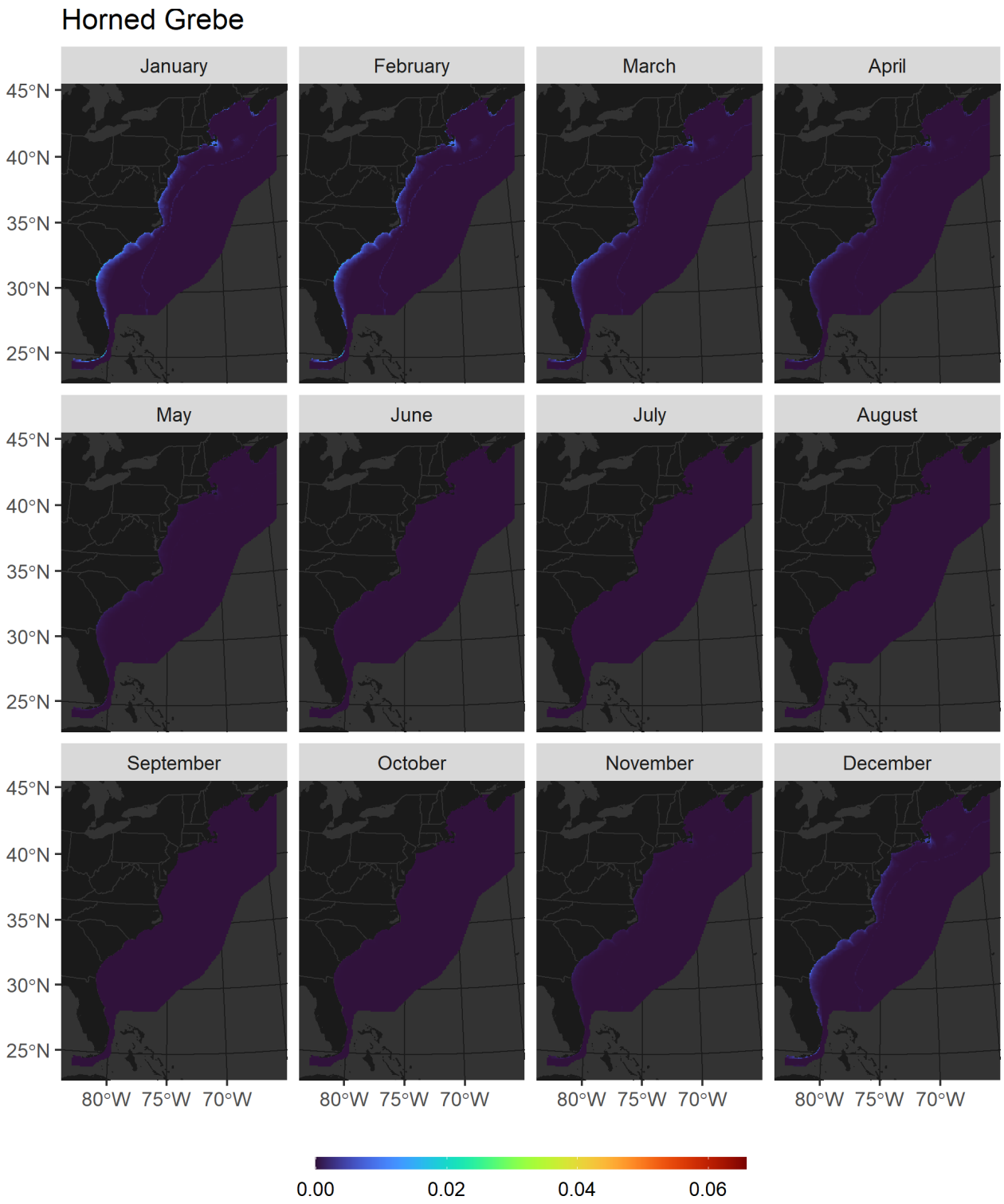


**Figure F-7. Average predicted density of Horned Grebe by month during the future period (next 30 years)**

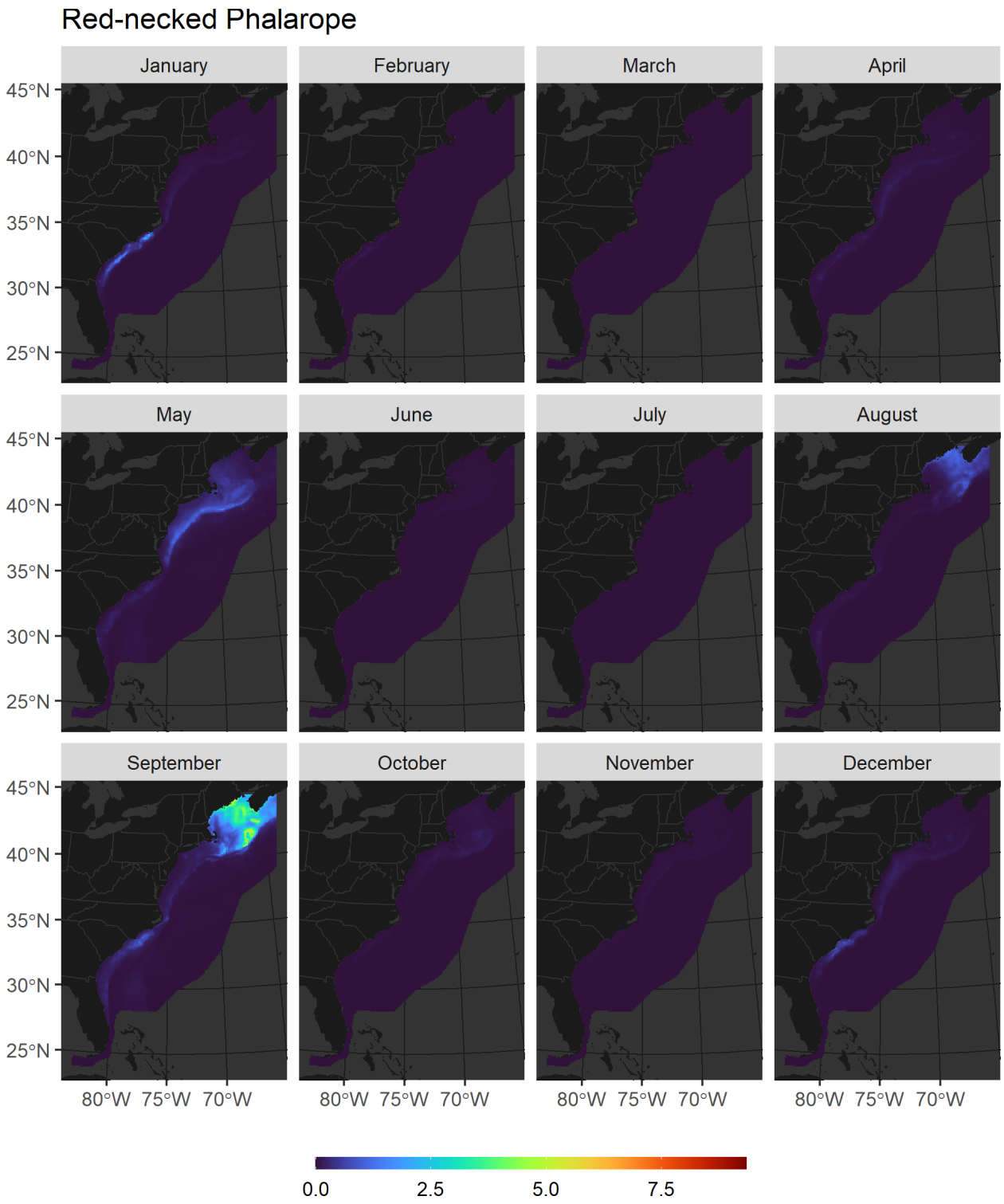


**Figure F-8. Average predicted density of Red-necked Phalarope by month during the future period (next 30 years)**

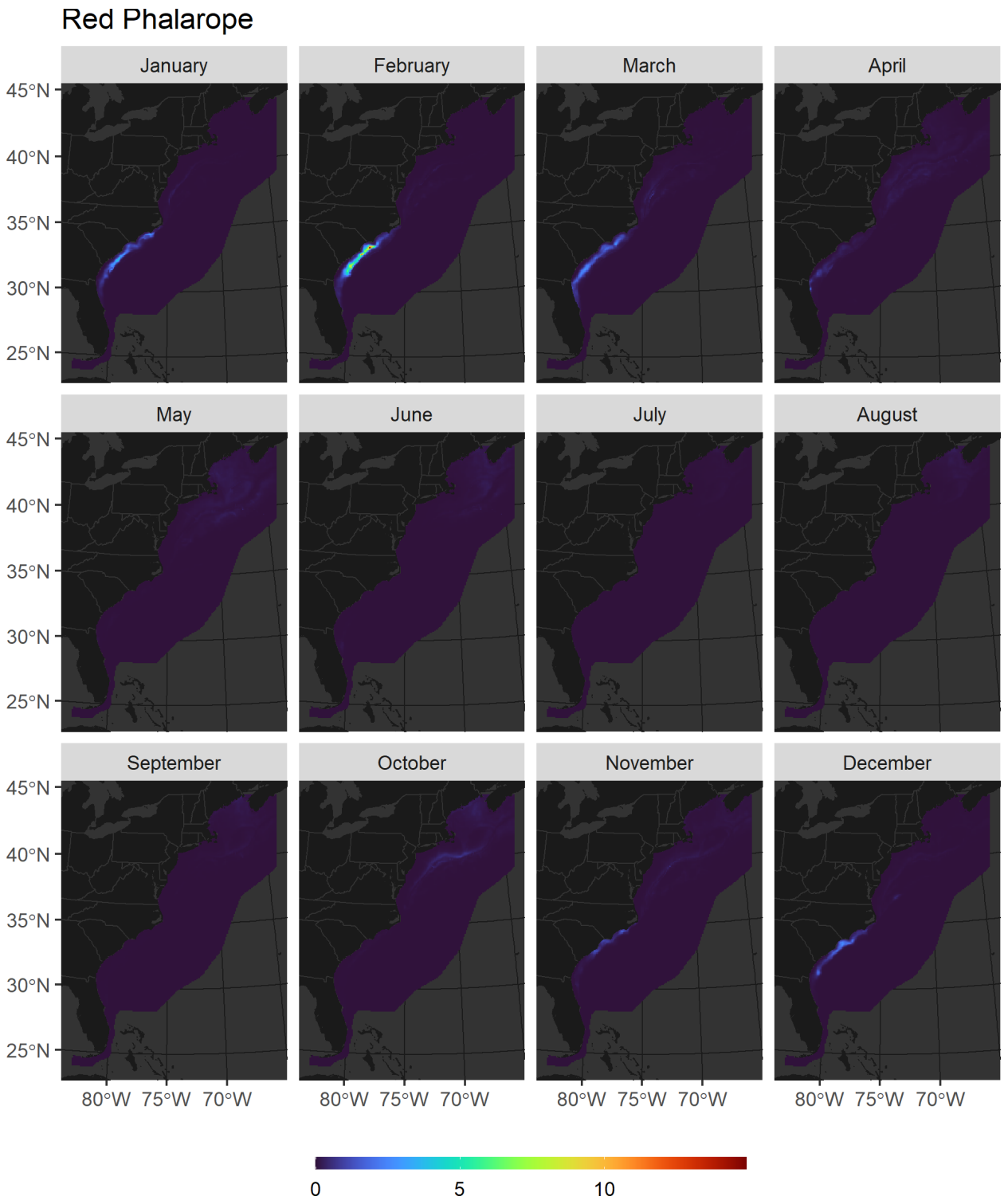


**Figure F-9. Average predicted density of Red Phalarope by month during the future period (next 30 years)**

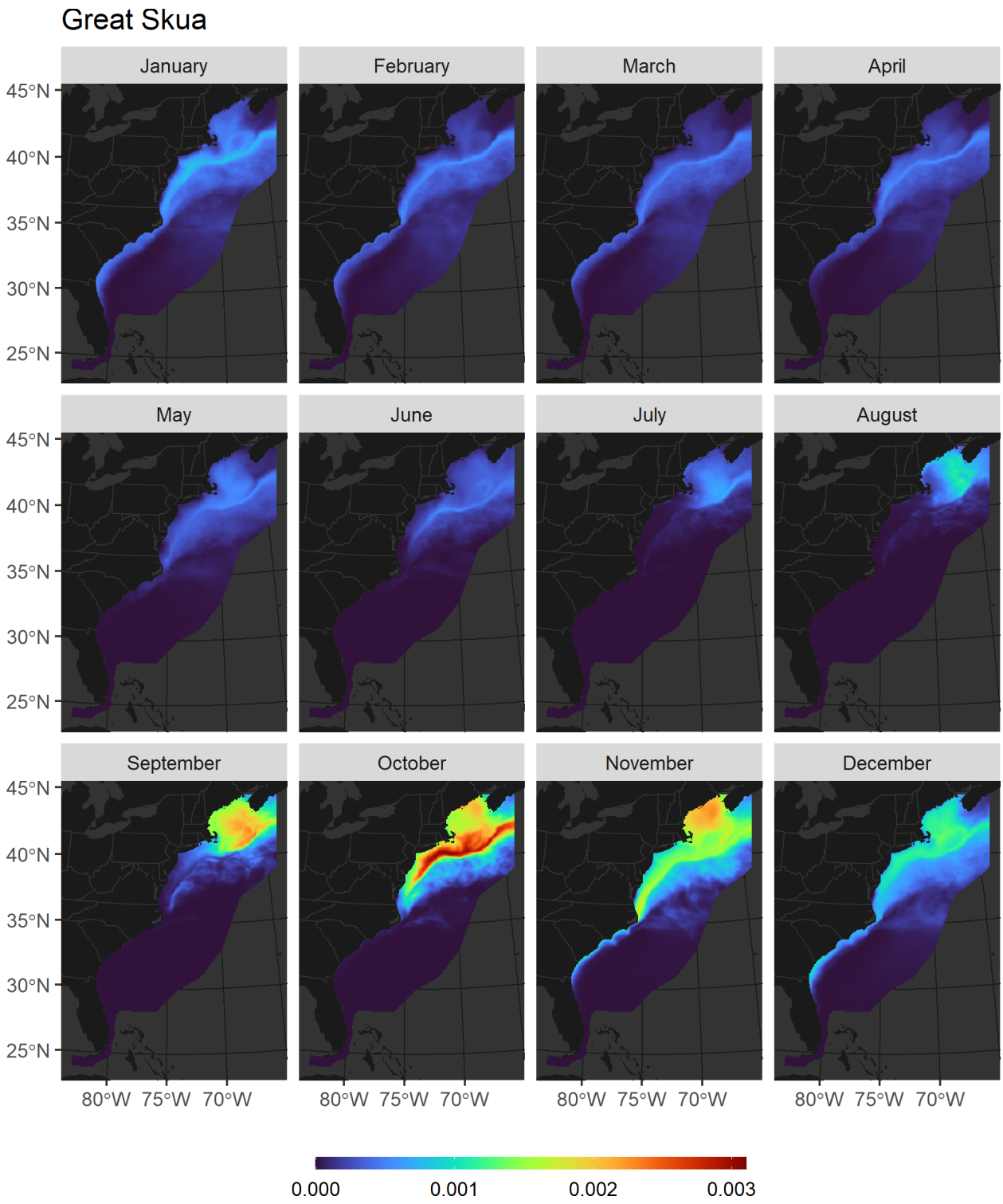


**Figure F-10. Average predicted density of Great Skua by month during the future period (next 30 years)**

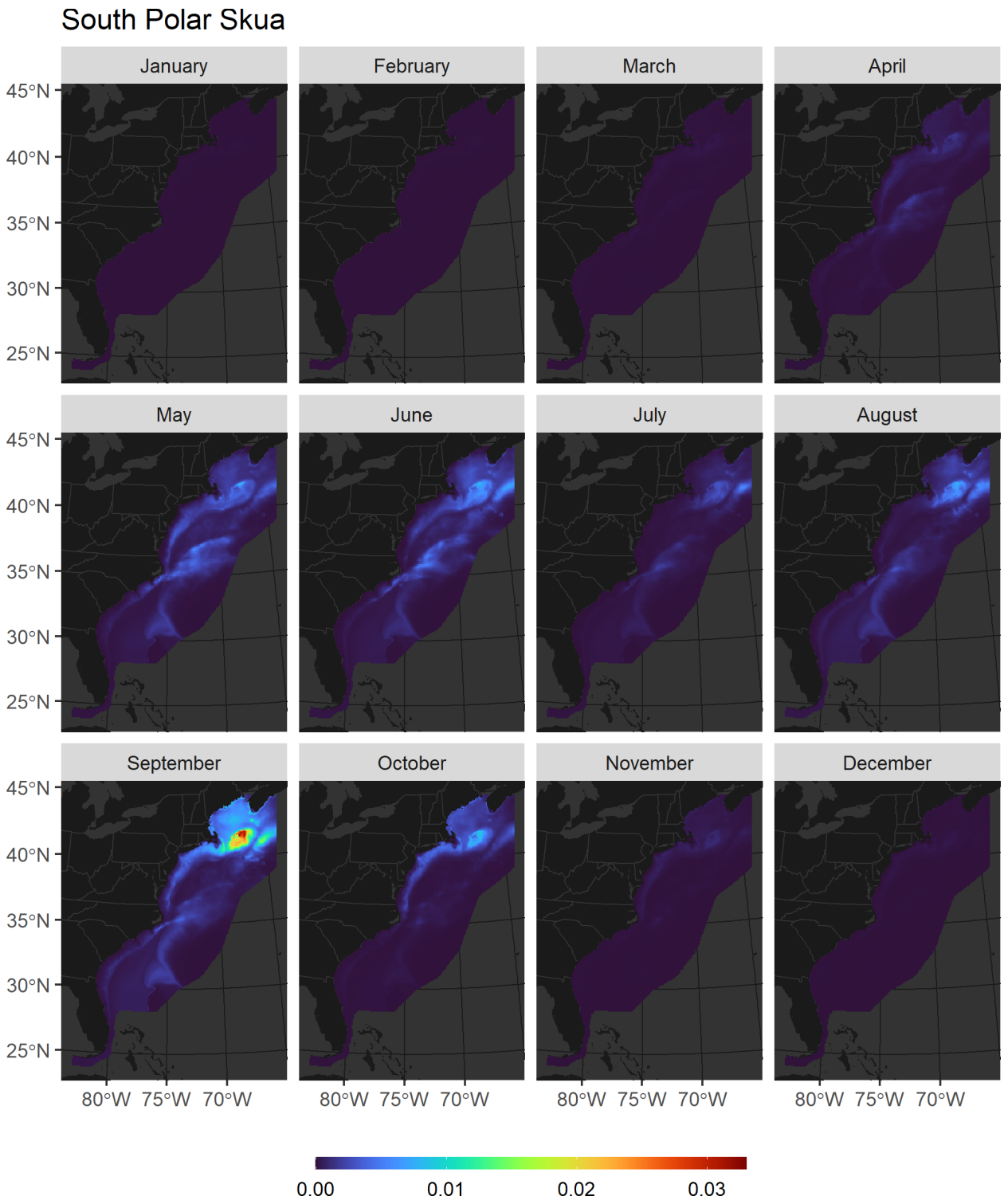


**Figure F-11. Average predicted density of South Polar Skua by month during the future period (next 30 years)**

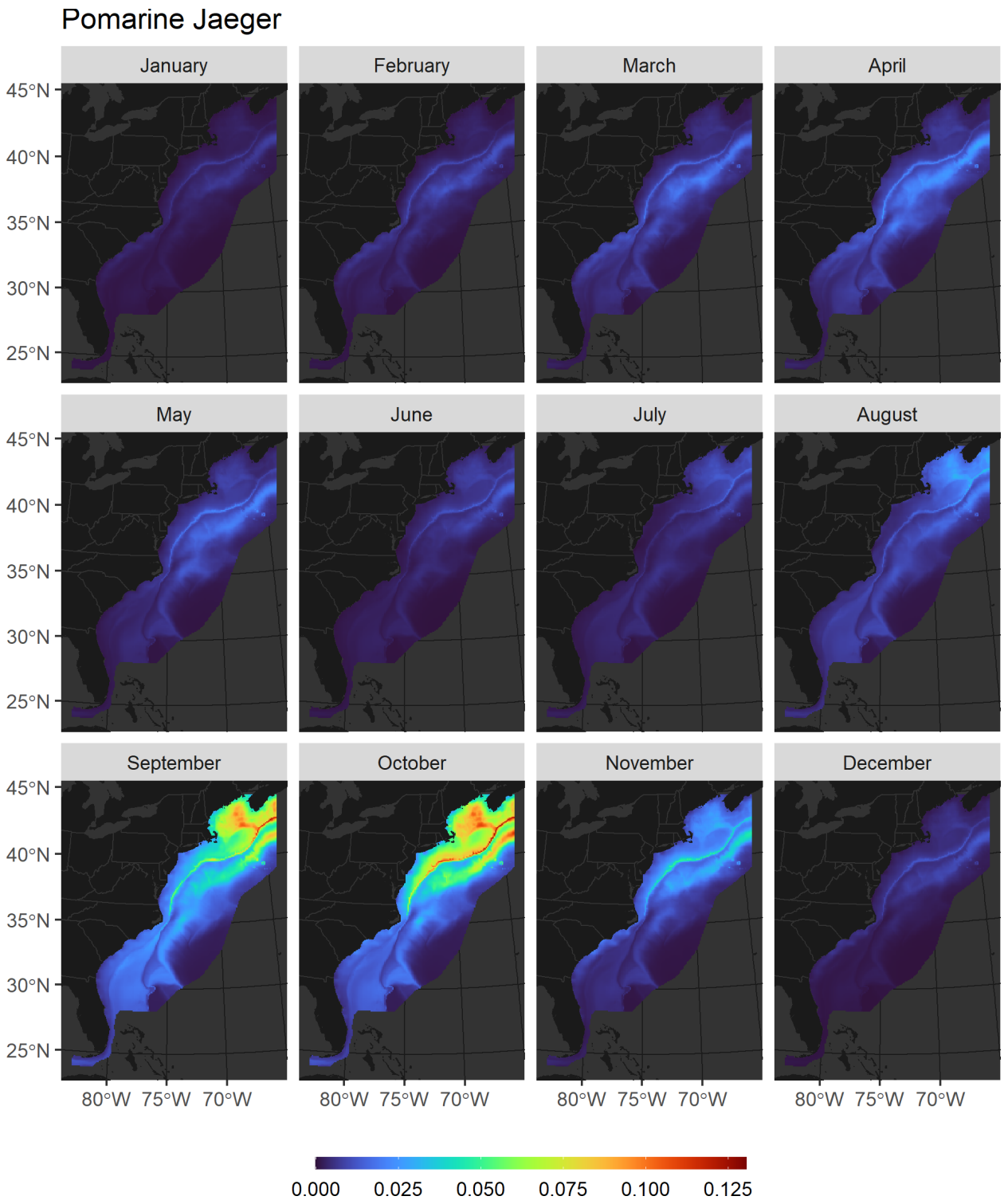


**Figure F-12. Average predicted density of Pomarine Jaeger by month during the future period (next 30 years)**

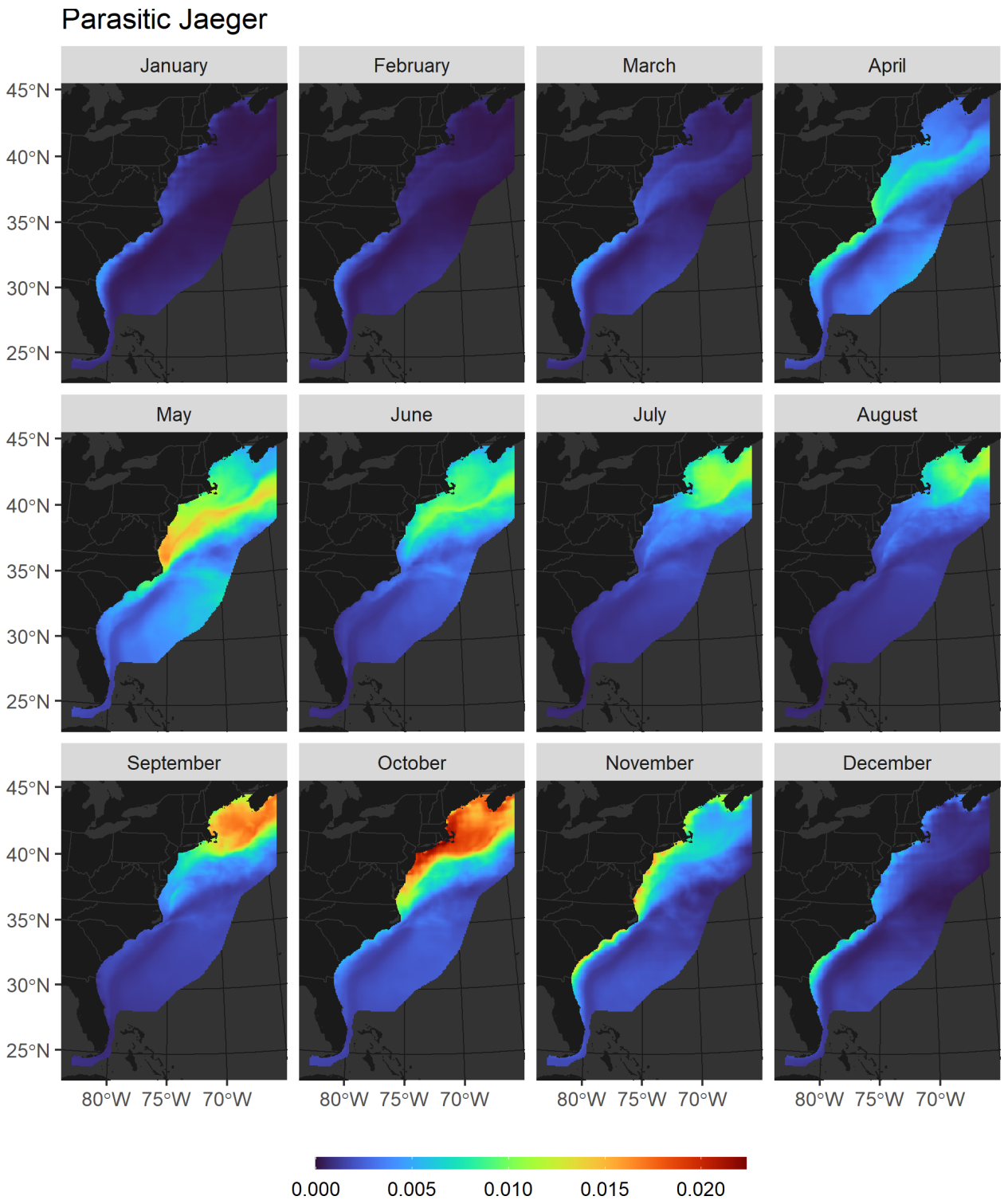


**Figure F-13. Average predicted density of Parasitic Jaeger by month during the future period (next 30 years)**

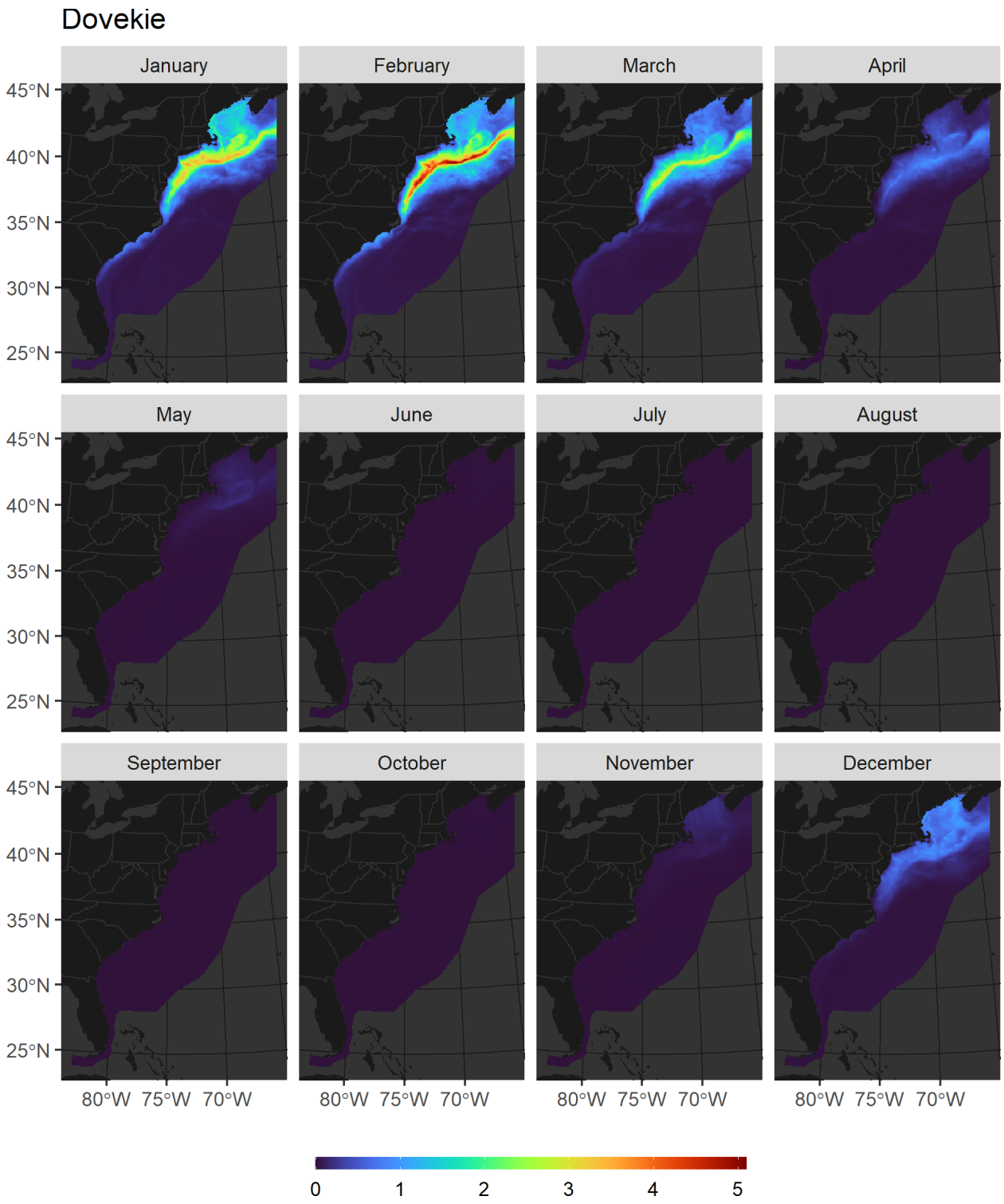


**Figure F-14. Average predicted density of Dovekie by month during the future period (next 30 years)**

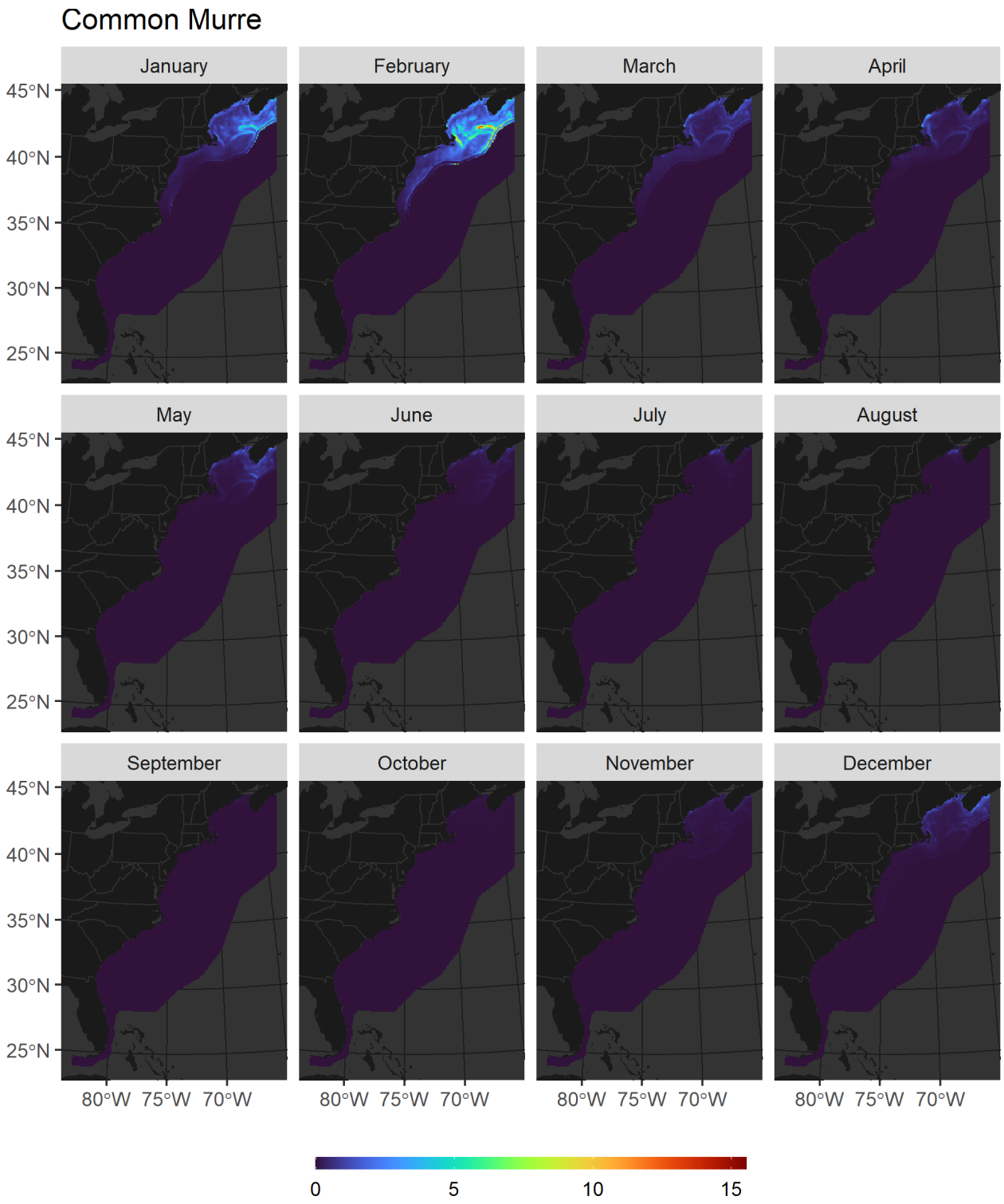


**Figure F-15. Average predicted density of Common Murre by month during the future period (next 30 years)**

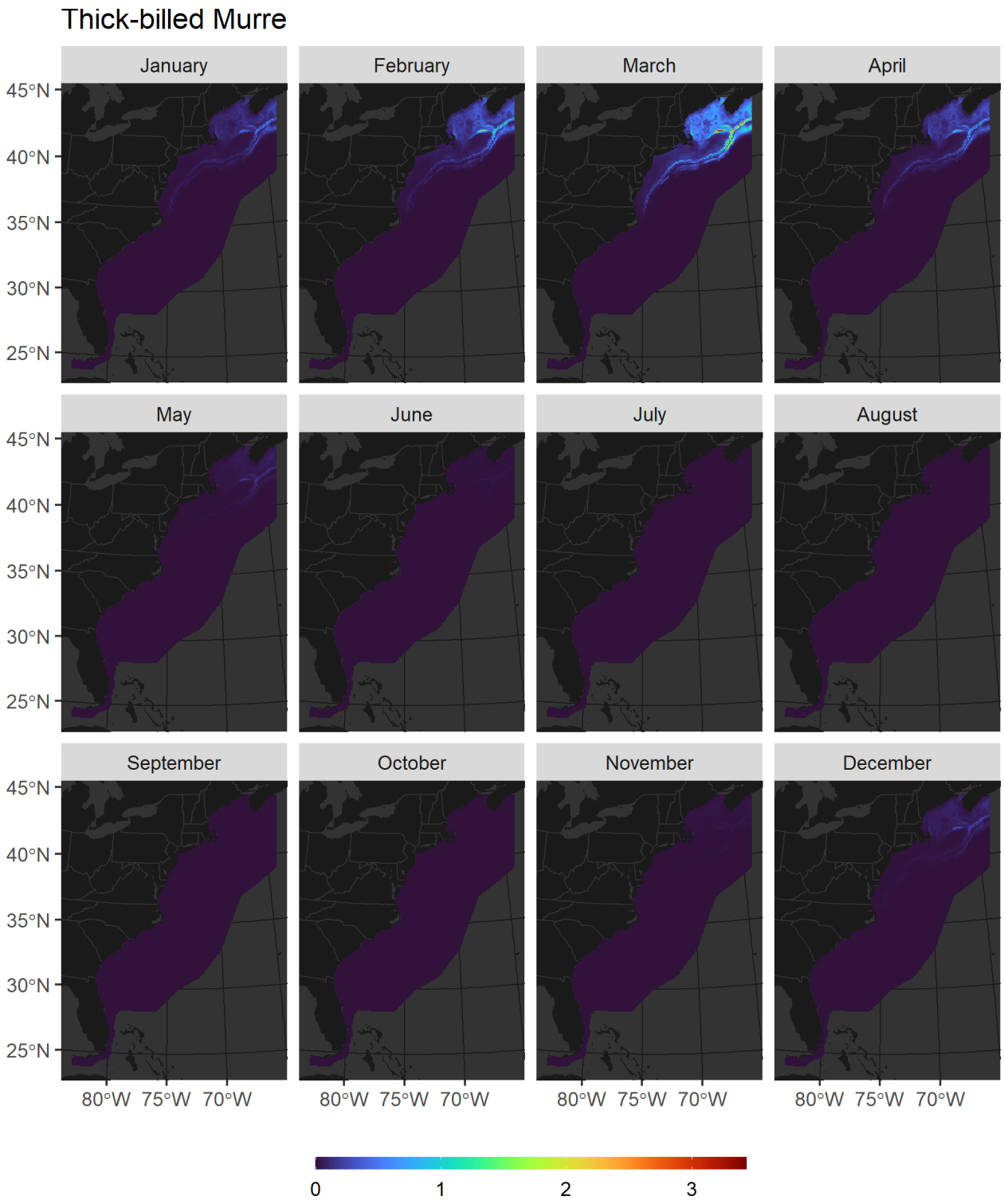


**Figure F-16. Average predicted density of Thick-billed Murre by month during the future period (next 30 years)**

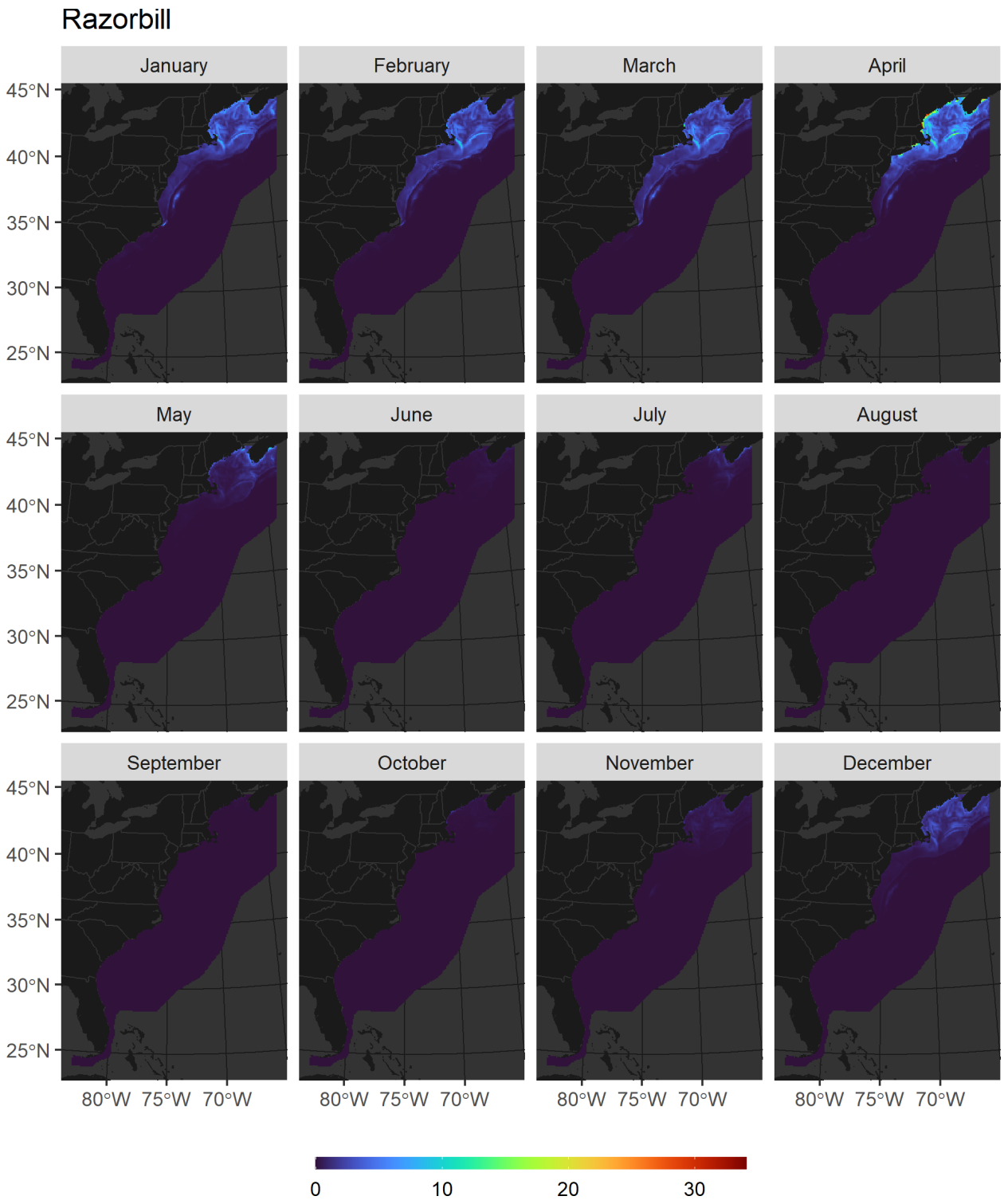


**Figure F-17. Average predicted density of Razorbill by month during the future period (next 30 years)**

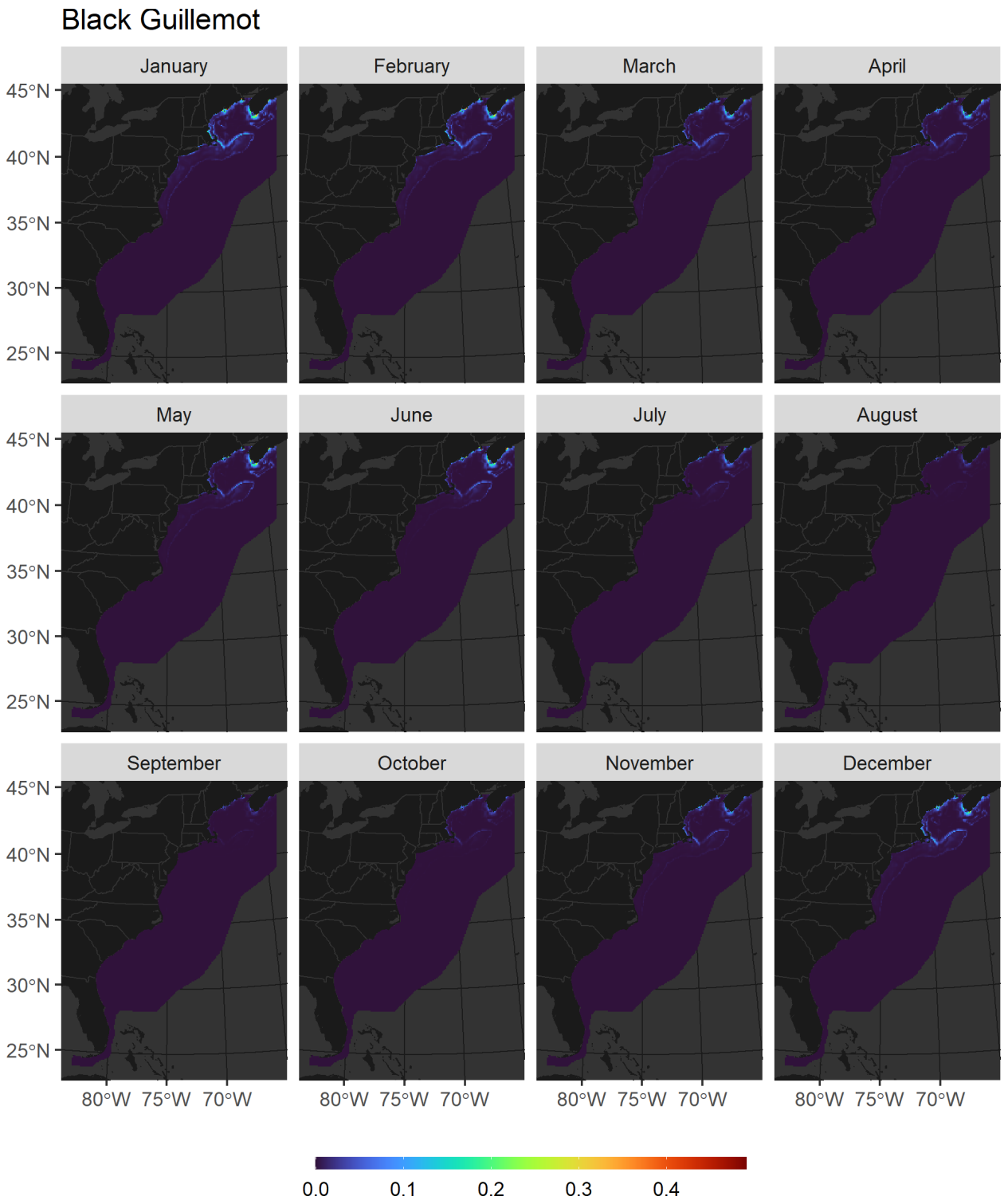


**Figure F-18. Average predicted density of Black Guillemot by month during the future period (next 30 years)**

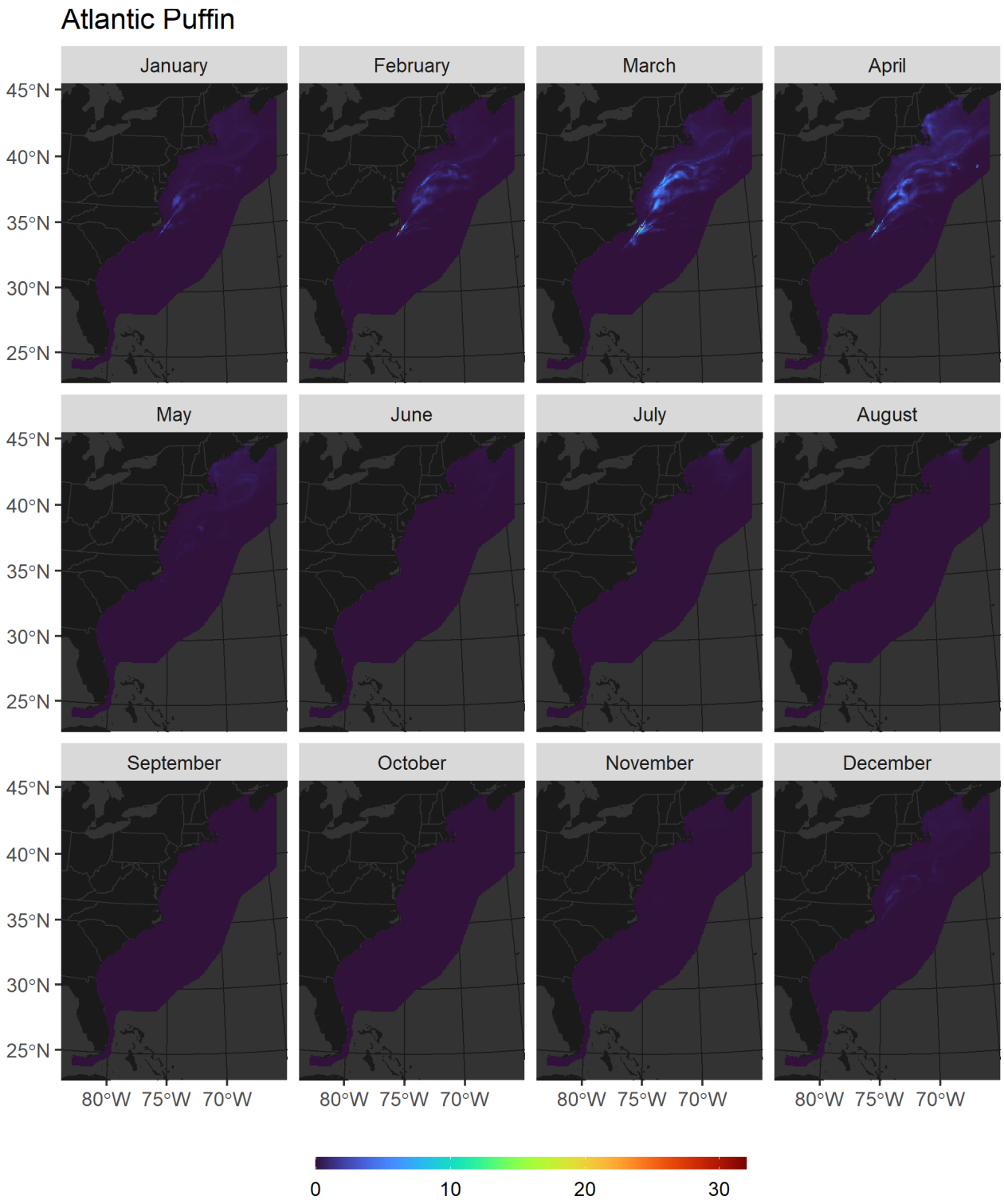


**Figure F-19. Average predicted density of Atlantic Puffin by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

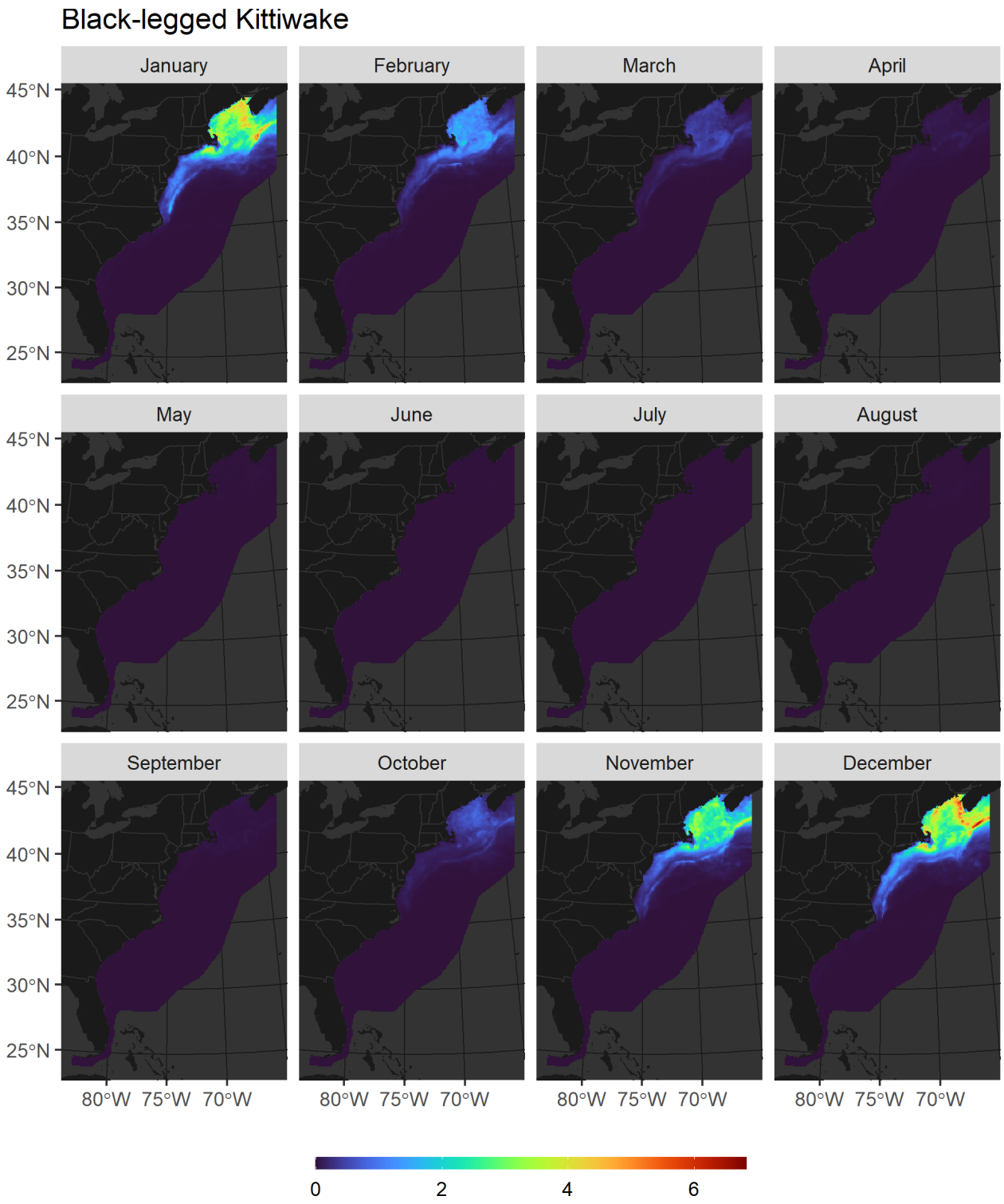


**Figure F-20. Average predicted density of Black-legged Kittiwake by month during the future period (next 30 years)**

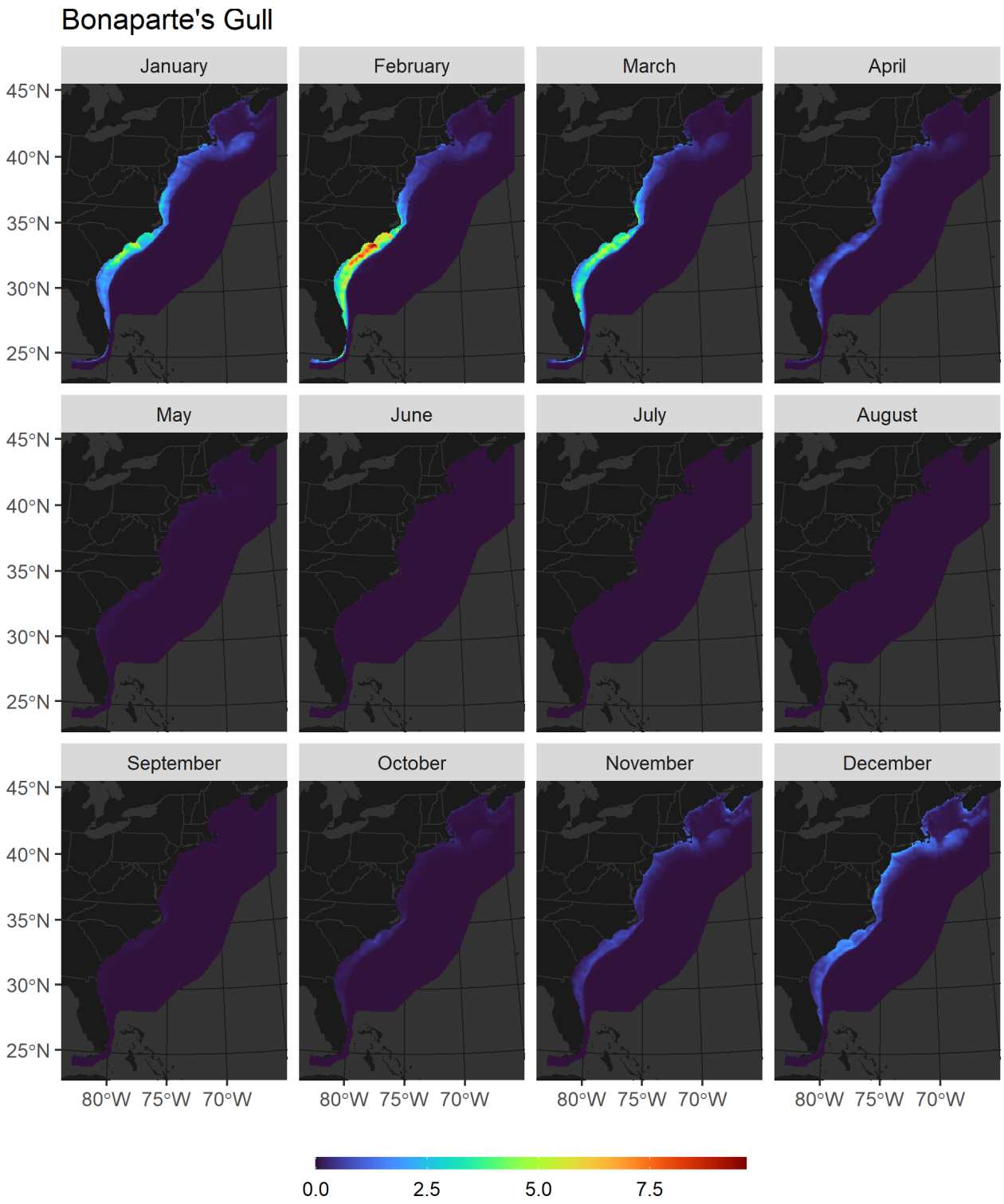


**Figure F-21. Average predicted density of Bonaparte's Gull by month during the future period (next 30 years)**

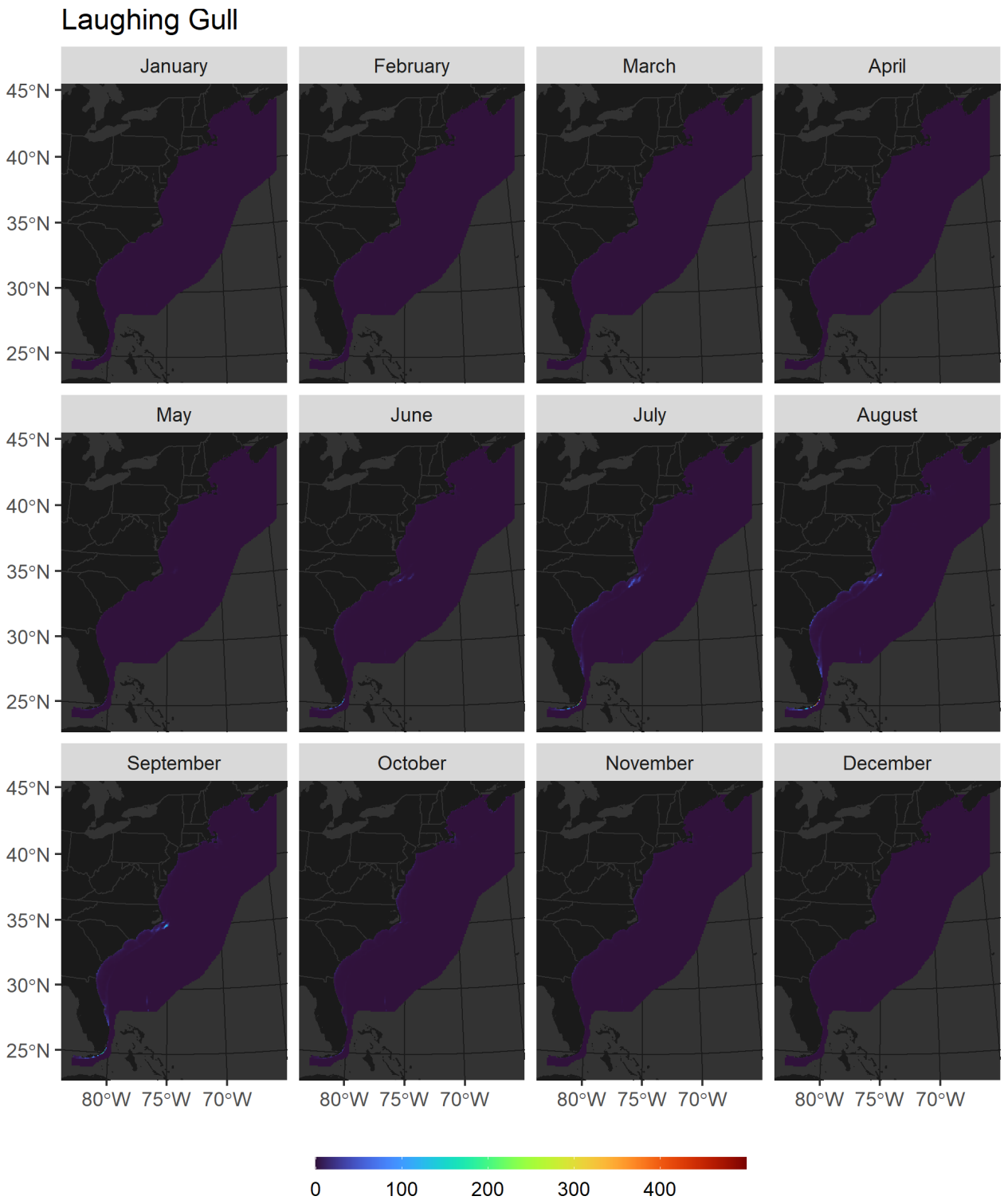


**Figure F-22. Average predicted density of Laughing Gull by month during the future period (next 30 years)**

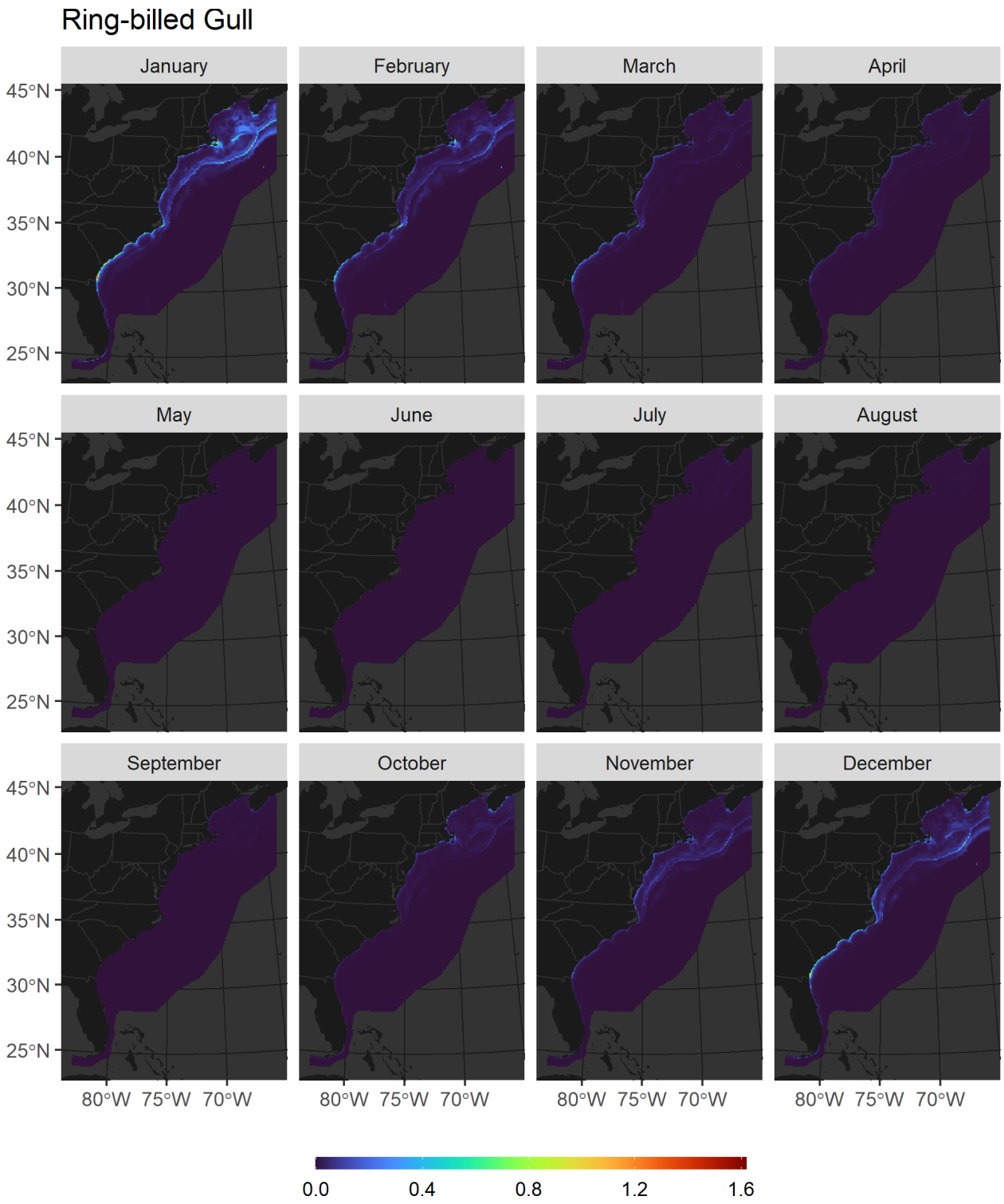


**Figure F-23. Average predicted density of Ring-billed Gull by month during the future period (next 30 years)**

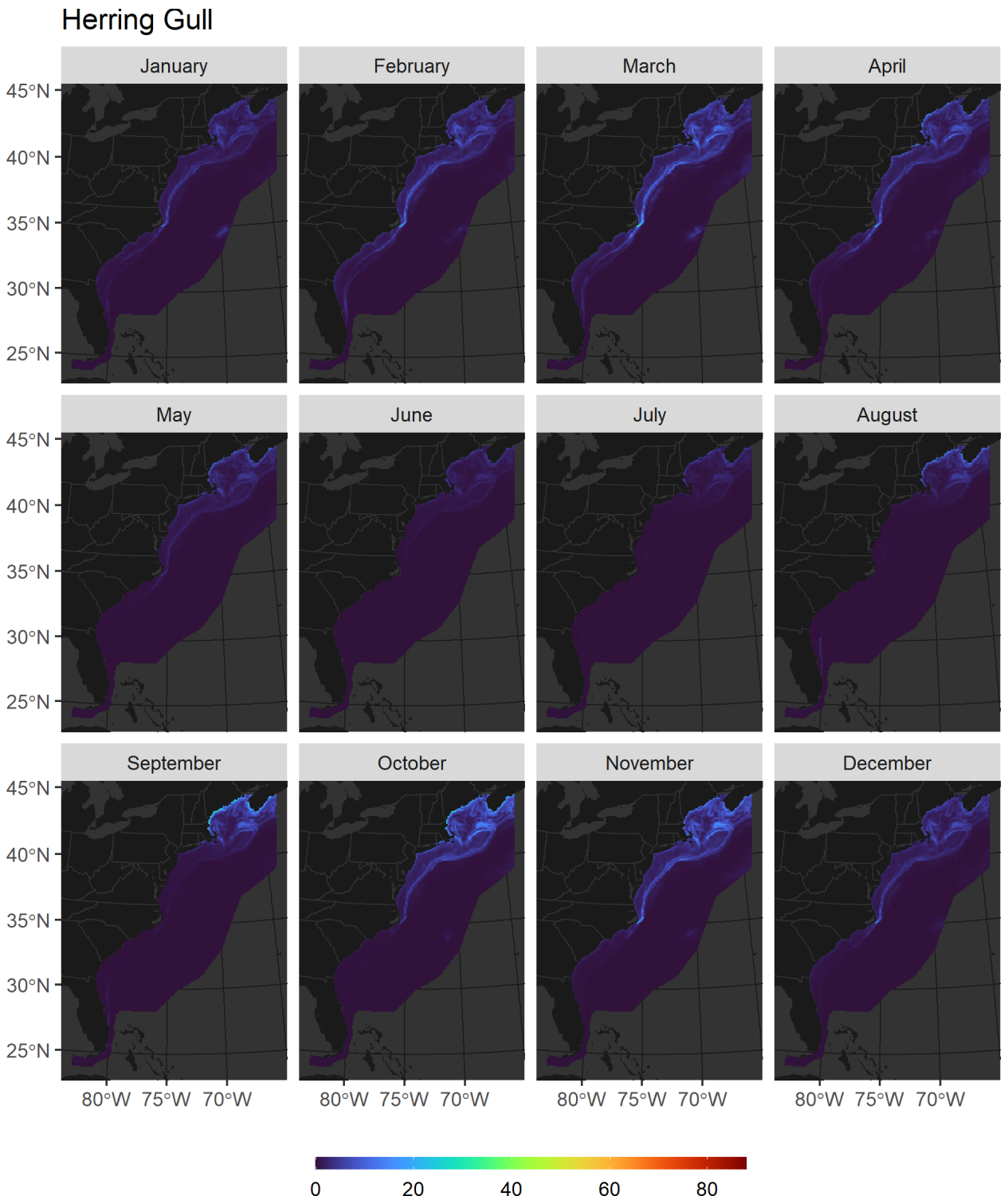


**Figure F-24. Average predicted density of Herring Gull by month during the future period (next 30 years)**

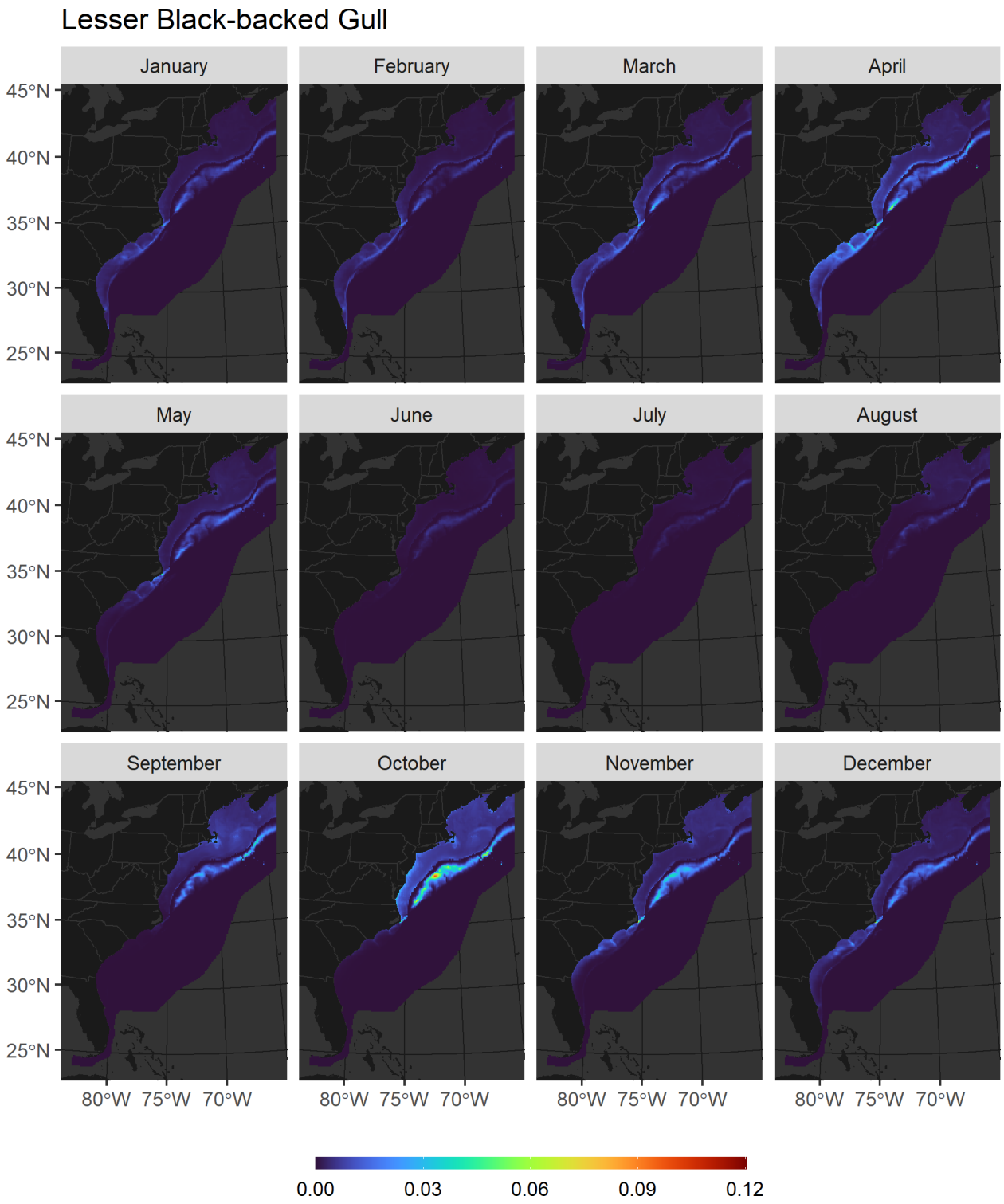


**Figure F-25. Average predicted density of Lesser Black-backed Gull by month during the future period (next 30 years)**

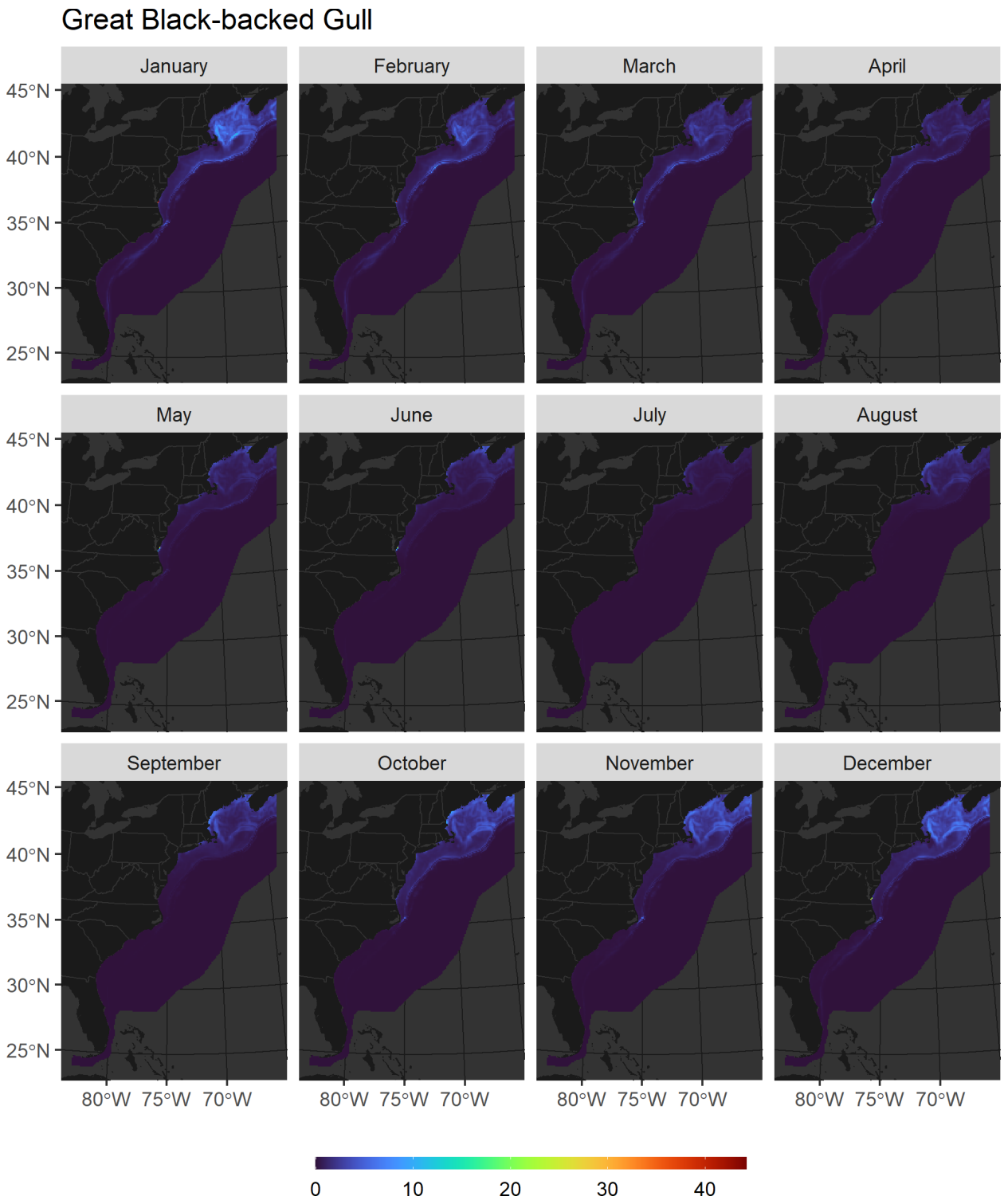


**Figure F-26. Average predicted density of Great Black-backed Gull by month during the future period (next 30 years)**

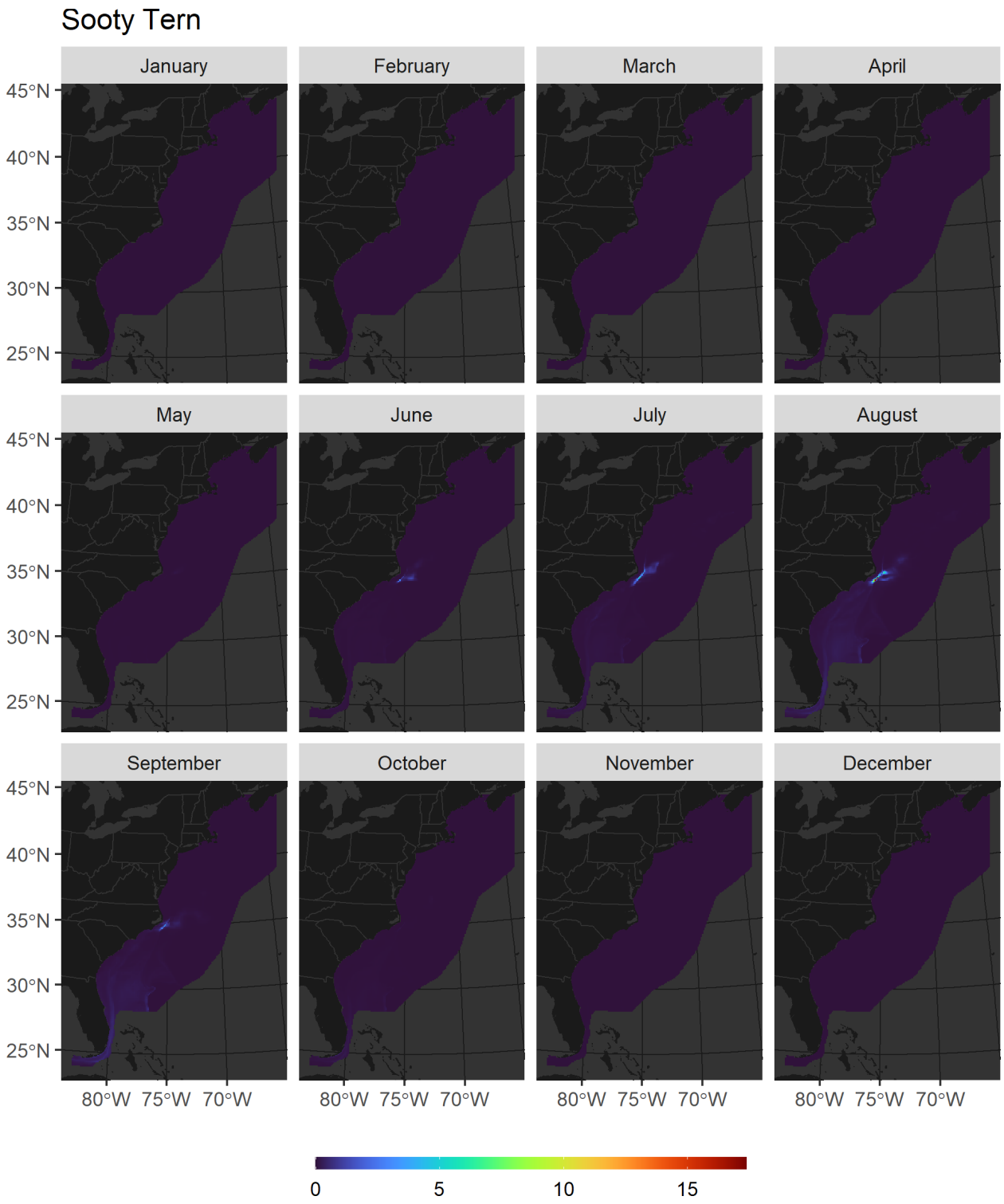


**Figure F-27. Average predicted density of Sooty Tern by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

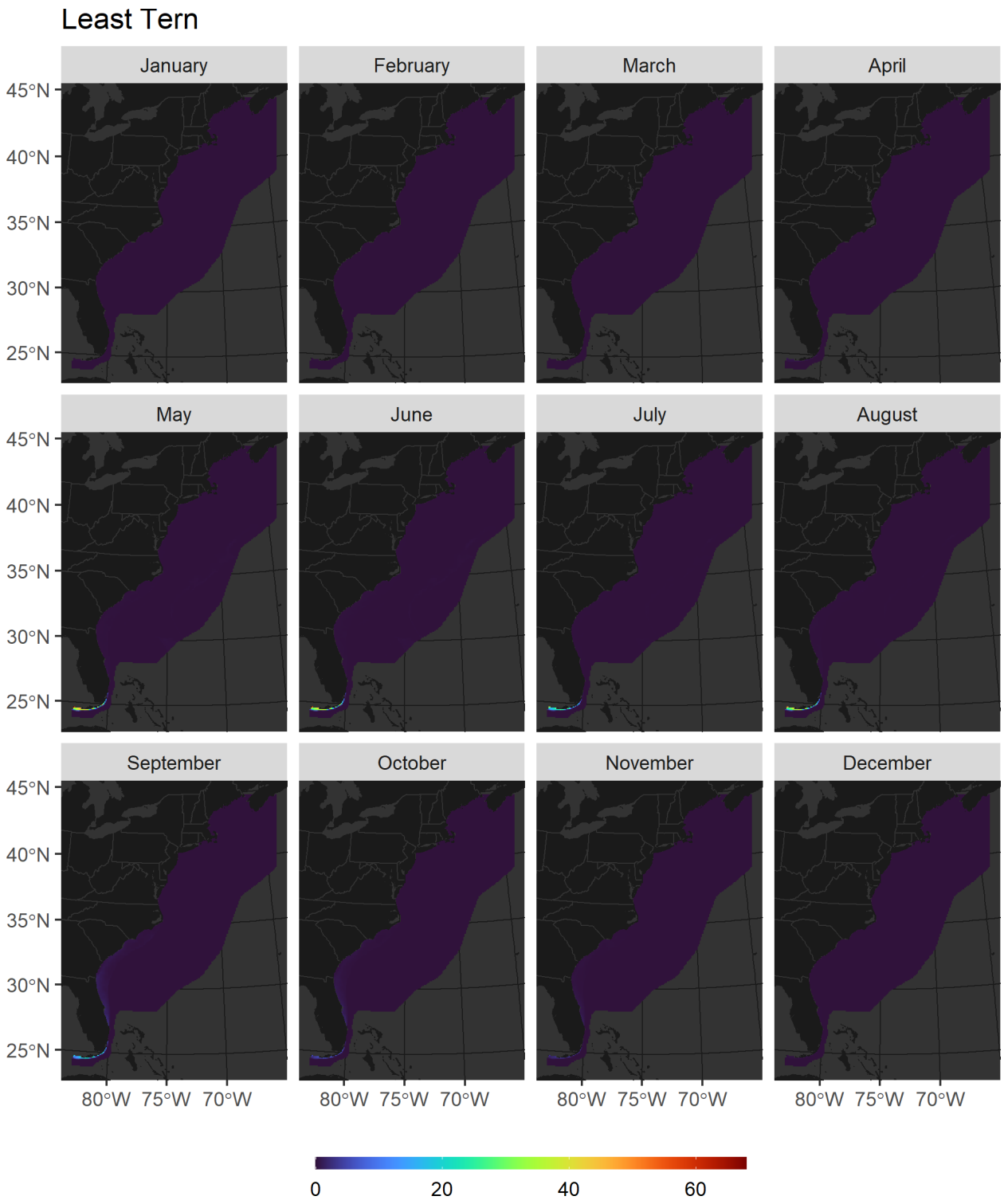


**Figure F-28. Average predicted density of Least Tern by month during the future period (next 30 years)**

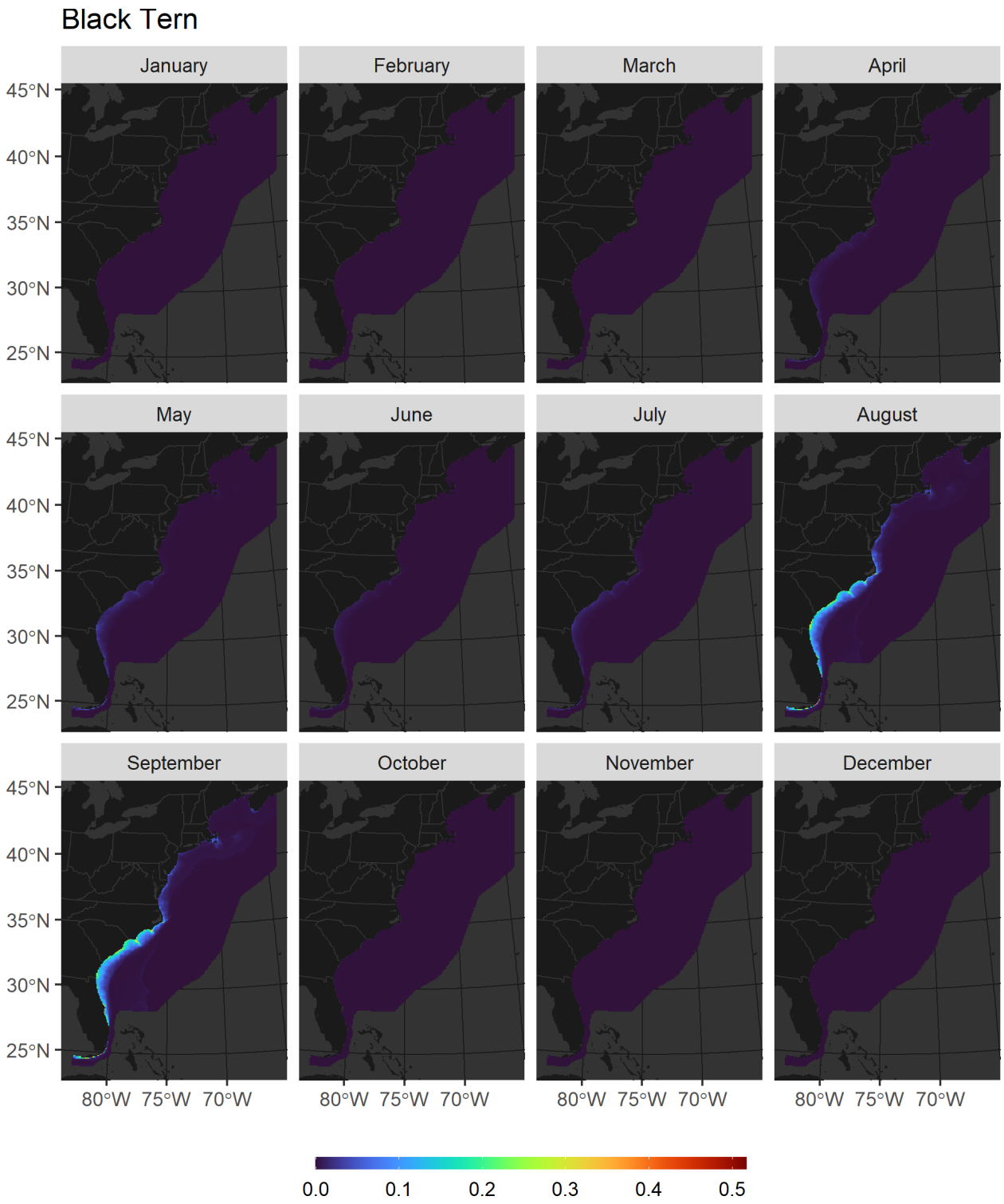


**Figure F-29. Average predicted density of Black Tern by month during the future period (next 30 years)**

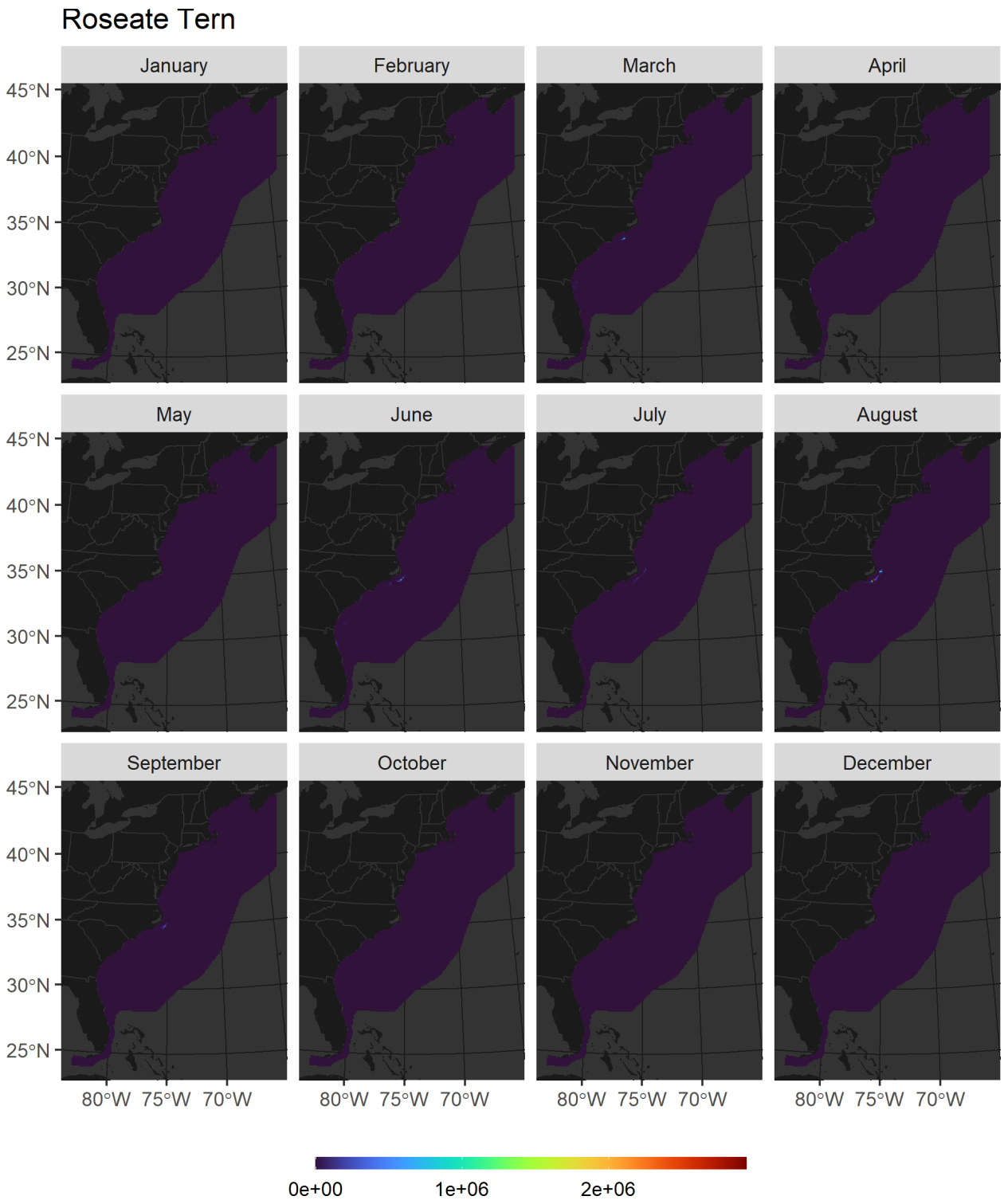


**Figure F-30. Average predicted density of Roseate Tern by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

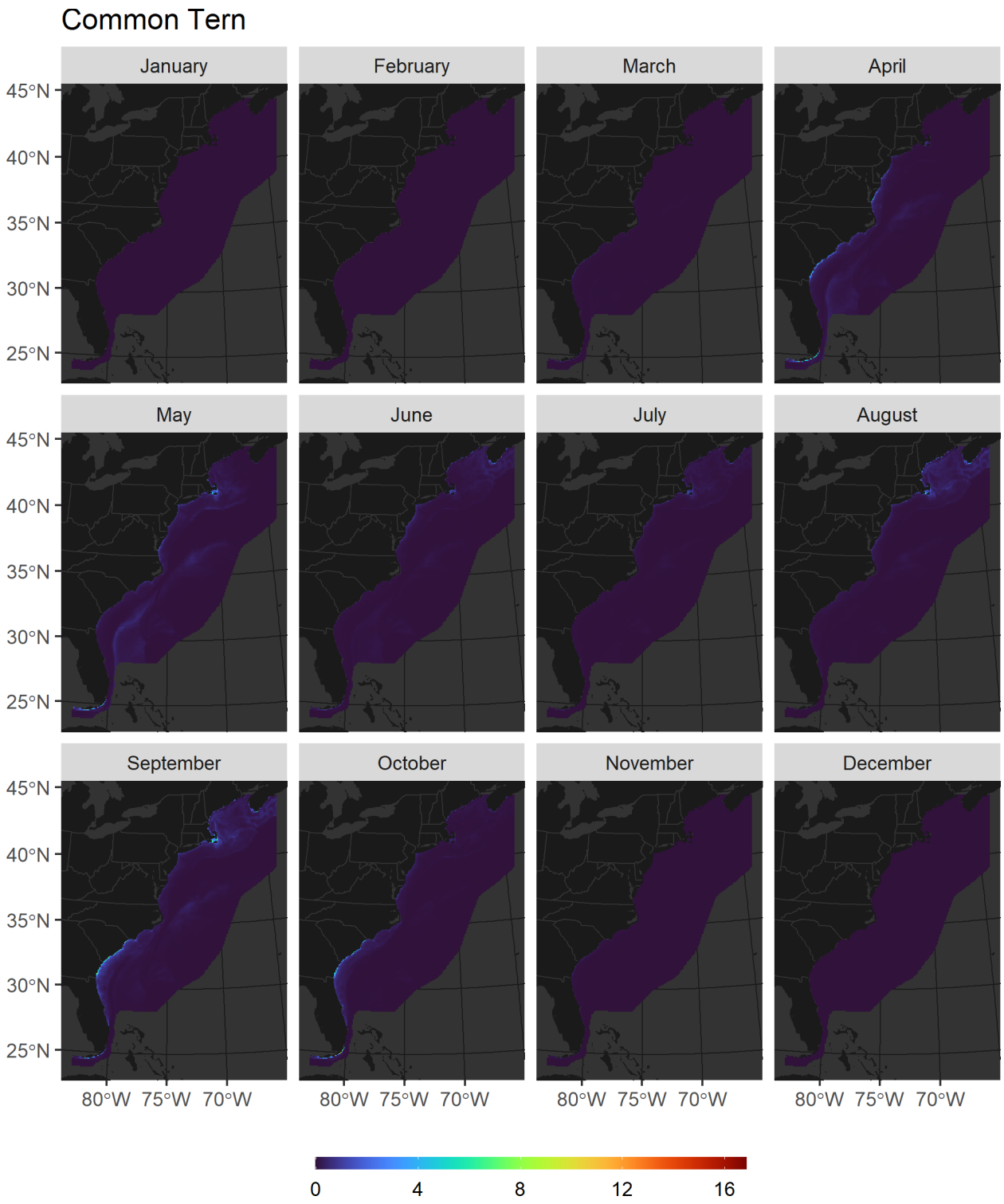


**Figure F-31. Average predicted density of Common Tern by month during the future period (next 30 years)**

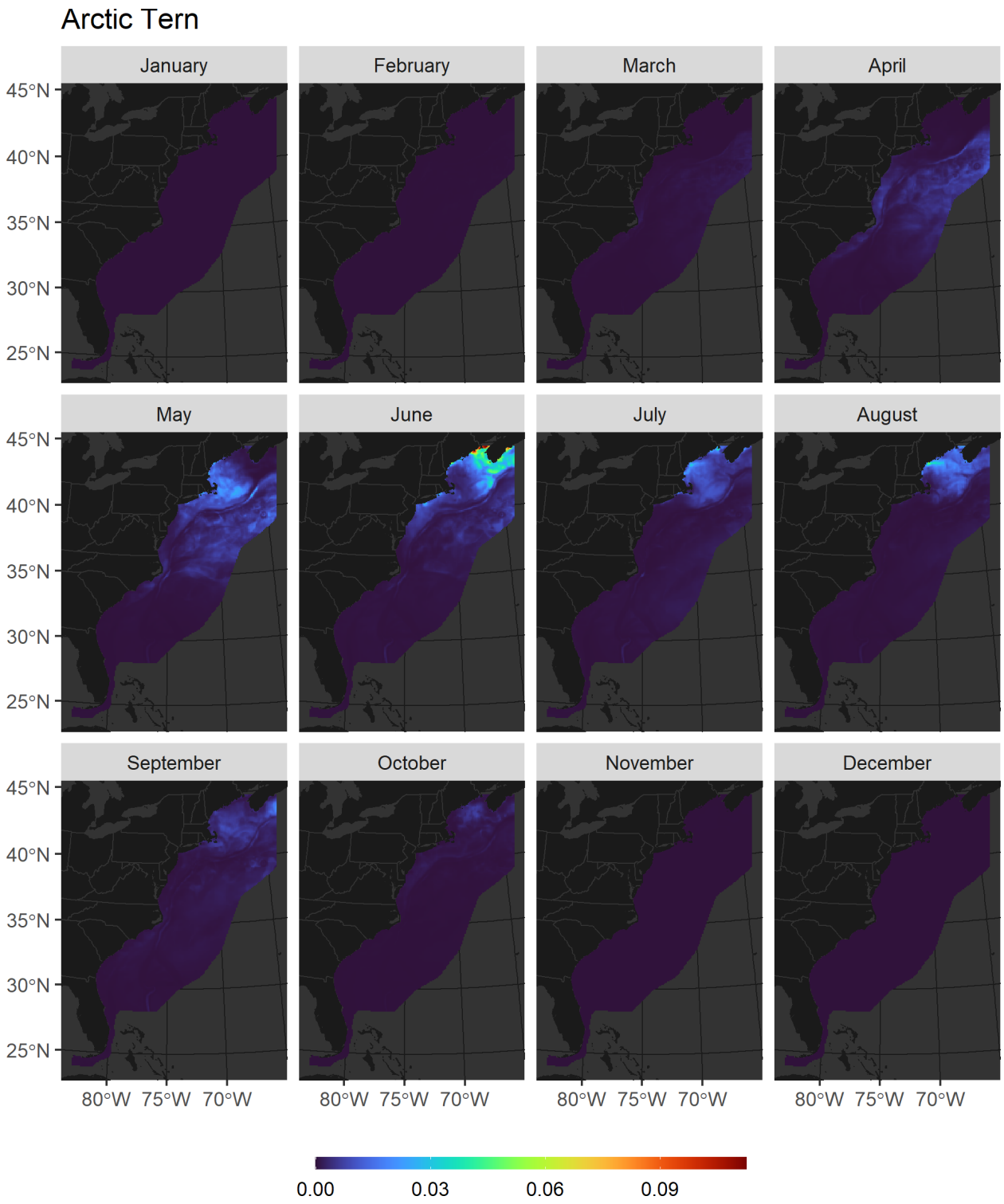


**Figure F-32. Average predicted density of Arctic Tern by month during the future period (next 30 years)**

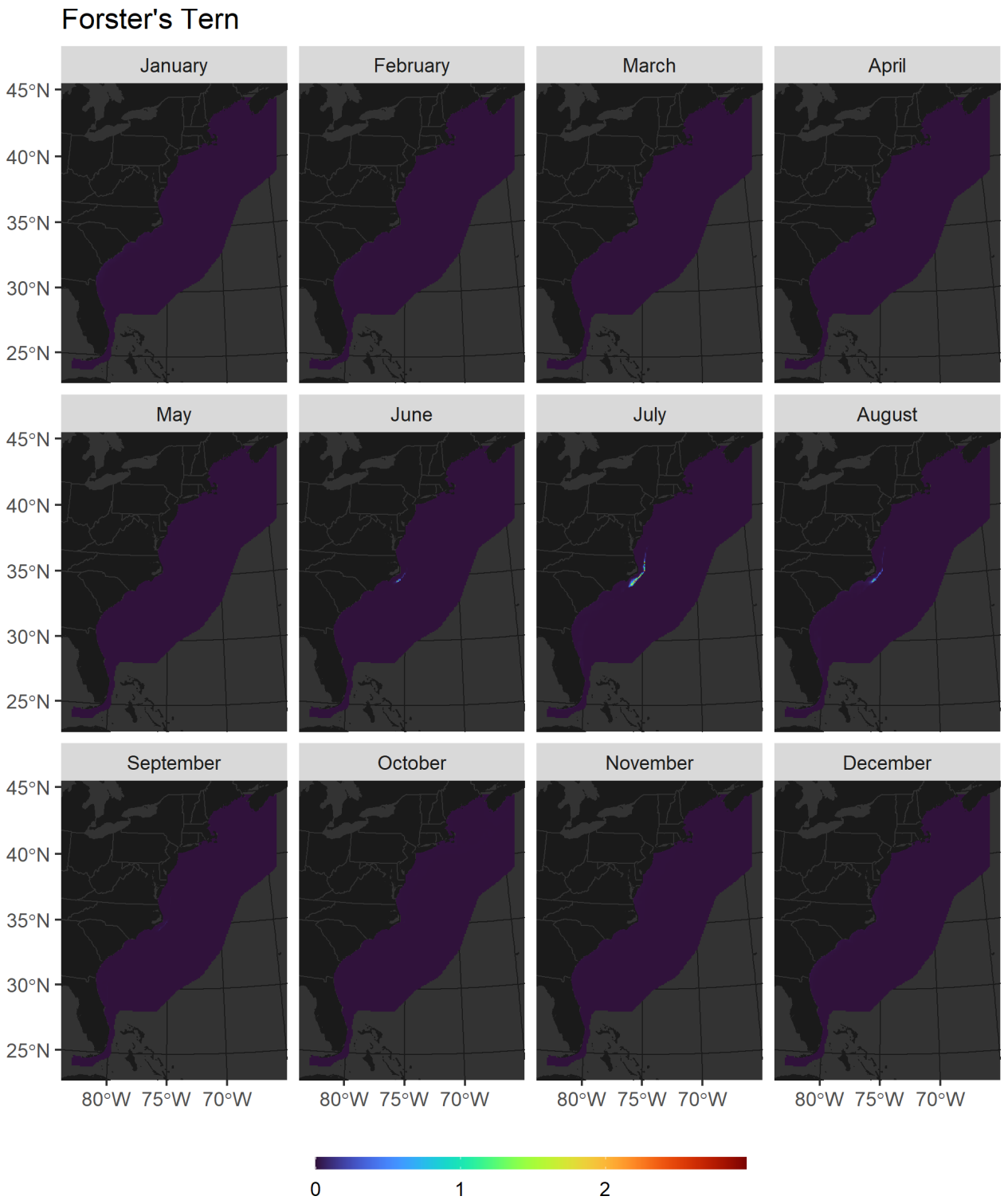


**Figure F-33. Average predicted density of Forster's Tern by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

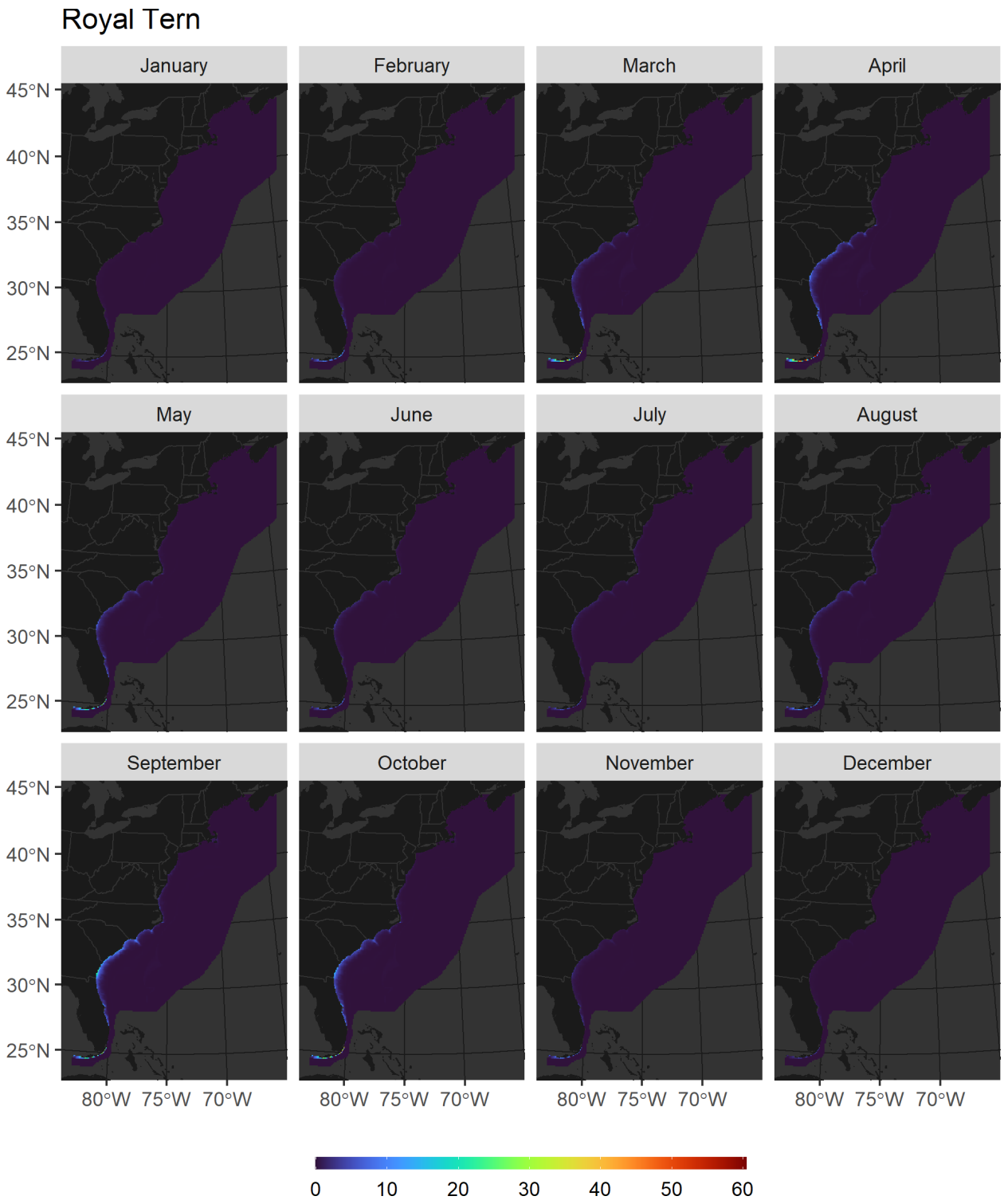


**Figure F-34. Average predicted density of Royal Tern by month during the future period (next 30 years)**

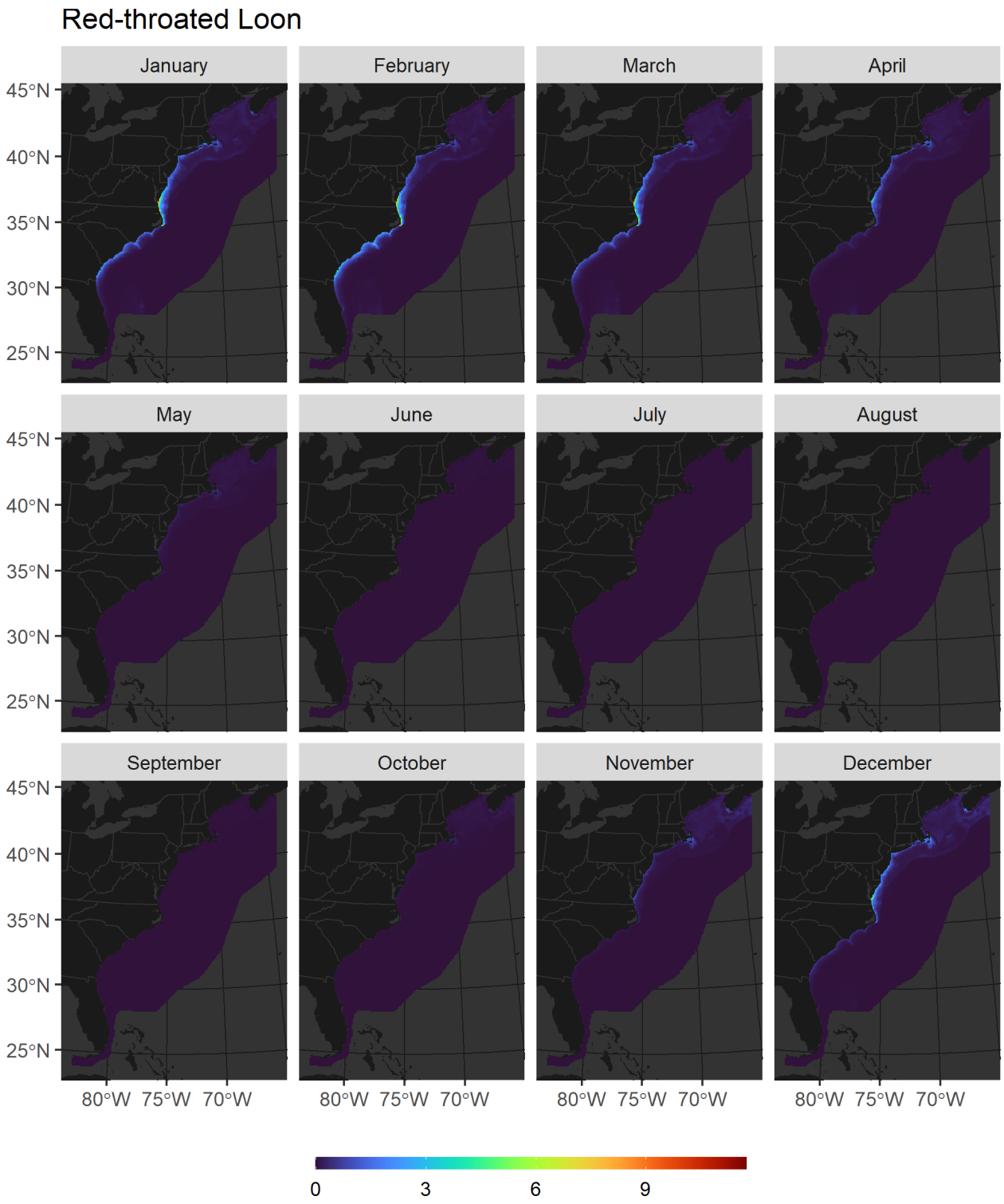


**Figure F-35. Average predicted density of Red-throated Loon by month during the future period (next 30 years)**

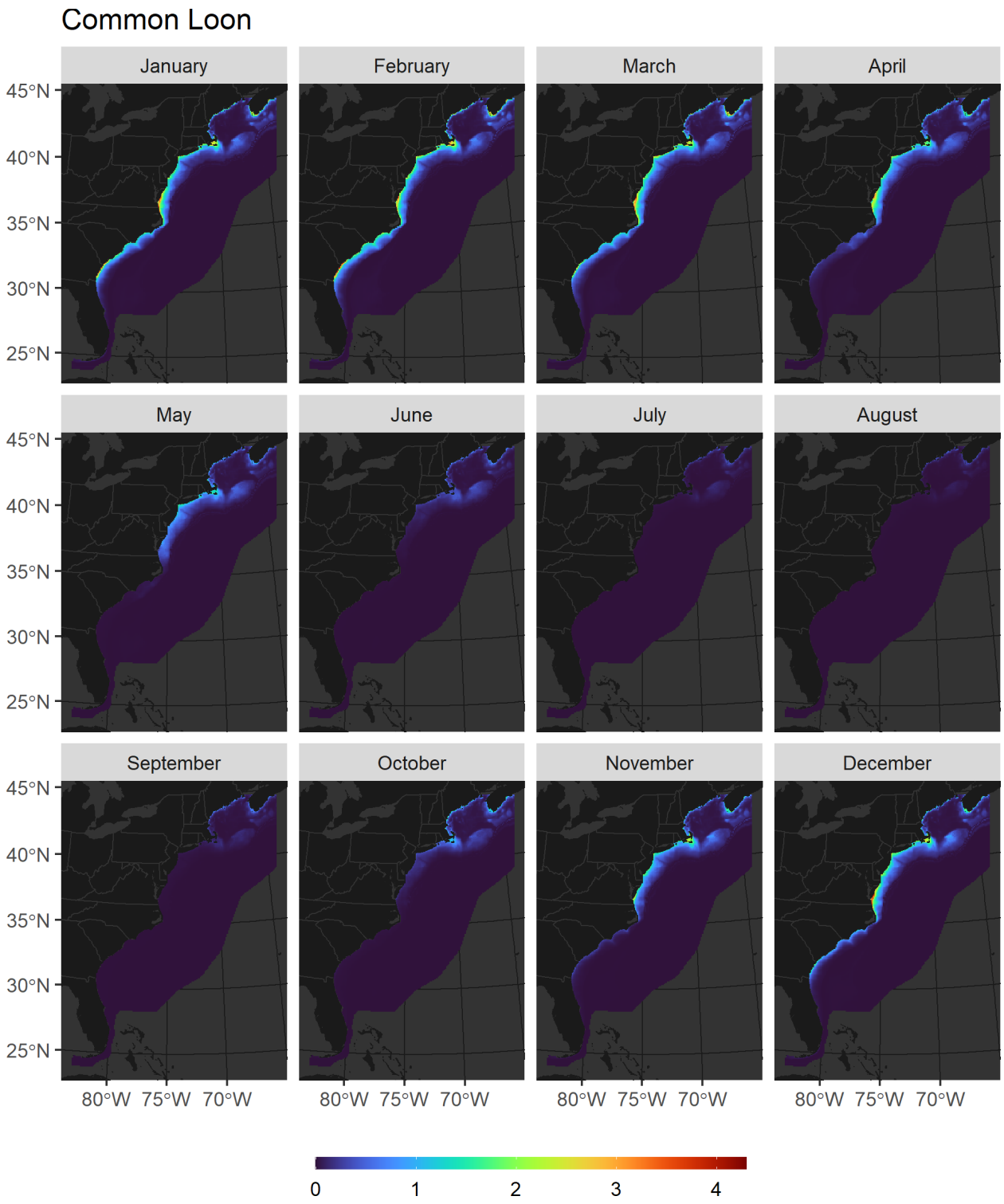


**Figure F-36. Average predicted density of Common Loon by month during the future period (next 30 years)**

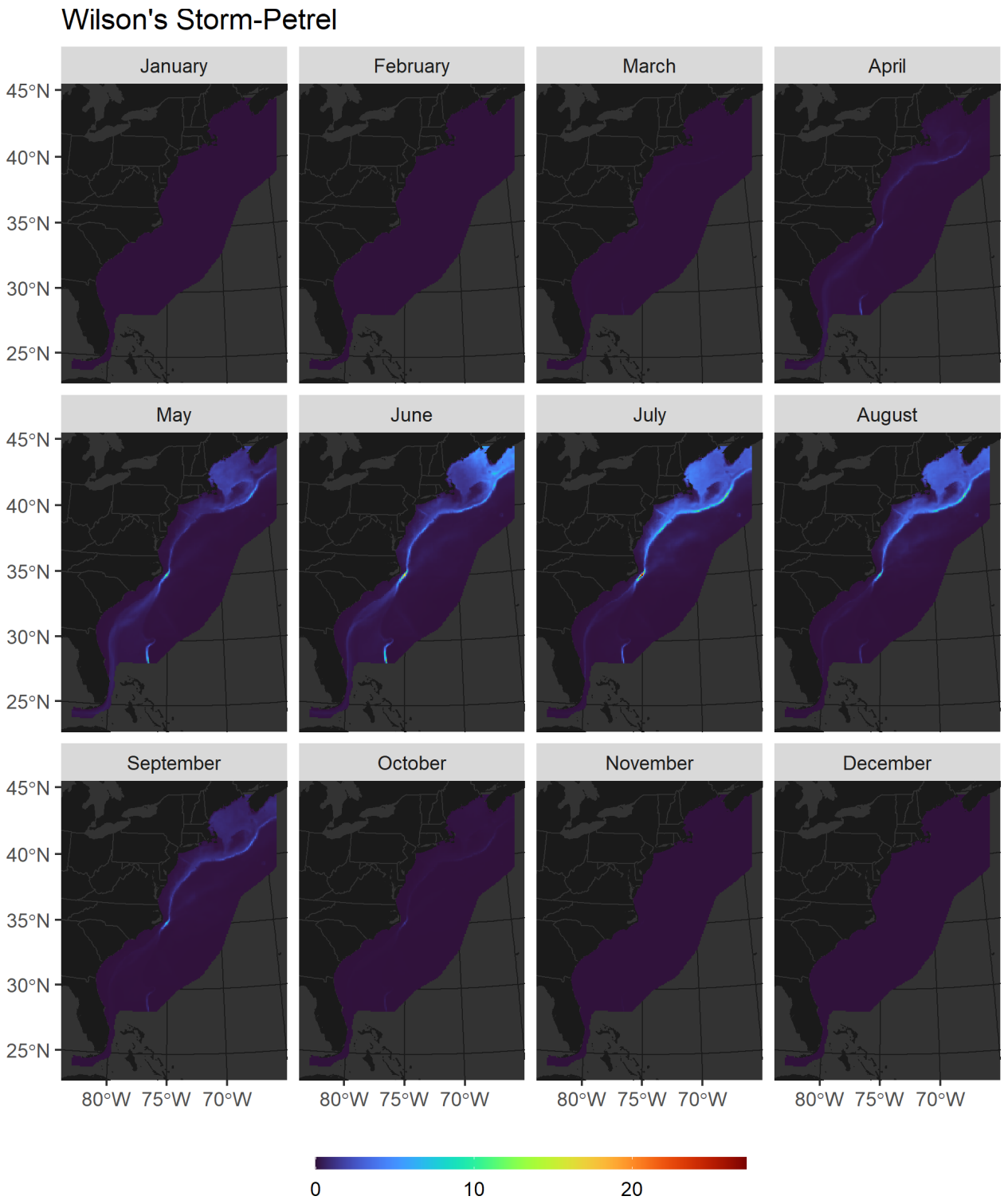


**Figure F-37. Average predicted density of Wilson's Storm-Petrel by month during the future period (next 30 years)**

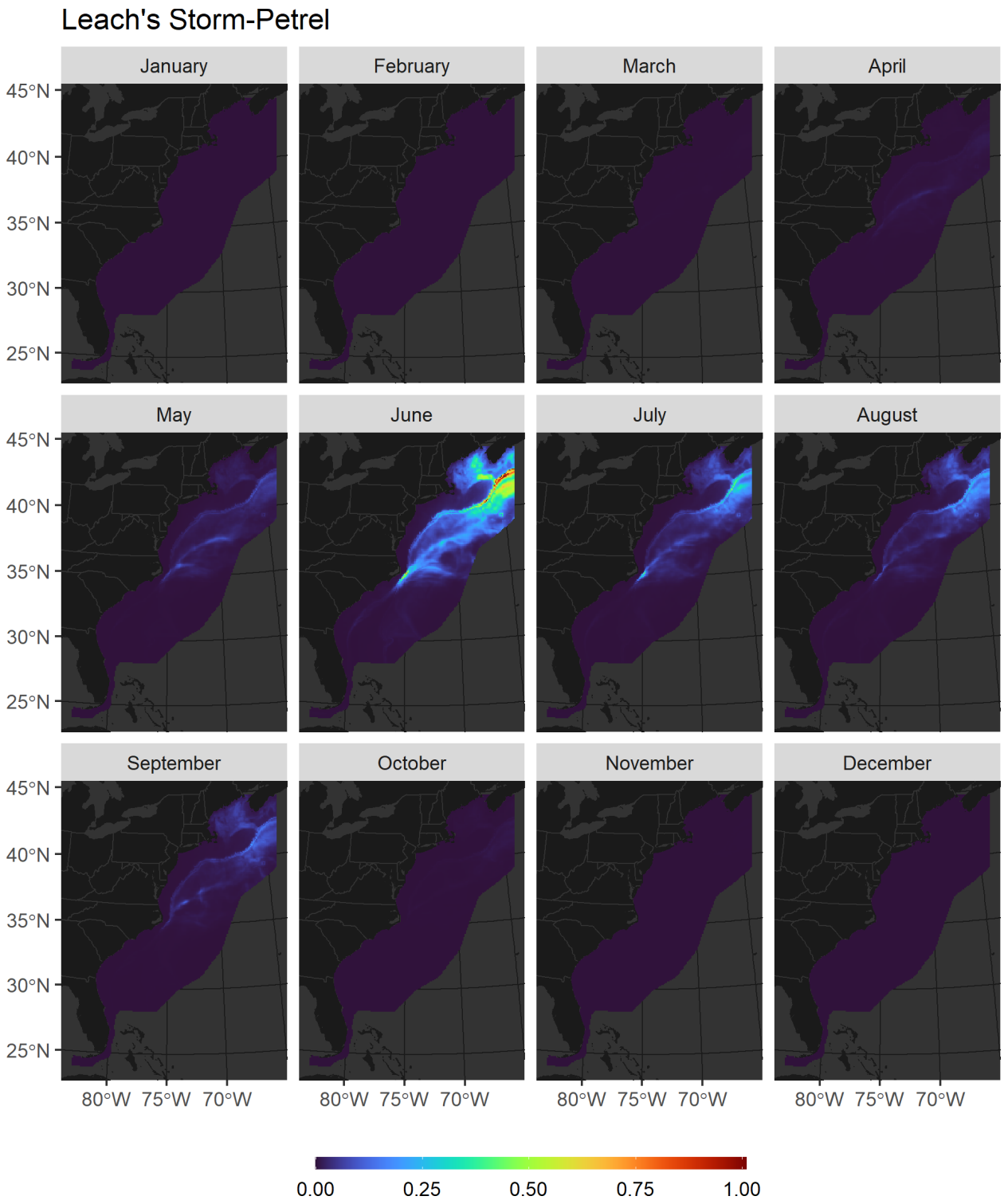


**Figure F-38. Average predicted density of Leach's Storm-Petrel by month during the future period (next 30 years)**

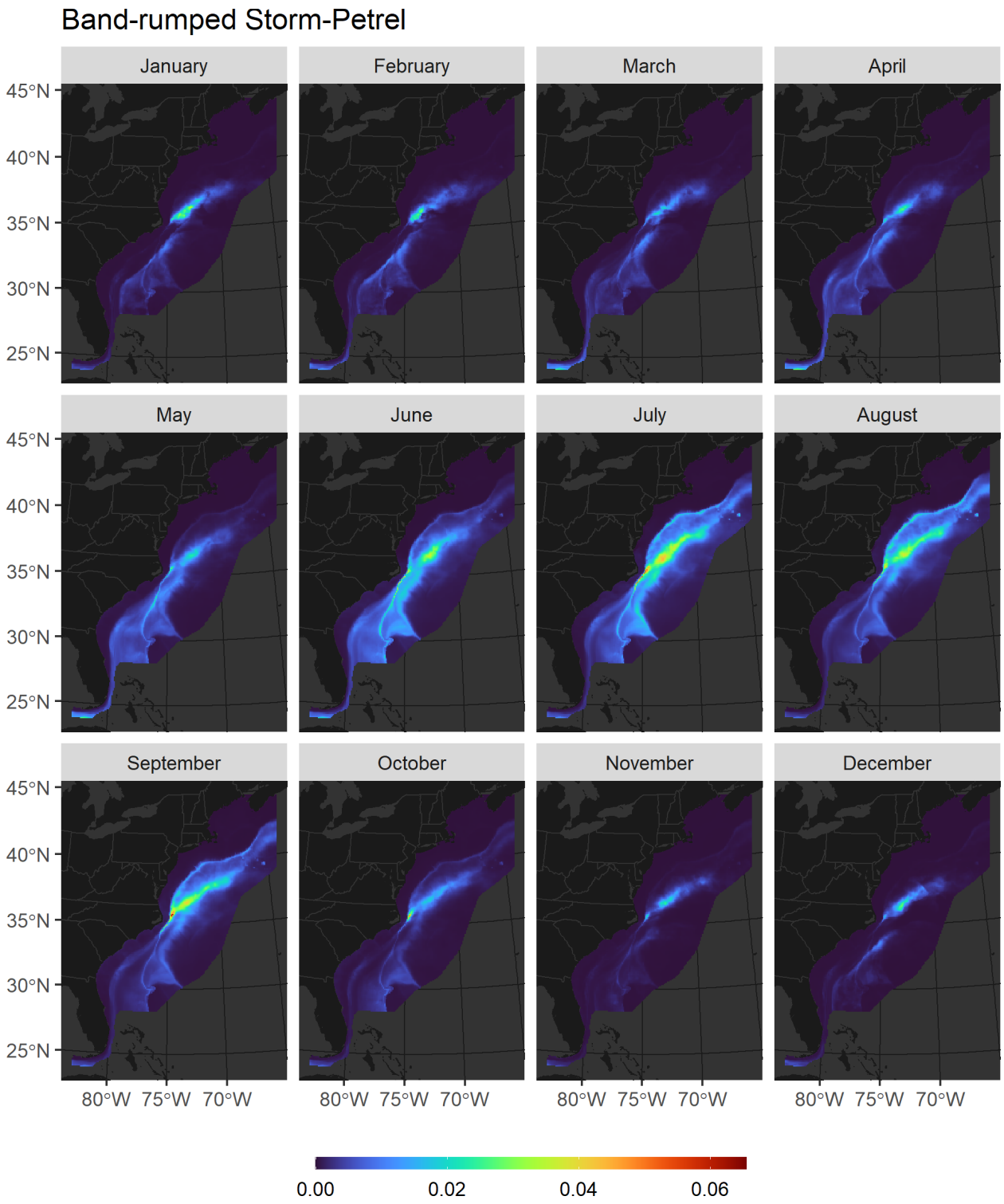


**Figure F-39. Average predicted density of Band-rumped Storm-Petrel by month during the future period (next 30 years)**

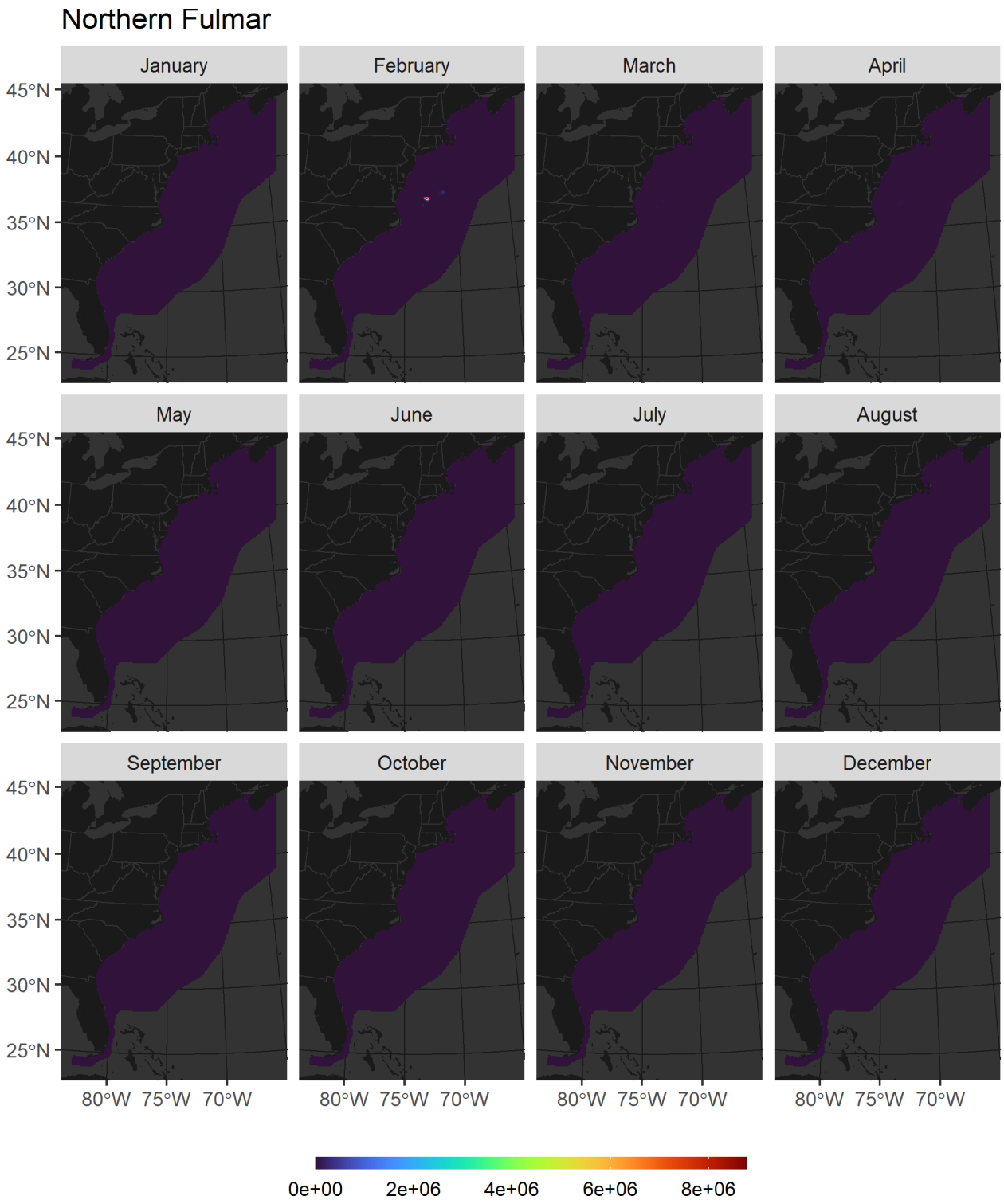


**Figure F-40. Average predicted density of Northern Fulmar by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

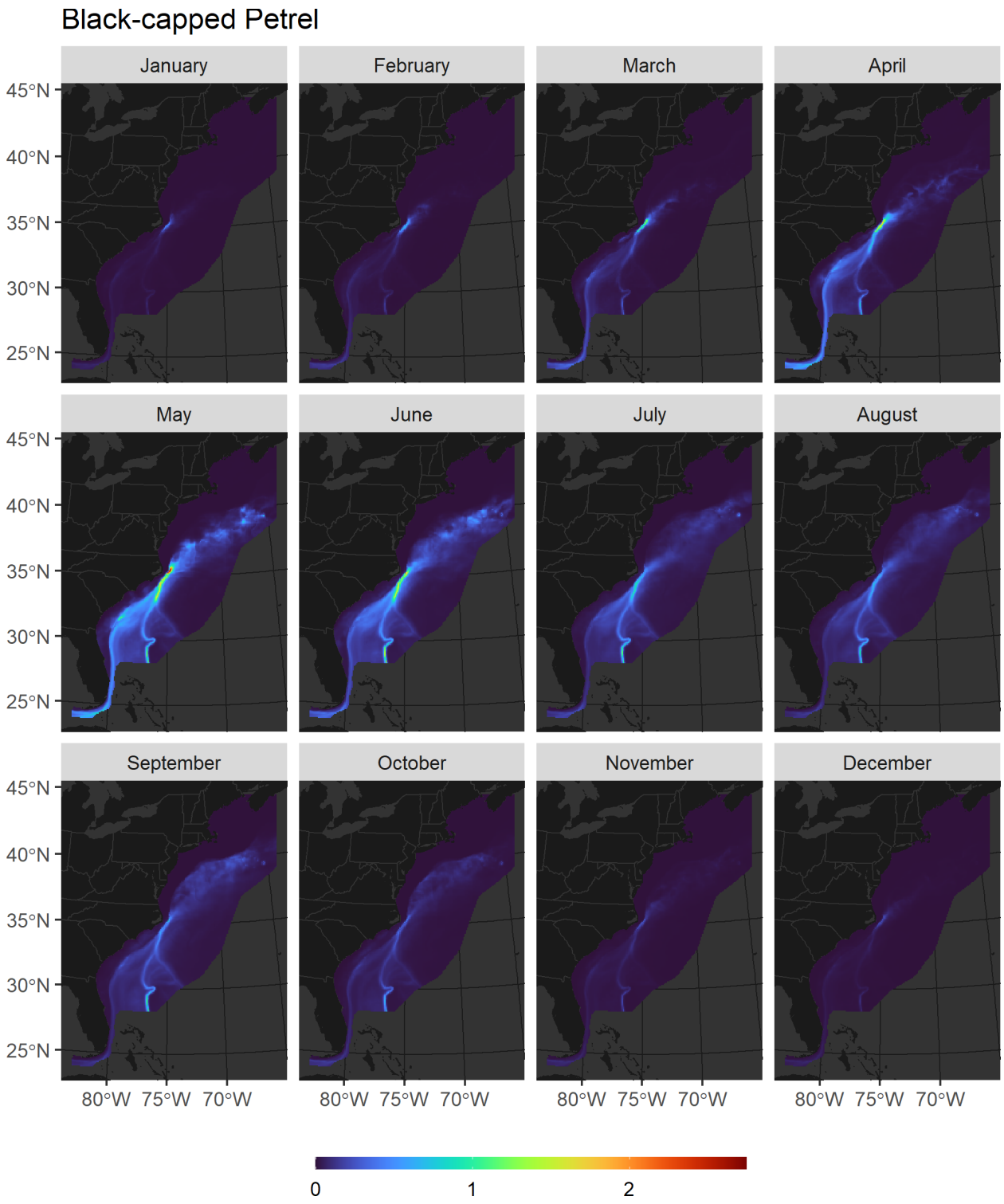


**Figure F-41. Average predicted density of Black-capped Petrel by month during the future period (next 30 years)**

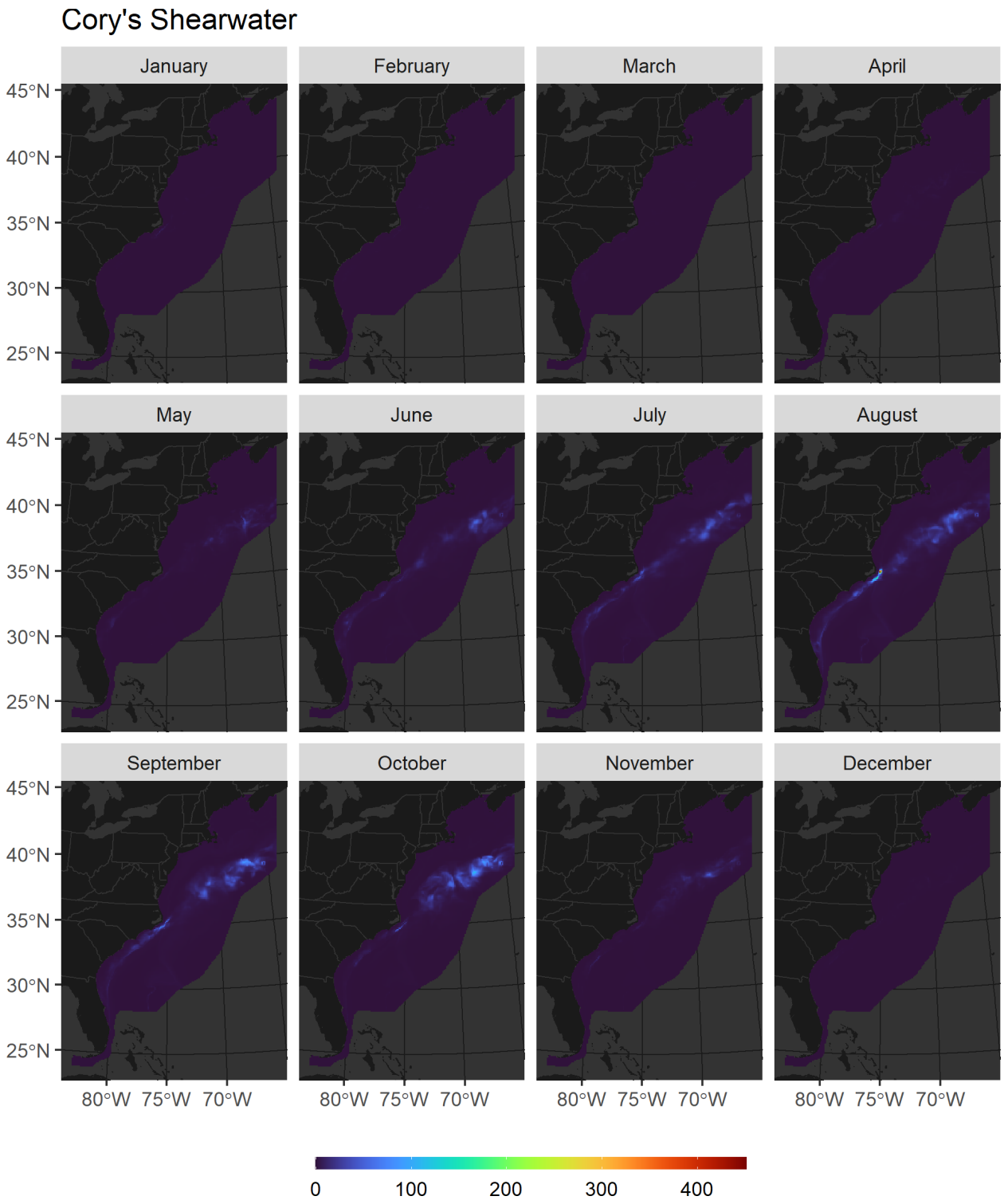


**Figure F-42. Average predicted density of Cory's Shearwater by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

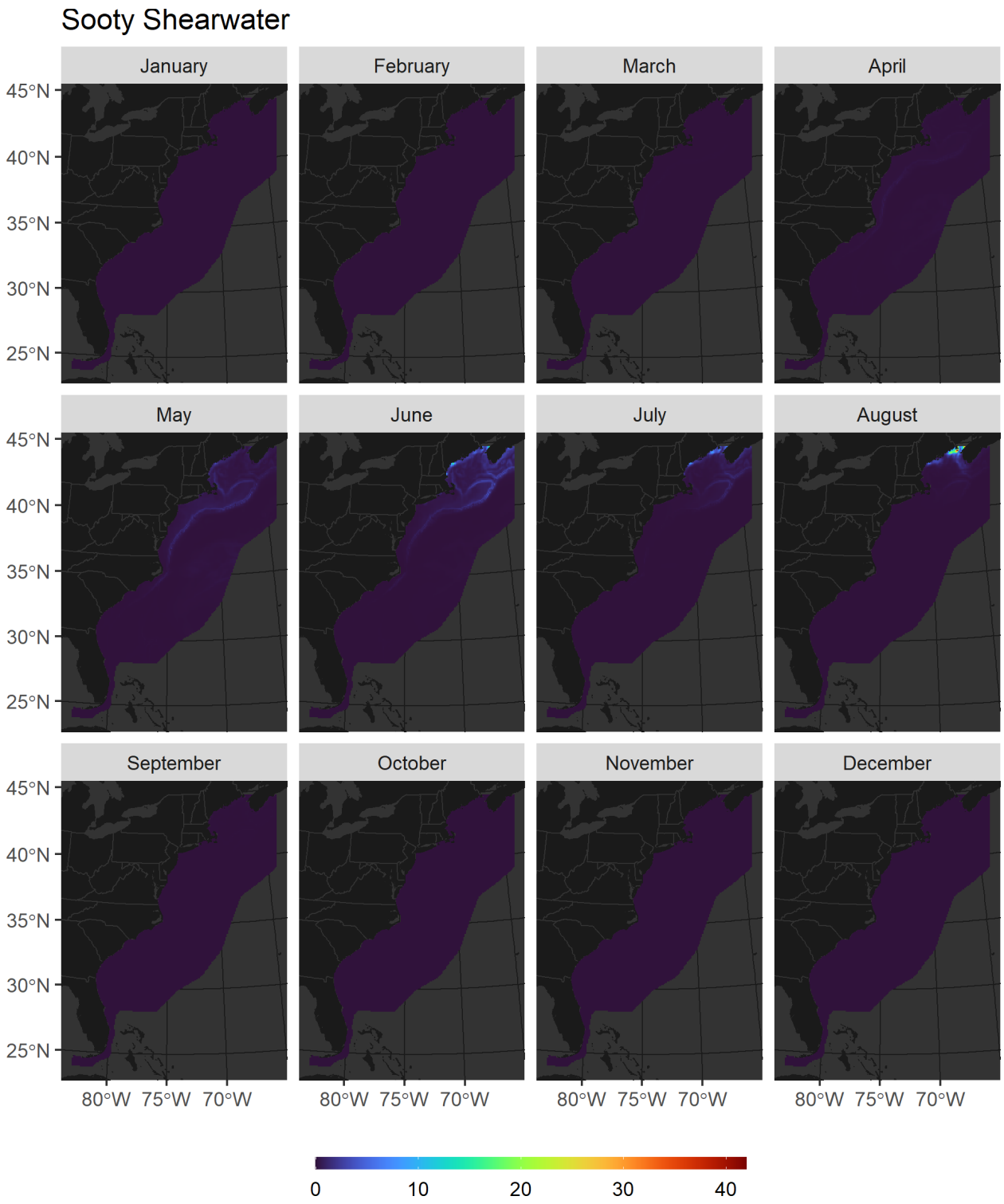


**Figure F-43. Average predicted density of Sooty Shearwater by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

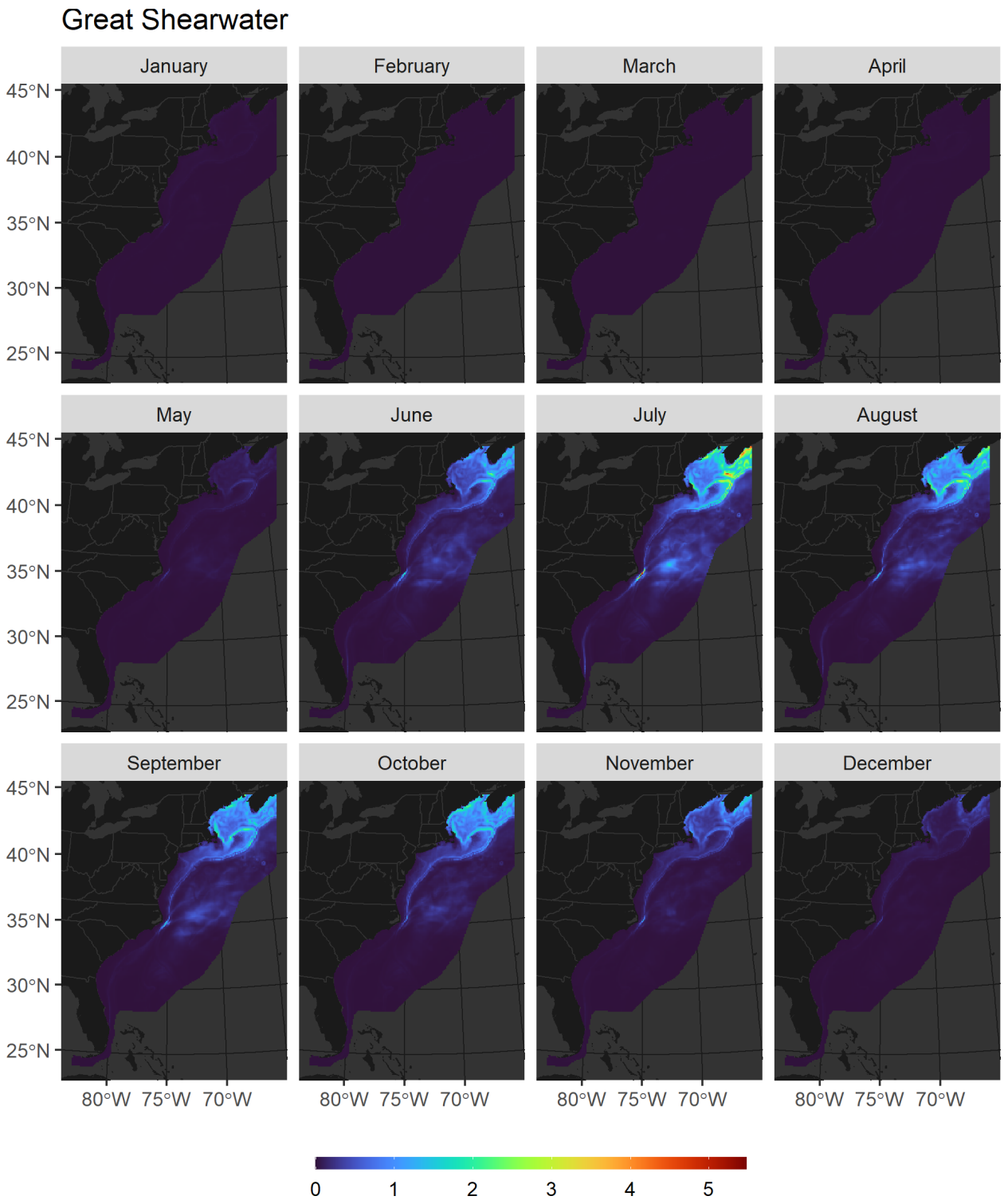


**Figure F-44. Average predicted density of Great Shearwater by month during the future period (next 30 years)**

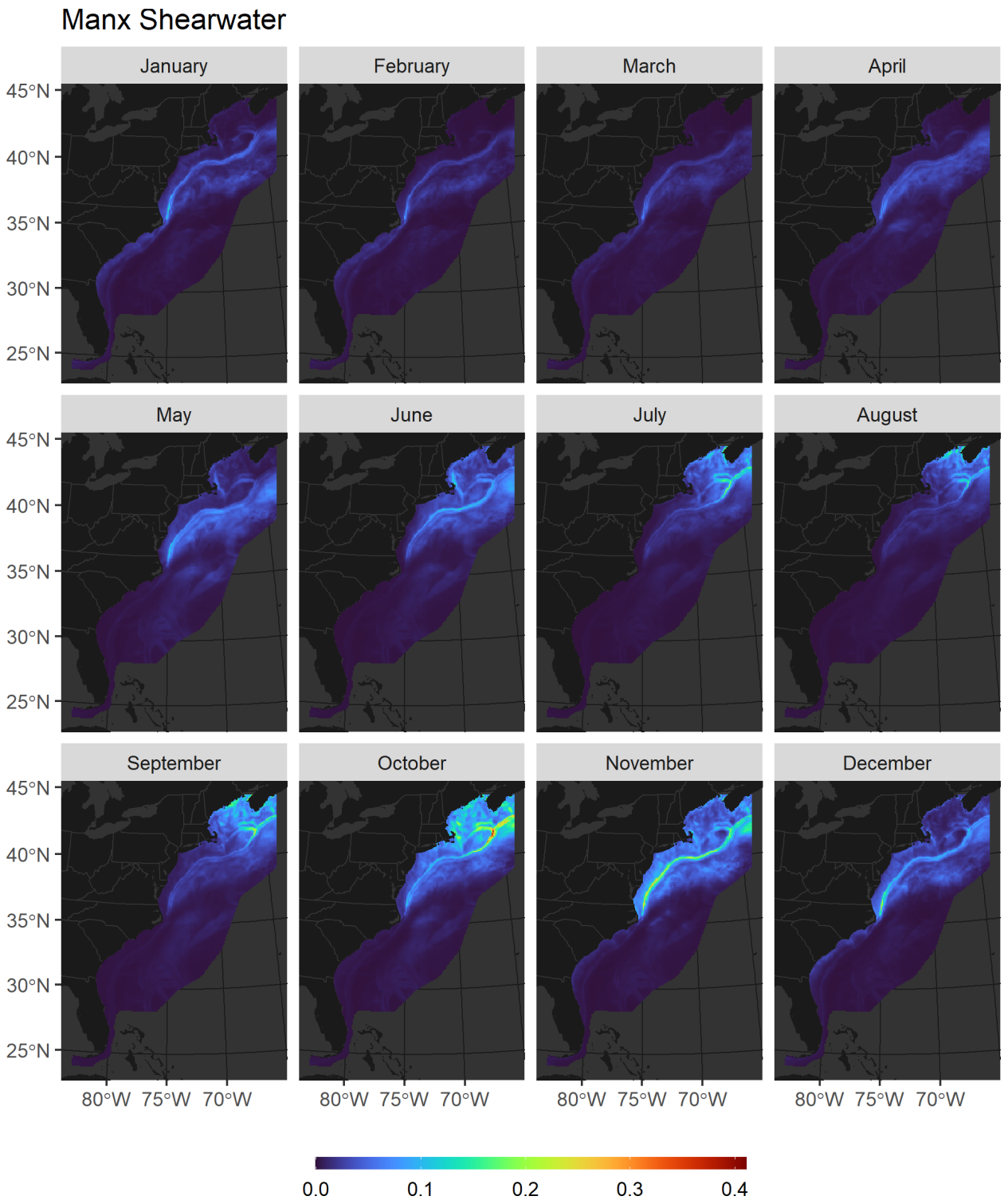


**Figure F-45. Average predicted density of Manx Shearwater by month during the future period (next 30 years)**

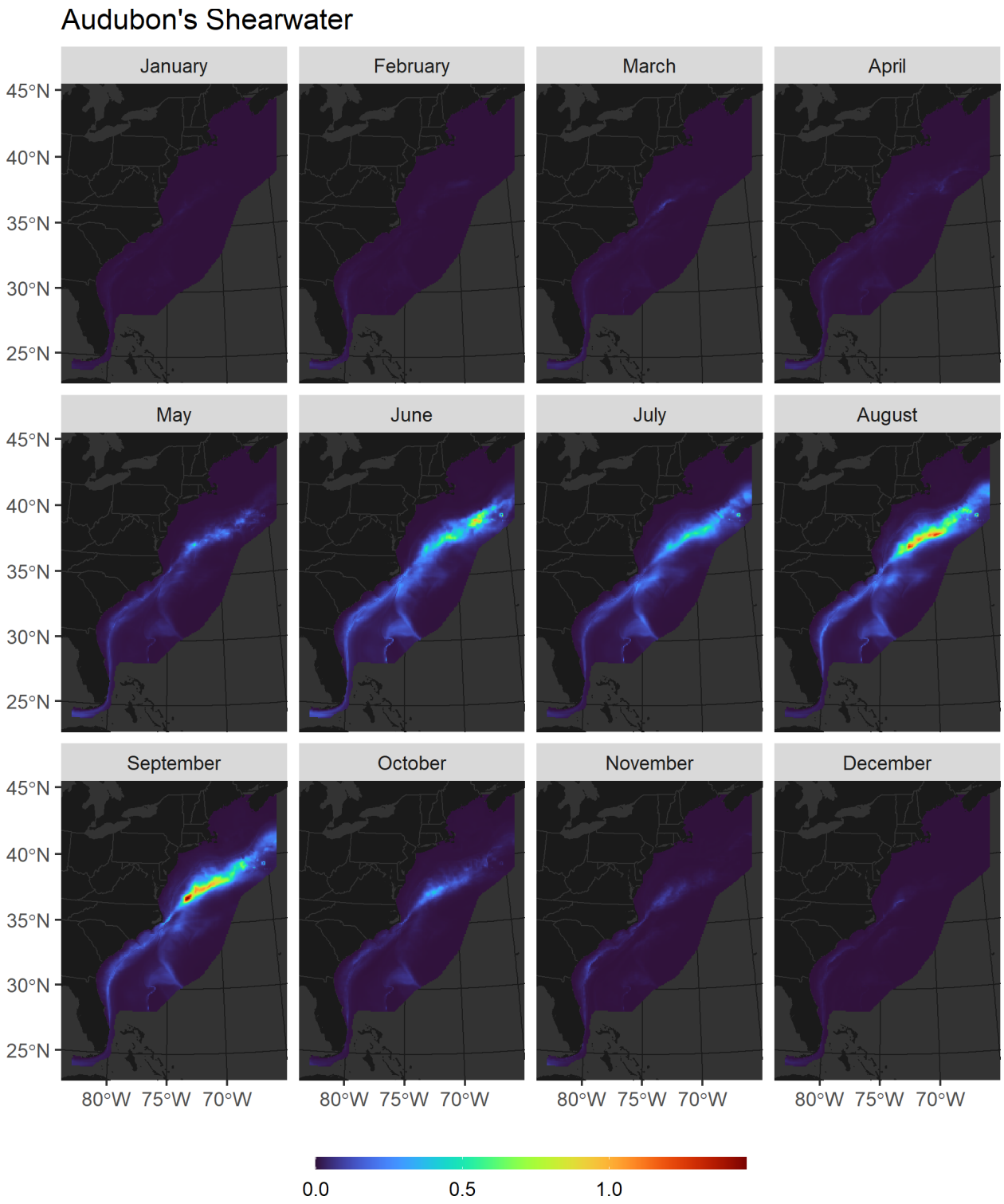


**Figure F-46. Average predicted density of Audubon's Shearwater by month during the future period (next 30 years)**

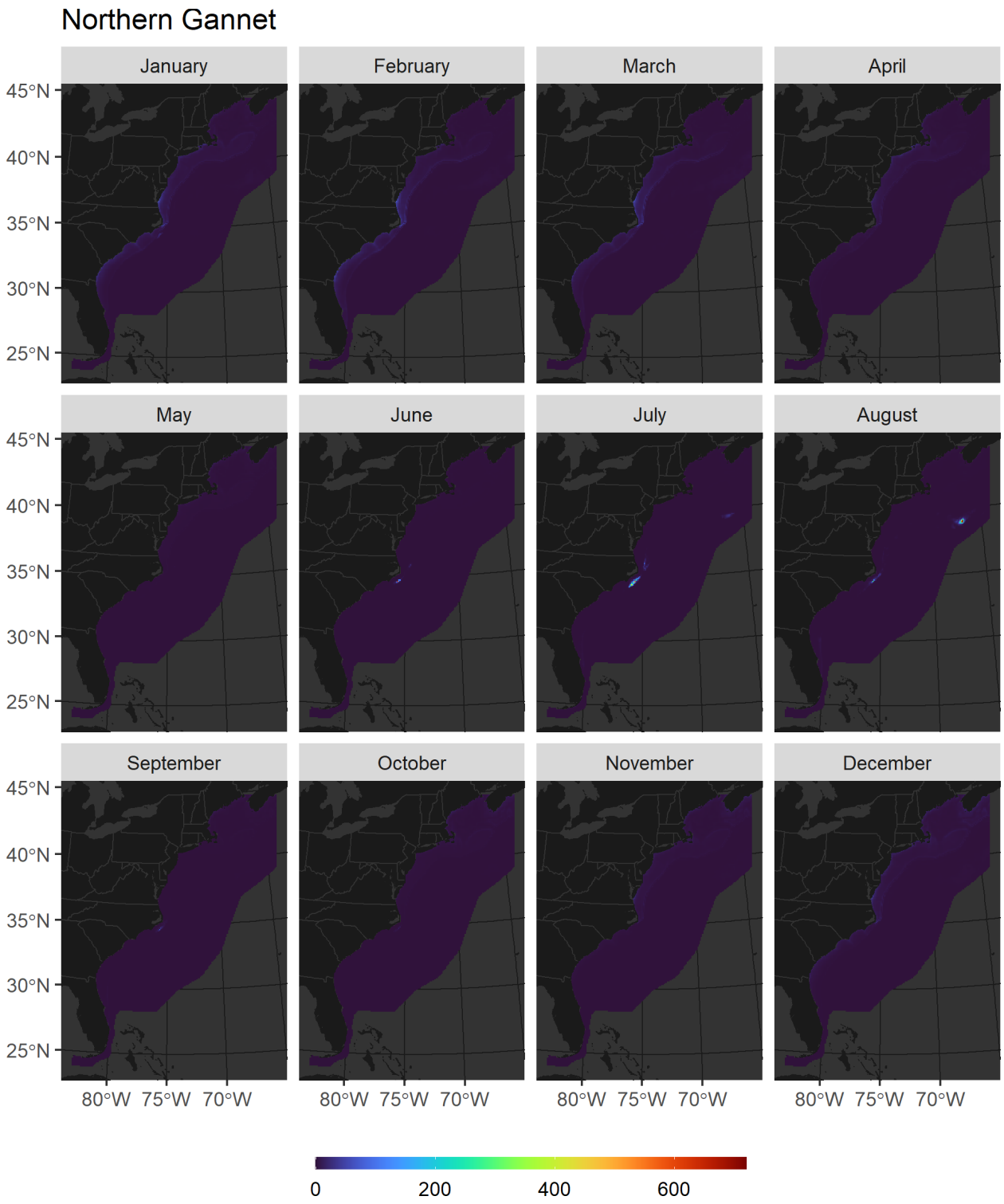


**Figure F-47. Average predicted density of Northern Gannet by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

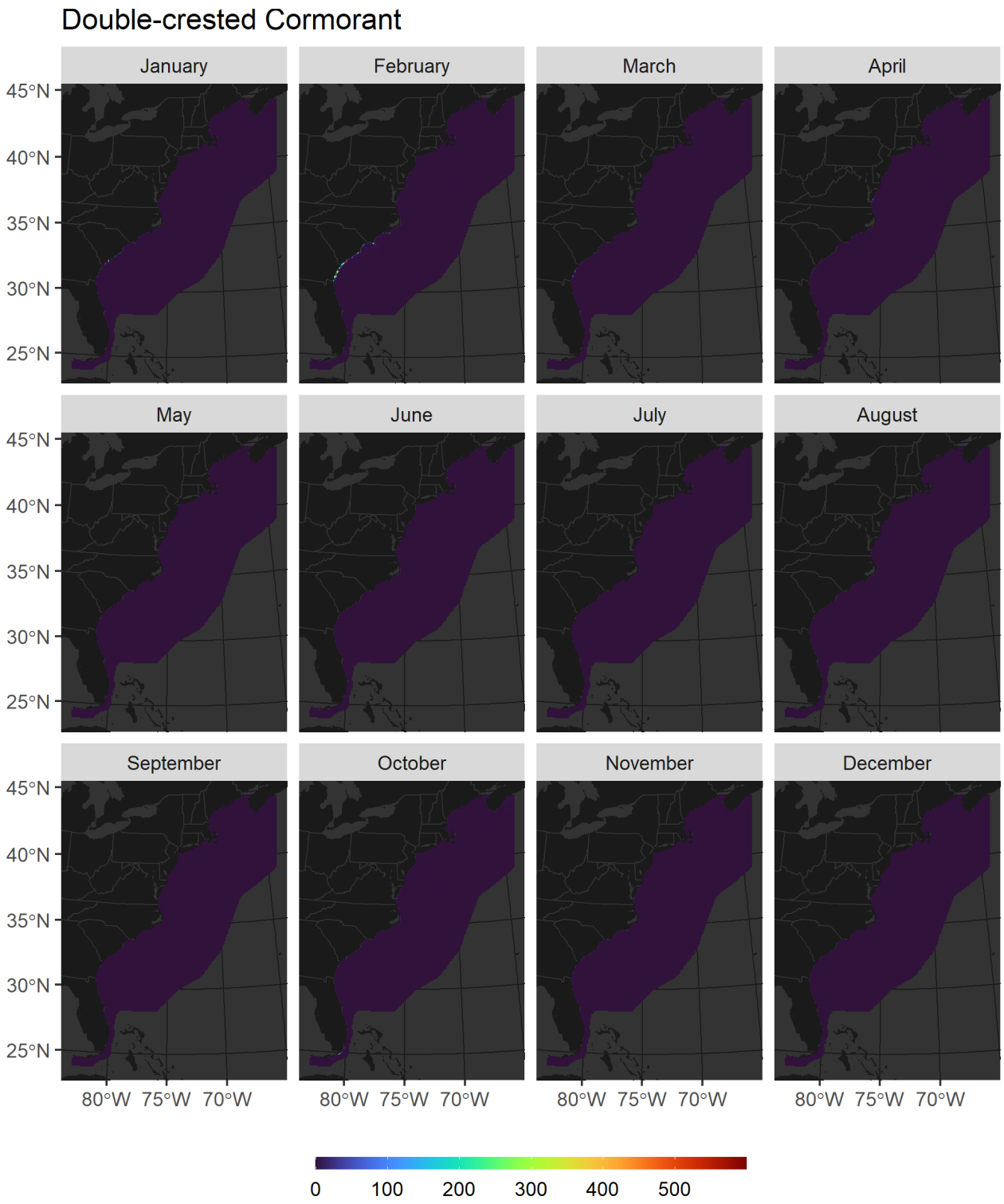


**Figure F-48. Average predicted density of Double-crested Cormorant by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

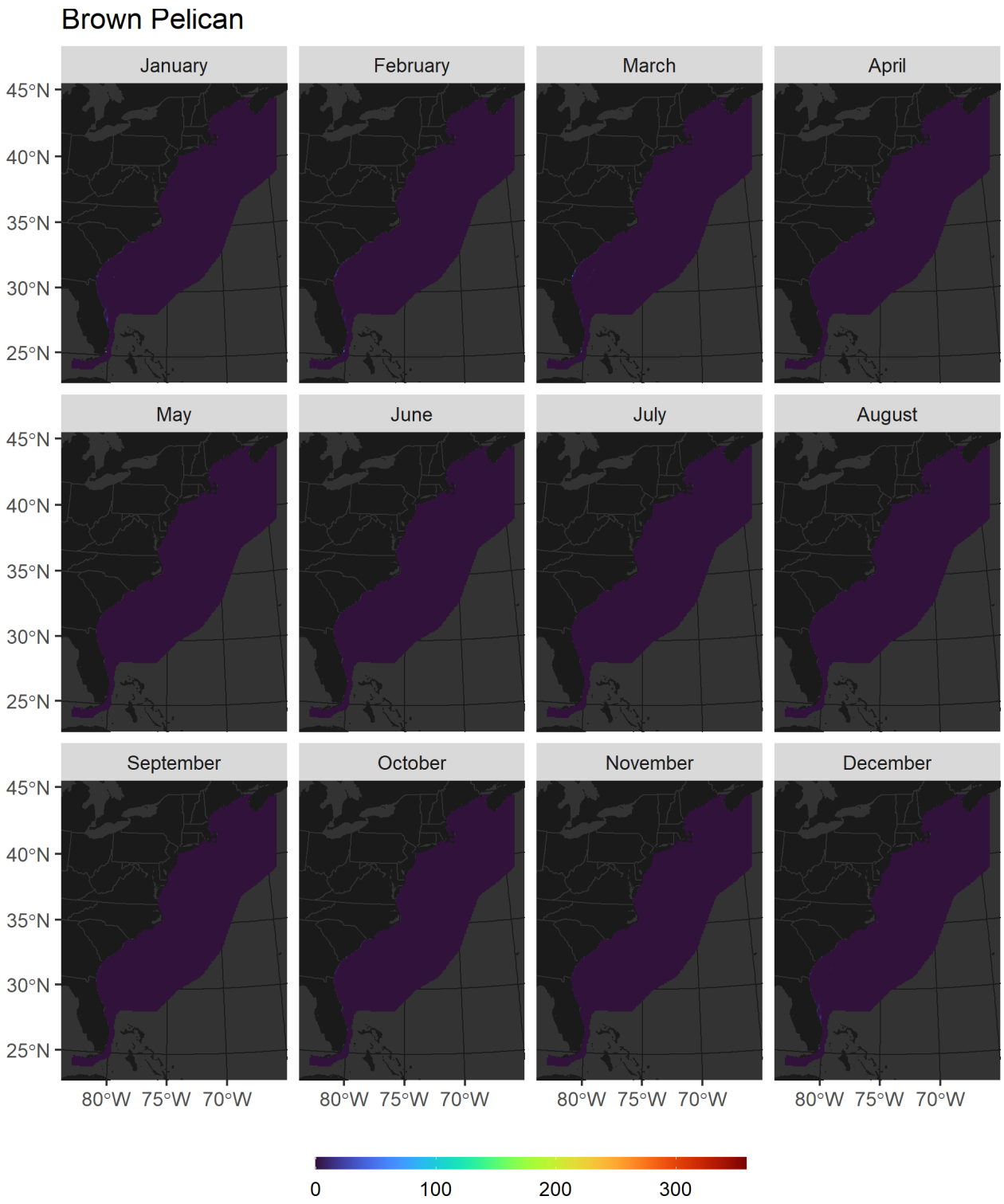


**Figure F-49. Average predicted density of Brown Pelican by month during the future period (next 30 years)**
The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

# Appendix G: Difference between retrospective and future predicted density

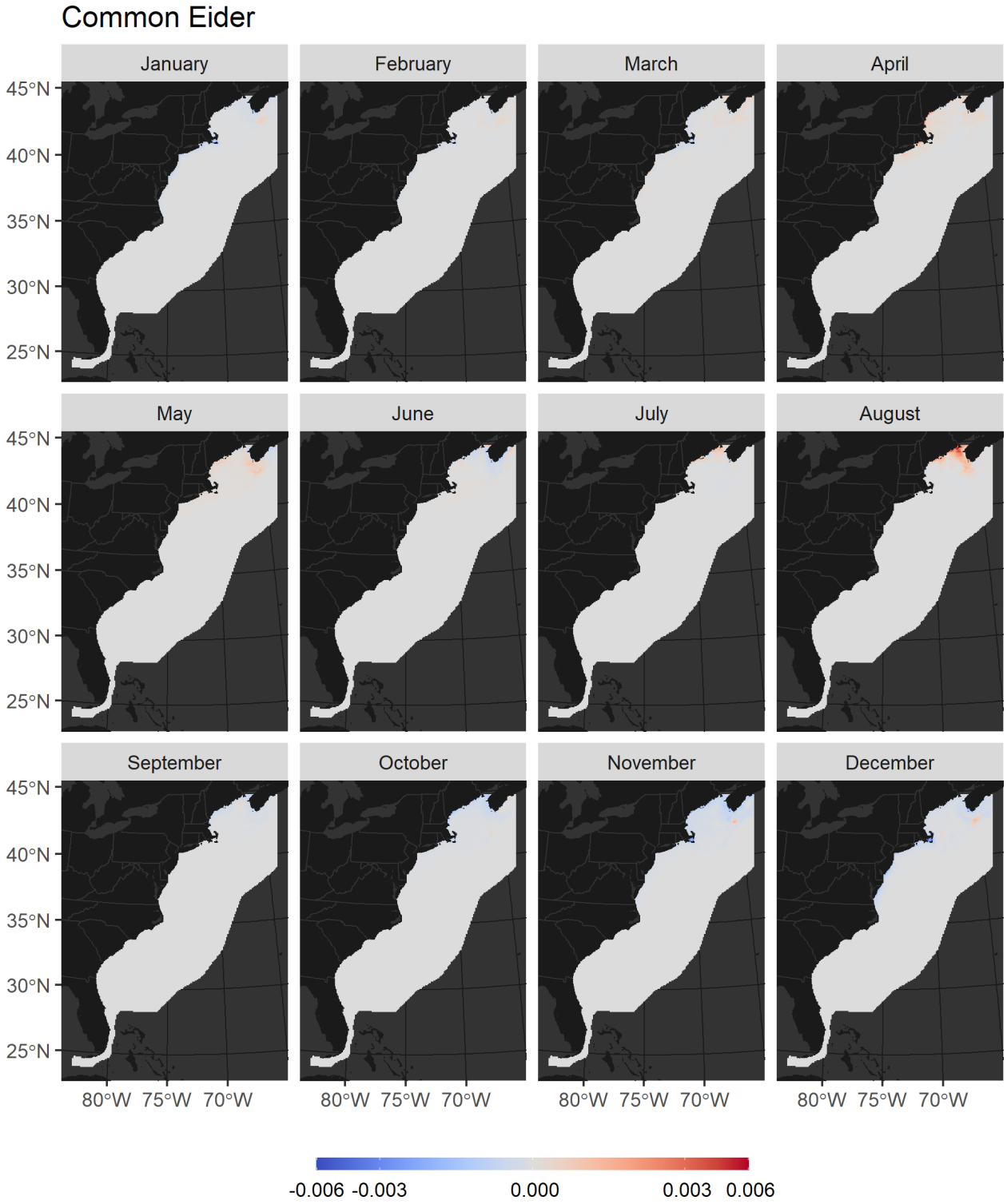


**Figure G-1. Difference in average predicted density of Common Eider by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

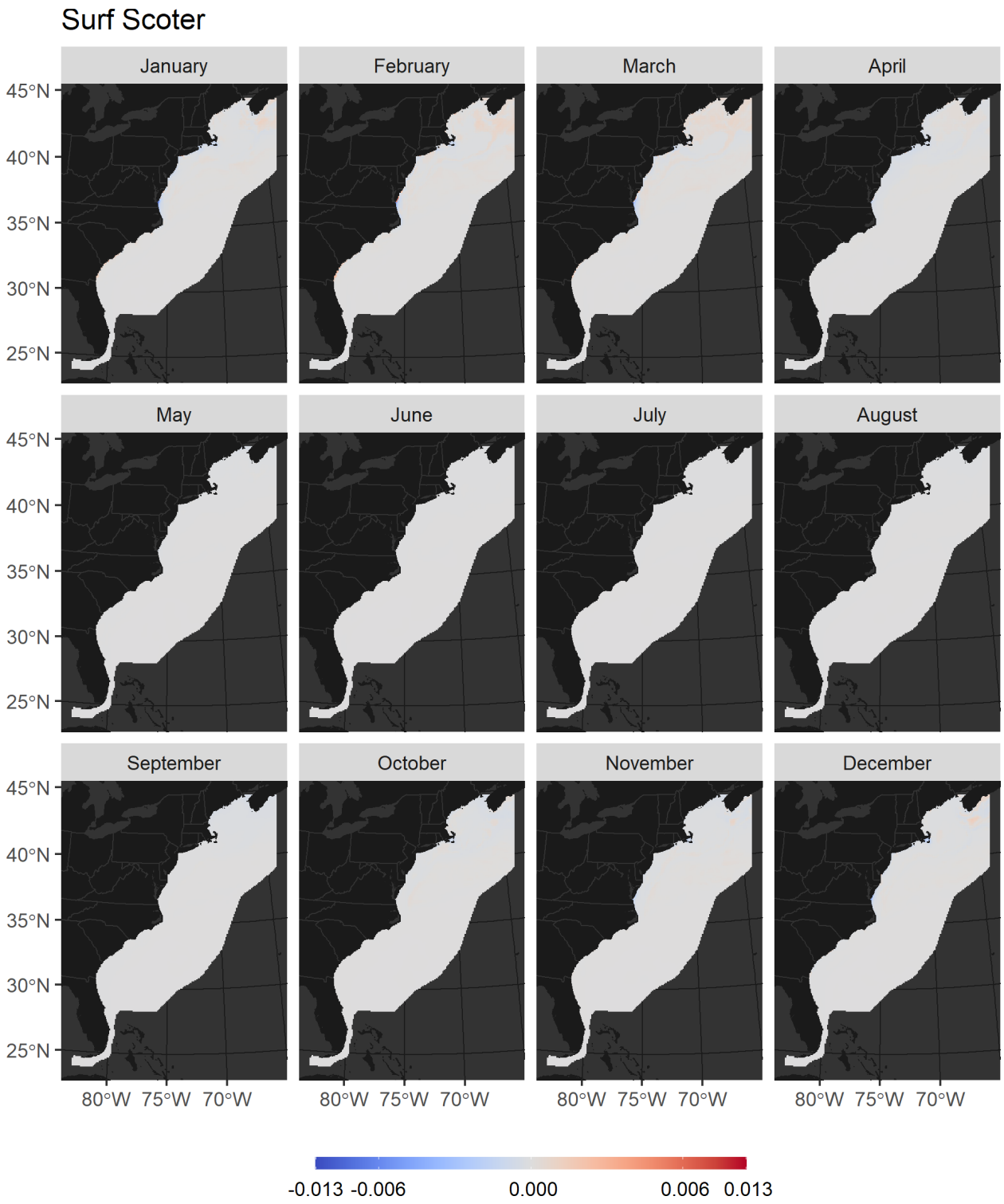


**Figure G-2. Difference in average predicted density of Surf Scoter by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

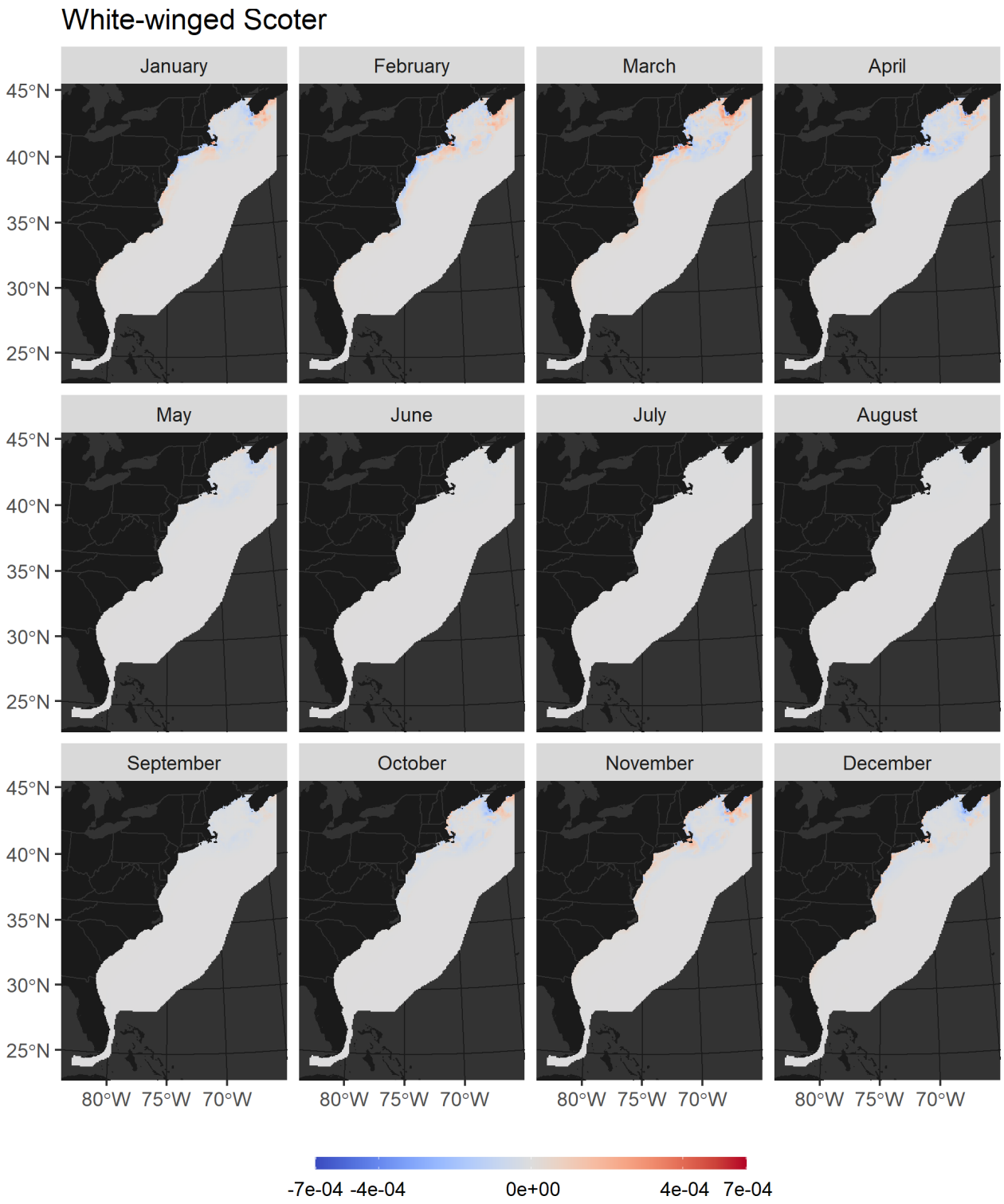


**Figure G-3. Difference in average predicted density of White-winged Scoter by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

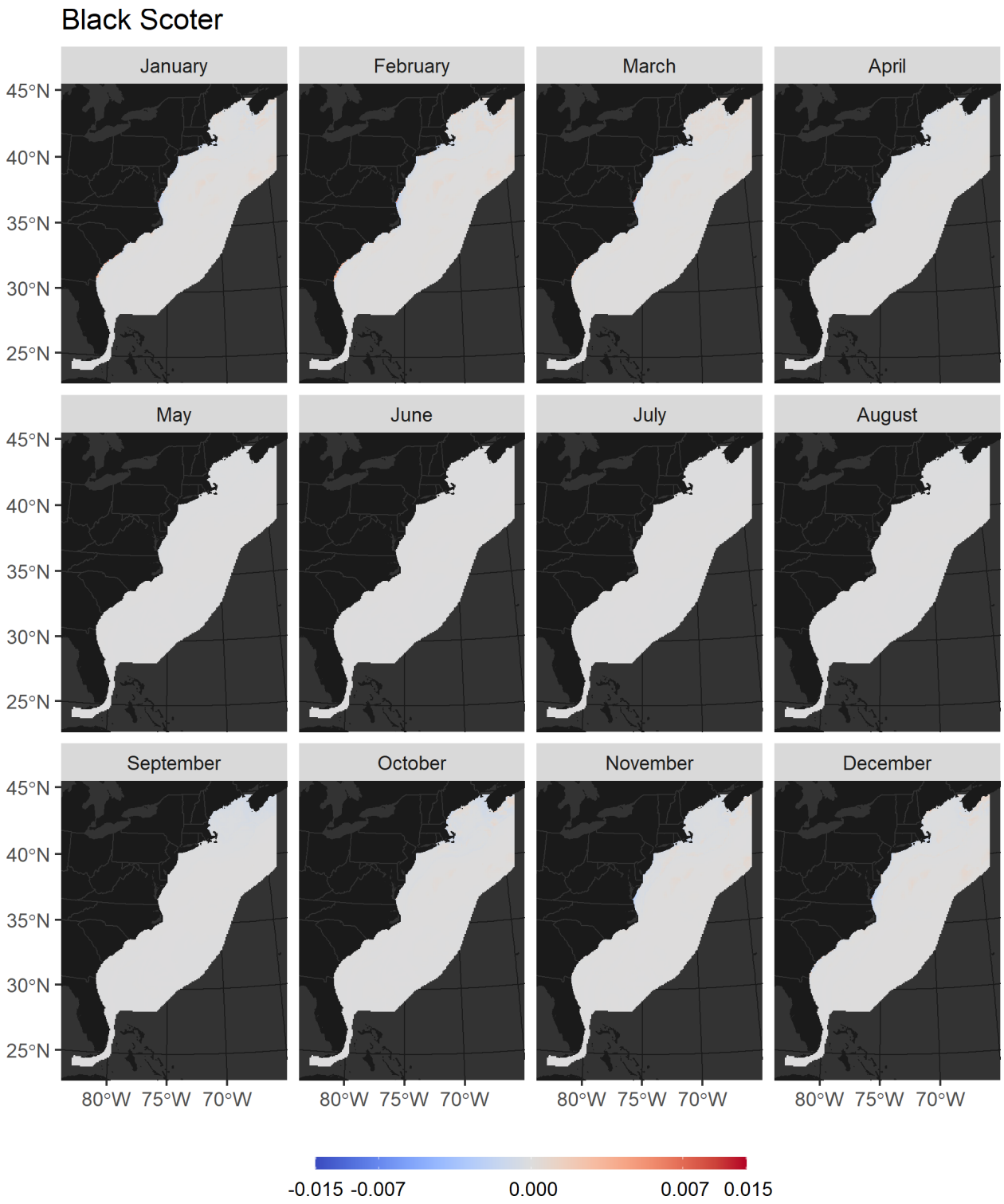


**Figure G-4. Difference in average predicted density of Black Scoter by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

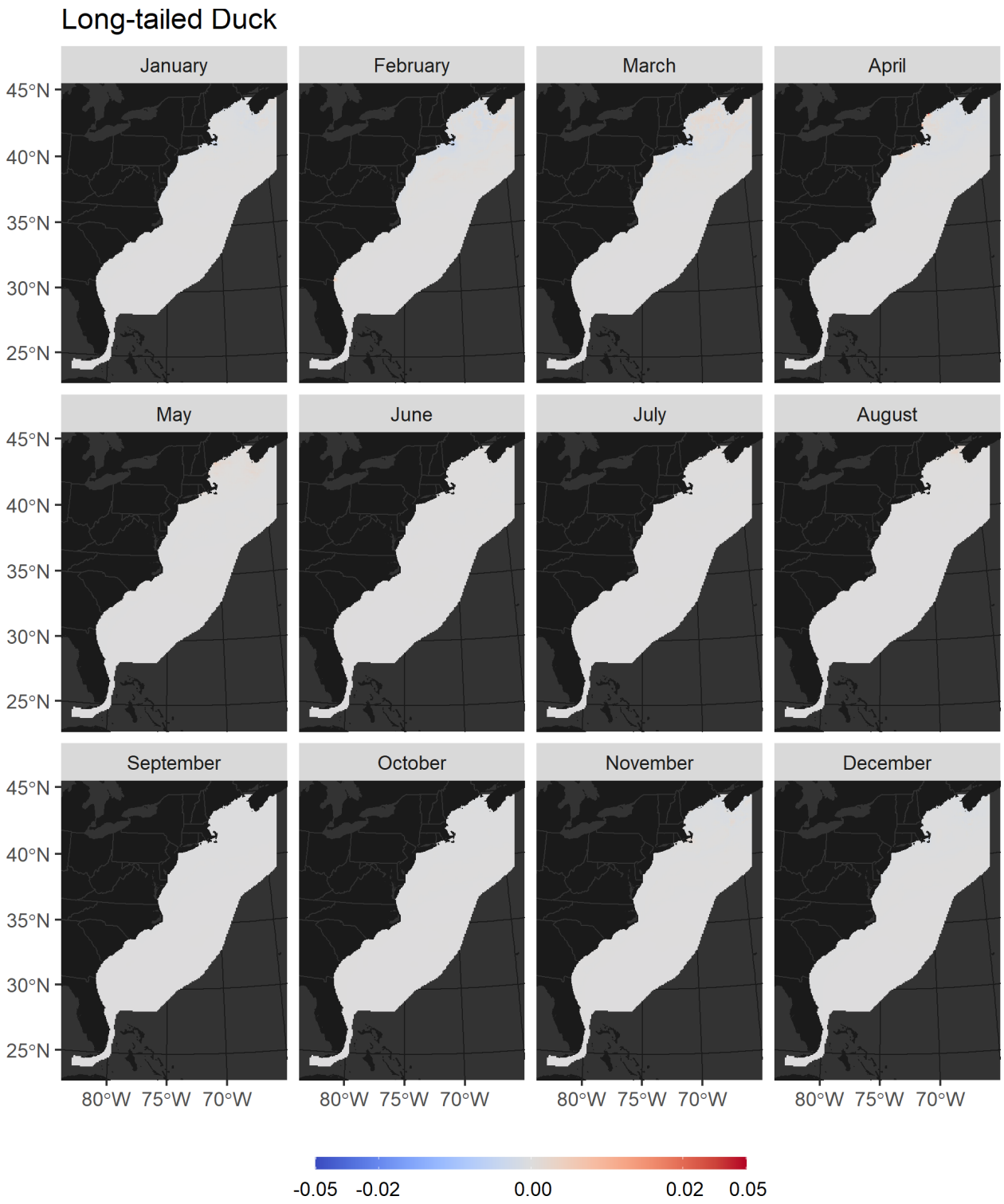


**Figure G-5. Difference in average predicted density of Long-tailed Duck by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

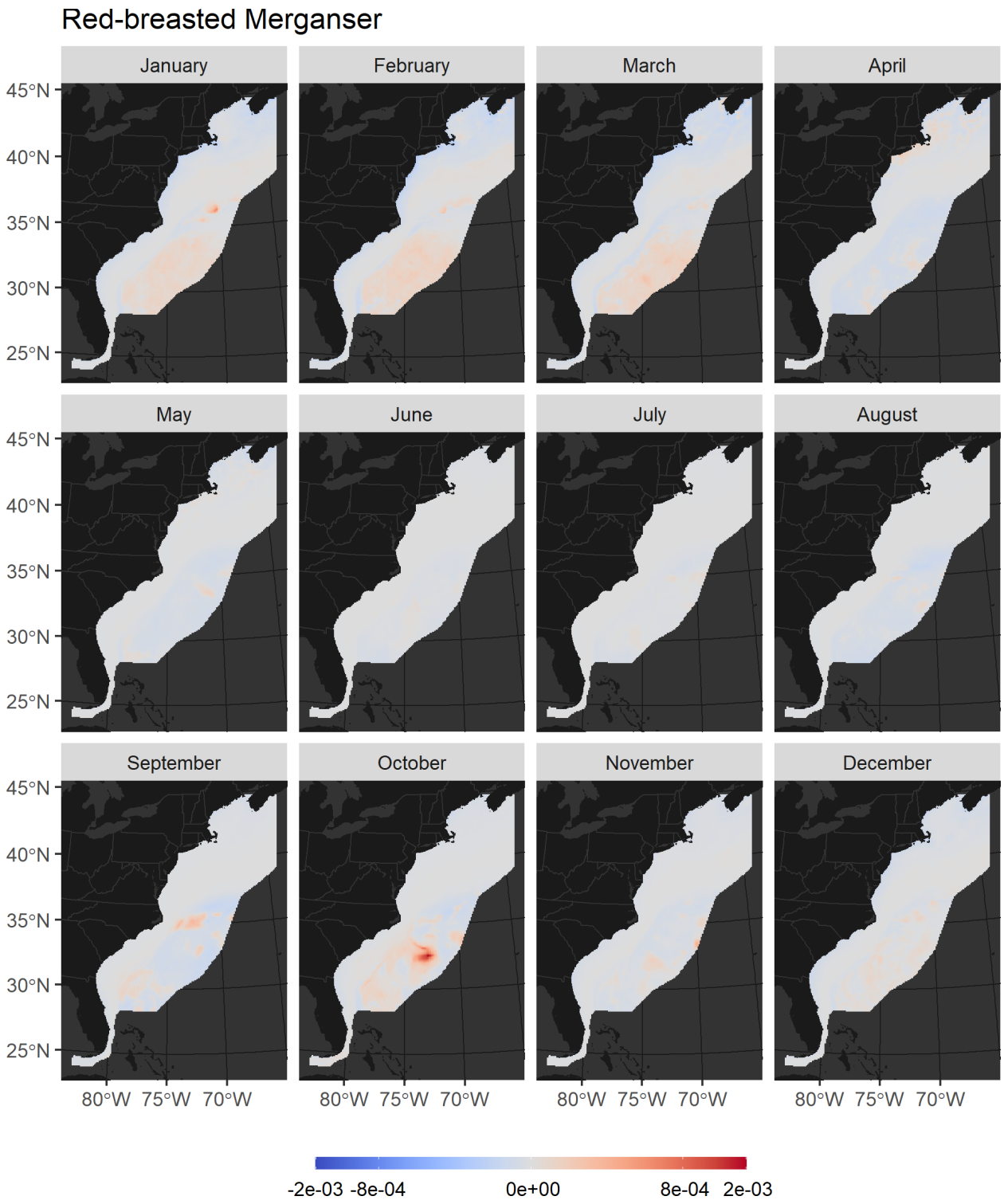


**Figure G-6. Difference in average predicted density of Red-breasted Merganser by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

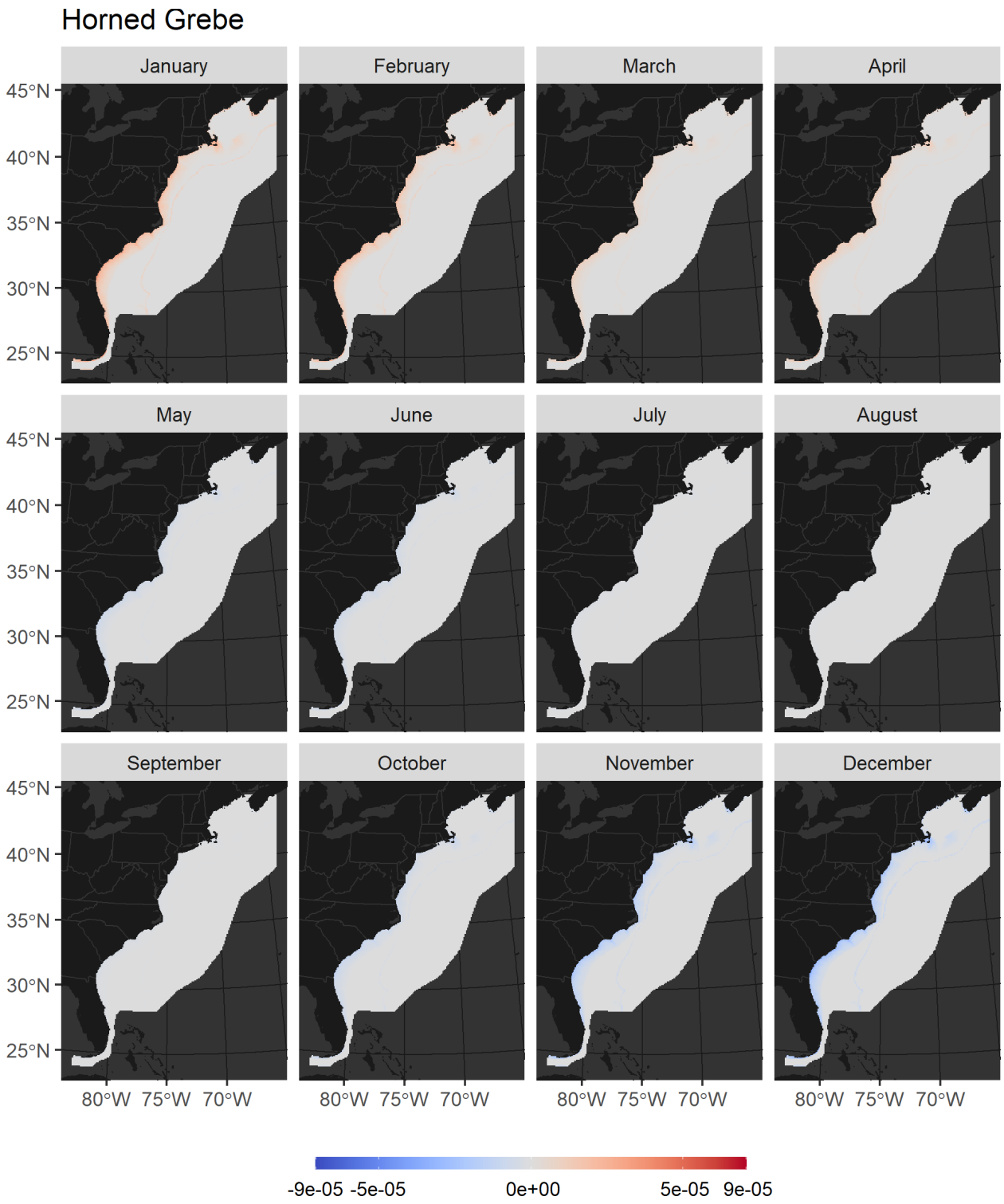


**Figure G-7. Difference in average predicted density of Horned Grebe by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

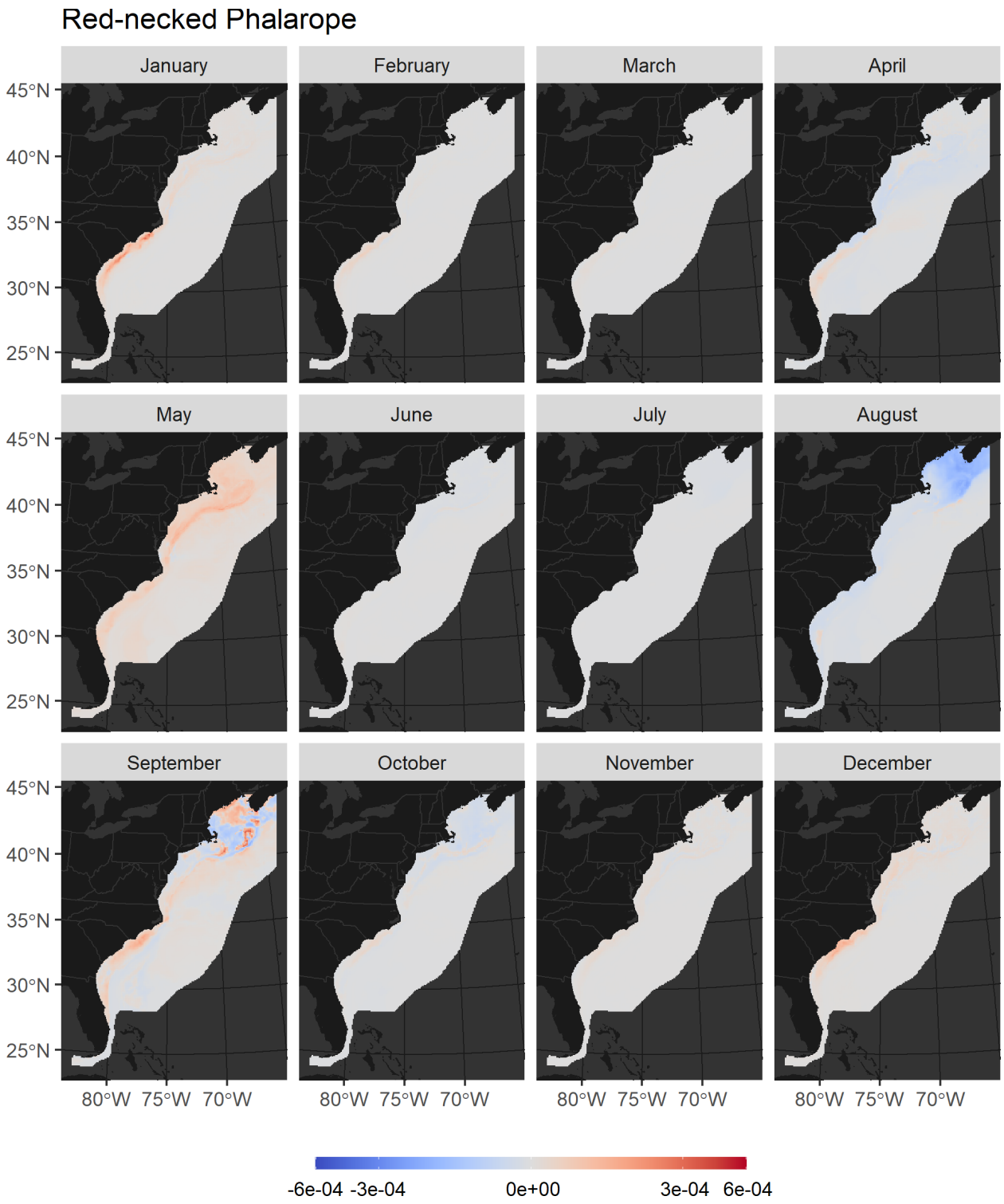


**Figure G-8. Difference in average predicted density of Red-necked Phalarope by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

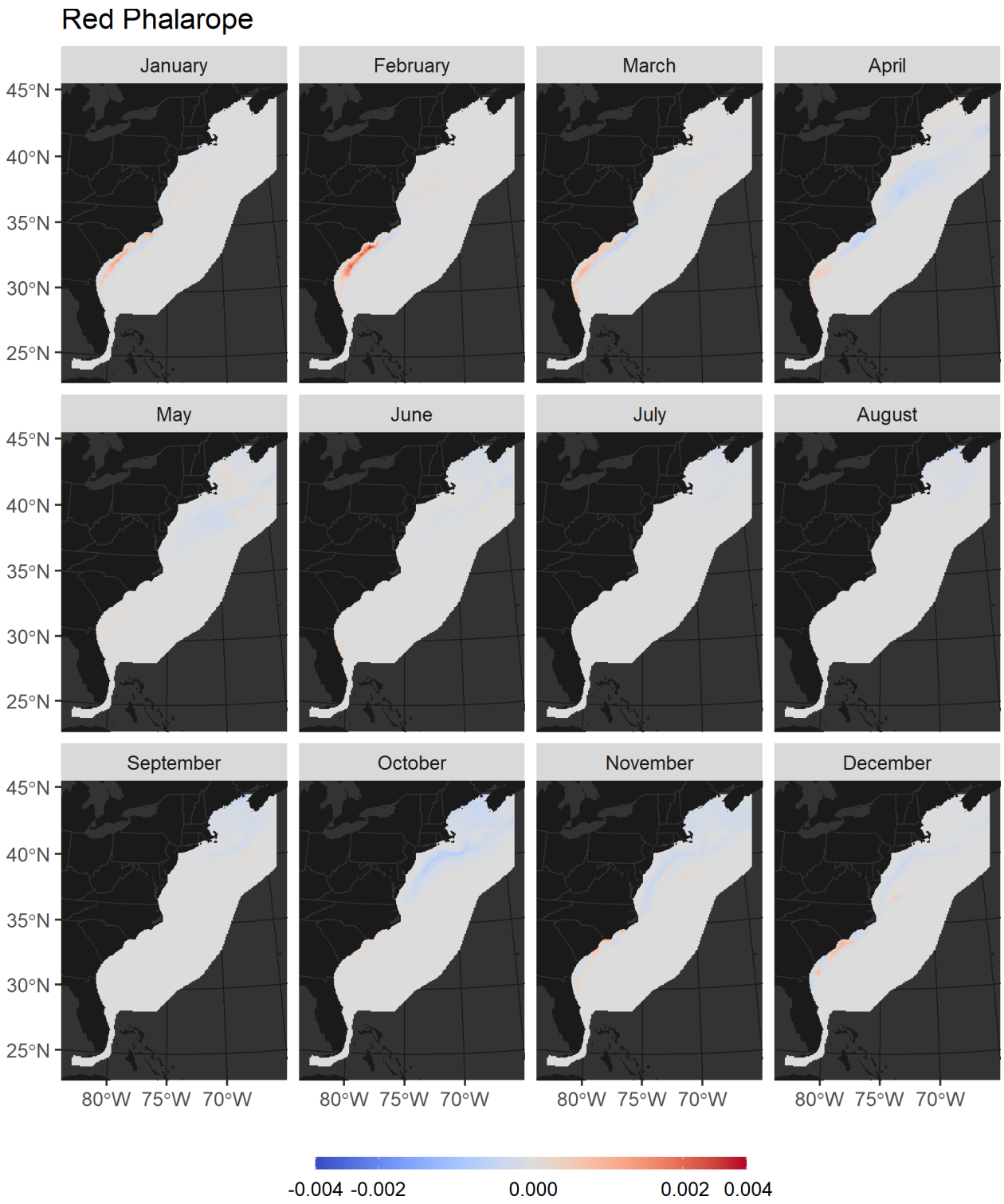


**Figure G-9. Difference in average predicted density of Red Phalarope by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

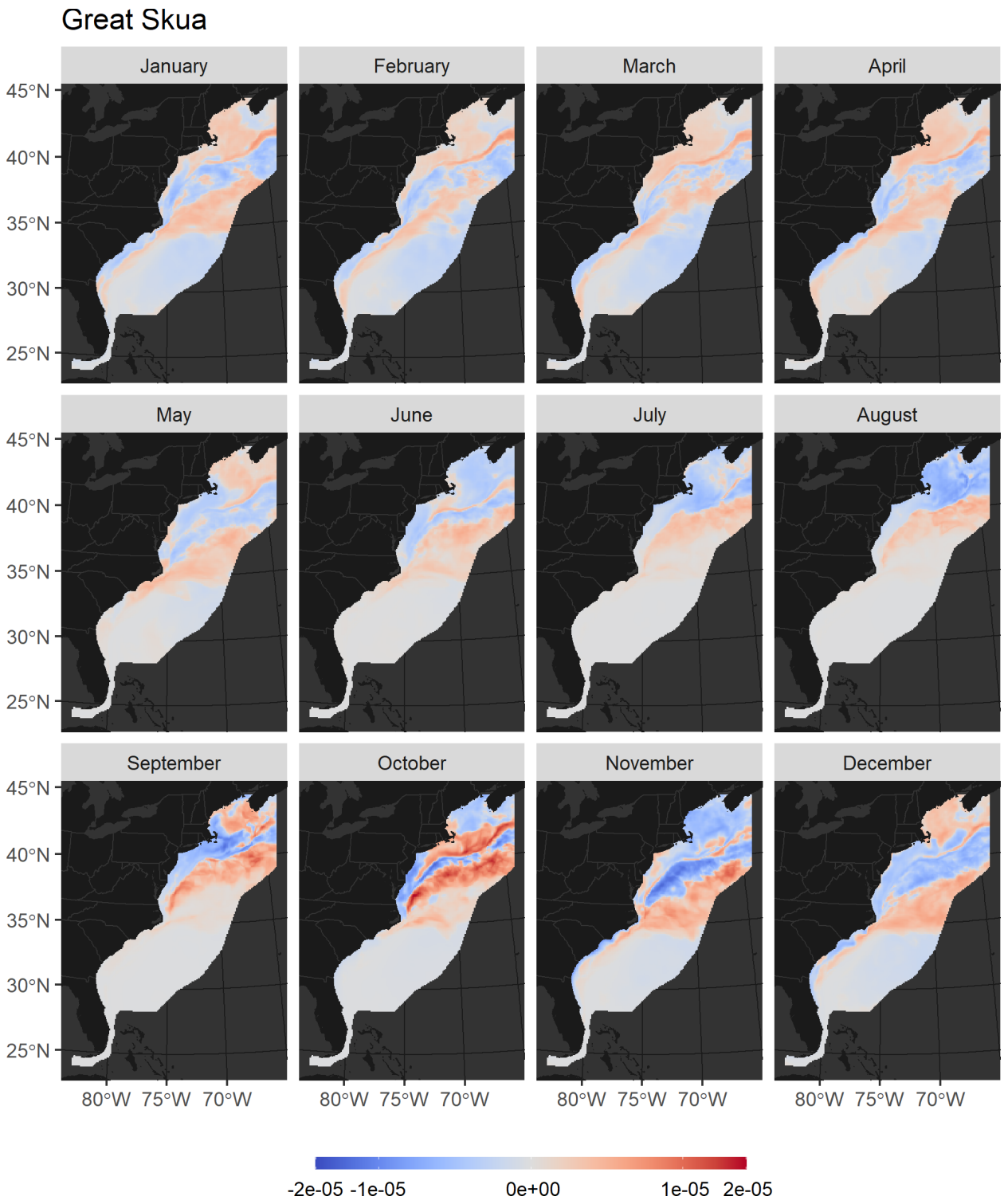


**Figure G-10. Difference in average predicted density of Great Skua by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

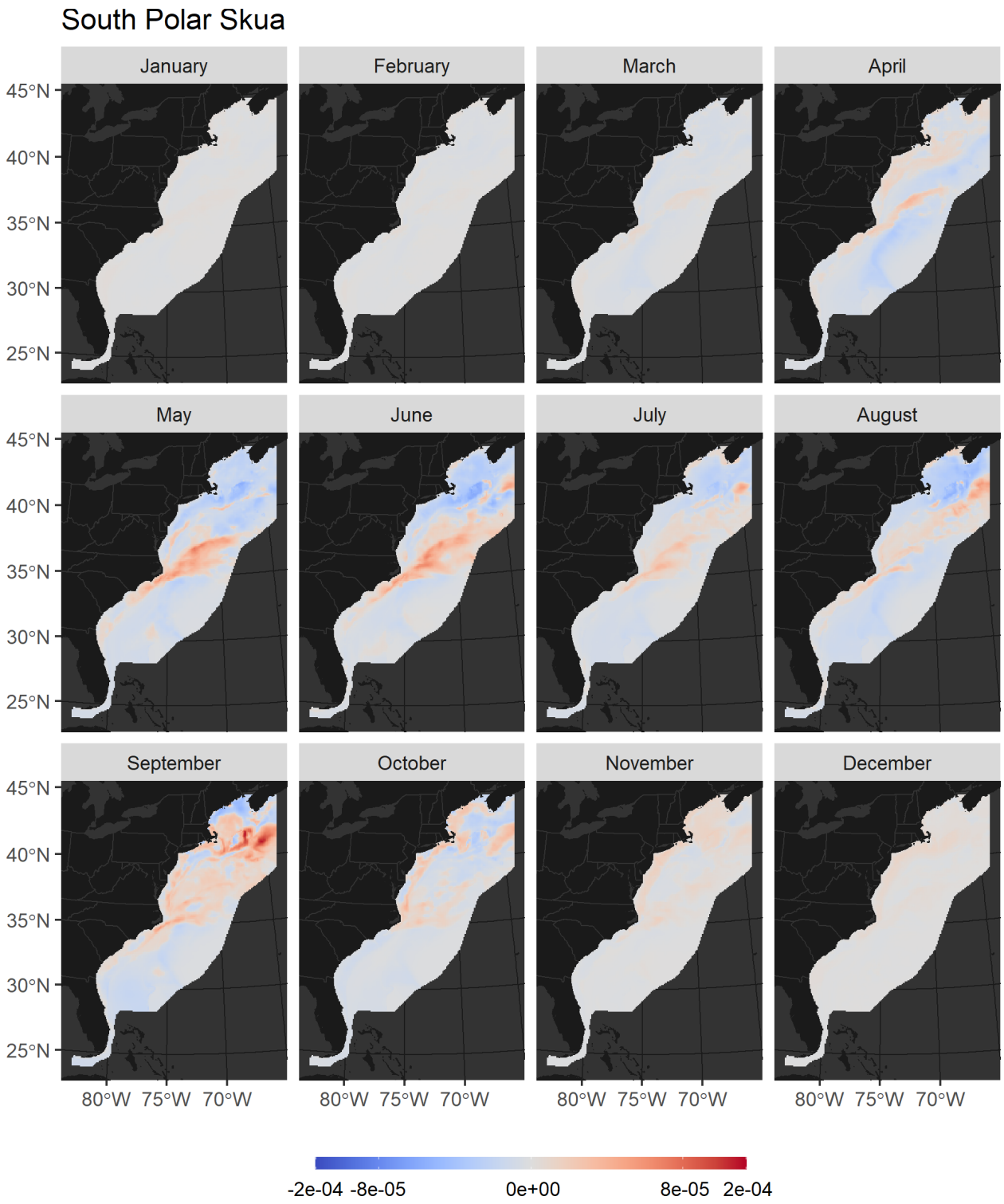


**Figure G-11. Difference in average predicted density of South Polar Skua by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

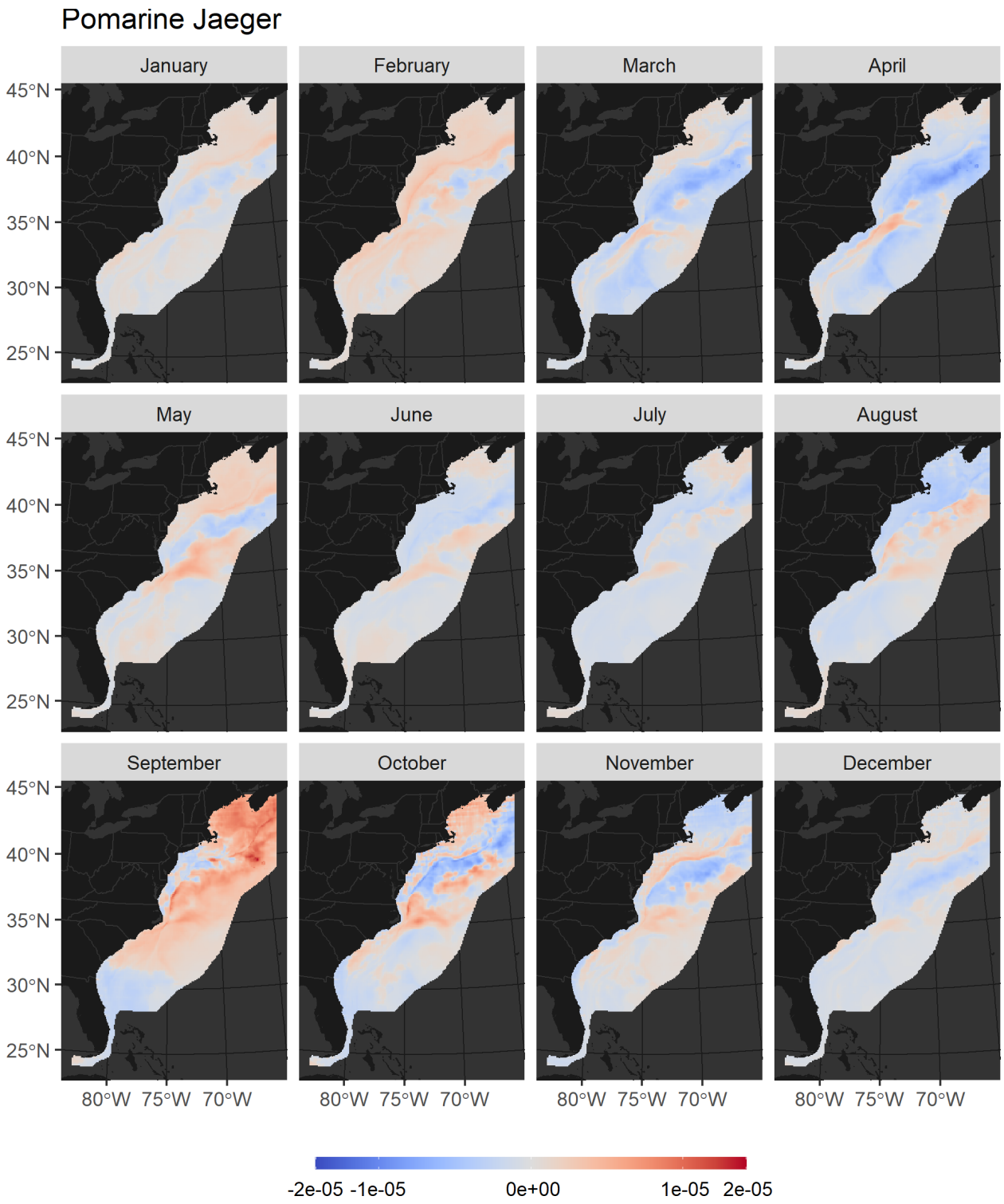


**Figure G-12. Difference in average predicted density of Pomarine Jaeger by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

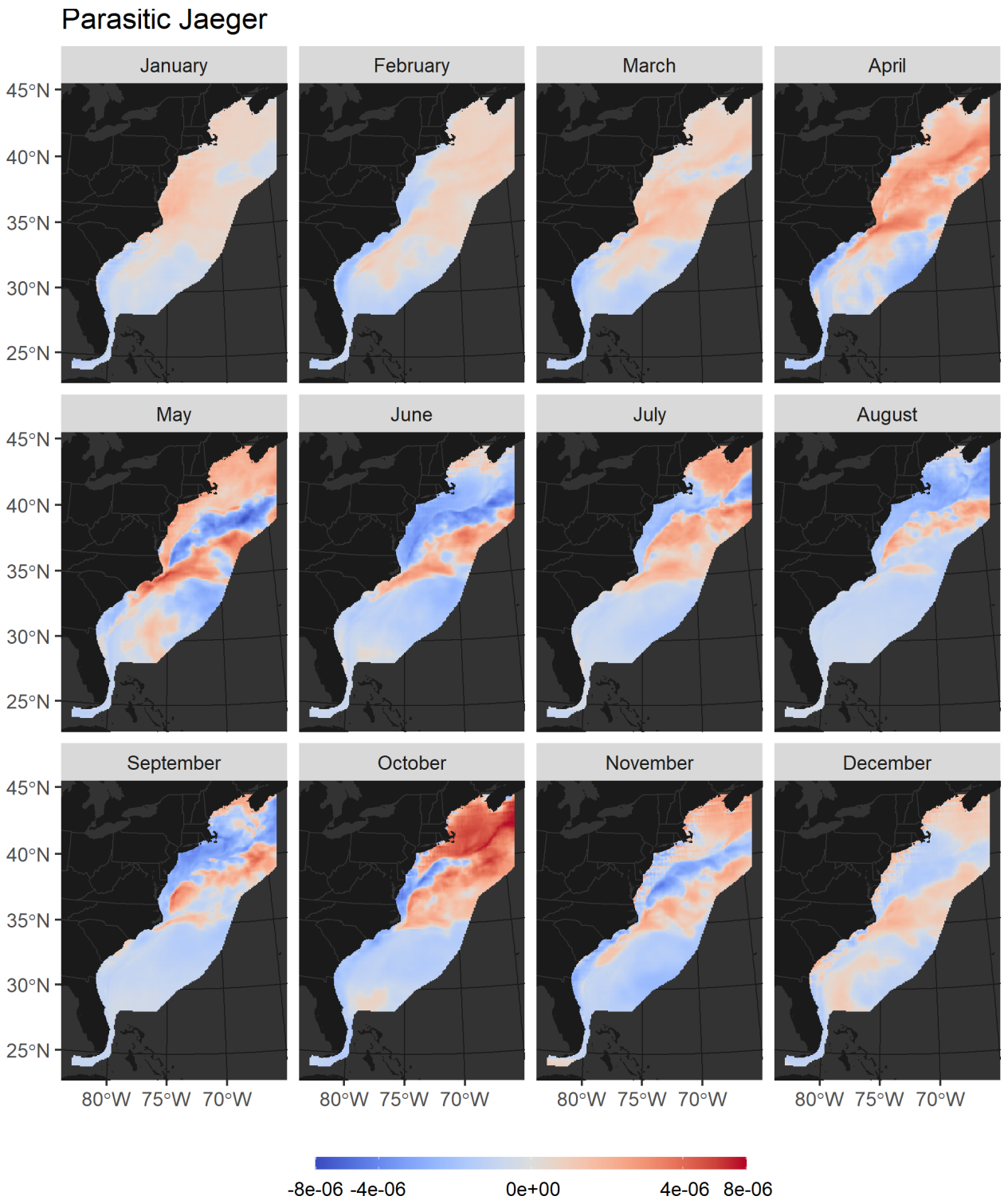


**Figure G-13. Difference in average predicted density of Parasitic Jaeger by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

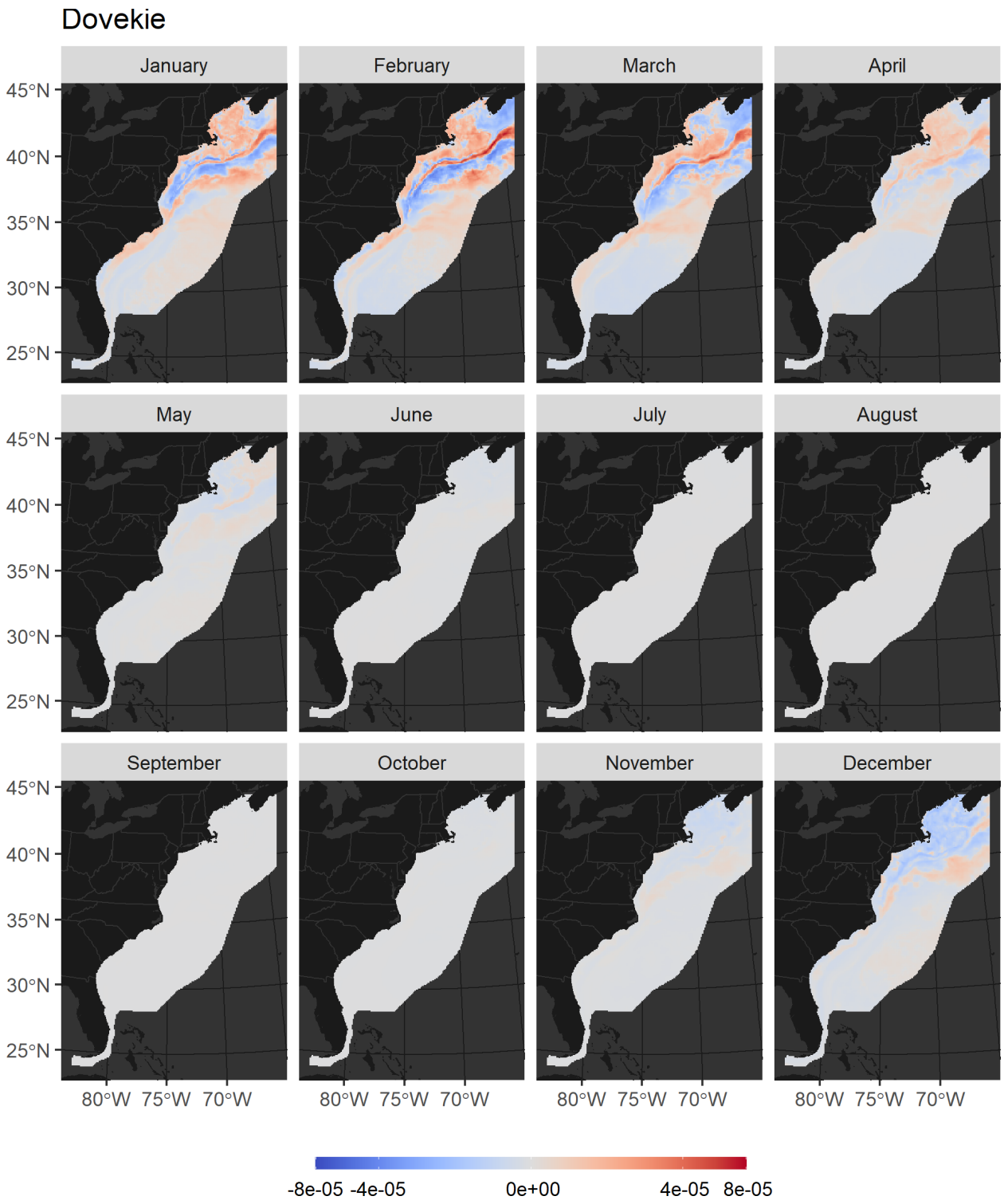


**Figure G-14. Difference in average predicted density of Dovekie by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

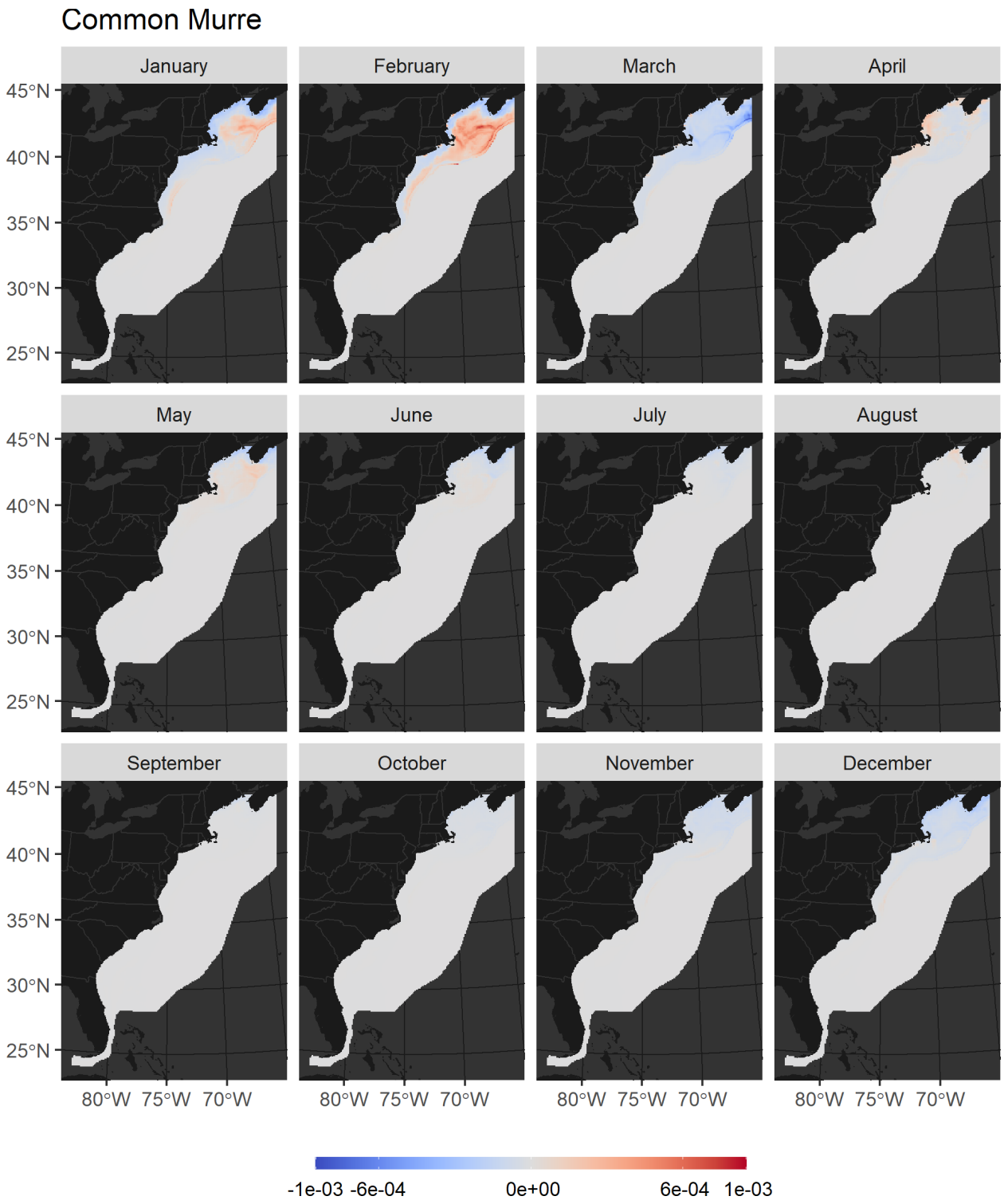


**Figure G-15. Difference in average predicted density of Common Murre by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

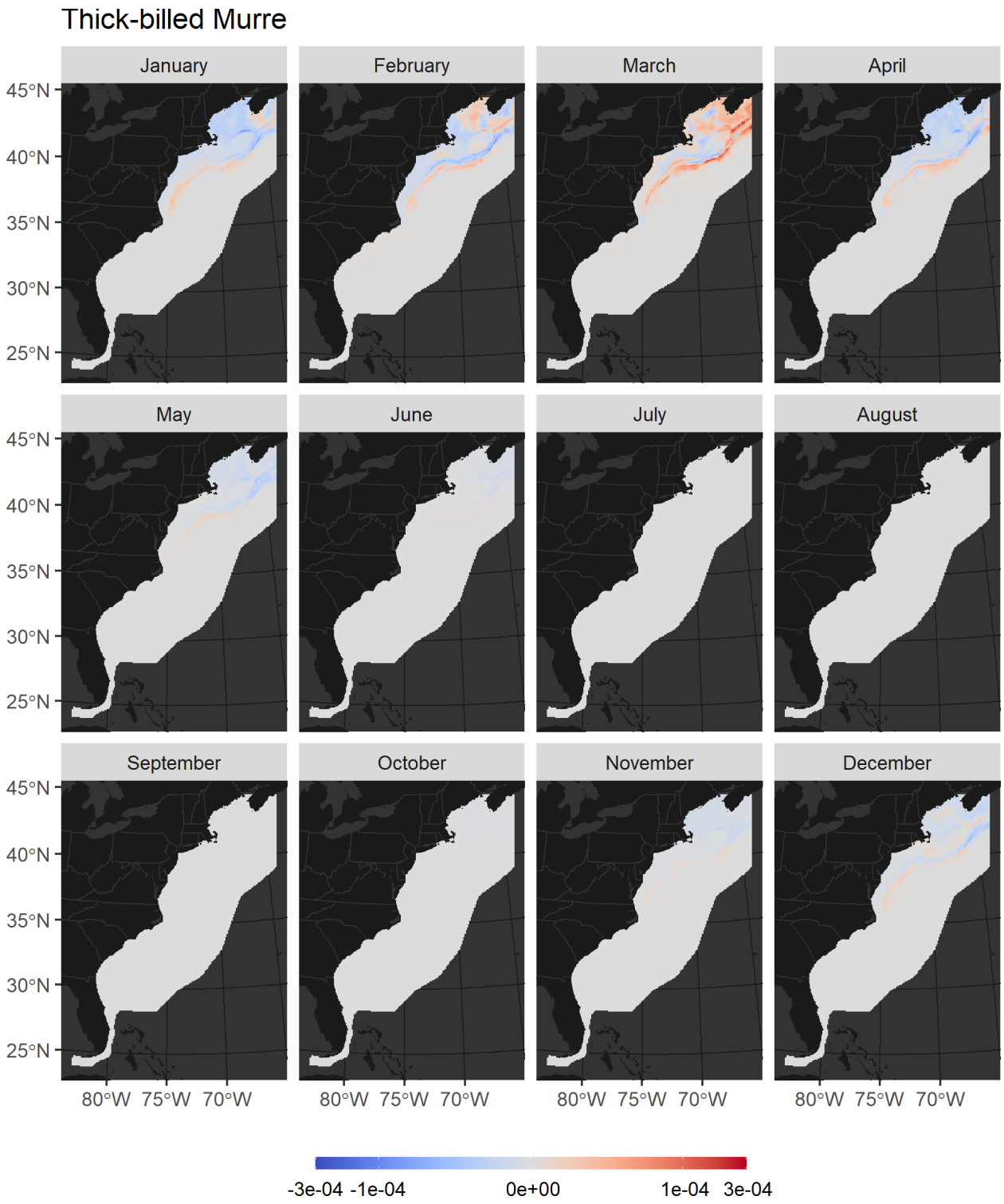


**Figure G-16. Difference in average predicted density of Thick-billed Murre by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

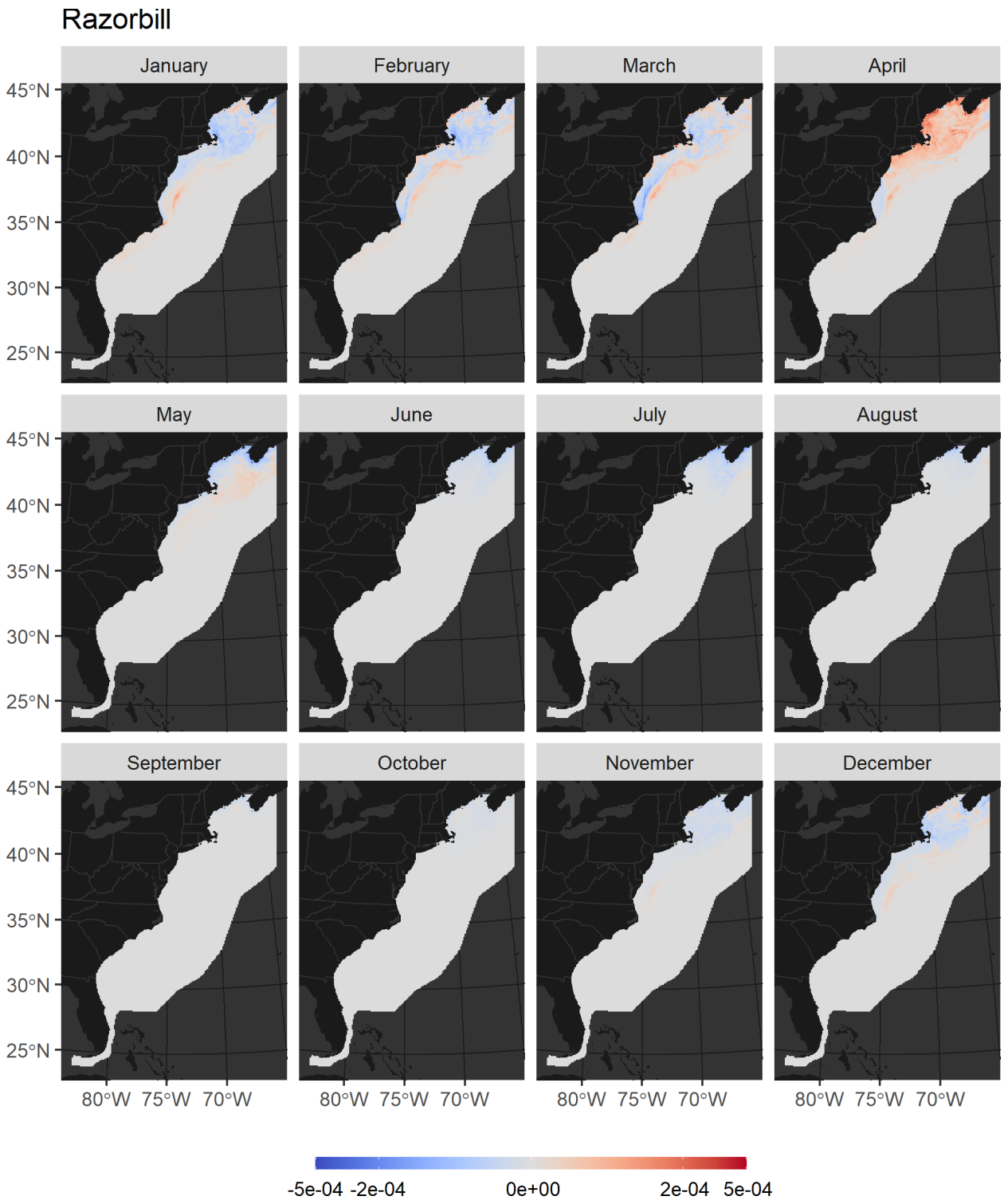


**Figure G-17. Difference in average predicted density of Razorbill by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

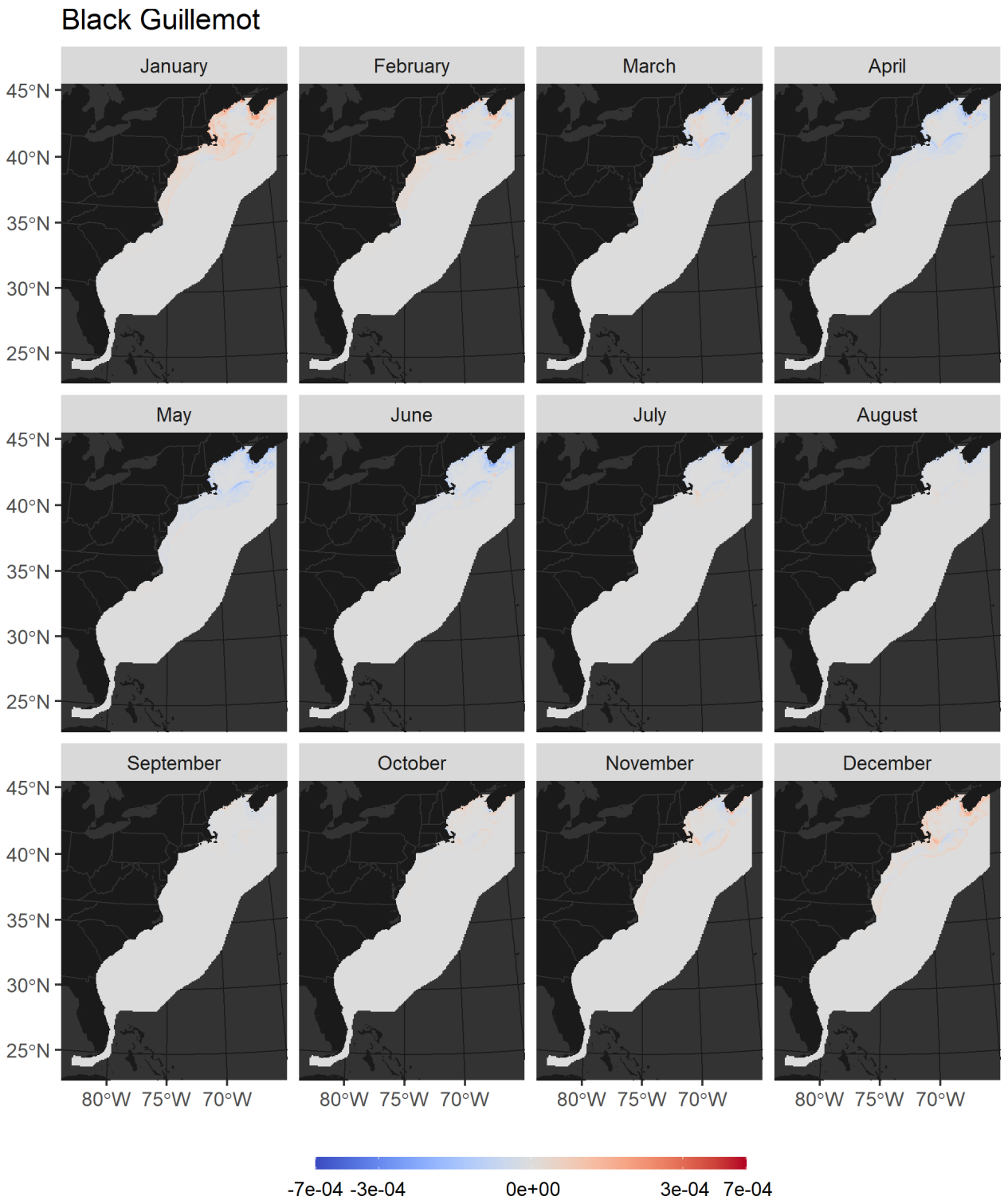


**Figure G-18. Difference in average predicted density of Black Guillemot by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

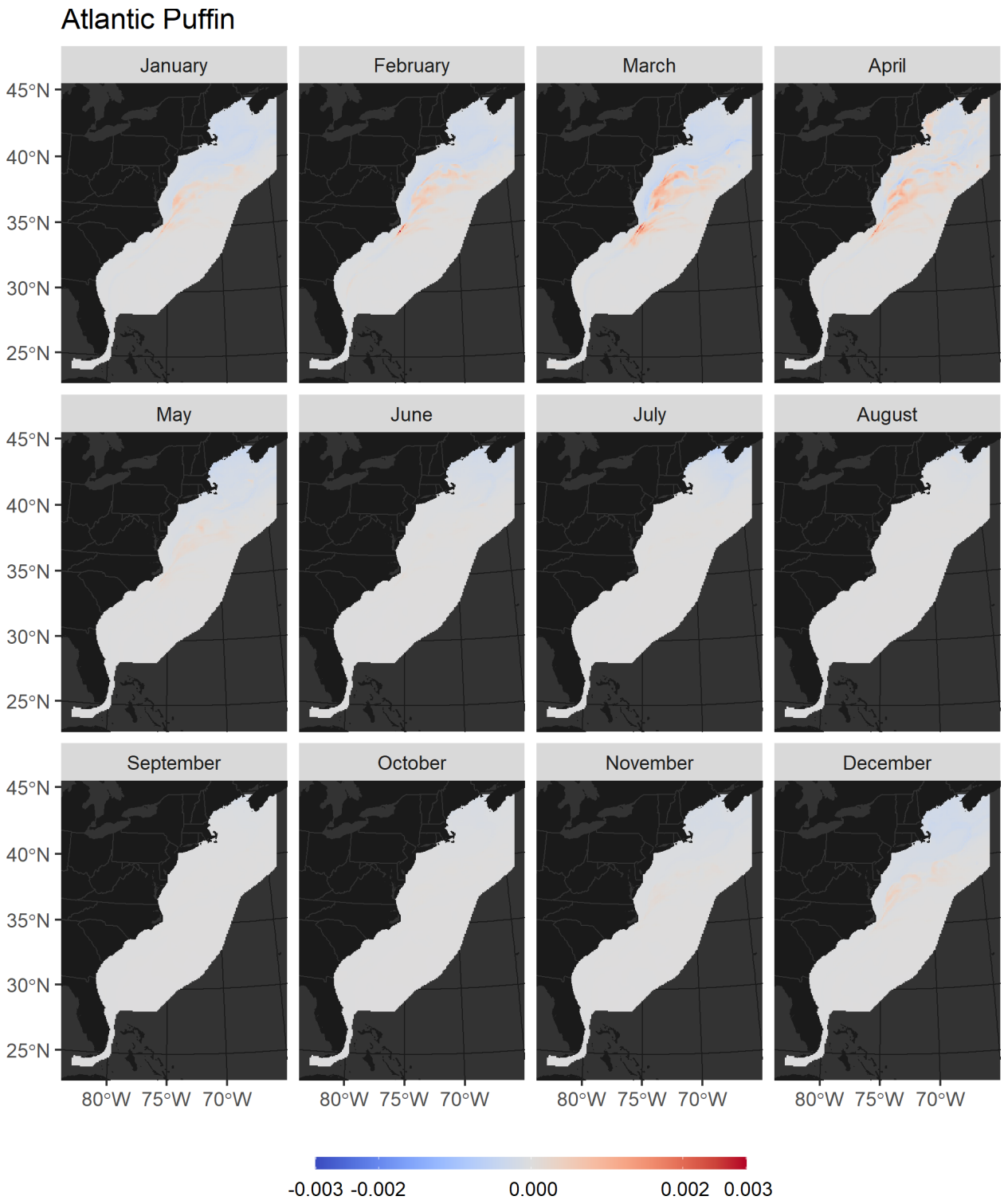


**Figure G-19. Difference in average predicted density of Atlantic Puffin by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

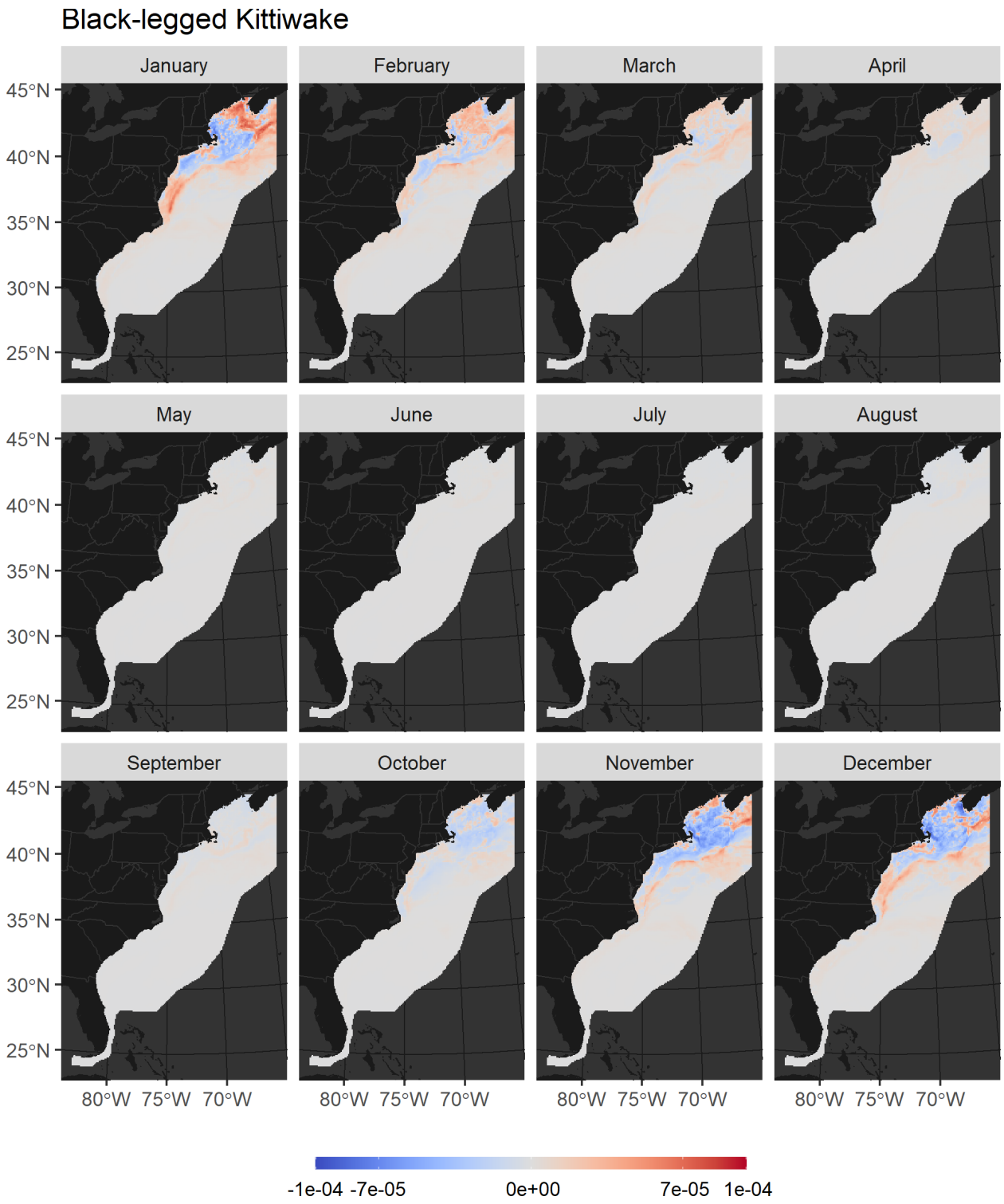


**Figure G-20. Difference in average predicted density of Black-legged Kittiwake by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

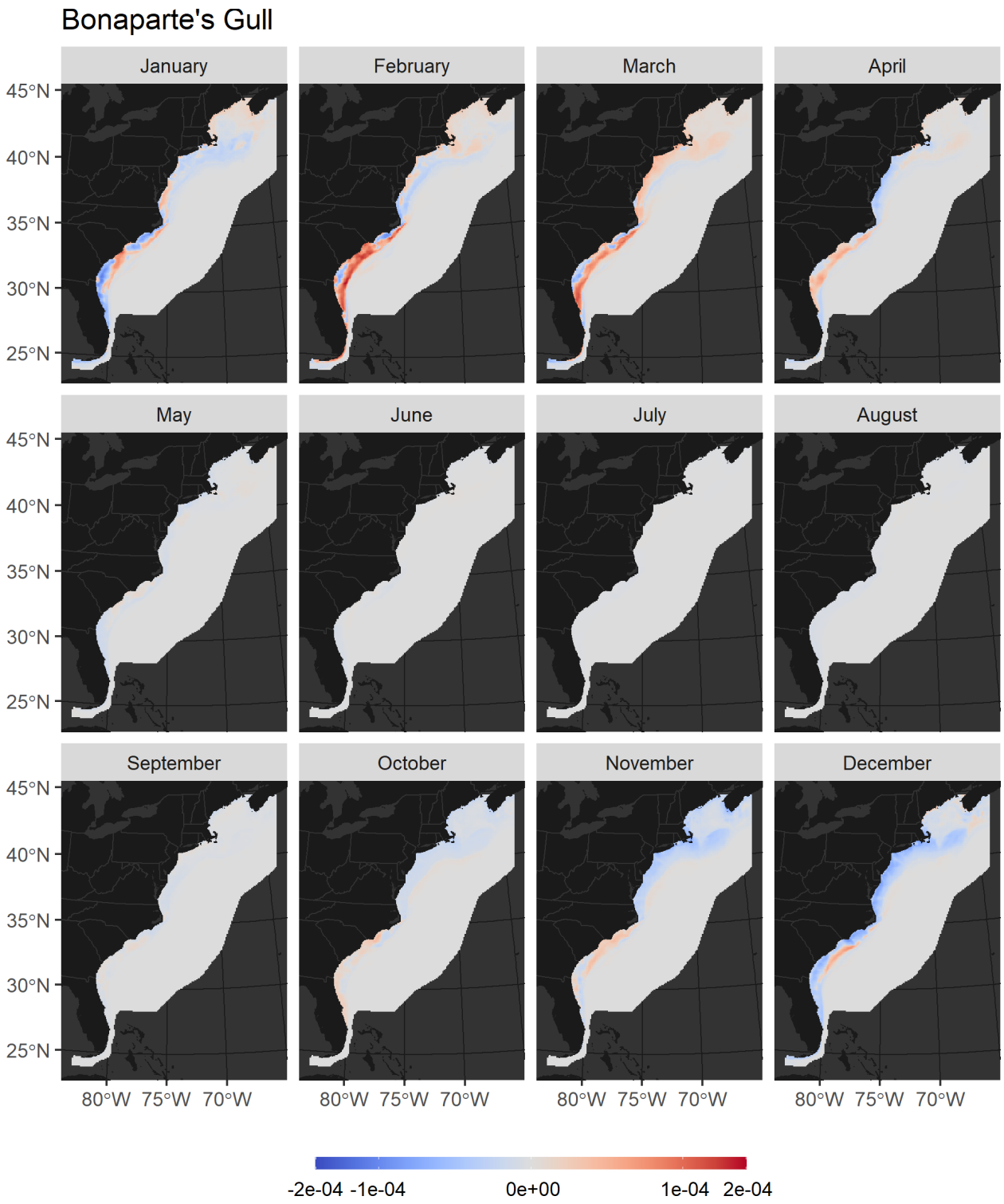


**Figure G-21. Difference in average predicted density of Bonaparte's Gull by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

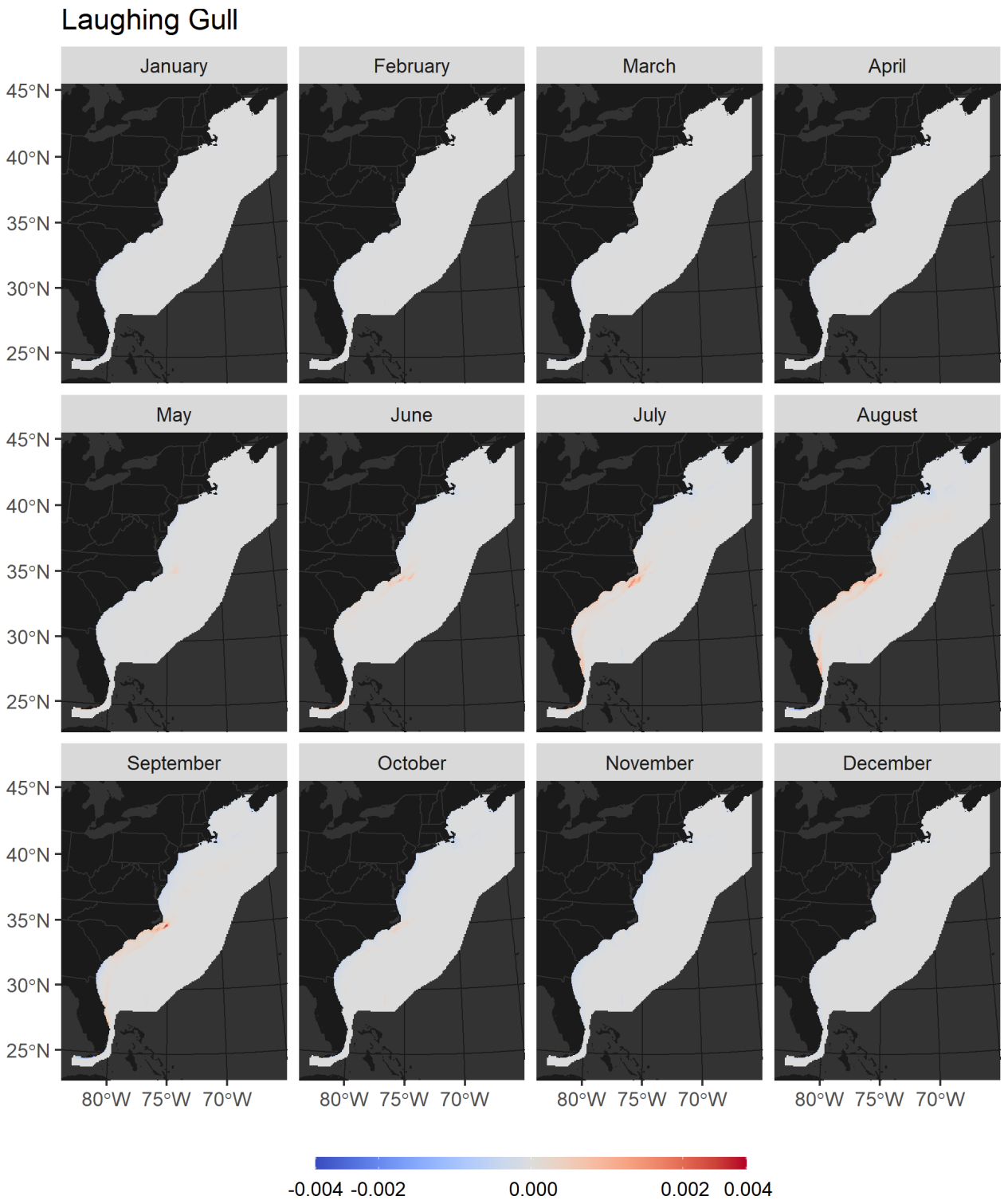


**Figure G-22. Difference in average predicted density of Laughing Gull by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

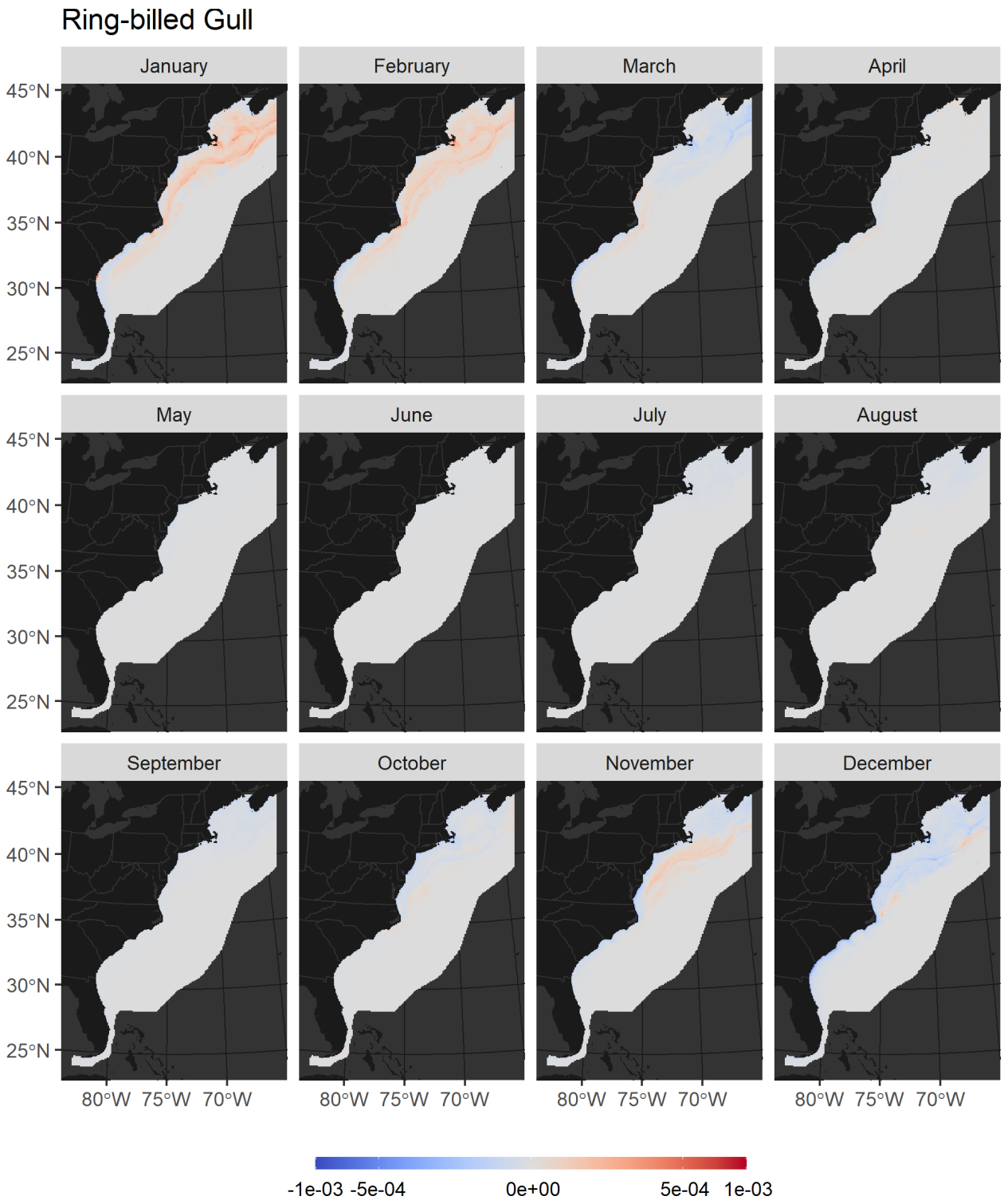


**Figure G-23. Difference in average predicted density of Ring-billed Gull by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

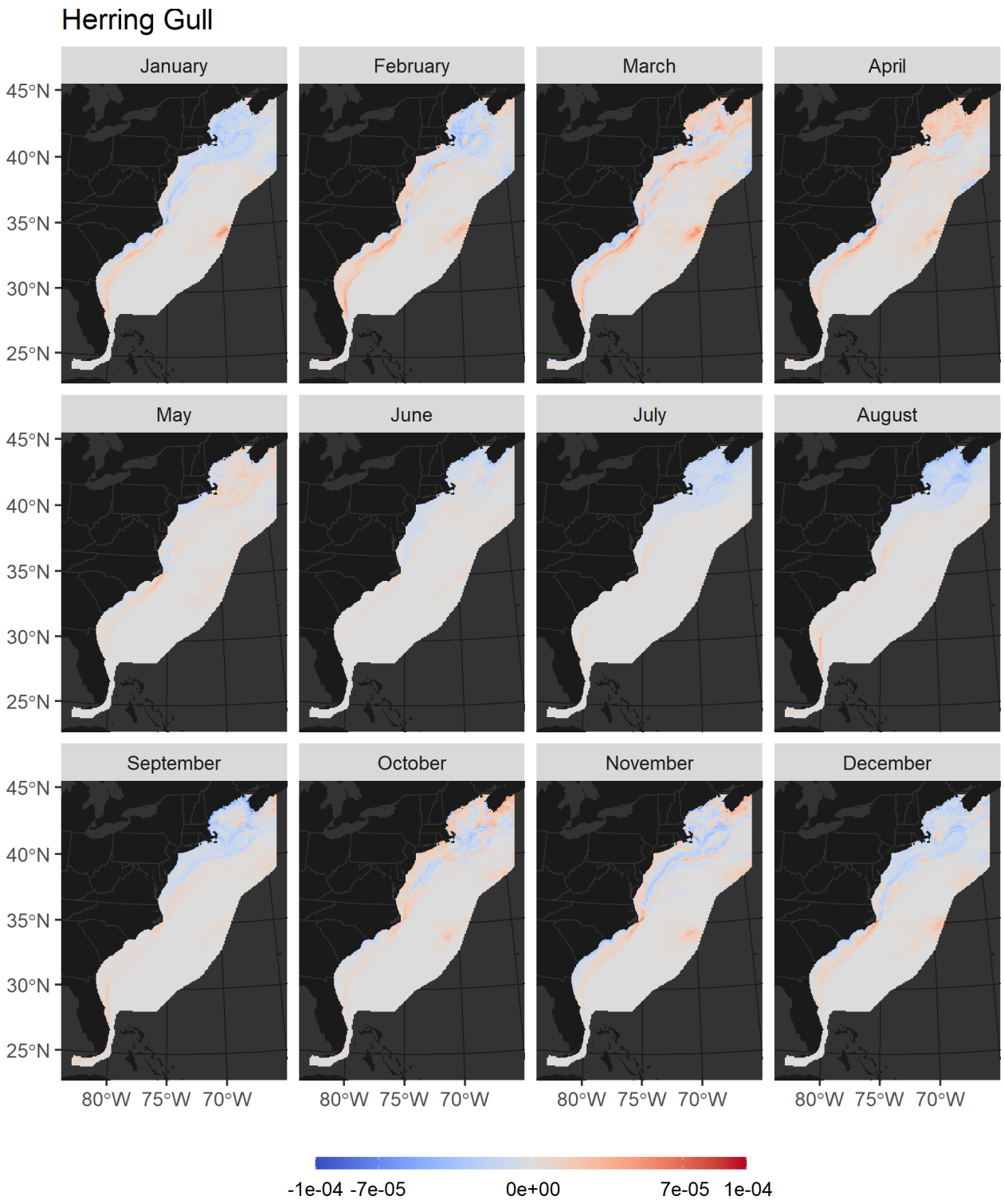


**Figure G-24. Difference in average predicted density of Herring Gull by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

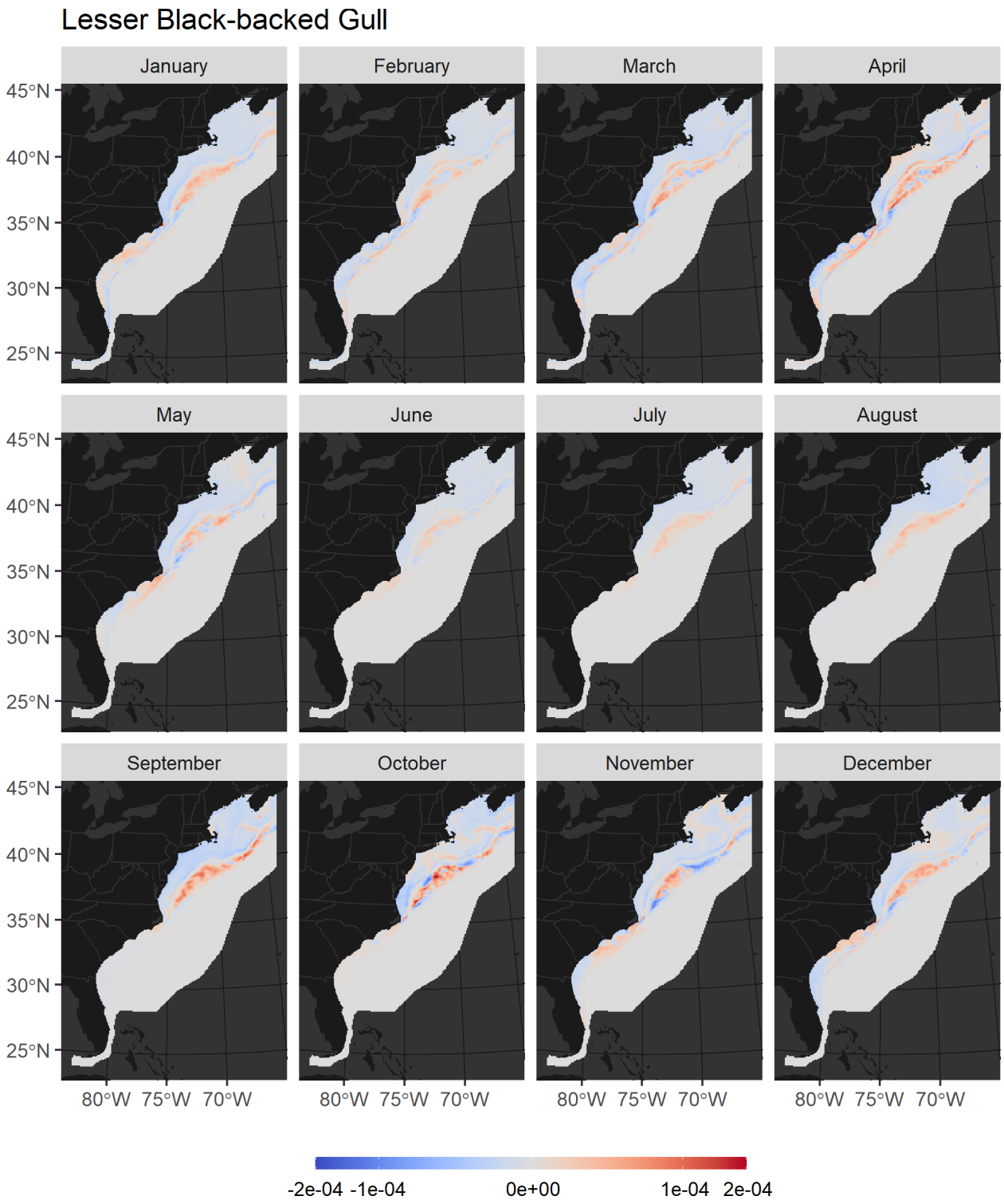


**Figure G-25. Difference in average predicted density of Lesser Black-backed Gull by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

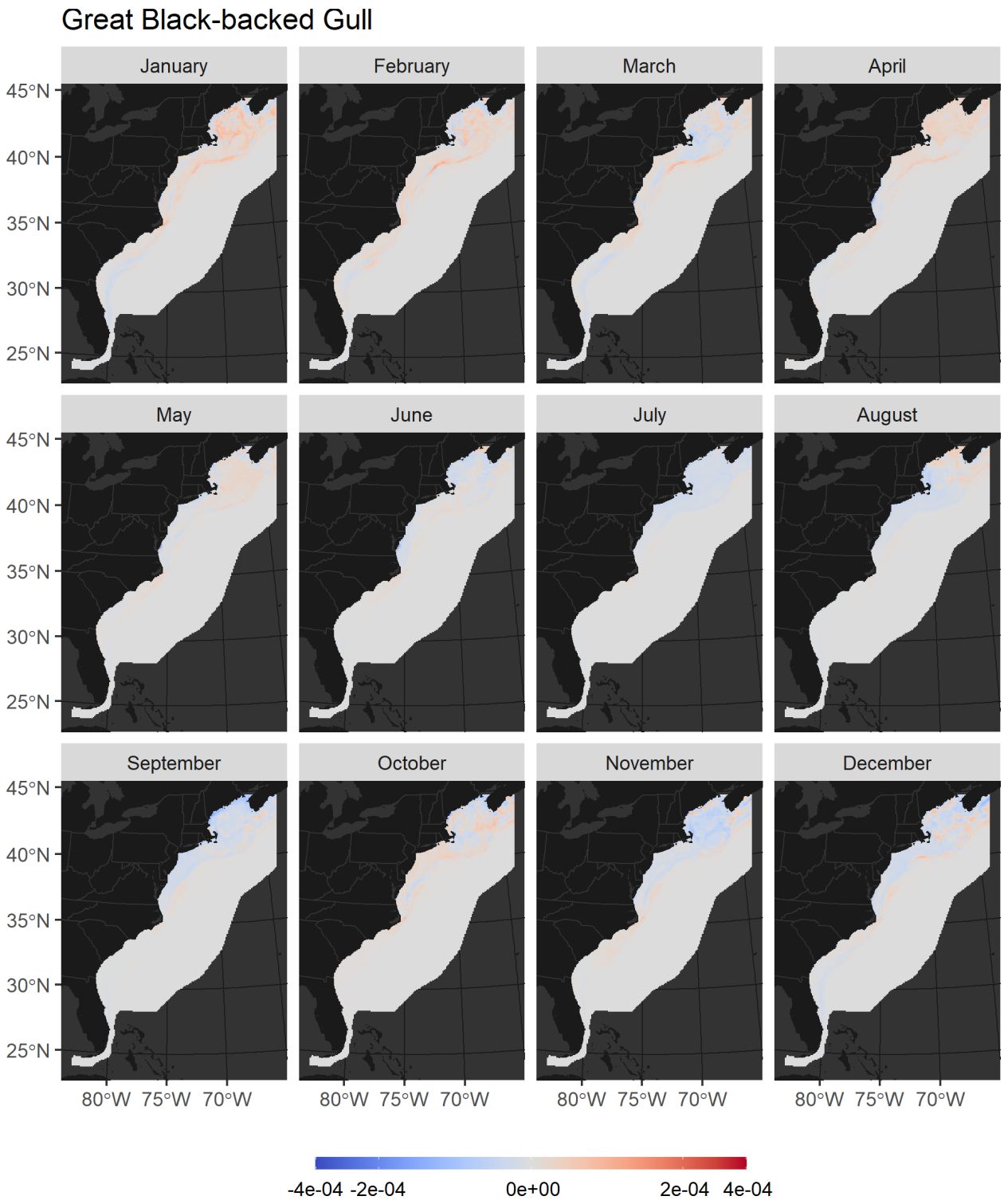


**Figure G-26. Difference in average predicted density of Great Black-backed Gull by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

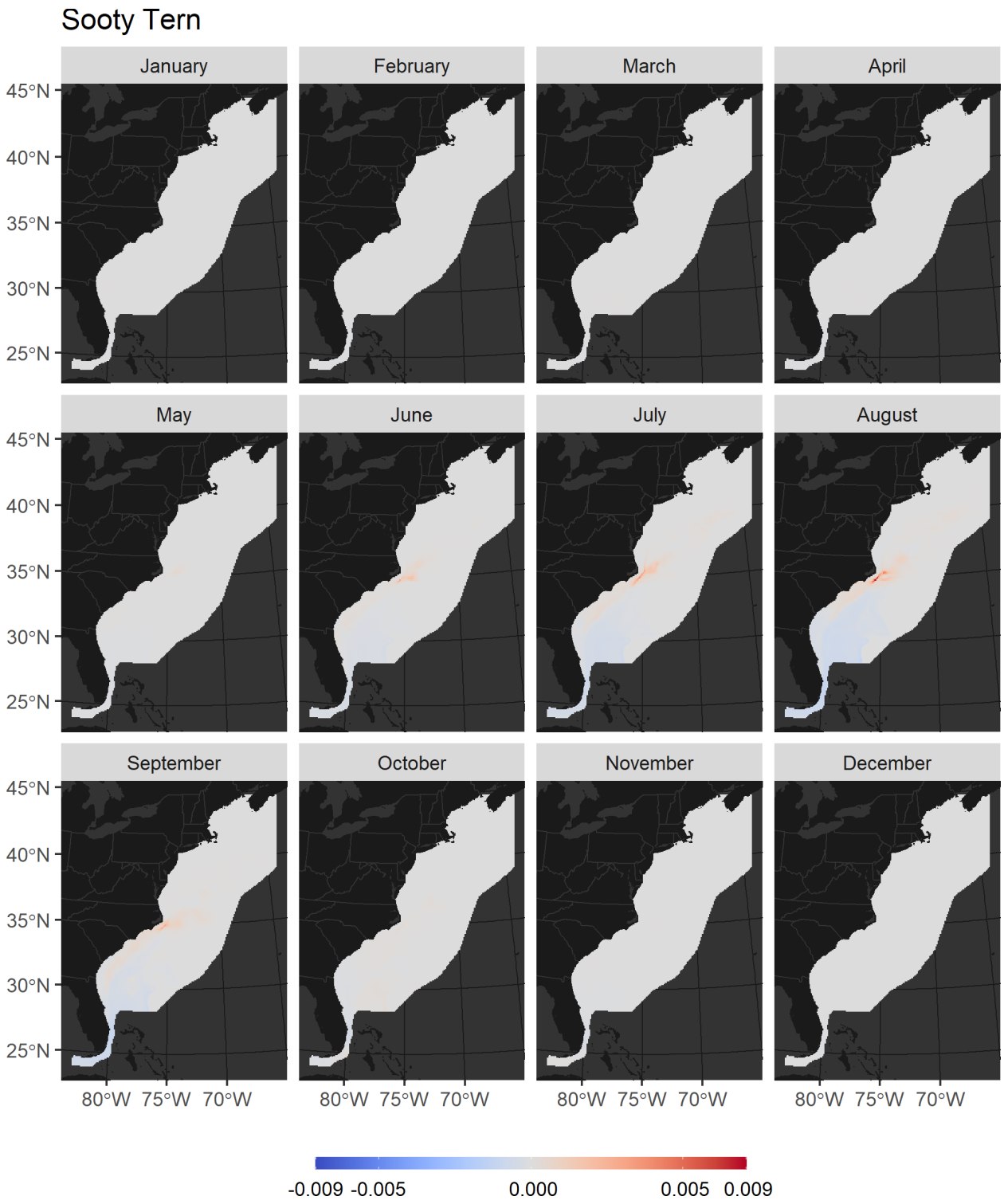


**Figure G-27. Difference in average predicted density of Sooty Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

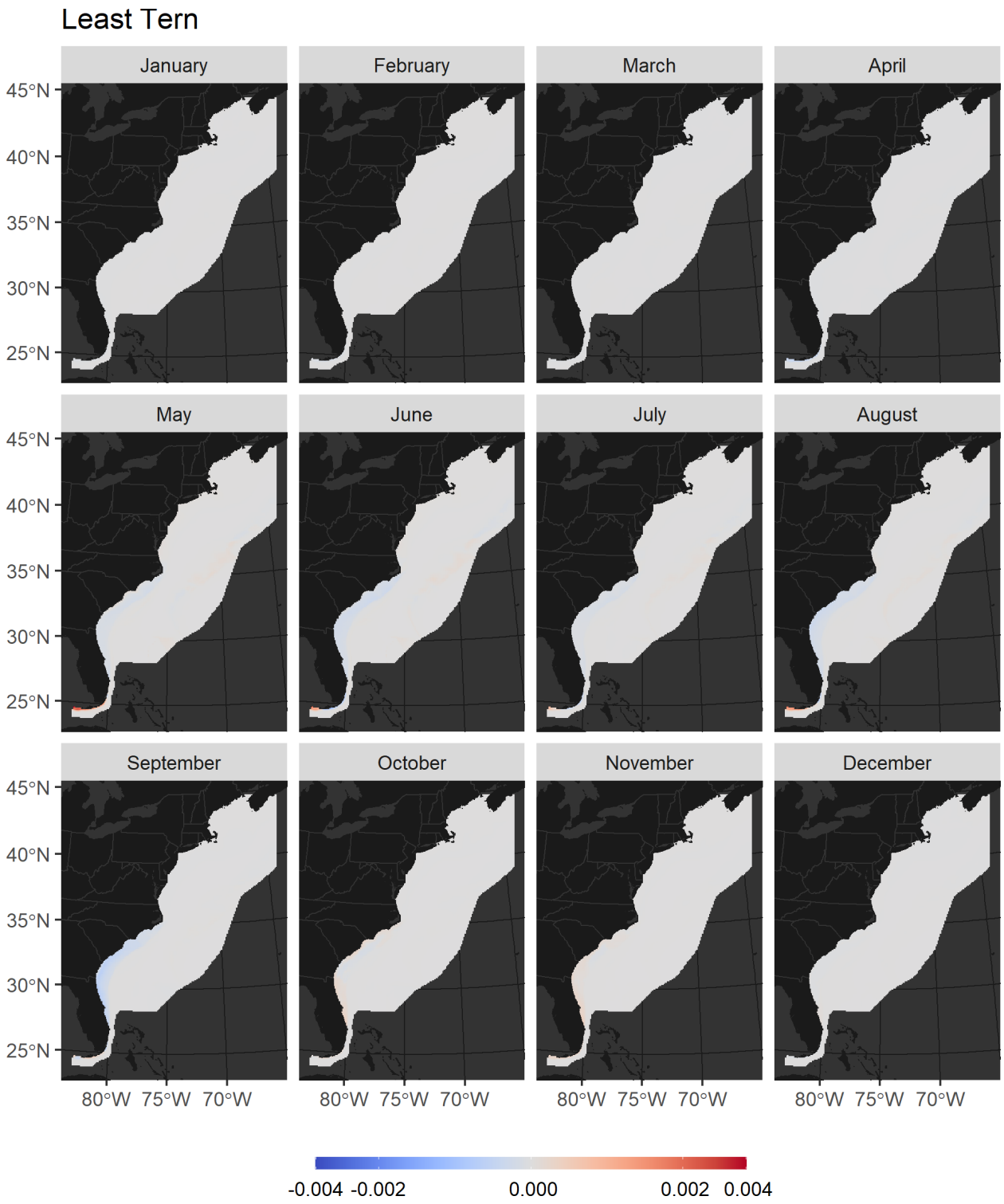


**Figure G-28. Difference in average predicted density of Least Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

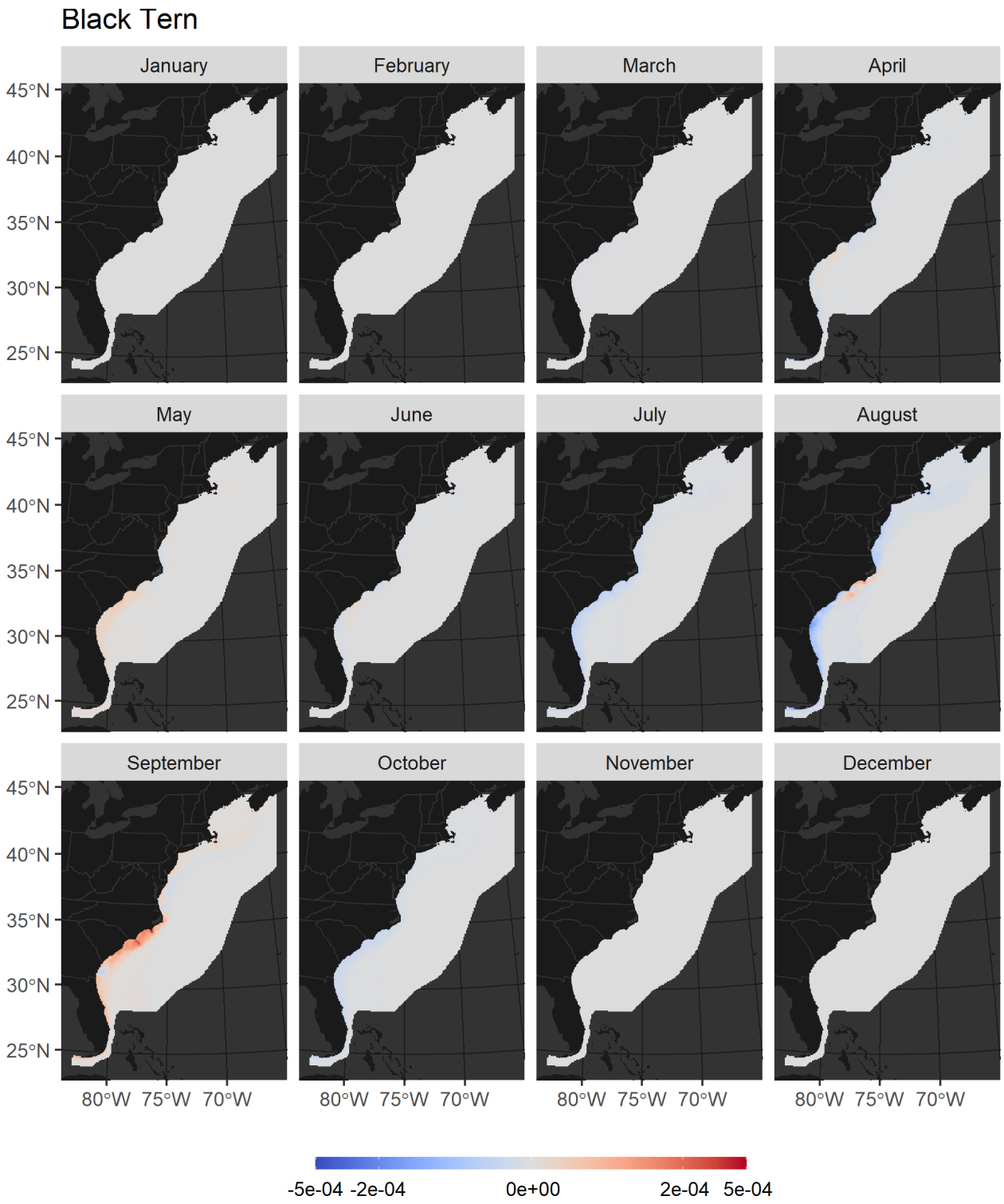


**Figure G-29. Difference in average predicted density of Black Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

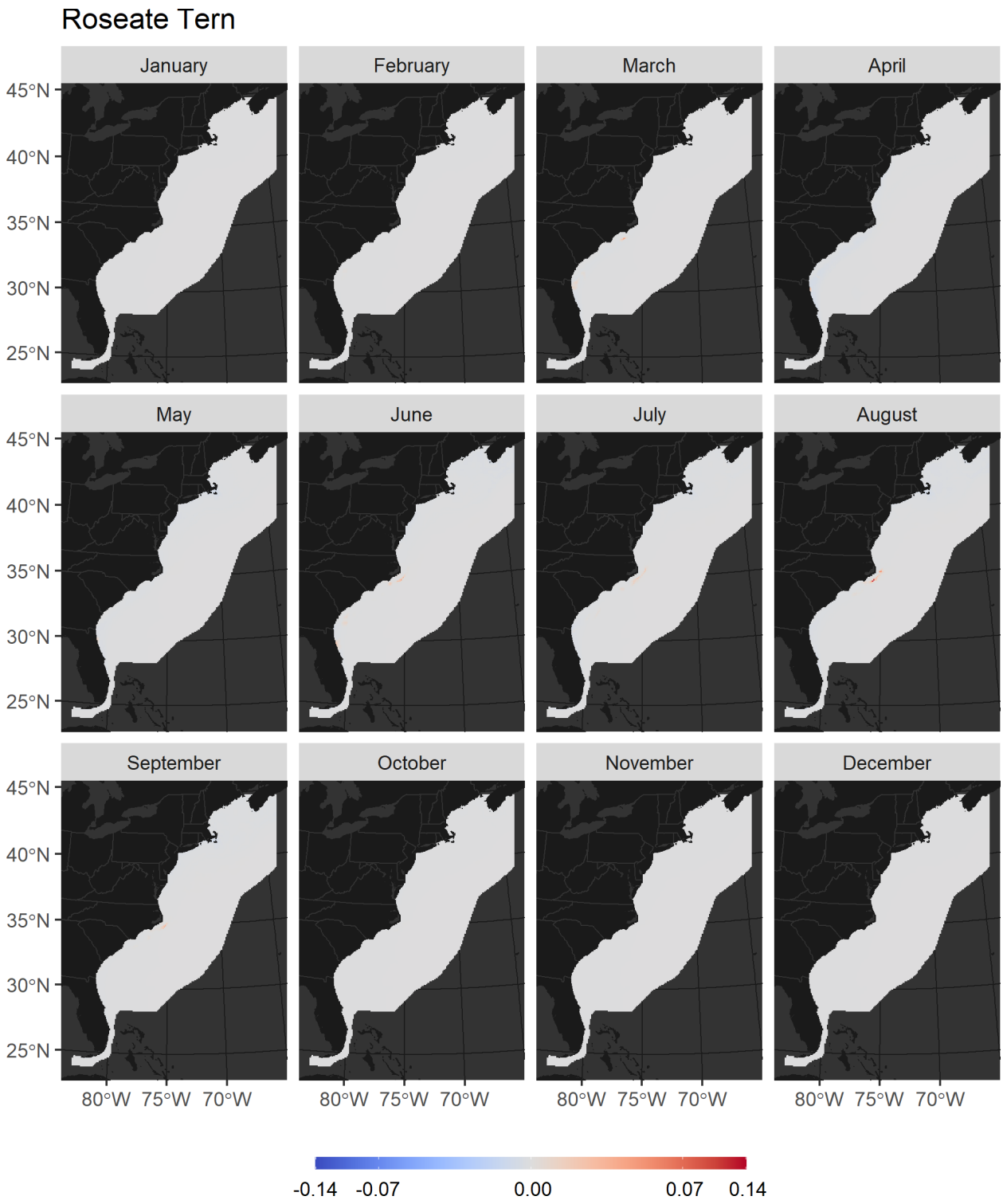


**Figure G-30. Difference in average predicted density of Roseate Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

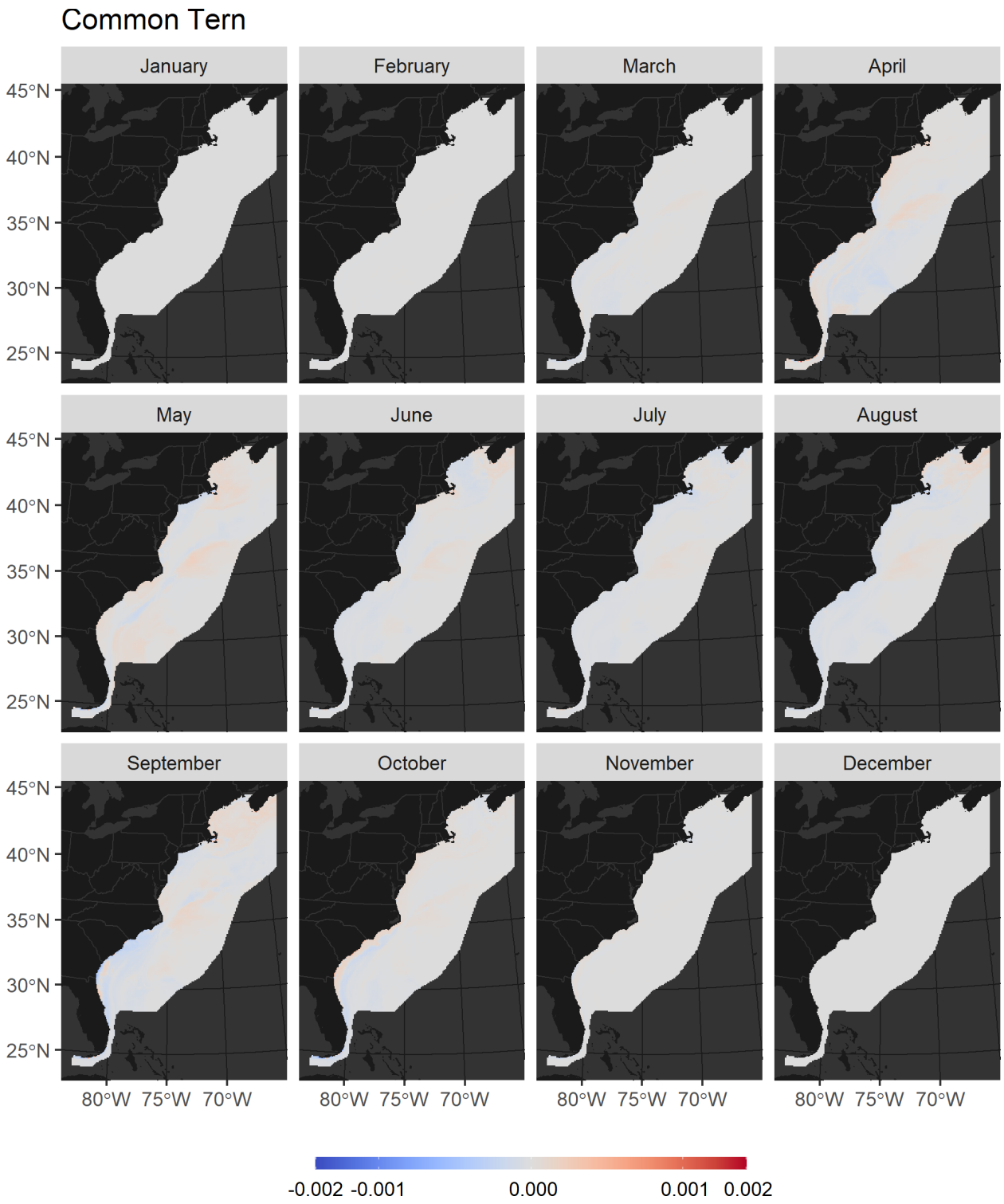


**Figure G-31. Difference in average predicted density of Common Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

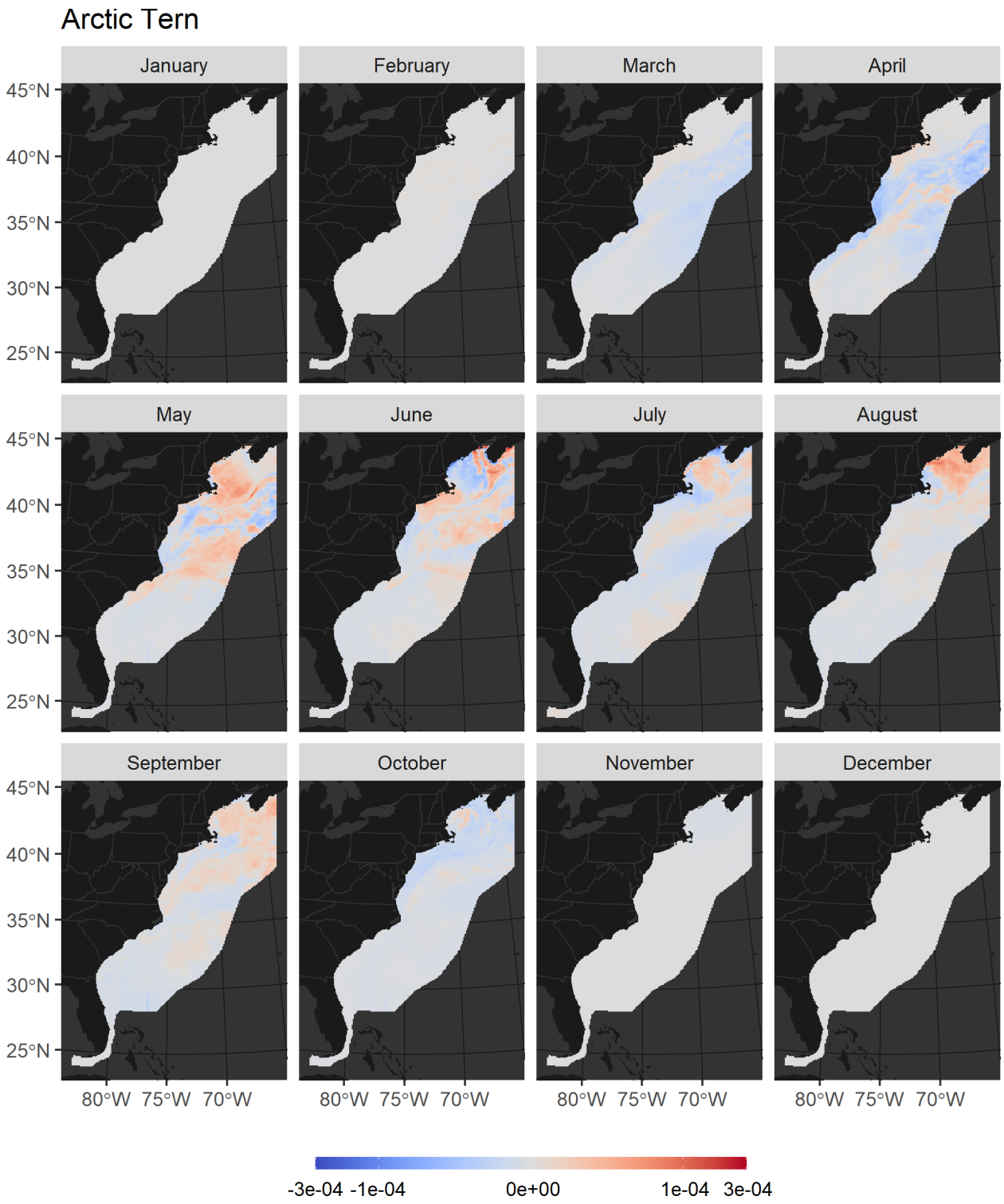


**Figure G-32. Difference in average predicted density of Arctic Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

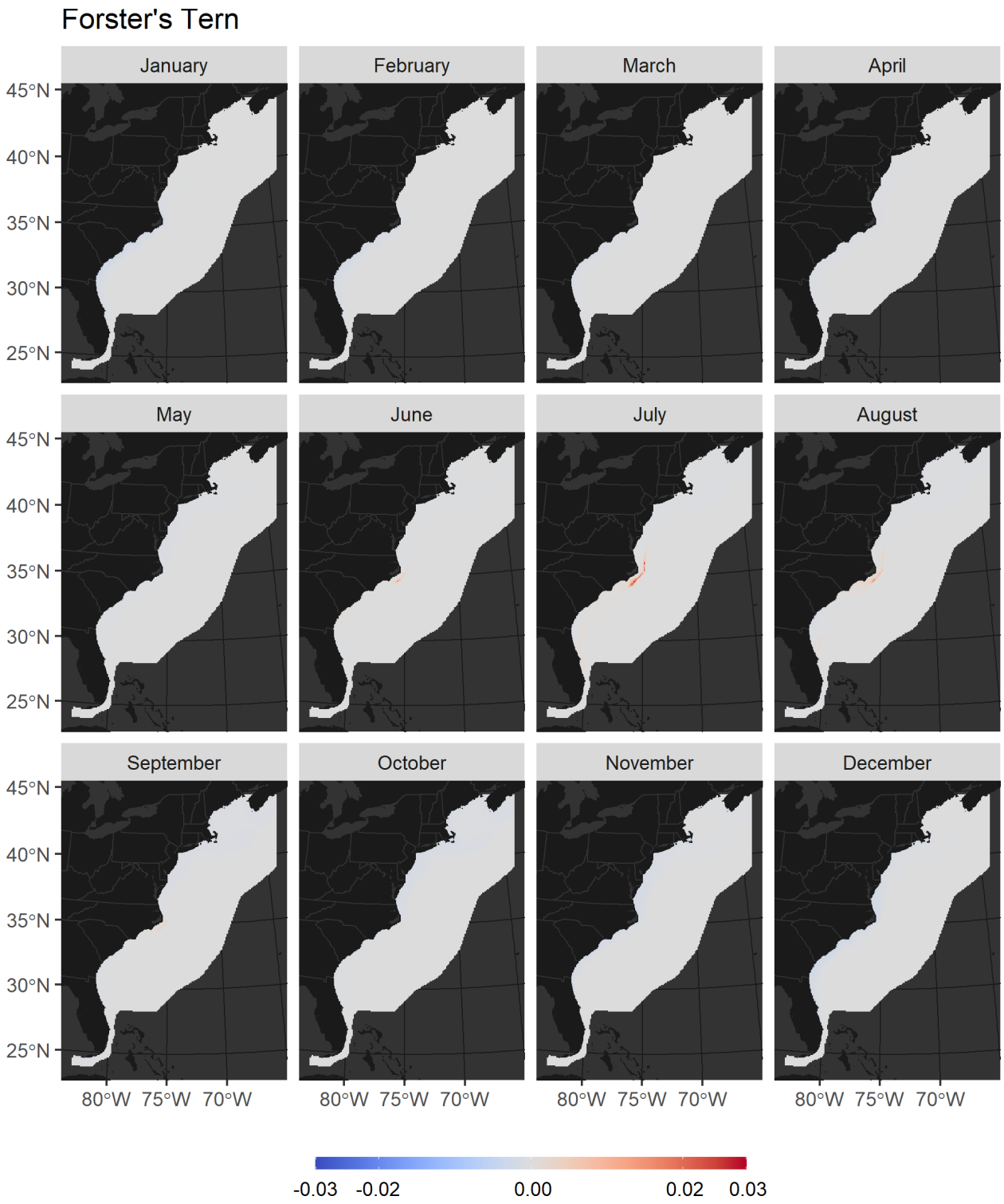


**Figure G-33. Difference in average predicted density of Forster's Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

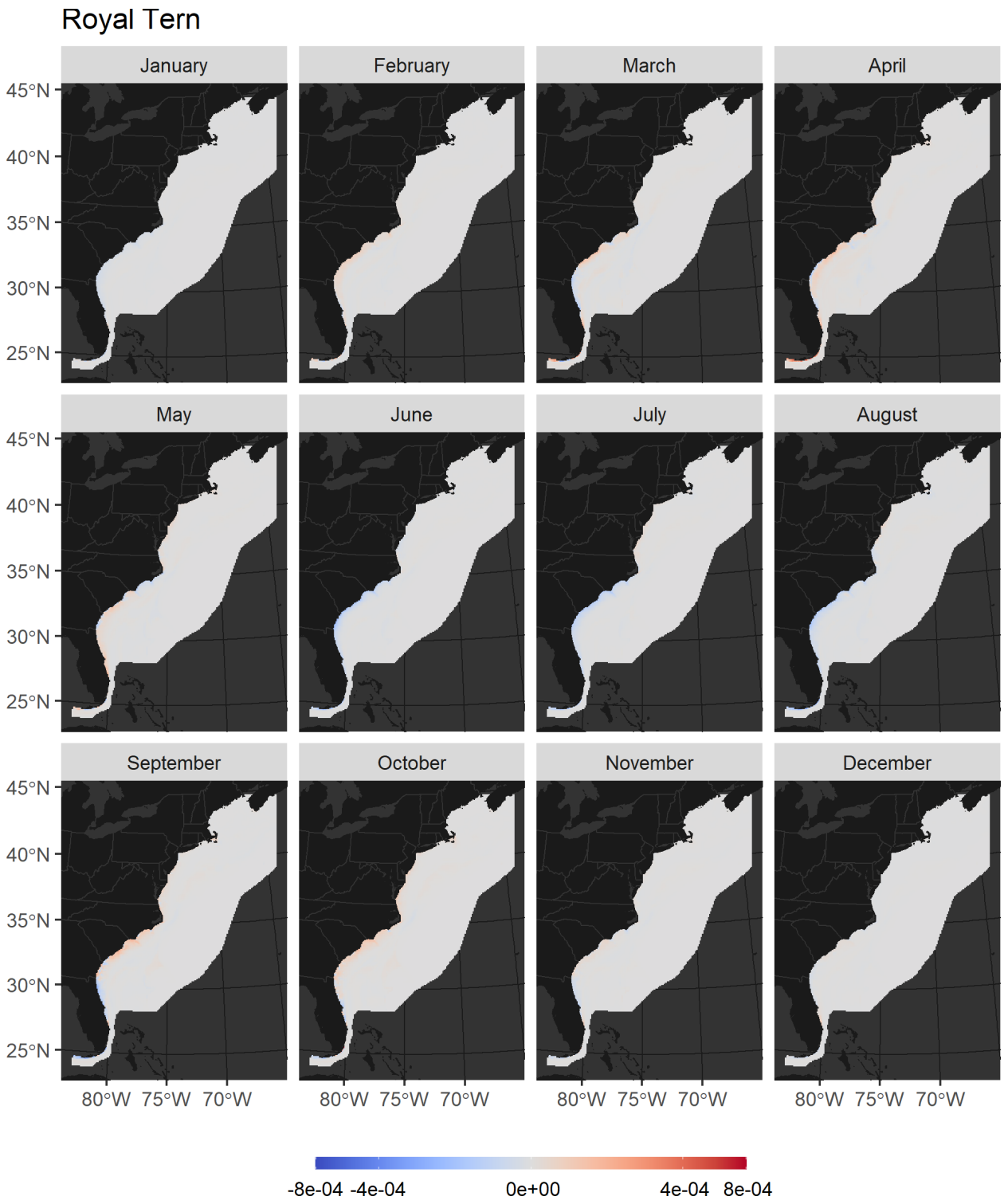


**Figure G-34. Difference in average predicted density of Royal Tern by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

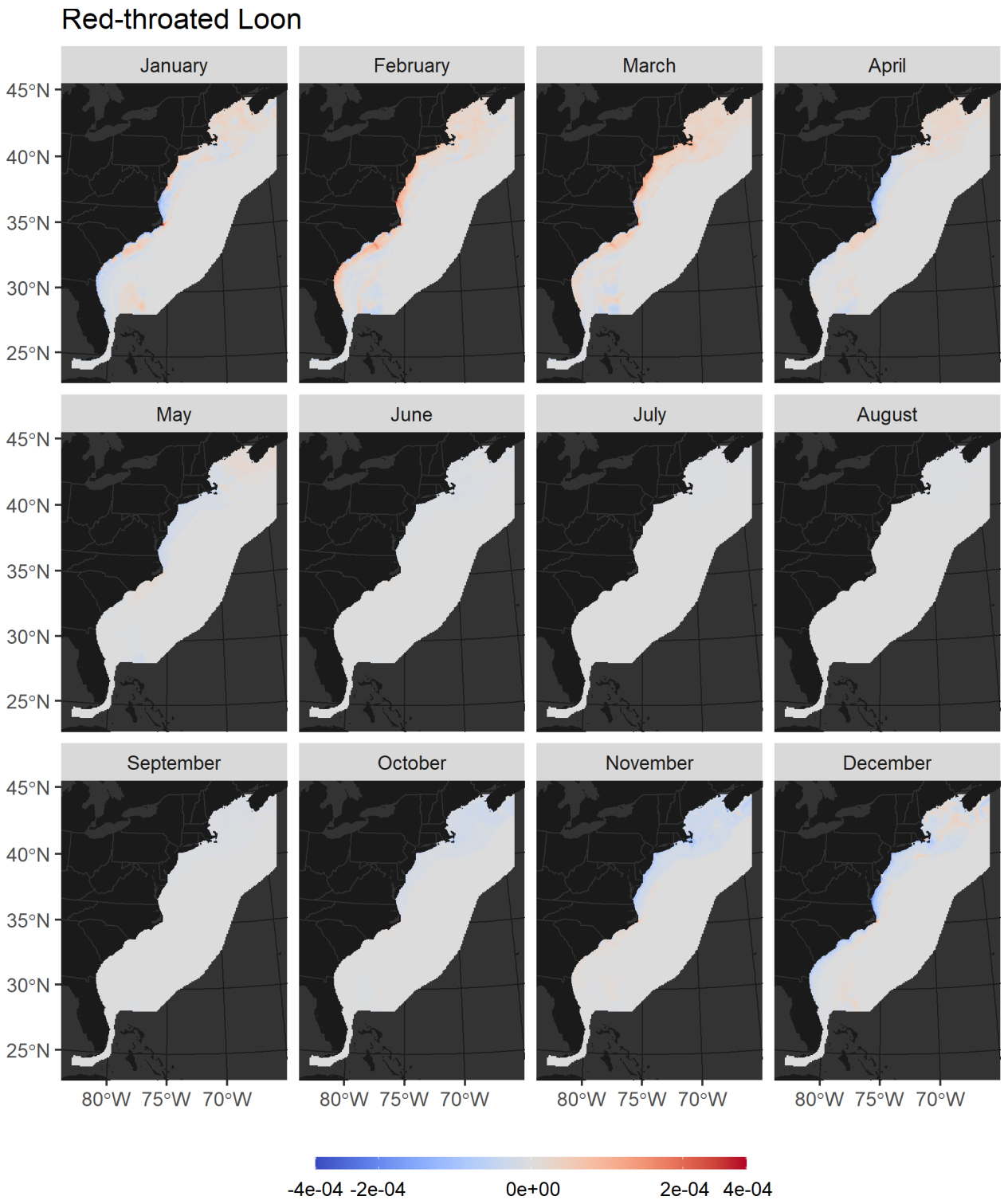


**Figure G-35. Difference in average predicted density of Red-throated Loon by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

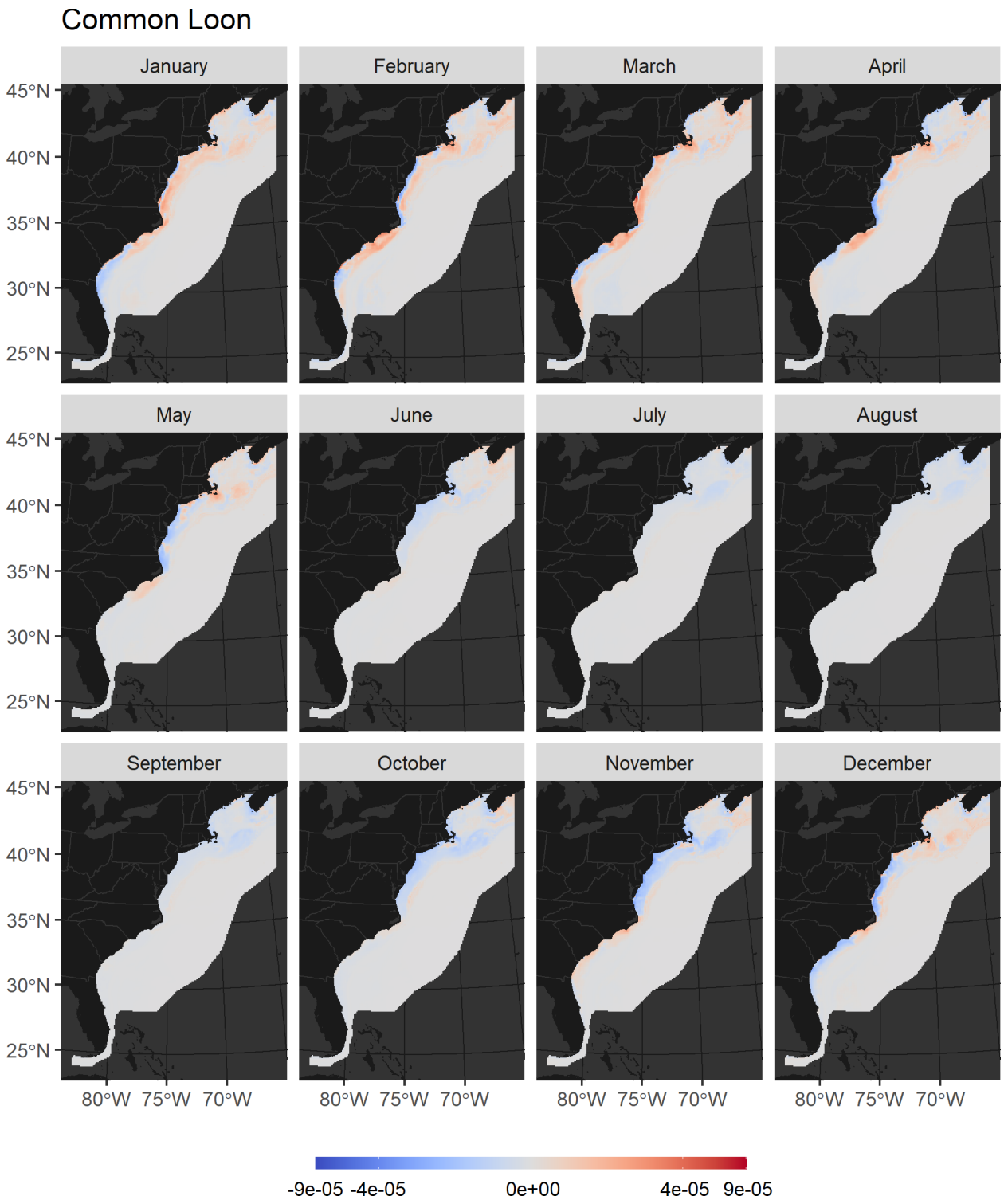


**Figure G-36. Difference in average predicted density of Common Loon by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

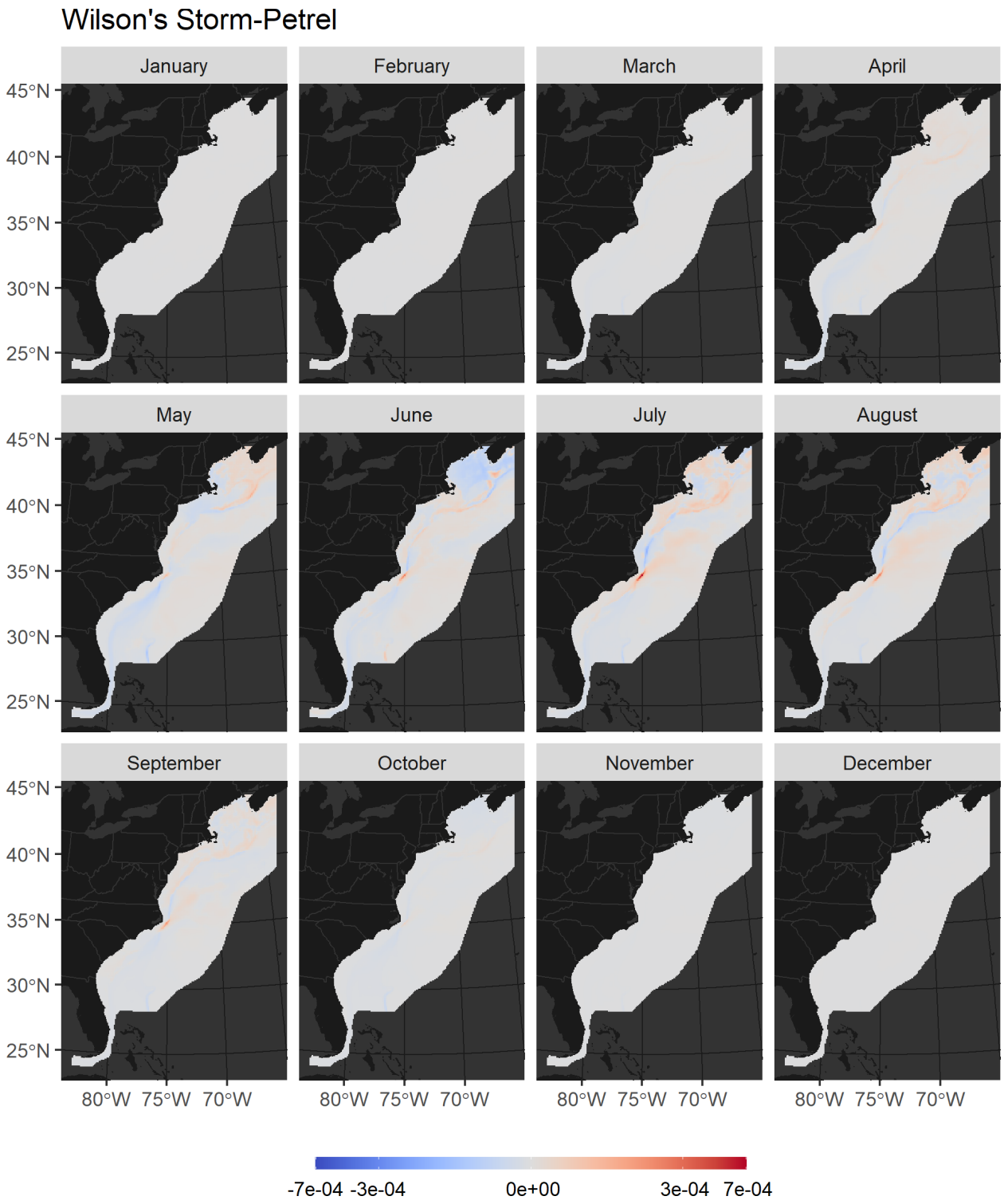


**Figure G-37. Difference in average predicted density of Wilson's Storm-Petrel by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

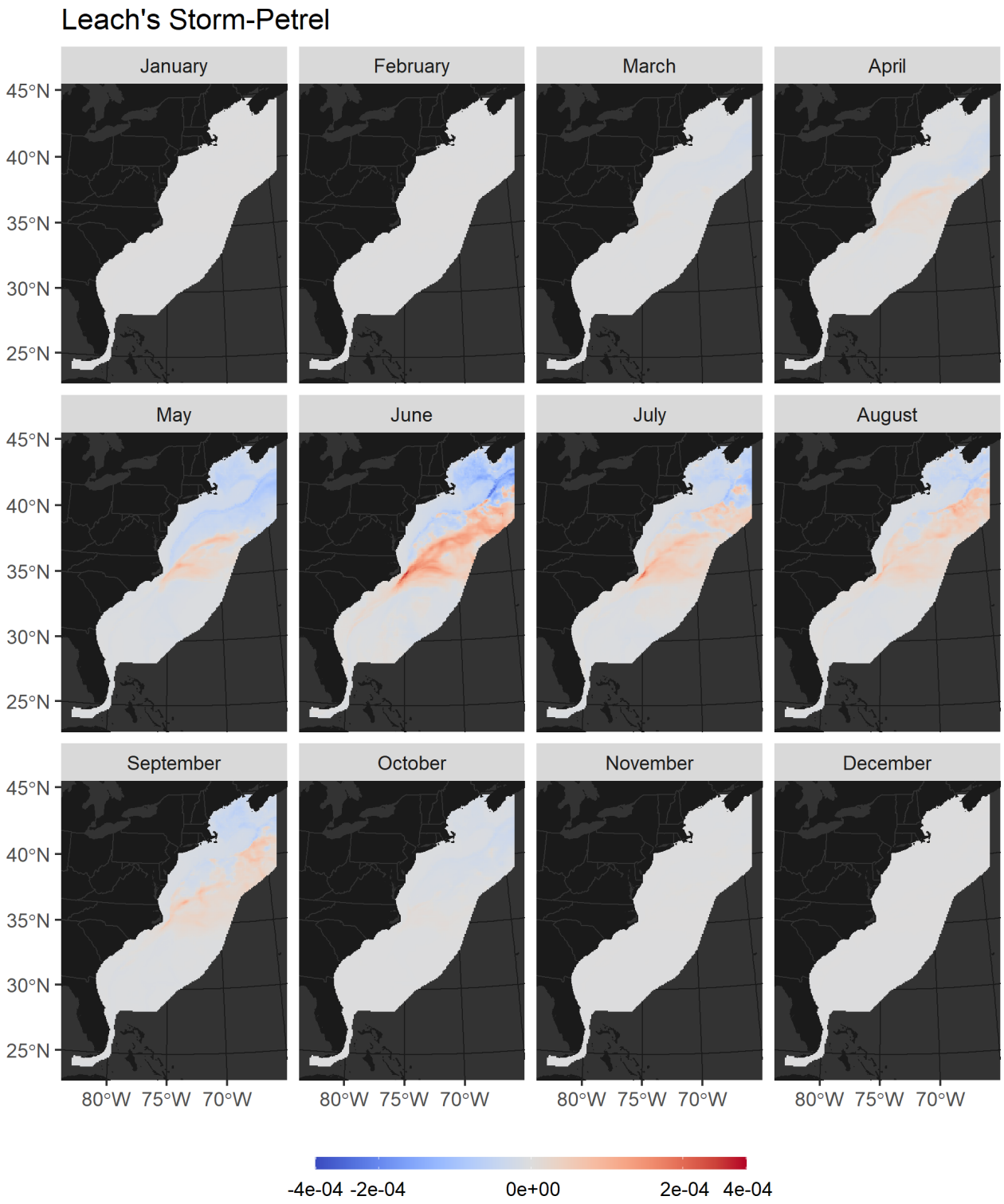


**Figure G-38. Difference in average predicted density of Leach's Storm-Petrel by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

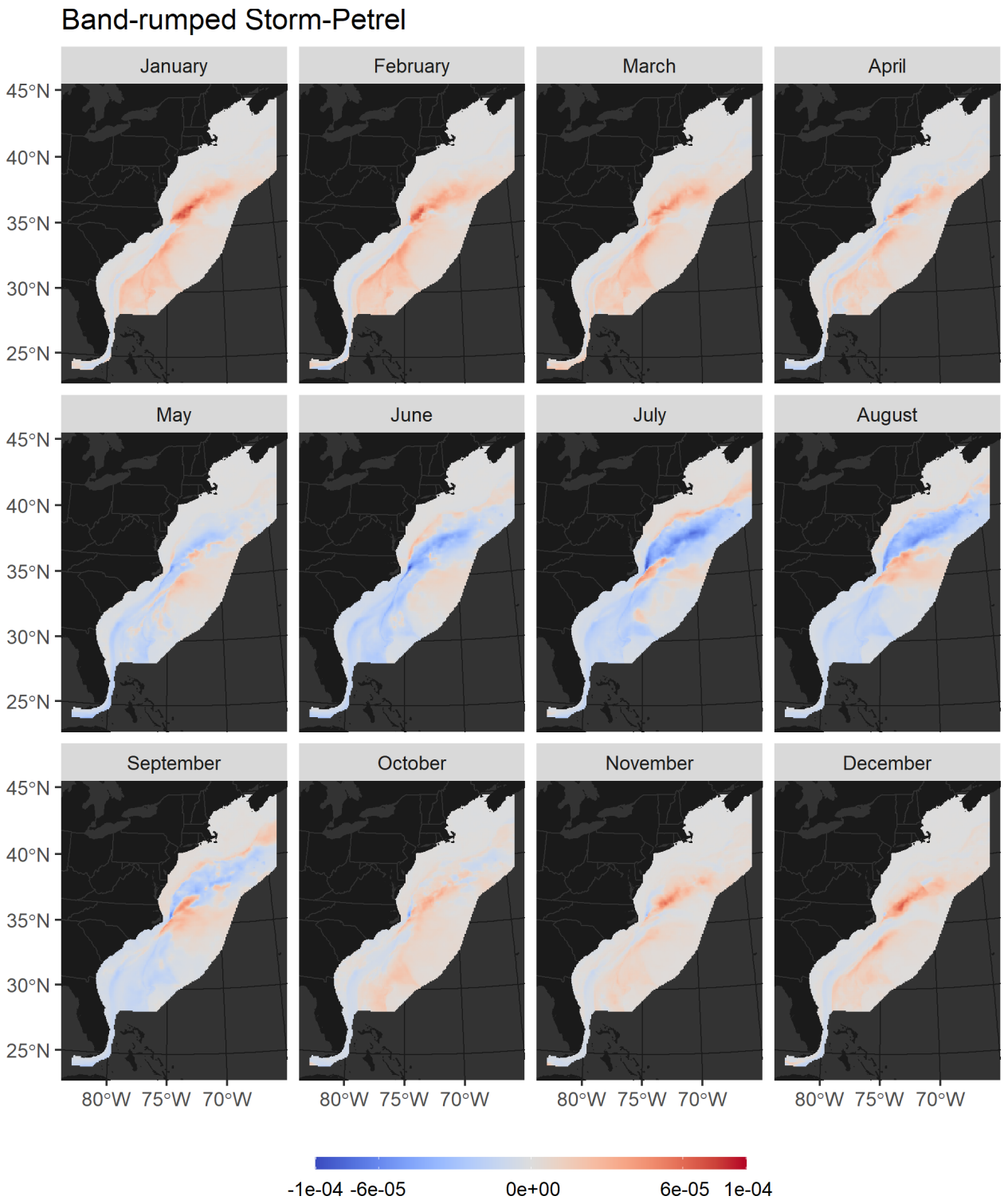


**Figure G-39. Difference in average predicted density of Band-rumped Storm-Petrel by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

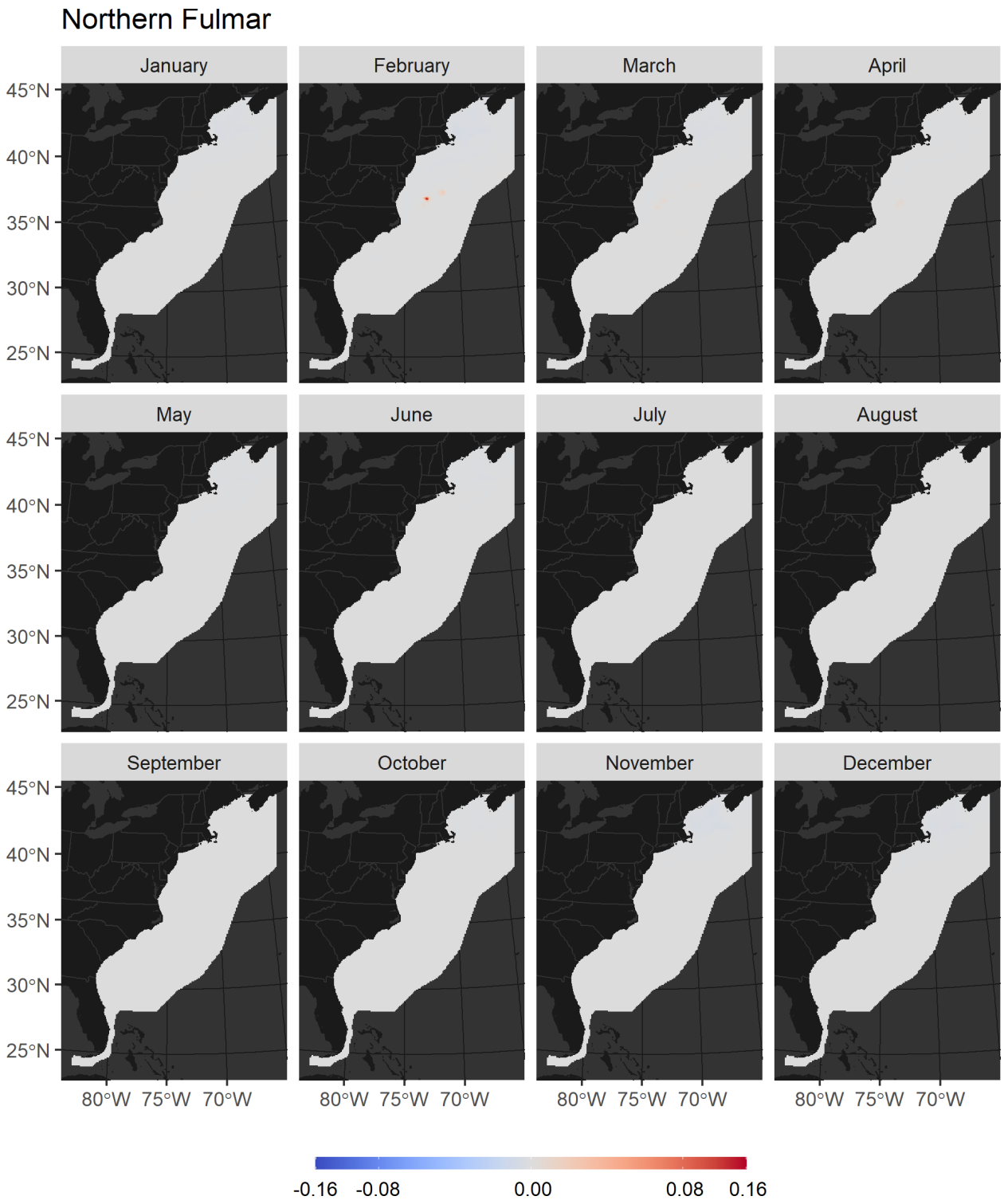


**Figure G-40. Difference in average predicted density of Northern Fulmar by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

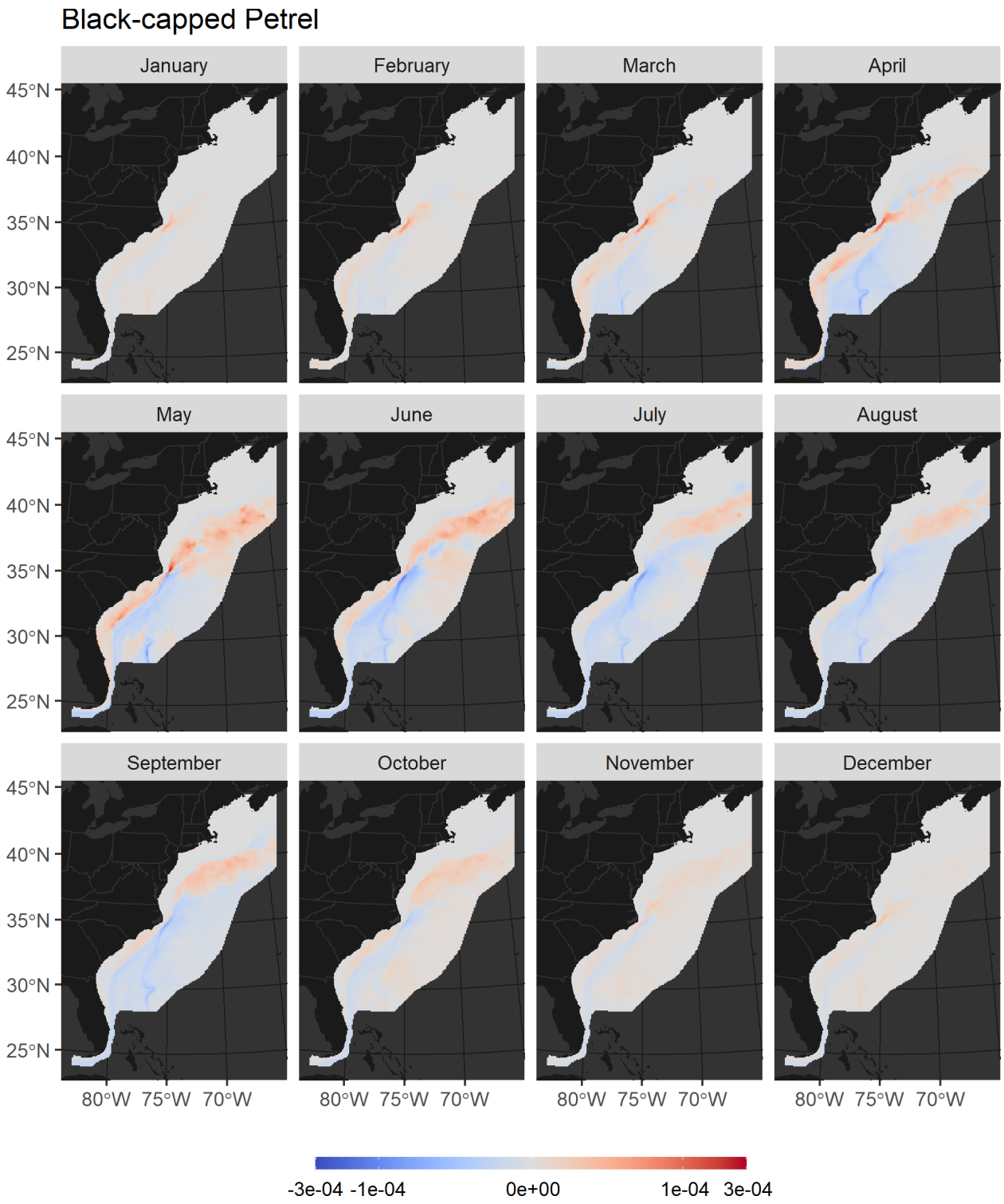


**Figure G-41. Difference in average predicted density of Black-capped Petrel by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

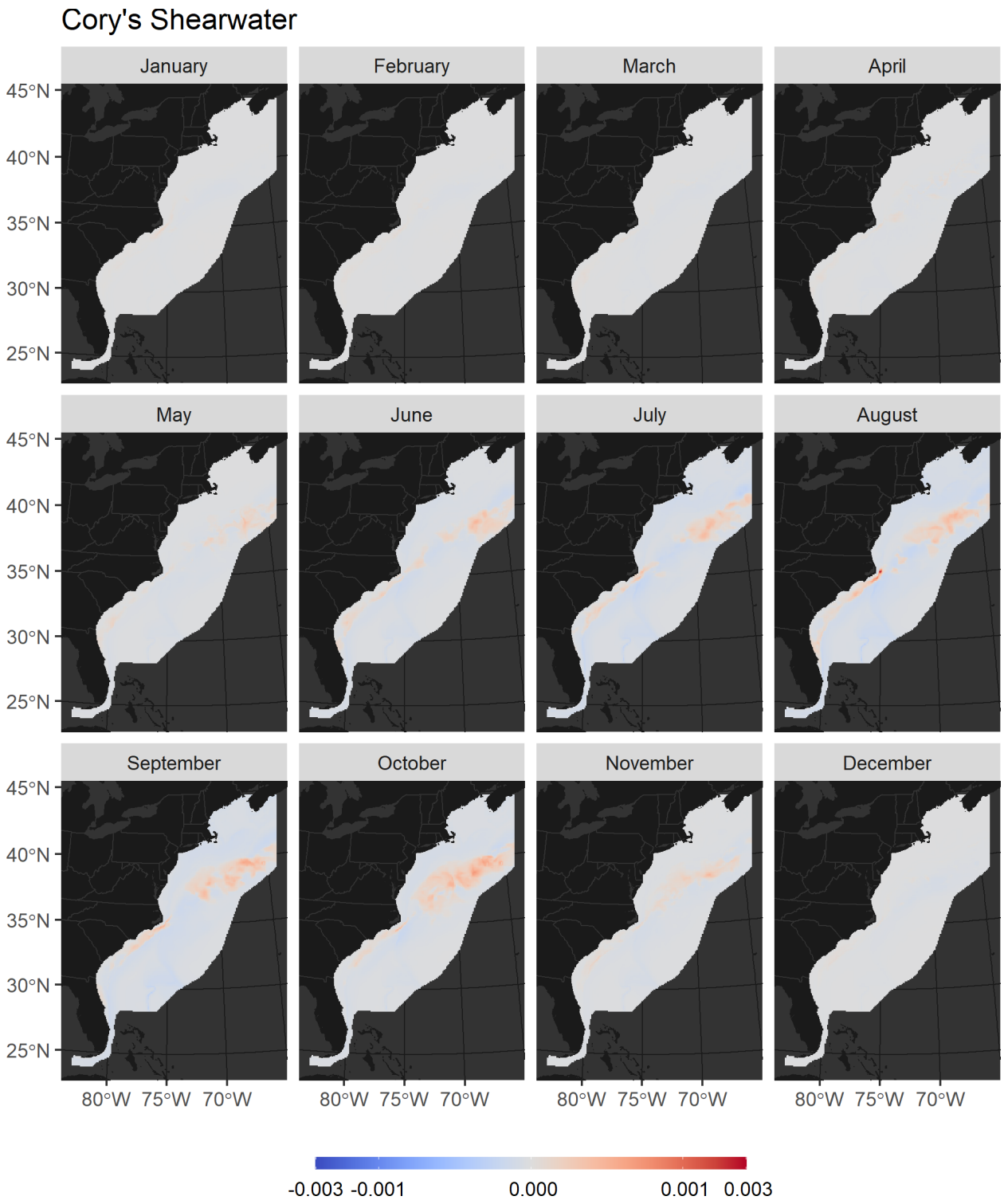


**Figure G-42. Difference in average predicted density of Cory's Shearwater by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

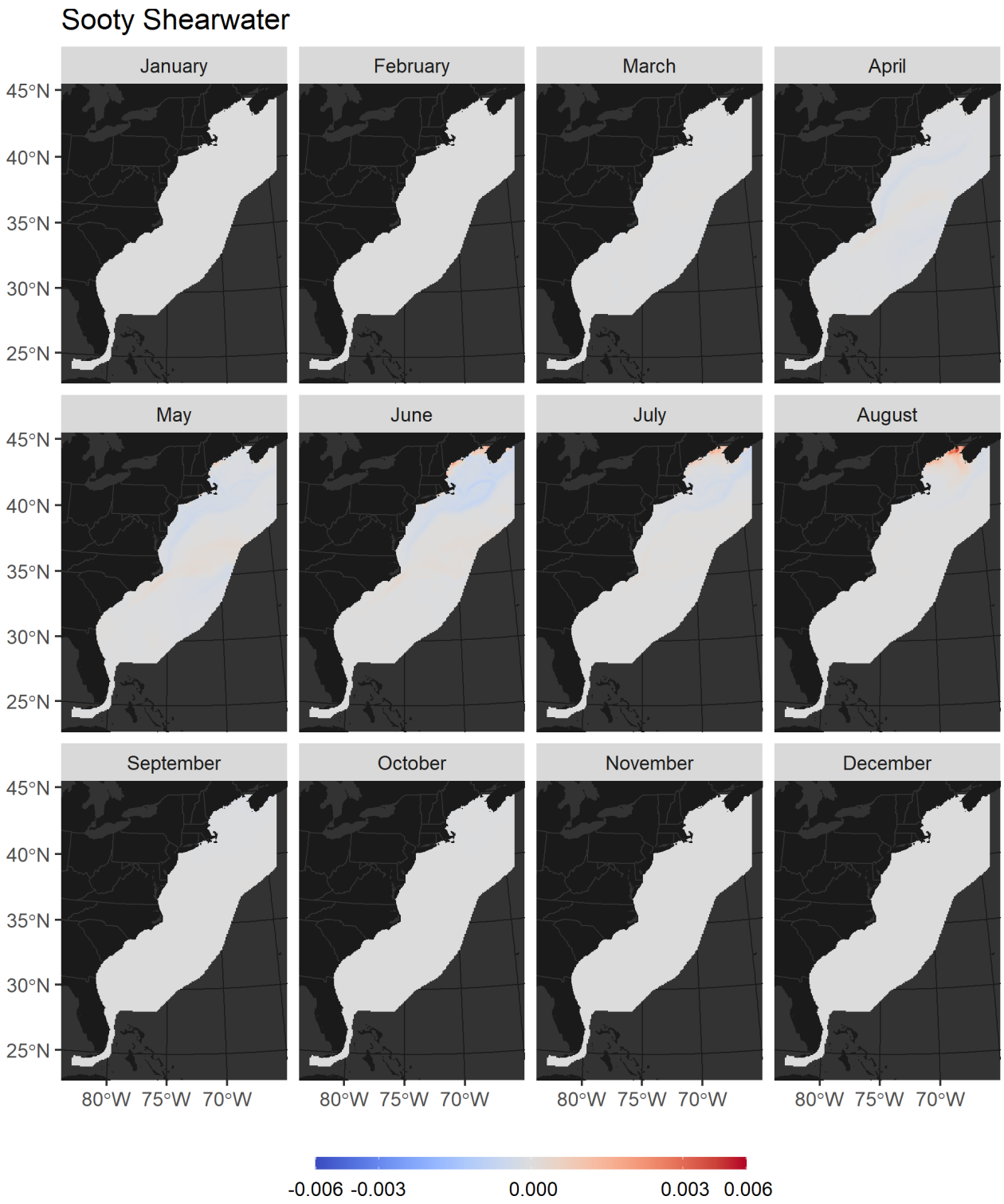


**Figure G-43. Difference in average predicted density of Sooty Shearwater by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

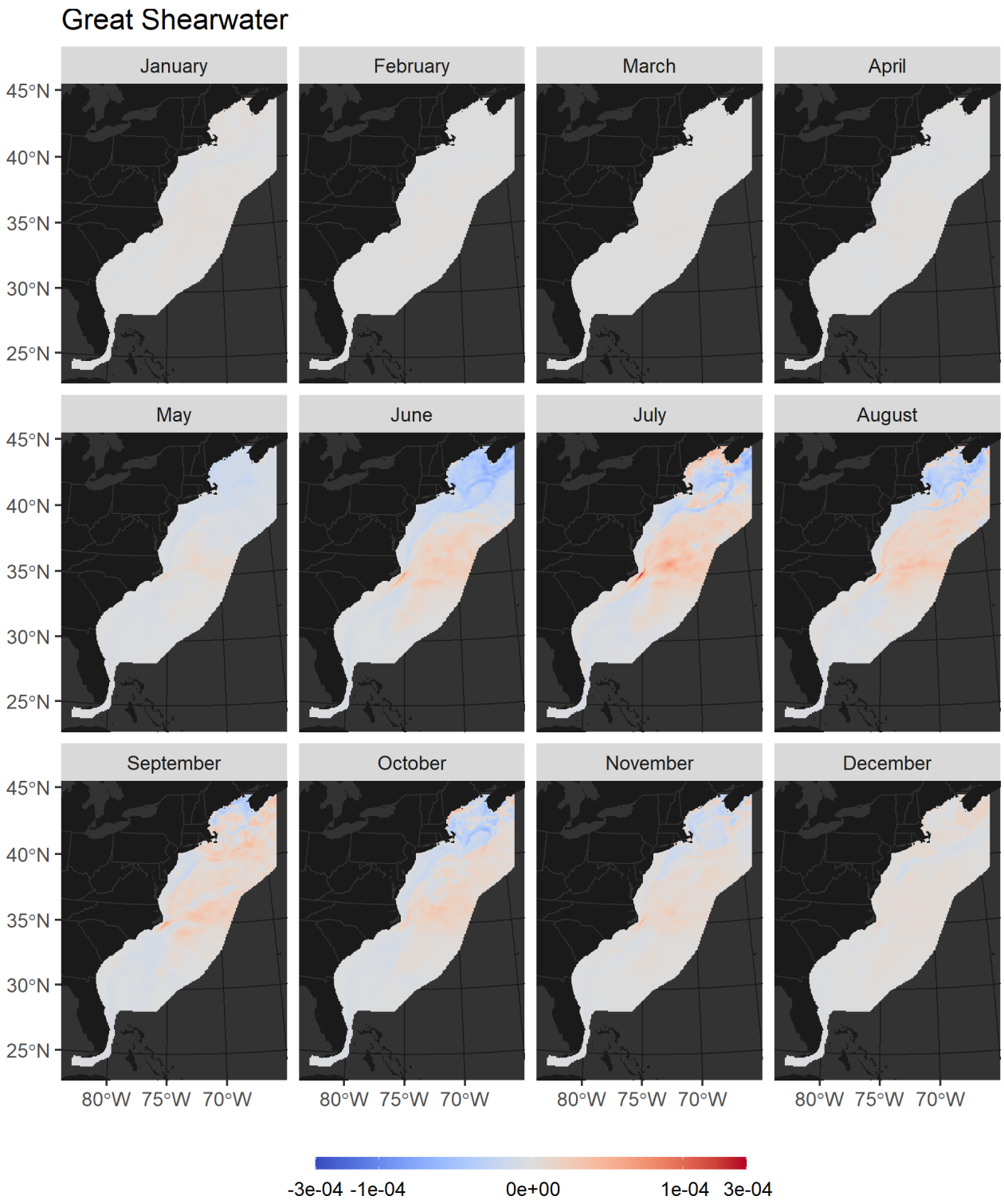


**Figure G-44. Difference in average predicted density of Great Shearwater by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

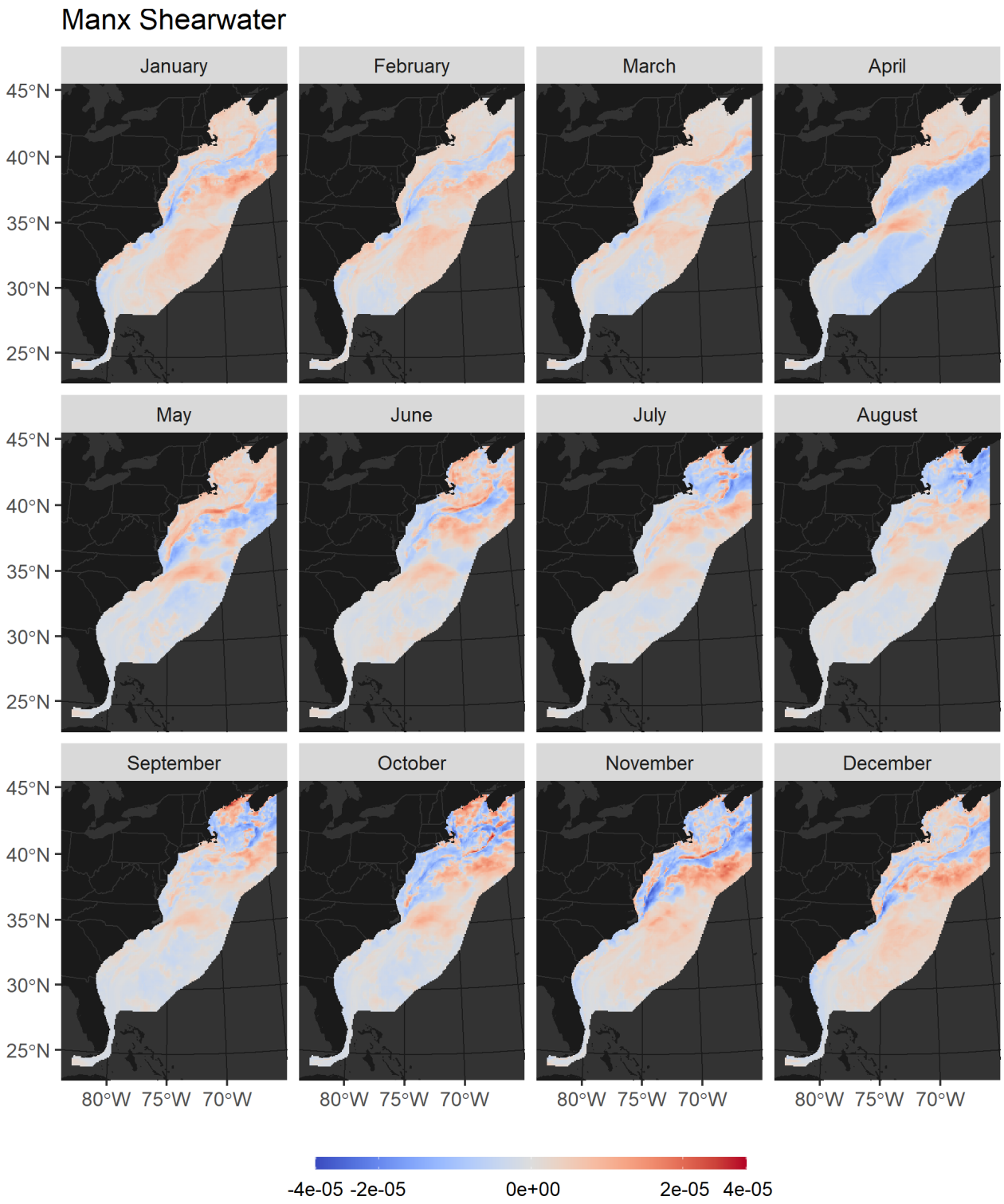


**Figure G-45. Difference in average predicted density of Manx Shearwater by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

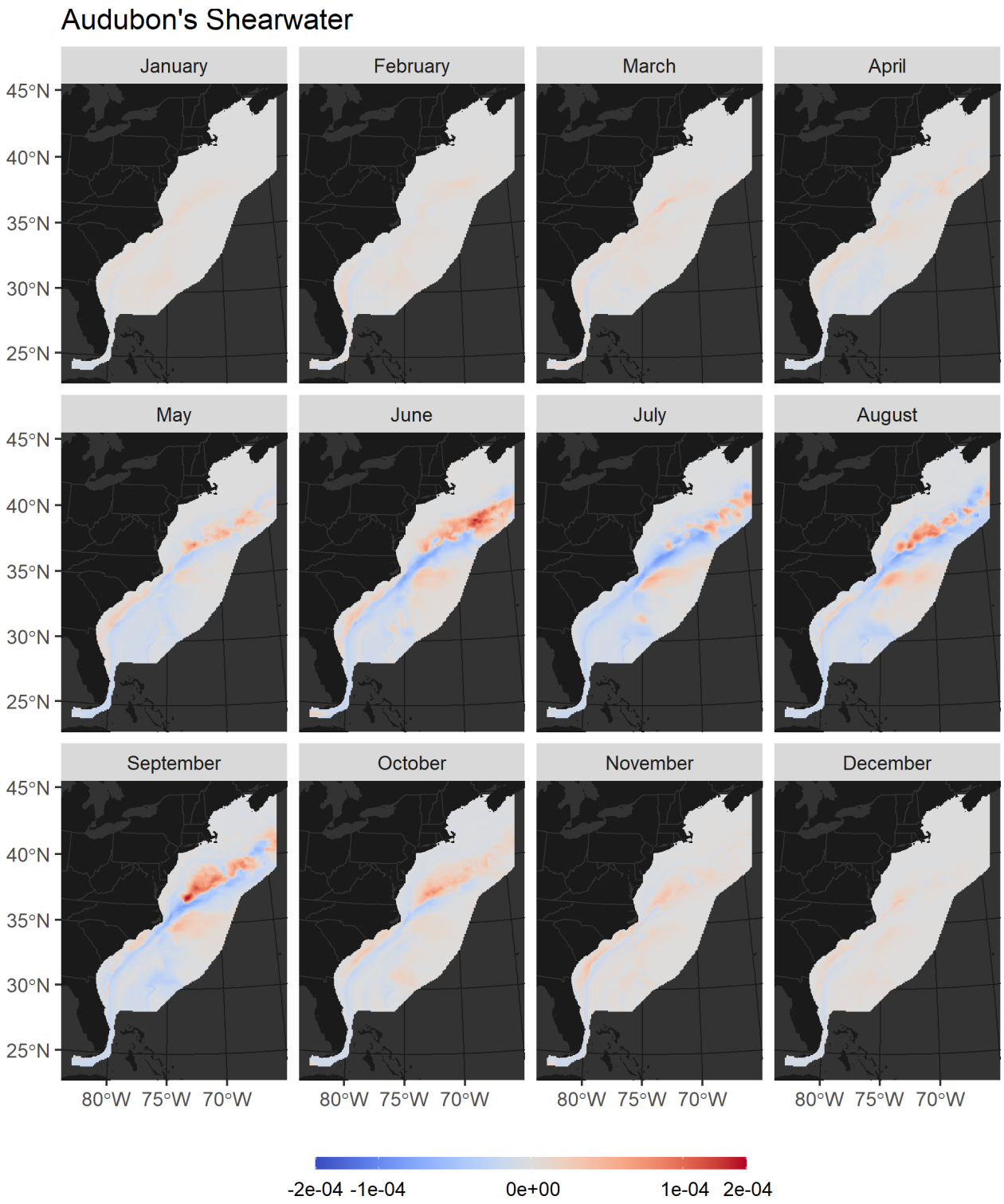


**Figure G-46. Difference in average predicted density of Audubon's Shearwater by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization.

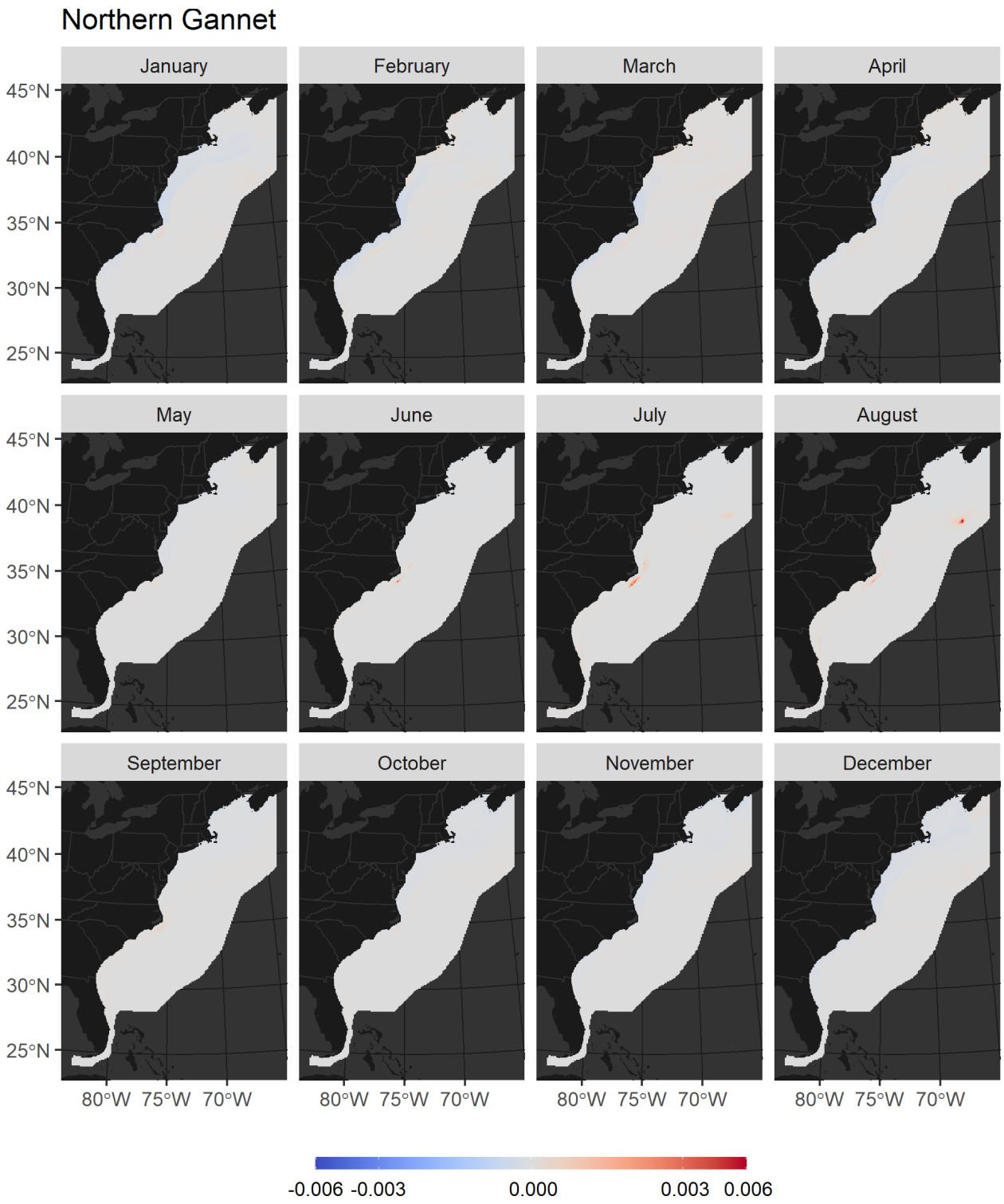


**Figure G-47. Difference in average predicted density of Northern Gannet by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

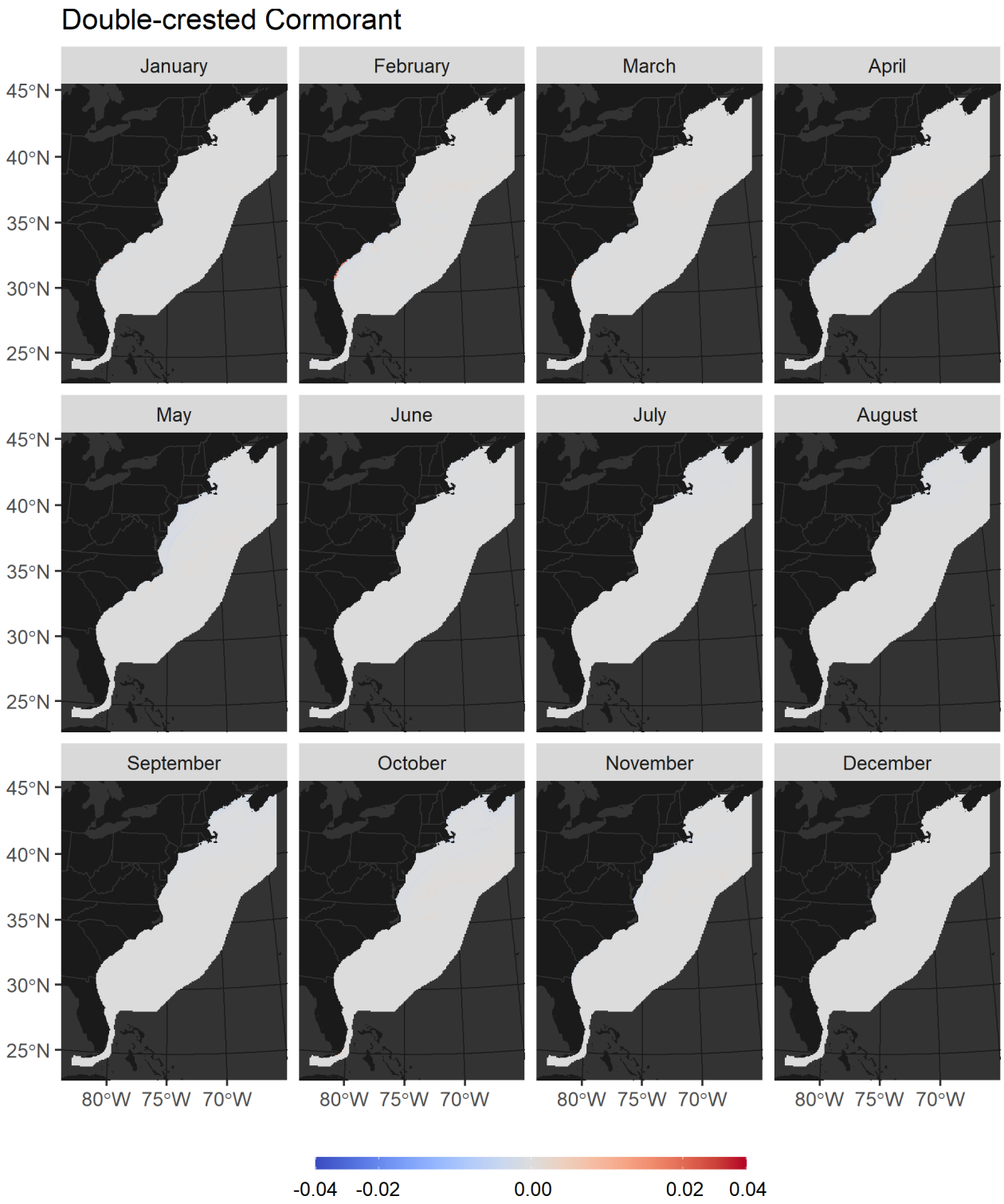


**Figure G-48. Difference in average predicted density of Double-crested Cormorant by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

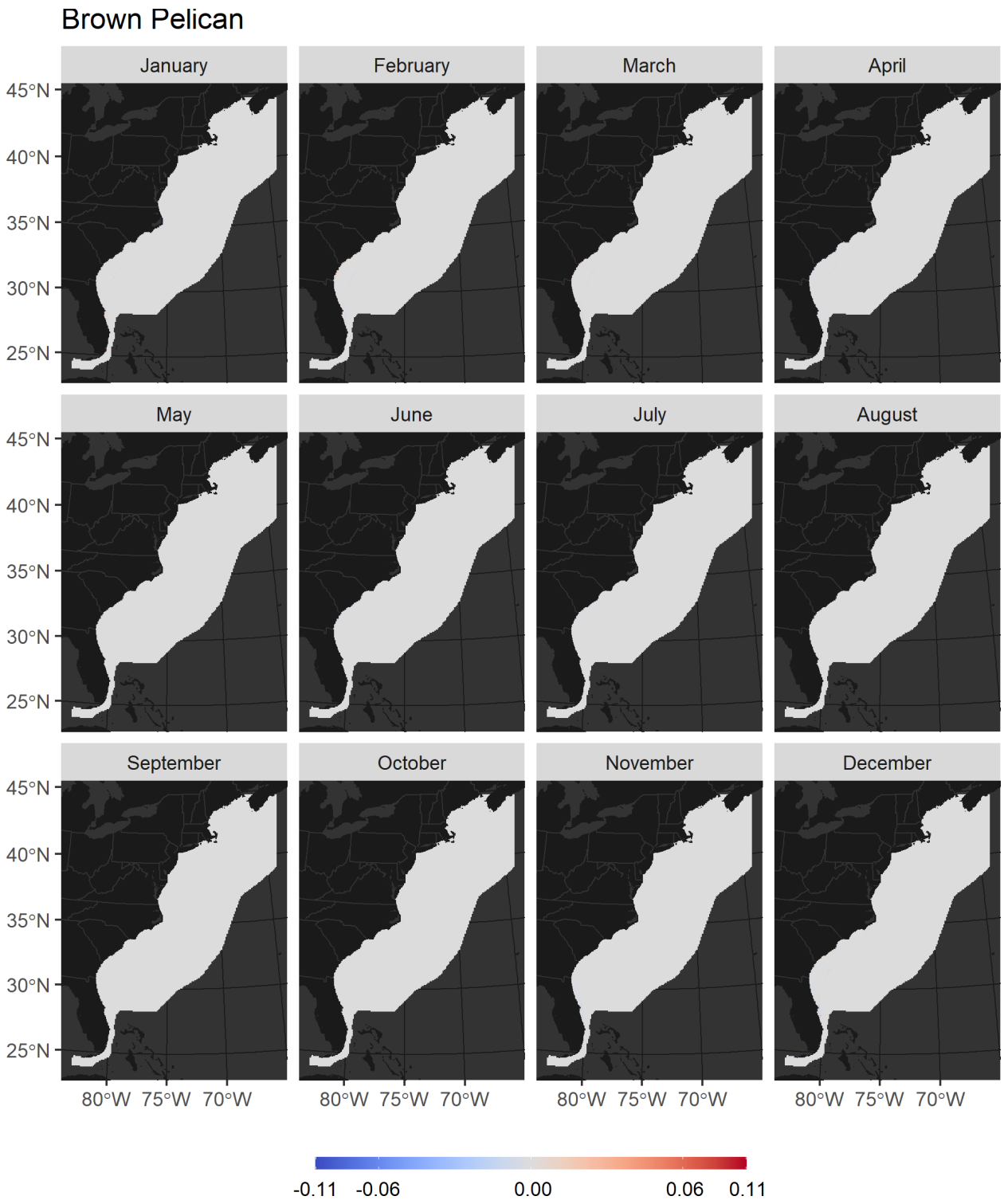


**Figure G-49. Difference in average predicted density of Brown Pelican by month between the retrospective and future periods**
Calculation of difference is described in Section 2.6. Difference is scaled by its square root to improve visualization. The predicted future distributions were unrealistic for this species, so these predictions should not be used or considered further.

# Appendix H: Predicted proportional abundance by BOEM wind energy planning and lease areas

**Table H-1. Predicted proportional abundance of Common Eider by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 5.4e-04 | 3.9e-04 | 1.3e-03 | 1.4e-03 | 1.7e-03 | 3.1e-03 | 2.1e-03 | 1.6e-03 | 1.9e-03 | 5.6e-03 | 1.0e-02 | 2.6e-03 | 3.2e-02 |
| Gulf of Maine Request for Competitive Interest | 4.8e-06 | 2.8e-06 | 1.9e-05 | 1.7e-05 | 3.7e-05 | 3.9e-05 | 1.8e-05 | 6.9e-06 | 2.3e-05 | 6.6e-05 | 1.3e-04 | 2.6e-05 | 4.0e-04 |
| Marine Research Array Requested Lease | 7.3e-07 | 4.0e-07 | 2.9e-06 | 2.8e-06 | 6.7e-06 | 6.3e-06 | 3.1e-06 | 1.2e-06 | 4.3e-06 | 9.5e-06 | 2.0e-05 | 4.0e-06 | 6.2e-05 |
| Rhode Island OCS-A 0506 | 1.1e-06 | 3.4e-07 | 6.0e-07 | 3.3e-07 | 1.0e-07 | 1.0e-07 | 6.7e-10 | 2.8e-10 | 4.9e-09 | 3.1e-07 | 3.2e-07 | 8.9e-07 | 4.1e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 6.4e-05 | 4.9e-05 | 1.6e-04 | 4.2e-05 | 8.3e-06 | 1.6e-05 | 6.9e-08 | 3.5e-08 | 2.9e-07 | 3.6e-05 | 6.7e-05 | 1.8e-04 | 6.3e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.9e-06 | 6.5e-06 | 2.2e-05 | 6.3e-06 | 7.2e-07 | 1.4e-06 | 7.5e-09 | 3.1e-09 | 1.8e-08 | 6.1e-06 | 1.3e-05 | 2.7e-05 | 9.2e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 3.4e-05 | 2.8e-05 | 9.4e-05 | 3.8e-05 | 3.3e-06 | 5.3e-06 | 3.2e-08 | 2.1e-08 | 1.0e-07 | 2.7e-05 | 4.9e-05 | 8.2e-05 | 3.6e-04 |
| Massachusetts OCS-A 0500 | 4.0e-05 | 2.6e-05 | 8.2e-05 | 4.2e-05 | 4.3e-06 | 7.5e-06 | 5.3e-08 | 3.8e-08 | 2.1e-07 | 4.2e-05 | 6.7e-05 | 1.1e-04 | 4.2e-04 |
| Massachusetts OCS-A 0501 | 2.8e-05 | 1.6e-05 | 3.6e-05 | 2.3e-05 | 3.2e-06 | 6.2e-06 | 4.4e-08 | 2.5e-08 | 1.9e-07 | 3.0e-05 | 4.4e-05 | 9.4e-05 | 2.8e-04 |
| Massachusetts OCS-A 0534 | 1.6e-05 | 1.4e-05 | 2.6e-05 | 2.0e-05 | 3.5e-06 | 6.0e-06 | 4.2e-08 | 2.7e-08 | 1.6e-07 | 2.1e-05 | 3.2e-05 | 5.1e-05 | 1.9e-04 |
| Massachusetts OCS-A 0520 | 1.9e-05 | 1.3e-05 | 2.9e-05 | 2.4e-05 | 5.9e-06 | 9.7e-06 | 7.5e-08 | 3.2e-08 | 2.1e-07 | 2.6e-05 | 3.4e-05 | 5.6e-05 | 2.2e-04 |
| Massachusetts OCS-A 0521 | 1.6e-05 | 1.1e-05 | 2.5e-05 | 2.3e-05 | 6.4e-06 | 1.0e-05 | 1.0e-07 | 3.9e-08 | 1.8e-07 | 2.5e-05 | 3.2e-05 | 5.3e-05 | 2.0e-04 |
| Massachusetts OCS-A 0522 | 1.5e-05 | 9.6e-06 | 1.9e-05 | 1.6e-05 | 5.6e-06 | 7.7e-06 | 1.6e-07 | 3.4e-08 | 2.1e-07 | 3.0e-05 | 3.6e-05 | 5.8e-05 | 2.0e-04 |
| New York WEA - Fairways North | 1.9e-05 | 2.2e-05 | 9.4e-05 | 4.4e-05 | 4.6e-06 | 5.4e-06 | 1.7e-08 | 8.0e-09 | 2.1e-08 | 1.7e-05 | 3.4e-05 | 3.9e-05 | 2.8e-04 |
| New York WEA - Fairways South | 5.9e-06 | 6.1e-06 | 2.4e-05 | 1.2e-05 | 2.7e-06 | 1.8e-06 | 3.1e-09 | 3.2e-09 | 6.2e-09 | 4.3e-06 | 7.7e-06 | 9.8e-06 | 7.4e-05 |
| New York OCS-A 0512 | 3.1e-05 | 3.0e-05 | 1.1e-04 | 4.4e-05 | 2.8e-06 | 1.7e-06 | 3.0e-09 | 3.7e-09 | 1.4e-08 | 9.9e-06 | 3.4e-05 | 7.3e-05 | 3.3e-04 |
| NY/NJ OCS-A 0544 | 4.7e-06 | 3.5e-06 | 3.0e-05 | 2.0e-05 | 1.5e-06 | 1.3e-06 | 1.4e-09 | 1.6e-09 | 7.4e-09 | 5.0e-06 | 1.4e-05 | 1.3e-05 | 9.3e-05 |
| NY/NJ OCS-A 0537 | 1.1e-06 | 5.9e-07 | 7.9e-06 | 1.2e-05 | 1.8e-06 | 1.0e-06 | 1.1e-09 | 1.5e-09 | 8.2e-09 | 1.2e-05 | 1.3e-05 | 7.1e-06 | 5.7e-05 |
| NY/NJ OCS-A 0538 | 1.6e-06 | 5.4e-07 | 8.6e-06 | 9.4e-06 | 1.3e-06 | 1.1e-06 | 1.1e-09 | 1.4e-09 | 1.0e-08 | 6.9e-06 | 1.2e-05 | 1.1e-05 | 5.3e-05 |
| NY/NJ OCS-A 0539 | 4.9e-06 | 2.1e-06 | 1.8e-05 | 1.6e-05 | 1.5e-06 | 1.2e-06 | 1.1e-09 | 1.8e-09 | 1.4e-08 | 1.5e-05 | 2.4e-05 | 2.1e-05 | 1.0e-04 |
| NY/NJ OCS-A 0541 | 3.9e-06 | 1.6e-06 | 1.1e-05 | 9.3e-06 | 6.4e-07 | 5.3e-07 | 5.4e-10 | 1.1e-09 | 5.5e-09 | 8.8e-06 | 2.1e-05 | 1.6e-05 | 7.2e-05 |
| NY/NJ OCS-A 0542 | 2.0e-06 | 9.9e-07 | 9.7e-06 | 7.3e-06 | 6.0e-07 | 4.5e-07 | 4.7e-10 | 7.9e-10 | 5.9e-09 | 1.1e-05 | 1.4e-05 | 9.1e-06 | 5.5e-05 |
| New Jersey OCS-A 0549 | 8.6e-05 | 4.9e-05 | 7.0e-05 | 2.5e-05 | 1.2e-06 | 5.5e-07 | 4.6e-10 | 1.1e-09 | 5.0e-09 | 7.7e-06 | 3.7e-05 | 2.2e-04 | 4.9e-04 |
| New Jersey OCS-A 0499 | 6.7e-05 | 3.9e-05 | 6.5e-05 | 2.9e-05 | 1.2e-06 | 5.4e-07 | 4.6e-10 | 8.5e-10 | 5.0e-09 | 1.3e-05 | 4.3e-05 | 1.7e-04 | 4.3e-04 |
| New Jersey OCS-A 0498 | 6.0e-05 | 3.9e-05 | 5.5e-05 | 2.0e-05 | 1.2e-06 | 4.5e-07 | 4.1e-10 | 7.1e-10 | 2.8e-09 | 7.1e-06 | 3.6e-05 | 1.4e-04 | 3.6e-04 |
| New Jersey OCS-A 0532 | 1.2e-04 | 7.3e-05 | 7.2e-05 | 2.1e-05 | 2.0e-06 | 5.2e-07 | 4.9e-10 | 1.2e-09 | 3.4e-09 | 4.4e-06 | 5.0e-05 | 3.1e-04 | 6.6e-04 |
| Delaware OCS-A 0482 | 6.7e-05 | 3.3e-05 | 4.7e-05 | 1.2e-05 | 4.4e-07 | 1.0e-07 | 1.3e-10 | 3.8e-10 | 2.0e-09 | 4.3e-06 | 2.9e-05 | 1.4e-04 | 3.4e-04 |
| Delaware OCS-A 0519 | 9.4e-06 | 4.6e-06 | 9.4e-06 | 3.4e-06 | 1.4e-07 | 2.4e-08 | 4.3e-11 | 1.3e-10 | 6.7e-10 | 9.3e-07 | 7.9e-06 | 2.6e-05 | 6.2e-05 |
| Maryland OCS-A 0490 | 2.8e-05 | 1.2e-05 | 2.1e-05 | 7.0e-06 | 2.8e-07 | 5.0e-08 | 9.3e-11 | 3.2e-10 | 1.6e-09 | 1.7e-06 | 2.1e-05 | 7.1e-05 | 1.6e-04 |
| Central Atlantic Call Area A | 2.3e-05 | 1.1e-05 | 3.2e-05 | 2.3e-05 | 8.9e-07 | 2.1e-07 | 4.9e-10 | 1.0e-09 | 6.9e-09 | 8.8e-06 | 5.5e-05 | 6.5e-05 | 2.2e-04 |
| Central Atlantic Draft WEA Primary A | 5.9e-06 | 3.0e-06 | 7.8e-06 | 4.9e-06 | 1.9e-07 | 4.2e-08 | 1.0e-10 | 2.1e-10 | 1.3e-09 | 1.7e-06 | 1.1e-05 | 1.7e-05 | 5.1e-05 |
| Central Atlantic Draft WEA Secondary A | 1.3e-05 | 6.2e-06 | 1.8e-05 | 1.2e-05 | 4.8e-07 | 1.1e-07 | 2.6e-10 | 5.5e-10 | 3.6e-09 | 4.3e-06 | 2.8e-05 | 3.5e-05 | 1.2e-04 |
| Central Atlantic Call Area B | 3.4e-05 | 9.5e-06 | 2.5e-05 | 1.5e-05 | 6.3e-07 | 5.4e-08 | 2.4e-10 | 7.7e-10 | 6.3e-09 | 1.5e-05 | 1.0e-04 | 8.5e-05 | 2.8e-04 |
| Central Atlantic Draft WEA Primary B1 | 4.9e-06 | 1.3e-06 | 2.7e-06 | 9.9e-07 | 4.1e-08 | 1.6e-09 | 1.2e-11 | 3.4e-11 | 2.7e-10 | 2.7e-07 | 4.9e-06 | 8.4e-06 | 2.4e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.4e-06 | 3.6e-07 | 8.7e-07 | 4.0e-07 | 1.5e-08 | 7.8e-10 | 4.5e-12 | 2.0e-11 | 1.4e-10 | 1.3e-07 | 2.1e-06 | 2.6e-06 | 7.8e-06 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary B2 | 4.8e-06 | 1.4e-06 | 3.7e-06 | 2.6e-06 | 1.2e-07 | 7.8e-09 | 4.5e-11 | 1.5e-10 | 1.1e-09 | 4.2e-06 | 2.1e-05 | 1.6e-05 | 5.4e-05 |
| Central Atlantic Draft WEA Secondary B2 | 1.0e-06 | 3.9e-07 | 9.6e-07 | 8.4e-07 | 4.2e-08 | 4.1e-09 | 1.6e-11 | 7.2e-11 | 4.1e-10 | 2.4e-06 | 7.2e-06 | 5.0e-06 | 1.8e-05 |
| Central Atlantic Call Area C | 5.0e-06 | 1.8e-06 | 4.0e-06 | 3.4e-06 | 1.4e-07 | 3.8e-09 | 2.4e-11 | 4.0e-11 | 7.3e-10 | 1.3e-06 | 1.3e-05 | 2.3e-05 | 5.2e-05 |
| Central Atlantic Draft WEA Primary C | 3.3e-06 | 1.2e-06 | 2.7e-06 | 2.3e-06 | 9.5e-08 | 2.3e-09 | 1.5e-11 | 2.5e-11 | 4.7e-10 | 8.1e-07 | 8.7e-06 | 1.6e-05 | 3.5e-05 |
| Central Atlantic Draft WEA Secondary C | 1.4e-06 | 5.0e-07 | 1.1e-06 | 8.6e-07 | 3.9e-08 | 1.2e-09 | 7.1e-12 | 1.2e-11 | 2.1e-10 | 4.5e-07 | 3.3e-06 | 5.8e-06 | 1.3e-05 |
| Central Atlantic Call Area D | 1.1e-05 | 5.7e-06 | 1.1e-05 | 4.4e-06 | 3.0e-07 | 3.0e-09 | 1.5e-11 | 4.2e-11 | 1.1e-09 | 9.4e-07 | 2.0e-05 | 4.2e-05 | 9.6e-05 |
| Central Atlantic Draft WEA Primary D | 4.2e-06 | 2.3e-06 | 4.7e-06 | 2.2e-06 | 1.6e-07 | 1.4e-09 | 6.6e-12 | 2.4e-11 | 5.8e-10 | 2.9e-07 | 9.9e-06 | 2.0e-05 | 4.4e-05 |
| Central Atlantic Draft WEA Secondary D | 1.3e-06 | 6.4e-07 | 1.3e-06 | 4.1e-07 | 2.3e-08 | 1.6e-10 | 8.1e-13 | 2.3e-12 | 8.6e-11 | 2.3e-08 | 1.7e-06 | 4.3e-06 | 9.6e-06 |
| Central Atlantic Call Area E | 9.1e-12 | 1.6e-10 | 1.7e-10 | 1.8e-10 | 5.9e-12 | 4.5e-11 | 3.0e-14 | 2.5e-14 | 1.0e-13 | 2.3e-10 | 2.5e-10 | 8.0e-10 | 1.9e-09 |
| Central Atlantic Draft WEA Primary E1 | 1.7e-13 | 1.9e-12 | 1.1e-12 | 4.7e-12 | 1.0e-13 | 1.0e-13 | 1.0e-15 | 2.6e-16 | 8.2e-16 | 7.4e-17 | 1.9e-13 | 1.9e-13 | 8.5e-12 |
| Central Atlantic Draft WEA Primary E2 | 8.2e-20 | 5.0e-14 | 3.9e-15 | 2.1e-13 | 6.0e-15 | 3.9e-13 | 5.7e-17 | 3.7e-18 | 1.0e-16 | 5.5e-19 | 7.3e-15 | 4.7e-16 | 6.6e-13 |
| Central Atlantic Call Area F | 1.9e-18 | 1.9e-19 | 1.9e-12 | 1.4e-12 | 4.1e-13 | 7.5e-14 | 5.4e-16 | 7.3e-16 | 2.1e-15 | 4.9e-11 | 1.1e-12 | 3.0e-14 | 5.4e-11 |
| Central Atlantic Draft WEA Primary F | 1.0e-20 | 1.0e-20 | 2.5e-17 | 5.2e-20 | 2.4e-15 | 5.2e-18 | 5.4e-19 | 1.0e-20 | 1.0e-20 | 1.7e-17 | 1.0e-20 | 1.0e-20 | 2.4e-15 |
| Virginia OCS-A 0483 | 2.2e-05 | 9.0e-06 | 1.7e-05 | 3.7e-06 | 9.4e-08 | 1.4e-09 | 5.2e-12 | 1.0e-11 | 3.3e-10 | 1.2e-07 | 1.6e-05 | 5.6e-05 | 1.2e-04 |
| Virginia OCS-A 0497 | 1.5e-06 | 4.2e-07 | 7.2e-07 | 7.6e-08 | 1.3e-09 | 7.8e-12 | 3.1e-14 | 1.6e-14 | 4.5e-12 | 2.3e-09 | 7.5e-07 | 4.3e-06 | 7.8e-06 |
| North Carolina OCS-A 0508 | 9.9e-07 | 6.9e-07 | 1.8e-06 | 9.6e-07 | 1.1e-07 | 6.3e-10 | 3.1e-12 | 9.8e-12 | 2.6e-10 | 1.6e-07 | 4.5e-06 | 5.7e-06 | 1.5e-05 |
| North Carolina OCS-A 0545 | 1.3e-20 | 1.7e-15 | 4.6e-18 | 1.7e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.7e-15 |
| North Carolina OCS-A 0546 | 1.3e-20 | 3.0e-15 | 9.5e-18 | 1.4e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 1.3e-20 | 3.0e-15 |
| South Carolina Call Area - Grand Strand | 1.3e-07 | 1.1e-07 | 2.7e-08 | 8.4e-10 | 2.1e-13 | 1.5e-19 | 1.5e-19 | 1.5e-19 | 1.5e-19 | 1.8e-19 | 1.1e-17 | 1.2e-10 | 2.7e-07 |
| South Carolina Call Area - Cape Romain | 6.5e-09 | 6.1e-08 | 8.7e-09 | 5.7e-11 | 2.1e-16 | 3.7e-20 | 3.7e-20 | 3.7e-20 | 3.7e-20 | 3.7e-20 | 2.4e-19 | 2.0e-10 | 7.6e-08 |
| South Carolina Call Area - Winyah | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 8.3e-21 | 9.9e-20 |
| South Carolina Call Area - Charleston | 8.4e-21 | 8.4e-21 | 1.0e-18 | 8.4e-21 | 8.4e-21 | 8.4e-21 | 8.4e-21 | 8.4e-21 | 8.4e-21 | 8.4e-21 | 8.4e-21 | 8.4e-21 | 1.1e-18 |
| All planning areas | 6.4e-04 | 4.5e-04 | 1.5e-03 | 1.6e-03 | 1.7e-03 | 3.2e-03 | 2.1e-03 | 1.6e-03 | 1.9e-03 | 5.7e-03 | 1.0e-02 | 2.9e-03 | 3.4e-02 |
| All lease areas | 7.6e-04 | 4.7e-04 | 1.0e-03 | 4.7e-04 | 5.8e-05 | 7.9e-05 | 6.0e-07 | 2.7e-07 | 1.7e-06 | 3.5e-04 | 7.5e-04 | 2.0e-03 | 6.0e-03 |
| All planning and lease areas | 1.4e-03 | 9.2e-04 | 2.5e-03 | 2.0e-03 | 1.8e-03 | 3.2e-03 | 2.1e-03 | 1.6e-03 | 1.9e-03 | 6.1e-03 | 1.1e-02 | 4.9e-03 | 4.0e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-2. Predicted proportional abundance of Surf Scoter by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.1e-03 | 1.8e-03 | 4.3e-03 | 6.7e-03 | 9.4e-04 | 7.1e-05 | 6.8e-05 | 3.9e-04 | 4.2e-03 | 5.7e-03 | 2.0e-03 | 1.0e-03 | 2.8e-02 |
| Gulf of Maine Request for Competitive Interest | 7.0e-06 | 9.1e-06 | 4.3e-05 | 5.7e-05 | 9.2e-06 | 7.4e-07 | 5.8e-07 | 2.3e-06 | 3.5e-05 | 4.1e-05 | 1.4e-05 | 8.1e-06 | 2.3e-04 |
| Marine Research Array Requested Lease | 1.1e-06 | 1.2e-06 | 5.9e-06 | 8.4e-06 | 1.4e-06 | 1.1e-07 | 8.9e-08 | 3.6e-07 | 5.2e-06 | 5.5e-06 | 1.9e-06 | 1.2e-06 | 3.2e-05 |
| Rhode Island OCS-A 0506 | 9.9e-07 | 1.2e-06 | 1.5e-06 | 9.6e-07 | 3.9e-08 | 4.0e-09 | 2.7e-10 | 8.4e-10 | 2.4e-08 | 2.3e-07 | 1.2e-07 | 2.1e-07 | 5.3e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 7.8e-05 | 1.2e-04 | 2.3e-04 | 1.8e-04 | 7.4e-06 | 9.6e-07 | 5.8e-08 | 1.9e-07 | 5.2e-06 | 5.3e-05 | 2.1e-05 | 2.5e-05 | 7.2e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.4e-05 | 2.5e-05 | 4.3e-05 | 3.1e-05 | 1.1e-06 | 1.4e-07 | 7.8e-09 | 2.4e-08 | 6.6e-07 | 8.9e-06 | 4.5e-06 | 4.0e-06 | 1.3e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 7.2e-05 | 1.4e-04 | 2.4e-04 | 2.2e-04 | 7.1e-06 | 8.8e-07 | 5.2e-08 | 1.7e-07 | 4.6e-06 | 6.2e-05 | 3.1e-05 | 2.0e-05 | 8.0e-04 |
| Massachusetts OCS-A 0500 | 6.0e-05 | 1.3e-04 | 2.4e-04 | 2.3e-04 | 8.0e-06 | 9.6e-07 | 7.0e-08 | 2.5e-07 | 7.2e-06 | 8.4e-05 | 3.6e-05 | 2.4e-05 | 8.2e-04 |
| Massachusetts OCS-A 0501 | 3.0e-05 | 7.2e-05 | 1.1e-04 | 9.4e-05 | 3.6e-06 | 4.4e-07 | 4.0e-08 | 1.4e-07 | 4.1e-06 | 4.5e-05 | 1.6e-05 | 1.6e-05 | 3.9e-04 |
| Massachusetts OCS-A 0534 | 2.5e-05 | 7.9e-05 | 1.2e-04 | 1.2e-04 | 5.1e-06 | 5.9e-07 | 4.7e-08 | 1.7e-07 | 4.7e-06 | 4.9e-05 | 2.3e-05 | 1.3e-05 | 4.4e-04 |
| Massachusetts OCS-A 0520 | 2.9e-05 | 7.7e-05 | 1.2e-04 | 1.2e-04 | 6.0e-06 | 7.2e-07 | 6.5e-08 | 2.3e-07 | 6.3e-06 | 6.3e-05 | 2.7e-05 | 1.8e-05 | 4.6e-04 |
| Massachusetts OCS-A 0521 | 2.9e-05 | 7.0e-05 | 1.1e-04 | 1.0e-04 | 5.8e-06 | 6.9e-07 | 7.1e-08 | 2.5e-07 | 6.5e-06 | 6.8e-05 | 2.7e-05 | 1.8e-05 | 4.3e-04 |
| Massachusetts OCS-A 0522 | 3.3e-05 | 6.3e-05 | 1.0e-04 | 9.2e-05 | 6.2e-06 | 7.3e-07 | 9.1e-08 | 3.0e-07 | 7.3e-06 | 8.7e-05 | 2.9e-05 | 2.1e-05 | 4.4e-04 |
| New York WEA - Fairways North | 4.6e-05 | 1.4e-04 | 3.1e-04 | 2.1e-04 | 7.2e-06 | 8.3e-07 | 2.6e-08 | 8.3e-08 | 1.9e-06 | 3.5e-05 | 2.2e-05 | 1.1e-05 | 7.9e-04 |
| New York WEA - Fairways South | 9.3e-06 | 3.2e-05 | 8.6e-05 | 5.5e-05 | 2.4e-06 | 1.9e-07 | 4.6e-09 | 2.1e-08 | 4.7e-07 | 7.4e-06 | 4.9e-06 | 3.2e-06 | 2.0e-04 |
| New York OCS-A 0512 | 7.2e-05 | 1.8e-04 | 4.6e-04 | 1.9e-04 | 6.5e-06 | 4.6e-07 | 8.6e-09 | 4.0e-08 | 1.4e-06 | 2.7e-05 | 3.1e-05 | 2.5e-05 | 1.0e-03 |
| NY/NJ OCS-A 0544 | 1.2e-05 | 3.5e-05 | 1.3e-04 | 8.3e-05 | 2.9e-06 | 2.4e-07 | 4.5e-09 | 2.1e-08 | 7.5e-07 | 1.6e-05 | 1.3e-05 | 5.0e-06 | 3.0e-04 |
| NY/NJ OCS-A 0537 | 5.0e-06 | 9.3e-06 | 3.4e-05 | 7.8e-05 | 2.9e-06 | 2.9e-07 | 7.0e-09 | 3.2e-08 | 1.0e-06 | 2.6e-05 | 1.5e-05 | 4.5e-06 | 1.8e-04 |
| NY/NJ OCS-A 0538 | 7.2e-06 | 1.3e-05 | 4.0e-05 | 6.6e-05 | 3.2e-06 | 3.1e-07 | 5.8e-09 | 3.1e-08 | 1.4e-06 | 2.9e-05 | 2.0e-05 | 5.2e-06 | 1.9e-04 |
| NY/NJ OCS-A 0539 | 1.9e-05 | 3.5e-05 | 8.3e-05 | 1.1e-04 | 4.5e-06 | 3.7e-07 | 6.5e-09 | 3.9e-08 | 2.0e-06 | 5.9e-05 | 4.7e-05 | 1.1e-05 | 3.7e-04 |
| NY/NJ OCS-A 0541 | 1.6e-05 | 2.8e-05 | 6.2e-05 | 6.8e-05 | 2.6e-06 | 1.7e-07 | 2.9e-09 | 1.9e-08 | 8.3e-07 | 3.1e-05 | 3.1e-05 | 7.9e-06 | 2.5e-04 |
| NY/NJ OCS-A 0542 | 8.7e-06 | 1.9e-05 | 4.9e-05 | 6.3e-05 | 2.5e-06 | 1.9e-07 | 3.3e-09 | 2.1e-08 | 9.5e-07 | 3.6e-05 | 3.7e-05 | 6.3e-06 | 2.2e-04 |
| New Jersey OCS-A 0549 | 2.6e-04 | 3.5e-04 | 4.9e-04 | 1.5e-04 | 5.0e-06 | 1.7e-07 | 3.2e-09 | 2.1e-08 | 6.0e-07 | 2.3e-05 | 5.2e-05 | 8.3e-05 | 1.4e-03 |
| New Jersey OCS-A 0499 | 1.9e-04 | 3.0e-04 | 4.5e-04 | 1.4e-04 | 5.1e-06 | 1.6e-07 | 3.2e-09 | 2.2e-08 | 6.6e-07 | 2.8e-05 | 5.5e-05 | 6.4e-05 | 1.2e-03 |
| New Jersey OCS-A 0498 | 1.3e-04 | 2.0e-04 | 3.1e-04 | 9.0e-05 | 3.9e-06 | 1.1e-07 | 2.3e-09 | 1.6e-08 | 4.3e-07 | 1.9e-05 | 4.1e-05 | 4.2e-05 | 8.3e-04 |
| New Jersey OCS-A 0532 | 2.2e-04 | 3.0e-04 | 4.1e-04 | 9.9e-05 | 5.1e-06 | 1.2e-07 | 2.8e-09 | 2.1e-08 | 4.4e-07 | 1.9e-05 | 4.9e-05 | 8.0e-05 | 1.2e-03 |
| Delaware OCS-A 0482 | 1.9e-04 | 2.7e-04 | 4.0e-04 | 7.7e-05 | 2.8e-06 | 5.0e-08 | 1.6e-09 | 1.0e-08 | 3.1e-07 | 1.4e-05 | 4.8e-05 | 5.1e-05 | 1.1e-03 |
| Delaware OCS-A 0519 | 3.4e-05 | 5.7e-05 | 1.0e-04 | 2.5e-05 | 9.8e-07 | 1.8e-08 | 5.2e-10 | 3.4e-09 | 1.1e-07 | 4.6e-06 | 1.4e-05 | 9.5e-06 | 2.5e-04 |
| Maryland OCS-A 0490 | 1.3e-04 | 1.8e-04 | 2.8e-04 | 6.3e-05 | 2.9e-06 | 4.3e-08 | 1.5e-09 | 9.0e-09 | 2.8e-07 | 1.2e-05 | 4.6e-05 | 3.4e-05 | 7.5e-04 |
| Central Atlantic Call Area A | 1.0e-04 | 2.1e-04 | 4.6e-04 | 2.0e-04 | 8.0e-06 | 1.9e-07 | 4.5e-09 | 3.2e-08 | 1.2e-06 | 5.0e-05 | 1.2e-04 | 3.9e-05 | 1.2e-03 |
| Central Atlantic Draft WEA Primary A | 2.5e-05 | 5.1e-05 | 1.0e-04 | 3.9e-05 | 1.5e-06 | 3.6e-08 | 8.6e-10 | 5.9e-09 | 2.2e-07 | 8.7e-06 | 2.2e-05 | 8.5e-06 | 2.6e-04 |
| Central Atlantic Draft WEA Secondary A | 5.3e-05 | 1.1e-04 | 2.5e-04 | 1.0e-04 | 4.1e-06 | 9.8e-08 | 2.3e-09 | 1.6e-08 | 6.0e-07 | 2.4e-05 | 6.0e-05 | 2.0e-05 | 6.2e-04 |
| Central Atlantic Call Area B | 2.6e-04 | 4.1e-04 | 8.1e-04 | 3.4e-04 | 2.1e-05 | 2.7e-07 | 9.7e-09 | 5.8e-08 | 1.9e-06 | 1.1e-04 | 4.1e-04 | 1.4e-04 | 2.5e-03 |
| Central Atlantic Draft WEA Primary B1 | 2.6e-05 | 3.6e-05 | 5.4e-05 | 1.6e-05 | 8.6e-07 | 9.1e-09 | 3.1e-10 | 1.7e-09 | 7.0e-08 | 2.7e-06 | 1.4e-05 | 8.3e-06 | 1.6e-04 |
| Central Atlantic Draft WEA Secondary B1 | 7.9e-06 | 1.2e-05 | 1.9e-05 | 6.7e-06 | 3.4e-07 | 4.1e-09 | 1.4e-10 | 8.1e-10 | 3.4e-08 | 1.4e-06 | 6.5e-06 | 2.9e-06 | 5.7e-05 |
| Central Atlantic Draft WEA Primary B2 | 5.5e-05 | 9.2e-05 | 2.0e-04 | 8.5e-05 | 6.4e-06 | 7.2e-08 | 2.8e-09 | 1.6e-08 | 4.9e-07 | 3.0e-05 | 1.1e-04 | 3.7e-05 | 6.2e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.4e-05 | 2.5e-05 | 6.4e-05 | 3.1e-05 | 2.2e-06 | 2.9e-08 | 1.1e-09 | 6.8e-09 | 2.0e-07 | 1.5e-05 | 4.8e-05 | 1.2e-05 | 2.1e-04 |
| Central Atlantic Call Area C | 4.5e-05 | 1.1e-04 | 1.7e-04 | 7.2e-05 | 6.3e-06 | 5.6e-08 | 1.7e-09 | 1.0e-08 | 3.4e-07 | 1.6e-05 | 6.6e-05 | 3.5e-05 | 5.1e-04 |
| Central Atlantic Draft WEA Primary C | 2.8e-05 | 6.7e-05 | 1.1e-04 | 4.5e-05 | 3.9e-06 | 3.4e-08 | 1.0e-09 | 6.0e-09 | 2.1e-07 | 9.2e-06 | 4.0e-05 | 2.2e-05 | 3.2e-04 |
| Central Atlantic Draft WEA Secondary C | 1.4e-05 | 3.1e-05 | 5.0e-05 | 2.2e-05 | 1.9e-06 | 1.8e-08 | 5.5e-10 | 3.3e-09 | 1.1e-07 | 5.7e-06 | 2.1e-05 | 1.1e-05 | 1.6e-04 |
| Central Atlantic Call Area D | 1.0e-04 | 2.6e-04 | 4.6e-04 | 1.6e-04 | 1.2e-05 | 7.9e-08 | 1.8e-09 | 1.3e-08 | 5.7e-07 | 2.1e-05 | 1.3e-04 | 9.0e-05 | 1.2e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 4.2e-05 | 1.2e-04 | 2.1e-04 | 7.2e-05 | 5.2e-06 | 3.2e-08 | 6.9e-10 | 4.9e-09 | 2.3e-07 | 6.1e-06 | 5.2e-05 | 3.8e-05 | 5.4e-04 |
| Central Atlantic Draft WEA Secondary D | 1.0e-05 | 2.7e-05 | 4.5e-05 | 1.2e-05 | 8.0e-07 | 4.0e-09 | 7.6e-11 | 5.5e-10 | 2.7e-08 | 6.2e-07 | 8.3e-06 | 7.4e-06 | 1.1e-04 |
| Central Atlantic Call Area E | 1.5e-06 | 1.3e-05 | 1.3e-05 | 1.9e-05 | 1.8e-06 | 8.6e-08 | 2.8e-09 | 1.5e-08 | 2.6e-07 | 2.0e-06 | 8.6e-06 | 3.0e-06 | 6.3e-05 |
| Central Atlantic Draft WEA Primary E1 | 4.2e-07 | 2.3e-06 | 2.4e-06 | 4.3e-06 | 3.9e-07 | 1.4e-08 | 6.9e-10 | 3.7e-09 | 4.9e-08 | 2.6e-07 | 1.6e-06 | 4.4e-07 | 1.2e-05 |
| Central Atlantic Draft WEA Primary E2 | 8.3e-08 | 1.2e-06 | 8.3e-07 | 1.7e-06 | 2.2e-07 | 1.1e-08 | 3.0e-10 | 1.6e-09 | 3.3e-08 | 9.5e-08 | 7.8e-07 | 3.0e-07 | 5.3e-06 |
| Central Atlantic Call Area F | 9.1e-07 | 1.6e-06 | 5.2e-06 | 8.1e-06 | 8.2e-07 | 1.3e-08 | 8.4e-10 | 4.3e-09 | 7.4e-08 | 5.0e-06 | 2.6e-06 | 1.5e-06 | 2.6e-05 |
| Central Atlantic Draft WEA Primary F | 1.5e-08 | 6.3e-08 | 1.1e-07 | 2.4e-07 | 2.6e-08 | 1.6e-10 | 2.0e-11 | 6.1e-11 | 8.3e-10 | 2.1e-08 | 1.9e-08 | 1.4e-08 | 5.2e-07 |
| Virginia OCS-A 0483 | 1.7e-04 | 3.5e-04 | 4.9e-04 | 9.5e-05 | 6.5e-06 | 2.7e-08 | 4.7e-10 | 2.8e-09 | 1.3e-07 | 3.2e-06 | 6.7e-05 | 7.1e-05 | 1.2e-03 |
| Virginia OCS-A 0497 | 2.3e-05 | 3.5e-05 | 4.4e-05 | 4.4e-06 | 2.6e-07 | 4.4e-10 | 5.3e-12 | 4.4e-11 | 2.3e-09 | 1.2e-07 | 4.9e-06 | 7.9e-06 | 1.2e-04 |
| North Carolina OCS-A 0508 | 1.6e-05 | 4.0e-05 | 9.9e-05 | 3.7e-05 | 2.6e-06 | 1.4e-08 | 3.2e-10 | 2.3e-09 | 1.1e-07 | 3.0e-06 | 2.4e-05 | 2.0e-05 | 2.4e-04 |
| North Carolina OCS-A 0545 | 1.1e-06 | 1.6e-06 | 1.9e-06 | 2.0e-07 | 1.2e-09 | 1.4e-11 | 7.2e-12 | 3.3e-11 | 9.5e-11 | 2.0e-10 | 1.9e-08 | 3.6e-07 | 5.2e-06 |
| North Carolina OCS-A 0546 | 1.1e-06 | 1.7e-06 | 1.8e-06 | 1.9e-07 | 1.1e-09 | 1.4e-11 | 7.2e-12 | 3.2e-11 | 9.9e-11 | 1.9e-10 | 1.7e-08 | 3.4e-07 | 5.1e-06 |
| South Carolina Call Area - Grand Strand | 1.6e-04 | 2.6e-04 | 2.1e-04 | 1.4e-05 | 3.0e-08 | 1.8e-10 | 7.3e-11 | 4.8e-10 | 3.5e-09 | 6.2e-08 | 1.4e-05 | 1.2e-04 | 7.8e-04 |
| South Carolina Call Area - Cape Romain | 6.5e-05 | 8.6e-05 | 5.9e-05 | 3.4e-06 | 6.8e-09 | 4.1e-11 | 1.6e-11 | 1.2e-10 | 8.5e-10 | 1.4e-08 | 3.0e-06 | 4.4e-05 | 2.6e-04 |
| South Carolina Call Area - Winyah | 2.9e-08 | 7.1e-08 | 5.6e-08 | 8.8e-09 | 2.5e-10 | 4.0e-12 | 1.7e-12 | 1.1e-11 | 3.2e-11 | 1.3e-11 | 3.4e-10 | 4.7e-09 | 1.7e-07 |
| South Carolina Call Area - Charleston | 2.2e-07 | 3.4e-07 | 5.3e-07 | 5.9e-08 | 5.3e-10 | 5.7e-12 | 2.3e-12 | 1.6e-11 | 5.4e-11 | 5.6e-11 | 1.9e-09 | 5.9e-08 | 1.2e-06 |
| All planning areas | 1.9e-03 | 3.3e-03 | 6.9e-03 | 7.8e-03 | 1.0e-03 | 7.4e-05 | 6.9e-05 | 4.0e-04 | 4.2e-03 | 6.0e-03 | 2.8e-03 | 1.5e-03 | 3.6e-02 |
| All lease areas | 1.9e-03 | 3.2e-03 | 5.2e-03 | 2.6e-03 | 1.1e-04 | 8.9e-06 | 5.6e-07 | 2.0e-06 | 5.8e-05 | 8.7e-04 | 8.1e-04 | 6.9e-04 | 1.5e-02 |
| All planning and lease areas | 3.7e-03 | 6.5e-03 | 1.2e-02 | 1.0e-02 | 1.1e-03 | 8.2e-05 | 7.0e-05 | 4.0e-04 | 4.3e-03 | 6.9e-03 | 3.6e-03 | 2.2e-03 | 5.2e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-3. Predicted proportional abundance of White-winged Scoter by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.9e-04 | 1.1e-03 | 3.6e-03 | 3.6e-03 | 3.4e-04 | 1.4e-05 | 2.3e-06 | 1.2e-05 | 2.8e-04 | 1.6e-03 | 1.1e-03 | 3.0e-04 | 1.2e-02 |
| Gulf of Maine Request for Competitive Interest | 3.7e-06 | 1.2e-05 | 2.9e-05 | 5.2e-05 | 4.6e-06 | 1.5e-07 | 2.4e-08 | 1.1e-07 | 2.8e-06 | 2.2e-05 | 1.4e-05 | 2.6e-06 | 1.4e-04 |
| Marine Research Array Requested Lease | 6.3e-07 | 1.9e-06 | 4.5e-06 | 7.9e-06 | 7.4e-07 | 2.1e-08 | 3.4e-09 | 1.5e-08 | 4.2e-07 | 3.4e-06 | 2.1e-06 | 4.1e-07 | 2.2e-05 |
| Rhode Island OCS-A 0506 | 3.3e-06 | 5.8e-06 | 7.7e-06 | 1.4e-06 | 3.1e-08 | 6.8e-10 | 6.7e-11 | 3.5e-10 | 3.0e-08 | 6.0e-07 | 1.6e-06 | 1.8e-06 | 2.2e-05 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.9e-04 | 7.1e-04 | 1.3e-03 | 4.1e-04 | 1.6e-05 | 3.5e-07 | 2.0e-08 | 1.1e-07 | 8.9e-06 | 1.1e-04 | 1.6e-04 | 1.3e-04 | 3.1e-03 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.7e-05 | 9.6e-05 | 1.5e-04 | 5.4e-05 | 2.4e-06 | 4.6e-08 | 2.9e-09 | 1.7e-08 | 1.3e-06 | 1.4e-05 | 1.9e-05 | 1.7e-05 | 3.9e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.3e-04 | 4.0e-04 | 6.9e-04 | 2.9e-04 | 1.3e-05 | 2.5e-07 | 1.8e-08 | 1.0e-07 | 5.8e-06 | 6.3e-05 | 8.2e-05 | 5.9e-05 | 1.7e-03 |
| Massachusetts OCS-A 0500 | 1.8e-04 | 4.5e-04 | 8.6e-04 | 3.7e-04 | 2.0e-05 | 4.0e-07 | 2.9e-08 | 1.4e-07 | 9.4e-06 | 9.1e-05 | 1.2e-04 | 8.0e-05 | 2.2e-03 |
| Massachusetts OCS-A 0501 | 1.7e-04 | 2.9e-04 | 7.5e-04 | 3.4e-04 | 2.0e-05 | 4.1e-07 | 2.0e-08 | 8.8e-08 | 8.0e-06 | 7.1e-05 | 8.2e-05 | 6.9e-05 | 1.8e-03 |
| Massachusetts OCS-A 0534 | 8.6e-05 | 2.4e-04 | 5.9e-04 | 3.5e-04 | 2.1e-05 | 4.5e-07 | 2.7e-08 | 1.4e-07 | 8.1e-06 | 6.5e-05 | 7.0e-05 | 4.0e-05 | 1.5e-03 |
| Massachusetts OCS-A 0520 | 1.2e-04 | 3.2e-04 | 8.7e-04 | 6.5e-04 | 3.9e-05 | 8.6e-07 | 4.9e-08 | 2.3e-07 | 1.1e-05 | 8.5e-05 | 9.0e-05 | 5.7e-05 | 2.2e-03 |
| Massachusetts OCS-A 0521 | 1.3e-04 | 3.4e-04 | 8.6e-04 | 7.2e-04 | 4.6e-05 | 1.1e-06 | 6.3e-08 | 2.9e-07 | 1.0e-05 | 7.7e-05 | 9.6e-05 | 6.2e-05 | 2.3e-03 |
| Massachusetts OCS-A 0522 | 1.2e-04 | 2.9e-04 | 6.6e-04 | 6.1e-04 | 4.3e-05 | 1.0e-06 | 7.9e-08 | 2.7e-07 | 8.9e-06 | 7.1e-05 | 1.0e-04 | 6.5e-05 | 2.0e-03 |
| New York WEA - Fairways North | 7.6e-05 | 2.9e-04 | 5.5e-04 | 2.1e-04 | 8.8e-06 | 1.6e-07 | 8.6e-09 | 4.0e-08 | 1.8e-06 | 3.0e-05 | 4.7e-05 | 3.6e-05 | 1.3e-03 |
| New York WEA - Fairways South | 2.6e-05 | 1.0e-04 | 1.8e-04 | 6.5e-05 | 2.4e-06 | 4.1e-08 | 1.3e-09 | 7.5e-09 | 4.8e-07 | 8.0e-06 | 1.6e-05 | 1.4e-05 | 4.1e-04 |
| New York OCS-A 0512 | 1.3e-04 | 4.2e-04 | 7.0e-04 | 2.1e-04 | 7.0e-06 | 1.0e-07 | 3.4e-09 | 1.9e-08 | 1.4e-06 | 2.8e-05 | 6.2e-05 | 7.7e-05 | 1.6e-03 |
| NY/NJ OCS-A 0544 | 2.5e-05 | 1.1e-04 | 2.3e-04 | 1.1e-04 | 4.1e-06 | 6.1e-08 | 1.6e-09 | 9.0e-09 | 7.5e-07 | 1.2e-05 | 2.2e-05 | 1.7e-05 | 5.3e-04 |
| NY/NJ OCS-A 0537 | 5.7e-06 | 2.4e-05 | 1.2e-04 | 1.0e-04 | 4.3e-06 | 5.6e-08 | 2.0e-09 | 7.4e-09 | 6.3e-07 | 9.2e-06 | 1.3e-05 | 8.0e-06 | 2.9e-04 |
| NY/NJ OCS-A 0538 | 1.7e-05 | 3.9e-05 | 1.1e-04 | 9.0e-05 | 4.4e-06 | 1.0e-07 | 2.7e-09 | 1.1e-08 | 8.7e-07 | 1.1e-05 | 2.2e-05 | 1.5e-05 | 3.1e-04 |
| NY/NJ OCS-A 0539 | 3.7e-05 | 1.1e-04 | 2.1e-04 | 1.4e-04 | 6.7e-06 | 1.5e-07 | 3.4e-09 | 1.8e-08 | 1.1e-06 | 2.3e-05 | 4.2e-05 | 3.1e-05 | 6.0e-04 |
| NY/NJ OCS-A 0541 | 2.8e-05 | 8.6e-05 | 1.4e-04 | 7.3e-05 | 3.1e-06 | 6.8e-08 | 1.4e-09 | 9.8e-09 | 5.4e-07 | 1.4e-05 | 2.9e-05 | 2.2e-05 | 3.9e-04 |
| NY/NJ OCS-A 0542 | 1.5e-05 | 4.9e-05 | 9.7e-05 | 7.5e-05 | 3.4e-06 | 6.0e-08 | 1.4e-09 | 7.2e-09 | 4.6e-07 | 1.1e-05 | 2.0e-05 | 1.4e-05 | 2.8e-04 |
| New Jersey OCS-A 0549 | 3.8e-04 | 7.1e-04 | 6.5e-04 | 1.3e-04 | 3.5e-06 | 7.1e-08 | 3.2e-09 | 2.2e-08 | 1.2e-06 | 3.3e-05 | 1.0e-04 | 2.1e-04 | 2.2e-03 |
| New Jersey OCS-A 0499 | 3.0e-04 | 6.5e-04 | 6.1e-04 | 1.3e-04 | 3.4e-06 | 6.2e-08 | 2.2e-09 | 1.6e-08 | 1.0e-06 | 3.2e-05 | 8.8e-05 | 1.7e-04 | 2.0e-03 |
| New Jersey OCS-A 0498 | 2.3e-04 | 5.1e-04 | 4.8e-04 | 9.7e-05 | 2.4e-06 | 4.0e-08 | 1.4e-09 | 9.8e-09 | 7.0e-07 | 2.3e-05 | 7.2e-05 | 1.4e-04 | 1.6e-03 |
| New Jersey OCS-A 0532 | 4.1e-04 | 8.1e-04 | 6.7e-04 | 1.2e-04 | 2.7e-06 | 4.4e-08 | 1.9e-09 | 1.4e-08 | 7.6e-07 | 3.1e-05 | 1.3e-04 | 2.9e-04 | 2.5e-03 |
| Delaware OCS-A 0482 | 2.1e-04 | 5.0e-04 | 4.6e-04 | 9.0e-05 | 2.0e-06 | 3.0e-08 | 1.4e-09 | 9.1e-09 | 4.6e-07 | 2.0e-05 | 7.4e-05 | 1.4e-04 | 1.5e-03 |
| Delaware OCS-A 0519 | 4.3e-05 | 1.1e-04 | 1.2e-04 | 2.6e-05 | 6.3e-07 | 9.3e-09 | 4.4e-10 | 3.0e-09 | 1.7e-07 | 6.9e-06 | 1.9e-05 | 3.1e-05 | 3.6e-04 |
| Maryland OCS-A 0490 | 1.5e-04 | 3.3e-04 | 3.2e-04 | 6.9e-05 | 1.7e-06 | 2.6e-08 | 1.4e-09 | 8.2e-09 | 3.4e-07 | 1.4e-05 | 5.9e-05 | 1.0e-04 | 1.0e-03 |
| Central Atlantic Call Area A | 1.3e-04 | 3.7e-04 | 4.7e-04 | 1.4e-04 | 3.9e-06 | 6.4e-08 | 2.3e-09 | 1.8e-08 | 1.0e-06 | 4.3e-05 | 9.8e-05 | 1.0e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Primary A | 3.2e-05 | 9.0e-05 | 1.1e-04 | 3.0e-05 | 8.0e-07 | 1.3e-08 | 4.8e-10 | 3.7e-09 | 2.2e-07 | 9.0e-06 | 2.0e-05 | 2.4e-05 | 3.1e-04 |
| Central Atlantic Draft WEA Secondary A | 7.1e-05 | 2.0e-04 | 2.5e-04 | 7.6e-05 | 2.0e-06 | 3.3e-08 | 1.2e-09 | 9.7e-09 | 5.5e-07 | 2.3e-05 | 5.2e-05 | 5.5e-05 | 7.3e-04 |
| Central Atlantic Call Area B | 1.6e-04 | 3.3e-04 | 4.8e-04 | 1.5e-04 | 4.1e-06 | 6.1e-08 | 2.0e-09 | 1.2e-08 | 6.0e-07 | 2.8e-05 | 9.8e-05 | 1.4e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.6e-05 | 3.6e-05 | 4.3e-05 | 1.0e-05 | 2.6e-07 | 3.2e-09 | 7.8e-11 | 7.4e-10 | 3.4e-08 | 1.8e-06 | 7.0e-06 | 1.3e-05 | 1.3e-04 |
| Central Atlantic Draft WEA Secondary B1 | 5.1e-06 | 1.1e-05 | 1.5e-05 | 3.9e-06 | 9.9e-08 | 1.3e-09 | 3.7e-11 | 3.6e-10 | 1.3e-08 | 7.1e-07 | 2.6e-06 | 4.1e-06 | 4.3e-05 |
| Central Atlantic Draft WEA Primary B2 | 2.8e-05 | 5.0e-05 | 8.6e-05 | 3.3e-05 | 8.5e-07 | 1.3e-08 | 4.3e-10 | 2.1e-09 | 9.8e-08 | 4.9e-06 | 1.8e-05 | 2.5e-05 | 2.5e-04 |
| Central Atlantic Draft WEA Secondary B2 | 7.7e-06 | 1.3e-05 | 2.4e-05 | 1.0e-05 | 3.0e-07 | 4.9e-09 | 1.7e-10 | 7.3e-10 | 3.4e-08 | 1.6e-06 | 5.5e-06 | 7.3e-06 | 6.9e-05 |
| Central Atlantic Call Area C | 2.7e-05 | 5.9e-05 | 9.2e-05 | 4.1e-05 | 1.0e-06 | 1.2e-08 | 4.6e-10 | 2.3e-09 | 7.8e-08 | 4.1e-06 | 1.8e-05 | 2.6e-05 | 2.7e-04 |
| Central Atlantic Draft WEA Primary C | 1.8e-05 | 3.9e-05 | 6.0e-05 | 2.7e-05 | 6.7e-07 | 7.7e-09 | 2.9e-10 | 1.4e-09 | 4.9e-08 | 2.7e-06 | 1.2e-05 | 1.7e-05 | 1.8e-04 |
| Central Atlantic Draft WEA Secondary C | 7.6e-06 | 1.6e-05 | 2.5e-05 | 1.1e-05 | 2.8e-07 | 3.6e-09 | 1.4e-10 | 7.7e-10 | 2.4e-08 | 1.2e-06 | 4.8e-06 | 7.1e-06 | 7.4e-05 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 4.7e-05 | 1.3e-04 | 2.0e-04 | 7.3e-05 | 2.1e-06 | 2.0e-08 | 4.2e-10 | 3.3e-09 | 1.6e-07 | 5.7e-06 | 3.5e-05 | 5.3e-05 | 5.5e-04 |
| Central Atlantic Draft WEA Primary D | 2.2e-05 | 6.0e-05 | 9.7e-05 | 3.6e-05 | 1.1e-06 | 9.7e-09 | 2.0e-10 | 1.9e-09 | 8.6e-08 | 2.8e-06 | 1.7e-05 | 2.6e-05 | 2.6e-04 |
| Central Atlantic Draft WEA Secondary D | 4.9e-06 | 1.4e-05 | 2.0e-05 | 5.9e-06 | 1.6e-07 | 1.3e-09 | 2.5e-11 | 2.8e-10 | 1.4e-08 | 4.1e-07 | 2.9e-06 | 5.0e-06 | 5.3e-05 |
| Central Atlantic Call Area E | 5.1e-13 | 1.7e-12 | 3.9e-12 | 2.3e-12 | 8.6e-14 | 4.3e-15 | 1.6e-16 | 3.4e-16 | 7.4e-15 | 1.7e-13 | 8.8e-13 | 8.5e-13 | 1.0e-11 |
| Central Atlantic Draft WEA Primary E1 | 4.9e-19 | 4.9e-19 | 5.0e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 5.9e-18 |
| Central Atlantic Draft WEA Primary E2 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 4.3e-18 |
| Central Atlantic Call Area F | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 1.0e-17 |
| Central Atlantic Draft WEA Primary F | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 5.2e-19 |
| Virginia OCS-A 0483 | 6.9e-05 | 1.6e-04 | 1.9e-04 | 4.6e-05 | 1.0e-06 | 6.7e-09 | 3.8e-10 | 2.1e-09 | 1.0e-07 | 3.5e-06 | 2.3e-05 | 5.0e-05 | 5.5e-04 |
| Virginia OCS-A 0497 | 3.3e-06 | 7.4e-06 | 7.3e-06 | 1.2e-06 | 2.8e-08 | 1.5e-10 | 4.2e-12 | 2.7e-11 | 2.2e-09 | 1.0e-07 | 1.0e-06 | 2.3e-06 | 2.3e-05 |
| North Carolina OCS-A 0508 | 7.3e-06 | 2.4e-05 | 4.4e-05 | 1.8e-05 | 6.2e-07 | 5.8e-09 | 1.4e-10 | 1.1e-09 | 4.5e-08 | 1.6e-06 | 8.9e-06 | 1.1e-05 | 1.2e-04 |
| North Carolina OCS-A 0545 | 2.5e-08 | 1.5e-07 | 7.5e-08 | 6.4e-09 | 8.0e-11 | 5.1e-13 | 8.7e-14 | 1.3e-12 | 5.5e-11 | 8.9e-10 | 1.0e-08 | 9.8e-09 | 2.8e-07 |
| North Carolina OCS-A 0546 | 1.9e-08 | 8.4e-08 | 5.2e-08 | 4.8e-09 | 6.2e-11 | 3.9e-13 | 6.0e-14 | 9.8e-13 | 4.2e-11 | 6.7e-10 | 7.8e-09 | 6.8e-09 | 1.8e-07 |
| South Carolina Call Area - Grand Strand | 1.2e-05 | 3.8e-05 | 2.3e-05 | 1.5e-06 | 5.8e-09 | 2.6e-11 | 1.6e-12 | 4.1e-11 | 3.2e-09 | 2.0e-07 | 4.1e-06 | 8.8e-06 | 8.7e-05 |
| South Carolina Call Area - Cape Romain | 3.3e-06 | 8.4e-06 | 4.2e-06 | 2.5e-07 | 6.9e-10 | 4.6e-12 | 1.5e-13 | 5.0e-12 | 4.2e-10 | 3.5e-08 | 7.9e-07 | 2.0e-06 | 1.9e-05 |
| South Carolina Call Area - Winyah | 3.6e-10 | 1.0e-09 | 1.2e-09 | 2.2e-10 | 8.1e-12 | 1.4e-13 | 2.1e-14 | 4.8e-13 | 1.9e-11 | 9.3e-11 | 2.4e-10 | 1.5e-10 | 3.3e-09 |
| South Carolina Call Area - Charleston | 7.1e-09 | 1.1e-08 | 2.0e-08 | 2.5e-09 | 4.2e-11 | 4.2e-13 | 2.6e-14 | 6.6e-13 | 5.3e-11 | 5.2e-10 | 3.1e-09 | 3.3e-09 | 4.7e-08 |
| All planning areas | 8.8e-04 | 2.5e-03 | 5.6e-03 | 4.3e-03 | 3.6e-04 | 1.4e-05 | 2.4e-06 | 1.2e-05 | 2.9e-04 | 1.8e-03 | 1.5e-03 | 6.8e-04 | 1.8e-02 |
| All lease areas | 3.3e-03 | 7.8e-03 | 1.2e-02 | 5.3e-03 | 2.7e-04 | 5.8e-06 | 3.4e-07 | 1.6e-06 | 8.3e-05 | 9.2e-04 | 1.6e-03 | 1.9e-03 | 3.3e-02 |
| All planning and lease areas | 4.2e-03 | 1.0e-02 | 1.8e-02 | 9.6e-03 | 6.3e-04 | 2.0e-05 | 2.7e-06 | 1.4e-05 | 3.7e-04 | 2.7e-03 | 3.1e-03 | 2.6e-03 | 5.1e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-4. Predicted proportional abundance of Black Scoter by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 9.6e-04 | 1.7e-03 | 2.6e-03 | 3.1e-03 | 5.5e-04 | 9.0e-05 | 4.7e-05 | 3.0e-04 | 6.9e-03 | 1.1e-02 | 4.0e-03 | 9.9e-04 | 3.2e-02 |
| Gulf of Maine Request for Competitive Interest | 2.8e-06 | 5.9e-06 | 1.3e-05 | 2.0e-05 | 3.2e-06 | 5.3e-07 | 1.7e-07 | 1.1e-06 | 2.9e-05 | 6.2e-05 | 1.5e-05 | 4.7e-06 | 1.6e-04 |
| Marine Research Array Requested Lease | 4.6e-07 | 8.5e-07 | 2.0e-06 | 2.9e-06 | 4.9e-07 | 7.8e-08 | 2.6e-08 | 1.6e-07 | 4.3e-06 | 9.0e-06 | 2.3e-06 | 7.2e-07 | 2.3e-05 |
| Rhode Island OCS-A 0506 | 1.7e-06 | 2.4e-06 | 1.4e-06 | 3.1e-07 | 2.7e-08 | 1.5e-09 | 1.9e-10 | 1.2e-09 | 4.1e-08 | 5.9e-07 | 1.0e-06 | 1.0e-06 | 8.5e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.0e-05 | 6.1e-05 | 7.4e-05 | 4.3e-05 | 4.5e-06 | 3.2e-07 | 3.6e-08 | 2.3e-07 | 7.8e-06 | 5.9e-05 | 4.8e-05 | 2.6e-05 | 3.5e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.7e-06 | 1.1e-05 | 1.1e-05 | 7.4e-06 | 7.8e-07 | 5.2e-08 | 5.3e-09 | 3.6e-08 | 1.1e-06 | 7.3e-06 | 7.4e-06 | 4.0e-06 | 5.5e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 3.1e-05 | 6.3e-05 | 6.3e-05 | 5.2e-05 | 5.6e-06 | 4.6e-07 | 4.9e-08 | 2.7e-07 | 7.7e-06 | 5.0e-05 | 5.6e-05 | 2.9e-05 | 3.6e-04 |
| Massachusetts OCS-A 0500 | 3.1e-05 | 5.0e-05 | 6.1e-05 | 4.7e-05 | 5.8e-06 | 5.5e-07 | 6.4e-08 | 3.6e-07 | 1.1e-05 | 6.3e-05 | 6.2e-05 | 2.8e-05 | 3.6e-04 |
| Massachusetts OCS-A 0501 | 1.8e-05 | 2.8e-05 | 2.8e-05 | 2.1e-05 | 2.9e-06 | 2.9e-07 | 3.0e-08 | 1.8e-07 | 6.4e-06 | 3.5e-05 | 2.8e-05 | 1.6e-05 | 1.8e-04 |
| Massachusetts OCS-A 0534 | 1.4e-05 | 2.6e-05 | 2.6e-05 | 2.3e-05 | 3.3e-06 | 3.8e-07 | 4.1e-08 | 2.4e-07 | 7.0e-06 | 3.1e-05 | 3.6e-05 | 1.5e-05 | 1.8e-04 |
| Massachusetts OCS-A 0520 | 1.9e-05 | 2.9e-05 | 2.8e-05 | 2.9e-05 | 4.4e-06 | 5.7e-07 | 6.2e-08 | 3.7e-07 | 1.0e-05 | 4.2e-05 | 4.6e-05 | 2.1e-05 | 2.3e-04 |
| Massachusetts OCS-A 0521 | 2.0e-05 | 3.1e-05 | 2.8e-05 | 3.1e-05 | 4.6e-06 | 6.5e-07 | 7.3e-08 | 4.3e-07 | 1.0e-05 | 4.5e-05 | 4.8e-05 | 2.2e-05 | 2.4e-04 |
| Massachusetts OCS-A 0522 | 2.5e-05 | 3.4e-05 | 3.0e-05 | 3.0e-05 | 4.7e-06 | 7.2e-07 | 9.4e-08 | 5.1e-07 | 1.2e-05 | 6.0e-05 | 5.5e-05 | 2.8e-05 | 2.8e-04 |
| New York WEA - Fairways North | 2.2e-05 | 6.8e-05 | 9.8e-05 | 4.9e-05 | 5.3e-06 | 3.3e-07 | 2.6e-08 | 1.6e-07 | 3.7e-06 | 3.2e-05 | 4.4e-05 | 2.1e-05 | 3.4e-04 |
| New York WEA - Fairways South | 7.0e-06 | 2.5e-05 | 3.3e-05 | 1.3e-05 | 1.6e-06 | 6.4e-08 | 4.6e-09 | 3.2e-08 | 9.6e-07 | 7.6e-06 | 1.4e-05 | 7.5e-06 | 1.1e-04 |
| New York OCS-A 0512 | 3.4e-05 | 9.3e-05 | 1.3e-04 | 4.3e-05 | 5.7e-06 | 1.7e-07 | 1.2e-08 | 7.5e-08 | 2.8e-06 | 2.3e-05 | 6.3e-05 | 4.0e-05 | 4.4e-04 |
| NY/NJ OCS-A 0544 | 7.0e-06 | 1.7e-05 | 3.5e-05 | 1.8e-05 | 2.4e-06 | 8.7e-08 | 6.6e-09 | 4.3e-08 | 1.5e-06 | 1.2e-05 | 2.5e-05 | 1.0e-05 | 1.3e-04 |
| NY/NJ OCS-A 0537 | 4.0e-06 | 5.1e-06 | 9.6e-06 | 1.4e-05 | 2.1e-06 | 1.4e-07 | 1.1e-08 | 5.9e-08 | 1.7e-06 | 1.3e-05 | 1.6e-05 | 9.8e-06 | 7.6e-05 |
| NY/NJ OCS-A 0538 | 1.3e-05 | 1.4e-05 | 1.5e-05 | 2.1e-05 | 3.9e-06 | 2.3e-07 | 1.7e-08 | 9.6e-08 | 3.3e-06 | 2.1e-05 | 4.1e-05 | 1.9e-05 | 1.5e-04 |
| NY/NJ OCS-A 0539 | 2.0e-05 | 2.2e-05 | 2.3e-05 | 2.5e-05 | 4.7e-06 | 2.4e-07 | 1.7e-08 | 1.0e-07 | 3.8e-06 | 3.4e-05 | 7.5e-05 | 3.0e-05 | 2.4e-04 |
| NY/NJ OCS-A 0541 | 1.1e-05 | 1.4e-05 | 1.6e-05 | 1.7e-05 | 3.0e-06 | 9.8e-08 | 6.7e-09 | 4.9e-08 | 1.8e-06 | 1.8e-05 | 4.3e-05 | 1.8e-05 | 1.4e-04 |
| NY/NJ OCS-A 0542 | 9.5e-06 | 1.2e-05 | 1.3e-05 | 1.5e-05 | 3.1e-06 | 1.2e-07 | 8.9e-09 | 5.5e-08 | 2.0e-06 | 1.9e-05 | 4.5e-05 | 1.7e-05 | 1.4e-04 |
| New Jersey OCS-A 0549 | 1.4e-04 | 2.2e-04 | 1.6e-04 | 4.7e-05 | 5.8e-06 | 1.0e-07 | 1.3e-08 | 9.6e-08 | 2.7e-06 | 3.0e-05 | 1.2e-04 | 9.2e-05 | 8.2e-04 |
| New Jersey OCS-A 0499 | 9.6e-05 | 1.8e-04 | 1.4e-04 | 4.4e-05 | 5.4e-06 | 8.8e-08 | 9.9e-09 | 8.3e-08 | 2.7e-06 | 3.0e-05 | 1.1e-04 | 7.1e-05 | 6.8e-04 |
| New Jersey OCS-A 0498 | 7.4e-05 | 1.4e-04 | 1.1e-04 | 3.3e-05 | 3.9e-06 | 5.6e-08 | 6.2e-09 | 5.5e-08 | 1.8e-06 | 2.3e-05 | 1.0e-04 | 5.9e-05 | 5.5e-04 |
| New Jersey OCS-A 0532 | 1.6e-04 | 2.7e-04 | 1.7e-04 | 4.6e-05 | 5.3e-06 | 7.2e-08 | 9.4e-09 | 7.6e-08 | 2.2e-06 | 3.5e-05 | 1.9e-04 | 1.3e-04 | 1.0e-03 |
| Delaware OCS-A 0482 | 6.8e-05 | 1.2e-04 | 1.0e-04 | 2.9e-05 | 3.4e-06 | 4.5e-08 | 6.3e-09 | 4.6e-08 | 1.3e-06 | 1.6e-05 | 8.4e-05 | 5.8e-05 | 4.9e-04 |
| Delaware OCS-A 0519 | 1.5e-05 | 2.8e-05 | 2.8e-05 | 9.6e-06 | 1.2e-06 | 1.6e-08 | 2.2e-09 | 1.7e-08 | 5.1e-07 | 5.6e-06 | 2.6e-05 | 1.6e-05 | 1.3e-04 |
| Maryland OCS-A 0490 | 7.6e-05 | 1.1e-04 | 9.6e-05 | 3.5e-05 | 4.6e-06 | 5.6e-08 | 8.4e-09 | 5.4e-08 | 1.4e-06 | 1.5e-05 | 1.0e-04 | 7.7e-05 | 5.2e-04 |
| Central Atlantic Call Area A | 6.3e-05 | 1.2e-04 | 1.5e-04 | 7.3e-05 | 1.1e-05 | 1.6e-07 | 1.6e-08 | 1.3e-07 | 4.2e-06 | 4.9e-05 | 2.0e-04 | 9.2e-05 | 7.5e-04 |
| Central Atlantic Draft WEA Primary A | 1.3e-05 | 2.8e-05 | 3.2e-05 | 1.4e-05 | 2.0e-06 | 2.9e-08 | 3.0e-09 | 2.5e-08 | 8.5e-07 | 9.2e-06 | 3.5e-05 | 1.8e-05 | 1.5e-04 |
| Central Atlantic Draft WEA Secondary A | 3.2e-05 | 6.4e-05 | 7.7e-05 | 3.7e-05 | 5.5e-06 | 8.3e-08 | 7.9e-09 | 6.5e-08 | 2.2e-06 | 2.5e-05 | 9.9e-05 | 4.5e-05 | 3.9e-04 |
| Central Atlantic Call Area B | 4.8e-04 | 4.1e-04 | 5.2e-04 | 3.6e-04 | 4.9e-05 | 5.8e-07 | 6.0e-08 | 2.9e-07 | 9.0e-06 | 1.6e-04 | 9.7e-04 | 7.0e-04 | 3.7e-03 |
| Central Atlantic Draft WEA Primary B1 | 2.2e-05 | 2.3e-05 | 2.1e-05 | 1.0e-05 | 1.3e-06 | 1.4e-08 | 1.1e-09 | 6.9e-09 | 2.5e-07 | 3.5e-06 | 2.4e-05 | 2.6e-05 | 1.3e-04 |
| Central Atlantic Draft WEA Secondary B1 | 7.8e-06 | 8.1e-06 | 8.2e-06 | 4.2e-06 | 5.5e-07 | 6.1e-09 | 5.1e-10 | 3.3e-09 | 1.1e-07 | 1.6e-06 | 1.1e-05 | 1.0e-05 | 5.2e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.7e-04 | 1.3e-04 | 1.7e-04 | 1.3e-04 | 1.7e-05 | 2.0e-07 | 2.1e-08 | 9.1e-08 | 2.7e-06 | 4.9e-05 | 3.2e-04 | 2.5e-04 | 1.2e-03 |
| Central Atlantic Draft WEA Secondary B2 | 6.3e-05 | 4.9e-05 | 7.9e-05 | 6.0e-05 | 8.3e-06 | 1.0e-07 | 1.1e-08 | 4.9e-08 | 1.4e-06 | 2.8e-05 | 1.7e-04 | 1.0e-04 | 5.6e-04 |
| Central Atlantic Call Area C | 1.1e-04 | 1.0e-04 | 1.3e-04 | 1.1e-04 | 1.1e-05 | 1.2e-07 | 8.0e-09 | 3.9e-08 | 1.3e-06 | 1.7e-05 | 1.3e-04 | 1.6e-04 | 7.6e-04 |
| Central Atlantic Draft WEA Primary C | 8.1e-05 | 7.5e-05 | 9.7e-05 | 8.2e-05 | 9.0e-06 | 9.7e-08 | 6.4e-09 | 3.1e-08 | 1.0e-06 | 1.4e-05 | 1.0e-04 | 1.2e-04 | 5.8e-04 |
| Central Atlantic Draft WEA Secondary C | 1.7e-05 | 1.9e-05 | 2.2e-05 | 1.7e-05 | 1.8e-06 | 2.0e-08 | 1.2e-09 | 6.0e-09 | 2.0e-07 | 2.2e-06 | 1.9e-05 | 2.5e-05 | 1.2e-04 |
| Central Atlantic Call Area D | 1.4e-04 | 1.9e-04 | 2.0e-04 | 1.5e-04 | 1.2e-05 | 1.3e-07 | 5.7e-09 | 3.5e-08 | 1.5e-06 | 1.6e-05 | 1.4e-04 | 2.3e-04 | 1.1e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 6.1e-05 | 8.3e-05 | 9.4e-05 | 7.1e-05 | 5.3e-06 | 5.7e-08 | 2.4e-09 | 1.6e-08 | 6.9e-07 | 6.5e-06 | 5.9e-05 | 9.9e-05 | 4.8e-04 |
| Central Atlantic Draft WEA Secondary D | 1.2e-05 | 1.8e-05 | 1.7e-05 | 1.1e-05 | 7.7e-07 | 7.4e-09 | 3.0e-10 | 2.2e-09 | 9.4e-08 | 8.5e-07 | 9.8e-06 | 1.9e-05 | 8.9e-05 |
| Central Atlantic Call Area E | 1.8e-07 | 1.4e-07 | 4.1e-07 | 4.4e-07 | 6.0e-08 | 1.3e-09 | 1.5e-10 | 5.9e-10 | 1.0e-08 | 1.4e-07 | 4.8e-07 | 3.2e-07 | 2.2e-06 |
| Central Atlantic Draft WEA Primary E1 | 6.3e-09 | 6.2e-09 | 1.6e-08 | 1.5e-08 | 2.8e-09 | 6.0e-11 | 8.0e-12 | 3.3e-11 | 4.8e-10 | 2.5e-09 | 1.8e-08 | 9.2e-09 | 7.7e-08 |
| Central Atlantic Draft WEA Primary E2 | 1.1e-12 | 3.1e-12 | 5.3e-12 | 5.3e-12 | 1.2e-12 | 1.9e-14 | 2.1e-15 | 9.3e-15 | 1.9e-13 | 4.9e-13 | 3.4e-12 | 3.8e-12 | 2.4e-11 |
| Central Atlantic Call Area F | 8.9e-10 | 1.1e-09 | 1.6e-09 | 1.0e-09 | 1.3e-10 | 1.1e-12 | 1.2e-13 | 4.9e-13 | 1.1e-11 | 2.9e-10 | 2.2e-10 | 5.2e-10 | 5.9e-09 |
| Central Atlantic Draft WEA Primary F | 8.6e-14 | 2.2e-13 | 1.5e-13 | 2.3e-13 | 2.2e-14 | 2.1e-16 | 3.2e-17 | 9.9e-17 | 1.1e-15 | 1.3e-14 | 2.0e-14 | 3.6e-14 | 7.8e-13 |
| Virginia OCS-A 0483 | 1.4e-04 | 1.9e-04 | 1.6e-04 | 9.8e-05 | 6.1e-06 | 5.2e-08 | 2.5e-09 | 1.4e-08 | 4.9e-07 | 5.2e-06 | 9.0e-05 | 1.9e-04 | 8.8e-04 |
| Virginia OCS-A 0497 | 1.6e-05 | 1.9e-05 | 1.4e-05 | 5.4e-06 | 2.2e-07 | 1.1e-09 | 4.1e-11 | 2.6e-10 | 1.1e-08 | 3.0e-07 | 9.0e-06 | 1.9e-05 | 8.3e-05 |
| North Carolina OCS-A 0508 | 5.4e-05 | 6.8e-05 | 1.0e-04 | 7.7e-05 | 5.2e-06 | 5.1e-08 | 2.8e-09 | 1.6e-08 | 6.9e-07 | 7.4e-06 | 5.3e-05 | 8.9e-05 | 4.5e-04 |
| North Carolina OCS-A 0545 | 3.1e-06 | 4.6e-06 | 3.2e-06 | 2.0e-07 | 4.9e-09 | 5.5e-11 | 1.9e-11 | 1.5e-10 | 1.6e-09 | 1.5e-08 | 1.9e-07 | 7.6e-07 | 1.2e-05 |
| North Carolina OCS-A 0546 | 2.8e-06 | 4.5e-06 | 2.9e-06 | 1.9e-07 | 4.7e-09 | 5.5e-11 | 1.8e-11 | 1.5e-10 | 1.5e-09 | 1.3e-08 | 1.8e-07 | 7.0e-07 | 1.1e-05 |
| South Carolina Call Area - Grand Strand | 1.0e-03 | 1.3e-03 | 5.9e-04 | 2.9e-05 | 2.0e-07 | 1.4e-09 | 3.3e-10 | 3.8e-09 | 9.8e-08 | 4.9e-06 | 1.0e-04 | 5.8e-04 | 3.6e-03 |
| South Carolina Call Area - Cape Romain | 3.4e-04 | 3.8e-04 | 1.6e-04 | 7.3e-06 | 4.7e-08 | 3.2e-10 | 6.8e-11 | 8.3e-10 | 2.5e-08 | 1.3e-06 | 2.7e-05 | 1.6e-04 | 1.1e-03 |
| South Carolina Call Area - Winyah | 6.2e-07 | 1.1e-06 | 6.4e-07 | 8.6e-08 | 6.3e-09 | 1.0e-10 | 2.7e-11 | 2.9e-10 | 4.0e-09 | 1.2e-08 | 8.5e-08 | 2.2e-07 | 2.8e-06 |
| South Carolina Call Area - Charleston | 1.2e-06 | 2.0e-06 | 2.0e-06 | 2.0e-07 | 5.2e-09 | 5.7e-11 | 1.3e-11 | 1.5e-10 | 2.3e-09 | 1.0e-08 | 9.9e-08 | 3.8e-07 | 5.9e-06 |
| All planning areas | 3.1e-03 | 4.3e-03 | 4.5e-03 | 3.9e-03 | 6.4e-04 | 9.2e-05 | 4.7e-05 | 3.0e-04 | 6.9e-03 | 1.1e-02 | 5.6e-03 | 2.9e-03 | 4.4e-02 |
| All lease areas | 1.1e-03 | 1.9e-03 | 1.7e-03 | 8.6e-04 | 1.0e-04 | 5.6e-06 | 6.0e-07 | 3.6e-06 | 1.0e-04 | 7.0e-04 | 1.6e-03 | 1.1e-03 | 9.2e-03 |
| All planning and lease areas | 4.3e-03 | 6.1e-03 | 6.2e-03 | 4.8e-03 | 7.4e-04 | 9.8e-05 | 4.7e-05 | 3.0e-04 | 7.0e-03 | 1.2e-02 | 7.2e-03 | 4.1e-03 | 5.3e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-5. Predicted proportional abundance of Long-tailed Duck by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.1e-03 | 2.0e-02 | 4.0e-02 | 2.2e-02 | 2.7e-04 | 8.2e-07 | 4.4e-07 | 8.9e-08 | 8.0e-07 | 6.4e-04 | 6.2e-03 | 1.5e-03 | 9.3e-02 |
| Gulf of Maine Request for Competitive Interest | 3.1e-05 | 9.6e-05 | 2.5e-04 | 2.9e-04 | 4.2e-06 | 5.6e-09 | 8.0e-09 | 3.7e-10 | 3.1e-09 | 4.0e-06 | 6.1e-05 | 1.0e-05 | 7.4e-04 |
| Marine Research Array Requested Lease | 4.9e-06 | 1.2e-05 | 3.4e-05 | 4.1e-05 | 7.5e-07 | 9.1e-10 | 1.4e-09 | 6.9e-11 | 4.5e-10 | 5.7e-07 | 8.9e-06 | 1.5e-06 | 1.0e-04 |
| Rhode Island OCS-A 0506 | 9.7e-07 | 4.0e-06 | 2.6e-06 | 9.3e-08 | 1.5e-09 | 7.1e-11 | 1.4e-12 | 9.5e-14 | 8.4e-13 | 7.1e-09 | 3.7e-08 | 2.3e-07 | 7.9e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.3e-04 | 8.2e-04 | 1.4e-03 | 1.2e-04 | 2.9e-07 | 2.9e-09 | 2.3e-11 | 1.4e-12 | 1.8e-10 | 2.9e-06 | 8.2e-06 | 3.3e-05 | 2.5e-03 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.8e-05 | 1.2e-04 | 1.9e-04 | 1.9e-05 | 3.6e-08 | 2.6e-10 | 1.1e-12 | 9.3e-14 | 3.1e-11 | 4.9e-07 | 1.3e-06 | 4.2e-06 | 3.5e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 8.6e-05 | 7.6e-04 | 1.1e-03 | 2.0e-04 | 4.4e-07 | 1.6e-09 | 6.3e-12 | 4.6e-13 | 3.4e-10 | 3.5e-06 | 6.6e-06 | 1.9e-05 | 2.2e-03 |
| Massachusetts OCS-A 0500 | 1.4e-04 | 1.1e-03 | 1.6e-03 | 3.2e-04 | 9.6e-07 | 2.2e-09 | 1.3e-11 | 5.5e-13 | 6.6e-10 | 5.2e-06 | 9.9e-06 | 2.8e-05 | 3.2e-03 |
| Massachusetts OCS-A 0501 | 1.1e-04 | 8.1e-04 | 8.3e-04 | 1.5e-04 | 5.4e-07 | 1.2e-09 | 1.1e-11 | 2.4e-13 | 5.1e-10 | 2.4e-06 | 6.1e-06 | 2.6e-05 | 1.9e-03 |
| Massachusetts OCS-A 0534 | 6.3e-05 | 8.4e-04 | 9.4e-04 | 2.4e-04 | 1.0e-06 | 1.8e-09 | 1.8e-11 | 4.4e-13 | 9.9e-10 | 3.7e-06 | 6.9e-06 | 1.5e-05 | 2.1e-03 |
| Massachusetts OCS-A 0520 | 8.5e-05 | 1.1e-03 | 9.9e-04 | 2.7e-04 | 1.4e-06 | 2.8e-09 | 4.8e-11 | 7.3e-13 | 1.3e-09 | 4.8e-06 | 1.1e-05 | 2.9e-05 | 2.5e-03 |
| Massachusetts OCS-A 0521 | 9.0e-05 | 9.5e-04 | 9.5e-04 | 2.3e-04 | 1.4e-06 | 2.6e-09 | 8.4e-11 | 9.1e-13 | 1.6e-09 | 5.2e-06 | 1.4e-05 | 3.8e-05 | 2.3e-03 |
| Massachusetts OCS-A 0522 | 9.5e-05 | 7.8e-04 | 9.0e-04 | 2.4e-04 | 1.7e-06 | 2.6e-09 | 1.5e-10 | 1.2e-12 | 2.0e-09 | 5.8e-06 | 1.7e-05 | 4.7e-05 | 2.1e-03 |
| New York WEA - Fairways North | 3.9e-05 | 5.8e-04 | 9.5e-04 | 7.8e-05 | 1.1e-07 | 5.2e-10 | 3.4e-12 | 9.1e-13 | 5.4e-11 | 1.4e-06 | 4.1e-06 | 1.1e-05 | 1.7e-03 |
| New York WEA - Fairways South | 8.5e-06 | 1.5e-04 | 2.3e-04 | 1.5e-05 | 3.8e-08 | 2.4e-10 | 1.5e-12 | 4.3e-13 | 7.6e-12 | 2.7e-07 | 9.0e-07 | 3.0e-06 | 4.1e-04 |
| New York OCS-A 0512 | 5.3e-05 | 4.9e-04 | 8.7e-04 | 5.2e-05 | 5.9e-08 | 1.5e-10 | 1.3e-12 | 5.4e-13 | 4.9e-11 | 7.5e-07 | 3.6e-06 | 1.7e-05 | 1.5e-03 |
| NY/NJ OCS-A 0544 | 9.1e-06 | 1.3e-04 | 3.7e-04 | 3.9e-05 | 5.5e-08 | 9.4e-11 | 7.8e-13 | 2.1e-13 | 2.7e-11 | 5.9e-07 | 2.0e-06 | 4.0e-06 | 5.6e-04 |
| NY/NJ OCS-A 0537 | 3.7e-06 | 2.7e-05 | 1.5e-04 | 7.7e-05 | 1.4e-07 | 1.9e-10 | 8.5e-13 | 2.0e-13 | 4.2e-11 | 8.9e-07 | 3.1e-06 | 2.3e-06 | 2.7e-04 |
| NY/NJ OCS-A 0538 | 4.7e-06 | 1.8e-05 | 7.2e-05 | 4.4e-05 | 8.0e-08 | 2.3e-10 | 1.4e-12 | 3.1e-13 | 4.8e-11 | 7.2e-07 | 2.9e-06 | 2.7e-06 | 1.4e-04 |
| NY/NJ OCS-A 0539 | 1.3e-05 | 6.2e-05 | 1.4e-04 | 6.7e-05 | 1.0e-07 | 2.8e-10 | 1.6e-12 | 7.0e-13 | 7.0e-11 | 1.2e-06 | 4.6e-06 | 5.5e-06 | 3.0e-04 |
| NY/NJ OCS-A 0541 | 1.1e-05 | 5.7e-05 | 1.1e-04 | 4.1e-05 | 4.1e-08 | 1.1e-10 | 1.3e-12 | 5.8e-13 | 3.4e-11 | 7.8e-07 | 3.7e-06 | 4.9e-06 | 2.3e-04 |
| NY/NJ OCS-A 0542 | 5.8e-06 | 3.2e-05 | 9.0e-05 | 5.0e-05 | 6.1e-08 | 1.6e-10 | 1.3e-12 | 4.4e-13 | 3.4e-11 | 8.6e-07 | 3.4e-06 | 3.1e-06 | 1.9e-04 |
| New Jersey OCS-A 0549 | 1.2e-04 | 5.4e-04 | 3.4e-04 | 1.7e-05 | 8.2e-09 | 9.2e-11 | 2.0e-12 | 1.4e-12 | 3.1e-11 | 7.8e-07 | 5.2e-06 | 4.3e-05 | 1.1e-03 |
| New Jersey OCS-A 0499 | 9.8e-05 | 5.4e-04 | 3.9e-04 | 2.5e-05 | 1.2e-08 | 8.5e-11 | 2.2e-12 | 1.1e-12 | 3.6e-11 | 9.1e-07 | 5.5e-06 | 3.5e-05 | 1.1e-03 |
| New Jersey OCS-A 0498 | 7.6e-05 | 4.7e-04 | 3.4e-04 | 1.8e-05 | 1.1e-08 | 7.9e-11 | 2.5e-12 | 1.3e-12 | 1.9e-11 | 4.8e-07 | 4.3e-06 | 2.8e-05 | 9.4e-04 |
| New Jersey OCS-A 0532 | 1.4e-04 | 6.7e-04 | 3.2e-04 | 1.5e-05 | 1.3e-08 | 1.3e-10 | 4.1e-12 | 3.5e-12 | 1.7e-11 | 4.2e-07 | 6.0e-06 | 5.2e-05 | 1.2e-03 |
| Delaware OCS-A 0482 | 1.3e-04 | 5.3e-04 | 3.0e-04 | 1.5e-05 | 5.4e-09 | 2.2e-11 | 1.5e-12 | 7.9e-13 | 2.7e-11 | 4.4e-07 | 5.7e-06 | 3.4e-05 | 1.0e-03 |
| Delaware OCS-A 0519 | 2.0e-05 | 1.1e-04 | 8.1e-05 | 5.2e-06 | 1.9e-09 | 6.7e-12 | 7.5e-13 | 3.2e-13 | 1.1e-11 | 1.1e-07 | 1.8e-06 | 6.5e-06 | 2.2e-04 |
| Maryland OCS-A 0490 | 6.0e-05 | 2.5e-04 | 1.9e-04 | 1.1e-05 | 4.6e-09 | 1.4e-11 | 2.3e-12 | 9.9e-13 | 2.5e-11 | 3.1e-07 | 6.3e-06 | 1.9e-05 | 5.4e-04 |
| Central Atlantic Call Area A | 4.8e-05 | 3.1e-04 | 3.7e-04 | 4.7e-05 | 1.8e-08 | 6.1e-11 | 6.9e-12 | 2.3e-12 | 1.1e-10 | 1.1e-06 | 1.4e-05 | 2.0e-05 | 8.1e-04 |
| Central Atlantic Draft WEA Primary A | 1.2e-05 | 8.2e-05 | 8.6e-05 | 9.4e-06 | 3.4e-09 | 1.1e-11 | 1.3e-12 | 4.8e-13 | 1.9e-11 | 2.2e-07 | 2.6e-06 | 4.7e-06 | 2.0e-04 |
| Central Atlantic Draft WEA Secondary A | 2.6e-05 | 1.7e-04 | 2.1e-04 | 2.5e-05 | 9.3e-09 | 3.1e-11 | 3.5e-12 | 1.2e-12 | 5.3e-11 | 6.1e-07 | 7.4e-06 | 1.0e-05 | 4.5e-04 |
| Central Atlantic Call Area B | 6.1e-05 | 2.3e-04 | 3.5e-04 | 4.4e-05 | 2.8e-08 | 3.4e-11 | 1.2e-11 | 2.9e-12 | 2.3e-10 | 9.7e-07 | 2.7e-05 | 2.6e-05 | 7.3e-04 |
| Central Atlantic Draft WEA Primary B1 | 6.7e-06 | 3.0e-05 | 2.8e-05 | 2.1e-06 | 1.0e-09 | 7.6e-13 | 3.4e-13 | 1.4e-13 | 6.3e-12 | 3.3e-08 | 1.3e-06 | 2.2e-06 | 7.0e-05 |
| Central Atlantic Draft WEA Secondary B1 | 2.0e-06 | 8.8e-06 | 1.0e-05 | 9.5e-07 | 4.6e-10 | 4.3e-13 | 1.7e-13 | 4.8e-14 | 2.5e-12 | 1.5e-08 | 5.4e-07 | 7.1e-07 | 2.3e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.1e-05 | 3.1e-05 | 6.1e-05 | 9.3e-06 | 7.2e-09 | 6.2e-12 | 3.3e-12 | 6.9e-13 | 6.9e-11 | 2.0e-07 | 6.0e-06 | 4.8e-06 | 1.2e-04 |
| Central Atlantic Draft WEA Secondary B2 | 3.0e-06 | 8.3e-06 | 2.1e-05 | 3.4e-06 | 3.1e-09 | 3.7e-12 | 1.4e-12 | 2.7e-13 | 3.1e-11 | 9.6e-08 | 2.5e-06 | 1.7e-06 | 4.0e-05 |
| Central Atlantic Call Area C | 1.1e-05 | 3.1e-05 | 5.9e-05 | 8.4e-06 | 9.0e-09 | 3.4e-12 | 4.3e-12 | 7.6e-13 | 6.4e-11 | 1.0e-07 | 5.3e-06 | 3.9e-06 | 1.2e-04 |
| Central Atlantic Draft WEA Primary C | 7.5e-06 | 2.0e-05 | 3.9e-05 | 5.5e-06 | 5.6e-09 | 1.8e-12 | 2.6e-12 | 4.7e-13 | 3.9e-11 | 6.4e-08 | 3.5e-06 | 2.5e-06 | 7.8e-05 |
| Central Atlantic Draft WEA Secondary C | 3.2e-06 | 8.8e-06 | 1.7e-05 | 2.4e-06 | 2.7e-09 | 1.3e-12 | 1.4e-12 | 2.4e-13 | 2.1e-11 | 3.1e-08 | 1.5e-06 | 1.2e-06 | 3.4e-05 |
| Central Atlantic Call Area D | 1.9e-05 | 7.9e-05 | 1.2e-04 | 1.2e-05 | 2.4e-08 | 7.0e-12 | 1.7e-11 | 1.9e-12 | 1.9e-10 | 1.1e-07 | 8.7e-06 | 6.3e-06 | 2.5e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 9.1e-06 | 3.8e-05 | 6.4e-05 | 6.2e-06 | 1.0e-08 | 2.2e-12 | 6.0e-12 | 7.4e-13 | 8.4e-11 | 3.8e-08 | 4.1e-06 | 3.0e-06 | 1.2e-04 |
| Central Atlantic Draft WEA Secondary D | 2.0e-06 | 8.3e-06 | 1.1e-05 | 7.8e-07 | 1.2e-09 | 2.0e-13 | 6.7e-13 | 9.0e-14 | 1.1e-11 | 3.7e-09 | 6.6e-07 | 5.3e-07 | 2.3e-05 |
| Central Atlantic Call Area E | 1.4e-07 | 3.7e-06 | 7.0e-06 | 4.4e-06 | 1.6e-08 | 7.5e-11 | 2.4e-11 | 2.9e-12 | 4.0e-10 | 4.4e-08 | 1.5e-06 | 2.3e-07 | 1.7e-05 |
| Central Atlantic Draft WEA Primary E1 | 5.8e-08 | 4.7e-07 | 1.8e-06 | 1.4e-06 | 6.3e-09 | 1.2e-11 | 9.1e-12 | 8.8e-13 | 1.1e-10 | 9.4e-09 | 2.8e-07 | 4.4e-08 | 4.1e-06 |
| Central Atlantic Draft WEA Primary E2 | 8.7e-09 | 2.4e-07 | 1.1e-06 | 6.7e-07 | 2.9e-09 | 1.0e-11 | 3.4e-12 | 4.2e-13 | 7.6e-11 | 7.3e-09 | 1.4e-07 | 2.7e-08 | 2.2e-06 |
| Central Atlantic Call Area F | 3.1e-08 | 2.6e-07 | 6.9e-07 | 2.3e-07 | 1.8e-09 | 4.6e-12 | 6.3e-12 | 7.8e-13 | 1.3e-10 | 1.0e-07 | 2.3e-07 | 6.9e-08 | 1.6e-06 |
| Central Atlantic Draft WEA Primary F | 4.8e-10 | 5.5e-09 | 7.8e-09 | 2.4e-09 | 4.4e-11 | 5.6e-14 | 1.0e-13 | 1.2e-14 | 8.0e-13 | 7.5e-11 | 1.6e-09 | 3.4e-10 | 1.8e-08 |
| Virginia OCS-A 0483 | 2.2e-05 | 7.0e-05 | 7.3e-05 | 3.5e-06 | 3.3e-09 | 5.6e-13 | 3.3e-12 | 5.6e-13 | 4.6e-11 | 2.8e-08 | 4.3e-06 | 5.7e-06 | 1.8e-04 |
| Virginia OCS-A 0497 | 8.8e-07 | 2.8e-06 | 1.5e-06 | 2.9e-08 | 6.1e-11 | 2.1e-14 | 7.0e-14 | 1.2e-14 | 1.1e-12 | 4.9e-10 | 1.3e-07 | 2.2e-07 | 5.6e-06 |
| North Carolina OCS-A 0508 | 3.0e-06 | 1.6e-05 | 3.3e-05 | 3.4e-06 | 7.3e-09 | 2.1e-12 | 6.3e-12 | 6.4e-13 | 6.8e-11 | 2.3e-08 | 2.1e-06 | 1.5e-06 | 5.9e-05 |
| North Carolina OCS-A 0545 | 3.9e-07 | 9.5e-07 | 1.1e-06 | 2.1e-08 | 2.1e-11 | 8.4e-13 | 8.3e-13 | 8.5e-14 | 1.6e-12 | 8.7e-12 | 2.9e-09 | 2.3e-07 | 2.7e-06 |
| North Carolina OCS-A 0546 | 3.4e-07 | 9.1e-07 | 1.0e-06 | 1.6e-08 | 1.7e-11 | 6.7e-13 | 5.6e-13 | 6.7e-14 | 1.4e-12 | 7.9e-12 | 2.5e-09 | 2.0e-07 | 2.5e-06 |
| South Carolina Call Area - Grand Strand | 2.6e-05 | 5.0e-05 | 1.6e-05 | 3.3e-07 | 2.3e-10 | 7.1e-12 | 8.0e-12 | 1.2e-12 | 4.2e-11 | 8.3e-09 | 4.1e-06 | 3.4e-05 | 1.3e-04 |
| South Carolina Call Area - Cape Romain | 4.2e-06 | 4.6e-06 | 2.6e-06 | 3.5e-08 | 3.4e-11 | 9.4e-13 | 9.7e-13 | 1.9e-13 | 5.8e-12 | 3.7e-10 | 1.0e-07 | 5.5e-06 | 1.7e-05 |
| South Carolina Call Area - Winyah | 6.9e-09 | 4.9e-08 | 2.3e-08 | 6.5e-10 | 1.4e-11 | 3.8e-13 | 2.1e-13 | 2.3e-14 | 1.2e-12 | 1.6e-14 | 5.4e-10 | 1.0e-09 | 8.1e-08 |
| South Carolina Call Area - Charleston | 1.4e-07 | 3.7e-07 | 3.9e-07 | 4.4e-09 | 1.3e-11 | 2.8e-13 | 2.2e-13 | 3.0e-14 | 2.2e-12 | 5.4e-12 | 8.3e-10 | 5.6e-08 | 9.6e-07 |
| All planning areas | 3.3e-03 | 2.2e-02 | 4.2e-02 | 2.2e-02 | 2.7e-04 | 8.2e-07 | 4.5e-07 | 8.9e-08 | 8.1e-07 | 6.5e-04 | 6.3e-03 | 1.6e-03 | 9.8e-02 |
| All lease areas | 1.6e-03 | 1.1e-02 | 1.3e-02 | 2.3e-03 | 8.3e-06 | 2.0e-08 | 3.9e-10 | 2.0e-11 | 8.3e-09 | 4.3e-05 | 1.5e-04 | 5.0e-04 | 2.9e-02 |
| All planning and lease areas | 4.9e-03 | 3.3e-02 | 5.5e-02 | 2.4e-02 | 2.8e-04 | 8.4e-07 | 4.5e-07 | 8.9e-08 | 8.2e-07 | 6.9e-04 | 6.5e-03 | 2.1e-03 | 1.3e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-6. Predicted proportional abundance of Red-breasted Merganser by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.5e-03 | 4.1e-03 | 7.8e-03 | 7.9e-03 | 2.8e-03 | 3.9e-04 | 1.8e-04 | 4.2e-04 | 7.4e-04 | 1.1e-03 | 1.3e-03 | 1.0e-03 | 2.9e-02 |
| Gulf of Maine Request for Competitive Interest | 9.0e-06 | 2.6e-05 | 7.1e-05 | 8.6e-05 | 3.4e-05 | 5.0e-06 | 2.2e-06 | 4.5e-06 | 8.8e-06 | 1.3e-05 | 1.2e-05 | 7.7e-06 | 2.8e-04 |
| Marine Research Array Requested Lease | 1.3e-06 | 3.8e-06 | 1.1e-05 | 1.3e-05 | 5.4e-06 | 7.8e-07 | 3.4e-07 | 7.0e-07 | 1.4e-06 | 1.9e-06 | 1.8e-06 | 1.1e-06 | 4.2e-05 |
| Rhode Island OCS-A 0506 | 6.0e-07 | 1.6e-06 | 1.7e-06 | 7.8e-07 | 1.4e-07 | 1.9e-08 | 6.7e-09 | 1.8e-08 | 2.9e-08 | 6.0e-08 | 1.4e-07 | 3.1e-07 | 5.4e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 9.8e-05 | 2.4e-04 | 2.7e-04 | 1.3e-04 | 2.1e-05 | 3.0e-06 | 1.2e-06 | 3.1e-06 | 5.4e-06 | 1.0e-05 | 2.0e-05 | 4.1e-05 | 8.4e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.5e-05 | 3.3e-05 | 3.2e-05 | 1.5e-05 | 2.5e-06 | 3.2e-07 | 1.5e-07 | 4.2e-07 | 6.5e-07 | 1.2e-06 | 2.9e-06 | 5.7e-06 | 1.1e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 6.7e-05 | 1.7e-04 | 1.8e-04 | 7.6e-05 | 1.2e-05 | 1.7e-06 | 8.6e-07 | 2.4e-06 | 3.6e-06 | 6.9e-06 | 1.4e-05 | 2.5e-05 | 5.6e-04 |
| Massachusetts OCS-A 0500 | 8.2e-05 | 2.1e-04 | 2.2e-04 | 8.5e-05 | 1.5e-05 | 2.2e-06 | 1.0e-06 | 2.8e-06 | 4.8e-06 | 9.0e-06 | 1.8e-05 | 3.0e-05 | 6.8e-04 |
| Massachusetts OCS-A 0501 | 5.5e-05 | 1.2e-04 | 1.1e-04 | 4.4e-05 | 8.8e-06 | 1.5e-06 | 5.0e-07 | 1.4e-06 | 2.5e-06 | 4.9e-06 | 1.1e-05 | 2.0e-05 | 3.8e-04 |
| Massachusetts OCS-A 0534 | 4.3e-05 | 1.2e-04 | 1.2e-04 | 5.9e-05 | 1.1e-05 | 1.8e-06 | 7.6e-07 | 2.0e-06 | 3.1e-06 | 5.4e-06 | 1.1e-05 | 1.7e-05 | 3.9e-04 |
| Massachusetts OCS-A 0520 | 4.9e-05 | 1.3e-04 | 1.3e-04 | 8.0e-05 | 1.7e-05 | 2.6e-06 | 9.6e-07 | 2.3e-06 | 3.5e-06 | 5.9e-06 | 1.2e-05 | 2.0e-05 | 4.5e-04 |
| Massachusetts OCS-A 0521 | 4.6e-05 | 1.1e-04 | 1.2e-04 | 7.7e-05 | 1.6e-05 | 2.4e-06 | 9.1e-07 | 1.9e-06 | 2.9e-06 | 4.9e-06 | 1.0e-05 | 1.8e-05 | 4.1e-04 |
| Massachusetts OCS-A 0522 | 4.3e-05 | 9.8e-05 | 1.0e-04 | 6.1e-05 | 1.3e-05 | 1.9e-06 | 8.4e-07 | 1.5e-06 | 2.8e-06 | 4.7e-06 | 1.0e-05 | 1.8e-05 | 3.6e-04 |
| New York WEA - Fairways North | 4.7e-05 | 1.3e-04 | 1.6e-04 | 7.4e-05 | 1.3e-05 | 1.6e-06 | 7.2e-07 | 2.0e-06 | 2.9e-06 | 5.0e-06 | 1.0e-05 | 1.9e-05 | 4.7e-04 |
| New York WEA - Fairways South | 1.7e-05 | 5.1e-05 | 6.3e-05 | 3.2e-05 | 5.9e-06 | 6.4e-07 | 2.6e-07 | 7.2e-07 | 1.2e-06 | 2.4e-06 | 4.8e-06 | 8.6e-06 | 1.9e-04 |
| New York OCS-A 0512 | 6.3e-05 | 1.5e-04 | 1.5e-04 | 6.5e-05 | 1.1e-05 | 1.2e-06 | 4.9e-07 | 1.6e-06 | 2.5e-06 | 4.9e-06 | 1.2e-05 | 2.8e-05 | 4.9e-04 |
| NY/NJ OCS-A 0544 | 1.9e-05 | 5.0e-05 | 6.5e-05 | 3.3e-05 | 5.4e-06 | 6.0e-07 | 2.7e-07 | 8.1e-07 | 1.3e-06 | 2.2e-06 | 4.9e-06 | 9.2e-06 | 1.9e-04 |
| NY/NJ OCS-A 0537 | 1.0e-05 | 2.4e-05 | 4.9e-05 | 3.8e-05 | 7.1e-06 | 6.2e-07 | 2.7e-07 | 6.8e-07 | 1.4e-06 | 2.1e-06 | 4.4e-06 | 7.6e-06 | 1.4e-04 |
| NY/NJ OCS-A 0538 | 2.1e-05 | 3.9e-05 | 6.7e-05 | 5.3e-05 | 9.8e-06 | 8.2e-07 | 3.8e-07 | 1.0e-06 | 1.7e-06 | 3.0e-06 | 7.4e-06 | 1.3e-05 | 2.2e-04 |
| NY/NJ OCS-A 0539 | 4.2e-05 | 8.1e-05 | 9.9e-05 | 6.1e-05 | 1.0e-05 | 1.1e-06 | 4.4e-07 | 1.2e-06 | 2.4e-06 | 4.5e-06 | 1.1e-05 | 2.1e-05 | 3.4e-04 |
| NY/NJ OCS-A 0541 | 2.8e-05 | 6.1e-05 | 6.0e-05 | 3.4e-05 | 5.5e-06 | 6.8e-07 | 3.0e-07 | 1.0e-06 | 1.6e-06 | 3.0e-06 | 7.6e-06 | 1.5e-05 | 2.2e-04 |
| NY/NJ OCS-A 0542 | 2.0e-05 | 4.3e-05 | 4.8e-05 | 3.2e-05 | 5.8e-06 | 6.0e-07 | 2.7e-07 | 7.3e-07 | 1.4e-06 | 2.4e-06 | 5.9e-06 | 1.1e-05 | 1.7e-04 |
| New Jersey OCS-A 0549 | 1.3e-04 | 2.3e-04 | 1.6e-04 | 5.3e-05 | 8.0e-06 | 1.1e-06 | 4.1e-07 | 1.4e-06 | 2.5e-06 | 5.6e-06 | 1.6e-05 | 5.5e-05 | 6.7e-04 |
| New Jersey OCS-A 0499 | 1.2e-04 | 2.4e-04 | 1.7e-04 | 5.7e-05 | 8.3e-06 | 1.1e-06 | 4.8e-07 | 1.7e-06 | 3.1e-06 | 6.5e-06 | 1.7e-05 | 5.2e-05 | 6.7e-04 |
| New Jersey OCS-A 0498 | 9.4e-05 | 2.0e-04 | 1.4e-04 | 5.0e-05 | 7.4e-06 | 9.8e-07 | 4.2e-07 | 1.5e-06 | 2.8e-06 | 5.8e-06 | 1.6e-05 | 4.8e-05 | 5.7e-04 |
| New Jersey OCS-A 0532 | 1.5e-04 | 3.3e-04 | 2.2e-04 | 7.4e-05 | 1.1e-05 | 1.4e-06 | 5.7e-07 | 2.0e-06 | 3.5e-06 | 8.1e-06 | 2.4e-05 | 8.2e-05 | 9.0e-04 |
| Delaware OCS-A 0482 | 8.0e-05 | 1.6e-04 | 1.0e-04 | 3.2e-05 | 4.6e-06 | 5.5e-07 | 2.7e-07 | 9.0e-07 | 1.6e-06 | 3.4e-06 | 1.1e-05 | 3.7e-05 | 4.3e-04 |
| Delaware OCS-A 0519 | 2.3e-05 | 4.6e-05 | 3.4e-05 | 1.1e-05 | 1.6e-06 | 2.0e-07 | 1.1e-07 | 3.5e-07 | 5.6e-07 | 1.2e-06 | 3.7e-06 | 1.1e-05 | 1.3e-04 |
| Maryland OCS-A 0490 | 7.2e-05 | 1.4e-04 | 1.0e-04 | 3.3e-05 | 4.6e-06 | 5.6e-07 | 3.0e-07 | 1.0e-06 | 1.7e-06 | 3.4e-06 | 1.1e-05 | 3.4e-05 | 4.0e-04 |
| Central Atlantic Call Area A | 1.2e-04 | 2.5e-04 | 2.2e-04 | 8.7e-05 | 1.2e-05 | 1.5e-06 | 9.4e-07 | 3.2e-06 | 4.9e-06 | 9.5e-06 | 2.8e-05 | 6.4e-05 | 8.1e-04 |
| Central Atlantic Draft WEA Primary A | 2.5e-05 | 5.3e-05 | 4.4e-05 | 1.6e-05 | 2.3e-06 | 2.9e-07 | 1.8e-07 | 6.1e-07 | 9.3e-07 | 1.8e-06 | 5.3e-06 | 1.3e-05 | 1.6e-04 |
| Central Atlantic Draft WEA Secondary A | 6.3e-05 | 1.3e-04 | 1.2e-04 | 4.4e-05 | 6.1e-06 | 7.7e-07 | 4.8e-07 | 1.7e-06 | 2.5e-06 | 4.8e-06 | 1.4e-05 | 3.3e-05 | 4.2e-04 |
| Central Atlantic Call Area B | 2.3e-04 | 4.0e-04 | 3.7e-04 | 1.3e-04 | 1.6e-05 | 2.0e-06 | 1.5e-06 | 5.1e-06 | 1.0e-05 | 1.9e-05 | 5.0e-05 | 1.3e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.4e-05 | 2.4e-05 | 1.8e-05 | 5.3e-06 | 6.9e-07 | 8.6e-08 | 6.1e-08 | 2.3e-07 | 4.1e-07 | 8.1e-07 | 2.3e-06 | 7.0e-06 | 7.3e-05 |
| Central Atlantic Draft WEA Secondary B1 | 5.2e-06 | 8.9e-06 | 7.1e-06 | 2.2e-06 | 2.7e-07 | 3.4e-08 | 2.6e-08 | 9.6e-08 | 1.7e-07 | 3.3e-07 | 9.5e-07 | 2.7e-06 | 2.8e-05 |
| Central Atlantic Draft WEA Primary B2 | 5.4e-05 | 9.4e-05 | 9.4e-05 | 3.1e-05 | 3.9e-06 | 5.0e-07 | 3.8e-07 | 1.3e-06 | 2.6e-06 | 5.2e-06 | 1.2e-05 | 3.1e-05 | 3.3e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.9e-05 | 3.2e-05 | 3.5e-05 | 1.2e-05 | 1.5e-06 | 1.9e-07 | 1.5e-07 | 4.6e-07 | 1.1e-06 | 2.0e-06 | 4.6e-06 | 1.2e-05 | 1.2e-04 |
| Central Atlantic Call Area C | 5.1e-05 | 9.4e-05 | 1.0e-04 | 3.4e-05 | 4.2e-06 | 5.5e-07 | 3.9e-07 | 1.2e-06 | 2.7e-06 | 5.4e-06 | 1.2e-05 | 3.0e-05 | 3.4e-04 |
| Central Atlantic Draft WEA Primary C | 3.3e-05 | 6.1e-05 | 6.4e-05 | 2.1e-05 | 2.7e-06 | 3.4e-07 | 2.4e-07 | 7.6e-07 | 1.6e-06 | 3.4e-06 | 7.9e-06 | 2.0e-05 | 2.2e-04 |
| Central Atlantic Draft WEA Secondary C | 1.4e-05 | 2.6e-05 | 2.9e-05 | 1.0e-05 | 1.3e-06 | 1.7e-07 | 1.2e-07 | 3.8e-07 | 8.0e-07 | 1.6e-06 | 3.6e-06 | 8.6e-06 | 9.7e-05 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 9.5e-05 | 1.9e-04 | 1.8e-04 | 5.9e-05 | 8.0e-06 | 1.2e-06 | 9.5e-07 | 3.0e-06 | 6.4e-06 | 1.2e-05 | 2.5e-05 | 6.2e-05 | 6.5e-04 |
| Central Atlantic Draft WEA Primary D | 4.4e-05 | 9.2e-05 | 8.6e-05 | 2.6e-05 | 3.5e-06 | 5.2e-07 | 4.0e-07 | 1.3e-06 | 2.6e-06 | 5.1e-06 | 1.1e-05 | 2.8e-05 | 3.0e-04 |
| Central Atlantic Draft WEA Secondary D | 7.6e-06 | 1.5e-05 | 1.3e-05 | 3.7e-06 | 5.0e-07 | 8.1e-08 | 6.1e-08 | 1.9e-07 | 3.8e-07 | 7.3e-07 | 1.7e-06 | 4.6e-06 | 4.8e-05 |
| Central Atlantic Call Area E | 8.4e-06 | 2.2e-05 | 5.1e-05 | 4.0e-05 | 8.1e-06 | 1.9e-06 | 1.2e-06 | 3.0e-06 | 6.5e-06 | 8.9e-06 | 9.6e-06 | 8.7e-06 | 1.7e-04 |
| Central Atlantic Draft WEA Primary E1 | 2.0e-06 | 3.8e-06 | 1.0e-05 | 9.6e-06 | 2.2e-06 | 4.8e-07 | 3.4e-07 | 7.2e-07 | 1.3e-06 | 2.1e-06 | 1.7e-06 | 1.6e-06 | 3.6e-05 |
| Central Atlantic Draft WEA Primary E2 | 1.0e-06 | 4.1e-06 | 9.2e-06 | 7.5e-06 | 1.6e-06 | 3.4e-07 | 2.4e-07 | 6.3e-07 | 1.4e-06 | 1.7e-06 | 1.9e-06 | 1.7e-06 | 3.1e-05 |
| Central Atlantic Call Area F | 8.6e-06 | 1.3e-05 | 2.2e-05 | 1.5e-05 | 2.9e-06 | 7.3e-07 | 5.1e-07 | 1.9e-06 | 3.5e-06 | 5.7e-06 | 5.1e-06 | 6.2e-06 | 8.4e-05 |
| Central Atlantic Draft WEA Primary F | 1.4e-07 | 4.1e-07 | 4.4e-07 | 2.9e-07 | 5.9e-08 | 1.8e-08 | 1.6e-08 | 4.7e-08 | 5.6e-08 | 9.7e-08 | 8.1e-08 | 1.0e-07 | 1.8e-06 |
| Virginia OCS-A 0483 | 5.4e-05 | 1.0e-04 | 8.8e-05 | 2.3e-05 | 3.1e-06 | 5.2e-07 | 3.3e-07 | 9.0e-07 | 1.7e-06 | 3.7e-06 | 9.3e-06 | 2.7e-05 | 3.1e-04 |
| Virginia OCS-A 0497 | 1.9e-06 | 3.4e-06 | 2.6e-06 | 6.6e-07 | 8.4e-08 | 1.5e-08 | 8.8e-09 | 2.5e-08 | 4.8e-08 | 1.2e-07 | 3.1e-07 | 9.7e-07 | 1.0e-05 |
| North Carolina OCS-A 0508 | 2.1e-05 | 5.3e-05 | 5.1e-05 | 1.6e-05 | 2.1e-06 | 3.4e-07 | 2.5e-07 | 6.7e-07 | 1.4e-06 | 2.9e-06 | 6.1e-06 | 1.5e-05 | 1.7e-04 |
| North Carolina OCS-A 0545 | 1.1e-05 | 1.5e-05 | 1.3e-05 | 2.8e-06 | 7.5e-07 | 1.7e-07 | 1.2e-07 | 6.4e-07 | 2.2e-06 | 3.8e-06 | 5.0e-06 | 6.7e-06 | 6.1e-05 |
| North Carolina OCS-A 0546 | 9.5e-06 | 1.3e-05 | 1.1e-05 | 2.3e-06 | 6.1e-07 | 1.3e-07 | 8.7e-08 | 5.0e-07 | 2.0e-06 | 3.5e-06 | 4.6e-06 | 5.6e-06 | 5.4e-05 |
| South Carolina Call Area - Grand Strand | 3.5e-04 | 5.4e-04 | 3.5e-04 | 6.4e-05 | 1.4e-05 | 3.1e-06 | 2.2e-06 | 1.1e-05 | 3.2e-05 | 7.2e-05 | 1.3e-04 | 2.5e-04 | 1.8e-03 |
| South Carolina Call Area - Cape Romain | 9.7e-05 | 1.4e-04 | 8.9e-05 | 1.5e-05 | 3.3e-06 | 6.6e-07 | 4.5e-07 | 2.7e-06 | 8.4e-06 | 2.1e-05 | 3.4e-05 | 6.5e-05 | 4.8e-04 |
| South Carolina Call Area - Winyah | 2.8e-06 | 4.0e-06 | 3.9e-06 | 1.3e-06 | 4.4e-07 | 1.1e-07 | 8.3e-08 | 3.8e-07 | 1.5e-06 | 1.8e-06 | 2.1e-06 | 2.2e-06 | 2.1e-05 |
| South Carolina Call Area - Charleston | 5.4e-06 | 7.4e-06 | 7.9e-06 | 2.4e-06 | 6.8e-07 | 1.5e-07 | 1.0e-07 | 5.1e-07 | 1.8e-06 | 2.5e-06 | 2.9e-06 | 4.0e-06 | 3.6e-05 |
| All planning areas | 2.6e-03 | 5.9e-03 | 9.5e-03 | 8.5e-03 | 2.9e-03 | 4.1e-04 | 1.9e-04 | 4.6e-04 | 8.3e-04 | 1.2e-03 | 1.6e-03 | 1.7e-03 | 3.6e-02 |
| All lease areas | 1.5e-03 | 3.2e-03 | 2.9e-03 | 1.3e-03 | 2.2e-04 | 3.0e-05 | 1.3e-05 | 3.6e-05 | 6.5e-05 | 1.2e-04 | 2.9e-04 | 6.8e-04 | 1.0e-02 |
| All planning and lease areas | 4.0e-03 | 9.2e-03 | 1.2e-02 | 9.8e-03 | 3.1e-03 | 4.4e-04 | 2.0e-04 | 4.9e-04 | 9.0e-04 | 1.4e-03 | 1.9e-03 | 2.4e-03 | 4.6e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-7. Predicted proportional abundance of Horned Grebe by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 5.5e-07 | 5.3e-07 | 3.2e-07 | 1.7e-07 | 6.0e-08 | 1.1e-08 | 2.2e-09 | 1.1e-09 | 1.9e-09 | 9.4e-09 | 6.6e-08 | 2.8e-07 | 2.0e-06 |
| Gulf of Maine Request for Competitive Interest | 4.9e-10 | 4.8e-10 | 2.9e-10 | 1.6e-10 | 5.3e-11 | 9.4e-12 | 2.0e-12 | 1.0e-12 | 1.7e-12 | 8.4e-12 | 5.9e-11 | 2.5e-10 | 1.8e-09 |
| Marine Research Array Requested Lease | 8.0e-11 | 7.8e-11 | 4.7e-11 | 2.6e-11 | 8.7e-12 | 1.5e-12 | 3.3e-13 | 1.6e-13 | 2.8e-13 | 1.4e-12 | 9.7e-12 | 4.1e-11 | 2.9e-10 |
| Rhode Island OCS-A 0506 | 3.1e-07 | 3.1e-07 | 1.9e-07 | 1.0e-07 | 3.4e-08 | 6.1e-09 | 1.3e-09 | 6.4e-10 | 1.1e-09 | 5.4e-09 | 3.8e-08 | 1.6e-07 | 1.2e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.1e-04 | 1.1e-04 | 6.5e-05 | 3.5e-05 | 1.2e-05 | 2.1e-06 | 4.5e-07 | 2.3e-07 | 3.8e-07 | 1.9e-06 | 1.3e-05 | 5.7e-05 | 4.1e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.7e-05 | 1.7e-05 | 1.0e-05 | 5.5e-06 | 1.9e-06 | 3.3e-07 | 7.1e-08 | 3.6e-08 | 6.0e-08 | 3.0e-07 | 2.1e-06 | 8.9e-06 | 6.4e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 4.6e-05 | 4.5e-05 | 2.7e-05 | 1.5e-05 | 5.1e-06 | 9.0e-07 | 1.9e-07 | 9.5e-08 | 1.6e-07 | 8.0e-07 | 5.7e-06 | 2.4e-05 | 1.7e-04 |
| Massachusetts OCS-A 0500 | 6.0e-05 | 5.9e-05 | 3.6e-05 | 1.9e-05 | 6.6e-06 | 1.2e-06 | 2.5e-07 | 1.2e-07 | 2.1e-07 | 1.0e-06 | 7.4e-06 | 3.1e-05 | 2.2e-04 |
| Massachusetts OCS-A 0501 | 4.9e-05 | 4.8e-05 | 2.9e-05 | 1.6e-05 | 5.4e-06 | 9.6e-07 | 2.0e-07 | 1.0e-07 | 1.7e-07 | 8.5e-07 | 6.0e-06 | 2.5e-05 | 1.8e-04 |
| Massachusetts OCS-A 0534 | 2.7e-05 | 2.7e-05 | 1.6e-05 | 8.8e-06 | 3.0e-06 | 5.3e-07 | 1.1e-07 | 5.6e-08 | 9.5e-08 | 4.7e-07 | 3.3e-06 | 1.4e-05 | 1.0e-04 |
| Massachusetts OCS-A 0520 | 3.8e-05 | 3.7e-05 | 2.3e-05 | 1.2e-05 | 4.2e-06 | 7.4e-07 | 1.6e-07 | 7.9e-08 | 1.3e-07 | 6.6e-07 | 4.7e-06 | 2.0e-05 | 1.4e-04 |
| Massachusetts OCS-A 0521 | 4.3e-05 | 4.2e-05 | 2.6e-05 | 1.4e-05 | 4.7e-06 | 8.4e-07 | 1.8e-07 | 8.9e-08 | 1.5e-07 | 7.5e-07 | 5.3e-06 | 2.2e-05 | 1.6e-04 |
| Massachusetts OCS-A 0522 | 6.1e-05 | 5.9e-05 | 3.6e-05 | 1.9e-05 | 6.7e-06 | 1.2e-06 | 2.5e-07 | 1.3e-07 | 2.1e-07 | 1.1e-06 | 7.4e-06 | 3.1e-05 | 2.2e-04 |
| New York WEA - Fairways North | 2.8e-05 | 2.8e-05 | 1.7e-05 | 9.1e-06 | 3.1e-06 | 5.5e-07 | 1.2e-07 | 5.9e-08 | 9.8e-08 | 4.9e-07 | 3.5e-06 | 1.5e-05 | 1.0e-04 |
| New York WEA - Fairways South | 1.6e-05 | 1.6e-05 | 9.5e-06 | 5.1e-06 | 1.8e-06 | 3.1e-07 | 6.6e-08 | 3.3e-08 | 5.5e-08 | 2.8e-07 | 2.0e-06 | 8.2e-06 | 5.9e-05 |
| New York OCS-A 0512 | 1.4e-04 | 1.4e-04 | 8.2e-05 | 4.5e-05 | 1.5e-05 | 2.7e-06 | 5.7e-07 | 2.9e-07 | 4.8e-07 | 2.4e-06 | 1.7e-05 | 7.2e-05 | 5.1e-04 |
| NY/NJ OCS-A 0544 | 3.0e-05 | 3.0e-05 | 1.8e-05 | 9.7e-06 | 3.3e-06 | 5.9e-07 | 1.2e-07 | 6.3e-08 | 1.1e-07 | 5.3e-07 | 3.7e-06 | 1.6e-05 | 1.1e-04 |
| NY/NJ OCS-A 0537 | 1.2e-05 | 1.2e-05 | 7.4e-06 | 4.0e-06 | 1.4e-06 | 2.4e-07 | 5.1e-08 | 2.6e-08 | 4.3e-08 | 2.2e-07 | 1.5e-06 | 6.4e-06 | 4.6e-05 |
| NY/NJ OCS-A 0538 | 4.9e-05 | 4.7e-05 | 2.9e-05 | 1.6e-05 | 5.3e-06 | 9.4e-07 | 2.0e-07 | 1.0e-07 | 1.7e-07 | 8.4e-07 | 5.9e-06 | 2.5e-05 | 1.8e-04 |
| NY/NJ OCS-A 0539 | 1.4e-04 | 1.4e-04 | 8.5e-05 | 4.6e-05 | 1.6e-05 | 2.8e-06 | 5.9e-07 | 3.0e-07 | 5.0e-07 | 2.5e-06 | 1.8e-05 | 7.4e-05 | 5.3e-04 |
| NY/NJ OCS-A 0541 | 6.7e-05 | 6.5e-05 | 3.9e-05 | 2.1e-05 | 7.3e-06 | 1.3e-06 | 2.7e-07 | 1.4e-07 | 2.3e-07 | 1.2e-06 | 8.1e-06 | 3.4e-05 | 2.5e-04 |
| NY/NJ OCS-A 0542 | 4.8e-05 | 4.7e-05 | 2.8e-05 | 1.5e-05 | 5.2e-06 | 9.3e-07 | 2.0e-07 | 9.9e-08 | 1.7e-07 | 8.3e-07 | 5.9e-06 | 2.5e-05 | 1.8e-04 |
| New Jersey OCS-A 0549 | 3.8e-04 | 3.7e-04 | 2.3e-04 | 1.2e-04 | 4.2e-05 | 7.4e-06 | 1.6e-06 | 7.9e-07 | 1.3e-06 | 6.6e-06 | 4.7e-05 | 2.0e-04 | 1.4e-03 |
| New Jersey OCS-A 0499 | 3.9e-04 | 3.8e-04 | 2.3e-04 | 1.2e-04 | 4.2e-05 | 7.5e-06 | 1.6e-06 | 7.9e-07 | 1.3e-06 | 6.6e-06 | 4.7e-05 | 2.0e-04 | 1.4e-03 |
| New Jersey OCS-A 0498 | 3.0e-04 | 2.9e-04 | 1.8e-04 | 9.5e-05 | 3.3e-05 | 5.8e-06 | 1.2e-06 | 6.1e-07 | 1.0e-06 | 5.2e-06 | 3.6e-05 | 1.5e-04 | 1.1e-03 |
| New Jersey OCS-A 0532 | 4.2e-04 | 4.1e-04 | 2.5e-04 | 1.4e-04 | 4.6e-05 | 8.2e-06 | 1.7e-06 | 8.7e-07 | 1.5e-06 | 7.3e-06 | 5.2e-05 | 2.2e-04 | 1.6e-03 |
| Delaware OCS-A 0482 | 3.8e-04 | 3.7e-04 | 2.2e-04 | 1.2e-04 | 4.1e-05 | 7.3e-06 | 1.5e-06 | 7.7e-07 | 1.3e-06 | 6.5e-06 | 4.6e-05 | 1.9e-04 | 1.4e-03 |
| Delaware OCS-A 0519 | 1.0e-04 | 1.0e-04 | 6.1e-05 | 3.3e-05 | 1.1e-05 | 2.0e-06 | 4.2e-07 | 2.1e-07 | 3.6e-07 | 1.8e-06 | 1.3e-05 | 5.3e-05 | 3.8e-04 |
| Maryland OCS-A 0490 | 3.5e-04 | 3.4e-04 | 2.1e-04 | 1.1e-04 | 3.8e-05 | 6.8e-06 | 1.4e-06 | 7.2e-07 | 1.2e-06 | 6.0e-06 | 4.3e-05 | 1.8e-04 | 1.3e-03 |
| Central Atlantic Call Area A | 3.5e-04 | 3.4e-04 | 2.1e-04 | 1.1e-04 | 3.8e-05 | 6.7e-06 | 1.4e-06 | 7.2e-07 | 1.2e-06 | 6.0e-06 | 4.2e-05 | 1.8e-04 | 1.3e-03 |
| Central Atlantic Draft WEA Primary A | 7.7e-05 | 7.5e-05 | 4.6e-05 | 2.5e-05 | 8.5e-06 | 1.5e-06 | 3.2e-07 | 1.6e-07 | 2.7e-07 | 1.3e-06 | 9.4e-06 | 4.0e-05 | 2.8e-04 |
| Central Atlantic Draft WEA Secondary A | 1.7e-04 | 1.7e-04 | 1.0e-04 | 5.4e-05 | 1.9e-05 | 3.3e-06 | 7.0e-07 | 3.5e-07 | 5.9e-07 | 2.9e-06 | 2.1e-05 | 8.8e-05 | 6.3e-04 |
| Central Atlantic Call Area B | 5.6e-04 | 5.4e-04 | 3.3e-04 | 1.8e-04 | 6.1e-05 | 1.1e-05 | 2.3e-06 | 1.1e-06 | 1.9e-06 | 9.6e-06 | 6.8e-05 | 2.9e-04 | 2.0e-03 |
| Central Atlantic Draft WEA Primary B1 | 5.1e-05 | 4.9e-05 | 3.0e-05 | 1.6e-05 | 5.5e-06 | 9.8e-07 | 2.1e-07 | 1.0e-07 | 1.7e-07 | 8.7e-07 | 6.2e-06 | 2.6e-05 | 1.9e-04 |
| Central Atlantic Draft WEA Secondary B1 | 1.8e-05 | 1.8e-05 | 1.1e-05 | 5.9e-06 | 2.0e-06 | 3.6e-07 | 7.5e-08 | 3.8e-08 | 6.3e-08 | 3.2e-07 | 2.2e-06 | 9.4e-06 | 6.8e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.3e-04 | 1.2e-04 | 7.4e-05 | 4.0e-05 | 1.4e-05 | 2.4e-06 | 5.1e-07 | 2.6e-07 | 4.3e-07 | 2.2e-06 | 1.5e-05 | 6.4e-05 | 4.6e-04 |
| Central Atlantic Draft WEA Secondary B2 | 2.3e-05 | 2.2e-05 | 1.4e-05 | 7.3e-06 | 2.5e-06 | 4.4e-07 | 9.4e-08 | 4.7e-08 | 7.9e-08 | 4.0e-07 | 2.8e-06 | 1.2e-05 | 8.4e-05 |
| Central Atlantic Call Area C | 2.1e-04 | 2.0e-04 | 1.2e-04 | 6.7e-05 | 2.3e-05 | 4.0e-06 | 8.5e-07 | 4.3e-07 | 7.2e-07 | 3.6e-06 | 2.5e-05 | 1.1e-04 | 7.6e-04 |
| Central Atlantic Draft WEA Primary C | 1.4e-04 | 1.4e-04 | 8.3e-05 | 4.5e-05 | 1.5e-05 | 2.7e-06 | 5.8e-07 | 2.9e-07 | 4.9e-07 | 2.4e-06 | 1.7e-05 | 7.2e-05 | 5.2e-04 |
| Central Atlantic Draft WEA Secondary C | 5.1e-05 | 4.9e-05 | 3.0e-05 | 1.6e-05 | 5.5e-06 | 9.8e-07 | 2.1e-07 | 1.0e-07 | 1.7e-07 | 8.7e-07 | 6.2e-06 | 2.6e-05 | 1.9e-04 |
| Central Atlantic Call Area D | 7.3e-04 | 7.1e-04 | 4.3e-04 | 2.3e-04 | 8.0e-05 | 1.4e-05 | 3.0e-06 | 1.5e-06 | 2.5e-06 | 1.3e-05 | 8.9e-05 | 3.7e-04 | 2.7e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 3.8e-04 | 3.7e-04 | 2.2e-04 | 1.2e-04 | 4.1e-05 | 7.3e-06 | 1.5e-06 | 7.7e-07 | 1.3e-06 | 6.5e-06 | 4.6e-05 | 1.9e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Secondary D | 6.2e-05 | 6.1e-05 | 3.7e-05 | 2.0e-05 | 6.8e-06 | 1.2e-06 | 2.5e-07 | 1.3e-07 | 2.1e-07 | 1.1e-06 | 7.6e-06 | 3.2e-05 | 2.3e-04 |
| Central Atlantic Call Area E | 3.7e-04 | 3.6e-04 | 2.2e-04 | 1.2e-04 | 4.0e-05 | 7.2e-06 | 1.5e-06 | 7.6e-07 | 1.3e-06 | 6.4e-06 | 4.5e-05 | 1.9e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Primary E1 | 2.1e-06 | 2.0e-06 | 1.2e-06 | 6.6e-07 | 2.2e-07 | 4.0e-08 | 8.4e-09 | 4.2e-09 | 7.1e-09 | 3.5e-08 | 2.5e-07 | 1.1e-06 | 7.6e-06 |
| Central Atlantic Draft WEA Primary E2 | 2.1e-11 | 2.0e-11 | 1.2e-11 | 6.7e-12 | 2.3e-12 | 4.0e-13 | 8.5e-14 | 4.3e-14 | 7.2e-14 | 3.6e-13 | 2.5e-12 | 1.1e-11 | 7.7e-11 |
| Central Atlantic Call Area F | 7.1e-06 | 6.9e-06 | 4.2e-06 | 2.3e-06 | 7.7e-07 | 1.4e-07 | 2.9e-08 | 1.5e-08 | 2.4e-08 | 1.2e-07 | 8.6e-07 | 3.6e-06 | 2.6e-05 |
| Central Atlantic Draft WEA Primary F | 4.0e-17 | 3.9e-17 | 3.1e-17 | 2.5e-17 | 2.2e-17 | 2.1e-17 | 2.1e-17 | 2.1e-17 | 2.1e-17 | 2.1e-17 | 2.2e-17 | 2.9e-17 | 3.1e-16 |
| Virginia OCS-A 0483 | 3.5e-04 | 3.4e-04 | 2.1e-04 | 1.1e-04 | 3.8e-05 | 6.7e-06 | 1.4e-06 | 7.1e-07 | 1.2e-06 | 6.0e-06 | 4.2e-05 | 1.8e-04 | 1.3e-03 |
| Virginia OCS-A 0497 | 1.4e-05 | 1.4e-05 | 8.4e-06 | 4.6e-06 | 1.6e-06 | 2.8e-07 | 5.8e-08 | 2.9e-08 | 4.9e-08 | 2.5e-07 | 1.7e-06 | 7.3e-06 | 5.2e-05 |
| North Carolina OCS-A 0508 | 1.9e-04 | 1.9e-04 | 1.1e-04 | 6.1e-05 | 2.1e-05 | 3.7e-06 | 7.8e-07 | 3.9e-07 | 6.6e-07 | 3.3e-06 | 2.3e-05 | 9.8e-05 | 7.0e-04 |
| North Carolina OCS-A 0545 | 2.1e-04 | 2.0e-04 | 1.2e-04 | 6.7e-05 | 2.3e-05 | 4.1e-06 | 8.6e-07 | 4.3e-07 | 7.2e-07 | 3.6e-06 | 2.6e-05 | 1.1e-04 | 7.7e-04 |
| North Carolina OCS-A 0546 | 1.9e-04 | 1.8e-04 | 1.1e-04 | 6.0e-05 | 2.0e-05 | 3.6e-06 | 7.6e-07 | 3.8e-07 | 6.4e-07 | 3.2e-06 | 2.3e-05 | 9.6e-05 | 6.8e-04 |
| South Carolina Call Area - Grand Strand | 6.8e-03 | 6.7e-03 | 4.0e-03 | 2.2e-03 | 7.5e-04 | 1.3e-04 | 2.8e-05 | 1.4e-05 | 2.4e-05 | 1.2e-04 | 8.3e-04 | 3.5e-03 | 2.5e-02 |
| South Carolina Call Area - Cape Romain | 2.1e-03 | 2.0e-03 | 1.2e-03 | 6.7e-04 | 2.3e-04 | 4.0e-05 | 8.5e-06 | 4.3e-06 | 7.2e-06 | 3.6e-05 | 2.5e-04 | 1.1e-03 | 7.7e-03 |
| South Carolina Call Area - Winyah | 4.0e-05 | 3.8e-05 | 2.3e-05 | 1.3e-05 | 4.3e-06 | 7.6e-07 | 1.6e-07 | 8.1e-08 | 1.4e-07 | 6.8e-07 | 4.8e-06 | 2.0e-05 | 1.5e-04 |
| South Carolina Call Area - Charleston | 9.7e-05 | 9.4e-05 | 5.7e-05 | 3.1e-05 | 1.1e-05 | 1.9e-06 | 3.9e-07 | 2.0e-07 | 3.3e-07 | 1.7e-06 | 1.2e-05 | 5.0e-05 | 3.5e-04 |
| All planning areas | 1.1e-02 | 1.1e-02 | 6.7e-03 | 3.6e-03 | 1.2e-03 | 2.2e-04 | 4.6e-05 | 2.3e-05 | 3.9e-05 | 2.0e-04 | 1.4e-03 | 5.8e-03 | 4.2e-02 |
| All lease areas | 4.2e-03 | 4.1e-03 | 2.5e-03 | 1.3e-03 | 4.6e-04 | 8.2e-05 | 1.7e-05 | 8.7e-06 | 1.5e-05 | 7.3e-05 | 5.1e-04 | 2.2e-03 | 1.5e-02 |
| All planning and lease areas | 1.6e-02 | 1.5e-02 | 9.2e-03 | 5.0e-03 | 1.7e-03 | 3.0e-04 | 6.4e-05 | 3.2e-05 | 5.4e-05 | 2.7e-04 | 1.9e-03 | 8.0e-03 | 5.7e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-8. Predicted proportional abundance of Red-necked Phalarope by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.1e-04 | 1.4e-05 | 1.3e-05 | 9.1e-04 | 7.8e-03 | 7.0e-04 | 2.6e-04 | 3.6e-02 | 9.9e-02 | 3.8e-03 | 8.7e-04 | 1.1e-03 | 1.5e-01 |
| Gulf of Maine Request for Competitive Interest | 9.7e-07 | 8.7e-08 | 8.3e-08 | 4.1e-06 | 3.8e-05 | 3.1e-06 | 1.3e-06 | 1.4e-04 | 6.1e-04 | 2.1e-05 | 5.5e-06 | 6.8e-06 | 8.3e-04 |
| Marine Research Array Requested Lease | 1.3e-07 | 1.2e-08 | 1.1e-08 | 5.4e-07 | 5.2e-06 | 4.3e-07 | 1.9e-07 | 2.1e-05 | 8.6e-05 | 2.9e-06 | 7.7e-07 | 9.6e-07 | 1.2e-04 |
| Rhode Island OCS-A 0506 | 2.2e-09 | 1.2e-10 | 8.6e-11 | 1.7e-08 | 1.4e-07 | 7.9e-09 | 3.2e-10 | 2.5e-08 | 1.9e-07 | 2.6e-08 | 3.8e-09 | 9.6e-09 | 4.2e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 5.0e-06 | 1.4e-07 | 4.2e-08 | 8.3e-06 | 7.5e-05 | 3.9e-06 | 9.7e-08 | 9.7e-06 | 9.6e-05 | 1.5e-05 | 6.5e-06 | 2.1e-05 | 2.4e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.0e-07 | 2.7e-08 | 7.5e-09 | 1.4e-06 | 1.3e-05 | 6.3e-07 | 1.3e-08 | 1.4e-06 | 1.2e-05 | 2.4e-06 | 1.0e-06 | 3.6e-06 | 3.6e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 7.4e-06 | 2.6e-07 | 1.0e-07 | 1.2e-05 | 1.2e-04 | 6.3e-06 | 1.4e-07 | 1.3e-05 | 1.3e-04 | 2.3e-05 | 9.7e-06 | 2.3e-05 | 3.4e-04 |
| Massachusetts OCS-A 0500 | 7.5e-06 | 3.6e-07 | 1.8e-07 | 1.8e-05 | 2.0e-04 | 1.0e-05 | 2.7e-07 | 2.1e-05 | 2.0e-04 | 3.4e-05 | 1.4e-05 | 2.7e-05 | 5.3e-04 |
| Massachusetts OCS-A 0501 | 3.2e-06 | 1.5e-07 | 7.1e-08 | 7.2e-06 | 7.9e-05 | 4.0e-06 | 1.7e-07 | 1.1e-05 | 9.4e-05 | 1.4e-05 | 6.4e-06 | 1.2e-05 | 2.3e-04 |
| Massachusetts OCS-A 0534 | 4.6e-06 | 2.5e-07 | 1.6e-07 | 1.2e-05 | 1.5e-04 | 7.4e-06 | 2.3e-07 | 1.5e-05 | 1.3e-04 | 2.5e-05 | 9.3e-06 | 1.6e-05 | 3.7e-04 |
| Massachusetts OCS-A 0520 | 5.9e-06 | 3.3e-07 | 2.0e-07 | 1.4e-05 | 1.8e-04 | 8.8e-06 | 3.6e-07 | 2.1e-05 | 1.9e-04 | 3.3e-05 | 1.2e-05 | 2.2e-05 | 4.8e-04 |
| Massachusetts OCS-A 0521 | 5.9e-06 | 3.6e-07 | 2.0e-07 | 1.3e-05 | 1.6e-04 | 8.4e-06 | 4.5e-07 | 2.4e-05 | 2.1e-04 | 3.3e-05 | 1.3e-05 | 2.5e-05 | 5.0e-04 |
| Massachusetts OCS-A 0522 | 6.8e-06 | 4.5e-07 | 2.3e-07 | 1.4e-05 | 1.6e-04 | 9.0e-06 | 6.7e-07 | 3.3e-05 | 2.7e-04 | 3.5e-05 | 1.4e-05 | 2.8e-05 | 5.7e-04 |
| New York WEA - Fairways North | 9.8e-06 | 2.4e-07 | 8.0e-08 | 8.4e-06 | 6.0e-05 | 3.2e-06 | 8.0e-08 | 9.7e-06 | 6.2e-05 | 1.9e-05 | 6.6e-06 | 2.5e-05 | 2.0e-04 |
| New York WEA - Fairways South | 2.8e-06 | 7.4e-08 | 2.2e-08 | 2.8e-06 | 1.5e-05 | 6.8e-07 | 1.2e-08 | 3.0e-06 | 1.3e-05 | 3.7e-06 | 1.4e-06 | 6.6e-06 | 5.0e-05 |
| New York OCS-A 0512 | 7.6e-06 | 2.2e-07 | 8.2e-08 | 1.1e-05 | 5.0e-05 | 1.8e-06 | 3.4e-08 | 8.0e-06 | 4.2e-05 | 1.0e-05 | 4.3e-06 | 2.0e-05 | 1.5e-04 |
| NY/NJ OCS-A 0544 | 7.3e-06 | 2.5e-07 | 6.4e-08 | 6.9e-06 | 3.2e-05 | 1.1e-06 | 1.7e-08 | 4.2e-06 | 2.4e-05 | 7.0e-06 | 3.0e-06 | 1.5e-05 | 1.0e-04 |
| NY/NJ OCS-A 0537 | 1.2e-05 | 7.4e-07 | 2.8e-07 | 1.4e-05 | 1.0e-04 | 3.6e-06 | 3.8e-08 | 7.9e-06 | 5.1e-05 | 2.2e-05 | 1.1e-05 | 3.1e-05 | 2.5e-04 |
| NY/NJ OCS-A 0538 | 2.0e-05 | 1.2e-06 | 5.4e-07 | 2.5e-05 | 1.3e-04 | 3.5e-06 | 3.6e-08 | 8.1e-06 | 5.0e-05 | 2.0e-05 | 1.2e-05 | 4.8e-05 | 3.2e-04 |
| NY/NJ OCS-A 0539 | 3.4e-05 | 2.0e-06 | 6.6e-07 | 4.2e-05 | 2.0e-04 | 4.8e-06 | 5.6e-08 | 1.3e-05 | 6.8e-05 | 2.3e-05 | 1.5e-05 | 7.9e-05 | 4.8e-04 |
| NY/NJ OCS-A 0541 | 1.7e-05 | 9.5e-07 | 3.0e-07 | 3.0e-05 | 1.2e-04 | 2.3e-06 | 3.3e-08 | 9.2e-06 | 3.4e-05 | 1.1e-05 | 8.0e-06 | 4.0e-05 | 2.7e-04 |
| NY/NJ OCS-A 0542 | 2.0e-05 | 1.2e-06 | 5.1e-07 | 3.1e-05 | 1.4e-04 | 3.1e-06 | 3.8e-08 | 1.0e-05 | 4.0e-05 | 1.4e-05 | 9.6e-06 | 4.8e-05 | 3.2e-04 |
| New Jersey OCS-A 0549 | 2.0e-06 | 9.5e-08 | 8.7e-08 | 1.7e-05 | 5.3e-05 | 9.5e-07 | 3.6e-08 | 9.9e-06 | 2.6e-05 | 5.6e-06 | 2.2e-06 | 6.7e-06 | 1.2e-04 |
| New Jersey OCS-A 0499 | 4.6e-06 | 1.6e-07 | 1.4e-07 | 2.8e-05 | 7.9e-05 | 1.2e-06 | 4.6e-08 | 1.4e-05 | 3.6e-05 | 7.7e-06 | 4.4e-06 | 1.6e-05 | 1.9e-04 |
| New Jersey OCS-A 0498 | 2.8e-06 | 1.1e-07 | 1.0e-07 | 2.2e-05 | 5.9e-05 | 7.6e-07 | 3.6e-08 | 1.2e-05 | 2.6e-05 | 5.1e-06 | 2.7e-06 | 9.8e-06 | 1.4e-04 |
| New Jersey OCS-A 0532 | 2.0e-06 | 1.1e-07 | 1.0e-07 | 2.3e-05 | 6.1e-05 | 7.3e-07 | 4.2e-08 | 1.5e-05 | 2.7e-05 | 5.0e-06 | 2.2e-06 | 6.8e-06 | 1.4e-04 |
| Delaware OCS-A 0482 | 2.3e-06 | 1.3e-07 | 1.1e-07 | 2.5e-05 | 5.8e-05 | 5.4e-07 | 3.7e-08 | 1.3e-05 | 2.3e-05 | 3.6e-06 | 2.3e-06 | 8.3e-06 | 1.4e-04 |
| Delaware OCS-A 0519 | 1.5e-06 | 6.8e-08 | 5.0e-08 | 1.1e-05 | 2.5e-05 | 2.1e-07 | 1.2e-08 | 4.3e-06 | 8.4e-06 | 1.4e-06 | 1.2e-06 | 5.0e-06 | 5.8e-05 |
| Maryland OCS-A 0490 | 4.9e-06 | 2.3e-07 | 1.6e-07 | 3.4e-05 | 7.1e-05 | 5.0e-07 | 3.8e-08 | 1.4e-05 | 2.8e-05 | 3.9e-06 | 3.5e-06 | 1.4e-05 | 1.8e-04 |
| Central Atlantic Call Area A | 6.1e-05 | 2.5e-06 | 7.9e-07 | 1.4e-04 | 3.7e-04 | 2.9e-06 | 1.2e-07 | 3.9e-05 | 8.4e-05 | 2.0e-05 | 2.1e-05 | 1.2e-04 | 8.6e-04 |
| Central Atlantic Draft WEA Primary A | 8.8e-06 | 3.1e-07 | 1.2e-07 | 2.3e-05 | 5.8e-05 | 5.0e-07 | 2.1e-08 | 6.8e-06 | 1.5e-05 | 3.3e-06 | 3.3e-06 | 1.8e-05 | 1.4e-04 |
| Central Atlantic Draft WEA Secondary A | 2.9e-05 | 1.1e-06 | 3.7e-07 | 6.8e-05 | 1.8e-04 | 1.4e-06 | 5.9e-08 | 1.9e-05 | 4.2e-05 | 9.8e-06 | 1.0e-05 | 5.8e-05 | 4.2e-04 |
| Central Atlantic Call Area B | 2.1e-04 | 1.4e-05 | 3.7e-06 | 4.9e-04 | 1.1e-03 | 4.7e-06 | 3.2e-07 | 1.3e-04 | 3.2e-04 | 5.3e-05 | 6.9e-05 | 3.1e-04 | 2.7e-03 |
| Central Atlantic Draft WEA Primary B1 | 2.2e-06 | 1.0e-07 | 5.7e-08 | 1.1e-05 | 2.1e-05 | 9.3e-08 | 8.7e-09 | 3.5e-06 | 8.0e-06 | 1.1e-06 | 1.2e-06 | 4.7e-06 | 5.3e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.4e-06 | 5.6e-08 | 2.9e-08 | 5.4e-06 | 1.1e-05 | 5.2e-08 | 3.9e-09 | 1.7e-06 | 3.7e-06 | 5.4e-07 | 5.6e-07 | 2.7e-06 | 2.7e-05 |
| Central Atlantic Draft WEA Primary B2 | 7.1e-05 | 4.8e-06 | 1.2e-06 | 1.5e-04 | 3.1e-04 | 1.1e-06 | 1.0e-07 | 4.1e-05 | 1.0e-04 | 1.6e-05 | 2.3e-05 | 9.7e-05 | 8.2e-04 |
| Central Atlantic Draft WEA Secondary B2 | 3.3e-05 | 2.6e-06 | 5.9e-07 | 6.9e-05 | 1.5e-04 | 6.2e-07 | 4.2e-08 | 1.7e-05 | 4.4e-05 | 7.2e-06 | 1.0e-05 | 4.6e-05 | 3.8e-04 |
| Central Atlantic Call Area C | 7.1e-05 | 5.3e-06 | 1.5e-06 | 1.4e-04 | 2.6e-04 | 6.0e-07 | 1.3e-07 | 4.3e-05 | 9.9e-05 | 1.1e-05 | 2.2e-05 | 8.6e-05 | 7.3e-04 |
| Central Atlantic Draft WEA Primary C | 4.2e-05 | 2.9e-06 | 7.9e-07 | 7.9e-05 | 1.4e-04 | 3.2e-07 | 7.8e-08 | 2.6e-05 | 5.9e-05 | 6.2e-06 | 1.3e-05 | 5.0e-05 | 4.2e-04 |
| Central Atlantic Draft WEA Secondary C | 2.4e-05 | 1.9e-06 | 5.1e-07 | 4.5e-05 | 8.7e-05 | 2.1e-07 | 4.0e-08 | 1.3e-05 | 3.2e-05 | 3.5e-06 | 7.1e-06 | 2.9e-05 | 2.4e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 2.2e-04 | 1.5e-05 | 4.5e-06 | 3.5e-04 | 5.8e-04 | 1.3e-06 | 5.8e-07 | 1.5e-04 | 2.6e-04 | 1.8e-05 | 4.1e-05 | 2.1e-04 | 1.8e-03 |
| Central Atlantic Draft WEA Primary D | 7.3e-05 | 4.0e-06 | 1.2e-06 | 1.2e-04 | 2.0e-04 | 3.9e-07 | 2.2e-07 | 5.5e-05 | 9.3e-05 | 6.3e-06 | 1.6e-05 | 6.8e-05 | 6.4e-04 |
| Central Atlantic Draft WEA Secondary D | 5.9e-06 | 3.3e-07 | 1.3e-07 | 1.3e-05 | 2.2e-05 | 4.0e-08 | 2.8e-08 | 7.2e-06 | 1.2e-05 | 6.9e-07 | 1.8e-06 | 6.3e-06 | 6.9e-05 |
| Central Atlantic Call Area E | 5.3e-05 | 6.1e-06 | 7.7e-06 | 5.6e-04 | 9.8e-04 | 8.5e-06 | 5.1e-07 | 1.0e-04 | 2.1e-04 | 3.5e-05 | 4.3e-05 | 1.3e-04 | 2.1e-03 |
| Central Atlantic Draft WEA Primary E1 | 1.1e-05 | 1.2e-06 | 1.6e-06 | 1.6e-04 | 2.2e-04 | 2.3e-06 | 1.4e-07 | 2.4e-05 | 5.1e-05 | 8.7e-06 | 9.8e-06 | 2.6e-05 | 5.1e-04 |
| Central Atlantic Draft WEA Primary E2 | 6.9e-06 | 1.1e-06 | 1.2e-06 | 7.2e-05 | 1.2e-04 | 8.8e-07 | 7.5e-08 | 1.5e-05 | 3.0e-05 | 3.8e-06 | 4.6e-06 | 1.8e-05 | 2.8e-04 |
| Central Atlantic Call Area F | 2.2e-05 | 3.8e-06 | 2.5e-06 | 7.2e-05 | 1.2e-04 | 9.8e-07 | 1.4e-07 | 3.1e-05 | 6.7e-05 | 5.4e-06 | 3.4e-06 | 2.4e-05 | 3.5e-04 |
| Central Atlantic Draft WEA Primary F | 4.5e-07 | 1.1e-07 | 6.6e-08 | 1.6e-06 | 2.6e-06 | 1.7e-08 | 4.2e-09 | 8.0e-07 | 2.4e-06 | 1.6e-07 | 4.1e-08 | 2.9e-07 | 8.6e-06 |
| Virginia OCS-A 0483 | 9.5e-06 | 6.9e-07 | 3.3e-07 | 3.0e-05 | 5.7e-05 | 1.1e-07 | 7.1e-08 | 2.4e-05 | 4.5e-05 | 3.0e-06 | 6.6e-06 | 1.7e-05 | 1.9e-04 |
| Virginia OCS-A 0497 | 1.2e-07 | 7.9e-09 | 4.0e-09 | 5.0e-07 | 9.7e-07 | 1.8e-09 | 2.0e-09 | 5.7e-07 | 9.1e-07 | 4.9e-08 | 7.7e-08 | 2.0e-07 | 3.4e-06 |
| North Carolina OCS-A 0508 | 6.7e-05 | 3.4e-06 | 9.2e-07 | 9.1e-05 | 1.3e-04 | 2.5e-07 | 1.5e-07 | 3.4e-05 | 6.0e-05 | 4.3e-06 | 1.1e-05 | 5.7e-05 | 4.6e-04 |
| North Carolina OCS-A 0545 | 4.6e-05 | 3.9e-06 | 1.4e-06 | 2.8e-05 | 6.7e-06 | 3.9e-07 | 1.7e-07 | 3.0e-05 | 5.4e-05 | 3.0e-06 | 1.4e-06 | 2.8e-05 | 2.0e-04 |
| North Carolina OCS-A 0546 | 4.3e-05 | 3.7e-06 | 1.3e-06 | 2.7e-05 | 6.9e-06 | 4.1e-07 | 1.8e-07 | 3.1e-05 | 5.7e-05 | 3.2e-06 | 1.2e-06 | 2.4e-05 | 2.0e-04 |
| South Carolina Call Area - Grand Strand | 1.7e-04 | 1.4e-05 | 7.4e-06 | 1.8e-04 | 3.8e-05 | 2.2e-06 | 1.0e-06 | 2.0e-04 | 4.0e-04 | 1.1e-05 | 2.0e-05 | 2.0e-04 | 1.3e-03 |
| South Carolina Call Area - Cape Romain | 3.9e-05 | 3.7e-06 | 1.8e-06 | 4.1e-05 | 9.3e-06 | 5.6e-07 | 2.5e-07 | 5.4e-05 | 1.1e-04 | 3.2e-06 | 5.7e-06 | 5.9e-05 | 3.3e-04 |
| South Carolina Call Area - Winyah | 1.4e-05 | 1.9e-06 | 5.1e-07 | 6.4e-06 | 4.4e-06 | 2.1e-07 | 5.4e-08 | 9.4e-06 | 2.1e-05 | 2.6e-06 | 4.8e-07 | 3.5e-06 | 6.5e-05 |
| South Carolina Call Area - Charleston | 2.6e-05 | 2.6e-06 | 7.3e-07 | 8.1e-06 | 3.3e-06 | 1.9e-07 | 5.5e-08 | 1.0e-05 | 2.3e-05 | 1.8e-06 | 4.7e-07 | 1.1e-05 | 8.7e-05 |
| All planning areas | 1.1e-03 | 8.2e-05 | 4.4e-05 | 2.9e-03 | 1.1e-02 | 7.3e-04 | 2.7e-04 | 3.6e-02 | 1.0e-01 | 4.0e-03 | 1.1e-03 | 2.3e-03 | 1.6e-01 |
| All lease areas | 3.5e-04 | 2.1e-05 | 8.3e-06 | 5.9e-04 | 2.5e-03 | 8.5e-05 | 3.5e-06 | 4.1e-04 | 2.0e-03 | 3.7e-04 | 1.9e-04 | 6.5e-04 | 7.2e-03 |
| All planning and lease areas | 1.5e-03 | 1.0e-04 | 5.3e-05 | 3.5e-03 | 1.4e-02 | 8.1e-04 | 2.7e-04 | 3.7e-02 | 1.0e-01 | 4.3e-03 | 1.3e-03 | 2.9e-03 | 1.7e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-9. Predicted proportional abundance of Red Phalarope by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.1e-04 | 5.5e-05 | 3.0e-04 | 4.0e-03 | 1.1e-02 | 7.1e-03 | 2.6e-03 | 5.1e-03 | 7.3e-03 | 2.0e-02 | 8.1e-03 | 5.1e-04 | 6.6e-02 |
| Gulf of Maine Request for Competitive Interest | 7.5e-07 | 9.6e-08 | 1.2e-06 | 1.5e-05 | 8.3e-05 | 3.6e-05 | 1.8e-05 | 3.0e-05 | 4.3e-05 | 9.9e-05 | 4.7e-05 | 2.8e-06 | 3.8e-04 |
| Marine Research Array Requested Lease | 1.1e-07 | 1.2e-08 | 1.7e-07 | 2.0e-06 | 1.2e-05 | 5.4e-06 | 2.7e-06 | 4.6e-06 | 6.5e-06 | 1.4e-05 | 6.2e-06 | 4.0e-07 | 5.4e-05 |
| Rhode Island OCS-A 0506 | 7.2e-09 | 2.9e-09 | 5.7e-09 | 3.9e-08 | 9.4e-08 | 1.2e-08 | 2.7e-09 | 2.1e-09 | 2.1e-08 | 5.1e-08 | 5.7e-08 | 4.2e-08 | 3.4e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 4.2e-06 | 1.4e-06 | 2.6e-06 | 1.5e-05 | 4.0e-05 | 4.2e-06 | 6.8e-07 | 4.3e-07 | 4.7e-06 | 1.3e-05 | 1.4e-05 | 1.4e-05 | 1.1e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.5e-07 | 2.7e-07 | 4.4e-07 | 2.1e-06 | 5.1e-06 | 5.4e-07 | 8.1e-08 | 5.1e-08 | 5.7e-07 | 2.0e-06 | 2.4e-06 | 2.5e-06 | 1.7e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 7.2e-06 | 2.7e-06 | 6.0e-06 | 3.1e-05 | 6.4e-05 | 7.0e-06 | 1.2e-06 | 7.1e-07 | 7.7e-06 | 3.5e-05 | 2.6e-05 | 2.0e-05 | 2.1e-04 |
| Massachusetts OCS-A 0500 | 6.2e-06 | 2.6e-06 | 8.3e-06 | 5.4e-05 | 1.1e-04 | 1.2e-05 | 2.4e-06 | 1.3e-06 | 1.3e-05 | 7.3e-05 | 3.6e-05 | 1.8e-05 | 3.3e-04 |
| Massachusetts OCS-A 0501 | 1.7e-06 | 7.5e-07 | 3.2e-06 | 2.3e-05 | 4.2e-05 | 4.4e-06 | 1.2e-06 | 5.4e-07 | 4.3e-06 | 1.4e-05 | 1.4e-05 | 6.0e-06 | 1.1e-04 |
| Massachusetts OCS-A 0534 | 2.5e-06 | 1.8e-06 | 6.4e-06 | 5.4e-05 | 9.9e-05 | 1.1e-05 | 2.8e-06 | 1.3e-06 | 1.1e-05 | 5.4e-05 | 2.7e-05 | 8.9e-06 | 2.8e-04 |
| Massachusetts OCS-A 0520 | 2.7e-06 | 1.9e-06 | 8.9e-06 | 7.8e-05 | 1.4e-04 | 1.6e-05 | 4.7e-06 | 2.4e-06 | 1.6e-05 | 9.2e-05 | 4.2e-05 | 1.4e-05 | 4.2e-04 |
| Massachusetts OCS-A 0521 | 2.8e-06 | 2.1e-06 | 9.8e-06 | 7.7e-05 | 1.3e-04 | 1.6e-05 | 5.4e-06 | 3.1e-06 | 1.7e-05 | 1.1e-04 | 4.9e-05 | 1.5e-05 | 4.3e-04 |
| Massachusetts OCS-A 0522 | 3.2e-06 | 2.3e-06 | 1.0e-05 | 6.9e-05 | 1.1e-04 | 1.5e-05 | 5.8e-06 | 3.7e-06 | 1.7e-05 | 8.5e-05 | 5.3e-05 | 1.6e-05 | 3.9e-04 |
| New York WEA - Fairways North | 7.3e-06 | 4.5e-06 | 5.2e-06 | 1.7e-05 | 3.4e-05 | 3.6e-06 | 4.4e-07 | 3.6e-07 | 4.3e-06 | 2.9e-05 | 1.9e-05 | 2.2e-05 | 1.5e-04 |
| New York WEA - Fairways South | 1.4e-06 | 7.9e-07 | 1.2e-06 | 4.7e-06 | 7.6e-06 | 8.1e-07 | 4.0e-08 | 5.7e-08 | 7.2e-07 | 4.8e-06 | 3.1e-06 | 4.7e-06 | 3.0e-05 |
| New York OCS-A 0512 | 5.1e-06 | 2.6e-06 | 3.3e-06 | 8.8e-06 | 9.9e-06 | 1.2e-06 | 3.6e-08 | 4.7e-08 | 8.5e-07 | 8.0e-06 | 7.6e-06 | 1.3e-05 | 6.0e-05 |
| NY/NJ OCS-A 0544 | 2.9e-06 | 1.9e-06 | 3.4e-06 | 8.1e-06 | 9.8e-06 | 9.2e-07 | 2.5e-08 | 3.2e-08 | 6.9e-07 | 8.8e-06 | 7.2e-06 | 9.5e-06 | 5.3e-05 |
| NY/NJ OCS-A 0537 | 1.2e-05 | 6.0e-06 | 1.5e-05 | 4.0e-05 | 5.0e-05 | 3.3e-06 | 1.1e-07 | 9.2e-08 | 3.2e-06 | 2.0e-04 | 6.6e-05 | 5.7e-05 | 4.5e-04 |
| NY/NJ OCS-A 0538 | 5.0e-06 | 4.9e-06 | 1.5e-05 | 3.5e-05 | 3.7e-05 | 2.3e-06 | 4.4e-08 | 3.5e-08 | 1.3e-06 | 7.7e-05 | 3.7e-05 | 2.8e-05 | 2.4e-04 |
| NY/NJ OCS-A 0539 | 9.8e-06 | 9.9e-06 | 2.5e-05 | 4.6e-05 | 3.6e-05 | 2.5e-06 | 3.3e-08 | 3.3e-08 | 1.3e-06 | 5.8e-05 | 3.8e-05 | 3.3e-05 | 2.6e-04 |
| NY/NJ OCS-A 0541 | 7.0e-06 | 8.1e-06 | 2.1e-05 | 3.3e-05 | 2.2e-05 | 1.6e-06 | 1.4e-08 | 2.5e-08 | 7.6e-07 | 2.4e-05 | 1.9e-05 | 2.1e-05 | 1.6e-04 |
| NY/NJ OCS-A 0542 | 7.8e-06 | 8.0e-06 | 2.6e-05 | 4.7e-05 | 3.2e-05 | 2.3e-06 | 2.0e-08 | 3.0e-08 | 1.0e-06 | 6.3e-05 | 3.6e-05 | 3.0e-05 | 2.5e-04 |
| New Jersey OCS-A 0549 | 4.8e-06 | 1.1e-06 | 3.2e-06 | 7.2e-06 | 3.2e-06 | 5.8e-07 | 1.8e-08 | 3.7e-08 | 4.3e-07 | 4.4e-06 | 5.4e-06 | 9.8e-06 | 4.0e-05 |
| New Jersey OCS-A 0499 | 7.4e-06 | 2.1e-06 | 5.6e-06 | 1.2e-05 | 4.8e-06 | 7.1e-07 | 1.4e-08 | 4.6e-08 | 5.8e-07 | 6.1e-06 | 7.2e-06 | 1.4e-05 | 6.1e-05 |
| New Jersey OCS-A 0498 | 5.4e-06 | 1.6e-06 | 4.2e-06 | 1.0e-05 | 3.8e-06 | 5.6e-07 | 1.1e-08 | 5.4e-08 | 4.8e-07 | 4.2e-06 | 5.0e-06 | 1.1e-05 | 4.6e-05 |
| New Jersey OCS-A 0532 | 4.1e-06 | 1.3e-06 | 3.7e-06 | 1.1e-05 | 3.9e-06 | 6.3e-07 | 1.7e-08 | 9.7e-08 | 6.3e-07 | 4.4e-06 | 5.1e-06 | 9.7e-06 | 4.5e-05 |
| Delaware OCS-A 0482 | 4.7e-06 | 2.0e-06 | 4.2e-06 | 1.1e-05 | 2.0e-06 | 3.0e-07 | 1.1e-08 | 8.2e-08 | 3.0e-07 | 4.0e-06 | 5.7e-06 | 1.1e-05 | 4.5e-05 |
| Delaware OCS-A 0519 | 2.7e-06 | 1.2e-06 | 2.2e-06 | 5.0e-06 | 8.9e-07 | 1.2e-07 | 2.9e-09 | 3.2e-08 | 1.0e-07 | 1.6e-06 | 2.2e-06 | 4.8e-06 | 2.1e-05 |
| Maryland OCS-A 0490 | 7.3e-06 | 4.2e-06 | 6.6e-06 | 1.4e-05 | 2.0e-06 | 2.9e-07 | 9.4e-09 | 1.0e-07 | 2.8e-07 | 4.6e-06 | 6.9e-06 | 1.3e-05 | 5.9e-05 |
| Central Atlantic Call Area A | 4.4e-05 | 3.3e-05 | 6.1e-05 | 9.4e-05 | 1.9e-05 | 2.0e-06 | 2.4e-08 | 6.7e-07 | 1.4e-06 | 3.6e-05 | 4.7e-05 | 6.7e-05 | 4.1e-04 |
| Central Atlantic Draft WEA Primary A | 6.7e-06 | 4.5e-06 | 8.6e-06 | 1.4e-05 | 2.9e-06 | 3.4e-07 | 4.5e-09 | 8.4e-08 | 2.3e-07 | 5.2e-06 | 6.5e-06 | 1.1e-05 | 6.0e-05 |
| Central Atlantic Draft WEA Secondary A | 2.1e-05 | 1.6e-05 | 2.8e-05 | 4.5e-05 | 9.2e-06 | 1.0e-06 | 1.2e-08 | 3.0e-07 | 6.7e-07 | 1.7e-05 | 2.1e-05 | 3.2e-05 | 1.9e-04 |
| Central Atlantic Call Area B | 3.2e-04 | 3.4e-04 | 5.1e-04 | 3.0e-04 | 4.5e-05 | 3.2e-06 | 1.0e-07 | 8.4e-06 | 9.4e-06 | 3.4e-04 | 6.7e-04 | 4.7e-04 | 3.0e-03 |
| Central Atlantic Draft WEA Primary B1 | 3.8e-06 | 3.4e-06 | 3.4e-06 | 4.0e-06 | 4.6e-07 | 4.1e-08 | 1.1e-09 | 3.0e-08 | 7.0e-08 | 1.5e-06 | 3.1e-06 | 5.8e-06 | 2.5e-05 |
| Central Atlantic Draft WEA Secondary B1 | 2.1e-06 | 1.9e-06 | 1.8e-06 | 2.1e-06 | 2.5e-07 | 2.3e-08 | 5.1e-10 | 1.8e-08 | 3.4e-08 | 7.8e-07 | 1.7e-06 | 2.9e-06 | 1.4e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.1e-04 | 1.3e-04 | 1.7e-04 | 8.6e-05 | 1.3e-05 | 7.2e-07 | 4.1e-08 | 3.1e-06 | 3.1e-06 | 1.1e-04 | 2.2e-04 | 1.5e-04 | 1.0e-03 |
| Central Atlantic Draft WEA Secondary B2 | 5.5e-05 | 5.9e-05 | 9.5e-05 | 4.9e-05 | 7.5e-06 | 4.7e-07 | 1.7e-08 | 1.7e-06 | 1.8e-06 | 6.9e-05 | 1.4e-04 | 8.3e-05 | 5.6e-04 |
| Central Atlantic Call Area C | 8.4e-05 | 1.2e-04 | 1.6e-04 | 5.7e-05 | 5.8e-06 | 2.7e-07 | 2.1e-07 | 2.8e-06 | 2.6e-06 | 7.0e-05 | 1.8e-04 | 9.5e-05 | 7.7e-04 |
| Central Atlantic Draft WEA Primary C | 5.4e-05 | 7.1e-05 | 8.2e-05 | 3.2e-05 | 3.2e-06 | 1.4e-07 | 1.3e-07 | 1.6e-06 | 1.4e-06 | 3.7e-05 | 8.8e-05 | 5.3e-05 | 4.2e-04 |
| Central Atlantic Draft WEA Secondary C | 2.5e-05 | 3.7e-05 | 6.3e-05 | 2.0e-05 | 2.1e-06 | 1.0e-07 | 6.7e-08 | 9.3e-07 | 9.5e-07 | 2.7e-05 | 7.0e-05 | 3.5e-05 | 2.8e-04 |
| Central Atlantic Call Area D | 1.7e-04 | 2.5e-04 | 4.0e-04 | 1.4e-04 | 1.6e-05 | 4.3e-07 | 1.8e-06 | 1.1e-05 | 8.2e-06 | 8.9e-05 | 4.0e-04 | 2.1e-04 | 1.7e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 8.2e-05 | 1.2e-04 | 1.3e-04 | 4.7e-05 | 4.1e-06 | 1.3e-07 | 5.8e-07 | 3.8e-06 | 2.5e-06 | 3.6e-05 | 1.4e-04 | 8.1e-05 | 6.5e-04 |
| Central Atlantic Draft WEA Secondary D | 9.0e-06 | 1.1e-05 | 9.9e-06 | 3.9e-06 | 3.5e-07 | 1.2e-08 | 5.9e-08 | 4.6e-07 | 2.5e-07 | 3.5e-06 | 1.2e-05 | 7.4e-06 | 5.8e-05 |
| Central Atlantic Call Area E | 6.0e-05 | 2.2e-04 | 1.4e-03 | 6.8e-03 | 1.2e-03 | 7.0e-05 | 4.2e-06 | 3.1e-05 | 1.4e-04 | 1.2e-03 | 1.1e-03 | 7.7e-05 | 1.2e-02 |
| Central Atlantic Draft WEA Primary E1 | 1.2e-05 | 3.4e-05 | 2.4e-04 | 2.1e-03 | 3.7e-04 | 2.6e-05 | 1.8e-06 | 6.1e-06 | 3.1e-05 | 2.2e-04 | 1.3e-04 | 1.4e-05 | 3.2e-03 |
| Central Atlantic Draft WEA Primary E2 | 7.4e-06 | 4.2e-05 | 2.8e-04 | 1.3e-03 | 2.2e-04 | 7.4e-06 | 3.7e-07 | 3.9e-06 | 2.1e-05 | 7.2e-05 | 9.3e-05 | 1.2e-05 | 2.1e-03 |
| Central Atlantic Call Area F | 4.0e-05 | 1.3e-04 | 7.1e-04 | 8.6e-04 | 1.4e-04 | 5.0e-06 | 2.0e-06 | 1.4e-05 | 3.7e-05 | 1.2e-04 | 3.3e-04 | 1.0e-04 | 2.5e-03 |
| Central Atlantic Draft WEA Primary F | 3.9e-07 | 2.7e-06 | 1.4e-05 | 1.2e-05 | 1.7e-06 | 8.0e-08 | 2.9e-08 | 2.1e-07 | 4.6e-07 | 6.3e-07 | 1.9e-06 | 4.4e-07 | 3.4e-05 |
| Virginia OCS-A 0483 | 1.4e-05 | 1.4e-05 | 1.2e-05 | 7.0e-06 | 6.9e-07 | 3.3e-08 | 9.3e-08 | 8.6e-07 | 4.7e-07 | 6.0e-06 | 1.6e-05 | 1.8e-05 | 8.9e-05 |
| Virginia OCS-A 0497 | 1.1e-07 | 6.3e-08 | 8.1e-08 | 8.1e-08 | 1.1e-08 | 3.9e-10 | 2.3e-09 | 1.8e-08 | 5.3e-09 | 5.6e-08 | 1.5e-07 | 2.2e-07 | 8.0e-07 |
| North Carolina OCS-A 0508 | 6.2e-05 | 9.0e-05 | 1.2e-04 | 4.6e-05 | 5.3e-06 | 1.2e-07 | 7.0e-07 | 3.8e-06 | 2.6e-06 | 2.6e-05 | 1.4e-04 | 8.0e-05 | 5.8e-04 |
| North Carolina OCS-A 0545 | 4.4e-04 | 3.7e-04 | 6.1e-04 | 2.6e-04 | 3.7e-06 | 3.2e-07 | 5.4e-07 | 1.3e-06 | 3.8e-06 | 2.8e-06 | 1.2e-04 | 3.4e-04 | 2.1e-03 |
| North Carolina OCS-A 0546 | 4.1e-04 | 3.5e-04 | 6.0e-04 | 2.5e-04 | 3.4e-06 | 2.7e-07 | 4.4e-07 | 1.1e-06 | 3.7e-06 | 2.6e-06 | 1.0e-04 | 2.9e-04 | 2.0e-03 |
| South Carolina Call Area - Grand Strand | 3.5e-03 | 2.5e-03 | 2.1e-03 | 6.4e-04 | 1.1e-05 | 2.5e-06 | 3.9e-06 | 1.1e-05 | 2.3e-05 | 3.2e-05 | 2.6e-03 | 4.6e-03 | 1.6e-02 |
| South Carolina Call Area - Cape Romain | 6.0e-04 | 2.6e-04 | 2.5e-04 | 7.5e-05 | 1.0e-06 | 4.6e-07 | 5.3e-07 | 1.7e-06 | 4.1e-06 | 5.8e-06 | 4.8e-04 | 7.0e-04 | 2.4e-03 |
| South Carolina Call Area - Winyah | 5.4e-05 | 1.3e-04 | 2.3e-04 | 8.3e-05 | 9.2e-07 | 2.6e-07 | 2.0e-07 | 5.2e-07 | 2.6e-06 | 1.4e-06 | 1.1e-06 | 1.4e-05 | 5.1e-04 |
| South Carolina Call Area - Charleston | 1.8e-04 | 2.0e-04 | 3.7e-04 | 9.5e-05 | 1.1e-06 | 2.4e-07 | 2.1e-07 | 5.1e-07 | 2.4e-06 | 1.7e-06 | 1.3e-05 | 1.2e-04 | 9.9e-04 |
| All planning areas | 5.1e-03 | 4.2e-03 | 6.6e-03 | 1.3e-02 | 1.3e-02 | 7.2e-03 | 2.6e-03 | 5.2e-03 | 7.6e-03 | 2.2e-02 | 1.4e-02 | 7.0e-03 | 1.1e-01 |
| All lease areas | 1.0e-03 | 9.0e-04 | 1.5e-03 | 1.2e-03 | 9.6e-04 | 1.1e-04 | 2.6e-05 | 2.1e-05 | 1.1e-04 | 9.8e-04 | 8.9e-04 | 1.1e-03 | 8.9e-03 |
| All planning and lease areas | 6.2e-03 | 5.1e-03 | 8.1e-03 | 1.4e-02 | 1.4e-02 | 7.3e-03 | 2.6e-03 | 5.2e-03 | 7.7e-03 | 2.3e-02 | 1.5e-02 | 8.1e-03 | 1.2e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-10. Predicted proportional abundance of Great Skua by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 4.1e-03 | 1.9e-03 | 1.4e-03 | 1.6e-03 | 4.1e-03 | 3.3e-03 | 4.8e-03 | 8.3e-03 | 1.9e-02 | 2.0e-02 | 2.3e-02 | 1.2e-02 | 1.0e-01 |
| Gulf of Maine Request for Competitive Interest | 2.4e-05 | 1.1e-05 | 8.1e-06 | 9.3e-06 | 2.6e-05 | 1.7e-05 | 2.8e-05 | 5.2e-05 | 1.3e-04 | 1.2e-04 | 1.7e-04 | 7.8e-05 | 6.7e-04 |
| Marine Research Array Requested Lease | 3.4e-06 | 1.6e-06 | 1.1e-06 | 1.3e-06 | 3.7e-06 | 2.3e-06 | 4.0e-06 | 7.5e-06 | 1.8e-05 | 1.7e-05 | 2.3e-05 | 1.1e-05 | 9.4e-05 |
| Rhode Island OCS-A 0506 | 6.2e-08 | 2.1e-08 | 1.8e-08 | 2.5e-08 | 3.5e-08 | 3.2e-08 | 1.9e-08 | 2.1e-08 | 1.8e-07 | 4.0e-07 | 2.6e-07 | 2.2e-07 | 1.3e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.8e-05 | 1.1e-05 | 9.5e-06 | 1.5e-05 | 2.6e-05 | 1.9e-05 | 6.8e-06 | 7.1e-06 | 7.5e-05 | 1.8e-04 | 1.1e-04 | 9.7e-05 | 5.8e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.9e-06 | 1.8e-06 | 1.6e-06 | 2.3e-06 | 4.1e-06 | 2.9e-06 | 9.4e-07 | 1.1e-06 | 1.2e-05 | 3.0e-05 | 1.7e-05 | 1.6e-05 | 9.5e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 4.2e-05 | 1.5e-05 | 1.4e-05 | 2.1e-05 | 3.9e-05 | 2.6e-05 | 9.9e-06 | 9.3e-06 | 1.0e-04 | 2.6e-04 | 1.4e-04 | 1.3e-04 | 8.2e-04 |
| Massachusetts OCS-A 0500 | 5.4e-05 | 2.0e-05 | 1.9e-05 | 3.3e-05 | 6.2e-05 | 4.2e-05 | 2.0e-05 | 1.5e-05 | 1.5e-04 | 3.5e-04 | 1.9e-04 | 1.7e-04 | 1.1e-03 |
| Massachusetts OCS-A 0501 | 1.9e-05 | 8.1e-06 | 8.5e-06 | 1.5e-05 | 3.0e-05 | 1.9e-05 | 1.2e-05 | 8.5e-06 | 7.2e-05 | 1.5e-04 | 9.1e-05 | 7.3e-05 | 5.0e-04 |
| Massachusetts OCS-A 0534 | 3.9e-05 | 1.4e-05 | 1.4e-05 | 2.4e-05 | 4.8e-05 | 3.1e-05 | 1.8e-05 | 1.2e-05 | 1.1e-04 | 2.6e-04 | 1.4e-04 | 1.2e-04 | 8.4e-04 |
| Massachusetts OCS-A 0520 | 4.9e-05 | 1.9e-05 | 1.9e-05 | 3.2e-05 | 6.6e-05 | 4.1e-05 | 2.7e-05 | 1.8e-05 | 1.5e-04 | 3.4e-04 | 1.8e-04 | 1.6e-04 | 1.1e-03 |
| Massachusetts OCS-A 0521 | 4.8e-05 | 1.9e-05 | 1.9e-05 | 3.2e-05 | 6.9e-05 | 4.0e-05 | 3.2e-05 | 2.2e-05 | 1.6e-04 | 3.3e-04 | 1.8e-04 | 1.6e-04 | 1.1e-03 |
| Massachusetts OCS-A 0522 | 4.7e-05 | 2.1e-05 | 2.0e-05 | 3.3e-05 | 7.3e-05 | 4.1e-05 | 3.9e-05 | 2.8e-05 | 1.8e-04 | 3.5e-04 | 2.0e-04 | 1.6e-04 | 1.2e-03 |
| New York WEA - Fairways North | 4.3e-05 | 1.5e-05 | 1.1e-05 | 1.4e-05 | 1.7e-05 | 1.4e-05 | 6.6e-06 | 6.2e-06 | 5.7e-05 | 2.2e-04 | 1.1e-04 | 1.1e-04 | 6.2e-04 |
| New York WEA - Fairways South | 1.2e-05 | 4.0e-06 | 3.2e-06 | 4.7e-06 | 4.0e-06 | 4.1e-06 | 9.5e-07 | 1.5e-06 | 1.2e-05 | 5.6e-05 | 2.8e-05 | 3.0e-05 | 1.6e-04 |
| New York OCS-A 0512 | 3.5e-05 | 1.3e-05 | 1.1e-05 | 1.6e-05 | 1.1e-05 | 1.2e-05 | 2.4e-06 | 3.2e-06 | 2.9e-05 | 1.7e-04 | 8.6e-05 | 9.4e-05 | 4.8e-04 |
| NY/NJ OCS-A 0544 | 2.5e-05 | 9.1e-06 | 7.2e-06 | 1.1e-05 | 8.5e-06 | 7.4e-06 | 1.0e-06 | 1.5e-06 | 1.8e-05 | 1.0e-04 | 5.2e-05 | 5.6e-05 | 3.0e-04 |
| NY/NJ OCS-A 0537 | 5.9e-05 | 2.8e-05 | 1.8e-05 | 2.1e-05 | 2.7e-05 | 2.1e-05 | 2.4e-06 | 2.4e-06 | 3.7e-05 | 2.1e-04 | 1.0e-04 | 9.4e-05 | 6.2e-04 |
| NY/NJ OCS-A 0538 | 6.6e-05 | 3.0e-05 | 2.2e-05 | 3.1e-05 | 3.1e-05 | 2.4e-05 | 2.1e-06 | 2.0e-06 | 3.4e-05 | 2.3e-04 | 1.2e-04 | 1.1e-04 | 7.0e-04 |
| NY/NJ OCS-A 0539 | 9.0e-05 | 4.0e-05 | 3.3e-05 | 4.9e-05 | 4.5e-05 | 3.7e-05 | 2.9e-06 | 2.8e-06 | 4.7e-05 | 3.2e-04 | 1.7e-04 | 1.7e-04 | 1.0e-03 |
| NY/NJ OCS-A 0541 | 5.4e-05 | 2.3e-05 | 2.1e-05 | 3.3e-05 | 2.5e-05 | 2.2e-05 | 1.4e-06 | 1.6e-06 | 2.3e-05 | 1.9e-04 | 1.0e-04 | 1.0e-04 | 6.0e-04 |
| NY/NJ OCS-A 0542 | 6.4e-05 | 2.8e-05 | 2.4e-05 | 3.6e-05 | 3.1e-05 | 2.7e-05 | 1.6e-06 | 1.7e-06 | 2.7e-05 | 2.2e-04 | 1.2e-04 | 1.1e-04 | 6.8e-04 |
| New Jersey OCS-A 0549 | 2.5e-05 | 1.1e-05 | 1.2e-05 | 2.3e-05 | 1.3e-05 | 1.5e-05 | 2.8e-06 | 3.2e-06 | 1.8e-05 | 1.5e-04 | 8.3e-05 | 8.4e-05 | 4.4e-04 |
| New Jersey OCS-A 0499 | 3.9e-05 | 1.6e-05 | 1.8e-05 | 3.5e-05 | 2.0e-05 | 2.0e-05 | 2.6e-06 | 3.3e-06 | 2.2e-05 | 2.0e-04 | 1.1e-04 | 1.2e-04 | 6.1e-04 |
| New Jersey OCS-A 0498 | 3.0e-05 | 1.3e-05 | 1.4e-05 | 2.7e-05 | 1.5e-05 | 1.4e-05 | 1.8e-06 | 2.4e-06 | 1.5e-05 | 1.5e-04 | 8.5e-05 | 8.7e-05 | 4.5e-04 |
| New Jersey OCS-A 0532 | 2.8e-05 | 1.2e-05 | 1.5e-05 | 2.9e-05 | 1.6e-05 | 1.5e-05 | 2.3e-06 | 3.3e-06 | 1.6e-05 | 1.6e-04 | 9.1e-05 | 9.1e-05 | 4.8e-04 |
| Delaware OCS-A 0482 | 2.9e-05 | 1.3e-05 | 1.5e-05 | 2.9e-05 | 1.5e-05 | 1.3e-05 | 1.6e-06 | 2.0e-06 | 1.1e-05 | 1.2e-04 | 8.1e-05 | 8.0e-05 | 4.1e-04 |
| Delaware OCS-A 0519 | 1.3e-05 | 5.9e-06 | 6.3e-06 | 1.2e-05 | 6.0e-06 | 4.6e-06 | 3.9e-07 | 5.4e-07 | 3.7e-06 | 4.7e-05 | 3.2e-05 | 3.2e-05 | 1.6e-04 |
| Maryland OCS-A 0490 | 4.1e-05 | 1.8e-05 | 2.0e-05 | 3.6e-05 | 1.7e-05 | 1.3e-05 | 1.2e-06 | 1.6e-06 | 1.0e-05 | 1.3e-04 | 9.9e-05 | 9.3e-05 | 4.8e-04 |
| Central Atlantic Call Area A | 1.8e-04 | 8.4e-05 | 7.6e-05 | 1.3e-04 | 6.9e-05 | 5.2e-05 | 2.8e-06 | 3.8e-06 | 3.7e-05 | 5.1e-04 | 3.5e-04 | 3.2e-04 | 1.8e-03 |
| Central Atlantic Draft WEA Primary A | 3.0e-05 | 1.3e-05 | 1.2e-05 | 2.2e-05 | 1.2e-05 | 9.1e-06 | 5.5e-07 | 7.6e-07 | 6.7e-06 | 9.0e-05 | 6.0e-05 | 5.7e-05 | 3.1e-04 |
| Central Atlantic Draft WEA Secondary A | 8.9e-05 | 4.1e-05 | 3.7e-05 | 6.4e-05 | 3.4e-05 | 2.6e-05 | 1.4e-06 | 2.0e-06 | 1.9e-05 | 2.6e-04 | 1.7e-04 | 1.6e-04 | 9.0e-04 |
| Central Atlantic Call Area B | 5.6e-04 | 3.4e-04 | 2.9e-04 | 3.7e-04 | 1.8e-04 | 8.9e-05 | 2.9e-06 | 5.4e-06 | 6.8e-05 | 1.2e-03 | 1.1e-03 | 7.6e-04 | 5.0e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.5e-05 | 7.2e-06 | 6.8e-06 | 1.0e-05 | 4.5e-06 | 2.0e-06 | 8.4e-08 | 1.8e-07 | 2.2e-06 | 3.6e-05 | 3.1e-05 | 2.5e-05 | 1.4e-04 |
| Central Atlantic Draft WEA Secondary B1 | 6.9e-06 | 3.4e-06 | 3.1e-06 | 4.7e-06 | 2.2e-06 | 1.1e-06 | 4.1e-08 | 8.3e-08 | 1.0e-06 | 1.6e-05 | 1.4e-05 | 1.1e-05 | 6.4e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.7e-04 | 1.1e-04 | 9.2e-05 | 1.1e-04 | 4.9e-05 | 2.1e-05 | 7.1e-07 | 1.4e-06 | 1.8e-05 | 3.3e-04 | 3.5e-04 | 2.1e-04 | 1.5e-03 |
| Central Atlantic Draft WEA Secondary B2 | 7.1e-05 | 4.8e-05 | 4.0e-05 | 4.8e-05 | 2.3e-05 | 1.2e-05 | 3.4e-07 | 6.1e-07 | 7.6e-06 | 1.4e-04 | 1.5e-04 | 8.9e-05 | 6.3e-04 |
| Central Atlantic Call Area C | 1.5e-04 | 1.2e-04 | 9.8e-05 | 1.0e-04 | 4.8e-05 | 1.2e-05 | 5.6e-07 | 1.0e-06 | 1.2e-05 | 2.3e-04 | 3.6e-04 | 1.9e-04 | 1.3e-03 |
| Central Atlantic Draft WEA Primary C | 9.3e-05 | 7.1e-05 | 5.8e-05 | 5.9e-05 | 2.8e-05 | 6.5e-06 | 3.2e-07 | 5.9e-07 | 7.3e-06 | 1.4e-04 | 2.2e-04 | 1.1e-04 | 8.0e-04 |
| Central Atlantic Draft WEA Secondary C | 4.8e-05 | 3.7e-05 | 3.1e-05 | 3.2e-05 | 1.6e-05 | 4.2e-06 | 1.8e-07 | 3.3e-07 | 3.9e-06 | 7.4e-05 | 1.1e-04 | 5.9e-05 | 4.2e-04 |
| Central Atlantic Call Area D | 3.2e-04 | 2.7e-04 | 2.5e-04 | 2.2e-04 | 1.4e-04 | 2.2e-05 | 1.1e-06 | 1.6e-06 | 2.1e-05 | 3.7e-04 | 8.1e-04 | 4.2e-04 | 2.8e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.3e-04 | 1.1e-04 | 9.3e-05 | 8.5e-05 | 5.3e-05 | 7.2e-06 | 3.9e-07 | 6.0e-07 | 8.4e-06 | 1.5e-04 | 3.3e-04 | 1.6e-04 | 1.1e-03 |
| Central Atlantic Draft WEA Secondary D | 1.8e-05 | 1.4e-05 | 1.1e-05 | 1.0e-05 | 6.3e-06 | 7.4e-07 | 4.9e-08 | 7.5e-08 | 1.0e-06 | 2.0e-05 | 4.4e-05 | 2.1e-05 | 1.5e-04 |
| Central Atlantic Call Area E | 7.7e-04 | 7.4e-04 | 6.8e-04 | 6.8e-04 | 6.3e-04 | 2.8e-04 | 1.6e-05 | 9.0e-06 | 6.2e-05 | 8.4e-04 | 2.4e-03 | 1.3e-03 | 8.4e-03 |
| Central Atlantic Draft WEA Primary E1 | 2.1e-04 | 2.0e-04 | 1.8e-04 | 1.8e-04 | 1.7e-04 | 8.4e-05 | 4.8e-06 | 2.5e-06 | 1.8e-05 | 2.5e-04 | 7.2e-04 | 3.7e-04 | 2.4e-03 |
| Central Atlantic Draft WEA Primary E2 | 1.4e-04 | 1.3e-04 | 1.2e-04 | 1.3e-04 | 1.2e-04 | 4.0e-05 | 2.5e-06 | 1.4e-06 | 9.3e-06 | 1.2e-04 | 4.0e-04 | 2.5e-04 | 1.5e-03 |
| Central Atlantic Call Area F | 2.7e-04 | 2.4e-04 | 2.3e-04 | 2.2e-04 | 1.7e-04 | 5.4e-05 | 2.4e-06 | 1.7e-06 | 8.6e-06 | 1.3e-04 | 4.2e-04 | 3.5e-04 | 2.1e-03 |
| Central Atlantic Draft WEA Primary F | 9.7e-06 | 9.5e-06 | 8.4e-06 | 7.6e-06 | 5.5e-06 | 1.4e-06 | 6.1e-08 | 3.8e-08 | 1.7e-07 | 2.4e-06 | 8.5e-06 | 1.0e-05 | 6.3e-05 |
| Virginia OCS-A 0483 | 7.9e-05 | 4.6e-05 | 3.8e-05 | 2.9e-05 | 1.6e-05 | 1.8e-06 | 2.4e-07 | 4.5e-07 | 5.2e-06 | 1.1e-04 | 1.8e-04 | 1.0e-04 | 6.1e-04 |
| Virginia OCS-A 0497 | 1.2e-06 | 6.5e-07 | 5.0e-07 | 2.9e-07 | 3.2e-07 | 3.1e-08 | 5.7e-09 | 9.6e-09 | 9.4e-08 | 2.1e-06 | 3.4e-06 | 1.8e-06 | 1.0e-05 |
| North Carolina OCS-A 0508 | 8.0e-05 | 7.3e-05 | 6.6e-05 | 5.7e-05 | 3.8e-05 | 4.7e-06 | 2.0e-07 | 3.3e-07 | 4.7e-06 | 8.3e-05 | 2.1e-04 | 1.1e-04 | 7.3e-04 |
| North Carolina OCS-A 0545 | 2.2e-05 | 1.7e-05 | 1.7e-05 | 1.3e-05 | 1.2e-06 | 5.2e-08 | 1.7e-08 | 2.4e-08 | 8.8e-08 | 8.4e-07 | 1.5e-05 | 2.8e-05 | 1.2e-04 |
| North Carolina OCS-A 0546 | 2.2e-05 | 1.8e-05 | 1.7e-05 | 1.3e-05 | 1.2e-06 | 5.2e-08 | 1.7e-08 | 2.4e-08 | 8.6e-08 | 7.7e-07 | 1.4e-05 | 2.6e-05 | 1.1e-04 |
| South Carolina Call Area - Grand Strand | 2.8e-04 | 2.3e-04 | 2.3e-04 | 2.1e-04 | 1.5e-05 | 4.9e-07 | 1.4e-07 | 2.4e-07 | 1.0e-06 | 2.3e-05 | 4.9e-04 | 4.7e-04 | 2.0e-03 |
| South Carolina Call Area - Cape Romain | 7.4e-05 | 5.9e-05 | 6.2e-05 | 5.0e-05 | 2.7e-06 | 1.0e-07 | 2.7e-08 | 5.1e-08 | 2.2e-07 | 5.3e-06 | 1.3e-04 | 1.3e-04 | 5.1e-04 |
| South Carolina Call Area - Winyah | 6.3e-06 | 7.1e-06 | 5.4e-06 | 2.6e-06 | 2.5e-07 | 1.7e-08 | 4.8e-09 | 7.8e-09 | 2.9e-08 | 1.1e-07 | 6.7e-07 | 2.3e-06 | 2.5e-05 |
| South Carolina Call Area - Charleston | 1.4e-05 | 1.1e-05 | 1.1e-05 | 6.5e-06 | 4.7e-07 | 2.2e-08 | 5.0e-09 | 8.9e-09 | 3.9e-08 | 3.0e-07 | 3.3e-06 | 1.1e-05 | 5.8e-05 |
| All planning areas | 6.8e-03 | 4.1e-03 | 3.3e-03 | 3.6e-03 | 5.4e-03 | 3.9e-03 | 4.9e-03 | 8.4e-03 | 1.9e-02 | 2.4e-02 | 2.9e-02 | 1.6e-02 | 1.3e-01 |
| All lease areas | 1.1e-03 | 5.4e-04 | 5.0e-04 | 7.1e-04 | 7.5e-04 | 5.1e-04 | 1.9e-04 | 1.5e-04 | 1.3e-03 | 4.9e-03 | 3.0e-03 | 2.7e-03 | 1.6e-02 |
| All planning and lease areas | 7.9e-03 | 4.6e-03 | 3.8e-03 | 4.3e-03 | 6.2e-03 | 4.4e-03 | 5.1e-03 | 8.5e-03 | 2.1e-02 | 2.9e-02 | 3.2e-02 | 1.9e-02 | 1.4e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-11. Predicted proportional abundance of South Polar Skua by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 7.7e-05 | 9.7e-05 | 4.5e-04 | 2.3e-03 | 1.1e-02 | 1.4e-02 | 4.8e-03 | 1.0e-02 | 3.1e-02 | 1.2e-02 | 1.2e-03 | 2.1e-04 | 8.7e-02 |
| Gulf of Maine Request for Competitive Interest | 4.9e-07 | 4.6e-07 | 2.6e-06 | 1.8e-05 | 6.9e-05 | 5.9e-05 | 1.4e-05 | 4.2e-05 | 2.1e-04 | 8.4e-05 | 9.3e-06 | 1.1e-06 | 5.1e-04 |
| Marine Research Array Requested Lease | 6.9e-08 | 5.7e-08 | 3.7e-07 | 2.6e-06 | 9.6e-06 | 7.7e-06 | 1.6e-06 | 5.4e-06 | 3.0e-05 | 1.2e-05 | 1.3e-06 | 1.4e-07 | 7.1e-05 |
| Rhode Island OCS-A 0506 | 1.4e-09 | 1.4e-09 | 5.6e-09 | 1.8e-08 | 3.5e-08 | 1.5e-08 | 1.0e-09 | 1.3e-08 | 3.2e-07 | 3.0e-07 | 2.6e-08 | 4.1e-09 | 7.5e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.4e-06 | 1.2e-06 | 6.4e-06 | 1.7e-05 | 7.8e-05 | 4.8e-05 | 4.4e-06 | 2.3e-05 | 1.7e-04 | 1.4e-04 | 1.2e-05 | 2.9e-06 | 5.0e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.0e-07 | 2.0e-07 | 8.8e-07 | 2.6e-06 | 1.3e-05 | 8.2e-06 | 8.9e-07 | 4.5e-06 | 2.7e-05 | 1.9e-05 | 1.6e-06 | 5.0e-07 | 7.9e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 3.4e-06 | 2.5e-06 | 8.5e-06 | 3.0e-05 | 1.5e-04 | 1.1e-04 | 1.6e-05 | 5.3e-05 | 3.0e-04 | 2.0e-04 | 2.2e-05 | 5.1e-06 | 9.0e-04 |
| Massachusetts OCS-A 0500 | 4.7e-06 | 3.7e-06 | 1.3e-05 | 4.8e-05 | 2.5e-04 | 2.1e-04 | 3.4e-05 | 8.1e-05 | 4.3e-04 | 2.8e-04 | 3.5e-05 | 6.9e-06 | 1.4e-03 |
| Massachusetts OCS-A 0501 | 2.4e-06 | 1.9e-06 | 6.9e-06 | 2.3e-05 | 1.2e-04 | 1.2e-04 | 2.1e-05 | 4.2e-05 | 1.8e-04 | 1.2e-04 | 1.8e-05 | 3.8e-06 | 6.6e-04 |
| Massachusetts OCS-A 0534 | 3.4e-06 | 3.0e-06 | 9.8e-06 | 3.9e-05 | 1.9e-04 | 1.9e-04 | 3.3e-05 | 6.7e-05 | 3.4e-04 | 2.3e-04 | 3.2e-05 | 5.1e-06 | 1.1e-03 |
| Massachusetts OCS-A 0520 | 4.3e-06 | 4.0e-06 | 1.3e-05 | 5.4e-05 | 2.6e-04 | 2.6e-04 | 5.1e-05 | 9.7e-05 | 4.6e-04 | 2.9e-04 | 4.2e-05 | 6.9e-06 | 1.5e-03 |
| Massachusetts OCS-A 0521 | 4.3e-06 | 4.1e-06 | 1.3e-05 | 5.6e-05 | 2.7e-04 | 2.9e-04 | 5.8e-05 | 1.1e-04 | 4.7e-04 | 2.8e-04 | 4.5e-05 | 7.4e-06 | 1.6e-03 |
| Massachusetts OCS-A 0522 | 4.8e-06 | 4.6e-06 | 1.4e-05 | 6.1e-05 | 3.0e-04 | 3.2e-04 | 6.8e-05 | 1.3e-04 | 5.1e-04 | 2.8e-04 | 4.9e-05 | 8.5e-06 | 1.8e-03 |
| New York WEA - Fairways North | 2.3e-06 | 1.7e-06 | 7.8e-06 | 1.5e-05 | 5.7e-05 | 4.2e-05 | 1.3e-05 | 3.7e-05 | 2.3e-04 | 1.7e-04 | 1.2e-05 | 3.5e-06 | 5.9e-04 |
| New York WEA - Fairways South | 4.6e-07 | 4.7e-07 | 1.6e-06 | 4.6e-06 | 1.1e-05 | 7.4e-06 | 1.5e-06 | 7.0e-06 | 5.2e-05 | 4.9e-05 | 4.7e-06 | 9.1e-07 | 1.4e-04 |
| New York OCS-A 0512 | 1.5e-06 | 1.2e-06 | 4.8e-06 | 9.5e-06 | 3.1e-05 | 2.0e-05 | 6.0e-06 | 1.9e-05 | 9.9e-05 | 8.5e-05 | 6.7e-06 | 2.0e-06 | 2.9e-04 |
| NY/NJ OCS-A 0544 | 1.2e-06 | 1.1e-06 | 4.4e-06 | 9.7e-06 | 3.1e-05 | 1.8e-05 | 3.8e-06 | 1.3e-05 | 8.2e-05 | 7.2e-05 | 5.7e-06 | 1.7e-06 | 2.4e-04 |
| NY/NJ OCS-A 0537 | 1.7e-06 | 1.7e-06 | 6.6e-06 | 2.5e-05 | 1.0e-04 | 6.3e-05 | 7.9e-06 | 2.0e-05 | 1.6e-04 | 1.1e-04 | 1.2e-05 | 2.9e-06 | 5.1e-04 |
| NY/NJ OCS-A 0538 | 2.5e-06 | 2.5e-06 | 9.3e-06 | 3.5e-05 | 1.3e-04 | 7.6e-05 | 9.6e-06 | 2.4e-05 | 1.7e-04 | 1.1e-04 | 1.3e-05 | 3.6e-06 | 5.9e-04 |
| NY/NJ OCS-A 0539 | 4.1e-06 | 3.3e-06 | 1.1e-05 | 3.9e-05 | 1.6e-04 | 9.8e-05 | 1.2e-05 | 3.2e-05 | 2.0e-04 | 1.3e-04 | 2.7e-05 | 5.4e-06 | 7.2e-04 |
| NY/NJ OCS-A 0541 | 2.4e-06 | 2.1e-06 | 8.4e-06 | 2.6e-05 | 1.1e-04 | 6.3e-05 | 8.4e-06 | 2.5e-05 | 1.3e-04 | 9.3e-05 | 1.5e-05 | 3.3e-06 | 4.9e-04 |
| NY/NJ OCS-A 0542 | 2.9e-06 | 2.3e-06 | 9.1e-06 | 3.1e-05 | 1.3e-04 | 8.3e-05 | 9.3e-06 | 2.6e-05 | 1.5e-04 | 9.7e-05 | 2.0e-05 | 3.8e-06 | 5.7e-04 |
| New Jersey OCS-A 0549 | 4.2e-07 | 4.2e-07 | 2.0e-06 | 4.2e-06 | 2.0e-05 | 1.3e-05 | 4.4e-06 | 1.1e-05 | 4.0e-05 | 3.0e-05 | 2.8e-06 | 6.5e-07 | 1.3e-04 |
| New Jersey OCS-A 0499 | 7.8e-07 | 8.2e-07 | 3.9e-06 | 8.3e-06 | 3.8e-05 | 2.2e-05 | 5.9e-06 | 1.7e-05 | 6.2e-05 | 4.9e-05 | 4.7e-06 | 1.3e-06 | 2.1e-04 |
| New Jersey OCS-A 0498 | 4.4e-07 | 5.7e-07 | 2.5e-06 | 6.4e-06 | 2.9e-05 | 1.5e-05 | 4.0e-06 | 1.2e-05 | 4.3e-05 | 4.0e-05 | 3.9e-06 | 9.3e-07 | 1.6e-04 |
| New Jersey OCS-A 0532 | 3.4e-07 | 4.3e-07 | 1.7e-06 | 6.0e-06 | 2.6e-05 | 1.4e-05 | 3.9e-06 | 1.1e-05 | 4.3e-05 | 4.2e-05 | 4.4e-06 | 8.3e-07 | 1.5e-04 |
| Delaware OCS-A 0482 | 4.4e-07 | 3.8e-07 | 1.9e-06 | 4.6e-06 | 2.2e-05 | 1.3e-05 | 2.9e-06 | 8.5e-06 | 3.1e-05 | 2.5e-05 | 2.8e-06 | 7.4e-07 | 1.1e-04 |
| Delaware OCS-A 0519 | 2.3e-07 | 2.2e-07 | 1.0e-06 | 2.4e-06 | 1.1e-05 | 5.8e-06 | 1.1e-06 | 3.5e-06 | 1.4e-05 | 1.2e-05 | 1.3e-06 | 3.8e-07 | 5.3e-05 |
| Maryland OCS-A 0490 | 6.8e-07 | 6.6e-07 | 3.2e-06 | 7.3e-06 | 3.1e-05 | 1.6e-05 | 3.2e-06 | 9.9e-06 | 3.9e-05 | 3.5e-05 | 3.8e-06 | 1.1e-06 | 1.5e-04 |
| Central Atlantic Call Area A | 5.9e-06 | 5.4e-06 | 2.3e-05 | 6.0e-05 | 2.8e-04 | 1.4e-04 | 1.9e-05 | 6.3e-05 | 2.7e-04 | 2.4e-04 | 3.3e-05 | 8.5e-06 | 1.1e-03 |
| Central Atlantic Draft WEA Primary A | 9.6e-07 | 8.5e-07 | 3.7e-06 | 9.3e-06 | 4.3e-05 | 2.2e-05 | 3.3e-06 | 1.1e-05 | 4.5e-05 | 3.9e-05 | 5.3e-06 | 1.4e-06 | 1.8e-04 |
| Central Atlantic Draft WEA Secondary A | 3.0e-06 | 2.7e-06 | 1.2e-05 | 3.0e-05 | 1.4e-04 | 6.8e-05 | 9.9e-06 | 3.2e-05 | 1.4e-04 | 1.2e-04 | 1.7e-05 | 4.3e-06 | 5.7e-04 |
| Central Atlantic Call Area B | 1.4e-05 | 1.2e-05 | 5.7e-05 | 1.6e-04 | 6.4e-04 | 2.6e-04 | 3.1e-05 | 1.3e-04 | 6.3e-04 | 5.2e-04 | 8.4e-05 | 2.0e-05 | 2.6e-03 |
| Central Atlantic Draft WEA Primary B1 | 2.9e-07 | 2.5e-07 | 1.4e-06 | 2.8e-06 | 1.0e-05 | 3.9e-06 | 6.2e-07 | 2.9e-06 | 1.3e-05 | 1.3e-05 | 1.7e-06 | 4.3e-07 | 5.1e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.6e-07 | 1.2e-07 | 6.7e-07 | 1.5e-06 | 5.8e-06 | 2.4e-06 | 3.3e-07 | 1.5e-06 | 6.5e-06 | 6.3e-06 | 9.0e-07 | 2.2e-07 | 2.6e-05 |
| Central Atlantic Draft WEA Primary B2 | 4.2e-06 | 3.6e-06 | 1.7e-05 | 5.0e-05 | 1.8e-04 | 6.4e-05 | 8.3e-06 | 3.8e-05 | 1.8e-04 | 1.5e-04 | 2.5e-05 | 5.7e-06 | 7.3e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.8e-06 | 1.5e-06 | 6.9e-06 | 2.3e-05 | 8.8e-05 | 3.7e-05 | 3.9e-06 | 1.6e-05 | 7.8e-05 | 6.0e-05 | 1.1e-05 | 2.4e-06 | 3.3e-04 |
| Central Atlantic Call Area C | 3.3e-06 | 2.8e-06 | 1.2e-05 | 3.9e-05 | 1.4e-04 | 3.4e-05 | 6.2e-06 | 3.1e-05 | 1.3e-04 | 1.1e-04 | 2.1e-05 | 4.2e-06 | 5.3e-04 |
| Central Atlantic Draft WEA Primary C | 2.0e-06 | 1.7e-06 | 7.5e-06 | 2.3e-05 | 7.9e-05 | 1.8e-05 | 3.6e-06 | 1.8e-05 | 7.8e-05 | 7.0e-05 | 1.3e-05 | 2.5e-06 | 3.2e-04 |
| Central Atlantic Draft WEA Secondary C | 1.1e-06 | 9.0e-07 | 4.1e-06 | 1.3e-05 | 4.7e-05 | 1.3e-05 | 2.1e-06 | 1.0e-05 | 4.3e-05 | 3.7e-05 | 6.8e-06 | 1.4e-06 | 1.8e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 6.5e-06 | 5.5e-06 | 2.3e-05 | 6.6e-05 | 2.8e-04 | 8.1e-05 | 1.5e-05 | 4.8e-05 | 2.2e-04 | 1.9e-04 | 4.4e-05 | 7.0e-06 | 9.9e-04 |
| Central Atlantic Draft WEA Primary D | 2.3e-06 | 1.9e-06 | 8.6e-06 | 2.3e-05 | 9.1e-05 | 2.4e-05 | 5.4e-06 | 1.7e-05 | 8.4e-05 | 7.4e-05 | 1.6e-05 | 2.6e-06 | 3.5e-04 |
| Central Atlantic Draft WEA Secondary D | 2.4e-07 | 2.0e-07 | 9.1e-07 | 2.1e-06 | 8.1e-06 | 2.2e-06 | 5.8e-07 | 1.9e-06 | 9.8e-06 | 8.8e-06 | 1.7e-06 | 3.0e-07 | 3.7e-05 |
| Central Atlantic Call Area E | 3.3e-06 | 2.8e-06 | 1.8e-05 | 1.0e-04 | 5.1e-04 | 3.9e-04 | 6.3e-05 | 8.0e-05 | 1.3e-04 | 7.7e-05 | 2.4e-05 | 5.4e-06 | 1.4e-03 |
| Central Atlantic Draft WEA Primary E1 | 7.7e-07 | 8.0e-07 | 4.5e-06 | 2.9e-05 | 1.4e-04 | 1.1e-04 | 1.8e-05 | 2.5e-05 | 3.5e-05 | 2.2e-05 | 6.9e-06 | 1.5e-06 | 4.0e-04 |
| Central Atlantic Draft WEA Primary E2 | 5.8e-07 | 6.4e-07 | 3.8e-06 | 1.9e-05 | 9.5e-05 | 6.8e-05 | 1.3e-05 | 1.5e-05 | 2.3e-05 | 1.3e-05 | 4.3e-06 | 1.2e-06 | 2.6e-04 |
| Central Atlantic Call Area F | 1.7e-06 | 1.9e-06 | 5.9e-06 | 2.9e-05 | 1.6e-04 | 1.1e-04 | 2.4e-05 | 5.1e-05 | 8.7e-05 | 3.4e-05 | 7.2e-06 | 1.8e-06 | 5.1e-04 |
| Central Atlantic Draft WEA Primary F | 8.9e-08 | 1.5e-07 | 3.6e-07 | 2.1e-06 | 8.4e-06 | 6.2e-06 | 2.1e-06 | 5.2e-06 | 8.7e-06 | 2.3e-06 | 5.4e-07 | 1.2e-07 | 3.6e-05 |
| Virginia OCS-A 0483 | 8.6e-07 | 6.9e-07 | 3.1e-06 | 5.2e-06 | 1.8e-05 | 4.7e-06 | 2.4e-06 | 9.4e-06 | 4.9e-05 | 4.3e-05 | 6.5e-06 | 1.3e-06 | 1.4e-04 |
| Virginia OCS-A 0497 | 5.9e-09 | 4.8e-09 | 1.9e-08 | 2.1e-08 | 1.7e-07 | 7.4e-08 | 4.0e-08 | 1.3e-07 | 7.2e-07 | 5.3e-07 | 6.6e-08 | 1.1e-08 | 1.8e-06 |
| North Carolina OCS-A 0508 | 1.7e-06 | 1.5e-06 | 6.4e-06 | 1.8e-05 | 7.2e-05 | 2.2e-05 | 3.8e-06 | 1.2e-05 | 5.6e-05 | 5.3e-05 | 1.1e-05 | 1.8e-06 | 2.6e-04 |
| North Carolina OCS-A 0545 | 4.2e-07 | 4.8e-07 | 1.3e-06 | 3.8e-06 | 1.3e-05 | 5.3e-06 | 2.1e-06 | 7.2e-06 | 1.5e-05 | 6.8e-06 | 1.6e-06 | 7.2e-07 | 5.7e-05 |
| North Carolina OCS-A 0546 | 4.5e-07 | 5.1e-07 | 1.5e-06 | 4.1e-06 | 1.4e-05 | 5.7e-06 | 2.3e-06 | 7.7e-06 | 1.5e-05 | 7.0e-06 | 1.7e-06 | 7.3e-07 | 6.1e-05 |
| South Carolina Call Area - Grand Strand | 1.2e-06 | 1.7e-06 | 4.1e-06 | 1.6e-05 | 4.9e-05 | 1.9e-05 | 5.9e-06 | 2.6e-05 | 5.7e-05 | 3.3e-05 | 1.0e-05 | 2.9e-06 | 2.3e-04 |
| South Carolina Call Area - Cape Romain | 2.8e-07 | 3.7e-07 | 8.4e-07 | 3.2e-06 | 8.1e-06 | 3.5e-06 | 9.7e-07 | 4.5e-06 | 9.9e-06 | 5.5e-06 | 2.3e-06 | 5.5e-07 | 4.0e-05 |
| South Carolina Call Area - Winyah | 2.9e-07 | 3.7e-07 | 1.0e-06 | 3.6e-06 | 1.1e-05 | 7.0e-06 | 3.4e-06 | 9.5e-06 | 1.5e-05 | 4.4e-06 | 6.9e-07 | 3.2e-07 | 5.7e-05 |
| South Carolina Call Area - Charleston | 2.7e-07 | 3.4e-07 | 6.9e-07 | 3.1e-06 | 9.1e-06 | 4.4e-06 | 1.5e-06 | 5.2e-06 | 1.1e-05 | 4.6e-06 | 9.8e-07 | 4.3e-07 | 4.2e-05 |
| All planning areas | 1.2e-04 | 1.3e-04 | 6.1e-04 | 2.9e-03 | 1.3e-02 | 1.5e-02 | 5.0e-03 | 1.1e-02 | 3.3e-02 | 1.3e-02 | 1.5e-03 | 2.6e-04 | 9.6e-02 |
| All lease areas | 5.2e-05 | 4.6e-05 | 1.7e-04 | 5.8e-04 | 2.6e-03 | 2.1e-03 | 3.8e-04 | 8.7e-04 | 4.3e-03 | 2.9e-03 | 4.0e-04 | 8.0e-05 | 1.5e-02 |
| All planning and lease areas | 1.7e-04 | 1.8e-04 | 7.8e-04 | 3.4e-03 | 1.5e-02 | 1.7e-02 | 5.4e-03 | 1.2e-02 | 3.8e-02 | 1.6e-02 | 1.9e-03 | 3.4e-04 | 1.1e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-12. Predicted proportional abundance of Pomarine Jaeger by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 5.7e-04 | 6.1e-04 | 1.3e-03 | 1.8e-03 | 1.8e-03 | 1.9e-03 | 2.4e-03 | 5.7e-03 | 1.8e-02 | 2.2e-02 | 6.5e-03 | 1.3e-03 | 6.3e-02 |
| Gulf of Maine Request for Competitive Interest | 2.7e-06 | 2.9e-06 | 6.4e-06 | 9.0e-06 | 1.0e-05 | 1.0e-05 | 1.3e-05 | 3.1e-05 | 9.7e-05 | 1.2e-04 | 3.4e-05 | 6.5e-06 | 3.4e-04 |
| Marine Research Array Requested Lease | 3.7e-07 | 3.9e-07 | 8.6e-07 | 1.2e-06 | 1.4e-06 | 1.4e-06 | 1.8e-06 | 4.3e-06 | 1.3e-05 | 1.6e-05 | 4.6e-06 | 8.8e-07 | 4.7e-05 |
| Rhode Island OCS-A 0506 | 4.2e-09 | 4.0e-09 | 8.4e-09 | 1.3e-08 | 1.5e-08 | 1.3e-08 | 1.3e-08 | 3.1e-08 | 1.1e-07 | 1.6e-07 | 4.8e-08 | 1.0e-08 | 4.3e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.6e-06 | 2.5e-06 | 5.3e-06 | 8.2e-06 | 9.2e-06 | 7.7e-06 | 6.0e-06 | 1.4e-05 | 6.2e-05 | 9.3e-05 | 2.8e-05 | 6.2e-06 | 2.5e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.9e-07 | 4.6e-07 | 9.7e-07 | 1.4e-06 | 1.6e-06 | 1.3e-06 | 9.8e-07 | 2.4e-06 | 1.1e-05 | 1.7e-05 | 5.2e-06 | 1.2e-06 | 4.4e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 4.5e-06 | 4.2e-06 | 9.2e-06 | 1.4e-05 | 1.5e-05 | 1.2e-05 | 9.2e-06 | 2.2e-05 | 9.8e-05 | 1.6e-04 | 4.8e-05 | 1.1e-05 | 4.1e-04 |
| Massachusetts OCS-A 0500 | 6.0e-06 | 5.7e-06 | 1.3e-05 | 2.0e-05 | 2.2e-05 | 1.8e-05 | 1.4e-05 | 3.1e-05 | 1.4e-04 | 2.2e-04 | 6.6e-05 | 1.4e-05 | 5.7e-04 |
| Massachusetts OCS-A 0501 | 2.5e-06 | 2.6e-06 | 6.0e-06 | 9.4e-06 | 1.0e-05 | 8.6e-06 | 7.0e-06 | 1.5e-05 | 6.3e-05 | 9.9e-05 | 3.0e-05 | 6.3e-06 | 2.6e-04 |
| Massachusetts OCS-A 0534 | 4.4e-06 | 4.2e-06 | 9.6e-06 | 1.5e-05 | 1.6e-05 | 1.4e-05 | 1.1e-05 | 2.3e-05 | 1.0e-04 | 1.7e-04 | 4.9e-05 | 1.0e-05 | 4.2e-04 |
| Massachusetts OCS-A 0520 | 5.6e-06 | 5.5e-06 | 1.3e-05 | 2.0e-05 | 2.1e-05 | 1.9e-05 | 1.5e-05 | 3.1e-05 | 1.4e-04 | 2.2e-04 | 6.4e-05 | 1.3e-05 | 5.6e-04 |
| Massachusetts OCS-A 0521 | 5.7e-06 | 5.7e-06 | 1.3e-05 | 2.0e-05 | 2.2e-05 | 1.9e-05 | 1.5e-05 | 3.3e-05 | 1.4e-04 | 2.2e-04 | 6.5e-05 | 1.4e-05 | 5.7e-04 |
| Massachusetts OCS-A 0522 | 6.0e-06 | 6.2e-06 | 1.4e-05 | 2.1e-05 | 2.2e-05 | 2.0e-05 | 1.7e-05 | 3.6e-05 | 1.5e-04 | 2.3e-04 | 6.9e-05 | 1.4e-05 | 6.1e-04 |
| New York WEA - Fairways North | 3.5e-06 | 3.3e-06 | 6.3e-06 | 9.2e-06 | 9.5e-06 | 7.8e-06 | 6.8e-06 | 1.6e-05 | 6.7e-05 | 1.1e-04 | 3.3e-05 | 7.8e-06 | 2.8e-04 |
| New York WEA - Fairways South | 7.2e-07 | 7.2e-07 | 1.4e-06 | 2.2e-06 | 2.2e-06 | 1.7e-06 | 1.3e-06 | 3.4e-06 | 1.4e-05 | 2.2e-05 | 6.9e-06 | 1.6e-06 | 5.8e-05 |
| New York OCS-A 0512 | 3.0e-06 | 3.0e-06 | 5.7e-06 | 8.9e-06 | 8.2e-06 | 5.9e-06 | 4.6e-06 | 1.1e-05 | 4.9e-05 | 8.5e-05 | 2.8e-05 | 6.8e-06 | 2.2e-04 |
| NY/NJ OCS-A 0544 | 1.8e-06 | 1.9e-06 | 3.5e-06 | 5.3e-06 | 4.9e-06 | 3.5e-06 | 2.4e-06 | 6.1e-06 | 2.8e-05 | 5.1e-05 | 1.7e-05 | 4.0e-06 | 1.3e-04 |
| NY/NJ OCS-A 0537 | 4.4e-06 | 4.7e-06 | 7.9e-06 | 1.1e-05 | 1.1e-05 | 8.2e-06 | 5.0e-06 | 1.2e-05 | 6.0e-05 | 1.2e-04 | 3.8e-05 | 9.1e-06 | 2.9e-04 |
| NY/NJ OCS-A 0538 | 4.8e-06 | 5.3e-06 | 9.6e-06 | 1.4e-05 | 1.3e-05 | 8.9e-06 | 5.3e-06 | 1.2e-05 | 6.2e-05 | 1.2e-04 | 4.2e-05 | 1.0e-05 | 3.1e-04 |
| NY/NJ OCS-A 0539 | 7.6e-06 | 8.5e-06 | 1.6e-05 | 2.4e-05 | 2.1e-05 | 1.4e-05 | 8.3e-06 | 1.9e-05 | 9.7e-05 | 1.9e-04 | 6.6e-05 | 1.6e-05 | 4.8e-04 |
| NY/NJ OCS-A 0541 | 4.3e-06 | 4.8e-06 | 9.6e-06 | 1.5e-05 | 1.3e-05 | 8.1e-06 | 4.8e-06 | 1.2e-05 | 5.5e-05 | 1.1e-04 | 3.8e-05 | 9.2e-06 | 2.8e-04 |
| NY/NJ OCS-A 0542 | 5.1e-06 | 5.8e-06 | 1.1e-05 | 1.7e-05 | 1.5e-05 | 9.4e-06 | 5.3e-06 | 1.3e-05 | 6.3e-05 | 1.2e-04 | 4.5e-05 | 1.1e-05 | 3.2e-04 |
| New Jersey OCS-A 0549 | 2.6e-06 | 2.8e-06 | 6.2e-06 | 1.1e-05 | 9.5e-06 | 6.1e-06 | 5.2e-06 | 1.2e-05 | 4.5e-05 | 7.8e-05 | 2.9e-05 | 6.4e-06 | 2.1e-04 |
| New Jersey OCS-A 0499 | 3.6e-06 | 3.8e-06 | 8.5e-06 | 1.5e-05 | 1.3e-05 | 7.8e-06 | 6.1e-06 | 1.5e-05 | 5.7e-05 | 1.0e-04 | 3.8e-05 | 8.5e-06 | 2.8e-04 |
| New Jersey OCS-A 0498 | 2.4e-06 | 2.5e-06 | 5.7e-06 | 1.1e-05 | 9.1e-06 | 5.3e-06 | 4.2e-06 | 1.1e-05 | 3.8e-05 | 6.7e-05 | 2.5e-05 | 5.6e-06 | 1.9e-04 |
| New Jersey OCS-A 0532 | 2.2e-06 | 2.4e-06 | 5.5e-06 | 1.1e-05 | 9.3e-06 | 5.5e-06 | 4.6e-06 | 1.2e-05 | 3.9e-05 | 6.6e-05 | 2.5e-05 | 5.4e-06 | 1.9e-04 |
| Delaware OCS-A 0482 | 2.8e-06 | 2.9e-06 | 6.6e-06 | 1.3e-05 | 1.0e-05 | 5.5e-06 | 4.5e-06 | 1.2e-05 | 4.0e-05 | 7.1e-05 | 2.9e-05 | 6.5e-06 | 2.0e-04 |
| Delaware OCS-A 0519 | 1.1e-06 | 1.2e-06 | 2.6e-06 | 4.8e-06 | 3.9e-06 | 2.0e-06 | 1.5e-06 | 4.0e-06 | 1.5e-05 | 2.6e-05 | 1.1e-05 | 2.5e-06 | 7.5e-05 |
| Maryland OCS-A 0490 | 3.5e-06 | 3.7e-06 | 8.1e-06 | 1.5e-05 | 1.2e-05 | 5.9e-06 | 4.6e-06 | 1.2e-05 | 4.3e-05 | 7.6e-05 | 3.2e-05 | 7.6e-06 | 2.2e-04 |
| Central Atlantic Call Area A | 1.4e-05 | 1.5e-05 | 3.1e-05 | 5.4e-05 | 4.3e-05 | 2.2e-05 | 1.4e-05 | 3.7e-05 | 1.5e-04 | 2.9e-04 | 1.2e-04 | 2.8e-05 | 8.1e-04 |
| Central Atlantic Draft WEA Primary A | 2.4e-06 | 2.5e-06 | 5.3e-06 | 9.2e-06 | 7.4e-06 | 3.8e-06 | 2.6e-06 | 6.8e-06 | 2.7e-05 | 5.0e-05 | 2.0e-05 | 4.8e-06 | 1.4e-04 |
| Central Atlantic Draft WEA Secondary A | 6.9e-06 | 7.4e-06 | 1.5e-05 | 2.7e-05 | 2.1e-05 | 1.1e-05 | 7.1e-06 | 1.9e-05 | 7.7e-05 | 1.4e-04 | 5.8e-05 | 1.4e-05 | 4.1e-04 |
| Central Atlantic Call Area B | 4.9e-05 | 5.7e-05 | 1.1e-04 | 1.7e-04 | 1.2e-04 | 5.2e-05 | 3.2e-05 | 9.7e-05 | 4.3e-04 | 7.8e-04 | 3.5e-04 | 9.0e-05 | 2.4e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.2e-06 | 1.3e-06 | 2.8e-06 | 4.8e-06 | 3.4e-06 | 1.4e-06 | 9.4e-07 | 2.9e-06 | 1.2e-05 | 2.2e-05 | 9.8e-06 | 2.4e-06 | 6.5e-05 |
| Central Atlantic Draft WEA Secondary B1 | 5.7e-07 | 6.3e-07 | 1.3e-06 | 2.2e-06 | 1.6e-06 | 6.8e-07 | 4.2e-07 | 1.3e-06 | 5.5e-06 | 9.9e-06 | 4.4e-06 | 1.1e-06 | 3.0e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.5e-05 | 1.8e-05 | 3.5e-05 | 5.2e-05 | 3.6e-05 | 1.4e-05 | 9.0e-06 | 2.8e-05 | 1.3e-04 | 2.3e-04 | 1.1e-04 | 2.7e-05 | 6.9e-04 |
| Central Atlantic Draft WEA Secondary B2 | 6.7e-06 | 7.9e-06 | 1.5e-05 | 2.3e-05 | 1.6e-05 | 6.7e-06 | 4.0e-06 | 1.2e-05 | 5.5e-05 | 1.0e-04 | 4.6e-05 | 1.2e-05 | 3.0e-04 |
| Central Atlantic Call Area C | 1.5e-05 | 1.8e-05 | 3.6e-05 | 5.2e-05 | 3.3e-05 | 1.2e-05 | 9.6e-06 | 2.8e-05 | 1.2e-04 | 1.9e-04 | 9.8e-05 | 2.6e-05 | 6.4e-04 |
| Central Atlantic Draft WEA Primary C | 9.1e-06 | 1.1e-05 | 2.1e-05 | 3.1e-05 | 2.0e-05 | 6.7e-06 | 5.7e-06 | 1.7e-05 | 6.9e-05 | 1.2e-04 | 5.8e-05 | 1.6e-05 | 3.8e-04 |
| Central Atlantic Draft WEA Secondary C | 5.0e-06 | 6.0e-06 | 1.2e-05 | 1.7e-05 | 1.1e-05 | 3.8e-06 | 3.1e-06 | 9.0e-06 | 3.7e-05 | 6.3e-05 | 3.2e-05 | 8.5e-06 | 2.1e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 4.1e-05 | 5.1e-05 | 1.0e-04 | 1.5e-04 | 8.8e-05 | 2.8e-05 | 2.8e-05 | 7.6e-05 | 2.8e-04 | 4.2e-04 | 2.3e-04 | 6.6e-05 | 1.6e-03 |
| Central Atlantic Draft WEA Primary D | 1.5e-05 | 1.8e-05 | 3.6e-05 | 5.2e-05 | 3.2e-05 | 1.0e-05 | 1.0e-05 | 2.8e-05 | 1.1e-04 | 1.6e-04 | 8.6e-05 | 2.4e-05 | 5.8e-04 |
| Central Atlantic Draft WEA Secondary D | 1.8e-06 | 2.1e-06 | 4.1e-06 | 6.1e-06 | 3.8e-06 | 1.2e-06 | 1.3e-06 | 3.6e-06 | 1.3e-05 | 2.0e-05 | 1.1e-05 | 2.9e-06 | 7.1e-05 |
| Central Atlantic Call Area E | 1.4e-04 | 1.9e-04 | 4.6e-04 | 6.9e-04 | 4.5e-04 | 1.9e-04 | 1.2e-04 | 2.7e-04 | 1.0e-03 | 1.7e-03 | 8.7e-04 | 2.4e-04 | 6.3e-03 |
| Central Atlantic Draft WEA Primary E1 | 3.7e-05 | 5.0e-05 | 1.2e-04 | 1.8e-04 | 1.2e-04 | 5.2e-05 | 3.4e-05 | 7.3e-05 | 2.7e-04 | 4.6e-04 | 2.4e-04 | 6.4e-05 | 1.7e-03 |
| Central Atlantic Draft WEA Primary E2 | 2.6e-05 | 4.0e-05 | 9.2e-05 | 1.4e-04 | 8.7e-05 | 3.2e-05 | 2.3e-05 | 5.1e-05 | 1.9e-04 | 2.8e-04 | 1.5e-04 | 4.5e-05 | 1.2e-03 |
| Central Atlantic Call Area F | 5.5e-05 | 8.8e-05 | 2.0e-04 | 2.6e-04 | 1.4e-04 | 5.0e-05 | 4.5e-05 | 1.1e-04 | 3.6e-04 | 3.9e-04 | 2.1e-04 | 7.7e-05 | 2.0e-03 |
| Central Atlantic Draft WEA Primary F | 2.8e-06 | 4.7e-06 | 1.0e-05 | 1.3e-05 | 6.4e-06 | 2.5e-06 | 2.6e-06 | 6.1e-06 | 1.8e-05 | 1.7e-05 | 8.9e-06 | 3.6e-06 | 9.6e-05 |
| Virginia OCS-A 0483 | 5.9e-06 | 6.6e-06 | 1.3e-05 | 2.0e-05 | 1.3e-05 | 4.3e-06 | 5.0e-06 | 1.5e-05 | 5.4e-05 | 8.6e-05 | 4.4e-05 | 1.1e-05 | 2.8e-04 |
| Virginia OCS-A 0497 | 1.1e-07 | 1.1e-07 | 2.4e-07 | 3.7e-07 | 2.5e-07 | 9.2e-08 | 1.2e-07 | 3.6e-07 | 1.1e-06 | 1.8e-06 | 9.0e-07 | 2.1e-07 | 5.6e-06 |
| North Carolina OCS-A 0508 | 1.1e-05 | 1.3e-05 | 2.6e-05 | 3.8e-05 | 2.3e-05 | 6.9e-06 | 7.4e-06 | 2.0e-05 | 7.1e-05 | 1.0e-04 | 5.6e-05 | 1.7e-05 | 3.9e-04 |
| North Carolina OCS-A 0545 | 5.5e-06 | 8.4e-06 | 1.7e-05 | 1.9e-05 | 7.0e-06 | 2.7e-06 | 3.8e-06 | 8.9e-06 | 2.5e-05 | 2.7e-05 | 1.9e-05 | 7.5e-06 | 1.5e-04 |
| North Carolina OCS-A 0546 | 5.6e-06 | 8.7e-06 | 1.8e-05 | 1.9e-05 | 7.2e-06 | 2.8e-06 | 3.9e-06 | 9.1e-06 | 2.6e-05 | 2.7e-05 | 1.9e-05 | 7.4e-06 | 1.5e-04 |
| South Carolina Call Area - Grand Strand | 5.5e-05 | 7.7e-05 | 1.5e-04 | 1.6e-04 | 5.7e-05 | 2.3e-05 | 3.5e-05 | 8.7e-05 | 2.5e-04 | 3.3e-04 | 2.7e-04 | 9.0e-05 | 1.6e-03 |
| South Carolina Call Area - Cape Romain | 1.3e-05 | 1.8e-05 | 3.6e-05 | 3.6e-05 | 1.3e-05 | 5.5e-06 | 8.4e-06 | 2.1e-05 | 5.9e-05 | 7.9e-05 | 6.7e-05 | 2.2e-05 | 3.8e-04 |
| South Carolina Call Area - Winyah | 2.4e-06 | 4.3e-06 | 8.6e-06 | 9.3e-06 | 3.8e-06 | 1.7e-06 | 2.4e-06 | 5.6e-06 | 1.6e-05 | 1.3e-05 | 6.1e-06 | 2.5e-06 | 7.5e-05 |
| South Carolina Call Area - Charleston | 3.0e-06 | 4.8e-06 | 9.6e-06 | 9.6e-06 | 3.6e-06 | 1.5e-06 | 2.1e-06 | 5.2e-06 | 1.5e-05 | 1.5e-05 | 8.8e-06 | 3.8e-06 | 8.2e-05 |
| All planning areas | 9.6e-04 | 1.1e-03 | 2.5e-03 | 3.4e-03 | 2.8e-03 | 2.3e-03 | 2.7e-03 | 6.4e-03 | 2.1e-02 | 2.6e-02 | 8.8e-03 | 2.0e-03 | 8.0e-02 |
| All lease areas | 1.1e-04 | 1.3e-04 | 2.7e-04 | 4.0e-04 | 3.4e-04 | 2.3e-04 | 1.8e-04 | 4.2e-04 | 1.8e-03 | 2.9e-03 | 1.0e-03 | 2.4e-04 | 8.1e-03 |
| All planning and lease areas | 1.1e-03 | 1.3e-03 | 2.7e-03 | 3.8e-03 | 3.2e-03 | 2.5e-03 | 2.9e-03 | 6.9e-03 | 2.2e-02 | 2.9e-02 | 9.8e-03 | 2.2e-03 | 8.8e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-13. Predicted proportional abundance of Parasitic Jaeger by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.2e-04 | 2.0e-04 | 4.0e-04 | 2.3e-03 | 5.9e-03 | 6.7e-03 | 7.3e-03 | 7.1e-03 | 1.3e-02 | 1.1e-02 | 4.3e-03 | 9.0e-04 | 5.9e-02 |
| Gulf of Maine Request for Competitive Interest | 2.7e-06 | 2.2e-06 | 3.9e-06 | 1.8e-05 | 3.9e-05 | 4.2e-05 | 4.6e-05 | 4.5e-05 | 8.2e-05 | 9.2e-05 | 4.1e-05 | 1.0e-05 | 4.2e-04 |
| Marine Research Array Requested Lease | 4.2e-07 | 3.4e-07 | 5.9e-07 | 2.5e-06 | 5.4e-06 | 5.8e-06 | 6.5e-06 | 6.3e-06 | 1.1e-05 | 1.3e-05 | 6.3e-06 | 1.6e-06 | 6.0e-05 |
| Rhode Island OCS-A 0506 | 3.0e-08 | 1.7e-08 | 2.2e-08 | 6.6e-08 | 1.2e-07 | 1.2e-07 | 8.7e-08 | 7.0e-08 | 1.6e-07 | 3.3e-07 | 2.3e-07 | 9.2e-08 | 1.3e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 6.5e-06 | 5.1e-06 | 8.0e-06 | 3.0e-05 | 6.1e-05 | 6.0e-05 | 3.7e-05 | 3.1e-05 | 7.7e-05 | 1.4e-04 | 8.2e-05 | 2.6e-05 | 5.6e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.1e-07 | 7.1e-07 | 1.2e-06 | 5.0e-06 | 1.0e-05 | 1.0e-05 | 6.2e-06 | 5.1e-06 | 1.3e-05 | 2.1e-05 | 1.2e-05 | 3.6e-06 | 9.0e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 4.8e-06 | 4.4e-06 | 8.2e-06 | 3.9e-05 | 8.8e-05 | 8.8e-05 | 5.3e-05 | 4.3e-05 | 1.1e-04 | 1.6e-04 | 7.9e-05 | 2.3e-05 | 6.9e-04 |
| Massachusetts OCS-A 0500 | 5.4e-06 | 5.0e-06 | 9.8e-06 | 5.0e-05 | 1.2e-04 | 1.2e-04 | 7.5e-05 | 6.0e-05 | 1.5e-04 | 2.0e-04 | 9.6e-05 | 2.7e-05 | 9.1e-04 |
| Massachusetts OCS-A 0501 | 2.0e-06 | 1.8e-06 | 3.9e-06 | 2.2e-05 | 5.2e-05 | 5.3e-05 | 3.7e-05 | 2.9e-05 | 7.0e-05 | 8.7e-05 | 4.1e-05 | 1.1e-05 | 4.1e-04 |
| Massachusetts OCS-A 0534 | 3.4e-06 | 3.1e-06 | 6.4e-06 | 3.4e-05 | 8.1e-05 | 8.3e-05 | 5.4e-05 | 4.3e-05 | 1.0e-04 | 1.3e-04 | 6.3e-05 | 1.8e-05 | 6.3e-04 |
| Massachusetts OCS-A 0520 | 4.1e-06 | 3.7e-06 | 7.9e-06 | 4.2e-05 | 1.0e-04 | 1.1e-04 | 7.2e-05 | 5.7e-05 | 1.3e-04 | 1.6e-04 | 7.7e-05 | 2.1e-05 | 7.9e-04 |
| Massachusetts OCS-A 0521 | 3.9e-06 | 3.6e-06 | 7.6e-06 | 4.1e-05 | 9.9e-05 | 1.0e-04 | 7.4e-05 | 5.9e-05 | 1.4e-04 | 1.6e-04 | 7.4e-05 | 2.0e-05 | 7.8e-04 |
| Massachusetts OCS-A 0522 | 3.8e-06 | 3.5e-06 | 7.6e-06 | 4.1e-05 | 1.0e-04 | 1.1e-04 | 8.1e-05 | 6.4e-05 | 1.4e-04 | 1.6e-04 | 7.4e-05 | 1.9e-05 | 8.1e-04 |
| New York WEA - Fairways North | 6.5e-06 | 5.2e-06 | 8.6e-06 | 3.3e-05 | 6.8e-05 | 6.8e-05 | 3.8e-05 | 3.1e-05 | 7.5e-05 | 1.4e-04 | 8.0e-05 | 2.5e-05 | 5.7e-04 |
| New York WEA - Fairways South | 2.9e-06 | 1.9e-06 | 2.7e-06 | 8.8e-06 | 1.7e-05 | 1.6e-05 | 7.8e-06 | 6.7e-06 | 1.7e-05 | 3.9e-05 | 2.8e-05 | 9.6e-06 | 1.6e-04 |
| New York OCS-A 0512 | 6.0e-06 | 4.7e-06 | 8.3e-06 | 3.3e-05 | 6.6e-05 | 6.0e-05 | 2.7e-05 | 2.3e-05 | 5.8e-05 | 1.2e-04 | 7.5e-05 | 2.4e-05 | 5.0e-04 |
| NY/NJ OCS-A 0544 | 3.4e-06 | 2.7e-06 | 4.5e-06 | 1.7e-05 | 3.5e-05 | 3.3e-05 | 1.4e-05 | 1.2e-05 | 3.2e-05 | 6.4e-05 | 3.9e-05 | 1.3e-05 | 2.7e-04 |
| NY/NJ OCS-A 0537 | 4.3e-06 | 4.1e-06 | 7.1e-06 | 2.7e-05 | 6.0e-05 | 6.1e-05 | 2.7e-05 | 2.2e-05 | 5.6e-05 | 9.4e-05 | 5.1e-05 | 1.6e-05 | 4.3e-04 |
| NY/NJ OCS-A 0538 | 5.4e-06 | 5.0e-06 | 9.0e-06 | 3.3e-05 | 7.2e-05 | 7.1e-05 | 2.9e-05 | 2.3e-05 | 6.3e-05 | 1.1e-04 | 6.3e-05 | 2.1e-05 | 5.1e-04 |
| NY/NJ OCS-A 0539 | 6.0e-06 | 5.8e-06 | 1.2e-05 | 4.9e-05 | 1.1e-04 | 1.1e-04 | 4.4e-05 | 3.5e-05 | 9.0e-05 | 1.5e-04 | 8.0e-05 | 2.6e-05 | 7.2e-04 |
| NY/NJ OCS-A 0541 | 4.6e-06 | 4.3e-06 | 8.2e-06 | 3.3e-05 | 7.3e-05 | 6.6e-05 | 2.5e-05 | 2.0e-05 | 5.2e-05 | 1.0e-04 | 5.8e-05 | 1.9e-05 | 4.7e-04 |
| NY/NJ OCS-A 0542 | 4.4e-06 | 4.2e-06 | 8.3e-06 | 3.4e-05 | 7.7e-05 | 7.3e-05 | 2.7e-05 | 2.2e-05 | 5.6e-05 | 1.0e-04 | 5.5e-05 | 1.8e-05 | 4.8e-04 |
| New Jersey OCS-A 0549 | 5.7e-06 | 4.7e-06 | 8.9e-06 | 3.8e-05 | 7.6e-05 | 5.9e-05 | 2.6e-05 | 2.2e-05 | 5.0e-05 | 1.2e-04 | 7.5e-05 | 2.4e-05 | 5.1e-04 |
| New Jersey OCS-A 0499 | 7.6e-06 | 6.2e-06 | 1.2e-05 | 4.8e-05 | 9.6e-05 | 7.3e-05 | 3.1e-05 | 2.6e-05 | 6.1e-05 | 1.5e-04 | 9.5e-05 | 3.1e-05 | 6.3e-04 |
| New Jersey OCS-A 0498 | 7.3e-06 | 5.4e-06 | 9.3e-06 | 3.7e-05 | 6.9e-05 | 5.0e-05 | 2.1e-05 | 1.8e-05 | 4.3e-05 | 1.1e-04 | 8.1e-05 | 2.8e-05 | 4.8e-04 |
| New Jersey OCS-A 0532 | 9.5e-06 | 6.5e-06 | 1.1e-05 | 4.2e-05 | 7.5e-05 | 5.3e-05 | 2.3e-05 | 2.0e-05 | 4.5e-05 | 1.3e-04 | 9.8e-05 | 3.4e-05 | 5.5e-04 |
| Delaware OCS-A 0482 | 4.4e-06 | 3.9e-06 | 7.6e-06 | 3.5e-05 | 7.3e-05 | 4.9e-05 | 2.1e-05 | 1.8e-05 | 3.7e-05 | 8.8e-05 | 5.7e-05 | 2.0e-05 | 4.1e-04 |
| Delaware OCS-A 0519 | 1.9e-06 | 1.6e-06 | 3.0e-06 | 1.3e-05 | 2.7e-05 | 1.8e-05 | 7.2e-06 | 6.1e-06 | 1.4e-05 | 3.4e-05 | 2.2e-05 | 7.9e-06 | 1.6e-04 |
| Maryland OCS-A 0490 | 5.8e-06 | 5.0e-06 | 9.3e-06 | 4.2e-05 | 8.5e-05 | 5.4e-05 | 2.2e-05 | 1.8e-05 | 3.9e-05 | 1.0e-04 | 7.0e-05 | 2.4e-05 | 4.7e-04 |
| Central Atlantic Call Area A | 1.9e-05 | 1.7e-05 | 2.9e-05 | 1.2e-04 | 2.6e-04 | 1.9e-04 | 6.7e-05 | 5.7e-05 | 1.3e-04 | 3.3e-04 | 2.1e-04 | 7.6e-05 | 1.5e-03 |
| Central Atlantic Draft WEA Primary A | 3.2e-06 | 2.9e-06 | 5.1e-06 | 2.2e-05 | 4.7e-05 | 3.3e-05 | 1.2e-05 | 1.0e-05 | 2.4e-05 | 5.8e-05 | 3.7e-05 | 1.3e-05 | 2.7e-04 |
| Central Atlantic Draft WEA Secondary A | 9.3e-06 | 8.5e-06 | 1.5e-05 | 6.3e-05 | 1.3e-04 | 9.3e-05 | 3.4e-05 | 2.9e-05 | 6.7e-05 | 1.6e-04 | 1.1e-04 | 3.8e-05 | 7.6e-04 |
| Central Atlantic Call Area B | 5.6e-05 | 5.4e-05 | 8.8e-05 | 3.6e-04 | 7.9e-04 | 4.6e-04 | 1.6e-04 | 1.4e-04 | 3.1e-04 | 8.2e-04 | 5.9e-04 | 2.1e-04 | 4.0e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.5e-06 | 1.4e-06 | 2.5e-06 | 1.1e-05 | 2.5e-05 | 1.4e-05 | 4.8e-06 | 4.4e-06 | 9.9e-06 | 2.6e-05 | 1.8e-05 | 6.3e-06 | 1.3e-04 |
| Central Atlantic Draft WEA Secondary B1 | 6.4e-07 | 6.2e-07 | 1.1e-06 | 4.8e-06 | 1.1e-05 | 6.3e-06 | 2.1e-06 | 1.9e-06 | 4.4e-06 | 1.1e-05 | 7.8e-06 | 2.7e-06 | 5.4e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.7e-05 | 1.7e-05 | 2.7e-05 | 1.1e-04 | 2.3e-04 | 1.3e-04 | 4.4e-05 | 4.0e-05 | 8.7e-05 | 2.3e-04 | 1.7e-04 | 6.4e-05 | 1.2e-03 |
| Central Atlantic Draft WEA Secondary B2 | 7.0e-06 | 7.0e-06 | 1.1e-05 | 4.4e-05 | 9.7e-05 | 5.6e-05 | 1.9e-05 | 1.7e-05 | 3.6e-05 | 9.6e-05 | 7.0e-05 | 2.6e-05 | 4.9e-04 |
| Central Atlantic Call Area C | 1.9e-05 | 1.9e-05 | 2.8e-05 | 1.1e-04 | 2.4e-04 | 1.1e-04 | 3.9e-05 | 3.6e-05 | 7.6e-05 | 2.0e-04 | 1.8e-04 | 6.6e-05 | 1.1e-03 |
| Central Atlantic Draft WEA Primary C | 1.2e-05 | 1.1e-05 | 1.7e-05 | 6.6e-05 | 1.4e-04 | 6.7e-05 | 2.3e-05 | 2.1e-05 | 4.6e-05 | 1.2e-04 | 1.1e-04 | 4.0e-05 | 6.8e-04 |
| Central Atlantic Draft WEA Secondary C | 6.1e-06 | 6.0e-06 | 9.0e-06 | 3.5e-05 | 7.4e-05 | 3.6e-05 | 1.3e-05 | 1.1e-05 | 2.4e-05 | 6.4e-05 | 5.5e-05 | 2.1e-05 | 3.5e-04 |
| Central Atlantic Call Area D | 4.7e-05 | 4.6e-05 | 6.6e-05 | 2.6e-04 | 5.6e-04 | 2.3e-04 | 8.4e-05 | 7.7e-05 | 1.6e-04 | 4.1e-04 | 3.8e-04 | 1.5e-04 | 2.5e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.9e-05 | 1.8e-05 | 2.6e-05 | 1.0e-04 | 2.2e-04 | 8.9e-05 | 3.2e-05 | 3.0e-05 | 6.3e-05 | 1.6e-04 | 1.6e-04 | 6.1e-05 | 9.8e-04 |
| Central Atlantic Draft WEA Secondary D | 2.5e-06 | 2.3e-06 | 3.5e-06 | 1.4e-05 | 2.9e-05 | 1.1e-05 | 4.1e-06 | 3.8e-06 | 8.2e-06 | 2.2e-05 | 2.2e-05 | 8.4e-06 | 1.3e-04 |
| Central Atlantic Call Area E | 1.1e-04 | 1.3e-04 | 2.5e-04 | 9.1e-04 | 2.0e-03 | 9.9e-04 | 4.0e-04 | 3.1e-04 | 5.2e-04 | 1.1e-03 | 1.0e-03 | 3.9e-04 | 8.1e-03 |
| Central Atlantic Draft WEA Primary E1 | 2.6e-05 | 3.2e-05 | 6.4e-05 | 2.4e-04 | 5.4e-04 | 2.8e-04 | 1.1e-04 | 8.7e-05 | 1.4e-04 | 3.1e-04 | 2.8e-04 | 9.6e-05 | 2.2e-03 |
| Central Atlantic Draft WEA Primary E2 | 2.1e-05 | 2.5e-05 | 4.7e-05 | 1.7e-04 | 3.9e-04 | 1.7e-04 | 7.6e-05 | 6.0e-05 | 9.5e-05 | 1.9e-04 | 1.9e-04 | 7.5e-05 | 1.5e-03 |
| Central Atlantic Call Area F | 5.3e-05 | 6.0e-05 | 1.1e-04 | 3.4e-04 | 7.0e-04 | 3.0e-04 | 1.4e-04 | 1.2e-04 | 1.6e-04 | 3.0e-04 | 2.9e-04 | 1.4e-04 | 2.7e-03 |
| Central Atlantic Draft WEA Primary F | 2.1e-06 | 2.4e-06 | 4.1e-06 | 1.3e-05 | 2.7e-05 | 1.2e-05 | 6.5e-06 | 5.1e-06 | 6.6e-06 | 1.1e-05 | 9.1e-06 | 4.8e-06 | 1.0e-04 |
| Virginia OCS-A 0483 | 1.2e-05 | 1.1e-05 | 1.7e-05 | 7.0e-05 | 1.4e-04 | 5.0e-05 | 1.9e-05 | 1.8e-05 | 4.0e-05 | 1.2e-04 | 1.1e-04 | 4.2e-05 | 6.5e-04 |
| Virginia OCS-A 0497 | 3.3e-07 | 2.7e-07 | 4.4e-07 | 1.8e-06 | 3.2e-06 | 1.0e-06 | 4.3e-07 | 4.1e-07 | 9.0e-07 | 2.8e-06 | 2.9e-06 | 1.1e-06 | 1.6e-05 |
| North Carolina OCS-A 0508 | 1.3e-05 | 1.3e-05 | 1.8e-05 | 7.0e-05 | 1.4e-04 | 5.5e-05 | 2.0e-05 | 1.9e-05 | 3.9e-05 | 1.0e-04 | 1.0e-04 | 4.1e-05 | 6.3e-04 |
| North Carolina OCS-A 0545 | 9.6e-06 | 9.7e-06 | 1.3e-05 | 3.3e-05 | 2.8e-05 | 9.4e-06 | 6.7e-06 | 6.2e-06 | 8.5e-06 | 1.8e-05 | 3.0e-05 | 2.0e-05 | 1.9e-04 |
| North Carolina OCS-A 0546 | 8.9e-06 | 9.1e-06 | 1.3e-05 | 3.1e-05 | 2.7e-05 | 9.5e-06 | 6.8e-06 | 6.2e-06 | 8.4e-06 | 1.7e-05 | 2.7e-05 | 1.8e-05 | 1.8e-04 |
| South Carolina Call Area - Grand Strand | 1.4e-04 | 1.3e-04 | 2.0e-04 | 4.5e-04 | 3.0e-04 | 9.4e-05 | 6.8e-05 | 6.5e-05 | 9.9e-05 | 2.6e-04 | 5.3e-04 | 3.2e-04 | 2.7e-03 |
| South Carolina Call Area - Cape Romain | 3.5e-05 | 3.2e-05 | 4.9e-05 | 1.1e-04 | 6.9e-05 | 2.2e-05 | 1.6e-05 | 1.5e-05 | 2.3e-05 | 6.2e-05 | 1.3e-04 | 7.9e-05 | 6.4e-04 |
| South Carolina Call Area - Winyah | 3.6e-06 | 4.1e-06 | 5.6e-06 | 1.3e-05 | 1.3e-05 | 5.3e-06 | 3.7e-06 | 3.5e-06 | 4.5e-06 | 7.2e-06 | 7.7e-06 | 4.9e-06 | 7.6e-05 |
| South Carolina Call Area - Charleston | 7.2e-06 | 7.0e-06 | 9.9e-06 | 2.2e-05 | 1.6e-05 | 5.3e-06 | 3.6e-06 | 3.5e-06 | 5.1e-06 | 1.0e-05 | 1.5e-05 | 1.1e-05 | 1.2e-04 |
| All planning areas | 7.2e-04 | 7.1e-04 | 1.2e-03 | 5.1e-03 | 1.1e-02 | 9.2e-03 | 8.4e-03 | 8.0e-03 | 1.4e-02 | 1.5e-02 | 7.8e-03 | 2.4e-03 | 8.4e-02 |
| All lease areas | 1.6e-04 | 1.4e-04 | 2.4e-04 | 9.9e-04 | 2.0e-03 | 1.7e-03 | 8.9e-04 | 7.3e-04 | 1.7e-03 | 3.0e-03 | 1.8e-03 | 6.0e-04 | 1.4e-02 |
| All planning and lease areas | 8.8e-04 | 8.5e-04 | 1.5e-03 | 6.1e-03 | 1.3e-02 | 1.1e-02 | 9.3e-03 | 8.7e-03 | 1.6e-02 | 1.8e-02 | 9.6e-03 | 3.0e-03 | 9.8e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-14. Predicted proportional abundance of Dovekie by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.9e-02 | 1.7e-02 | 1.3e-02 | 4.6e-03 | 1.7e-03 | 1.3e-04 | 4.6e-06 | 1.2e-06 | 4.7e-06 | 1.1e-04 | 2.6e-03 | 1.3e-02 | 7.1e-02 |
| Gulf of Maine Request for Competitive Interest | 1.2e-04 | 9.7e-05 | 8.6e-05 | 2.6e-05 | 1.1e-05 | 6.4e-07 | 1.9e-08 | 4.1e-09 | 2.1e-08 | 6.7e-07 | 1.9e-05 | 8.4e-05 | 4.4e-04 |
| Marine Research Array Requested Lease | 1.7e-05 | 1.4e-05 | 1.2e-05 | 3.6e-06 | 1.6e-06 | 8.9e-08 | 2.8e-09 | 5.9e-10 | 3.1e-09 | 9.8e-08 | 2.7e-06 | 1.2e-05 | 6.4e-05 |
| Rhode Island OCS-A 0506 | 3.2e-07 | 1.9e-07 | 1.0e-07 | 4.4e-08 | 6.6e-09 | 1.9e-10 | 6.5e-12 | 6.4e-12 | 1.4e-11 | 4.9e-10 | 1.7e-08 | 1.9e-07 | 8.8e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.7e-04 | 1.1e-04 | 6.2e-05 | 2.8e-05 | 5.6e-06 | 1.4e-07 | 2.7e-09 | 2.8e-09 | 5.7e-09 | 1.8e-07 | 6.7e-06 | 9.1e-05 | 4.7e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.7e-05 | 1.9e-05 | 1.0e-05 | 4.2e-06 | 9.0e-07 | 2.1e-08 | 4.3e-10 | 5.1e-10 | 9.9e-10 | 2.7e-08 | 1.0e-06 | 1.4e-05 | 7.6e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 2.7e-04 | 1.8e-04 | 1.0e-04 | 4.1e-05 | 9.1e-06 | 2.0e-07 | 3.8e-09 | 4.2e-09 | 8.3e-09 | 2.1e-07 | 8.5e-06 | 1.2e-04 | 7.2e-04 |
| Massachusetts OCS-A 0500 | 3.7e-04 | 2.6e-04 | 1.6e-04 | 6.8e-05 | 1.5e-05 | 3.8e-07 | 6.3e-09 | 5.4e-09 | 1.1e-08 | 3.2e-07 | 1.3e-05 | 1.7e-04 | 1.1e-03 |
| Massachusetts OCS-A 0501 | 1.4e-04 | 1.1e-04 | 7.5e-05 | 3.5e-05 | 8.5e-06 | 2.4e-07 | 3.4e-09 | 2.3e-09 | 4.7e-09 | 1.5e-07 | 6.1e-06 | 8.8e-05 | 4.7e-04 |
| Massachusetts OCS-A 0534 | 2.7e-04 | 2.0e-04 | 1.4e-04 | 5.6e-05 | 1.3e-05 | 3.6e-07 | 5.5e-09 | 4.2e-09 | 8.8e-09 | 2.5e-07 | 9.3e-06 | 1.2e-04 | 8.2e-04 |
| Massachusetts OCS-A 0520 | 3.6e-04 | 3.0e-04 | 2.1e-04 | 8.1e-05 | 1.9e-05 | 6.1e-07 | 8.3e-09 | 5.9e-09 | 1.2e-08 | 3.4e-07 | 1.3e-05 | 1.6e-04 | 1.1e-03 |
| Massachusetts OCS-A 0521 | 4.0e-04 | 3.3e-04 | 2.2e-04 | 8.5e-05 | 2.2e-05 | 7.3e-07 | 9.4e-09 | 6.3e-09 | 1.3e-08 | 3.6e-07 | 1.4e-05 | 1.8e-04 | 1.2e-03 |
| Massachusetts OCS-A 0522 | 4.5e-04 | 3.8e-04 | 2.4e-04 | 9.3e-05 | 2.6e-05 | 9.1e-07 | 1.1e-08 | 6.6e-09 | 1.4e-08 | 4.0e-07 | 1.6e-05 | 2.1e-04 | 1.4e-03 |
| New York WEA - Fairways North | 2.5e-04 | 1.4e-04 | 6.8e-05 | 2.5e-05 | 3.4e-06 | 5.2e-08 | 4.0e-09 | 4.1e-09 | 6.8e-09 | 1.2e-07 | 5.5e-06 | 8.7e-05 | 5.8e-04 |
| New York WEA - Fairways South | 6.4e-05 | 3.7e-05 | 1.8e-05 | 7.6e-06 | 6.8e-07 | 7.9e-09 | 1.1e-09 | 1.0e-09 | 1.6e-09 | 2.2e-08 | 1.3e-06 | 2.2e-05 | 1.5e-04 |
| New York OCS-A 0512 | 1.8e-04 | 1.1e-04 | 5.5e-05 | 2.4e-05 | 1.7e-06 | 1.6e-08 | 4.0e-09 | 3.5e-09 | 5.0e-09 | 5.1e-08 | 3.3e-06 | 6.4e-05 | 4.4e-04 |
| NY/NJ OCS-A 0544 | 1.5e-04 | 9.1e-05 | 4.1e-05 | 1.7e-05 | 1.4e-06 | 1.1e-08 | 2.0e-09 | 1.7e-09 | 2.8e-09 | 3.7e-08 | 2.2e-06 | 4.1e-05 | 3.4e-04 |
| NY/NJ OCS-A 0537 | 3.4e-04 | 3.6e-04 | 1.5e-04 | 4.2e-05 | 4.9e-06 | 5.3e-08 | 3.5e-09 | 3.1e-09 | 6.3e-09 | 9.9e-08 | 5.7e-06 | 8.2e-05 | 9.9e-04 |
| NY/NJ OCS-A 0538 | 4.0e-04 | 3.9e-04 | 1.7e-04 | 4.8e-05 | 4.8e-06 | 4.6e-08 | 5.1e-09 | 3.5e-09 | 5.9e-09 | 7.6e-08 | 4.9e-06 | 8.7e-05 | 1.1e-03 |
| NY/NJ OCS-A 0539 | 5.5e-04 | 4.9e-04 | 2.5e-04 | 7.8e-05 | 7.2e-06 | 6.3e-08 | 8.1e-09 | 5.9e-09 | 9.9e-09 | 9.7e-08 | 6.4e-06 | 1.3e-04 | 1.5e-03 |
| NY/NJ OCS-A 0541 | 3.5e-04 | 2.9e-04 | 1.6e-04 | 5.3e-05 | 3.9e-06 | 2.9e-08 | 5.8e-09 | 4.2e-09 | 7.1e-09 | 5.4e-08 | 4.0e-06 | 8.0e-05 | 9.4e-04 |
| NY/NJ OCS-A 0542 | 4.1e-04 | 3.9e-04 | 2.1e-04 | 6.5e-05 | 5.2e-06 | 4.0e-08 | 5.8e-09 | 4.1e-09 | 8.0e-09 | 6.9e-08 | 4.7e-06 | 8.8e-05 | 1.2e-03 |
| New Jersey OCS-A 0549 | 1.1e-04 | 7.2e-05 | 5.0e-05 | 2.3e-05 | 1.5e-06 | 1.7e-08 | 8.0e-09 | 6.1e-09 | 7.4e-09 | 3.4e-08 | 2.8e-06 | 5.4e-05 | 3.1e-04 |
| New Jersey OCS-A 0499 | 1.8e-04 | 1.1e-04 | 8.0e-05 | 3.7e-05 | 2.2e-06 | 2.0e-08 | 1.0e-08 | 7.6e-09 | 9.9e-09 | 4.3e-08 | 3.7e-06 | 7.8e-05 | 5.0e-04 |
| New Jersey OCS-A 0498 | 1.4e-04 | 8.9e-05 | 6.2e-05 | 2.9e-05 | 1.6e-06 | 1.5e-08 | 7.6e-09 | 5.8e-09 | 8.0e-09 | 3.1e-08 | 2.6e-06 | 5.8e-05 | 3.8e-04 |
| New Jersey OCS-A 0532 | 1.3e-04 | 8.6e-05 | 6.1e-05 | 2.8e-05 | 1.5e-06 | 1.7e-08 | 9.1e-09 | 6.9e-09 | 9.0e-09 | 3.3e-08 | 3.0e-06 | 6.4e-05 | 3.7e-04 |
| Delaware OCS-A 0482 | 1.2e-04 | 8.7e-05 | 5.7e-05 | 2.6e-05 | 1.3e-06 | 1.4e-08 | 8.7e-09 | 6.2e-09 | 8.3e-09 | 2.5e-08 | 2.2e-06 | 4.9e-05 | 3.4e-04 |
| Delaware OCS-A 0519 | 5.6e-05 | 4.2e-05 | 2.5e-05 | 1.1e-05 | 5.1e-07 | 5.0e-09 | 3.2e-09 | 2.2e-09 | 3.2e-09 | 9.4e-09 | 8.0e-07 | 1.9e-05 | 1.5e-04 |
| Maryland OCS-A 0490 | 1.6e-04 | 1.3e-04 | 7.4e-05 | 2.9e-05 | 1.3e-06 | 1.4e-08 | 1.0e-08 | 6.6e-09 | 9.3e-09 | 2.6e-08 | 2.2e-06 | 5.3e-05 | 4.5e-04 |
| Central Atlantic Call Area A | 9.4e-04 | 7.8e-04 | 3.8e-04 | 1.4e-04 | 6.7e-06 | 5.1e-08 | 2.4e-08 | 1.8e-08 | 3.2e-08 | 1.1e-07 | 8.9e-06 | 2.1e-04 | 2.5e-03 |
| Central Atlantic Draft WEA Primary A | 1.5e-04 | 1.2e-04 | 6.0e-05 | 2.3e-05 | 1.2e-06 | 9.0e-09 | 4.6e-09 | 3.4e-09 | 5.6e-09 | 1.9e-08 | 1.6e-06 | 3.8e-05 | 3.9e-04 |
| Central Atlantic Draft WEA Secondary A | 4.7e-04 | 3.7e-04 | 1.8e-04 | 6.8e-05 | 3.3e-06 | 2.5e-08 | 1.2e-08 | 9.1e-09 | 1.6e-08 | 5.5e-08 | 4.5e-06 | 1.1e-04 | 1.2e-03 |
| Central Atlantic Call Area B | 2.5e-03 | 3.1e-03 | 1.4e-03 | 3.5e-04 | 1.5e-05 | 1.0e-07 | 4.3e-08 | 3.6e-08 | 1.0e-07 | 3.0e-07 | 1.8e-05 | 4.4e-04 | 7.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 5.4e-05 | 5.2e-05 | 2.8e-05 | 8.9e-06 | 3.3e-07 | 2.5e-09 | 1.5e-09 | 1.2e-09 | 2.8e-09 | 6.9e-09 | 5.1e-07 | 1.3e-05 | 1.6e-04 |
| Central Atlantic Draft WEA Secondary B1 | 2.7e-05 | 2.7e-05 | 1.4e-05 | 4.4e-06 | 1.7e-07 | 1.3e-09 | 6.5e-10 | 5.0e-10 | 1.2e-09 | 3.1e-09 | 2.2e-07 | 5.8e-06 | 7.8e-05 |
| Central Atlantic Draft WEA Primary B2 | 7.2e-04 | 1.0e-03 | 4.5e-04 | 9.7e-05 | 4.1e-06 | 2.5e-08 | 1.2e-08 | 1.0e-08 | 3.1e-08 | 9.2e-08 | 5.0e-06 | 1.2e-04 | 2.4e-03 |
| Central Atlantic Draft WEA Secondary B2 | 3.3e-04 | 4.8e-04 | 2.1e-04 | 4.5e-05 | 2.0e-06 | 1.3e-08 | 5.1e-09 | 4.2e-09 | 1.4e-08 | 4.2e-08 | 2.3e-06 | 5.5e-05 | 1.1e-03 |
| Central Atlantic Call Area C | 5.3e-04 | 9.0e-04 | 4.2e-04 | 7.2e-05 | 2.6e-06 | 2.3e-08 | 1.5e-08 | 1.1e-08 | 3.1e-08 | 9.0e-08 | 3.6e-06 | 9.2e-05 | 2.0e-03 |
| Central Atlantic Draft WEA Primary C | 3.2e-04 | 5.3e-04 | 2.4e-04 | 4.2e-05 | 1.5e-06 | 1.4e-08 | 9.1e-09 | 6.8e-09 | 1.8e-08 | 5.1e-08 | 2.1e-06 | 5.5e-05 | 1.2e-03 |
| Central Atlantic Draft WEA Secondary C | 1.7e-04 | 3.0e-04 | 1.4e-04 | 2.4e-05 | 8.8e-07 | 7.5e-09 | 4.9e-09 | 3.6e-09 | 1.0e-08 | 3.0e-08 | 1.2e-06 | 3.0e-05 | 6.6e-04 |
| Central Atlantic Call Area D | 9.5e-04 | 1.8e-03 | 9.7e-04 | 1.4e-04 | 4.7e-06 | 1.2e-07 | 4.4e-08 | 2.7e-08 | 8.3e-08 | 3.0e-07 | 5.6e-06 | 1.5e-04 | 4.0e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 3.9e-04 | 6.9e-04 | 3.7e-04 | 5.4e-05 | 1.6e-06 | 4.2e-08 | 1.8e-08 | 1.1e-08 | 3.3e-08 | 9.9e-08 | 2.2e-06 | 6.2e-05 | 1.6e-03 |
| Central Atlantic Draft WEA Secondary D | 4.8e-05 | 7.8e-05 | 4.1e-05 | 5.9e-06 | 1.6e-07 | 5.2e-09 | 2.3e-09 | 1.4e-09 | 4.1e-09 | 1.1e-08 | 2.8e-07 | 7.8e-06 | 1.8e-04 |
| Central Atlantic Call Area E | 1.8e-03 | 4.0e-03 | 3.7e-03 | 8.5e-04 | 4.4e-05 | 1.6e-06 | 3.1e-07 | 1.4e-07 | 4.9e-07 | 2.5e-06 | 3.5e-05 | 5.4e-04 | 1.1e-02 |
| Central Atlantic Draft WEA Primary E1 | 4.9e-04 | 1.1e-03 | 1.1e-03 | 2.7e-04 | 1.4e-05 | 4.7e-07 | 1.0e-07 | 4.5e-08 | 1.5e-07 | 7.6e-07 | 1.0e-05 | 1.6e-04 | 3.1e-03 |
| Central Atlantic Draft WEA Primary E2 | 2.5e-04 | 6.2e-04 | 5.5e-04 | 1.3e-04 | 6.1e-06 | 3.3e-07 | 5.7e-08 | 2.5e-08 | 8.6e-08 | 5.0e-07 | 5.2e-06 | 8.0e-05 | 1.6e-03 |
| Central Atlantic Call Area F | 4.0e-04 | 7.6e-04 | 5.1e-04 | 1.2e-04 | 7.2e-06 | 5.2e-07 | 7.6e-08 | 3.1e-08 | 1.2e-07 | 9.6e-07 | 7.7e-06 | 7.2e-05 | 1.9e-03 |
| Central Atlantic Draft WEA Primary F | 1.4e-05 | 2.3e-05 | 1.3e-05 | 3.8e-06 | 2.9e-07 | 2.9e-08 | 3.5e-09 | 1.1e-09 | 3.8e-09 | 3.6e-08 | 3.4e-07 | 2.3e-06 | 5.7e-05 |
| Virginia OCS-A 0483 | 1.9e-04 | 2.5e-04 | 1.2e-04 | 1.5e-05 | 3.3e-07 | 1.5e-08 | 9.9e-09 | 7.7e-09 | 1.5e-08 | 3.5e-08 | 1.4e-06 | 3.7e-05 | 6.1e-04 |
| Virginia OCS-A 0497 | 2.4e-06 | 2.6e-06 | 1.2e-06 | 1.4e-07 | 3.0e-09 | 5.3e-10 | 2.8e-10 | 1.8e-10 | 3.1e-10 | 5.9e-10 | 2.3e-08 | 5.5e-07 | 7.0e-06 |
| North Carolina OCS-A 0508 | 2.4e-04 | 4.5e-04 | 2.5e-04 | 3.3e-05 | 1.0e-06 | 4.2e-08 | 1.3e-08 | 7.5e-09 | 2.5e-08 | 8.9e-08 | 1.3e-06 | 3.7e-05 | 1.0e-03 |
| North Carolina OCS-A 0545 | 2.8e-05 | 4.5e-05 | 1.3e-05 | 1.0e-06 | 2.3e-07 | 2.9e-08 | 2.7e-09 | 1.3e-09 | 4.3e-09 | 6.6e-08 | 3.6e-07 | 2.9e-06 | 9.1e-05 |
| North Carolina OCS-A 0546 | 2.4e-05 | 4.0e-05 | 1.1e-05 | 9.9e-07 | 2.3e-07 | 2.9e-08 | 2.6e-09 | 1.3e-09 | 4.1e-09 | 6.4e-08 | 3.7e-07 | 2.6e-06 | 7.9e-05 |
| South Carolina Call Area - Grand Strand | 5.9e-04 | 8.0e-04 | 1.9e-04 | 9.8e-06 | 2.3e-06 | 2.3e-07 | 2.4e-08 | 1.4e-08 | 4.2e-08 | 7.3e-07 | 3.9e-06 | 8.7e-05 | 1.7e-03 |
| South Carolina Call Area - Cape Romain | 1.2e-04 | 1.5e-04 | 3.1e-05 | 1.9e-06 | 5.4e-07 | 4.6e-08 | 4.7e-09 | 2.7e-09 | 7.6e-09 | 1.5e-07 | 7.7e-07 | 1.8e-05 | 3.3e-04 |
| South Carolina Call Area - Winyah | 3.7e-06 | 5.0e-06 | 2.2e-06 | 6.6e-07 | 2.0e-07 | 1.3e-08 | 9.4e-10 | 5.1e-10 | 1.7e-09 | 2.6e-08 | 3.8e-07 | 1.6e-06 | 1.4e-05 |
| South Carolina Call Area - Charleston | 8.7e-06 | 1.4e-05 | 4.3e-06 | 5.9e-07 | 1.8e-07 | 1.4e-08 | 1.0e-09 | 5.7e-10 | 2.2e-09 | 4.3e-08 | 3.7e-07 | 1.4e-06 | 2.9e-05 |
| All planning areas | 2.7e-02 | 2.9e-02 | 2.1e-02 | 6.3e-03 | 1.8e-03 | 1.3e-04 | 5.2e-06 | 1.4e-06 | 5.7e-06 | 1.1e-04 | 2.7e-03 | 1.5e-02 | 1.0e-01 |
| All lease areas | 6.2e-03 | 5.4e-03 | 3.0e-03 | 1.0e-03 | 1.6e-04 | 4.1e-06 | 1.7e-07 | 1.2e-07 | 2.3e-07 | 3.2e-06 | 1.4e-04 | 2.2e-03 | 1.8e-02 |
| All planning and lease areas | 3.3e-02 | 3.5e-02 | 2.4e-02 | 7.4e-03 | 1.9e-03 | 1.4e-04 | 5.3e-06 | 1.6e-06 | 5.9e-06 | 1.1e-04 | 2.8e-03 | 1.7e-02 | 1.2e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-15. Predicted proportional abundance of Common Murre by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.7e-02 | 2.9e-02 | 1.9e-02 | 6.5e-03 | 3.4e-03 | 1.7e-03 | 5.2e-04 | 1.2e-04 | 1.0e-04 | 1.1e-03 | 5.8e-03 | 1.1e-02 | 1.0e-01 |
| Gulf of Maine Request for Competitive Interest | 1.7e-04 | 2.6e-04 | 1.2e-04 | 3.9e-05 | 2.3e-05 | 1.2e-05 | 9.8e-07 | 1.7e-07 | 3.1e-07 | 7.2e-06 | 4.1e-05 | 1.0e-04 | 7.8e-04 |
| Marine Research Array Requested Lease | 2.6e-05 | 4.0e-05 | 1.8e-05 | 5.7e-06 | 3.7e-06 | 1.9e-06 | 1.7e-07 | 2.9e-08 | 5.3e-08 | 1.0e-06 | 5.9e-06 | 1.6e-05 | 1.2e-04 |
| Rhode Island OCS-A 0506 | 3.6e-07 | 5.0e-07 | 3.3e-07 | 1.5e-07 | 3.2e-08 | 6.8e-09 | 1.4e-10 | 4.1e-11 | 8.1e-11 | 4.8e-09 | 2.8e-08 | 6.6e-08 | 1.5e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.5e-04 | 3.5e-04 | 1.2e-04 | 2.7e-05 | 5.9e-06 | 1.4e-06 | 2.6e-08 | 7.4e-09 | 9.8e-09 | 6.9e-07 | 1.2e-05 | 4.7e-05 | 8.2e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.9e-05 | 6.4e-05 | 2.2e-05 | 3.9e-06 | 7.3e-07 | 1.7e-07 | 2.7e-09 | 7.2e-10 | 9.2e-10 | 8.6e-08 | 2.0e-06 | 6.4e-06 | 1.4e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 2.8e-04 | 5.4e-04 | 2.2e-04 | 3.9e-05 | 5.3e-06 | 1.7e-06 | 2.7e-08 | 6.6e-09 | 8.3e-09 | 8.2e-07 | 2.0e-05 | 5.1e-05 | 1.2e-03 |
| Massachusetts OCS-A 0500 | 3.7e-04 | 6.6e-04 | 3.0e-04 | 5.5e-05 | 6.9e-06 | 2.8e-06 | 4.5e-08 | 1.1e-08 | 1.2e-08 | 1.3e-06 | 2.6e-05 | 8.2e-05 | 1.5e-03 |
| Massachusetts OCS-A 0501 | 1.8e-04 | 2.9e-04 | 1.3e-04 | 2.4e-05 | 3.0e-06 | 1.2e-06 | 2.3e-08 | 5.1e-09 | 5.8e-09 | 7.0e-07 | 1.2e-05 | 5.4e-05 | 7.0e-04 |
| Massachusetts OCS-A 0534 | 2.3e-04 | 4.3e-04 | 2.1e-04 | 4.0e-05 | 4.9e-06 | 2.1e-06 | 3.2e-08 | 7.2e-09 | 8.5e-09 | 8.7e-07 | 1.8e-05 | 4.8e-05 | 9.8e-04 |
| Massachusetts OCS-A 0520 | 2.9e-04 | 5.1e-04 | 2.5e-04 | 4.8e-05 | 6.5e-06 | 2.9e-06 | 4.8e-08 | 1.0e-08 | 1.2e-08 | 1.3e-06 | 2.3e-05 | 6.3e-05 | 1.2e-03 |
| Massachusetts OCS-A 0521 | 2.8e-04 | 4.7e-04 | 2.4e-04 | 4.8e-05 | 6.9e-06 | 3.5e-06 | 5.7e-08 | 1.2e-08 | 1.4e-08 | 1.4e-06 | 2.2e-05 | 6.1e-05 | 1.1e-03 |
| Massachusetts OCS-A 0522 | 3.0e-04 | 4.8e-04 | 2.7e-04 | 5.7e-05 | 8.8e-06 | 5.1e-06 | 7.8e-08 | 1.6e-08 | 1.6e-08 | 1.7e-06 | 2.3e-05 | 6.6e-05 | 1.2e-03 |
| New York WEA - Fairways North | 1.9e-04 | 3.6e-04 | 1.3e-04 | 2.5e-05 | 4.4e-06 | 5.4e-07 | 1.3e-08 | 3.9e-09 | 4.7e-09 | 4.1e-07 | 1.3e-05 | 2.4e-05 | 7.4e-04 |
| New York WEA - Fairways South | 4.6e-05 | 6.9e-05 | 2.9e-05 | 7.4e-06 | 1.8e-06 | 1.1e-07 | 2.6e-09 | 1.4e-09 | 1.5e-09 | 8.8e-08 | 2.3e-06 | 5.9e-06 | 1.6e-04 |
| New York OCS-A 0512 | 1.4e-04 | 2.1e-04 | 8.2e-05 | 1.4e-05 | 2.5e-06 | 1.1e-07 | 3.0e-09 | 1.5e-09 | 1.9e-09 | 1.2e-07 | 7.3e-06 | 1.9e-05 | 4.7e-04 |
| NY/NJ OCS-A 0544 | 6.1e-05 | 1.2e-04 | 5.0e-05 | 9.5e-06 | 1.6e-06 | 8.1e-08 | 1.9e-09 | 1.0e-09 | 1.2e-09 | 8.8e-08 | 4.5e-06 | 8.4e-06 | 2.5e-04 |
| NY/NJ OCS-A 0537 | 4.4e-05 | 1.3e-04 | 8.4e-05 | 2.0e-05 | 2.3e-06 | 2.8e-07 | 3.5e-09 | 1.5e-09 | 2.2e-09 | 2.0e-07 | 7.3e-06 | 1.1e-05 | 3.0e-04 |
| NY/NJ OCS-A 0538 | 6.2e-05 | 1.6e-04 | 9.6e-05 | 2.2e-05 | 3.1e-06 | 2.5e-07 | 2.6e-09 | 1.2e-09 | 2.3e-09 | 1.8e-07 | 8.9e-06 | 1.3e-05 | 3.7e-04 |
| NY/NJ OCS-A 0539 | 8.6e-05 | 2.2e-04 | 1.3e-04 | 2.8e-05 | 2.8e-06 | 2.2e-07 | 2.3e-09 | 1.0e-09 | 2.7e-09 | 2.2e-07 | 1.1e-05 | 1.9e-05 | 4.9e-04 |
| NY/NJ OCS-A 0541 | 6.2e-05 | 1.5e-04 | 7.6e-05 | 1.4e-05 | 1.6e-06 | 8.5e-08 | 1.0e-09 | 4.6e-10 | 1.3e-09 | 1.0e-07 | 6.0e-06 | 1.2e-05 | 3.2e-04 |
| NY/NJ OCS-A 0542 | 5.0e-05 | 1.4e-04 | 7.9e-05 | 1.5e-05 | 1.8e-06 | 1.1e-07 | 1.3e-09 | 6.1e-10 | 1.6e-09 | 1.3e-07 | 6.7e-06 | 1.2e-05 | 3.1e-04 |
| New Jersey OCS-A 0549 | 1.2e-04 | 1.6e-04 | 6.1e-05 | 7.5e-06 | 1.1e-06 | 3.1e-08 | 6.8e-10 | 4.1e-10 | 7.9e-10 | 3.5e-08 | 4.1e-06 | 1.9e-05 | 3.8e-04 |
| New Jersey OCS-A 0499 | 1.5e-04 | 2.1e-04 | 8.0e-05 | 9.6e-06 | 1.5e-06 | 3.7e-08 | 6.7e-10 | 4.3e-10 | 9.4e-10 | 4.6e-08 | 5.3e-06 | 2.2e-05 | 4.8e-04 |
| New Jersey OCS-A 0498 | 1.1e-04 | 1.3e-04 | 5.6e-05 | 6.1e-06 | 1.3e-06 | 2.7e-08 | 5.6e-10 | 4.0e-10 | 7.0e-10 | 3.1e-08 | 3.7e-06 | 1.4e-05 | 3.3e-04 |
| New Jersey OCS-A 0532 | 1.2e-04 | 1.3e-04 | 6.2e-05 | 6.1e-06 | 1.8e-06 | 3.0e-08 | 7.7e-10 | 6.1e-10 | 1.0e-09 | 3.4e-08 | 3.6e-06 | 1.7e-05 | 3.5e-04 |
| Delaware OCS-A 0482 | 8.5e-05 | 1.2e-04 | 5.1e-05 | 4.1e-06 | 5.4e-07 | 8.7e-09 | 2.4e-10 | 1.9e-10 | 4.3e-10 | 1.8e-08 | 2.7e-06 | 1.3e-05 | 2.8e-04 |
| Delaware OCS-A 0519 | 3.0e-05 | 4.6e-05 | 2.0e-05 | 1.7e-06 | 2.3e-07 | 3.6e-09 | 7.8e-11 | 6.3e-11 | 1.5e-10 | 6.8e-09 | 9.7e-07 | 3.9e-06 | 1.0e-04 |
| Maryland OCS-A 0490 | 9.0e-05 | 1.4e-04 | 6.0e-05 | 4.2e-06 | 5.8e-07 | 8.2e-09 | 2.0e-10 | 1.7e-10 | 4.5e-10 | 1.9e-08 | 2.8e-06 | 1.2e-05 | 3.1e-04 |
| Central Atlantic Call Area A | 2.1e-04 | 4.3e-04 | 2.1e-04 | 2.1e-05 | 3.0e-06 | 5.2e-08 | 1.2e-09 | 7.0e-10 | 1.9e-09 | 1.1e-07 | 1.1e-05 | 3.5e-05 | 9.3e-04 |
| Central Atlantic Draft WEA Primary A | 4.3e-05 | 8.3e-05 | 3.9e-05 | 3.8e-06 | 5.3e-07 | 9.2e-09 | 2.0e-10 | 1.2e-10 | 3.4e-10 | 1.9e-08 | 2.0e-06 | 6.7e-06 | 1.8e-04 |
| Central Atlantic Draft WEA Secondary A | 1.1e-04 | 2.3e-04 | 1.1e-04 | 1.1e-05 | 1.5e-06 | 2.7e-08 | 5.9e-10 | 3.5e-10 | 9.8e-10 | 5.6e-08 | 5.7e-06 | 1.8e-05 | 4.9e-04 |
| Central Atlantic Call Area B | 3.3e-04 | 8.3e-04 | 4.7e-04 | 4.1e-05 | 5.1e-06 | 6.9e-08 | 2.1e-09 | 1.8e-09 | 5.7e-09 | 3.4e-07 | 3.2e-05 | 1.0e-04 | 1.8e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.6e-05 | 3.2e-05 | 1.5e-05 | 1.0e-06 | 1.1e-07 | 1.2e-09 | 3.1e-11 | 2.6e-11 | 1.1e-10 | 5.6e-09 | 6.6e-07 | 2.8e-06 | 6.8e-05 |
| Central Atlantic Draft WEA Secondary B1 | 6.1e-06 | 1.4e-05 | 6.8e-06 | 5.0e-07 | 5.4e-08 | 6.6e-10 | 1.8e-11 | 1.5e-11 | 5.3e-11 | 2.9e-09 | 3.2e-07 | 1.2e-06 | 2.9e-05 |
| Central Atlantic Draft WEA Primary B2 | 7.7e-05 | 2.1e-04 | 1.2e-04 | 1.1e-05 | 1.3e-06 | 1.7e-08 | 5.5e-10 | 5.2e-10 | 1.7e-09 | 9.8e-08 | 9.1e-06 | 2.8e-05 | 4.6e-04 |
| Central Atlantic Draft WEA Secondary B2 | 3.1e-05 | 9.1e-05 | 5.6e-05 | 5.6e-06 | 7.0e-07 | 9.6e-09 | 3.0e-10 | 2.8e-10 | 8.5e-10 | 5.4e-08 | 4.7e-06 | 1.4e-05 | 2.0e-04 |
| Central Atlantic Call Area C | 5.5e-05 | 1.7e-04 | 1.0e-04 | 9.7e-06 | 9.4e-07 | 1.1e-08 | 3.7e-10 | 3.6e-10 | 1.4e-09 | 7.1e-08 | 6.6e-06 | 2.4e-05 | 3.7e-04 |
| Central Atlantic Draft WEA Primary C | 3.3e-05 | 1.0e-04 | 6.1e-05 | 5.3e-06 | 5.0e-07 | 5.5e-09 | 1.9e-10 | 1.8e-10 | 7.4e-10 | 3.7e-08 | 3.5e-06 | 1.3e-05 | 2.2e-04 |
| Central Atlantic Draft WEA Secondary C | 1.9e-05 | 5.6e-05 | 3.5e-05 | 3.7e-06 | 3.7e-07 | 4.7e-09 | 1.5e-10 | 1.5e-10 | 5.5e-10 | 2.9e-08 | 2.6e-06 | 8.7e-06 | 1.2e-04 |
| Central Atlantic Call Area D | 7.2e-05 | 2.5e-04 | 1.5e-04 | 1.4e-05 | 1.2e-06 | 1.3e-08 | 5.2e-10 | 5.0e-10 | 2.4e-09 | 9.6e-08 | 7.9e-06 | 3.9e-05 | 5.4e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 2.9e-05 | 1.0e-04 | 6.3e-05 | 4.7e-06 | 3.8e-07 | 4.0e-09 | 1.6e-10 | 1.5e-10 | 7.3e-10 | 2.9e-08 | 2.6e-06 | 1.4e-05 | 2.2e-04 |
| Central Atlantic Draft WEA Secondary D | 4.6e-06 | 1.5e-05 | 8.8e-06 | 4.9e-07 | 3.2e-08 | 3.4e-10 | 1.4e-11 | 1.4e-11 | 7.1e-11 | 2.8e-09 | 2.8e-07 | 1.7e-06 | 3.1e-05 |
| Central Atlantic Call Area E | 7.7e-07 | 2.8e-06 | 1.2e-06 | 3.2e-07 | 7.0e-08 | 5.3e-09 | 9.3e-11 | 4.9e-11 | 1.6e-10 | 6.2e-09 | 3.5e-07 | 9.8e-07 | 6.5e-06 |
| Central Atlantic Draft WEA Primary E1 | 3.2e-12 | 9.3e-12 | 2.9e-12 | 1.0e-12 | 1.9e-13 | 2.3e-14 | 5.6e-16 | 2.5e-16 | 8.4e-16 | 2.2e-14 | 8.7e-13 | 2.0e-12 | 2.0e-11 |
| Central Atlantic Draft WEA Primary E2 | 6.9e-17 | 4.6e-16 | 1.4e-16 | 3.6e-17 | 8.7e-18 | 2.3e-18 | 3.9e-19 | 3.8e-19 | 4.2e-19 | 1.7e-18 | 2.0e-17 | 9.9e-17 | 8.3e-16 |
| Central Atlantic Call Area F | 1.7e-12 | 1.9e-12 | 8.7e-13 | 3.3e-13 | 1.6e-13 | 2.4e-15 | 4.0e-16 | 1.8e-16 | 5.7e-16 | 9.1e-15 | 9.0e-14 | 4.9e-13 | 5.6e-12 |
| Central Atlantic Draft WEA Primary F | 4.8e-20 | 4.9e-20 | 4.7e-20 | 4.7e-20 | 4.6e-20 | 4.6e-20 | 4.6e-20 | 4.6e-20 | 4.6e-20 | 4.6e-20 | 4.6e-20 | 4.7e-20 | 5.6e-19 |
| Virginia OCS-A 0483 | 4.7e-05 | 1.2e-04 | 5.3e-05 | 2.0e-06 | 1.1e-07 | 1.1e-09 | 5.6e-11 | 6.9e-11 | 3.1e-10 | 1.2e-08 | 1.5e-06 | 8.6e-06 | 2.3e-04 |
| Virginia OCS-A 0497 | 1.2e-06 | 2.5e-06 | 9.0e-07 | 2.3e-08 | 8.4e-10 | 1.1e-11 | 8.2e-13 | 1.4e-12 | 4.7e-12 | 1.9e-10 | 3.2e-08 | 1.8e-07 | 4.9e-06 |
| North Carolina OCS-A 0508 | 1.3e-05 | 5.1e-05 | 3.3e-05 | 2.5e-06 | 2.2e-07 | 1.9e-09 | 8.1e-11 | 8.3e-11 | 4.1e-10 | 1.5e-08 | 1.1e-06 | 6.7e-06 | 1.1e-04 |
| North Carolina OCS-A 0545 | 1.2e-06 | 1.1e-06 | 3.0e-07 | 4.0e-09 | 2.1e-10 | 2.5e-11 | 1.4e-11 | 1.0e-11 | 1.5e-11 | 1.9e-10 | 8.2e-09 | 9.2e-08 | 2.7e-06 |
| North Carolina OCS-A 0546 | 8.6e-07 | 8.8e-07 | 2.0e-07 | 3.8e-09 | 2.2e-10 | 2.6e-11 | 1.5e-11 | 1.0e-11 | 1.6e-11 | 1.8e-10 | 7.2e-09 | 7.3e-08 | 2.0e-06 |
| South Carolina Call Area - Grand Strand | 1.3e-05 | 1.5e-05 | 3.3e-06 | 2.4e-08 | 1.1e-09 | 1.3e-10 | 7.2e-11 | 7.0e-11 | 1.1e-10 | 2.6e-09 | 2.1e-07 | 3.1e-06 | 3.4e-05 |
| South Carolina Call Area - Cape Romain | 4.1e-06 | 2.9e-06 | 3.9e-07 | 3.9e-09 | 2.2e-10 | 2.7e-11 | 1.6e-11 | 1.5e-11 | 2.3e-11 | 6.0e-10 | 4.6e-08 | 9.4e-07 | 8.4e-06 |
| South Carolina Call Area - Winyah | 1.4e-08 | 2.9e-08 | 6.3e-09 | 9.0e-10 | 1.0e-10 | 1.4e-11 | 8.4e-12 | 5.6e-12 | 8.8e-12 | 5.4e-11 | 6.1e-10 | 2.1e-09 | 5.3e-08 |
| South Carolina Call Area - Charleston | 6.4e-08 | 8.0e-08 | 1.6e-08 | 9.4e-10 | 7.5e-11 | 9.5e-12 | 4.6e-12 | 3.9e-12 | 6.0e-12 | 6.7e-11 | 1.4e-09 | 9.1e-09 | 1.7e-07 |
| All planning areas | 2.8e-02 | 3.2e-02 | 2.0e-02 | 6.6e-03 | 3.4e-03 | 1.7e-03 | 5.2e-04 | 1.2e-04 | 1.0e-04 | 1.2e-03 | 5.9e-03 | 1.1e-02 | 1.1e-01 |
| All lease areas | 3.5e-03 | 6.0e-03 | 2.8e-03 | 5.1e-04 | 7.2e-05 | 2.2e-05 | 3.6e-07 | 8.6e-08 | 1.1e-07 | 1.0e-05 | 2.3e-04 | 6.9e-04 | 1.4e-02 |
| All planning and lease areas | 3.1e-02 | 3.8e-02 | 2.3e-02 | 7.2e-03 | 3.5e-03 | 1.7e-03 | 5.2e-04 | 1.2e-04 | 1.0e-04 | 1.2e-03 | 6.2e-03 | 1.2e-02 | 1.2e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-16. Predicted proportional abundance of Thick-billed Murre by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.9e-02 | 3.3e-02 | 7.8e-02 | 3.1e-02 | 4.4e-03 | 5.6e-04 | 3.2e-05 | 1.0e-05 | 1.8e-05 | 1.5e-04 | 2.5e-03 | 9.2e-03 | 1.8e-01 |
| Gulf of Maine Request for Competitive Interest | 1.2e-04 | 2.1e-04 | 4.6e-04 | 1.9e-04 | 2.3e-05 | 2.3e-06 | 1.4e-07 | 4.3e-08 | 8.8e-08 | 9.0e-07 | 1.7e-05 | 5.3e-05 | 1.1e-03 |
| Marine Research Array Requested Lease | 1.8e-05 | 3.1e-05 | 6.8e-05 | 2.9e-05 | 3.5e-06 | 3.3e-07 | 2.1e-08 | 6.5e-09 | 1.3e-08 | 1.4e-07 | 2.5e-06 | 7.9e-06 | 1.6e-04 |
| Rhode Island OCS-A 0506 | 1.2e-07 | 2.3e-07 | 4.0e-07 | 1.1e-07 | 5.6e-09 | 4.2e-10 | 2.5e-11 | 9.7e-12 | 1.9e-11 | 1.7e-10 | 4.1e-09 | 3.1e-08 | 8.9e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.0e-05 | 5.8e-05 | 1.0e-04 | 3.0e-05 | 1.7e-06 | 1.1e-07 | 5.4e-09 | 2.1e-09 | 4.3e-09 | 3.7e-08 | 9.2e-07 | 8.2e-06 | 2.3e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.8e-06 | 9.9e-06 | 1.8e-05 | 5.2e-06 | 2.9e-07 | 1.8e-08 | 8.8e-10 | 3.3e-10 | 6.8e-10 | 5.8e-09 | 1.4e-07 | 1.3e-06 | 4.0e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.0e-05 | 1.0e-04 | 2.1e-04 | 5.6e-05 | 3.4e-06 | 2.1e-07 | 9.9e-09 | 3.6e-09 | 7.1e-09 | 6.1e-08 | 1.4e-06 | 1.3e-05 | 4.3e-04 |
| Massachusetts OCS-A 0500 | 6.7e-05 | 1.3e-04 | 2.6e-04 | 6.9e-05 | 4.6e-06 | 3.0e-07 | 1.4e-08 | 5.0e-09 | 9.8e-09 | 8.2e-08 | 2.0e-06 | 1.8e-05 | 5.5e-04 |
| Massachusetts OCS-A 0501 | 3.4e-05 | 6.1e-05 | 1.1e-04 | 3.0e-05 | 2.3e-06 | 1.5e-07 | 6.8e-09 | 2.4e-09 | 4.8e-09 | 3.7e-08 | 9.8e-07 | 1.0e-05 | 2.5e-04 |
| Massachusetts OCS-A 0534 | 4.2e-05 | 8.3e-05 | 1.7e-04 | 4.5e-05 | 3.4e-06 | 2.2e-07 | 9.2e-09 | 3.3e-09 | 6.2e-09 | 5.0e-08 | 1.2e-06 | 1.1e-05 | 3.5e-04 |
| Massachusetts OCS-A 0520 | 5.8e-05 | 1.1e-04 | 2.3e-04 | 6.2e-05 | 5.2e-06 | 3.4e-07 | 1.4e-08 | 4.8e-09 | 8.9e-09 | 7.3e-08 | 1.7e-06 | 1.6e-05 | 4.8e-04 |
| Massachusetts OCS-A 0521 | 6.5e-05 | 1.3e-04 | 2.5e-04 | 6.9e-05 | 6.3e-06 | 4.2e-07 | 1.7e-08 | 5.7e-09 | 1.0e-08 | 8.7e-08 | 2.0e-06 | 1.8e-05 | 5.3e-04 |
| Massachusetts OCS-A 0522 | 7.9e-05 | 1.5e-04 | 2.9e-04 | 8.4e-05 | 8.4e-06 | 5.9e-07 | 2.3e-08 | 7.7e-09 | 1.4e-08 | 1.1e-07 | 2.7e-06 | 2.3e-05 | 6.4e-04 |
| New York WEA - Fairways North | 3.5e-05 | 7.2e-05 | 1.4e-04 | 4.2e-05 | 2.1e-06 | 1.2e-07 | 5.8e-09 | 2.2e-09 | 4.1e-09 | 4.0e-08 | 9.9e-07 | 7.3e-06 | 3.0e-04 |
| New York WEA - Fairways South | 7.6e-06 | 1.6e-05 | 2.9e-05 | 8.5e-06 | 3.7e-07 | 1.9e-08 | 8.7e-10 | 4.2e-10 | 7.6e-10 | 6.6e-09 | 1.9e-07 | 1.6e-06 | 6.4e-05 |
| New York OCS-A 0512 | 2.1e-05 | 4.6e-05 | 7.8e-05 | 2.1e-05 | 8.1e-07 | 4.2e-08 | 2.0e-09 | 9.1e-10 | 1.7e-09 | 1.6e-08 | 4.7e-07 | 5.0e-06 | 1.7e-04 |
| NY/NJ OCS-A 0544 | 9.6e-06 | 2.2e-05 | 4.4e-05 | 1.3e-05 | 5.4e-07 | 2.5e-08 | 1.1e-09 | 5.0e-10 | 1.0e-09 | 9.8e-09 | 2.8e-07 | 2.3e-06 | 9.1e-05 |
| NY/NJ OCS-A 0537 | 9.2e-06 | 2.6e-05 | 8.8e-05 | 2.5e-05 | 1.4e-06 | 6.9e-08 | 2.2e-09 | 9.5e-10 | 2.1e-09 | 2.5e-08 | 5.5e-07 | 3.3e-06 | 1.5e-04 |
| NY/NJ OCS-A 0538 | 1.6e-05 | 4.0e-05 | 1.2e-04 | 3.4e-05 | 2.0e-06 | 8.9e-08 | 2.9e-09 | 1.3e-09 | 3.0e-09 | 3.4e-08 | 8.0e-07 | 5.6e-06 | 2.2e-04 |
| NY/NJ OCS-A 0539 | 2.1e-05 | 4.9e-05 | 1.3e-04 | 3.5e-05 | 2.0e-06 | 9.1e-08 | 3.0e-09 | 1.3e-09 | 3.1e-09 | 3.4e-08 | 8.4e-07 | 6.7e-06 | 2.4e-04 |
| NY/NJ OCS-A 0541 | 1.4e-05 | 3.0e-05 | 7.0e-05 | 1.8e-05 | 8.5e-07 | 3.9e-08 | 1.3e-09 | 6.4e-10 | 1.4e-09 | 1.6e-08 | 4.4e-07 | 3.9e-06 | 1.4e-04 |
| NY/NJ OCS-A 0542 | 1.4e-05 | 3.3e-05 | 8.8e-05 | 2.3e-05 | 1.2e-06 | 5.7e-08 | 1.8e-09 | 8.4e-10 | 1.9e-09 | 2.2e-08 | 5.8e-07 | 4.5e-06 | 1.6e-04 |
| New Jersey OCS-A 0549 | 2.3e-05 | 4.4e-05 | 6.5e-05 | 1.4e-05 | 4.7e-07 | 2.4e-08 | 1.5e-09 | 7.1e-10 | 1.1e-09 | 1.1e-08 | 3.9e-07 | 6.3e-06 | 1.5e-04 |
| New Jersey OCS-A 0499 | 2.7e-05 | 5.3e-05 | 7.9e-05 | 1.7e-05 | 5.8e-07 | 2.7e-08 | 1.6e-09 | 7.9e-10 | 1.3e-09 | 1.4e-08 | 4.6e-07 | 7.0e-06 | 1.8e-04 |
| New Jersey OCS-A 0498 | 1.9e-05 | 3.8e-05 | 5.7e-05 | 1.2e-05 | 3.9e-07 | 1.8e-08 | 1.1e-09 | 5.7e-10 | 9.1e-10 | 9.5e-09 | 3.2e-07 | 5.0e-06 | 1.3e-04 |
| New Jersey OCS-A 0532 | 2.4e-05 | 4.8e-05 | 6.8e-05 | 1.3e-05 | 4.1e-07 | 2.0e-08 | 1.4e-09 | 7.2e-10 | 1.1e-09 | 1.1e-08 | 4.0e-07 | 7.0e-06 | 1.6e-04 |
| Delaware OCS-A 0482 | 1.5e-05 | 3.1e-05 | 4.5e-05 | 8.3e-06 | 2.5e-07 | 1.2e-08 | 8.5e-10 | 4.4e-10 | 6.4e-10 | 6.4e-09 | 2.3e-07 | 4.2e-06 | 1.0e-04 |
| Delaware OCS-A 0519 | 4.8e-06 | 1.1e-05 | 1.7e-05 | 3.2e-06 | 1.0e-07 | 4.7e-09 | 2.8e-10 | 1.5e-10 | 2.4e-10 | 2.5e-09 | 8.3e-08 | 1.3e-06 | 3.8e-05 |
| Maryland OCS-A 0490 | 1.6e-05 | 3.6e-05 | 5.5e-05 | 9.5e-06 | 2.9e-07 | 1.4e-08 | 9.7e-10 | 4.9e-10 | 7.7e-10 | 7.8e-09 | 2.7e-07 | 4.5e-06 | 1.2e-04 |
| Central Atlantic Call Area A | 4.1e-05 | 1.1e-04 | 2.0e-04 | 3.9e-05 | 1.4e-06 | 6.6e-08 | 3.0e-09 | 1.6e-09 | 3.1e-09 | 3.4e-08 | 1.0e-06 | 1.2e-05 | 4.0e-04 |
| Central Atlantic Draft WEA Primary A | 8.0e-06 | 2.0e-05 | 3.6e-05 | 7.1e-06 | 2.4e-07 | 1.1e-08 | 5.5e-10 | 2.9e-10 | 5.5e-10 | 5.8e-09 | 1.8e-07 | 2.3e-06 | 7.4e-05 |
| Central Atlantic Draft WEA Secondary A | 2.1e-05 | 5.5e-05 | 1.0e-04 | 2.0e-05 | 7.0e-07 | 3.3e-08 | 1.5e-09 | 8.3e-10 | 1.6e-09 | 1.7e-08 | 5.2e-07 | 6.2e-06 | 2.1e-04 |
| Central Atlantic Call Area B | 1.1e-04 | 2.9e-04 | 6.3e-04 | 1.2e-04 | 4.9e-06 | 2.5e-07 | 1.1e-08 | 6.3e-09 | 1.3e-08 | 1.5e-07 | 4.1e-06 | 3.9e-05 | 1.2e-03 |
| Central Atlantic Draft WEA Primary B1 | 3.5e-06 | 9.3e-06 | 1.7e-05 | 2.6e-06 | 7.7e-08 | 3.6e-09 | 1.8e-10 | 1.1e-10 | 2.2e-10 | 2.2e-09 | 7.3e-08 | 1.0e-06 | 3.3e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.5e-06 | 4.1e-06 | 7.9e-06 | 1.3e-06 | 4.0e-08 | 1.9e-09 | 8.8e-11 | 5.2e-11 | 1.1e-10 | 1.1e-09 | 3.6e-08 | 4.5e-07 | 1.5e-05 |
| Central Atlantic Draft WEA Primary B2 | 2.9e-05 | 7.9e-05 | 1.7e-04 | 3.4e-05 | 1.3e-06 | 6.7e-08 | 3.1e-09 | 1.8e-09 | 3.7e-09 | 4.3e-08 | 1.1e-06 | 1.1e-05 | 3.3e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.2e-05 | 3.1e-05 | 7.0e-05 | 1.5e-05 | 6.3e-07 | 3.2e-08 | 1.4e-09 | 8.2e-10 | 1.7e-09 | 2.0e-08 | 5.3e-07 | 4.6e-06 | 1.3e-04 |
| Central Atlantic Call Area C | 3.1e-05 | 7.4e-05 | 1.9e-04 | 4.2e-05 | 2.0e-06 | 1.0e-07 | 4.7e-09 | 2.7e-09 | 5.8e-09 | 6.1e-08 | 1.5e-06 | 1.2e-05 | 3.5e-04 |
| Central Atlantic Draft WEA Primary C | 1.4e-05 | 3.5e-05 | 8.9e-05 | 1.8e-05 | 8.1e-07 | 4.0e-08 | 1.9e-09 | 1.1e-09 | 2.4e-09 | 2.4e-08 | 6.4e-07 | 5.3e-06 | 1.6e-04 |
| Central Atlantic Draft WEA Secondary C | 1.5e-05 | 3.3e-05 | 8.6e-05 | 2.0e-05 | 1.0e-06 | 5.2e-08 | 2.3e-09 | 1.4e-09 | 2.9e-09 | 3.0e-08 | 7.6e-07 | 5.9e-06 | 1.6e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 4.1e-05 | 1.3e-04 | 3.3e-04 | 5.7e-05 | 3.2e-06 | 1.6e-07 | 8.2e-09 | 5.0e-09 | 1.1e-08 | 9.1e-08 | 2.1e-06 | 1.7e-05 | 5.7e-04 |
| Central Atlantic Draft WEA Primary D | 1.3e-05 | 4.5e-05 | 1.1e-04 | 1.7e-05 | 9.2e-07 | 4.1e-08 | 2.1e-09 | 1.3e-09 | 2.8e-09 | 2.4e-08 | 6.1e-07 | 5.2e-06 | 2.0e-04 |
| Central Atlantic Draft WEA Secondary D | 1.2e-06 | 4.3e-06 | 1.0e-05 | 1.3e-06 | 5.7e-08 | 2.5e-09 | 1.4e-10 | 8.0e-11 | 1.7e-10 | 1.5e-09 | 4.3e-08 | 4.2e-07 | 1.7e-05 |
| Central Atlantic Call Area E | 1.4e-05 | 1.0e-04 | 4.8e-05 | 2.4e-05 | 4.0e-06 | 2.2e-06 | 1.4e-07 | 6.9e-08 | 1.2e-07 | 8.1e-07 | 1.2e-05 | 2.2e-05 | 2.3e-04 |
| Central Atlantic Draft WEA Primary E1 | 4.5e-06 | 3.4e-05 | 8.3e-06 | 7.4e-06 | 1.0e-06 | 7.4e-07 | 5.1e-08 | 2.2e-08 | 4.0e-08 | 2.7e-07 | 4.0e-06 | 5.0e-06 | 6.5e-05 |
| Central Atlantic Draft WEA Primary E2 | 1.7e-06 | 1.6e-05 | 3.4e-06 | 1.6e-06 | 3.0e-07 | 3.3e-07 | 2.1e-08 | 1.4e-08 | 2.4e-08 | 1.4e-07 | 1.4e-06 | 2.0e-06 | 2.7e-05 |
| Central Atlantic Call Area F | 8.2e-06 | 1.8e-05 | 6.3e-05 | 3.3e-05 | 4.0e-06 | 5.9e-07 | 6.1e-08 | 2.4e-08 | 3.5e-08 | 2.8e-07 | 3.4e-06 | 9.4e-06 | 1.4e-04 |
| Central Atlantic Draft WEA Primary F | 9.4e-08 | 3.1e-07 | 1.3e-06 | 5.4e-07 | 7.6e-08 | 1.1e-08 | 1.4e-09 | 4.0e-10 | 4.4e-10 | 2.6e-09 | 3.9e-08 | 1.1e-07 | 2.4e-06 |
| Virginia OCS-A 0483 | 7.7e-06 | 2.3e-05 | 4.1e-05 | 4.5e-06 | 1.3e-07 | 5.7e-09 | 3.8e-10 | 2.3e-10 | 4.3e-10 | 4.1e-09 | 1.5e-07 | 2.1e-06 | 7.8e-05 |
| Virginia OCS-A 0497 | 2.3e-07 | 5.5e-07 | 8.3e-07 | 7.9e-08 | 1.8e-09 | 9.2e-11 | 7.1e-12 | 4.5e-12 | 7.2e-12 | 7.4e-11 | 3.2e-09 | 5.3e-08 | 1.7e-06 |
| North Carolina OCS-A 0508 | 4.5e-06 | 1.6e-05 | 4.3e-05 | 5.6e-06 | 3.0e-07 | 1.2e-08 | 7.2e-10 | 4.4e-10 | 9.3e-10 | 7.6e-09 | 1.9e-07 | 1.6e-06 | 7.1e-05 |
| North Carolina OCS-A 0545 | 1.0e-07 | 1.9e-07 | 1.4e-07 | 2.5e-08 | 9.0e-10 | 1.4e-10 | 3.7e-11 | 1.1e-11 | 6.5e-13 | 5.3e-14 | 4.5e-10 | 2.3e-08 | 4.8e-07 |
| North Carolina OCS-A 0546 | 9.1e-08 | 1.7e-07 | 1.3e-07 | 2.5e-08 | 9.4e-10 | 1.5e-10 | 3.8e-11 | 1.2e-11 | 7.4e-13 | 5.4e-14 | 4.6e-10 | 2.2e-08 | 4.4e-07 |
| South Carolina Call Area - Grand Strand | 2.2e-06 | 3.6e-06 | 2.8e-06 | 3.0e-07 | 9.5e-09 | 1.4e-09 | 4.3e-10 | 1.3e-10 | 9.4e-12 | 3.7e-12 | 1.4e-08 | 6.7e-07 | 9.6e-06 |
| South Carolina Call Area - Cape Romain | 7.0e-07 | 7.5e-07 | 6.0e-07 | 7.2e-08 | 2.4e-09 | 3.5e-10 | 1.1e-10 | 3.3e-11 | 1.5e-12 | 5.1e-13 | 3.7e-09 | 1.8e-07 | 2.3e-06 |
| South Carolina Call Area - Winyah | 1.5e-08 | 3.3e-08 | 3.9e-08 | 1.1e-08 | 4.8e-10 | 6.7e-11 | 2.1e-11 | 9.0e-12 | 1.8e-13 | 5.3e-15 | 4.5e-11 | 3.6e-09 | 1.0e-07 |
| South Carolina Call Area - Charleston | 2.9e-08 | 6.2e-08 | 6.2e-08 | 1.3e-08 | 5.4e-10 | 7.0e-11 | 1.8e-11 | 6.3e-12 | 2.2e-13 | 2.4e-14 | 1.4e-10 | 8.8e-09 | 1.8e-07 |
| All planning areas | 1.9e-02 | 3.4e-02 | 8.0e-02 | 3.1e-02 | 4.4e-03 | 5.7e-04 | 3.2e-05 | 1.0e-05 | 1.9e-05 | 1.5e-04 | 2.5e-03 | 9.4e-03 | 1.8e-01 |
| All lease areas | 6.7e-04 | 1.4e-03 | 2.7e-03 | 7.0e-04 | 4.7e-05 | 2.9e-06 | 1.2e-07 | 4.6e-08 | 8.7e-08 | 7.8e-07 | 1.9e-05 | 1.9e-04 | 5.7e-03 |
| All planning and lease areas | 2.0e-02 | 3.5e-02 | 8.2e-02 | 3.2e-02 | 4.5e-03 | 5.7e-04 | 3.2e-05 | 1.0e-05 | 1.9e-05 | 1.5e-04 | 2.6e-03 | 9.6e-03 | 1.9e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-17. Predicted proportional abundance of Razorbill by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.2e-02 | 3.2e-02 | 3.1e-02 | 2.4e-02 | 5.7e-03 | 1.0e-03 | 1.8e-03 | 2.6e-04 | 5.9e-05 | 9.1e-04 | 5.2e-03 | 1.9e-02 | 1.5e-01 |
| Gulf of Maine Request for Competitive Interest | 1.5e-04 | 1.3e-04 | 1.2e-04 | 1.1e-04 | 4.7e-05 | 4.8e-06 | 3.1e-06 | 3.4e-07 | 9.9e-08 | 3.5e-06 | 2.3e-05 | 8.9e-05 | 6.7e-04 |
| Marine Research Array Requested Lease | 2.2e-05 | 1.8e-05 | 1.6e-05 | 1.6e-05 | 8.0e-06 | 7.7e-07 | 5.0e-07 | 5.4e-08 | 1.8e-08 | 5.0e-07 | 3.2e-06 | 1.3e-05 | 9.8e-05 |
| Rhode Island OCS-A 0506 | 3.4e-07 | 2.7e-07 | 3.6e-07 | 1.5e-06 | 1.9e-07 | 2.1e-09 | 1.3e-09 | 3.8e-10 | 3.1e-10 | 5.5e-09 | 2.6e-08 | 1.2e-07 | 2.8e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.8e-04 | 1.6e-04 | 1.5e-04 | 1.6e-04 | 3.4e-05 | 7.5e-07 | 3.3e-07 | 6.1e-08 | 1.6e-08 | 4.7e-07 | 9.2e-06 | 7.2e-05 | 7.7e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.1e-05 | 2.7e-05 | 2.5e-05 | 2.2e-05 | 3.6e-06 | 9.4e-08 | 4.5e-08 | 7.4e-09 | 1.7e-09 | 6.3e-08 | 1.4e-06 | 1.1e-05 | 1.2e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 2.9e-04 | 2.7e-04 | 2.1e-04 | 1.7e-04 | 1.8e-05 | 6.5e-07 | 3.1e-07 | 4.9e-08 | 1.2e-08 | 4.8e-07 | 1.2e-05 | 1.1e-04 | 1.1e-03 |
| Massachusetts OCS-A 0500 | 4.0e-04 | 3.5e-04 | 2.7e-04 | 2.4e-04 | 2.2e-05 | 1.1e-06 | 4.6e-07 | 7.5e-08 | 1.7e-08 | 8.0e-07 | 1.7e-05 | 1.6e-04 | 1.5e-03 |
| Massachusetts OCS-A 0501 | 2.1e-04 | 1.7e-04 | 1.6e-04 | 1.8e-04 | 1.5e-05 | 8.2e-07 | 2.8e-07 | 4.5e-08 | 1.0e-08 | 5.9e-07 | 1.0e-05 | 9.9e-05 | 8.4e-04 |
| Massachusetts OCS-A 0534 | 2.7e-04 | 2.3e-04 | 1.9e-04 | 1.9e-04 | 1.6e-05 | 1.0e-06 | 2.8e-07 | 5.3e-08 | 1.3e-08 | 5.4e-07 | 1.0e-05 | 1.0e-04 | 1.0e-03 |
| Massachusetts OCS-A 0520 | 3.8e-04 | 3.2e-04 | 3.1e-04 | 3.1e-04 | 2.6e-05 | 1.6e-06 | 4.3e-07 | 8.5e-08 | 1.8e-08 | 8.4e-07 | 1.4e-05 | 1.4e-04 | 1.5e-03 |
| Massachusetts OCS-A 0521 | 3.9e-04 | 3.4e-04 | 3.5e-04 | 3.7e-04 | 3.2e-05 | 2.4e-06 | 5.3e-07 | 1.1e-07 | 1.8e-08 | 9.8e-07 | 1.5e-05 | 1.4e-04 | 1.7e-03 |
| Massachusetts OCS-A 0522 | 4.1e-04 | 3.9e-04 | 3.9e-04 | 4.4e-04 | 3.8e-05 | 3.3e-06 | 7.7e-07 | 1.3e-07 | 2.1e-08 | 1.3e-06 | 1.9e-05 | 1.5e-04 | 1.8e-03 |
| New York WEA - Fairways North | 1.7e-04 | 1.4e-04 | 1.3e-04 | 1.1e-04 | 1.9e-05 | 2.4e-07 | 1.5e-07 | 2.5e-08 | 5.6e-09 | 2.2e-07 | 6.2e-06 | 4.2e-05 | 6.2e-04 |
| New York WEA - Fairways South | 3.9e-05 | 3.1e-05 | 2.7e-05 | 4.4e-05 | 8.6e-06 | 5.1e-08 | 3.1e-08 | 8.2e-09 | 2.3e-09 | 4.9e-08 | 1.1e-06 | 8.2e-06 | 1.6e-04 |
| New York OCS-A 0512 | 1.4e-04 | 1.1e-04 | 1.1e-04 | 1.0e-04 | 1.2e-05 | 8.2e-08 | 4.2e-08 | 9.8e-09 | 3.1e-09 | 8.3e-08 | 3.8e-06 | 3.2e-05 | 5.1e-04 |
| NY/NJ OCS-A 0544 | 7.5e-05 | 6.3e-05 | 5.7e-05 | 5.9e-05 | 6.6e-06 | 4.7e-08 | 1.9e-08 | 4.9e-09 | 1.8e-09 | 5.4e-08 | 2.2e-06 | 1.5e-05 | 2.8e-04 |
| NY/NJ OCS-A 0537 | 9.5e-05 | 1.2e-04 | 1.1e-04 | 9.0e-05 | 6.4e-06 | 8.9e-08 | 2.3e-08 | 4.5e-09 | 2.5e-09 | 1.1e-07 | 3.0e-06 | 1.6e-05 | 4.3e-04 |
| NY/NJ OCS-A 0538 | 1.9e-04 | 2.2e-04 | 2.3e-04 | 1.9e-04 | 1.2e-05 | 1.4e-07 | 2.4e-08 | 5.9e-09 | 4.8e-09 | 1.7e-07 | 5.9e-06 | 3.1e-05 | 8.9e-04 |
| NY/NJ OCS-A 0539 | 2.6e-04 | 2.9e-04 | 3.0e-04 | 2.5e-04 | 8.5e-06 | 1.1e-07 | 2.1e-08 | 5.3e-09 | 5.6e-09 | 2.2e-07 | 7.4e-06 | 4.5e-05 | 1.2e-03 |
| NY/NJ OCS-A 0541 | 1.3e-04 | 1.4e-04 | 1.5e-04 | 1.2e-04 | 4.1e-06 | 4.2e-08 | 7.6e-09 | 2.5e-09 | 2.1e-09 | 8.4e-08 | 3.2e-06 | 2.4e-05 | 5.7e-04 |
| NY/NJ OCS-A 0542 | 1.3e-04 | 1.7e-04 | 1.7e-04 | 1.3e-04 | 4.4e-06 | 4.9e-08 | 9.3e-09 | 2.5e-09 | 2.7e-09 | 1.1e-07 | 3.6e-06 | 2.5e-05 | 6.3e-04 |
| New Jersey OCS-A 0549 | 1.3e-04 | 1.1e-04 | 1.2e-04 | 1.1e-04 | 6.3e-06 | 3.0e-08 | 1.5e-08 | 4.1e-09 | 2.1e-09 | 4.9e-08 | 2.6e-06 | 3.1e-05 | 5.1e-04 |
| New Jersey OCS-A 0499 | 1.7e-04 | 1.4e-04 | 1.7e-04 | 1.5e-04 | 7.7e-06 | 3.2e-08 | 1.3e-08 | 3.7e-09 | 2.3e-09 | 5.9e-08 | 3.1e-06 | 3.7e-05 | 6.6e-04 |
| New Jersey OCS-A 0498 | 1.1e-04 | 9.5e-05 | 1.1e-04 | 9.9e-05 | 6.9e-06 | 2.4e-08 | 1.0e-08 | 3.7e-09 | 1.4e-09 | 3.4e-08 | 1.8e-06 | 2.3e-05 | 4.5e-04 |
| New Jersey OCS-A 0532 | 1.1e-04 | 9.5e-05 | 1.1e-04 | 1.1e-04 | 9.5e-06 | 2.9e-08 | 1.8e-08 | 6.5e-09 | 2.0e-09 | 3.6e-08 | 2.0e-06 | 2.8e-05 | 4.6e-04 |
| Delaware OCS-A 0482 | 9.5e-05 | 8.2e-05 | 9.7e-05 | 7.3e-05 | 2.3e-06 | 9.4e-09 | 3.8e-09 | 1.4e-09 | 1.2e-09 | 2.8e-08 | 1.7e-06 | 2.3e-05 | 3.7e-04 |
| Delaware OCS-A 0519 | 3.7e-05 | 3.4e-05 | 4.2e-05 | 3.0e-05 | 1.0e-06 | 3.6e-09 | 9.8e-10 | 4.3e-10 | 4.2e-10 | 1.0e-08 | 5.7e-07 | 7.5e-06 | 1.5e-04 |
| Maryland OCS-A 0490 | 1.2e-04 | 1.2e-04 | 1.6e-04 | 9.4e-05 | 2.3e-06 | 9.1e-09 | 3.1e-09 | 1.2e-09 | 1.1e-09 | 2.9e-08 | 1.6e-06 | 2.3e-05 | 5.2e-04 |
| Central Atlantic Call Area A | 3.6e-04 | 4.0e-04 | 5.8e-04 | 3.3e-04 | 9.1e-06 | 4.2e-08 | 8.9e-09 | 3.7e-09 | 3.9e-09 | 1.4e-07 | 6.2e-06 | 6.5e-05 | 1.7e-03 |
| Central Atlantic Draft WEA Primary A | 6.7e-05 | 6.9e-05 | 9.4e-05 | 5.8e-05 | 1.7e-06 | 7.4e-09 | 1.6e-09 | 6.9e-10 | 7.8e-10 | 2.3e-08 | 1.1e-06 | 1.2e-05 | 3.0e-04 |
| Central Atlantic Draft WEA Secondary A | 1.9e-04 | 2.0e-04 | 2.8e-04 | 1.6e-04 | 4.6e-06 | 2.1e-08 | 4.5e-09 | 1.9e-09 | 2.0e-09 | 6.6e-08 | 3.1e-06 | 3.4e-05 | 8.7e-04 |
| Central Atlantic Call Area B | 9.1e-04 | 1.7e-03 | 4.0e-03 | 8.1e-04 | 1.4e-05 | 6.2e-08 | 1.3e-08 | 6.7e-09 | 8.8e-09 | 6.2e-07 | 1.8e-05 | 1.5e-04 | 7.6e-03 |
| Central Atlantic Draft WEA Primary B1 | 3.0e-05 | 4.0e-05 | 6.5e-05 | 2.1e-05 | 2.8e-07 | 1.3e-09 | 2.8e-10 | 1.4e-10 | 2.2e-10 | 7.9e-09 | 3.4e-07 | 5.1e-06 | 1.6e-04 |
| Central Atlantic Draft WEA Secondary B1 | 1.4e-05 | 1.9e-05 | 3.4e-05 | 9.9e-06 | 1.4e-07 | 7.0e-10 | 1.5e-10 | 8.5e-11 | 1.0e-10 | 4.1e-09 | 1.7e-07 | 2.3e-06 | 7.9e-05 |
| Central Atlantic Draft WEA Primary B2 | 2.7e-04 | 5.6e-04 | 1.4e-03 | 2.5e-04 | 3.9e-06 | 1.7e-08 | 3.5e-09 | 1.9e-09 | 2.7e-09 | 2.0e-07 | 5.5e-06 | 4.6e-05 | 2.5e-03 |
| Central Atlantic Draft WEA Secondary B2 | 1.2e-04 | 2.8e-04 | 7.3e-04 | 1.2e-04 | 2.2e-06 | 8.5e-09 | 1.8e-09 | 9.9e-10 | 1.3e-09 | 1.1e-07 | 3.0e-06 | 2.0e-05 | 1.3e-03 |
| Central Atlantic Call Area C | 1.7e-04 | 4.2e-04 | 9.5e-04 | 2.1e-04 | 2.8e-06 | 9.5e-09 | 1.8e-09 | 1.1e-09 | 1.9e-09 | 1.2e-07 | 3.0e-06 | 3.0e-05 | 1.8e-03 |
| Central Atlantic Draft WEA Primary C | 1.1e-04 | 2.7e-04 | 5.8e-04 | 1.4e-04 | 1.7e-06 | 6.0e-09 | 1.2e-09 | 6.7e-10 | 1.2e-09 | 7.0e-08 | 1.8e-06 | 2.0e-05 | 1.1e-03 |
| Central Atlantic Draft WEA Secondary C | 4.7e-05 | 1.3e-04 | 3.0e-04 | 6.3e-05 | 9.5e-07 | 2.9e-09 | 5.2e-10 | 3.4e-10 | 5.7e-10 | 4.5e-08 | 1.0e-06 | 8.0e-06 | 5.4e-04 |
| Central Atlantic Call Area D | 1.9e-04 | 5.6e-04 | 1.2e-03 | 2.5e-04 | 5.2e-06 | 8.2e-09 | 2.0e-09 | 1.1e-09 | 2.4e-09 | 1.1e-07 | 2.7e-06 | 4.1e-05 | 2.2e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 7.6e-05 | 2.2e-04 | 4.4e-04 | 1.0e-04 | 1.6e-06 | 3.3e-09 | 7.8e-10 | 4.4e-10 | 9.8e-10 | 3.8e-08 | 1.0e-06 | 1.7e-05 | 8.5e-04 |
| Central Atlantic Draft WEA Secondary D | 1.1e-05 | 2.6e-05 | 5.1e-05 | 1.2e-05 | 1.2e-07 | 3.4e-10 | 7.5e-11 | 4.9e-11 | 1.0e-10 | 3.9e-09 | 1.1e-07 | 2.3e-06 | 1.0e-04 |
| Central Atlantic Call Area E | 1.8e-04 | 3.2e-04 | 5.5e-04 | 2.0e-04 | 3.0e-06 | 2.7e-08 | 7.5e-09 | 1.1e-09 | 3.2e-09 | 1.7e-07 | 2.8e-06 | 5.3e-05 | 1.3e-03 |
| Central Atlantic Draft WEA Primary E1 | 3.4e-05 | 6.3e-05 | 7.7e-05 | 4.4e-05 | 4.7e-07 | 5.6e-09 | 1.9e-09 | 2.1e-10 | 7.3e-10 | 3.5e-08 | 5.7e-07 | 9.7e-06 | 2.3e-04 |
| Central Atlantic Draft WEA Primary E2 | 4.9e-06 | 9.1e-06 | 1.3e-05 | 6.6e-06 | 6.4e-08 | 1.3e-09 | 2.9e-10 | 3.9e-11 | 1.2e-10 | 7.5e-09 | 8.2e-08 | 1.3e-06 | 3.5e-05 |
| Central Atlantic Call Area F | 2.7e-05 | 3.7e-05 | 4.6e-05 | 2.6e-05 | 4.2e-07 | 3.2e-09 | 4.4e-09 | 1.4e-09 | 2.1e-09 | 4.1e-08 | 4.8e-07 | 4.3e-06 | 1.4e-04 |
| Central Atlantic Draft WEA Primary F | 1.9e-07 | 3.2e-07 | 2.8e-07 | 4.3e-07 | 3.0e-09 | 4.4e-11 | 5.9e-11 | 1.8e-11 | 1.8e-11 | 7.1e-10 | 4.2e-09 | 2.2e-08 | 1.3e-06 |
| Virginia OCS-A 0483 | 7.7e-05 | 1.3e-04 | 2.2e-04 | 5.8e-05 | 3.2e-07 | 1.7e-09 | 3.4e-10 | 2.9e-10 | 4.1e-10 | 1.7e-08 | 6.2e-07 | 1.4e-05 | 5.0e-04 |
| Virginia OCS-A 0497 | 2.0e-06 | 2.9e-06 | 4.0e-06 | 8.5e-07 | 3.4e-09 | 2.1e-11 | 5.9e-12 | 5.9e-12 | 5.8e-12 | 3.1e-10 | 1.3e-08 | 3.6e-07 | 1.0e-05 |
| North Carolina OCS-A 0508 | 5.0e-05 | 1.6e-04 | 3.3e-04 | 7.8e-05 | 1.3e-06 | 2.0e-09 | 6.5e-10 | 3.2e-10 | 7.6e-10 | 2.9e-08 | 5.9e-07 | 9.7e-06 | 6.3e-04 |
| North Carolina OCS-A 0545 | 4.5e-06 | 4.2e-06 | 1.8e-06 | 1.7e-07 | 2.3e-09 | 1.9e-11 | 1.7e-10 | 3.4e-11 | 4.8e-12 | 2.4e-11 | 4.4e-09 | 3.6e-07 | 1.1e-05 |
| North Carolina OCS-A 0546 | 3.9e-06 | 4.3e-06 | 1.4e-06 | 2.4e-07 | 2.9e-09 | 4.1e-11 | 4.4e-10 | 5.3e-11 | 5.4e-12 | 3.1e-11 | 5.9e-09 | 3.6e-07 | 1.0e-05 |
| South Carolina Call Area - Grand Strand | 5.0e-05 | 5.7e-05 | 2.1e-05 | 6.9e-07 | 9.2e-09 | 6.1e-11 | 5.4e-10 | 3.5e-10 | 3.3e-11 | 4.0e-10 | 7.9e-08 | 8.3e-06 | 1.4e-04 |
| South Carolina Call Area - Cape Romain | 1.3e-05 | 1.2e-05 | 2.5e-06 | 1.4e-07 | 2.1e-09 | 2.0e-11 | 2.8e-10 | 1.6e-10 | 4.7e-12 | 4.5e-11 | 1.3e-08 | 2.0e-06 | 3.0e-05 |
| South Carolina Call Area - Winyah | 3.6e-07 | 5.8e-07 | 3.1e-07 | 2.1e-07 | 2.2e-09 | 2.2e-11 | 1.5e-10 | 4.4e-11 | 1.8e-12 | 2.7e-12 | 5.8e-10 | 4.1e-08 | 1.5e-06 |
| South Carolina Call Area - Charleston | 4.3e-07 | 6.4e-07 | 2.7e-07 | 6.7e-08 | 8.1e-10 | 7.6e-12 | 7.3e-11 | 3.1e-11 | 1.1e-12 | 5.0e-12 | 1.1e-09 | 6.3e-08 | 1.5e-06 |
| All planning areas | 3.5e-02 | 3.5e-02 | 3.9e-02 | 2.6e-02 | 5.8e-03 | 1.0e-03 | 1.8e-03 | 2.6e-04 | 6.0e-05 | 9.1e-04 | 5.3e-03 | 2.0e-02 | 1.7e-01 |
| All lease areas | 4.5e-03 | 4.3e-03 | 4.6e-03 | 3.8e-03 | 3.0e-04 | 1.3e-05 | 3.6e-06 | 6.7e-07 | 1.6e-07 | 7.1e-06 | 1.5e-04 | 1.4e-03 | 1.9e-02 |
| All planning and lease areas | 3.9e-02 | 4.0e-02 | 4.3e-02 | 3.0e-02 | 6.1e-03 | 1.0e-03 | 1.8e-03 | 2.6e-04 | 6.0e-05 | 9.2e-04 | 5.4e-03 | 2.1e-02 | 1.9e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-18. Predicted proportional abundance of Black Guillemot by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.9e-03 | 3.3e-03 | 1.7e-03 | 9.9e-04 | 1.2e-03 | 1.1e-03 | 3.5e-04 | 1.6e-04 | 1.7e-04 | 4.1e-04 | 1.1e-03 | 2.5e-03 | 1.7e-02 |
| Gulf of Maine Request for Competitive Interest | 8.0e-06 | 7.1e-06 | 2.8e-06 | 1.6e-06 | 1.9e-06 | 1.5e-06 | 4.3e-07 | 1.7e-07 | 2.4e-07 | 7.2e-07 | 2.2e-06 | 5.3e-06 | 3.2e-05 |
| Marine Research Array Requested Lease | 1.3e-06 | 1.2e-06 | 4.9e-07 | 2.9e-07 | 3.4e-07 | 2.7e-07 | 7.9e-08 | 3.1e-08 | 4.3e-08 | 1.3e-07 | 3.8e-07 | 9.0e-07 | 5.5e-06 |
| Rhode Island OCS-A 0506 | 1.6e-07 | 1.8e-07 | 1.6e-07 | 1.7e-07 | 1.5e-07 | 9.1e-08 | 2.2e-08 | 1.0e-08 | 1.3e-08 | 3.5e-08 | 7.0e-08 | 1.1e-07 | 1.2e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 6.6e-05 | 6.2e-05 | 4.5e-05 | 3.9e-05 | 3.4e-05 | 1.9e-05 | 3.6e-06 | 1.7e-06 | 2.5e-06 | 8.2e-06 | 2.3e-05 | 4.5e-05 | 3.5e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.8e-06 | 8.3e-06 | 6.1e-06 | 5.5e-06 | 4.7e-06 | 2.4e-06 | 4.5e-07 | 2.0e-07 | 2.8e-07 | 1.0e-06 | 2.9e-06 | 5.7e-06 | 4.6e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.2e-05 | 4.3e-05 | 3.0e-05 | 2.5e-05 | 2.2e-05 | 1.3e-05 | 2.2e-06 | 9.6e-07 | 1.4e-06 | 4.7e-06 | 1.5e-05 | 3.4e-05 | 2.4e-04 |
| Massachusetts OCS-A 0500 | 1.0e-04 | 7.9e-05 | 5.3e-05 | 4.2e-05 | 3.8e-05 | 2.4e-05 | 4.0e-06 | 1.7e-06 | 2.4e-06 | 8.2e-06 | 2.6e-05 | 6.8e-05 | 4.5e-04 |
| Massachusetts OCS-A 0501 | 5.9e-05 | 4.4e-05 | 2.8e-05 | 2.0e-05 | 1.9e-05 | 1.2e-05 | 2.1e-06 | 9.0e-07 | 1.2e-06 | 4.6e-06 | 1.5e-05 | 3.8e-05 | 2.4e-04 |
| Massachusetts OCS-A 0534 | 1.0e-04 | 7.8e-05 | 5.0e-05 | 3.7e-05 | 3.7e-05 | 2.2e-05 | 3.7e-06 | 1.5e-06 | 2.1e-06 | 7.0e-06 | 2.4e-05 | 6.4e-05 | 4.3e-04 |
| Massachusetts OCS-A 0520 | 1.1e-04 | 8.4e-05 | 5.3e-05 | 3.8e-05 | 4.0e-05 | 2.5e-05 | 4.2e-06 | 1.7e-06 | 2.3e-06 | 7.6e-06 | 2.6e-05 | 6.9e-05 | 4.6e-04 |
| Massachusetts OCS-A 0521 | 8.8e-05 | 6.3e-05 | 4.0e-05 | 2.9e-05 | 3.2e-05 | 2.1e-05 | 3.7e-06 | 1.4e-06 | 1.9e-06 | 6.0e-06 | 2.0e-05 | 5.3e-05 | 3.6e-04 |
| Massachusetts OCS-A 0522 | 9.3e-05 | 6.8e-05 | 4.3e-05 | 3.5e-05 | 4.1e-05 | 3.0e-05 | 5.5e-06 | 2.0e-06 | 2.4e-06 | 7.2e-06 | 2.3e-05 | 5.9e-05 | 4.1e-04 |
| New York WEA - Fairways North | 2.7e-05 | 2.2e-05 | 1.7e-05 | 1.6e-05 | 1.4e-05 | 6.7e-06 | 1.3e-06 | 5.8e-07 | 8.0e-07 | 2.8e-06 | 8.8e-06 | 1.8e-05 | 1.3e-04 |
| New York WEA - Fairways South | 9.3e-06 | 7.7e-06 | 5.9e-06 | 5.8e-06 | 4.6e-06 | 1.9e-06 | 3.4e-07 | 2.1e-07 | 2.7e-07 | 8.8e-07 | 2.8e-06 | 6.0e-06 | 4.6e-05 |
| New York OCS-A 0512 | 5.4e-05 | 4.6e-05 | 3.2e-05 | 2.9e-05 | 2.1e-05 | 8.3e-06 | 1.5e-06 | 8.6e-07 | 1.3e-06 | 4.4e-06 | 1.5e-05 | 3.3e-05 | 2.5e-04 |
| NY/NJ OCS-A 0544 | 2.9e-05 | 2.4e-05 | 1.7e-05 | 1.7e-05 | 1.3e-05 | 5.0e-06 | 8.7e-07 | 4.8e-07 | 7.6e-07 | 2.6e-06 | 8.5e-06 | 1.9e-05 | 1.4e-04 |
| NY/NJ OCS-A 0537 | 3.8e-05 | 3.4e-05 | 2.6e-05 | 2.7e-05 | 2.3e-05 | 9.3e-06 | 1.3e-06 | 6.6e-07 | 1.0e-06 | 3.3e-06 | 1.1e-05 | 2.5e-05 | 2.0e-04 |
| NY/NJ OCS-A 0538 | 2.5e-05 | 2.3e-05 | 1.8e-05 | 2.0e-05 | 1.6e-05 | 5.9e-06 | 8.6e-07 | 4.3e-07 | 7.3e-07 | 2.5e-06 | 7.7e-06 | 1.7e-05 | 1.4e-04 |
| NY/NJ OCS-A 0539 | 7.6e-05 | 6.8e-05 | 5.4e-05 | 5.7e-05 | 4.6e-05 | 1.6e-05 | 2.3e-06 | 1.2e-06 | 2.1e-06 | 7.1e-06 | 2.3e-05 | 4.8e-05 | 4.0e-04 |
| NY/NJ OCS-A 0541 | 4.5e-05 | 3.7e-05 | 2.7e-05 | 2.7e-05 | 2.1e-05 | 7.3e-06 | 1.1e-06 | 5.8e-07 | 9.8e-07 | 3.5e-06 | 1.2e-05 | 2.7e-05 | 2.1e-04 |
| NY/NJ OCS-A 0542 | 3.3e-05 | 2.8e-05 | 2.1e-05 | 2.1e-05 | 1.7e-05 | 6.1e-06 | 8.8e-07 | 4.7e-07 | 7.4e-07 | 2.6e-06 | 9.2e-06 | 2.1e-05 | 1.6e-04 |
| New Jersey OCS-A 0549 | 6.1e-05 | 4.8e-05 | 3.1e-05 | 2.5e-05 | 1.6e-05 | 5.6e-06 | 1.1e-06 | 6.6e-07 | 1.0e-06 | 3.6e-06 | 1.2e-05 | 3.4e-05 | 2.4e-04 |
| New Jersey OCS-A 0499 | 6.8e-05 | 5.4e-05 | 3.5e-05 | 2.8e-05 | 1.9e-05 | 6.2e-06 | 1.2e-06 | 7.2e-07 | 1.2e-06 | 4.1e-06 | 1.5e-05 | 3.9e-05 | 2.7e-04 |
| New Jersey OCS-A 0498 | 4.4e-05 | 3.7e-05 | 2.4e-05 | 1.9e-05 | 1.3e-05 | 4.1e-06 | 8.5e-07 | 5.2e-07 | 7.7e-07 | 2.7e-06 | 9.4e-06 | 2.5e-05 | 1.8e-04 |
| New Jersey OCS-A 0532 | 4.5e-05 | 3.7e-05 | 2.3e-05 | 1.7e-05 | 1.1e-05 | 3.6e-06 | 8.5e-07 | 5.6e-07 | 7.4e-07 | 2.4e-06 | 8.8e-06 | 2.5e-05 | 1.8e-04 |
| Delaware OCS-A 0482 | 6.3e-05 | 5.3e-05 | 3.3e-05 | 2.3e-05 | 1.4e-05 | 4.4e-06 | 1.0e-06 | 6.6e-07 | 9.3e-07 | 3.2e-06 | 1.3e-05 | 3.8e-05 | 2.5e-04 |
| Delaware OCS-A 0519 | 1.8e-05 | 1.5e-05 | 1.0e-05 | 7.6e-06 | 4.8e-06 | 1.5e-06 | 3.0e-07 | 1.9e-07 | 2.8e-07 | 1.0e-06 | 4.0e-06 | 1.1e-05 | 7.4e-05 |
| Maryland OCS-A 0490 | 3.4e-05 | 3.1e-05 | 1.9e-05 | 1.4e-05 | 8.4e-06 | 2.7e-06 | 5.8e-07 | 3.8e-07 | 5.9e-07 | 1.9e-06 | 7.7e-06 | 2.1e-05 | 1.4e-04 |
| Central Atlantic Call Area A | 8.7e-05 | 7.4e-05 | 5.1e-05 | 4.4e-05 | 3.1e-05 | 9.9e-06 | 1.8e-06 | 1.1e-06 | 1.6e-06 | 5.9e-06 | 2.3e-05 | 5.8e-05 | 3.9e-04 |
| Central Atlantic Draft WEA Primary A | 1.8e-05 | 1.5e-05 | 1.0e-05 | 8.4e-06 | 5.8e-06 | 1.9e-06 | 3.4e-07 | 2.0e-07 | 3.1e-07 | 1.1e-06 | 4.5e-06 | 1.1e-05 | 7.7e-05 |
| Central Atlantic Draft WEA Secondary A | 4.5e-05 | 3.8e-05 | 2.6e-05 | 2.2e-05 | 1.6e-05 | 5.0e-06 | 9.2e-07 | 5.4e-07 | 8.2e-07 | 3.0e-06 | 1.2e-05 | 3.0e-05 | 2.0e-04 |
| Central Atlantic Call Area B | 2.8e-04 | 2.4e-04 | 2.0e-04 | 1.9e-04 | 1.3e-04 | 4.2e-05 | 9.3e-06 | 6.2e-06 | 8.4e-06 | 2.4e-05 | 9.5e-05 | 2.1e-04 | 1.5e-03 |
| Central Atlantic Draft WEA Primary B1 | 4.8e-06 | 4.5e-06 | 3.4e-06 | 2.5e-06 | 1.5e-06 | 4.6e-07 | 7.5e-08 | 6.1e-08 | 1.1e-07 | 3.4e-07 | 1.3e-06 | 3.4e-06 | 2.2e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.8e-06 | 1.7e-06 | 1.3e-06 | 9.9e-07 | 6.4e-07 | 2.0e-07 | 3.4e-08 | 2.7e-08 | 4.2e-08 | 1.3e-07 | 5.2e-07 | 1.3e-06 | 8.6e-06 |
| Central Atlantic Draft WEA Primary B2 | 1.0e-04 | 8.8e-05 | 7.5e-05 | 7.1e-05 | 5.0e-05 | 1.5e-05 | 3.5e-06 | 2.4e-06 | 3.2e-06 | 9.0e-06 | 3.6e-05 | 7.6e-05 | 5.3e-04 |
| Central Atlantic Draft WEA Secondary B2 | 6.8e-05 | 5.9e-05 | 5.0e-05 | 4.9e-05 | 3.5e-05 | 1.1e-05 | 2.5e-06 | 1.6e-06 | 2.2e-06 | 6.1e-06 | 2.4e-05 | 5.2e-05 | 3.6e-04 |
| Central Atlantic Call Area C | 7.8e-05 | 7.8e-05 | 7.3e-05 | 6.6e-05 | 4.4e-05 | 1.2e-05 | 3.0e-06 | 2.1e-06 | 3.1e-06 | 8.1e-06 | 3.2e-05 | 6.4e-05 | 4.6e-04 |
| Central Atlantic Draft WEA Primary C | 6.1e-05 | 6.1e-05 | 5.7e-05 | 5.2e-05 | 3.5e-05 | 9.5e-06 | 2.4e-06 | 1.7e-06 | 2.5e-06 | 6.4e-06 | 2.5e-05 | 5.0e-05 | 3.6e-04 |
| Central Atlantic Draft WEA Secondary C | 1.0e-05 | 1.0e-05 | 9.4e-06 | 8.2e-06 | 5.5e-06 | 1.6e-06 | 3.9e-07 | 2.6e-07 | 4.0e-07 | 1.0e-06 | 4.0e-06 | 8.2e-06 | 5.9e-05 |
| Central Atlantic Call Area D | 9.0e-05 | 1.0e-04 | 9.8e-05 | 8.3e-05 | 5.5e-05 | 1.5e-05 | 3.7e-06 | 2.7e-06 | 4.3e-06 | 1.0e-05 | 3.8e-05 | 7.6e-05 | 5.8e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 3.5e-05 | 4.0e-05 | 3.9e-05 | 3.1e-05 | 2.0e-05 | 5.6e-06 | 1.3e-06 | 9.5e-07 | 1.5e-06 | 3.9e-06 | 1.5e-05 | 2.9e-05 | 2.2e-04 |
| Central Atlantic Draft WEA Secondary D | 5.2e-06 | 5.9e-06 | 5.4e-06 | 3.9e-06 | 2.4e-06 | 6.7e-07 | 1.5e-07 | 1.1e-07 | 2.0e-07 | 5.1e-07 | 2.0e-06 | 4.3e-06 | 3.1e-05 |
| Central Atlantic Call Area E | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 5.7e-17 | 6.9e-16 |
| Central Atlantic Draft WEA Primary E1 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.6e-17 | 1.9e-16 |
| Central Atlantic Draft WEA Primary E2 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.1e-17 | 1.4e-16 |
| Central Atlantic Call Area F | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 2.7e-17 | 3.3e-16 |
| Central Atlantic Draft WEA Primary F | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.4e-18 | 1.7e-17 |
| Virginia OCS-A 0483 | 3.8e-05 | 3.6e-05 | 3.0e-05 | 2.0e-05 | 1.1e-05 | 3.1e-06 | 7.7e-07 | 5.8e-07 | 1.0e-06 | 3.0e-06 | 1.2e-05 | 2.7e-05 | 1.8e-04 |
| Virginia OCS-A 0497 | 1.1e-06 | 1.0e-06 | 7.5e-07 | 4.7e-07 | 2.3e-07 | 6.5e-08 | 1.7e-08 | 1.5e-08 | 2.6e-08 | 7.6e-08 | 3.3e-07 | 7.7e-07 | 4.9e-06 |
| North Carolina OCS-A 0508 | 5.1e-05 | 6.2e-05 | 6.3e-05 | 5.4e-05 | 3.8e-05 | 1.0e-05 | 2.3e-06 | 1.7e-06 | 2.9e-06 | 6.9e-06 | 2.4e-05 | 4.4e-05 | 3.6e-04 |
| North Carolina OCS-A 0545 | 9.5e-07 | 6.4e-07 | 4.1e-07 | 2.3e-07 | 1.9e-07 | 1.3e-07 | 1.0e-07 | 9.3e-08 | 1.1e-07 | 1.6e-07 | 4.2e-07 | 6.2e-07 | 4.0e-06 |
| North Carolina OCS-A 0546 | 6.3e-07 | 4.3e-07 | 2.7e-07 | 1.7e-07 | 1.4e-07 | 9.1e-08 | 6.8e-08 | 6.7e-08 | 8.5e-08 | 1.1e-07 | 2.8e-07 | 4.1e-07 | 2.7e-06 |
| South Carolina Call Area - Grand Strand | 2.1e-05 | 1.5e-05 | 7.6e-06 | 3.6e-06 | 2.7e-06 | 1.8e-06 | 1.5e-06 | 1.5e-06 | 1.6e-06 | 2.8e-06 | 1.1e-05 | 1.8e-05 | 8.8e-05 |
| South Carolina Call Area - Cape Romain | 3.2e-06 | 1.7e-06 | 8.1e-07 | 3.9e-07 | 2.9e-07 | 2.0e-07 | 1.4e-07 | 1.8e-07 | 2.1e-07 | 4.0e-07 | 1.6e-06 | 2.8e-06 | 1.2e-05 |
| South Carolina Call Area - Winyah | 4.9e-07 | 3.9e-07 | 2.7e-07 | 2.8e-07 | 3.3e-07 | 2.7e-07 | 2.1e-07 | 2.1e-07 | 2.4e-07 | 2.8e-07 | 3.6e-07 | 4.2e-07 | 3.8e-06 |
| South Carolina Call Area - Charleston | 9.6e-08 | 6.7e-08 | 4.9e-08 | 3.6e-08 | 3.5e-08 | 2.6e-08 | 1.6e-08 | 1.8e-08 | 2.4e-08 | 3.1e-08 | 5.9e-08 | 8.5e-08 | 5.4e-07 |
| All planning areas | 4.5e-03 | 3.8e-03 | 2.1e-03 | 1.4e-03 | 1.5e-03 | 1.2e-03 | 3.7e-04 | 1.7e-04 | 1.9e-04 | 4.7e-04 | 1.3e-03 | 3.0e-03 | 2.0e-02 |
| All lease areas | 1.4e-03 | 1.2e-03 | 8.1e-04 | 6.8e-04 | 5.6e-04 | 2.7e-04 | 4.8e-05 | 2.3e-05 | 3.4e-05 | 1.1e-04 | 3.7e-04 | 8.9e-04 | 6.4e-03 |
| All planning and lease areas | 5.9e-03 | 5.0e-03 | 2.9e-03 | 2.1e-03 | 2.1e-03 | 1.5e-03 | 4.2e-04 | 1.9e-04 | 2.3e-04 | 5.7e-04 | 1.7e-03 | 3.9e-03 | 2.6e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-19. Predicted proportional abundance of Atlantic Puffin by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.0e-02 | 1.4e-02 | 2.3e-02 | 3.1e-02 | 1.8e-02 | 4.6e-03 | 4.9e-03 | 1.1e-03 | 3.0e-04 | 1.3e-03 | 4.4e-03 | 1.7e-02 | 1.4e-01 |
| Gulf of Maine Request for Competitive Interest | 1.1e-04 | 7.0e-05 | 1.2e-04 | 1.9e-04 | 1.5e-04 | 2.9e-05 | 1.9e-05 | 3.2e-06 | 1.4e-06 | 9.5e-06 | 2.8e-05 | 1.0e-04 | 8.3e-04 |
| Marine Research Array Requested Lease | 1.5e-05 | 9.8e-06 | 1.7e-05 | 2.8e-05 | 2.3e-05 | 4.4e-06 | 3.0e-06 | 5.1e-07 | 2.2e-07 | 1.4e-06 | 4.0e-06 | 1.4e-05 | 1.2e-04 |
| Rhode Island OCS-A 0506 | 9.0e-08 | 6.5e-08 | 1.6e-07 | 6.6e-07 | 2.2e-07 | 1.3e-08 | 2.2e-09 | 3.9e-10 | 4.1e-10 | 6.6e-09 | 2.9e-08 | 1.1e-07 | 1.4e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 5.2e-05 | 3.2e-05 | 6.6e-05 | 1.5e-04 | 5.8e-05 | 3.5e-06 | 3.7e-07 | 6.8e-08 | 6.3e-08 | 1.3e-06 | 7.7e-06 | 4.1e-05 | 4.2e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.8e-06 | 5.1e-06 | 1.0e-05 | 2.1e-05 | 7.7e-06 | 4.6e-07 | 4.2e-08 | 7.9e-09 | 7.3e-09 | 1.5e-07 | 1.0e-06 | 6.2e-06 | 6.0e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 9.3e-05 | 5.2e-05 | 9.9e-05 | 1.7e-04 | 6.0e-05 | 4.3e-06 | 3.9e-07 | 6.8e-08 | 6.1e-08 | 1.2e-06 | 8.8e-06 | 5.9e-05 | 5.5e-04 |
| Massachusetts OCS-A 0500 | 1.2e-04 | 6.9e-05 | 1.4e-04 | 2.4e-04 | 8.3e-05 | 6.9e-06 | 7.0e-07 | 1.1e-07 | 8.9e-08 | 1.7e-06 | 1.2e-05 | 8.1e-05 | 7.5e-04 |
| Massachusetts OCS-A 0501 | 4.7e-05 | 2.7e-05 | 5.9e-05 | 1.0e-04 | 3.7e-05 | 3.2e-06 | 4.1e-07 | 5.3e-08 | 4.1e-08 | 8.3e-07 | 5.6e-06 | 3.7e-05 | 3.2e-04 |
| Massachusetts OCS-A 0534 | 9.4e-05 | 5.2e-05 | 1.1e-04 | 1.7e-04 | 6.0e-05 | 5.3e-06 | 5.8e-07 | 8.6e-08 | 6.7e-08 | 1.2e-06 | 8.3e-06 | 5.8e-05 | 5.6e-04 |
| Massachusetts OCS-A 0520 | 1.3e-04 | 7.3e-05 | 1.5e-04 | 2.3e-04 | 7.9e-05 | 7.7e-06 | 9.7e-07 | 1.4e-07 | 9.8e-08 | 1.7e-06 | 1.2e-05 | 8.0e-05 | 7.6e-04 |
| Massachusetts OCS-A 0521 | 1.3e-04 | 7.8e-05 | 1.5e-04 | 2.3e-04 | 8.2e-05 | 9.0e-06 | 1.2e-06 | 1.7e-07 | 1.1e-07 | 1.7e-06 | 1.2e-05 | 8.2e-05 | 7.8e-04 |
| Massachusetts OCS-A 0522 | 1.4e-04 | 8.5e-05 | 1.7e-04 | 2.4e-04 | 9.3e-05 | 1.2e-05 | 1.9e-06 | 2.4e-07 | 1.3e-07 | 1.8e-06 | 1.3e-05 | 8.8e-05 | 8.4e-04 |
| New York WEA - Fairways North | 7.5e-05 | 4.5e-05 | 7.6e-05 | 1.3e-04 | 4.2e-05 | 1.6e-06 | 1.9e-07 | 4.0e-08 | 3.3e-08 | 8.5e-07 | 6.5e-06 | 4.1e-05 | 4.2e-04 |
| New York WEA - Fairways South | 2.0e-05 | 1.4e-05 | 2.4e-05 | 5.1e-05 | 1.4e-05 | 3.6e-07 | 3.1e-08 | 1.1e-08 | 8.4e-09 | 2.2e-07 | 1.8e-06 | 1.2e-05 | 1.4e-04 |
| New York OCS-A 0512 | 5.1e-05 | 3.2e-05 | 5.4e-05 | 1.0e-04 | 2.4e-05 | 4.9e-07 | 4.3e-08 | 1.3e-08 | 1.3e-08 | 3.3e-07 | 3.8e-06 | 3.0e-05 | 3.0e-04 |
| NY/NJ OCS-A 0544 | 3.6e-05 | 2.6e-05 | 4.0e-05 | 6.5e-05 | 1.7e-05 | 3.4e-07 | 2.2e-08 | 7.3e-09 | 8.3e-09 | 2.2e-07 | 2.5e-06 | 1.8e-05 | 2.1e-04 |
| NY/NJ OCS-A 0537 | 7.8e-05 | 7.2e-05 | 1.2e-04 | 1.3e-04 | 3.1e-05 | 1.1e-06 | 4.8e-08 | 1.2e-08 | 1.5e-08 | 4.3e-07 | 4.8e-06 | 3.0e-05 | 4.7e-04 |
| NY/NJ OCS-A 0538 | 8.0e-05 | 8.1e-05 | 1.6e-04 | 1.6e-04 | 3.5e-05 | 9.4e-07 | 3.3e-08 | 9.3e-09 | 1.3e-08 | 4.0e-07 | 4.8e-06 | 3.3e-05 | 5.5e-04 |
| NY/NJ OCS-A 0539 | 1.1e-04 | 1.1e-04 | 2.1e-04 | 2.0e-04 | 4.0e-05 | 1.0e-06 | 3.3e-08 | 1.0e-08 | 1.4e-08 | 4.5e-07 | 5.7e-06 | 4.5e-05 | 7.2e-04 |
| NY/NJ OCS-A 0541 | 7.1e-05 | 6.7e-05 | 1.4e-04 | 1.3e-04 | 2.3e-05 | 4.7e-07 | 1.3e-08 | 4.6e-09 | 7.1e-09 | 2.5e-07 | 3.6e-06 | 3.1e-05 | 4.6e-04 |
| NY/NJ OCS-A 0542 | 8.1e-05 | 8.3e-05 | 1.7e-04 | 1.4e-04 | 2.6e-05 | 6.3e-07 | 1.7e-08 | 5.8e-09 | 8.0e-09 | 2.9e-07 | 4.1e-06 | 3.3e-05 | 5.4e-04 |
| New Jersey OCS-A 0549 | 2.9e-05 | 1.8e-05 | 5.4e-05 | 8.4e-05 | 1.4e-05 | 2.2e-07 | 2.3e-08 | 7.8e-09 | 6.1e-09 | 1.6e-07 | 2.6e-06 | 2.2e-05 | 2.2e-04 |
| New Jersey OCS-A 0499 | 4.8e-05 | 3.0e-05 | 8.1e-05 | 1.2e-04 | 1.9e-05 | 2.6e-07 | 1.9e-08 | 7.4e-09 | 6.9e-09 | 2.0e-07 | 3.5e-06 | 3.1e-05 | 3.3e-04 |
| New Jersey OCS-A 0498 | 3.4e-05 | 2.5e-05 | 6.7e-05 | 1.0e-04 | 1.6e-05 | 2.0e-07 | 1.5e-08 | 6.7e-09 | 5.2e-09 | 1.5e-07 | 2.5e-06 | 2.3e-05 | 2.7e-04 |
| New Jersey OCS-A 0532 | 3.2e-05 | 2.6e-05 | 7.8e-05 | 1.2e-04 | 1.9e-05 | 2.2e-07 | 2.3e-08 | 1.1e-08 | 6.8e-09 | 1.9e-07 | 3.0e-06 | 2.6e-05 | 3.1e-04 |
| Delaware OCS-A 0482 | 2.8e-05 | 1.8e-05 | 4.8e-05 | 6.6e-05 | 7.4e-06 | 8.8e-08 | 7.9e-09 | 3.9e-09 | 2.9e-09 | 8.4e-08 | 1.9e-06 | 1.9e-05 | 1.9e-04 |
| Delaware OCS-A 0519 | 1.4e-05 | 9.7e-06 | 2.2e-05 | 2.7e-05 | 3.2e-06 | 3.5e-08 | 2.1e-09 | 1.1e-09 | 1.0e-09 | 3.3e-08 | 7.3e-07 | 7.8e-06 | 8.4e-05 |
| Maryland OCS-A 0490 | 4.0e-05 | 3.1e-05 | 6.8e-05 | 7.6e-05 | 7.7e-06 | 8.0e-08 | 6.4e-09 | 3.0e-09 | 2.8e-09 | 8.7e-08 | 2.1e-06 | 2.3e-05 | 2.5e-04 |
| Central Atlantic Call Area A | 2.0e-04 | 1.9e-04 | 3.4e-04 | 3.1e-04 | 4.0e-05 | 4.5e-07 | 1.7e-08 | 8.4e-09 | 1.0e-08 | 4.1e-07 | 8.1e-06 | 8.4e-05 | 1.2e-03 |
| Central Atlantic Draft WEA Primary A | 3.4e-05 | 2.9e-05 | 5.4e-05 | 5.4e-05 | 7.1e-06 | 8.1e-08 | 3.3e-09 | 1.6e-09 | 1.9e-09 | 7.2e-08 | 1.4e-06 | 1.5e-05 | 1.9e-04 |
| Central Atlantic Draft WEA Secondary A | 1.0e-04 | 9.1e-05 | 1.6e-04 | 1.6e-04 | 2.0e-05 | 2.3e-07 | 8.9e-09 | 4.2e-09 | 5.1e-09 | 2.1e-07 | 4.1e-06 | 4.3e-05 | 5.8e-04 |
| Central Atlantic Call Area B | 6.0e-04 | 7.9e-04 | 1.5e-03 | 8.0e-04 | 8.3e-05 | 6.4e-07 | 2.2e-08 | 1.5e-08 | 2.1e-08 | 9.2e-07 | 2.1e-05 | 2.1e-04 | 4.0e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.4e-05 | 1.3e-05 | 2.4e-05 | 1.9e-05 | 1.7e-06 | 1.2e-08 | 4.3e-10 | 3.0e-10 | 5.4e-10 | 2.0e-08 | 4.8e-07 | 5.7e-06 | 7.7e-05 |
| Central Atlantic Draft WEA Secondary B1 | 6.7e-06 | 6.7e-06 | 1.2e-05 | 8.7e-06 | 8.8e-07 | 6.4e-09 | 2.2e-10 | 1.5e-10 | 2.4e-10 | 9.3e-09 | 2.2e-07 | 2.6e-06 | 3.7e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.7e-04 | 2.5e-04 | 4.6e-04 | 2.2e-04 | 2.2e-05 | 1.5e-07 | 5.7e-09 | 4.0e-09 | 5.8e-09 | 2.5e-07 | 5.8e-06 | 5.9e-05 | 1.2e-03 |
| Central Atlantic Draft WEA Secondary B2 | 8.1e-05 | 1.2e-04 | 2.3e-04 | 1.1e-04 | 1.1e-05 | 8.5e-08 | 3.0e-09 | 2.0e-09 | 2.7e-09 | 1.2e-07 | 2.8e-06 | 2.7e-05 | 5.8e-04 |
| Central Atlantic Call Area C | 1.4e-04 | 2.4e-04 | 4.8e-04 | 2.0e-04 | 1.6e-05 | 9.1e-08 | 4.6e-09 | 3.2e-09 | 4.5e-09 | 1.8e-07 | 4.5e-06 | 4.7e-05 | 1.1e-03 |
| Central Atlantic Draft WEA Primary C | 7.8e-05 | 1.3e-04 | 2.4e-04 | 1.0e-04 | 8.2e-06 | 4.3e-08 | 2.3e-09 | 1.7e-09 | 2.4e-09 | 9.7e-08 | 2.4e-06 | 2.6e-05 | 5.8e-04 |
| Central Atlantic Draft WEA Secondary C | 5.3e-05 | 9.1e-05 | 2.0e-04 | 7.7e-05 | 6.5e-06 | 3.9e-08 | 1.9e-09 | 1.3e-09 | 1.7e-09 | 7.2e-08 | 1.7e-06 | 1.7e-05 | 4.5e-04 |
| Central Atlantic Call Area D | 2.5e-04 | 4.7e-04 | 1.0e-03 | 3.8e-04 | 2.5e-05 | 1.3e-07 | 7.5e-09 | 5.0e-09 | 7.6e-09 | 2.6e-07 | 6.8e-06 | 8.0e-05 | 2.2e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 9.1e-05 | 1.6e-04 | 3.1e-04 | 1.2e-04 | 7.7e-06 | 3.6e-08 | 2.3e-09 | 1.6e-09 | 2.6e-09 | 8.7e-08 | 2.4e-06 | 3.0e-05 | 7.2e-04 |
| Central Atlantic Draft WEA Secondary D | 1.0e-05 | 1.6e-05 | 2.9e-05 | 1.2e-05 | 6.9e-07 | 3.0e-09 | 2.3e-10 | 1.7e-10 | 2.8e-10 | 9.1e-09 | 2.8e-07 | 3.5e-06 | 7.2e-05 |
| Central Atlantic Call Area E | 9.6e-04 | 2.8e-03 | 4.3e-03 | 3.2e-03 | 1.4e-04 | 3.9e-06 | 4.9e-07 | 3.3e-08 | 4.1e-08 | 9.0e-07 | 2.0e-05 | 2.9e-04 | 1.2e-02 |
| Central Atlantic Draft WEA Primary E1 | 2.9e-04 | 7.8e-04 | 1.2e-03 | 1.3e-03 | 4.6e-05 | 1.3e-06 | 2.0e-07 | 1.1e-08 | 1.3e-08 | 2.6e-07 | 6.6e-06 | 8.9e-05 | 3.7e-03 |
| Central Atlantic Draft WEA Primary E2 | 1.8e-04 | 3.6e-04 | 7.4e-04 | 5.5e-04 | 2.2e-05 | 7.3e-07 | 8.9e-08 | 6.0e-09 | 8.4e-09 | 1.4e-07 | 3.0e-06 | 5.0e-05 | 1.9e-03 |
| Central Atlantic Call Area F | 3.3e-04 | 6.3e-04 | 1.5e-03 | 8.5e-04 | 5.1e-05 | 8.2e-07 | 3.1e-07 | 2.1e-07 | 1.9e-07 | 1.2e-06 | 1.1e-05 | 7.5e-05 | 3.4e-03 |
| Central Atlantic Draft WEA Primary F | 3.0e-05 | 4.7e-05 | 1.1e-04 | 1.0e-04 | 5.0e-06 | 9.9e-08 | 4.2e-08 | 2.5e-08 | 2.2e-08 | 1.8e-07 | 1.1e-06 | 6.8e-06 | 3.0e-04 |
| Virginia OCS-A 0483 | 4.3e-05 | 5.3e-05 | 9.9e-05 | 4.3e-05 | 2.1e-06 | 7.8e-09 | 1.1e-09 | 9.4e-10 | 1.3e-09 | 4.8e-08 | 1.5e-06 | 1.7e-05 | 2.6e-04 |
| Virginia OCS-A 0497 | 5.8e-07 | 6.6e-07 | 1.4e-06 | 5.6e-07 | 1.9e-08 | 1.0e-10 | 2.3e-11 | 2.1e-11 | 2.4e-11 | 7.7e-10 | 2.7e-08 | 2.6e-07 | 3.5e-06 |
| North Carolina OCS-A 0508 | 4.9e-05 | 9.2e-05 | 1.8e-04 | 6.4e-05 | 3.9e-06 | 1.7e-08 | 1.3e-09 | 9.2e-10 | 1.4e-09 | 4.7e-08 | 1.2e-06 | 1.5e-05 | 4.1e-04 |
| North Carolina OCS-A 0545 | 4.7e-06 | 6.4e-06 | 7.3e-06 | 1.0e-06 | 1.5e-08 | 2.3e-10 | 2.1e-10 | 1.2e-10 | 7.0e-11 | 7.2e-10 | 3.9e-08 | 6.3e-07 | 2.0e-05 |
| North Carolina OCS-A 0546 | 3.9e-06 | 5.9e-06 | 5.7e-06 | 1.0e-06 | 1.5e-08 | 2.6e-10 | 2.7e-10 | 1.3e-10 | 6.8e-11 | 6.5e-10 | 3.4e-08 | 5.5e-07 | 1.7e-05 |
| South Carolina Call Area - Grand Strand | 5.2e-05 | 7.5e-05 | 6.5e-05 | 6.4e-06 | 1.1e-07 | 1.3e-09 | 1.3e-09 | 1.0e-09 | 5.4e-10 | 1.1e-08 | 8.7e-07 | 1.2e-05 | 2.1e-04 |
| South Carolina Call Area - Cape Romain | 1.2e-05 | 1.4e-05 | 1.0e-05 | 1.2e-06 | 1.9e-08 | 2.8e-10 | 2.9e-10 | 2.2e-10 | 8.6e-11 | 1.7e-09 | 1.8e-07 | 2.6e-06 | 4.0e-05 |
| South Carolina Call Area - Winyah | 2.9e-07 | 5.9e-07 | 6.1e-07 | 2.4e-07 | 4.7e-09 | 1.1e-10 | 1.2e-10 | 5.9e-11 | 2.6e-11 | 1.1e-10 | 1.6e-09 | 2.8e-08 | 1.8e-06 |
| South Carolina Call Area - Charleston | 9.8e-07 | 1.4e-06 | 1.7e-06 | 3.5e-07 | 6.3e-09 | 1.0e-10 | 7.9e-11 | 5.0e-11 | 2.8e-11 | 2.7e-10 | 7.1e-09 | 1.4e-07 | 4.6e-06 |
| All planning areas | 2.2e-02 | 2.0e-02 | 3.2e-02 | 3.7e-02 | 1.9e-02 | 4.6e-03 | 4.9e-03 | 1.1e-03 | 3.1e-04 | 1.3e-03 | 4.5e-03 | 1.8e-02 | 1.6e-01 |
| All lease areas | 1.6e-03 | 1.3e-03 | 2.5e-03 | 3.2e-03 | 8.5e-04 | 5.8e-05 | 6.9e-06 | 1.0e-06 | 7.8e-07 | 1.5e-05 | 1.3e-04 | 9.4e-04 | 1.1e-02 |
| All planning and lease areas | 2.4e-02 | 2.1e-02 | 3.5e-02 | 4.0e-02 | 1.9e-02 | 4.7e-03 | 4.9e-03 | 1.1e-03 | 3.1e-04 | 1.3e-03 | 4.7e-03 | 1.9e-02 | 1.8e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-20. Predicted proportional abundance of Black-legged Kittiwake by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 5.0e-02 | 1.9e-02 | 5.7e-03 | 7.4e-04 | 9.5e-05 | 4.1e-05 | 3.2e-05 | 1.3e-04 | 4.4e-04 | 9.1e-03 | 5.1e-02 | 5.4e-02 | 1.9e-01 |
| Gulf of Maine Request for Competitive Interest | 4.1e-04 | 1.4e-04 | 3.2e-05 | 4.1e-06 | 7.6e-07 | 3.5e-07 | 1.9e-07 | 1.1e-06 | 2.7e-06 | 4.8e-05 | 2.9e-04 | 4.4e-04 | 1.4e-03 |
| Marine Research Array Requested Lease | 5.8e-05 | 2.0e-05 | 4.5e-06 | 5.6e-07 | 1.2e-07 | 5.0e-08 | 2.7e-08 | 1.6e-07 | 4.0e-07 | 6.6e-06 | 3.9e-05 | 6.2e-05 | 1.9e-04 |
| Rhode Island OCS-A 0506 | 1.5e-07 | 3.9e-08 | 1.4e-08 | 5.2e-09 | 1.6e-09 | 3.2e-10 | 5.0e-10 | 1.3e-09 | 1.8e-08 | 4.2e-08 | 2.8e-07 | 2.8e-07 | 8.3e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.1e-04 | 7.4e-05 | 1.3e-05 | 2.2e-06 | 6.0e-07 | 1.3e-07 | 1.7e-07 | 3.8e-07 | 4.2e-06 | 1.6e-05 | 2.3e-04 | 3.5e-04 | 1.0e-03 |
| Rhode Island / Massachusetts OCS-A 0517 | 5.1e-05 | 1.3e-05 | 2.2e-06 | 3.3e-07 | 8.8e-08 | 1.7e-08 | 2.4e-08 | 5.7e-08 | 6.0e-07 | 2.4e-06 | 3.4e-05 | 5.0e-05 | 1.5e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.9e-04 | 1.8e-04 | 3.1e-05 | 3.1e-06 | 6.3e-07 | 1.7e-07 | 2.1e-07 | 4.3e-07 | 4.3e-06 | 2.4e-05 | 4.2e-04 | 6.0e-04 | 1.8e-03 |
| Massachusetts OCS-A 0500 | 7.7e-04 | 2.5e-04 | 4.8e-05 | 4.4e-06 | 7.8e-07 | 2.5e-07 | 3.2e-07 | 6.2e-07 | 5.8e-06 | 3.4e-05 | 5.7e-04 | 8.0e-04 | 2.5e-03 |
| Massachusetts OCS-A 0501 | 3.6e-04 | 1.0e-04 | 2.3e-05 | 2.4e-06 | 3.8e-07 | 1.3e-07 | 1.5e-07 | 3.3e-07 | 2.7e-06 | 1.7e-05 | 2.6e-04 | 4.2e-04 | 1.2e-03 |
| Massachusetts OCS-A 0534 | 5.5e-04 | 2.0e-04 | 4.4e-05 | 3.4e-06 | 5.5e-07 | 2.2e-07 | 2.5e-07 | 5.3e-07 | 4.4e-06 | 2.6e-05 | 4.1e-04 | 5.6e-04 | 1.8e-03 |
| Massachusetts OCS-A 0520 | 7.4e-04 | 2.6e-04 | 6.9e-05 | 5.5e-06 | 7.9e-07 | 3.3e-07 | 3.7e-07 | 8.3e-07 | 5.9e-06 | 3.7e-05 | 5.5e-04 | 8.1e-04 | 2.5e-03 |
| Massachusetts OCS-A 0521 | 6.9e-04 | 2.4e-04 | 7.2e-05 | 6.3e-06 | 8.4e-07 | 3.8e-07 | 4.3e-07 | 9.6e-07 | 6.0e-06 | 3.6e-05 | 5.5e-04 | 7.7e-04 | 2.4e-03 |
| Massachusetts OCS-A 0522 | 6.8e-04 | 2.3e-04 | 6.5e-05 | 6.4e-06 | 7.7e-07 | 3.8e-07 | 4.9e-07 | 1.1e-06 | 5.8e-06 | 3.6e-05 | 5.4e-04 | 7.8e-04 | 2.3e-03 |
| New York WEA - Fairways North | 3.5e-04 | 7.3e-05 | 1.4e-05 | 2.0e-06 | 4.5e-07 | 8.8e-08 | 1.3e-07 | 2.7e-07 | 3.2e-06 | 2.0e-05 | 2.7e-04 | 3.5e-04 | 1.1e-03 |
| New York WEA - Fairways South | 6.7e-05 | 1.1e-05 | 2.7e-06 | 5.6e-07 | 1.5e-07 | 3.0e-08 | 2.1e-08 | 5.1e-08 | 8.7e-07 | 4.6e-06 | 4.1e-05 | 6.3e-05 | 1.9e-04 |
| New York OCS-A 0512 | 2.1e-04 | 3.9e-05 | 7.9e-06 | 1.6e-06 | 3.9e-07 | 8.3e-08 | 4.3e-08 | 9.8e-08 | 1.8e-06 | 1.7e-05 | 1.6e-04 | 2.1e-04 | 6.5e-04 |
| NY/NJ OCS-A 0544 | 1.4e-04 | 3.5e-05 | 5.8e-06 | 9.7e-07 | 2.5e-07 | 4.9e-08 | 2.1e-08 | 5.4e-08 | 1.2e-06 | 9.8e-06 | 1.1e-04 | 1.3e-04 | 4.3e-04 |
| NY/NJ OCS-A 0537 | 1.3e-04 | 8.6e-05 | 2.8e-05 | 1.9e-06 | 3.8e-07 | 9.8e-08 | 5.2e-08 | 8.1e-08 | 1.7e-06 | 1.3e-05 | 1.3e-04 | 1.6e-04 | 5.6e-04 |
| NY/NJ OCS-A 0538 | 1.9e-04 | 9.4e-05 | 2.6e-05 | 2.2e-06 | 5.0e-07 | 1.3e-07 | 4.0e-08 | 6.7e-08 | 2.1e-06 | 1.9e-05 | 1.6e-04 | 1.8e-04 | 6.7e-04 |
| NY/NJ OCS-A 0539 | 2.9e-04 | 1.4e-04 | 3.8e-05 | 3.4e-06 | 6.6e-07 | 1.7e-07 | 4.5e-08 | 7.7e-08 | 2.5e-06 | 3.1e-05 | 2.3e-04 | 3.0e-04 | 1.0e-03 |
| NY/NJ OCS-A 0541 | 1.9e-04 | 7.8e-05 | 1.9e-05 | 1.7e-06 | 4.3e-07 | 1.2e-07 | 1.8e-08 | 3.9e-08 | 1.2e-06 | 1.9e-05 | 1.3e-04 | 1.9e-04 | 6.3e-04 |
| NY/NJ OCS-A 0542 | 1.6e-04 | 9.7e-05 | 2.6e-05 | 1.8e-06 | 4.4e-07 | 1.3e-07 | 2.4e-08 | 4.3e-08 | 1.4e-06 | 1.9e-05 | 1.3e-04 | 1.9e-04 | 6.3e-04 |
| New Jersey OCS-A 0549 | 8.3e-05 | 1.8e-05 | 6.6e-06 | 1.4e-06 | 3.7e-07 | 1.1e-07 | 2.9e-08 | 5.6e-08 | 1.0e-06 | 1.6e-05 | 8.3e-05 | 9.6e-05 | 3.0e-04 |
| New Jersey OCS-A 0499 | 1.4e-04 | 2.8e-05 | 9.4e-06 | 1.9e-06 | 5.2e-07 | 1.5e-07 | 2.4e-08 | 4.9e-08 | 1.1e-06 | 2.1e-05 | 1.2e-04 | 1.5e-04 | 4.7e-04 |
| New Jersey OCS-A 0498 | 7.9e-05 | 1.7e-05 | 6.6e-06 | 1.4e-06 | 4.2e-07 | 1.3e-07 | 1.7e-08 | 3.5e-08 | 6.6e-07 | 1.3e-05 | 6.4e-05 | 8.6e-05 | 2.7e-04 |
| New Jersey OCS-A 0532 | 6.0e-05 | 1.4e-05 | 6.7e-06 | 1.4e-06 | 4.8e-07 | 1.6e-07 | 2.3e-08 | 4.9e-08 | 8.4e-07 | 1.4e-05 | 5.9e-05 | 7.8e-05 | 2.3e-04 |
| Delaware OCS-A 0482 | 7.1e-05 | 1.7e-05 | 6.9e-06 | 1.2e-06 | 3.0e-07 | 1.1e-07 | 1.1e-08 | 2.5e-08 | 4.5e-07 | 1.7e-05 | 6.6e-05 | 8.7e-05 | 2.7e-04 |
| Delaware OCS-A 0519 | 3.1e-05 | 7.6e-06 | 2.6e-06 | 4.3e-07 | 1.2e-07 | 4.1e-08 | 3.2e-09 | 9.7e-09 | 1.6e-07 | 6.4e-06 | 2.6e-05 | 3.6e-05 | 1.1e-04 |
| Maryland OCS-A 0490 | 8.0e-05 | 2.3e-05 | 7.6e-06 | 1.2e-06 | 3.1e-07 | 1.3e-07 | 1.0e-08 | 2.9e-08 | 4.3e-07 | 1.8e-05 | 6.6e-05 | 9.6e-05 | 2.9e-04 |
| Central Atlantic Call Area A | 3.6e-04 | 1.3e-04 | 3.1e-05 | 3.7e-06 | 1.2e-06 | 4.5e-07 | 2.9e-08 | 8.7e-08 | 1.6e-06 | 6.0e-05 | 2.7e-04 | 4.3e-04 | 1.3e-03 |
| Central Atlantic Draft WEA Primary A | 6.7e-05 | 2.2e-05 | 5.5e-06 | 7.1e-07 | 2.2e-07 | 7.5e-08 | 5.1e-09 | 1.6e-08 | 3.1e-07 | 1.1e-05 | 5.2e-05 | 7.8e-05 | 2.4e-04 |
| Central Atlantic Draft WEA Secondary A | 1.9e-04 | 6.4e-05 | 1.6e-05 | 1.9e-06 | 6.1e-07 | 2.2e-07 | 1.4e-08 | 4.4e-08 | 8.4e-07 | 3.1e-05 | 1.4e-04 | 2.2e-04 | 6.7e-04 |
| Central Atlantic Call Area B | 4.5e-04 | 2.3e-04 | 5.8e-05 | 7.5e-06 | 2.0e-06 | 9.4e-07 | 5.1e-08 | 2.1e-07 | 1.9e-06 | 1.1e-04 | 3.7e-04 | 6.4e-04 | 1.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.8e-05 | 7.4e-06 | 2.3e-06 | 3.3e-07 | 7.0e-08 | 2.8e-08 | 1.1e-09 | 6.3e-09 | 7.4e-08 | 4.6e-06 | 1.4e-05 | 2.7e-05 | 7.4e-05 |
| Central Atlantic Draft WEA Secondary B1 | 8.0e-06 | 3.5e-06 | 1.0e-06 | 1.4e-07 | 3.4e-08 | 1.4e-08 | 5.4e-10 | 2.8e-09 | 3.3e-08 | 1.9e-06 | 6.2e-06 | 1.2e-05 | 3.3e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.1e-04 | 5.8e-05 | 1.4e-05 | 2.0e-06 | 4.7e-07 | 2.4e-07 | 1.5e-08 | 5.8e-08 | 4.2e-07 | 2.8e-05 | 8.7e-05 | 1.5e-04 | 4.4e-04 |
| Central Atlantic Draft WEA Secondary B2 | 4.3e-05 | 2.5e-05 | 5.7e-06 | 7.2e-07 | 2.0e-07 | 1.1e-07 | 6.5e-09 | 2.5e-08 | 1.8e-07 | 1.1e-05 | 3.6e-05 | 6.1e-05 | 1.8e-04 |
| Central Atlantic Call Area C | 8.6e-05 | 4.7e-05 | 1.5e-05 | 2.7e-06 | 5.1e-07 | 2.0e-07 | 1.4e-08 | 5.2e-08 | 3.3e-07 | 2.5e-05 | 7.8e-05 | 1.3e-04 | 3.8e-04 |
| Central Atlantic Draft WEA Primary C | 5.3e-05 | 2.9e-05 | 9.2e-06 | 1.7e-06 | 3.2e-07 | 1.1e-07 | 7.8e-09 | 3.0e-08 | 1.9e-07 | 1.5e-05 | 4.8e-05 | 8.2e-05 | 2.4e-04 |
| Central Atlantic Draft WEA Secondary C | 2.7e-05 | 1.4e-05 | 4.3e-06 | 7.8e-07 | 1.6e-07 | 6.8e-08 | 4.4e-09 | 1.8e-08 | 1.0e-07 | 7.5e-06 | 2.4e-05 | 3.8e-05 | 1.2e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.5e-04 | 8.6e-05 | 2.6e-05 | 6.1e-06 | 9.7e-07 | 3.4e-07 | 2.4e-08 | 8.7e-08 | 5.1e-07 | 3.8e-05 | 1.7e-04 | 2.5e-04 | 7.2e-04 |
| Central Atlantic Draft WEA Primary D | 5.4e-05 | 3.2e-05 | 1.1e-05 | 2.3e-06 | 3.7e-07 | 1.1e-07 | 8.4e-09 | 3.0e-08 | 1.8e-07 | 1.5e-05 | 6.0e-05 | 1.0e-04 | 2.8e-04 |
| Central Atlantic Draft WEA Secondary D | 7.7e-06 | 4.3e-06 | 1.6e-06 | 3.2e-07 | 4.4e-08 | 1.2e-08 | 1.1e-09 | 4.4e-09 | 2.3e-08 | 2.2e-06 | 7.9e-06 | 1.6e-05 | 4.0e-05 |
| Central Atlantic Call Area E | 1.6e-04 | 1.2e-04 | 3.3e-05 | 4.1e-06 | 4.8e-07 | 3.2e-07 | 4.9e-08 | 1.6e-07 | 8.5e-07 | 8.7e-05 | 2.2e-04 | 2.4e-04 | 8.6e-04 |
| Central Atlantic Draft WEA Primary E1 | 4.1e-05 | 2.8e-05 | 8.0e-06 | 1.3e-06 | 1.1e-07 | 6.1e-08 | 1.0e-08 | 3.0e-08 | 2.0e-07 | 2.5e-05 | 4.6e-05 | 5.7e-05 | 2.1e-04 |
| Central Atlantic Draft WEA Primary E2 | 1.8e-05 | 1.5e-05 | 4.0e-06 | 5.0e-07 | 5.7e-08 | 2.7e-08 | 5.0e-09 | 2.2e-08 | 1.1e-07 | 9.9e-06 | 3.2e-05 | 2.6e-05 | 1.1e-04 |
| Central Atlantic Call Area F | 4.3e-05 | 2.8e-05 | 8.3e-06 | 1.7e-06 | 3.2e-07 | 1.2e-07 | 2.2e-08 | 9.0e-08 | 2.5e-07 | 6.0e-06 | 6.2e-05 | 6.1e-05 | 2.1e-04 |
| Central Atlantic Draft WEA Primary F | 1.1e-06 | 6.4e-07 | 2.4e-07 | 6.9e-08 | 7.1e-09 | 1.7e-09 | 7.8e-10 | 3.8e-09 | 1.1e-08 | 1.0e-07 | 1.4e-06 | 1.9e-06 | 5.5e-06 |
| Virginia OCS-A 0483 | 5.3e-05 | 2.5e-05 | 1.0e-05 | 1.5e-06 | 1.9e-07 | 4.6e-08 | 9.9e-09 | 3.0e-08 | 1.5e-07 | 1.6e-05 | 4.3e-05 | 8.7e-05 | 2.4e-04 |
| Virginia OCS-A 0497 | 9.8e-07 | 4.4e-07 | 1.7e-07 | 2.2e-08 | 3.1e-09 | 7.1e-10 | 2.6e-10 | 8.1e-10 | 3.0e-09 | 3.0e-07 | 7.5e-07 | 1.4e-06 | 4.1e-06 |
| North Carolina OCS-A 0508 | 3.2e-05 | 2.0e-05 | 6.0e-06 | 1.5e-06 | 2.3e-07 | 6.6e-08 | 5.3e-09 | 2.3e-08 | 9.6e-08 | 8.8e-06 | 3.9e-05 | 5.2e-05 | 1.6e-04 |
| North Carolina OCS-A 0545 | 7.3e-07 | 3.0e-07 | 1.1e-07 | 3.4e-08 | 1.5e-09 | 1.1e-10 | 4.9e-10 | 1.3e-09 | 3.2e-09 | 5.0e-09 | 3.2e-07 | 7.9e-07 | 2.3e-06 |
| North Carolina OCS-A 0546 | 6.5e-07 | 3.0e-07 | 9.4e-08 | 3.3e-08 | 1.4e-09 | 1.0e-10 | 4.6e-10 | 1.2e-09 | 3.1e-09 | 5.0e-09 | 3.1e-07 | 7.8e-07 | 2.2e-06 |
| South Carolina Call Area - Grand Strand | 9.3e-06 | 5.9e-06 | 1.7e-06 | 5.3e-07 | 2.6e-08 | 3.5e-09 | 1.1e-08 | 2.9e-08 | 5.2e-08 | 7.7e-08 | 5.6e-06 | 7.2e-06 | 3.0e-05 |
| South Carolina Call Area - Cape Romain | 2.4e-06 | 1.3e-06 | 3.5e-07 | 1.2e-07 | 4.3e-09 | 8.2e-10 | 2.6e-09 | 6.1e-09 | 1.2e-08 | 1.3e-08 | 1.1e-06 | 1.6e-06 | 6.9e-06 |
| South Carolina Call Area - Winyah | 3.7e-07 | 1.5e-07 | 4.8e-08 | 1.3e-08 | 1.5e-10 | 6.6e-11 | 2.5e-10 | 7.9e-10 | 2.6e-09 | 6.6e-09 | 1.8e-08 | 2.1e-07 | 8.2e-07 |
| South Carolina Call Area - Charleston | 4.2e-07 | 1.2e-07 | 4.8e-08 | 1.8e-08 | 4.9e-10 | 1.1e-10 | 3.5e-10 | 9.4e-10 | 2.5e-09 | 4.2e-09 | 1.0e-07 | 6.2e-07 | 1.3e-06 |
| All planning areas | 5.2e-02 | 2.0e-02 | 5.9e-03 | 7.7e-04 | 1.0e-04 | 4.3e-05 | 3.2e-05 | 1.3e-04 | 4.5e-04 | 9.5e-03 | 5.3e-02 | 5.7e-02 | 2.0e-01 |
| All lease areas | 6.7e-03 | 2.3e-03 | 5.8e-04 | 6.0e-05 | 1.1e-05 | 3.7e-06 | 2.8e-06 | 6.0e-06 | 5.6e-05 | 4.9e-04 | 5.2e-03 | 7.3e-03 | 2.3e-02 |
| All planning and lease areas | 5.8e-02 | 2.2e-02 | 6.5e-03 | 8.3e-04 | 1.1e-04 | 4.7e-05 | 3.5e-05 | 1.4e-04 | 5.1e-04 | 1.0e-02 | 5.8e-02 | 6.4e-02 | 2.2e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-21. Predicted proportional abundance of Bonaparte's Gull by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.5e-03 | 7.2e-04 | 3.4e-04 | 2.4e-04 | 9.4e-05 | 1.4e-05 | 6.6e-06 | 1.7e-05 | 6.7e-05 | 6.4e-04 | 1.9e-03 | 2.3e-03 | 7.9e-03 |
| Gulf of Maine Request for Competitive Interest | 1.1e-05 | 4.6e-06 | 2.1e-06 | 1.7e-06 | 1.0e-06 | 1.9e-07 | 7.1e-08 | 1.7e-07 | 5.4e-07 | 6.6e-06 | 2.2e-05 | 2.2e-05 | 7.2e-05 |
| Marine Research Array Requested Lease | 1.5e-06 | 6.4e-07 | 3.1e-07 | 2.5e-07 | 1.5e-07 | 3.0e-08 | 1.1e-08 | 2.7e-08 | 8.5e-08 | 9.7e-07 | 3.3e-06 | 3.1e-06 | 1.0e-05 |
| Rhode Island OCS-A 0506 | 5.0e-07 | 1.9e-07 | 1.1e-07 | 1.9e-07 | 5.5e-08 | 3.4e-09 | 9.2e-10 | 5.1e-09 | 1.2e-08 | 5.0e-08 | 2.0e-07 | 5.8e-07 | 1.9e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.3e-04 | 1.3e-04 | 1.0e-04 | 6.2e-05 | 1.1e-05 | 1.1e-06 | 4.2e-07 | 1.6e-06 | 2.4e-06 | 3.2e-05 | 1.8e-04 | 3.9e-04 | 1.1e-03 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.9e-05 | 2.2e-05 | 2.0e-05 | 1.2e-05 | 1.4e-06 | 1.4e-07 | 5.9e-08 | 2.0e-07 | 3.8e-07 | 5.7e-06 | 2.9e-05 | 6.7e-05 | 2.0e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 2.3e-04 | 1.1e-04 | 1.0e-04 | 6.8e-05 | 7.7e-06 | 6.9e-07 | 3.3e-07 | 1.1e-06 | 3.2e-06 | 3.5e-05 | 1.5e-04 | 3.6e-04 | 1.1e-03 |
| Massachusetts OCS-A 0500 | 2.7e-04 | 1.3e-04 | 1.1e-04 | 7.4e-05 | 9.2e-06 | 8.6e-07 | 4.1e-07 | 1.4e-06 | 4.7e-06 | 4.6e-05 | 1.9e-04 | 4.4e-04 | 1.3e-03 |
| Massachusetts OCS-A 0501 | 1.2e-04 | 5.1e-05 | 5.1e-05 | 3.5e-05 | 4.9e-06 | 4.8e-07 | 2.1e-07 | 7.6e-07 | 2.8e-06 | 2.7e-05 | 1.1e-04 | 2.3e-04 | 6.3e-04 |
| Massachusetts OCS-A 0534 | 1.8e-04 | 7.6e-05 | 5.8e-05 | 3.8e-05 | 5.5e-06 | 5.2e-07 | 2.5e-07 | 8.5e-07 | 2.9e-06 | 2.7e-05 | 1.1e-04 | 2.8e-04 | 7.9e-04 |
| Massachusetts OCS-A 0520 | 2.0e-04 | 7.8e-05 | 5.7e-05 | 4.0e-05 | 6.7e-06 | 6.3e-07 | 2.9e-07 | 9.5e-07 | 3.4e-06 | 3.1e-05 | 1.2e-04 | 3.1e-04 | 8.5e-04 |
| Massachusetts OCS-A 0521 | 1.8e-04 | 6.7e-05 | 4.9e-05 | 3.6e-05 | 6.4e-06 | 5.8e-07 | 2.7e-07 | 8.2e-07 | 3.2e-06 | 2.8e-05 | 1.1e-04 | 2.7e-04 | 7.5e-04 |
| Massachusetts OCS-A 0522 | 1.7e-04 | 6.6e-05 | 4.6e-05 | 3.5e-05 | 6.4e-06 | 6.0e-07 | 2.6e-07 | 7.8e-07 | 3.5e-06 | 3.1e-05 | 1.2e-04 | 2.7e-04 | 7.5e-04 |
| New York WEA - Fairways North | 1.8e-04 | 8.5e-05 | 6.0e-05 | 5.1e-05 | 7.7e-06 | 6.4e-07 | 3.0e-07 | 1.0e-06 | 2.0e-06 | 2.4e-05 | 1.3e-04 | 2.7e-04 | 8.0e-04 |
| New York WEA - Fairways South | 6.1e-05 | 2.5e-05 | 1.5e-05 | 1.6e-05 | 4.2e-06 | 2.6e-07 | 1.5e-07 | 5.7e-07 | 6.2e-07 | 6.0e-06 | 3.6e-05 | 7.6e-05 | 2.4e-04 |
| New York OCS-A 0512 | 1.8e-04 | 8.1e-05 | 7.5e-05 | 8.8e-05 | 9.3e-06 | 5.5e-07 | 3.9e-07 | 1.5e-06 | 3.4e-06 | 2.9e-05 | 1.5e-04 | 3.3e-04 | 9.5e-04 |
| NY/NJ OCS-A 0544 | 9.0e-05 | 4.2e-05 | 3.1e-05 | 3.4e-05 | 4.1e-06 | 2.7e-07 | 1.9e-07 | 7.5e-07 | 1.6e-06 | 1.2e-05 | 6.1e-05 | 1.2e-04 | 4.0e-04 |
| NY/NJ OCS-A 0537 | 1.2e-04 | 8.6e-05 | 4.4e-05 | 2.9e-05 | 4.0e-06 | 2.7e-07 | 1.5e-07 | 6.0e-07 | 2.0e-06 | 1.1e-05 | 4.3e-05 | 1.1e-04 | 4.5e-04 |
| NY/NJ OCS-A 0538 | 1.7e-04 | 1.2e-04 | 8.7e-05 | 6.2e-05 | 6.4e-06 | 4.2e-07 | 2.4e-07 | 1.1e-06 | 3.5e-06 | 1.9e-05 | 8.3e-05 | 1.8e-04 | 7.3e-04 |
| NY/NJ OCS-A 0539 | 3.0e-04 | 1.8e-04 | 1.5e-04 | 1.1e-04 | 1.0e-05 | 6.0e-07 | 3.7e-07 | 1.8e-06 | 6.7e-06 | 3.4e-05 | 1.4e-04 | 3.1e-04 | 1.3e-03 |
| NY/NJ OCS-A 0541 | 1.6e-04 | 9.6e-05 | 8.0e-05 | 6.6e-05 | 5.4e-06 | 3.4e-07 | 2.6e-07 | 1.1e-06 | 3.8e-06 | 1.8e-05 | 8.6e-05 | 1.9e-04 | 7.1e-04 |
| NY/NJ OCS-A 0542 | 1.6e-04 | 1.1e-04 | 7.9e-05 | 5.4e-05 | 5.0e-06 | 3.0e-07 | 2.3e-07 | 1.1e-06 | 3.8e-06 | 1.6e-05 | 6.7e-05 | 1.5e-04 | 6.4e-04 |
| New Jersey OCS-A 0549 | 1.9e-04 | 1.1e-04 | 1.4e-04 | 1.7e-04 | 8.6e-06 | 4.8e-07 | 3.0e-07 | 1.2e-06 | 4.1e-06 | 2.6e-05 | 1.5e-04 | 4.2e-04 | 1.2e-03 |
| New Jersey OCS-A 0499 | 2.4e-04 | 1.3e-04 | 1.6e-04 | 1.9e-04 | 1.0e-05 | 5.8e-07 | 4.1e-07 | 1.6e-06 | 5.3e-06 | 3.3e-05 | 1.8e-04 | 4.7e-04 | 1.4e-03 |
| New Jersey OCS-A 0498 | 1.9e-04 | 1.2e-04 | 1.2e-04 | 1.3e-04 | 8.4e-06 | 5.0e-07 | 3.8e-07 | 1.3e-06 | 3.2e-06 | 2.3e-05 | 1.3e-04 | 3.5e-04 | 1.1e-03 |
| New Jersey OCS-A 0532 | 2.2e-04 | 1.3e-04 | 1.4e-04 | 1.6e-04 | 1.2e-05 | 6.6e-07 | 4.8e-07 | 1.7e-06 | 3.3e-06 | 2.2e-05 | 1.4e-04 | 4.1e-04 | 1.2e-03 |
| Delaware OCS-A 0482 | 1.7e-04 | 8.3e-05 | 1.3e-04 | 1.5e-04 | 6.7e-06 | 3.0e-07 | 2.5e-07 | 9.5e-07 | 4.8e-06 | 1.9e-05 | 1.0e-04 | 3.1e-04 | 9.8e-04 |
| Delaware OCS-A 0519 | 6.6e-05 | 3.5e-05 | 4.4e-05 | 4.8e-05 | 2.4e-06 | 1.1e-07 | 1.0e-07 | 3.6e-07 | 1.7e-06 | 6.3e-06 | 3.5e-05 | 1.1e-04 | 3.5e-04 |
| Maryland OCS-A 0490 | 2.2e-04 | 1.2e-04 | 1.6e-04 | 1.6e-04 | 7.2e-06 | 3.1e-07 | 2.8e-07 | 1.1e-06 | 5.4e-06 | 1.9e-05 | 1.0e-04 | 3.2e-04 | 1.1e-03 |
| Central Atlantic Call Area A | 5.5e-04 | 3.5e-04 | 3.3e-04 | 3.1e-04 | 1.7e-05 | 8.9e-07 | 9.9e-07 | 3.3e-06 | 1.5e-05 | 5.0e-05 | 2.6e-04 | 6.8e-04 | 2.6e-03 |
| Central Atlantic Draft WEA Primary A | 1.0e-04 | 5.9e-05 | 5.8e-05 | 6.0e-05 | 3.3e-06 | 1.7e-07 | 1.8e-07 | 6.1e-07 | 2.7e-06 | 9.4e-06 | 4.9e-05 | 1.4e-04 | 4.8e-04 |
| Central Atlantic Draft WEA Secondary A | 2.7e-04 | 1.7e-04 | 1.6e-04 | 1.6e-04 | 8.8e-06 | 4.6e-07 | 5.0e-07 | 1.7e-06 | 7.6e-06 | 2.5e-05 | 1.3e-04 | 3.5e-04 | 1.3e-03 |
| Central Atlantic Call Area B | 1.5e-03 | 1.3e-03 | 1.1e-03 | 6.7e-04 | 3.4e-05 | 1.7e-06 | 2.3e-06 | 8.3e-06 | 5.0e-05 | 1.1e-04 | 5.1e-04 | 1.3e-03 | 6.6e-03 |
| Central Atlantic Draft WEA Primary B1 | 6.5e-05 | 4.1e-05 | 4.4e-05 | 3.3e-05 | 1.7e-06 | 7.6e-08 | 9.3e-08 | 3.5e-07 | 1.7e-06 | 4.8e-06 | 2.4e-05 | 7.2e-05 | 2.9e-04 |
| Central Atlantic Draft WEA Secondary B1 | 2.7e-05 | 1.8e-05 | 1.7e-05 | 1.3e-05 | 6.9e-07 | 3.1e-08 | 4.2e-08 | 1.5e-07 | 7.8e-07 | 2.0e-06 | 1.0e-05 | 2.8e-05 | 1.2e-04 |
| Central Atlantic Draft WEA Primary B2 | 4.2e-04 | 4.3e-04 | 3.3e-04 | 1.8e-04 | 9.2e-06 | 4.6e-07 | 6.2e-07 | 2.3e-06 | 1.5e-05 | 3.1e-05 | 1.3e-04 | 3.3e-04 | 1.9e-03 |
| Central Atlantic Draft WEA Secondary B2 | 1.5e-04 | 1.7e-04 | 1.2e-04 | 5.9e-05 | 3.1e-06 | 1.6e-07 | 2.3e-07 | 8.6e-07 | 5.6e-06 | 1.1e-05 | 4.6e-05 | 1.1e-04 | 6.7e-04 |
| Central Atlantic Call Area C | 5.0e-04 | 5.6e-04 | 4.5e-04 | 2.4e-04 | 1.2e-05 | 5.2e-07 | 6.8e-07 | 2.2e-06 | 1.7e-05 | 3.2e-05 | 1.4e-04 | 3.5e-04 | 2.3e-03 |
| Central Atlantic Draft WEA Primary C | 3.1e-04 | 3.5e-04 | 2.8e-04 | 1.6e-04 | 7.5e-06 | 3.3e-07 | 4.2e-07 | 1.4e-06 | 1.1e-05 | 2.0e-05 | 8.6e-05 | 2.2e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Secondary C | 1.4e-04 | 1.7e-04 | 1.3e-04 | 6.8e-05 | 3.3e-06 | 1.5e-07 | 2.0e-07 | 6.5e-07 | 4.9e-06 | 9.4e-06 | 3.9e-05 | 9.9e-05 | 6.7e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.3e-03 | 1.6e-03 | 1.1e-03 | 5.0e-04 | 2.8e-05 | 1.6e-06 | 2.3e-06 | 7.2e-06 | 4.4e-05 | 9.6e-05 | 3.2e-04 | 8.4e-04 | 5.8e-03 |
| Central Atlantic Draft WEA Primary D | 5.4e-04 | 6.3e-04 | 4.6e-04 | 2.3e-04 | 1.3e-05 | 6.4e-07 | 9.2e-07 | 3.0e-06 | 1.8e-05 | 3.4e-05 | 1.3e-04 | 3.6e-04 | 2.4e-03 |
| Central Atlantic Draft WEA Secondary D | 7.9e-05 | 8.4e-05 | 6.9e-05 | 3.7e-05 | 1.8e-06 | 8.8e-08 | 1.2e-07 | 4.0e-07 | 2.4e-06 | 4.2e-06 | 1.9e-05 | 5.4e-05 | 3.5e-04 |
| Central Atlantic Call Area E | 7.9e-05 | 9.1e-05 | 7.6e-05 | 1.6e-05 | 8.6e-07 | 6.0e-08 | 6.9e-08 | 3.4e-07 | 5.0e-06 | 1.1e-05 | 1.9e-05 | 4.0e-05 | 3.4e-04 |
| Central Atlantic Draft WEA Primary E1 | 1.4e-05 | 1.5e-05 | 1.4e-05 | 3.0e-06 | 1.8e-07 | 1.4e-08 | 1.4e-08 | 5.9e-08 | 9.8e-07 | 1.6e-06 | 3.1e-06 | 6.7e-06 | 5.9e-05 |
| Central Atlantic Draft WEA Primary E2 | 5.0e-06 | 5.2e-06 | 4.7e-06 | 9.4e-07 | 5.5e-08 | 5.8e-09 | 5.0e-09 | 2.4e-08 | 3.4e-07 | 1.1e-06 | 1.2e-06 | 2.2e-06 | 2.1e-05 |
| Central Atlantic Call Area F | 4.5e-05 | 5.9e-05 | 4.4e-05 | 9.4e-06 | 9.0e-07 | 9.1e-08 | 7.9e-08 | 2.6e-07 | 2.3e-06 | 7.7e-06 | 1.4e-05 | 2.5e-05 | 2.1e-04 |
| Central Atlantic Draft WEA Primary F | 3.0e-07 | 3.4e-07 | 2.8e-07 | 6.8e-08 | 6.2e-09 | 6.4e-10 | 3.9e-10 | 1.6e-09 | 1.1e-08 | 3.7e-08 | 6.8e-08 | 1.4e-07 | 1.3e-06 |
| Virginia OCS-A 0483 | 4.4e-04 | 4.0e-04 | 4.3e-04 | 2.6e-04 | 7.7e-06 | 3.5e-07 | 4.1e-07 | 1.2e-06 | 9.8e-06 | 1.9e-05 | 1.1e-04 | 3.6e-04 | 2.0e-03 |
| Virginia OCS-A 0497 | 1.4e-05 | 1.2e-05 | 1.3e-05 | 5.4e-06 | 1.1e-07 | 9.1e-09 | 1.0e-08 | 3.3e-08 | 2.4e-07 | 5.7e-07 | 3.3e-06 | 1.2e-05 | 6.2e-05 |
| North Carolina OCS-A 0508 | 3.2e-04 | 4.2e-04 | 3.0e-04 | 1.2e-04 | 7.7e-06 | 4.1e-07 | 6.1e-07 | 1.8e-06 | 1.1e-05 | 2.4e-05 | 7.4e-05 | 1.9e-04 | 1.5e-03 |
| North Carolina OCS-A 0545 | 5.7e-04 | 8.0e-04 | 5.2e-04 | 9.3e-05 | 7.1e-06 | 1.2e-06 | 6.9e-07 | 1.4e-06 | 7.0e-06 | 3.9e-05 | 5.8e-05 | 1.9e-04 | 2.3e-03 |
| North Carolina OCS-A 0546 | 5.3e-04 | 7.4e-04 | 4.9e-04 | 9.2e-05 | 7.4e-06 | 1.3e-06 | 7.3e-07 | 1.4e-06 | 7.6e-06 | 4.0e-05 | 5.7e-05 | 1.8e-04 | 2.1e-03 |
| South Carolina Call Area - Grand Strand | 5.1e-03 | 6.5e-03 | 4.7e-03 | 5.6e-04 | 5.7e-05 | 9.3e-06 | 6.0e-06 | 1.5e-05 | 5.4e-05 | 2.5e-04 | 4.4e-04 | 2.6e-03 | 2.0e-02 |
| South Carolina Call Area - Cape Romain | 1.1e-03 | 1.5e-03 | 1.1e-03 | 1.2e-04 | 1.6e-05 | 2.7e-06 | 1.6e-06 | 4.0e-06 | 1.3e-05 | 5.5e-05 | 1.0e-04 | 6.2e-04 | 4.6e-03 |
| South Carolina Call Area - Winyah | 1.4e-04 | 2.3e-04 | 1.6e-04 | 4.3e-05 | 4.6e-06 | 5.6e-07 | 2.4e-07 | 6.2e-07 | 2.6e-06 | 1.3e-05 | 3.6e-05 | 6.0e-05 | 6.9e-04 |
| South Carolina Call Area - Charleston | 2.1e-04 | 3.3e-04 | 2.6e-04 | 4.3e-05 | 3.8e-06 | 5.2e-07 | 2.4e-07 | 6.0e-07 | 2.5e-06 | 1.4e-05 | 3.1e-05 | 7.3e-05 | 9.7e-04 |
| All planning areas | 1.2e-02 | 1.3e-02 | 9.7e-03 | 2.8e-03 | 2.8e-04 | 3.3e-05 | 2.2e-05 | 6.0e-05 | 2.8e-04 | 1.3e-03 | 4.0e-03 | 9.3e-03 | 5.3e-02 |
| All lease areas | 6.0e-03 | 4.5e-03 | 3.8e-03 | 2.4e-03 | 1.9e-04 | 1.5e-05 | 9.0e-06 | 3.0e-05 | 1.1e-04 | 6.7e-04 | 2.9e-03 | 7.4e-03 | 2.8e-02 |
| All planning and lease areas | 1.8e-02 | 1.8e-02 | 1.4e-02 | 5.3e-03 | 4.7e-04 | 4.7e-05 | 3.1e-05 | 9.0e-05 | 3.9e-04 | 2.0e-03 | 6.9e-03 | 1.7e-02 | 8.1e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-22. Predicted proportional abundance of Laughing Gull by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 4.4e-06 | 2.2e-06 | 2.4e-06 | 8.0e-06 | 2.5e-05 | 9.8e-05 | 1.7e-04 | 2.7e-04 | 2.7e-04 | 2.7e-04 | 7.6e-05 | 1.8e-05 | 1.2e-03 |
| Gulf of Maine Request for Competitive Interest | 2.8e-08 | 1.3e-08 | 1.3e-08 | 3.9e-08 | 1.8e-07 | 7.0e-07 | 8.4e-07 | 1.6e-06 | 1.3e-06 | 1.5e-06 | 4.1e-07 | 1.1e-07 | 6.8e-06 |
| Marine Research Array Requested Lease | 4.2e-09 | 2.0e-09 | 1.8e-09 | 5.6e-09 | 2.7e-08 | 1.1e-07 | 1.2e-07 | 2.3e-07 | 2.1e-07 | 2.2e-07 | 6.4e-08 | 1.8e-08 | 1.0e-06 |
| Rhode Island OCS-A 0506 | 1.5e-08 | 5.5e-09 | 6.1e-09 | 2.5e-08 | 7.8e-08 | 9.3e-08 | 1.3e-07 | 2.7e-07 | 3.8e-07 | 1.7e-07 | 1.2e-07 | 4.6e-08 | 1.3e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.9e-06 | 9.0e-07 | 1.1e-06 | 3.1e-06 | 9.2e-06 | 1.7e-05 | 3.3e-05 | 4.6e-05 | 3.7e-05 | 3.3e-05 | 2.7e-05 | 7.4e-06 | 2.2e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.2e-07 | 1.5e-07 | 2.0e-07 | 5.6e-07 | 1.7e-06 | 2.9e-06 | 5.6e-06 | 7.6e-06 | 5.2e-06 | 4.9e-06 | 4.4e-06 | 1.3e-06 | 3.5e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.3e-06 | 5.9e-07 | 7.1e-07 | 2.2e-06 | 6.2e-06 | 1.3e-05 | 2.5e-05 | 3.0e-05 | 2.4e-05 | 2.2e-05 | 1.8e-05 | 4.8e-06 | 1.5e-04 |
| Massachusetts OCS-A 0500 | 1.3e-06 | 6.1e-07 | 7.6e-07 | 2.4e-06 | 5.8e-06 | 1.5e-05 | 3.0e-05 | 3.8e-05 | 3.1e-05 | 2.7e-05 | 2.0e-05 | 5.0e-06 | 1.8e-04 |
| Massachusetts OCS-A 0501 | 7.2e-07 | 3.6e-07 | 4.5e-07 | 1.4e-06 | 3.2e-06 | 1.1e-05 | 2.0e-05 | 2.8e-05 | 2.4e-05 | 1.9e-05 | 1.3e-05 | 3.1e-06 | 1.2e-04 |
| Massachusetts OCS-A 0534 | 4.8e-07 | 2.2e-07 | 2.5e-07 | 7.0e-07 | 1.9e-06 | 5.3e-06 | 1.1e-05 | 1.4e-05 | 1.1e-05 | 9.6e-06 | 7.2e-06 | 1.8e-06 | 6.3e-05 |
| Massachusetts OCS-A 0520 | 7.1e-07 | 3.1e-07 | 4.0e-07 | 9.1e-07 | 2.5e-06 | 9.0e-06 | 1.6e-05 | 2.1e-05 | 1.7e-05 | 1.6e-05 | 1.0e-05 | 2.7e-06 | 9.7e-05 |
| Massachusetts OCS-A 0521 | 8.8e-07 | 3.9e-07 | 4.9e-07 | 1.1e-06 | 2.8e-06 | 1.1e-05 | 2.1e-05 | 2.7e-05 | 2.1e-05 | 2.2e-05 | 1.4e-05 | 3.7e-06 | 1.2e-04 |
| Massachusetts OCS-A 0522 | 1.3e-06 | 6.2e-07 | 6.5e-07 | 1.5e-06 | 3.3e-06 | 1.4e-05 | 3.3e-05 | 4.3e-05 | 3.4e-05 | 3.7e-05 | 2.3e-05 | 6.1e-06 | 2.0e-04 |
| New York WEA - Fairways North | 1.1e-06 | 5.5e-07 | 6.9e-07 | 1.8e-06 | 6.1e-06 | 9.1e-06 | 1.5e-05 | 1.8e-05 | 1.7e-05 | 1.6e-05 | 1.6e-05 | 4.1e-06 | 1.1e-04 |
| New York WEA - Fairways South | 4.9e-07 | 2.3e-07 | 2.6e-07 | 7.7e-07 | 3.0e-06 | 3.4e-06 | 5.4e-06 | 6.6e-06 | 8.3e-06 | 6.2e-06 | 6.5e-06 | 1.8e-06 | 4.3e-05 |
| New York OCS-A 0512 | 2.4e-06 | 1.3e-06 | 2.0e-06 | 6.2e-06 | 2.2e-05 | 2.2e-05 | 3.4e-05 | 3.7e-05 | 4.9e-05 | 4.8e-05 | 4.4e-05 | 1.1e-05 | 2.8e-04 |
| NY/NJ OCS-A 0544 | 5.5e-07 | 3.0e-07 | 3.7e-07 | 1.1e-06 | 4.2e-06 | 4.9e-06 | 7.0e-06 | 7.9e-06 | 1.2e-05 | 9.3e-06 | 9.1e-06 | 2.4e-06 | 5.9e-05 |
| NY/NJ OCS-A 0537 | 2.7e-07 | 1.4e-07 | 1.6e-07 | 4.1e-07 | 1.5e-06 | 2.6e-06 | 4.2e-06 | 6.1e-06 | 8.0e-06 | 5.6e-06 | 4.7e-06 | 1.2e-06 | 3.5e-05 |
| NY/NJ OCS-A 0538 | 1.1e-06 | 6.0e-07 | 8.1e-07 | 2.3e-06 | 7.4e-06 | 1.1e-05 | 1.8e-05 | 2.5e-05 | 4.5e-05 | 3.0e-05 | 2.2e-05 | 5.5e-06 | 1.7e-04 |
| NY/NJ OCS-A 0539 | 2.0e-06 | 1.1e-06 | 1.6e-06 | 4.5e-06 | 1.4e-05 | 2.0e-05 | 2.7e-05 | 4.2e-05 | 7.6e-05 | 5.2e-05 | 3.8e-05 | 9.6e-06 | 2.9e-04 |
| NY/NJ OCS-A 0541 | 1.0e-06 | 5.5e-07 | 8.0e-07 | 2.3e-06 | 6.9e-06 | 8.5e-06 | 1.0e-05 | 1.5e-05 | 2.8e-05 | 2.3e-05 | 1.9e-05 | 5.0e-06 | 1.2e-04 |
| NY/NJ OCS-A 0542 | 9.6e-07 | 5.0e-07 | 7.0e-07 | 1.9e-06 | 5.6e-06 | 7.9e-06 | 1.0e-05 | 1.6e-05 | 3.0e-05 | 2.3e-05 | 2.0e-05 | 4.8e-06 | 1.2e-04 |
| New Jersey OCS-A 0549 | 6.7e-06 | 4.3e-06 | 8.1e-06 | 2.4e-05 | 7.7e-05 | 6.8e-05 | 9.4e-05 | 1.4e-04 | 1.8e-04 | 1.9e-04 | 1.6e-04 | 3.3e-05 | 9.8e-04 |
| New Jersey OCS-A 0499 | 6.6e-06 | 4.4e-06 | 7.7e-06 | 2.2e-05 | 6.9e-05 | 6.1e-05 | 7.1e-05 | 1.1e-04 | 1.5e-04 | 1.7e-04 | 1.4e-04 | 3.2e-05 | 8.4e-04 |
| New Jersey OCS-A 0498 | 5.6e-06 | 3.8e-06 | 6.1e-06 | 1.7e-05 | 5.7e-05 | 4.9e-05 | 5.2e-05 | 8.1e-05 | 1.0e-04 | 1.2e-04 | 1.1e-04 | 2.6e-05 | 6.3e-04 |
| New Jersey OCS-A 0532 | 9.7e-06 | 6.0e-06 | 1.1e-05 | 2.9e-05 | 1.0e-04 | 8.6e-05 | 9.7e-05 | 1.5e-04 | 1.9e-04 | 2.2e-04 | 2.1e-04 | 4.6e-05 | 1.2e-03 |
| Delaware OCS-A 0482 | 5.3e-06 | 3.7e-06 | 6.8e-06 | 2.1e-05 | 4.8e-05 | 4.7e-05 | 4.9e-05 | 8.2e-05 | 1.2e-04 | 1.5e-04 | 1.1e-04 | 2.7e-05 | 6.8e-04 |
| Delaware OCS-A 0519 | 1.6e-06 | 1.1e-06 | 1.8e-06 | 5.5e-06 | 1.4e-05 | 1.4e-05 | 1.4e-05 | 2.4e-05 | 3.5e-05 | 4.3e-05 | 3.2e-05 | 8.0e-06 | 1.9e-04 |
| Maryland OCS-A 0490 | 7.1e-06 | 4.6e-06 | 7.9e-06 | 2.3e-05 | 5.8e-05 | 6.3e-05 | 7.0e-05 | 1.1e-04 | 1.8e-04 | 2.2e-04 | 1.5e-04 | 3.7e-05 | 9.2e-04 |
| Central Atlantic Call Area A | 7.0e-06 | 4.4e-06 | 6.4e-06 | 2.0e-05 | 5.7e-05 | 5.6e-05 | 5.1e-05 | 8.6e-05 | 1.5e-04 | 1.7e-04 | 1.3e-04 | 3.3e-05 | 7.7e-04 |
| Central Atlantic Draft WEA Primary A | 1.5e-06 | 9.7e-07 | 1.4e-06 | 4.4e-06 | 1.3e-05 | 1.2e-05 | 1.1e-05 | 1.9e-05 | 3.2e-05 | 3.6e-05 | 2.8e-05 | 7.1e-06 | 1.7e-04 |
| Central Atlantic Draft WEA Secondary A | 3.4e-06 | 2.2e-06 | 3.2e-06 | 9.8e-06 | 2.8e-05 | 2.7e-05 | 2.5e-05 | 4.2e-05 | 7.4e-05 | 8.1e-05 | 6.4e-05 | 1.6e-05 | 3.8e-04 |
| Central Atlantic Call Area B | 2.4e-05 | 1.4e-05 | 2.1e-05 | 6.2e-05 | 1.6e-04 | 1.8e-04 | 1.4e-04 | 2.2e-04 | 4.1e-04 | 4.9e-04 | 3.4e-04 | 1.1e-04 | 2.2e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.5e-06 | 9.4e-07 | 1.4e-06 | 4.2e-06 | 1.0e-05 | 1.0e-05 | 8.6e-06 | 1.2e-05 | 2.4e-05 | 3.1e-05 | 2.1e-05 | 6.7e-06 | 1.3e-04 |
| Central Atlantic Draft WEA Secondary B1 | 5.8e-07 | 3.6e-07 | 5.3e-07 | 1.6e-06 | 4.2e-06 | 4.1e-06 | 3.3e-06 | 4.5e-06 | 1.0e-05 | 1.2e-05 | 7.9e-06 | 2.6e-06 | 5.2e-05 |
| Central Atlantic Draft WEA Primary B2 | 7.3e-06 | 4.1e-06 | 6.4e-06 | 1.9e-05 | 4.8e-05 | 5.6e-05 | 4.2e-05 | 6.8e-05 | 1.2e-04 | 1.4e-04 | 9.8e-05 | 3.5e-05 | 6.4e-04 |
| Central Atlantic Draft WEA Secondary B2 | 2.0e-06 | 1.1e-06 | 1.7e-06 | 4.8e-06 | 1.3e-05 | 1.7e-05 | 1.3e-05 | 2.2e-05 | 3.6e-05 | 4.2e-05 | 2.9e-05 | 9.7e-06 | 1.9e-04 |
| Central Atlantic Call Area C | 7.1e-06 | 3.6e-06 | 5.6e-06 | 1.6e-05 | 3.7e-05 | 4.9e-05 | 3.7e-05 | 5.2e-05 | 8.8e-05 | 1.2e-04 | 7.0e-05 | 3.2e-05 | 5.2e-04 |
| Central Atlantic Draft WEA Primary C | 4.9e-06 | 2.5e-06 | 3.9e-06 | 1.1e-05 | 2.6e-05 | 3.5e-05 | 2.6e-05 | 3.7e-05 | 6.2e-05 | 8.4e-05 | 4.9e-05 | 2.3e-05 | 3.6e-04 |
| Central Atlantic Draft WEA Secondary C | 1.6e-06 | 7.8e-07 | 1.2e-06 | 3.5e-06 | 7.9e-06 | 1.0e-05 | 7.9e-06 | 1.1e-05 | 1.9e-05 | 2.6e-05 | 1.6e-05 | 7.2e-06 | 1.1e-04 |
| Central Atlantic Call Area D | 2.6e-05 | 1.5e-05 | 2.1e-05 | 5.8e-05 | 1.1e-04 | 1.1e-04 | 7.9e-05 | 1.2e-04 | 2.2e-04 | 3.1e-04 | 1.9e-04 | 9.6e-05 | 1.4e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.2e-05 | 6.7e-06 | 9.6e-06 | 2.7e-05 | 5.1e-05 | 5.0e-05 | 3.4e-05 | 5.2e-05 | 9.6e-05 | 1.4e-04 | 8.4e-05 | 4.4e-05 | 6.1e-04 |
| Central Atlantic Draft WEA Secondary D | 1.7e-06 | 9.6e-07 | 1.5e-06 | 4.2e-06 | 7.0e-06 | 6.5e-06 | 4.4e-06 | 6.4e-06 | 1.2e-05 | 1.9e-05 | 1.2e-05 | 6.3e-06 | 8.2e-05 |
| Central Atlantic Call Area E | 1.7e-07 | 9.7e-08 | 1.9e-07 | 1.4e-07 | 3.5e-07 | 1.5e-06 | 2.6e-06 | 5.0e-06 | 8.2e-06 | 8.9e-06 | 2.5e-06 | 4.6e-07 | 3.0e-05 |
| Central Atlantic Draft WEA Primary E1 | 3.7e-08 | 1.3e-08 | 1.8e-08 | 1.7e-08 | 6.6e-08 | 4.2e-07 | 7.2e-07 | 1.4e-06 | 2.3e-06 | 2.5e-06 | 5.2e-07 | 7.4e-08 | 8.1e-06 |
| Central Atlantic Draft WEA Primary E2 | 6.2e-08 | 2.4e-08 | 8.2e-08 | 4.8e-08 | 8.9e-08 | 3.7e-07 | 6.6e-07 | 1.2e-06 | 1.8e-06 | 2.0e-06 | 5.5e-07 | 8.5e-08 | 7.0e-06 |
| Central Atlantic Call Area F | 7.2e-07 | 5.6e-07 | 7.2e-07 | 1.2e-06 | 1.9e-06 | 2.0e-06 | 3.1e-06 | 5.5e-06 | 6.7e-06 | 6.7e-06 | 4.3e-06 | 1.8e-06 | 3.5e-05 |
| Central Atlantic Draft WEA Primary F | 5.2e-08 | 4.9e-08 | 6.5e-08 | 9.0e-08 | 1.3e-07 | 1.4e-07 | 2.2e-07 | 3.9e-07 | 4.1e-07 | 4.0e-07 | 2.3e-07 | 1.2e-07 | 2.3e-06 |
| Virginia OCS-A 0483 | 7.9e-06 | 4.7e-06 | 7.9e-06 | 2.5e-05 | 3.0e-05 | 3.4e-05 | 2.6e-05 | 3.1e-05 | 5.3e-05 | 1.1e-04 | 6.6e-05 | 3.5e-05 | 4.3e-04 |
| Virginia OCS-A 0497 | 4.3e-07 | 3.1e-07 | 5.1e-07 | 1.3e-06 | 1.2e-06 | 1.6e-06 | 1.2e-06 | 1.8e-06 | 2.6e-06 | 6.1e-06 | 3.8e-06 | 1.8e-06 | 2.3e-05 |
| North Carolina OCS-A 0508 | 8.5e-06 | 4.6e-06 | 6.1e-06 | 1.6e-05 | 3.0e-05 | 3.2e-05 | 2.3e-05 | 3.3e-05 | 5.2e-05 | 8.3e-05 | 5.5e-05 | 2.8e-05 | 3.7e-04 |
| North Carolina OCS-A 0545 | 6.1e-06 | 5.6e-06 | 6.4e-06 | 7.6e-06 | 6.9e-06 | 4.4e-06 | 1.3e-05 | 2.1e-05 | 2.3e-05 | 2.1e-05 | 2.2e-05 | 9.7e-06 | 1.5e-04 |
| North Carolina OCS-A 0546 | 6.4e-06 | 6.0e-06 | 6.4e-06 | 8.5e-06 | 7.6e-06 | 5.2e-06 | 1.7e-05 | 2.5e-05 | 2.4e-05 | 2.2e-05 | 2.2e-05 | 1.1e-05 | 1.6e-04 |
| South Carolina Call Area - Grand Strand | 3.4e-04 | 3.0e-04 | 3.6e-04 | 3.7e-04 | 3.2e-04 | 2.4e-04 | 7.4e-04 | 1.1e-03 | 1.2e-03 | 1.1e-03 | 1.0e-03 | 4.9e-04 | 7.5e-03 |
| South Carolina Call Area - Cape Romain | 1.4e-04 | 1.1e-04 | 1.3e-04 | 1.5e-04 | 1.3e-04 | 1.1e-04 | 3.4e-04 | 4.8e-04 | 4.9e-04 | 4.3e-04 | 4.3e-04 | 1.7e-04 | 3.1e-03 |
| South Carolina Call Area - Winyah | 6.3e-06 | 5.8e-06 | 6.0e-06 | 8.0e-06 | 5.6e-06 | 4.9e-06 | 1.8e-05 | 3.7e-05 | 2.8e-05 | 1.6e-05 | 1.2e-05 | 9.4e-06 | 1.6e-04 |
| South Carolina Call Area - Charleston | 5.4e-06 | 5.2e-06 | 5.4e-06 | 7.4e-06 | 5.4e-06 | 4.6e-06 | 1.6e-05 | 3.4e-05 | 2.4e-05 | 1.6e-05 | 1.7e-05 | 1.0e-05 | 1.5e-04 |
| All planning areas | 5.7e-04 | 4.7e-04 | 5.6e-04 | 7.0e-04 | 8.6e-04 | 8.8e-04 | 1.6e-03 | 2.4e-03 | 2.9e-03 | 3.0e-03 | 2.3e-03 | 9.8e-04 | 1.7e-02 |
| All lease areas | 8.9e-05 | 5.8e-05 | 8.8e-05 | 2.3e-04 | 6.0e-04 | 6.4e-04 | 8.3e-04 | 1.2e-03 | 1.6e-03 | 1.7e-03 | 1.4e-03 | 3.7e-04 | 8.8e-03 |
| All planning and lease areas | 6.6e-04 | 5.2e-04 | 6.5e-04 | 9.3e-04 | 1.5e-03 | 1.5e-03 | 2.5e-03 | 3.7e-03 | 4.4e-03 | 4.7e-03 | 3.6e-03 | 1.3e-03 | 2.6e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-23. Predicted proportional abundance of Ring-billed Gull by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.1e-02 | 2.0e-03 | 2.6e-03 | 1.1e-03 | 1.9e-04 | 1.0e-04 | 1.2e-03 | 1.1e-03 | 1.5e-03 | 4.3e-03 | 4.2e-03 | 9.0e-03 | 3.9e-02 |
| Gulf of Maine Request for Competitive Interest | 1.6e-05 | 3.5e-06 | 7.5e-06 | 4.7e-06 | 1.0e-06 | 5.5e-07 | 5.4e-06 | 4.9e-06 | 7.8e-06 | 1.7e-05 | 9.1e-06 | 1.3e-05 | 9.0e-05 |
| Marine Research Array Requested Lease | 1.7e-06 | 5.1e-07 | 1.0e-06 | 7.3e-07 | 1.6e-07 | 8.5e-08 | 8.1e-07 | 7.4e-07 | 1.3e-06 | 2.5e-06 | 1.3e-06 | 1.7e-06 | 1.3e-05 |
| Rhode Island OCS-A 0506 | 3.8e-07 | 2.0e-07 | 2.6e-07 | 2.4e-07 | 3.7e-08 | 7.8e-09 | 3.7e-08 | 3.6e-08 | 1.1e-07 | 5.0e-07 | 4.1e-07 | 4.8e-07 | 2.7e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.0e-05 | 1.6e-05 | 2.3e-05 | 1.7e-05 | 3.8e-06 | 1.4e-06 | 6.7e-06 | 5.1e-06 | 9.1e-06 | 4.3e-05 | 4.2e-05 | 4.4e-05 | 2.4e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.8e-06 | 2.8e-06 | 4.3e-06 | 2.7e-06 | 5.8e-07 | 2.3e-07 | 1.1e-06 | 7.8e-07 | 1.2e-06 | 7.3e-06 | 8.0e-06 | 8.2e-06 | 4.2e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 3.9e-05 | 1.7e-05 | 3.4e-05 | 1.6e-05 | 3.1e-06 | 1.4e-06 | 7.0e-06 | 4.7e-06 | 7.0e-06 | 4.6e-05 | 4.6e-05 | 5.7e-05 | 2.8e-04 |
| Massachusetts OCS-A 0500 | 5.7e-05 | 1.9e-05 | 4.5e-05 | 1.7e-05 | 3.5e-06 | 1.6e-06 | 8.4e-06 | 6.2e-06 | 9.0e-06 | 5.8e-05 | 5.1e-05 | 6.9e-05 | 3.4e-04 |
| Massachusetts OCS-A 0501 | 4.2e-05 | 1.1e-05 | 2.9e-05 | 9.6e-06 | 1.8e-06 | 8.8e-07 | 4.9e-06 | 3.8e-06 | 5.2e-06 | 3.2e-05 | 2.6e-05 | 4.0e-05 | 2.1e-04 |
| Massachusetts OCS-A 0534 | 3.5e-05 | 8.7e-06 | 2.2e-05 | 7.8e-06 | 1.4e-06 | 7.0e-07 | 3.8e-06 | 2.8e-06 | 4.1e-06 | 2.7e-05 | 2.4e-05 | 3.7e-05 | 1.7e-04 |
| Massachusetts OCS-A 0520 | 5.9e-05 | 1.3e-05 | 3.4e-05 | 1.1e-05 | 1.9e-06 | 1.0e-06 | 5.5e-06 | 4.1e-06 | 6.2e-06 | 4.0e-05 | 3.5e-05 | 5.7e-05 | 2.7e-04 |
| Massachusetts OCS-A 0521 | 8.2e-05 | 1.8e-05 | 4.4e-05 | 1.4e-05 | 2.2e-06 | 1.2e-06 | 6.8e-06 | 5.2e-06 | 7.8e-06 | 5.1e-05 | 4.3e-05 | 7.5e-05 | 3.5e-04 |
| Massachusetts OCS-A 0522 | 1.3e-04 | 3.0e-05 | 7.3e-05 | 2.0e-05 | 3.1e-06 | 1.8e-06 | 1.1e-05 | 8.1e-06 | 1.2e-05 | 8.2e-05 | 6.4e-05 | 1.2e-04 | 5.5e-04 |
| New York WEA - Fairways North | 2.2e-05 | 1.4e-05 | 1.8e-05 | 1.4e-05 | 3.8e-06 | 1.3e-06 | 4.4e-06 | 2.7e-06 | 4.6e-06 | 3.2e-05 | 3.8e-05 | 3.7e-05 | 1.9e-04 |
| New York WEA - Fairways South | 6.8e-06 | 4.5e-06 | 5.9e-06 | 5.3e-06 | 1.6e-06 | 3.4e-07 | 1.1e-06 | 8.0e-07 | 1.7e-06 | 1.0e-05 | 1.1e-05 | 1.0e-05 | 6.0e-05 |
| New York OCS-A 0512 | 3.2e-05 | 2.0e-05 | 2.6e-05 | 1.9e-05 | 6.5e-06 | 1.2e-06 | 3.9e-06 | 2.7e-06 | 5.0e-06 | 3.6e-05 | 5.6e-05 | 5.1e-05 | 2.6e-04 |
| NY/NJ OCS-A 0544 | 9.0e-06 | 5.3e-06 | 7.4e-06 | 5.0e-06 | 1.6e-06 | 4.1e-07 | 1.3e-06 | 8.6e-07 | 1.6e-06 | 1.2e-05 | 1.7e-05 | 1.7e-05 | 7.8e-05 |
| NY/NJ OCS-A 0537 | 1.1e-05 | 4.4e-06 | 6.6e-06 | 4.1e-06 | 9.0e-07 | 3.2e-07 | 1.1e-06 | 7.9e-07 | 1.7e-06 | 1.5e-05 | 1.8e-05 | 2.5e-05 | 8.8e-05 |
| NY/NJ OCS-A 0538 | 3.2e-05 | 1.5e-05 | 2.1e-05 | 1.3e-05 | 2.9e-06 | 9.6e-07 | 3.1e-06 | 2.3e-06 | 4.9e-06 | 4.3e-05 | 5.8e-05 | 8.5e-05 | 2.8e-04 |
| NY/NJ OCS-A 0539 | 7.7e-05 | 3.2e-05 | 4.0e-05 | 1.8e-05 | 3.3e-06 | 1.1e-06 | 3.2e-06 | 2.7e-06 | 6.5e-06 | 5.6e-05 | 6.6e-05 | 1.7e-04 | 4.8e-04 |
| NY/NJ OCS-A 0541 | 2.3e-05 | 1.2e-05 | 1.5e-05 | 8.6e-06 | 1.8e-06 | 4.6e-07 | 1.3e-06 | 1.2e-06 | 2.9e-06 | 2.4e-05 | 3.5e-05 | 5.9e-05 | 1.8e-04 |
| NY/NJ OCS-A 0542 | 3.2e-05 | 1.4e-05 | 1.8e-05 | 9.3e-06 | 1.8e-06 | 5.0e-07 | 1.5e-06 | 1.3e-06 | 3.2e-06 | 3.0e-05 | 3.7e-05 | 8.1e-05 | 2.3e-04 |
| New Jersey OCS-A 0549 | 9.8e-05 | 5.2e-05 | 5.7e-05 | 3.6e-05 | 1.2e-05 | 1.7e-06 | 5.0e-06 | 4.9e-06 | 8.7e-06 | 6.7e-05 | 1.3e-04 | 1.2e-04 | 6.0e-04 |
| New Jersey OCS-A 0499 | 8.8e-05 | 4.7e-05 | 5.4e-05 | 3.3e-05 | 1.1e-05 | 1.5e-06 | 4.6e-06 | 4.9e-06 | 8.9e-06 | 6.9e-05 | 1.4e-04 | 1.2e-04 | 5.8e-04 |
| New Jersey OCS-A 0498 | 7.1e-05 | 3.6e-05 | 4.3e-05 | 2.5e-05 | 9.2e-06 | 1.1e-06 | 3.7e-06 | 4.1e-06 | 7.2e-06 | 5.3e-05 | 1.1e-04 | 9.2e-05 | 4.6e-04 |
| New Jersey OCS-A 0532 | 1.2e-04 | 6.4e-05 | 7.0e-05 | 4.3e-05 | 1.6e-05 | 1.7e-06 | 5.8e-06 | 6.6e-06 | 1.1e-05 | 8.3e-05 | 1.7e-04 | 1.5e-04 | 7.4e-04 |
| Delaware OCS-A 0482 | 6.7e-05 | 4.0e-05 | 3.8e-05 | 2.2e-05 | 6.4e-06 | 7.5e-07 | 2.7e-06 | 2.9e-06 | 5.9e-06 | 4.5e-05 | 1.0e-04 | 1.1e-04 | 4.4e-04 |
| Delaware OCS-A 0519 | 1.9e-05 | 1.1e-05 | 1.2e-05 | 7.0e-06 | 1.9e-06 | 2.4e-07 | 8.2e-07 | 8.9e-07 | 1.9e-06 | 1.4e-05 | 3.2e-05 | 3.4e-05 | 1.4e-04 |
| Maryland OCS-A 0490 | 8.4e-05 | 4.8e-05 | 4.7e-05 | 2.8e-05 | 8.0e-06 | 9.0e-07 | 3.3e-06 | 3.5e-06 | 7.3e-06 | 5.5e-05 | 1.4e-04 | 1.5e-04 | 5.7e-04 |
| Central Atlantic Call Area A | 9.7e-05 | 6.1e-05 | 7.0e-05 | 4.2e-05 | 1.1e-05 | 1.4e-06 | 4.7e-06 | 5.1e-06 | 1.2e-05 | 9.7e-05 | 1.9e-04 | 2.4e-04 | 8.3e-04 |
| Central Atlantic Draft WEA Primary A | 2.0e-05 | 1.3e-05 | 1.4e-05 | 8.3e-06 | 2.1e-06 | 2.9e-07 | 9.6e-07 | 1.0e-06 | 2.3e-06 | 1.8e-05 | 3.7e-05 | 4.5e-05 | 1.6e-04 |
| Central Atlantic Draft WEA Secondary A | 4.9e-05 | 3.1e-05 | 3.5e-05 | 2.1e-05 | 5.3e-06 | 7.2e-07 | 2.4e-06 | 2.6e-06 | 5.8e-06 | 4.8e-05 | 9.3e-05 | 1.2e-04 | 4.1e-04 |
| Central Atlantic Call Area B | 4.0e-04 | 2.4e-04 | 2.5e-04 | 1.8e-04 | 4.2e-05 | 4.6e-06 | 1.6e-05 | 1.7e-05 | 4.5e-05 | 4.1e-04 | 9.0e-04 | 1.4e-03 | 3.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.9e-05 | 1.1e-05 | 1.0e-05 | 5.8e-06 | 1.5e-06 | 1.6e-07 | 5.4e-07 | 5.8e-07 | 1.5e-06 | 1.2e-05 | 3.1e-05 | 4.3e-05 | 1.4e-04 |
| Central Atlantic Draft WEA Secondary B1 | 7.5e-06 | 4.4e-06 | 4.5e-06 | 2.5e-06 | 6.0e-07 | 6.8e-08 | 2.4e-07 | 2.5e-07 | 6.6e-07 | 5.6e-06 | 1.4e-05 | 2.1e-05 | 6.0e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.2e-04 | 7.5e-05 | 7.9e-05 | 6.0e-05 | 1.4e-05 | 1.5e-06 | 5.2e-06 | 5.5e-06 | 1.4e-05 | 1.3e-04 | 2.9e-04 | 4.6e-04 | 1.3e-03 |
| Central Atlantic Draft WEA Secondary B2 | 4.4e-05 | 2.7e-05 | 3.0e-05 | 2.4e-05 | 5.2e-06 | 5.7e-07 | 2.1e-06 | 2.2e-06 | 5.8e-06 | 5.7e-05 | 1.1e-04 | 1.8e-04 | 4.9e-04 |
| Central Atlantic Call Area C | 1.0e-04 | 5.9e-05 | 6.3e-05 | 5.1e-05 | 1.1e-05 | 1.1e-06 | 3.6e-06 | 4.4e-06 | 1.0e-05 | 9.3e-05 | 2.2e-04 | 3.7e-04 | 9.9e-04 |
| Central Atlantic Draft WEA Primary C | 6.7e-05 | 3.9e-05 | 4.2e-05 | 3.3e-05 | 7.1e-06 | 7.5e-07 | 2.3e-06 | 2.9e-06 | 6.5e-06 | 6.1e-05 | 1.5e-04 | 2.4e-04 | 6.5e-04 |
| Central Atlantic Draft WEA Secondary C | 2.7e-05 | 1.5e-05 | 1.6e-05 | 1.3e-05 | 2.9e-06 | 2.9e-07 | 9.5e-07 | 1.1e-06 | 2.6e-06 | 2.4e-05 | 5.5e-05 | 9.2e-05 | 2.5e-04 |
| Central Atlantic Call Area D | 3.6e-04 | 2.0e-04 | 2.0e-04 | 1.8e-04 | 2.9e-05 | 2.7e-06 | 9.3e-06 | 1.1e-05 | 2.6e-05 | 2.3e-04 | 5.6e-04 | 1.1e-03 | 2.9e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.1e-04 | 6.3e-05 | 6.5e-05 | 5.5e-05 | 9.4e-06 | 8.4e-07 | 2.9e-06 | 3.2e-06 | 8.2e-06 | 6.8e-05 | 1.8e-04 | 3.8e-04 | 9.5e-04 |
| Central Atlantic Draft WEA Secondary D | 1.3e-05 | 7.6e-06 | 7.7e-06 | 5.9e-06 | 1.1e-06 | 9.2e-08 | 3.1e-07 | 3.6e-07 | 8.7e-07 | 7.2e-06 | 2.2e-05 | 4.4e-05 | 1.1e-04 |
| Central Atlantic Call Area E | 5.9e-04 | 3.3e-04 | 2.5e-04 | 1.2e-04 | 1.8e-05 | 1.9e-06 | 8.7e-06 | 8.1e-06 | 1.3e-05 | 6.8e-05 | 1.3e-04 | 7.5e-04 | 2.3e-03 |
| Central Atlantic Draft WEA Primary E1 | 2.4e-04 | 1.2e-04 | 8.7e-05 | 3.6e-05 | 5.2e-06 | 5.5e-07 | 2.6e-06 | 2.3e-06 | 3.7e-06 | 1.8e-05 | 3.5e-05 | 2.6e-04 | 8.0e-04 |
| Central Atlantic Draft WEA Primary E2 | 1.6e-04 | 1.1e-04 | 7.5e-05 | 3.7e-05 | 4.7e-06 | 4.5e-07 | 2.1e-06 | 2.0e-06 | 3.4e-06 | 1.6e-05 | 3.1e-05 | 2.0e-04 | 6.4e-04 |
| Central Atlantic Call Area F | 2.4e-04 | 1.0e-04 | 9.8e-05 | 4.6e-05 | 5.5e-06 | 7.2e-07 | 4.2e-06 | 4.1e-06 | 6.2e-06 | 3.4e-05 | 5.2e-05 | 2.1e-04 | 8.1e-04 |
| Central Atlantic Draft WEA Primary F | 2.3e-05 | 6.3e-06 | 7.5e-06 | 2.7e-06 | 2.9e-07 | 3.7e-08 | 2.8e-07 | 2.6e-07 | 3.2e-07 | 1.7e-06 | 2.6e-06 | 1.5e-05 | 6.0e-05 |
| Virginia OCS-A 0483 | 7.0e-05 | 3.6e-05 | 3.7e-05 | 2.8e-05 | 5.1e-06 | 3.6e-07 | 1.4e-06 | 1.7e-06 | 3.5e-06 | 3.0e-05 | 9.7e-05 | 1.6e-04 | 4.7e-04 |
| Virginia OCS-A 0497 | 3.3e-06 | 1.5e-06 | 1.5e-06 | 1.2e-06 | 1.5e-07 | 1.1e-08 | 4.6e-08 | 5.8e-08 | 1.2e-07 | 1.2e-06 | 4.5e-06 | 6.5e-06 | 2.0e-05 |
| North Carolina OCS-A 0508 | 8.4e-05 | 4.7e-05 | 5.0e-05 | 4.5e-05 | 6.5e-06 | 5.3e-07 | 2.1e-06 | 2.2e-06 | 5.6e-06 | 4.3e-05 | 1.2e-04 | 2.5e-04 | 6.5e-04 |
| North Carolina OCS-A 0545 | 5.4e-05 | 2.7e-05 | 2.6e-05 | 9.0e-06 | 5.0e-07 | 5.3e-08 | 5.7e-07 | 5.1e-07 | 4.9e-07 | 2.2e-06 | 9.4e-06 | 3.7e-05 | 1.7e-04 |
| North Carolina OCS-A 0546 | 5.2e-05 | 2.8e-05 | 2.5e-05 | 8.7e-06 | 4.9e-07 | 5.2e-08 | 5.8e-07 | 5.1e-07 | 5.0e-07 | 2.2e-06 | 9.0e-06 | 3.5e-05 | 1.6e-04 |
| South Carolina Call Area - Grand Strand | 2.6e-03 | 1.3e-03 | 1.4e-03 | 3.7e-04 | 1.4e-05 | 1.4e-06 | 1.5e-05 | 1.8e-05 | 2.1e-05 | 1.3e-04 | 7.5e-04 | 3.1e-03 | 9.7e-03 |
| South Carolina Call Area - Cape Romain | 1.1e-03 | 5.1e-04 | 4.6e-04 | 1.3e-04 | 5.0e-06 | 5.6e-07 | 5.8e-06 | 6.6e-06 | 7.9e-06 | 4.9e-05 | 2.6e-04 | 1.3e-03 | 3.8e-03 |
| South Carolina Call Area - Winyah | 1.9e-05 | 1.4e-05 | 1.0e-05 | 5.0e-06 | 4.0e-07 | 5.2e-08 | 5.2e-07 | 5.0e-07 | 5.9e-07 | 1.8e-06 | 3.4e-06 | 1.1e-05 | 6.7e-05 |
| South Carolina Call Area - Charleston | 3.0e-05 | 1.3e-05 | 1.4e-05 | 6.6e-06 | 3.7e-07 | 4.4e-08 | 4.1e-07 | 4.0e-07 | 4.2e-07 | 1.5e-06 | 4.4e-06 | 1.9e-05 | 9.1e-05 |
| All planning areas | 1.7e-02 | 4.8e-03 | 5.4e-03 | 2.2e-03 | 3.3e-04 | 1.2e-04 | 1.3e-03 | 1.2e-03 | 1.6e-03 | 5.5e-03 | 7.4e-03 | 1.8e-02 | 6.4e-02 |
| All lease areas | 1.5e-03 | 6.8e-04 | 9.0e-04 | 4.8e-04 | 1.2e-04 | 2.4e-05 | 1.0e-04 | 8.6e-05 | 1.5e-04 | 1.1e-03 | 1.7e-03 | 2.3e-03 | 9.1e-03 |
| All planning and lease areas | 1.8e-02 | 5.5e-03 | 6.3e-03 | 2.7e-03 | 4.5e-04 | 1.4e-04 | 1.4e-03 | 1.3e-03 | 1.8e-03 | 6.6e-03 | 9.0e-03 | 2.0e-02 | 7.3e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-24. Predicted proportional abundance of Herring Gull by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 9.2e-03 | 1.3e-02 | 1.2e-02 | 6.6e-03 | 4.6e-03 | 2.9e-03 | 3.4e-03 | 6.2e-03 | 1.0e-02 | 1.3e-02 | 1.6e-02 | 9.0e-03 | 1.1e-01 |
| Gulf of Maine Request for Competitive Interest | 3.6e-05 | 4.1e-05 | 3.0e-05 | 2.1e-05 | 2.0e-05 | 1.1e-05 | 1.2e-05 | 2.2e-05 | 4.2e-05 | 3.9e-05 | 4.7e-05 | 3.4e-05 | 3.5e-04 |
| Marine Research Array Requested Lease | 5.1e-06 | 5.8e-06 | 4.2e-06 | 3.0e-06 | 3.1e-06 | 1.7e-06 | 1.8e-06 | 3.4e-06 | 6.6e-06 | 5.7e-06 | 6.6e-06 | 4.8e-06 | 5.2e-05 |
| Rhode Island OCS-A 0506 | 1.1e-07 | 1.5e-07 | 2.6e-07 | 3.9e-07 | 2.4e-07 | 1.1e-07 | 5.9e-08 | 8.3e-08 | 3.1e-07 | 4.1e-07 | 2.5e-07 | 1.5e-07 | 2.5e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 4.1e-05 | 3.8e-05 | 4.5e-05 | 5.6e-05 | 4.1e-05 | 2.2e-05 | 1.2e-05 | 1.4e-05 | 4.2e-05 | 6.5e-05 | 6.2e-05 | 4.8e-05 | 4.9e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 7.8e-06 | 7.5e-06 | 7.7e-06 | 9.1e-06 | 6.3e-06 | 3.8e-06 | 1.8e-06 | 1.9e-06 | 5.7e-06 | 1.1e-05 | 1.1e-05 | 9.4e-06 | 8.3e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 6.6e-05 | 7.2e-05 | 7.3e-05 | 6.5e-05 | 4.4e-05 | 2.7e-05 | 1.5e-05 | 1.7e-05 | 4.5e-05 | 9.8e-05 | 1.1e-04 | 7.9e-05 | 7.1e-04 |
| Massachusetts OCS-A 0500 | 8.6e-05 | 9.4e-05 | 9.8e-05 | 7.9e-05 | 5.3e-05 | 3.3e-05 | 2.2e-05 | 2.5e-05 | 6.3e-05 | 1.3e-04 | 1.5e-04 | 1.1e-04 | 9.3e-04 |
| Massachusetts OCS-A 0501 | 4.5e-05 | 4.6e-05 | 5.1e-05 | 4.2e-05 | 2.9e-05 | 1.7e-05 | 1.2e-05 | 1.4e-05 | 3.7e-05 | 7.0e-05 | 7.7e-05 | 5.8e-05 | 5.0e-04 |
| Massachusetts OCS-A 0534 | 4.9e-05 | 5.6e-05 | 6.3e-05 | 4.7e-05 | 3.2e-05 | 2.0e-05 | 1.2e-05 | 1.4e-05 | 3.6e-05 | 7.5e-05 | 8.8e-05 | 6.0e-05 | 5.5e-04 |
| Massachusetts OCS-A 0520 | 6.3e-05 | 7.2e-05 | 9.6e-05 | 6.8e-05 | 4.6e-05 | 2.8e-05 | 1.6e-05 | 2.0e-05 | 5.0e-05 | 9.9e-05 | 1.2e-04 | 7.6e-05 | 7.5e-04 |
| Massachusetts OCS-A 0521 | 6.7e-05 | 8.1e-05 | 1.1e-04 | 8.0e-05 | 5.3e-05 | 3.1e-05 | 1.8e-05 | 2.3e-05 | 5.2e-05 | 1.0e-04 | 1.2e-04 | 8.1e-05 | 8.2e-04 |
| Massachusetts OCS-A 0522 | 8.7e-05 | 1.1e-04 | 1.4e-04 | 9.7e-05 | 6.2e-05 | 3.6e-05 | 2.4e-05 | 2.9e-05 | 6.6e-05 | 1.3e-04 | 1.6e-04 | 1.0e-04 | 1.0e-03 |
| New York WEA - Fairways North | 4.5e-05 | 4.4e-05 | 5.1e-05 | 6.0e-05 | 4.3e-05 | 2.2e-05 | 1.0e-05 | 1.1e-05 | 2.5e-05 | 6.7e-05 | 6.9e-05 | 5.5e-05 | 5.0e-04 |
| New York WEA - Fairways South | 8.8e-06 | 8.6e-06 | 1.3e-05 | 1.7e-05 | 1.4e-05 | 5.8e-06 | 2.1e-06 | 3.0e-06 | 7.1e-06 | 1.6e-05 | 1.4e-05 | 1.1e-05 | 1.2e-04 |
| New York OCS-A 0512 | 3.2e-05 | 3.3e-05 | 4.5e-05 | 5.1e-05 | 3.6e-05 | 1.5e-05 | 4.9e-06 | 6.1e-06 | 1.7e-05 | 5.6e-05 | 5.6e-05 | 4.3e-05 | 3.9e-04 |
| NY/NJ OCS-A 0544 | 1.8e-05 | 1.8e-05 | 2.1e-05 | 2.4e-05 | 1.7e-05 | 7.1e-06 | 2.1e-06 | 2.8e-06 | 8.7e-06 | 2.6e-05 | 2.7e-05 | 2.1e-05 | 1.9e-04 |
| NY/NJ OCS-A 0537 | 2.9e-05 | 4.2e-05 | 4.0e-05 | 3.0e-05 | 2.1e-05 | 9.3e-06 | 2.8e-06 | 3.3e-06 | 1.2e-05 | 4.2e-05 | 4.5e-05 | 3.6e-05 | 3.1e-04 |
| NY/NJ OCS-A 0538 | 6.3e-05 | 8.1e-05 | 7.9e-05 | 5.7e-05 | 3.7e-05 | 1.9e-05 | 4.4e-06 | 5.2e-06 | 2.2e-05 | 7.2e-05 | 8.8e-05 | 6.8e-05 | 6.0e-04 |
| NY/NJ OCS-A 0539 | 8.4e-05 | 1.1e-04 | 1.1e-04 | 7.9e-05 | 4.3e-05 | 2.2e-05 | 4.7e-06 | 5.7e-06 | 2.6e-05 | 1.0e-04 | 1.2e-04 | 9.1e-05 | 7.9e-04 |
| NY/NJ OCS-A 0541 | 4.0e-05 | 4.9e-05 | 5.0e-05 | 4.1e-05 | 2.3e-05 | 1.1e-05 | 2.0e-06 | 2.6e-06 | 1.1e-05 | 4.9e-05 | 5.8e-05 | 4.3e-05 | 3.8e-04 |
| NY/NJ OCS-A 0542 | 4.8e-05 | 6.7e-05 | 7.0e-05 | 4.8e-05 | 2.6e-05 | 1.2e-05 | 2.4e-06 | 3.0e-06 | 1.4e-05 | 5.8e-05 | 6.6e-05 | 5.2e-05 | 4.7e-04 |
| New Jersey OCS-A 0549 | 3.2e-05 | 4.0e-05 | 6.2e-05 | 6.3e-05 | 3.1e-05 | 1.1e-05 | 3.2e-06 | 4.8e-06 | 1.6e-05 | 5.3e-05 | 5.4e-05 | 3.9e-05 | 4.1e-04 |
| New Jersey OCS-A 0499 | 3.9e-05 | 4.7e-05 | 7.3e-05 | 7.0e-05 | 3.7e-05 | 1.3e-05 | 3.0e-06 | 4.5e-06 | 1.7e-05 | 6.2e-05 | 6.7e-05 | 5.0e-05 | 4.8e-04 |
| New Jersey OCS-A 0498 | 2.5e-05 | 3.1e-05 | 5.2e-05 | 5.2e-05 | 2.9e-05 | 9.8e-06 | 2.2e-06 | 3.4e-06 | 1.3e-05 | 4.3e-05 | 4.3e-05 | 3.1e-05 | 3.4e-04 |
| New Jersey OCS-A 0532 | 2.8e-05 | 3.8e-05 | 6.6e-05 | 6.9e-05 | 3.8e-05 | 1.2e-05 | 3.3e-06 | 5.2e-06 | 1.7e-05 | 5.3e-05 | 5.1e-05 | 3.6e-05 | 4.2e-04 |
| Delaware OCS-A 0482 | 2.5e-05 | 3.3e-05 | 5.2e-05 | 4.6e-05 | 2.0e-05 | 6.6e-06 | 1.6e-06 | 2.7e-06 | 9.2e-06 | 4.0e-05 | 5.0e-05 | 3.3e-05 | 3.2e-04 |
| Delaware OCS-A 0519 | 9.0e-06 | 1.2e-05 | 1.8e-05 | 1.6e-05 | 7.6e-06 | 2.4e-06 | 4.9e-07 | 8.8e-07 | 3.2e-06 | 1.4e-05 | 1.8e-05 | 1.2e-05 | 1.1e-04 |
| Maryland OCS-A 0490 | 3.2e-05 | 4.0e-05 | 6.2e-05 | 5.6e-05 | 2.5e-05 | 8.0e-06 | 1.9e-06 | 3.1e-06 | 1.1e-05 | 4.5e-05 | 6.3e-05 | 3.9e-05 | 3.9e-04 |
| Central Atlantic Call Area A | 1.2e-04 | 1.4e-04 | 1.8e-04 | 1.6e-04 | 7.5e-05 | 2.6e-05 | 4.1e-06 | 6.6e-06 | 3.1e-05 | 1.4e-04 | 1.8e-04 | 1.4e-04 | 1.2e-03 |
| Central Atlantic Draft WEA Primary A | 2.0e-05 | 2.3e-05 | 3.1e-05 | 2.8e-05 | 1.4e-05 | 4.7e-06 | 7.7e-07 | 1.3e-06 | 5.6e-06 | 2.6e-05 | 3.2e-05 | 2.5e-05 | 2.1e-04 |
| Central Atlantic Draft WEA Secondary A | 5.8e-05 | 6.7e-05 | 8.8e-05 | 7.8e-05 | 3.8e-05 | 1.3e-05 | 2.1e-06 | 3.4e-06 | 1.5e-05 | 7.3e-05 | 9.2e-05 | 6.9e-05 | 6.0e-04 |
| Central Atlantic Call Area B | 7.7e-04 | 1.0e-03 | 1.3e-03 | 8.7e-04 | 3.6e-04 | 9.9e-05 | 1.3e-05 | 2.0e-05 | 1.2e-04 | 6.8e-04 | 9.8e-04 | 6.8e-04 | 6.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.1e-05 | 1.4e-05 | 2.0e-05 | 1.7e-05 | 7.6e-06 | 2.0e-06 | 2.3e-07 | 3.9e-07 | 2.2e-06 | 1.2e-05 | 1.6e-05 | 1.1e-05 | 1.1e-04 |
| Central Atlantic Draft WEA Secondary B1 | 5.2e-06 | 6.7e-06 | 9.5e-06 | 8.1e-06 | 3.5e-06 | 9.6e-07 | 1.2e-07 | 2.0e-07 | 1.0e-06 | 5.7e-06 | 7.5e-06 | 5.4e-06 | 5.4e-05 |
| Central Atlantic Draft WEA Primary B2 | 2.6e-04 | 3.7e-04 | 4.3e-04 | 2.9e-04 | 1.2e-04 | 3.2e-05 | 4.0e-06 | 6.2e-06 | 4.0e-05 | 2.2e-04 | 3.3e-04 | 2.3e-04 | 2.3e-03 |
| Central Atlantic Draft WEA Secondary B2 | 1.5e-04 | 2.1e-04 | 2.4e-04 | 1.5e-04 | 6.1e-05 | 1.7e-05 | 2.1e-06 | 3.3e-06 | 2.0e-05 | 1.2e-04 | 1.8e-04 | 1.2e-04 | 1.3e-03 |
| Central Atlantic Call Area C | 2.1e-04 | 2.8e-04 | 3.3e-04 | 2.4e-04 | 9.7e-05 | 2.2e-05 | 2.7e-06 | 4.1e-06 | 2.6e-05 | 1.4e-04 | 2.7e-04 | 1.8e-04 | 1.8e-03 |
| Central Atlantic Draft WEA Primary C | 1.2e-04 | 1.7e-04 | 2.0e-04 | 1.5e-04 | 6.1e-05 | 1.4e-05 | 1.7e-06 | 2.6e-06 | 1.6e-05 | 8.5e-05 | 1.6e-04 | 1.1e-04 | 1.1e-03 |
| Central Atlantic Draft WEA Secondary C | 6.7e-05 | 8.8e-05 | 1.0e-04 | 6.8e-05 | 2.7e-05 | 6.4e-06 | 8.0e-07 | 1.2e-06 | 7.5e-06 | 4.3e-05 | 8.0e-05 | 5.5e-05 | 5.5e-04 |
| Central Atlantic Call Area D | 5.7e-04 | 8.1e-04 | 9.6e-04 | 6.3e-04 | 2.1e-04 | 3.9e-05 | 4.5e-06 | 8.5e-06 | 6.0e-05 | 3.2e-04 | 7.3e-04 | 5.4e-04 | 4.9e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.4e-04 | 1.8e-04 | 2.3e-04 | 1.6e-04 | 5.7e-05 | 1.0e-05 | 1.2e-06 | 2.4e-06 | 1.7e-05 | 8.4e-05 | 1.9e-04 | 1.2e-04 | 1.2e-03 |
| Central Atlantic Draft WEA Secondary D | 1.2e-05 | 1.5e-05 | 2.0e-05 | 1.6e-05 | 5.8e-06 | 9.5e-07 | 1.1e-07 | 2.4e-07 | 1.6e-06 | 7.5e-06 | 1.6e-05 | 1.0e-05 | 1.0e-04 |
| Central Atlantic Call Area E | 5.2e-04 | 7.6e-04 | 8.1e-04 | 4.3e-04 | 1.2e-04 | 2.2e-05 | 3.1e-06 | 3.6e-06 | 3.2e-05 | 3.4e-04 | 6.2e-04 | 4.2e-04 | 4.1e-03 |
| Central Atlantic Draft WEA Primary E1 | 1.5e-04 | 1.9e-04 | 2.1e-04 | 1.3e-04 | 3.1e-05 | 5.8e-06 | 8.6e-07 | 9.8e-07 | 9.2e-06 | 1.0e-04 | 1.7e-04 | 1.2e-04 | 1.1e-03 |
| Central Atlantic Draft WEA Primary E2 | 5.9e-05 | 9.0e-05 | 9.2e-05 | 5.1e-05 | 1.5e-05 | 2.7e-06 | 3.6e-07 | 4.6e-07 | 3.8e-06 | 4.0e-05 | 7.2e-05 | 4.5e-05 | 4.7e-04 |
| Central Atlantic Call Area F | 1.1e-04 | 1.9e-04 | 2.6e-04 | 1.6e-04 | 3.7e-05 | 4.7e-06 | 8.1e-07 | 1.3e-06 | 6.9e-06 | 3.5e-05 | 1.4e-04 | 1.1e-04 | 1.1e-03 |
| Central Atlantic Draft WEA Primary F | 2.0e-06 | 4.7e-06 | 5.3e-06 | 4.1e-06 | 7.4e-07 | 9.3e-08 | 1.8e-08 | 2.5e-08 | 8.1e-08 | 5.3e-07 | 2.0e-06 | 1.6e-06 | 2.1e-05 |
| Virginia OCS-A 0483 | 3.3e-05 | 4.6e-05 | 7.1e-05 | 6.8e-05 | 2.4e-05 | 3.6e-06 | 5.6e-07 | 1.3e-06 | 5.1e-06 | 2.7e-05 | 5.1e-05 | 3.2e-05 | 3.6e-04 |
| Virginia OCS-A 0497 | 8.9e-07 | 1.2e-06 | 1.9e-06 | 1.5e-06 | 4.8e-07 | 6.9e-08 | 1.3e-08 | 3.5e-08 | 1.0e-07 | 6.7e-07 | 1.3e-06 | 8.5e-07 | 9.0e-06 |
| North Carolina OCS-A 0508 | 1.5e-04 | 1.8e-04 | 2.2e-04 | 1.6e-04 | 5.0e-05 | 7.7e-06 | 1.1e-06 | 2.2e-06 | 1.5e-05 | 8.0e-05 | 2.0e-04 | 1.4e-04 | 1.2e-03 |
| North Carolina OCS-A 0545 | 1.4e-05 | 2.0e-05 | 2.7e-05 | 1.7e-05 | 2.4e-06 | 1.4e-07 | 1.2e-07 | 2.2e-07 | 4.3e-07 | 2.4e-06 | 9.7e-06 | 9.0e-06 | 1.0e-04 |
| North Carolina OCS-A 0546 | 1.5e-05 | 2.1e-05 | 2.8e-05 | 2.0e-05 | 2.9e-06 | 1.9e-07 | 1.8e-07 | 3.0e-07 | 4.8e-07 | 2.4e-06 | 1.0e-05 | 9.3e-06 | 1.1e-04 |
| South Carolina Call Area - Grand Strand | 2.9e-04 | 3.5e-04 | 4.8e-04 | 2.5e-04 | 3.0e-05 | 1.8e-06 | 1.7e-06 | 4.0e-06 | 9.8e-06 | 9.5e-05 | 3.6e-04 | 2.4e-04 | 2.1e-03 |
| South Carolina Call Area - Cape Romain | 1.0e-04 | 1.3e-04 | 1.6e-04 | 7.8e-05 | 9.7e-06 | 6.3e-07 | 7.2e-07 | 1.4e-06 | 2.9e-06 | 2.5e-05 | 1.1e-04 | 8.6e-05 | 7.1e-04 |
| South Carolina Call Area - Winyah | 8.4e-06 | 1.3e-05 | 1.5e-05 | 9.5e-06 | 1.4e-06 | 1.5e-07 | 2.1e-07 | 5.4e-07 | 7.3e-07 | 1.5e-06 | 4.0e-06 | 4.3e-06 | 5.9e-05 |
| South Carolina Call Area - Charleston | 5.5e-06 | 7.0e-06 | 1.2e-05 | 8.7e-06 | 1.2e-06 | 8.2e-08 | 8.0e-08 | 2.0e-07 | 3.3e-07 | 1.0e-06 | 4.0e-06 | 4.0e-06 | 4.4e-05 |
| All planning areas | 1.2e-02 | 1.6e-02 | 1.7e-02 | 9.5e-03 | 5.6e-03 | 3.2e-03 | 3.5e-03 | 6.3e-03 | 1.1e-02 | 1.5e-02 | 1.9e-02 | 1.2e-02 | 1.3e-01 |
| All lease areas | 1.2e-03 | 1.5e-03 | 1.8e-03 | 1.5e-03 | 8.4e-04 | 3.9e-04 | 1.7e-04 | 2.1e-04 | 6.1e-04 | 1.6e-03 | 2.0e-03 | 1.4e-03 | 1.3e-02 |
| All planning and lease areas | 1.3e-02 | 1.8e-02 | 1.9e-02 | 1.1e-02 | 6.4e-03 | 3.6e-03 | 3.7e-03 | 6.5e-03 | 1.1e-02 | 1.7e-02 | 2.1e-02 | 1.3e-02 | 1.4e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-25. Predicted proportional abundance of Lesser Black-backed Gull by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.7e-03 | 1.9e-03 | 3.4e-03 | 4.9e-03 | 3.8e-03 | 1.2e-03 | 1.3e-03 | 4.2e-03 | 1.0e-02 | 1.1e-02 | 7.1e-03 | 4.3e-03 | 5.6e-02 |
| Gulf of Maine Request for Competitive Interest | 1.6e-05 | 1.2e-05 | 2.1e-05 | 3.1e-05 | 2.4e-05 | 6.7e-06 | 8.0e-06 | 3.1e-05 | 6.5e-05 | 7.2e-05 | 4.8e-05 | 2.5e-05 | 3.6e-04 |
| Marine Research Array Requested Lease | 2.2e-06 | 1.6e-06 | 2.9e-06 | 4.3e-06 | 3.4e-06 | 9.4e-07 | 1.1e-06 | 4.4e-06 | 9.1e-06 | 1.0e-05 | 6.7e-06 | 3.5e-06 | 5.0e-05 |
| Rhode Island OCS-A 0506 | 6.2e-08 | 4.0e-08 | 7.4e-08 | 1.1e-07 | 9.3e-08 | 1.9e-08 | 4.7e-08 | 7.6e-08 | 2.9e-07 | 2.4e-07 | 1.5e-07 | 1.1e-07 | 1.3e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.0e-05 | 1.4e-05 | 2.7e-05 | 4.2e-05 | 3.6e-05 | 7.0e-06 | 1.4e-05 | 2.3e-05 | 1.1e-04 | 1.0e-04 | 5.5e-05 | 3.8e-05 | 4.9e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.3e-06 | 2.3e-06 | 4.3e-06 | 6.8e-06 | 5.9e-06 | 1.2e-06 | 2.2e-06 | 3.3e-06 | 1.8e-05 | 1.7e-05 | 8.6e-06 | 6.3e-06 | 7.9e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 2.4e-05 | 1.7e-05 | 3.2e-05 | 4.9e-05 | 4.3e-05 | 8.1e-06 | 1.5e-05 | 2.3e-05 | 1.3e-04 | 1.2e-04 | 5.8e-05 | 4.4e-05 | 5.6e-04 |
| Massachusetts OCS-A 0500 | 3.0e-05 | 2.2e-05 | 4.2e-05 | 6.6e-05 | 5.9e-05 | 1.1e-05 | 2.1e-05 | 3.5e-05 | 1.7e-04 | 1.5e-04 | 7.6e-05 | 5.5e-05 | 7.4e-04 |
| Massachusetts OCS-A 0501 | 1.3e-05 | 9.6e-06 | 1.8e-05 | 3.0e-05 | 2.7e-05 | 4.8e-06 | 1.1e-05 | 2.0e-05 | 8.0e-05 | 7.1e-05 | 3.7e-05 | 2.4e-05 | 3.5e-04 |
| Massachusetts OCS-A 0534 | 2.1e-05 | 1.5e-05 | 2.8e-05 | 4.6e-05 | 4.1e-05 | 7.4e-06 | 1.4e-05 | 2.4e-05 | 1.2e-04 | 1.0e-04 | 5.0e-05 | 3.7e-05 | 5.0e-04 |
| Massachusetts OCS-A 0520 | 2.6e-05 | 1.9e-05 | 3.6e-05 | 5.9e-05 | 5.4e-05 | 9.5e-06 | 1.8e-05 | 3.2e-05 | 1.5e-04 | 1.3e-04 | 6.3e-05 | 4.6e-05 | 6.4e-04 |
| Massachusetts OCS-A 0521 | 2.6e-05 | 1.9e-05 | 3.7e-05 | 6.0e-05 | 5.4e-05 | 9.5e-06 | 1.8e-05 | 3.3e-05 | 1.5e-04 | 1.3e-04 | 6.3e-05 | 4.6e-05 | 6.4e-04 |
| Massachusetts OCS-A 0522 | 2.7e-05 | 2.1e-05 | 4.2e-05 | 6.4e-05 | 5.6e-05 | 1.0e-05 | 1.9e-05 | 3.8e-05 | 1.6e-04 | 1.3e-04 | 6.8e-05 | 4.8e-05 | 6.8e-04 |
| New York WEA - Fairways North | 2.3e-05 | 1.5e-05 | 2.9e-05 | 4.3e-05 | 3.3e-05 | 6.8e-06 | 1.2e-05 | 1.7e-05 | 9.2e-05 | 1.0e-04 | 4.3e-05 | 3.9e-05 | 4.6e-04 |
| New York WEA - Fairways South | 6.6e-06 | 4.1e-06 | 8.2e-06 | 1.2e-05 | 8.5e-06 | 2.1e-06 | 2.6e-06 | 3.9e-06 | 2.4e-05 | 3.2e-05 | 1.2e-05 | 1.2e-05 | 1.3e-04 |
| New York OCS-A 0512 | 2.6e-05 | 1.6e-05 | 3.3e-05 | 5.1e-05 | 3.1e-05 | 9.2e-06 | 8.9e-06 | 1.2e-05 | 8.9e-05 | 1.4e-04 | 4.6e-05 | 4.8e-05 | 5.1e-04 |
| NY/NJ OCS-A 0544 | 1.3e-05 | 8.0e-06 | 1.5e-05 | 2.3e-05 | 1.5e-05 | 3.9e-06 | 3.0e-06 | 4.6e-06 | 4.0e-05 | 6.0e-05 | 2.0e-05 | 2.2e-05 | 2.3e-04 |
| NY/NJ OCS-A 0537 | 2.6e-05 | 1.6e-05 | 2.7e-05 | 3.9e-05 | 3.0e-05 | 6.2e-06 | 5.3e-06 | 7.5e-06 | 6.3e-05 | 7.8e-05 | 3.2e-05 | 3.7e-05 | 3.7e-04 |
| NY/NJ OCS-A 0538 | 3.0e-05 | 1.9e-05 | 3.3e-05 | 5.1e-05 | 3.5e-05 | 7.8e-06 | 5.1e-06 | 6.5e-06 | 7.5e-05 | 1.1e-04 | 4.0e-05 | 4.7e-05 | 4.6e-04 |
| NY/NJ OCS-A 0539 | 4.8e-05 | 3.2e-05 | 5.6e-05 | 8.5e-05 | 5.5e-05 | 1.3e-05 | 7.8e-06 | 9.7e-06 | 1.2e-04 | 2.0e-04 | 6.7e-05 | 7.7e-05 | 7.7e-04 |
| NY/NJ OCS-A 0541 | 2.7e-05 | 1.8e-05 | 3.4e-05 | 5.3e-05 | 3.0e-05 | 8.7e-06 | 3.7e-06 | 4.9e-06 | 6.3e-05 | 1.3e-04 | 3.7e-05 | 4.3e-05 | 4.5e-04 |
| NY/NJ OCS-A 0542 | 3.0e-05 | 1.9e-05 | 3.5e-05 | 5.4e-05 | 3.2e-05 | 8.6e-06 | 3.8e-06 | 5.0e-06 | 6.5e-05 | 1.3e-04 | 3.8e-05 | 4.5e-05 | 4.7e-04 |
| New Jersey OCS-A 0549 | 3.4e-05 | 2.5e-05 | 5.7e-05 | 9.3e-05 | 4.2e-05 | 1.8e-05 | 1.3e-05 | 1.6e-05 | 9.8e-05 | 2.2e-04 | 6.8e-05 | 6.8e-05 | 7.5e-04 |
| New Jersey OCS-A 0499 | 4.2e-05 | 3.1e-05 | 7.1e-05 | 1.1e-04 | 4.9e-05 | 2.1e-05 | 1.3e-05 | 1.6e-05 | 1.0e-04 | 2.6e-04 | 7.6e-05 | 8.0e-05 | 8.7e-04 |
| New Jersey OCS-A 0498 | 3.2e-05 | 2.3e-05 | 5.2e-05 | 8.6e-05 | 3.5e-05 | 1.6e-05 | 9.1e-06 | 1.2e-05 | 7.3e-05 | 2.0e-04 | 5.6e-05 | 6.0e-05 | 6.5e-04 |
| New Jersey OCS-A 0532 | 3.7e-05 | 2.6e-05 | 6.0e-05 | 1.1e-04 | 4.1e-05 | 2.1e-05 | 1.3e-05 | 1.7e-05 | 8.7e-05 | 2.4e-04 | 7.2e-05 | 7.3e-05 | 8.0e-04 |
| Delaware OCS-A 0482 | 3.4e-05 | 2.3e-05 | 5.2e-05 | 9.4e-05 | 3.3e-05 | 1.8e-05 | 8.7e-06 | 1.2e-05 | 6.3e-05 | 2.1e-04 | 5.8e-05 | 6.4e-05 | 6.7e-04 |
| Delaware OCS-A 0519 | 1.2e-05 | 8.5e-06 | 1.9e-05 | 3.2e-05 | 1.1e-05 | 5.5e-06 | 1.9e-06 | 2.9e-06 | 2.0e-05 | 7.3e-05 | 1.9e-05 | 2.2e-05 | 2.3e-04 |
| Maryland OCS-A 0490 | 4.0e-05 | 2.8e-05 | 6.7e-05 | 1.1e-04 | 3.4e-05 | 1.9e-05 | 7.0e-06 | 9.3e-06 | 5.7e-05 | 2.3e-04 | 6.1e-05 | 6.9e-05 | 7.3e-04 |
| Central Atlantic Call Area A | 1.0e-04 | 7.2e-05 | 1.5e-04 | 2.4e-04 | 8.7e-05 | 3.8e-05 | 9.3e-06 | 1.4e-05 | 1.4e-04 | 5.3e-04 | 1.3e-04 | 1.5e-04 | 1.7e-03 |
| Central Atlantic Draft WEA Primary A | 1.8e-05 | 1.3e-05 | 2.8e-05 | 4.3e-05 | 1.6e-05 | 7.0e-06 | 1.9e-06 | 3.0e-06 | 2.6e-05 | 9.8e-05 | 2.4e-05 | 2.8e-05 | 3.1e-04 |
| Central Atlantic Draft WEA Secondary A | 5.0e-05 | 3.5e-05 | 7.6e-05 | 1.2e-04 | 4.3e-05 | 1.9e-05 | 4.8e-06 | 7.4e-06 | 6.9e-05 | 2.6e-04 | 6.4e-05 | 7.5e-05 | 8.2e-04 |
| Central Atlantic Call Area B | 3.9e-04 | 3.0e-04 | 6.7e-04 | 9.0e-04 | 2.8e-04 | 1.1e-04 | 1.3e-05 | 2.1e-05 | 2.6e-04 | 1.8e-03 | 4.3e-04 | 4.3e-04 | 5.6e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.1e-05 | 8.9e-06 | 1.9e-05 | 2.8e-05 | 8.1e-06 | 3.7e-06 | 6.0e-07 | 9.1e-07 | 1.0e-05 | 5.7e-05 | 1.3e-05 | 1.5e-05 | 1.8e-04 |
| Central Atlantic Draft WEA Secondary B1 | 4.9e-06 | 3.9e-06 | 8.7e-06 | 1.2e-05 | 3.6e-06 | 1.5e-06 | 2.3e-07 | 3.7e-07 | 4.4e-06 | 2.5e-05 | 5.4e-06 | 6.4e-06 | 7.6e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.2e-04 | 8.9e-05 | 2.1e-04 | 2.8e-04 | 8.5e-05 | 3.2e-05 | 3.0e-06 | 5.1e-06 | 6.7e-05 | 5.5e-04 | 1.3e-04 | 1.3e-04 | 1.7e-03 |
| Central Atlantic Draft WEA Secondary B2 | 5.1e-05 | 3.8e-05 | 9.2e-05 | 1.2e-04 | 3.8e-05 | 1.4e-05 | 1.4e-06 | 2.2e-06 | 2.7e-05 | 2.3e-04 | 5.8e-05 | 5.3e-05 | 7.3e-04 |
| Central Atlantic Call Area C | 1.2e-04 | 9.2e-05 | 2.0e-04 | 3.0e-04 | 8.1e-05 | 2.8e-05 | 2.6e-06 | 4.2e-06 | 5.3e-05 | 4.4e-04 | 1.3e-04 | 1.2e-04 | 1.6e-03 |
| Central Atlantic Draft WEA Primary C | 6.9e-05 | 5.4e-05 | 1.2e-04 | 1.7e-04 | 4.5e-05 | 1.6e-05 | 1.5e-06 | 2.5e-06 | 3.1e-05 | 2.6e-04 | 7.5e-05 | 6.7e-05 | 9.0e-04 |
| Central Atlantic Draft WEA Secondary C | 3.8e-05 | 2.9e-05 | 6.7e-05 | 9.8e-05 | 2.7e-05 | 9.2e-06 | 8.3e-07 | 1.3e-06 | 1.7e-05 | 1.4e-04 | 4.3e-05 | 3.7e-05 | 5.1e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 3.0e-04 | 2.5e-04 | 5.7e-04 | 6.8e-04 | 2.1e-04 | 5.4e-05 | 4.7e-06 | 7.6e-06 | 1.1e-04 | 9.8e-04 | 3.8e-04 | 2.8e-04 | 3.8e-03 |
| Central Atlantic Draft WEA Primary D | 1.1e-04 | 9.5e-05 | 1.9e-04 | 2.3e-04 | 6.9e-05 | 1.9e-05 | 1.7e-06 | 3.0e-06 | 4.3e-05 | 3.7e-04 | 1.3e-04 | 9.6e-05 | 1.4e-03 |
| Central Atlantic Draft WEA Secondary D | 1.5e-05 | 1.3e-05 | 2.6e-05 | 3.1e-05 | 9.2e-06 | 2.4e-06 | 2.4e-07 | 4.2e-07 | 6.0e-06 | 5.2e-05 | 1.8e-05 | 1.3e-05 | 1.9e-04 |
| Central Atlantic Call Area E | 5.8e-04 | 1.8e-04 | 6.6e-04 | 8.1e-04 | 6.5e-04 | 1.9e-04 | 3.1e-05 | 4.7e-05 | 4.8e-04 | 4.6e-03 | 2.6e-03 | 8.7e-04 | 1.2e-02 |
| Central Atlantic Draft WEA Primary E1 | 9.5e-05 | 4.2e-05 | 1.6e-04 | 1.8e-04 | 1.3e-04 | 7.5e-05 | 1.1e-05 | 1.6e-05 | 1.7e-04 | 1.7e-03 | 9.1e-04 | 2.9e-04 | 3.8e-03 |
| Central Atlantic Draft WEA Primary E2 | 2.6e-04 | 6.9e-05 | 2.4e-04 | 3.4e-04 | 2.8e-04 | 5.0e-05 | 9.3e-06 | 1.6e-05 | 1.6e-04 | 1.5e-03 | 8.8e-04 | 2.6e-04 | 4.0e-03 |
| Central Atlantic Call Area F | 7.8e-04 | 5.2e-04 | 1.1e-03 | 2.0e-03 | 1.2e-03 | 1.5e-04 | 2.5e-05 | 2.7e-05 | 1.8e-04 | 9.3e-04 | 1.7e-03 | 1.4e-03 | 1.0e-02 |
| Central Atlantic Draft WEA Primary F | 8.2e-05 | 8.0e-05 | 1.1e-04 | 1.8e-04 | 1.2e-04 | 1.6e-05 | 2.7e-06 | 1.9e-06 | 7.4e-06 | 6.7e-05 | 1.4e-04 | 1.5e-04 | 9.5e-04 |
| Virginia OCS-A 0483 | 7.5e-05 | 5.3e-05 | 1.1e-04 | 1.6e-04 | 4.4e-05 | 1.2e-05 | 1.3e-06 | 2.6e-06 | 3.2e-05 | 2.7e-04 | 7.9e-05 | 7.6e-05 | 9.2e-04 |
| Virginia OCS-A 0497 | 2.1e-06 | 1.5e-06 | 3.4e-06 | 4.1e-06 | 1.4e-06 | 2.9e-07 | 3.9e-08 | 7.4e-08 | 8.3e-07 | 7.9e-06 | 2.4e-06 | 2.4e-06 | 2.6e-05 |
| North Carolina OCS-A 0508 | 6.1e-05 | 5.7e-05 | 1.2e-04 | 1.2e-04 | 4.6e-05 | 9.4e-06 | 8.7e-07 | 1.6e-06 | 2.2e-05 | 1.9e-04 | 8.3e-05 | 5.3e-05 | 7.6e-04 |
| North Carolina OCS-A 0545 | 2.9e-05 | 3.2e-05 | 4.0e-05 | 1.1e-04 | 2.3e-05 | 7.3e-07 | 4.6e-07 | 5.7e-07 | 1.2e-06 | 5.0e-06 | 4.9e-05 | 5.9e-05 | 3.5e-04 |
| North Carolina OCS-A 0546 | 4.2e-05 | 4.3e-05 | 4.9e-05 | 1.6e-04 | 3.1e-05 | 1.2e-06 | 8.1e-07 | 9.3e-07 | 1.4e-06 | 6.2e-06 | 6.1e-05 | 8.9e-05 | 4.8e-04 |
| South Carolina Call Area - Grand Strand | 3.9e-04 | 4.0e-04 | 5.9e-04 | 1.5e-03 | 2.8e-04 | 6.1e-06 | 3.9e-06 | 7.1e-06 | 1.8e-05 | 1.6e-04 | 1.0e-03 | 4.7e-04 | 4.8e-03 |
| South Carolina Call Area - Cape Romain | 1.2e-04 | 1.3e-04 | 1.9e-04 | 6.0e-04 | 8.5e-05 | 2.5e-06 | 2.3e-06 | 2.9e-06 | 3.9e-06 | 3.2e-05 | 2.6e-04 | 1.6e-04 | 1.6e-03 |
| South Carolina Call Area - Winyah | 3.4e-05 | 2.5e-05 | 3.8e-05 | 5.6e-05 | 6.4e-06 | 3.1e-07 | 1.7e-07 | 2.0e-07 | 2.8e-07 | 3.8e-07 | 4.8e-06 | 1.8e-05 | 1.8e-04 |
| South Carolina Call Area - Charleston | 2.4e-05 | 2.1e-05 | 2.7e-05 | 5.8e-05 | 8.3e-06 | 3.2e-07 | 2.1e-07 | 2.3e-07 | 4.2e-07 | 1.2e-06 | 1.6e-05 | 4.0e-05 | 2.0e-04 |
| All planning areas | 5.6e-03 | 4.0e-03 | 7.6e-03 | 1.2e-02 | 6.8e-03 | 1.8e-03 | 1.4e-03 | 4.4e-03 | 1.2e-02 | 2.1e-02 | 1.4e-02 | 8.3e-03 | 9.8e-02 |
| All lease areas | 8.3e-04 | 6.2e-04 | 1.2e-03 | 2.0e-03 | 9.9e-04 | 2.7e-04 | 2.4e-04 | 3.7e-04 | 2.2e-03 | 3.7e-03 | 1.4e-03 | 1.4e-03 | 1.5e-02 |
| All planning and lease areas | 6.4e-03 | 4.6e-03 | 8.8e-03 | 1.4e-02 | 7.8e-03 | 2.1e-03 | 1.6e-03 | 4.8e-03 | 1.4e-02 | 2.4e-02 | 1.5e-02 | 9.7e-03 | 1.1e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-26. Predicted proportional abundance of Great Black-backed Gull by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.1e-02 | 1.9e-02 | 1.4e-02 | 5.3e-03 | 5.8e-03 | 5.4e-03 | 4.3e-03 | 8.4e-03 | 1.2e-02 | 1.7e-02 | 2.5e-02 | 2.8e-02 | 1.7e-01 |
| Gulf of Maine Request for Competitive Interest | 1.6e-04 | 1.0e-04 | 5.6e-05 | 3.1e-05 | 5.1e-05 | 4.2e-05 | 2.9e-05 | 6.4e-05 | 8.2e-05 | 8.5e-05 | 1.5e-04 | 1.6e-04 | 1.0e-03 |
| Marine Research Array Requested Lease | 2.1e-05 | 1.5e-05 | 8.1e-06 | 4.4e-06 | 8.0e-06 | 6.2e-06 | 4.2e-06 | 9.5e-06 | 1.3e-05 | 1.2e-05 | 2.1e-05 | 2.2e-05 | 1.4e-04 |
| Rhode Island OCS-A 0506 | 1.6e-07 | 1.0e-07 | 1.3e-07 | 2.5e-07 | 2.6e-07 | 1.5e-07 | 1.6e-07 | 2.0e-07 | 6.1e-07 | 3.3e-07 | 2.3e-07 | 2.4e-07 | 2.8e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 5.9e-05 | 3.0e-05 | 2.7e-05 | 3.5e-05 | 4.7e-05 | 3.0e-05 | 3.5e-05 | 4.1e-05 | 8.9e-05 | 6.1e-05 | 6.9e-05 | 8.6e-05 | 6.1e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 9.4e-06 | 5.0e-06 | 4.2e-06 | 5.0e-06 | 6.6e-06 | 4.6e-06 | 5.4e-06 | 6.0e-06 | 1.1e-05 | 9.3e-06 | 1.0e-05 | 1.4e-05 | 9.1e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 8.8e-05 | 4.9e-05 | 4.2e-05 | 3.6e-05 | 4.2e-05 | 3.1e-05 | 3.9e-05 | 4.1e-05 | 8.0e-05 | 7.9e-05 | 9.7e-05 | 1.3e-04 | 7.5e-04 |
| Massachusetts OCS-A 0500 | 1.3e-04 | 6.9e-05 | 6.1e-05 | 4.2e-05 | 4.8e-05 | 3.3e-05 | 4.8e-05 | 5.4e-05 | 1.0e-04 | 1.0e-04 | 1.4e-04 | 1.8e-04 | 1.0e-03 |
| Massachusetts OCS-A 0501 | 5.5e-05 | 2.9e-05 | 2.8e-05 | 2.0e-05 | 2.3e-05 | 1.7e-05 | 2.3e-05 | 2.9e-05 | 5.3e-05 | 5.0e-05 | 6.7e-05 | 8.4e-05 | 4.8e-04 |
| Massachusetts OCS-A 0534 | 8.8e-05 | 4.9e-05 | 4.7e-05 | 2.9e-05 | 3.1e-05 | 2.3e-05 | 2.9e-05 | 3.6e-05 | 7.0e-05 | 6.9e-05 | 9.1e-05 | 1.3e-04 | 6.9e-04 |
| Massachusetts OCS-A 0520 | 1.1e-04 | 6.2e-05 | 7.0e-05 | 4.0e-05 | 4.3e-05 | 3.3e-05 | 3.7e-05 | 5.0e-05 | 8.8e-05 | 8.7e-05 | 1.1e-04 | 1.5e-04 | 8.9e-04 |
| Massachusetts OCS-A 0521 | 1.1e-04 | 6.5e-05 | 7.5e-05 | 4.3e-05 | 4.5e-05 | 3.4e-05 | 3.6e-05 | 5.1e-05 | 8.2e-05 | 8.4e-05 | 1.1e-04 | 1.5e-04 | 8.9e-04 |
| Massachusetts OCS-A 0522 | 1.2e-04 | 7.3e-05 | 8.3e-05 | 4.3e-05 | 4.4e-05 | 3.2e-05 | 3.6e-05 | 5.1e-05 | 8.5e-05 | 9.0e-05 | 1.2e-04 | 1.6e-04 | 9.3e-04 |
| New York WEA - Fairways North | 6.9e-05 | 3.3e-05 | 3.1e-05 | 3.8e-05 | 4.8e-05 | 3.3e-05 | 3.0e-05 | 3.0e-05 | 5.8e-05 | 6.6e-05 | 6.8e-05 | 1.0e-04 | 6.1e-04 |
| New York WEA - Fairways South | 1.6e-05 | 7.5e-06 | 8.0e-06 | 1.2e-05 | 1.6e-05 | 1.0e-05 | 7.2e-06 | 7.6e-06 | 2.0e-05 | 1.9e-05 | 1.5e-05 | 2.2e-05 | 1.6e-04 |
| New York OCS-A 0512 | 4.7e-05 | 2.4e-05 | 2.4e-05 | 3.3e-05 | 3.7e-05 | 3.0e-05 | 1.7e-05 | 1.6e-05 | 4.4e-05 | 6.2e-05 | 4.7e-05 | 6.8e-05 | 4.5e-04 |
| NY/NJ OCS-A 0544 | 3.2e-05 | 1.5e-05 | 1.3e-05 | 1.5e-05 | 1.8e-05 | 1.4e-05 | 8.0e-06 | 8.0e-06 | 2.4e-05 | 3.1e-05 | 2.5e-05 | 3.9e-05 | 2.4e-04 |
| NY/NJ OCS-A 0537 | 6.3e-05 | 4.7e-05 | 3.5e-05 | 2.0e-05 | 2.2e-05 | 1.4e-05 | 1.0e-05 | 1.0e-05 | 3.3e-05 | 4.2e-05 | 3.9e-05 | 6.9e-05 | 4.0e-04 |
| NY/NJ OCS-A 0538 | 8.1e-05 | 5.2e-05 | 3.8e-05 | 2.4e-05 | 2.4e-05 | 2.3e-05 | 1.2e-05 | 1.1e-05 | 4.4e-05 | 5.3e-05 | 4.9e-05 | 8.3e-05 | 5.0e-04 |
| NY/NJ OCS-A 0539 | 1.0e-04 | 7.1e-05 | 5.4e-05 | 3.4e-05 | 2.9e-05 | 2.8e-05 | 1.3e-05 | 1.3e-05 | 5.8e-05 | 8.4e-05 | 6.5e-05 | 1.1e-04 | 6.7e-04 |
| NY/NJ OCS-A 0541 | 6.4e-05 | 3.6e-05 | 2.8e-05 | 2.2e-05 | 1.7e-05 | 1.8e-05 | 6.7e-06 | 8.0e-06 | 3.3e-05 | 5.5e-05 | 4.1e-05 | 7.0e-05 | 4.0e-04 |
| NY/NJ OCS-A 0542 | 6.6e-05 | 4.7e-05 | 4.0e-05 | 2.4e-05 | 1.9e-05 | 1.7e-05 | 6.9e-06 | 7.6e-06 | 3.5e-05 | 5.8e-05 | 4.0e-05 | 7.2e-05 | 4.3e-04 |
| New Jersey OCS-A 0549 | 4.1e-05 | 2.4e-05 | 2.7e-05 | 3.2e-05 | 2.5e-05 | 3.0e-05 | 1.4e-05 | 1.5e-05 | 4.2e-05 | 6.9e-05 | 4.5e-05 | 6.0e-05 | 4.3e-04 |
| New Jersey OCS-A 0499 | 5.4e-05 | 2.9e-05 | 3.3e-05 | 3.7e-05 | 2.8e-05 | 3.4e-05 | 1.3e-05 | 1.5e-05 | 4.6e-05 | 8.0e-05 | 5.4e-05 | 7.9e-05 | 5.0e-04 |
| New Jersey OCS-A 0498 | 3.6e-05 | 2.2e-05 | 2.6e-05 | 2.9e-05 | 2.3e-05 | 2.7e-05 | 9.8e-06 | 1.2e-05 | 3.4e-05 | 5.9e-05 | 3.5e-05 | 5.3e-05 | 3.7e-04 |
| New Jersey OCS-A 0532 | 4.1e-05 | 2.7e-05 | 3.2e-05 | 3.8e-05 | 3.1e-05 | 3.7e-05 | 1.5e-05 | 1.7e-05 | 4.4e-05 | 7.6e-05 | 4.4e-05 | 6.5e-05 | 4.7e-04 |
| Delaware OCS-A 0482 | 3.2e-05 | 1.9e-05 | 2.3e-05 | 2.5e-05 | 1.3e-05 | 1.9e-05 | 6.5e-06 | 7.8e-06 | 2.4e-05 | 5.6e-05 | 3.3e-05 | 4.6e-05 | 3.1e-04 |
| Delaware OCS-A 0519 | 1.2e-05 | 7.0e-06 | 8.0e-06 | 8.5e-06 | 4.9e-06 | 7.0e-06 | 2.1e-06 | 2.8e-06 | 9.3e-06 | 2.1e-05 | 1.2e-05 | 1.7e-05 | 1.1e-04 |
| Maryland OCS-A 0490 | 4.1e-05 | 2.3e-05 | 2.6e-05 | 2.8e-05 | 1.5e-05 | 2.5e-05 | 7.4e-06 | 8.4e-06 | 2.6e-05 | 6.4e-05 | 3.6e-05 | 5.3e-05 | 3.5e-04 |
| Central Atlantic Call Area A | 1.6e-04 | 8.8e-05 | 8.5e-05 | 7.7e-05 | 4.5e-05 | 5.9e-05 | 1.5e-05 | 2.0e-05 | 8.7e-05 | 2.0e-04 | 1.2e-04 | 1.9e-04 | 1.1e-03 |
| Central Atlantic Draft WEA Primary A | 2.7e-05 | 1.5e-05 | 1.5e-05 | 1.4e-05 | 8.4e-06 | 1.1e-05 | 3.0e-06 | 4.0e-06 | 1.6e-05 | 3.6e-05 | 2.2e-05 | 3.4e-05 | 2.1e-04 |
| Central Atlantic Draft WEA Secondary A | 7.9e-05 | 4.3e-05 | 4.2e-05 | 3.9e-05 | 2.3e-05 | 3.0e-05 | 7.9e-06 | 1.1e-05 | 4.5e-05 | 1.0e-04 | 6.1e-05 | 9.8e-05 | 5.8e-04 |
| Central Atlantic Call Area B | 5.3e-04 | 4.0e-04 | 4.5e-04 | 3.3e-04 | 1.5e-04 | 2.1e-04 | 3.6e-05 | 3.8e-05 | 1.9e-04 | 7.2e-04 | 3.5e-04 | 4.8e-04 | 3.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.1e-05 | 7.8e-06 | 9.4e-06 | 8.3e-06 | 3.9e-06 | 6.4e-06 | 1.2e-06 | 1.2e-06 | 5.2e-06 | 1.8e-05 | 8.1e-06 | 1.3e-05 | 9.3e-05 |
| Central Atlantic Draft WEA Secondary B1 | 5.1e-06 | 3.6e-06 | 4.4e-06 | 3.6e-06 | 1.7e-06 | 2.5e-06 | 4.8e-07 | 5.3e-07 | 2.3e-06 | 7.7e-06 | 3.5e-06 | 5.8e-06 | 4.1e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.6e-04 | 1.3e-04 | 1.4e-04 | 1.0e-04 | 4.9e-05 | 6.5e-05 | 1.0e-05 | 1.0e-05 | 5.3e-05 | 2.2e-04 | 1.0e-04 | 1.4e-04 | 1.2e-03 |
| Central Atlantic Draft WEA Secondary B2 | 8.5e-05 | 6.9e-05 | 7.5e-05 | 5.1e-05 | 2.4e-05 | 3.0e-05 | 5.0e-06 | 5.0e-06 | 2.6e-05 | 1.1e-04 | 5.4e-05 | 7.0e-05 | 6.0e-04 |
| Central Atlantic Call Area C | 1.0e-04 | 8.8e-05 | 9.9e-05 | 8.5e-05 | 4.0e-05 | 5.9e-05 | 6.9e-06 | 6.8e-06 | 3.1e-05 | 1.4e-04 | 7.5e-05 | 9.3e-05 | 8.3e-04 |
| Central Atlantic Draft WEA Primary C | 6.2e-05 | 5.2e-05 | 5.9e-05 | 5.2e-05 | 2.4e-05 | 3.6e-05 | 4.3e-06 | 4.1e-06 | 1.9e-05 | 8.7e-05 | 4.5e-05 | 5.7e-05 | 5.0e-04 |
| Central Atlantic Draft WEA Secondary C | 3.3e-05 | 2.8e-05 | 3.2e-05 | 2.6e-05 | 1.2e-05 | 1.8e-05 | 2.2e-06 | 2.1e-06 | 9.6e-06 | 4.5e-05 | 2.3e-05 | 2.8e-05 | 2.6e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.9e-04 | 1.9e-04 | 2.2e-04 | 1.6e-04 | 7.8e-05 | 8.2e-05 | 9.7e-06 | 9.7e-06 | 5.6e-05 | 2.7e-04 | 1.7e-04 | 1.8e-04 | 1.6e-03 |
| Central Atlantic Draft WEA Primary D | 5.9e-05 | 5.6e-05 | 6.5e-05 | 5.1e-05 | 2.5e-05 | 2.8e-05 | 3.1e-06 | 3.6e-06 | 2.0e-05 | 8.7e-05 | 5.5e-05 | 5.9e-05 | 5.1e-04 |
| Central Atlantic Draft WEA Secondary D | 7.5e-06 | 6.8e-06 | 8.2e-06 | 6.9e-06 | 3.4e-06 | 3.6e-06 | 3.6e-07 | 4.7e-07 | 2.6e-06 | 1.1e-05 | 6.7e-06 | 7.5e-06 | 6.5e-05 |
| Central Atlantic Call Area E | 2.3e-04 | 2.6e-04 | 2.1e-04 | 7.7e-05 | 2.3e-05 | 1.6e-05 | 3.4e-06 | 3.2e-06 | 1.4e-05 | 9.1e-05 | 1.1e-04 | 1.8e-04 | 1.2e-03 |
| Central Atlantic Draft WEA Primary E1 | 5.2e-05 | 5.6e-05 | 4.2e-05 | 2.1e-05 | 4.1e-06 | 2.7e-06 | 6.1e-07 | 5.9e-07 | 2.9e-06 | 2.3e-05 | 2.3e-05 | 4.3e-05 | 2.7e-04 |
| Central Atlantic Draft WEA Primary E2 | 9.7e-06 | 1.0e-05 | 6.8e-06 | 2.8e-06 | 8.8e-07 | 6.3e-07 | 1.2e-07 | 1.3e-07 | 5.0e-07 | 3.8e-06 | 4.7e-06 | 6.3e-06 | 4.7e-05 |
| Central Atlantic Call Area F | 3.9e-05 | 3.0e-05 | 3.0e-05 | 1.7e-05 | 7.6e-06 | 4.8e-06 | 8.8e-07 | 8.4e-07 | 3.5e-06 | 1.5e-05 | 2.8e-05 | 3.4e-05 | 2.1e-04 |
| Central Atlantic Draft WEA Primary F | 2.3e-07 | 1.9e-07 | 1.9e-07 | 1.2e-07 | 4.6e-08 | 2.6e-08 | 5.7e-09 | 4.2e-09 | 1.4e-08 | 7.4e-08 | 1.4e-07 | 1.9e-07 | 1.2e-06 |
| Virginia OCS-A 0483 | 4.4e-05 | 3.4e-05 | 4.5e-05 | 4.8e-05 | 2.4e-05 | 2.8e-05 | 2.9e-06 | 3.2e-06 | 1.3e-05 | 5.8e-05 | 3.0e-05 | 4.2e-05 | 3.7e-04 |
| Virginia OCS-A 0497 | 1.5e-06 | 1.3e-06 | 1.7e-06 | 1.8e-06 | 1.1e-06 | 6.6e-07 | 5.8e-08 | 6.8e-08 | 2.9e-07 | 1.5e-06 | 8.1e-07 | 1.3e-06 | 1.2e-05 |
| North Carolina OCS-A 0508 | 4.2e-05 | 4.2e-05 | 4.7e-05 | 3.4e-05 | 1.8e-05 | 1.6e-05 | 2.0e-06 | 2.4e-06 | 1.3e-05 | 5.9e-05 | 4.7e-05 | 4.4e-05 | 3.7e-04 |
| North Carolina OCS-A 0545 | 3.8e-06 | 2.7e-06 | 2.7e-06 | 2.8e-06 | 9.5e-07 | 2.0e-07 | 1.3e-07 | 1.4e-07 | 2.3e-07 | 8.1e-07 | 3.3e-06 | 4.7e-06 | 2.3e-05 |
| North Carolina OCS-A 0546 | 5.1e-06 | 3.6e-06 | 3.2e-06 | 3.9e-06 | 1.3e-06 | 3.1e-07 | 2.4e-07 | 2.1e-07 | 2.6e-07 | 1.0e-06 | 4.3e-06 | 6.5e-06 | 3.0e-05 |
| South Carolina Call Area - Grand Strand | 5.0e-05 | 4.8e-05 | 4.9e-05 | 5.6e-05 | 1.6e-05 | 2.3e-06 | 1.3e-06 | 2.0e-06 | 3.5e-06 | 1.4e-05 | 4.4e-05 | 4.3e-05 | 3.3e-04 |
| South Carolina Call Area - Cape Romain | 1.6e-05 | 1.5e-05 | 1.4e-05 | 2.0e-05 | 5.4e-06 | 9.3e-07 | 6.5e-07 | 6.6e-07 | 7.1e-07 | 2.6e-06 | 1.0e-05 | 1.2e-05 | 9.8e-05 |
| South Carolina Call Area - Winyah | 1.2e-05 | 7.5e-06 | 6.2e-06 | 4.4e-06 | 7.9e-07 | 2.3e-07 | 1.6e-07 | 2.1e-07 | 2.3e-07 | 6.2e-07 | 2.5e-06 | 7.0e-06 | 4.2e-05 |
| South Carolina Call Area - Charleston | 4.4e-06 | 2.5e-06 | 2.6e-06 | 2.2e-06 | 6.0e-07 | 1.6e-07 | 1.2e-07 | 1.5e-07 | 1.6e-07 | 4.5e-07 | 2.5e-06 | 5.0e-06 | 2.1e-05 |
| All planning areas | 3.2e-02 | 2.0e-02 | 1.5e-02 | 6.2e-03 | 6.3e-03 | 5.9e-03 | 4.4e-03 | 8.6e-03 | 1.2e-02 | 1.8e-02 | 2.6e-02 | 3.0e-02 | 1.9e-01 |
| All lease areas | 1.6e-03 | 9.6e-04 | 9.5e-04 | 7.5e-04 | 6.8e-04 | 6.0e-04 | 4.4e-04 | 5.2e-04 | 1.2e-03 | 1.6e-03 | 1.5e-03 | 2.1e-03 | 1.3e-02 |
| All planning and lease areas | 3.4e-02 | 2.1e-02 | 1.6e-02 | 7.0e-03 | 7.0e-03 | 6.5e-03 | 4.9e-03 | 9.1e-03 | 1.4e-02 | 2.0e-02 | 2.8e-02 | 3.2e-02 | 2.0e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-27. Predicted proportional abundance of Sooty Tern by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.3e-07 | 2.4e-07 | 1.2e-06 | 1.7e-05 | 3.3e-05 | 1.0e-05 | 6.2e-06 | 1.6e-05 | 2.7e-05 | 6.4e-06 | 9.7e-07 | 2.8e-07 | 1.2e-04 |
| Gulf of Maine Request for Competitive Interest | 2.8e-09 | 4.7e-09 | 2.2e-08 | 2.3e-07 | 2.0e-07 | 4.2e-08 | 3.3e-08 | 8.6e-08 | 1.7e-07 | 8.9e-08 | 1.7e-08 | 5.9e-09 | 9.0e-07 |
| Marine Research Array Requested Lease | 4.9e-10 | 8.1e-10 | 3.7e-09 | 3.6e-08 | 2.8e-08 | 5.9e-09 | 4.9e-09 | 1.2e-08 | 2.4e-08 | 1.4e-08 | 2.9e-09 | 1.0e-09 | 1.3e-07 |
| Rhode Island OCS-A 0506 | 5.0e-10 | 1.2e-09 | 1.2e-09 | 3.9e-10 | 8.9e-11 | 3.8e-11 | 6.1e-11 | 2.6e-10 | 4.0e-10 | 3.3e-10 | 3.8e-10 | 4.1e-10 | 5.2e-09 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.4e-08 | 4.5e-08 | 1.6e-07 | 2.1e-07 | 6.3e-08 | 1.9e-08 | 2.3e-08 | 1.0e-07 | 2.1e-07 | 6.6e-08 | 2.6e-08 | 1.7e-08 | 9.6e-07 |
| Rhode Island / Massachusetts OCS-A 0517 | 9.0e-10 | 3.1e-09 | 1.5e-08 | 3.0e-08 | 1.0e-08 | 2.8e-09 | 3.3e-09 | 1.8e-08 | 3.7e-08 | 7.6e-09 | 2.1e-09 | 1.1e-09 | 1.3e-07 |
| Rhode Island / Massachusetts OCS-A 0487 | 3.6e-09 | 1.3e-08 | 6.9e-08 | 2.1e-07 | 1.1e-07 | 2.8e-08 | 3.1e-08 | 1.7e-07 | 2.9e-07 | 4.0e-08 | 8.6e-09 | 4.2e-09 | 9.7e-07 |
| Massachusetts OCS-A 0500 | 3.8e-09 | 1.4e-08 | 7.5e-08 | 2.8e-07 | 1.9e-07 | 4.8e-08 | 5.1e-08 | 2.2e-07 | 3.7e-07 | 4.5e-08 | 8.9e-09 | 4.1e-09 | 1.3e-06 |
| Massachusetts OCS-A 0501 | 1.6e-09 | 5.3e-09 | 2.6e-08 | 1.1e-07 | 1.0e-07 | 2.4e-08 | 2.5e-08 | 8.7e-08 | 1.5e-07 | 1.7e-08 | 3.6e-09 | 1.7e-09 | 5.5e-07 |
| Massachusetts OCS-A 0534 | 2.1e-09 | 8.5e-09 | 4.5e-08 | 1.9e-07 | 1.6e-07 | 4.1e-08 | 4.2e-08 | 1.6e-07 | 2.6e-07 | 2.8e-08 | 5.1e-09 | 2.0e-09 | 9.5e-07 |
| Massachusetts OCS-A 0520 | 2.6e-09 | 9.6e-09 | 4.7e-08 | 2.4e-07 | 2.4e-07 | 5.8e-08 | 6.0e-08 | 2.2e-07 | 3.5e-07 | 3.4e-08 | 6.4e-09 | 2.4e-09 | 1.3e-06 |
| Massachusetts OCS-A 0521 | 2.4e-09 | 9.0e-09 | 3.7e-08 | 2.2e-07 | 2.6e-07 | 6.3e-08 | 6.5e-08 | 2.3e-07 | 3.5e-07 | 3.3e-08 | 6.5e-09 | 2.3e-09 | 1.3e-06 |
| Massachusetts OCS-A 0522 | 2.3e-09 | 8.5e-09 | 3.2e-08 | 2.2e-07 | 2.9e-07 | 7.0e-08 | 6.9e-08 | 2.3e-07 | 3.5e-07 | 3.4e-08 | 7.3e-09 | 2.4e-09 | 1.3e-06 |
| New York WEA - Fairways North | 6.3e-09 | 2.9e-08 | 1.6e-07 | 1.3e-07 | 3.4e-08 | 1.0e-08 | 3.3e-08 | 1.7e-07 | 2.8e-07 | 4.8e-08 | 1.1e-08 | 6.7e-09 | 9.2e-07 |
| New York WEA - Fairways South | 9.8e-09 | 4.6e-08 | 1.3e-07 | 5.3e-08 | 7.3e-09 | 2.8e-09 | 1.1e-08 | 5.0e-08 | 7.6e-08 | 2.3e-08 | 1.1e-08 | 9.6e-09 | 4.3e-07 |
| New York OCS-A 0512 | 1.0e-08 | 3.9e-08 | 1.7e-07 | 9.3e-08 | 1.9e-08 | 7.4e-09 | 3.7e-08 | 1.9e-07 | 2.1e-07 | 3.0e-08 | 9.9e-09 | 9.4e-09 | 8.2e-07 |
| NY/NJ OCS-A 0544 | 3.3e-09 | 1.5e-08 | 9.4e-08 | 7.4e-08 | 1.5e-08 | 4.8e-09 | 1.9e-08 | 1.0e-07 | 1.1e-07 | 1.9e-08 | 5.4e-09 | 3.9e-09 | 4.7e-07 |
| NY/NJ OCS-A 0537 | 1.5e-09 | 4.7e-09 | 3.9e-08 | 1.3e-07 | 6.5e-08 | 1.6e-08 | 3.8e-08 | 1.8e-07 | 2.1e-07 | 3.1e-08 | 5.8e-09 | 2.8e-09 | 7.2e-07 |
| NY/NJ OCS-A 0538 | 2.5e-09 | 8.4e-09 | 5.7e-08 | 1.5e-07 | 7.7e-08 | 1.8e-08 | 5.5e-08 | 2.3e-07 | 2.2e-07 | 3.1e-08 | 7.1e-09 | 4.0e-09 | 8.6e-07 |
| NY/NJ OCS-A 0539 | 2.5e-09 | 9.0e-09 | 5.9e-08 | 1.3e-07 | 1.1e-07 | 2.8e-08 | 9.8e-08 | 4.1e-07 | 3.0e-07 | 3.0e-08 | 6.3e-09 | 3.9e-09 | 1.2e-06 |
| NY/NJ OCS-A 0541 | 2.5e-09 | 1.0e-08 | 5.9e-08 | 9.6e-08 | 5.7e-08 | 1.8e-08 | 7.8e-08 | 3.6e-07 | 2.6e-07 | 2.4e-08 | 5.1e-09 | 3.7e-09 | 9.8e-07 |
| NY/NJ OCS-A 0542 | 1.6e-09 | 6.4e-09 | 4.0e-08 | 8.9e-08 | 7.4e-08 | 2.2e-08 | 8.2e-08 | 3.7e-07 | 3.1e-07 | 2.4e-08 | 5.0e-09 | 3.1e-09 | 1.0e-06 |
| New Jersey OCS-A 0549 | 1.8e-08 | 4.7e-08 | 1.3e-07 | 5.4e-08 | 1.8e-08 | 1.4e-08 | 7.5e-08 | 3.6e-07 | 3.1e-07 | 3.3e-08 | 1.1e-08 | 1.5e-08 | 1.1e-06 |
| New Jersey OCS-A 0499 | 1.8e-08 | 5.6e-08 | 1.8e-07 | 8.3e-08 | 2.8e-08 | 2.1e-08 | 1.1e-07 | 5.8e-07 | 4.8e-07 | 4.6e-08 | 1.3e-08 | 1.6e-08 | 1.6e-06 |
| New Jersey OCS-A 0498 | 3.0e-08 | 9.5e-08 | 2.2e-07 | 8.2e-08 | 2.1e-08 | 1.6e-08 | 8.9e-08 | 5.1e-07 | 4.7e-07 | 5.7e-08 | 2.2e-08 | 2.5e-08 | 1.6e-06 |
| New Jersey OCS-A 0532 | 8.2e-08 | 2.2e-07 | 3.2e-07 | 9.7e-08 | 2.1e-08 | 1.9e-08 | 1.0e-07 | 5.6e-07 | 5.7e-07 | 8.7e-08 | 4.1e-08 | 5.9e-08 | 2.2e-06 |
| Delaware OCS-A 0482 | 8.1e-09 | 3.0e-08 | 5.8e-08 | 3.2e-08 | 1.9e-08 | 1.9e-08 | 1.3e-07 | 8.4e-07 | 3.6e-07 | 2.2e-08 | 6.6e-09 | 8.9e-09 | 1.5e-06 |
| Delaware OCS-A 0519 | 2.7e-09 | 1.2e-08 | 2.7e-08 | 1.6e-08 | 7.9e-09 | 7.2e-09 | 5.3e-08 | 3.6e-07 | 1.6e-07 | 9.4e-09 | 2.9e-09 | 3.0e-09 | 6.6e-07 |
| Maryland OCS-A 0490 | 8.1e-09 | 3.8e-08 | 6.6e-08 | 3.9e-08 | 2.1e-08 | 2.1e-08 | 1.8e-07 | 1.2e-06 | 5.2e-07 | 2.9e-08 | 9.8e-09 | 1.1e-08 | 2.2e-06 |
| Central Atlantic Call Area A | 1.4e-08 | 6.8e-08 | 2.4e-07 | 2.0e-07 | 1.2e-07 | 7.6e-08 | 5.0e-07 | 4.1e-06 | 1.7e-06 | 1.0e-07 | 2.7e-08 | 2.0e-08 | 7.2e-06 |
| Central Atlantic Draft WEA Primary A | 2.9e-09 | 1.4e-08 | 4.5e-08 | 3.3e-08 | 1.9e-08 | 1.3e-08 | 8.8e-08 | 6.5e-07 | 2.9e-07 | 1.7e-08 | 4.4e-09 | 3.6e-09 | 1.2e-06 |
| Central Atlantic Draft WEA Secondary A | 7.3e-09 | 3.5e-08 | 1.3e-07 | 9.9e-08 | 5.6e-08 | 3.7e-08 | 2.5e-07 | 2.0e-06 | 8.4e-07 | 4.9e-08 | 1.3e-08 | 9.8e-09 | 3.5e-06 |
| Central Atlantic Call Area B | 3.3e-08 | 1.5e-07 | 3.4e-07 | 3.1e-07 | 2.9e-07 | 1.8e-07 | 2.2e-06 | 2.5e-05 | 6.9e-06 | 5.5e-07 | 1.8e-07 | 6.4e-08 | 3.6e-05 |
| Central Atlantic Draft WEA Primary B1 | 1.2e-09 | 6.3e-09 | 1.1e-08 | 7.3e-09 | 5.5e-09 | 4.2e-09 | 5.9e-08 | 4.2e-07 | 1.5e-07 | 8.1e-09 | 3.4e-09 | 1.6e-09 | 6.8e-07 |
| Central Atlantic Draft WEA Secondary B1 | 4.6e-10 | 2.4e-09 | 4.9e-09 | 3.7e-09 | 2.9e-09 | 2.1e-09 | 2.4e-08 | 1.9e-07 | 6.3e-08 | 3.6e-09 | 1.5e-09 | 6.8e-10 | 3.0e-07 |
| Central Atlantic Draft WEA Primary B2 | 1.0e-08 | 4.3e-08 | 8.8e-08 | 7.7e-08 | 8.3e-08 | 4.7e-08 | 7.8e-07 | 8.8e-06 | 2.2e-06 | 1.9e-07 | 6.5e-08 | 2.0e-08 | 1.2e-05 |
| Central Atlantic Draft WEA Secondary B2 | 3.4e-09 | 1.5e-08 | 3.4e-08 | 3.7e-08 | 4.0e-08 | 2.4e-08 | 2.9e-07 | 3.9e-06 | 9.6e-07 | 8.7e-08 | 2.6e-08 | 8.2e-09 | 5.4e-06 |
| Central Atlantic Call Area C | 1.2e-08 | 4.0e-08 | 7.0e-08 | 5.2e-08 | 6.4e-08 | 5.0e-08 | 3.0e-06 | 1.3e-05 | 2.9e-06 | 2.4e-07 | 7.0e-08 | 2.1e-08 | 2.0e-05 |
| Central Atlantic Draft WEA Primary C | 7.5e-09 | 2.5e-08 | 4.2e-08 | 2.9e-08 | 3.4e-08 | 2.7e-08 | 1.8e-06 | 7.7e-06 | 1.7e-06 | 1.3e-07 | 3.9e-08 | 1.2e-08 | 1.1e-05 |
| Central Atlantic Draft WEA Secondary C | 3.9e-09 | 1.3e-08 | 2.2e-08 | 1.8e-08 | 2.2e-08 | 1.6e-08 | 9.3e-07 | 4.3e-06 | 9.1e-07 | 8.4e-08 | 2.3e-08 | 6.8e-09 | 6.3e-06 |
| Central Atlantic Call Area D | 2.7e-08 | 6.8e-08 | 1.0e-07 | 9.5e-08 | 2.0e-07 | 1.1e-06 | 2.3e-05 | 9.2e-05 | 1.4e-05 | 1.0e-06 | 1.8e-07 | 4.4e-08 | 1.3e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.1e-08 | 3.0e-08 | 4.3e-08 | 2.8e-08 | 4.7e-08 | 2.0e-07 | 6.9e-06 | 2.8e-05 | 4.0e-06 | 2.6e-07 | 5.1e-08 | 1.5e-08 | 4.0e-05 |
| Central Atlantic Draft WEA Secondary D | 1.8e-09 | 5.1e-09 | 6.2e-09 | 3.0e-09 | 4.9e-09 | 1.6e-08 | 7.9e-07 | 3.6e-06 | 5.2e-07 | 2.8e-08 | 5.8e-09 | 2.0e-09 | 5.0e-06 |
| Central Atlantic Call Area E | 1.2e-09 | 3.0e-09 | 1.0e-08 | 6.8e-08 | 2.5e-07 | 8.1e-07 | 4.9e-06 | 1.4e-05 | 5.9e-06 | 5.2e-07 | 6.5e-08 | 7.9e-09 | 2.6e-05 |
| Central Atlantic Draft WEA Primary E1 | 1.6e-10 | 3.9e-10 | 1.5e-09 | 1.5e-08 | 6.0e-08 | 1.9e-07 | 1.4e-06 | 3.3e-06 | 1.3e-06 | 7.7e-08 | 7.8e-09 | 1.2e-09 | 6.2e-06 |
| Central Atlantic Draft WEA Primary E2 | 1.5e-10 | 2.8e-10 | 8.6e-10 | 7.9e-09 | 3.3e-08 | 1.7e-07 | 1.3e-06 | 2.4e-06 | 1.0e-06 | 1.0e-07 | 1.3e-08 | 9.7e-10 | 5.0e-06 |
| Central Atlantic Call Area F | 8.8e-10 | 2.2e-09 | 2.4e-09 | 1.3e-08 | 1.6e-07 | 1.3e-06 | 9.7e-06 | 4.0e-05 | 2.2e-05 | 1.1e-06 | 1.1e-07 | 1.5e-08 | 7.4e-05 |
| Central Atlantic Draft WEA Primary F | 5.9e-11 | 2.1e-10 | 1.4e-10 | 8.7e-10 | 1.3e-08 | 1.2e-07 | 1.1e-06 | 4.2e-06 | 2.2e-06 | 1.1e-07 | 1.1e-08 | 1.4e-09 | 7.8e-06 |
| Virginia OCS-A 0483 | 1.2e-08 | 3.5e-08 | 3.7e-08 | 8.3e-09 | 1.1e-08 | 3.1e-08 | 1.6e-06 | 8.2e-06 | 1.7e-06 | 8.5e-08 | 2.3e-08 | 1.2e-08 | 1.2e-05 |
| Virginia OCS-A 0497 | 3.3e-10 | 5.5e-10 | 4.0e-10 | 7.2e-11 | 2.3e-10 | 1.3e-09 | 4.9e-08 | 2.2e-07 | 4.3e-08 | 1.9e-09 | 3.9e-10 | 2.5e-10 | 3.2e-07 |
| North Carolina OCS-A 0508 | 6.8e-09 | 1.6e-08 | 2.4e-08 | 1.9e-08 | 4.3e-08 | 3.2e-07 | 6.4e-06 | 2.5e-05 | 3.5e-06 | 2.2e-07 | 3.3e-08 | 9.3e-09 | 3.6e-05 |
| North Carolina OCS-A 0545 | 1.4e-08 | 1.6e-08 | 1.7e-08 | 5.2e-08 | 4.7e-07 | 4.4e-06 | 1.6e-05 | 6.0e-05 | 2.3e-05 | 2.7e-06 | 2.6e-07 | 8.8e-08 | 1.1e-04 |
| North Carolina OCS-A 0546 | 1.2e-08 | 1.3e-08 | 1.4e-08 | 4.6e-08 | 4.5e-07 | 4.3e-06 | 1.5e-05 | 6.0e-05 | 2.3e-05 | 2.5e-06 | 2.4e-07 | 7.6e-08 | 1.1e-04 |
| South Carolina Call Area - Grand Strand | 4.1e-07 | 4.5e-07 | 3.6e-07 | 5.5e-07 | 4.1e-06 | 3.9e-05 | 1.8e-04 | 6.4e-04 | 3.0e-04 | 4.9e-05 | 5.5e-06 | 1.7e-06 | 1.2e-03 |
| South Carolina Call Area - Cape Romain | 9.3e-08 | 1.3e-07 | 1.1e-07 | 1.4e-07 | 1.1e-06 | 1.1e-05 | 5.4e-05 | 1.8e-04 | 9.6e-05 | 1.6e-05 | 1.7e-06 | 4.3e-07 | 3.7e-04 |
| South Carolina Call Area - Winyah | 5.0e-09 | 6.5e-09 | 1.0e-08 | 4.8e-08 | 5.5e-07 | 4.4e-06 | 1.6e-05 | 5.2e-05 | 2.2e-05 | 2.0e-06 | 1.8e-07 | 4.9e-08 | 9.7e-05 |
| South Carolina Call Area - Charleston | 1.0e-08 | 1.6e-08 | 2.8e-08 | 6.1e-08 | 5.1e-07 | 4.2e-06 | 1.8e-05 | 5.6e-05 | 2.4e-05 | 2.8e-06 | 2.3e-07 | 7.7e-08 | 1.1e-04 |
| All planning areas | 7.5e-07 | 1.2e-06 | 2.7e-06 | 1.9e-05 | 4.1e-05 | 7.3e-05 | 3.2e-04 | 1.1e-03 | 5.3e-04 | 7.9e-05 | 9.2e-06 | 2.8e-06 | 2.2e-03 |
| All lease areas | 2.7e-07 | 7.8e-07 | 2.1e-06 | 3.0e-06 | 2.9e-06 | 9.7e-06 | 4.0e-05 | 1.6e-04 | 5.8e-05 | 6.2e-06 | 7.8e-07 | 3.9e-07 | 2.9e-04 |
| All planning and lease areas | 1.0e-06 | 2.0e-06 | 4.9e-06 | 2.2e-05 | 4.4e-05 | 8.2e-05 | 3.6e-04 | 1.3e-03 | 5.9e-04 | 8.5e-05 | 1.0e-05 | 3.2e-06 | 2.5e-03 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

## Table H-28. Predicted proportional abundance of Least Tern by BOEM area and month during the retrospective period (1993–2019)

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.5e-09 | 3.9e-09 | 1.2e-09 | 5.9e-08 | 1.3e-06 | 1.7e-06 | 8.3e-07 | 4.4e-07 | 9.3e-08 | 1.4e-08 | 8.4e-09 | 2.5e-09 | 4.5e-06 |
| Gulf of Maine Request for Competitive Interest | 2.0e-11 | 3.2e-11 | 9.5e-12 | 4.9e-10 | 1.1e-08 | 1.5e-08 | 7.1e-09 | 3.7e-09 | 8.0e-10 | 1.2e-10 | 6.7e-11 | 2.1e-11 | 3.8e-08 |
| Marine Research Array Requested Lease | 3.0e-12 | 4.8e-12 | 1.4e-12 | 7.6e-11 | 1.7e-09 | 2.3e-09 | 1.1e-09 | 5.5e-10 | 1.2e-10 | 1.8e-11 | 1.0e-11 | 3.2e-12 | 5.8e-09 |
| Rhode Island OCS-A 0506 | 3.1e-11 | 5.0e-11 | 1.4e-11 | 7.4e-10 | 1.3e-08 | 1.4e-08 | 6.9e-09 | 3.3e-09 | 6.5e-10 | 9.4e-11 | 6.8e-11 | 2.4e-11 | 3.9e-08 |
| Rhode Island / Massachusetts OCS-A 0486 | 8.3e-09 | 1.3e-08 | 3.5e-09 | 1.9e-07 | 3.5e-06 | 4.1e-06 | 2.3e-06 | 1.0e-06 | 1.9e-07 | 2.9e-08 | 2.0e-08 | 6.8e-09 | 1.1e-05 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.3e-09 | 2.0e-09 | 5.6e-10 | 3.2e-08 | 6.0e-07 | 7.1e-07 | 3.8e-07 | 1.6e-07 | 2.9e-08 | 4.4e-09 | 3.1e-09 | 1.1e-09 | 1.9e-06 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.6e-09 | 8.7e-09 | 2.3e-09 | 1.3e-07 | 2.5e-06 | 3.0e-06 | 1.6e-06 | 7.0e-07 | 1.2e-07 | 1.8e-08 | 1.4e-08 | 4.6e-09 | 8.1e-06 |
| Massachusetts OCS-A 0500 | 7.0e-09 | 1.0e-08 | 2.6e-09 | 1.3e-07 | 2.6e-06 | 3.2e-06 | 1.9e-06 | 9.0e-07 | 1.6e-07 | 2.3e-08 | 1.7e-08 | 5.9e-09 | 8.9e-06 |
| Massachusetts OCS-A 0501 | 4.4e-09 | 6.3e-09 | 1.6e-09 | 6.7e-08 | 1.4e-06 | 1.8e-06 | 1.1e-06 | 5.6e-07 | 1.0e-07 | 1.5e-08 | 1.1e-08 | 3.8e-09 | 5.1e-06 |
| Massachusetts OCS-A 0534 | 3.8e-09 | 5.5e-09 | 1.4e-09 | 6.1e-08 | 1.4e-06 | 1.6e-06 | 1.0e-06 | 4.9e-07 | 8.2e-08 | 1.2e-08 | 9.2e-09 | 3.3e-09 | 4.7e-06 |
| Massachusetts OCS-A 0520 | 4.7e-09 | 6.7e-09 | 1.6e-09 | 6.8e-08 | 1.6e-06 | 1.9e-06 | 1.2e-06 | 6.0e-07 | 1.0e-07 | 1.5e-08 | 1.2e-08 | 4.1e-09 | 5.5e-06 |
| Massachusetts OCS-A 0521 | 4.8e-09 | 6.5e-09 | 1.6e-09 | 6.6e-08 | 1.5e-06 | 1.9e-06 | 1.2e-06 | 5.9e-07 | 1.0e-07 | 1.5e-08 | 1.2e-08 | 4.3e-09 | 5.4e-06 |
| Massachusetts OCS-A 0522 | 5.7e-09 | 7.3e-09 | 1.8e-09 | 7.6e-08 | 1.7e-06 | 2.3e-06 | 1.4e-06 | 7.0e-07 | 1.2e-07 | 1.8e-08 | 1.5e-08 | 5.2e-09 | 6.3e-06 |
| New York WEA - Fairways North | 3.7e-09 | 5.9e-09 | 1.9e-09 | 1.2e-07 | 2.6e-06 | 2.8e-06 | 1.1e-06 | 4.8e-07 | 8.7e-08 | 1.4e-08 | 1.1e-08 | 3.3e-09 | 7.2e-06 |
| New York WEA - Fairways South | 1.3e-09 | 2.1e-09 | 7.1e-10 | 4.3e-08 | 9.7e-07 | 1.1e-06 | 4.2e-07 | 1.8e-07 | 3.7e-08 | 5.9e-09 | 4.4e-09 | 1.3e-09 | 2.7e-06 |
| New York OCS-A 0512 | 7.6e-09 | 1.2e-08 | 4.0e-09 | 2.3e-07 | 5.0e-06 | 5.6e-06 | 2.1e-06 | 8.8e-07 | 2.1e-07 | 3.5e-08 | 2.6e-08 | 7.7e-09 | 1.4e-05 |
| NY/NJ OCS-A 0544 | 2.0e-09 | 3.1e-09 | 1.0e-09 | 6.5e-08 | 1.6e-06 | 2.0e-06 | 7.7e-07 | 3.3e-07 | 6.8e-08 | 1.0e-08 | 7.5e-09 | 2.1e-09 | 4.8e-06 |
| NY/NJ OCS-A 0537 | 1.6e-09 | 2.2e-09 | 5.6e-10 | 3.6e-08 | 9.8e-07 | 1.3e-06 | 6.2e-07 | 2.9e-07 | 4.3e-08 | 7.8e-09 | 4.7e-09 | 1.5e-09 | 3.3e-06 |
| NY/NJ OCS-A 0538 | 3.1e-09 | 4.3e-09 | 1.2e-09 | 6.2e-08 | 1.8e-06 | 2.7e-06 | 1.2e-06 | 5.6e-07 | 1.1e-07 | 1.5e-08 | 1.1e-08 | 3.1e-09 | 6.5e-06 |
| NY/NJ OCS-A 0539 | 6.4e-09 | 9.2e-09 | 2.5e-09 | 1.3e-07 | 3.5e-06 | 5.4e-06 | 2.4e-06 | 1.0e-06 | 2.1e-07 | 3.1e-08 | 2.4e-08 | 6.5e-09 | 1.3e-05 |
| NY/NJ OCS-A 0541 | 3.6e-09 | 5.0e-09 | 1.3e-09 | 7.1e-08 | 1.9e-06 | 2.8e-06 | 1.2e-06 | 4.9e-07 | 1.1e-07 | 1.8e-08 | 1.4e-08 | 3.6e-09 | 6.6e-06 |
| NY/NJ OCS-A 0542 | 3.0e-09 | 4.5e-09 | 1.2e-09 | 5.6e-08 | 1.5e-06 | 2.3e-06 | 1.0e-06 | 4.6e-07 | 9.2e-08 | 1.4e-08 | 1.1e-08 | 3.1e-09 | 5.5e-06 |
| New Jersey OCS-A 0549 | 1.7e-08 | 2.4e-08 | 6.6e-09 | 3.6e-07 | 6.8e-06 | 7.7e-06 | 2.6e-06 | 1.1e-06 | 3.3e-07 | 6.1e-08 | 5.0e-08 | 1.6e-08 | 1.9e-05 |
| New Jersey OCS-A 0499 | 1.6e-08 | 2.2e-08 | 6.1e-09 | 3.4e-07 | 6.9e-06 | 8.2e-06 | 2.8e-06 | 1.2e-06 | 3.4e-07 | 6.2e-08 | 5.0e-08 | 1.5e-08 | 2.0e-05 |
| New Jersey OCS-A 0498 | 1.1e-08 | 1.6e-08 | 4.4e-09 | 2.4e-07 | 4.9e-06 | 6.0e-06 | 2.1e-06 | 8.8e-07 | 2.4e-07 | 4.5e-08 | 3.6e-08 | 1.1e-08 | 1.4e-05 |
| New Jersey OCS-A 0532 | 1.7e-08 | 2.5e-08 | 6.8e-09 | 3.4e-07 | 6.3e-06 | 7.4e-06 | 2.6e-06 | 1.1e-06 | 3.1e-07 | 6.0e-08 | 5.0e-08 | 1.6e-08 | 1.8e-05 |
| Delaware OCS-A 0482 | 1.2e-08 | 1.7e-08 | 4.9e-09 | 2.4e-07 | 4.6e-06 | 5.7e-06 | 2.1e-06 | 9.5e-07 | 2.4e-07 | 4.7e-08 | 3.9e-08 | 1.2e-08 | 1.4e-05 |
| Delaware OCS-A 0519 | 3.2e-09 | 4.2e-09 | 1.3e-09 | 6.9e-08 | 1.4e-06 | 1.9e-06 | 7.0e-07 | 3.3e-07 | 7.7e-08 | 1.4e-08 | 1.1e-08 | 3.2e-09 | 4.5e-06 |
| Maryland OCS-A 0490 | 1.1e-08 | 1.5e-08 | 4.3e-09 | 2.3e-07 | 4.7e-06 | 6.1e-06 | 2.3e-06 | 1.1e-06 | 2.4e-07 | 4.5e-08 | 3.8e-08 | 1.1e-08 | 1.5e-05 |
| Central Atlantic Call Area A | 1.6e-08 | 2.0e-08 | 5.6e-09 | 3.2e-07 | 7.1e-06 | 1.0e-05 | 4.0e-06 | 2.2e-06 | 4.7e-07 | 6.9e-08 | 5.7e-08 | 1.5e-08 | 2.5e-05 |
| Central Atlantic Draft WEA Primary A | 3.1e-09 | 4.0e-09 | 1.2e-09 | 6.7e-08 | 1.5e-06 | 2.1e-06 | 7.9e-07 | 4.1e-07 | 9.0e-08 | 1.4e-08 | 1.2e-08 | 3.2e-09 | 5.0e-06 |
| Central Atlantic Draft WEA Secondary A | 7.7e-09 | 9.8e-09 | 2.8e-09 | 1.6e-07 | 3.6e-06 | 5.3e-06 | 2.0e-06 | 1.1e-06 | 2.3e-07 | 3.5e-08 | 2.9e-08 | 7.7e-09 | 1.2e-05 |
| Central Atlantic Call Area B | 4.4e-08 | 5.7e-08 | 1.2e-08 | 6.9e-07 | 1.8e-05 | 2.6e-05 | 1.0e-05 | 6.2e-06 | 1.1e-06 | 1.5e-07 | 1.3e-07 | 3.6e-08 | 6.2e-05 |
| Central Atlantic Draft WEA Primary B1 | 2.0e-09 | 2.4e-09 | 6.9e-10 | 4.5e-08 | 1.1e-06 | 1.6e-06 | 5.6e-07 | 2.4e-07 | 5.2e-08 | 8.0e-09 | 6.6e-09 | 2.0e-09 | 3.6e-06 |
| Central Atlantic Draft WEA Secondary B1 | 7.5e-10 | 9.1e-10 | 2.5e-10 | 1.6e-08 | 4.1e-07 | 5.7e-07 | 2.1e-07 | 1.0e-07 | 2.2e-08 | 3.0e-09 | 2.5e-09 | 7.2e-10 | 1.3e-06 |
| Central Atlantic Draft WEA Primary B2 | 1.3e-08 | 1.8e-08 | 3.3e-09 | 1.8e-07 | 5.1e-06 | 7.5e-06 | 2.8e-06 | 2.1e-06 | 3.0e-07 | 4.1e-08 | 3.7e-08 | 1.0e-08 | 1.8e-05 |
| Central Atlantic Draft WEA Secondary B2 | 5.0e-09 | 6.7e-09 | 1.1e-09 | 4.7e-08 | 1.3e-06 | 1.9e-06 | 8.0e-07 | 6.0e-07 | 9.4e-08 | 1.5e-08 | 1.4e-08 | 3.5e-09 | 4.7e-06 |
| Central Atlantic Call Area C | 2.3e-08 | 2.6e-08 | 4.5e-09 | 2.5e-07 | 6.8e-06 | 9.9e-06 | 5.5e-06 | 3.2e-06 | 4.0e-07 | 5.7e-08 | 5.3e-08 | 1.4e-08 | 2.6e-05 |
| Central Atlantic Draft WEA Primary C | 1.4e-08 | 1.6e-08 | 2.8e-09 | 1.6e-07 | 4.5e-06 | 6.5e-06 | 3.6e-06 | 2.1e-06 | 2.6e-07 | 3.5e-08 | 3.3e-08 | 8.6e-09 | 1.7e-05 |
| Central Atlantic Draft WEA Secondary C | 7.4e-09 | 8.0e-09 | 1.3e-09 | 6.9e-08 | 1.9e-06 | 2.7e-06 | 1.4e-06 | 8.5e-07 | 1.1e-07 | 1.7e-08 | 1.6e-08 | 4.5e-09 | 7.1e-06 |
| Central Atlantic Call Area D | 1.2e-07 | 1.0e-07 | 1.7e-08 | 7.6e-07 | 1.6e-05 | 2.4e-05 | 2.4e-05 | 1.7e-05 | 1.7e-06 | 2.9e-07 | 2.6e-07 | 7.1e-08 | 8.5e-05 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 5.2e-08 | 3.8e-08 | 6.6e-09 | 3.2e-07 | 7.3e-06 | 1.1e-05 | 1.1e-05 | 8.3e-06 | 7.4e-07 | 1.1e-07 | 1.0e-07 | 2.6e-08 | 4.0e-05 |
| Central Atlantic Draft WEA Secondary D | 5.1e-09 | 4.0e-09 | 8.5e-10 | 5.5e-08 | 1.2e-06 | 1.6e-06 | 1.5e-06 | 1.3e-06 | 1.0e-07 | 1.2e-08 | 1.1e-08 | 2.6e-09 | 5.9e-06 |
| Central Atlantic Call Area E | 2.2e-13 | 3.2e-13 | 5.7e-14 | 1.5e-12 | 2.2e-11 | 1.3e-11 | 4.6e-12 | 4.5e-12 | 2.9e-12 | 8.3e-13 | 7.0e-13 | 2.3e-13 | 5.1e-11 |
| Central Atlantic Draft WEA Primary E1 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 4.9e-19 | 5.9e-18 |
| Central Atlantic Draft WEA Primary E2 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 3.6e-19 | 4.3e-18 |
| Central Atlantic Call Area F | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 8.5e-19 | 1.0e-17 |
| Central Atlantic Draft WEA Primary F | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 4.4e-20 | 5.3e-19 |
| Virginia OCS-A 0483 | 1.4e-08 | 2.1e-08 | 6.5e-09 | 5.0e-07 | 9.3e-06 | 1.0e-05 | 4.7e-06 | 3.4e-06 | 3.2e-07 | 4.6e-08 | 4.3e-08 | 1.4e-08 | 2.9e-05 |
| Virginia OCS-A 0497 | 7.6e-10 | 1.2e-09 | 3.7e-10 | 2.0e-08 | 2.9e-07 | 2.8e-07 | 1.5e-07 | 1.2e-07 | 8.5e-09 | 2.5e-09 | 2.2e-09 | 7.4e-10 | 8.7e-07 |
| North Carolina OCS-A 0508 | 4.6e-08 | 2.9e-08 | 5.0e-09 | 2.0e-07 | 4.0e-06 | 7.9e-06 | 9.0e-06 | 6.5e-06 | 6.0e-07 | 1.1e-07 | 8.6e-08 | 2.5e-08 | 2.8e-05 |
| North Carolina OCS-A 0545 | 1.9e-07 | 1.1e-07 | 5.1e-08 | 1.3e-06 | 3.8e-05 | 8.9e-05 | 2.4e-05 | 5.1e-05 | 1.5e-04 | 3.4e-05 | 1.4e-05 | 1.3e-06 | 4.0e-04 |
| North Carolina OCS-A 0546 | 1.9e-07 | 1.1e-07 | 5.0e-08 | 1.2e-06 | 3.7e-05 | 8.6e-05 | 2.4e-05 | 4.8e-05 | 1.4e-04 | 3.1e-05 | 1.3e-05 | 1.2e-06 | 3.8e-04 |
| South Carolina Call Area - Grand Strand | 2.3e-06 | 1.3e-06 | 3.5e-07 | 1.1e-05 | 2.4e-04 | 6.6e-04 | 2.2e-04 | 6.8e-04 | 2.8e-03 | 5.2e-04 | 1.8e-04 | 1.6e-05 | 5.3e-03 |
| South Carolina Call Area - Cape Romain | 5.0e-07 | 3.1e-07 | 7.6e-08 | 2.4e-06 | 6.6e-05 | 1.9e-04 | 6.4e-05 | 2.4e-04 | 1.1e-03 | 1.8e-04 | 6.0e-05 | 6.6e-06 | 1.9e-03 |
| South Carolina Call Area - Winyah | 1.3e-07 | 6.4e-08 | 2.6e-08 | 6.1e-07 | 3.4e-05 | 6.5e-05 | 2.2e-05 | 3.6e-05 | 9.0e-05 | 2.4e-05 | 8.7e-06 | 1.1e-06 | 2.8e-04 |
| South Carolina Call Area - Charleston | 1.5e-07 | 6.7e-08 | 3.1e-08 | 7.5e-07 | 2.6e-05 | 5.5e-05 | 1.5e-05 | 3.7e-05 | 1.3e-04 | 3.1e-05 | 1.1e-05 | 1.1e-06 | 3.1e-04 |
| All planning areas | 3.3e-06 | 2.0e-06 | 5.3e-07 | 1.7e-05 | 4.2e-04 | 1.0e-03 | 3.6e-04 | 1.0e-03 | 4.1e-03 | 7.5e-04 | 2.6e-04 | 2.4e-05 | 8.0e-03 |
| All lease areas | 6.0e-07 | 5.0e-07 | 1.8e-07 | 6.5e-06 | 1.6e-04 | 2.8e-04 | 9.9e-05 | 1.3e-04 | 3.0e-04 | 6.6e-05 | 2.7e-05 | 2.7e-06 | 1.1e-03 |
| All planning and lease areas | 3.9e-06 | 2.5e-06 | 7.1e-07 | 2.4e-05 | 5.7e-04 | 1.3e-03 | 4.6e-04 | 1.1e-03 | 4.4e-03 | 8.2e-04 | 2.8e-04 | 2.7e-05 | 9.1e-03 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-29. Predicted proportional abundance of Black Tern by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 5.3e-14 | 2.4e-10 | 2.0e-06 | 1.3e-04 | 2.1e-04 | 6.7e-05 | 1.5e-04 | 1.5e-03 | 1.7e-03 | 3.5e-05 | 2.7e-09 | 1.3e-13 | 3.8e-03 |
| Gulf of Maine Request for Competitive Interest | 4.5e-16 | 2.0e-12 | 1.7e-08 | 1.1e-06 | 1.7e-06 | 5.2e-07 | 1.1e-06 | 1.2e-05 | 1.4e-05 | 2.9e-07 | 2.3e-11 | 1.1e-15 | 3.1e-05 |
| Marine Research Array Requested Lease | 6.5e-17 | 2.9e-13 | 2.4e-09 | 1.5e-07 | 2.4e-07 | 7.4e-08 | 1.6e-07 | 1.7e-06 | 2.0e-06 | 4.1e-08 | 3.2e-12 | 1.6e-16 | 4.4e-06 |
| Rhode Island OCS-A 0506 | 4.1e-18 | 1.7e-14 | 1.5e-10 | 8.9e-09 | 1.4e-08 | 5.0e-09 | 1.1e-08 | 1.3e-07 | 1.7e-07 | 3.5e-09 | 2.5e-13 | 1.1e-17 | 3.5e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.7e-15 | 7.3e-12 | 6.8e-08 | 4.3e-06 | 7.0e-06 | 2.3e-06 | 4.5e-06 | 5.3e-05 | 6.8e-05 | 1.3e-06 | 9.7e-11 | 4.5e-15 | 1.4e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.8e-16 | 1.2e-12 | 1.1e-08 | 6.7e-07 | 1.1e-06 | 3.5e-07 | 6.9e-07 | 8.6e-06 | 1.1e-05 | 2.2e-07 | 1.6e-11 | 7.3e-16 | 2.3e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.3e-15 | 5.5e-12 | 5.1e-08 | 3.3e-06 | 5.3e-06 | 1.7e-06 | 3.3e-06 | 4.0e-05 | 5.2e-05 | 1.0e-06 | 7.2e-11 | 3.4e-15 | 1.1e-04 |
| Massachusetts OCS-A 0500 | 1.7e-15 | 7.3e-12 | 7.0e-08 | 4.8e-06 | 7.8e-06 | 2.5e-06 | 4.9e-06 | 5.3e-05 | 6.9e-05 | 1.4e-06 | 9.5e-11 | 4.5e-15 | 1.4e-04 |
| Massachusetts OCS-A 0501 | 1.0e-15 | 4.5e-12 | 4.3e-08 | 3.1e-06 | 5.0e-06 | 1.6e-06 | 3.1e-06 | 3.2e-05 | 4.0e-05 | 8.0e-07 | 5.6e-11 | 2.6e-15 | 8.5e-05 |
| Massachusetts OCS-A 0534 | 1.1e-15 | 4.6e-12 | 4.4e-08 | 3.1e-06 | 5.0e-06 | 1.6e-06 | 3.1e-06 | 3.3e-05 | 4.3e-05 | 8.6e-07 | 5.9e-11 | 2.8e-15 | 8.9e-05 |
| Massachusetts OCS-A 0520 | 1.4e-15 | 6.2e-12 | 6.0e-08 | 4.2e-06 | 6.8e-06 | 2.2e-06 | 4.3e-06 | 4.4e-05 | 5.6e-05 | 1.1e-06 | 7.8e-11 | 3.6e-15 | 1.2e-04 |
| Massachusetts OCS-A 0521 | 1.5e-15 | 6.7e-12 | 6.3e-08 | 4.5e-06 | 7.3e-06 | 2.3e-06 | 4.6e-06 | 4.7e-05 | 6.0e-05 | 1.2e-06 | 8.2e-11 | 3.8e-15 | 1.3e-04 |
| Massachusetts OCS-A 0522 | 1.8e-15 | 8.2e-12 | 7.7e-08 | 5.4e-06 | 8.7e-06 | 2.7e-06 | 5.6e-06 | 5.6e-05 | 7.1e-05 | 1.4e-06 | 9.7e-11 | 4.4e-15 | 1.5e-04 |
| New York WEA - Fairways North | 9.8e-16 | 4.1e-12 | 3.5e-08 | 2.0e-06 | 2.9e-06 | 9.6e-07 | 2.7e-06 | 3.1e-05 | 3.9e-05 | 7.5e-07 | 5.1e-11 | 2.5e-15 | 7.9e-05 |
| New York WEA - Fairways South | 3.8e-16 | 1.6e-12 | 1.3e-08 | 7.8e-07 | 1.1e-06 | 3.6e-07 | 9.8e-07 | 1.1e-05 | 1.4e-05 | 2.7e-07 | 1.9e-11 | 9.3e-16 | 2.9e-05 |
| New York OCS-A 0512 | 2.2e-15 | 9.3e-12 | 7.7e-08 | 4.4e-06 | 6.1e-06 | 2.0e-06 | 6.1e-06 | 7.0e-05 | 7.9e-05 | 1.5e-06 | 1.1e-10 | 5.2e-15 | 1.7e-04 |
| NY/NJ OCS-A 0544 | 7.7e-16 | 3.3e-12 | 2.8e-08 | 1.6e-06 | 2.2e-06 | 6.7e-07 | 1.8e-06 | 2.1e-05 | 2.5e-05 | 5.2e-07 | 3.7e-11 | 1.9e-15 | 5.4e-05 |
| NY/NJ OCS-A 0537 | 9.4e-16 | 4.1e-12 | 3.3e-08 | 2.0e-06 | 2.8e-06 | 8.4e-07 | 1.9e-06 | 2.1e-05 | 2.9e-05 | 6.8e-07 | 4.6e-11 | 2.2e-15 | 5.8e-05 |
| NY/NJ OCS-A 0538 | 1.7e-15 | 7.7e-12 | 6.5e-08 | 4.0e-06 | 5.4e-06 | 1.5e-06 | 3.6e-06 | 3.8e-05 | 4.8e-05 | 1.1e-06 | 8.0e-11 | 3.9e-15 | 1.0e-04 |
| NY/NJ OCS-A 0539 | 3.4e-15 | 1.6e-11 | 1.4e-07 | 8.8e-06 | 1.2e-05 | 3.4e-06 | 8.2e-06 | 8.9e-05 | 1.1e-04 | 2.2e-06 | 1.6e-10 | 8.1e-15 | 2.3e-04 |
| NY/NJ OCS-A 0541 | 1.7e-15 | 8.2e-12 | 7.5e-08 | 4.6e-06 | 6.3e-06 | 1.8e-06 | 4.6e-06 | 5.1e-05 | 5.9e-05 | 1.1e-06 | 8.3e-11 | 4.1e-15 | 1.3e-04 |
| NY/NJ OCS-A 0542 | 1.6e-15 | 7.6e-12 | 6.9e-08 | 4.2e-06 | 5.8e-06 | 1.7e-06 | 3.9e-06 | 4.3e-05 | 5.3e-05 | 1.1e-06 | 7.7e-11 | 3.9e-15 | 1.1e-04 |
| New Jersey OCS-A 0549 | 4.3e-15 | 1.9e-11 | 1.7e-07 | 1.0e-05 | 1.6e-05 | 5.7e-06 | 1.7e-05 | 1.9e-04 | 2.0e-04 | 3.4e-06 | 2.3e-10 | 1.1e-14 | 4.5e-04 |
| New Jersey OCS-A 0499 | 4.9e-15 | 2.1e-11 | 2.0e-07 | 1.2e-05 | 1.9e-05 | 6.4e-06 | 1.8e-05 | 2.1e-04 | 2.2e-04 | 3.7e-06 | 2.6e-10 | 1.2e-14 | 4.9e-04 |
| New Jersey OCS-A 0498 | 3.8e-15 | 1.7e-11 | 1.5e-07 | 9.7e-06 | 1.5e-05 | 5.0e-06 | 1.4e-05 | 1.7e-04 | 1.8e-04 | 2.9e-06 | 2.0e-10 | 9.4e-15 | 4.0e-04 |
| New Jersey OCS-A 0532 | 4.7e-15 | 2.0e-11 | 1.9e-07 | 1.2e-05 | 1.9e-05 | 6.8e-06 | 2.0e-05 | 2.4e-04 | 2.4e-04 | 3.8e-06 | 2.6e-10 | 1.2e-14 | 5.4e-04 |
| Delaware OCS-A 0482 | 4.5e-15 | 2.0e-11 | 1.8e-07 | 1.2e-05 | 1.9e-05 | 6.4e-06 | 1.9e-05 | 2.4e-04 | 2.3e-04 | 3.6e-06 | 2.4e-10 | 1.1e-14 | 5.3e-04 |
| Delaware OCS-A 0519 | 1.5e-15 | 6.6e-12 | 5.8e-08 | 3.8e-06 | 5.7e-06 | 1.9e-06 | 5.5e-06 | 7.0e-05 | 6.8e-05 | 1.1e-06 | 7.3e-11 | 3.5e-15 | 1.6e-04 |
| Maryland OCS-A 0490 | 4.6e-15 | 2.1e-11 | 1.8e-07 | 1.2e-05 | 1.8e-05 | 6.1e-06 | 1.9e-05 | 2.4e-04 | 2.3e-04 | 3.5e-06 | 2.4e-10 | 1.1e-14 | 5.3e-04 |
| Central Atlantic Call Area A | 7.6e-15 | 3.4e-11 | 3.0e-07 | 1.9e-05 | 2.8e-05 | 8.5e-06 | 2.3e-05 | 3.0e-04 | 3.1e-04 | 5.0e-06 | 3.5e-10 | 1.8e-14 | 6.9e-04 |
| Central Atlantic Draft WEA Primary A | 1.5e-15 | 6.7e-12 | 5.9e-08 | 3.7e-06 | 5.5e-06 | 1.7e-06 | 4.8e-06 | 6.1e-05 | 6.2e-05 | 1.0e-06 | 7.1e-11 | 3.5e-15 | 1.4e-04 |
| Central Atlantic Draft WEA Secondary A | 3.7e-15 | 1.7e-11 | 1.5e-07 | 9.3e-06 | 1.4e-05 | 4.2e-06 | 1.1e-05 | 1.5e-04 | 1.5e-04 | 2.5e-06 | 1.7e-10 | 8.7e-15 | 3.4e-04 |
| Central Atlantic Call Area B | 1.7e-14 | 8.1e-11 | 6.6e-07 | 3.8e-05 | 5.2e-05 | 1.5e-05 | 4.3e-05 | 6.4e-04 | 7.3e-04 | 1.2e-05 | 8.3e-10 | 4.0e-14 | 1.5e-03 |
| Central Atlantic Draft WEA Primary B1 | 8.8e-16 | 4.2e-12 | 3.5e-08 | 2.1e-06 | 2.9e-06 | 8.6e-07 | 2.7e-06 | 3.8e-05 | 4.1e-05 | 6.2e-07 | 4.4e-11 | 2.1e-15 | 8.8e-05 |
| Central Atlantic Draft WEA Secondary B1 | 3.6e-16 | 1.7e-12 | 1.4e-08 | 8.7e-07 | 1.2e-06 | 3.5e-07 | 1.0e-06 | 1.4e-05 | 1.6e-05 | 2.4e-07 | 1.7e-11 | 8.4e-16 | 3.4e-05 |
| Central Atlantic Draft WEA Primary B2 | 4.8e-15 | 2.3e-11 | 1.8e-07 | 1.0e-05 | 1.3e-05 | 3.5e-06 | 1.1e-05 | 1.7e-04 | 2.0e-04 | 3.4e-06 | 2.4e-10 | 1.1e-14 | 4.2e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.6e-15 | 7.2e-12 | 5.8e-08 | 3.3e-06 | 4.4e-06 | 1.2e-06 | 3.3e-06 | 5.2e-05 | 6.4e-05 | 1.1e-06 | 7.7e-11 | 3.6e-15 | 1.3e-04 |
| Central Atlantic Call Area C | 6.7e-15 | 3.0e-11 | 2.4e-07 | 1.2e-05 | 1.6e-05 | 4.3e-06 | 2.3e-05 | 2.9e-04 | 2.8e-04 | 4.7e-06 | 3.2e-10 | 1.5e-14 | 6.4e-04 |
| Central Atlantic Draft WEA Primary C | 4.3e-15 | 1.9e-11 | 1.6e-07 | 8.0e-06 | 1.0e-05 | 2.8e-06 | 1.5e-05 | 1.9e-04 | 1.8e-04 | 3.0e-06 | 2.0e-10 | 9.6e-15 | 4.1e-04 |
| Central Atlantic Draft WEA Secondary C | 1.8e-15 | 8.3e-12 | 6.6e-08 | 3.4e-06 | 4.4e-06 | 1.2e-06 | 6.0e-06 | 7.7e-05 | 7.7e-05 | 1.3e-06 | 8.8e-11 | 4.1e-15 | 1.7e-04 |
| Central Atlantic Call Area D | 2.3e-14 | 9.5e-11 | 7.6e-07 | 4.1e-05 | 5.8e-05 | 2.0e-05 | 1.1e-04 | 1.3e-03 | 1.0e-03 | 1.7e-05 | 1.1e-09 | 5.0e-14 | 2.5e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.1e-14 | 4.4e-11 | 3.6e-07 | 1.9e-05 | 2.6e-05 | 8.9e-06 | 5.1e-05 | 6.1e-04 | 4.8e-04 | 7.8e-06 | 5.0e-10 | 2.3e-14 | 1.2e-03 |
| Central Atlantic Draft WEA Secondary D | 1.5e-15 | 6.2e-12 | 5.0e-08 | 2.6e-06 | 3.8e-06 | 1.3e-06 | 7.9e-06 | 9.7e-05 | 7.4e-05 | 1.1e-06 | 7.0e-11 | 3.2e-15 | 1.9e-04 |
| Central Atlantic Call Area E | 1.6e-15 | 6.8e-12 | 6.0e-08 | 3.8e-06 | 6.0e-06 | 1.8e-06 | 3.5e-06 | 4.2e-05 | 6.3e-05 | 1.2e-06 | 8.1e-11 | 3.9e-15 | 1.2e-04 |
| Central Atlantic Draft WEA Primary E1 | 3.1e-17 | 6.4e-14 | 5.7e-10 | 3.8e-08 | 6.4e-08 | 1.8e-08 | 3.8e-08 | 4.2e-07 | 6.1e-07 | 1.2e-08 | 7.8e-13 | 5.3e-17 | 1.2e-06 |
| Central Atlantic Draft WEA Primary E2 | 1.3e-17 | 1.4e-17 | 1.2e-14 | 7.7e-13 | 1.1e-12 | 3.6e-13 | 7.4e-13 | 8.0e-12 | 1.1e-11 | 2.3e-13 | 2.8e-17 | 1.3e-17 | 2.2e-11 |
| Central Atlantic Call Area F | 6.8e-17 | 1.7e-13 | 1.5e-09 | 9.2e-08 | 1.5e-07 | 5.2e-08 | 1.4e-07 | 1.6e-06 | 1.6e-06 | 3.0e-08 | 2.1e-12 | 1.3e-16 | 3.7e-06 |
| Central Atlantic Draft WEA Primary F | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.6e-18 | 1.9e-17 |
| Virginia OCS-A 0483 | 5.3e-15 | 2.5e-11 | 1.9e-07 | 9.1e-06 | 1.4e-05 | 5.1e-06 | 3.1e-05 | 4.1e-04 | 3.2e-04 | 4.6e-06 | 2.9e-10 | 1.3e-14 | 8.0e-04 |
| Virginia OCS-A 0497 | 1.3e-16 | 5.7e-13 | 4.3e-09 | 2.2e-07 | 4.5e-07 | 2.2e-07 | 1.3e-06 | 1.6e-05 | 1.1e-05 | 1.4e-07 | 8.1e-12 | 3.3e-16 | 2.9e-05 |
| North Carolina OCS-A 0508 | 7.0e-15 | 2.7e-11 | 2.1e-07 | 1.2e-05 | 1.8e-05 | 6.6e-06 | 3.4e-05 | 3.9e-04 | 3.0e-04 | 4.9e-06 | 3.1e-10 | 1.5e-14 | 7.6e-04 |
| North Carolina OCS-A 0545 | 1.3e-14 | 5.7e-11 | 5.2e-07 | 3.6e-05 | 6.0e-05 | 2.2e-05 | 5.5e-05 | 5.6e-04 | 5.9e-04 | 1.1e-05 | 7.4e-10 | 3.5e-14 | 1.3e-03 |
| North Carolina OCS-A 0546 | 1.2e-14 | 5.3e-11 | 4.8e-07 | 3.3e-05 | 5.6e-05 | 2.0e-05 | 5.1e-05 | 5.1e-04 | 5.4e-04 | 9.8e-06 | 6.8e-10 | 3.2e-14 | 1.2e-03 |
| South Carolina Call Area - Grand Strand | 2.6e-13 | 1.0e-09 | 9.1e-06 | 6.1e-04 | 1.2e-03 | 4.9e-04 | 1.4e-03 | 1.4e-02 | 1.3e-02 | 2.3e-04 | 1.6e-08 | 7.2e-13 | 3.1e-02 |
| South Carolina Call Area - Cape Romain | 6.7e-14 | 2.9e-10 | 2.5e-06 | 1.7e-04 | 3.5e-04 | 1.5e-04 | 4.2e-04 | 4.2e-03 | 3.9e-03 | 6.7e-05 | 4.5e-09 | 2.0e-13 | 9.3e-03 |
| South Carolina Call Area - Winyah | 4.0e-15 | 1.8e-11 | 1.7e-07 | 1.1e-05 | 1.9e-05 | 6.3e-06 | 1.5e-05 | 1.5e-04 | 1.6e-04 | 3.0e-06 | 2.1e-10 | 1.0e-14 | 3.6e-04 |
| South Carolina Call Area - Charleston | 6.9e-15 | 3.2e-11 | 2.8e-07 | 1.8e-05 | 3.0e-05 | 1.1e-05 | 2.8e-05 | 2.8e-04 | 2.9e-04 | 5.3e-06 | 3.7e-10 | 1.8e-14 | 6.6e-04 |
| All planning areas | 4.5e-13 | 1.9e-09 | 1.6e-05 | 1.1e-03 | 1.9e-03 | 7.7e-04 | 2.2e-03 | 2.2e-02 | 2.2e-02 | 3.9e-04 | 2.7e-08 | 1.2e-12 | 5.1e-02 |
| All lease areas | 9.0e-14 | 3.9e-10 | 3.5e-06 | 2.3e-04 | 3.6e-04 | 1.2e-04 | 3.5e-04 | 4.0e-03 | 4.0e-03 | 7.0e-05 | 4.8e-09 | 2.2e-13 | 9.1e-03 |
| All planning and lease areas | 5.4e-13 | 2.3e-09 | 2.0e-05 | 1.3e-03 | 2.3e-03 | 8.9e-04 | 2.5e-03 | 2.6e-02 | 2.6e-02 | 4.6e-04 | 3.1e-08 | 1.4e-12 | 6.0e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-30. Predicted proportional abundance of Roseate Tern by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 4.8e-08 | 7.2e-08 | 6.7e-07 | 2.9e-05 | 5.9e-03 | 1.5e-02 | 1.0e-02 | 2.3e-02 | 1.0e-02 | 1.7e-03 | 9.1e-05 | 8.1e-07 | 6.6e-02 |
| Gulf of Maine Request for Competitive Interest | 3.0e-10 | 3.5e-10 | 2.8e-09 | 2.5e-07 | 9.6e-05 | 1.3e-04 | 1.1e-04 | 2.7e-04 | 1.0e-04 | 2.0e-05 | 9.6e-07 | 6.4e-09 | 7.2e-04 |
| Marine Research Array Requested Lease | 4.3e-11 | 4.7e-11 | 4.0e-10 | 3.7e-08 | 1.4e-05 | 1.8e-05 | 1.5e-05 | 3.7e-05 | 1.4e-05 | 2.9e-06 | 1.4e-07 | 9.1e-10 | 1.0e-04 |
| Rhode Island OCS-A 0506 | 1.1e-11 | 7.3e-12 | 8.0e-10 | 3.4e-08 | 7.9e-07 | 1.3e-07 | 3.6e-07 | 4.4e-07 | 7.4e-07 | 4.1e-08 | 3.6e-09 | 1.6e-10 | 2.6e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.8e-09 | 1.4e-09 | 1.3e-07 | 1.0e-05 | 3.1e-04 | 5.3e-05 | 1.2e-04 | 1.3e-04 | 2.0e-04 | 1.1e-05 | 7.7e-07 | 3.1e-08 | 8.4e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.9e-10 | 2.2e-10 | 1.8e-08 | 1.5e-06 | 5.0e-05 | 8.6e-06 | 1.8e-05 | 1.8e-05 | 3.0e-05 | 1.6e-06 | 9.3e-08 | 5.0e-09 | 1.3e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.5e-09 | 1.0e-09 | 7.5e-08 | 6.0e-06 | 2.1e-04 | 3.7e-05 | 8.6e-05 | 8.3e-05 | 1.2e-04 | 6.5e-06 | 3.8e-07 | 2.2e-08 | 5.5e-04 |
| Massachusetts OCS-A 0500 | 1.8e-09 | 1.2e-09 | 7.5e-08 | 6.4e-06 | 2.5e-04 | 4.4e-05 | 1.2e-04 | 1.2e-04 | 1.4e-04 | 7.8e-06 | 5.4e-07 | 2.4e-08 | 6.9e-04 |
| Massachusetts OCS-A 0501 | 6.3e-10 | 3.3e-10 | 2.9e-08 | 3.5e-06 | 1.3e-04 | 2.2e-05 | 6.9e-05 | 7.2e-05 | 8.4e-05 | 4.6e-06 | 3.8e-07 | 1.2e-08 | 3.9e-04 |
| Massachusetts OCS-A 0534 | 1.1e-09 | 7.0e-10 | 3.8e-08 | 3.0e-06 | 1.3e-04 | 2.3e-05 | 7.1e-05 | 7.8e-05 | 8.5e-05 | 4.5e-06 | 2.8e-07 | 1.5e-08 | 4.0e-04 |
| Massachusetts OCS-A 0520 | 1.5e-09 | 8.3e-10 | 4.1e-08 | 3.7e-06 | 1.5e-04 | 2.9e-05 | 9.7e-05 | 1.2e-04 | 1.2e-04 | 6.0e-06 | 4.4e-07 | 2.2e-08 | 5.2e-04 |
| Massachusetts OCS-A 0521 | 1.4e-09 | 7.2e-10 | 3.1e-08 | 3.4e-06 | 1.4e-04 | 3.3e-05 | 1.1e-04 | 1.5e-04 | 1.3e-04 | 6.6e-06 | 5.3e-07 | 2.3e-08 | 5.8e-04 |
| Massachusetts OCS-A 0522 | 1.2e-09 | 5.5e-10 | 2.5e-08 | 2.9e-06 | 1.6e-04 | 5.1e-05 | 1.6e-04 | 2.2e-04 | 1.6e-04 | 7.9e-06 | 7.3e-07 | 2.6e-08 | 7.5e-04 |
| New York WEA - Fairways North | 1.7e-09 | 1.2e-09 | 7.3e-08 | 7.4e-06 | 1.8e-04 | 3.4e-05 | 4.9e-05 | 4.5e-05 | 7.7e-05 | 6.0e-06 | 2.5e-07 | 2.4e-08 | 4.0e-04 |
| New York WEA - Fairways South | 6.1e-10 | 4.3e-10 | 3.6e-08 | 4.0e-06 | 5.7e-05 | 1.6e-05 | 1.3e-05 | 1.2e-05 | 2.9e-05 | 2.8e-06 | 8.4e-08 | 9.8e-09 | 1.3e-04 |
| New York OCS-A 0512 | 3.0e-09 | 2.3e-09 | 3.0e-07 | 3.4e-05 | 2.5e-04 | 1.0e-04 | 6.1e-05 | 5.2e-05 | 1.5e-04 | 2.1e-05 | 4.6e-07 | 6.2e-08 | 6.8e-04 |
| NY/NJ OCS-A 0544 | 1.5e-09 | 1.2e-09 | 7.3e-08 | 7.3e-06 | 1.1e-04 | 3.6e-05 | 1.9e-05 | 1.6e-05 | 4.9e-05 | 5.8e-06 | 1.5e-07 | 1.8e-08 | 2.4e-04 |
| NY/NJ OCS-A 0537 | 2.6e-09 | 4.7e-09 | 7.7e-08 | 2.1e-06 | 1.1e-04 | 2.9e-05 | 2.3e-05 | 1.8e-05 | 3.7e-05 | 3.4e-06 | 9.6e-08 | 1.0e-08 | 2.2e-04 |
| NY/NJ OCS-A 0538 | 3.4e-09 | 5.1e-09 | 1.1e-07 | 5.0e-06 | 1.5e-04 | 5.8e-05 | 3.2e-05 | 2.5e-05 | 7.6e-05 | 7.8e-06 | 1.5e-07 | 2.0e-08 | 3.6e-04 |
| NY/NJ OCS-A 0539 | 5.5e-09 | 7.7e-09 | 2.5e-07 | 1.5e-05 | 3.3e-04 | 1.4e-04 | 6.2e-05 | 4.8e-05 | 1.6e-04 | 1.9e-05 | 3.4e-07 | 4.7e-08 | 7.7e-04 |
| NY/NJ OCS-A 0541 | 3.3e-09 | 3.7e-09 | 1.9e-07 | 1.3e-05 | 1.4e-04 | 8.2e-05 | 2.1e-05 | 1.6e-05 | 6.5e-05 | 1.1e-05 | 1.9e-07 | 2.8e-08 | 3.5e-04 |
| NY/NJ OCS-A 0542 | 3.8e-09 | 5.0e-09 | 1.7e-07 | 9.0e-06 | 1.3e-04 | 6.7e-05 | 2.2e-05 | 1.7e-05 | 5.7e-05 | 9.0e-06 | 1.7e-07 | 2.3e-08 | 3.1e-04 |
| New Jersey OCS-A 0549 | 3.8e-09 | 3.7e-09 | 9.9e-07 | 1.2e-04 | 2.8e-04 | 3.1e-04 | 1.0e-04 | 6.8e-05 | 1.9e-04 | 5.4e-05 | 9.1e-07 | 1.3e-07 | 1.1e-03 |
| New Jersey OCS-A 0499 | 5.4e-09 | 5.5e-09 | 1.2e-06 | 1.2e-04 | 2.9e-04 | 3.2e-04 | 7.8e-05 | 5.1e-05 | 1.6e-04 | 5.2e-05 | 7.9e-07 | 1.2e-07 | 1.1e-03 |
| New Jersey OCS-A 0498 | 4.9e-09 | 5.2e-09 | 1.2e-06 | 1.1e-04 | 2.1e-04 | 2.5e-04 | 5.3e-05 | 3.5e-05 | 1.1e-04 | 4.0e-05 | 5.6e-07 | 9.3e-08 | 8.0e-04 |
| New Jersey OCS-A 0532 | 6.3e-09 | 6.4e-09 | 1.9e-06 | 1.8e-04 | 2.3e-04 | 3.4e-04 | 8.4e-05 | 5.6e-05 | 1.5e-04 | 6.1e-05 | 9.7e-07 | 1.3e-07 | 1.1e-03 |
| Delaware OCS-A 0482 | 1.1e-08 | 9.9e-09 | 2.0e-06 | 1.7e-04 | 1.7e-04 | 3.0e-04 | 5.7e-05 | 3.5e-05 | 9.8e-05 | 5.2e-05 | 6.7e-07 | 1.3e-07 | 8.9e-04 |
| Delaware OCS-A 0519 | 3.9e-09 | 3.8e-09 | 5.3e-07 | 4.4e-05 | 5.1e-05 | 9.0e-05 | 1.3e-05 | 8.4e-06 | 2.9e-05 | 1.5e-05 | 1.7e-07 | 3.7e-08 | 2.5e-04 |
| Maryland OCS-A 0490 | 1.8e-08 | 1.5e-08 | 2.3e-06 | 1.6e-04 | 1.3e-04 | 2.8e-04 | 4.5e-05 | 2.6e-05 | 7.7e-05 | 4.9e-05 | 5.9e-07 | 1.4e-07 | 7.7e-04 |
| Central Atlantic Call Area A | 2.2e-08 | 3.0e-08 | 1.9e-06 | 1.4e-04 | 2.3e-04 | 4.0e-04 | 4.8e-05 | 3.7e-05 | 1.3e-04 | 5.7e-05 | 6.7e-07 | 1.3e-07 | 1.0e-03 |
| Central Atlantic Draft WEA Primary A | 4.0e-09 | 4.8e-09 | 4.0e-07 | 3.0e-05 | 5.0e-05 | 8.4e-05 | 1.0e-05 | 7.4e-06 | 2.7e-05 | 1.2e-05 | 1.4e-07 | 2.9e-08 | 2.2e-04 |
| Central Atlantic Draft WEA Secondary A | 1.0e-08 | 1.4e-08 | 9.4e-07 | 6.7e-05 | 1.2e-04 | 2.0e-04 | 2.4e-05 | 1.8e-05 | 6.5e-05 | 2.9e-05 | 3.4e-07 | 6.7e-08 | 5.2e-04 |
| Central Atlantic Call Area B | 7.5e-08 | 2.9e-07 | 7.7e-06 | 3.9e-04 | 2.9e-04 | 6.5e-04 | 5.1e-05 | 5.6e-05 | 1.3e-04 | 7.9e-05 | 9.7e-07 | 2.1e-07 | 1.7e-03 |
| Central Atlantic Draft WEA Primary B1 | 4.2e-09 | 5.6e-09 | 5.4e-07 | 2.8e-05 | 1.9e-05 | 4.0e-05 | 2.5e-06 | 2.5e-06 | 9.8e-06 | 6.7e-06 | 7.3e-08 | 1.9e-08 | 1.1e-04 |
| Central Atlantic Draft WEA Secondary B1 | 1.5e-09 | 2.3e-09 | 1.7e-07 | 9.3e-06 | 7.9e-06 | 1.7e-05 | 1.1e-06 | 1.1e-06 | 3.9e-06 | 2.4e-06 | 2.6e-08 | 6.4e-09 | 4.3e-05 |
| Central Atlantic Draft WEA Primary B2 | 2.2e-08 | 1.1e-07 | 2.3e-06 | 1.2e-04 | 6.9e-05 | 1.5e-04 | 1.2e-05 | 1.5e-05 | 2.6e-05 | 1.6e-05 | 2.2e-07 | 4.2e-08 | 4.1e-04 |
| Central Atlantic Draft WEA Secondary B2 | 6.3e-09 | 4.6e-08 | 6.0e-07 | 2.7e-05 | 2.0e-05 | 4.7e-05 | 4.1e-06 | 4.8e-06 | 7.1e-06 | 3.9e-06 | 6.4e-08 | 9.9e-09 | 1.1e-04 |
| Central Atlantic Call Area C | 4.0e-08 | 2.2e-07 | 5.1e-06 | 1.8e-04 | 9.2e-05 | 1.4e-04 | 1.5e-05 | 1.6e-05 | 2.5e-05 | 1.8e-05 | 3.1e-07 | 4.0e-08 | 4.9e-04 |
| Central Atlantic Draft WEA Primary C | 2.7e-08 | 1.3e-07 | 3.2e-06 | 1.2e-04 | 6.1e-05 | 9.0e-05 | 9.9e-06 | 1.1e-05 | 1.6e-05 | 1.2e-05 | 2.0e-07 | 2.6e-08 | 3.2e-04 |
| Central Atlantic Draft WEA Secondary C | 1.1e-08 | 6.4e-08 | 1.4e-06 | 4.8e-05 | 2.5e-05 | 3.7e-05 | 4.2e-06 | 4.4e-06 | 6.8e-06 | 5.1e-06 | 9.0e-08 | 1.2e-08 | 1.3e-04 |
| Central Atlantic Call Area D | 1.2e-07 | 7.7e-07 | 1.8e-05 | 5.0e-04 | 3.0e-04 | 3.3e-04 | 3.3e-05 | 6.4e-05 | 5.9e-05 | 4.5e-05 | 1.3e-06 | 1.2e-07 | 1.3e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 5.3e-08 | 3.6e-07 | 8.1e-06 | 2.4e-04 | 1.5e-04 | 1.6e-04 | 1.5e-05 | 3.0e-05 | 3.0e-05 | 2.3e-05 | 5.7e-07 | 4.5e-08 | 6.6e-04 |
| Central Atlantic Draft WEA Secondary D | 9.2e-09 | 4.8e-08 | 1.5e-06 | 4.6e-05 | 2.5e-05 | 2.3e-05 | 2.0e-06 | 4.0e-06 | 4.0e-06 | 3.8e-06 | 8.8e-08 | 8.3e-09 | 1.1e-04 |
| Central Atlantic Call Area E | 9.1e-08 | 1.5e-06 | 3.3e-05 | 1.8e-04 | 1.6e-04 | 9.0e-05 | 1.6e-05 | 1.3e-05 | 2.7e-05 | 3.3e-05 | 2.6e-06 | 1.1e-07 | 5.6e-04 |
| Central Atlantic Draft WEA Primary E1 | 4.7e-09 | 1.4e-07 | 2.6e-06 | 2.5e-05 | 2.8e-05 | 7.1e-06 | 1.2e-06 | 8.2e-07 | 2.2e-06 | 3.4e-06 | 2.5e-07 | 8.1e-09 | 7.1e-05 |
| Central Atlantic Draft WEA Primary E2 | 1.5e-09 | 1.4e-08 | 3.6e-07 | 2.1e-06 | 1.3e-06 | 3.7e-07 | 4.7e-08 | 4.9e-08 | 1.5e-07 | 1.7e-07 | 2.1e-08 | 1.1e-09 | 4.6e-06 |
| Central Atlantic Call Area F | 2.2e-08 | 4.4e-07 | 4.0e-06 | 1.1e-05 | 4.5e-06 | 2.0e-06 | 6.3e-07 | 1.9e-06 | 1.2e-06 | 5.4e-07 | 7.9e-08 | 1.4e-08 | 2.7e-05 |
| Central Atlantic Draft WEA Primary F | 3.6e-12 | 1.3e-10 | 6.8e-10 | 3.0e-09 | 8.9e-10 | 2.4e-10 | 7.3e-11 | 2.7e-10 | 2.0e-10 | 5.6e-11 | 9.8e-12 | 3.4e-12 | 5.6e-09 |
| Virginia OCS-A 0483 | 8.0e-08 | 1.7e-07 | 1.1e-05 | 3.1e-04 | 1.3e-04 | 9.1e-05 | 1.2e-05 | 1.3e-05 | 2.3e-05 | 3.2e-05 | 6.1e-07 | 1.3e-07 | 6.3e-04 |
| Virginia OCS-A 0497 | 3.3e-09 | 7.9e-09 | 4.6e-07 | 8.5e-06 | 4.7e-06 | 2.5e-06 | 3.1e-07 | 4.4e-07 | 7.0e-07 | 1.4e-06 | 2.9e-08 | 6.5e-09 | 1.9e-05 |
| North Carolina OCS-A 0508 | 3.0e-08 | 2.5e-07 | 4.4e-06 | 9.9e-05 | 8.0e-05 | 8.4e-05 | 1.2e-05 | 3.0e-05 | 1.6e-05 | 1.1e-05 | 4.1e-07 | 2.4e-08 | 3.4e-04 |
| North Carolina OCS-A 0545 | 1.5e-07 | 2.0e-06 | 5.8e-05 | 2.7e-04 | 1.0e-04 | 1.2e-05 | 2.0e-05 | 4.0e-05 | 1.8e-05 | 4.8e-06 | 2.8e-06 | 2.6e-07 | 5.3e-04 |
| North Carolina OCS-A 0546 | 1.6e-07 | 2.0e-06 | 5.6e-05 | 2.6e-04 | 8.7e-05 | 1.0e-05 | 1.6e-05 | 3.3e-05 | 1.5e-05 | 3.7e-06 | 2.2e-06 | 2.4e-07 | 4.8e-04 |
| South Carolina Call Area - Grand Strand | 1.0e-06 | 7.8e-06 | 1.2e-04 | 9.2e-04 | 4.1e-04 | 1.3e-04 | 5.1e-04 | 8.6e-04 | 2.3e-04 | 8.9e-05 | 4.4e-05 | 2.0e-06 | 3.3e-03 |
| South Carolina Call Area - Cape Romain | 1.0e-07 | 8.8e-07 | 1.4e-05 | 1.3e-04 | 6.1e-05 | 3.5e-05 | 1.5e-04 | 2.8e-04 | 4.9e-05 | 1.5e-05 | 8.5e-06 | 2.5e-07 | 7.4e-04 |
| South Carolina Call Area - Winyah | 1.6e-07 | 2.8e-06 | 6.0e-05 | 1.7e-04 | 4.2e-05 | 4.4e-06 | 7.3e-06 | 1.3e-05 | 5.1e-06 | 1.1e-06 | 2.0e-07 | 8.8e-08 | 3.1e-04 |
| South Carolina Call Area - Charleston | 2.1e-07 | 3.0e-06 | 7.3e-05 | 1.4e-04 | 4.7e-05 | 8.2e-06 | 1.5e-05 | 3.1e-05 | 1.0e-05 | 2.3e-06 | 9.9e-07 | 2.0e-07 | 3.3e-04 |
| All planning areas | 1.9e-06 | 1.8e-05 | 3.4e-04 | 2.8e-03 | 7.9e-03 | 1.7e-02 | 1.1e-02 | 2.5e-02 | 1.1e-02 | 2.1e-03 | 1.5e-04 | 4.0e-06 | 7.7e-02 |
| All lease areas | 5.1e-07 | 4.5e-06 | 1.4e-04 | 2.0e-03 | 4.5e-03 | 2.9e-03 | 1.6e-03 | 1.6e-03 | 2.6e-03 | 5.1e-04 | 1.6e-05 | 1.8e-06 | 1.6e-02 |
| All planning and lease areas | 2.4e-06 | 2.2e-05 | 4.8e-04 | 4.8e-03 | 1.2e-02 | 2.0e-02 | 1.3e-02 | 2.6e-02 | 1.4e-02 | 2.6e-03 | 1.7e-04 | 5.8e-06 | 9.3e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-31. Predicted proportional abundance of Common Tern by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.1e-08 | 1.1e-07 | 4.9e-06 | 6.5e-05 | 3.6e-03 | 7.9e-03 | 5.7e-03 | 1.5e-02 | 1.3e-02 | 2.5e-03 | 2.0e-04 | 3.3e-07 | 4.8e-02 |
| Gulf of Maine Request for Competitive Interest | 1.1e-10 | 1.0e-09 | 2.8e-08 | 4.4e-07 | 3.1e-05 | 6.7e-05 | 5.4e-05 | 1.6e-04 | 1.1e-04 | 2.0e-05 | 1.6e-06 | 1.7e-09 | 4.5e-04 |
| Marine Research Array Requested Lease | 1.7e-11 | 1.3e-10 | 4.1e-09 | 6.2e-08 | 4.4e-06 | 9.8e-06 | 7.6e-06 | 2.3e-05 | 1.6e-05 | 3.0e-06 | 2.2e-07 | 2.7e-10 | 6.4e-05 |
| Rhode Island OCS-A 0506 | 1.7e-11 | 2.8e-11 | 8.4e-10 | 3.1e-08 | 5.0e-07 | 1.1e-07 | 2.9e-07 | 3.7e-07 | 6.3e-07 | 6.4e-08 | 8.2e-09 | 4.0e-10 | 2.0e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 7.8e-09 | 7.5e-09 | 1.3e-07 | 6.0e-06 | 1.6e-04 | 3.2e-05 | 6.2e-05 | 8.3e-05 | 1.9e-04 | 1.8e-05 | 3.3e-06 | 1.5e-07 | 5.5e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.2e-09 | 1.2e-09 | 2.0e-08 | 9.1e-07 | 2.4e-05 | 5.2e-06 | 9.6e-06 | 1.3e-05 | 3.1e-05 | 2.9e-06 | 4.2e-07 | 2.5e-08 | 8.7e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.2e-09 | 5.6e-09 | 8.6e-08 | 3.6e-06 | 1.0e-04 | 2.1e-05 | 4.1e-05 | 5.5e-05 | 1.2e-04 | 1.2e-05 | 1.7e-06 | 7.9e-08 | 3.6e-04 |
| Massachusetts OCS-A 0500 | 3.9e-09 | 7.1e-09 | 1.2e-07 | 4.0e-06 | 1.3e-04 | 2.6e-05 | 5.8e-05 | 7.7e-05 | 1.7e-04 | 1.6e-05 | 2.7e-06 | 7.5e-08 | 4.9e-04 |
| Massachusetts OCS-A 0501 | 1.6e-09 | 3.5e-09 | 7.3e-08 | 2.2e-06 | 9.5e-05 | 1.9e-05 | 4.2e-05 | 5.8e-05 | 1.2e-04 | 9.8e-06 | 2.1e-06 | 4.7e-08 | 3.5e-04 |
| Massachusetts OCS-A 0534 | 1.2e-09 | 2.6e-09 | 8.1e-08 | 1.7e-06 | 8.0e-05 | 1.6e-05 | 3.5e-05 | 4.6e-05 | 1.0e-04 | 9.6e-06 | 1.2e-06 | 2.8e-08 | 2.9e-04 |
| Massachusetts OCS-A 0520 | 1.2e-09 | 3.0e-09 | 1.1e-07 | 2.0e-06 | 1.2e-04 | 2.4e-05 | 5.0e-05 | 6.6e-05 | 1.3e-04 | 1.2e-05 | 1.7e-06 | 3.4e-08 | 4.0e-04 |
| Massachusetts OCS-A 0521 | 1.3e-09 | 3.8e-09 | 1.1e-07 | 2.1e-06 | 1.2e-04 | 2.7e-05 | 5.4e-05 | 7.1e-05 | 1.2e-04 | 1.2e-05 | 1.9e-06 | 4.0e-08 | 4.1e-04 |
| Massachusetts OCS-A 0522 | 1.7e-09 | 5.4e-09 | 1.3e-07 | 2.2e-06 | 1.0e-04 | 3.0e-05 | 6.3e-05 | 8.3e-05 | 1.4e-04 | 1.3e-05 | 2.6e-06 | 5.3e-08 | 4.4e-04 |
| New York WEA - Fairways North | 6.1e-09 | 4.1e-09 | 6.5e-08 | 3.3e-06 | 7.9e-05 | 1.9e-05 | 2.9e-05 | 3.5e-05 | 6.6e-05 | 1.0e-05 | 9.0e-07 | 9.2e-08 | 2.4e-04 |
| New York WEA - Fairways South | 2.4e-09 | 1.5e-09 | 3.0e-08 | 1.6e-06 | 2.7e-05 | 8.8e-06 | 7.8e-06 | 1.1e-05 | 2.3e-05 | 4.3e-06 | 2.7e-07 | 3.9e-08 | 8.3e-05 |
| New York OCS-A 0512 | 8.2e-09 | 6.8e-09 | 2.0e-07 | 1.2e-05 | 1.2e-04 | 5.2e-05 | 3.4e-05 | 5.0e-05 | 1.1e-04 | 2.5e-05 | 1.2e-06 | 1.8e-07 | 4.0e-04 |
| NY/NJ OCS-A 0544 | 6.1e-09 | 4.0e-09 | 6.9e-08 | 3.3e-06 | 4.5e-05 | 1.6e-05 | 9.2e-06 | 1.4e-05 | 3.7e-05 | 7.6e-06 | 4.0e-07 | 7.4e-08 | 1.3e-04 |
| NY/NJ OCS-A 0537 | 3.4e-09 | 6.4e-09 | 1.4e-07 | 1.9e-06 | 5.0e-05 | 1.2e-05 | 8.1e-06 | 1.0e-05 | 3.1e-05 | 6.5e-06 | 4.4e-07 | 4.0e-08 | 1.2e-04 |
| NY/NJ OCS-A 0538 | 1.6e-08 | 2.1e-08 | 2.8e-07 | 5.7e-06 | 1.0e-04 | 3.0e-05 | 1.6e-05 | 2.0e-05 | 5.9e-05 | 1.3e-05 | 8.4e-07 | 1.5e-07 | 2.5e-04 |
| NY/NJ OCS-A 0539 | 3.6e-08 | 4.8e-08 | 4.7e-07 | 1.3e-05 | 1.9e-04 | 6.5e-05 | 2.9e-05 | 4.1e-05 | 1.1e-04 | 2.6e-05 | 1.5e-06 | 3.8e-07 | 4.9e-04 |
| NY/NJ OCS-A 0541 | 1.6e-08 | 1.7e-08 | 2.1e-07 | 9.4e-06 | 8.0e-05 | 3.8e-05 | 1.4e-05 | 2.4e-05 | 5.2e-05 | 1.5e-05 | 7.3e-07 | 1.9e-07 | 2.3e-04 |
| NY/NJ OCS-A 0542 | 1.7e-08 | 1.8e-08 | 2.7e-07 | 7.5e-06 | 8.6e-05 | 3.1e-05 | 1.1e-05 | 1.8e-05 | 4.5e-05 | 1.2e-05 | 5.9e-07 | 1.3e-07 | 2.1e-04 |
| New Jersey OCS-A 0549 | 5.3e-09 | 1.2e-08 | 6.3e-07 | 5.0e-05 | 1.4e-04 | 1.5e-04 | 7.7e-05 | 1.1e-04 | 1.6e-04 | 5.7e-05 | 1.9e-06 | 2.5e-07 | 7.4e-04 |
| New Jersey OCS-A 0499 | 1.1e-08 | 1.3e-08 | 7.6e-07 | 5.3e-05 | 1.4e-04 | 1.4e-04 | 6.6e-05 | 1.1e-04 | 1.6e-04 | 6.0e-05 | 2.1e-06 | 3.7e-07 | 7.3e-04 |
| New Jersey OCS-A 0498 | 8.1e-09 | 1.1e-08 | 7.1e-07 | 4.6e-05 | 9.7e-05 | 1.1e-04 | 4.6e-05 | 8.0e-05 | 1.2e-04 | 4.7e-05 | 1.4e-06 | 2.6e-07 | 5.4e-04 |
| New Jersey OCS-A 0532 | 8.1e-09 | 1.6e-08 | 1.1e-06 | 7.8e-05 | 1.2e-04 | 1.5e-04 | 6.8e-05 | 1.1e-04 | 1.4e-04 | 6.4e-05 | 2.0e-06 | 2.9e-07 | 7.3e-04 |
| Delaware OCS-A 0482 | 1.2e-08 | 1.4e-08 | 1.3e-06 | 7.7e-05 | 8.9e-05 | 1.2e-04 | 5.2e-05 | 8.9e-05 | 9.8e-05 | 4.8e-05 | 1.3e-06 | 2.5e-07 | 5.8e-04 |
| Delaware OCS-A 0519 | 6.2e-09 | 5.7e-09 | 4.5e-07 | 2.2e-05 | 2.7e-05 | 3.6e-05 | 1.4e-05 | 2.6e-05 | 3.0e-05 | 1.5e-05 | 4.1e-07 | 1.0e-07 | 1.7e-04 |
| Maryland OCS-A 0490 | 2.6e-08 | 2.2e-08 | 2.1e-06 | 9.4e-05 | 8.0e-05 | 1.2e-04 | 4.8e-05 | 8.7e-05 | 8.1e-05 | 4.8e-05 | 1.3e-06 | 3.0e-07 | 5.6e-04 |
| Central Atlantic Call Area A | 8.9e-08 | 1.0e-07 | 2.5e-06 | 9.9e-05 | 1.5e-04 | 1.6e-04 | 5.4e-05 | 1.2e-04 | 1.5e-04 | 7.4e-05 | 2.4e-06 | 7.5e-07 | 8.1e-04 |
| Central Atlantic Draft WEA Primary A | 1.3e-08 | 1.3e-08 | 4.5e-07 | 1.9e-05 | 3.0e-05 | 3.4e-05 | 1.2e-05 | 2.5e-05 | 3.1e-05 | 1.5e-05 | 4.8e-07 | 1.4e-07 | 1.7e-04 |
| Central Atlantic Draft WEA Secondary A | 4.1e-08 | 4.4e-08 | 1.2e-06 | 4.8e-05 | 7.6e-05 | 8.1e-05 | 2.7e-05 | 5.9e-05 | 7.5e-05 | 3.7e-05 | 1.2e-06 | 3.9e-07 | 4.0e-04 |
| Central Atlantic Call Area B | 3.5e-07 | 1.0e-06 | 1.4e-05 | 3.9e-04 | 2.5e-04 | 2.7e-04 | 8.7e-05 | 1.9e-04 | 2.2e-04 | 1.4e-04 | 4.9e-06 | 1.1e-06 | 1.6e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.0e-08 | 1.1e-08 | 5.5e-07 | 2.2e-05 | 1.3e-05 | 1.6e-05 | 5.7e-06 | 1.3e-05 | 1.3e-05 | 8.6e-06 | 2.1e-07 | 6.1e-08 | 9.2e-05 |
| Central Atlantic Draft WEA Secondary B1 | 4.7e-09 | 5.4e-09 | 2.1e-07 | 7.8e-06 | 5.3e-06 | 6.3e-06 | 2.1e-06 | 4.9e-06 | 5.3e-06 | 3.3e-06 | 8.3e-08 | 2.6e-08 | 3.5e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.3e-07 | 4.0e-07 | 4.9e-06 | 1.2e-04 | 6.6e-05 | 6.5e-05 | 2.2e-05 | 4.7e-05 | 5.1e-05 | 3.7e-05 | 1.5e-06 | 2.6e-07 | 4.2e-04 |
| Central Atlantic Draft WEA Secondary B2 | 4.7e-08 | 1.9e-07 | 1.8e-06 | 3.8e-05 | 2.3e-05 | 2.3e-05 | 7.1e-06 | 1.5e-05 | 1.7e-05 | 1.3e-05 | 5.8e-07 | 8.6e-08 | 1.4e-04 |
| Central Atlantic Call Area C | 1.5e-07 | 6.3e-07 | 9.1e-06 | 1.7e-04 | 7.9e-05 | 6.3e-05 | 3.1e-05 | 6.6e-05 | 5.1e-05 | 3.7e-05 | 2.0e-06 | 2.2e-07 | 5.1e-04 |
| Central Atlantic Draft WEA Primary C | 1.1e-07 | 4.0e-07 | 6.0e-06 | 1.2e-04 | 5.3e-05 | 4.3e-05 | 2.1e-05 | 4.4e-05 | 3.4e-05 | 2.5e-05 | 1.3e-06 | 1.5e-07 | 3.4e-04 |
| Central Atlantic Draft WEA Secondary C | 3.6e-08 | 1.8e-07 | 2.4e-06 | 4.3e-05 | 2.0e-05 | 1.6e-05 | 7.7e-06 | 1.7e-05 | 1.3e-05 | 9.6e-06 | 5.1e-07 | 5.6e-08 | 1.3e-04 |
| Central Atlantic Call Area D | 4.2e-07 | 2.2e-06 | 2.5e-05 | 4.2e-04 | 2.5e-04 | 1.3e-04 | 8.9e-05 | 1.8e-04 | 1.3e-04 | 8.1e-05 | 6.1e-06 | 4.4e-07 | 1.3e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 2.0e-07 | 9.9e-07 | 1.2e-05 | 2.0e-04 | 1.2e-04 | 6.3e-05 | 4.4e-05 | 8.6e-05 | 6.6e-05 | 3.9e-05 | 2.9e-06 | 2.0e-07 | 6.3e-04 |
| Central Atlantic Draft WEA Secondary D | 2.5e-08 | 1.1e-07 | 1.7e-06 | 3.1e-05 | 1.8e-05 | 9.2e-06 | 6.9e-06 | 1.4e-05 | 9.8e-06 | 5.8e-06 | 3.8e-07 | 3.0e-08 | 9.6e-05 |
| Central Atlantic Call Area E | 2.9e-09 | 3.7e-08 | 2.0e-06 | 1.4e-05 | 1.5e-05 | 1.5e-05 | 6.4e-06 | 1.6e-05 | 1.2e-05 | 1.5e-05 | 4.9e-07 | 1.0e-08 | 9.6e-05 |
| Central Atlantic Draft WEA Primary E1 | 2.9e-10 | 5.4e-09 | 2.5e-07 | 3.2e-06 | 3.3e-06 | 3.4e-06 | 1.5e-06 | 3.5e-06 | 2.7e-06 | 4.0e-06 | 7.4e-08 | 1.3e-09 | 2.2e-05 |
| Central Atlantic Draft WEA Primary E2 | 6.0e-11 | 9.4e-09 | 2.7e-07 | 1.8e-06 | 2.2e-06 | 1.5e-06 | 1.1e-06 | 2.8e-06 | 2.0e-06 | 1.9e-06 | 7.5e-08 | 8.2e-10 | 1.4e-05 |
| Central Atlantic Call Area F | 7.7e-09 | 9.4e-08 | 2.1e-06 | 1.0e-05 | 1.2e-05 | 5.2e-06 | 4.1e-06 | 7.6e-06 | 1.7e-05 | 1.4e-05 | 2.7e-07 | 1.4e-08 | 7.2e-05 |
| Central Atlantic Draft WEA Primary F | 2.2e-10 | 4.9e-09 | 1.1e-07 | 5.0e-07 | 1.1e-06 | 4.3e-07 | 3.3e-07 | 5.5e-07 | 2.3e-06 | 1.6e-06 | 9.1e-09 | 6.3e-10 | 6.9e-06 |
| Virginia OCS-A 0483 | 8.5e-08 | 1.9e-07 | 7.5e-06 | 1.8e-04 | 9.8e-05 | 5.0e-05 | 4.0e-05 | 8.0e-05 | 4.9e-05 | 3.3e-05 | 1.4e-06 | 2.1e-07 | 5.4e-04 |
| Virginia OCS-A 0497 | 3.1e-09 | 6.6e-09 | 3.0e-07 | 6.3e-06 | 4.5e-06 | 1.6e-06 | 1.5e-06 | 2.9e-06 | 1.6e-06 | 1.2e-06 | 4.4e-08 | 9.0e-09 | 2.0e-05 |
| North Carolina OCS-A 0508 | 1.4e-07 | 8.8e-07 | 8.2e-06 | 1.1e-04 | 8.3e-05 | 3.6e-05 | 2.9e-05 | 5.5e-05 | 4.0e-05 | 2.4e-05 | 2.6e-06 | 1.4e-07 | 3.9e-04 |
| North Carolina OCS-A 0545 | 7.0e-08 | 4.0e-07 | 7.6e-06 | 3.7e-05 | 2.0e-05 | 1.2e-05 | 1.3e-05 | 3.6e-05 | 1.8e-04 | 5.5e-05 | 4.8e-06 | 2.2e-07 | 3.6e-04 |
| North Carolina OCS-A 0546 | 7.3e-08 | 3.9e-07 | 7.8e-06 | 3.4e-05 | 1.8e-05 | 1.1e-05 | 1.2e-05 | 3.3e-05 | 1.7e-04 | 5.5e-05 | 4.3e-06 | 2.0e-07 | 3.4e-04 |
| South Carolina Call Area - Grand Strand | 1.6e-06 | 1.8e-05 | 2.1e-04 | 1.7e-03 | 5.4e-04 | 3.3e-04 | 2.5e-04 | 7.5e-04 | 4.3e-03 | 1.1e-03 | 1.4e-04 | 3.9e-06 | 9.3e-03 |
| South Carolina Call Area - Cape Romain | 4.7e-07 | 5.2e-06 | 7.1e-05 | 5.6e-04 | 1.5e-04 | 1.0e-04 | 6.8e-05 | 1.9e-04 | 1.5e-03 | 4.2e-04 | 5.1e-05 | 1.4e-06 | 3.1e-03 |
| South Carolina Call Area - Winyah | 6.5e-08 | 5.8e-07 | 8.9e-06 | 1.5e-05 | 7.2e-06 | 7.7e-06 | 4.1e-06 | 1.3e-05 | 9.5e-05 | 8.2e-05 | 1.6e-06 | 7.4e-08 | 2.4e-04 |
| South Carolina Call Area - Charleston | 8.5e-08 | 4.6e-07 | 7.5e-06 | 2.7e-05 | 1.1e-05 | 8.8e-06 | 5.1e-06 | 1.7e-05 | 1.2e-04 | 6.7e-05 | 2.9e-06 | 1.7e-07 | 2.7e-04 |
| All planning areas | 3.2e-06 | 2.9e-05 | 3.6e-04 | 3.5e-03 | 5.2e-03 | 9.1e-03 | 6.4e-03 | 1.7e-02 | 1.9e-02 | 4.6e-03 | 4.2e-04 | 8.5e-06 | 6.6e-02 |
| All lease areas | 5.7e-07 | 2.1e-06 | 4.1e-05 | 8.7e-04 | 2.5e-03 | 1.4e-03 | 1.0e-03 | 1.6e-03 | 2.8e-03 | 7.2e-04 | 4.7e-05 | 4.3e-06 | 1.1e-02 |
| All planning and lease areas | 3.8e-06 | 3.1e-05 | 4.0e-04 | 4.4e-03 | 7.7e-03 | 1.1e-02 | 7.4e-03 | 1.9e-02 | 2.2e-02 | 5.3e-03 | 4.7e-04 | 1.3e-05 | 7.7e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-32. Predicted proportional abundance of Arctic Tern by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.6e-06 | 3.7e-06 | 4.4e-05 | 2.2e-04 | 1.3e-02 | 2.7e-02 | 1.8e-02 | 1.5e-02 | 9.2e-03 | 5.9e-03 | 3.0e-04 | 7.4e-06 | 8.9e-02 |
| Gulf of Maine Request for Competitive Interest | 5.3e-09 | 7.7e-09 | 5.6e-08 | 4.4e-07 | 7.9e-05 | 1.4e-04 | 2.3e-04 | 1.9e-04 | 6.1e-05 | 2.2e-05 | 1.8e-06 | 2.2e-08 | 7.2e-04 |
| Marine Research Array Requested Lease | 6.0e-10 | 8.5e-10 | 6.2e-09 | 5.0e-08 | 1.1e-05 | 2.2e-05 | 3.5e-05 | 2.9e-05 | 8.5e-06 | 2.8e-06 | 2.2e-07 | 2.5e-09 | 1.1e-04 |
| Rhode Island OCS-A 0506 | 4.1e-12 | 1.9e-12 | 2.3e-10 | 1.6e-08 | 6.7e-07 | 5.8e-07 | 5.6e-07 | 1.1e-07 | 9.3e-08 | 7.9e-09 | 9.0e-11 | 1.6e-11 | 2.0e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 9.9e-09 | 5.0e-09 | 2.5e-07 | 7.2e-06 | 1.8e-04 | 1.0e-04 | 8.5e-05 | 2.0e-05 | 4.0e-05 | 1.8e-05 | 2.2e-07 | 4.4e-08 | 4.5e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.5e-09 | 1.2e-09 | 5.3e-08 | 1.4e-06 | 2.7e-05 | 1.4e-05 | 9.9e-06 | 2.3e-06 | 6.0e-06 | 4.5e-06 | 4.1e-08 | 1.1e-08 | 6.6e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 3.0e-08 | 1.3e-08 | 5.1e-07 | 1.2e-05 | 2.0e-04 | 8.9e-05 | 7.2e-05 | 1.7e-05 | 5.8e-05 | 5.2e-05 | 3.7e-07 | 1.1e-07 | 5.0e-04 |
| Massachusetts OCS-A 0500 | 4.0e-08 | 1.7e-08 | 6.4e-07 | 1.4e-05 | 2.7e-04 | 9.4e-05 | 1.2e-04 | 2.7e-05 | 9.7e-05 | 6.8e-05 | 6.8e-07 | 1.5e-07 | 6.9e-04 |
| Massachusetts OCS-A 0501 | 1.1e-08 | 4.6e-09 | 2.6e-07 | 6.0e-06 | 1.3e-04 | 3.9e-05 | 7.0e-05 | 1.7e-05 | 6.3e-05 | 3.0e-05 | 5.0e-07 | 5.2e-08 | 3.6e-04 |
| Massachusetts OCS-A 0534 | 3.2e-08 | 1.2e-08 | 4.0e-07 | 8.8e-06 | 2.1e-04 | 5.8e-05 | 8.3e-05 | 1.8e-05 | 6.5e-05 | 5.1e-05 | 4.3e-07 | 1.2e-07 | 4.9e-04 |
| Massachusetts OCS-A 0520 | 3.4e-08 | 1.3e-08 | 3.3e-07 | 8.7e-06 | 2.8e-04 | 6.3e-05 | 1.2e-04 | 2.2e-05 | 8.0e-05 | 5.4e-05 | 5.4e-07 | 1.3e-07 | 6.2e-04 |
| Massachusetts OCS-A 0521 | 2.6e-08 | 9.5e-09 | 2.5e-07 | 7.0e-06 | 2.6e-04 | 5.3e-05 | 1.2e-04 | 2.0e-05 | 7.3e-05 | 4.6e-05 | 5.2e-07 | 1.1e-07 | 5.8e-04 |
| Massachusetts OCS-A 0522 | 1.8e-08 | 7.5e-09 | 2.0e-07 | 6.0e-06 | 2.0e-04 | 4.6e-05 | 1.3e-04 | 2.1e-05 | 7.7e-05 | 4.2e-05 | 6.0e-07 | 9.0e-08 | 5.3e-04 |
| New York WEA - Fairways North | 2.4e-08 | 1.2e-08 | 1.7e-07 | 5.7e-06 | 1.4e-04 | 1.0e-04 | 4.1e-05 | 1.1e-05 | 2.4e-05 | 3.1e-05 | 1.3e-07 | 7.1e-08 | 3.5e-04 |
| New York WEA - Fairways South | 3.4e-09 | 1.6e-09 | 2.2e-08 | 1.5e-06 | 3.4e-05 | 5.1e-05 | 7.7e-06 | 4.1e-06 | 3.9e-06 | 5.3e-06 | 1.4e-08 | 9.8e-09 | 1.1e-04 |
| New York OCS-A 0512 | 1.9e-08 | 8.6e-09 | 1.9e-07 | 9.7e-06 | 7.6e-05 | 1.4e-04 | 1.3e-05 | 7.9e-06 | 1.6e-05 | 4.0e-05 | 9.7e-08 | 6.0e-08 | 3.0e-04 |
| NY/NJ OCS-A 0544 | 1.7e-08 | 9.9e-09 | 1.2e-07 | 4.1e-06 | 4.8e-05 | 6.8e-05 | 6.6e-06 | 4.1e-06 | 9.3e-06 | 2.0e-05 | 4.9e-08 | 3.4e-08 | 1.6e-04 |
| NY/NJ OCS-A 0537 | 9.0e-08 | 2.2e-07 | 1.7e-06 | 1.2e-05 | 1.5e-04 | 8.0e-05 | 1.1e-05 | 4.9e-06 | 1.7e-05 | 3.5e-05 | 9.0e-08 | 6.2e-08 | 3.1e-04 |
| NY/NJ OCS-A 0538 | 9.5e-08 | 1.5e-07 | 1.6e-06 | 2.4e-05 | 2.1e-04 | 1.2e-04 | 1.1e-05 | 5.7e-06 | 2.5e-05 | 5.6e-05 | 1.4e-07 | 8.5e-08 | 4.6e-04 |
| NY/NJ OCS-A 0539 | 1.4e-07 | 2.0e-07 | 2.3e-06 | 5.6e-05 | 3.0e-04 | 1.8e-04 | 1.5e-05 | 8.3e-06 | 3.8e-05 | 1.1e-04 | 2.6e-07 | 1.7e-07 | 7.1e-04 |
| NY/NJ OCS-A 0541 | 5.9e-08 | 7.5e-08 | 8.6e-07 | 3.1e-05 | 9.6e-05 | 1.2e-04 | 7.7e-06 | 5.4e-06 | 1.5e-05 | 4.9e-05 | 1.1e-07 | 7.7e-08 | 3.2e-04 |
| NY/NJ OCS-A 0542 | 8.5e-08 | 1.4e-07 | 1.4e-06 | 3.4e-05 | 1.4e-04 | 1.2e-04 | 8.5e-06 | 5.6e-06 | 1.7e-05 | 4.7e-05 | 1.1e-07 | 8.1e-08 | 3.7e-04 |
| New Jersey OCS-A 0549 | 1.0e-08 | 7.5e-09 | 5.0e-07 | 4.8e-05 | 3.7e-05 | 1.1e-04 | 8.1e-06 | 5.1e-06 | 1.0e-05 | 3.9e-05 | 8.9e-08 | 4.8e-08 | 2.6e-04 |
| New Jersey OCS-A 0499 | 2.0e-08 | 1.3e-08 | 7.7e-07 | 5.9e-05 | 4.5e-05 | 1.4e-04 | 9.6e-06 | 6.7e-06 | 1.3e-05 | 4.9e-05 | 1.1e-07 | 6.5e-08 | 3.2e-04 |
| New Jersey OCS-A 0498 | 1.2e-08 | 7.3e-09 | 4.9e-07 | 3.6e-05 | 2.7e-05 | 9.9e-05 | 7.5e-06 | 5.3e-06 | 7.3e-06 | 2.6e-05 | 5.9e-08 | 3.5e-08 | 2.1e-04 |
| New Jersey OCS-A 0532 | 6.7e-09 | 4.3e-09 | 4.7e-07 | 4.2e-05 | 2.7e-05 | 1.2e-04 | 9.0e-06 | 6.3e-06 | 6.4e-06 | 1.9e-05 | 4.8e-08 | 2.2e-08 | 2.3e-04 |
| Delaware OCS-A 0482 | 2.2e-08 | 1.4e-08 | 1.5e-06 | 8.3e-05 | 2.4e-05 | 7.1e-05 | 5.8e-06 | 4.4e-06 | 8.5e-06 | 3.6e-05 | 8.3e-08 | 5.1e-08 | 2.4e-04 |
| Delaware OCS-A 0519 | 1.1e-08 | 9.2e-09 | 7.1e-07 | 3.0e-05 | 9.1e-06 | 2.5e-05 | 2.0e-06 | 1.5e-06 | 2.4e-06 | 1.2e-05 | 2.8e-08 | 2.0e-08 | 8.3e-05 |
| Maryland OCS-A 0490 | 3.8e-08 | 3.9e-08 | 3.3e-06 | 1.3e-04 | 2.5e-05 | 6.9e-05 | 5.7e-06 | 4.5e-06 | 7.7e-06 | 3.4e-05 | 7.9e-08 | 5.8e-08 | 2.8e-04 |
| Central Atlantic Call Area A | 2.2e-07 | 3.3e-07 | 1.0e-05 | 2.8e-04 | 1.1e-04 | 2.7e-04 | 2.1e-05 | 1.6e-05 | 2.5e-05 | 1.2e-04 | 2.8e-07 | 2.0e-07 | 8.6e-04 |
| Central Atlantic Draft WEA Primary A | 3.2e-08 | 3.6e-08 | 1.4e-06 | 4.5e-05 | 1.9e-05 | 4.9e-05 | 3.8e-06 | 2.8e-06 | 4.8e-06 | 2.3e-05 | 5.0e-08 | 3.7e-08 | 1.5e-04 |
| Central Atlantic Draft WEA Secondary A | 1.0e-07 | 1.3e-07 | 4.6e-06 | 1.3e-04 | 5.4e-05 | 1.4e-04 | 1.1e-05 | 8.0e-06 | 1.3e-05 | 6.1e-05 | 1.4e-07 | 1.0e-07 | 4.2e-04 |
| Central Atlantic Call Area B | 8.8e-07 | 4.5e-06 | 8.5e-05 | 1.4e-03 | 2.3e-04 | 4.4e-04 | 6.0e-05 | 4.7e-05 | 6.4e-05 | 2.4e-04 | 9.7e-07 | 3.6e-07 | 2.6e-03 |
| Central Atlantic Draft WEA Primary B1 | 2.2e-08 | 3.2e-08 | 1.7e-06 | 4.6e-05 | 7.6e-06 | 1.4e-05 | 2.0e-06 | 1.7e-06 | 2.3e-06 | 9.5e-06 | 2.8e-08 | 1.8e-08 | 8.5e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.1e-08 | 1.8e-08 | 7.4e-07 | 1.9e-05 | 3.3e-06 | 6.8e-06 | 8.8e-07 | 7.7e-07 | 1.0e-06 | 4.5e-06 | 1.3e-08 | 8.1e-09 | 3.8e-05 |
| Central Atlantic Draft WEA Primary B2 | 2.8e-07 | 1.8e-06 | 3.1e-05 | 4.6e-04 | 6.8e-05 | 1.1e-04 | 1.8e-05 | 1.4e-05 | 1.8e-05 | 5.8e-05 | 3.1e-07 | 7.8e-08 | 7.8e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.1e-07 | 8.9e-07 | 1.4e-05 | 1.8e-04 | 2.8e-05 | 5.0e-05 | 6.9e-06 | 5.4e-06 | 7.5e-06 | 2.4e-05 | 1.3e-07 | 3.0e-08 | 3.2e-04 |
| Central Atlantic Call Area C | 2.6e-07 | 2.0e-06 | 4.2e-05 | 5.0e-04 | 8.8e-05 | 8.1e-05 | 1.5e-05 | 1.2e-05 | 2.1e-05 | 4.2e-05 | 4.0e-07 | 4.7e-08 | 8.1e-04 |
| Central Atlantic Draft WEA Primary C | 1.7e-07 | 1.2e-06 | 2.5e-05 | 3.3e-04 | 5.6e-05 | 5.1e-05 | 9.7e-06 | 7.3e-06 | 1.4e-05 | 2.8e-05 | 2.5e-07 | 3.1e-08 | 5.2e-04 |
| Central Atlantic Draft WEA Secondary C | 7.2e-08 | 6.2e-07 | 1.3e-05 | 1.4e-04 | 2.6e-05 | 2.5e-05 | 4.4e-06 | 3.3e-06 | 5.9e-06 | 1.2e-05 | 1.1e-07 | 1.3e-08 | 2.3e-04 |
| Central Atlantic Call Area D | 4.4e-07 | 4.9e-06 | 1.1e-04 | 9.3e-04 | 3.0e-04 | 1.1e-04 | 3.7e-05 | 2.7e-05 | 4.1e-05 | 5.5e-05 | 9.9e-07 | 7.4e-08 | 1.6e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 2.2e-07 | 2.1e-06 | 4.0e-05 | 4.3e-04 | 1.3e-04 | 5.2e-05 | 1.7e-05 | 1.2e-05 | 1.8e-05 | 2.6e-05 | 4.5e-07 | 3.5e-08 | 7.3e-04 |
| Central Atlantic Draft WEA Secondary D | 3.1e-08 | 2.4e-07 | 4.5e-06 | 5.7e-05 | 1.7e-05 | 6.2e-06 | 2.4e-06 | 1.8e-06 | 2.3e-06 | 3.5e-06 | 5.8e-08 | 5.5e-09 | 9.5e-05 |
| Central Atlantic Call Area E | 3.4e-07 | 6.9e-06 | 2.3e-04 | 1.0e-03 | 5.7e-04 | 2.2e-04 | 5.4e-05 | 5.0e-05 | 8.7e-05 | 6.3e-05 | 2.3e-06 | 8.8e-08 | 2.3e-03 |
| Central Atlantic Draft WEA Primary E1 | 8.7e-08 | 2.0e-06 | 5.6e-05 | 3.1e-04 | 1.4e-04 | 6.5e-05 | 1.3e-05 | 1.2e-05 | 2.0e-05 | 1.8e-05 | 6.8e-07 | 2.4e-08 | 6.3e-04 |
| Central Atlantic Draft WEA Primary E2 | 7.5e-08 | 1.5e-06 | 5.1e-05 | 2.7e-04 | 1.8e-04 | 4.2e-05 | 1.4e-05 | 1.4e-05 | 2.4e-05 | 1.3e-05 | 5.2e-07 | 2.1e-08 | 6.1e-04 |
| Central Atlantic Call Area F | 1.6e-07 | 2.5e-06 | 6.8e-05 | 4.7e-04 | 3.0e-04 | 9.0e-05 | 4.4e-05 | 3.5e-05 | 7.9e-05 | 2.0e-05 | 5.8e-07 | 4.2e-08 | 1.1e-03 |
| Central Atlantic Draft WEA Primary F | 6.7e-09 | 1.0e-07 | 3.0e-06 | 1.7e-05 | 1.1e-05 | 3.7e-06 | 2.8e-06 | 2.0e-06 | 5.2e-06 | 1.0e-06 | 2.2e-08 | 1.9e-09 | 4.5e-05 |
| Virginia OCS-A 0483 | 1.1e-07 | 3.7e-07 | 1.7e-05 | 2.6e-04 | 5.7e-05 | 2.5e-05 | 8.0e-06 | 5.9e-06 | 1.0e-05 | 2.0e-05 | 1.7e-07 | 3.8e-08 | 4.0e-04 |
| Virginia OCS-A 0497 | 2.3e-09 | 5.6e-09 | 3.7e-07 | 5.0e-06 | 1.4e-06 | 3.4e-07 | 1.9e-07 | 1.5e-07 | 2.2e-07 | 3.9e-07 | 3.4e-09 | 9.8e-10 | 8.1e-06 |
| North Carolina OCS-A 0508 | 1.1e-07 | 1.5e-06 | 3.9e-05 | 3.1e-04 | 1.1e-04 | 2.8e-05 | 1.0e-05 | 6.8e-06 | 1.1e-05 | 1.4e-05 | 3.2e-07 | 1.6e-08 | 5.3e-04 |
| North Carolina OCS-A 0545 | 1.8e-08 | 1.6e-07 | 7.3e-06 | 5.3e-05 | 6.4e-06 | 6.4e-06 | 8.8e-06 | 5.1e-06 | 1.5e-05 | 1.9e-06 | 4.5e-08 | 7.6e-09 | 1.0e-04 |
| North Carolina OCS-A 0546 | 2.0e-08 | 1.8e-07 | 8.7e-06 | 5.6e-05 | 7.3e-06 | 6.9e-06 | 9.5e-06 | 5.4e-06 | 1.7e-05 | 2.0e-06 | 4.4e-08 | 7.5e-09 | 1.1e-04 |
| South Carolina Call Area - Grand Strand | 9.1e-08 | 2.0e-06 | 3.7e-05 | 4.0e-04 | 4.3e-05 | 5.5e-05 | 6.7e-05 | 4.3e-05 | 7.3e-05 | 9.8e-06 | 6.9e-07 | 4.0e-08 | 7.3e-04 |
| South Carolina Call Area - Cape Romain | 2.8e-08 | 4.2e-07 | 9.9e-06 | 9.4e-05 | 9.2e-06 | 1.4e-05 | 1.7e-05 | 1.2e-05 | 1.9e-05 | 2.7e-06 | 2.1e-07 | 1.1e-08 | 1.8e-04 |
| South Carolina Call Area - Winyah | 6.8e-09 | 1.5e-07 | 4.5e-06 | 1.1e-05 | 2.5e-06 | 3.8e-06 | 4.7e-06 | 2.6e-06 | 7.8e-06 | 1.2e-06 | 4.9e-09 | 8.2e-10 | 3.8e-05 |
| South Carolina Call Area - Charleston | 9.3e-09 | 1.1e-07 | 4.5e-06 | 1.6e-05 | 1.9e-06 | 3.1e-06 | 3.7e-06 | 2.4e-06 | 5.3e-06 | 8.0e-07 | 5.9e-09 | 2.4e-09 | 3.8e-05 |
| All planning areas | 5.1e-06 | 2.8e-05 | 6.4e-04 | 5.4e-03 | 1.5e-02 | 2.9e-02 | 1.9e-02 | 1.5e-02 | 9.7e-03 | 6.6e-03 | 3.1e-04 | 8.4e-06 | 1.0e-01 |
| All lease areas | 1.1e-06 | 3.2e-06 | 9.1e-05 | 1.4e-03 | 3.1e-03 | 2.1e-03 | 9.6e-04 | 2.6e-04 | 8.1e-04 | 9.8e-04 | 5.8e-06 | 1.8e-06 | 9.7e-03 |
| All planning and lease areas | 6.2e-06 | 3.1e-05 | 7.3e-04 | 6.7e-03 | 1.8e-02 | 3.1e-02 | 2.0e-02 | 1.5e-02 | 1.1e-02 | 7.5e-03 | 3.2e-04 | 1.0e-05 | 1.1e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-33. Predicted proportional abundance of Forster's Tern by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.3e-06 | 7.2e-08 | 1.4e-07 | 1.7e-05 | 1.1e-03 | 9.9e-04 | 2.0e-03 | 2.3e-03 | 5.2e-03 | 5.8e-03 | 6.7e-04 | 8.4e-05 | 1.8e-02 |
| Gulf of Maine Request for Competitive Interest | 9.6e-09 | 3.5e-11 | 2.1e-10 | 7.7e-08 | 1.0e-05 | 8.5e-06 | 1.6e-05 | 1.7e-05 | 4.4e-05 | 5.3e-05 | 5.2e-06 | 7.0e-07 | 1.5e-04 |
| Marine Research Array Requested Lease | 1.4e-09 | 4.3e-12 | 2.7e-11 | 1.1e-08 | 1.4e-06 | 1.2e-06 | 2.3e-06 | 2.5e-06 | 6.3e-06 | 7.6e-06 | 7.5e-07 | 1.1e-07 | 2.2e-05 |
| Rhode Island OCS-A 0506 | 8.9e-08 | 3.7e-09 | 5.7e-09 | 4.7e-08 | 1.9e-07 | 9.6e-08 | 1.2e-07 | 1.4e-07 | 3.2e-07 | 9.5e-07 | 6.3e-07 | 6.8e-07 | 3.3e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.0e-05 | 4.4e-07 | 1.1e-06 | 1.4e-05 | 7.0e-05 | 3.8e-05 | 4.4e-05 | 4.9e-05 | 1.2e-04 | 2.8e-04 | 1.1e-04 | 6.7e-05 | 8.0e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.1e-06 | 7.7e-08 | 1.8e-07 | 2.2e-06 | 1.2e-05 | 6.1e-06 | 7.1e-06 | 7.8e-06 | 2.0e-05 | 4.6e-05 | 2.0e-05 | 1.2e-05 | 1.3e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 8.3e-06 | 3.3e-07 | 1.0e-06 | 1.4e-05 | 8.2e-05 | 4.6e-05 | 5.1e-05 | 5.7e-05 | 1.4e-04 | 2.9e-04 | 1.1e-04 | 4.7e-05 | 8.5e-04 |
| Massachusetts OCS-A 0500 | 4.1e-06 | 1.8e-07 | 9.4e-07 | 1.5e-05 | 1.0e-04 | 6.1e-05 | 6.8e-05 | 7.7e-05 | 1.9e-04 | 3.8e-04 | 1.2e-04 | 3.2e-05 | 1.0e-03 |
| Massachusetts OCS-A 0501 | 1.2e-06 | 2.3e-08 | 3.0e-07 | 6.2e-06 | 4.9e-05 | 2.9e-05 | 3.3e-05 | 3.9e-05 | 9.0e-05 | 1.9e-04 | 5.0e-05 | 1.4e-05 | 5.0e-04 |
| Massachusetts OCS-A 0534 | 1.8e-06 | 6.6e-08 | 4.0e-07 | 7.7e-06 | 6.9e-05 | 4.2e-05 | 4.6e-05 | 5.2e-05 | 1.3e-04 | 2.3e-04 | 7.1e-05 | 1.4e-05 | 6.6e-04 |
| Massachusetts OCS-A 0520 | 2.0e-06 | 5.5e-08 | 4.2e-07 | 8.7e-06 | 8.3e-05 | 5.4e-05 | 5.9e-05 | 6.8e-05 | 1.6e-04 | 2.9e-04 | 8.2e-05 | 1.8e-05 | 8.2e-04 |
| Massachusetts OCS-A 0521 | 2.0e-06 | 5.3e-08 | 4.5e-07 | 8.4e-06 | 8.0e-05 | 5.3e-05 | 6.0e-05 | 6.9e-05 | 1.6e-04 | 2.9e-04 | 8.3e-05 | 2.0e-05 | 8.3e-04 |
| Massachusetts OCS-A 0522 | 2.0e-06 | 5.0e-08 | 4.0e-07 | 8.4e-06 | 8.0e-05 | 5.6e-05 | 6.5e-05 | 7.5e-05 | 1.7e-04 | 3.4e-04 | 9.2e-05 | 2.6e-05 | 9.1e-04 |
| New York WEA - Fairways North | 8.4e-06 | 7.2e-07 | 1.1e-06 | 1.4e-05 | 6.8e-05 | 3.3e-05 | 4.1e-05 | 4.2e-05 | 1.1e-04 | 2.0e-04 | 9.9e-05 | 4.4e-05 | 6.6e-04 |
| New York WEA - Fairways South | 3.3e-06 | 2.9e-07 | 4.7e-07 | 5.5e-06 | 2.1e-05 | 8.5e-06 | 1.1e-05 | 1.1e-05 | 3.1e-05 | 6.1e-05 | 3.8e-05 | 2.1e-05 | 2.1e-04 |
| New York OCS-A 0512 | 1.2e-05 | 1.0e-06 | 2.2e-06 | 2.6e-05 | 7.9e-05 | 2.8e-05 | 3.6e-05 | 3.4e-05 | 1.1e-04 | 2.1e-04 | 1.7e-04 | 1.1e-04 | 8.2e-04 |
| NY/NJ OCS-A 0544 | 4.8e-06 | 6.7e-07 | 1.1e-06 | 1.1e-05 | 3.8e-05 | 1.5e-05 | 1.8e-05 | 1.7e-05 | 5.7e-05 | 1.1e-04 | 7.0e-05 | 3.0e-05 | 3.7e-04 |
| NY/NJ OCS-A 0537 | 5.8e-06 | 4.0e-07 | 9.5e-07 | 8.6e-06 | 5.1e-05 | 2.4e-05 | 2.7e-05 | 2.6e-05 | 8.1e-05 | 1.5e-04 | 8.6e-05 | 2.5e-05 | 4.8e-04 |
| NY/NJ OCS-A 0538 | 6.1e-06 | 6.5e-07 | 2.0e-06 | 1.6e-05 | 6.7e-05 | 3.0e-05 | 3.3e-05 | 3.1e-05 | 1.1e-04 | 2.0e-04 | 1.3e-04 | 3.7e-05 | 6.6e-04 |
| NY/NJ OCS-A 0539 | 1.5e-05 | 1.6e-06 | 3.8e-06 | 3.0e-05 | 1.1e-04 | 4.6e-05 | 5.0e-05 | 4.6e-05 | 1.7e-04 | 3.6e-04 | 2.4e-04 | 8.3e-05 | 1.2e-03 |
| NY/NJ OCS-A 0541 | 1.0e-05 | 1.4e-06 | 2.6e-06 | 2.6e-05 | 7.1e-05 | 2.6e-05 | 2.8e-05 | 2.6e-05 | 1.0e-04 | 2.2e-04 | 1.5e-04 | 6.2e-05 | 7.2e-04 |
| NY/NJ OCS-A 0542 | 8.7e-06 | 1.2e-06 | 2.7e-06 | 2.3e-05 | 7.1e-05 | 2.8e-05 | 2.9e-05 | 2.7e-05 | 1.0e-04 | 2.3e-04 | 1.6e-04 | 5.1e-05 | 7.3e-04 |
| New Jersey OCS-A 0549 | 1.2e-05 | 7.3e-07 | 3.4e-06 | 4.8e-05 | 1.0e-04 | 2.9e-05 | 3.6e-05 | 3.4e-05 | 1.1e-04 | 2.4e-04 | 2.9e-04 | 2.0e-04 | 1.1e-03 |
| New Jersey OCS-A 0499 | 1.7e-05 | 1.3e-06 | 4.7e-06 | 5.9e-05 | 1.2e-04 | 3.6e-05 | 4.1e-05 | 3.9e-05 | 1.4e-04 | 3.0e-04 | 3.2e-04 | 2.0e-04 | 1.3e-03 |
| New Jersey OCS-A 0498 | 1.6e-05 | 1.4e-06 | 4.1e-06 | 4.8e-05 | 9.5e-05 | 2.6e-05 | 3.0e-05 | 2.8e-05 | 9.9e-05 | 2.4e-04 | 2.9e-04 | 1.7e-04 | 1.0e-03 |
| New Jersey OCS-A 0532 | 1.7e-05 | 1.6e-06 | 5.0e-06 | 6.1e-05 | 1.1e-04 | 3.0e-05 | 3.4e-05 | 3.3e-05 | 1.1e-04 | 2.8e-04 | 3.7e-04 | 2.3e-04 | 1.3e-03 |
| Delaware OCS-A 0482 | 1.8e-05 | 2.3e-06 | 5.0e-06 | 5.5e-05 | 9.7e-05 | 2.5e-05 | 2.6e-05 | 2.6e-05 | 8.4e-05 | 2.0e-04 | 2.8e-04 | 1.7e-04 | 9.9e-04 |
| Delaware OCS-A 0519 | 8.2e-06 | 1.1e-06 | 2.0e-06 | 2.0e-05 | 3.5e-05 | 9.1e-06 | 8.9e-06 | 8.9e-06 | 3.1e-05 | 7.4e-05 | 9.4e-05 | 5.6e-05 | 3.5e-04 |
| Maryland OCS-A 0490 | 2.8e-05 | 3.9e-06 | 6.7e-06 | 6.5e-05 | 1.1e-04 | 2.8e-05 | 2.5e-05 | 2.6e-05 | 8.8e-05 | 2.2e-04 | 3.1e-04 | 2.0e-04 | 1.1e-03 |
| Central Atlantic Call Area A | 7.2e-05 | 1.0e-05 | 1.8e-05 | 1.6e-04 | 3.0e-04 | 8.3e-05 | 7.6e-05 | 7.7e-05 | 2.8e-04 | 6.8e-04 | 7.1e-04 | 3.3e-04 | 2.8e-03 |
| Central Atlantic Draft WEA Primary A | 1.3e-05 | 1.8e-06 | 3.1e-06 | 2.9e-05 | 5.5e-05 | 1.5e-05 | 1.4e-05 | 1.4e-05 | 5.1e-05 | 1.2e-04 | 1.3e-04 | 6.3e-05 | 5.1e-04 |
| Central Atlantic Draft WEA Secondary A | 3.5e-05 | 5.1e-06 | 8.8e-06 | 7.9e-05 | 1.5e-04 | 4.2e-05 | 3.8e-05 | 3.9e-05 | 1.4e-04 | 3.4e-04 | 3.5e-04 | 1.6e-04 | 1.4e-03 |
| Central Atlantic Call Area B | 4.0e-04 | 5.4e-05 | 7.6e-05 | 5.2e-04 | 8.9e-04 | 2.1e-04 | 1.6e-04 | 1.8e-04 | 6.3e-04 | 1.9e-03 | 2.4e-03 | 1.5e-03 | 8.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.7e-05 | 1.9e-06 | 2.5e-06 | 1.9e-05 | 3.2e-05 | 7.4e-06 | 5.2e-06 | 6.4e-06 | 2.2e-05 | 6.3e-05 | 9.1e-05 | 6.2e-05 | 3.3e-04 |
| Central Atlantic Draft WEA Secondary B1 | 7.2e-06 | 7.5e-07 | 1.1e-06 | 7.7e-06 | 1.3e-05 | 3.2e-06 | 2.3e-06 | 2.8e-06 | 9.9e-06 | 2.8e-05 | 4.0e-05 | 2.5e-05 | 1.4e-04 |
| Central Atlantic Draft WEA Primary B2 | 1.3e-04 | 1.9e-05 | 2.5e-05 | 1.6e-04 | 2.6e-04 | 6.1e-05 | 4.4e-05 | 5.1e-05 | 1.7e-04 | 5.3e-04 | 6.6e-04 | 4.7e-04 | 2.6e-03 |
| Central Atlantic Draft WEA Secondary B2 | 3.7e-05 | 6.4e-06 | 9.1e-06 | 5.9e-05 | 1.0e-04 | 2.4e-05 | 1.8e-05 | 2.1e-05 | 6.9e-05 | 2.2e-04 | 2.5e-04 | 1.6e-04 | 9.6e-04 |
| Central Atlantic Call Area C | 1.5e-04 | 3.0e-05 | 3.2e-05 | 1.8e-04 | 2.8e-04 | 6.2e-05 | 4.5e-05 | 5.5e-05 | 1.6e-04 | 4.8e-04 | 6.3e-04 | 5.4e-04 | 2.6e-03 |
| Central Atlantic Draft WEA Primary C | 9.2e-05 | 1.9e-05 | 2.0e-05 | 1.1e-04 | 1.7e-04 | 3.7e-05 | 2.6e-05 | 3.2e-05 | 9.5e-05 | 2.9e-04 | 3.8e-04 | 3.3e-04 | 1.6e-03 |
| Central Atlantic Draft WEA Secondary C | 4.4e-05 | 8.7e-06 | 9.7e-06 | 5.6e-05 | 8.8e-05 | 2.0e-05 | 1.4e-05 | 1.7e-05 | 5.0e-05 | 1.5e-04 | 2.0e-04 | 1.6e-04 | 8.2e-04 |
| Central Atlantic Call Area D | 5.0e-04 | 1.4e-04 | 1.2e-04 | 5.9e-04 | 7.0e-04 | 1.5e-04 | 1.2e-04 | 1.6e-04 | 3.7e-04 | 1.1e-03 | 1.5e-03 | 1.6e-03 | 7.0e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 2.1e-04 | 6.1e-05 | 4.6e-05 | 2.2e-04 | 2.6e-04 | 5.4e-05 | 4.2e-05 | 5.6e-05 | 1.4e-04 | 4.3e-04 | 5.6e-04 | 6.4e-04 | 2.7e-03 |
| Central Atlantic Draft WEA Secondary D | 3.5e-05 | 9.3e-06 | 6.5e-06 | 3.0e-05 | 3.4e-05 | 7.0e-06 | 5.3e-06 | 7.4e-06 | 1.7e-05 | 5.7e-05 | 8.4e-05 | 1.0e-04 | 4.0e-04 |
| Central Atlantic Call Area E | 7.9e-09 | 3.1e-09 | 2.9e-09 | 2.4e-08 | 8.6e-08 | 3.8e-08 | 3.8e-08 | 4.7e-08 | 9.8e-08 | 2.0e-07 | 2.5e-07 | 8.5e-08 | 8.8e-07 |
| Central Atlantic Draft WEA Primary E1 | 6.8e-13 | 1.5e-12 | 2.4e-13 | 3.7e-12 | 2.4e-11 | 2.0e-11 | 2.4e-11 | 3.2e-11 | 5.6e-11 | 9.2e-11 | 4.1e-11 | 3.3e-12 | 3.0e-10 |
| Central Atlantic Draft WEA Primary E2 | 9.3e-15 | 1.6e-13 | 2.8e-14 | 9.8e-14 | 2.3e-13 | 4.1e-13 | 6.4e-13 | 1.3e-12 | 2.2e-12 | 3.1e-12 | 8.9e-13 | 4.0e-14 | 9.1e-12 |
| Central Atlantic Call Area F | 7.5e-11 | 4.5e-11 | 4.6e-11 | 1.1e-10 | 1.2e-10 | 3.0e-11 | 5.1e-11 | 1.0e-10 | 1.0e-10 | 1.5e-10 | 1.1e-10 | 1.1e-10 | 1.1e-09 |
| Central Atlantic Draft WEA Primary F | 1.7e-14 | 1.0e-14 | 1.4e-14 | 3.3e-14 | 4.7e-14 | 1.3e-14 | 2.6e-14 | 4.7e-14 | 3.3e-14 | 4.4e-14 | 3.0e-14 | 2.2e-14 | 3.4e-13 |
| Virginia OCS-A 0483 | 1.7e-04 | 3.2e-05 | 2.8e-05 | 1.4e-04 | 1.6e-04 | 3.3e-05 | 2.4e-05 | 3.3e-05 | 8.3e-05 | 2.8e-04 | 4.9e-04 | 5.3e-04 | 2.0e-03 |
| Virginia OCS-A 0497 | 5.7e-06 | 1.1e-06 | 9.2e-07 | 4.0e-06 | 3.8e-06 | 7.3e-07 | 6.1e-07 | 8.6e-07 | 1.9e-06 | 8.7e-06 | 1.8e-05 | 2.0e-05 | 6.7e-05 |
| North Carolina OCS-A 0508 | 1.2e-04 | 4.0e-05 | 3.2e-05 | 1.5e-04 | 1.5e-04 | 3.2e-05 | 2.7e-05 | 3.7e-05 | 7.8e-05 | 2.2e-04 | 2.9e-04 | 3.4e-04 | 1.5e-03 |
| North Carolina OCS-A 0545 | 1.5e-04 | 8.1e-05 | 4.6e-05 | 5.2e-05 | 3.7e-05 | 6.0e-06 | 2.5e-05 | 4.0e-05 | 1.4e-05 | 1.2e-05 | 6.0e-05 | 1.3e-04 | 6.5e-04 |
| North Carolina OCS-A 0546 | 1.5e-04 | 8.2e-05 | 4.5e-05 | 5.0e-05 | 3.6e-05 | 6.0e-06 | 2.5e-05 | 4.0e-05 | 1.4e-05 | 1.2e-05 | 5.8e-05 | 1.3e-04 | 6.5e-04 |
| South Carolina Call Area - Grand Strand | 5.4e-03 | 2.3e-03 | 1.3e-03 | 1.2e-03 | 5.6e-04 | 9.1e-05 | 4.9e-04 | 7.6e-04 | 3.3e-04 | 6.1e-04 | 2.6e-03 | 5.6e-03 | 2.1e-02 |
| South Carolina Call Area - Cape Romain | 1.7e-03 | 7.2e-04 | 3.7e-04 | 3.3e-04 | 1.4e-04 | 2.5e-05 | 1.5e-04 | 2.6e-04 | 1.1e-04 | 1.8e-04 | 7.7e-04 | 1.9e-03 | 6.6e-03 |
| South Carolina Call Area - Winyah | 2.7e-05 | 1.9e-05 | 1.1e-05 | 1.9e-05 | 1.6e-05 | 4.1e-06 | 2.1e-05 | 3.3e-05 | 1.2e-05 | 2.7e-06 | 5.5e-06 | 1.8e-05 | 1.9e-04 |
| South Carolina Call Area - Charleston | 6.6e-05 | 3.8e-05 | 2.3e-05 | 3.6e-05 | 2.2e-05 | 4.6e-06 | 2.8e-05 | 4.5e-05 | 1.3e-05 | 5.6e-06 | 2.0e-05 | 6.0e-05 | 3.6e-04 |
| All planning areas | 8.3e-03 | 3.3e-03 | 1.9e-03 | 3.1e-03 | 4.1e-03 | 1.7e-03 | 3.1e-03 | 3.9e-03 | 7.3e-03 | 1.1e-02 | 9.4e-03 | 1.2e-02 | 6.9e-02 |
| All lease areas | 8.1e-04 | 2.6e-04 | 2.0e-04 | 9.7e-04 | 2.2e-03 | 8.4e-04 | 9.6e-04 | 1.0e-03 | 2.8e-03 | 5.9e-03 | 4.6e-03 | 3.0e-03 | 2.4e-02 |
| All planning and lease areas | 9.1e-03 | 3.5e-03 | 2.1e-03 | 4.0e-03 | 6.3e-03 | 2.5e-03 | 4.1e-03 | 5.0e-03 | 1.0e-02 | 1.7e-02 | 1.4e-02 | 1.5e-02 | 9.2e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

## Table H-34. Predicted proportional abundance of Royal Tern by BOEM area and month during the retrospective period (1993–2019)

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.2e-07 | 1.6e-07 | 2.8e-07 | 4.4e-07 | 8.4e-07 | 1.2e-06 | 2.7e-06 | 5.3e-06 | 5.3e-06 | 2.4e-06 | 6.1e-07 | 2.2e-07 | 1.9e-05 |
| Gulf of Maine Request for Competitive Interest | 4.0e-10 | 5.3e-10 | 8.2e-10 | 1.3e-09 | 2.8e-09 | 3.7e-09 | 8.1e-09 | 1.7e-08 | 1.7e-08 | 7.2e-09 | 1.8e-09 | 7.5e-10 | 6.1e-08 |
| Marine Research Array Requested Lease | 5.3e-11 | 7.0e-11 | 1.1e-10 | 1.8e-10 | 3.8e-10 | 5.0e-10 | 1.1e-09 | 2.3e-09 | 2.3e-09 | 9.7e-10 | 2.5e-10 | 1.0e-10 | 8.3e-09 |
| Rhode Island OCS-A 0506 | 6.0e-11 | 7.0e-11 | 2.2e-10 | 6.8e-10 | 1.5e-09 | 1.7e-09 | 3.1e-09 | 4.8e-09 | 5.7e-09 | 2.6e-09 | 6.1e-10 | 1.8e-10 | 2.1e-08 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.4e-08 | 3.2e-08 | 8.0e-08 | 2.8e-07 | 5.8e-07 | 7.2e-07 | 1.4e-06 | 2.0e-06 | 2.2e-06 | 1.1e-06 | 2.6e-07 | 7.8e-08 | 8.7e-06 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.9e-09 | 4.6e-09 | 1.1e-08 | 3.9e-08 | 8.9e-08 | 1.0e-07 | 1.8e-07 | 2.5e-07 | 2.8e-07 | 1.5e-07 | 3.5e-08 | 1.1e-08 | 1.2e-06 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.3e-08 | 1.1e-08 | 2.7e-08 | 9.3e-08 | 2.0e-07 | 2.7e-07 | 4.7e-07 | 6.7e-07 | 7.3e-07 | 3.8e-07 | 9.6e-08 | 3.1e-08 | 3.0e-06 |
| Massachusetts OCS-A 0500 | 1.4e-08 | 1.2e-08 | 3.2e-08 | 1.1e-07 | 2.4e-07 | 3.2e-07 | 6.3e-07 | 9.1e-07 | 8.9e-07 | 4.5e-07 | 1.1e-07 | 3.2e-08 | 3.7e-06 |
| Massachusetts OCS-A 0501 | 8.9e-09 | 8.5e-09 | 2.5e-08 | 8.8e-08 | 1.6e-07 | 2.0e-07 | 4.8e-07 | 6.9e-07 | 6.8e-07 | 3.6e-07 | 8.1e-08 | 2.1e-08 | 2.8e-06 |
| Massachusetts OCS-A 0534 | 7.1e-09 | 6.0e-09 | 1.4e-08 | 4.8e-08 | 9.9e-08 | 1.3e-07 | 2.7e-07 | 4.0e-07 | 4.1e-07 | 2.1e-07 | 5.3e-08 | 1.7e-08 | 1.7e-06 |
| Massachusetts OCS-A 0520 | 9.5e-09 | 8.0e-09 | 2.0e-08 | 6.3e-08 | 1.2e-07 | 1.5e-07 | 3.7e-07 | 5.5e-07 | 6.1e-07 | 3.1e-07 | 7.6e-08 | 2.3e-08 | 2.3e-06 |
| Massachusetts OCS-A 0521 | 9.9e-09 | 8.7e-09 | 2.3e-08 | 7.1e-08 | 1.2e-07 | 1.6e-07 | 4.4e-07 | 6.5e-07 | 7.5e-07 | 3.6e-07 | 9.1e-08 | 2.5e-08 | 2.7e-06 |
| Massachusetts OCS-A 0522 | 1.2e-08 | 1.2e-08 | 3.3e-08 | 9.9e-08 | 1.6e-07 | 2.3e-07 | 6.5e-07 | 9.5e-07 | 1.0e-06 | 4.9e-07 | 1.2e-07 | 3.1e-08 | 3.8e-06 |
| New York WEA - Fairways North | 8.9e-09 | 8.8e-09 | 1.9e-08 | 5.6e-08 | 1.2e-07 | 1.6e-07 | 2.9e-07 | 4.5e-07 | 5.2e-07 | 2.7e-07 | 6.6e-08 | 2.3e-08 | 2.0e-06 |
| New York WEA - Fairways South | 4.5e-09 | 4.7e-09 | 1.1e-08 | 3.6e-08 | 7.5e-08 | 1.1e-07 | 1.7e-07 | 2.8e-07 | 2.9e-07 | 1.7e-07 | 3.8e-08 | 1.3e-08 | 1.2e-06 |
| New York OCS-A 0512 | 6.0e-08 | 6.7e-08 | 2.1e-07 | 7.3e-07 | 1.4e-06 | 1.8e-06 | 3.0e-06 | 4.2e-06 | 4.9e-06 | 3.2e-06 | 7.6e-07 | 2.1e-07 | 2.1e-05 |
| NY/NJ OCS-A 0544 | 1.1e-08 | 1.1e-08 | 2.6e-08 | 7.4e-08 | 1.6e-07 | 2.3e-07 | 3.8e-07 | 5.5e-07 | 5.7e-07 | 3.5e-07 | 9.2e-08 | 3.1e-08 | 2.5e-06 |
| NY/NJ OCS-A 0537 | 9.4e-09 | 1.0e-08 | 1.8e-08 | 3.2e-08 | 7.5e-08 | 1.2e-07 | 2.4e-07 | 3.3e-07 | 3.3e-07 | 1.8e-07 | 5.5e-08 | 2.0e-08 | 1.4e-06 |
| NY/NJ OCS-A 0538 | 2.9e-08 | 3.4e-08 | 7.2e-08 | 1.5e-07 | 2.8e-07 | 4.3e-07 | 6.8e-07 | 1.0e-06 | 1.1e-06 | 6.7e-07 | 2.0e-07 | 6.5e-08 | 4.7e-06 |
| NY/NJ OCS-A 0539 | 8.9e-08 | 1.1e-07 | 2.5e-07 | 6.0e-07 | 1.0e-06 | 1.5e-06 | 2.6e-06 | 3.5e-06 | 3.8e-06 | 2.5e-06 | 7.1e-07 | 2.2e-07 | 1.7e-05 |
| NY/NJ OCS-A 0541 | 3.0e-08 | 3.8e-08 | 9.7e-08 | 2.8e-07 | 5.2e-07 | 7.1e-07 | 1.1e-06 | 1.3e-06 | 1.6e-06 | 1.0e-06 | 2.5e-07 | 8.1e-08 | 7.0e-06 |
| NY/NJ OCS-A 0542 | 2.6e-08 | 3.0e-08 | 6.6e-08 | 1.7e-07 | 3.2e-07 | 4.7e-07 | 7.7e-07 | 1.0e-06 | 1.1e-06 | 6.6e-07 | 1.9e-07 | 6.4e-08 | 4.9e-06 |
| New Jersey OCS-A 0549 | 1.9e-07 | 2.8e-07 | 1.5e-06 | 6.1e-06 | 8.9e-06 | 1.0e-05 | 1.5e-05 | 2.3e-05 | 2.9e-05 | 1.7e-05 | 3.2e-06 | 6.7e-07 | 1.2e-04 |
| New Jersey OCS-A 0499 | 1.9e-07 | 2.7e-07 | 1.4e-06 | 5.5e-06 | 8.3e-06 | 1.0e-05 | 1.4e-05 | 2.0e-05 | 2.5e-05 | 1.5e-05 | 3.0e-06 | 6.8e-07 | 1.0e-04 |
| New Jersey OCS-A 0498 | 1.6e-07 | 2.2e-07 | 1.1e-06 | 4.7e-06 | 6.9e-06 | 8.6e-06 | 1.2e-05 | 1.8e-05 | 2.0e-05 | 1.2e-05 | 2.5e-06 | 5.4e-07 | 8.7e-05 |
| New Jersey OCS-A 0532 | 1.9e-07 | 3.1e-07 | 1.9e-06 | 9.0e-06 | 1.3e-05 | 1.5e-05 | 2.1e-05 | 3.3e-05 | 4.0e-05 | 2.2e-05 | 4.0e-06 | 7.2e-07 | 1.6e-04 |
| Delaware OCS-A 0482 | 2.7e-07 | 3.9e-07 | 2.3e-06 | 9.3e-06 | 1.3e-05 | 1.5e-05 | 2.0e-05 | 3.2e-05 | 3.8e-05 | 2.3e-05 | 4.6e-06 | 1.0e-06 | 1.6e-04 |
| Delaware OCS-A 0519 | 8.5e-08 | 1.1e-07 | 5.6e-07 | 2.1e-06 | 3.0e-06 | 3.5e-06 | 4.4e-06 | 7.0e-06 | 8.2e-06 | 5.3e-06 | 1.1e-06 | 2.7e-07 | 3.6e-05 |
| Maryland OCS-A 0490 | 3.2e-07 | 4.6e-07 | 2.6e-06 | 1.0e-05 | 1.3e-05 | 1.4e-05 | 1.8e-05 | 3.0e-05 | 3.7e-05 | 2.3e-05 | 4.7e-06 | 1.0e-06 | 1.5e-04 |
| Central Atlantic Call Area A | 2.2e-07 | 2.7e-07 | 9.7e-07 | 3.3e-06 | 5.7e-06 | 7.0e-06 | 8.0e-06 | 1.1e-05 | 1.3e-05 | 8.5e-06 | 2.0e-06 | 5.7e-07 | 6.1e-05 |
| Central Atlantic Draft WEA Primary A | 4.9e-08 | 6.0e-08 | 2.4e-07 | 8.4e-07 | 1.4e-06 | 1.7e-06 | 1.9e-06 | 2.7e-06 | 3.3e-06 | 2.2e-06 | 4.9e-07 | 1.4e-07 | 1.5e-05 |
| Central Atlantic Draft WEA Secondary A | 9.7e-08 | 1.2e-07 | 4.3e-07 | 1.5e-06 | 2.6e-06 | 3.2e-06 | 3.6e-06 | 4.9e-06 | 5.8e-06 | 3.8e-06 | 8.8e-07 | 2.5e-07 | 2.7e-05 |
| Central Atlantic Call Area B | 5.8e-07 | 7.0e-07 | 2.1e-06 | 7.3e-06 | 1.2e-05 | 1.3e-05 | 1.5e-05 | 2.1e-05 | 2.3e-05 | 1.6e-05 | 4.6e-06 | 1.3e-06 | 1.2e-04 |
| Central Atlantic Draft WEA Primary B1 | 4.9e-08 | 6.2e-08 | 2.4e-07 | 8.8e-07 | 1.4e-06 | 1.5e-06 | 1.7e-06 | 2.4e-06 | 2.7e-06 | 1.8e-06 | 4.9e-07 | 1.2e-07 | 1.3e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.8e-08 | 2.2e-08 | 7.5e-08 | 2.7e-07 | 4.5e-07 | 5.1e-07 | 5.6e-07 | 7.9e-07 | 8.6e-07 | 6.0e-07 | 1.7e-07 | 4.3e-08 | 4.4e-06 |
| Central Atlantic Draft WEA Primary B2 | 1.6e-07 | 1.9e-07 | 5.0e-07 | 1.7e-06 | 2.8e-06 | 2.9e-06 | 3.5e-06 | 4.6e-06 | 5.0e-06 | 3.4e-06 | 1.1e-06 | 3.2e-07 | 2.6e-05 |
| Central Atlantic Draft WEA Secondary B2 | 3.3e-08 | 4.0e-08 | 9.3e-08 | 2.8e-07 | 4.7e-07 | 5.4e-07 | 6.3e-07 | 8.8e-07 | 9.2e-07 | 6.0e-07 | 2.0e-07 | 6.1e-08 | 4.7e-06 |
| Central Atlantic Call Area C | 4.3e-07 | 5.5e-07 | 1.5e-06 | 4.7e-06 | 6.6e-06 | 6.0e-06 | 7.9e-06 | 1.1e-05 | 1.2e-05 | 8.4e-06 | 2.7e-06 | 7.5e-07 | 6.3e-05 |
| Central Atlantic Draft WEA Primary C | 2.9e-07 | 3.7e-07 | 9.8e-07 | 3.2e-06 | 4.5e-06 | 4.0e-06 | 5.3e-06 | 7.4e-06 | 8.2e-06 | 5.7e-06 | 1.8e-06 | 5.1e-07 | 4.2e-05 |
| Central Atlantic Draft WEA Secondary C | 9.8e-08 | 1.3e-07 | 3.3e-07 | 1.1e-06 | 1.5e-06 | 1.4e-06 | 1.8e-06 | 2.6e-06 | 2.8e-06 | 1.9e-06 | 6.2e-07 | 1.7e-07 | 1.4e-05 |
| Central Atlantic Call Area D | 2.9e-06 | 3.5e-06 | 9.3e-06 | 2.8e-05 | 3.4e-05 | 2.9e-05 | 4.2e-05 | 6.0e-05 | 6.1e-05 | 4.4e-05 | 1.5e-05 | 4.3e-06 | 3.3e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 1.5e-06 | 1.8e-06 | 4.5e-06 | 1.4e-05 | 1.7e-05 | 1.5e-05 | 2.1e-05 | 2.9e-05 | 2.8e-05 | 2.1e-05 | 7.0e-06 | 2.1e-06 | 1.6e-04 |
| Central Atlantic Draft WEA Secondary D | 2.4e-07 | 2.8e-07 | 7.9e-07 | 2.5e-06 | 3.0e-06 | 2.6e-06 | 3.7e-06 | 5.4e-06 | 5.2e-06 | 3.8e-06 | 1.2e-06 | 3.6e-07 | 2.9e-05 |
| Central Atlantic Call Area E | 3.0e-06 | 6.3e-06 | 1.9e-05 | 2.1e-05 | 1.2e-05 | 8.6e-06 | 1.2e-05 | 3.0e-05 | 4.5e-05 | 3.1e-05 | 8.3e-06 | 2.6e-06 | 2.0e-04 |
| Central Atlantic Draft WEA Primary E1 | 8.1e-07 | 1.8e-06 | 5.4e-06 | 5.9e-06 | 3.9e-06 | 2.7e-06 | 3.7e-06 | 9.1e-06 | 1.5e-05 | 9.0e-06 | 2.2e-06 | 6.9e-07 | 6.0e-05 |
| Central Atlantic Draft WEA Primary E2 | 1.2e-06 | 2.4e-06 | 7.2e-06 | 8.3e-06 | 4.3e-06 | 3.0e-06 | 4.3e-06 | 1.1e-05 | 1.5e-05 | 1.1e-05 | 3.1e-06 | 9.6e-07 | 7.2e-05 |
| Central Atlantic Call Area F | 3.5e-06 | 7.7e-06 | 2.4e-05 | 2.7e-05 | 1.4e-05 | 7.2e-06 | 7.8e-06 | 1.4e-05 | 2.6e-05 | 2.1e-05 | 9.7e-06 | 3.5e-06 | 1.6e-04 |
| Central Atlantic Draft WEA Primary F | 4.7e-07 | 1.1e-06 | 3.2e-06 | 3.3e-06 | 1.9e-06 | 9.8e-07 | 8.4e-07 | 1.5e-06 | 3.2e-06 | 3.0e-06 | 1.3e-06 | 4.5e-07 | 2.1e-05 |
| Virginia OCS-A 0483 | 7.9e-07 | 1.1e-06 | 3.8e-06 | 1.4e-05 | 1.8e-05 | 1.3e-05 | 2.2e-05 | 3.6e-05 | 3.6e-05 | 2.5e-05 | 7.0e-06 | 1.7e-06 | 1.8e-04 |
| Virginia OCS-A 0497 | 3.8e-08 | 5.4e-08 | 2.3e-07 | 8.2e-07 | 1.0e-06 | 7.8e-07 | 1.4e-06 | 2.4e-06 | 2.5e-06 | 1.6e-06 | 3.8e-07 | 8.5e-08 | 1.1e-05 |
| North Carolina OCS-A 0508 | 8.1e-07 | 1.0e-06 | 2.3e-06 | 7.2e-06 | 7.8e-06 | 6.5e-06 | 9.2e-06 | 1.4e-05 | 1.3e-05 | 9.1e-06 | 3.2e-06 | 1.0e-06 | 7.4e-05 |
| North Carolina OCS-A 0545 | 5.6e-06 | 1.2e-05 | 4.2e-05 | 7.5e-05 | 4.1e-05 | 2.3e-05 | 2.4e-05 | 4.4e-05 | 9.5e-05 | 7.4e-05 | 1.8e-05 | 6.0e-06 | 4.6e-04 |
| North Carolina OCS-A 0546 | 4.8e-06 | 1.1e-05 | 3.6e-05 | 6.5e-05 | 3.5e-05 | 2.0e-05 | 2.1e-05 | 3.9e-05 | 7.8e-05 | 6.1e-05 | 1.5e-05 | 5.3e-06 | 3.9e-04 |
| South Carolina Call Area - Grand Strand | 1.6e-04 | 3.3e-04 | 1.5e-03 | 3.3e-03 | 2.0e-03 | 1.3e-03 | 1.2e-03 | 2.1e-03 | 6.0e-03 | 3.4e-03 | 6.3e-04 | 1.6e-04 | 2.2e-02 |
| South Carolina Call Area - Cape Romain | 5.4e-05 | 1.3e-04 | 5.4e-04 | 1.3e-03 | 7.5e-04 | 5.3e-04 | 4.5e-04 | 7.7e-04 | 2.2e-03 | 1.3e-03 | 2.5e-04 | 5.5e-05 | 8.3e-03 |
| South Carolina Call Area - Winyah | 7.5e-07 | 2.2e-06 | 5.5e-06 | 7.0e-06 | 3.6e-06 | 1.9e-06 | 1.8e-06 | 3.6e-06 | 7.7e-06 | 7.2e-06 | 2.2e-06 | 8.8e-07 | 4.4e-05 |
| South Carolina Call Area - Charleston | 2.1e-06 | 5.3e-06 | 1.6e-05 | 2.5e-05 | 1.3e-05 | 7.6e-06 | 7.9e-06 | 1.5e-05 | 3.7e-05 | 2.7e-05 | 7.0e-06 | 2.3e-06 | 1.7e-04 |
| All planning areas | 2.2e-04 | 4.8e-04 | 2.1e-03 | 4.6e-03 | 2.8e-03 | 1.9e-03 | 1.7e-03 | 3.0e-03 | 8.5e-03 | 4.8e-03 | 9.4e-04 | 2.3e-04 | 3.1e-02 |
| All lease areas | 1.4e-05 | 2.7e-05 | 9.6e-05 | 2.1e-04 | 1.7e-04 | 1.5e-04 | 2.0e-04 | 3.2e-04 | 4.4e-04 | 3.0e-04 | 7.0e-05 | 2.0e-05 | 2.0e-03 |
| All planning and lease areas | 2.4e-04 | 5.1e-04 | 2.2e-03 | 4.9e-03 | 3.0e-03 | 2.1e-03 | 1.9e-03 | 3.3e-03 | 8.9e-03 | 5.2e-03 | 1.0e-03 | 2.5e-04 | 3.3e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-35. Predicted proportional abundance of Red-throated Loon by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 5.7e-03 | 4.6e-03 | 5.3e-03 | 6.2e-03 | 4.4e-03 | 1.2e-03 | 2.8e-04 | 2.8e-04 | 9.7e-04 | 4.6e-03 | 1.0e-02 | 9.8e-03 | 5.4e-02 |
| Gulf of Maine Request for Competitive Interest | 5.3e-05 | 3.4e-05 | 3.7e-05 | 5.0e-05 | 4.1e-05 | 9.9e-06 | 2.1e-06 | 2.2e-06 | 7.2e-06 | 3.7e-05 | 8.5e-05 | 9.0e-05 | 4.5e-04 |
| Marine Research Array Requested Lease | 8.0e-06 | 4.9e-06 | 5.4e-06 | 7.1e-06 | 6.0e-06 | 1.4e-06 | 3.0e-07 | 3.1e-07 | 1.0e-06 | 5.3e-06 | 1.2e-05 | 1.3e-05 | 6.5e-05 |
| Rhode Island OCS-A 0506 | 7.0e-07 | 3.3e-07 | 2.6e-07 | 2.7e-07 | 1.1e-07 | 1.1e-08 | 2.3e-09 | 1.7e-09 | 9.0e-09 | 5.6e-08 | 2.8e-07 | 7.1e-07 | 2.7e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.4e-04 | 7.9e-05 | 6.8e-05 | 8.2e-05 | 3.7e-05 | 4.1e-06 | 6.9e-07 | 5.1e-07 | 2.8e-06 | 1.6e-05 | 6.9e-05 | 1.6e-04 | 6.6e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.5e-05 | 1.4e-05 | 1.1e-05 | 1.3e-05 | 5.9e-06 | 6.5e-07 | 1.0e-07 | 7.3e-08 | 4.4e-07 | 2.4e-06 | 1.1e-05 | 2.6e-05 | 1.1e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 9.9e-05 | 6.1e-05 | 5.2e-05 | 6.2e-05 | 2.8e-05 | 3.3e-06 | 5.2e-07 | 3.7e-07 | 2.1e-06 | 1.2e-05 | 5.2e-05 | 1.1e-04 | 4.8e-04 |
| Massachusetts OCS-A 0500 | 9.9e-05 | 6.6e-05 | 6.2e-05 | 7.5e-05 | 3.6e-05 | 4.4e-06 | 7.4e-07 | 5.5e-07 | 2.9e-06 | 1.6e-05 | 6.6e-05 | 1.2e-04 | 5.5e-04 |
| Massachusetts OCS-A 0501 | 4.9e-05 | 3.3e-05 | 3.5e-05 | 4.4e-05 | 2.2e-05 | 2.7e-06 | 4.7e-07 | 3.6e-07 | 1.8e-06 | 9.8e-06 | 3.9e-05 | 7.1e-05 | 3.1e-04 |
| Massachusetts OCS-A 0534 | 5.3e-05 | 3.6e-05 | 3.5e-05 | 4.2e-05 | 2.1e-05 | 2.8e-06 | 4.3e-07 | 3.4e-07 | 1.8e-06 | 9.4e-06 | 3.7e-05 | 6.6e-05 | 3.1e-04 |
| Massachusetts OCS-A 0520 | 6.9e-05 | 4.6e-05 | 4.8e-05 | 5.7e-05 | 2.9e-05 | 4.1e-06 | 6.1e-07 | 5.0e-07 | 2.5e-06 | 1.3e-05 | 5.1e-05 | 9.1e-05 | 4.1e-04 |
| Massachusetts OCS-A 0521 | 7.4e-05 | 4.9e-05 | 5.3e-05 | 6.1e-05 | 3.2e-05 | 4.7e-06 | 6.9e-07 | 5.9e-07 | 2.7e-06 | 1.5e-05 | 5.6e-05 | 1.0e-04 | 4.5e-04 |
| Massachusetts OCS-A 0522 | 8.7e-05 | 6.0e-05 | 6.3e-05 | 6.8e-05 | 3.7e-05 | 5.9e-06 | 8.9e-07 | 7.5e-07 | 3.3e-06 | 1.8e-05 | 7.1e-05 | 1.2e-04 | 5.4e-04 |
| New York WEA - Fairways North | 9.2e-05 | 5.6e-05 | 4.4e-05 | 5.1e-05 | 2.2e-05 | 2.2e-06 | 2.9e-07 | 2.0e-07 | 1.2e-06 | 7.6e-06 | 3.6e-05 | 8.1e-05 | 3.9e-04 |
| New York WEA - Fairways South | 3.2e-05 | 1.8e-05 | 1.5e-05 | 1.8e-05 | 6.9e-06 | 6.2e-07 | 7.0e-08 | 5.3e-08 | 3.3e-07 | 2.1e-06 | 1.1e-05 | 2.9e-05 | 1.3e-04 |
| New York OCS-A 0512 | 2.0e-04 | 1.1e-04 | 1.0e-04 | 1.3e-04 | 4.1e-05 | 3.5e-06 | 3.6e-07 | 2.5e-07 | 1.8e-06 | 1.3e-05 | 7.7e-05 | 2.1e-04 | 9.0e-04 |
| NY/NJ OCS-A 0544 | 5.7e-05 | 3.7e-05 | 3.0e-05 | 3.3e-05 | 1.3e-05 | 1.1e-06 | 9.7e-08 | 7.2e-08 | 5.8e-07 | 4.2e-06 | 2.2e-05 | 5.1e-05 | 2.5e-04 |
| NY/NJ OCS-A 0537 | 5.0e-05 | 4.2e-05 | 3.1e-05 | 2.9e-05 | 1.2e-05 | 1.3e-06 | 1.2e-07 | 8.4e-08 | 6.6e-07 | 4.9e-06 | 2.2e-05 | 4.3e-05 | 2.4e-04 |
| NY/NJ OCS-A 0538 | 1.0e-04 | 7.6e-05 | 5.9e-05 | 5.3e-05 | 2.1e-05 | 2.1e-06 | 1.7e-07 | 1.2e-07 | 1.1e-06 | 8.3e-06 | 3.9e-05 | 8.2e-05 | 4.4e-04 |
| NY/NJ OCS-A 0539 | 2.1e-04 | 1.6e-04 | 1.3e-04 | 1.2e-04 | 4.3e-05 | 4.0e-06 | 3.1e-07 | 2.2e-07 | 2.2e-06 | 1.8e-05 | 8.4e-05 | 1.8e-04 | 9.6e-04 |
| NY/NJ OCS-A 0541 | 1.1e-04 | 8.4e-05 | 7.3e-05 | 7.0e-05 | 2.1e-05 | 1.8e-06 | 1.2e-07 | 8.9e-08 | 9.2e-07 | 8.3e-06 | 4.2e-05 | 9.8e-05 | 5.1e-04 |
| NY/NJ OCS-A 0542 | 9.6e-05 | 7.7e-05 | 6.6e-05 | 6.0e-05 | 1.9e-05 | 1.7e-06 | 1.2e-07 | 8.6e-08 | 8.9e-07 | 8.2e-06 | 3.9e-05 | 8.2e-05 | 4.5e-04 |
| New Jersey OCS-A 0549 | 4.3e-04 | 2.5e-04 | 2.9e-04 | 3.4e-04 | 7.6e-05 | 5.6e-06 | 5.9e-07 | 4.4e-07 | 2.9e-06 | 2.5e-05 | 1.7e-04 | 5.1e-04 | 2.1e-03 |
| New Jersey OCS-A 0499 | 4.7e-04 | 2.9e-04 | 3.1e-04 | 3.5e-04 | 7.7e-05 | 5.4e-06 | 4.7e-07 | 3.6e-07 | 2.7e-06 | 2.5e-05 | 1.7e-04 | 5.0e-04 | 2.2e-03 |
| New Jersey OCS-A 0498 | 3.7e-04 | 2.2e-04 | 2.4e-04 | 2.6e-04 | 5.5e-05 | 3.8e-06 | 3.2e-07 | 2.5e-07 | 1.9e-06 | 1.8e-05 | 1.2e-04 | 3.8e-04 | 1.7e-03 |
| New Jersey OCS-A 0532 | 4.5e-04 | 2.6e-04 | 3.1e-04 | 3.5e-04 | 6.8e-05 | 4.8e-06 | 4.7e-07 | 3.7e-07 | 2.3e-06 | 2.4e-05 | 1.8e-04 | 5.4e-04 | 2.2e-03 |
| Delaware OCS-A 0482 | 4.5e-04 | 2.7e-04 | 3.1e-04 | 3.2e-04 | 5.6e-05 | 3.9e-06 | 3.6e-07 | 2.7e-07 | 1.8e-06 | 2.0e-05 | 1.5e-04 | 4.5e-04 | 2.0e-03 |
| Delaware OCS-A 0519 | 1.5e-04 | 9.2e-05 | 9.5e-05 | 9.3e-05 | 1.7e-05 | 1.2e-06 | 8.8e-08 | 7.3e-08 | 5.7e-07 | 6.2e-06 | 4.1e-05 | 1.3e-04 | 6.2e-04 |
| Maryland OCS-A 0490 | 5.3e-04 | 3.3e-04 | 3.5e-04 | 3.3e-04 | 5.5e-05 | 3.9e-06 | 3.4e-07 | 2.4e-07 | 1.6e-06 | 2.0e-05 | 1.4e-04 | 4.6e-04 | 2.2e-03 |
| Central Atlantic Call Area A | 6.3e-04 | 4.7e-04 | 4.4e-04 | 3.9e-04 | 8.0e-05 | 5.5e-06 | 3.1e-07 | 2.7e-07 | 2.5e-06 | 2.9e-05 | 1.7e-04 | 4.8e-04 | 2.7e-03 |
| Central Atlantic Draft WEA Primary A | 1.3e-04 | 9.3e-05 | 9.0e-05 | 8.2e-05 | 1.7e-05 | 1.2e-06 | 6.8e-08 | 5.8e-08 | 5.3e-07 | 6.0e-06 | 3.6e-05 | 1.0e-04 | 5.6e-04 |
| Central Atlantic Draft WEA Secondary A | 3.1e-04 | 2.3e-04 | 2.2e-04 | 1.9e-04 | 4.0e-05 | 2.7e-06 | 1.5e-07 | 1.3e-07 | 1.2e-06 | 1.4e-05 | 8.4e-05 | 2.4e-04 | 1.3e-03 |
| Central Atlantic Call Area B | 1.7e-03 | 1.5e-03 | 1.4e-03 | 9.6e-04 | 1.7e-04 | 1.1e-05 | 4.1e-07 | 3.4e-07 | 3.5e-06 | 5.7e-05 | 3.3e-04 | 1.1e-03 | 7.1e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.1e-04 | 8.1e-05 | 7.7e-05 | 6.2e-05 | 1.0e-05 | 6.4e-07 | 2.5e-08 | 2.1e-08 | 2.2e-07 | 3.2e-06 | 2.1e-05 | 7.5e-05 | 4.4e-04 |
| Central Atlantic Draft WEA Secondary B1 | 4.1e-05 | 3.2e-05 | 3.0e-05 | 2.3e-05 | 4.1e-06 | 2.5e-07 | 9.8e-09 | 8.4e-09 | 8.8e-08 | 1.3e-06 | 8.1e-06 | 2.8e-05 | 1.7e-04 |
| Central Atlantic Draft WEA Primary B2 | 4.5e-04 | 4.3e-04 | 4.1e-04 | 2.6e-04 | 4.4e-05 | 2.8e-06 | 1.0e-07 | 8.2e-08 | 8.4e-07 | 1.5e-05 | 8.3e-05 | 2.7e-04 | 2.0e-03 |
| Central Atlantic Draft WEA Secondary B2 | 1.2e-04 | 1.3e-04 | 1.3e-04 | 7.8e-05 | 1.4e-05 | 8.8e-07 | 3.4e-08 | 2.7e-08 | 2.6e-07 | 4.9e-06 | 2.7e-05 | 7.5e-05 | 5.8e-04 |
| Central Atlantic Call Area C | 5.2e-04 | 5.2e-04 | 4.7e-04 | 2.9e-04 | 4.2e-05 | 2.6e-06 | 8.0e-08 | 6.8e-08 | 6.7e-07 | 1.1e-05 | 7.4e-05 | 2.8e-04 | 2.2e-03 |
| Central Atlantic Draft WEA Primary C | 3.6e-04 | 3.6e-04 | 3.2e-04 | 2.0e-04 | 2.9e-05 | 1.8e-06 | 5.6e-08 | 4.7e-08 | 4.7e-07 | 7.9e-06 | 5.1e-05 | 1.9e-04 | 1.5e-03 |
| Central Atlantic Draft WEA Secondary C | 1.2e-04 | 1.2e-04 | 1.1e-04 | 6.9e-05 | 9.9e-06 | 6.0e-07 | 1.9e-08 | 1.7e-08 | 1.6e-07 | 2.7e-06 | 1.8e-05 | 6.7e-05 | 5.2e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.3e-03 | 1.5e-03 | 1.3e-03 | 7.4e-04 | 9.4e-05 | 4.6e-06 | 1.1e-07 | 1.1e-07 | 1.3e-06 | 2.1e-05 | 1.7e-04 | 7.0e-04 | 5.8e-03 |
| Central Atlantic Draft WEA Primary D | 7.0e-04 | 8.1e-04 | 7.2e-04 | 4.0e-04 | 5.2e-05 | 2.6e-06 | 6.1e-08 | 6.4e-08 | 7.5e-07 | 1.2e-05 | 9.2e-05 | 3.7e-04 | 3.2e-03 |
| Central Atlantic Draft WEA Secondary D | 1.3e-04 | 1.4e-04 | 1.2e-04 | 7.0e-05 | 8.6e-06 | 3.9e-07 | 9.0e-09 | 9.9e-09 | 1.2e-07 | 1.8e-06 | 1.5e-05 | 6.7e-05 | 5.5e-04 |
| Central Atlantic Call Area E | 3.1e-05 | 4.9e-05 | 6.0e-05 | 3.6e-05 | 5.8e-06 | 3.9e-07 | 2.1e-08 | 1.1e-08 | 9.6e-08 | 1.2e-06 | 7.8e-06 | 2.1e-05 | 2.1e-04 |
| Central Atlantic Draft WEA Primary E1 | 4.4e-07 | 9.4e-07 | 8.2e-07 | 6.1e-07 | 8.3e-08 | 6.1e-09 | 3.8e-10 | 1.8e-10 | 1.8e-09 | 2.0e-08 | 1.3e-07 | 3.8e-07 | 3.4e-06 |
| Central Atlantic Draft WEA Primary E2 | 8.1e-12 | 2.0e-11 | 1.9e-11 | 1.4e-11 | 2.1e-12 | 1.4e-13 | 7.9e-15 | 4.0e-15 | 3.1e-14 | 3.7e-13 | 2.5e-12 | 6.9e-12 | 7.3e-11 |
| Central Atlantic Call Area F | 1.2e-06 | 2.2e-06 | 2.9e-06 | 1.0e-06 | 1.1e-07 | 4.2e-09 | 3.6e-10 | 3.1e-10 | 1.7e-09 | 1.8e-08 | 1.5e-07 | 4.3e-07 | 8.1e-06 |
| Central Atlantic Draft WEA Primary F | 2.9e-19 | 4.3e-19 | 6.6e-19 | 3.6e-19 | 8.1e-20 | 6.0e-20 | 5.9e-20 | 5.9e-20 | 5.9e-20 | 6.4e-20 | 9.2e-20 | 1.6e-19 | 2.4e-18 |
| Virginia OCS-A 0483 | 8.8e-04 | 7.4e-04 | 6.9e-04 | 4.7e-04 | 5.3e-05 | 2.3e-06 | 7.3e-08 | 6.9e-08 | 6.5e-07 | 1.2e-05 | 1.0e-04 | 4.9e-04 | 3.4e-03 |
| Virginia OCS-A 0497 | 4.0e-05 | 3.4e-05 | 3.4e-05 | 2.0e-05 | 1.8e-06 | 6.4e-08 | 2.0e-09 | 2.0e-09 | 1.8e-08 | 4.2e-07 | 4.5e-06 | 2.3e-05 | 1.6e-04 |
| North Carolina OCS-A 0508 | 3.4e-04 | 4.6e-04 | 4.3e-04 | 2.1e-04 | 2.7e-05 | 1.2e-06 | 3.3e-08 | 3.6e-08 | 3.9e-07 | 5.7e-06 | 4.6e-05 | 1.8e-04 | 1.7e-03 |
| North Carolina OCS-A 0545 | 9.2e-05 | 1.2e-04 | 7.4e-05 | 2.0e-05 | 9.6e-07 | 2.5e-08 | 5.9e-09 | 3.3e-09 | 8.4e-09 | 1.1e-07 | 3.2e-06 | 2.6e-05 | 3.4e-04 |
| North Carolina OCS-A 0546 | 9.0e-05 | 1.2e-04 | 6.7e-05 | 2.1e-05 | 1.0e-06 | 3.2e-08 | 8.2e-09 | 4.0e-09 | 8.0e-09 | 1.0e-07 | 3.1e-06 | 2.6e-05 | 3.3e-04 |
| South Carolina Call Area - Grand Strand | 3.7e-03 | 4.9e-03 | 2.7e-03 | 5.7e-04 | 2.1e-05 | 3.9e-07 | 8.1e-08 | 6.1e-08 | 2.6e-07 | 6.6e-06 | 1.8e-04 | 1.2e-03 | 1.3e-02 |
| South Carolina Call Area - Cape Romain | 1.2e-03 | 1.4e-03 | 7.2e-04 | 1.7e-04 | 5.9e-06 | 1.2e-07 | 3.1e-08 | 1.8e-08 | 6.1e-08 | 1.7e-06 | 5.0e-05 | 3.6e-04 | 3.9e-03 |
| South Carolina Call Area - Winyah | 8.5e-06 | 1.4e-05 | 8.1e-06 | 2.8e-06 | 1.2e-07 | 4.0e-09 | 9.0e-10 | 6.3e-10 | 1.6e-09 | 9.6e-09 | 1.3e-07 | 1.5e-06 | 3.5e-05 |
| South Carolina Call Area - Charleston | 3.3e-05 | 4.2e-05 | 2.7e-05 | 8.3e-06 | 3.4e-07 | 9.0e-09 | 2.0e-09 | 1.3e-09 | 4.3e-09 | 4.2e-08 | 9.2e-07 | 9.3e-06 | 1.2e-04 |
| All planning areas | 1.5e-02 | 1.5e-02 | 1.2e-02 | 9.5e-03 | 4.9e-03 | 1.2e-03 | 2.9e-04 | 2.8e-04 | 9.9e-04 | 4.8e-03 | 1.1e-02 | 1.4e-02 | 9.0e-02 |
| All lease areas | 5.8e-03 | 4.2e-03 | 4.1e-03 | 3.8e-03 | 9.1e-04 | 8.0e-05 | 9.2e-06 | 7.1e-06 | 4.4e-05 | 3.3e-04 | 1.9e-03 | 5.3e-03 | 2.7e-02 |
| All planning and lease areas | 2.1e-02 | 1.9e-02 | 1.7e-02 | 1.3e-02 | 5.8e-03 | 1.3e-03 | 3.0e-04 | 2.9e-04 | 1.0e-03 | 5.1e-03 | 1.3e-02 | 1.9e-02 | 1.2e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-36. Predicted proportional abundance of Common Loon by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 6.4e-04 | 8.2e-04 | 1.2e-03 | 1.4e-03 | 1.1e-03 | 8.7e-04 | 3.5e-04 | 2.6e-04 | 6.9e-04 | 1.5e-03 | 1.4e-03 | 8.1e-04 | 1.1e-02 |
| Gulf of Maine Request for Competitive Interest | 5.3e-06 | 7.2e-06 | 1.1e-05 | 1.3e-05 | 1.0e-05 | 8.4e-06 | 2.9e-06 | 1.9e-06 | 6.0e-06 | 1.4e-05 | 1.2e-05 | 6.9e-06 | 1.0e-04 |
| Marine Research Array Requested Lease | 7.9e-07 | 1.1e-06 | 1.7e-06 | 1.9e-06 | 1.5e-06 | 1.2e-06 | 4.4e-07 | 2.8e-07 | 8.9e-07 | 2.1e-06 | 1.8e-06 | 1.0e-06 | 1.5e-05 |
| Rhode Island OCS-A 0506 | 8.4e-07 | 9.6e-07 | 8.6e-07 | 6.9e-07 | 5.9e-07 | 2.2e-07 | 2.8e-08 | 1.7e-08 | 5.3e-08 | 3.5e-07 | 8.2e-07 | 9.2e-07 | 6.3e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.5e-04 | 3.1e-04 | 2.9e-04 | 2.3e-04 | 1.9e-04 | 7.5e-05 | 8.0e-06 | 5.2e-06 | 2.0e-05 | 1.3e-04 | 2.6e-04 | 2.7e-04 | 2.0e-03 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.0e-05 | 4.9e-05 | 4.6e-05 | 3.7e-05 | 3.2e-05 | 1.2e-05 | 1.2e-06 | 8.3e-07 | 3.0e-06 | 1.9e-05 | 4.3e-05 | 4.4e-05 | 3.3e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 2.0e-04 | 2.6e-04 | 2.5e-04 | 2.0e-04 | 1.7e-04 | 6.7e-05 | 7.1e-06 | 4.6e-06 | 1.6e-05 | 1.1e-04 | 2.3e-04 | 2.3e-04 | 1.7e-03 |
| Massachusetts OCS-A 0500 | 2.5e-04 | 3.2e-04 | 3.0e-04 | 2.3e-04 | 1.9e-04 | 8.8e-05 | 1.0e-05 | 6.4e-06 | 2.4e-05 | 1.4e-04 | 2.9e-04 | 2.7e-04 | 2.1e-03 |
| Massachusetts OCS-A 0501 | 1.5e-04 | 1.7e-04 | 1.7e-04 | 1.3e-04 | 1.1e-04 | 5.7e-05 | 6.5e-06 | 4.1e-06 | 1.6e-05 | 8.7e-05 | 1.7e-04 | 1.5e-04 | 1.2e-03 |
| Massachusetts OCS-A 0534 | 1.4e-04 | 1.8e-04 | 1.8e-04 | 1.4e-04 | 1.2e-04 | 6.3e-05 | 6.8e-06 | 4.2e-06 | 1.6e-05 | 8.6e-05 | 1.7e-04 | 1.6e-04 | 1.3e-03 |
| Massachusetts OCS-A 0520 | 1.7e-04 | 2.1e-04 | 2.2e-04 | 1.9e-04 | 1.6e-04 | 8.9e-05 | 9.5e-06 | 5.6e-06 | 2.0e-05 | 1.1e-04 | 2.0e-04 | 2.0e-04 | 1.6e-03 |
| Massachusetts OCS-A 0521 | 1.6e-04 | 2.0e-04 | 2.1e-04 | 1.9e-04 | 1.6e-04 | 9.2e-05 | 1.0e-05 | 5.6e-06 | 1.9e-05 | 1.0e-04 | 2.0e-04 | 1.9e-04 | 1.5e-03 |
| Massachusetts OCS-A 0522 | 1.7e-04 | 2.0e-04 | 2.1e-04 | 1.9e-04 | 1.5e-04 | 9.2e-05 | 1.2e-05 | 6.1e-06 | 2.2e-05 | 1.2e-04 | 2.2e-04 | 2.0e-04 | 1.6e-03 |
| New York WEA - Fairways North | 1.4e-04 | 1.8e-04 | 1.8e-04 | 1.5e-04 | 1.4e-04 | 4.7e-05 | 4.2e-06 | 2.9e-06 | 8.4e-06 | 6.5e-05 | 1.7e-04 | 1.7e-04 | 1.3e-03 |
| New York WEA - Fairways South | 4.7e-05 | 5.8e-05 | 5.8e-05 | 4.9e-05 | 4.6e-05 | 1.2e-05 | 9.6e-07 | 8.0e-07 | 2.3e-06 | 1.8e-05 | 5.6e-05 | 5.8e-05 | 4.1e-04 |
| New York OCS-A 0512 | 2.1e-04 | 2.5e-04 | 2.5e-04 | 2.2e-04 | 1.9e-04 | 4.3e-05 | 3.2e-06 | 2.8e-06 | 8.4e-06 | 6.8e-05 | 2.4e-04 | 2.6e-04 | 1.7e-03 |
| NY/NJ OCS-A 0544 | 7.1e-05 | 8.7e-05 | 9.4e-05 | 8.6e-05 | 7.9e-05 | 2.0e-05 | 1.4e-06 | 1.2e-06 | 3.9e-06 | 3.0e-05 | 9.5e-05 | 9.4e-05 | 6.6e-04 |
| NY/NJ OCS-A 0537 | 5.2e-05 | 5.5e-05 | 7.8e-05 | 8.5e-05 | 8.0e-05 | 2.5e-05 | 1.6e-06 | 1.2e-06 | 3.9e-06 | 3.0e-05 | 7.8e-05 | 7.8e-05 | 5.7e-04 |
| NY/NJ OCS-A 0538 | 1.0e-04 | 9.8e-05 | 1.3e-04 | 1.4e-04 | 1.4e-04 | 3.5e-05 | 2.3e-06 | 1.9e-06 | 6.6e-06 | 5.4e-05 | 1.5e-04 | 1.4e-04 | 1.0e-03 |
| NY/NJ OCS-A 0539 | 2.0e-04 | 2.0e-04 | 2.2e-04 | 2.4e-04 | 2.3e-04 | 5.7e-05 | 3.6e-06 | 3.0e-06 | 9.9e-06 | 9.5e-05 | 2.9e-04 | 2.9e-04 | 1.8e-03 |
| NY/NJ OCS-A 0541 | 1.2e-04 | 1.2e-04 | 1.3e-04 | 1.4e-04 | 1.3e-04 | 2.6e-05 | 1.8e-06 | 1.7e-06 | 4.8e-06 | 4.8e-05 | 1.6e-04 | 1.7e-04 | 1.0e-03 |
| NY/NJ OCS-A 0542 | 9.8e-05 | 9.7e-05 | 1.1e-04 | 1.2e-04 | 1.2e-04 | 2.6e-05 | 1.8e-06 | 1.5e-06 | 4.6e-06 | 4.4e-05 | 1.4e-04 | 1.4e-04 | 9.0e-04 |
| New Jersey OCS-A 0549 | 3.4e-04 | 3.9e-04 | 3.5e-04 | 3.2e-04 | 2.5e-04 | 3.4e-05 | 3.2e-06 | 3.0e-06 | 7.6e-06 | 7.5e-05 | 3.5e-04 | 4.1e-04 | 2.5e-03 |
| New Jersey OCS-A 0499 | 3.6e-04 | 4.2e-04 | 3.8e-04 | 3.5e-04 | 2.7e-04 | 3.4e-05 | 3.3e-06 | 3.2e-06 | 8.5e-06 | 8.5e-05 | 3.8e-04 | 4.4e-04 | 2.7e-03 |
| New Jersey OCS-A 0498 | 2.7e-04 | 3.1e-04 | 2.7e-04 | 2.6e-04 | 1.9e-04 | 2.3e-05 | 2.3e-06 | 2.2e-06 | 6.0e-06 | 6.0e-05 | 2.9e-04 | 3.4e-04 | 2.0e-03 |
| New Jersey OCS-A 0532 | 3.4e-04 | 4.0e-04 | 3.5e-04 | 3.3e-04 | 2.3e-04 | 2.5e-05 | 2.8e-06 | 2.7e-06 | 6.7e-06 | 6.8e-05 | 3.7e-04 | 4.3e-04 | 2.6e-03 |
| Delaware OCS-A 0482 | 2.6e-04 | 3.0e-04 | 2.8e-04 | 2.7e-04 | 1.8e-04 | 1.8e-05 | 2.1e-06 | 1.9e-06 | 4.7e-06 | 4.5e-05 | 2.6e-04 | 3.3e-04 | 1.9e-03 |
| Delaware OCS-A 0519 | 8.4e-05 | 9.2e-05 | 9.1e-05 | 8.9e-05 | 6.3e-05 | 6.0e-06 | 6.9e-07 | 6.4e-07 | 1.6e-06 | 1.5e-05 | 8.6e-05 | 1.1e-04 | 6.4e-04 |
| Maryland OCS-A 0490 | 2.8e-04 | 2.9e-04 | 3.0e-04 | 3.0e-04 | 1.9e-04 | 1.7e-05 | 2.0e-06 | 1.8e-06 | 4.4e-06 | 4.2e-05 | 2.6e-04 | 3.6e-04 | 2.1e-03 |
| Central Atlantic Call Area A | 4.9e-04 | 5.1e-04 | 5.5e-04 | 5.7e-04 | 4.4e-04 | 4.7e-05 | 4.8e-06 | 4.5e-06 | 1.1e-05 | 1.2e-04 | 5.7e-04 | 6.9e-04 | 4.0e-03 |
| Central Atlantic Draft WEA Primary A | 9.8e-05 | 1.0e-04 | 1.1e-04 | 1.1e-04 | 8.4e-05 | 8.8e-06 | 9.3e-07 | 8.9e-07 | 2.2e-06 | 2.2e-05 | 1.1e-04 | 1.4e-04 | 7.9e-04 |
| Central Atlantic Draft WEA Secondary A | 2.5e-04 | 2.6e-04 | 2.8e-04 | 2.9e-04 | 2.2e-04 | 2.4e-05 | 2.4e-06 | 2.3e-06 | 5.8e-06 | 5.9e-05 | 2.9e-04 | 3.5e-04 | 2.0e-03 |
| Central Atlantic Call Area B | 1.1e-03 | 9.9e-04 | 1.1e-03 | 1.3e-03 | 8.7e-04 | 7.4e-05 | 8.6e-06 | 7.6e-06 | 1.8e-05 | 1.8e-04 | 1.0e-03 | 1.5e-03 | 8.3e-03 |
| Central Atlantic Draft WEA Primary B1 | 6.3e-05 | 5.6e-05 | 6.0e-05 | 6.9e-05 | 4.2e-05 | 3.3e-06 | 3.9e-07 | 3.6e-07 | 8.8e-07 | 8.5e-06 | 5.5e-05 | 8.4e-05 | 4.4e-04 |
| Central Atlantic Draft WEA Secondary B1 | 2.4e-05 | 2.1e-05 | 2.3e-05 | 2.6e-05 | 1.7e-05 | 1.4e-06 | 1.6e-07 | 1.5e-07 | 3.7e-07 | 3.7e-06 | 2.3e-05 | 3.3e-05 | 1.7e-04 |
| Central Atlantic Draft WEA Primary B2 | 3.0e-04 | 2.6e-04 | 3.0e-04 | 3.8e-04 | 2.4e-04 | 1.9e-05 | 2.2e-06 | 1.9e-06 | 4.5e-06 | 4.4e-05 | 2.5e-04 | 3.8e-04 | 2.2e-03 |
| Central Atlantic Draft WEA Secondary B2 | 9.3e-05 | 8.3e-05 | 9.6e-05 | 1.2e-04 | 7.8e-05 | 7.0e-06 | 8.2e-07 | 7.0e-07 | 1.6e-06 | 1.6e-05 | 8.3e-05 | 1.2e-04 | 7.0e-04 |
| Central Atlantic Call Area C | 3.6e-04 | 3.2e-04 | 3.7e-04 | 4.8e-04 | 2.6e-04 | 1.8e-05 | 1.9e-06 | 1.7e-06 | 4.4e-06 | 3.7e-05 | 2.5e-04 | 4.1e-04 | 2.5e-03 |
| Central Atlantic Draft WEA Primary C | 2.3e-04 | 2.1e-04 | 2.4e-04 | 3.1e-04 | 1.7e-04 | 1.1e-05 | 1.2e-06 | 1.1e-06 | 2.8e-06 | 2.4e-05 | 1.6e-04 | 2.7e-04 | 1.6e-03 |
| Central Atlantic Draft WEA Secondary C | 1.0e-04 | 9.1e-05 | 1.0e-04 | 1.4e-04 | 7.7e-05 | 5.3e-06 | 5.6e-07 | 5.1e-07 | 1.3e-06 | 1.1e-05 | 7.0e-05 | 1.1e-04 | 7.1e-04 |
| Central Atlantic Call Area D | 8.8e-04 | 8.4e-04 | 9.0e-04 | 1.1e-03 | 5.3e-04 | 3.1e-05 | 3.2e-06 | 3.1e-06 | 8.7e-06 | 6.0e-05 | 5.0e-04 | 9.7e-04 | 5.9e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 4.1e-04 | 3.8e-04 | 4.1e-04 | 5.3e-04 | 2.5e-04 | 1.4e-05 | 1.4e-06 | 1.4e-06 | 3.8e-06 | 2.6e-05 | 2.3e-04 | 4.5e-04 | 2.7e-03 |
| Central Atlantic Draft WEA Secondary D | 6.7e-05 | 6.0e-05 | 6.5e-05 | 8.4e-05 | 3.6e-05 | 1.9e-06 | 1.9e-07 | 1.9e-07 | 5.4e-07 | 3.6e-06 | 3.6e-05 | 7.5e-05 | 4.3e-04 |
| Central Atlantic Call Area E | 2.6e-05 | 3.5e-05 | 4.9e-05 | 5.2e-05 | 2.4e-05 | 3.2e-06 | 4.3e-07 | 3.2e-07 | 7.4e-07 | 2.9e-06 | 1.6e-05 | 2.5e-05 | 2.3e-04 |
| Central Atlantic Draft WEA Primary E1 | 5.9e-06 | 7.3e-06 | 1.0e-05 | 1.2e-05 | 5.3e-06 | 6.9e-07 | 9.8e-08 | 7.3e-08 | 1.6e-07 | 6.2e-07 | 3.6e-06 | 5.4e-06 | 5.1e-05 |
| Central Atlantic Draft WEA Primary E2 | 6.9e-07 | 1.2e-06 | 1.5e-06 | 1.5e-06 | 6.7e-07 | 7.7e-08 | 1.1e-08 | 8.5e-09 | 2.2e-08 | 6.7e-08 | 3.7e-07 | 6.9e-07 | 6.9e-06 |
| Central Atlantic Call Area F | 1.2e-05 | 1.8e-05 | 2.2e-05 | 1.9e-05 | 7.3e-06 | 7.6e-07 | 1.6e-07 | 1.4e-07 | 3.0e-07 | 1.4e-06 | 3.6e-06 | 7.8e-06 | 9.2e-05 |
| Central Atlantic Draft WEA Primary F | 1.1e-09 | 2.1e-09 | 2.3e-09 | 1.9e-09 | 6.5e-10 | 6.8e-11 | 2.0e-11 | 1.8e-11 | 3.5e-11 | 1.1e-10 | 2.4e-10 | 5.1e-10 | 9.1e-09 |
| Virginia OCS-A 0483 | 4.1e-04 | 3.7e-04 | 4.4e-04 | 5.6e-04 | 2.2e-04 | 1.0e-05 | 1.1e-06 | 1.0e-06 | 3.0e-06 | 2.3e-05 | 2.4e-04 | 4.9e-04 | 2.8e-03 |
| Virginia OCS-A 0497 | 1.6e-05 | 1.5e-05 | 1.7e-05 | 1.9e-05 | 5.7e-06 | 2.2e-07 | 2.4e-08 | 2.4e-08 | 7.8e-08 | 6.5e-07 | 8.5e-06 | 1.8e-05 | 9.9e-05 |
| North Carolina OCS-A 0508 | 2.2e-04 | 2.3e-04 | 2.4e-04 | 3.0e-04 | 1.3e-04 | 6.8e-06 | 7.5e-07 | 7.3e-07 | 2.0e-06 | 1.3e-05 | 1.1e-04 | 2.3e-04 | 1.5e-03 |
| North Carolina OCS-A 0545 | 9.6e-05 | 1.2e-04 | 8.9e-05 | 2.5e-05 | 2.1e-06 | 4.0e-07 | 1.7e-07 | 1.9e-07 | 5.3e-07 | 1.8e-06 | 7.5e-06 | 3.5e-05 | 3.7e-04 |
| North Carolina OCS-A 0546 | 8.8e-05 | 1.1e-04 | 8.2e-05 | 2.3e-05 | 2.1e-06 | 3.9e-07 | 1.7e-07 | 1.8e-07 | 5.2e-07 | 1.7e-06 | 6.8e-06 | 3.1e-05 | 3.4e-04 |
| South Carolina Call Area - Grand Strand | 2.3e-03 | 2.6e-03 | 2.0e-03 | 4.5e-04 | 3.0e-05 | 5.0e-06 | 2.2e-06 | 2.5e-06 | 7.0e-06 | 3.3e-05 | 2.7e-04 | 1.4e-03 | 9.1e-03 |
| South Carolina Call Area - Cape Romain | 6.3e-04 | 6.7e-04 | 4.9e-04 | 1.0e-04 | 6.8e-06 | 1.2e-06 | 5.2e-07 | 6.0e-07 | 1.7e-06 | 9.2e-06 | 7.4e-05 | 3.9e-04 | 2.4e-03 |
| South Carolina Call Area - Winyah | 9.4e-06 | 1.6e-05 | 1.2e-05 | 4.5e-06 | 7.5e-07 | 1.6e-07 | 6.6e-08 | 8.2e-08 | 2.6e-07 | 5.8e-07 | 1.2e-06 | 2.7e-06 | 4.7e-05 |
| South Carolina Call Area - Charleston | 3.8e-05 | 4.6e-05 | 3.7e-05 | 1.1e-05 | 1.1e-06 | 2.1e-07 | 8.2e-08 | 9.7e-08 | 3.1e-07 | 9.8e-07 | 2.7e-06 | 1.2e-05 | 1.5e-04 |
| All planning areas | 6.7e-03 | 7.1e-03 | 7.0e-03 | 5.8e-03 | 3.4e-03 | 1.1e-03 | 3.8e-04 | 2.8e-04 | 7.5e-04 | 2.0e-03 | 4.3e-03 | 6.5e-03 | 4.5e-02 |
| All lease areas | 5.1e-03 | 5.8e-03 | 5.8e-03 | 5.4e-03 | 4.0e-03 | 1.0e-03 | 1.1e-04 | 7.4e-05 | 2.4e-04 | 1.7e-03 | 5.3e-03 | 6.1e-03 | 4.1e-02 |
| All planning and lease areas | 1.2e-02 | 1.3e-02 | 1.3e-02 | 1.1e-02 | 7.4e-03 | 2.2e-03 | 4.9e-04 | 3.6e-04 | 1.0e-03 | 3.7e-03 | 9.6e-03 | 1.3e-02 | 8.6e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-37. Predicted proportional abundance of Wilson's Storm-Petrel by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.6e-06 | 6.0e-06 | 5.9e-05 | 9.3e-04 | 1.7e-02 | 3.0e-02 | 3.9e-02 | 3.3e-02 | 8.7e-03 | 1.3e-03 | 2.0e-04 | 9.6e-06 | 1.3e-01 |
| Gulf of Maine Request for Competitive Interest | 1.9e-08 | 4.1e-08 | 2.9e-07 | 4.0e-06 | 1.3e-04 | 1.8e-04 | 3.1e-04 | 2.5e-04 | 7.3e-05 | 9.1e-06 | 2.1e-06 | 1.2e-07 | 9.6e-04 |
| Marine Research Array Requested Lease | 3.0e-09 | 6.1e-09 | 4.1e-08 | 5.3e-07 | 1.9e-05 | 2.6e-05 | 4.3e-05 | 3.5e-05 | 1.0e-05 | 1.3e-06 | 3.0e-07 | 1.8e-08 | 1.4e-04 |
| Rhode Island OCS-A 0506 | 1.2e-11 | 1.5e-11 | 2.1e-10 | 1.1e-08 | 7.8e-08 | 1.0e-07 | 1.8e-07 | 1.6e-07 | 4.2e-08 | 3.7e-09 | 2.9e-10 | 5.0e-11 | 5.8e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 7.1e-09 | 1.0e-08 | 9.8e-08 | 3.5e-06 | 3.1e-05 | 3.9e-05 | 8.2e-05 | 7.0e-05 | 1.7e-05 | 1.9e-06 | 1.8e-07 | 3.2e-08 | 2.5e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.8e-10 | 1.6e-09 | 1.6e-08 | 5.5e-07 | 5.0e-06 | 6.6e-06 | 1.4e-05 | 1.1e-05 | 2.5e-06 | 3.2e-07 | 2.5e-08 | 4.6e-09 | 4.0e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.1e-08 | 2.4e-08 | 2.3e-07 | 6.6e-06 | 6.4e-05 | 8.6e-05 | 2.0e-04 | 1.6e-04 | 3.4e-05 | 4.6e-06 | 3.3e-07 | 5.7e-08 | 5.5e-04 |
| Massachusetts OCS-A 0500 | 1.5e-08 | 3.4e-08 | 3.3e-07 | 7.9e-06 | 8.6e-05 | 1.0e-04 | 2.6e-04 | 2.1e-04 | 4.6e-05 | 6.1e-06 | 4.7e-07 | 7.5e-08 | 7.1e-04 |
| Massachusetts OCS-A 0501 | 3.1e-09 | 7.5e-09 | 9.0e-08 | 2.6e-06 | 3.0e-05 | 3.3e-05 | 7.8e-05 | 6.5e-05 | 1.6e-05 | 1.9e-06 | 1.8e-07 | 2.2e-08 | 2.3e-04 |
| Massachusetts OCS-A 0534 | 1.1e-08 | 2.6e-08 | 2.5e-07 | 6.1e-06 | 7.3e-05 | 7.7e-05 | 2.0e-04 | 1.6e-04 | 3.6e-05 | 4.8e-06 | 3.5e-07 | 5.7e-08 | 5.6e-04 |
| Massachusetts OCS-A 0520 | 1.2e-08 | 3.1e-08 | 3.2e-07 | 7.8e-06 | 9.9e-05 | 9.3e-05 | 2.5e-04 | 1.9e-04 | 4.4e-05 | 5.8e-06 | 4.2e-07 | 6.5e-08 | 7.0e-04 |
| Massachusetts OCS-A 0521 | 9.7e-09 | 2.7e-08 | 2.7e-07 | 7.3e-06 | 9.4e-05 | 8.3e-05 | 2.3e-04 | 1.7e-04 | 4.0e-05 | 5.0e-06 | 3.7e-07 | 5.6e-08 | 6.3e-04 |
| Massachusetts OCS-A 0522 | 6.7e-09 | 1.9e-08 | 2.1e-07 | 5.9e-06 | 7.7e-05 | 6.7e-05 | 2.0e-04 | 1.4e-04 | 3.5e-05 | 4.1e-06 | 3.2e-07 | 4.5e-08 | 5.2e-04 |
| New York WEA - Fairways North | 1.9e-08 | 2.6e-08 | 1.9e-07 | 6.2e-06 | 6.2e-05 | 9.4e-05 | 1.7e-04 | 1.4e-04 | 2.9e-05 | 4.2e-06 | 2.7e-07 | 6.0e-08 | 5.0e-04 |
| New York WEA - Fairways South | 4.5e-09 | 4.6e-09 | 3.2e-08 | 1.4e-06 | 1.0e-05 | 2.1e-05 | 3.3e-05 | 2.9e-05 | 6.2e-06 | 8.9e-07 | 4.7e-08 | 1.4e-08 | 1.0e-04 |
| New York OCS-A 0512 | 6.7e-09 | 8.3e-09 | 7.7e-08 | 3.5e-06 | 1.9e-05 | 4.9e-05 | 8.1e-05 | 6.7e-05 | 1.3e-05 | 2.1e-06 | 9.6e-08 | 2.2e-08 | 2.4e-04 |
| NY/NJ OCS-A 0544 | 7.1e-09 | 1.0e-08 | 7.1e-08 | 2.4e-06 | 1.6e-05 | 3.7e-05 | 6.8e-05 | 5.4e-05 | 1.0e-05 | 1.5e-06 | 7.0e-08 | 1.7e-08 | 1.9e-04 |
| NY/NJ OCS-A 0537 | 2.3e-08 | 1.1e-07 | 6.6e-07 | 7.1e-06 | 5.3e-05 | 8.9e-05 | 1.9e-04 | 1.4e-04 | 2.7e-05 | 3.8e-06 | 1.7e-07 | 3.9e-08 | 5.0e-04 |
| NY/NJ OCS-A 0538 | 1.8e-08 | 6.7e-08 | 5.0e-07 | 6.7e-06 | 3.8e-05 | 7.3e-05 | 1.5e-04 | 1.1e-04 | 2.1e-05 | 3.0e-06 | 1.4e-07 | 3.1e-08 | 4.0e-04 |
| NY/NJ OCS-A 0539 | 1.1e-08 | 4.5e-08 | 4.3e-07 | 7.4e-06 | 3.5e-05 | 7.6e-05 | 1.5e-04 | 1.2e-04 | 2.2e-05 | 3.0e-06 | 1.2e-07 | 2.5e-08 | 4.1e-04 |
| NY/NJ OCS-A 0541 | 1.1e-08 | 2.9e-08 | 2.8e-07 | 5.4e-06 | 2.0e-05 | 5.8e-05 | 1.2e-04 | 8.9e-05 | 1.7e-05 | 2.3e-06 | 9.1e-08 | 2.2e-08 | 3.1e-04 |
| NY/NJ OCS-A 0542 | 1.2e-08 | 4.6e-08 | 4.3e-07 | 6.8e-06 | 2.7e-05 | 6.7e-05 | 1.4e-04 | 1.0e-04 | 2.0e-05 | 2.5e-06 | 9.7e-08 | 2.3e-08 | 3.7e-04 |
| New Jersey OCS-A 0549 | 2.3e-09 | 3.6e-09 | 7.3e-08 | 2.9e-06 | 6.9e-06 | 2.7e-05 | 4.2e-05 | 3.5e-05 | 8.1e-06 | 1.3e-06 | 4.5e-08 | 1.1e-08 | 1.2e-04 |
| New Jersey OCS-A 0499 | 4.4e-09 | 6.3e-09 | 1.1e-07 | 3.7e-06 | 9.0e-06 | 3.6e-05 | 6.1e-05 | 5.0e-05 | 1.2e-05 | 1.7e-06 | 6.4e-08 | 1.7e-08 | 1.7e-04 |
| New Jersey OCS-A 0498 | 3.6e-09 | 4.8e-09 | 8.6e-08 | 2.8e-06 | 6.2e-06 | 2.6e-05 | 4.5e-05 | 3.6e-05 | 8.6e-06 | 1.2e-06 | 4.6e-08 | 1.3e-08 | 1.3e-04 |
| New Jersey OCS-A 0532 | 3.3e-09 | 4.4e-09 | 9.4e-08 | 3.2e-06 | 6.4e-06 | 2.7e-05 | 4.6e-05 | 3.8e-05 | 9.2e-06 | 1.2e-06 | 4.7e-08 | 1.3e-08 | 1.3e-04 |
| Delaware OCS-A 0482 | 2.2e-09 | 4.3e-09 | 7.9e-08 | 2.5e-06 | 4.5e-06 | 2.0e-05 | 3.6e-05 | 2.8e-05 | 7.1e-06 | 9.7e-07 | 3.1e-08 | 8.2e-09 | 1.0e-04 |
| Delaware OCS-A 0519 | 1.2e-09 | 2.5e-09 | 3.7e-08 | 1.0e-06 | 1.9e-06 | 8.4e-06 | 1.7e-05 | 1.2e-05 | 2.9e-06 | 4.0e-07 | 1.4e-08 | 3.6e-09 | 4.3e-05 |
| Maryland OCS-A 0490 | 3.7e-09 | 9.1e-09 | 1.3e-07 | 3.3e-06 | 5.5e-06 | 2.5e-05 | 4.9e-05 | 3.5e-05 | 9.1e-06 | 1.2e-06 | 4.0e-08 | 9.8e-09 | 1.3e-04 |
| Central Atlantic Call Area A | 2.9e-08 | 9.2e-08 | 8.4e-07 | 1.7e-05 | 3.1e-05 | 1.4e-04 | 3.1e-04 | 2.1e-04 | 4.7e-05 | 6.2e-06 | 2.3e-07 | 5.7e-08 | 7.6e-04 |
| Central Atlantic Draft WEA Primary A | 4.3e-09 | 1.2e-08 | 1.2e-07 | 2.6e-06 | 5.1e-06 | 2.3e-05 | 4.9e-05 | 3.5e-05 | 7.9e-06 | 1.1e-06 | 3.8e-08 | 9.7e-09 | 1.2e-04 |
| Central Atlantic Draft WEA Secondary A | 1.4e-08 | 4.3e-08 | 4.0e-07 | 8.2e-06 | 1.5e-05 | 6.9e-05 | 1.5e-04 | 1.1e-04 | 2.4e-05 | 3.2e-06 | 1.2e-07 | 2.9e-08 | 3.8e-04 |
| Central Atlantic Call Area B | 9.7e-08 | 6.1e-07 | 5.4e-06 | 7.2e-05 | 1.2e-04 | 5.1e-04 | 1.2e-03 | 7.6e-04 | 2.0e-04 | 2.3e-05 | 9.3e-07 | 1.3e-07 | 2.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 1.1e-09 | 4.1e-09 | 4.9e-08 | 1.1e-06 | 1.9e-06 | 8.4e-06 | 1.8e-05 | 1.2e-05 | 3.2e-06 | 3.9e-07 | 1.3e-08 | 2.5e-09 | 4.6e-05 |
| Central Atlantic Draft WEA Secondary B1 | 5.5e-10 | 2.2e-09 | 2.4e-08 | 4.9e-07 | 8.4e-07 | 3.7e-06 | 8.8e-06 | 6.0e-06 | 1.5e-06 | 1.8e-07 | 5.8e-09 | 1.1e-09 | 2.1e-05 |
| Central Atlantic Draft WEA Primary B2 | 2.9e-08 | 1.9e-07 | 1.7e-06 | 2.2e-05 | 3.6e-05 | 1.5e-04 | 3.6e-04 | 2.2e-04 | 6.0e-05 | 6.9e-06 | 2.8e-07 | 3.6e-08 | 8.7e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.6e-08 | 1.1e-07 | 9.6e-07 | 1.2e-05 | 1.9e-05 | 7.9e-05 | 1.9e-04 | 1.2e-04 | 3.2e-05 | 3.7e-06 | 1.5e-07 | 2.0e-08 | 4.6e-04 |
| Central Atlantic Call Area C | 2.3e-08 | 2.0e-07 | 1.9e-06 | 2.0e-05 | 3.7e-05 | 1.5e-04 | 2.8e-04 | 1.7e-04 | 5.6e-05 | 6.6e-06 | 2.9e-07 | 2.6e-08 | 7.3e-04 |
| Central Atlantic Draft WEA Primary C | 1.2e-08 | 9.7e-08 | 9.1e-07 | 1.0e-05 | 1.9e-05 | 7.9e-05 | 1.4e-04 | 8.7e-05 | 2.9e-05 | 3.3e-06 | 1.5e-07 | 1.4e-08 | 3.7e-04 |
| Central Atlantic Draft WEA Secondary C | 8.0e-09 | 7.1e-08 | 6.7e-07 | 7.2e-06 | 1.3e-05 | 5.4e-05 | 1.0e-04 | 6.2e-05 | 2.0e-05 | 2.3e-06 | 1.0e-07 | 9.0e-09 | 2.6e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 3.8e-08 | 3.6e-07 | 4.5e-06 | 4.2e-05 | 1.0e-04 | 3.9e-04 | 5.4e-04 | 3.4e-04 | 1.4e-04 | 1.8e-05 | 7.6e-07 | 5.3e-08 | 1.6e-03 |
| Central Atlantic Draft WEA Primary D | 8.7e-09 | 7.7e-08 | 8.0e-07 | 8.6e-06 | 2.1e-05 | 8.4e-05 | 1.2e-04 | 7.0e-05 | 2.9e-05 | 3.6e-06 | 1.6e-07 | 1.2e-08 | 3.3e-04 |
| Central Atlantic Draft WEA Secondary D | 1.1e-09 | 8.1e-09 | 7.9e-08 | 9.5e-07 | 2.4e-06 | 9.8e-06 | 1.3e-05 | 7.5e-06 | 3.3e-06 | 4.0e-07 | 1.8e-08 | 1.3e-09 | 3.7e-05 |
| Central Atlantic Call Area E | 4.5e-08 | 7.8e-07 | 1.0e-05 | 8.0e-05 | 1.8e-04 | 5.8e-04 | 1.3e-03 | 8.1e-04 | 2.8e-04 | 3.4e-05 | 1.7e-06 | 1.1e-07 | 3.2e-03 |
| Central Atlantic Draft WEA Primary E1 | 7.0e-09 | 1.4e-07 | 2.0e-06 | 1.8e-05 | 3.7e-05 | 1.2e-04 | 2.5e-04 | 1.7e-04 | 5.8e-05 | 7.1e-06 | 3.4e-07 | 2.2e-08 | 6.6e-04 |
| Central Atlantic Draft WEA Primary E2 | 4.7e-09 | 6.8e-08 | 1.0e-06 | 9.7e-06 | 2.9e-05 | 8.9e-05 | 1.8e-04 | 1.2e-04 | 4.2e-05 | 5.3e-06 | 2.7e-07 | 1.4e-08 | 4.7e-04 |
| Central Atlantic Call Area F | 1.6e-08 | 1.5e-07 | 2.1e-06 | 2.5e-05 | 1.2e-04 | 3.4e-04 | 4.0e-04 | 2.1e-04 | 1.1e-04 | 2.3e-05 | 1.0e-06 | 4.7e-08 | 1.2e-03 |
| Central Atlantic Draft WEA Primary F | 7.5e-10 | 6.4e-09 | 9.5e-08 | 1.3e-06 | 7.7e-06 | 1.8e-05 | 1.8e-05 | 7.4e-06 | 5.6e-06 | 1.3e-06 | 5.8e-08 | 2.7e-09 | 5.9e-05 |
| Virginia OCS-A 0483 | 6.3e-09 | 3.0e-08 | 3.3e-07 | 4.9e-06 | 1.2e-05 | 5.0e-05 | 6.4e-05 | 3.7e-05 | 1.5e-05 | 1.7e-06 | 7.0e-08 | 7.5e-09 | 1.9e-04 |
| Virginia OCS-A 0497 | 1.2e-10 | 4.5e-10 | 6.7e-09 | 9.2e-08 | 2.7e-07 | 9.5e-07 | 9.9e-07 | 6.4e-07 | 3.0e-07 | 3.0e-08 | 1.2e-09 | 1.5e-10 | 3.3e-06 |
| North Carolina OCS-A 0508 | 5.6e-09 | 5.7e-08 | 6.4e-07 | 5.9e-06 | 1.6e-05 | 5.8e-05 | 6.9e-05 | 4.0e-05 | 2.0e-05 | 2.7e-06 | 1.2e-07 | 8.0e-09 | 2.1e-04 |
| North Carolina OCS-A 0545 | 5.8e-10 | 3.4e-09 | 4.2e-08 | 5.0e-07 | 2.2e-06 | 5.6e-06 | 3.4e-06 | 2.2e-06 | 2.1e-06 | 5.4e-07 | 1.8e-08 | 1.1e-09 | 1.7e-05 |
| North Carolina OCS-A 0546 | 5.8e-10 | 3.4e-09 | 4.2e-08 | 5.2e-07 | 2.4e-06 | 6.1e-06 | 3.9e-06 | 2.3e-06 | 2.1e-06 | 5.6e-07 | 1.8e-08 | 1.1e-09 | 1.8e-05 |
| South Carolina Call Area - Grand Strand | 3.9e-09 | 2.4e-08 | 3.2e-07 | 4.5e-06 | 2.0e-05 | 4.0e-05 | 1.9e-05 | 1.4e-05 | 1.1e-05 | 2.6e-06 | 9.1e-08 | 6.6e-09 | 1.1e-04 |
| South Carolina Call Area - Cape Romain | 8.2e-10 | 4.6e-09 | 6.8e-08 | 9.7e-07 | 4.3e-06 | 7.9e-06 | 3.6e-06 | 2.5e-06 | 1.8e-06 | 5.2e-07 | 1.8e-08 | 1.3e-09 | 2.2e-05 |
| South Carolina Call Area - Winyah | 7.3e-10 | 4.6e-09 | 5.3e-08 | 5.8e-07 | 3.0e-06 | 5.1e-06 | 2.2e-06 | 1.4e-06 | 1.4e-06 | 5.8e-07 | 3.5e-08 | 1.8e-09 | 1.4e-05 |
| South Carolina Call Area - Charleston | 6.0e-10 | 3.1e-09 | 3.9e-08 | 3.7e-07 | 1.7e-06 | 3.5e-06 | 1.4e-06 | 9.5e-07 | 1.0e-06 | 4.0e-07 | 1.6e-08 | 9.3e-10 | 9.4e-06 |
| All planning areas | 1.9e-06 | 8.3e-06 | 8.5e-05 | 1.2e-03 | 1.8e-02 | 3.3e-02 | 4.3e-02 | 3.6e-02 | 9.6e-03 | 1.4e-03 | 2.1e-04 | 1.0e-05 | 1.4e-01 |
| All lease areas | 2.0e-07 | 6.3e-07 | 5.9e-06 | 1.2e-04 | 8.4e-04 | 1.3e-03 | 2.8e-03 | 2.2e-03 | 5.0e-04 | 6.6e-05 | 3.9e-06 | 6.9e-07 | 7.9e-03 |
| All planning and lease areas | 2.1e-06 | 8.9e-06 | 9.1e-05 | 1.3e-03 | 1.9e-02 | 3.4e-02 | 4.6e-02 | 3.8e-02 | 1.0e-02 | 1.5e-03 | 2.1e-04 | 1.1e-05 | 1.5e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-38. Predicted proportional abundance of Leach's Storm-Petrel by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.4e-07 | 3.2e-07 | 7.1e-05 | 2.5e-04 | 8.0e-03 | 4.9e-02 | 1.3e-02 | 1.3e-02 | 1.1e-02 | 8.2e-04 | 4.1e-05 | 3.2e-06 | 9.5e-02 |
| Gulf of Maine Request for Competitive Interest | 9.7e-10 | 9.3e-10 | 1.9e-07 | 1.2e-06 | 4.4e-05 | 1.8e-04 | 4.8e-05 | 5.1e-05 | 6.0e-05 | 4.0e-06 | 1.7e-07 | 9.4e-09 | 3.9e-04 |
| Marine Research Array Requested Lease | 1.2e-10 | 1.1e-10 | 2.4e-08 | 1.7e-07 | 6.0e-06 | 2.5e-05 | 6.4e-06 | 6.9e-06 | 8.4e-06 | 5.6e-07 | 2.1e-08 | 1.2e-09 | 5.3e-05 |
| Rhode Island OCS-A 0506 | 1.5e-13 | 2.4e-13 | 7.7e-11 | 8.1e-10 | 1.2e-08 | 2.1e-08 | 5.8e-09 | 8.5e-09 | 1.4e-08 | 1.7e-09 | 3.6e-11 | 2.5e-12 | 6.4e-08 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.5e-10 | 1.4e-10 | 5.4e-08 | 4.2e-07 | 9.9e-06 | 1.9e-05 | 3.6e-06 | 5.2e-06 | 7.5e-06 | 7.1e-07 | 1.4e-08 | 1.8e-09 | 4.6e-05 |
| Rhode Island / Massachusetts OCS-A 0517 | 3.7e-11 | 2.7e-11 | 9.3e-09 | 6.5e-08 | 1.7e-06 | 3.2e-06 | 5.4e-07 | 9.1e-07 | 1.2e-06 | 1.0e-07 | 2.3e-09 | 4.0e-10 | 7.6e-06 |
| Rhode Island / Massachusetts OCS-A 0487 | 4.7e-10 | 3.6e-10 | 1.1e-07 | 5.8e-07 | 1.6e-05 | 3.6e-05 | 7.3e-06 | 8.4e-06 | 1.0e-05 | 1.2e-06 | 3.0e-08 | 5.0e-09 | 8.0e-05 |
| Massachusetts OCS-A 0500 | 7.0e-10 | 5.5e-10 | 1.6e-07 | 8.0e-07 | 2.4e-05 | 5.7e-05 | 1.2e-05 | 1.2e-05 | 1.5e-05 | 1.7e-06 | 4.8e-08 | 7.5e-09 | 1.2e-04 |
| Massachusetts OCS-A 0501 | 3.2e-10 | 2.8e-10 | 9.2e-08 | 3.7e-07 | 1.2e-05 | 2.9e-05 | 6.2e-06 | 5.5e-06 | 7.3e-06 | 7.8e-07 | 2.6e-08 | 3.5e-09 | 6.1e-05 |
| Massachusetts OCS-A 0534 | 5.6e-10 | 4.5e-10 | 1.3e-07 | 6.1e-07 | 2.0e-05 | 4.8e-05 | 1.1e-05 | 9.7e-06 | 1.2e-05 | 1.4e-06 | 3.9e-08 | 6.2e-09 | 1.0e-04 |
| Massachusetts OCS-A 0520 | 7.2e-10 | 5.9e-10 | 1.9e-07 | 8.3e-07 | 2.8e-05 | 6.9e-05 | 1.6e-05 | 1.4e-05 | 1.6e-05 | 1.8e-06 | 5.3e-08 | 7.9e-09 | 1.5e-04 |
| Massachusetts OCS-A 0521 | 7.0e-10 | 6.2e-10 | 2.1e-07 | 8.4e-07 | 3.0e-05 | 7.4e-05 | 1.7e-05 | 1.4e-05 | 1.5e-05 | 1.8e-06 | 5.5e-08 | 7.9e-09 | 1.5e-04 |
| Massachusetts OCS-A 0522 | 7.1e-10 | 6.5e-10 | 2.2e-07 | 8.1e-07 | 3.0e-05 | 7.7e-05 | 1.8e-05 | 1.5e-05 | 1.5e-05 | 1.8e-06 | 6.0e-08 | 8.0e-09 | 1.6e-04 |
| New York WEA - Fairways North | 2.4e-10 | 1.8e-10 | 6.0e-08 | 4.5e-07 | 9.7e-06 | 1.9e-05 | 4.5e-06 | 5.9e-06 | 6.5e-06 | 7.4e-07 | 1.3e-08 | 2.5e-09 | 4.7e-05 |
| New York WEA - Fairways South | 2.9e-11 | 3.1e-11 | 1.1e-08 | 1.2e-07 | 1.7e-06 | 3.3e-06 | 7.1e-07 | 1.1e-06 | 1.5e-06 | 1.6e-07 | 2.6e-09 | 3.4e-10 | 8.6e-06 |
| New York OCS-A 0512 | 1.5e-10 | 1.4e-10 | 4.5e-08 | 3.7e-07 | 5.1e-06 | 1.1e-05 | 2.4e-06 | 3.3e-06 | 3.9e-06 | 4.4e-07 | 8.0e-09 | 1.7e-09 | 2.7e-05 |
| NY/NJ OCS-A 0544 | 1.1e-10 | 9.1e-11 | 2.8e-08 | 2.3e-07 | 3.7e-06 | 7.2e-06 | 1.5e-06 | 2.0e-06 | 2.4e-06 | 2.8e-07 | 5.2e-09 | 1.1e-09 | 1.7e-05 |
| NY/NJ OCS-A 0537 | 4.3e-10 | 3.5e-10 | 6.8e-08 | 4.5e-07 | 1.1e-05 | 2.1e-05 | 3.6e-06 | 3.6e-06 | 4.4e-06 | 6.5e-07 | 1.4e-08 | 3.0e-09 | 4.4e-05 |
| NY/NJ OCS-A 0538 | 3.9e-10 | 3.3e-10 | 7.9e-08 | 5.3e-07 | 1.1e-05 | 2.1e-05 | 3.6e-06 | 3.5e-06 | 4.4e-06 | 6.3e-07 | 1.4e-08 | 2.8e-09 | 4.5e-05 |
| NY/NJ OCS-A 0539 | 6.6e-10 | 6.0e-10 | 1.4e-07 | 7.6e-07 | 1.4e-05 | 2.9e-05 | 4.6e-06 | 4.7e-06 | 5.9e-06 | 1.0e-06 | 2.8e-08 | 5.3e-09 | 6.0e-05 |
| NY/NJ OCS-A 0541 | 3.2e-10 | 2.9e-10 | 7.7e-08 | 4.8e-07 | 7.1e-06 | 1.5e-05 | 2.6e-06 | 3.0e-06 | 3.5e-06 | 5.3e-07 | 1.4e-08 | 2.6e-09 | 3.3e-05 |
| NY/NJ OCS-A 0542 | 4.3e-10 | 3.9e-10 | 9.4e-08 | 5.4e-07 | 8.7e-06 | 1.9e-05 | 3.0e-06 | 3.0e-06 | 3.7e-06 | 6.4e-07 | 1.8e-08 | 3.2e-09 | 3.8e-05 |
| New Jersey OCS-A 0549 | 1.2e-10 | 1.4e-10 | 4.8e-08 | 3.9e-07 | 3.9e-06 | 1.1e-05 | 3.8e-06 | 3.7e-06 | 2.9e-06 | 3.6e-07 | 8.2e-09 | 1.4e-09 | 2.6e-05 |
| New Jersey OCS-A 0499 | 1.5e-10 | 1.9e-10 | 6.4e-08 | 5.1e-07 | 5.0e-06 | 1.1e-05 | 4.0e-06 | 4.5e-06 | 3.9e-06 | 4.3e-07 | 9.4e-09 | 1.8e-09 | 3.0e-05 |
| New Jersey OCS-A 0498 | 7.9e-11 | 1.1e-10 | 3.8e-08 | 4.0e-07 | 3.4e-06 | 7.2e-06 | 2.5e-06 | 3.1e-06 | 2.9e-06 | 3.0e-07 | 6.0e-09 | 1.1e-09 | 2.0e-05 |
| New Jersey OCS-A 0532 | 6.8e-11 | 1.0e-10 | 3.5e-08 | 4.6e-07 | 3.4e-06 | 7.9e-06 | 3.0e-06 | 3.3e-06 | 2.8e-06 | 3.4e-07 | 6.8e-09 | 1.1e-09 | 2.1e-05 |
| Delaware OCS-A 0482 | 1.3e-10 | 1.4e-10 | 4.8e-08 | 3.7e-07 | 3.0e-06 | 7.5e-06 | 2.8e-06 | 2.9e-06 | 2.1e-06 | 2.6e-07 | 8.1e-09 | 1.5e-09 | 1.9e-05 |
| Delaware OCS-A 0519 | 5.0e-11 | 5.3e-11 | 1.8e-08 | 1.5e-07 | 1.2e-06 | 2.7e-06 | 8.7e-07 | 8.9e-07 | 7.5e-07 | 9.8e-08 | 2.8e-09 | 5.6e-10 | 6.6e-06 |
| Maryland OCS-A 0490 | 1.5e-10 | 1.6e-10 | 5.6e-08 | 4.4e-07 | 3.3e-06 | 7.8e-06 | 2.4e-06 | 2.6e-06 | 2.1e-06 | 2.6e-07 | 7.3e-09 | 1.6e-09 | 1.9e-05 |
| Central Atlantic Call Area A | 7.9e-10 | 7.5e-10 | 2.2e-07 | 1.6e-06 | 1.4e-05 | 2.9e-05 | 7.2e-06 | 8.5e-06 | 8.0e-06 | 1.2e-06 | 3.3e-08 | 6.3e-09 | 7.0e-05 |
| Central Atlantic Draft WEA Primary A | 1.3e-10 | 1.2e-10 | 3.9e-08 | 2.8e-07 | 2.4e-06 | 5.2e-06 | 1.4e-06 | 1.6e-06 | 1.5e-06 | 2.1e-07 | 5.8e-09 | 1.1e-09 | 1.3e-05 |
| Central Atlantic Draft WEA Secondary A | 3.9e-10 | 3.6e-10 | 1.1e-07 | 8.0e-07 | 6.9e-06 | 1.5e-05 | 3.7e-06 | 4.5e-06 | 4.1e-06 | 5.9e-07 | 1.7e-08 | 3.2e-09 | 3.5e-05 |
| Central Atlantic Call Area B | 3.0e-09 | 3.4e-09 | 8.6e-07 | 5.0e-06 | 3.3e-05 | 6.6e-05 | 1.3e-05 | 1.7e-05 | 2.2e-05 | 2.9e-06 | 1.0e-07 | 1.8e-08 | 1.6e-04 |
| Central Atlantic Draft WEA Primary B1 | 6.3e-11 | 6.0e-11 | 1.9e-08 | 1.2e-07 | 8.0e-07 | 1.6e-06 | 3.8e-07 | 5.3e-07 | 6.5e-07 | 7.6e-08 | 2.4e-09 | 5.3e-10 | 4.1e-06 |
| Central Atlantic Draft WEA Secondary B1 | 3.1e-11 | 3.0e-11 | 9.1e-09 | 5.6e-08 | 3.8e-07 | 7.6e-07 | 1.7e-07 | 2.3e-07 | 2.8e-07 | 3.6e-08 | 1.1e-09 | 2.5e-10 | 1.9e-06 |
| Central Atlantic Draft WEA Primary B2 | 9.0e-10 | 1.1e-09 | 2.5e-07 | 1.4e-06 | 9.0e-06 | 1.7e-05 | 3.6e-06 | 4.6e-06 | 6.1e-06 | 8.1e-07 | 2.9e-08 | 4.9e-09 | 4.3e-05 |
| Central Atlantic Draft WEA Secondary B2 | 4.4e-10 | 5.4e-10 | 1.2e-07 | 6.8e-07 | 4.4e-06 | 8.8e-06 | 1.7e-06 | 2.1e-06 | 2.8e-06 | 3.9e-07 | 1.4e-08 | 2.4e-09 | 2.1e-05 |
| Central Atlantic Call Area C | 7.8e-10 | 1.1e-09 | 2.5e-07 | 1.4e-06 | 8.0e-06 | 1.4e-05 | 3.2e-06 | 4.3e-06 | 5.9e-06 | 6.6e-07 | 2.6e-08 | 3.8e-09 | 3.8e-05 |
| Central Atlantic Draft WEA Primary C | 4.4e-10 | 5.7e-10 | 1.3e-07 | 7.4e-07 | 4.4e-06 | 7.6e-06 | 1.8e-06 | 2.4e-06 | 3.3e-06 | 3.7e-07 | 1.4e-08 | 2.1e-09 | 2.1e-05 |
| Central Atlantic Draft WEA Secondary C | 2.7e-10 | 3.8e-10 | 8.9e-08 | 4.7e-07 | 2.8e-06 | 5.0e-06 | 1.1e-06 | 1.5e-06 | 2.0e-06 | 2.2e-07 | 9.0e-09 | 1.3e-09 | 1.3e-05 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.9e-09 | 3.5e-09 | 8.4e-07 | 3.4e-06 | 2.0e-05 | 3.8e-05 | 9.6e-06 | 1.1e-05 | 1.6e-05 | 1.6e-06 | 6.8e-08 | 9.1e-09 | 1.0e-04 |
| Central Atlantic Draft WEA Primary D | 5.8e-10 | 8.7e-10 | 2.1e-07 | 9.3e-07 | 5.4e-06 | 1.0e-05 | 2.7e-06 | 3.3e-06 | 4.8e-06 | 4.7e-07 | 1.9e-08 | 2.6e-09 | 2.8e-05 |
| Central Atlantic Draft WEA Secondary D | 6.5e-11 | 8.5e-11 | 2.1e-08 | 1.0e-07 | 6.0e-07 | 1.1e-06 | 3.3e-07 | 4.2e-07 | 5.7e-07 | 5.4e-08 | 2.1e-09 | 3.1e-10 | 3.2e-06 |
| Central Atlantic Call Area E | 6.1e-08 | 9.5e-08 | 2.3e-05 | 1.0e-04 | 8.0e-04 | 2.6e-03 | 5.5e-04 | 3.9e-04 | 4.1e-04 | 4.6e-05 | 2.6e-06 | 3.1e-07 | 4.9e-03 |
| Central Atlantic Draft WEA Primary E1 | 1.7e-08 | 2.7e-08 | 6.0e-06 | 2.9e-05 | 2.1e-04 | 7.5e-04 | 1.6e-04 | 1.1e-04 | 1.0e-04 | 1.2e-05 | 7.5e-07 | 8.9e-08 | 1.4e-03 |
| Central Atlantic Draft WEA Primary E2 | 8.1e-09 | 1.3e-08 | 3.3e-06 | 1.5e-05 | 1.2e-04 | 3.9e-04 | 8.1e-05 | 6.2e-05 | 6.3e-05 | 6.6e-06 | 3.5e-07 | 4.5e-08 | 7.4e-04 |
| Central Atlantic Call Area F | 1.6e-08 | 3.1e-08 | 6.9e-06 | 4.4e-05 | 2.9e-04 | 8.1e-04 | 2.0e-04 | 2.0e-04 | 2.1e-04 | 1.9e-05 | 8.5e-07 | 8.6e-08 | 1.8e-03 |
| Central Atlantic Draft WEA Primary F | 8.7e-10 | 1.7e-09 | 3.7e-07 | 2.8e-06 | 1.6e-05 | 5.1e-05 | 1.5e-05 | 1.2e-05 | 1.3e-05 | 9.9e-07 | 5.3e-08 | 4.3e-09 | 1.1e-04 |
| Virginia OCS-A 0483 | 2.0e-10 | 2.2e-10 | 6.2e-08 | 3.9e-07 | 2.1e-06 | 3.6e-06 | 1.1e-06 | 1.9e-06 | 2.2e-06 | 2.3e-07 | 7.9e-09 | 1.3e-09 | 1.2e-05 |
| Virginia OCS-A 0497 | 3.2e-12 | 3.4e-12 | 1.1e-09 | 5.8e-09 | 3.4e-08 | 7.9e-08 | 2.5e-08 | 4.3e-08 | 4.4e-08 | 4.5e-09 | 1.5e-10 | 2.7e-11 | 2.4e-07 |
| North Carolina OCS-A 0508 | 3.4e-10 | 6.0e-10 | 1.4e-07 | 5.7e-07 | 3.4e-06 | 6.5e-06 | 1.4e-06 | 1.8e-06 | 2.9e-06 | 2.8e-07 | 1.2e-08 | 1.4e-09 | 1.7e-05 |
| North Carolina OCS-A 0545 | 5.1e-11 | 9.7e-11 | 2.1e-08 | 8.6e-08 | 6.2e-07 | 1.3e-06 | 3.7e-07 | 3.9e-07 | 2.8e-07 | 3.1e-08 | 1.7e-09 | 2.5e-10 | 3.1e-06 |
| North Carolina OCS-A 0546 | 5.0e-11 | 1.0e-10 | 2.1e-08 | 9.1e-08 | 6.3e-07 | 1.3e-06 | 3.9e-07 | 3.9e-07 | 2.7e-07 | 2.9e-08 | 1.7e-09 | 2.4e-10 | 3.1e-06 |
| South Carolina Call Area - Grand Strand | 9.5e-10 | 2.3e-09 | 2.8e-07 | 1.4e-06 | 1.0e-05 | 1.8e-05 | 4.4e-06 | 6.2e-06 | 3.7e-06 | 7.2e-07 | 4.4e-08 | 6.3e-09 | 4.4e-05 |
| South Carolina Call Area - Cape Romain | 2.7e-10 | 5.4e-10 | 6.2e-08 | 3.1e-07 | 2.2e-06 | 3.7e-06 | 8.0e-07 | 1.2e-06 | 7.7e-07 | 1.7e-07 | 1.3e-08 | 1.6e-09 | 9.2e-06 |
| South Carolina Call Area - Winyah | 1.6e-11 | 3.7e-11 | 6.8e-09 | 3.9e-08 | 3.9e-07 | 9.6e-07 | 2.8e-07 | 3.0e-07 | 2.0e-07 | 8.7e-09 | 5.1e-10 | 7.6e-11 | 2.2e-06 |
| South Carolina Call Area - Charleston | 2.6e-11 | 5.4e-11 | 1.0e-08 | 6.5e-08 | 5.8e-07 | 1.2e-06 | 2.8e-07 | 3.1e-07 | 1.9e-07 | 1.5e-08 | 8.1e-10 | 1.3e-10 | 2.6e-06 |
| All planning areas | 4.3e-07 | 4.5e-07 | 1.0e-04 | 4.1e-04 | 9.3e-03 | 5.3e-02 | 1.4e-02 | 1.3e-02 | 1.2e-02 | 9.0e-04 | 4.4e-05 | 3.7e-06 | 1.0e-01 |
| All lease areas | 8.3e-09 | 7.8e-09 | 2.3e-06 | 1.3e-05 | 2.6e-04 | 6.0e-04 | 1.3e-04 | 1.3e-04 | 1.5e-04 | 1.8e-05 | 5.0e-07 | 8.0e-08 | 1.3e-03 |
| All planning and lease areas | 4.3e-07 | 4.6e-07 | 1.1e-04 | 4.2e-04 | 9.5e-03 | 5.4e-02 | 1.4e-02 | 1.3e-02 | 1.2e-02 | 9.2e-04 | 4.5e-05 | 3.8e-06 | 1.0e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-39. Predicted proportional abundance of Band-rumped Storm-Petrel by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.7e-06 | 1.5e-06 | 3.1e-06 | 1.1e-05 | 2.7e-05 | 4.0e-05 | 6.0e-05 | 1.0e-04 | 1.0e-04 | 6.0e-05 | 2.0e-05 | 4.7e-06 | 4.4e-04 |
| Gulf of Maine Request for Competitive Interest | 5.4e-09 | 4.2e-09 | 1.4e-08 | 4.3e-08 | 1.0e-07 | 1.2e-07 | 1.7e-07 | 3.6e-07 | 3.9e-07 | 2.7e-07 | 8.3e-08 | 1.9e-08 | 1.6e-06 |
| Marine Research Array Requested Lease | 7.3e-10 | 5.4e-10 | 1.9e-09 | 5.4e-09 | 1.3e-08 | 1.6e-08 | 2.2e-08 | 4.8e-08 | 5.2e-08 | 3.6e-08 | 1.1e-08 | 2.6e-09 | 2.1e-07 |
| Rhode Island OCS-A 0506 | 7.5e-11 | 2.7e-11 | 2.4e-11 | 2.2e-11 | 4.8e-11 | 7.5e-11 | 1.7e-10 | 5.6e-10 | 6.0e-10 | 2.4e-10 | 1.9e-10 | 1.6e-10 | 2.2e-09 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.7e-08 | 1.7e-08 | 2.0e-08 | 2.7e-08 | 5.7e-08 | 7.2e-08 | 1.3e-07 | 4.4e-07 | 5.0e-07 | 2.1e-07 | 1.1e-07 | 7.8e-08 | 1.7e-06 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.1e-09 | 3.3e-09 | 3.7e-09 | 4.4e-09 | 9.5e-09 | 1.2e-08 | 2.2e-08 | 8.6e-08 | 1.0e-07 | 4.5e-08 | 2.4e-08 | 1.6e-08 | 3.4e-07 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.0e-08 | 2.4e-08 | 3.2e-08 | 5.0e-08 | 1.1e-07 | 1.3e-07 | 2.8e-07 | 9.4e-07 | 1.1e-06 | 4.8e-07 | 2.0e-07 | 1.0e-07 | 3.5e-06 |
| Massachusetts OCS-A 0500 | 4.6e-08 | 3.0e-08 | 4.3e-08 | 9.2e-08 | 2.0e-07 | 2.5e-07 | 5.2e-07 | 1.3e-06 | 1.5e-06 | 6.6e-07 | 2.4e-07 | 1.0e-07 | 4.9e-06 |
| Massachusetts OCS-A 0501 | 1.9e-08 | 1.3e-08 | 1.9e-08 | 4.3e-08 | 8.8e-08 | 1.2e-07 | 2.6e-07 | 5.0e-07 | 5.6e-07 | 2.6e-07 | 1.0e-07 | 4.3e-08 | 2.0e-06 |
| Massachusetts OCS-A 0534 | 2.7e-08 | 1.9e-08 | 2.7e-08 | 7.2e-08 | 1.6e-07 | 2.1e-07 | 4.4e-07 | 9.4e-07 | 1.1e-06 | 4.8e-07 | 1.6e-07 | 6.3e-08 | 3.7e-06 |
| Massachusetts OCS-A 0520 | 3.2e-08 | 2.1e-08 | 3.2e-08 | 9.3e-08 | 2.2e-07 | 2.8e-07 | 6.2e-07 | 1.2e-06 | 1.4e-06 | 6.0e-07 | 2.0e-07 | 7.7e-08 | 4.7e-06 |
| Massachusetts OCS-A 0521 | 3.2e-08 | 2.1e-08 | 3.3e-08 | 9.1e-08 | 2.1e-07 | 2.7e-07 | 6.5e-07 | 1.2e-06 | 1.4e-06 | 5.9e-07 | 1.9e-07 | 7.7e-08 | 4.7e-06 |
| Massachusetts OCS-A 0522 | 3.3e-08 | 2.2e-08 | 3.6e-08 | 9.1e-08 | 1.9e-07 | 2.5e-07 | 6.2e-07 | 1.1e-06 | 1.3e-06 | 6.2e-07 | 2.1e-07 | 8.1e-08 | 4.6e-06 |
| New York WEA - Fairways North | 4.7e-08 | 2.9e-08 | 2.7e-08 | 2.6e-08 | 3.2e-08 | 5.1e-08 | 3.9e-07 | 1.1e-06 | 1.0e-06 | 3.4e-07 | 1.4e-07 | 9.1e-08 | 3.2e-06 |
| New York WEA - Fairways South | 1.2e-08 | 7.2e-09 | 6.5e-09 | 7.3e-09 | 7.7e-09 | 1.5e-08 | 1.1e-07 | 2.9e-07 | 2.1e-07 | 7.9e-08 | 3.3e-08 | 2.4e-08 | 8.0e-07 |
| New York OCS-A 0512 | 5.7e-08 | 3.0e-08 | 2.8e-08 | 3.0e-08 | 2.7e-08 | 5.3e-08 | 5.1e-07 | 1.3e-06 | 8.1e-07 | 3.1e-07 | 1.4e-07 | 1.1e-07 | 3.4e-06 |
| NY/NJ OCS-A 0544 | 2.8e-08 | 1.8e-08 | 1.9e-08 | 2.5e-08 | 2.3e-08 | 3.5e-08 | 2.6e-07 | 7.1e-07 | 4.8e-07 | 2.0e-07 | 8.2e-08 | 5.7e-08 | 1.9e-06 |
| NY/NJ OCS-A 0537 | 4.3e-08 | 2.6e-08 | 3.4e-08 | 7.2e-08 | 1.2e-07 | 1.4e-07 | 5.6e-07 | 1.4e-06 | 1.6e-06 | 6.0e-07 | 2.1e-07 | 1.1e-07 | 4.8e-06 |
| NY/NJ OCS-A 0538 | 6.5e-08 | 3.7e-08 | 4.9e-08 | 1.2e-07 | 1.7e-07 | 1.9e-07 | 8.5e-07 | 1.7e-06 | 1.3e-06 | 6.7e-07 | 2.6e-07 | 1.4e-07 | 5.5e-06 |
| NY/NJ OCS-A 0539 | 1.3e-07 | 7.3e-08 | 8.6e-08 | 2.0e-07 | 2.6e-07 | 3.4e-07 | 1.7e-06 | 3.4e-06 | 2.3e-06 | 1.0e-06 | 4.1e-07 | 2.6e-07 | 1.0e-05 |
| NY/NJ OCS-A 0541 | 6.7e-08 | 4.6e-08 | 5.5e-08 | 1.3e-07 | 1.6e-07 | 2.6e-07 | 1.5e-06 | 3.1e-06 | 1.7e-06 | 6.1e-07 | 2.2e-07 | 1.5e-07 | 8.0e-06 |
| NY/NJ OCS-A 0542 | 7.0e-08 | 4.4e-08 | 5.5e-08 | 1.4e-07 | 2.0e-07 | 3.1e-07 | 1.6e-06 | 3.1e-06 | 2.0e-06 | 7.3e-07 | 2.5e-07 | 1.5e-07 | 8.6e-06 |
| New Jersey OCS-A 0549 | 5.7e-08 | 3.4e-08 | 3.8e-08 | 5.9e-08 | 7.0e-08 | 2.0e-07 | 1.2e-06 | 2.4e-06 | 1.3e-06 | 4.2e-07 | 1.6e-07 | 1.2e-07 | 6.0e-06 |
| New Jersey OCS-A 0499 | 8.2e-08 | 5.1e-08 | 5.9e-08 | 1.0e-07 | 1.2e-07 | 3.3e-07 | 1.9e-06 | 4.0e-06 | 2.0e-06 | 6.3e-07 | 2.2e-07 | 1.7e-07 | 9.7e-06 |
| New Jersey OCS-A 0498 | 6.4e-08 | 3.7e-08 | 4.2e-08 | 7.6e-08 | 9.4e-08 | 2.7e-07 | 1.5e-06 | 3.1e-06 | 1.5e-06 | 4.9e-07 | 1.7e-07 | 1.3e-07 | 7.6e-06 |
| New Jersey OCS-A 0532 | 5.6e-08 | 3.2e-08 | 3.9e-08 | 7.4e-08 | 9.7e-08 | 3.0e-07 | 1.5e-06 | 3.1e-06 | 1.6e-06 | 4.8e-07 | 1.6e-07 | 1.1e-07 | 7.5e-06 |
| Delaware OCS-A 0482 | 7.9e-08 | 4.4e-08 | 5.2e-08 | 1.1e-07 | 1.4e-07 | 3.8e-07 | 1.8e-06 | 3.9e-06 | 1.9e-06 | 5.9e-07 | 1.9e-07 | 1.5e-07 | 9.3e-06 |
| Delaware OCS-A 0519 | 3.5e-08 | 2.0e-08 | 2.3e-08 | 4.5e-08 | 5.4e-08 | 1.5e-07 | 7.3e-07 | 1.4e-06 | 7.2e-07 | 2.3e-07 | 7.2e-08 | 6.1e-08 | 3.6e-06 |
| Maryland OCS-A 0490 | 1.1e-07 | 6.2e-08 | 7.7e-08 | 1.6e-07 | 1.6e-07 | 4.5e-07 | 2.3e-06 | 4.6e-06 | 2.5e-06 | 7.1e-07 | 2.2e-07 | 1.8e-07 | 1.2e-05 |
| Central Atlantic Call Area A | 3.7e-07 | 2.2e-07 | 2.9e-07 | 5.8e-07 | 6.8e-07 | 1.7e-06 | 9.0e-06 | 1.5e-05 | 8.3e-06 | 2.7e-06 | 8.0e-07 | 6.0e-07 | 4.0e-05 |
| Central Atlantic Draft WEA Primary A | 6.3e-08 | 3.8e-08 | 4.7e-08 | 9.2e-08 | 1.1e-07 | 2.7e-07 | 1.5e-06 | 2.7e-06 | 1.4e-06 | 4.5e-07 | 1.3e-07 | 1.0e-07 | 6.9e-06 |
| Central Atlantic Draft WEA Secondary A | 1.8e-07 | 1.1e-07 | 1.4e-07 | 2.8e-07 | 3.3e-07 | 8.1e-07 | 4.5e-06 | 7.6e-06 | 4.0e-06 | 1.3e-06 | 3.8e-07 | 2.9e-07 | 2.0e-05 |
| Central Atlantic Call Area B | 2.0e-06 | 1.1e-06 | 1.4e-06 | 2.4e-06 | 2.0e-06 | 4.6e-06 | 3.5e-05 | 5.9e-05 | 3.9e-05 | 1.2e-05 | 4.0e-06 | 2.7e-06 | 1.6e-04 |
| Central Atlantic Draft WEA Primary B1 | 5.4e-08 | 2.8e-08 | 2.9e-08 | 5.2e-08 | 4.1e-08 | 1.0e-07 | 1.0e-06 | 1.8e-06 | 9.4e-07 | 2.7e-07 | 9.3e-08 | 7.6e-08 | 4.6e-06 |
| Central Atlantic Draft WEA Secondary B1 | 2.5e-08 | 1.3e-08 | 1.4e-08 | 2.5e-08 | 2.1e-08 | 5.2e-08 | 4.5e-07 | 8.1e-07 | 4.3e-07 | 1.3e-07 | 4.5e-08 | 3.6e-08 | 2.1e-06 |
| Central Atlantic Draft WEA Primary B2 | 6.5e-07 | 3.7e-07 | 4.6e-07 | 7.6e-07 | 5.8e-07 | 1.2e-06 | 1.1e-05 | 1.8e-05 | 1.2e-05 | 4.0e-06 | 1.3e-06 | 8.5e-07 | 5.1e-05 |
| Central Atlantic Draft WEA Secondary B2 | 2.5e-07 | 1.5e-07 | 2.0e-07 | 3.5e-07 | 2.9e-07 | 6.5e-07 | 4.5e-06 | 7.3e-06 | 5.5e-06 | 1.8e-06 | 5.5e-07 | 3.5e-07 | 2.2e-05 |
| Central Atlantic Call Area C | 6.9e-07 | 4.3e-07 | 5.5e-07 | 8.7e-07 | 6.7e-07 | 1.4e-06 | 1.4e-05 | 1.9e-05 | 1.4e-05 | 4.4e-06 | 1.4e-06 | 8.7e-07 | 5.8e-05 |
| Central Atlantic Draft WEA Primary C | 4.3e-07 | 2.6e-07 | 3.2e-07 | 5.0e-07 | 3.7e-07 | 7.9e-07 | 8.3e-06 | 1.1e-05 | 8.5e-06 | 2.5e-06 | 8.3e-07 | 5.3e-07 | 3.4e-05 |
| Central Atlantic Draft WEA Secondary C | 2.0e-07 | 1.3e-07 | 1.8e-07 | 2.9e-07 | 2.3e-07 | 4.8e-07 | 4.4e-06 | 5.9e-06 | 4.6e-06 | 1.4e-06 | 4.5e-07 | 2.7e-07 | 1.8e-05 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.9e-06 | 1.4e-06 | 1.7e-06 | 2.8e-06 | 3.8e-06 | 1.4e-05 | 6.4e-05 | 6.1e-05 | 4.2e-05 | 1.4e-05 | 4.3e-06 | 2.5e-06 | 2.1e-04 |
| Central Atlantic Draft WEA Primary D | 7.4e-07 | 5.3e-07 | 5.6e-07 | 8.6e-07 | 1.0e-06 | 4.1e-06 | 2.3e-05 | 2.2e-05 | 1.4e-05 | 4.6e-06 | 1.4e-06 | 9.3e-07 | 7.4e-05 |
| Central Atlantic Draft WEA Secondary D | 1.0e-07 | 6.5e-08 | 6.5e-08 | 8.9e-08 | 1.1e-07 | 4.8e-07 | 3.1e-06 | 2.9e-06 | 1.8e-06 | 5.8e-07 | 1.7e-07 | 1.2e-07 | 9.6e-06 |
| Central Atlantic Call Area E | 1.7e-05 | 1.7e-05 | 5.5e-05 | 1.9e-04 | 3.7e-04 | 1.2e-03 | 3.7e-03 | 4.4e-03 | 2.9e-03 | 6.4e-04 | 1.4e-04 | 2.8e-05 | 1.4e-02 |
| Central Atlantic Draft WEA Primary E1 | 2.8e-06 | 3.4e-06 | 8.4e-06 | 3.8e-05 | 7.9e-05 | 2.9e-04 | 8.7e-04 | 1.1e-03 | 6.5e-04 | 1.3e-04 | 2.3e-05 | 4.9e-06 | 3.1e-03 |
| Central Atlantic Draft WEA Primary E2 | 3.4e-06 | 4.0e-06 | 1.4e-05 | 3.8e-05 | 8.0e-05 | 2.7e-04 | 6.8e-04 | 7.8e-04 | 5.5e-04 | 1.3e-04 | 3.1e-05 | 5.8e-06 | 2.6e-03 |
| Central Atlantic Call Area F | 1.1e-04 | 1.2e-04 | 1.9e-04 | 3.7e-04 | 7.7e-04 | 1.8e-03 | 3.0e-03 | 3.0e-03 | 2.9e-03 | 1.3e-03 | 3.5e-04 | 1.9e-04 | 1.4e-02 |
| Central Atlantic Draft WEA Primary F | 5.2e-06 | 5.5e-06 | 1.0e-05 | 2.0e-05 | 4.4e-05 | 9.1e-05 | 1.4e-04 | 1.2e-04 | 1.2e-04 | 5.5e-05 | 1.7e-05 | 9.9e-06 | 6.3e-04 |
| Virginia OCS-A 0483 | 3.1e-07 | 1.8e-07 | 1.6e-07 | 1.5e-07 | 1.7e-07 | 7.7e-07 | 8.1e-06 | 9.9e-06 | 7.1e-06 | 1.8e-06 | 5.2e-07 | 3.8e-07 | 2.9e-05 |
| Virginia OCS-A 0497 | 4.7e-09 | 2.2e-09 | 1.5e-09 | 1.1e-09 | 5.4e-09 | 3.2e-08 | 2.3e-07 | 2.5e-07 | 1.7e-07 | 4.0e-08 | 9.3e-09 | 5.9e-09 | 7.5e-07 |
| North Carolina OCS-A 0508 | 4.5e-07 | 3.9e-07 | 4.3e-07 | 7.1e-07 | 1.0e-06 | 4.1e-06 | 1.5e-05 | 1.2e-05 | 9.5e-06 | 3.0e-06 | 9.6e-07 | 5.6e-07 | 4.8e-05 |
| North Carolina OCS-A 0545 | 4.4e-07 | 3.6e-07 | 5.4e-07 | 1.2e-06 | 3.0e-06 | 9.0e-06 | 9.9e-06 | 6.8e-06 | 6.9e-06 | 3.4e-06 | 1.2e-06 | 6.7e-07 | 4.3e-05 |
| North Carolina OCS-A 0546 | 5.0e-07 | 4.0e-07 | 6.0e-07 | 1.2e-06 | 3.2e-06 | 9.5e-06 | 1.1e-05 | 7.2e-06 | 7.5e-06 | 3.7e-06 | 1.3e-06 | 7.8e-07 | 4.7e-05 |
| South Carolina Call Area - Grand Strand | 5.9e-06 | 5.3e-06 | 7.5e-06 | 1.6e-05 | 3.9e-05 | 1.0e-04 | 8.6e-05 | 6.4e-05 | 8.0e-05 | 4.6e-05 | 1.4e-05 | 7.5e-06 | 4.7e-04 |
| South Carolina Call Area - Cape Romain | 2.0e-06 | 1.8e-06 | 2.3e-06 | 4.7e-06 | 1.2e-05 | 2.7e-05 | 2.2e-05 | 1.7e-05 | 2.4e-05 | 1.5e-05 | 4.5e-06 | 2.4e-06 | 1.3e-04 |
| South Carolina Call Area - Winyah | 3.5e-07 | 3.3e-07 | 4.4e-07 | 8.6e-07 | 2.4e-06 | 6.1e-06 | 5.3e-06 | 3.7e-06 | 4.2e-06 | 1.5e-06 | 7.7e-07 | 5.3e-07 | 2.7e-05 |
| South Carolina Call Area - Charleston | 2.4e-07 | 2.2e-07 | 3.3e-07 | 8.1e-07 | 2.1e-06 | 5.5e-06 | 4.6e-06 | 3.4e-06 | 3.5e-06 | 1.7e-06 | 5.8e-07 | 3.8e-07 | 2.3e-05 |
| All planning areas | 1.4e-04 | 1.5e-04 | 2.6e-04 | 5.9e-04 | 1.2e-03 | 3.3e-03 | 7.0e-03 | 7.7e-03 | 6.1e-03 | 2.1e-03 | 5.5e-04 | 2.4e-04 | 2.9e-02 |
| All lease areas | 2.9e-06 | 2.1e-06 | 2.6e-06 | 5.2e-06 | 1.0e-05 | 2.8e-05 | 6.5e-05 | 8.1e-05 | 6.2e-05 | 2.4e-05 | 8.1e-06 | 4.9e-06 | 3.0e-04 |
| All planning and lease areas | 1.4e-04 | 1.5e-04 | 2.6e-04 | 6.0e-04 | 1.2e-03 | 3.3e-03 | 7.1e-03 | 7.8e-03 | 6.2e-03 | 2.1e-03 | 5.6e-04 | 2.5e-04 | 3.0e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-40. Predicted proportional abundance of Northern Fulmar by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 4.3e-02 | 8.1e-02 | 3.8e-02 | 1.1e-02 | 1.8e-02 | 1.4e-02 | 1.2e-03 | 1.9e-04 | 7.8e-04 | 1.6e-02 | 8.2e-02 | 4.9e-02 | 3.5e-01 |
| Gulf of Maine Request for Competitive Interest | 2.0e-04 | 3.6e-04 | 1.7e-04 | 4.5e-05 | 8.5e-05 | 4.6e-05 | 4.5e-06 | 8.9e-07 | 4.2e-06 | 7.8e-05 | 4.3e-04 | 2.5e-04 | 1.7e-03 |
| Marine Research Array Requested Lease | 3.1e-05 | 5.2e-05 | 2.2e-05 | 6.3e-06 | 1.2e-05 | 6.4e-06 | 6.8e-07 | 1.3e-07 | 6.3e-07 | 1.1e-05 | 5.9e-05 | 3.4e-05 | 2.4e-04 |
| Rhode Island OCS-A 0506 | 3.0e-08 | 4.9e-08 | 2.7e-08 | 1.5e-08 | 2.2e-08 | 1.3e-08 | 1.8e-09 | 1.7e-10 | 1.1e-09 | 2.5e-08 | 7.0e-08 | 3.9e-08 | 2.9e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.1e-05 | 4.3e-05 | 2.0e-05 | 7.6e-06 | 1.6e-05 | 4.2e-06 | 2.7e-07 | 3.1e-08 | 4.1e-07 | 9.5e-06 | 3.0e-05 | 2.8e-05 | 1.9e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 5.7e-06 | 7.9e-06 | 3.4e-06 | 1.1e-06 | 2.5e-06 | 6.7e-07 | 3.5e-08 | 4.1e-09 | 5.7e-08 | 1.6e-06 | 5.3e-06 | 5.4e-06 | 3.4e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 6.5e-05 | 9.4e-05 | 3.7e-05 | 1.1e-05 | 2.4e-05 | 7.4e-06 | 4.7e-07 | 4.2e-08 | 6.0e-07 | 1.9e-05 | 5.8e-05 | 6.7e-05 | 3.8e-04 |
| Massachusetts OCS-A 0500 | 9.8e-05 | 1.4e-04 | 5.4e-05 | 1.8e-05 | 3.7e-05 | 1.2e-05 | 8.7e-07 | 7.1e-08 | 8.6e-07 | 2.5e-05 | 8.1e-05 | 9.5e-05 | 5.6e-04 |
| Massachusetts OCS-A 0501 | 3.3e-05 | 5.2e-05 | 2.2e-05 | 7.2e-06 | 1.6e-05 | 5.3e-06 | 4.8e-07 | 3.8e-08 | 3.8e-07 | 1.1e-05 | 3.7e-05 | 3.5e-05 | 2.2e-04 |
| Massachusetts OCS-A 0534 | 7.6e-05 | 1.1e-04 | 4.0e-05 | 1.4e-05 | 2.8e-05 | 9.5e-06 | 7.1e-07 | 5.3e-08 | 6.3e-07 | 1.9e-05 | 5.8e-05 | 7.4e-05 | 4.3e-04 |
| Massachusetts OCS-A 0520 | 9.2e-05 | 1.5e-04 | 5.4e-05 | 1.9e-05 | 3.8e-05 | 1.3e-05 | 1.0e-06 | 7.8e-08 | 8.6e-07 | 2.3e-05 | 7.3e-05 | 8.4e-05 | 5.4e-04 |
| Massachusetts OCS-A 0521 | 8.7e-05 | 1.5e-04 | 5.7e-05 | 1.9e-05 | 3.8e-05 | 1.3e-05 | 1.2e-06 | 8.8e-08 | 9.0e-07 | 2.2e-05 | 6.9e-05 | 7.6e-05 | 5.3e-04 |
| Massachusetts OCS-A 0522 | 8.1e-05 | 1.6e-04 | 6.4e-05 | 2.2e-05 | 4.3e-05 | 1.5e-05 | 1.3e-06 | 1.1e-07 | 9.9e-07 | 2.2e-05 | 7.0e-05 | 7.1e-05 | 5.5e-04 |
| New York WEA - Fairways North | 4.5e-05 | 6.3e-05 | 2.0e-05 | 6.7e-06 | 1.3e-05 | 3.7e-06 | 3.2e-07 | 2.8e-08 | 3.7e-07 | 1.2e-05 | 3.3e-05 | 4.3e-05 | 2.4e-04 |
| New York WEA - Fairways South | 9.5e-06 | 1.3e-05 | 5.1e-06 | 2.1e-06 | 2.6e-06 | 8.9e-07 | 4.2e-08 | 7.8e-09 | 7.6e-08 | 3.1e-06 | 6.4e-06 | 8.3e-06 | 5.1e-05 |
| New York OCS-A 0512 | 3.1e-05 | 4.4e-05 | 1.2e-05 | 4.7e-06 | 6.3e-06 | 2.3e-06 | 1.0e-07 | 1.5e-08 | 1.4e-07 | 7.3e-06 | 1.9e-05 | 2.5e-05 | 1.5e-04 |
| NY/NJ OCS-A 0544 | 2.1e-05 | 3.0e-05 | 9.0e-06 | 3.4e-06 | 4.7e-06 | 1.5e-06 | 5.1e-08 | 7.7e-09 | 9.0e-08 | 4.6e-06 | 1.3e-05 | 1.7e-05 | 1.0e-04 |
| NY/NJ OCS-A 0537 | 5.9e-05 | 1.1e-04 | 3.3e-05 | 1.0e-05 | 1.6e-05 | 4.4e-06 | 1.2e-07 | 1.1e-08 | 1.9e-07 | 8.1e-06 | 2.2e-05 | 3.2e-05 | 3.0e-04 |
| NY/NJ OCS-A 0538 | 6.8e-05 | 1.1e-04 | 3.7e-05 | 1.4e-05 | 1.8e-05 | 4.8e-06 | 9.4e-08 | 9.5e-09 | 1.7e-07 | 9.8e-06 | 2.9e-05 | 3.5e-05 | 3.3e-04 |
| NY/NJ OCS-A 0539 | 7.3e-05 | 1.4e-04 | 4.8e-05 | 1.7e-05 | 2.0e-05 | 6.0e-06 | 1.1e-07 | 1.1e-08 | 1.9e-07 | 1.4e-05 | 3.5e-05 | 4.3e-05 | 3.9e-04 |
| NY/NJ OCS-A 0541 | 4.5e-05 | 7.1e-05 | 2.6e-05 | 9.2e-06 | 1.1e-05 | 3.7e-06 | 5.9e-08 | 6.6e-09 | 1.0e-07 | 7.4e-06 | 2.0e-05 | 2.6e-05 | 2.2e-04 |
| NY/NJ OCS-A 0542 | 5.0e-05 | 9.2e-05 | 3.1e-05 | 1.1e-05 | 1.3e-05 | 4.4e-06 | 6.8e-08 | 7.0e-09 | 1.1e-07 | 8.1e-06 | 2.0e-05 | 2.8e-05 | 2.6e-04 |
| New Jersey OCS-A 0549 | 2.1e-05 | 2.7e-05 | 1.2e-05 | 5.0e-06 | 4.4e-06 | 2.1e-06 | 8.1e-08 | 9.2e-09 | 7.9e-08 | 4.8e-06 | 1.4e-05 | 1.7e-05 | 1.1e-04 |
| New Jersey OCS-A 0499 | 3.2e-05 | 4.3e-05 | 1.8e-05 | 7.3e-06 | 6.6e-06 | 2.9e-06 | 8.5e-08 | 1.0e-08 | 9.7e-08 | 6.3e-06 | 1.9e-05 | 2.5e-05 | 1.6e-04 |
| New Jersey OCS-A 0498 | 2.1e-05 | 3.1e-05 | 1.3e-05 | 5.8e-06 | 5.1e-06 | 2.2e-06 | 6.1e-08 | 7.7e-09 | 6.8e-08 | 4.4e-06 | 1.1e-05 | 1.6e-05 | 1.1e-04 |
| New Jersey OCS-A 0532 | 1.7e-05 | 2.9e-05 | 1.4e-05 | 6.6e-06 | 5.3e-06 | 2.3e-06 | 7.5e-08 | 9.4e-09 | 7.5e-08 | 4.9e-06 | 1.1e-05 | 1.5e-05 | 1.0e-04 |
| Delaware OCS-A 0482 | 2.0e-05 | 2.7e-05 | 1.1e-05 | 4.9e-06 | 3.6e-06 | 1.6e-06 | 3.7e-08 | 4.5e-09 | 4.2e-08 | 3.6e-06 | 1.2e-05 | 1.5e-05 | 9.8e-05 |
| Delaware OCS-A 0519 | 9.3e-06 | 1.3e-05 | 5.2e-06 | 2.1e-06 | 1.5e-06 | 6.1e-07 | 1.0e-08 | 1.3e-09 | 1.4e-08 | 1.4e-06 | 4.5e-06 | 5.9e-06 | 4.4e-05 |
| Maryland OCS-A 0490 | 2.8e-05 | 4.4e-05 | 1.8e-05 | 7.2e-06 | 4.4e-06 | 1.8e-06 | 3.1e-08 | 3.8e-09 | 3.8e-08 | 4.2e-06 | 1.3e-05 | 1.7e-05 | 1.4e-04 |
| Central Atlantic Call Area A | 1.2e-04 | 2.0e-04 | 7.8e-05 | 2.6e-05 | 2.1e-05 | 8.2e-06 | 1.0e-07 | 1.3e-08 | 1.5e-07 | 1.7e-05 | 5.2e-05 | 6.5e-05 | 5.8e-04 |
| Central Atlantic Draft WEA Primary A | 2.0e-05 | 3.2e-05 | 1.3e-05 | 4.3e-06 | 3.6e-06 | 1.4e-06 | 1.9e-08 | 2.4e-09 | 2.9e-08 | 3.0e-06 | 9.1e-06 | 1.2e-05 | 9.8e-05 |
| Central Atlantic Draft WEA Secondary A | 5.8e-05 | 9.6e-05 | 3.8e-05 | 1.3e-05 | 1.1e-05 | 4.1e-06 | 5.2e-08 | 6.5e-09 | 7.9e-08 | 8.7e-06 | 2.6e-05 | 3.3e-05 | 2.9e-04 |
| Central Atlantic Call Area B | 3.5e-04 | 7.3e-04 | 3.1e-04 | 9.2e-05 | 5.3e-05 | 1.9e-05 | 1.7e-07 | 2.8e-08 | 3.2e-07 | 4.6e-05 | 1.5e-04 | 1.5e-04 | 1.9e-03 |
| Central Atlantic Draft WEA Primary B1 | 8.5e-06 | 1.6e-05 | 6.2e-06 | 1.8e-06 | 1.0e-06 | 3.4e-07 | 3.6e-09 | 6.9e-10 | 8.6e-09 | 1.2e-06 | 3.9e-06 | 4.7e-06 | 4.3e-05 |
| Central Atlantic Draft WEA Secondary B1 | 3.9e-06 | 7.8e-06 | 3.0e-06 | 8.3e-07 | 5.1e-07 | 1.8e-07 | 1.8e-09 | 3.3e-10 | 3.9e-09 | 5.6e-07 | 1.8e-06 | 2.1e-06 | 2.1e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.0e-04 | 2.2e-04 | 9.4e-05 | 2.8e-05 | 1.5e-05 | 4.9e-06 | 4.2e-08 | 7.6e-09 | 8.8e-08 | 1.3e-05 | 4.3e-05 | 4.0e-05 | 5.6e-04 |
| Central Atlantic Draft WEA Secondary B2 | 4.8e-05 | 1.1e-04 | 4.7e-05 | 1.4e-05 | 7.8e-06 | 2.9e-06 | 2.3e-08 | 3.8e-09 | 4.3e-08 | 6.1e-06 | 2.0e-05 | 1.9e-05 | 2.7e-04 |
| Central Atlantic Call Area C | 7.6e-05 | 2.1e-04 | 9.5e-05 | 2.8e-05 | 1.4e-05 | 3.1e-06 | 2.8e-08 | 5.3e-09 | 6.5e-08 | 9.8e-06 | 3.7e-05 | 3.0e-05 | 5.0e-04 |
| Central Atlantic Draft WEA Primary C | 4.5e-05 | 1.2e-04 | 5.4e-05 | 1.6e-05 | 7.5e-06 | 1.6e-06 | 1.5e-08 | 2.9e-09 | 3.8e-08 | 5.8e-06 | 2.2e-05 | 1.8e-05 | 2.9e-04 |
| Central Atlantic Draft WEA Secondary C | 2.6e-05 | 7.2e-05 | 3.4e-05 | 1.0e-05 | 5.0e-06 | 1.3e-06 | 1.0e-08 | 1.9e-09 | 2.3e-08 | 3.3e-06 | 1.2e-05 | 9.5e-06 | 1.7e-04 |
| Central Atlantic Call Area D | 1.1e-04 | 3.6e-04 | 1.7e-04 | 4.9e-05 | 2.3e-05 | 4.6e-06 | 4.8e-08 | 6.6e-09 | 8.9e-08 | 1.3e-05 | 6.9e-05 | 5.0e-05 | 8.5e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 4.1e-05 | 1.3e-04 | 5.6e-05 | 1.5e-05 | 7.6e-06 | 1.4e-06 | 1.6e-08 | 2.2e-09 | 3.1e-08 | 4.9e-06 | 2.6e-05 | 1.9e-05 | 3.0e-04 |
| Central Atlantic Draft WEA Secondary D | 5.8e-06 | 1.6e-05 | 6.4e-06 | 1.6e-06 | 7.6e-07 | 1.3e-07 | 1.8e-09 | 2.5e-10 | 3.9e-09 | 6.1e-07 | 3.3e-06 | 2.8e-06 | 3.7e-05 |
| Central Atlantic Call Area E | 2.7e-04 | 1.1e-03 | 6.0e-04 | 2.1e-04 | 8.3e-05 | 3.5e-05 | 5.0e-07 | 2.8e-08 | 1.8e-07 | 1.4e-05 | 1.2e-04 | 1.5e-04 | 2.6e-03 |
| Central Atlantic Draft WEA Primary E1 | 5.8e-05 | 2.8e-04 | 1.3e-04 | 6.3e-05 | 1.9e-05 | 7.4e-06 | 1.1e-07 | 6.0e-09 | 4.1e-08 | 3.1e-06 | 2.8e-05 | 3.8e-05 | 6.2e-04 |
| Central Atlantic Draft WEA Primary E2 | 3.4e-05 | 1.3e-04 | 6.8e-05 | 3.1e-05 | 1.2e-05 | 4.4e-06 | 7.2e-08 | 4.0e-09 | 2.4e-08 | 1.6e-06 | 1.8e-05 | 1.8e-05 | 3.2e-04 |
| Central Atlantic Call Area F | 6.4e-05 | 1.6e-04 | 7.5e-05 | 4.1e-05 | 2.6e-05 | 8.9e-06 | 1.3e-07 | 1.3e-08 | 8.8e-08 | 4.2e-06 | 2.7e-05 | 1.8e-05 | 4.2e-04 |
| Central Atlantic Draft WEA Primary F | 3.4e-06 | 6.8e-06 | 3.2e-06 | 2.4e-06 | 1.3e-06 | 5.1e-07 | 7.8e-09 | 8.3e-10 | 6.4e-09 | 3.2e-07 | 1.5e-06 | 8.6e-07 | 2.0e-05 |
| Virginia OCS-A 0483 | 3.2e-05 | 6.3e-05 | 2.9e-05 | 5.5e-06 | 2.3e-06 | 3.2e-07 | 7.6e-09 | 1.3e-09 | 2.5e-08 | 3.6e-06 | 1.5e-05 | 1.4e-05 | 1.6e-04 |
| Virginia OCS-A 0497 | 4.4e-07 | 7.7e-07 | 3.3e-07 | 4.9e-08 | 2.9e-08 | 5.0e-09 | 1.6e-10 | 2.6e-11 | 4.8e-10 | 6.3e-08 | 2.6e-07 | 2.1e-07 | 2.2e-06 |
| North Carolina OCS-A 0508 | 2.1e-05 | 8.7e-05 | 4.0e-05 | 1.0e-05 | 5.1e-06 | 8.6e-07 | 7.6e-09 | 1.2e-09 | 1.7e-08 | 2.8e-06 | 1.5e-05 | 9.5e-06 | 1.9e-04 |
| North Carolina OCS-A 0545 | 8.9e-07 | 2.0e-06 | 8.2e-07 | 3.1e-07 | 7.1e-08 | 8.1e-09 | 7.7e-10 | 1.3e-10 | 8.5e-10 | 2.3e-08 | 4.7e-07 | 4.2e-07 | 5.0e-06 |
| North Carolina OCS-A 0546 | 9.2e-07 | 2.1e-06 | 8.3e-07 | 3.5e-07 | 7.9e-08 | 9.9e-09 | 1.1e-09 | 1.6e-10 | 9.2e-10 | 2.4e-08 | 4.8e-07 | 4.4e-07 | 5.3e-06 |
| South Carolina Call Area - Grand Strand | 7.1e-06 | 2.8e-05 | 9.0e-06 | 3.2e-06 | 7.0e-07 | 6.4e-08 | 4.3e-09 | 9.2e-10 | 5.7e-09 | 2.6e-07 | 5.9e-06 | 3.9e-06 | 5.8e-05 |
| South Carolina Call Area - Cape Romain | 2.4e-06 | 7.2e-06 | 2.4e-06 | 8.7e-07 | 1.5e-07 | 1.6e-08 | 1.2e-09 | 2.1e-10 | 1.1e-09 | 5.5e-08 | 1.5e-06 | 1.1e-06 | 1.6e-05 |
| South Carolina Call Area - Winyah | 3.5e-07 | 8.5e-07 | 3.2e-07 | 1.1e-07 | 2.2e-08 | 5.3e-09 | 5.9e-10 | 9.1e-11 | 4.6e-10 | 7.4e-09 | 4.8e-08 | 7.0e-08 | 1.8e-06 |
| South Carolina Call Area - Charleston | 3.5e-07 | 6.6e-07 | 3.8e-07 | 1.1e-07 | 2.7e-08 | 4.1e-09 | 3.4e-10 | 5.5e-11 | 3.3e-10 | 8.2e-09 | 9.3e-08 | 1.6e-07 | 1.8e-06 |
| All planning areas | 4.4e-02 | 8.4e-02 | 3.9e-02 | 1.1e-02 | 1.8e-02 | 1.4e-02 | 1.2e-03 | 1.9e-04 | 7.8e-04 | 1.6e-02 | 8.3e-02 | 4.9e-02 | 3.6e-01 |
| All lease areas | 1.1e-03 | 1.9e-03 | 7.1e-04 | 2.4e-04 | 3.7e-04 | 1.2e-04 | 7.3e-06 | 6.3e-07 | 7.1e-06 | 2.5e-04 | 7.6e-04 | 8.8e-04 | 6.3e-03 |
| All planning and lease areas | 4.5e-02 | 8.6e-02 | 4.0e-02 | 1.1e-02 | 1.9e-02 | 1.4e-02 | 1.2e-03 | 1.9e-04 | 7.9e-04 | 1.7e-02 | 8.4e-02 | 5.0e-02 | 3.7e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-41. Predicted proportional abundance of Black-capped Petrel by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 4.9e-06 | 8.3e-06 | 2.5e-05 | 5.9e-05 | 4.2e-05 | 2.3e-05 | 2.4e-05 | 2.7e-05 | 1.6e-05 | 1.5e-05 | 9.6e-06 | 5.8e-06 | 2.6e-04 |
| Gulf of Maine Request for Competitive Interest | 2.3e-08 | 3.8e-08 | 1.3e-07 | 2.6e-07 | 2.4e-07 | 1.4e-07 | 1.6e-07 | 1.7e-07 | 9.4e-08 | 9.0e-08 | 6.4e-08 | 3.2e-08 | 1.4e-06 |
| Marine Research Array Requested Lease | 3.4e-09 | 5.4e-09 | 1.8e-08 | 3.5e-08 | 3.3e-08 | 2.0e-08 | 2.3e-08 | 2.3e-08 | 1.3e-08 | 1.3e-08 | 9.2e-09 | 4.6e-09 | 2.0e-07 |
| Rhode Island OCS-A 0506 | 8.5e-11 | 9.2e-11 | 1.3e-10 | 3.0e-10 | 2.8e-10 | 2.3e-10 | 5.6e-10 | 5.3e-10 | 1.7e-10 | 6.4e-11 | 6.5e-11 | 7.9e-11 | 2.6e-09 |
| Rhode Island / Massachusetts OCS-A 0486 | 5.1e-08 | 6.7e-08 | 8.8e-08 | 1.1e-07 | 8.5e-08 | 6.9e-08 | 2.1e-07 | 2.0e-07 | 7.5e-08 | 3.7e-08 | 3.2e-08 | 3.7e-08 | 1.1e-06 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.5e-09 | 1.1e-08 | 1.4e-08 | 1.8e-08 | 1.4e-08 | 1.2e-08 | 3.7e-08 | 3.5e-08 | 1.3e-08 | 6.5e-09 | 5.4e-09 | 6.1e-09 | 1.8e-07 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.0e-08 | 7.4e-08 | 1.2e-07 | 1.3e-07 | 1.0e-07 | 8.1e-08 | 2.7e-07 | 2.7e-07 | 1.1e-07 | 5.7e-08 | 3.6e-08 | 3.7e-08 | 1.4e-06 |
| Massachusetts OCS-A 0500 | 5.6e-08 | 9.0e-08 | 1.6e-07 | 1.7e-07 | 1.3e-07 | 9.0e-08 | 3.0e-07 | 3.2e-07 | 1.4e-07 | 7.4e-08 | 4.7e-08 | 4.4e-08 | 1.6e-06 |
| Massachusetts OCS-A 0501 | 2.6e-08 | 3.6e-08 | 7.4e-08 | 8.2e-08 | 6.0e-08 | 4.5e-08 | 1.2e-07 | 1.4e-07 | 6.4e-08 | 3.2e-08 | 2.3e-08 | 2.3e-08 | 7.3e-07 |
| Massachusetts OCS-A 0534 | 3.4e-08 | 5.3e-08 | 1.1e-07 | 1.4e-07 | 9.3e-08 | 6.3e-08 | 2.1e-07 | 2.2e-07 | 1.0e-07 | 5.2e-08 | 3.0e-08 | 2.7e-08 | 1.1e-06 |
| Massachusetts OCS-A 0520 | 3.8e-08 | 6.0e-08 | 1.3e-07 | 1.9e-07 | 1.3e-07 | 8.0e-08 | 2.3e-07 | 2.4e-07 | 1.1e-07 | 6.0e-08 | 3.3e-08 | 3.1e-08 | 1.3e-06 |
| Massachusetts OCS-A 0521 | 3.6e-08 | 5.6e-08 | 1.3e-07 | 2.0e-07 | 1.3e-07 | 7.3e-08 | 2.0e-07 | 2.0e-07 | 9.9e-08 | 5.3e-08 | 3.1e-08 | 2.9e-08 | 1.2e-06 |
| Massachusetts OCS-A 0522 | 3.7e-08 | 5.7e-08 | 1.3e-07 | 1.9e-07 | 1.2e-07 | 6.3e-08 | 1.7e-07 | 1.7e-07 | 9.5e-08 | 4.9e-08 | 3.2e-08 | 3.0e-08 | 1.1e-06 |
| New York WEA - Fairways North | 4.2e-08 | 5.8e-08 | 7.5e-08 | 1.0e-07 | 9.0e-08 | 8.4e-08 | 2.5e-07 | 2.4e-07 | 1.1e-07 | 4.5e-08 | 2.8e-08 | 2.8e-08 | 1.2e-06 |
| New York WEA - Fairways South | 1.2e-08 | 1.4e-08 | 1.6e-08 | 2.5e-08 | 2.2e-08 | 2.6e-08 | 7.8e-08 | 7.3e-08 | 3.0e-08 | 1.3e-08 | 8.1e-09 | 8.3e-09 | 3.3e-07 |
| New York OCS-A 0512 | 4.0e-08 | 4.6e-08 | 5.1e-08 | 8.0e-08 | 6.7e-08 | 9.5e-08 | 2.6e-07 | 2.6e-07 | 9.9e-08 | 4.5e-08 | 2.5e-08 | 2.9e-08 | 1.1e-06 |
| NY/NJ OCS-A 0544 | 1.9e-08 | 2.8e-08 | 3.4e-08 | 4.2e-08 | 3.4e-08 | 4.5e-08 | 1.4e-07 | 1.4e-07 | 5.2e-08 | 2.2e-08 | 1.2e-08 | 1.3e-08 | 5.9e-07 |
| NY/NJ OCS-A 0537 | 2.4e-08 | 4.9e-08 | 9.8e-08 | 1.1e-07 | 6.0e-08 | 5.4e-08 | 1.9e-07 | 1.9e-07 | 8.1e-08 | 4.1e-08 | 2.0e-08 | 1.8e-08 | 9.3e-07 |
| NY/NJ OCS-A 0538 | 3.6e-08 | 6.4e-08 | 1.3e-07 | 1.3e-07 | 7.2e-08 | 7.5e-08 | 2.7e-07 | 2.5e-07 | 9.0e-08 | 4.5e-08 | 2.6e-08 | 2.5e-08 | 1.2e-06 |
| NY/NJ OCS-A 0539 | 5.8e-08 | 1.0e-07 | 1.9e-07 | 1.8e-07 | 9.3e-08 | 1.1e-07 | 3.9e-07 | 3.9e-07 | 1.4e-07 | 6.3e-08 | 3.7e-08 | 3.9e-08 | 1.8e-06 |
| NY/NJ OCS-A 0541 | 3.6e-08 | 6.6e-08 | 1.1e-07 | 9.6e-08 | 5.2e-08 | 8.4e-08 | 3.0e-07 | 3.2e-07 | 1.0e-07 | 4.3e-08 | 2.3e-08 | 2.5e-08 | 1.3e-06 |
| NY/NJ OCS-A 0542 | 3.3e-08 | 6.5e-08 | 1.2e-07 | 1.1e-07 | 5.8e-08 | 7.7e-08 | 2.8e-07 | 2.9e-07 | 1.0e-07 | 4.0e-08 | 2.1e-08 | 2.2e-08 | 1.2e-06 |
| New Jersey OCS-A 0549 | 4.1e-08 | 4.0e-08 | 5.8e-08 | 8.5e-08 | 6.1e-08 | 1.2e-07 | 2.8e-07 | 2.6e-07 | 1.0e-07 | 5.5e-08 | 2.9e-08 | 3.9e-08 | 1.2e-06 |
| New Jersey OCS-A 0499 | 5.5e-08 | 5.6e-08 | 7.7e-08 | 1.0e-07 | 7.1e-08 | 1.6e-07 | 4.1e-07 | 3.9e-07 | 1.5e-07 | 6.8e-08 | 3.6e-08 | 4.6e-08 | 1.6e-06 |
| New Jersey OCS-A 0498 | 4.1e-08 | 4.1e-08 | 5.4e-08 | 7.3e-08 | 5.0e-08 | 1.2e-07 | 3.1e-07 | 3.0e-07 | 1.1e-07 | 4.8e-08 | 2.6e-08 | 3.5e-08 | 1.2e-06 |
| New Jersey OCS-A 0532 | 4.0e-08 | 4.0e-08 | 5.8e-08 | 8.6e-08 | 5.9e-08 | 1.4e-07 | 3.3e-07 | 3.1e-07 | 1.2e-07 | 5.3e-08 | 2.8e-08 | 3.9e-08 | 1.3e-06 |
| Delaware OCS-A 0482 | 3.2e-08 | 3.3e-08 | 4.7e-08 | 6.8e-08 | 4.7e-08 | 1.1e-07 | 3.0e-07 | 3.0e-07 | 1.1e-07 | 4.8e-08 | 2.2e-08 | 2.8e-08 | 1.1e-06 |
| Delaware OCS-A 0519 | 1.4e-08 | 1.6e-08 | 2.0e-08 | 2.5e-08 | 1.7e-08 | 4.2e-08 | 1.2e-07 | 1.2e-07 | 3.9e-08 | 1.8e-08 | 8.1e-09 | 1.0e-08 | 4.5e-07 |
| Maryland OCS-A 0490 | 4.0e-08 | 4.8e-08 | 6.7e-08 | 8.3e-08 | 5.3e-08 | 1.4e-07 | 3.8e-07 | 4.0e-07 | 1.3e-07 | 5.7e-08 | 2.2e-08 | 2.9e-08 | 1.4e-06 |
| Central Atlantic Call Area A | 1.4e-07 | 2.2e-07 | 2.9e-07 | 2.6e-07 | 1.5e-07 | 3.6e-07 | 1.3e-06 | 1.6e-06 | 4.7e-07 | 1.7e-07 | 7.8e-08 | 9.0e-08 | 5.1e-06 |
| Central Atlantic Draft WEA Primary A | 2.5e-08 | 3.5e-08 | 4.6e-08 | 4.5e-08 | 2.7e-08 | 6.5e-08 | 2.3e-07 | 2.7e-07 | 7.7e-08 | 3.1e-08 | 1.4e-08 | 1.7e-08 | 8.8e-07 |
| Central Atlantic Draft WEA Secondary A | 7.1e-08 | 1.1e-07 | 1.4e-07 | 1.3e-07 | 7.5e-08 | 1.8e-07 | 6.4e-07 | 7.9e-07 | 2.3e-07 | 8.6e-08 | 3.9e-08 | 4.5e-08 | 2.5e-06 |
| Central Atlantic Call Area B | 4.2e-07 | 8.1e-07 | 1.1e-06 | 7.8e-07 | 4.5e-07 | 1.4e-06 | 5.1e-06 | 7.9e-06 | 3.5e-06 | 7.6e-07 | 2.8e-07 | 2.5e-07 | 2.3e-05 |
| Central Atlantic Draft WEA Primary B1 | 1.1e-08 | 1.6e-08 | 2.0e-08 | 2.2e-08 | 1.5e-08 | 5.0e-08 | 1.8e-07 | 1.7e-07 | 4.8e-08 | 1.7e-08 | 6.2e-09 | 7.5e-09 | 5.7e-07 |
| Central Atlantic Draft WEA Secondary B1 | 4.9e-09 | 7.8e-09 | 9.5e-09 | 9.4e-09 | 5.7e-09 | 1.9e-08 | 7.1e-08 | 7.5e-08 | 2.1e-08 | 7.0e-09 | 2.6e-09 | 3.2e-09 | 2.4e-07 |
| Central Atlantic Draft WEA Primary B2 | 1.2e-07 | 2.6e-07 | 3.4e-07 | 2.3e-07 | 1.4e-07 | 4.2e-07 | 1.6e-06 | 2.6e-06 | 1.2e-06 | 2.4e-07 | 8.4e-08 | 7.0e-08 | 7.3e-06 |
| Central Atlantic Draft WEA Secondary B2 | 5.7e-08 | 1.2e-07 | 1.7e-07 | 1.0e-07 | 5.6e-08 | 1.6e-07 | 6.2e-07 | 1.2e-06 | 5.9e-07 | 1.2e-07 | 4.2e-08 | 3.2e-08 | 3.2e-06 |
| Central Atlantic Call Area C | 1.4e-07 | 2.8e-07 | 4.0e-07 | 2.5e-07 | 1.7e-07 | 5.4e-07 | 2.9e-06 | 3.2e-06 | 1.2e-06 | 3.7e-07 | 1.2e-07 | 8.0e-08 | 9.7e-06 |
| Central Atlantic Draft WEA Primary C | 7.8e-08 | 1.6e-07 | 2.2e-07 | 1.4e-07 | 9.6e-08 | 3.2e-07 | 1.7e-06 | 1.8e-06 | 6.4e-07 | 1.9e-07 | 5.9e-08 | 4.3e-08 | 5.4e-06 |
| Central Atlantic Draft WEA Secondary C | 4.4e-08 | 9.1e-08 | 1.4e-07 | 8.2e-08 | 5.4e-08 | 1.7e-07 | 9.2e-07 | 1.0e-06 | 4.1e-07 | 1.3e-07 | 3.9e-08 | 2.6e-08 | 3.1e-06 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 5.3e-07 | 8.4e-07 | 1.2e-06 | 9.1e-07 | 1.0e-06 | 3.4e-06 | 2.0e-05 | 2.2e-05 | 6.2e-06 | 2.3e-06 | 8.0e-07 | 3.9e-07 | 5.9e-05 |
| Central Atlantic Draft WEA Primary D | 1.4e-07 | 2.2e-07 | 2.8e-07 | 1.9e-07 | 1.8e-07 | 7.1e-07 | 5.5e-06 | 6.3e-06 | 1.3e-06 | 4.3e-07 | 1.3e-07 | 8.0e-08 | 1.6e-05 |
| Central Atlantic Draft WEA Secondary D | 1.4e-08 | 2.2e-08 | 2.7e-08 | 2.0e-08 | 2.0e-08 | 8.2e-08 | 6.4e-07 | 8.1e-07 | 1.4e-07 | 4.1e-08 | 1.1e-08 | 7.6e-09 | 1.8e-06 |
| Central Atlantic Call Area E | 1.2e-05 | 1.6e-05 | 7.4e-05 | 1.3e-04 | 8.3e-05 | 1.2e-04 | 2.5e-04 | 2.9e-04 | 4.3e-04 | 1.3e-04 | 3.7e-05 | 1.1e-05 | 1.6e-03 |
| Central Atlantic Draft WEA Primary E1 | 1.8e-06 | 3.3e-06 | 1.3e-05 | 2.8e-05 | 2.2e-05 | 3.4e-05 | 7.3e-05 | 8.4e-05 | 1.0e-04 | 2.6e-05 | 5.5e-06 | 1.9e-06 | 4.0e-04 |
| Central Atlantic Draft WEA Primary E2 | 3.7e-06 | 5.0e-06 | 2.3e-05 | 3.8e-05 | 2.4e-05 | 3.6e-05 | 6.9e-05 | 6.2e-05 | 1.0e-04 | 3.6e-05 | 1.1e-05 | 3.0e-06 | 4.2e-04 |
| Central Atlantic Call Area F | 4.6e-05 | 7.9e-05 | 1.6e-04 | 2.9e-04 | 3.5e-04 | 4.6e-04 | 4.3e-04 | 6.4e-04 | 7.6e-04 | 3.9e-04 | 1.1e-04 | 6.0e-05 | 3.8e-03 |
| Central Atlantic Draft WEA Primary F | 3.3e-06 | 5.7e-06 | 1.2e-05 | 2.4e-05 | 3.2e-05 | 4.1e-05 | 2.9e-05 | 4.7e-05 | 5.7e-05 | 2.7e-05 | 7.9e-06 | 4.5e-06 | 2.9e-04 |
| Virginia OCS-A 0483 | 4.3e-08 | 7.3e-08 | 1.0e-07 | 1.1e-07 | 1.2e-07 | 4.2e-07 | 1.4e-06 | 1.4e-06 | 3.7e-07 | 1.1e-07 | 2.9e-08 | 2.5e-08 | 4.1e-06 |
| Virginia OCS-A 0497 | 8.2e-10 | 1.3e-09 | 2.3e-09 | 3.2e-09 | 3.8e-09 | 1.2e-08 | 3.8e-08 | 3.9e-08 | 8.4e-09 | 2.4e-09 | 5.7e-10 | 5.0e-10 | 1.1e-07 |
| North Carolina OCS-A 0508 | 1.0e-07 | 1.6e-07 | 2.1e-07 | 1.5e-07 | 1.7e-07 | 7.4e-07 | 4.5e-06 | 4.7e-06 | 1.2e-06 | 3.7e-07 | 1.1e-07 | 6.3e-08 | 1.2e-05 |
| North Carolina OCS-A 0545 | 2.8e-07 | 4.3e-07 | 9.4e-07 | 1.8e-06 | 2.3e-06 | 5.0e-06 | 5.9e-06 | 6.2e-06 | 7.3e-06 | 2.8e-06 | 7.2e-07 | 4.3e-07 | 3.4e-05 |
| North Carolina OCS-A 0546 | 3.2e-07 | 4.7e-07 | 1.1e-06 | 2.0e-06 | 2.6e-06 | 5.1e-06 | 5.9e-06 | 6.1e-06 | 7.6e-06 | 3.0e-06 | 7.9e-07 | 4.8e-07 | 3.5e-05 |
| South Carolina Call Area - Grand Strand | 1.1e-06 | 1.4e-06 | 2.4e-06 | 4.8e-06 | 1.1e-05 | 4.0e-05 | 5.5e-05 | 4.6e-05 | 2.9e-05 | 9.1e-06 | 2.6e-06 | 1.4e-06 | 2.0e-04 |
| South Carolina Call Area - Cape Romain | 1.5e-07 | 2.1e-07 | 3.8e-07 | 8.3e-07 | 2.5e-06 | 1.1e-05 | 1.4e-05 | 1.1e-05 | 5.6e-06 | 1.5e-06 | 4.1e-07 | 2.2e-07 | 4.7e-05 |
| South Carolina Call Area - Winyah | 5.4e-07 | 8.9e-07 | 1.9e-06 | 3.4e-06 | 3.7e-06 | 6.2e-06 | 6.2e-06 | 5.0e-06 | 5.7e-06 | 3.1e-06 | 1.0e-06 | 6.5e-07 | 3.8e-05 |
| South Carolina Call Area - Charleston | 2.7e-07 | 4.4e-07 | 8.8e-07 | 1.3e-06 | 1.7e-06 | 4.3e-06 | 4.6e-06 | 3.7e-06 | 3.5e-06 | 1.9e-06 | 5.5e-07 | 3.6e-07 | 2.4e-05 |
| All planning areas | 6.6e-05 | 1.1e-04 | 2.7e-04 | 5.0e-04 | 4.9e-04 | 6.7e-04 | 8.1e-04 | 1.1e-03 | 1.3e-03 | 5.5e-04 | 1.7e-04 | 8.0e-05 | 6.0e-03 |
| All lease areas | 1.6e-06 | 2.3e-06 | 4.4e-06 | 6.5e-06 | 6.8e-06 | 1.3e-05 | 2.3e-05 | 2.4e-05 | 1.9e-05 | 7.4e-06 | 2.3e-06 | 1.7e-06 | 1.1e-04 |
| All planning and lease areas | 6.8e-05 | 1.1e-04 | 2.8e-04 | 5.0e-04 | 5.0e-04 | 6.8e-04 | 8.4e-04 | 1.1e-03 | 1.3e-03 | 5.6e-04 | 1.7e-04 | 8.2e-05 | 6.1e-03 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-42. Predicted proportional abundance of Cory's Shearwater by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.0e-06 | 8.6e-07 | 1.2e-06 | 3.6e-06 | 4.0e-05 | 5.3e-04 | 2.1e-03 | 3.2e-03 | 2.4e-03 | 1.1e-03 | 1.0e-04 | 2.8e-05 | 9.5e-03 |
| Gulf of Maine Request for Competitive Interest | 1.2e-08 | 3.2e-09 | 4.3e-09 | 1.7e-08 | 2.7e-07 | 3.3e-06 | 1.1e-05 | 2.1e-05 | 1.6e-05 | 6.0e-06 | 7.3e-07 | 1.3e-07 | 5.8e-05 |
| Marine Research Array Requested Lease | 1.7e-09 | 4.5e-10 | 5.9e-10 | 2.3e-09 | 3.8e-08 | 4.5e-07 | 1.4e-06 | 2.7e-06 | 2.3e-06 | 8.5e-07 | 1.0e-07 | 1.8e-08 | 8.0e-06 |
| Rhode Island OCS-A 0506 | 7.1e-11 | 1.4e-11 | 1.9e-11 | 2.6e-10 | 5.6e-09 | 2.7e-08 | 8.3e-08 | 9.7e-08 | 1.4e-07 | 5.6e-08 | 8.5e-09 | 7.3e-10 | 4.2e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 3.3e-08 | 9.0e-09 | 1.3e-08 | 8.6e-08 | 2.4e-06 | 1.9e-05 | 6.5e-05 | 5.9e-05 | 5.8e-05 | 2.6e-05 | 3.0e-06 | 2.5e-07 | 2.3e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 6.5e-09 | 1.6e-09 | 2.2e-09 | 1.4e-08 | 3.9e-07 | 3.8e-06 | 1.3e-05 | 1.0e-05 | 9.3e-06 | 4.5e-06 | 5.5e-07 | 4.8e-08 | 4.1e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.3e-08 | 1.5e-08 | 2.8e-08 | 1.3e-07 | 3.6e-06 | 3.7e-05 | 1.3e-04 | 9.9e-05 | 9.6e-05 | 5.3e-05 | 5.4e-06 | 4.8e-07 | 4.2e-04 |
| Massachusetts OCS-A 0500 | 6.0e-08 | 1.8e-08 | 3.6e-08 | 1.7e-07 | 4.0e-06 | 3.9e-05 | 1.5e-04 | 1.3e-04 | 1.3e-04 | 6.9e-05 | 6.4e-06 | 6.4e-07 | 5.3e-04 |
| Massachusetts OCS-A 0501 | 1.6e-08 | 5.6e-09 | 1.5e-08 | 7.2e-08 | 1.5e-06 | 1.6e-05 | 6.6e-05 | 6.4e-05 | 5.3e-05 | 2.8e-05 | 2.5e-06 | 1.5e-07 | 2.3e-04 |
| Massachusetts OCS-A 0534 | 4.5e-08 | 1.1e-08 | 2.5e-08 | 1.3e-07 | 2.6e-06 | 2.6e-05 | 1.0e-04 | 9.6e-05 | 9.4e-05 | 5.4e-05 | 4.4e-06 | 5.2e-07 | 3.8e-04 |
| Massachusetts OCS-A 0520 | 6.2e-08 | 1.3e-08 | 3.2e-08 | 1.8e-07 | 3.0e-06 | 3.2e-05 | 1.2e-04 | 1.2e-04 | 1.2e-04 | 6.9e-05 | 5.5e-06 | 6.7e-07 | 4.8e-04 |
| Massachusetts OCS-A 0521 | 6.6e-08 | 1.4e-08 | 3.4e-08 | 2.0e-07 | 2.9e-06 | 3.1e-05 | 1.2e-04 | 1.2e-04 | 1.2e-04 | 6.8e-05 | 5.6e-06 | 5.9e-07 | 4.7e-04 |
| Massachusetts OCS-A 0522 | 5.8e-08 | 1.5e-08 | 3.9e-08 | 2.1e-07 | 2.9e-06 | 3.0e-05 | 1.2e-04 | 1.3e-04 | 1.2e-04 | 6.8e-05 | 6.1e-06 | 4.9e-07 | 4.8e-04 |
| New York WEA - Fairways North | 5.6e-08 | 1.7e-08 | 2.0e-08 | 1.2e-07 | 3.4e-06 | 3.4e-05 | 9.0e-05 | 7.4e-05 | 8.0e-05 | 4.4e-05 | 4.5e-06 | 4.1e-07 | 3.3e-04 |
| New York WEA - Fairways South | 1.3e-08 | 3.6e-09 | 4.3e-09 | 3.0e-08 | 7.9e-07 | 7.3e-06 | 1.6e-05 | 1.5e-05 | 1.9e-05 | 1.0e-05 | 1.1e-06 | 1.0e-07 | 7.0e-05 |
| New York OCS-A 0512 | 4.5e-08 | 1.1e-08 | 1.2e-08 | 8.2e-08 | 2.5e-06 | 2.7e-05 | 4.6e-05 | 3.8e-05 | 3.8e-05 | 2.7e-05 | 3.3e-06 | 3.2e-07 | 1.8e-04 |
| NY/NJ OCS-A 0544 | 2.9e-08 | 9.6e-09 | 1.1e-08 | 5.3e-08 | 1.4e-06 | 1.7e-05 | 3.1e-05 | 2.5e-05 | 2.8e-05 | 1.9e-05 | 2.3e-06 | 2.1e-07 | 1.2e-04 |
| NY/NJ OCS-A 0537 | 1.3e-07 | 3.9e-08 | 3.4e-08 | 1.3e-07 | 2.1e-06 | 2.2e-05 | 5.2e-05 | 4.5e-05 | 5.4e-05 | 3.8e-05 | 4.5e-06 | 4.9e-07 | 2.2e-04 |
| NY/NJ OCS-A 0538 | 7.8e-08 | 2.7e-08 | 4.3e-08 | 1.8e-07 | 2.5e-06 | 2.7e-05 | 5.3e-05 | 4.6e-05 | 5.7e-05 | 4.3e-05 | 5.6e-06 | 4.8e-07 | 2.4e-04 |
| NY/NJ OCS-A 0539 | 1.0e-07 | 3.8e-08 | 6.3e-08 | 2.3e-07 | 3.1e-06 | 3.4e-05 | 6.2e-05 | 5.5e-05 | 6.9e-05 | 5.5e-05 | 7.7e-06 | 7.1e-07 | 2.9e-04 |
| NY/NJ OCS-A 0541 | 6.4e-08 | 2.5e-08 | 4.4e-08 | 1.6e-07 | 2.4e-06 | 2.4e-05 | 3.9e-05 | 3.9e-05 | 4.5e-05 | 3.7e-05 | 4.9e-06 | 4.7e-07 | 1.9e-04 |
| NY/NJ OCS-A 0542 | 8.0e-08 | 3.0e-08 | 5.2e-08 | 2.0e-07 | 2.6e-06 | 2.6e-05 | 4.4e-05 | 4.2e-05 | 5.4e-05 | 4.3e-05 | 5.8e-06 | 5.3e-07 | 2.2e-04 |
| New Jersey OCS-A 0549 | 2.0e-08 | 4.5e-09 | 7.9e-09 | 6.3e-08 | 1.5e-06 | 1.4e-05 | 2.5e-05 | 2.3e-05 | 1.9e-05 | 1.6e-05 | 2.3e-06 | 2.0e-07 | 1.0e-04 |
| New Jersey OCS-A 0499 | 3.7e-08 | 8.8e-09 | 1.4e-08 | 9.4e-08 | 2.0e-06 | 1.8e-05 | 3.3e-05 | 3.2e-05 | 2.7e-05 | 2.2e-05 | 3.3e-06 | 3.1e-07 | 1.4e-04 |
| New Jersey OCS-A 0498 | 2.6e-08 | 6.0e-09 | 9.6e-09 | 7.0e-08 | 1.5e-06 | 1.3e-05 | 2.2e-05 | 2.2e-05 | 1.9e-05 | 1.5e-05 | 2.2e-06 | 2.2e-07 | 9.5e-05 |
| New Jersey OCS-A 0532 | 2.1e-08 | 4.6e-09 | 8.9e-09 | 7.8e-08 | 1.6e-06 | 1.3e-05 | 2.4e-05 | 2.3e-05 | 2.0e-05 | 1.5e-05 | 2.2e-06 | 2.0e-07 | 9.9e-05 |
| Delaware OCS-A 0482 | 2.7e-08 | 5.7e-09 | 9.8e-09 | 7.1e-08 | 1.1e-06 | 1.0e-05 | 1.8e-05 | 1.7e-05 | 1.5e-05 | 1.4e-05 | 2.1e-06 | 2.0e-07 | 7.7e-05 |
| Delaware OCS-A 0519 | 1.5e-08 | 3.5e-09 | 5.2e-09 | 3.2e-08 | 5.0e-07 | 4.4e-06 | 7.1e-06 | 7.1e-06 | 6.2e-06 | 6.2e-06 | 9.5e-07 | 9.7e-08 | 3.3e-05 |
| Maryland OCS-A 0490 | 4.9e-08 | 1.2e-08 | 1.9e-08 | 1.2e-07 | 1.6e-06 | 1.5e-05 | 2.3e-05 | 2.1e-05 | 1.8e-05 | 1.9e-05 | 2.9e-06 | 3.0e-07 | 1.0e-04 |
| Central Atlantic Call Area A | 3.0e-07 | 1.0e-07 | 1.5e-07 | 6.0e-07 | 8.6e-06 | 7.3e-05 | 1.0e-04 | 1.1e-04 | 1.1e-04 | 1.1e-04 | 1.6e-05 | 1.6e-06 | 5.2e-04 |
| Central Atlantic Draft WEA Primary A | 4.6e-08 | 1.5e-08 | 2.1e-08 | 9.2e-08 | 1.4e-06 | 1.2e-05 | 1.7e-05 | 1.9e-05 | 1.8e-05 | 1.8e-05 | 2.6e-06 | 2.6e-07 | 8.8e-05 |
| Central Atlantic Draft WEA Secondary A | 1.5e-07 | 5.0e-08 | 6.9e-08 | 2.9e-07 | 4.3e-06 | 3.7e-05 | 5.1e-05 | 5.5e-05 | 5.4e-05 | 5.5e-05 | 8.0e-06 | 7.9e-07 | 2.7e-04 |
| Central Atlantic Call Area B | 1.5e-06 | 5.8e-07 | 8.3e-07 | 3.4e-06 | 3.9e-05 | 3.1e-04 | 3.6e-04 | 3.2e-04 | 3.1e-04 | 3.2e-04 | 5.2e-05 | 6.3e-06 | 1.7e-03 |
| Central Atlantic Draft WEA Primary B1 | 2.4e-08 | 7.1e-09 | 9.7e-09 | 6.1e-08 | 7.4e-07 | 7.1e-06 | 8.4e-06 | 6.9e-06 | 6.0e-06 | 7.0e-06 | 1.1e-06 | 1.3e-07 | 3.8e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.2e-08 | 4.0e-09 | 5.0e-09 | 2.7e-08 | 3.2e-07 | 3.0e-06 | 3.7e-06 | 3.1e-06 | 2.9e-06 | 3.3e-06 | 5.4e-07 | 6.4e-08 | 1.7e-05 |
| Central Atlantic Draft WEA Primary B2 | 4.9e-07 | 1.9e-07 | 2.8e-07 | 1.1e-06 | 1.3e-05 | 1.0e-04 | 1.1e-04 | 9.9e-05 | 9.2e-05 | 9.6e-05 | 1.6e-05 | 2.0e-06 | 5.4e-04 |
| Central Atlantic Draft WEA Secondary B2 | 2.2e-07 | 8.8e-08 | 1.4e-07 | 5.1e-07 | 5.4e-06 | 4.3e-05 | 5.0e-05 | 4.6e-05 | 4.4e-05 | 4.3e-05 | 7.0e-06 | 8.6e-07 | 2.4e-04 |
| Central Atlantic Call Area C | 5.6e-07 | 2.3e-07 | 3.3e-07 | 1.2e-06 | 1.3e-05 | 9.7e-05 | 8.6e-05 | 9.3e-05 | 7.4e-05 | 8.3e-05 | 1.5e-05 | 2.0e-06 | 4.6e-04 |
| Central Atlantic Draft WEA Primary C | 3.2e-07 | 1.3e-07 | 1.7e-07 | 6.6e-07 | 7.2e-06 | 5.6e-05 | 4.8e-05 | 5.2e-05 | 4.1e-05 | 4.8e-05 | 8.3e-06 | 1.1e-06 | 2.6e-04 |
| Central Atlantic Draft WEA Secondary C | 1.9e-07 | 7.8e-08 | 1.2e-07 | 4.3e-07 | 4.4e-06 | 3.3e-05 | 3.0e-05 | 3.3e-05 | 2.7e-05 | 2.9e-05 | 5.0e-06 | 6.7e-07 | 1.6e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.8e-06 | 7.7e-07 | 1.2e-06 | 4.1e-06 | 3.2e-05 | 1.5e-04 | 1.9e-04 | 2.2e-04 | 1.7e-04 | 1.6e-04 | 3.6e-05 | 5.3e-06 | 9.8e-04 |
| Central Atlantic Draft WEA Primary D | 4.7e-07 | 1.9e-07 | 2.5e-07 | 9.3e-07 | 8.4e-06 | 4.6e-05 | 5.3e-05 | 6.0e-05 | 4.8e-05 | 5.0e-05 | 1.0e-05 | 1.6e-06 | 2.8e-04 |
| Central Atlantic Draft WEA Secondary D | 4.8e-08 | 1.6e-08 | 2.0e-08 | 8.9e-08 | 9.0e-07 | 5.2e-06 | 5.4e-06 | 6.2e-06 | 4.9e-06 | 5.7e-06 | 1.2e-06 | 1.7e-07 | 3.0e-05 |
| Central Atlantic Call Area E | 9.8e-06 | 5.0e-06 | 9.0e-06 | 2.2e-05 | 7.4e-05 | 2.1e-04 | 3.1e-04 | 3.0e-04 | 4.1e-04 | 2.3e-04 | 1.1e-04 | 4.1e-05 | 1.7e-03 |
| Central Atlantic Draft WEA Primary E1 | 2.6e-06 | 1.1e-06 | 3.2e-06 | 5.9e-06 | 2.5e-05 | 6.0e-05 | 8.6e-05 | 9.1e-05 | 1.3e-04 | 6.8e-05 | 4.1e-05 | 1.1e-05 | 5.2e-04 |
| Central Atlantic Draft WEA Primary E2 | 3.3e-06 | 2.0e-06 | 2.2e-06 | 6.8e-06 | 1.8e-05 | 4.7e-05 | 8.2e-05 | 7.3e-05 | 1.0e-04 | 5.6e-05 | 2.9e-05 | 1.2e-05 | 4.4e-04 |
| Central Atlantic Call Area F | 7.1e-06 | 5.6e-06 | 7.9e-06 | 1.8e-05 | 4.3e-05 | 1.2e-04 | 1.9e-04 | 3.5e-04 | 4.1e-04 | 1.4e-04 | 6.9e-05 | 1.9e-05 | 1.4e-03 |
| Central Atlantic Draft WEA Primary F | 9.1e-07 | 5.9e-07 | 9.0e-07 | 1.6e-06 | 4.1e-06 | 1.1e-05 | 1.9e-05 | 4.2e-05 | 4.7e-05 | 1.4e-05 | 7.7e-06 | 1.5e-06 | 1.5e-04 |
| Virginia OCS-A 0483 | 1.5e-07 | 3.9e-08 | 5.5e-08 | 4.4e-07 | 5.7e-06 | 3.4e-05 | 2.5e-05 | 2.5e-05 | 2.3e-05 | 2.8e-05 | 4.7e-06 | 6.0e-07 | 1.5e-04 |
| Virginia OCS-A 0497 | 1.6e-09 | 4.2e-10 | 8.9e-10 | 1.2e-08 | 1.4e-07 | 5.1e-07 | 4.2e-07 | 4.1e-07 | 3.8e-07 | 4.1e-07 | 7.0e-08 | 7.0e-09 | 2.4e-06 |
| North Carolina OCS-A 0508 | 3.5e-07 | 1.6e-07 | 2.2e-07 | 8.0e-07 | 6.0e-06 | 2.7e-05 | 4.0e-05 | 5.2e-05 | 3.7e-05 | 3.3e-05 | 7.1e-06 | 1.1e-06 | 2.0e-04 |
| North Carolina OCS-A 0545 | 3.2e-07 | 2.4e-07 | 3.8e-07 | 1.3e-06 | 2.5e-06 | 5.6e-06 | 1.6e-05 | 2.6e-05 | 2.9e-05 | 1.0e-05 | 4.8e-06 | 1.2e-06 | 9.7e-05 |
| North Carolina OCS-A 0546 | 4.1e-07 | 2.9e-07 | 4.6e-07 | 1.6e-06 | 3.0e-06 | 6.7e-06 | 1.8e-05 | 3.0e-05 | 3.3e-05 | 1.2e-05 | 5.6e-06 | 1.5e-06 | 1.1e-04 |
| South Carolina Call Area - Grand Strand | 6.4e-07 | 3.3e-07 | 4.8e-07 | 1.8e-06 | 4.9e-06 | 1.8e-05 | 6.7e-05 | 9.7e-05 | 7.6e-05 | 3.2e-05 | 1.5e-05 | 2.7e-06 | 3.1e-04 |
| South Carolina Call Area - Cape Romain | 6.9e-08 | 4.5e-08 | 7.0e-08 | 2.9e-07 | 8.3e-07 | 4.0e-06 | 1.6e-05 | 1.9e-05 | 1.1e-05 | 4.0e-06 | 2.0e-06 | 3.3e-07 | 5.8e-05 |
| South Carolina Call Area - Winyah | 6.3e-07 | 6.0e-07 | 1.0e-06 | 3.1e-06 | 5.0e-06 | 1.1e-05 | 3.1e-05 | 4.3e-05 | 4.2e-05 | 1.1e-05 | 3.1e-06 | 1.2e-06 | 1.5e-04 |
| South Carolina Call Area - Charleston | 3.5e-07 | 3.1e-07 | 4.3e-07 | 9.0e-07 | 1.7e-06 | 4.9e-06 | 1.6e-05 | 2.2e-05 | 2.1e-05 | 7.8e-06 | 3.1e-06 | 1.1e-06 | 7.9e-05 |
| All planning areas | 2.6e-05 | 1.4e-05 | 2.3e-05 | 5.9e-05 | 2.7e-04 | 1.6e-03 | 3.6e-03 | 4.9e-03 | 4.2e-03 | 2.3e-03 | 4.3e-04 | 1.1e-04 | 1.7e-02 |
| All lease areas | 2.4e-06 | 1.1e-06 | 1.7e-06 | 6.9e-06 | 6.7e-05 | 5.7e-04 | 1.5e-03 | 1.4e-03 | 1.4e-03 | 8.9e-04 | 1.1e-04 | 1.3e-05 | 5.9e-03 |
| All planning and lease areas | 2.8e-05 | 1.5e-05 | 2.4e-05 | 6.6e-05 | 3.3e-04 | 2.1e-03 | 5.0e-03 | 6.3e-03 | 5.5e-03 | 3.1e-03 | 5.4e-04 | 1.2e-04 | 2.3e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-43. Predicted proportional abundance of Sooty Shearwater by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 5.7e-06 | 2.2e-05 | 2.1e-04 | 1.8e-03 | 1.8e-02 | 4.2e-02 | 1.1e-02 | 2.9e-03 | 9.4e-04 | 2.7e-04 | 4.1e-05 | 7.5e-06 | 7.8e-02 |
| Gulf of Maine Request for Competitive Interest | 2.7e-08 | 8.5e-08 | 8.1e-07 | 7.8e-06 | 1.2e-04 | 2.0e-04 | 4.4e-05 | 1.3e-05 | 6.5e-06 | 1.4e-06 | 2.0e-07 | 3.3e-08 | 3.9e-04 |
| Marine Research Array Requested Lease | 3.7e-09 | 1.1e-08 | 1.1e-07 | 1.1e-06 | 1.7e-05 | 2.7e-05 | 6.2e-06 | 1.9e-06 | 1.0e-06 | 2.0e-07 | 2.7e-08 | 4.6e-09 | 5.4e-05 |
| Rhode Island OCS-A 0506 | 7.9e-11 | 2.0e-10 | 3.3e-09 | 7.0e-08 | 3.8e-07 | 2.8e-07 | 7.5e-08 | 1.4e-08 | 1.1e-08 | 3.5e-09 | 4.9e-10 | 1.0e-10 | 8.4e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 4.4e-08 | 1.1e-07 | 1.2e-06 | 2.0e-05 | 2.0e-04 | 1.4e-04 | 2.2e-05 | 5.4e-06 | 3.9e-06 | 1.3e-06 | 2.2e-07 | 5.3e-08 | 3.9e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.7e-09 | 2.2e-08 | 2.4e-07 | 3.1e-06 | 3.5e-05 | 2.5e-05 | 4.1e-06 | 9.2e-07 | 5.4e-07 | 2.4e-07 | 4.4e-08 | 1.1e-08 | 7.0e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 9.8e-08 | 2.4e-07 | 2.6e-06 | 3.1e-05 | 3.4e-04 | 2.9e-04 | 4.9e-05 | 9.4e-06 | 4.7e-06 | 2.6e-06 | 4.5e-07 | 1.2e-07 | 7.3e-04 |
| Massachusetts OCS-A 0500 | 1.2e-07 | 3.1e-07 | 3.4e-06 | 4.1e-05 | 4.3e-04 | 4.1e-04 | 7.3e-05 | 1.4e-05 | 6.4e-06 | 3.5e-06 | 6.0e-07 | 1.5e-07 | 9.9e-04 |
| Massachusetts OCS-A 0501 | 4.2e-08 | 1.2e-07 | 1.4e-06 | 1.8e-05 | 1.8e-04 | 1.9e-04 | 3.6e-05 | 7.1e-06 | 3.0e-06 | 1.7e-06 | 2.8e-07 | 6.1e-08 | 4.4e-04 |
| Massachusetts OCS-A 0534 | 8.2e-08 | 2.1e-07 | 2.4e-06 | 2.9e-05 | 2.9e-04 | 3.1e-04 | 5.4e-05 | 1.0e-05 | 4.5e-06 | 2.5e-06 | 4.2e-07 | 1.0e-07 | 7.1e-04 |
| Massachusetts OCS-A 0520 | 1.0e-07 | 2.7e-07 | 3.3e-06 | 3.8e-05 | 3.8e-04 | 4.3e-04 | 7.6e-05 | 1.4e-05 | 6.0e-06 | 3.3e-06 | 5.5e-07 | 1.3e-07 | 9.5e-04 |
| Massachusetts OCS-A 0521 | 1.1e-07 | 3.0e-07 | 3.5e-06 | 3.9e-05 | 3.8e-04 | 4.6e-04 | 8.4e-05 | 1.6e-05 | 6.2e-06 | 3.4e-06 | 5.7e-07 | 1.4e-07 | 1.0e-03 |
| Massachusetts OCS-A 0522 | 1.1e-07 | 3.5e-07 | 4.0e-06 | 4.3e-05 | 4.1e-04 | 5.3e-04 | 1.0e-04 | 1.9e-05 | 7.0e-06 | 3.7e-06 | 6.4e-07 | 1.5e-07 | 1.1e-03 |
| New York WEA - Fairways North | 8.1e-08 | 2.1e-07 | 2.0e-06 | 2.7e-05 | 2.8e-04 | 1.8e-04 | 3.2e-05 | 5.9e-06 | 3.1e-06 | 1.6e-06 | 3.0e-07 | 8.6e-08 | 5.3e-04 |
| New York WEA - Fairways South | 1.4e-08 | 3.5e-08 | 3.8e-07 | 7.6e-06 | 5.1e-05 | 2.9e-05 | 3.6e-06 | 1.1e-06 | 7.4e-07 | 3.0e-07 | 4.5e-08 | 1.5e-08 | 9.4e-05 |
| New York OCS-A 0512 | 5.7e-08 | 1.5e-07 | 1.5e-06 | 2.2e-05 | 1.8e-04 | 1.0e-04 | 1.3e-05 | 2.8e-06 | 1.6e-06 | 1.0e-06 | 2.0e-07 | 6.2e-08 | 3.3e-04 |
| NY/NJ OCS-A 0544 | 3.9e-08 | 1.1e-07 | 9.9e-07 | 1.2e-05 | 1.1e-04 | 6.4e-05 | 7.0e-06 | 1.5e-06 | 9.5e-07 | 6.3e-07 | 1.2e-07 | 3.7e-08 | 2.0e-04 |
| NY/NJ OCS-A 0537 | 1.1e-07 | 3.9e-07 | 2.9e-06 | 2.4e-05 | 2.3e-04 | 1.5e-04 | 1.6e-05 | 2.6e-06 | 1.7e-06 | 1.1e-06 | 2.2e-07 | 7.7e-08 | 4.3e-04 |
| NY/NJ OCS-A 0538 | 1.3e-07 | 4.6e-07 | 3.8e-06 | 3.4e-05 | 2.7e-04 | 1.7e-04 | 1.6e-05 | 2.5e-06 | 2.0e-06 | 1.4e-06 | 2.8e-07 | 9.6e-08 | 5.0e-04 |
| NY/NJ OCS-A 0539 | 1.6e-07 | 6.0e-07 | 5.6e-06 | 5.2e-05 | 3.2e-04 | 2.0e-04 | 1.7e-05 | 2.8e-06 | 2.6e-06 | 2.0e-06 | 3.8e-07 | 1.3e-07 | 6.0e-04 |
| NY/NJ OCS-A 0541 | 9.4e-08 | 3.4e-07 | 3.4e-06 | 3.3e-05 | 1.9e-04 | 1.1e-04 | 8.2e-06 | 1.5e-06 | 1.3e-06 | 1.2e-06 | 2.3e-07 | 7.8e-08 | 3.5e-04 |
| NY/NJ OCS-A 0542 | 1.2e-07 | 4.6e-07 | 4.4e-06 | 4.1e-05 | 2.2e-04 | 1.3e-04 | 9.9e-06 | 1.7e-06 | 1.6e-06 | 1.4e-06 | 2.6e-07 | 9.1e-08 | 4.2e-04 |
| New Jersey OCS-A 0549 | 4.2e-08 | 1.3e-07 | 1.8e-06 | 2.4e-05 | 1.4e-04 | 7.2e-05 | 1.0e-05 | 2.0e-06 | 8.6e-07 | 8.0e-07 | 1.9e-07 | 5.5e-08 | 2.5e-04 |
| New Jersey OCS-A 0499 | 6.1e-08 | 1.8e-07 | 2.5e-06 | 3.2e-05 | 1.8e-04 | 8.8e-05 | 1.1e-05 | 2.2e-06 | 1.0e-06 | 1.0e-06 | 2.4e-07 | 7.1e-08 | 3.2e-04 |
| New Jersey OCS-A 0498 | 3.9e-08 | 1.1e-07 | 1.6e-06 | 2.3e-05 | 1.3e-04 | 5.8e-05 | 7.1e-06 | 1.5e-06 | 7.2e-07 | 6.0e-07 | 1.4e-07 | 4.3e-08 | 2.2e-04 |
| New Jersey OCS-A 0532 | 3.4e-08 | 9.7e-08 | 1.7e-06 | 2.7e-05 | 1.3e-04 | 5.7e-05 | 8.2e-06 | 1.6e-06 | 8.3e-07 | 6.0e-07 | 1.4e-07 | 4.0e-08 | 2.2e-04 |
| Delaware OCS-A 0482 | 4.8e-08 | 1.5e-07 | 2.2e-06 | 2.5e-05 | 9.5e-05 | 4.6e-05 | 5.5e-06 | 1.2e-06 | 5.3e-07 | 6.4e-07 | 1.7e-07 | 5.1e-08 | 1.8e-04 |
| Delaware OCS-A 0519 | 2.1e-08 | 6.5e-08 | 8.4e-07 | 9.8e-06 | 3.8e-05 | 1.8e-05 | 1.6e-06 | 3.6e-07 | 1.9e-07 | 2.4e-07 | 6.1e-08 | 1.9e-08 | 6.9e-05 |
| Maryland OCS-A 0490 | 6.9e-08 | 2.2e-07 | 2.8e-06 | 3.2e-05 | 1.1e-04 | 5.2e-05 | 5.2e-06 | 1.1e-06 | 5.5e-07 | 6.7e-07 | 1.9e-07 | 6.2e-08 | 2.1e-04 |
| Central Atlantic Call Area A | 3.1e-07 | 1.1e-06 | 1.2e-05 | 1.3e-04 | 4.8e-04 | 2.3e-04 | 1.5e-05 | 3.3e-06 | 2.4e-06 | 2.8e-06 | 6.8e-07 | 2.3e-07 | 8.7e-04 |
| Central Atlantic Draft WEA Primary A | 5.1e-08 | 1.7e-07 | 1.9e-06 | 2.1e-05 | 8.3e-05 | 4.0e-05 | 2.8e-06 | 6.2e-07 | 4.3e-07 | 5.1e-07 | 1.2e-07 | 4.1e-08 | 1.5e-04 |
| Central Atlantic Draft WEA Secondary A | 1.5e-07 | 5.3e-07 | 5.7e-06 | 6.3e-05 | 2.4e-04 | 1.1e-04 | 7.7e-06 | 1.7e-06 | 1.2e-06 | 1.4e-06 | 3.5e-07 | 1.2e-07 | 4.4e-04 |
| Central Atlantic Call Area B | 1.7e-06 | 8.4e-06 | 7.9e-05 | 7.5e-04 | 1.8e-03 | 8.0e-04 | 3.6e-05 | 8.5e-06 | 7.3e-06 | 8.3e-06 | 2.6e-06 | 1.0e-06 | 3.5e-03 |
| Central Atlantic Draft WEA Primary B1 | 2.8e-08 | 1.0e-07 | 1.1e-06 | 1.2e-05 | 3.0e-05 | 1.3e-05 | 6.3e-07 | 1.6e-07 | 1.6e-07 | 2.0e-07 | 5.7e-08 | 2.1e-08 | 5.8e-05 |
| Central Atlantic Draft WEA Secondary B1 | 1.3e-08 | 5.2e-08 | 5.1e-07 | 5.6e-06 | 1.4e-05 | 6.5e-06 | 3.0e-07 | 7.6e-08 | 7.5e-08 | 9.2e-08 | 2.6e-08 | 9.5e-09 | 2.8e-05 |
| Central Atlantic Draft WEA Primary B2 | 5.5e-07 | 2.7e-06 | 2.5e-05 | 2.4e-04 | 5.3e-04 | 2.3e-04 | 1.0e-05 | 2.5e-06 | 2.1e-06 | 2.3e-06 | 7.7e-07 | 3.1e-07 | 1.0e-03 |
| Central Atlantic Draft WEA Secondary B2 | 2.9e-07 | 1.5e-06 | 1.4e-05 | 1.3e-04 | 2.9e-04 | 1.3e-04 | 5.8e-06 | 1.3e-06 | 1.1e-06 | 1.2e-06 | 4.0e-07 | 1.6e-07 | 5.7e-04 |
| Central Atlantic Call Area C | 5.2e-07 | 3.0e-06 | 2.9e-05 | 2.5e-04 | 4.7e-04 | 1.9e-04 | 8.2e-06 | 2.0e-06 | 1.7e-06 | 1.8e-06 | 6.7e-07 | 2.7e-07 | 9.5e-04 |
| Central Atlantic Draft WEA Primary C | 2.7e-07 | 1.5e-06 | 1.4e-05 | 1.2e-04 | 2.3e-04 | 9.2e-05 | 4.1e-06 | 1.0e-06 | 8.8e-07 | 9.6e-07 | 3.5e-07 | 1.4e-07 | 4.7e-04 |
| Central Atlantic Draft WEA Secondary C | 2.0e-07 | 1.2e-06 | 1.1e-05 | 9.6e-05 | 1.8e-04 | 7.4e-05 | 3.2e-06 | 7.7e-07 | 6.5e-07 | 6.7e-07 | 2.5e-07 | 1.0e-07 | 3.7e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.3e-06 | 8.7e-06 | 9.8e-05 | 7.3e-04 | 1.0e-03 | 3.6e-04 | 1.4e-05 | 3.9e-06 | 4.0e-06 | 3.7e-06 | 1.6e-06 | 6.2e-07 | 2.2e-03 |
| Central Atlantic Draft WEA Primary D | 3.1e-07 | 2.0e-06 | 2.1e-05 | 1.6e-04 | 2.4e-04 | 8.0e-05 | 3.1e-06 | 9.0e-07 | 9.6e-07 | 1.0e-06 | 4.3e-07 | 1.6e-07 | 5.1e-04 |
| Central Atlantic Draft WEA Secondary D | 3.0e-08 | 1.7e-07 | 1.7e-06 | 1.4e-05 | 2.2e-05 | 7.1e-06 | 2.9e-07 | 8.4e-08 | 9.0e-08 | 1.0e-07 | 4.5e-08 | 1.6e-08 | 4.6e-05 |
| Central Atlantic Call Area E | 4.2e-07 | 2.6e-06 | 3.7e-05 | 3.1e-04 | 6.0e-04 | 3.0e-04 | 1.7e-05 | 2.1e-06 | 1.2e-06 | 1.1e-06 | 5.4e-07 | 2.3e-07 | 1.3e-03 |
| Central Atlantic Draft WEA Primary E1 | 8.3e-08 | 5.2e-07 | 7.2e-06 | 6.4e-05 | 1.2e-04 | 6.2e-05 | 3.8e-06 | 4.2e-07 | 2.8e-07 | 2.6e-07 | 1.2e-07 | 4.9e-08 | 2.6e-04 |
| Central Atlantic Draft WEA Primary E2 | 3.7e-08 | 2.4e-07 | 3.4e-06 | 2.9e-05 | 5.1e-05 | 2.2e-05 | 1.4e-06 | 1.9e-07 | 1.1e-07 | 9.6e-08 | 4.7e-08 | 2.0e-08 | 1.1e-04 |
| Central Atlantic Call Area F | 8.0e-08 | 5.2e-07 | 6.9e-06 | 6.0e-05 | 7.7e-05 | 3.2e-05 | 1.9e-06 | 3.4e-07 | 2.1e-07 | 1.3e-07 | 6.0e-08 | 2.9e-08 | 1.8e-04 |
| Central Atlantic Draft WEA Primary F | 1.8e-09 | 1.4e-08 | 1.5e-07 | 1.4e-06 | 1.6e-06 | 5.6e-07 | 4.4e-08 | 9.7e-09 | 6.7e-09 | 3.5e-09 | 1.5e-09 | 5.5e-10 | 3.8e-06 |
| Virginia OCS-A 0483 | 1.1e-07 | 4.8e-07 | 5.1e-06 | 4.8e-05 | 8.6e-05 | 2.8e-05 | 1.5e-06 | 4.0e-07 | 3.8e-07 | 5.1e-07 | 2.0e-07 | 7.2e-08 | 1.7e-04 |
| Virginia OCS-A 0497 | 2.2e-09 | 8.8e-09 | 1.1e-07 | 9.4e-07 | 1.6e-06 | 4.5e-07 | 3.0e-08 | 8.2e-09 | 7.0e-09 | 1.1e-08 | 4.7e-09 | 1.5e-09 | 3.2e-06 |
| North Carolina OCS-A 0508 | 1.8e-07 | 1.3e-06 | 1.4e-05 | 1.0e-04 | 1.4e-04 | 4.2e-05 | 1.6e-06 | 5.0e-07 | 5.3e-07 | 5.5e-07 | 2.5e-07 | 9.0e-08 | 3.0e-04 |
| North Carolina OCS-A 0545 | 3.0e-08 | 2.1e-07 | 2.1e-06 | 8.7e-06 | 6.9e-06 | 1.4e-06 | 2.2e-07 | 1.1e-07 | 1.0e-07 | 6.7e-08 | 6.7e-08 | 1.6e-08 | 2.0e-05 |
| North Carolina OCS-A 0546 | 3.0e-08 | 2.2e-07 | 2.2e-06 | 9.2e-06 | 7.2e-06 | 1.5e-06 | 2.4e-07 | 1.2e-07 | 1.1e-07 | 6.7e-08 | 6.6e-08 | 1.6e-08 | 2.1e-05 |
| South Carolina Call Area - Grand Strand | 3.4e-07 | 2.2e-06 | 1.9e-05 | 6.8e-05 | 4.9e-05 | 9.5e-06 | 1.3e-06 | 8.2e-07 | 8.9e-07 | 1.1e-06 | 1.0e-06 | 2.5e-07 | 1.5e-04 |
| South Carolina Call Area - Cape Romain | 9.6e-08 | 5.9e-07 | 4.7e-06 | 1.7e-05 | 1.1e-05 | 2.1e-06 | 2.9e-07 | 1.7e-07 | 2.1e-07 | 2.9e-07 | 2.9e-07 | 6.9e-08 | 3.6e-05 |
| South Carolina Call Area - Winyah | 2.2e-08 | 1.8e-07 | 1.7e-06 | 7.9e-06 | 6.6e-06 | 1.8e-06 | 3.4e-07 | 1.4e-07 | 1.3e-07 | 4.5e-08 | 2.0e-08 | 9.0e-09 | 1.9e-05 |
| South Carolina Call Area - Charleston | 1.6e-08 | 1.0e-07 | 1.1e-06 | 4.4e-06 | 3.6e-06 | 8.3e-07 | 1.2e-07 | 5.8e-08 | 6.0e-08 | 3.4e-08 | 2.5e-08 | 8.9e-09 | 1.0e-05 |
| All planning areas | 1.1e-05 | 5.0e-05 | 5.0e-04 | 4.2e-03 | 2.3e-02 | 4.5e-02 | 1.1e-02 | 2.9e-03 | 9.7e-04 | 3.0e-04 | 4.9e-05 | 1.0e-05 | 8.8e-02 |
| All lease areas | 2.1e-06 | 7.6e-06 | 8.1e-05 | 8.2e-04 | 5.2e-03 | 4.2e-03 | 6.4e-04 | 1.2e-04 | 6.0e-05 | 3.7e-05 | 7.2e-06 | 2.0e-06 | 1.1e-02 |
| All planning and lease areas | 1.3e-05 | 5.8e-05 | 5.8e-04 | 5.0e-03 | 2.9e-02 | 4.9e-02 | 1.2e-02 | 3.0e-03 | 1.0e-03 | 3.3e-04 | 5.6e-05 | 1.2e-05 | 9.9e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-44. Predicted proportional abundance of Great Shearwater by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.0e-04 | 3.4e-05 | 1.7e-05 | 1.3e-04 | 3.0e-03 | 2.0e-02 | 2.6e-02 | 2.8e-02 | 2.1e-02 | 2.6e-02 | 9.7e-03 | 1.7e-03 | 1.4e-01 |
| Gulf of Maine Request for Competitive Interest | 1.4e-06 | 1.7e-07 | 6.7e-08 | 5.6e-07 | 1.9e-05 | 1.1e-04 | 1.1e-04 | 1.5e-04 | 1.5e-04 | 1.7e-04 | 7.3e-05 | 1.4e-05 | 8.0e-04 |
| Marine Research Array Requested Lease | 2.0e-07 | 2.4e-08 | 9.1e-09 | 7.4e-08 | 2.8e-06 | 1.4e-05 | 1.5e-05 | 2.1e-05 | 2.2e-05 | 2.4e-05 | 1.0e-05 | 2.0e-06 | 1.1e-04 |
| Rhode Island OCS-A 0506 | 4.6e-09 | 2.7e-10 | 1.1e-10 | 1.1e-09 | 9.0e-09 | 2.6e-08 | 5.0e-08 | 6.4e-08 | 1.1e-07 | 6.9e-08 | 5.1e-08 | 2.4e-08 | 4.1e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.7e-06 | 2.0e-07 | 6.6e-08 | 4.2e-07 | 4.8e-06 | 2.1e-05 | 4.1e-05 | 4.4e-05 | 5.0e-05 | 3.7e-05 | 2.9e-05 | 1.3e-05 | 2.4e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 4.8e-07 | 3.9e-08 | 1.2e-08 | 6.9e-08 | 8.0e-07 | 4.2e-06 | 8.0e-06 | 7.4e-06 | 7.3e-06 | 6.3e-06 | 5.2e-06 | 2.2e-06 | 4.2e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 4.5e-06 | 4.6e-07 | 1.7e-07 | 8.7e-07 | 9.8e-06 | 6.3e-05 | 1.3e-04 | 1.0e-04 | 9.4e-05 | 9.5e-05 | 7.0e-05 | 2.1e-05 | 5.9e-04 |
| Massachusetts OCS-A 0500 | 4.4e-06 | 5.3e-07 | 2.2e-07 | 1.1e-06 | 1.3e-05 | 8.6e-05 | 1.8e-04 | 1.5e-04 | 1.3e-04 | 1.3e-04 | 9.1e-05 | 2.6e-05 | 8.1e-04 |
| Massachusetts OCS-A 0501 | 1.4e-06 | 1.5e-07 | 8.4e-08 | 4.4e-07 | 5.2e-06 | 3.8e-05 | 6.8e-05 | 6.8e-05 | 5.6e-05 | 5.3e-05 | 3.7e-05 | 1.2e-05 | 3.4e-04 |
| Massachusetts OCS-A 0534 | 2.6e-06 | 3.2e-07 | 1.7e-07 | 8.6e-07 | 1.0e-05 | 7.1e-05 | 1.4e-04 | 1.2e-04 | 1.0e-04 | 9.9e-05 | 6.1e-05 | 1.6e-05 | 6.3e-04 |
| Massachusetts OCS-A 0520 | 2.9e-06 | 3.6e-07 | 2.3e-07 | 1.3e-06 | 1.5e-05 | 1.0e-04 | 1.9e-04 | 1.5e-04 | 1.3e-04 | 1.2e-04 | 7.1e-05 | 1.9e-05 | 8.1e-04 |
| Massachusetts OCS-A 0521 | 2.9e-06 | 3.6e-07 | 2.3e-07 | 1.4e-06 | 1.6e-05 | 1.0e-04 | 1.8e-04 | 1.5e-04 | 1.2e-04 | 1.1e-04 | 6.7e-05 | 1.9e-05 | 7.7e-04 |
| Massachusetts OCS-A 0522 | 2.9e-06 | 3.7e-07 | 2.0e-07 | 1.2e-06 | 1.5e-05 | 9.4e-05 | 1.7e-04 | 1.4e-04 | 1.1e-04 | 9.9e-05 | 6.7e-05 | 1.9e-05 | 7.1e-04 |
| New York WEA - Fairways North | 4.8e-06 | 4.0e-07 | 1.2e-07 | 7.2e-07 | 8.3e-06 | 4.3e-05 | 9.2e-05 | 6.5e-05 | 6.8e-05 | 6.2e-05 | 4.7e-05 | 1.6e-05 | 4.1e-04 |
| New York WEA - Fairways South | 1.0e-06 | 6.9e-08 | 2.1e-08 | 1.5e-07 | 1.4e-06 | 6.8e-06 | 1.1e-05 | 1.0e-05 | 1.4e-05 | 1.1e-05 | 7.7e-06 | 3.1e-06 | 6.6e-05 |
| New York OCS-A 0512 | 2.5e-06 | 1.9e-07 | 6.0e-08 | 3.7e-07 | 3.5e-06 | 1.9e-05 | 2.9e-05 | 2.3e-05 | 2.7e-05 | 2.8e-05 | 2.0e-05 | 8.7e-06 | 1.6e-04 |
| NY/NJ OCS-A 0544 | 1.7e-06 | 1.8e-07 | 5.3e-08 | 2.7e-07 | 2.6e-06 | 1.5e-05 | 2.3e-05 | 1.7e-05 | 2.1e-05 | 2.0e-05 | 1.4e-05 | 5.1e-06 | 1.2e-04 |
| NY/NJ OCS-A 0537 | 2.4e-06 | 6.3e-07 | 2.5e-07 | 7.8e-07 | 7.4e-06 | 3.7e-05 | 6.1e-05 | 3.5e-05 | 4.8e-05 | 4.3e-05 | 2.9e-05 | 7.9e-06 | 2.7e-04 |
| NY/NJ OCS-A 0538 | 3.5e-06 | 7.2e-07 | 2.9e-07 | 9.0e-07 | 6.9e-06 | 3.3e-05 | 4.8e-05 | 2.9e-05 | 4.8e-05 | 4.4e-05 | 3.1e-05 | 1.0e-05 | 2.6e-04 |
| NY/NJ OCS-A 0539 | 4.3e-06 | 7.8e-07 | 3.3e-07 | 1.0e-06 | 6.7e-06 | 3.6e-05 | 4.6e-05 | 2.8e-05 | 4.7e-05 | 5.0e-05 | 3.6e-05 | 1.2e-05 | 2.7e-04 |
| NY/NJ OCS-A 0541 | 2.9e-06 | 5.0e-07 | 2.0e-07 | 6.5e-07 | 4.0e-06 | 2.4e-05 | 2.7e-05 | 1.8e-05 | 3.0e-05 | 3.4e-05 | 2.3e-05 | 8.0e-06 | 1.7e-04 |
| NY/NJ OCS-A 0542 | 3.1e-06 | 6.4e-07 | 2.8e-07 | 8.4e-07 | 5.1e-06 | 2.8e-05 | 3.3e-05 | 2.1e-05 | 3.6e-05 | 3.8e-05 | 2.5e-05 | 8.3e-06 | 2.0e-04 |
| New Jersey OCS-A 0549 | 1.1e-06 | 8.6e-08 | 4.7e-08 | 2.4e-07 | 1.8e-06 | 9.1e-06 | 1.1e-05 | 9.5e-06 | 1.1e-05 | 1.4e-05 | 9.7e-06 | 5.7e-06 | 7.4e-05 |
| New Jersey OCS-A 0499 | 1.9e-06 | 1.5e-07 | 7.7e-08 | 3.4e-07 | 2.4e-06 | 1.3e-05 | 1.3e-05 | 1.1e-05 | 1.4e-05 | 2.0e-05 | 1.4e-05 | 7.9e-06 | 9.8e-05 |
| New Jersey OCS-A 0498 | 1.3e-06 | 1.0e-07 | 5.2e-08 | 2.2e-07 | 1.6e-06 | 8.8e-06 | 8.6e-06 | 7.3e-06 | 9.5e-06 | 1.3e-05 | 9.3e-06 | 5.3e-06 | 6.5e-05 |
| New Jersey OCS-A 0532 | 1.1e-06 | 7.6e-08 | 4.8e-08 | 2.3e-07 | 1.6e-06 | 8.2e-06 | 9.0e-06 | 7.7e-06 | 1.0e-05 | 1.2e-05 | 8.9e-06 | 5.2e-06 | 6.4e-05 |
| Delaware OCS-A 0482 | 1.0e-06 | 9.1e-08 | 4.9e-08 | 2.0e-07 | 1.2e-06 | 7.0e-06 | 6.4e-06 | 5.9e-06 | 7.1e-06 | 1.2e-05 | 7.3e-06 | 3.9e-06 | 5.2e-05 |
| Delaware OCS-A 0519 | 5.0e-07 | 5.2e-08 | 2.4e-08 | 8.4e-08 | 5.2e-07 | 3.0e-06 | 2.6e-06 | 2.4e-06 | 3.0e-06 | 5.0e-06 | 3.1e-06 | 1.6e-06 | 2.2e-05 |
| Maryland OCS-A 0490 | 1.5e-06 | 1.8e-07 | 8.4e-08 | 2.6e-07 | 1.6e-06 | 9.4e-06 | 7.8e-06 | 7.0e-06 | 8.7e-06 | 1.5e-05 | 8.8e-06 | 4.5e-06 | 6.5e-05 |
| Central Atlantic Call Area A | 9.0e-06 | 1.5e-06 | 5.8e-07 | 1.6e-06 | 9.1e-06 | 5.5e-05 | 4.1e-05 | 3.6e-05 | 5.5e-05 | 8.3e-05 | 5.0e-05 | 2.2e-05 | 3.6e-04 |
| Central Atlantic Draft WEA Primary A | 1.5e-06 | 2.1e-07 | 8.4e-08 | 2.5e-07 | 1.5e-06 | 9.0e-06 | 7.0e-06 | 6.3e-06 | 9.2e-06 | 1.4e-05 | 8.6e-06 | 3.8e-06 | 6.1e-05 |
| Central Atlantic Draft WEA Secondary A | 4.5e-06 | 7.0e-07 | 2.8e-07 | 7.8e-07 | 4.6e-06 | 2.8e-05 | 2.1e-05 | 1.9e-05 | 2.8e-05 | 4.2e-05 | 2.6e-05 | 1.1e-05 | 1.9e-04 |
| Central Atlantic Call Area B | 3.2e-05 | 8.5e-06 | 3.8e-06 | 6.7e-06 | 3.2e-05 | 2.1e-04 | 1.3e-04 | 1.1e-04 | 1.8e-04 | 3.4e-04 | 1.7e-04 | 8.0e-05 | 1.3e-03 |
| Central Atlantic Draft WEA Primary B1 | 5.2e-07 | 8.4e-08 | 3.6e-08 | 8.9e-08 | 4.9e-07 | 3.2e-06 | 1.6e-06 | 1.6e-06 | 2.6e-06 | 5.3e-06 | 2.9e-06 | 1.4e-06 | 2.0e-05 |
| Central Atlantic Draft WEA Secondary B1 | 2.6e-07 | 4.5e-08 | 1.8e-08 | 4.3e-08 | 2.3e-07 | 1.5e-06 | 8.4e-07 | 7.8e-07 | 1.3e-06 | 2.6e-06 | 1.4e-06 | 6.6e-07 | 9.6e-06 |
| Central Atlantic Draft WEA Primary B2 | 9.3e-06 | 2.7e-06 | 1.2e-06 | 2.0e-06 | 9.3e-06 | 6.1e-05 | 3.9e-05 | 3.4e-05 | 5.3e-05 | 1.0e-04 | 4.9e-05 | 2.3e-05 | 3.9e-04 |
| Central Atlantic Draft WEA Secondary B2 | 5.0e-06 | 1.5e-06 | 6.9e-07 | 1.1e-06 | 5.3e-06 | 3.4e-05 | 2.2e-05 | 1.9e-05 | 3.0e-05 | 5.6e-05 | 2.7e-05 | 1.3e-05 | 2.1e-04 |
| Central Atlantic Call Area C | 7.3e-06 | 2.3e-06 | 1.2e-06 | 1.9e-06 | 8.4e-06 | 5.8e-05 | 3.2e-05 | 2.7e-05 | 4.4e-05 | 8.9e-05 | 4.5e-05 | 2.0e-05 | 3.4e-04 |
| Central Atlantic Draft WEA Primary C | 3.7e-06 | 1.2e-06 | 5.8e-07 | 9.1e-07 | 4.1e-06 | 2.8e-05 | 1.6e-05 | 1.3e-05 | 2.1e-05 | 4.4e-05 | 2.2e-05 | 1.0e-05 | 1.7e-04 |
| Central Atlantic Draft WEA Secondary C | 2.9e-06 | 9.0e-07 | 4.8e-07 | 7.5e-07 | 3.3e-06 | 2.3e-05 | 1.3e-05 | 1.1e-05 | 1.8e-05 | 3.5e-05 | 1.8e-05 | 7.6e-06 | 1.3e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.1e-05 | 4.2e-06 | 2.4e-06 | 3.6e-06 | 1.7e-05 | 9.9e-05 | 5.0e-05 | 5.0e-05 | 8.6e-05 | 1.7e-04 | 9.1e-05 | 3.6e-05 | 6.2e-04 |
| Central Atlantic Draft WEA Primary D | 2.8e-06 | 1.1e-06 | 5.2e-07 | 7.7e-07 | 3.8e-06 | 2.4e-05 | 1.1e-05 | 1.1e-05 | 1.9e-05 | 4.1e-05 | 2.1e-05 | 9.2e-06 | 1.5e-04 |
| Central Atlantic Draft WEA Secondary D | 3.1e-07 | 9.7e-08 | 4.5e-08 | 6.8e-08 | 3.4e-07 | 2.2e-06 | 1.0e-06 | 1.0e-06 | 1.7e-06 | 3.9e-06 | 2.1e-06 | 9.4e-07 | 1.4e-05 |
| Central Atlantic Call Area E | 4.7e-06 | 1.7e-06 | 1.4e-06 | 4.9e-06 | 2.7e-05 | 1.6e-04 | 1.3e-04 | 6.1e-05 | 8.6e-05 | 1.5e-04 | 7.5e-05 | 2.2e-05 | 7.3e-04 |
| Central Atlantic Draft WEA Primary E1 | 1.0e-06 | 3.9e-07 | 2.7e-07 | 1.3e-06 | 6.7e-06 | 4.3e-05 | 3.6e-05 | 1.7e-05 | 2.3e-05 | 3.9e-05 | 1.7e-05 | 5.0e-06 | 1.9e-04 |
| Central Atlantic Draft WEA Primary E2 | 5.1e-07 | 2.4e-07 | 2.1e-07 | 7.7e-07 | 4.8e-06 | 2.8e-05 | 2.3e-05 | 1.2e-05 | 1.7e-05 | 2.7e-05 | 1.4e-05 | 3.4e-06 | 1.3e-04 |
| Central Atlantic Call Area F | 3.6e-06 | 1.1e-06 | 8.2e-07 | 2.8e-06 | 1.9e-05 | 6.9e-05 | 6.0e-05 | 5.0e-05 | 8.7e-05 | 8.8e-05 | 5.9e-05 | 1.6e-05 | 4.6e-04 |
| Central Atlantic Draft WEA Primary F | 1.7e-07 | 6.1e-08 | 5.2e-08 | 2.1e-07 | 1.3e-06 | 4.6e-06 | 4.6e-06 | 3.4e-06 | 6.4e-06 | 5.6e-06 | 3.9e-06 | 1.0e-06 | 3.1e-05 |
| Virginia OCS-A 0483 | 1.5e-06 | 3.5e-07 | 1.6e-07 | 2.7e-07 | 1.4e-06 | 1.0e-05 | 5.4e-06 | 4.9e-06 | 7.3e-06 | 1.7e-05 | 8.8e-06 | 4.0e-06 | 6.2e-05 |
| Virginia OCS-A 0497 | 2.4e-08 | 4.4e-09 | 2.3e-09 | 4.6e-09 | 2.6e-08 | 1.5e-07 | 8.6e-08 | 8.0e-08 | 1.1e-07 | 2.6e-07 | 1.5e-07 | 6.4e-08 | 9.6e-07 |
| North Carolina OCS-A 0508 | 1.8e-06 | 7.3e-07 | 3.7e-07 | 5.2e-07 | 2.7e-06 | 1.4e-05 | 7.3e-06 | 7.2e-06 | 1.3e-05 | 2.6e-05 | 1.5e-05 | 5.7e-06 | 9.4e-05 |
| North Carolina OCS-A 0545 | 2.1e-07 | 5.0e-08 | 2.3e-08 | 4.8e-08 | 2.7e-07 | 5.6e-07 | 7.5e-07 | 6.3e-07 | 1.0e-06 | 1.1e-06 | 2.3e-06 | 8.4e-07 | 7.8e-06 |
| North Carolina OCS-A 0546 | 2.2e-07 | 5.1e-08 | 2.3e-08 | 5.5e-08 | 3.2e-07 | 7.0e-07 | 1.1e-06 | 7.2e-07 | 1.1e-06 | 1.2e-06 | 2.4e-06 | 9.1e-07 | 8.7e-06 |
| South Carolina Call Area - Grand Strand | 1.2e-06 | 3.1e-07 | 1.2e-07 | 2.1e-07 | 1.2e-06 | 2.5e-06 | 2.7e-06 | 3.4e-06 | 4.3e-06 | 6.7e-06 | 1.3e-05 | 4.6e-06 | 4.0e-05 |
| South Carolina Call Area - Cape Romain | 2.4e-07 | 5.6e-08 | 2.1e-08 | 3.9e-08 | 2.0e-07 | 4.7e-07 | 5.9e-07 | 5.5e-07 | 6.5e-07 | 1.1e-06 | 2.3e-06 | 8.7e-07 | 7.1e-06 |
| South Carolina Call Area - Winyah | 2.7e-07 | 6.4e-08 | 3.6e-08 | 9.0e-08 | 3.3e-07 | 8.5e-07 | 1.0e-06 | 7.3e-07 | 1.3e-06 | 1.1e-06 | 1.0e-06 | 6.3e-07 | 7.4e-06 |
| South Carolina Call Area - Charleston | 1.4e-07 | 2.9e-08 | 1.4e-08 | 3.4e-08 | 1.5e-07 | 3.5e-07 | 3.4e-07 | 2.9e-07 | 6.3e-07 | 7.3e-07 | 1.1e-06 | 6.2e-07 | 4.4e-06 |
| All planning areas | 2.7e-04 | 5.4e-05 | 2.7e-05 | 1.5e-04 | 3.1e-03 | 2.1e-02 | 2.6e-02 | 2.9e-02 | 2.1e-02 | 2.7e-02 | 1.0e-02 | 2.0e-03 | 1.4e-01 |
| All lease areas | 5.7e-05 | 8.4e-06 | 3.8e-06 | 1.5e-05 | 1.4e-04 | 8.6e-04 | 1.5e-03 | 1.2e-03 | 1.1e-03 | 1.1e-03 | 7.7e-04 | 2.5e-04 | 7.0e-03 |
| All planning and lease areas | 3.3e-04 | 6.2e-05 | 3.1e-05 | 1.7e-04 | 3.3e-03 | 2.2e-02 | 2.8e-02 | 3.0e-02 | 2.3e-02 | 2.8e-02 | 1.1e-02 | 2.2e-03 | 1.5e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-45. Predicted proportional abundance of Manx Shearwater by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 4.5e-04 | 1.5e-04 | 1.7e-04 | 4.9e-04 | 2.1e-03 | 5.3e-03 | 7.7e-03 | 6.5e-03 | 1.1e-02 | 1.7e-02 | 7.8e-03 | 2.1e-03 | 6.0e-02 |
| Gulf of Maine Request for Competitive Interest | 1.6e-06 | 5.3e-07 | 7.6e-07 | 1.9e-06 | 1.0e-05 | 2.7e-05 | 3.2e-05 | 2.8e-05 | 5.8e-05 | 9.3e-05 | 3.9e-05 | 1.2e-05 | 3.0e-04 |
| Marine Research Array Requested Lease | 2.2e-07 | 7.3e-08 | 1.0e-07 | 2.7e-07 | 1.4e-06 | 3.7e-06 | 4.6e-06 | 4.1e-06 | 8.1e-06 | 1.3e-05 | 5.3e-06 | 1.7e-06 | 4.3e-05 |
| Rhode Island OCS-A 0506 | 1.9e-08 | 4.4e-09 | 3.7e-09 | 1.4e-08 | 4.8e-08 | 9.5e-08 | 2.9e-08 | 2.3e-08 | 5.0e-08 | 1.7e-07 | 1.2e-07 | 6.6e-08 | 6.4e-07 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.4e-05 | 3.0e-06 | 1.8e-06 | 5.9e-06 | 1.8e-05 | 3.8e-05 | 1.3e-05 | 1.0e-05 | 2.1e-05 | 8.9e-05 | 7.1e-05 | 4.3e-05 | 3.3e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.5e-06 | 5.2e-07 | 3.0e-07 | 1.1e-06 | 3.3e-06 | 6.5e-06 | 1.9e-06 | 1.4e-06 | 2.9e-06 | 1.4e-05 | 1.2e-05 | 7.3e-06 | 5.3e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 2.1e-05 | 4.6e-06 | 3.1e-06 | 8.7e-06 | 2.6e-05 | 6.9e-05 | 2.1e-05 | 1.4e-05 | 2.9e-05 | 1.4e-04 | 1.2e-04 | 5.9e-05 | 5.1e-04 |
| Massachusetts OCS-A 0500 | 1.9e-05 | 4.8e-06 | 3.7e-06 | 1.0e-05 | 3.2e-05 | 9.2e-05 | 3.0e-05 | 2.2e-05 | 4.0e-05 | 1.8e-04 | 1.4e-04 | 5.9e-05 | 6.4e-04 |
| Massachusetts OCS-A 0501 | 7.1e-06 | 1.6e-06 | 1.5e-06 | 4.1e-06 | 1.2e-05 | 3.1e-05 | 1.3e-05 | 9.4e-06 | 1.9e-05 | 8.7e-05 | 6.0e-05 | 2.7e-05 | 2.7e-04 |
| Massachusetts OCS-A 0534 | 1.2e-05 | 2.9e-06 | 2.6e-06 | 6.1e-06 | 2.1e-05 | 5.8e-05 | 2.0e-05 | 1.4e-05 | 2.7e-05 | 1.2e-04 | 9.2e-05 | 3.7e-05 | 4.2e-04 |
| Massachusetts OCS-A 0520 | 1.5e-05 | 3.4e-06 | 3.0e-06 | 7.1e-06 | 2.4e-05 | 6.5e-05 | 2.8e-05 | 1.9e-05 | 3.8e-05 | 1.7e-04 | 1.2e-04 | 5.1e-05 | 5.4e-04 |
| Massachusetts OCS-A 0521 | 1.4e-05 | 3.3e-06 | 2.9e-06 | 6.8e-06 | 2.3e-05 | 6.4e-05 | 3.1e-05 | 2.1e-05 | 4.3e-05 | 1.7e-04 | 1.2e-04 | 5.4e-05 | 5.5e-04 |
| Massachusetts OCS-A 0522 | 1.5e-05 | 3.6e-06 | 3.0e-06 | 7.4e-06 | 2.3e-05 | 7.1e-05 | 4.1e-05 | 2.6e-05 | 4.7e-05 | 1.8e-04 | 1.3e-04 | 6.0e-05 | 6.1e-04 |
| New York WEA - Fairways North | 2.2e-05 | 4.8e-06 | 2.5e-06 | 6.5e-06 | 2.1e-05 | 4.5e-05 | 1.2e-05 | 1.0e-05 | 2.0e-05 | 1.0e-04 | 1.0e-04 | 4.9e-05 | 4.0e-04 |
| New York WEA - Fairways South | 5.8e-06 | 1.2e-06 | 6.3e-07 | 1.9e-06 | 5.6e-06 | 1.0e-05 | 2.5e-06 | 2.7e-06 | 4.6e-06 | 2.3e-05 | 2.5e-05 | 1.4e-05 | 9.7e-05 |
| New York OCS-A 0512 | 2.0e-05 | 4.1e-06 | 2.5e-06 | 7.6e-06 | 2.1e-05 | 3.0e-05 | 8.0e-06 | 7.6e-06 | 1.5e-05 | 7.4e-05 | 9.8e-05 | 5.5e-05 | 3.4e-04 |
| NY/NJ OCS-A 0544 | 1.2e-05 | 3.0e-06 | 1.5e-06 | 3.6e-06 | 1.1e-05 | 1.9e-05 | 4.9e-06 | 4.9e-06 | 8.8e-06 | 4.2e-05 | 5.4e-05 | 2.7e-05 | 1.9e-04 |
| NY/NJ OCS-A 0537 | 1.5e-05 | 6.3e-06 | 4.0e-06 | 5.8e-06 | 1.8e-05 | 4.2e-05 | 1.1e-05 | 9.6e-06 | 1.5e-05 | 6.7e-05 | 8.4e-05 | 3.6e-05 | 3.1e-04 |
| NY/NJ OCS-A 0538 | 2.9e-05 | 1.1e-05 | 8.2e-06 | 1.2e-05 | 2.8e-05 | 4.8e-05 | 1.2e-05 | 1.2e-05 | 2.3e-05 | 1.1e-04 | 1.3e-04 | 5.8e-05 | 4.9e-04 |
| NY/NJ OCS-A 0539 | 4.5e-05 | 1.6e-05 | 1.1e-05 | 1.8e-05 | 3.7e-05 | 6.1e-05 | 1.5e-05 | 1.4e-05 | 2.7e-05 | 1.5e-04 | 1.9e-04 | 9.3e-05 | 6.8e-04 |
| NY/NJ OCS-A 0541 | 2.3e-05 | 8.6e-06 | 6.2e-06 | 1.0e-05 | 2.4e-05 | 3.0e-05 | 7.3e-06 | 6.8e-06 | 1.4e-05 | 7.2e-05 | 1.0e-04 | 5.0e-05 | 3.5e-04 |
| NY/NJ OCS-A 0542 | 2.6e-05 | 1.0e-05 | 7.4e-06 | 1.1e-05 | 2.4e-05 | 3.8e-05 | 1.0e-05 | 9.2e-06 | 1.6e-05 | 7.9e-05 | 1.2e-04 | 5.6e-05 | 4.0e-04 |
| New Jersey OCS-A 0549 | 1.1e-05 | 2.9e-06 | 3.7e-06 | 1.3e-05 | 2.5e-05 | 1.6e-05 | 4.6e-06 | 4.8e-06 | 1.2e-05 | 5.3e-05 | 7.7e-05 | 3.9e-05 | 2.6e-04 |
| New Jersey OCS-A 0499 | 1.9e-05 | 4.8e-06 | 5.3e-06 | 1.6e-05 | 3.2e-05 | 2.1e-05 | 5.5e-06 | 5.6e-06 | 1.4e-05 | 6.8e-05 | 1.1e-04 | 5.5e-05 | 3.5e-04 |
| New Jersey OCS-A 0498 | 1.3e-05 | 3.3e-06 | 3.6e-06 | 1.1e-05 | 2.3e-05 | 1.4e-05 | 4.0e-06 | 4.2e-06 | 9.2e-06 | 4.3e-05 | 7.1e-05 | 3.5e-05 | 2.4e-04 |
| New Jersey OCS-A 0532 | 1.0e-05 | 2.8e-06 | 3.9e-06 | 1.4e-05 | 2.8e-05 | 1.4e-05 | 4.5e-06 | 5.1e-06 | 1.1e-05 | 4.6e-05 | 7.0e-05 | 3.3e-05 | 2.4e-04 |
| Delaware OCS-A 0482 | 1.3e-05 | 3.4e-06 | 4.3e-06 | 1.2e-05 | 2.3e-05 | 1.2e-05 | 3.5e-06 | 3.9e-06 | 9.3e-06 | 4.0e-05 | 7.5e-05 | 3.9e-05 | 2.4e-04 |
| Delaware OCS-A 0519 | 6.7e-06 | 1.8e-06 | 1.9e-06 | 4.6e-06 | 9.5e-06 | 5.0e-06 | 1.3e-06 | 1.4e-06 | 3.4e-06 | 1.5e-05 | 3.1e-05 | 1.7e-05 | 9.9e-05 |
| Maryland OCS-A 0490 | 2.1e-05 | 6.6e-06 | 6.7e-06 | 1.6e-05 | 3.2e-05 | 1.4e-05 | 4.0e-06 | 4.6e-06 | 1.2e-05 | 4.9e-05 | 1.0e-04 | 5.4e-05 | 3.2e-04 |
| Central Atlantic Call Area A | 9.2e-05 | 3.3e-05 | 2.5e-05 | 4.6e-05 | 1.1e-04 | 6.7e-05 | 1.7e-05 | 1.6e-05 | 3.5e-05 | 1.7e-04 | 3.3e-04 | 1.8e-04 | 1.1e-03 |
| Central Atlantic Draft WEA Primary A | 1.5e-05 | 4.9e-06 | 3.9e-06 | 7.8e-06 | 1.9e-05 | 1.1e-05 | 2.7e-06 | 2.5e-06 | 6.0e-06 | 2.9e-05 | 5.8e-05 | 3.1e-05 | 1.9e-04 |
| Central Atlantic Draft WEA Secondary A | 4.5e-05 | 1.6e-05 | 1.2e-05 | 2.3e-05 | 5.4e-05 | 3.4e-05 | 8.3e-06 | 7.5e-06 | 1.7e-05 | 8.3e-05 | 1.6e-04 | 8.7e-05 | 5.5e-04 |
| Central Atlantic Call Area B | 4.3e-04 | 2.1e-04 | 1.4e-04 | 2.1e-04 | 4.7e-04 | 2.3e-04 | 7.8e-05 | 7.7e-05 | 1.4e-04 | 5.3e-04 | 1.3e-03 | 8.0e-04 | 4.7e-03 |
| Central Atlantic Draft WEA Primary B1 | 8.2e-06 | 2.7e-06 | 2.2e-06 | 4.5e-06 | 1.0e-05 | 4.4e-06 | 1.0e-06 | 1.1e-06 | 3.1e-06 | 1.2e-05 | 3.1e-05 | 1.6e-05 | 9.8e-05 |
| Central Atlantic Draft WEA Secondary B1 | 4.0e-06 | 1.4e-06 | 1.0e-06 | 2.0e-06 | 4.7e-06 | 2.2e-06 | 5.4e-07 | 6.1e-07 | 1.4e-06 | 5.8e-06 | 1.5e-05 | 7.7e-06 | 4.6e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.4e-04 | 7.1e-05 | 4.6e-05 | 6.4e-05 | 1.4e-04 | 6.5e-05 | 2.5e-05 | 2.4e-05 | 4.5e-05 | 1.5e-04 | 4.1e-04 | 2.5e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Secondary B2 | 6.2e-05 | 3.4e-05 | 2.3e-05 | 3.0e-05 | 6.7e-05 | 3.3e-05 | 1.2e-05 | 1.2e-05 | 2.1e-05 | 7.2e-05 | 1.8e-04 | 1.2e-04 | 6.7e-04 |
| Central Atlantic Call Area C | 2.0e-04 | 1.1e-04 | 7.9e-05 | 9.4e-05 | 1.9e-04 | 7.2e-05 | 2.5e-05 | 2.5e-05 | 6.1e-05 | 1.8e-04 | 5.1e-04 | 3.3e-04 | 1.9e-03 |
| Central Atlantic Draft WEA Primary C | 1.0e-04 | 5.5e-05 | 3.8e-05 | 4.7e-05 | 9.6e-05 | 3.5e-05 | 1.2e-05 | 1.2e-05 | 3.0e-05 | 9.2e-05 | 2.6e-04 | 1.7e-04 | 9.5e-04 |
| Central Atlantic Draft WEA Secondary C | 8.0e-05 | 4.6e-05 | 3.3e-05 | 3.8e-05 | 7.7e-05 | 3.0e-05 | 1.0e-05 | 1.0e-05 | 2.5e-05 | 7.1e-05 | 2.0e-04 | 1.3e-04 | 7.6e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 6.1e-04 | 3.5e-04 | 2.7e-04 | 3.0e-04 | 4.4e-04 | 1.6e-04 | 5.2e-05 | 5.3e-05 | 1.4e-04 | 4.0e-04 | 1.2e-03 | 9.9e-04 | 4.9e-03 |
| Central Atlantic Draft WEA Primary D | 1.7e-04 | 9.1e-05 | 6.3e-05 | 7.8e-05 | 1.2e-04 | 4.2e-05 | 1.3e-05 | 1.3e-05 | 3.5e-05 | 1.1e-04 | 3.4e-04 | 2.7e-04 | 1.4e-03 |
| Central Atlantic Draft WEA Secondary D | 1.5e-05 | 7.3e-06 | 5.1e-06 | 7.0e-06 | 1.2e-05 | 3.6e-06 | 1.0e-06 | 1.1e-06 | 3.4e-06 | 1.1e-05 | 3.6e-05 | 2.6e-05 | 1.3e-04 |
| Central Atlantic Call Area E | 5.4e-04 | 4.9e-04 | 8.0e-04 | 1.4e-03 | 1.6e-03 | 7.5e-04 | 3.9e-04 | 3.0e-04 | 5.8e-04 | 1.4e-03 | 2.6e-03 | 1.3e-03 | 1.2e-02 |
| Central Atlantic Draft WEA Primary E1 | 1.2e-04 | 1.1e-04 | 1.8e-04 | 3.6e-04 | 3.9e-04 | 2.2e-04 | 1.1e-04 | 7.9e-05 | 1.6e-04 | 3.6e-04 | 6.3e-04 | 3.0e-04 | 3.0e-03 |
| Central Atlantic Draft WEA Primary E2 | 1.1e-04 | 1.2e-04 | 1.9e-04 | 2.8e-04 | 3.1e-04 | 1.3e-04 | 7.6e-05 | 6.0e-05 | 1.2e-04 | 2.7e-04 | 4.6e-04 | 2.9e-04 | 2.4e-03 |
| Central Atlantic Call Area F | 3.2e-04 | 3.3e-04 | 3.7e-04 | 4.0e-04 | 3.8e-04 | 1.7e-04 | 8.9e-05 | 7.0e-05 | 1.3e-04 | 2.6e-04 | 4.3e-04 | 4.4e-04 | 3.4e-03 |
| Central Atlantic Draft WEA Primary F | 8.7e-06 | 1.3e-05 | 1.4e-05 | 1.3e-05 | 1.1e-05 | 4.9e-06 | 2.9e-06 | 2.2e-06 | 4.3e-06 | 6.3e-06 | 8.2e-06 | 8.8e-06 | 9.7e-05 |
| Virginia OCS-A 0483 | 4.8e-05 | 2.1e-05 | 1.7e-05 | 2.9e-05 | 4.9e-05 | 1.2e-05 | 4.0e-06 | 4.2e-06 | 1.5e-05 | 5.0e-05 | 1.7e-04 | 9.2e-05 | 5.1e-04 |
| Virginia OCS-A 0497 | 9.4e-07 | 3.8e-07 | 3.7e-07 | 6.5e-07 | 9.0e-07 | 1.7e-07 | 7.1e-08 | 9.5e-08 | 3.5e-07 | 1.1e-06 | 3.8e-06 | 1.8e-06 | 1.1e-05 |
| North Carolina OCS-A 0508 | 9.6e-05 | 5.3e-05 | 3.7e-05 | 4.5e-05 | 6.1e-05 | 1.9e-05 | 5.8e-06 | 6.0e-06 | 1.7e-05 | 5.5e-05 | 1.7e-04 | 1.5e-04 | 7.1e-04 |
| North Carolina OCS-A 0545 | 2.4e-05 | 1.7e-05 | 1.2e-05 | 6.3e-06 | 2.6e-06 | 1.4e-06 | 9.5e-07 | 9.7e-07 | 2.0e-06 | 5.8e-06 | 1.2e-05 | 1.9e-05 | 1.0e-04 |
| North Carolina OCS-A 0546 | 2.2e-05 | 1.7e-05 | 1.2e-05 | 6.2e-06 | 2.8e-06 | 1.5e-06 | 1.0e-06 | 1.1e-06 | 2.1e-06 | 5.5e-06 | 1.1e-05 | 1.8e-05 | 1.0e-04 |
| South Carolina Call Area - Grand Strand | 1.5e-04 | 1.1e-04 | 9.3e-05 | 4.2e-05 | 2.1e-05 | 9.7e-06 | 6.5e-06 | 7.9e-06 | 1.9e-05 | 5.1e-05 | 1.3e-04 | 1.7e-04 | 8.1e-04 |
| South Carolina Call Area - Cape Romain | 3.8e-05 | 2.6e-05 | 2.2e-05 | 9.4e-06 | 4.9e-06 | 2.2e-06 | 1.5e-06 | 1.9e-06 | 4.5e-06 | 1.3e-05 | 3.6e-05 | 4.5e-05 | 2.0e-04 |
| South Carolina Call Area - Winyah | 6.7e-06 | 7.3e-06 | 4.8e-06 | 2.9e-06 | 2.0e-06 | 9.3e-07 | 6.3e-07 | 7.3e-07 | 1.4e-06 | 2.6e-06 | 4.2e-06 | 5.1e-06 | 3.9e-05 |
| South Carolina Call Area - Charleston | 8.2e-06 | 7.3e-06 | 4.7e-06 | 2.2e-06 | 1.2e-06 | 5.9e-07 | 3.5e-07 | 4.2e-07 | 1.1e-06 | 2.6e-06 | 4.4e-06 | 6.0e-06 | 3.9e-05 |
| All planning areas | 2.9e-03 | 1.8e-03 | 2.0e-03 | 2.9e-03 | 5.3e-03 | 6.9e-03 | 8.5e-03 | 7.1e-03 | 1.2e-02 | 2.0e-02 | 1.4e-02 | 6.5e-03 | 9.0e-02 |
| All lease areas | 5.7e-04 | 2.2e-04 | 1.7e-04 | 3.0e-04 | 6.3e-04 | 8.9e-04 | 3.1e-04 | 2.4e-04 | 4.9e-04 | 2.2e-03 | 2.5e-03 | 1.3e-03 | 9.9e-03 |
| All planning and lease areas | 3.4e-03 | 2.1e-03 | 2.2e-03 | 3.2e-03 | 6.0e-03 | 7.8e-03 | 8.8e-03 | 7.3e-03 | 1.2e-02 | 2.2e-02 | 1.7e-02 | 7.8e-03 | 1.0e-01 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-46. Predicted proportional abundance of Audubon's Shearwater by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 1.1e-08 | 1.7e-08 | 8.5e-08 | 7.0e-07 | 5.6e-06 | 8.8e-05 | 8.4e-05 | 2.0e-04 | 3.1e-04 | 2.8e-04 | 2.6e-05 | 6.1e-07 | 9.9e-04 |
| Gulf of Maine Request for Competitive Interest | 1.3e-10 | 1.6e-10 | 7.5e-10 | 2.4e-09 | 2.0e-08 | 3.3e-07 | 2.7e-07 | 8.5e-07 | 1.3e-06 | 1.8e-06 | 1.5e-07 | 3.6e-09 | 4.7e-06 |
| Marine Research Array Requested Lease | 2.0e-11 | 2.4e-11 | 1.0e-10 | 3.1e-10 | 2.5e-09 | 4.3e-08 | 3.9e-08 | 1.2e-07 | 1.8e-07 | 2.5e-07 | 2.1e-08 | 5.6e-10 | 6.5e-07 |
| Rhode Island OCS-A 0506 | 1.9e-11 | 2.7e-12 | 1.8e-12 | 1.8e-12 | 5.4e-11 | 3.6e-10 | 3.0e-10 | 1.6e-09 | 2.2e-09 | 1.5e-09 | 1.6e-09 | 1.8e-10 | 7.8e-09 |
| Rhode Island / Massachusetts OCS-A 0486 | 5.3e-09 | 2.2e-09 | 2.2e-09 | 3.1e-09 | 5.6e-08 | 3.5e-07 | 2.3e-07 | 1.1e-06 | 1.8e-06 | 1.5e-06 | 9.2e-07 | 7.5e-08 | 6.1e-06 |
| Rhode Island / Massachusetts OCS-A 0517 | 8.1e-10 | 4.0e-10 | 4.2e-10 | 5.1e-10 | 9.4e-09 | 5.4e-08 | 3.4e-08 | 2.0e-07 | 3.6e-07 | 3.1e-07 | 2.0e-07 | 1.5e-08 | 1.2e-06 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.0e-09 | 3.1e-09 | 4.1e-09 | 8.2e-09 | 1.2e-07 | 7.9e-07 | 5.4e-07 | 2.7e-06 | 5.3e-06 | 3.8e-06 | 1.8e-06 | 1.5e-07 | 1.5e-05 |
| Massachusetts OCS-A 0500 | 4.1e-09 | 3.2e-09 | 5.2e-09 | 1.6e-08 | 2.1e-07 | 1.6e-06 | 1.1e-06 | 3.9e-06 | 7.3e-06 | 5.2e-06 | 1.9e-06 | 1.5e-07 | 2.1e-05 |
| Massachusetts OCS-A 0501 | 1.2e-09 | 9.4e-10 | 2.0e-09 | 8.0e-09 | 8.4e-08 | 7.5e-07 | 5.7e-07 | 1.6e-06 | 2.6e-06 | 2.2e-06 | 6.9e-07 | 5.0e-08 | 8.5e-06 |
| Massachusetts OCS-A 0534 | 2.0e-09 | 2.0e-09 | 3.3e-09 | 1.4e-08 | 1.7e-07 | 1.4e-06 | 9.3e-07 | 2.9e-06 | 5.7e-06 | 3.8e-06 | 1.3e-06 | 1.0e-07 | 1.6e-05 |
| Massachusetts OCS-A 0520 | 2.1e-09 | 2.0e-09 | 3.7e-09 | 1.8e-08 | 1.9e-07 | 1.8e-06 | 1.3e-06 | 3.8e-06 | 7.5e-06 | 4.8e-06 | 1.5e-06 | 1.1e-07 | 2.1e-05 |
| Massachusetts OCS-A 0521 | 1.8e-09 | 1.7e-09 | 3.6e-09 | 1.8e-08 | 1.7e-07 | 1.8e-06 | 1.5e-06 | 4.0e-06 | 8.0e-06 | 4.9e-06 | 1.4e-06 | 1.0e-07 | 2.2e-05 |
| Massachusetts OCS-A 0522 | 1.6e-09 | 1.7e-09 | 3.7e-09 | 1.9e-08 | 1.5e-07 | 1.9e-06 | 1.6e-06 | 4.2e-06 | 8.1e-06 | 5.4e-06 | 1.4e-06 | 9.5e-08 | 2.3e-05 |
| New York WEA - Fairways North | 1.0e-08 | 6.5e-09 | 4.6e-09 | 3.7e-09 | 3.5e-08 | 1.8e-07 | 7.4e-07 | 2.9e-06 | 5.0e-06 | 2.6e-06 | 1.7e-06 | 1.5e-07 | 1.3e-05 |
| New York WEA - Fairways South | 5.2e-09 | 1.8e-09 | 1.1e-09 | 1.1e-09 | 1.2e-08 | 4.5e-08 | 2.1e-07 | 8.4e-07 | 1.0e-06 | 5.3e-07 | 5.2e-07 | 5.1e-08 | 3.2e-06 |
| New York OCS-A 0512 | 1.1e-08 | 5.0e-09 | 3.8e-09 | 4.1e-09 | 3.8e-08 | 9.4e-08 | 6.1e-07 | 2.4e-06 | 2.6e-06 | 1.5e-06 | 1.5e-06 | 1.4e-07 | 8.9e-06 |
| NY/NJ OCS-A 0544 | 8.7e-09 | 4.8e-09 | 3.8e-09 | 4.5e-09 | 3.8e-08 | 8.9e-08 | 3.9e-07 | 1.7e-06 | 2.1e-06 | 1.3e-06 | 1.1e-06 | 1.1e-07 | 7.0e-06 |
| NY/NJ OCS-A 0537 | 8.2e-09 | 7.4e-09 | 9.7e-09 | 1.8e-08 | 1.7e-07 | 4.9e-07 | 8.4e-07 | 3.1e-06 | 8.1e-06 | 3.4e-06 | 1.9e-06 | 2.1e-07 | 1.8e-05 |
| NY/NJ OCS-A 0538 | 2.1e-08 | 1.4e-08 | 1.7e-08 | 3.9e-08 | 3.1e-07 | 6.1e-07 | 1.2e-06 | 4.1e-06 | 7.2e-06 | 5.0e-06 | 3.2e-06 | 2.9e-07 | 2.2e-05 |
| NY/NJ OCS-A 0539 | 1.5e-08 | 1.3e-08 | 2.0e-08 | 5.9e-08 | 4.5e-07 | 8.6e-07 | 2.0e-06 | 6.8e-06 | 1.1e-05 | 5.8e-06 | 3.6e-06 | 4.0e-07 | 3.1e-05 |
| NY/NJ OCS-A 0541 | 1.3e-08 | 1.1e-08 | 1.4e-08 | 3.9e-08 | 3.9e-07 | 6.6e-07 | 1.9e-06 | 6.7e-06 | 8.0e-06 | 3.5e-06 | 2.4e-06 | 3.2e-07 | 2.4e-05 |
| NY/NJ OCS-A 0542 | 1.3e-08 | 1.2e-08 | 1.5e-08 | 4.9e-08 | 4.8e-07 | 9.1e-07 | 2.1e-06 | 7.5e-06 | 1.1e-05 | 4.5e-06 | 2.7e-06 | 3.7e-07 | 2.9e-05 |
| New Jersey OCS-A 0549 | 3.5e-09 | 2.0e-09 | 2.3e-09 | 6.1e-09 | 7.0e-08 | 1.3e-07 | 5.5e-07 | 1.8e-06 | 2.0e-06 | 8.3e-07 | 7.2e-07 | 5.8e-08 | 6.2e-06 |
| New Jersey OCS-A 0499 | 7.6e-09 | 4.6e-09 | 5.3e-09 | 1.4e-08 | 1.7e-07 | 3.0e-07 | 1.1e-06 | 3.8e-06 | 3.7e-06 | 1.6e-06 | 1.3e-06 | 1.2e-07 | 1.2e-05 |
| New Jersey OCS-A 0498 | 8.9e-09 | 3.5e-09 | 4.1e-09 | 1.0e-08 | 1.3e-07 | 2.4e-07 | 8.7e-07 | 3.0e-06 | 2.6e-06 | 1.2e-06 | 1.0e-06 | 9.6e-08 | 9.2e-06 |
| New Jersey OCS-A 0532 | 8.3e-09 | 2.6e-09 | 3.5e-09 | 9.5e-09 | 1.2e-07 | 2.5e-07 | 8.2e-07 | 2.8e-06 | 2.4e-06 | 9.8e-07 | 8.8e-07 | 6.9e-08 | 8.4e-06 |
| Delaware OCS-A 0482 | 6.2e-09 | 4.1e-09 | 4.3e-09 | 1.6e-08 | 1.7e-07 | 2.7e-07 | 8.0e-07 | 3.0e-06 | 3.0e-06 | 1.2e-06 | 7.0e-07 | 8.9e-08 | 9.2e-06 |
| Delaware OCS-A 0519 | 4.4e-09 | 2.9e-09 | 2.7e-09 | 8.6e-09 | 8.7e-08 | 1.3e-07 | 3.7e-07 | 1.4e-06 | 1.4e-06 | 5.9e-07 | 3.6e-07 | 5.4e-08 | 4.4e-06 |
| Maryland OCS-A 0490 | 1.6e-08 | 1.1e-08 | 1.1e-08 | 3.7e-08 | 2.7e-07 | 4.2e-07 | 1.2e-06 | 4.5e-06 | 5.1e-06 | 2.0e-06 | 1.2e-06 | 1.8e-07 | 1.5e-05 |
| Central Atlantic Call Area A | 1.1e-07 | 7.8e-08 | 8.4e-08 | 2.3e-07 | 2.7e-06 | 3.6e-06 | 9.3e-06 | 3.0e-05 | 3.2e-05 | 1.5e-05 | 8.3e-06 | 1.5e-06 | 1.0e-04 |
| Central Atlantic Draft WEA Primary A | 1.5e-08 | 1.1e-08 | 1.1e-08 | 3.1e-08 | 3.7e-07 | 5.2e-07 | 1.4e-06 | 4.5e-06 | 4.8e-06 | 2.2e-06 | 1.2e-06 | 2.1e-07 | 1.5e-05 |
| Central Atlantic Draft WEA Secondary A | 5.1e-08 | 3.7e-08 | 3.9e-08 | 1.1e-07 | 1.3e-06 | 1.7e-06 | 4.6e-06 | 1.4e-05 | 1.6e-05 | 7.2e-06 | 3.9e-06 | 6.9e-07 | 5.0e-05 |
| Central Atlantic Call Area B | 9.1e-07 | 6.3e-07 | 6.4e-07 | 1.8e-06 | 9.3e-06 | 1.1e-05 | 3.9e-05 | 1.4e-04 | 1.8e-04 | 7.6e-05 | 3.9e-05 | 9.2e-06 | 5.1e-04 |
| Central Atlantic Draft WEA Primary B1 | 9.1e-09 | 6.7e-09 | 5.8e-09 | 2.1e-08 | 1.0e-07 | 1.3e-07 | 7.2e-07 | 2.5e-06 | 2.6e-06 | 1.0e-06 | 6.3e-07 | 1.2e-07 | 7.9e-06 |
| Central Atlantic Draft WEA Secondary B1 | 4.9e-09 | 3.5e-09 | 3.2e-09 | 1.1e-08 | 6.3e-08 | 8.1e-08 | 3.5e-07 | 1.3e-06 | 1.3e-06 | 5.5e-07 | 3.4e-07 | 6.8e-08 | 4.1e-06 |
| Central Atlantic Draft WEA Primary B2 | 3.6e-07 | 2.4e-07 | 2.4e-07 | 6.4e-07 | 2.8e-06 | 3.1e-06 | 1.3e-05 | 4.8e-05 | 6.1e-05 | 2.6e-05 | 1.3e-05 | 3.4e-06 | 1.7e-04 |
| Central Atlantic Draft WEA Secondary B2 | 1.4e-07 | 9.8e-08 | 1.1e-07 | 3.0e-07 | 1.5e-06 | 1.8e-06 | 5.6e-06 | 2.1e-05 | 2.7e-05 | 1.2e-05 | 5.4e-06 | 1.3e-06 | 7.6e-05 |
| Central Atlantic Call Area C | 5.1e-07 | 3.9e-07 | 4.1e-07 | 9.3e-07 | 2.9e-06 | 3.0e-06 | 1.5e-05 | 4.7e-05 | 6.7e-05 | 2.7e-05 | 1.2e-05 | 3.7e-06 | 1.8e-04 |
| Central Atlantic Draft WEA Primary C | 3.1e-07 | 2.2e-07 | 2.2e-07 | 5.1e-07 | 1.5e-06 | 1.5e-06 | 8.6e-06 | 2.7e-05 | 3.9e-05 | 1.5e-05 | 7.2e-06 | 2.2e-06 | 1.0e-04 |
| Central Atlantic Draft WEA Secondary C | 1.6e-07 | 1.3e-07 | 1.4e-07 | 3.3e-07 | 1.1e-06 | 1.1e-06 | 5.0e-06 | 1.6e-05 | 2.3e-05 | 8.7e-06 | 4.0e-06 | 1.2e-06 | 6.1e-05 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 1.6e-06 | 1.6e-06 | 2.0e-06 | 4.3e-06 | 9.8e-06 | 2.2e-05 | 7.0e-05 | 1.5e-04 | 1.7e-04 | 6.5e-05 | 2.4e-05 | 8.4e-06 | 5.3e-04 |
| Central Atlantic Draft WEA Primary D | 5.0e-07 | 4.2e-07 | 4.8e-07 | 1.0e-06 | 2.2e-06 | 4.9e-06 | 2.1e-05 | 4.3e-05 | 4.7e-05 | 1.9e-05 | 7.3e-06 | 2.9e-06 | 1.5e-04 |
| Central Atlantic Draft WEA Secondary D | 6.0e-08 | 3.6e-08 | 4.0e-08 | 7.2e-08 | 1.6e-07 | 4.3e-07 | 2.2e-06 | 4.4e-06 | 4.8e-06 | 2.1e-06 | 8.2e-07 | 3.6e-07 | 1.5e-05 |
| Central Atlantic Call Area E | 1.5e-06 | 6.6e-06 | 2.3e-05 | 6.2e-05 | 1.6e-04 | 3.4e-04 | 6.6e-04 | 1.2e-03 | 1.2e-03 | 1.9e-04 | 7.6e-05 | 1.1e-05 | 4.0e-03 |
| Central Atlantic Draft WEA Primary E1 | 2.3e-07 | 1.3e-06 | 3.9e-06 | 1.3e-05 | 4.1e-05 | 8.7e-05 | 1.6e-04 | 3.2e-04 | 2.8e-04 | 3.8e-05 | 1.2e-05 | 2.1e-06 | 9.6e-04 |
| Central Atlantic Draft WEA Primary E2 | 3.2e-07 | 2.3e-06 | 8.2e-06 | 1.9e-05 | 4.5e-05 | 9.8e-05 | 1.9e-04 | 3.2e-04 | 3.4e-04 | 5.3e-05 | 2.2e-05 | 3.1e-06 | 1.1e-03 |
| Central Atlantic Call Area F | 4.4e-06 | 1.3e-05 | 2.5e-05 | 5.0e-05 | 1.7e-04 | 5.3e-04 | 6.6e-04 | 1.4e-03 | 2.0e-03 | 4.6e-04 | 1.2e-04 | 3.3e-05 | 5.4e-03 |
| Central Atlantic Draft WEA Primary F | 3.3e-07 | 1.2e-06 | 1.9e-06 | 4.0e-06 | 1.8e-05 | 5.5e-05 | 6.5e-05 | 1.2e-04 | 1.8e-04 | 4.0e-05 | 1.1e-05 | 3.0e-06 | 5.1e-04 |
| Virginia OCS-A 0483 | 1.3e-07 | 7.3e-08 | 4.5e-08 | 8.0e-08 | 1.7e-07 | 5.3e-07 | 4.4e-06 | 1.3e-05 | 1.8e-05 | 6.8e-06 | 3.0e-06 | 9.9e-07 | 4.7e-05 |
| Virginia OCS-A 0497 | 1.1e-09 | 3.9e-10 | 1.5e-10 | 3.5e-10 | 2.0e-09 | 1.3e-08 | 8.2e-08 | 1.9e-07 | 2.6e-07 | 9.5e-08 | 3.6e-08 | 7.0e-09 | 6.9e-07 |
| North Carolina OCS-A 0508 | 3.9e-07 | 4.3e-07 | 4.5e-07 | 1.1e-06 | 2.1e-06 | 5.2e-06 | 1.6e-05 | 3.2e-05 | 3.6e-05 | 1.3e-05 | 4.7e-06 | 1.7e-06 | 1.1e-04 |
| North Carolina OCS-A 0545 | 5.8e-07 | 1.0e-06 | 9.0e-07 | 1.4e-06 | 4.2e-06 | 1.4e-05 | 1.8e-05 | 2.8e-05 | 3.4e-05 | 9.3e-06 | 6.4e-06 | 1.9e-06 | 1.2e-04 |
| North Carolina OCS-A 0546 | 6.6e-07 | 1.1e-06 | 1.1e-06 | 1.8e-06 | 5.3e-06 | 1.8e-05 | 2.4e-05 | 3.5e-05 | 4.2e-05 | 1.1e-05 | 7.6e-06 | 2.4e-06 | 1.5e-04 |
| South Carolina Call Area - Grand Strand | 2.6e-06 | 3.2e-06 | 2.6e-06 | 2.4e-06 | 7.7e-06 | 2.9e-05 | 3.6e-05 | 6.0e-05 | 8.7e-05 | 3.0e-05 | 1.9e-05 | 5.0e-06 | 2.8e-04 |
| South Carolina Call Area - Cape Romain | 5.3e-07 | 6.2e-07 | 4.8e-07 | 5.0e-07 | 1.7e-06 | 6.8e-06 | 7.9e-06 | 1.3e-05 | 1.6e-05 | 5.8e-06 | 3.8e-06 | 1.1e-06 | 5.8e-05 |
| South Carolina Call Area - Winyah | 8.2e-07 | 1.3e-06 | 1.7e-06 | 3.1e-06 | 1.0e-05 | 2.9e-05 | 3.0e-05 | 3.6e-05 | 4.5e-05 | 9.0e-06 | 7.2e-06 | 2.9e-06 | 1.8e-04 |
| South Carolina Call Area - Charleston | 4.5e-07 | 7.5e-07 | 6.6e-07 | 1.0e-06 | 3.1e-06 | 1.1e-05 | 1.2e-05 | 1.7e-05 | 2.1e-05 | 5.2e-06 | 3.3e-06 | 1.5e-06 | 7.7e-05 |
| All planning areas | 1.3e-05 | 2.8e-05 | 5.6e-05 | 1.3e-04 | 3.8e-04 | 1.1e-03 | 1.6e-03 | 3.3e-03 | 4.1e-03 | 1.2e-03 | 3.4e-04 | 7.8e-05 | 1.2e-02 |
| All lease areas | 1.9e-06 | 2.8e-06 | 2.6e-06 | 4.8e-06 | 1.6e-05 | 5.3e-05 | 8.5e-05 | 1.8e-04 | 2.5e-04 | 1.1e-04 | 5.5e-05 | 1.0e-05 | 7.7e-04 |
| All planning and lease areas | 1.5e-05 | 3.1e-05 | 5.9e-05 | 1.3e-04 | 4.0e-04 | 1.1e-03 | 1.7e-03 | 3.5e-03 | 4.4e-03 | 1.3e-03 | 4.0e-04 | 8.8e-05 | 1.3e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-47. Predicted proportional abundance of Northern Gannet by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 3.7e-03 | 2.0e-03 | 1.3e-03 | 2.1e-03 | 2.0e-03 | 5.7e-04 | 4.7e-04 | 7.2e-04 | 1.6e-03 | 3.0e-03 | 3.2e-03 | 5.5e-03 | 2.6e-02 |
| Gulf of Maine Request for Competitive Interest | 1.9e-05 | 7.6e-06 | 6.2e-06 | 1.3e-05 | 1.7e-05 | 4.9e-06 | 3.3e-06 | 5.6e-06 | 1.1e-05 | 2.2e-05 | 2.2e-05 | 3.3e-05 | 1.6e-04 |
| Marine Research Array Requested Lease | 2.7e-06 | 1.1e-06 | 9.2e-07 | 1.9e-06 | 2.6e-06 | 7.6e-07 | 5.1e-07 | 8.7e-07 | 1.8e-06 | 3.2e-06 | 3.3e-06 | 4.9e-06 | 2.4e-05 |
| Rhode Island OCS-A 0506 | 1.1e-06 | 4.3e-07 | 3.3e-07 | 7.4e-07 | 2.6e-07 | 7.4e-08 | 2.6e-08 | 2.5e-08 | 1.2e-07 | 3.2e-07 | 4.0e-07 | 8.0e-07 | 4.6e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 1.3e-04 | 7.1e-05 | 6.7e-05 | 1.3e-04 | 4.7e-05 | 1.7e-05 | 5.8e-06 | 4.8e-06 | 2.0e-05 | 7.4e-05 | 8.5e-05 | 1.3e-04 | 7.8e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 2.4e-05 | 1.2e-05 | 1.1e-05 | 2.2e-05 | 6.7e-06 | 2.7e-06 | 8.1e-07 | 5.9e-07 | 2.7e-06 | 1.2e-05 | 1.4e-05 | 2.1e-05 | 1.3e-04 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.5e-04 | 7.0e-05 | 6.8e-05 | 1.4e-04 | 4.1e-05 | 1.6e-05 | 5.4e-06 | 4.0e-06 | 2.1e-05 | 8.0e-05 | 9.3e-05 | 1.3e-04 | 8.3e-04 |
| Massachusetts OCS-A 0500 | 1.6e-04 | 7.1e-05 | 7.2e-05 | 1.6e-04 | 4.8e-05 | 1.8e-05 | 7.1e-06 | 6.1e-06 | 2.9e-05 | 1.0e-04 | 1.1e-04 | 1.6e-04 | 9.5e-04 |
| Massachusetts OCS-A 0501 | 6.3e-05 | 2.7e-05 | 3.3e-05 | 7.4e-05 | 2.5e-05 | 9.1e-06 | 4.0e-06 | 3.7e-06 | 1.6e-05 | 5.5e-05 | 5.3e-05 | 8.2e-05 | 4.4e-04 |
| Massachusetts OCS-A 0534 | 1.0e-04 | 4.1e-05 | 4.1e-05 | 9.1e-05 | 3.1e-05 | 1.1e-05 | 4.1e-06 | 3.7e-06 | 1.9e-05 | 6.2e-05 | 6.6e-05 | 1.0e-04 | 5.7e-04 |
| Massachusetts OCS-A 0520 | 1.2e-04 | 4.8e-05 | 5.4e-05 | 1.2e-04 | 4.2e-05 | 1.5e-05 | 5.3e-06 | 5.2e-06 | 2.6e-05 | 7.9e-05 | 8.1e-05 | 1.2e-04 | 7.2e-04 |
| Massachusetts OCS-A 0521 | 1.3e-04 | 5.0e-05 | 6.0e-05 | 1.3e-04 | 4.6e-05 | 1.6e-05 | 5.5e-06 | 5.7e-06 | 2.6e-05 | 8.0e-05 | 8.2e-05 | 1.2e-04 | 7.5e-04 |
| Massachusetts OCS-A 0522 | 1.4e-04 | 5.8e-05 | 6.9e-05 | 1.3e-04 | 5.3e-05 | 1.7e-05 | 6.4e-06 | 6.7e-06 | 2.9e-05 | 9.2e-05 | 9.2e-05 | 1.4e-04 | 8.4e-04 |
| New York WEA - Fairways North | 1.4e-04 | 8.3e-05 | 7.6e-05 | 1.3e-04 | 4.4e-05 | 1.5e-05 | 3.6e-06 | 2.3e-06 | 1.2e-05 | 5.6e-05 | 7.9e-05 | 9.6e-05 | 7.4e-04 |
| New York WEA - Fairways South | 4.7e-05 | 2.8e-05 | 2.4e-05 | 4.4e-05 | 1.7e-05 | 4.4e-06 | 7.9e-07 | 7.1e-07 | 3.2e-06 | 1.6e-05 | 2.5e-05 | 3.2e-05 | 2.4e-04 |
| New York OCS-A 0512 | 1.7e-04 | 9.4e-05 | 1.0e-04 | 1.6e-04 | 4.5e-05 | 1.2e-05 | 1.6e-06 | 1.3e-06 | 9.6e-06 | 5.5e-05 | 9.9e-05 | 1.4e-04 | 8.9e-04 |
| NY/NJ OCS-A 0544 | 7.2e-05 | 4.6e-05 | 4.6e-05 | 6.7e-05 | 1.9e-05 | 5.6e-06 | 6.9e-07 | 5.9e-07 | 4.7e-06 | 2.5e-05 | 4.1e-05 | 4.8e-05 | 3.8e-04 |
| NY/NJ OCS-A 0537 | 1.1e-04 | 9.4e-05 | 6.2e-05 | 7.4e-05 | 2.0e-05 | 6.1e-06 | 8.2e-07 | 6.6e-07 | 6.5e-06 | 3.0e-05 | 4.5e-05 | 5.7e-05 | 5.1e-04 |
| NY/NJ OCS-A 0538 | 1.8e-04 | 1.4e-04 | 1.2e-04 | 1.3e-04 | 2.9e-05 | 9.4e-06 | 9.2e-07 | 7.6e-07 | 1.0e-05 | 4.9e-05 | 8.1e-05 | 9.6e-05 | 8.5e-04 |
| NY/NJ OCS-A 0539 | 2.7e-04 | 2.0e-04 | 1.9e-04 | 2.0e-04 | 3.8e-05 | 1.2e-05 | 1.1e-06 | 9.0e-07 | 1.4e-05 | 7.9e-05 | 1.3e-04 | 1.5e-04 | 1.3e-03 |
| NY/NJ OCS-A 0541 | 1.5e-04 | 1.1e-04 | 1.2e-04 | 1.3e-04 | 2.3e-05 | 6.3e-06 | 4.4e-07 | 4.4e-07 | 6.6e-06 | 4.5e-05 | 7.2e-05 | 8.3e-05 | 7.4e-04 |
| NY/NJ OCS-A 0542 | 1.5e-04 | 1.3e-04 | 1.2e-04 | 1.3e-04 | 2.3e-05 | 6.3e-06 | 4.9e-07 | 4.6e-07 | 7.2e-06 | 4.6e-05 | 7.0e-05 | 8.2e-05 | 7.7e-04 |
| New Jersey OCS-A 0549 | 2.2e-04 | 1.4e-04 | 1.8e-04 | 2.2e-04 | 4.6e-05 | 8.8e-06 | 1.0e-06 | 1.0e-06 | 6.9e-06 | 5.6e-05 | 1.3e-04 | 2.2e-04 | 1.2e-03 |
| New Jersey OCS-A 0499 | 2.5e-04 | 1.7e-04 | 2.2e-04 | 2.5e-04 | 5.1e-05 | 9.8e-06 | 8.9e-07 | 9.6e-07 | 7.5e-06 | 6.7e-05 | 1.5e-04 | 2.2e-04 | 1.4e-03 |
| New Jersey OCS-A 0498 | 2.1e-04 | 1.5e-04 | 1.8e-04 | 1.8e-04 | 4.2e-05 | 7.6e-06 | 6.7e-07 | 8.0e-07 | 4.9e-06 | 5.1e-05 | 1.2e-04 | 1.7e-04 | 1.1e-03 |
| New Jersey OCS-A 0532 | 2.6e-04 | 1.7e-04 | 2.2e-04 | 2.2e-04 | 5.9e-05 | 9.6e-06 | 1.0e-06 | 1.2e-06 | 5.4e-06 | 5.8e-05 | 1.6e-04 | 2.5e-04 | 1.4e-03 |
| Delaware OCS-A 0482 | 1.9e-04 | 1.2e-04 | 1.7e-04 | 1.7e-04 | 3.0e-05 | 4.9e-06 | 4.4e-07 | 5.3e-07 | 3.9e-06 | 4.0e-05 | 1.0e-04 | 1.5e-04 | 9.9e-04 |
| Delaware OCS-A 0519 | 7.3e-05 | 5.1e-05 | 6.6e-05 | 6.1e-05 | 1.1e-05 | 1.8e-06 | 1.2e-07 | 1.6e-07 | 1.4e-06 | 1.5e-05 | 3.5e-05 | 4.7e-05 | 3.6e-04 |
| Maryland OCS-A 0490 | 2.6e-04 | 1.8e-04 | 2.4e-04 | 2.0e-04 | 3.8e-05 | 5.6e-06 | 4.2e-07 | 4.8e-07 | 3.7e-06 | 4.6e-05 | 1.2e-04 | 1.7e-04 | 1.3e-03 |
| Central Atlantic Call Area A | 5.8e-04 | 5.2e-04 | 6.1e-04 | 5.4e-04 | 9.5e-05 | 1.6e-05 | 7.9e-07 | 1.0e-06 | 1.2e-05 | 1.4e-04 | 2.8e-04 | 3.3e-04 | 3.1e-03 |
| Central Atlantic Draft WEA Primary A | 1.1e-04 | 8.8e-05 | 1.1e-04 | 9.8e-05 | 1.7e-05 | 3.0e-06 | 1.6e-07 | 2.1e-07 | 2.3e-06 | 2.5e-05 | 5.1e-05 | 6.3e-05 | 5.6e-04 |
| Central Atlantic Draft WEA Secondary A | 2.9e-04 | 2.5e-04 | 3.0e-04 | 2.7e-04 | 4.8e-05 | 8.4e-06 | 4.1e-07 | 5.4e-07 | 6.3e-06 | 6.9e-05 | 1.4e-04 | 1.7e-04 | 1.6e-03 |
| Central Atlantic Call Area B | 2.3e-03 | 2.9e-03 | 3.0e-03 | 1.9e-03 | 3.7e-04 | 4.6e-05 | 1.8e-06 | 2.3e-06 | 2.6e-05 | 4.4e-04 | 1.0e-03 | 1.3e-03 | 1.3e-02 |
| Central Atlantic Draft WEA Primary B1 | 8.3e-05 | 7.2e-05 | 7.6e-05 | 5.3e-05 | 1.1e-05 | 1.3e-06 | 5.0e-08 | 6.8e-08 | 7.8e-07 | 1.2e-05 | 3.1e-05 | 4.2e-05 | 3.8e-04 |
| Central Atlantic Draft WEA Secondary B1 | 3.5e-05 | 3.2e-05 | 3.3e-05 | 2.4e-05 | 4.4e-06 | 5.7e-07 | 2.2e-08 | 3.1e-08 | 3.6e-07 | 5.6e-06 | 1.4e-05 | 1.8e-05 | 1.7e-04 |
| Central Atlantic Draft WEA Primary B2 | 7.1e-04 | 9.6e-04 | 1.0e-03 | 5.9e-04 | 1.2e-04 | 1.4e-05 | 5.1e-07 | 6.6e-07 | 7.5e-06 | 1.3e-04 | 3.1e-04 | 4.2e-04 | 4.3e-03 |
| Central Atlantic Draft WEA Secondary B2 | 3.0e-04 | 4.2e-04 | 4.6e-04 | 2.7e-04 | 5.3e-05 | 6.4e-06 | 2.4e-07 | 3.1e-07 | 3.4e-06 | 6.2e-05 | 1.4e-04 | 1.9e-04 | 1.9e-03 |
| Central Atlantic Call Area C | 6.0e-04 | 8.9e-04 | 9.4e-04 | 5.1e-04 | 1.1e-04 | 1.1e-05 | 3.9e-07 | 5.5e-07 | 5.1e-06 | 9.4e-05 | 2.6e-04 | 3.9e-04 | 3.8e-03 |
| Central Atlantic Draft WEA Primary C | 3.7e-04 | 5.6e-04 | 5.8e-04 | 3.1e-04 | 6.5e-05 | 6.7e-06 | 2.3e-07 | 3.3e-07 | 3.1e-06 | 5.8e-05 | 1.6e-04 | 2.4e-04 | 2.4e-03 |
| Central Atlantic Draft WEA Secondary C | 1.8e-04 | 2.5e-04 | 2.7e-04 | 1.5e-04 | 3.1e-05 | 3.3e-06 | 1.2e-07 | 1.7e-07 | 1.5e-06 | 2.8e-05 | 7.7e-05 | 1.1e-04 | 1.1e-03 |
| Central Atlantic Call Area D | 1.4e-03 | 2.2e-03 | 2.4e-03 | 1.1e-03 | 2.3e-04 | 1.8e-05 | 7.8e-07 | 1.3e-06 | 1.0e-05 | 1.9e-04 | 5.9e-04 | 9.9e-04 | 9.1e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 4.7e-04 | 7.9e-04 | 7.8e-04 | 3.5e-04 | 7.2e-05 | 5.5e-06 | 2.3e-07 | 4.4e-07 | 3.3e-06 | 5.9e-05 | 1.9e-04 | 3.3e-04 | 3.1e-03 |
| Central Atlantic Draft WEA Secondary D | 6.7e-05 | 1.1e-04 | 1.0e-04 | 4.6e-05 | 9.2e-06 | 6.5e-07 | 2.8e-08 | 5.6e-08 | 3.8e-07 | 7.5e-06 | 2.6e-05 | 4.5e-05 | 4.2e-04 |
| Central Atlantic Call Area E | 1.4e-04 | 1.5e-04 | 1.8e-04 | 1.2e-04 | 4.0e-05 | 5.1e-06 | 3.1e-07 | 3.5e-07 | 2.2e-06 | 2.5e-05 | 1.1e-04 | 1.6e-04 | 9.3e-04 |
| Central Atlantic Draft WEA Primary E1 | 3.3e-05 | 3.1e-05 | 3.7e-05 | 2.3e-05 | 8.4e-06 | 1.2e-06 | 7.4e-08 | 8.1e-08 | 5.2e-07 | 6.0e-06 | 2.5e-05 | 3.6e-05 | 2.0e-04 |
| Central Atlantic Draft WEA Primary E2 | 1.2e-05 | 1.3e-05 | 1.5e-05 | 9.3e-06 | 3.4e-06 | 3.7e-07 | 2.8e-08 | 3.9e-08 | 1.9e-07 | 2.1e-06 | 8.9e-06 | 1.3e-05 | 7.8e-05 |
| Central Atlantic Call Area F | 8.7e-05 | 1.1e-04 | 1.1e-04 | 7.1e-05 | 1.6e-05 | 1.0e-06 | 1.4e-07 | 3.1e-07 | 6.6e-07 | 5.6e-06 | 2.4e-05 | 5.4e-05 | 4.8e-04 |
| Central Atlantic Draft WEA Primary F | 1.4e-06 | 2.3e-06 | 2.0e-06 | 1.4e-06 | 2.3e-07 | 1.4e-08 | 3.2e-09 | 6.6e-09 | 9.1e-09 | 6.7e-08 | 2.6e-07 | 7.3e-07 | 8.5e-06 |
| Virginia OCS-A 0483 | 4.3e-04 | 6.1e-04 | 5.7e-04 | 3.0e-04 | 5.4e-05 | 3.6e-06 | 1.5e-07 | 3.0e-07 | 1.8e-06 | 4.0e-05 | 1.5e-04 | 2.4e-04 | 2.4e-03 |
| Virginia OCS-A 0497 | 1.8e-05 | 2.3e-05 | 2.2e-05 | 9.1e-06 | 1.4e-06 | 6.7e-08 | 4.1e-09 | 8.1e-09 | 3.7e-08 | 1.2e-06 | 5.7e-06 | 9.8e-06 | 9.0e-05 |
| North Carolina OCS-A 0508 | 3.0e-04 | 5.2e-04 | 5.6e-04 | 2.4e-04 | 4.6e-05 | 2.8e-06 | 1.7e-07 | 3.5e-07 | 2.0e-06 | 3.4e-05 | 1.2e-04 | 2.1e-04 | 2.0e-03 |
| North Carolina OCS-A 0545 | 9.5e-05 | 1.4e-04 | 9.7e-05 | 3.4e-05 | 2.3e-06 | 6.9e-08 | 2.0e-07 | 4.5e-07 | 2.7e-07 | 5.4e-07 | 1.4e-05 | 4.7e-05 | 4.3e-04 |
| North Carolina OCS-A 0546 | 9.9e-05 | 1.5e-04 | 9.8e-05 | 3.5e-05 | 2.5e-06 | 8.1e-08 | 2.4e-07 | 5.2e-07 | 3.0e-07 | 5.5e-07 | 1.4e-05 | 4.9e-05 | 4.5e-04 |
| South Carolina Call Area - Grand Strand | 2.1e-03 | 3.0e-03 | 2.1e-03 | 6.2e-04 | 2.6e-05 | 9.3e-07 | 3.5e-06 | 8.0e-06 | 4.9e-06 | 1.9e-05 | 4.9e-04 | 1.2e-03 | 9.7e-03 |
| South Carolina Call Area - Cape Romain | 7.0e-04 | 9.6e-04 | 6.5e-04 | 1.9e-04 | 6.3e-06 | 3.3e-07 | 1.3e-06 | 3.4e-06 | 1.6e-06 | 4.3e-06 | 1.4e-04 | 4.1e-04 | 3.1e-03 |
| South Carolina Call Area - Winyah | 4.3e-05 | 7.0e-05 | 4.7e-05 | 1.6e-05 | 9.7e-07 | 9.5e-08 | 3.3e-07 | 8.8e-07 | 4.6e-07 | 2.8e-07 | 1.5e-06 | 1.0e-05 | 1.9e-04 |
| South Carolina Call Area - Charleston | 4.8e-05 | 7.2e-05 | 5.4e-05 | 2.1e-05 | 9.7e-07 | 5.9e-08 | 2.3e-07 | 6.8e-07 | 2.6e-07 | 2.2e-07 | 4.0e-06 | 2.3e-05 | 2.2e-04 |
| All planning areas | 1.2e-02 | 1.3e-02 | 1.2e-02 | 7.4e-03 | 3.0e-03 | 6.9e-04 | 4.8e-04 | 7.4e-04 | 1.7e-03 | 4.0e-03 | 6.3e-03 | 1.1e-02 | 7.1e-02 |
| All lease areas | 4.5e-03 | 3.7e-03 | 3.9e-03 | 3.8e-03 | 9.2e-04 | 2.3e-04 | 5.6e-05 | 5.3e-05 | 2.8e-04 | 1.4e-03 | 2.3e-03 | 3.5e-03 | 2.5e-02 |
| All planning and lease areas | 1.7e-02 | 1.7e-02 | 1.5e-02 | 1.1e-02 | 3.9e-03 | 9.3e-04 | 5.4e-04 | 8.0e-04 | 2.0e-03 | 5.4e-03 | 8.6e-03 | 1.4e-02 | 9.6e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-48. Predicted proportional abundance of Double-crested Cormorant by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 2.5e-05 | 1.4e-04 | 2.0e-05 | 1.9e-04 | 1.3e-03 | 1.7e-03 | 3.3e-03 | 6.0e-03 | 6.4e-03 | 8.5e-03 | 9.2e-04 | 8.3e-06 | 2.8e-02 |
| Gulf of Maine Request for Competitive Interest | 4.1e-07 | 1.2e-06 | 1.1e-07 | 1.4e-06 | 8.5e-06 | 1.4e-05 | 1.7e-05 | 4.7e-05 | 3.7e-05 | 6.8e-05 | 5.4e-06 | 7.4e-08 | 2.0e-04 |
| Marine Research Array Requested Lease | 4.9e-08 | 1.8e-07 | 1.8e-08 | 2.0e-07 | 1.3e-06 | 2.2e-06 | 2.7e-06 | 7.4e-06 | 5.7e-06 | 9.9e-06 | 8.3e-07 | 1.1e-08 | 3.0e-05 |
| Rhode Island OCS-A 0506 | 9.6e-09 | 3.6e-08 | 1.2e-08 | 7.6e-08 | 1.1e-06 | 6.4e-08 | 2.3e-07 | 2.5e-07 | 5.4e-07 | 2.6e-07 | 2.2e-07 | 7.7e-09 | 2.8e-06 |
| Rhode Island / Massachusetts OCS-A 0486 | 9.7e-07 | 4.7e-06 | 1.4e-06 | 1.1e-05 | 1.7e-04 | 1.7e-05 | 6.1e-05 | 4.8e-05 | 1.0e-04 | 7.0e-05 | 1.2e-04 | 2.4e-06 | 6.1e-04 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.1e-07 | 8.0e-07 | 2.6e-07 | 1.9e-06 | 2.5e-05 | 2.7e-06 | 9.0e-06 | 6.2e-06 | 1.4e-05 | 1.2e-05 | 2.1e-05 | 4.2e-07 | 9.3e-05 |
| Rhode Island / Massachusetts OCS-A 0487 | 5.0e-07 | 3.4e-06 | 1.4e-06 | 1.3e-05 | 1.3e-04 | 1.7e-05 | 6.3e-05 | 4.5e-05 | 1.0e-04 | 7.9e-05 | 1.3e-04 | 3.5e-06 | 6.0e-04 |
| Massachusetts OCS-A 0500 | 3.9e-07 | 2.6e-06 | 1.2e-06 | 1.3e-05 | 1.3e-04 | 2.1e-05 | 8.6e-05 | 7.3e-05 | 1.4e-04 | 1.0e-04 | 1.6e-04 | 3.7e-06 | 7.3e-04 |
| Massachusetts OCS-A 0501 | 1.8e-07 | 9.8e-07 | 4.5e-07 | 5.4e-06 | 5.5e-05 | 1.1e-05 | 5.1e-05 | 4.7e-05 | 7.8e-05 | 5.3e-05 | 7.1e-05 | 1.4e-06 | 3.8e-04 |
| Massachusetts OCS-A 0534 | 1.3e-07 | 1.0e-06 | 6.2e-07 | 5.8e-06 | 6.9e-05 | 1.4e-05 | 4.3e-05 | 4.1e-05 | 8.1e-05 | 5.0e-05 | 9.0e-05 | 2.0e-06 | 4.0e-04 |
| Massachusetts OCS-A 0520 | 1.5e-07 | 9.5e-07 | 6.8e-07 | 5.8e-06 | 7.0e-05 | 1.9e-05 | 5.2e-05 | 5.2e-05 | 9.8e-05 | 5.8e-05 | 9.9e-05 | 2.5e-06 | 4.6e-04 |
| Massachusetts OCS-A 0521 | 1.6e-07 | 9.7e-07 | 7.2e-07 | 5.5e-06 | 5.3e-05 | 1.9e-05 | 5.0e-05 | 5.1e-05 | 9.4e-05 | 5.7e-05 | 8.8e-05 | 2.4e-06 | 4.2e-04 |
| Massachusetts OCS-A 0522 | 1.9e-07 | 1.1e-06 | 9.0e-07 | 5.7e-06 | 4.2e-05 | 2.2e-05 | 5.3e-05 | 5.9e-05 | 1.0e-04 | 7.2e-05 | 8.6e-05 | 2.0e-06 | 4.5e-04 |
| New York WEA - Fairways North | 6.7e-07 | 5.0e-06 | 2.4e-06 | 1.2e-05 | 1.8e-04 | 1.4e-05 | 4.7e-05 | 2.6e-05 | 5.8e-05 | 5.2e-05 | 1.0e-04 | 3.3e-06 | 5.0e-04 |
| New York WEA - Fairways South | 4.1e-07 | 1.6e-06 | 6.8e-07 | 3.7e-06 | 9.6e-05 | 4.8e-06 | 1.0e-05 | 7.4e-06 | 1.9e-05 | 1.5e-05 | 3.1e-05 | 9.6e-07 | 1.9e-04 |
| New York OCS-A 0512 | 7.5e-07 | 6.3e-06 | 3.8e-06 | 1.6e-05 | 3.1e-04 | 1.5e-05 | 2.1e-05 | 1.4e-05 | 5.3e-05 | 6.6e-05 | 1.1e-04 | 3.2e-06 | 6.2e-04 |
| NY/NJ OCS-A 0544 | 3.8e-07 | 2.1e-06 | 1.2e-06 | 6.6e-06 | 1.2e-04 | 6.3e-06 | 7.0e-06 | 5.7e-06 | 2.7e-05 | 3.0e-05 | 4.5e-05 | 2.0e-06 | 2.6e-04 |
| NY/NJ OCS-A 0537 | 1.4e-07 | 9.8e-07 | 7.8e-07 | 4.8e-06 | 8.8e-05 | 6.5e-06 | 8.5e-06 | 6.4e-06 | 4.0e-05 | 3.6e-05 | 4.2e-05 | 2.5e-06 | 2.4e-04 |
| NY/NJ OCS-A 0538 | 5.2e-07 | 3.3e-06 | 1.5e-06 | 8.6e-06 | 1.8e-04 | 1.1e-05 | 9.1e-06 | 7.0e-06 | 6.4e-05 | 6.5e-05 | 8.3e-05 | 5.2e-06 | 4.4e-04 |
| NY/NJ OCS-A 0539 | 8.0e-07 | 4.2e-06 | 2.1e-06 | 1.7e-05 | 2.6e-04 | 1.5e-05 | 1.0e-05 | 7.7e-06 | 9.8e-05 | 1.2e-04 | 1.2e-04 | 6.1e-06 | 6.6e-04 |
| NY/NJ OCS-A 0541 | 4.5e-07 | 2.9e-06 | 1.3e-06 | 1.4e-05 | 2.0e-04 | 9.6e-06 | 4.3e-06 | 3.7e-06 | 4.1e-05 | 7.0e-05 | 6.8e-05 | 4.3e-06 | 4.2e-04 |
| NY/NJ OCS-A 0542 | 4.0e-07 | 2.3e-06 | 1.3e-06 | 1.2e-05 | 1.8e-04 | 8.9e-06 | 4.7e-06 | 3.9e-06 | 4.9e-05 | 7.7e-05 | 6.2e-05 | 3.9e-06 | 4.0e-04 |
| New Jersey OCS-A 0549 | 1.2e-06 | 1.5e-05 | 7.0e-06 | 3.7e-05 | 3.8e-04 | 1.5e-05 | 1.0e-05 | 7.0e-06 | 3.3e-05 | 8.5e-05 | 9.6e-05 | 3.5e-06 | 6.9e-04 |
| New Jersey OCS-A 0499 | 1.1e-06 | 1.5e-05 | 7.5e-06 | 4.3e-05 | 4.4e-04 | 2.0e-05 | 1.1e-05 | 8.0e-06 | 3.8e-05 | 1.2e-04 | 1.2e-04 | 4.9e-06 | 8.3e-04 |
| New Jersey OCS-A 0498 | 1.4e-06 | 1.2e-05 | 5.5e-06 | 3.1e-05 | 3.4e-04 | 1.6e-05 | 8.4e-06 | 6.5e-06 | 2.5e-05 | 9.7e-05 | 1.0e-04 | 3.5e-06 | 6.5e-04 |
| New Jersey OCS-A 0532 | 2.5e-06 | 1.6e-05 | 7.2e-06 | 4.4e-05 | 4.4e-04 | 2.1e-05 | 1.2e-05 | 9.4e-06 | 2.6e-05 | 1.0e-04 | 1.3e-04 | 3.4e-06 | 8.0e-04 |
| Delaware OCS-A 0482 | 6.9e-07 | 9.1e-06 | 5.6e-06 | 5.4e-05 | 2.3e-04 | 1.1e-05 | 3.9e-06 | 3.5e-06 | 2.0e-05 | 8.3e-05 | 5.6e-05 | 3.6e-06 | 4.8e-04 |
| Delaware OCS-A 0519 | 2.6e-07 | 2.8e-06 | 1.9e-06 | 1.7e-05 | 9.0e-05 | 4.0e-06 | 8.6e-07 | 9.4e-07 | 6.4e-06 | 3.1e-05 | 1.9e-05 | 1.6e-06 | 1.8e-04 |
| Maryland OCS-A 0490 | 1.1e-06 | 1.0e-05 | 6.8e-06 | 7.4e-05 | 3.0e-04 | 1.3e-05 | 3.0e-06 | 2.8e-06 | 1.8e-05 | 9.9e-05 | 6.4e-05 | 6.1e-06 | 6.0e-04 |
| Central Atlantic Call Area A | 3.1e-06 | 1.8e-05 | 1.2e-05 | 1.3e-04 | 9.2e-04 | 3.6e-05 | 7.1e-06 | 7.9e-06 | 6.9e-05 | 3.1e-04 | 2.0e-04 | 1.9e-05 | 1.7e-03 |
| Central Atlantic Draft WEA Primary A | 4.8e-07 | 3.4e-06 | 2.4e-06 | 2.3e-05 | 1.6e-04 | 6.6e-06 | 1.4e-06 | 1.5e-06 | 1.3e-05 | 5.2e-05 | 3.4e-05 | 3.1e-06 | 3.0e-04 |
| Central Atlantic Draft WEA Secondary A | 1.5e-06 | 9.0e-06 | 6.3e-06 | 6.3e-05 | 4.6e-04 | 1.8e-05 | 3.7e-06 | 4.1e-06 | 3.5e-05 | 1.5e-04 | 9.5e-05 | 9.3e-06 | 8.6e-04 |
| Central Atlantic Call Area B | 3.6e-05 | 1.1e-04 | 8.6e-05 | 1.3e-03 | 4.3e-03 | 1.7e-04 | 1.8e-05 | 2.2e-05 | 2.3e-04 | 2.0e-03 | 1.3e-03 | 1.1e-04 | 9.7e-03 |
| Central Atlantic Draft WEA Primary B1 | 5.8e-07 | 2.4e-06 | 2.0e-06 | 3.3e-05 | 9.0e-05 | 3.8e-06 | 5.8e-07 | 6.4e-07 | 4.7e-06 | 3.9e-05 | 1.8e-05 | 2.2e-06 | 2.0e-04 |
| Central Atlantic Draft WEA Secondary B1 | 2.4e-07 | 9.0e-07 | 8.0e-07 | 1.3e-05 | 4.2e-05 | 1.5e-06 | 2.3e-07 | 2.8e-07 | 2.3e-06 | 1.9e-05 | 8.7e-06 | 9.7e-07 | 9.0e-05 |
| Central Atlantic Draft WEA Primary B2 | 1.4e-05 | 4.0e-05 | 3.3e-05 | 4.9e-04 | 1.4e-03 | 5.7e-05 | 5.3e-06 | 6.3e-06 | 7.2e-05 | 6.7e-04 | 4.3e-04 | 3.7e-05 | 3.3e-03 |
| Central Atlantic Draft WEA Secondary B2 | 6.4e-06 | 1.9e-05 | 1.5e-05 | 2.2e-04 | 7.2e-04 | 2.8e-05 | 2.6e-06 | 3.2e-06 | 3.8e-05 | 3.5e-04 | 2.4e-04 | 1.7e-05 | 1.7e-03 |
| Central Atlantic Call Area C | 1.9e-05 | 5.6e-05 | 5.5e-05 | 6.8e-04 | 8.5e-04 | 4.4e-05 | 3.5e-06 | 4.4e-06 | 4.4e-05 | 4.0e-04 | 2.2e-04 | 3.3e-05 | 2.4e-03 |
| Central Atlantic Draft WEA Primary C | 1.1e-05 | 3.3e-05 | 3.4e-05 | 4.2e-04 | 5.1e-04 | 2.6e-05 | 2.1e-06 | 2.6e-06 | 2.6e-05 | 2.4e-04 | 1.3e-04 | 2.0e-05 | 1.4e-03 |
| Central Atlantic Draft WEA Secondary C | 5.7e-06 | 1.9e-05 | 1.6e-05 | 2.1e-04 | 2.8e-04 | 1.5e-05 | 1.2e-06 | 1.5e-06 | 1.5e-05 | 1.3e-04 | 7.8e-05 | 9.8e-06 | 7.8e-04 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Call Area D | 4.8e-05 | 1.7e-04 | 1.6e-04 | 1.7e-03 | 1.1e-03 | 4.8e-05 | 4.8e-06 | 6.1e-06 | 6.7e-05 | 6.0e-04 | 2.8e-04 | 5.5e-05 | 4.3e-03 |
| Central Atlantic Draft WEA Primary D | 1.8e-05 | 6.7e-05 | 6.0e-05 | 6.8e-04 | 4.1e-04 | 1.7e-05 | 1.8e-06 | 2.5e-06 | 2.2e-05 | 2.0e-04 | 9.6e-05 | 2.0e-05 | 1.6e-03 |
| Central Atlantic Draft WEA Secondary D | 2.4e-06 | 8.5e-06 | 9.1e-06 | 1.0e-04 | 5.0e-05 | 1.9e-06 | 2.1e-07 | 3.0e-07 | 2.0e-06 | 2.4e-05 | 1.2e-05 | 3.1e-06 | 2.1e-04 |
| Central Atlantic Call Area E | 9.2e-06 | 5.9e-05 | 8.5e-06 | 4.6e-05 | 8.6e-05 | 4.2e-06 | 9.8e-07 | 1.1e-06 | 5.6e-06 | 3.4e-05 | 1.6e-05 | 2.9e-06 | 2.7e-04 |
| Central Atlantic Draft WEA Primary E1 | 2.6e-06 | 1.1e-05 | 1.6e-06 | 8.0e-06 | 1.5e-05 | 9.6e-07 | 2.1e-07 | 2.2e-07 | 9.8e-07 | 8.5e-06 | 2.6e-06 | 6.7e-07 | 5.3e-05 |
| Central Atlantic Draft WEA Primary E2 | 1.4e-06 | 6.0e-06 | 1.4e-06 | 5.4e-06 | 9.7e-06 | 3.8e-07 | 1.2e-07 | 1.6e-07 | 4.3e-07 | 4.2e-06 | 1.7e-06 | 3.5e-07 | 3.1e-05 |
| Central Atlantic Call Area F | 2.6e-06 | 2.0e-05 | 6.2e-06 | 3.6e-05 | 5.1e-05 | 1.5e-06 | 5.9e-07 | 6.8e-07 | 1.5e-06 | 9.6e-06 | 9.7e-06 | 9.3e-07 | 1.4e-04 |
| Central Atlantic Draft WEA Primary F | 4.3e-08 | 5.8e-07 | 2.2e-07 | 1.3e-06 | 1.3e-06 | 3.7e-08 | 2.6e-08 | 2.2e-08 | 2.3e-08 | 3.0e-07 | 3.1e-07 | 2.4e-08 | 4.1e-06 |
| Virginia OCS-A 0483 | 1.1e-05 | 5.6e-05 | 4.2e-05 | 6.2e-04 | 2.9e-04 | 9.4e-06 | 8.7e-07 | 1.4e-06 | 6.9e-06 | 9.9e-05 | 7.5e-05 | 2.1e-05 | 1.2e-03 |
| Virginia OCS-A 0497 | 8.1e-07 | 3.7e-06 | 1.6e-06 | 2.2e-05 | 6.1e-06 | 1.4e-07 | 2.1e-08 | 3.9e-08 | 1.2e-07 | 4.6e-06 | 5.5e-06 | 1.5e-06 | 4.6e-05 |
| North Carolina OCS-A 0508 | 1.4e-05 | 6.9e-05 | 4.5e-05 | 4.6e-04 | 2.6e-04 | 8.7e-06 | 1.0e-06 | 1.4e-06 | 1.1e-05 | 1.0e-04 | 5.3e-05 | 1.1e-05 | 1.0e-03 |
| North Carolina OCS-A 0545 | 9.5e-06 | 6.6e-05 | 1.6e-05 | 5.6e-05 | 2.1e-05 | 3.2e-07 | 2.2e-06 | 2.2e-06 | 7.3e-07 | 1.9e-06 | 2.2e-05 | 5.0e-06 | 2.0e-04 |
| North Carolina OCS-A 0546 | 1.1e-05 | 7.4e-05 | 2.0e-05 | 6.0e-05 | 2.7e-05 | 3.8e-07 | 2.5e-06 | 3.3e-06 | 1.1e-06 | 2.7e-06 | 2.6e-05 | 6.0e-06 | 2.3e-04 |
| South Carolina Call Area - Grand Strand | 6.0e-04 | 4.8e-03 | 9.3e-04 | 1.4e-03 | 2.2e-04 | 3.3e-06 | 1.8e-05 | 1.9e-05 | 2.0e-05 | 1.2e-04 | 8.8e-04 | 1.1e-04 | 9.1e-03 |
| South Carolina Call Area - Cape Romain | 4.8e-04 | 2.7e-03 | 3.7e-04 | 9.3e-04 | 9.4e-05 | 2.0e-06 | 1.1e-05 | 1.1e-05 | 8.8e-06 | 4.2e-05 | 4.6e-04 | 6.7e-05 | 5.2e-03 |
| South Carolina Call Area - Winyah | 9.9e-06 | 5.4e-05 | 1.7e-05 | 2.7e-05 | 7.7e-06 | 3.5e-07 | 2.0e-06 | 2.6e-06 | 1.0e-06 | 1.5e-06 | 2.6e-06 | 1.4e-06 | 1.3e-04 |
| South Carolina Call Area - Charleston | 6.8e-06 | 3.3e-05 | 9.1e-06 | 3.5e-05 | 6.3e-06 | 2.3e-07 | 1.4e-06 | 1.9e-06 | 5.3e-07 | 5.9e-07 | 7.0e-06 | 3.1e-06 | 1.0e-04 |
| All planning areas | 1.2e-03 | 8.3e-03 | 1.7e-03 | 6.5e-03 | 9.3e-03 | 2.0e-03 | 3.4e-03 | 6.2e-03 | 7.0e-03 | 1.2e-02 | 4.4e-03 | 4.1e-04 | 6.3e-02 |
| All lease areas | 6.0e-05 | 3.9e-04 | 1.9e-04 | 1.7e-03 | 4.9e-03 | 3.3e-04 | 5.9e-04 | 5.2e-04 | 1.4e-03 | 1.8e-03 | 2.2e-03 | 1.2e-04 | 1.4e-02 |
| All planning and lease areas | 1.3e-03 | 8.6e-03 | 1.9e-03 | 8.2e-03 | 1.4e-02 | 2.3e-03 | 4.0e-03 | 6.7e-03 | 8.4e-03 | 1.4e-02 | 6.6e-03 | 5.3e-04 | 7.7e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**Table H-49. Predicted proportional abundance of Brown Pelican by BOEM area and month during the retrospective period (1993–2019)**

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Gulf of Maine Call Area | 4.9e-08 | 1.9e-08 | 4.4e-08 | 3.4e-08 | 1.2e-08 | 3.2e-07 | 1.1e-05 | 2.2e-05 | 9.9e-06 | 2.3e-05 | 3.3e-07 | 2.1e-08 | 6.6e-05 |
| Gulf of Maine Request for Competitive Interest | 4.2e-13 | 2.9e-14 | 3.2e-11 | 1.6e-11 | 7.6e-12 | 2.1e-10 | 6.0e-09 | 2.0e-08 | 6.9e-09 | 8.7e-09 | 8.5e-11 | 5.6e-19 | 4.2e-08 |
| Marine Research Array Requested Lease | 1.1e-13 | 8.5e-16 | 3.5e-12 | 1.6e-12 | 9.2e-13 | 2.4e-11 | 7.5e-10 | 2.3e-09 | 8.3e-10 | 1.0e-09 | 1.7e-11 | 8.1e-20 | 5.0e-09 |
| Rhode Island OCS-A 0506 | 3.4e-11 | 3.9e-12 | 3.6e-12 | 2.7e-12 | 8.0e-12 | 2.6e-10 | 2.0e-09 | 2.5e-09 | 1.2e-09 | 1.0e-09 | 7.0e-10 | 2.5e-10 | 8.0e-09 |
| Rhode Island / Massachusetts OCS-A 0486 | 2.4e-09 | 1.6e-09 | 7.4e-10 | 2.4e-10 | 3.9e-10 | 1.7e-08 | 2.6e-07 | 3.5e-07 | 1.2e-07 | 2.0e-07 | 9.3e-08 | 1.6e-08 | 1.1e-06 |
| Rhode Island / Massachusetts OCS-A 0517 | 1.0e-09 | 2.2e-10 | 7.5e-11 | 3.8e-11 | 6.9e-11 | 2.8e-09 | 3.4e-08 | 4.2e-08 | 1.4e-08 | 2.4e-08 | 1.4e-08 | 8.3e-09 | 1.4e-07 |
| Rhode Island / Massachusetts OCS-A 0487 | 1.1e-09 | 5.6e-10 | 5.5e-10 | 1.4e-10 | 2.4e-10 | 1.2e-08 | 1.5e-07 | 1.7e-07 | 5.8e-08 | 1.7e-07 | 6.1e-08 | 9.6e-09 | 6.3e-07 |
| Massachusetts OCS-A 0500 | 3.8e-10 | 4.5e-10 | 5.3e-10 | 1.4e-10 | 2.6e-10 | 1.1e-08 | 2.0e-07 | 2.7e-07 | 7.6e-08 | 1.9e-07 | 5.2e-08 | 1.4e-09 | 8.1e-07 |
| Massachusetts OCS-A 0501 | 2.1e-10 | 1.5e-10 | 3.3e-10 | 8.3e-11 | 1.0e-10 | 4.3e-09 | 1.1e-07 | 1.6e-07 | 5.3e-08 | 1.0e-07 | 4.0e-08 | 1.6e-10 | 4.7e-07 |
| Massachusetts OCS-A 0534 | 6.4e-12 | 8.0e-11 | 1.2e-10 | 3.0e-11 | 5.1e-11 | 2.3e-09 | 5.1e-08 | 6.5e-08 | 2.1e-08 | 7.5e-08 | 1.7e-08 | 1.5e-12 | 2.3e-07 |
| Massachusetts OCS-A 0520 | 8.3e-11 | 8.0e-11 | 1.4e-10 | 4.5e-11 | 5.7e-11 | 2.4e-09 | 7.8e-08 | 1.1e-07 | 4.7e-08 | 1.4e-07 | 1.5e-08 | 7.2e-14 | 4.0e-07 |
| Massachusetts OCS-A 0521 | 4.7e-10 | 9.3e-11 | 2.4e-10 | 7.1e-11 | 6.8e-11 | 3.0e-09 | 1.3e-07 | 1.9e-07 | 9.3e-08 | 2.3e-07 | 2.1e-08 | 3.0e-11 | 6.7e-07 |
| Massachusetts OCS-A 0522 | 1.0e-09 | 3.2e-10 | 9.4e-10 | 2.3e-10 | 1.3e-10 | 6.8e-09 | 3.6e-07 | 5.4e-07 | 2.2e-07 | 4.8e-07 | 9.1e-08 | 1.5e-09 | 1.7e-06 |
| New York WEA - Fairways North | 2.1e-09 | 6.0e-10 | 2.8e-10 | 1.1e-10 | 1.6e-10 | 9.6e-09 | 7.7e-08 | 1.1e-07 | 5.4e-08 | 2.4e-07 | 6.4e-08 | 1.2e-08 | 5.8e-07 |
| New York WEA - Fairways South | 1.6e-09 | 2.0e-10 | 8.2e-11 | 5.6e-11 | 9.6e-11 | 7.2e-09 | 4.9e-08 | 6.4e-08 | 3.1e-08 | 8.5e-08 | 4.9e-08 | 2.3e-08 | 3.1e-07 |
| New York OCS-A 0512 | 5.5e-08 | 3.2e-09 | 1.3e-09 | 1.2e-09 | 2.3e-09 | 1.1e-07 | 6.4e-07 | 7.2e-07 | 4.1e-07 | 1.1e-06 | 1.0e-06 | 3.3e-07 | 4.4e-06 |
| NY/NJ OCS-A 0544 | 1.5e-09 | 5.3e-10 | 2.3e-10 | 8.3e-11 | 1.8e-10 | 1.3e-08 | 1.0e-07 | 1.1e-07 | 5.2e-08 | 1.1e-07 | 9.6e-08 | 2.0e-08 | 5.1e-07 |
| NY/NJ OCS-A 0537 | 5.0e-10 | 9.6e-11 | 4.1e-10 | 2.2e-11 | 4.9e-11 | 4.4e-09 | 7.3e-08 | 8.9e-08 | 3.0e-08 | 8.9e-08 | 3.4e-08 | 6.1e-09 | 3.3e-07 |
| NY/NJ OCS-A 0538 | 3.8e-13 | 2.0e-10 | 4.0e-09 | 6.1e-10 | 6.6e-10 | 5.8e-08 | 6.7e-07 | 1.0e-06 | 4.3e-07 | 1.1e-06 | 5.0e-07 | 1.7e-08 | 3.8e-06 |
| NY/NJ OCS-A 0539 | 2.5e-09 | 4.5e-09 | 9.4e-09 | 1.2e-09 | 1.1e-09 | 1.0e-07 | 1.1e-06 | 1.6e-06 | 7.0e-07 | 1.7e-06 | 1.4e-06 | 1.5e-07 | 6.8e-06 |
| NY/NJ OCS-A 0541 | 6.1e-09 | 3.6e-09 | 3.6e-09 | 4.4e-10 | 8.0e-10 | 3.8e-08 | 2.9e-07 | 3.7e-07 | 2.2e-07 | 6.5e-07 | 3.8e-07 | 3.4e-08 | 2.0e-06 |
| NY/NJ OCS-A 0542 | 5.5e-11 | 1.8e-09 | 2.4e-09 | 3.9e-10 | 5.7e-10 | 3.7e-08 | 4.0e-07 | 5.2e-07 | 2.6e-07 | 5.4e-07 | 5.0e-07 | 2.3e-08 | 2.3e-06 |
| New Jersey OCS-A 0549 | 5.8e-08 | 4.8e-09 | 7.8e-09 | 1.4e-08 | 3.0e-08 | 7.5e-07 | 6.4e-06 | 8.0e-06 | 4.3e-06 | 6.7e-06 | 4.2e-06 | 4.8e-07 | 3.1e-05 |
| New Jersey OCS-A 0499 | 1.2e-07 | 8.2e-09 | 8.0e-09 | 1.2e-08 | 2.3e-08 | 6.2e-07 | 4.9e-06 | 6.1e-06 | 3.7e-06 | 8.6e-06 | 4.3e-06 | 7.5e-07 | 2.9e-05 |
| New Jersey OCS-A 0498 | 9.4e-08 | 4.4e-09 | 5.4e-09 | 9.8e-09 | 1.9e-08 | 4.5e-07 | 3.6e-06 | 4.7e-06 | 2.7e-06 | 4.1e-06 | 3.0e-06 | 5.9e-07 | 1.9e-05 |
| New Jersey OCS-A 0532 | 5.1e-08 | 4.7e-09 | 1.1e-08 | 2.3e-08 | 5.4e-08 | 1.1e-06 | 8.6e-06 | 1.0e-05 | 6.7e-06 | 6.5e-06 | 3.5e-06 | 5.3e-07 | 3.7e-05 |
| Delaware OCS-A 0482 | 8.8e-08 | 6.3e-09 | 1.1e-08 | 1.6e-08 | 3.5e-08 | 8.0e-07 | 7.2e-06 | 8.1e-06 | 4.7e-06 | 7.7e-06 | 5.5e-06 | 1.1e-06 | 3.5e-05 |
| Delaware OCS-A 0519 | 6.9e-08 | 4.5e-09 | 3.8e-09 | 3.9e-09 | 8.6e-09 | 2.1e-07 | 1.9e-06 | 2.2e-06 | 1.2e-06 | 2.5e-06 | 1.8e-06 | 4.7e-07 | 1.0e-05 |
| Maryland OCS-A 0490 | 2.4e-07 | 2.4e-08 | 2.8e-08 | 3.6e-08 | 7.3e-08 | 1.6e-06 | 1.4e-05 | 1.4e-05 | 8.8e-06 | 1.4e-05 | 9.4e-06 | 2.3e-06 | 6.5e-05 |
| Central Atlantic Call Area A | 3.7e-07 | 4.6e-08 | 2.8e-08 | 9.2e-09 | 2.7e-08 | 6.6e-07 | 3.8e-06 | 4.2e-06 | 3.0e-06 | 6.8e-06 | 6.3e-06 | 9.3e-07 | 2.6e-05 |
| Central Atlantic Draft WEA Primary A | 8.4e-08 | 6.9e-09 | 5.3e-09 | 2.1e-09 | 5.5e-09 | 1.4e-07 | 8.4e-07 | 1.0e-06 | 6.9e-07 | 1.8e-06 | 1.3e-06 | 2.4e-07 | 6.1e-06 |
| Central Atlantic Draft WEA Secondary A | 1.6e-07 | 2.0e-08 | 1.2e-08 | 4.1e-09 | 1.2e-08 | 3.1e-07 | 1.6e-06 | 1.8e-06 | 1.3e-06 | 2.7e-06 | 2.7e-06 | 3.2e-07 | 1.1e-05 |
| Central Atlantic Call Area B | 4.1e-06 | 8.1e-07 | 3.4e-07 | 1.4e-07 | 8.0e-07 | 1.2e-05 | 6.6e-05 | 3.1e-05 | 2.3e-05 | 5.8e-05 | 6.2e-05 | 2.7e-05 | 2.9e-04 |
| Central Atlantic Draft WEA Primary B1 | 1.0e-07 | 9.3e-09 | 5.5e-09 | 5.0e-09 | 1.9e-08 | 3.9e-07 | 1.7e-06 | 1.1e-06 | 9.3e-07 | 2.3e-06 | 2.1e-06 | 6.8e-07 | 9.3e-06 |
| Central Atlantic Draft WEA Secondary B1 | 4.8e-08 | 7.3e-09 | 2.9e-09 | 1.8e-09 | 7.3e-09 | 1.5e-07 | 6.7e-07 | 4.2e-07 | 3.7e-07 | 7.9e-07 | 8.4e-07 | 3.3e-07 | 3.6e-06 |
| Central Atlantic Draft WEA Primary B2 | 2.2e-06 | 3.5e-07 | 1.2e-07 | 6.2e-08 | 4.5e-07 | 5.8e-06 | 3.1e-05 | 1.2e-05 | 9.3e-06 | 2.4e-05 | 2.9e-05 | 1.5e-05 | 1.3e-04 |
| Central Atlantic Draft WEA Secondary B2 | 3.1e-07 | 5.2e-08 | 1.6e-08 | 7.2e-09 | 4.2e-08 | 6.3e-07 | 3.8e-06 | 1.9e-06 | 1.3e-06 | 3.5e-06 | 4.1e-06 | 1.4e-06 | 1.7e-05 |
| Central Atlantic Call Area C | 4.5e-06 | 6.8e-07 | 4.4e-07 | 1.4e-07 | 4.4e-07 | 5.3e-06 | 1.9e-05 | 1.0e-05 | 1.2e-05 | 3.6e-05 | 3.4e-05 | 1.4e-05 | 1.4e-04 |
| Central Atlantic Draft WEA Primary C | 2.3e-06 | 2.6e-07 | 1.2e-07 | 4.6e-08 | 1.7e-07 | 2.1e-06 | 6.8e-06 | 3.4e-06 | 3.9e-06 | 1.4e-05 | 1.5e-05 | 7.2e-06 | 5.6e-05 |
| Central Atlantic Draft WEA Secondary C | 1.4e-06 | 2.8e-07 | 2.1e-07 | 6.1e-08 | 1.8e-07 | 2.2e-06 | 8.3e-06 | 4.6e-06 | 5.1e-06 | 1.5e-05 | 1.3e-05 | 4.8e-06 | 5.5e-05 |
| Central Atlantic Call Area D | 6.5e-05 | 2.0e-05 | 2.0e-05 | 6.6e-06 | 3.9e-06 | 2.8e-05 | 8.1e-05 | 3.9e-05 | 5.0e-05 | 2.6e-04 | 3.5e-04 | 2.4e-04 | 1.2e-03 |

| BOEM area | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Annual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Central Atlantic Draft WEA Primary D | 2.0e-05 | 3.9e-06 | 2.9e-06 | 8.7e-07 | 9.4e-07 | 9.8e-06 | 2.6e-05 | 1.3e-05 | 1.6e-05 | 8.2e-05 | 1.0e-04 | 8.4e-05 | 3.6e-04 |
| Central Atlantic Draft WEA Secondary D | 2.4e-06 | 2.9e-07 | 7.6e-08 | 3.1e-08 | 7.2e-08 | 8.8e-07 | 2.0e-06 | 1.0e-06 | 1.3e-06 | 8.1e-06 | 8.5e-06 | 8.4e-06 | 3.3e-05 |
| Central Atlantic Call Area E | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.4e-17 | 1.6e-16 |
| Central Atlantic Draft WEA Primary E1 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 3.7e-18 | 4.5e-17 |
| Central Atlantic Draft WEA Primary E2 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 2.7e-18 | 3.3e-17 |
| Central Atlantic Call Area F | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 6.5e-18 | 7.8e-17 |
| Central Atlantic Draft WEA Primary F | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 3.3e-19 | 4.0e-18 |
| Virginia OCS-A 0483 | 1.1e-06 | 6.2e-08 | 5.7e-08 | 1.1e-07 | 3.4e-07 | 3.2e-06 | 6.5e-06 | 4.0e-06 | 5.2e-06 | 2.1e-05 | 2.2e-05 | 4.1e-06 | 6.8e-05 |
| Virginia OCS-A 0497 | 4.2e-08 | 7.1e-09 | 1.4e-08 | 4.1e-08 | 7.7e-08 | 3.1e-07 | 8.1e-07 | 5.6e-07 | 7.4e-07 | 8.9e-07 | 6.6e-07 | 1.5e-07 | 4.3e-06 |
| North Carolina OCS-A 0508 | 5.1e-06 | 1.3e-06 | 1.3e-06 | 3.8e-07 | 2.6e-07 | 2.4e-06 | 6.1e-06 | 2.9e-06 | 3.9e-06 | 2.3e-05 | 3.1e-05 | 2.3e-05 | 1.0e-04 |
| North Carolina OCS-A 0545 | 2.7e-05 | 8.3e-06 | 7.0e-06 | 2.0e-06 | 6.1e-07 | 1.3e-06 | 1.9e-06 | 1.2e-06 | 1.8e-06 | 1.5e-05 | 3.1e-05 | 5.6e-05 | 1.5e-04 |
| North Carolina OCS-A 0546 | 2.7e-05 | 9.8e-06 | 9.3e-06 | 2.4e-06 | 6.6e-07 | 1.4e-06 | 2.1e-06 | 1.5e-06 | 2.1e-06 | 1.5e-05 | 3.3e-05 | 5.3e-05 | 1.6e-04 |
| South Carolina Call Area - Grand Strand | 4.9e-04 | 1.5e-04 | 6.8e-04 | 1.0e-03 | 3.4e-04 | 5.8e-04 | 7.7e-04 | 4.7e-04 | 4.6e-04 | 6.1e-04 | 6.7e-04 | 7.1e-04 | 7.0e-03 |
| South Carolina Call Area - Cape Romain | 2.3e-04 | 8.3e-05 | 2.8e-04 | 4.1e-04 | 1.1e-04 | 1.6e-04 | 1.8e-04 | 1.2e-04 | 1.3e-04 | 2.0e-04 | 2.5e-04 | 2.6e-04 | 2.4e-03 |
| South Carolina Call Area - Winyah | 5.8e-07 | 1.2e-06 | 2.6e-06 | 7.5e-07 | 1.2e-07 | 2.1e-07 | 3.2e-07 | 2.7e-07 | 2.6e-07 | 2.8e-07 | 4.8e-09 | 1.0e-06 | 7.6e-06 |
| South Carolina Call Area - Charleston | 1.8e-05 | 8.2e-06 | 8.3e-06 | 2.6e-06 | 5.4e-07 | 9.6e-07 | 1.4e-06 | 1.2e-06 | 1.1e-06 | 7.1e-06 | 1.5e-05 | 3.9e-05 | 1.0e-04 |
| All planning areas | 8.1e-04 | 2.7e-04 | 1.0e-03 | 1.4e-03 | 4.6e-04 | 7.9e-04 | 1.1e-03 | 6.9e-04 | 6.9e-04 | 1.2e-03 | 1.4e-03 | 1.3e-03 | 1.1e-02 |
| All lease areas | 6.1e-05 | 2.0e-05 | 1.8e-05 | 5.1e-06 | 2.2e-06 | 1.5e-05 | 6.9e-05 | 6.9e-05 | 4.8e-05 | 1.3e-04 | 1.5e-04 | 1.4e-04 | 7.4e-04 |
| All planning and lease areas | 8.7e-04 | 2.9e-04 | 1.0e-03 | 1.4e-03 | 4.6e-04 | 8.0e-04 | 1.2e-03 | 7.6e-04 | 7.3e-04 | 1.3e-03 | 1.5e-03 | 1.4e-03 | 1.2e-02 |

Note: lease numbers (e.g., OCS-A ####) are listed only for BOEM areas that have active leases; all remaining BOEM areas are considered “planning” areas.
Monthly cell values are shaded from low to high based on a white-to-red linear color ramp

**U.S. Department of the Interior (DOI)**
DOI protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

**Bureau of Ocean Energy Management (BOEM)**
BOEM's mission is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.

**BOEM Environmental Studies Program**
The mission of the Environmental Studies Program is to provide the information needed to predict, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities on human, marine, and coastal environments. The proposal, selection, research, review, collaboration, production, and dissemination of each of BOEM's Environmental Studies follows the DOI Code of Scientific and Scholarly Conduct, in support of a culture of scientific and professional integrity, as set out in the DOI Departmental Manual (305 DM 3).