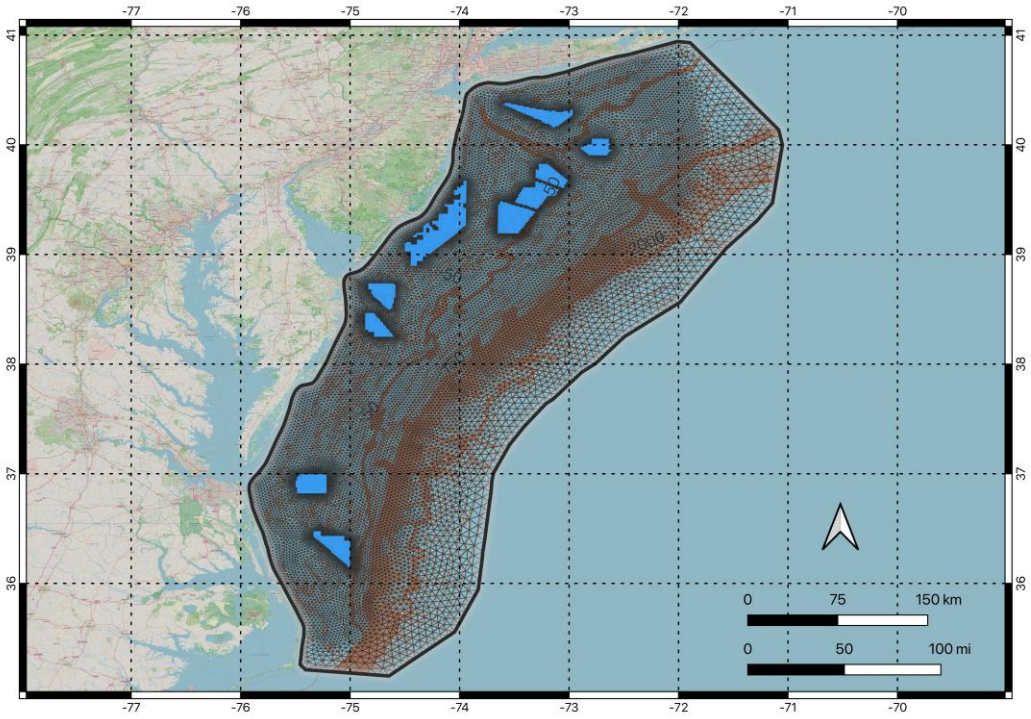
OCS Study
BOEM 2025-016

Offshore Wind Impact on Oceanographic Processes: North Carolina to New York, Volume 2 – RPS: Appendices



U.S. Department of the Interior
Bureau of Ocean Energy Management
Sterling, VA

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OCS Study
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Offshore Wind Impact on Oceanographic Processes: North Carolina to New York, Volume 2 - RPS: Appendices

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DISCLAIMER

Study concept, oversight, and funding were provided by the U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM), Environmental Studies Program, Washington, DC, under Contract Number 140M0123C0001 with RPS Ocean Science and Pacific Northwest National Laboratory. This report has been technically reviewed by BOEM, and it has been approved for publication. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of BOEM, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

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ABOUT THE COVER

Mid-Atlantic Bight Model domain, North Carolina to New York, with bathymetric contours (brown, labels in meters), and offshore Wind Energy Areas included in this study (blue).

ACKNOWLEDGMENTS

This project was supported by the Bureau of Safety and Environmental Enforcement (BSEE), of the U.S. Department of the Interior (DOI), on behalf of the Bureau of Ocean Energy Management (BOEM) under contract number 140M0123C0001. We would like to thank the BOEM supervisors for this project: Jennifer Draher (Oceanographer and Contracting Officer Representative), Thomas Kilpatrick (Oceanographer), Brian Hooker (Lead Biologist), Ursula Howson (Fish Biologist), Travis Washington (Physical Scientist) and Kyle Baker (Marine Biologist) all of whom provided valuable advice and suggestions for this study. We are also grateful to Jennifer Moreci (BSEE) and Timothy White. Special thanks to Marlein Geraeds for her input and discussion about velocity interpolation in Delft3D-FM and Chris Orphanides (Marine Resource Management Specialist, NOAA NMFS) for his participation in project meetings and his very helpful comments and suggestions. We thank Nicholas Baccari, Christina Buxton, Sandra Deeb, and Fei Xing for their editing assistance.

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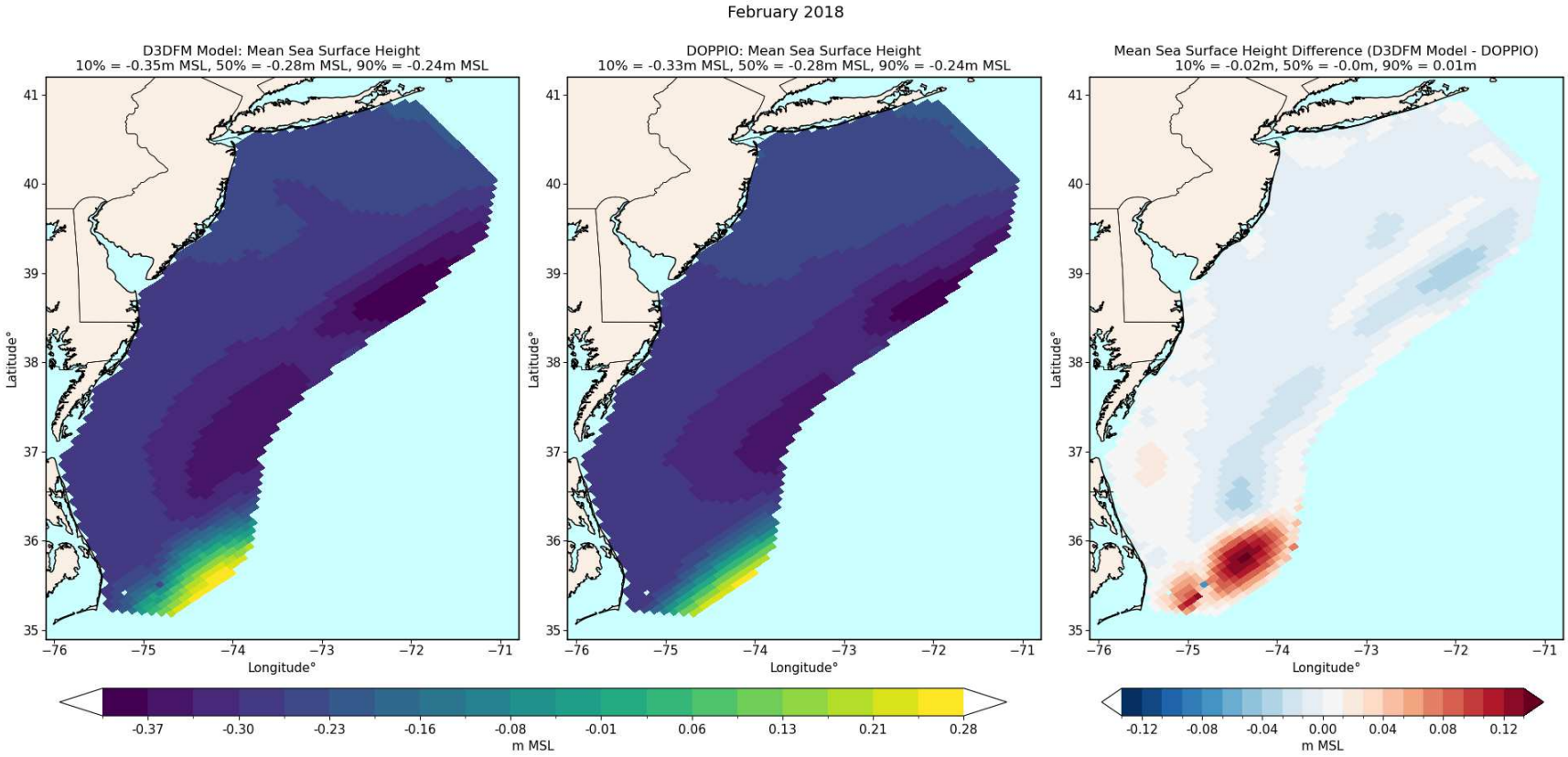

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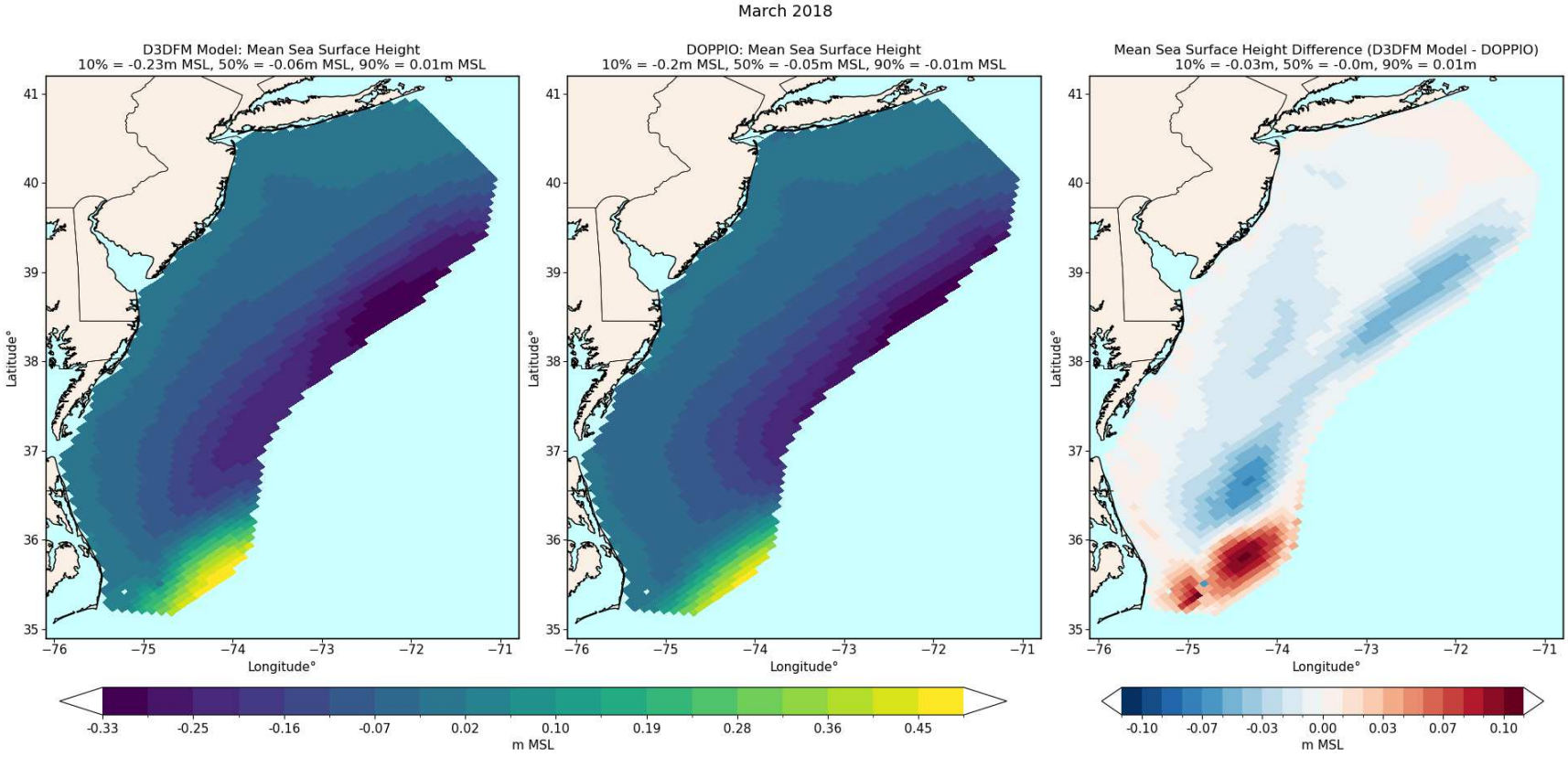

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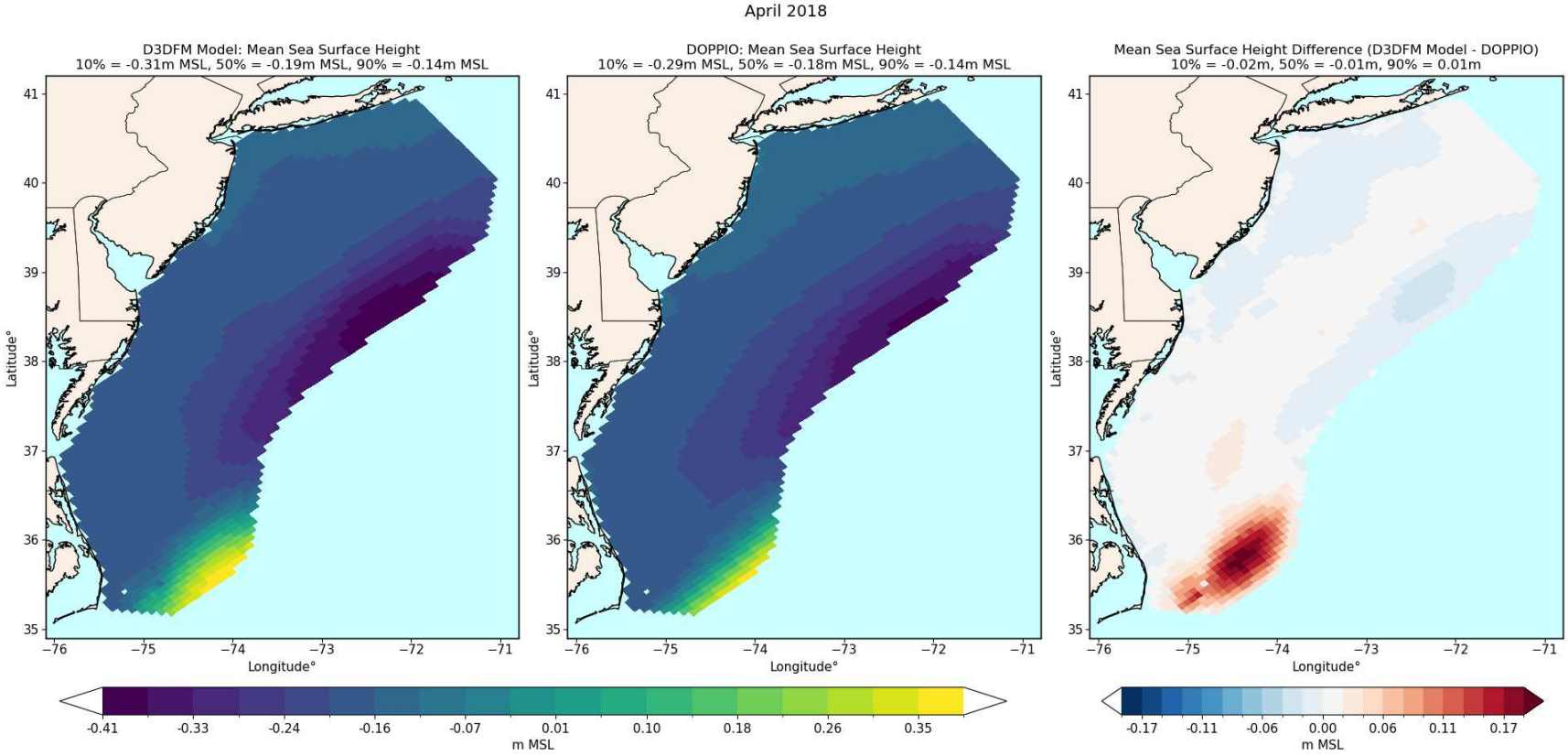

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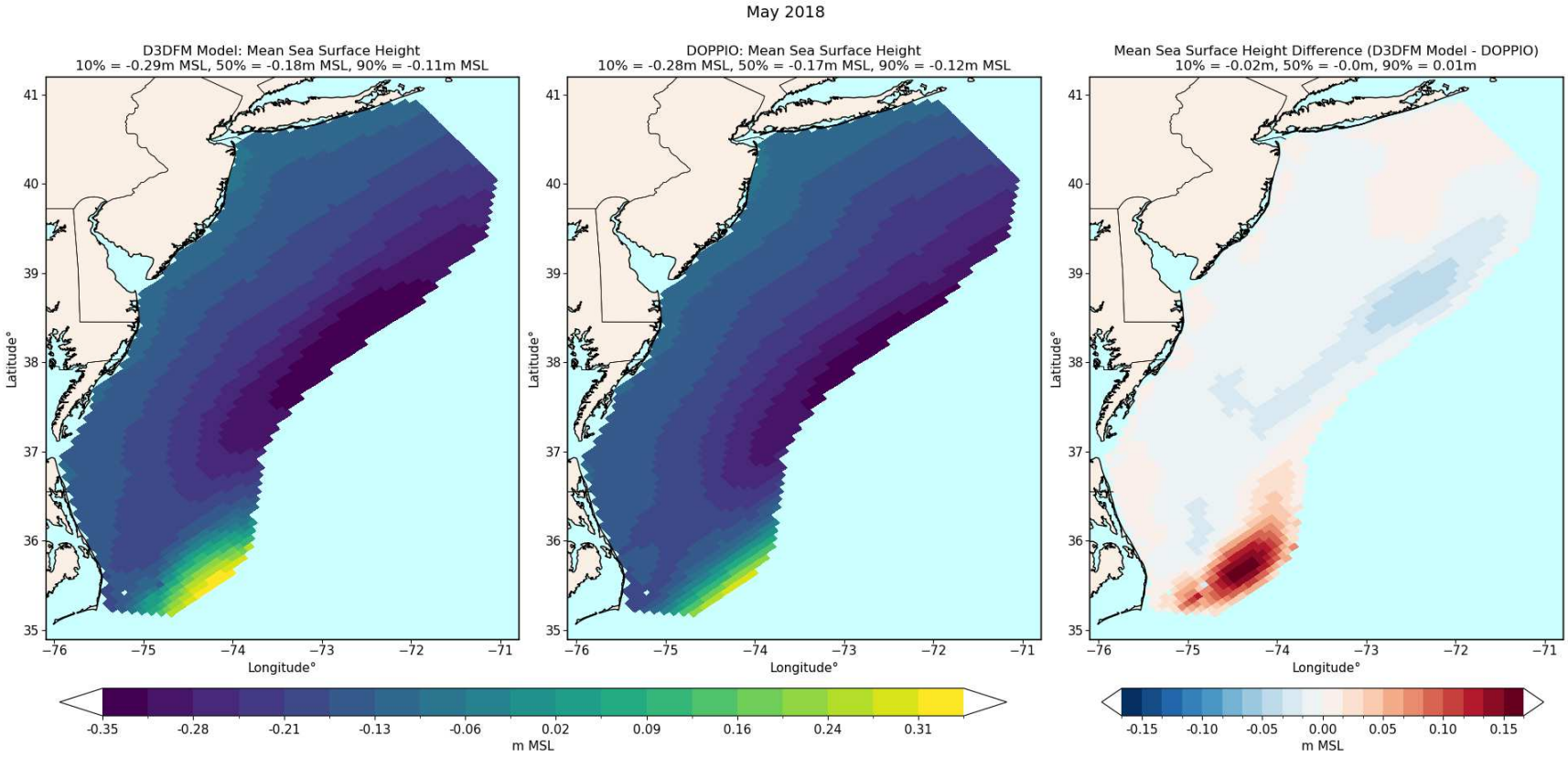

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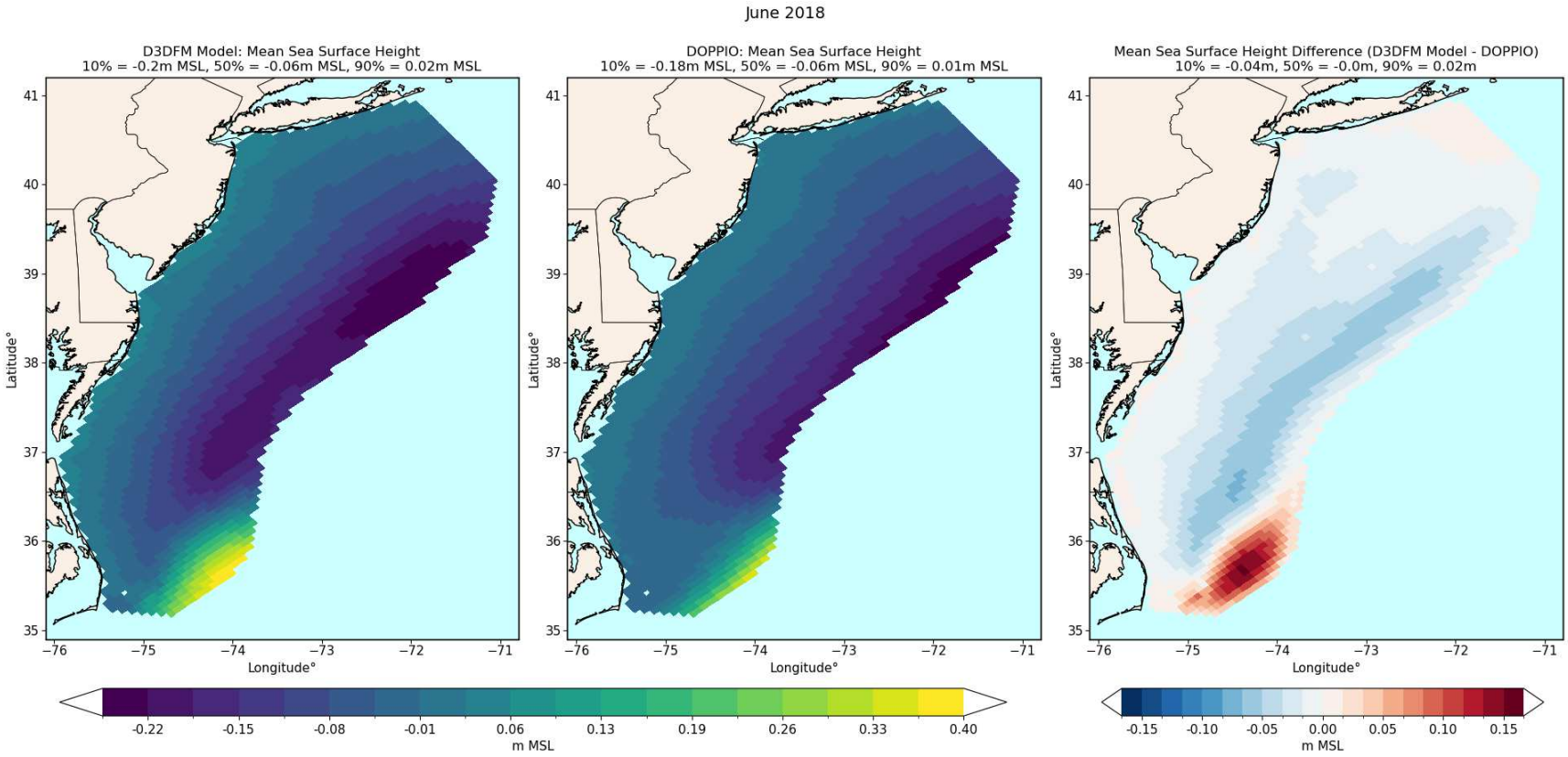

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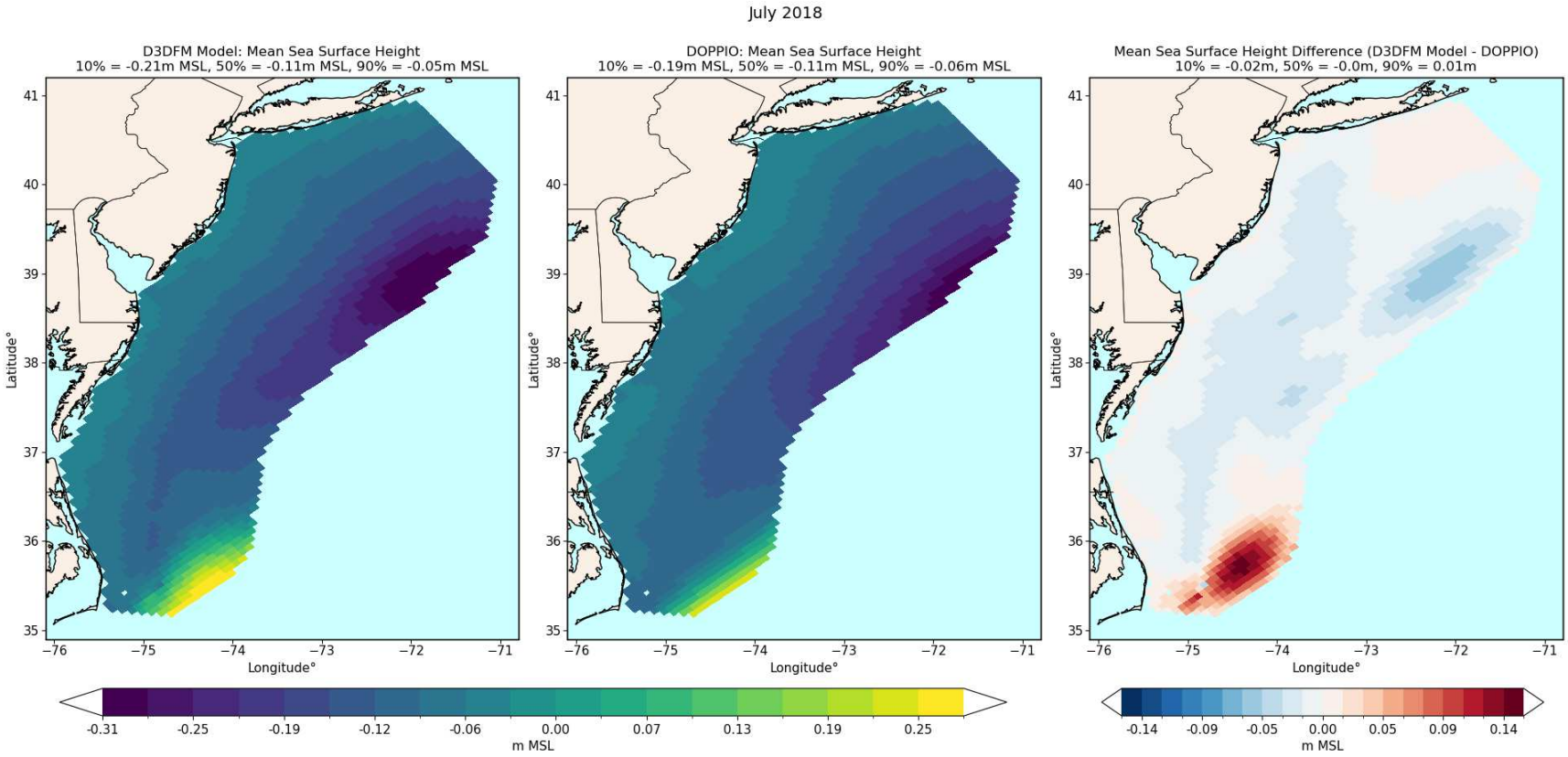

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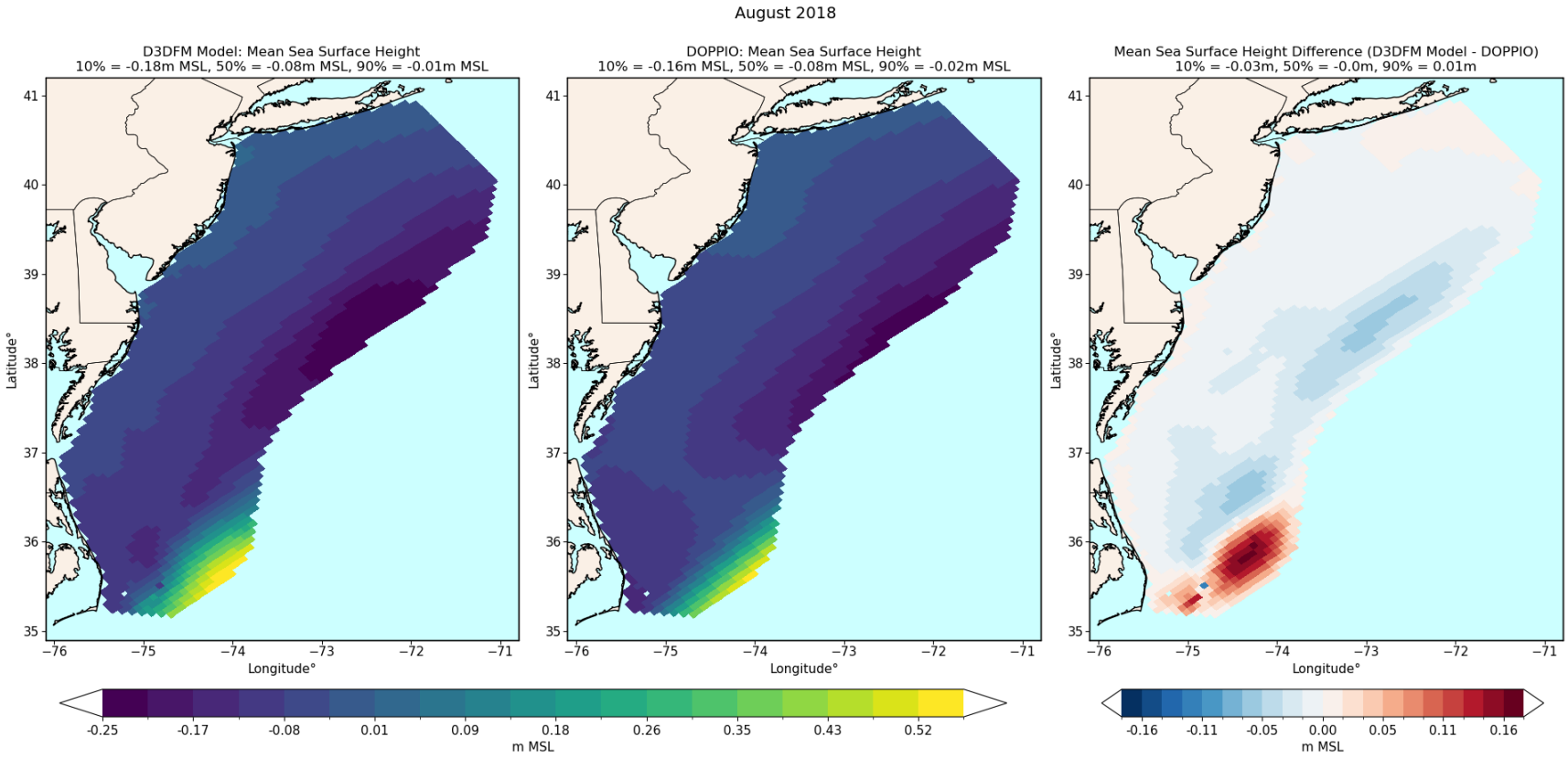

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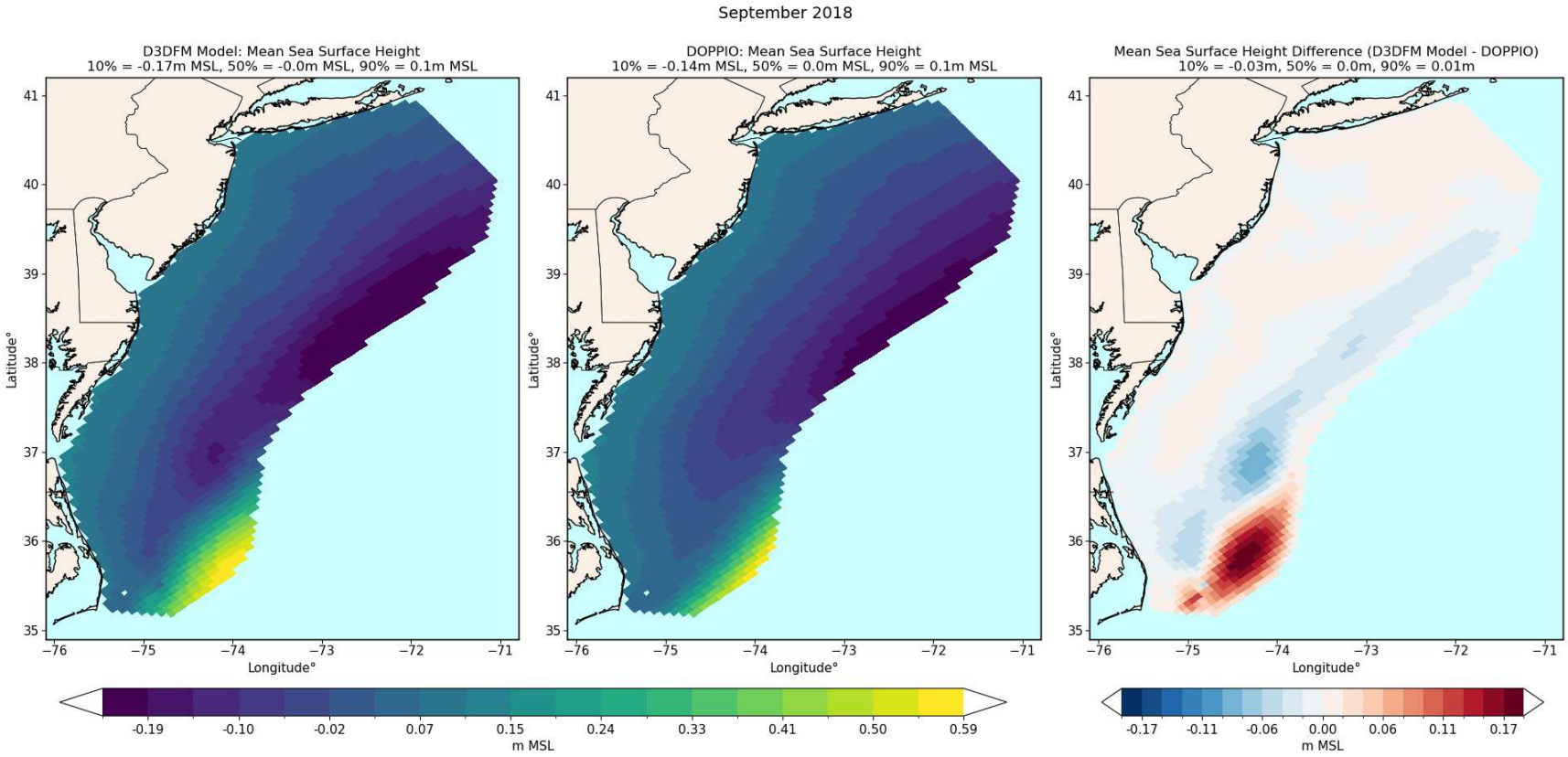

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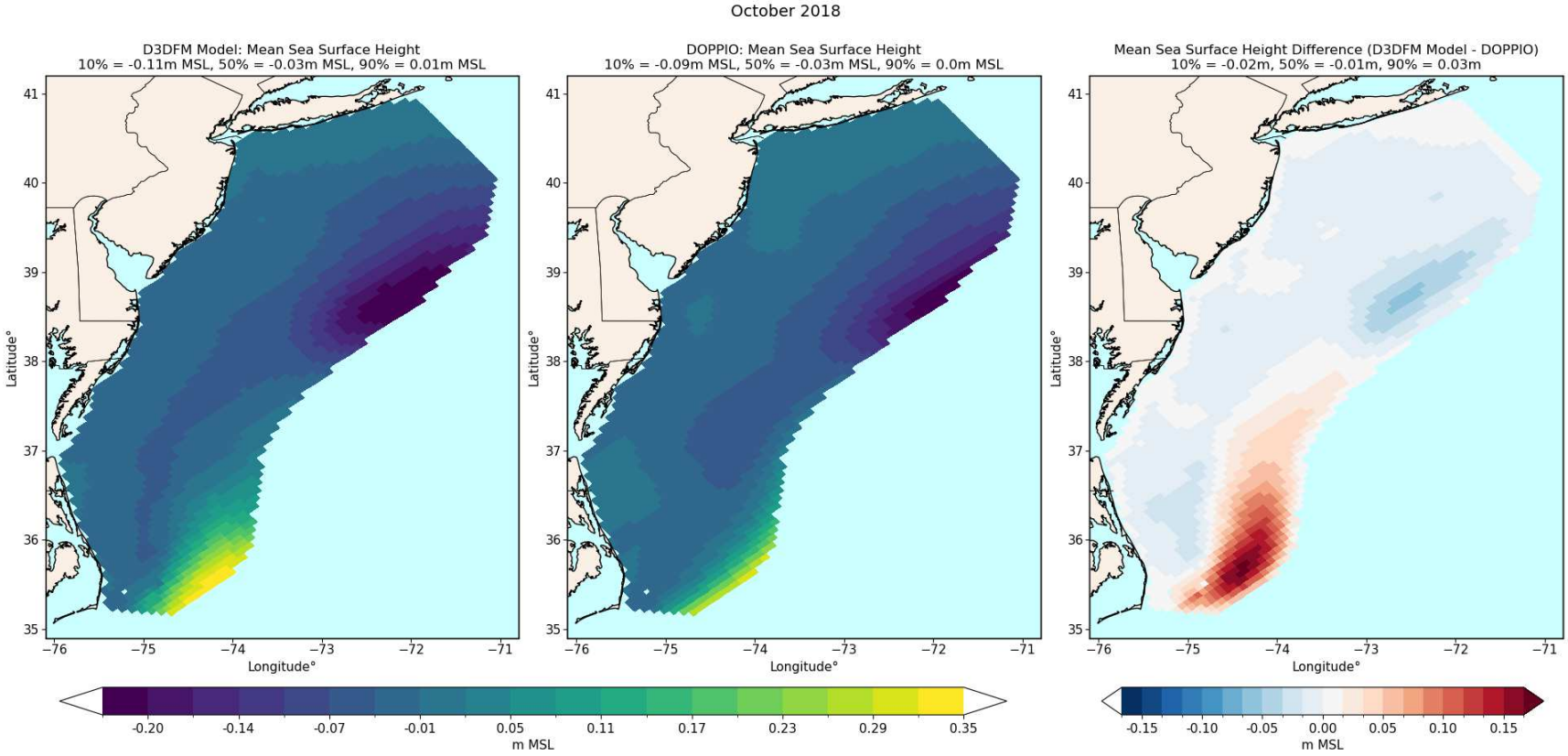

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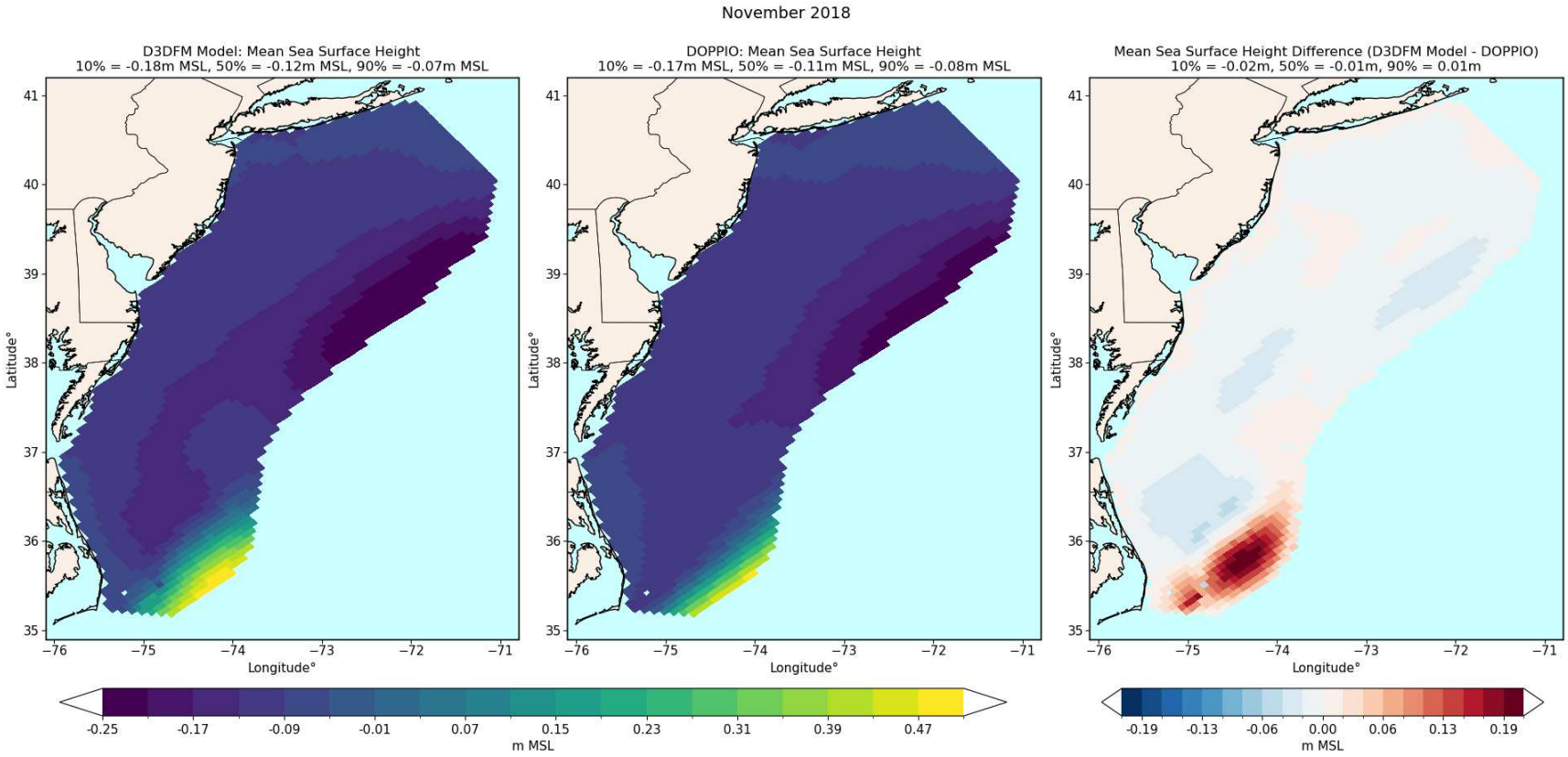

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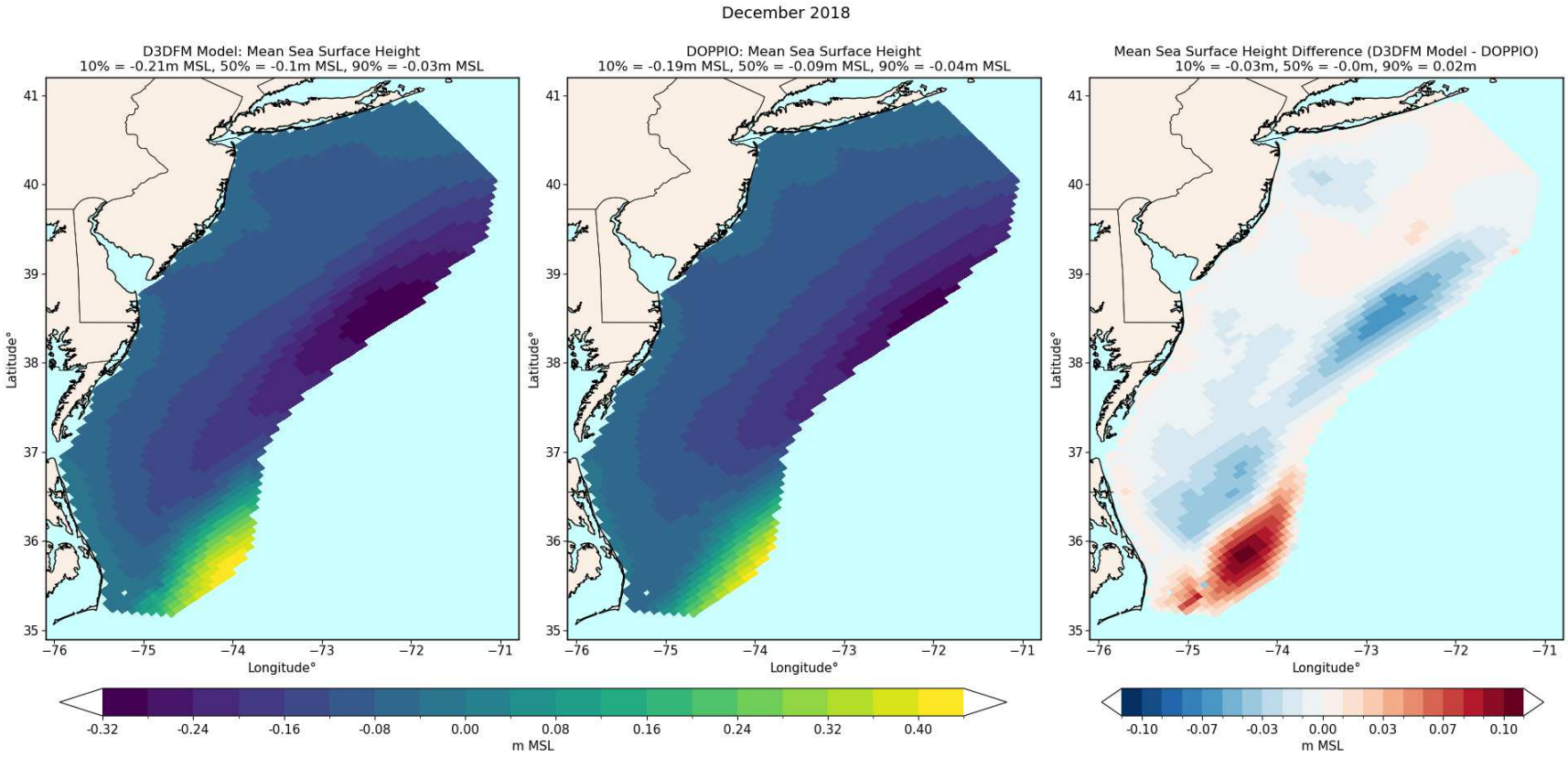

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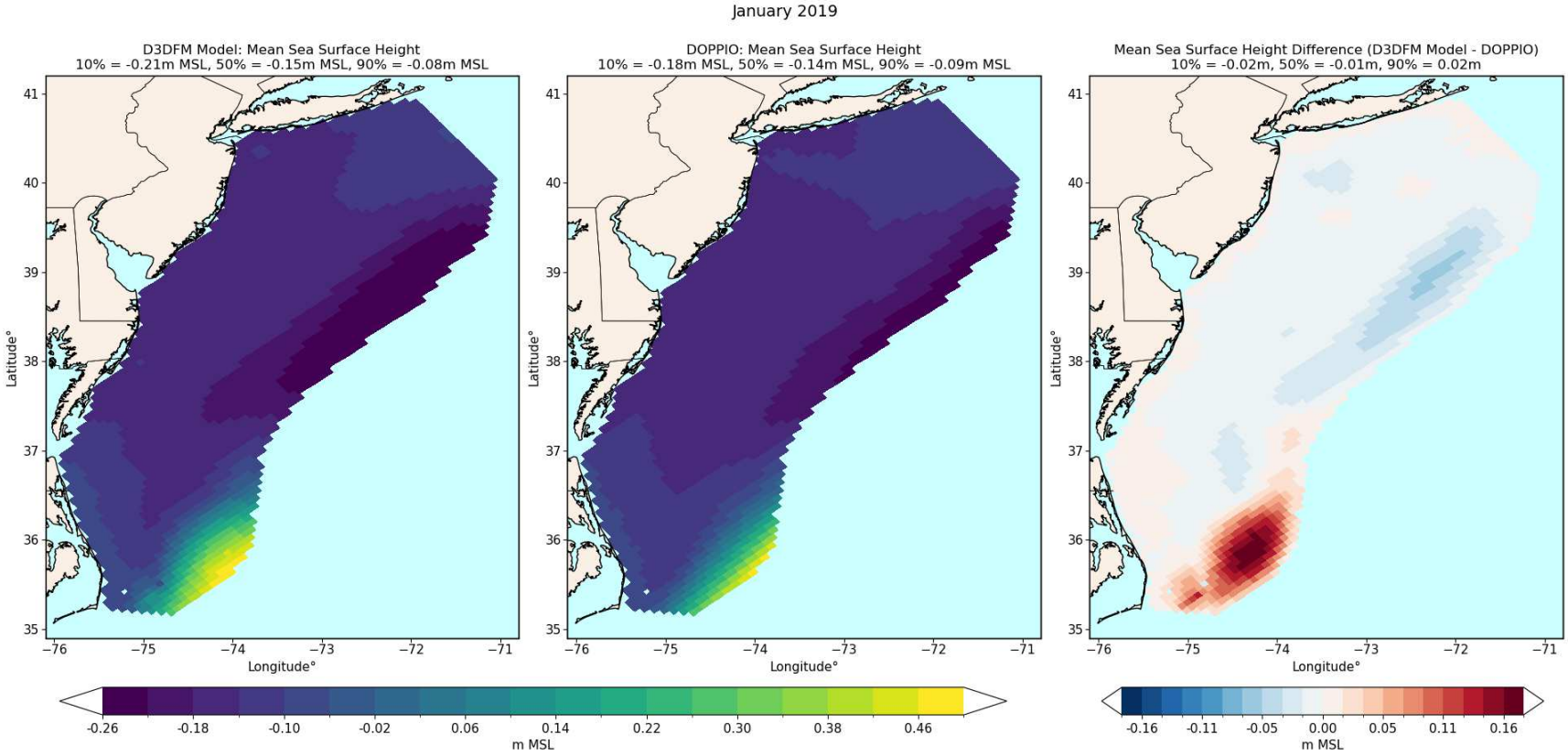

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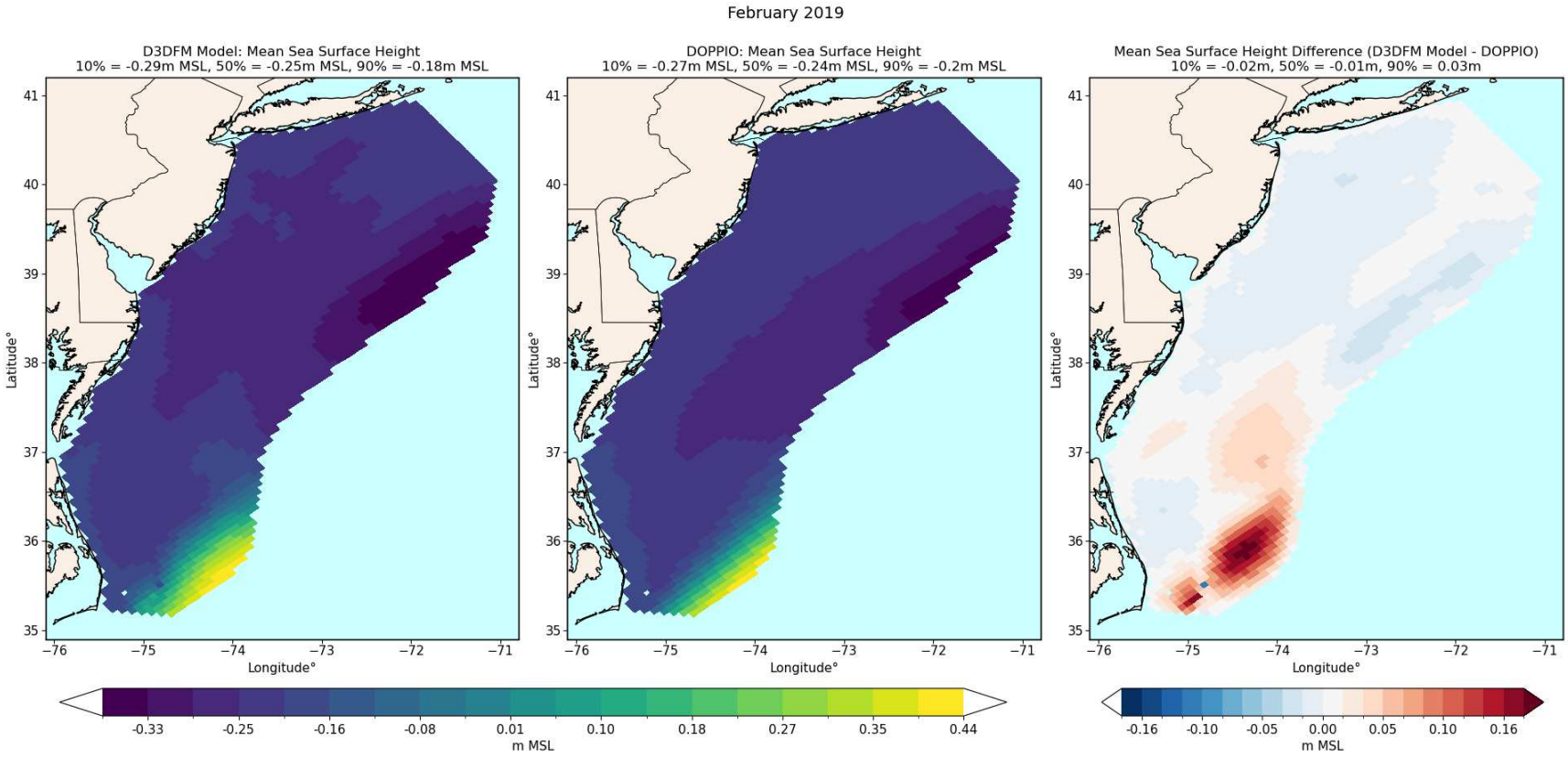

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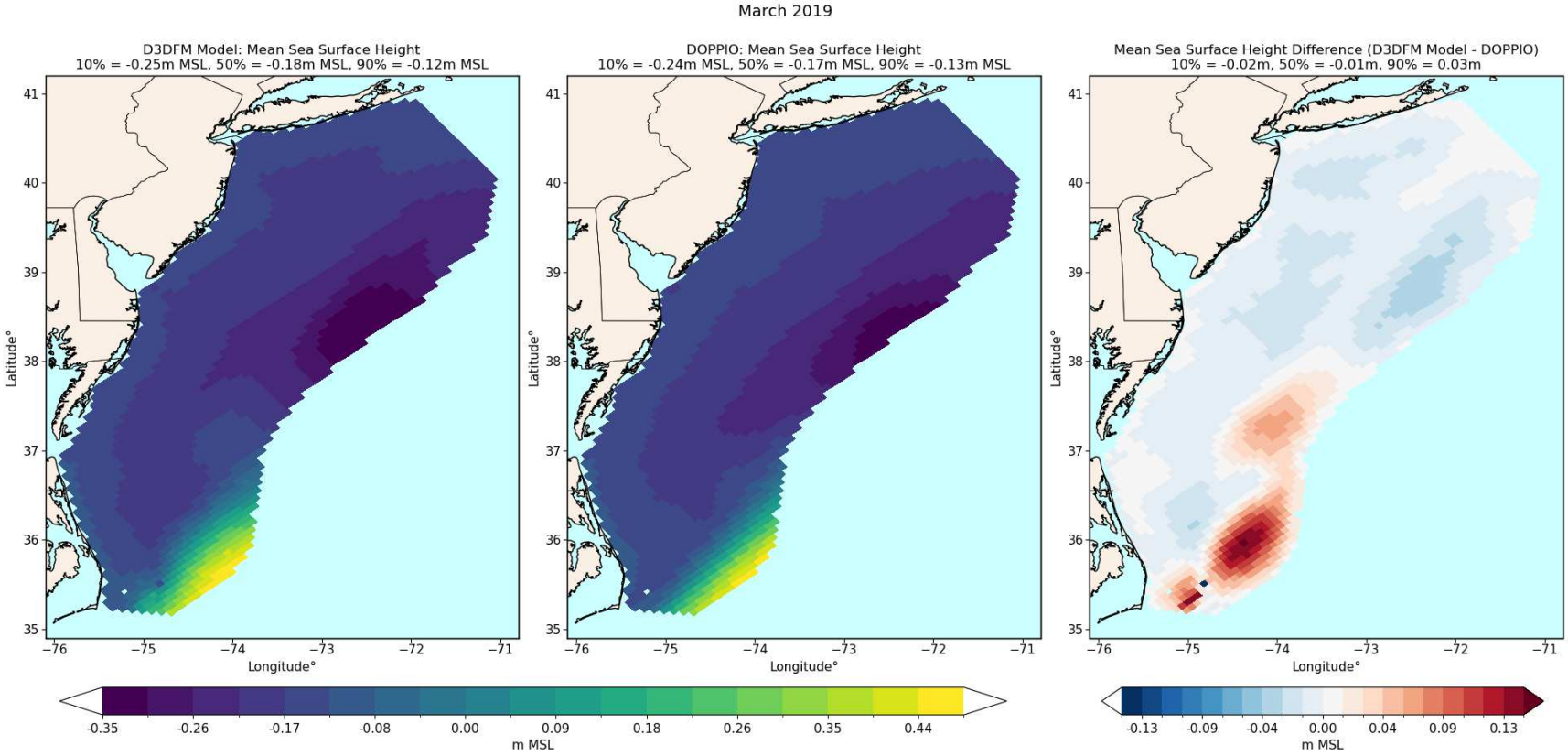

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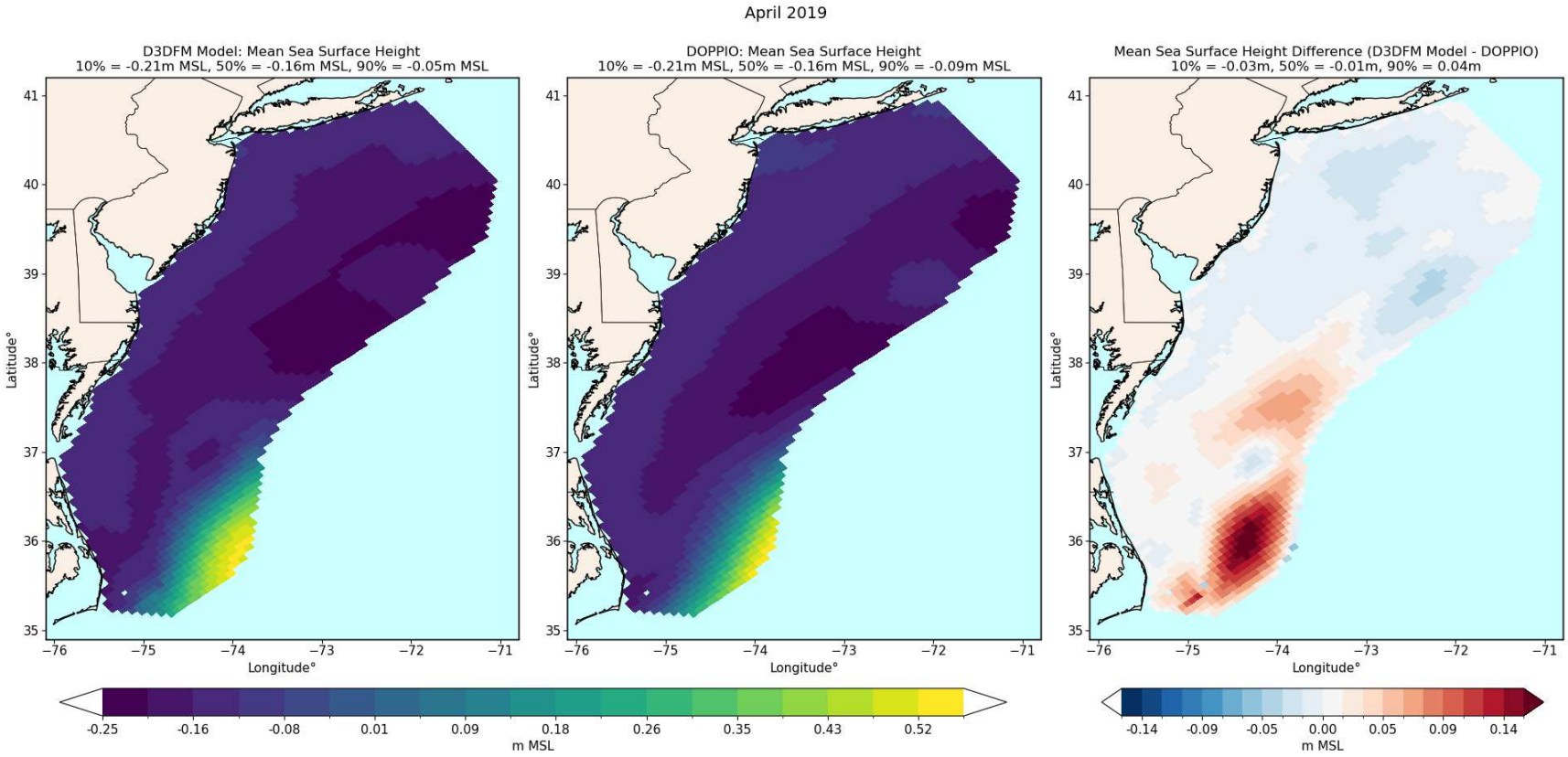

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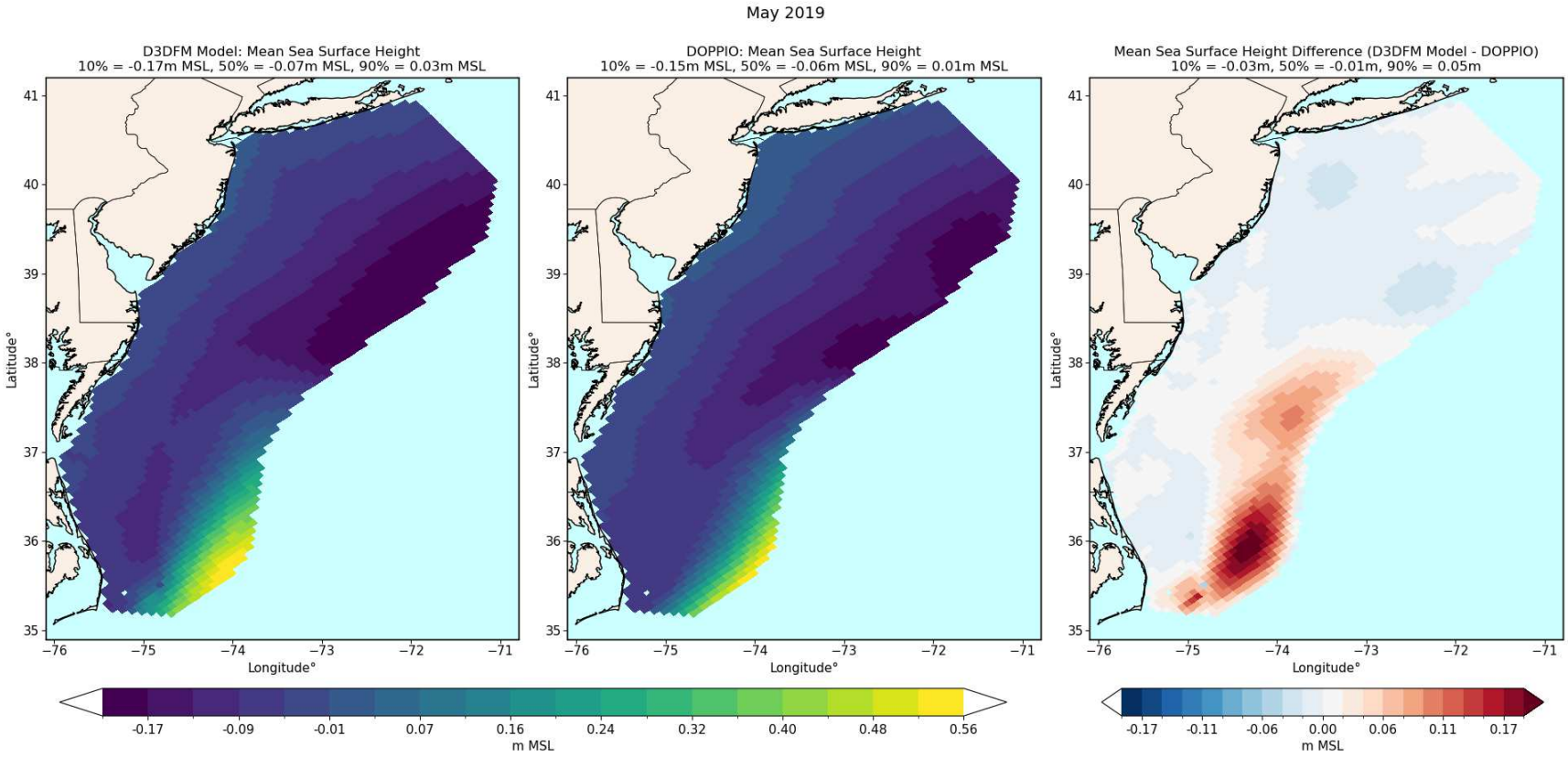

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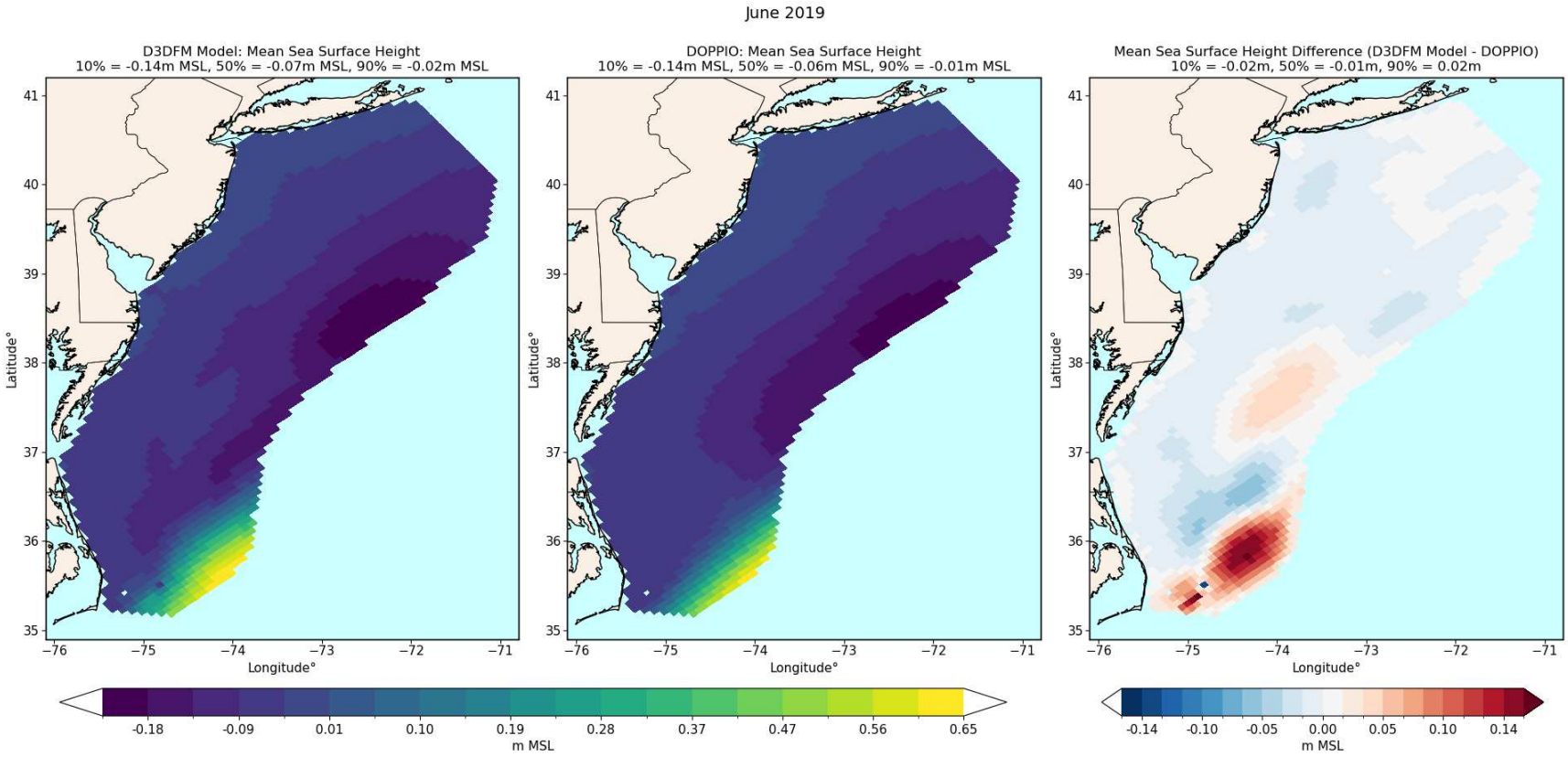

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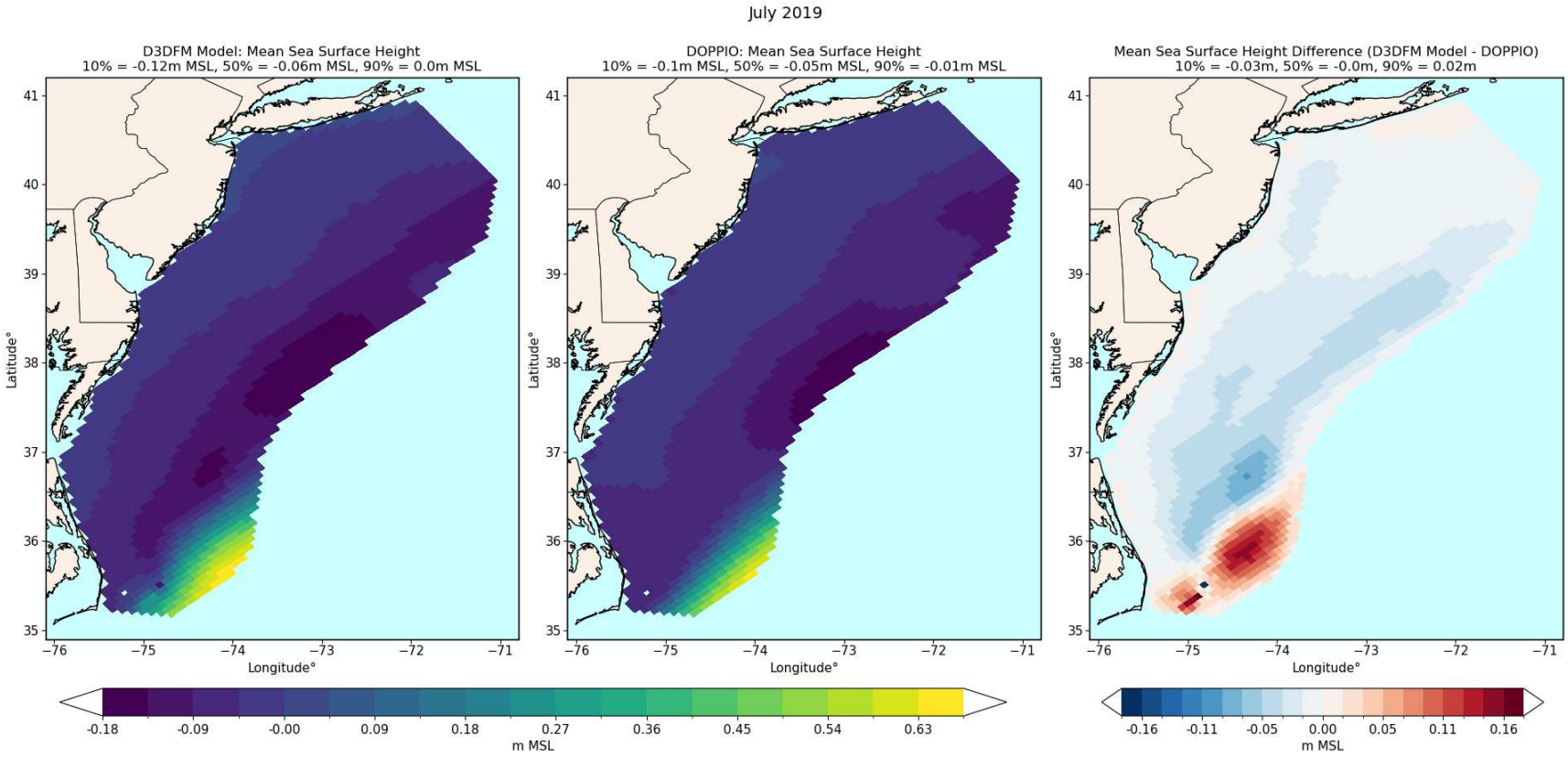

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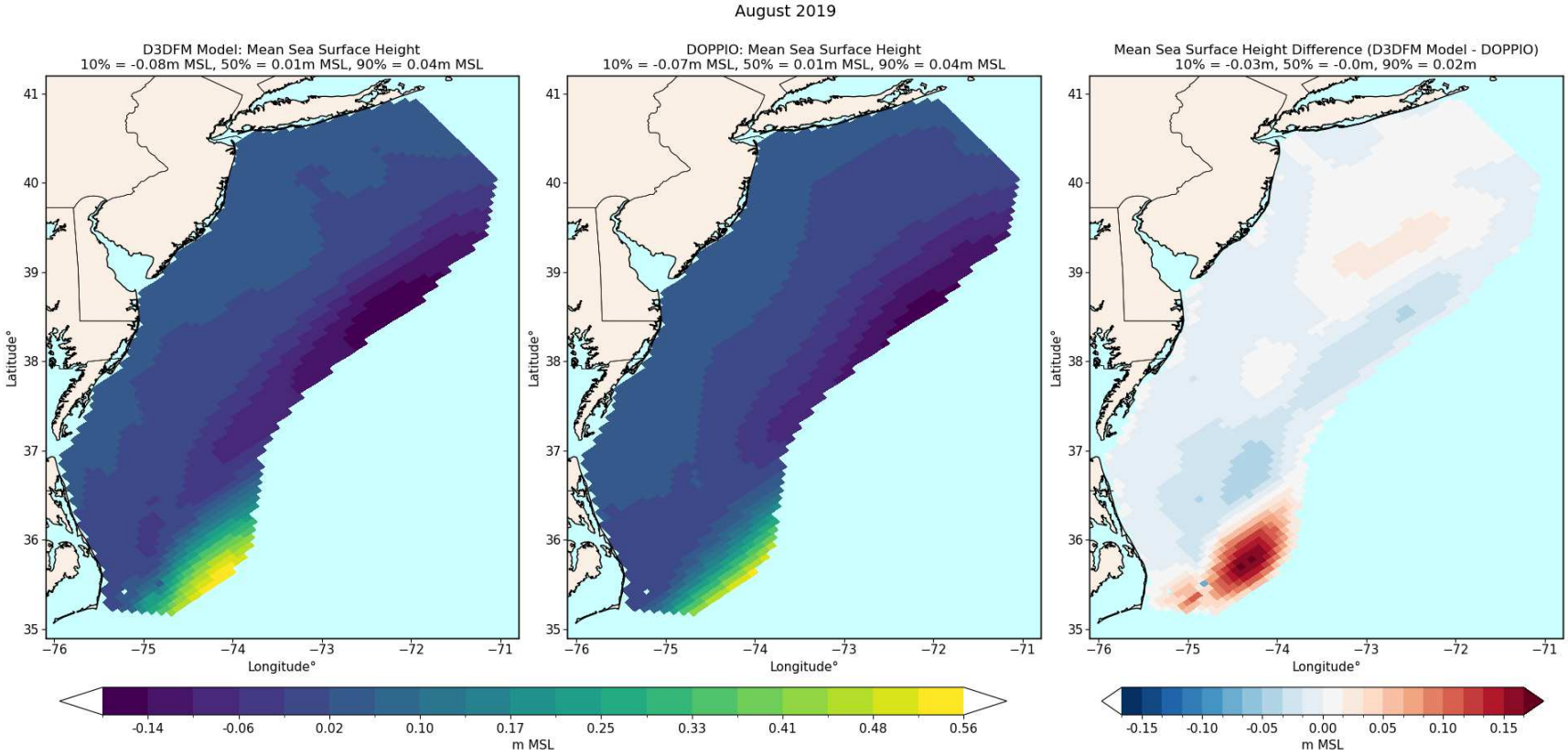

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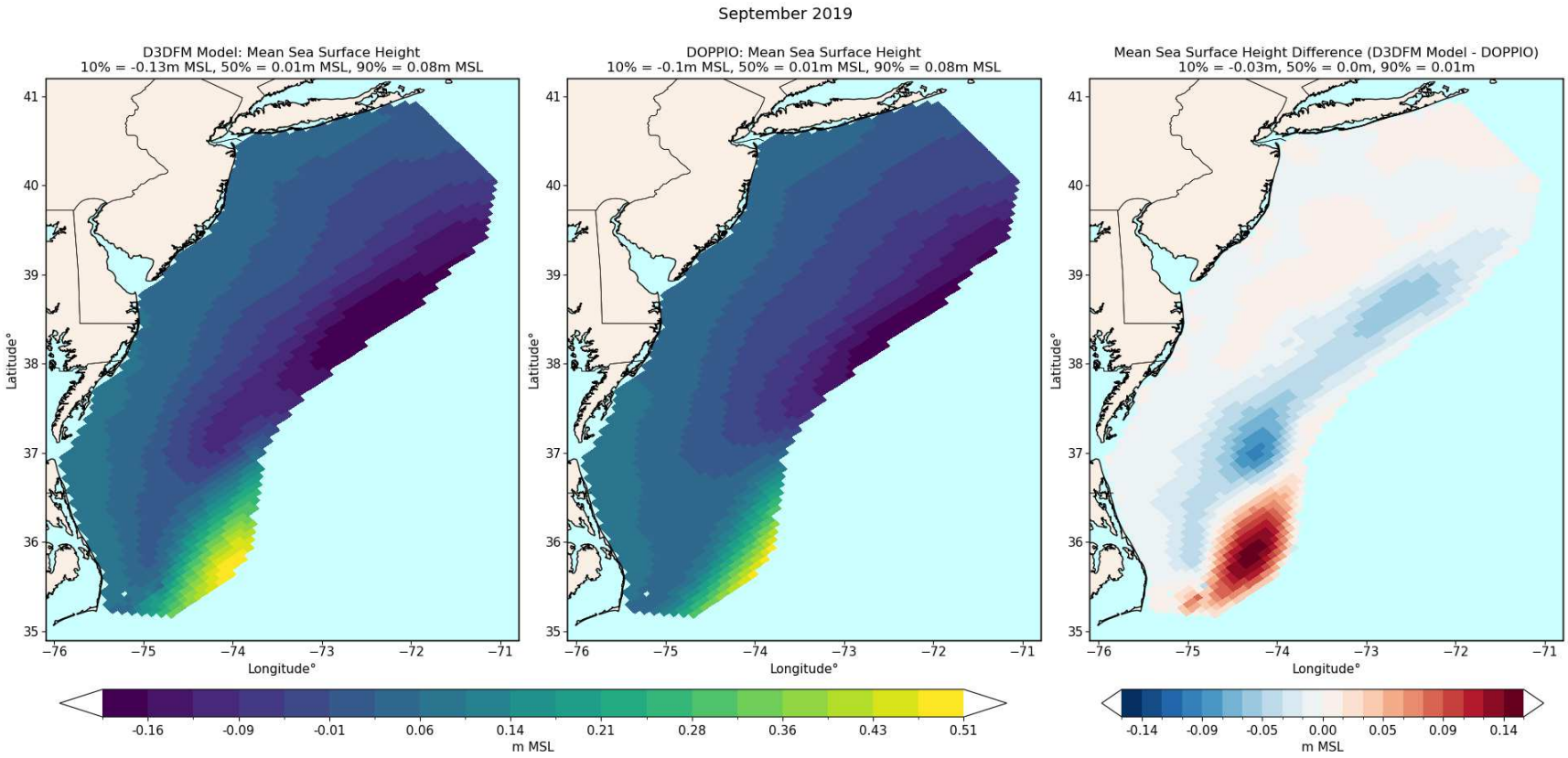

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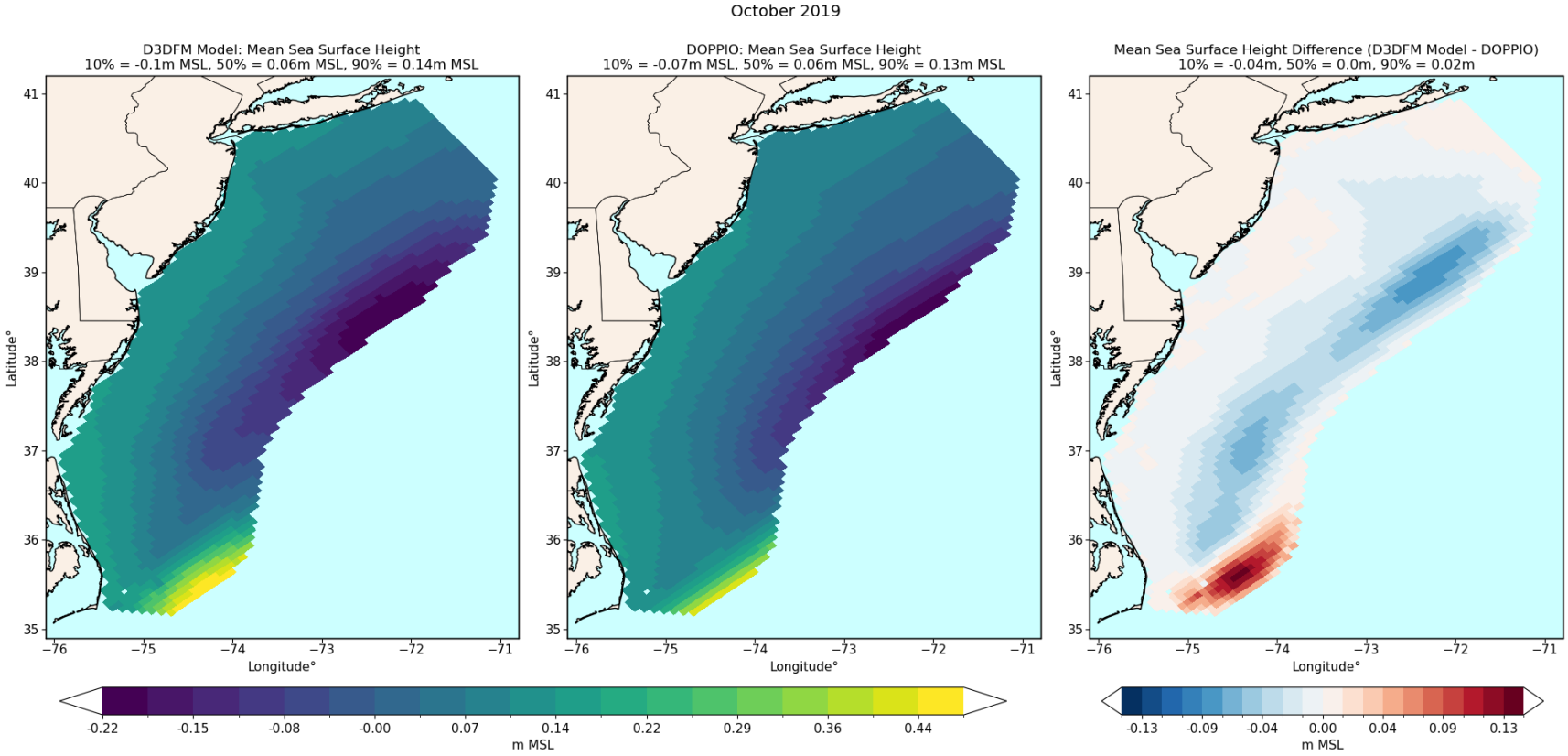

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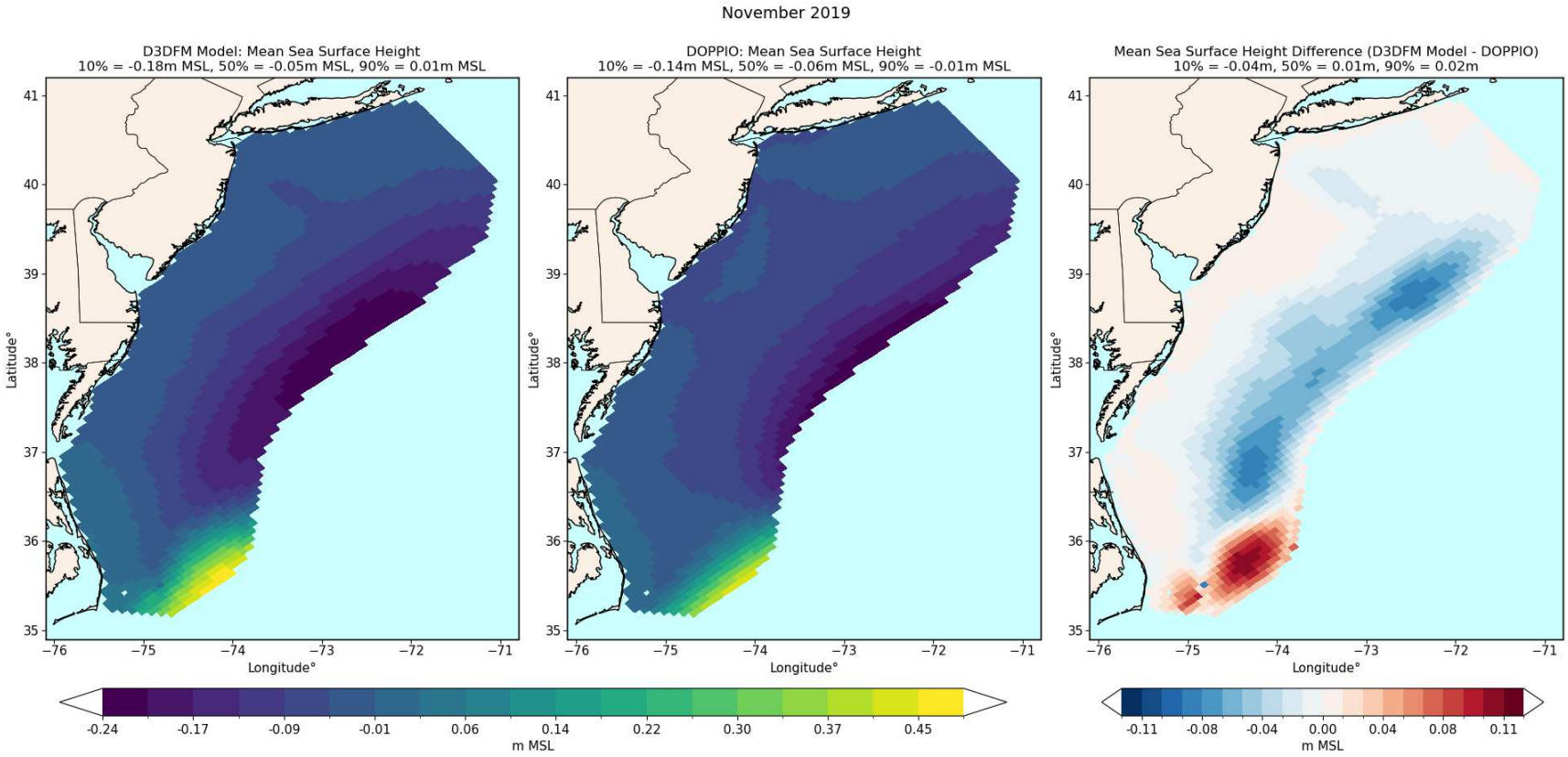

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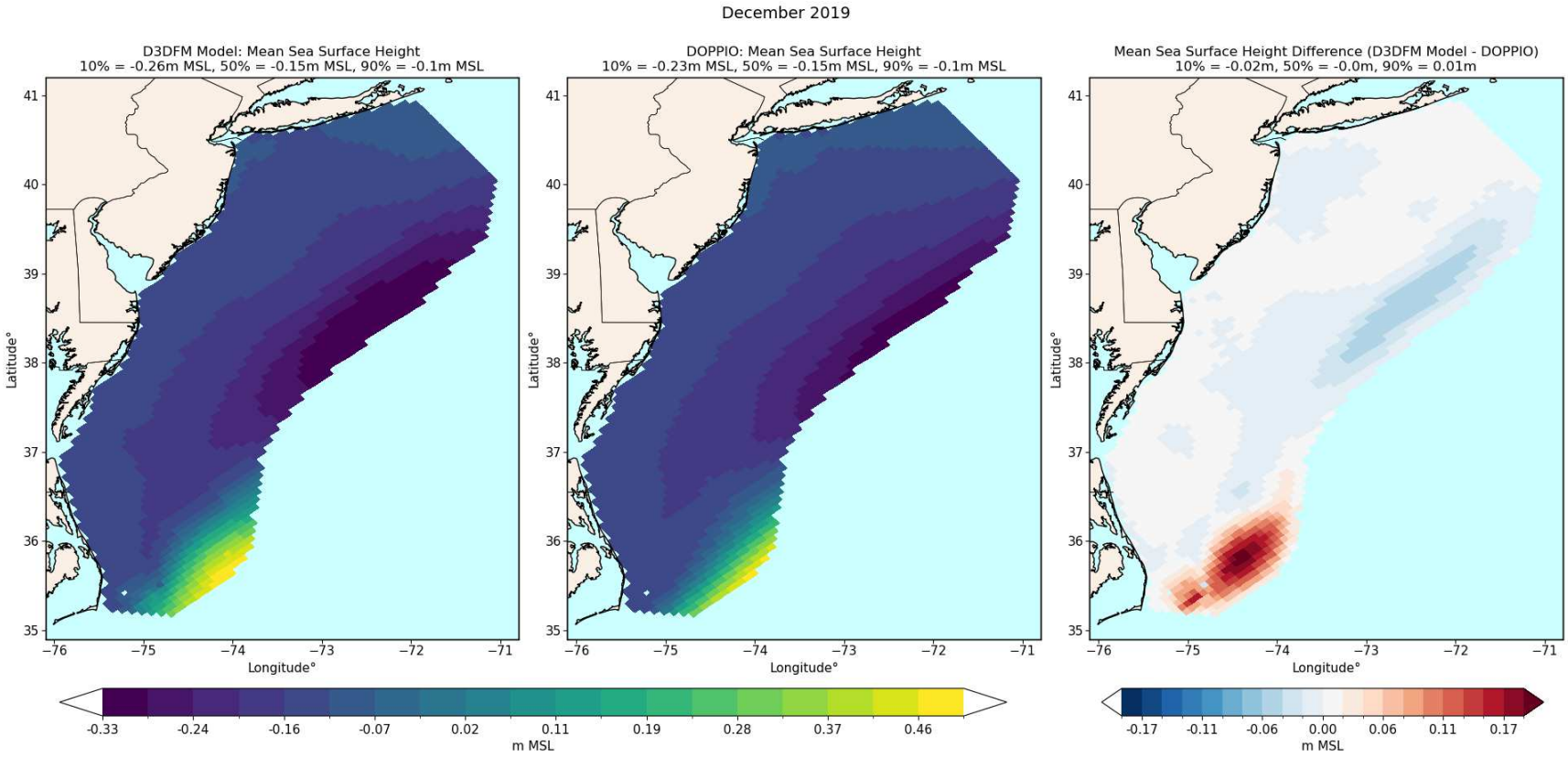

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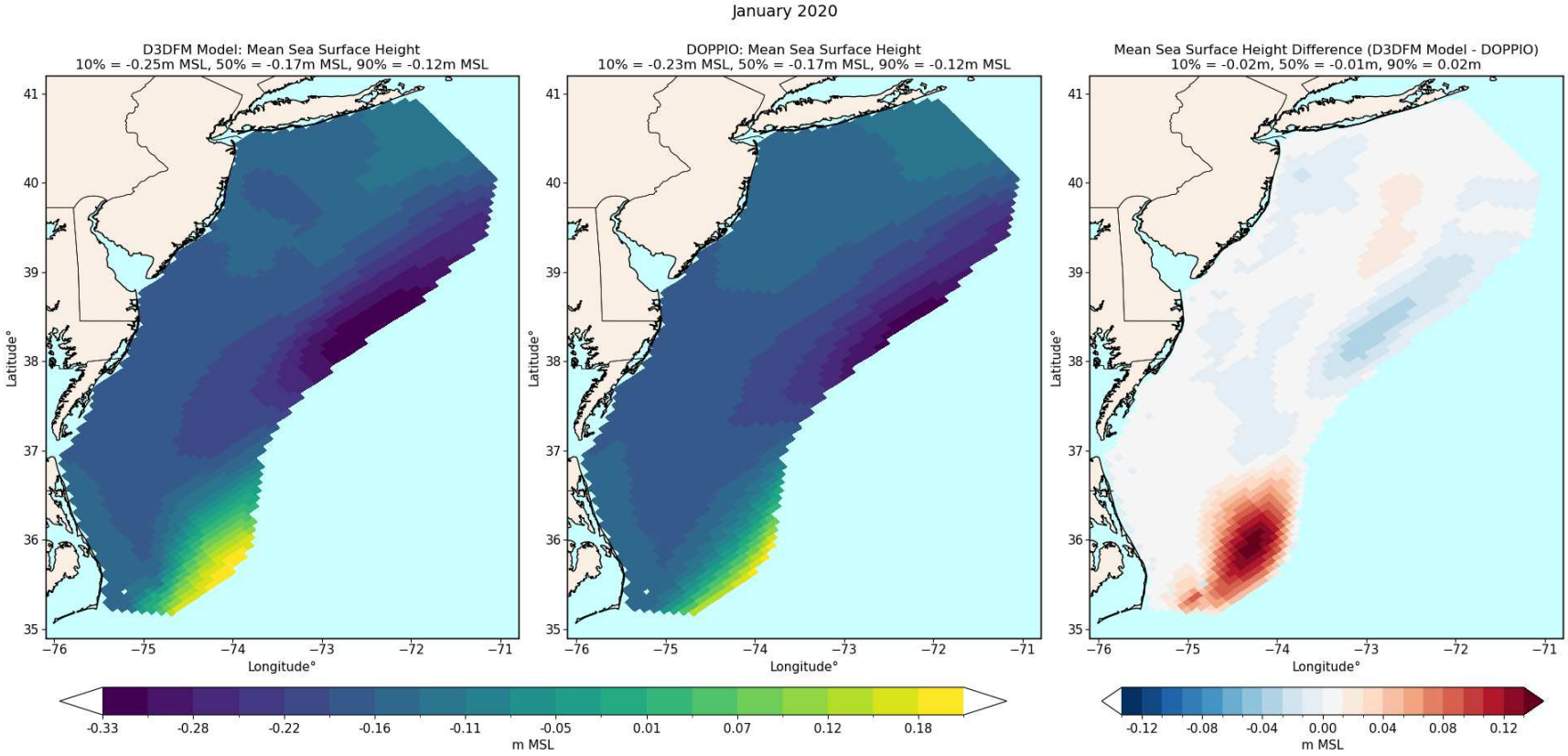

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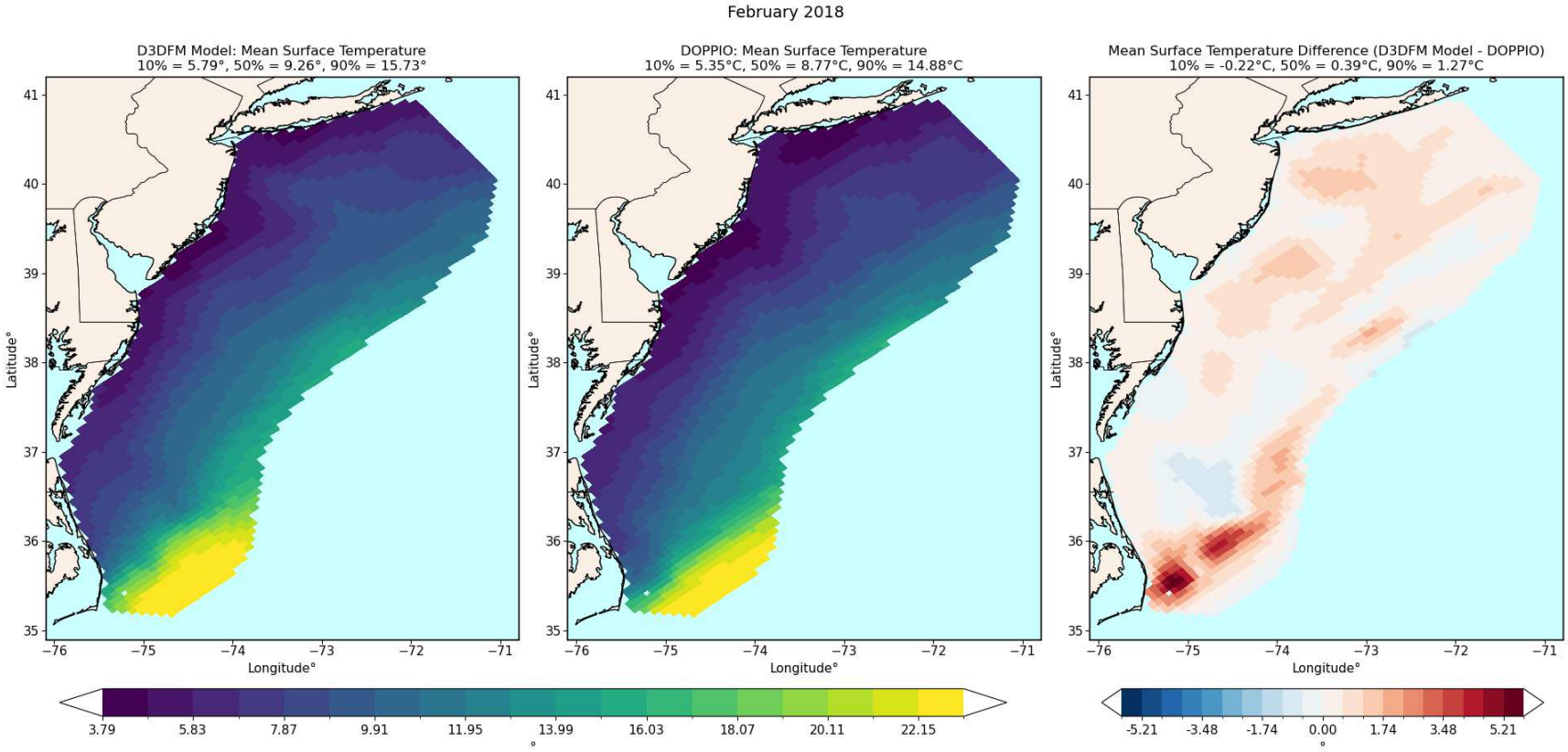

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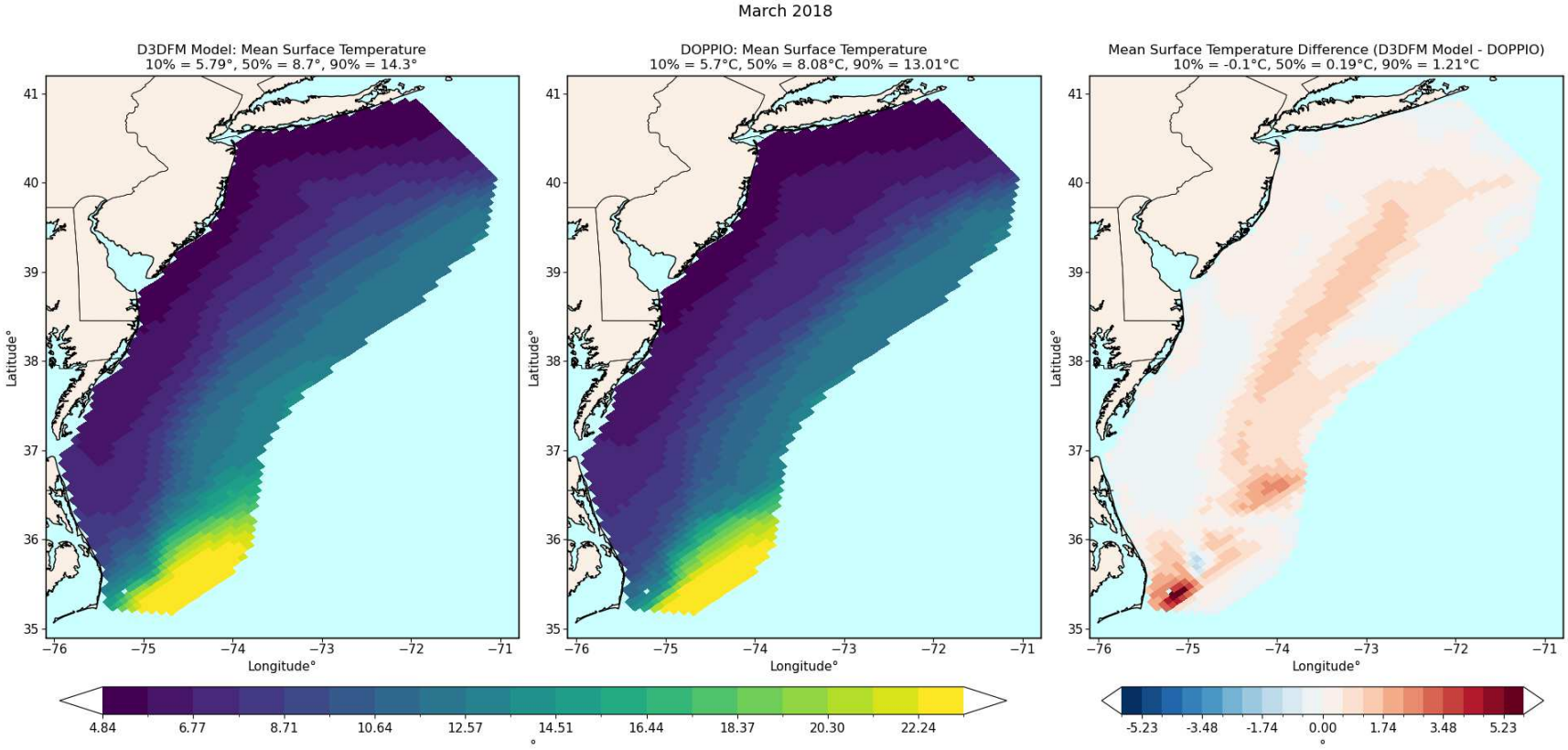

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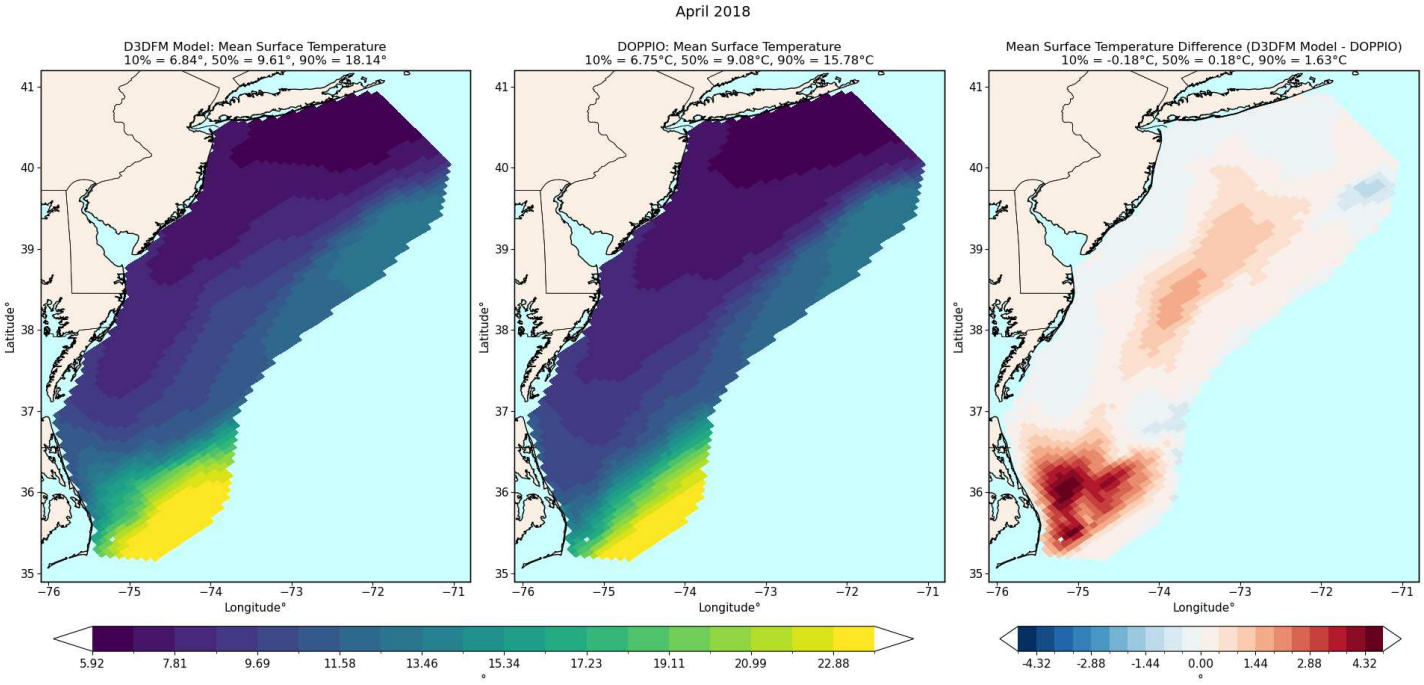

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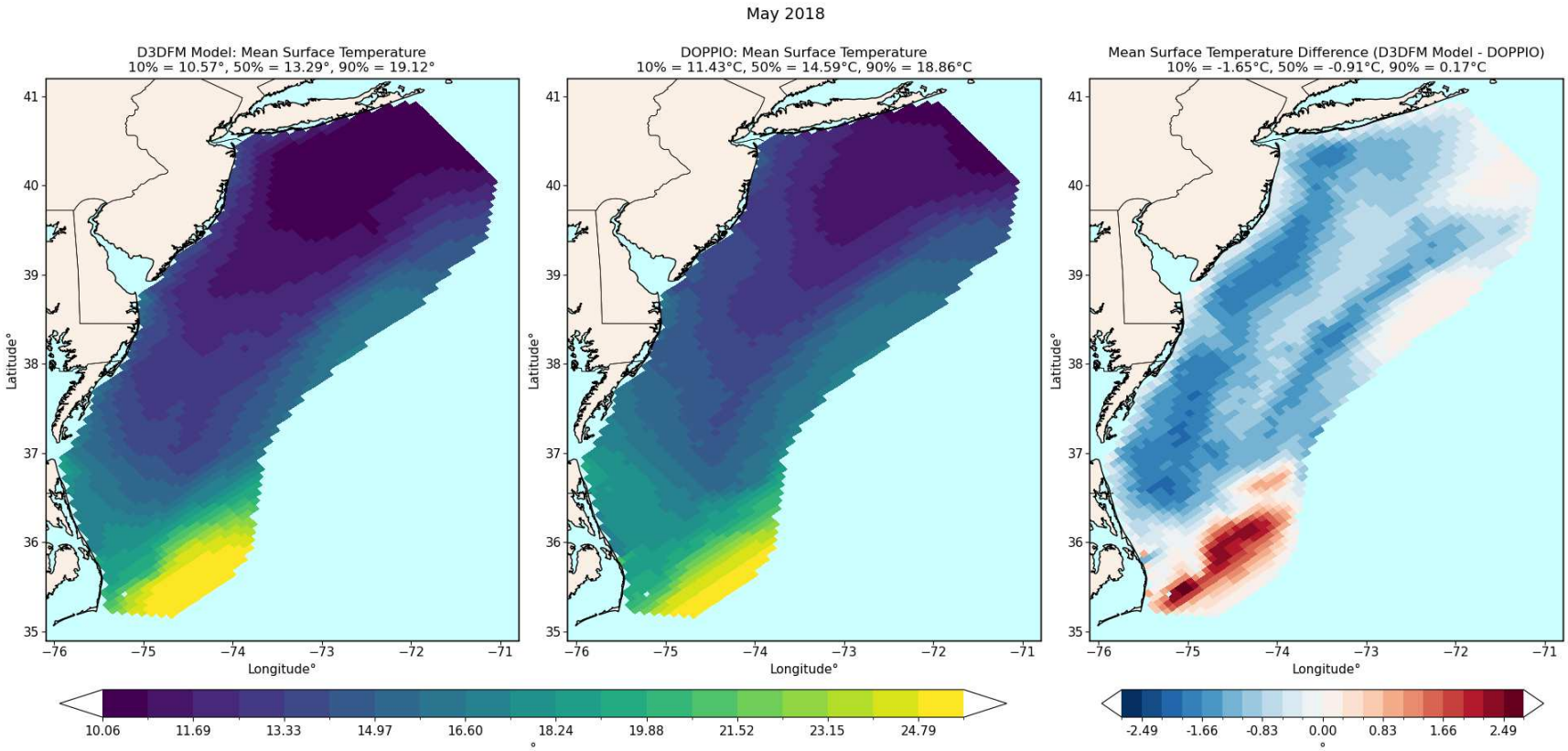

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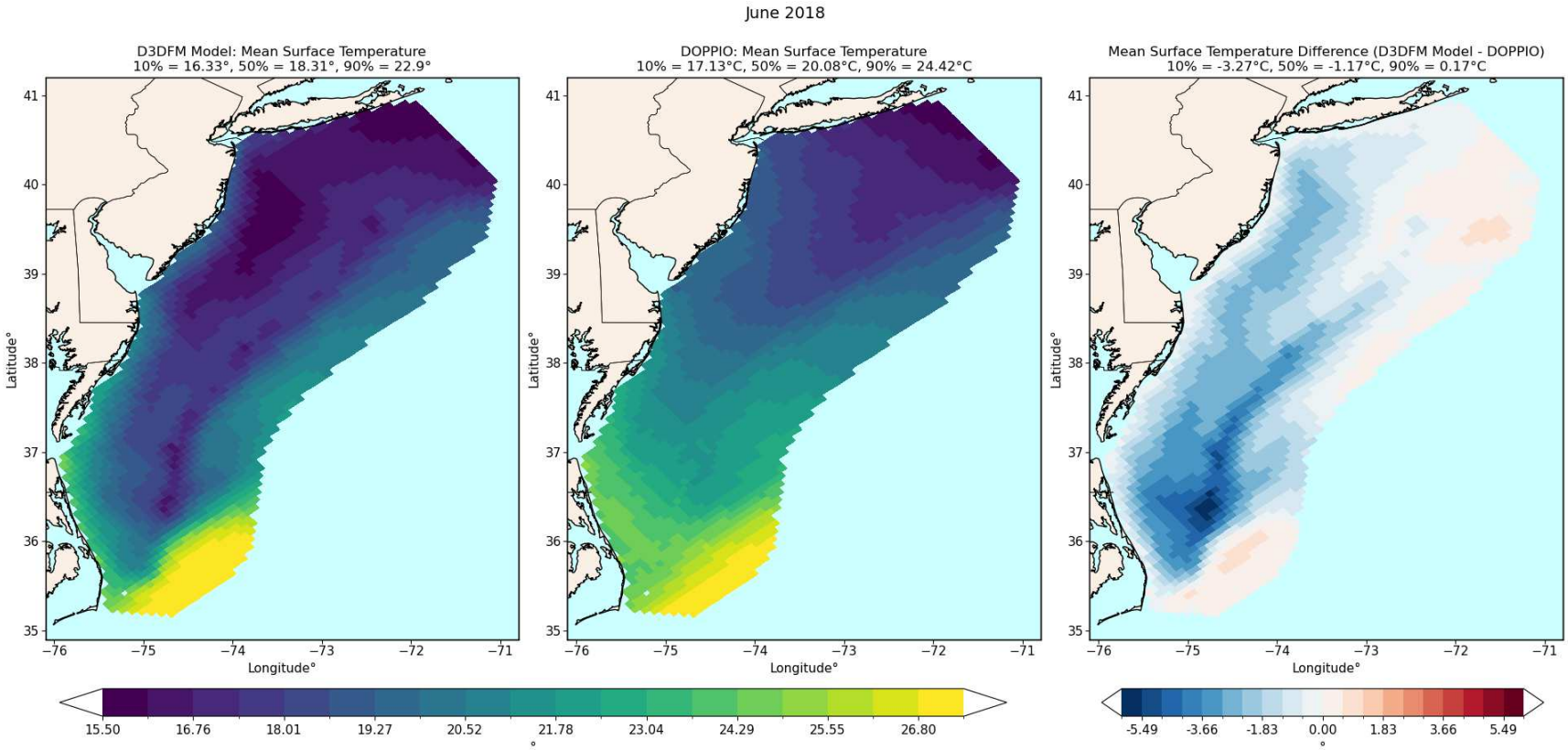

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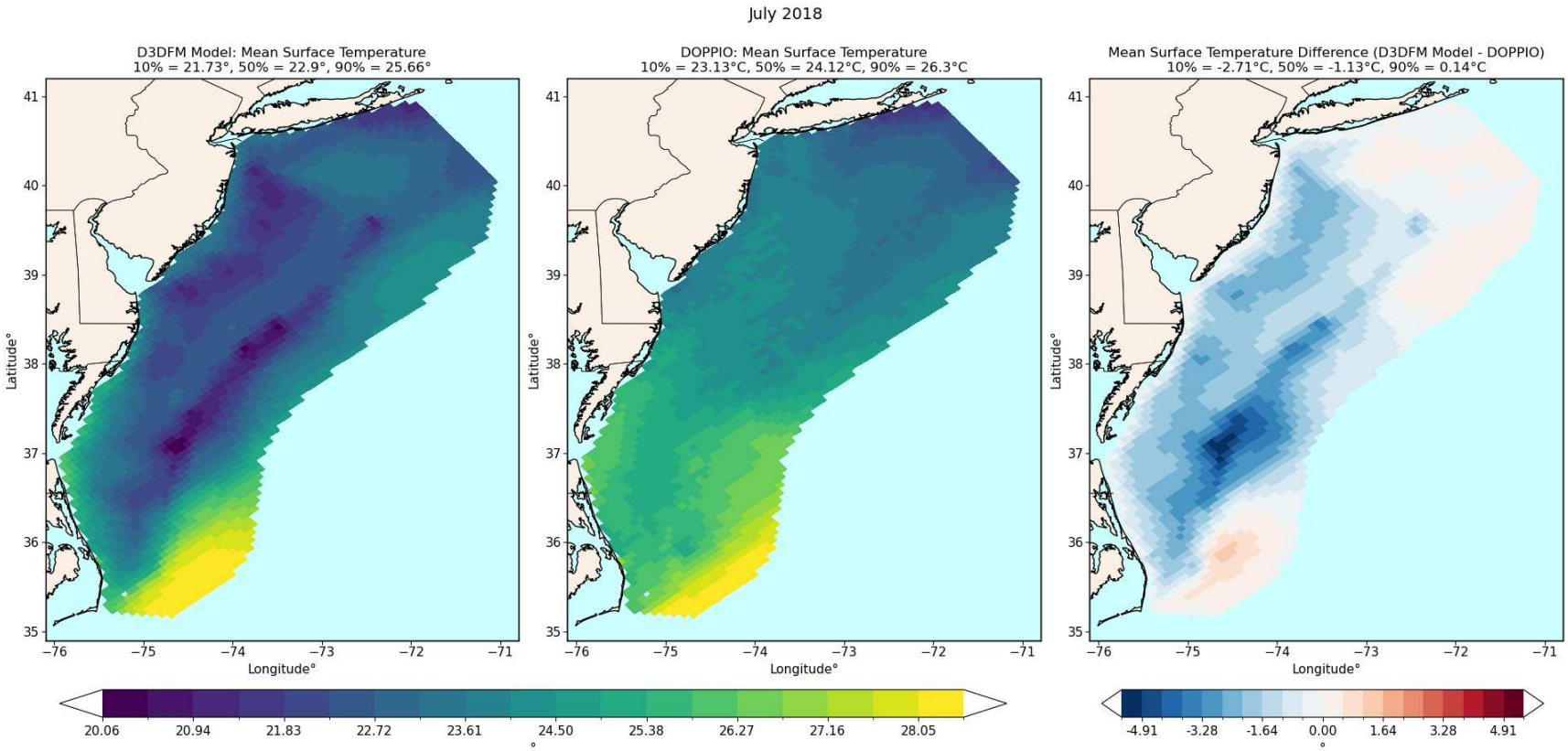

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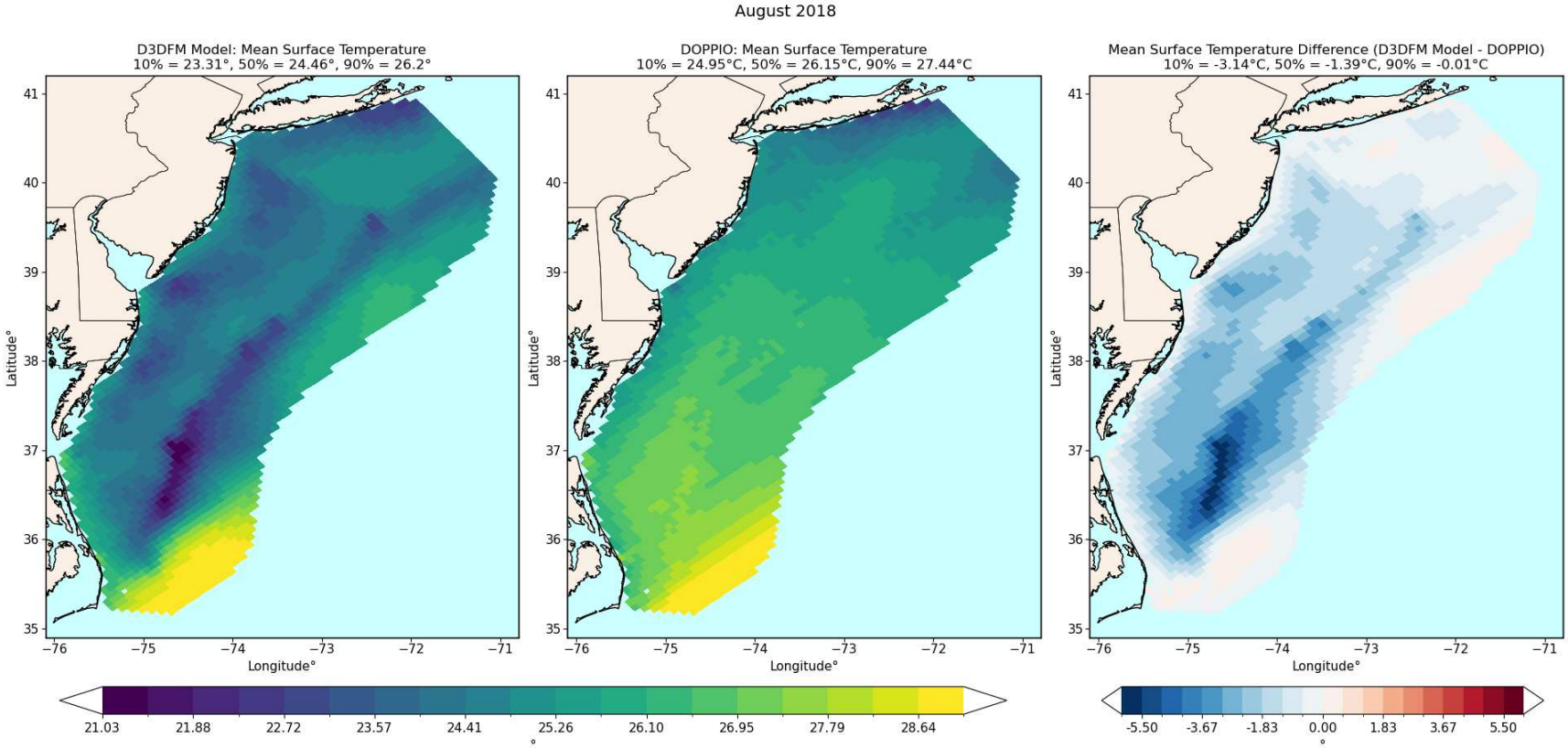

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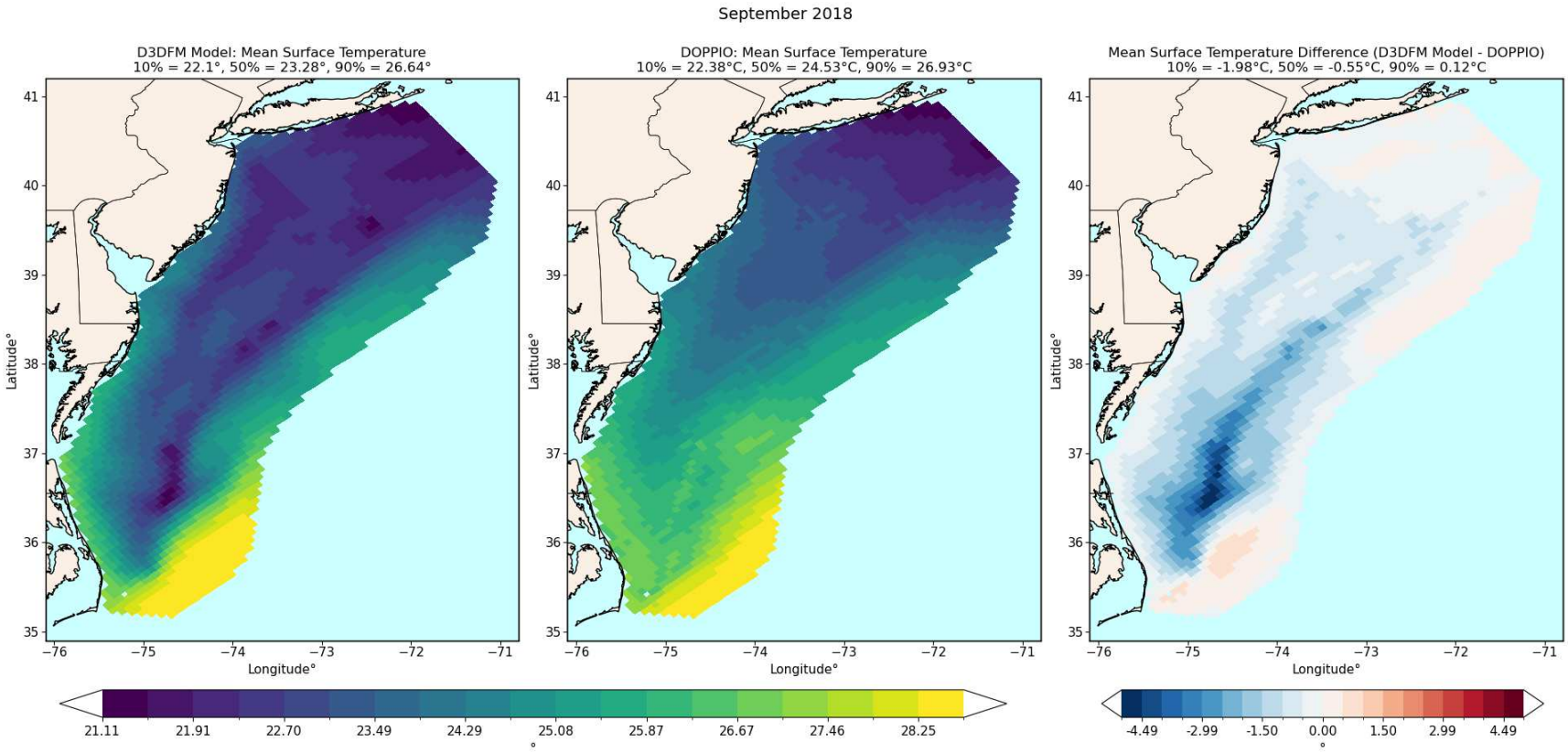

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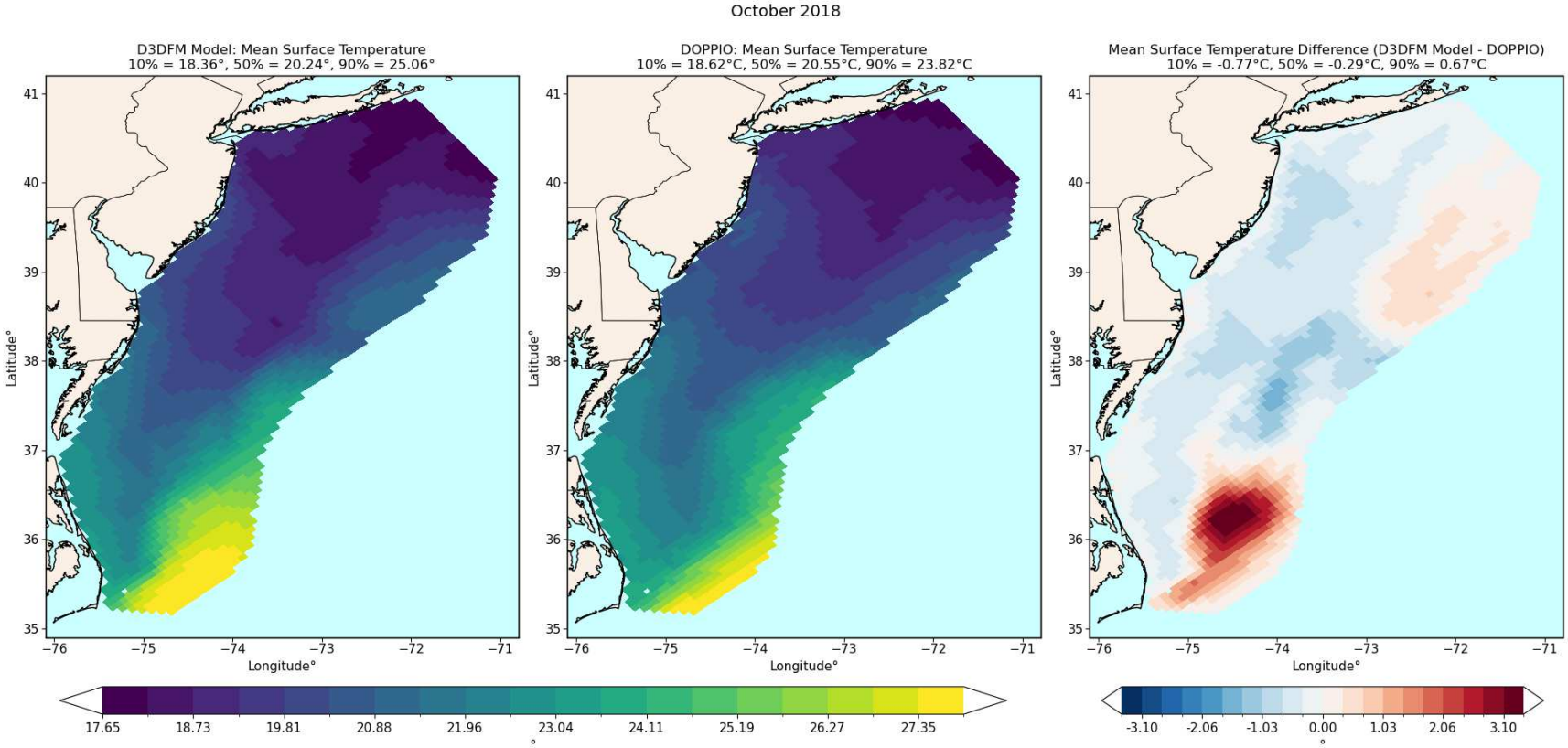

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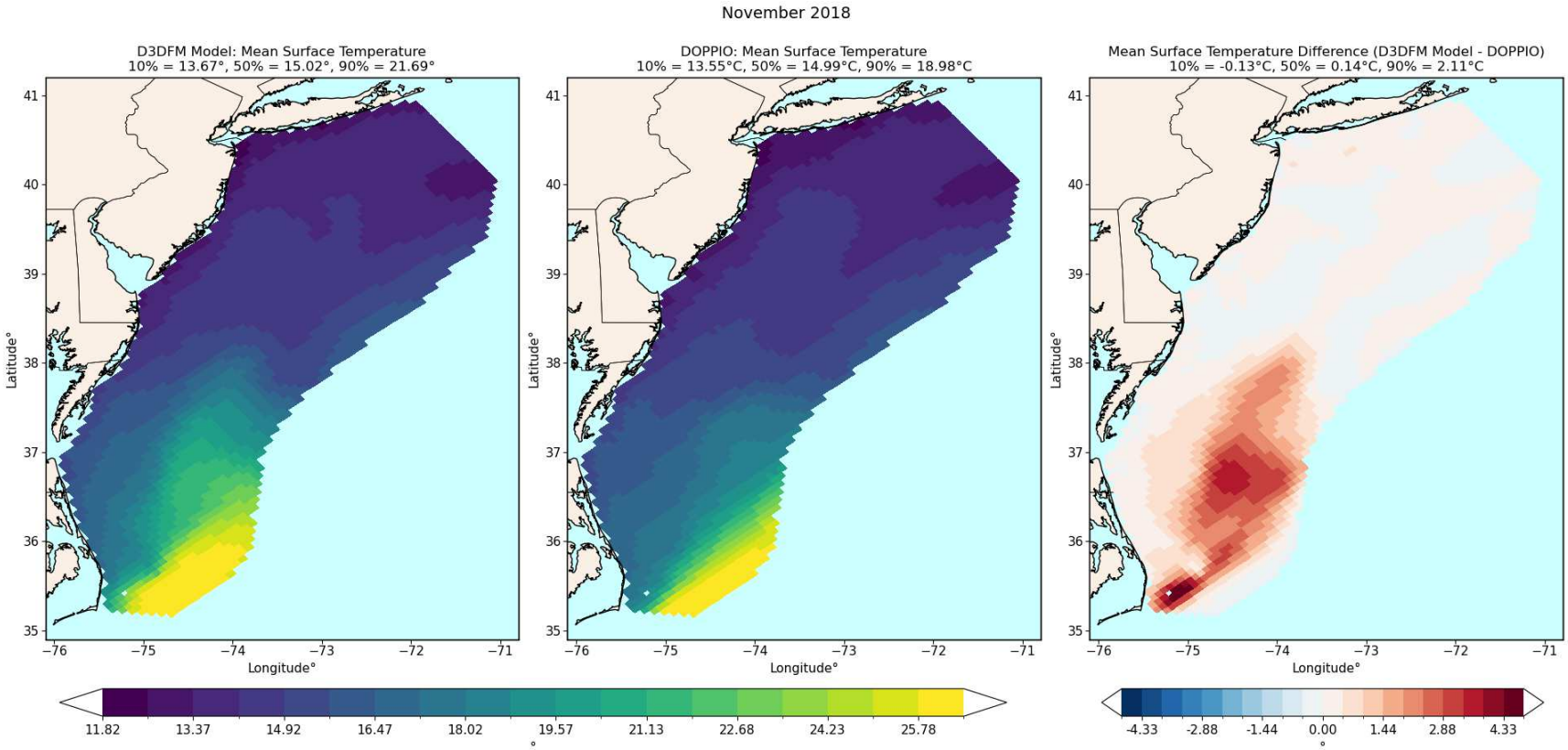

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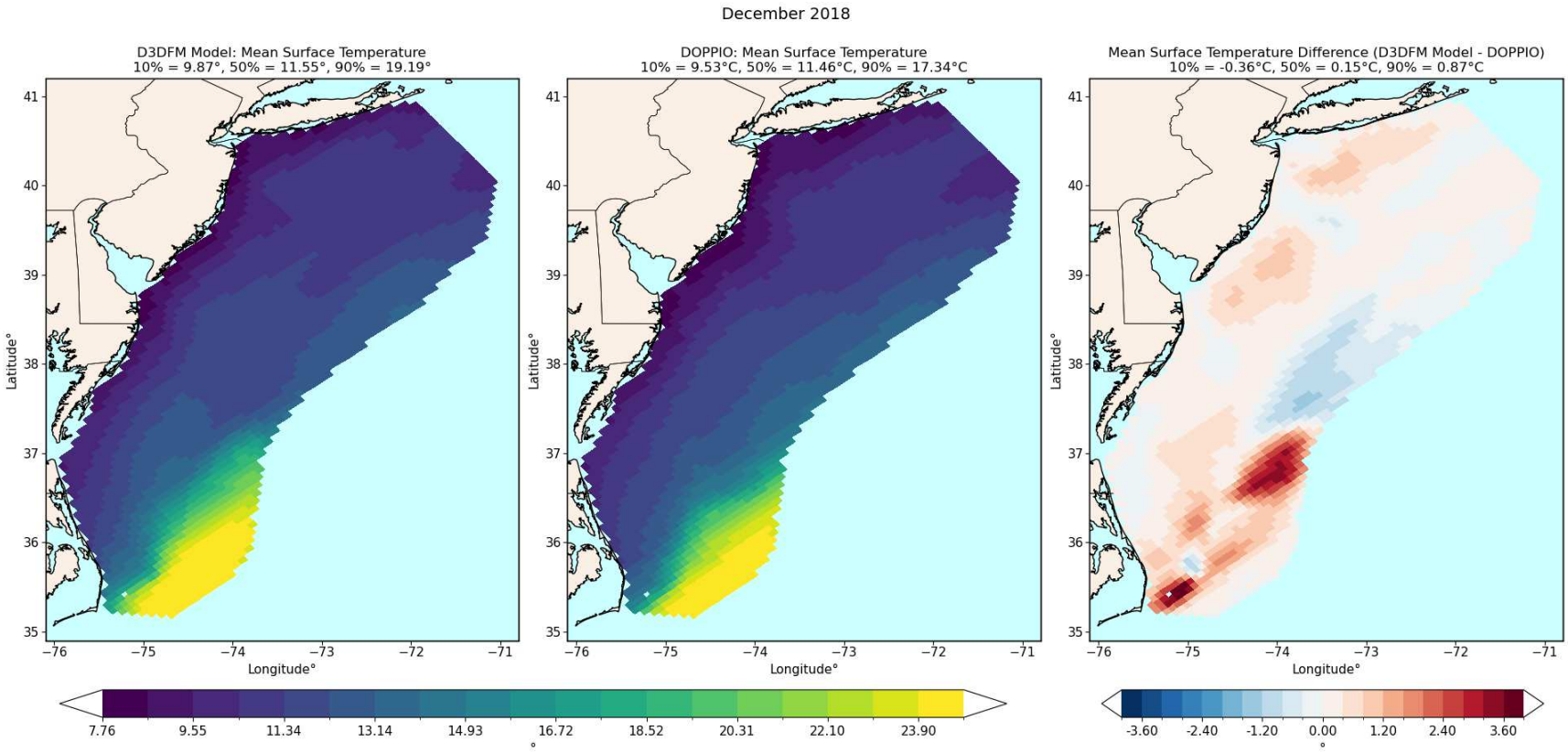

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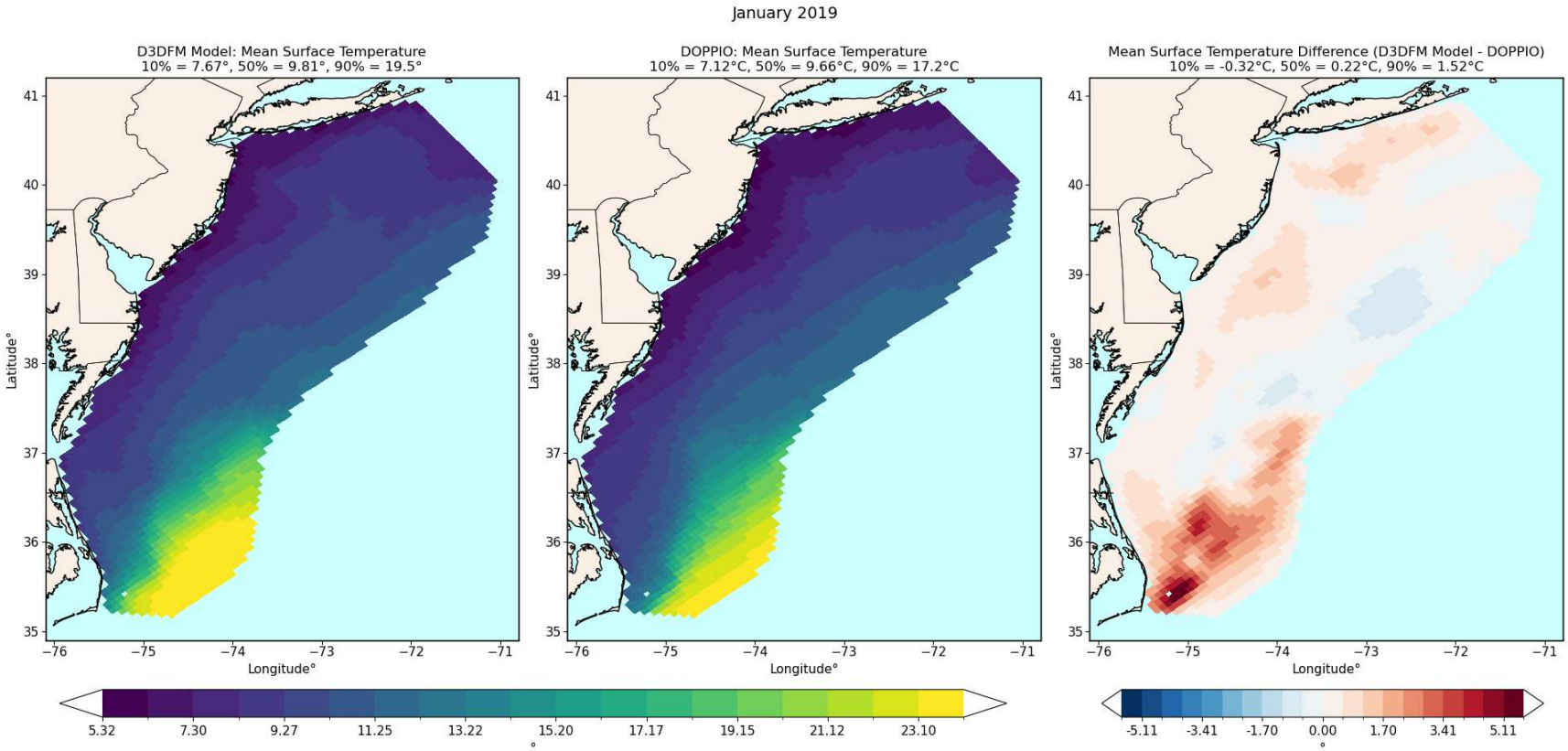

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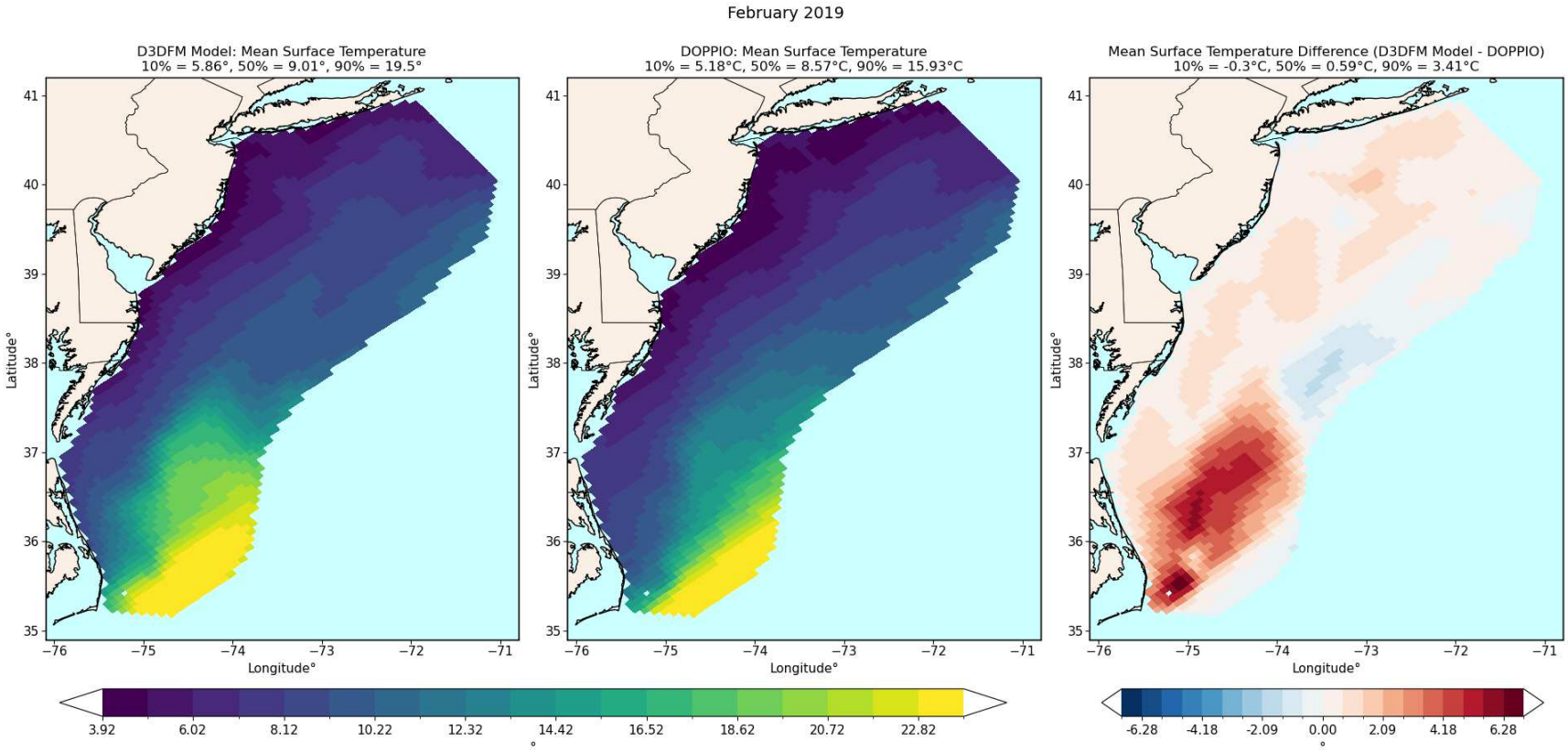

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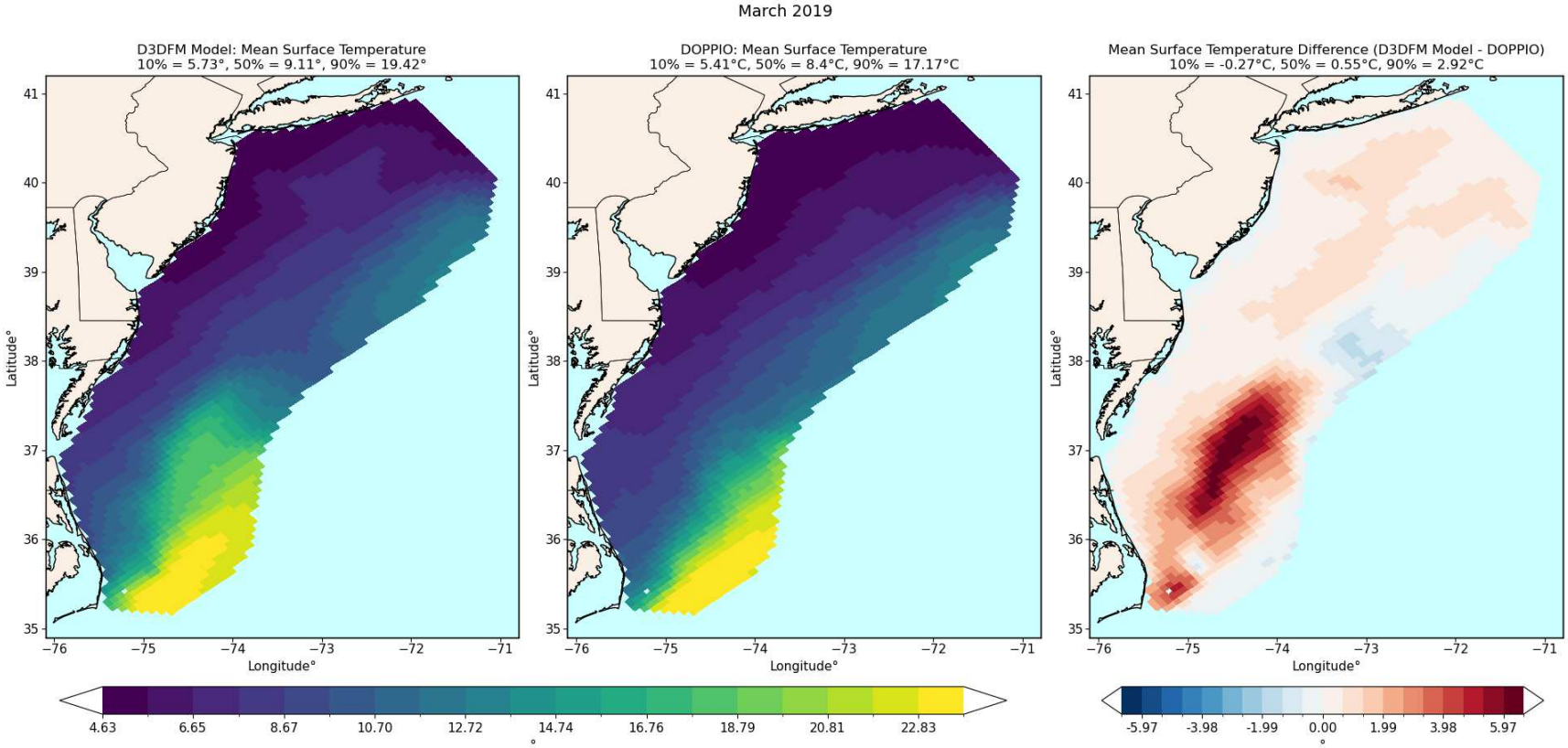

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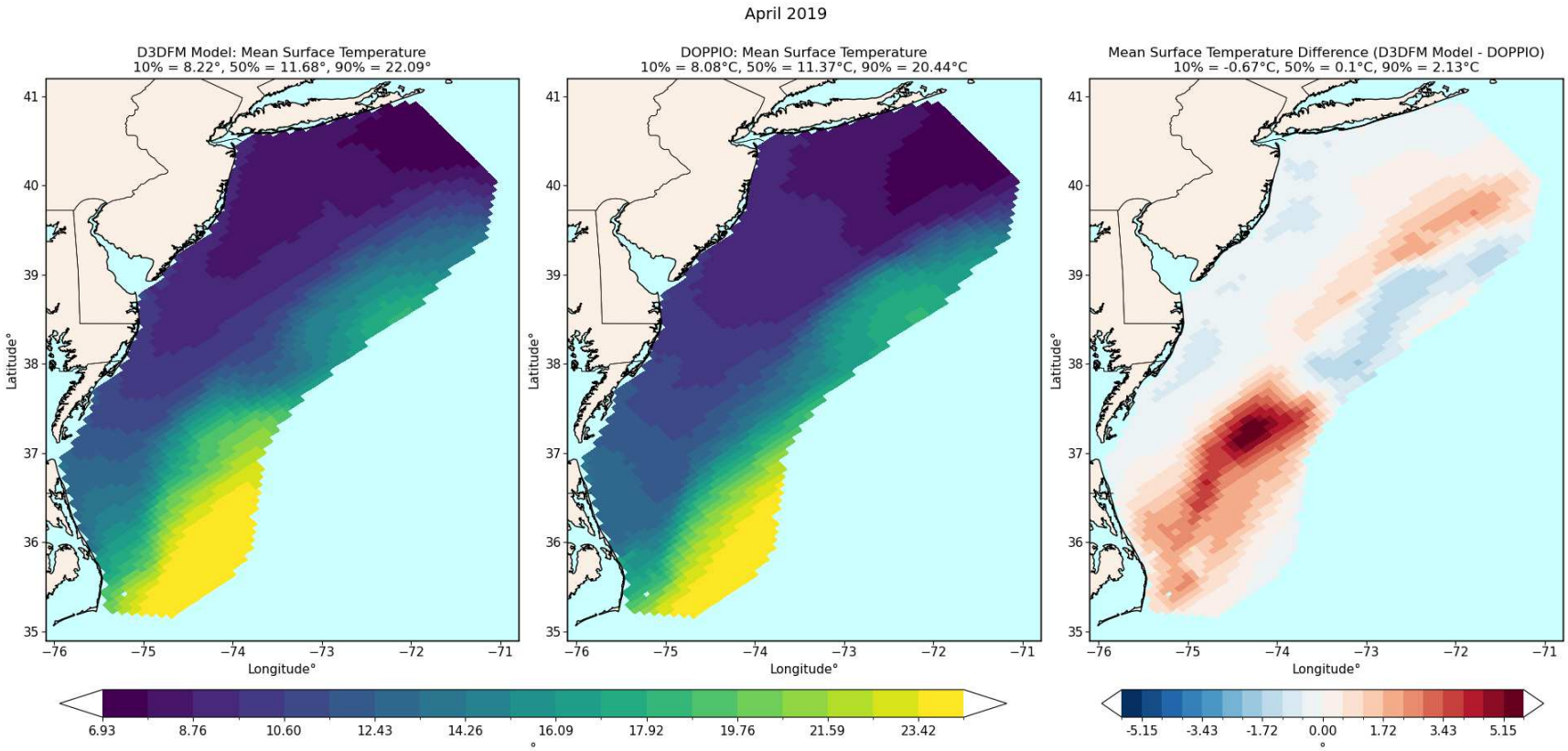

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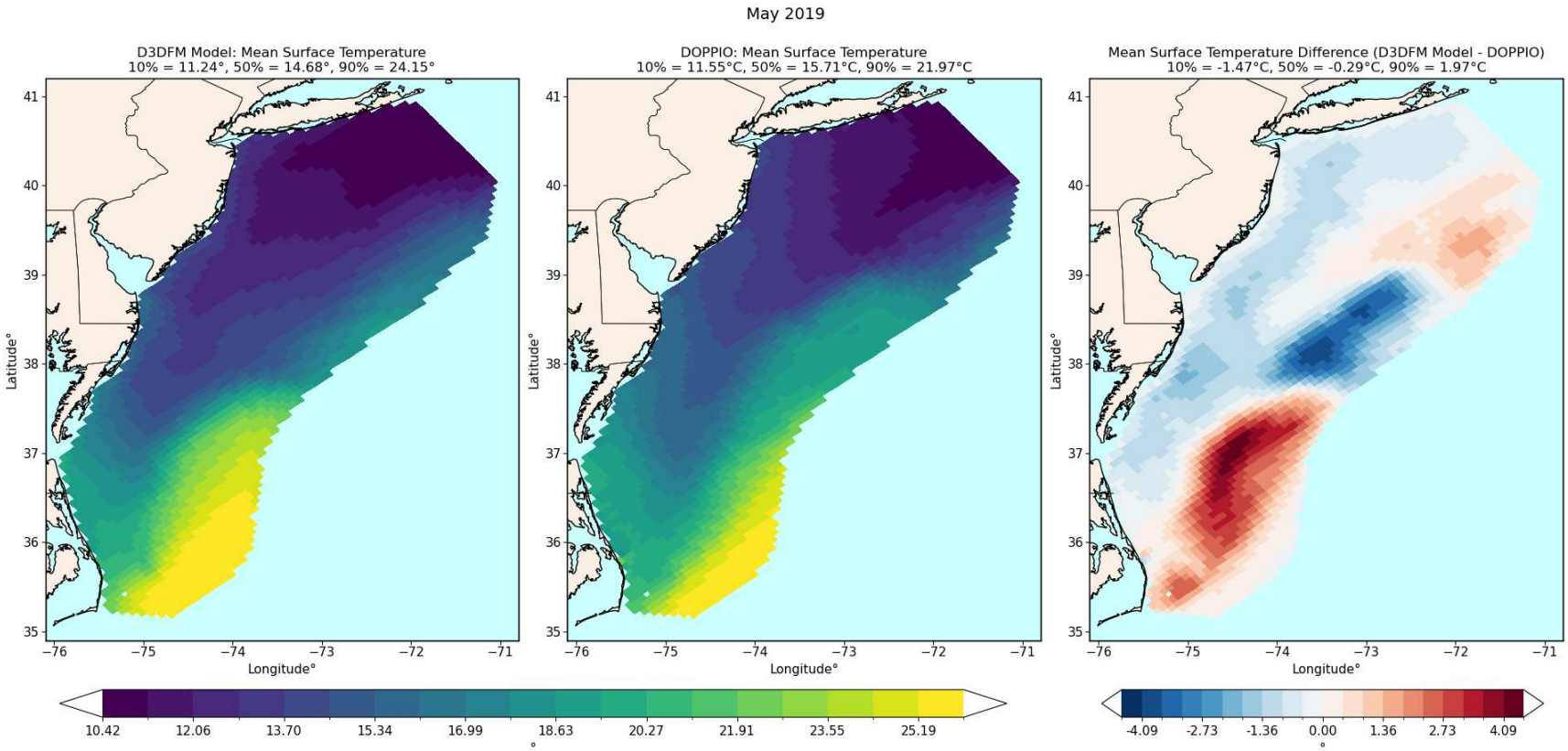

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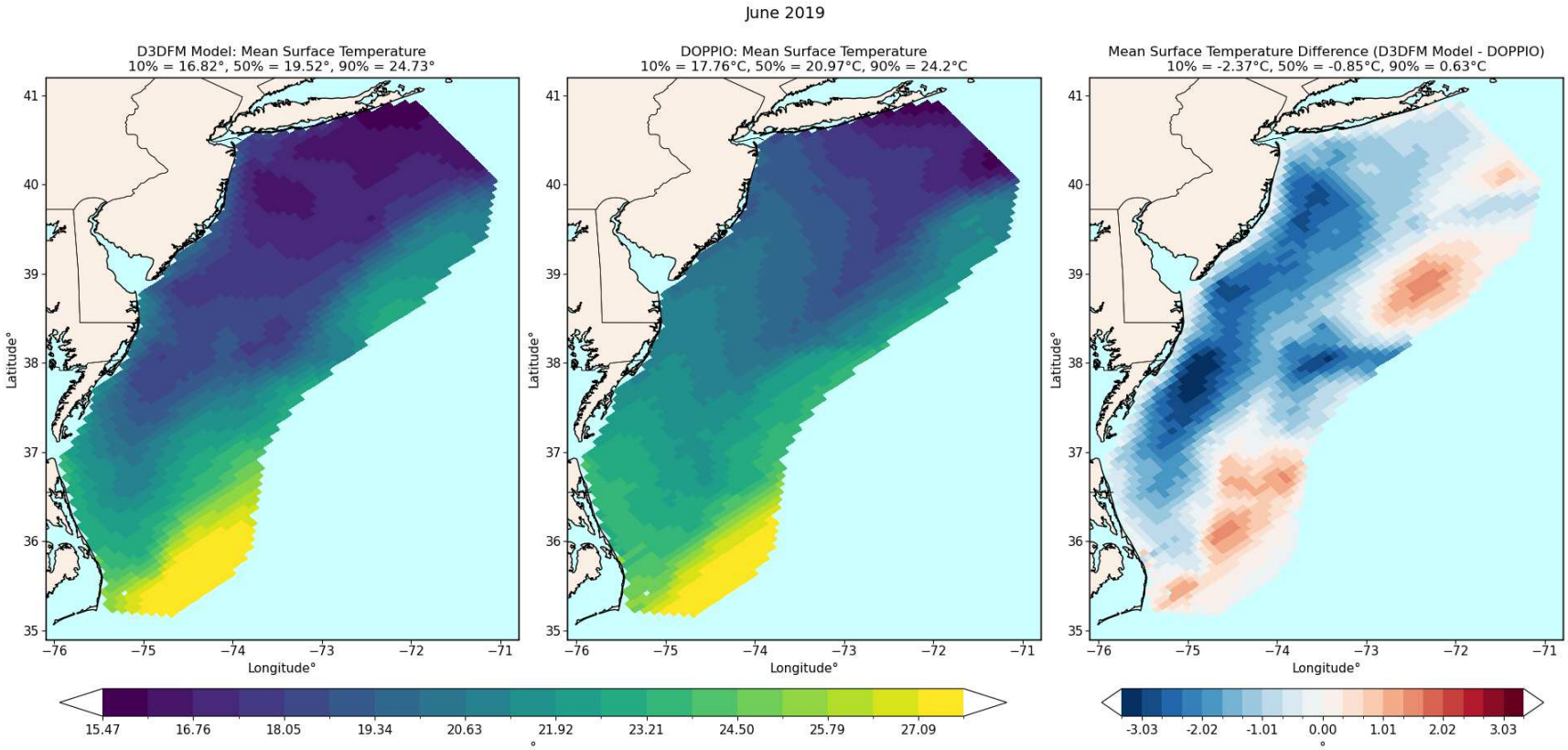

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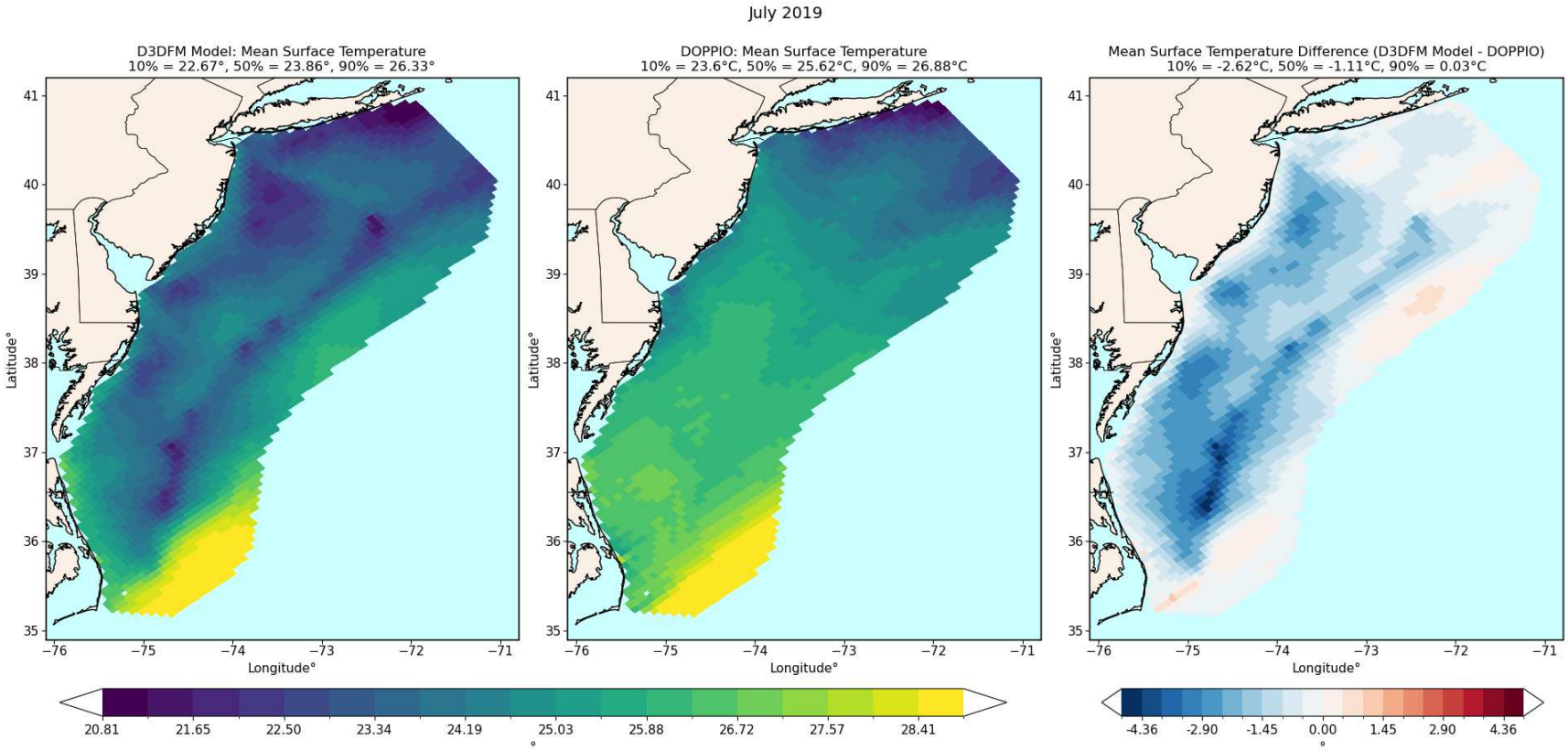

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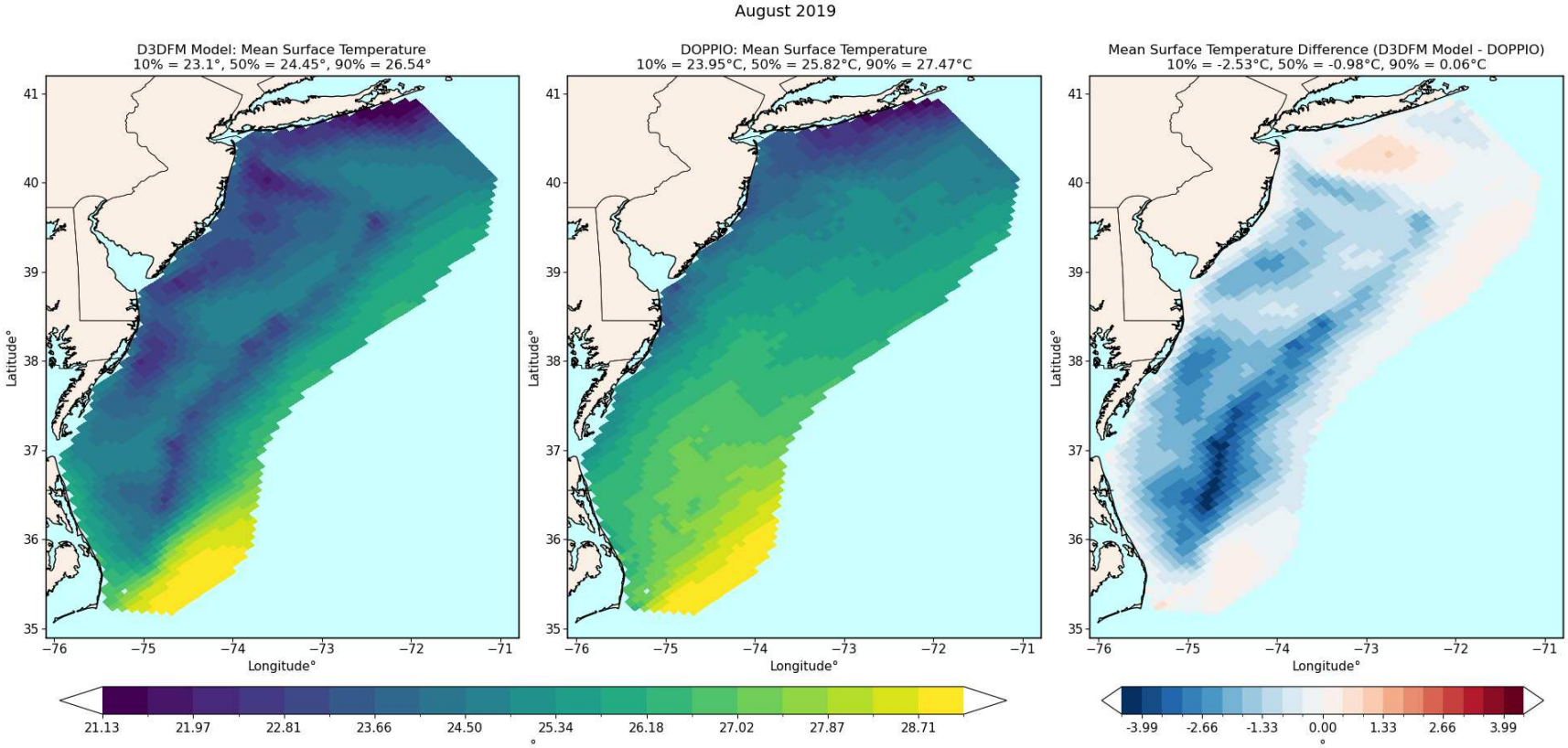

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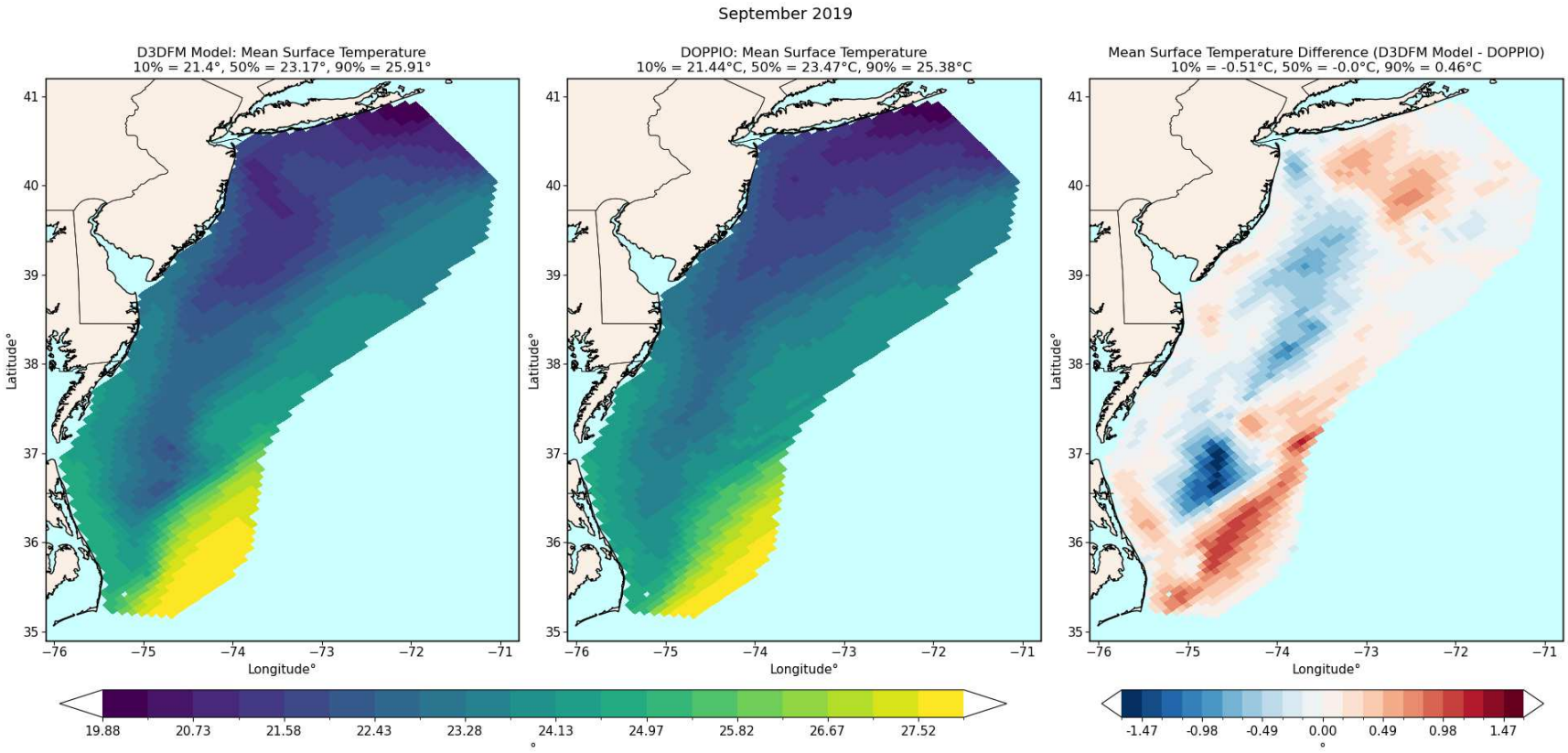
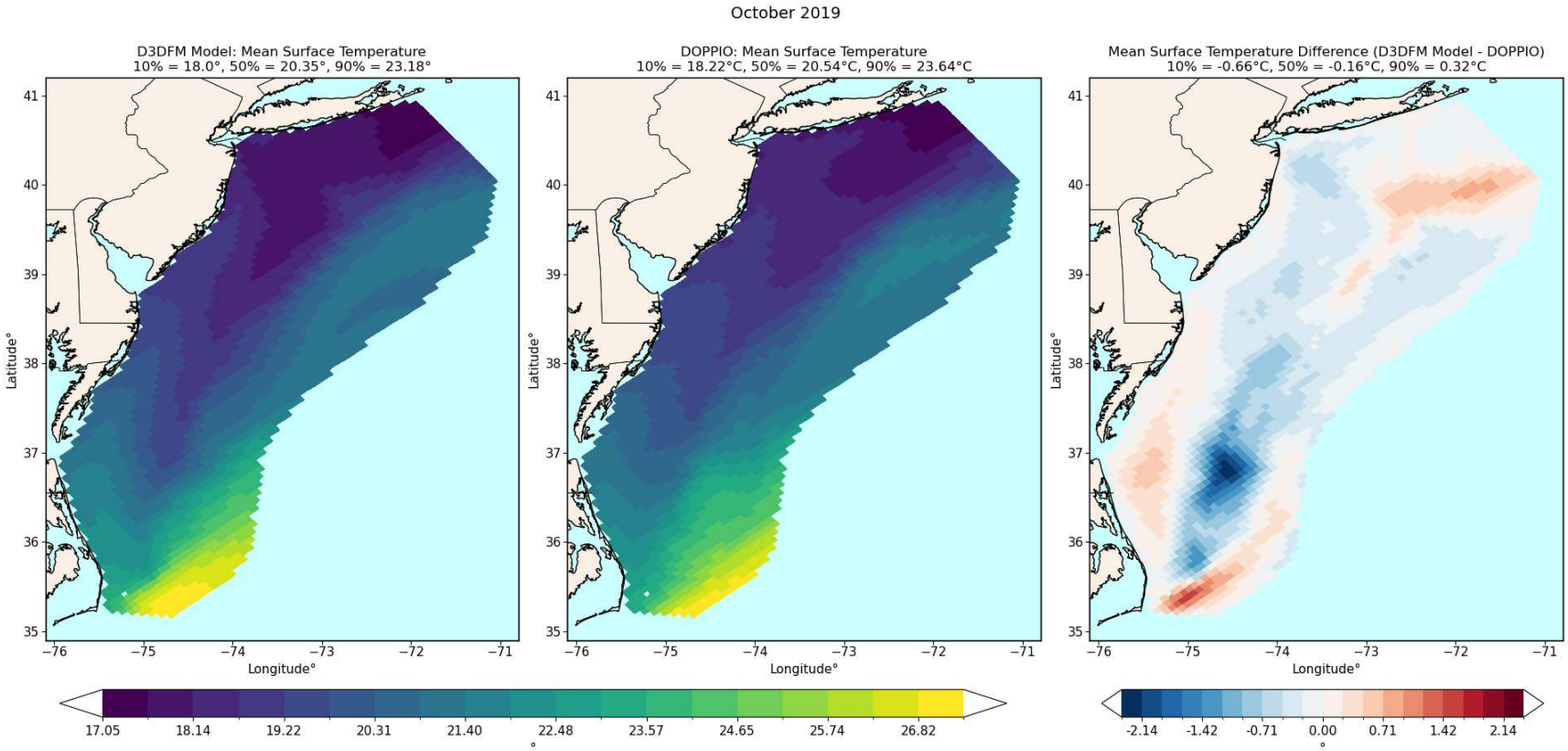
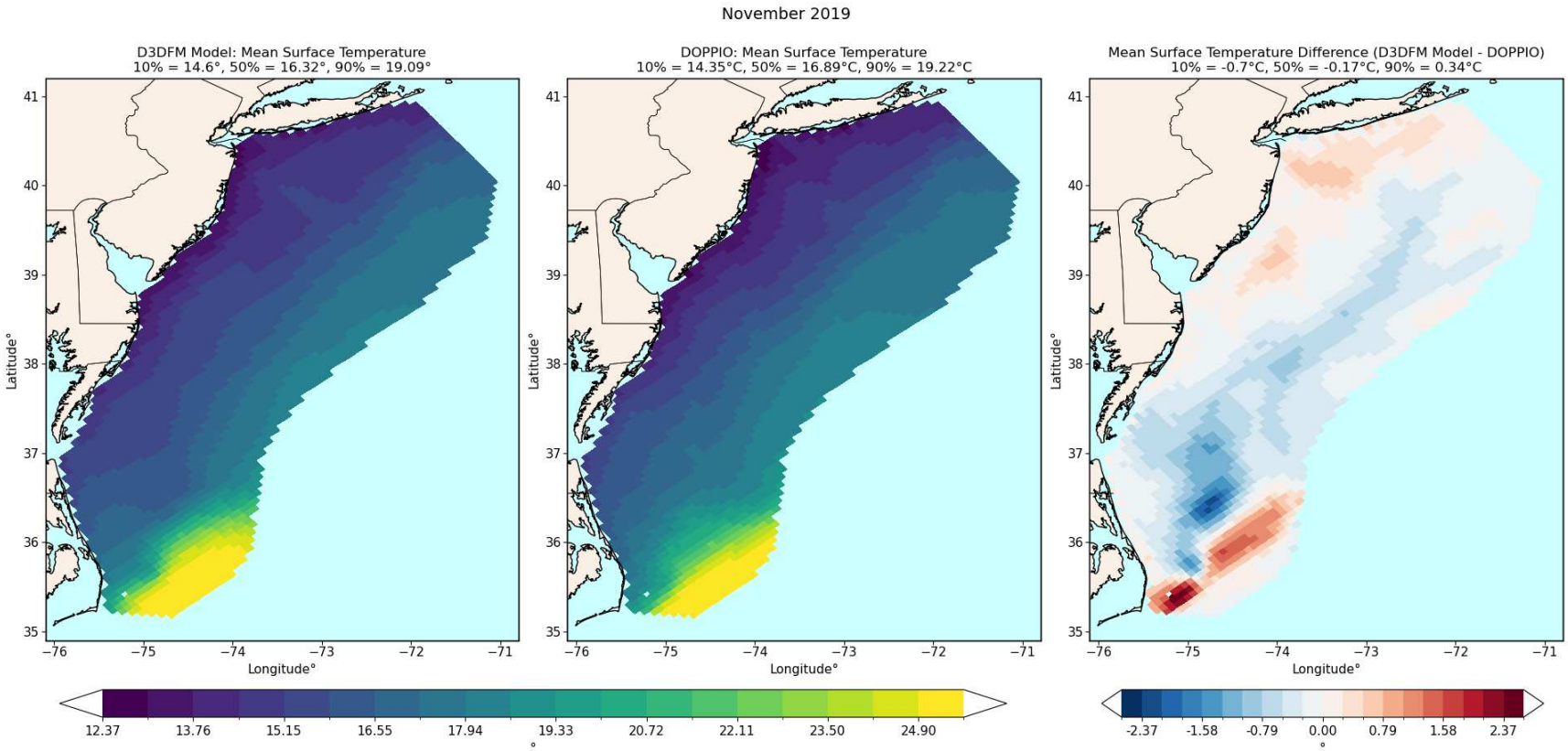


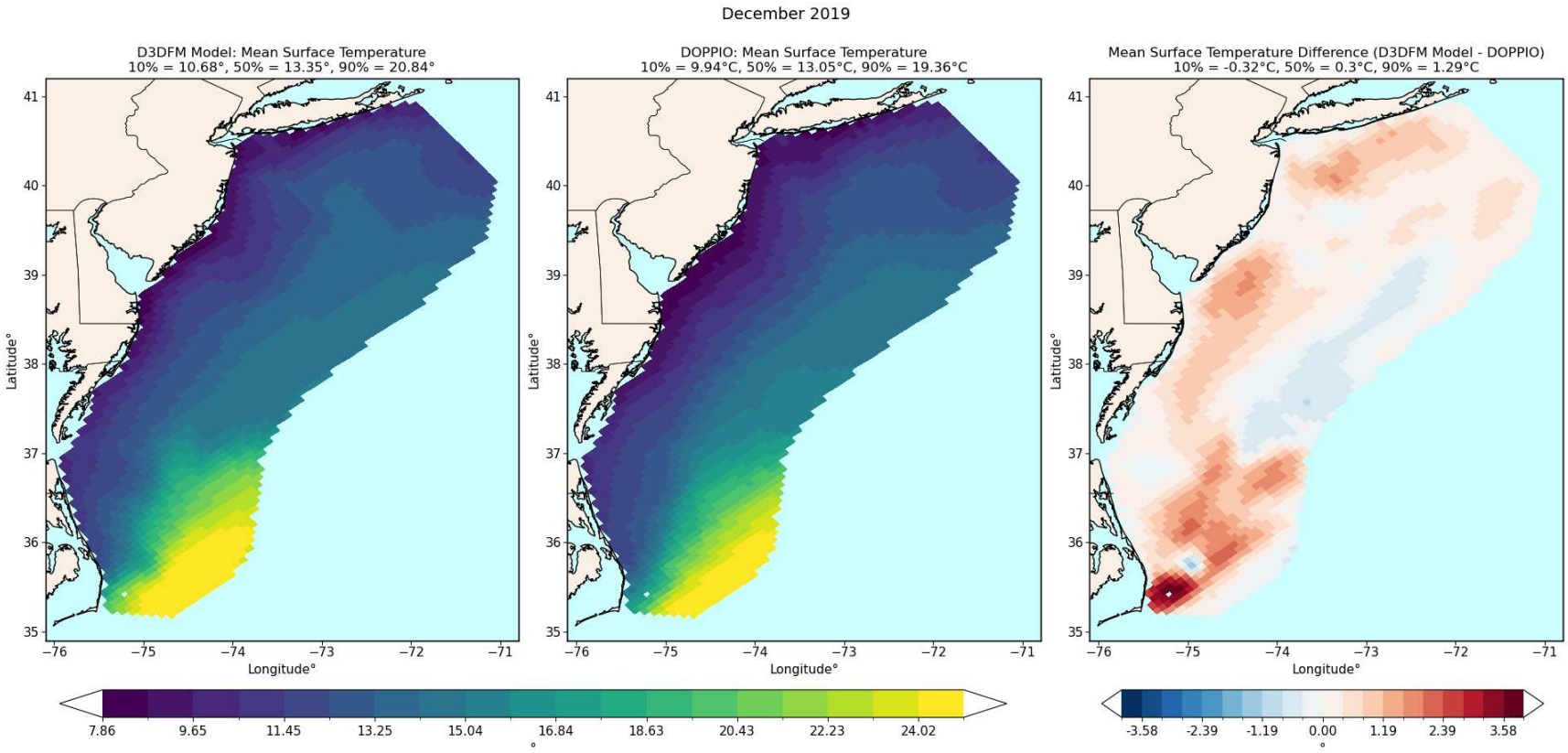
Apx Figure 44. Mean surface temperature in September 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



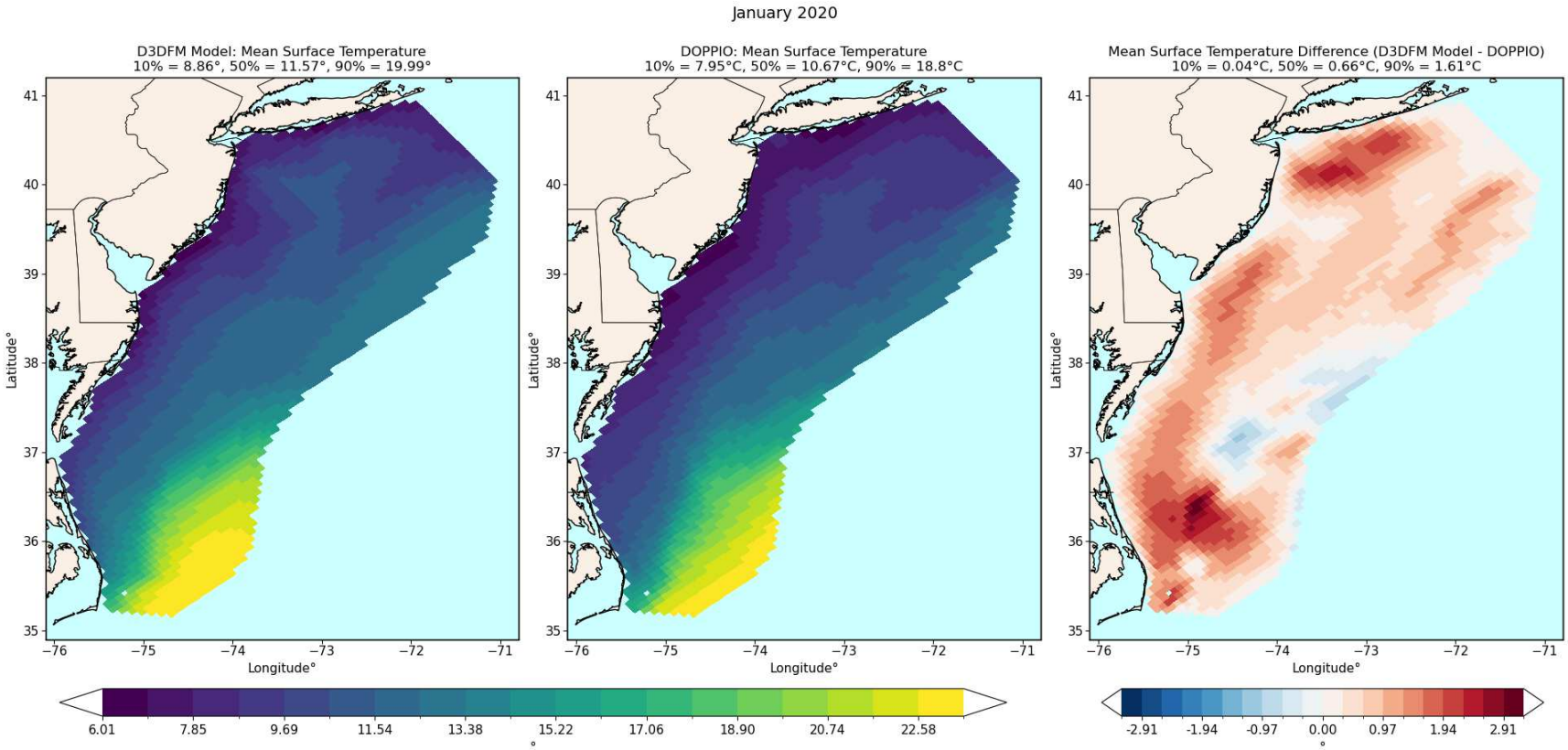
Apx Figure 45. Mean surface temperature in October 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



Apx Figure 46. Mean surface temperature in November 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

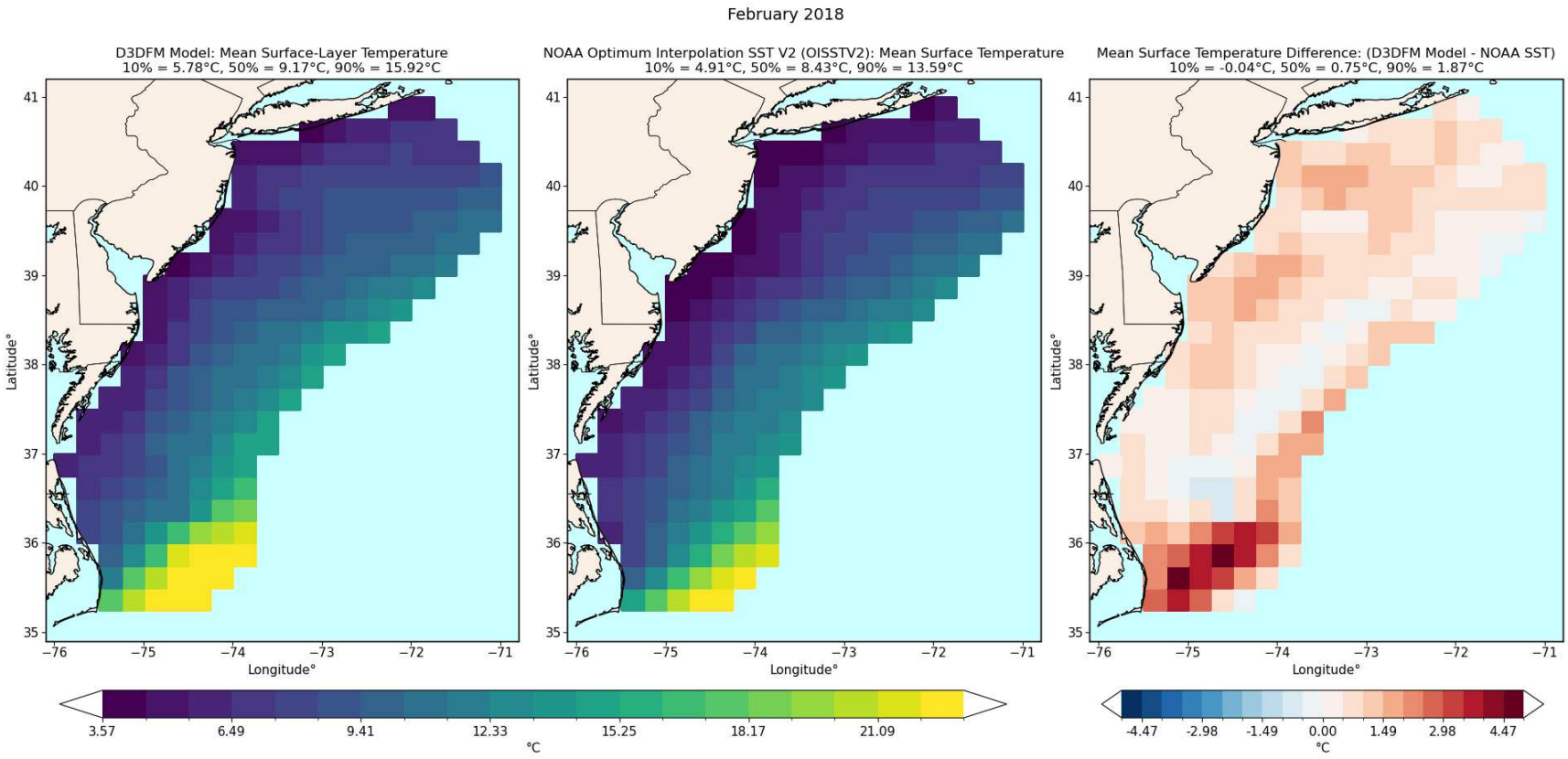


Apx Figure 47. Mean surface temperature in December 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

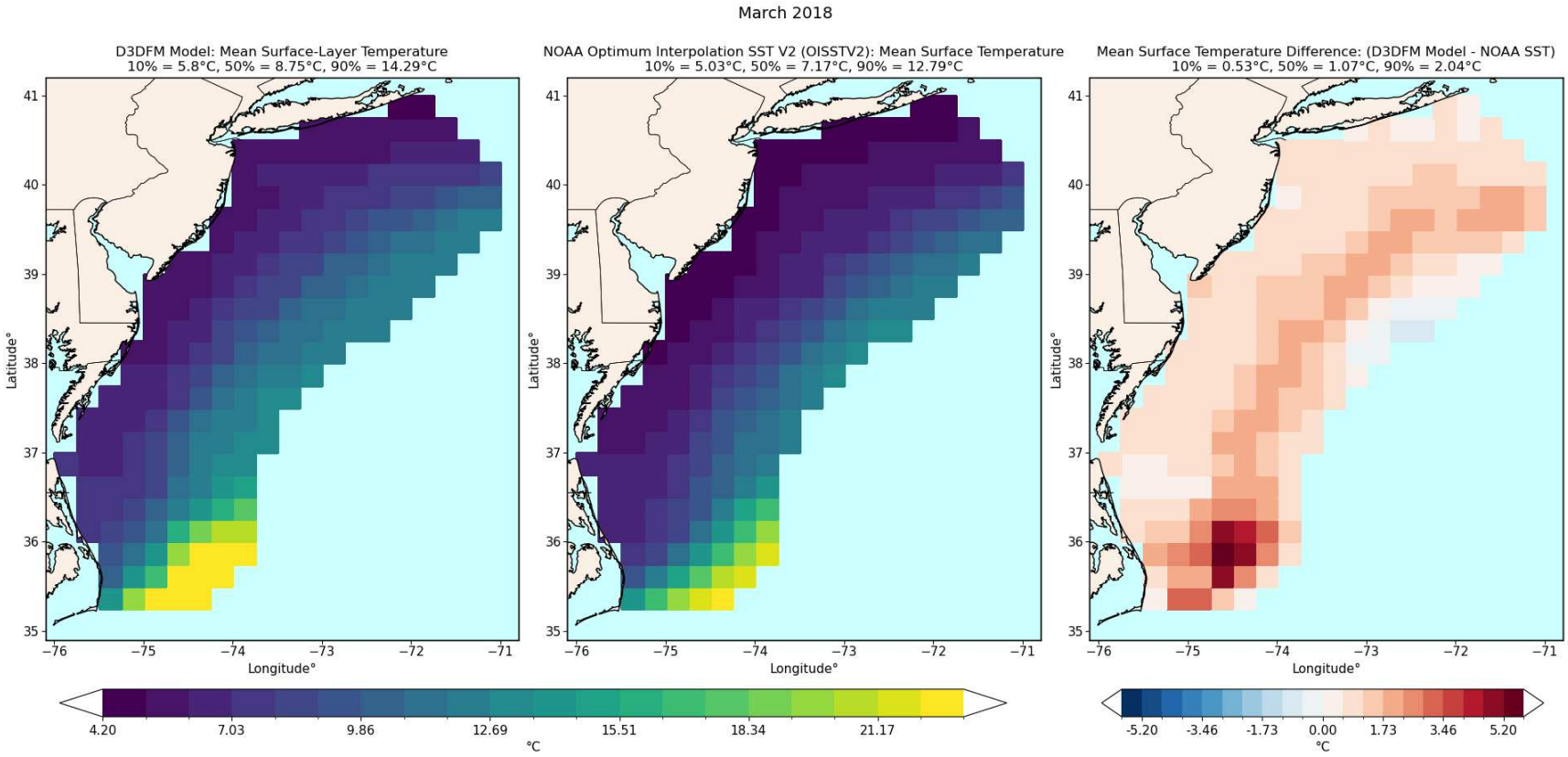


Apx Figure 48. Mean surface temperature in January 2020, of the model (left), DOPPIO dataset (middle), and difference (right).

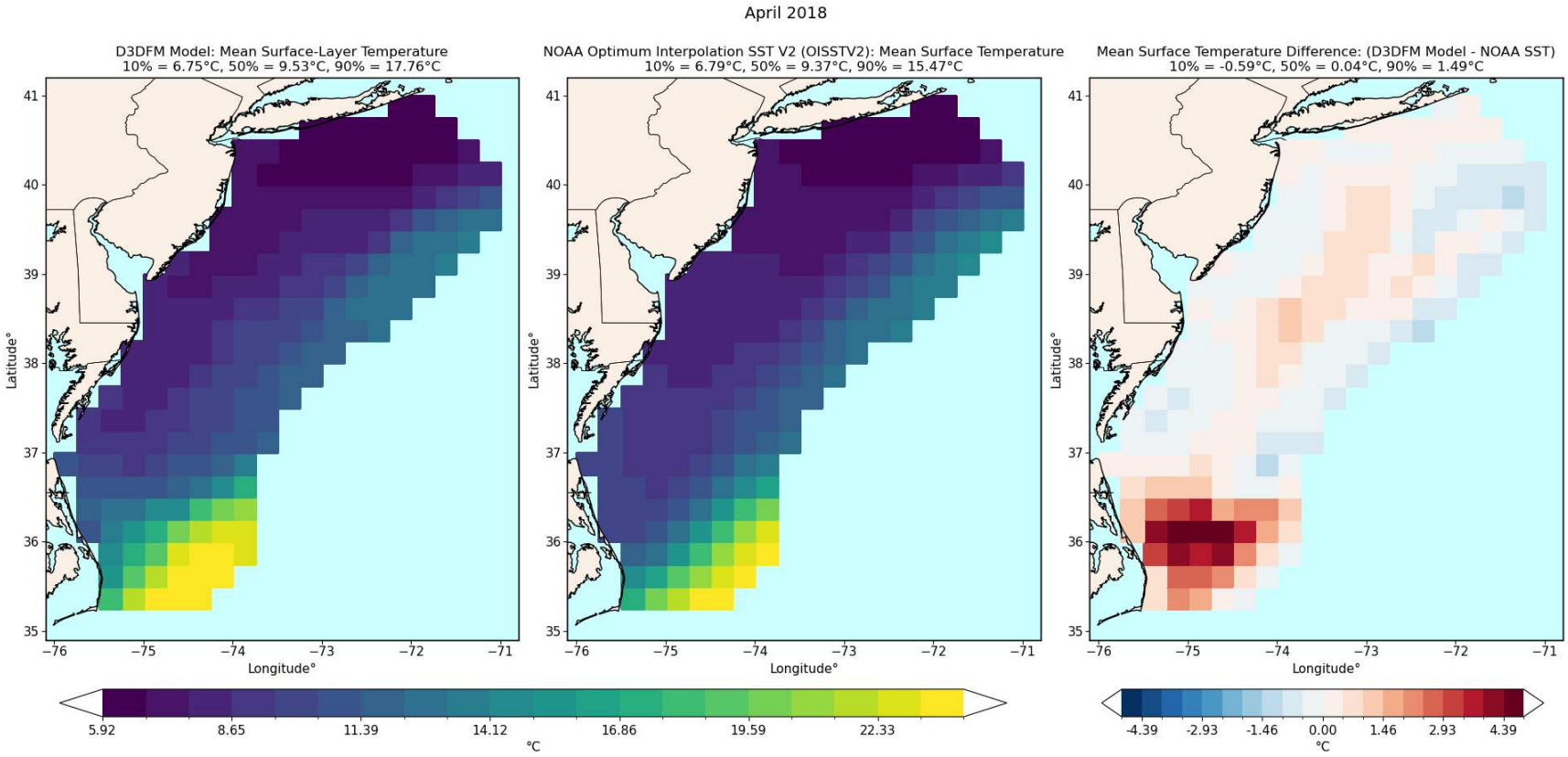
A.3 Sea Surface Temperature of the Model and NOAA Optimum SST (OISSTv2)



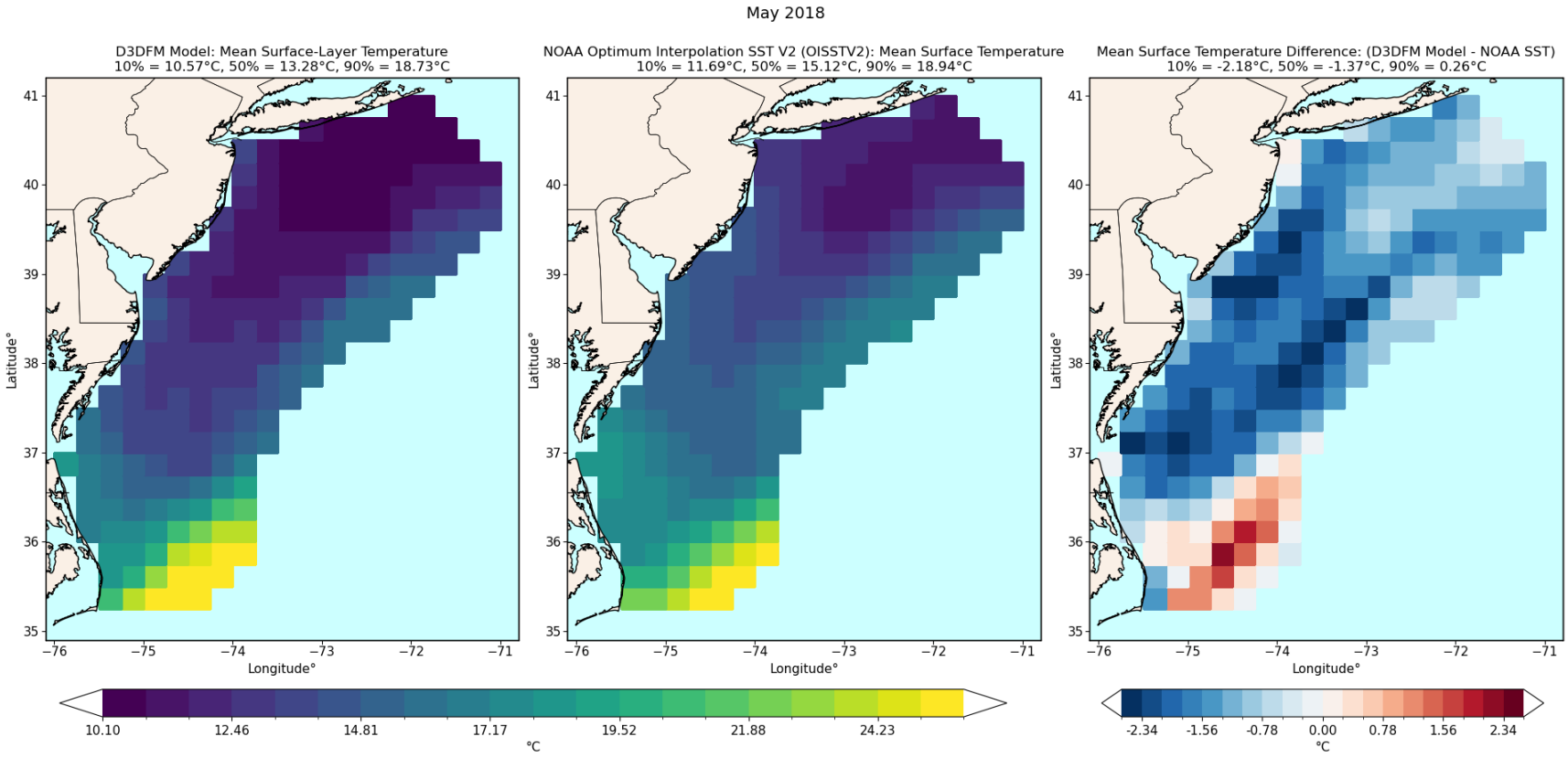
Apx Figure 49. Mean surface temperature in February 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



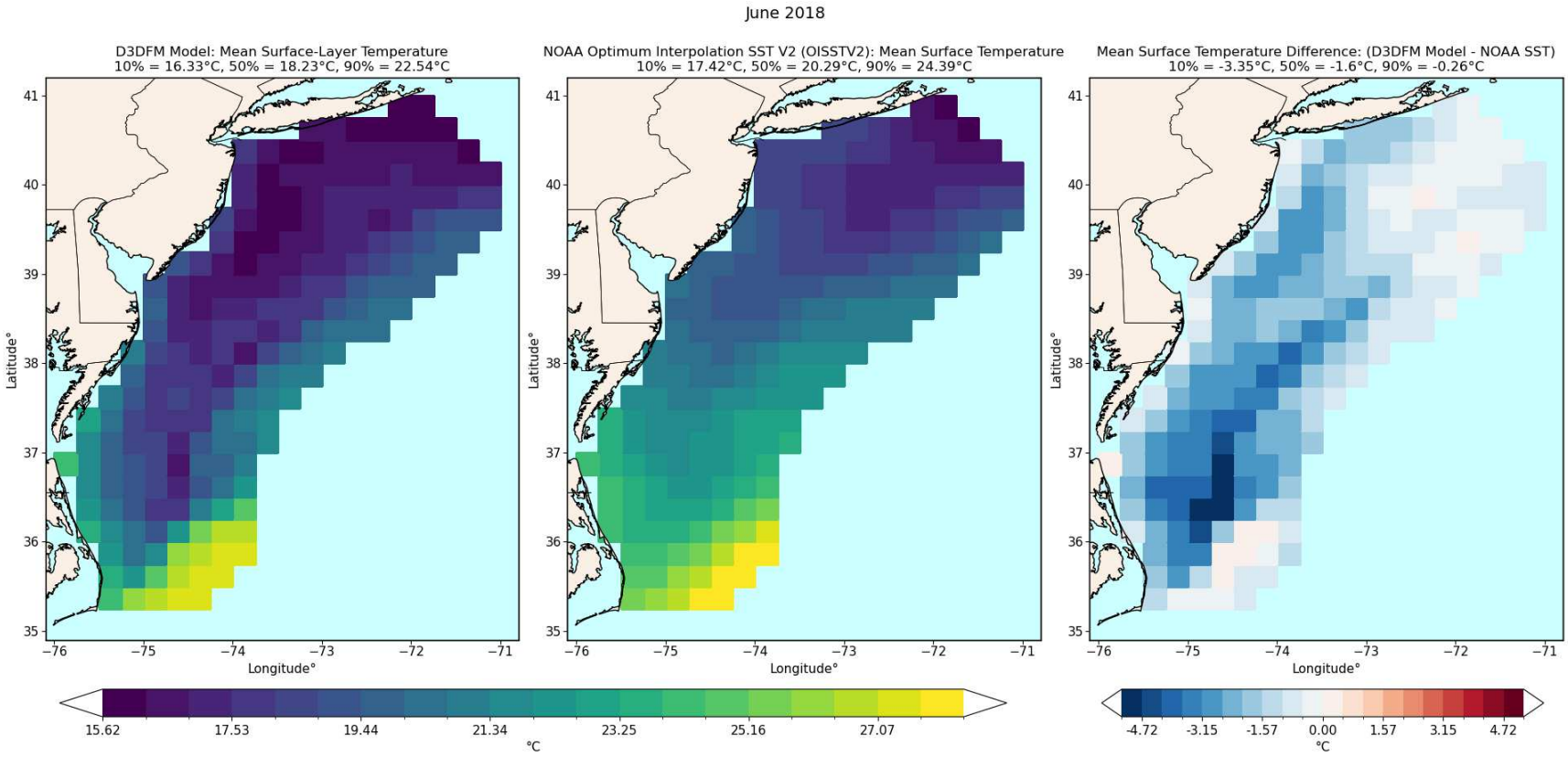
Apx Figure 50. Mean surface temperature in March 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



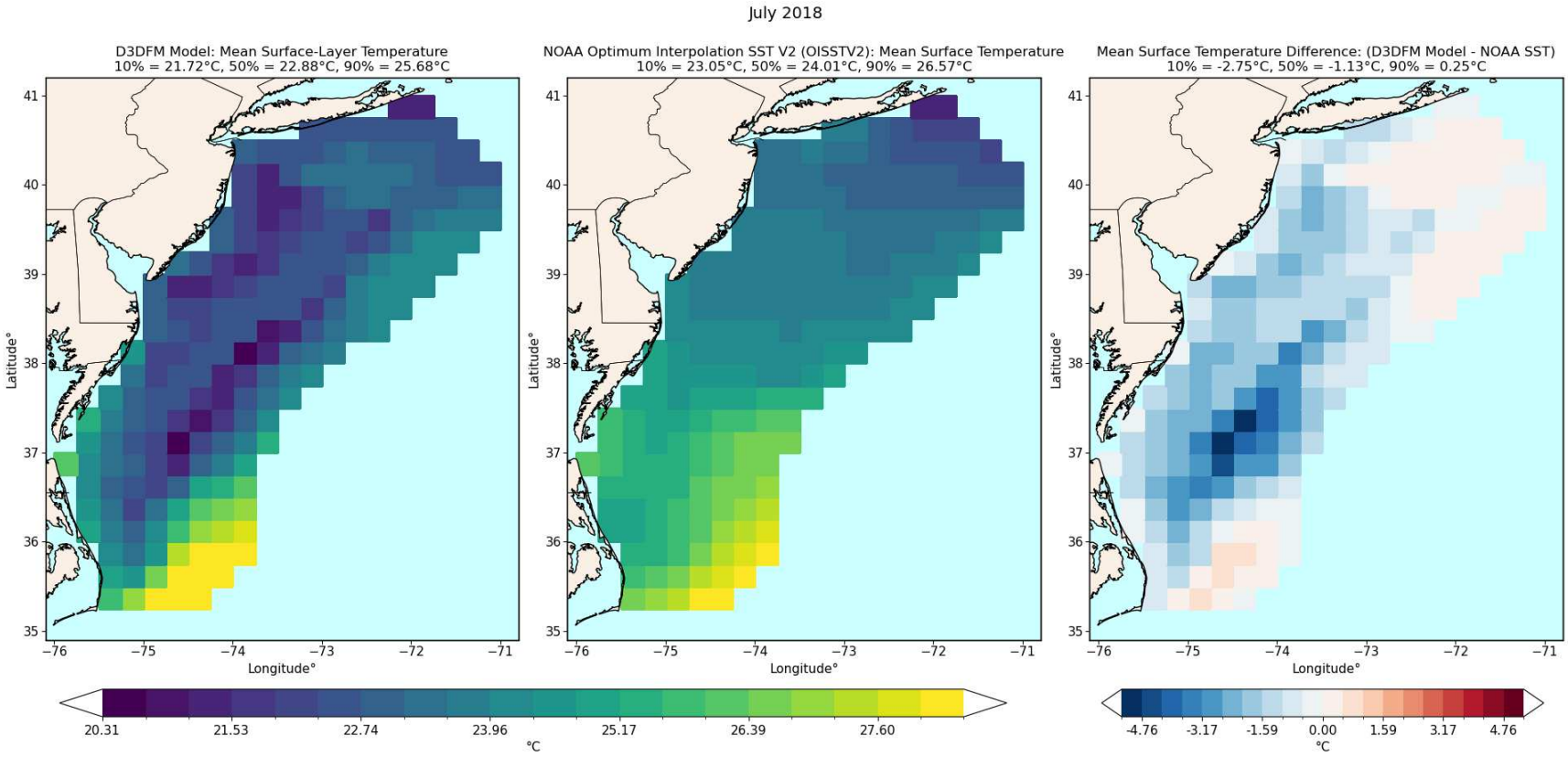
Apx Figure 51. Mean surface temperature in April 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



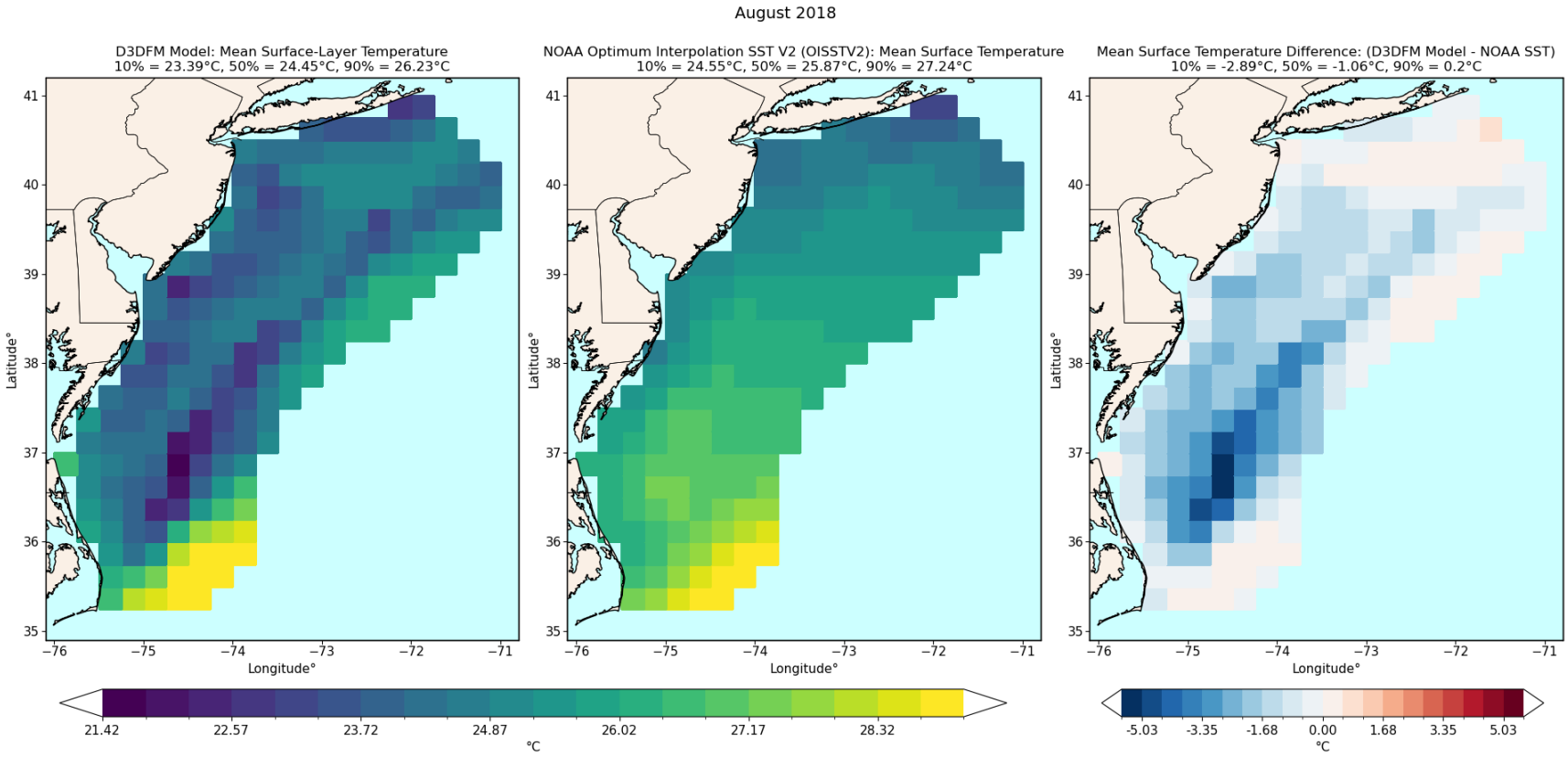
Apx Figure 52. Mean surface temperature in May 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



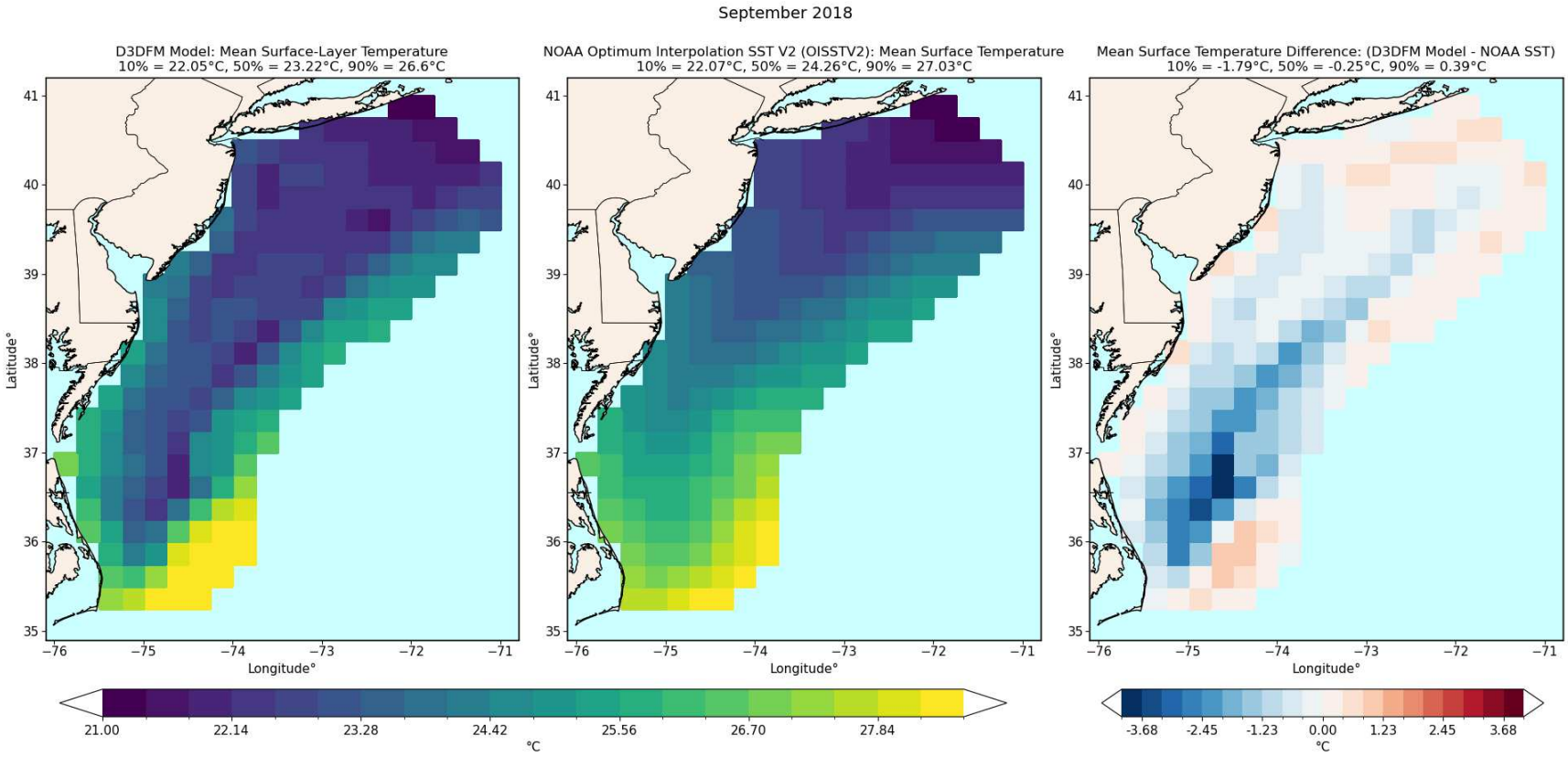
Apx Figure 53. Mean surface temperature in June 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



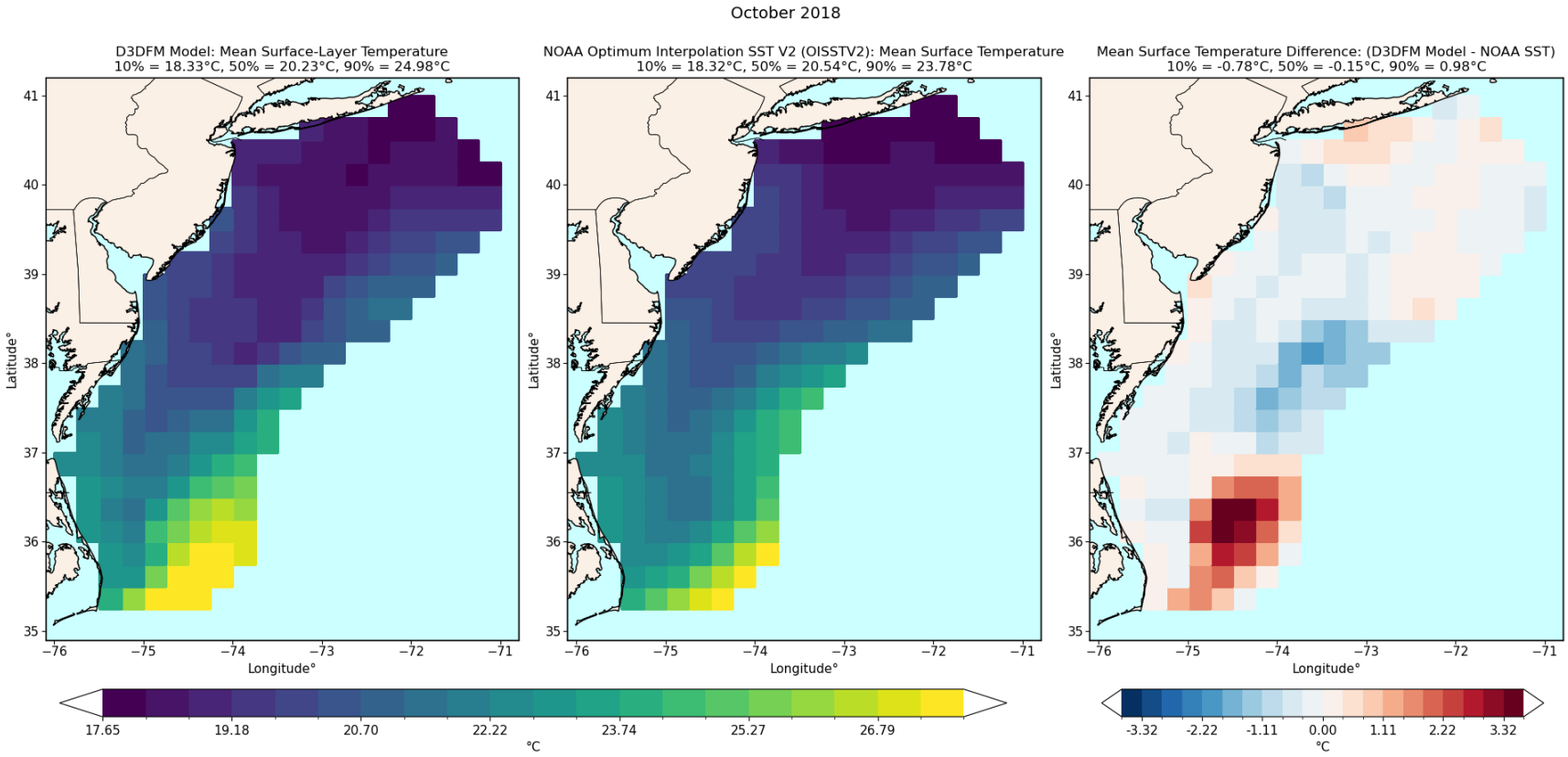
Apx Figure 54. Mean surface temperature in July 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



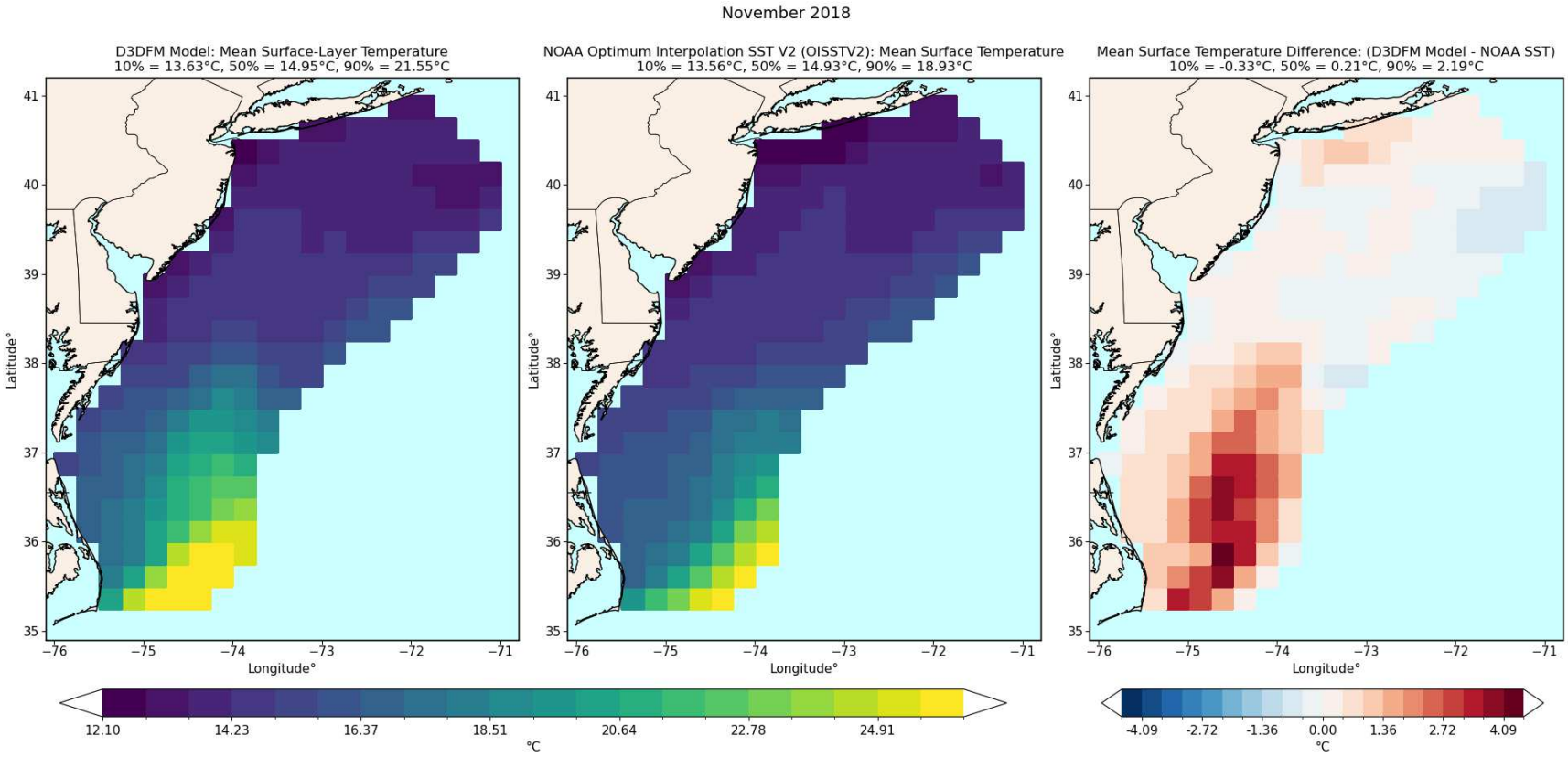
Apx Figure 55. Mean surface temperature in August 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



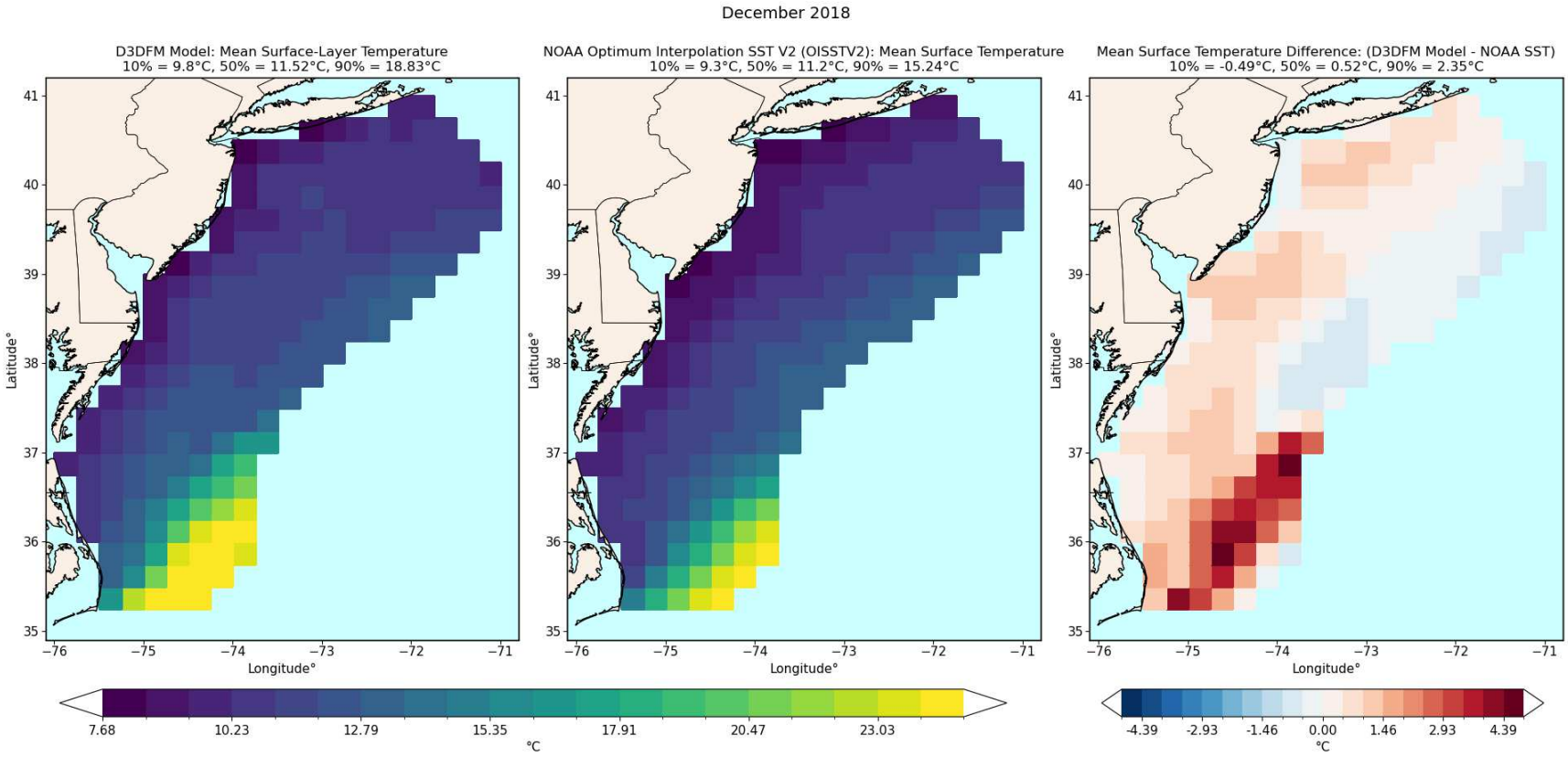
Apx Figure 56. Mean surface temperature in September 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



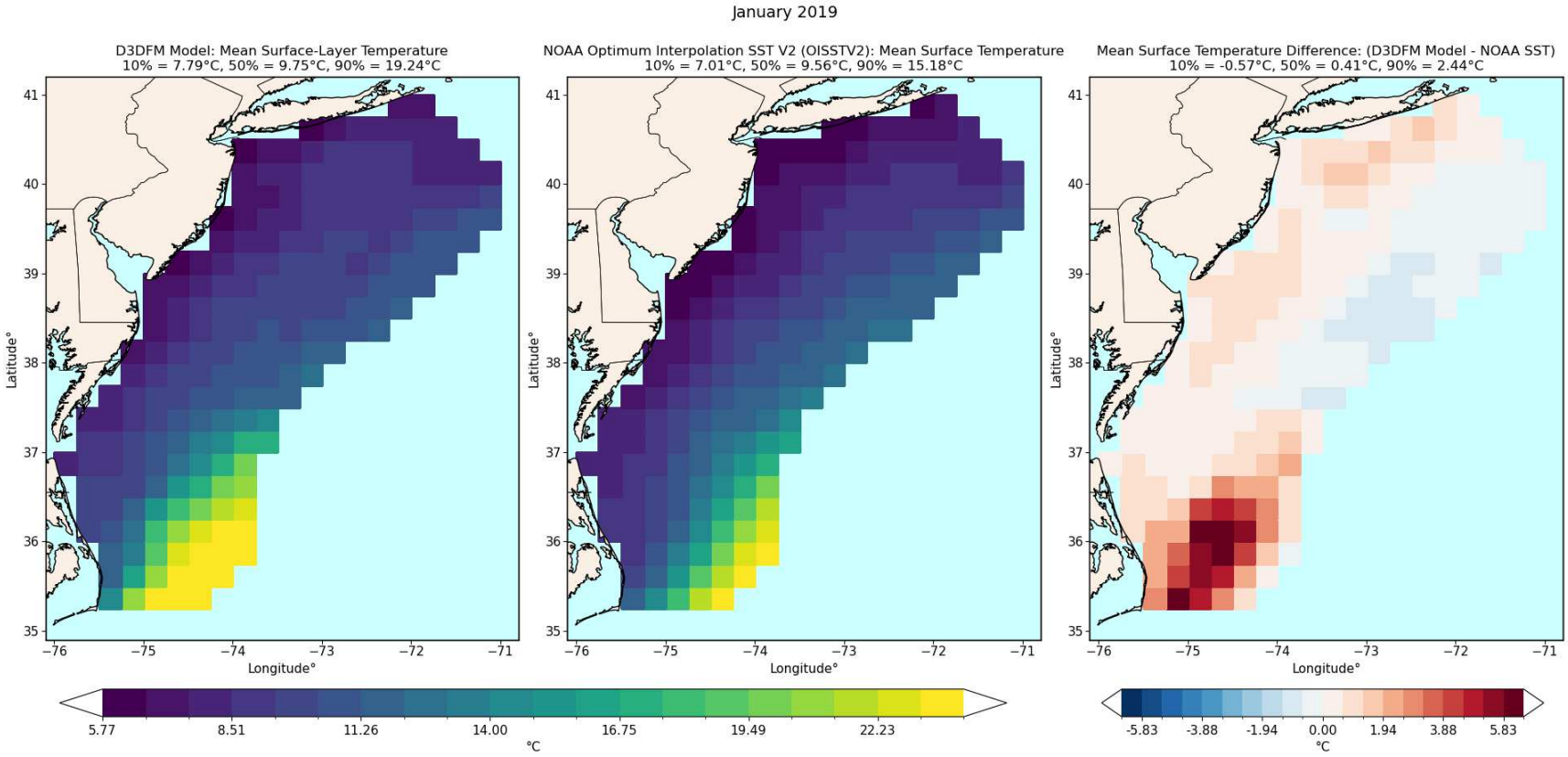
Apx Figure 57. Mean surface temperature in October 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



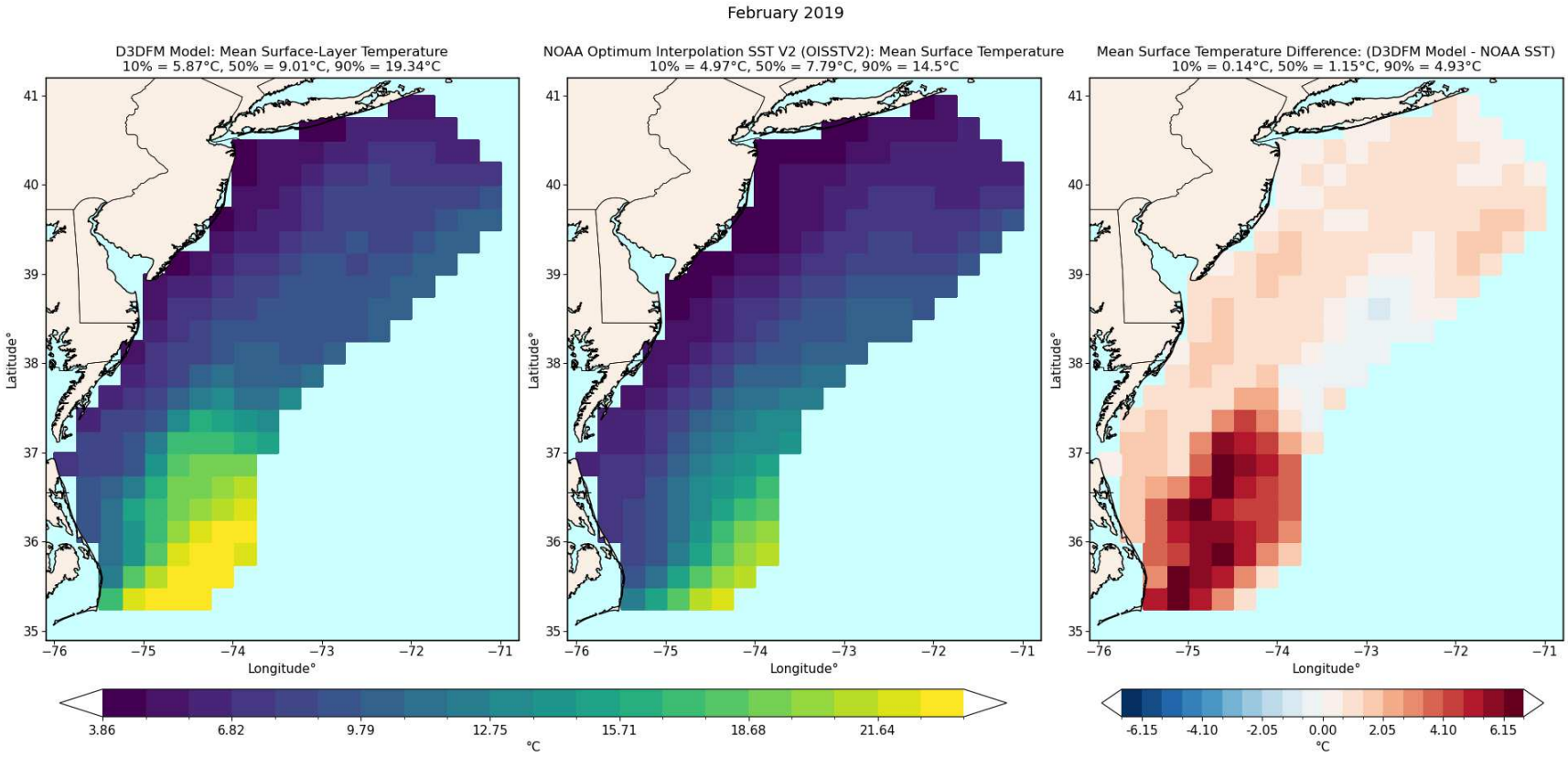
Apx Figure 58. Mean surface temperature in November 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



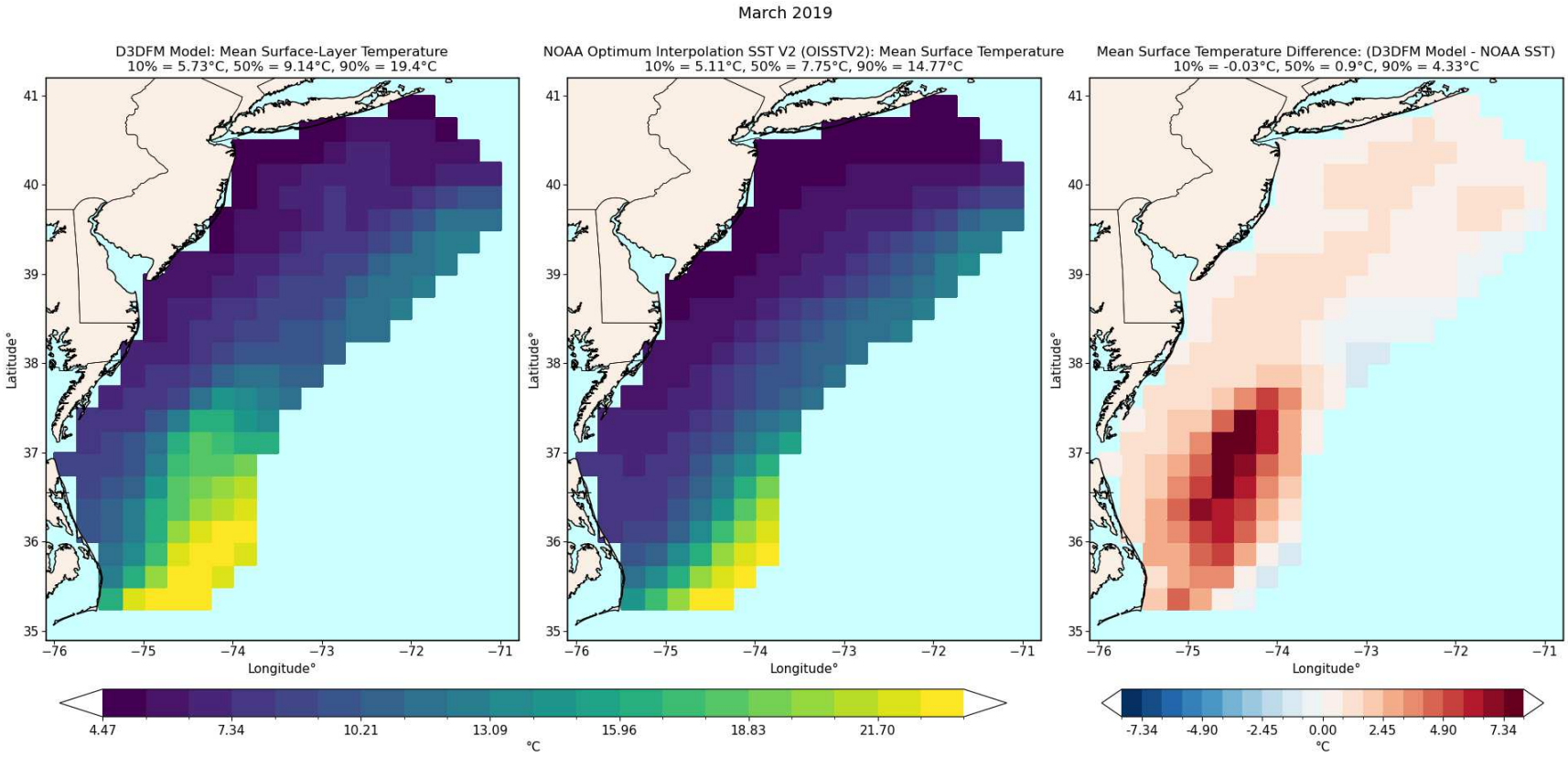
Apx Figure 59. Mean surface temperature in December 2018, of the model (left), OISSTv2 dataset (middle), and difference (right).



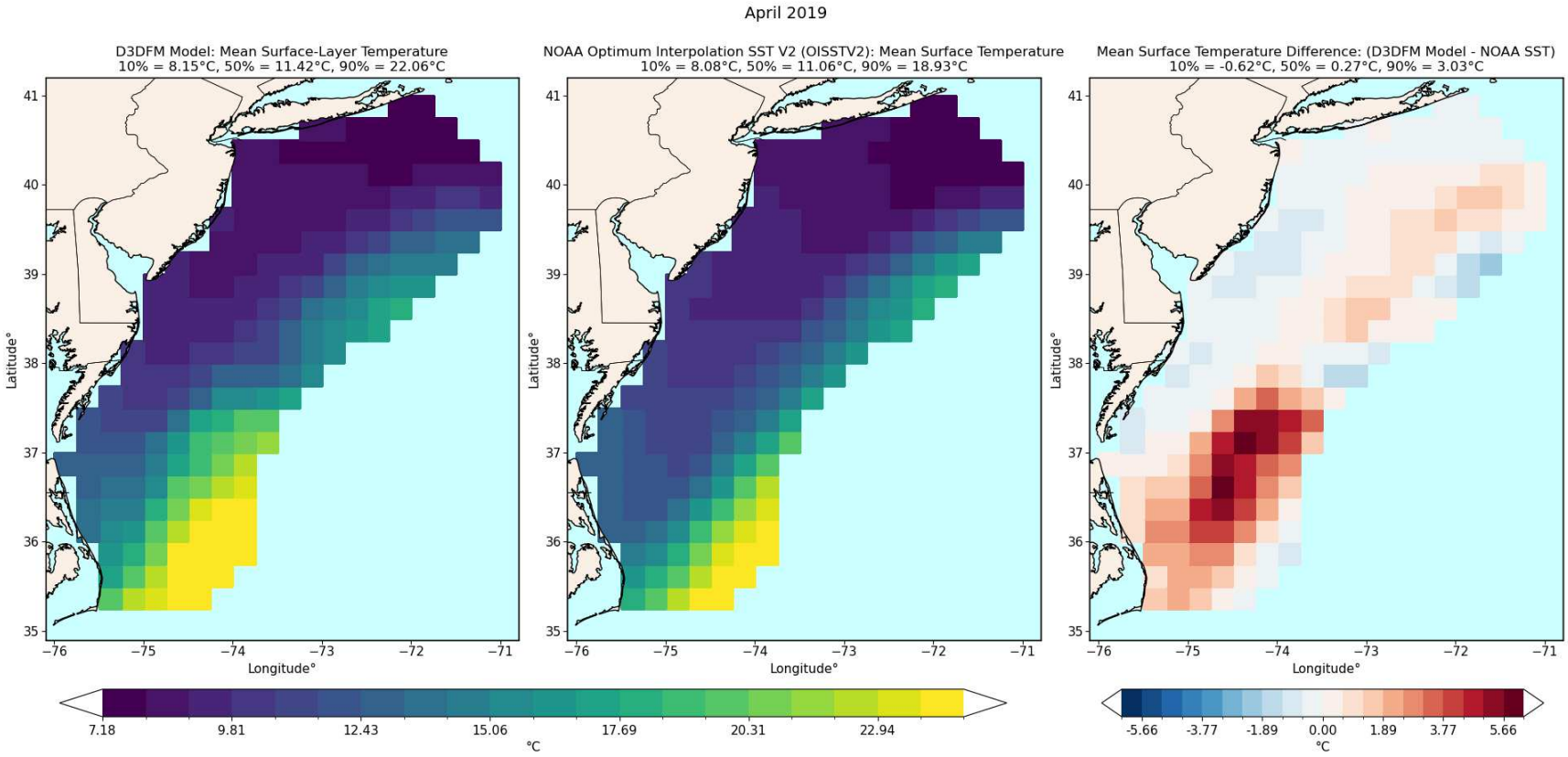
Apx Figure 60. Mean surface temperature in January 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



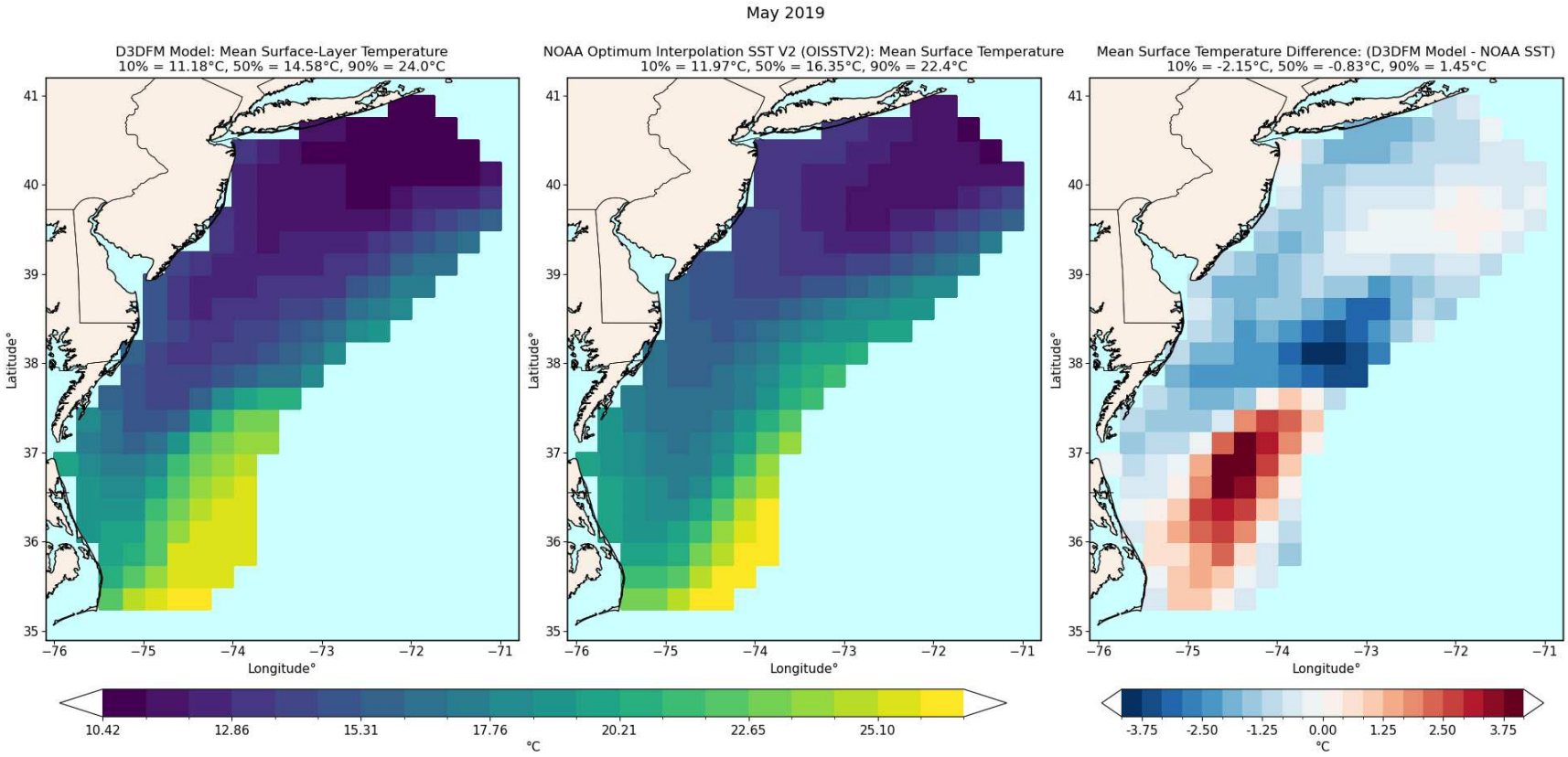
Apx Figure 61. Mean surface temperature in February 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



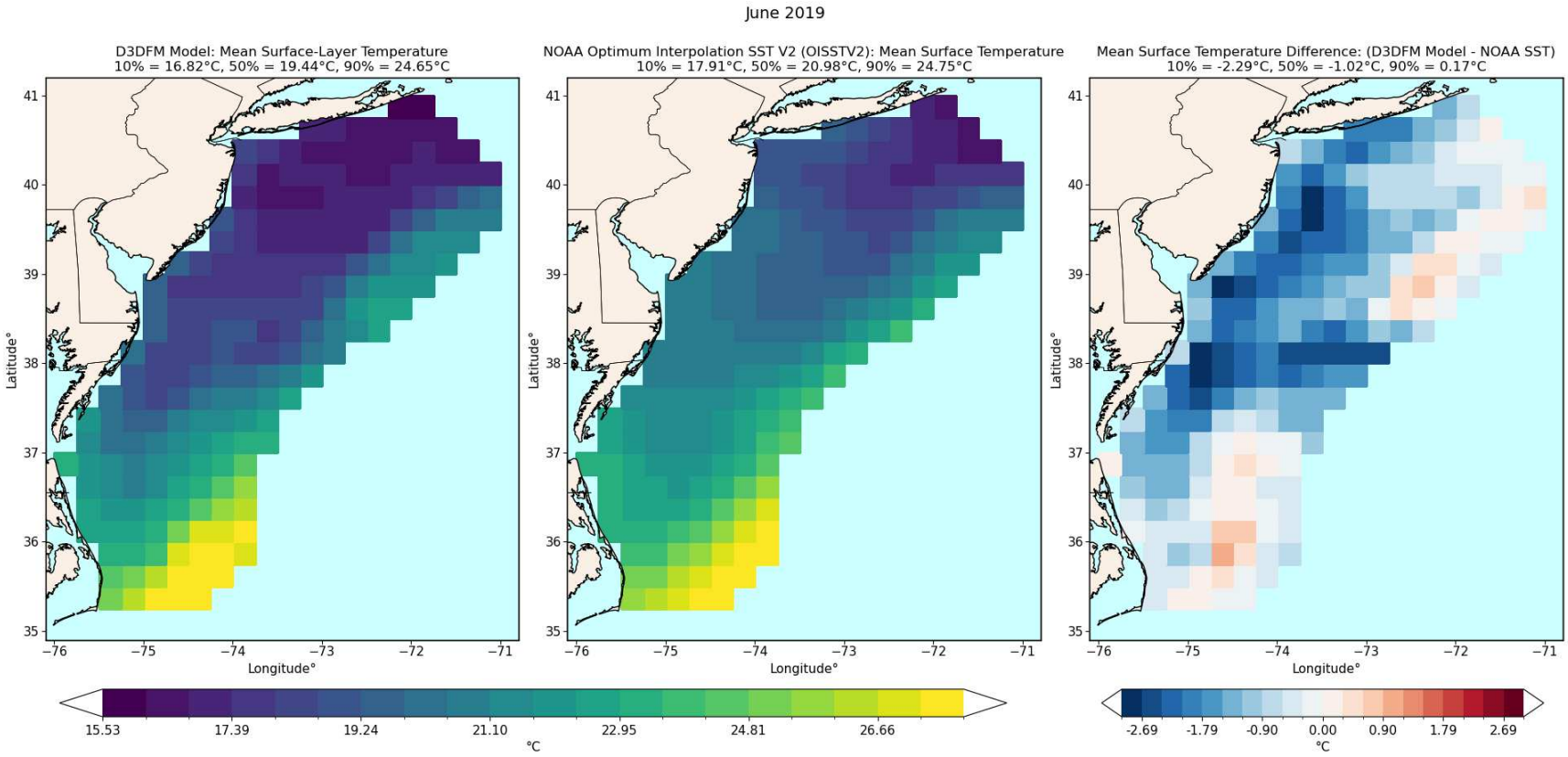
Apx Figure 62. Mean surface temperature in March 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



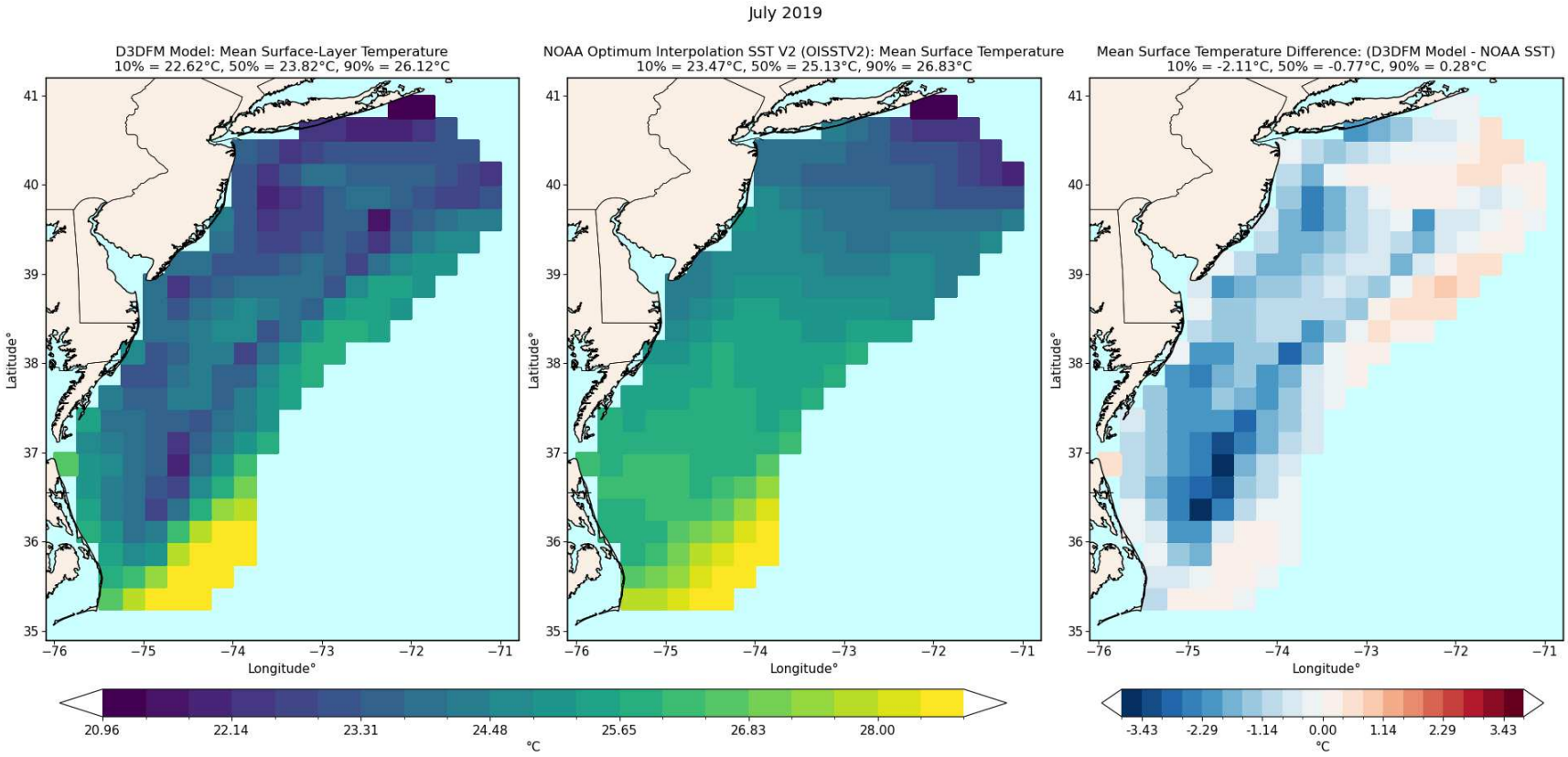
Apx Figure 63. Mean surface temperature in April 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



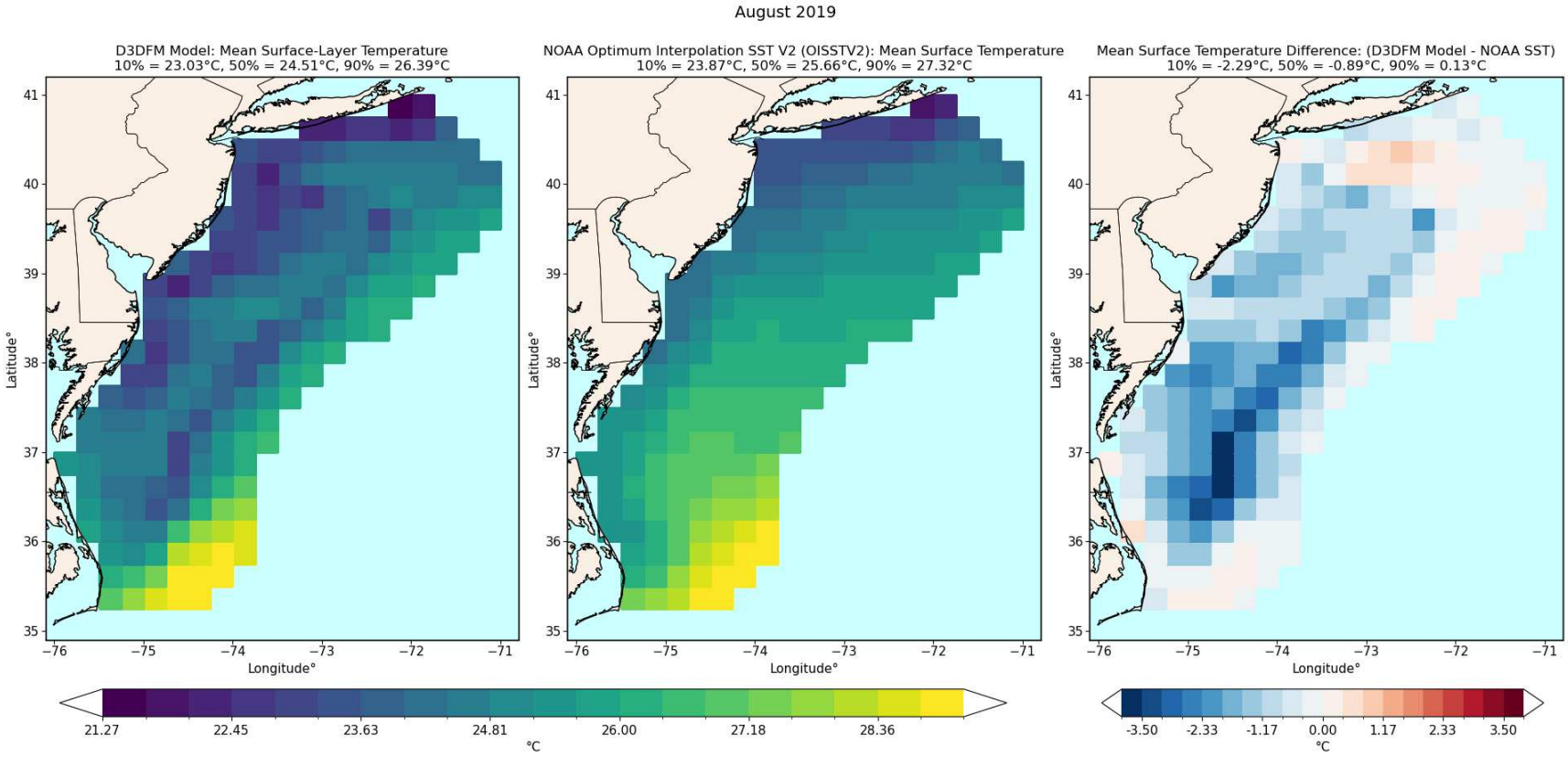
Apx Figure 64. Mean surface temperature in May 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



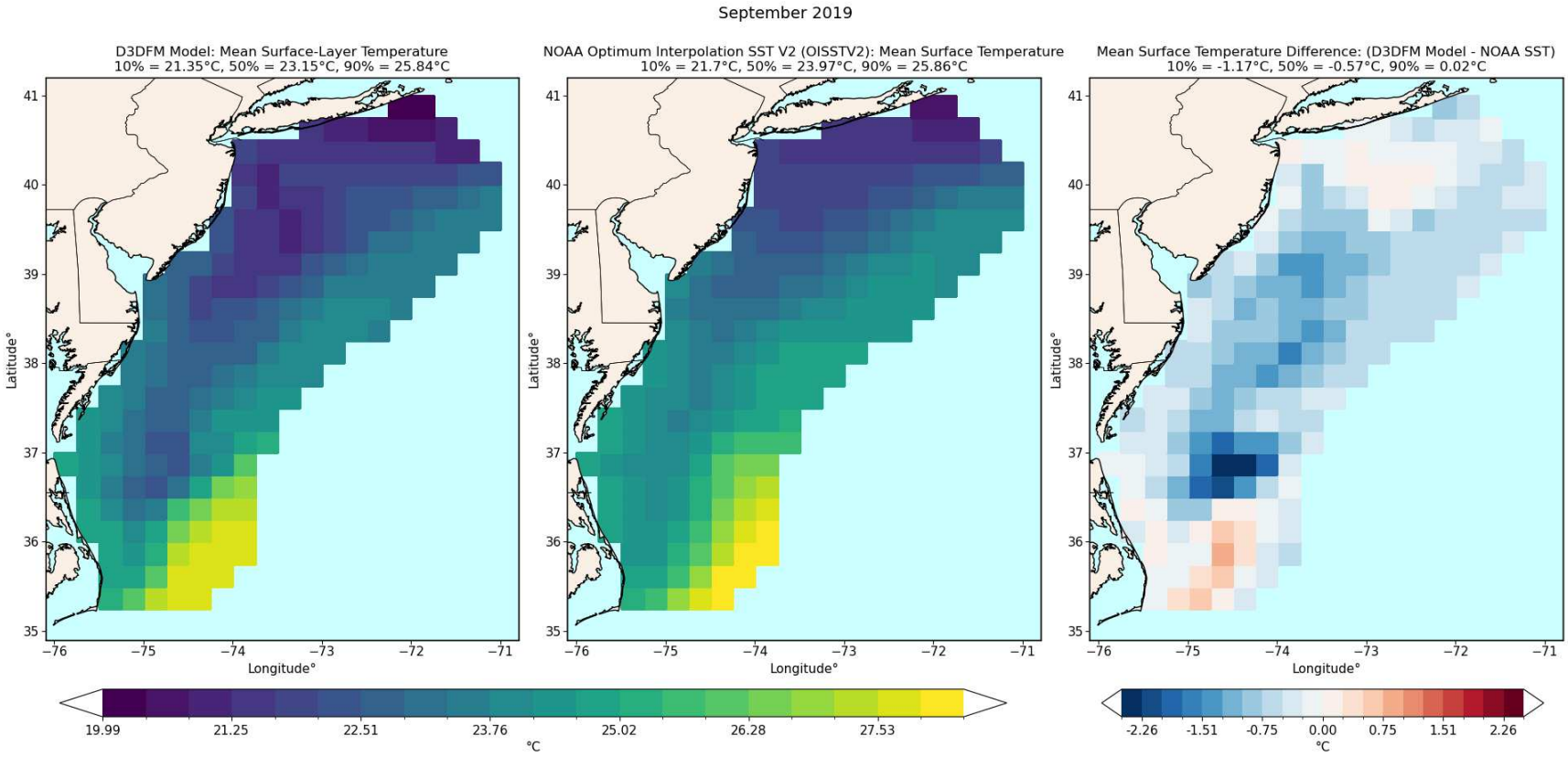
Apx Figure 65. Mean surface temperature in June 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



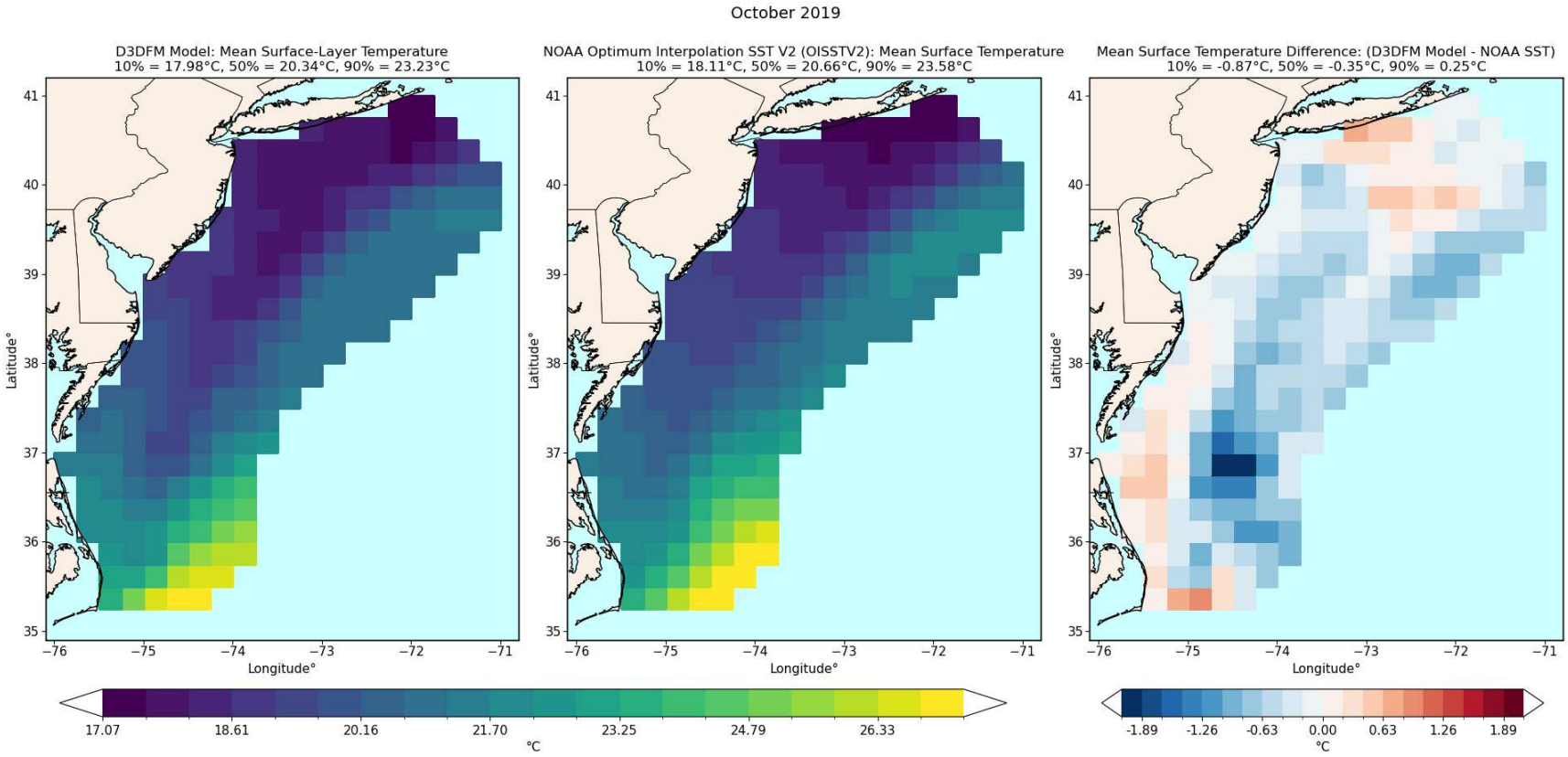
Apx Figure 66. Mean surface temperature in July 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



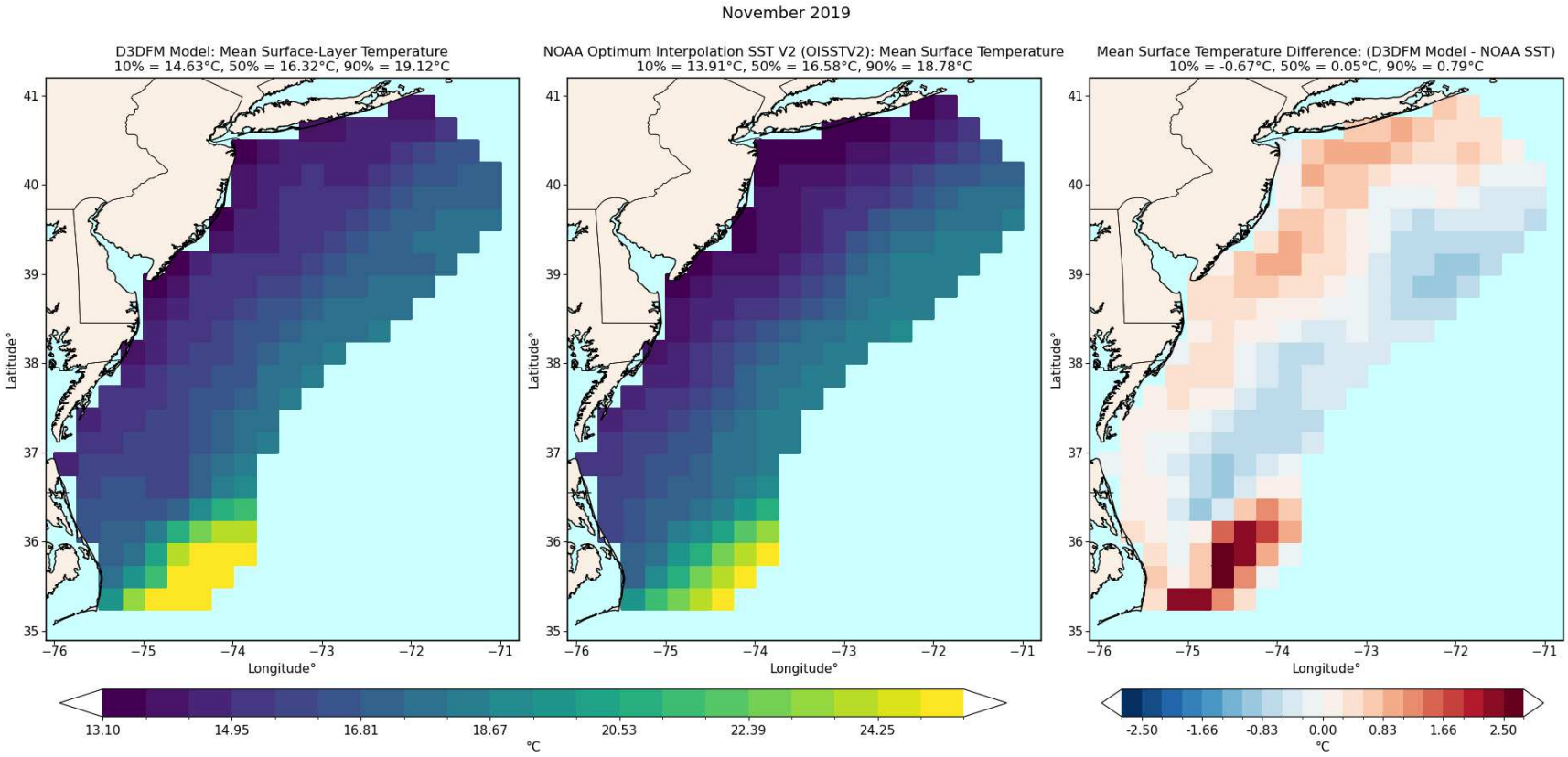
Apx Figure 67. Mean surface temperature in August 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



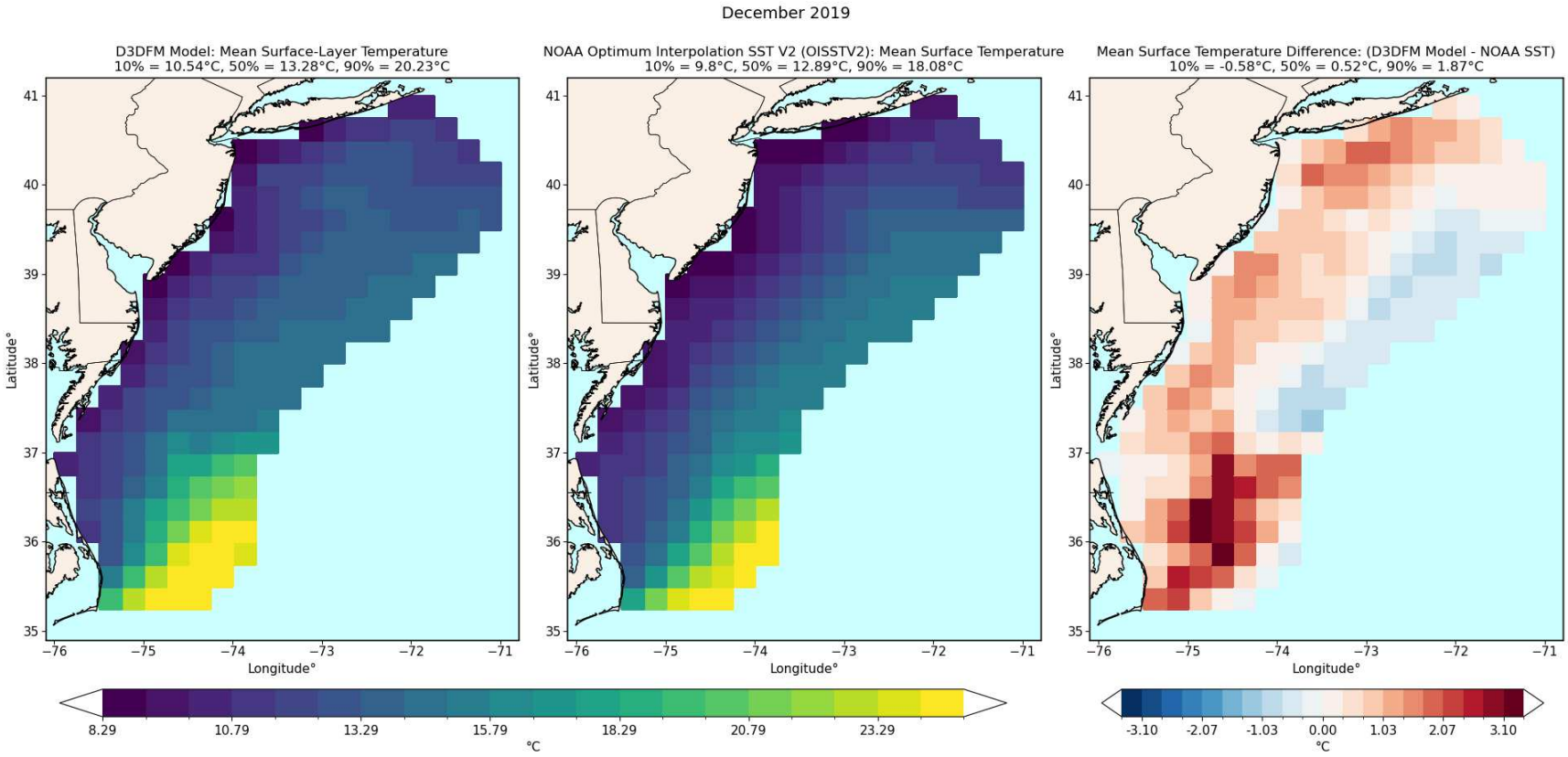
Apx Figure 68. Mean surface temperature in September 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



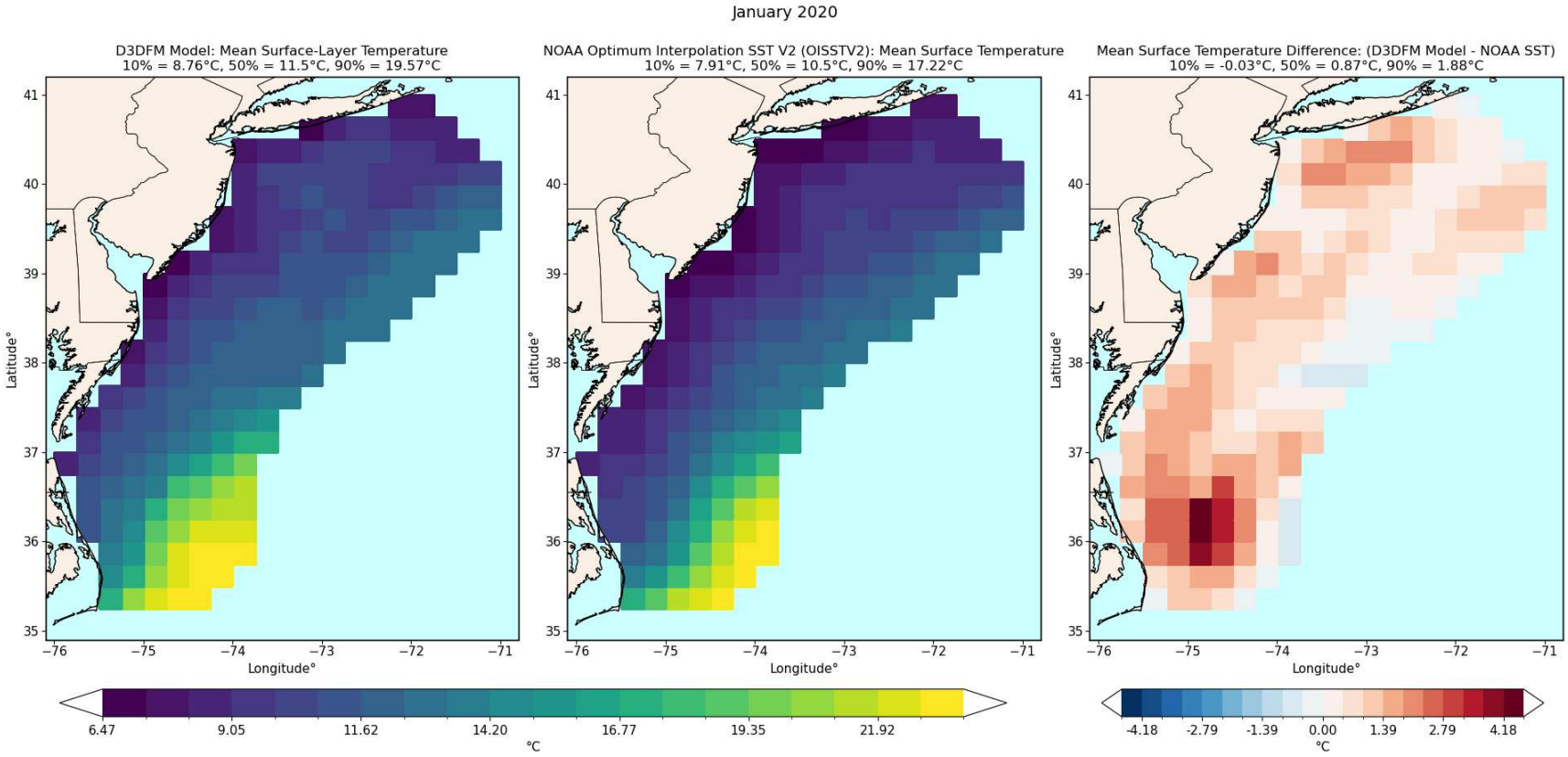
Apx Figure 69. Mean surface temperature in October 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).



Apx Figure 70. Mean surface temperature in November 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).

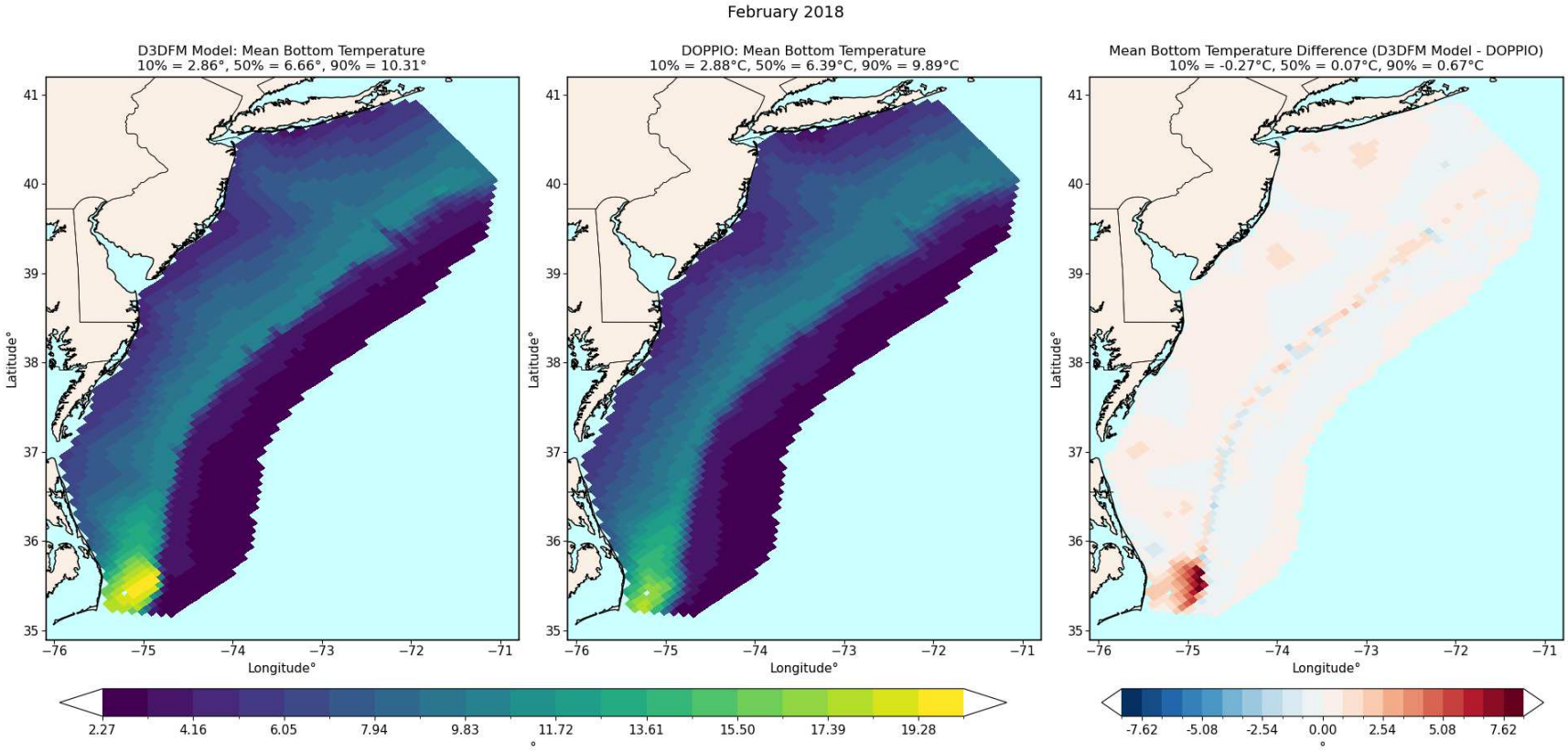


Apx Figure 71. Mean surface temperature in December 2019, of the model (left), OISSTv2 dataset (middle), and difference (right).

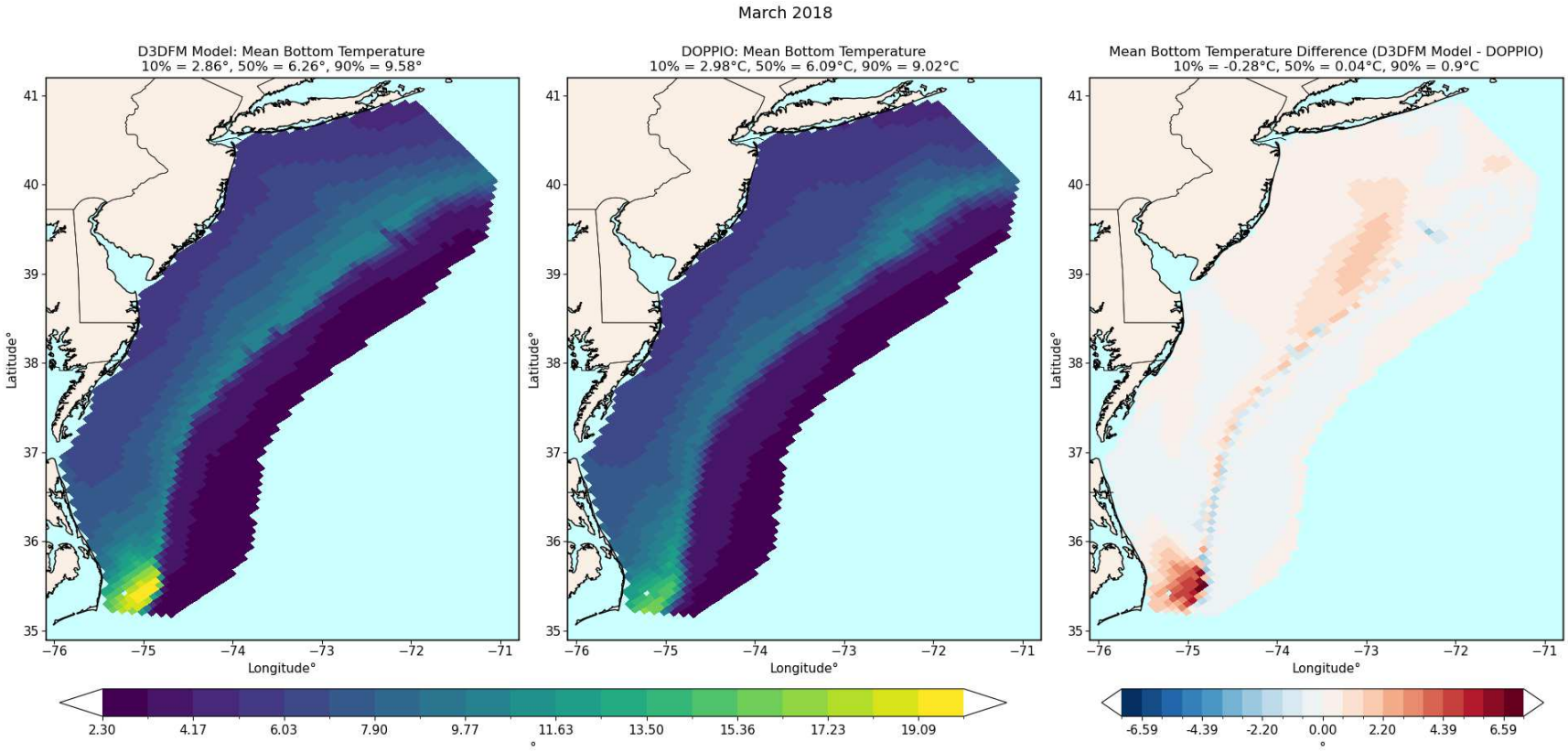


Apx Figure 72. Mean surface temperature in January 2020, of the model (left), OISSTv2 dataset (middle), and difference (right).

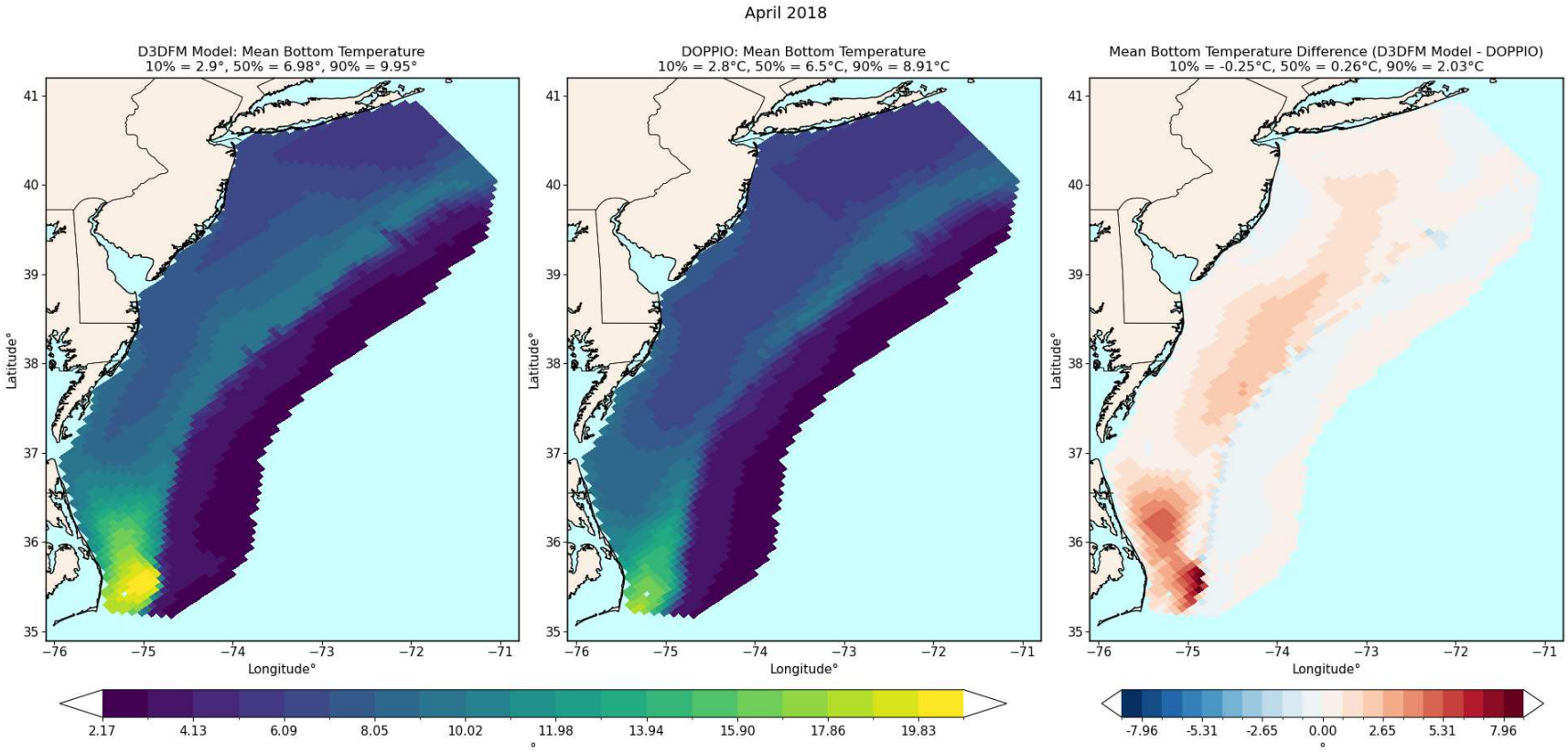
A.4 Bottom Temperature of the Model and Doppio Dataset



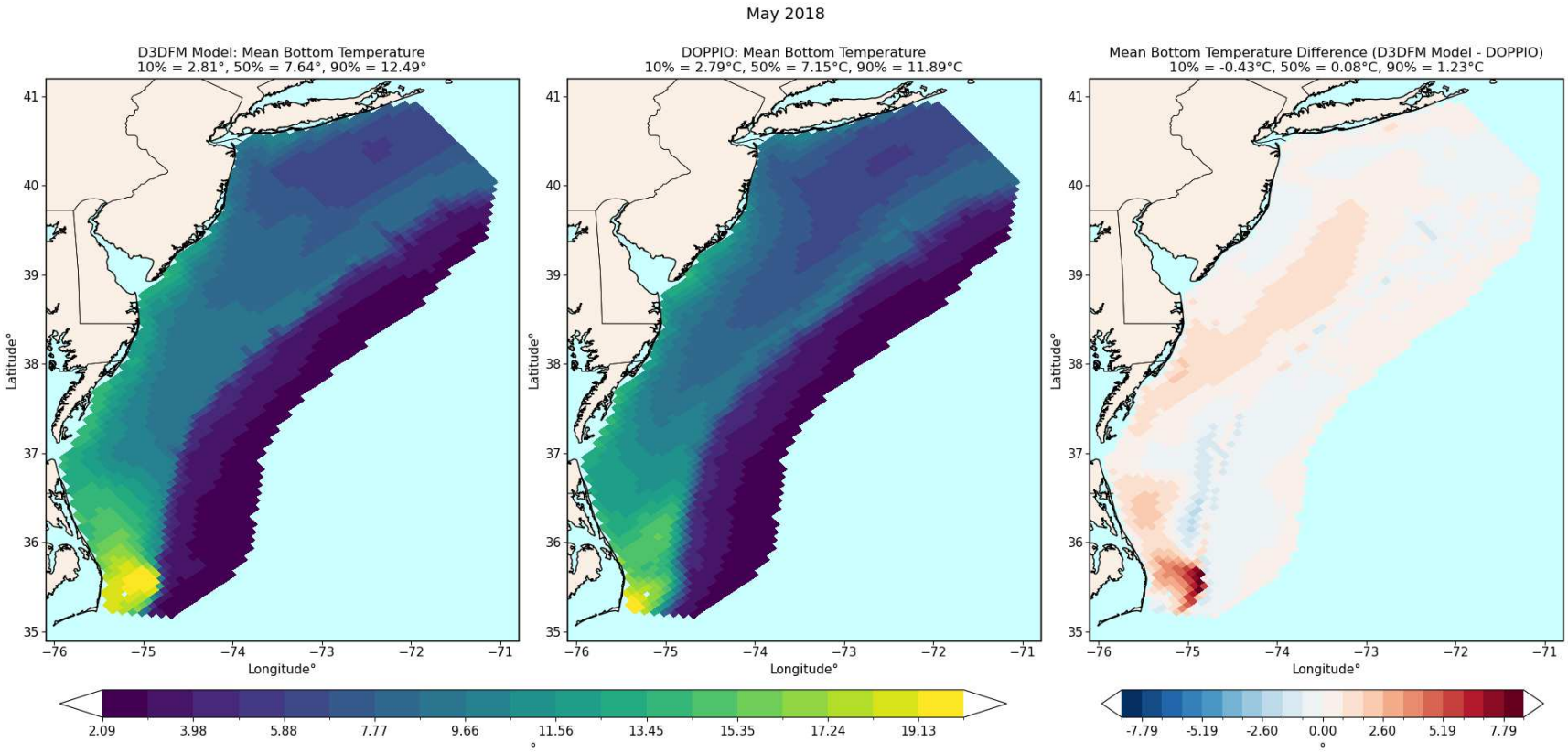
Apx Figure 73. Mean bottom temperature in February 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



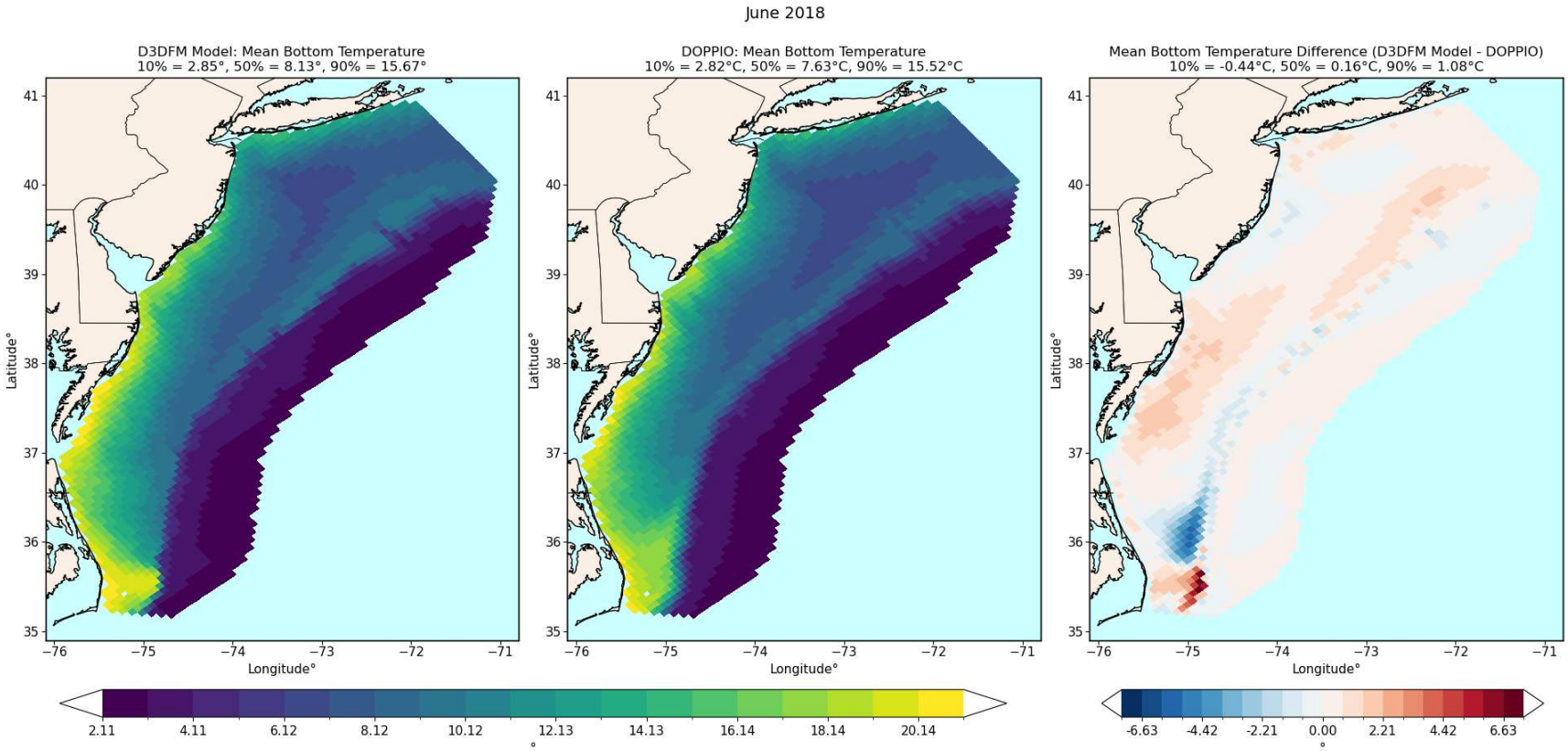
Apx Figure 74. Mean bottom temperature in March 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



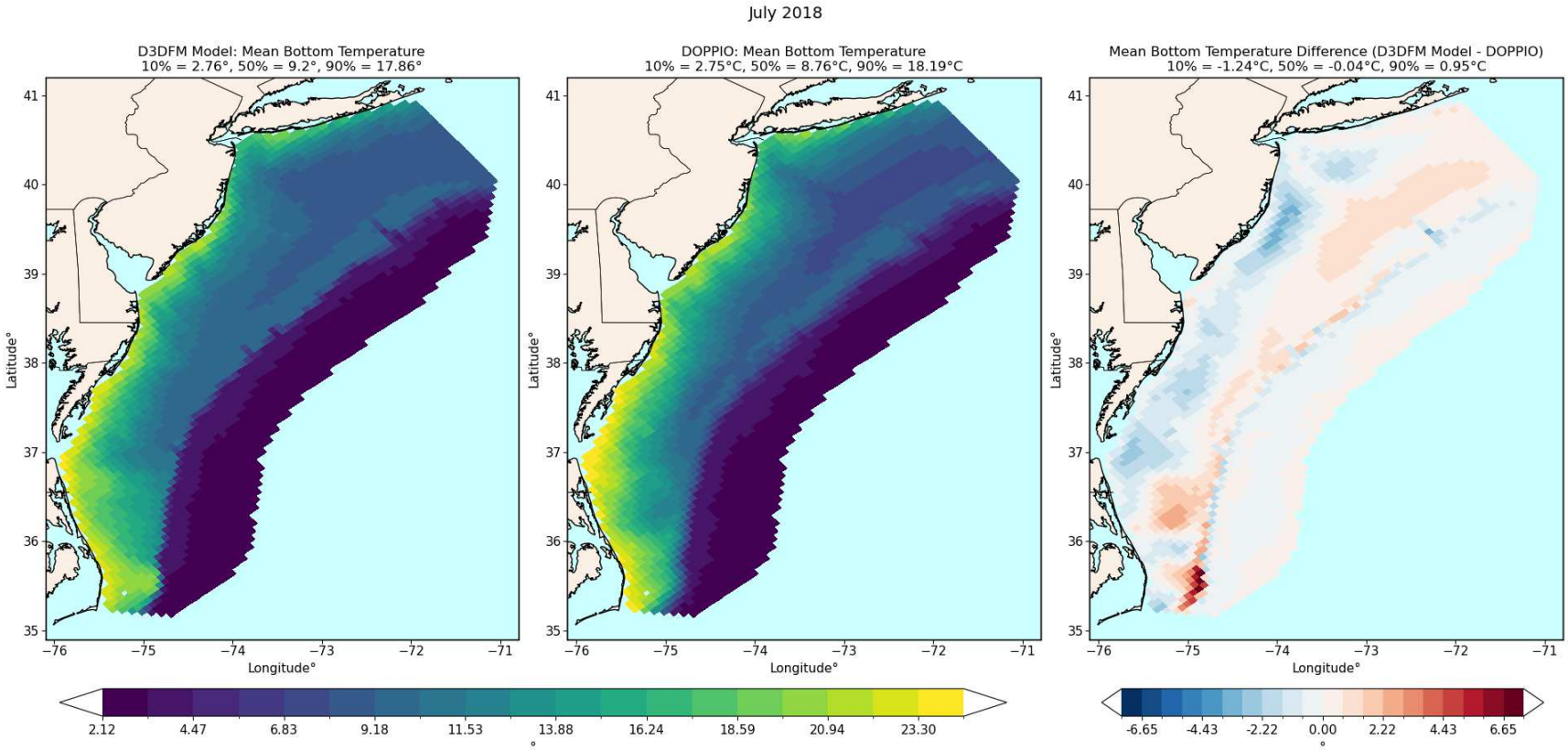
Apx Figure 75. Mean bottom temperature in April 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



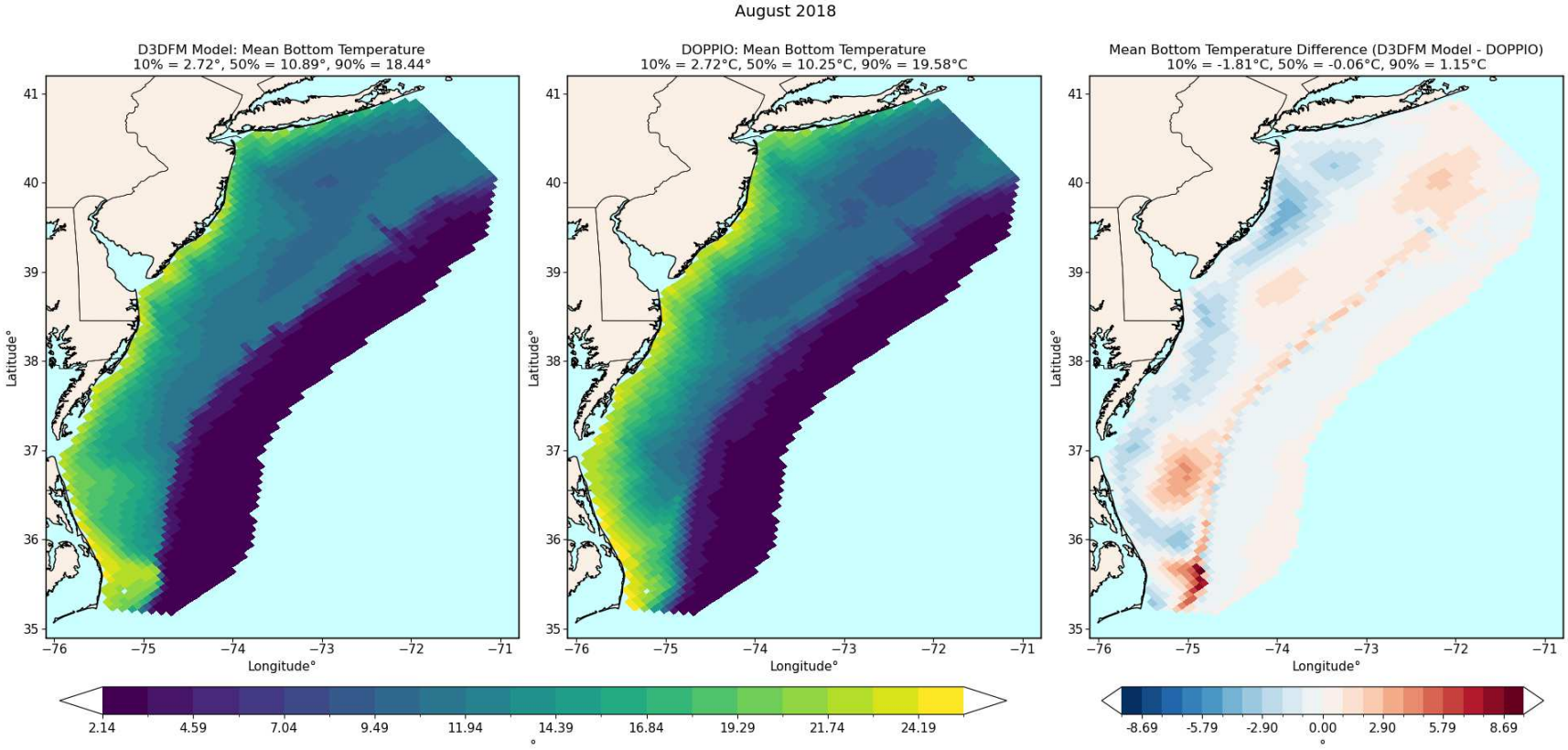
Apx Figure 76. Mean bottom temperature in May 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



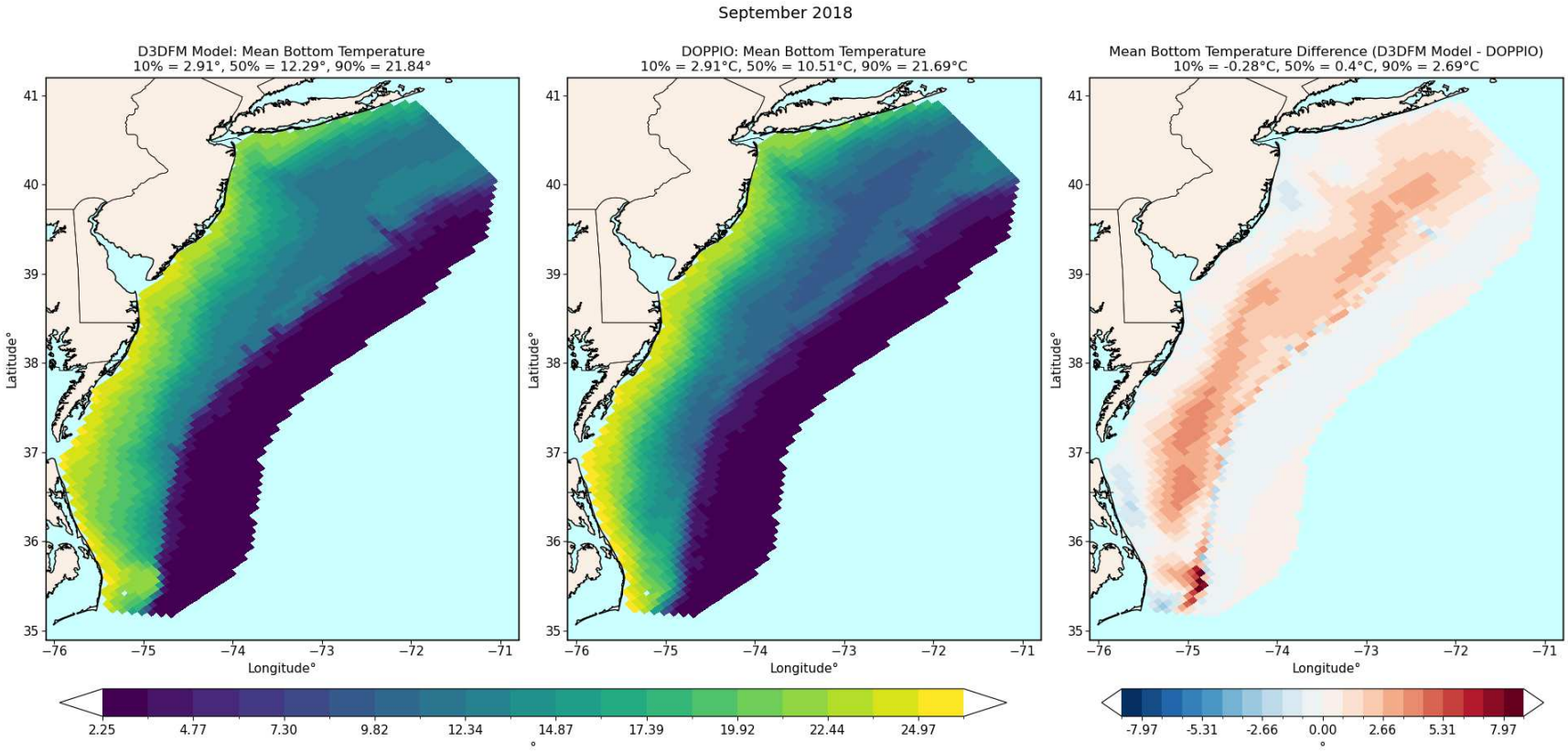
Apx Figure 77. Mean bottom temperature in June 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



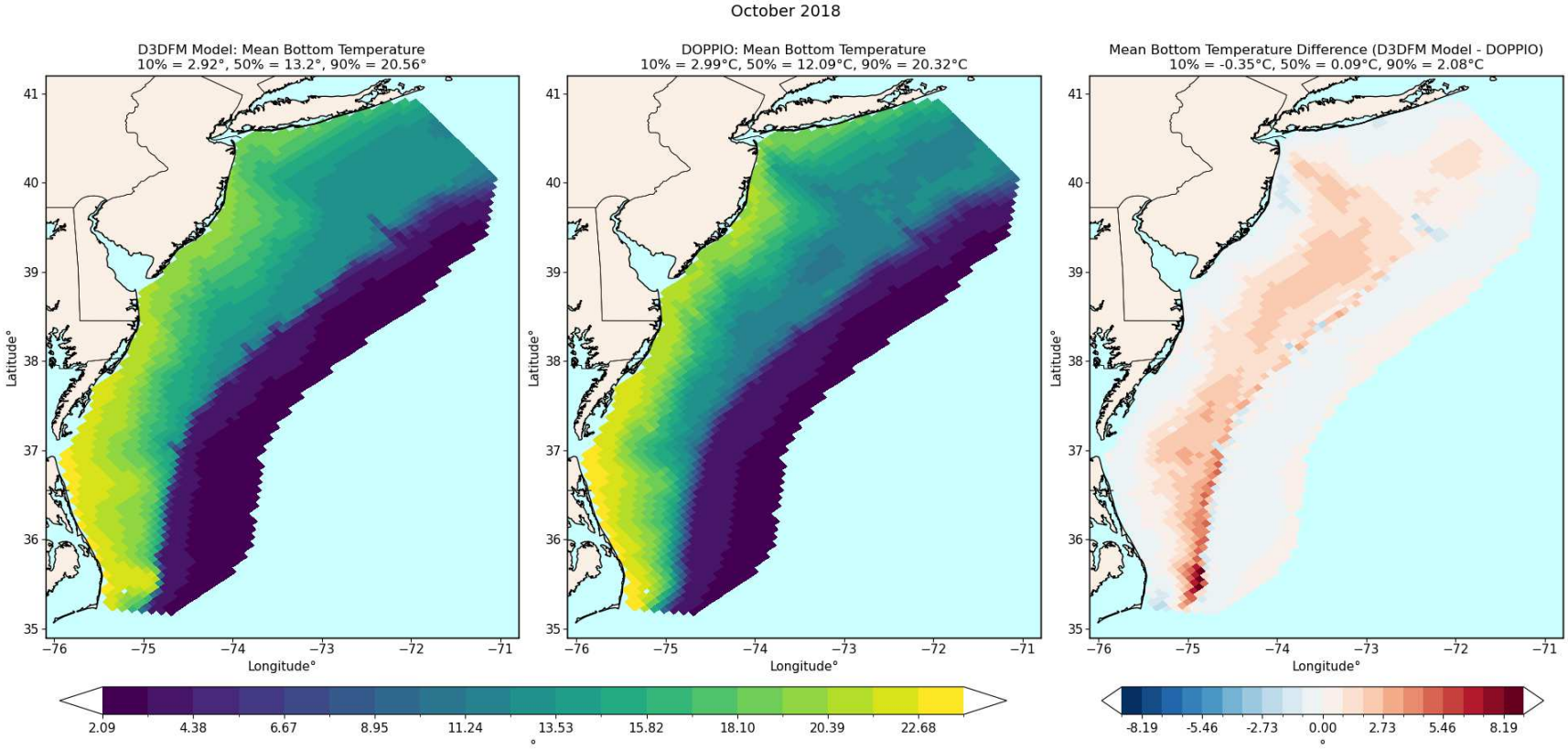
Apx Figure 78. Mean bottom temperature in July 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



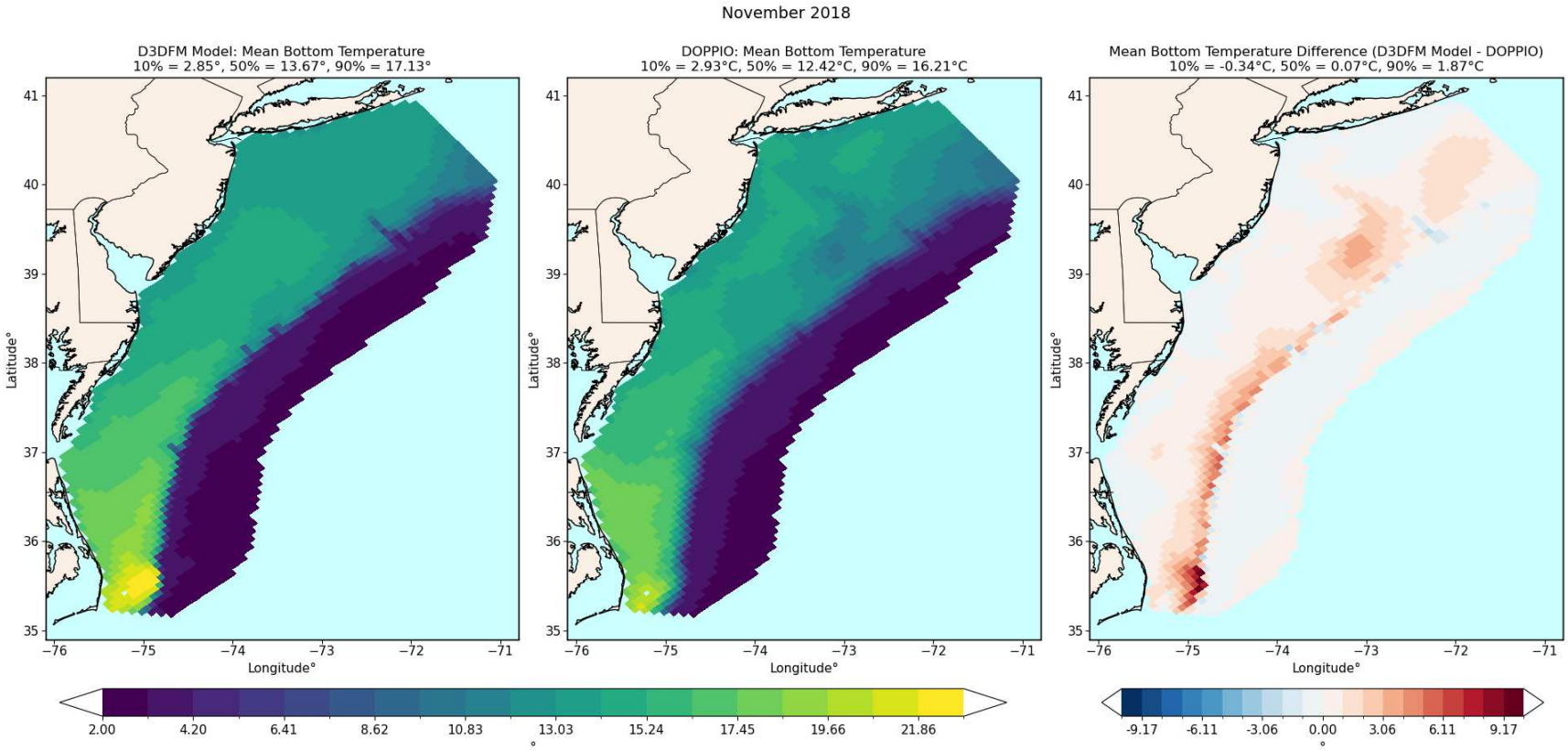
Apx Figure 79. Mean bottom temperature in August 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



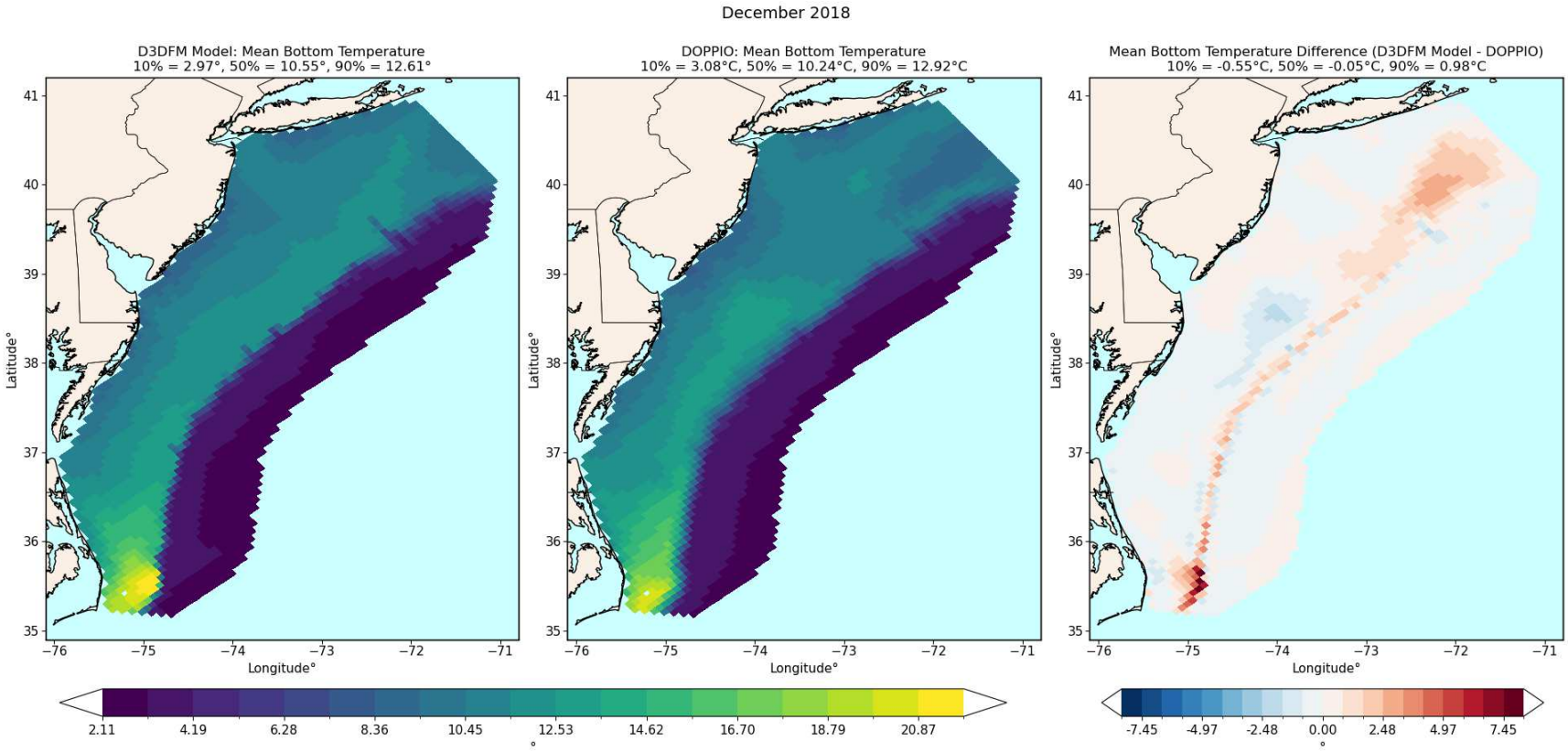
Apx Figure 80. Mean bottom temperature in September 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



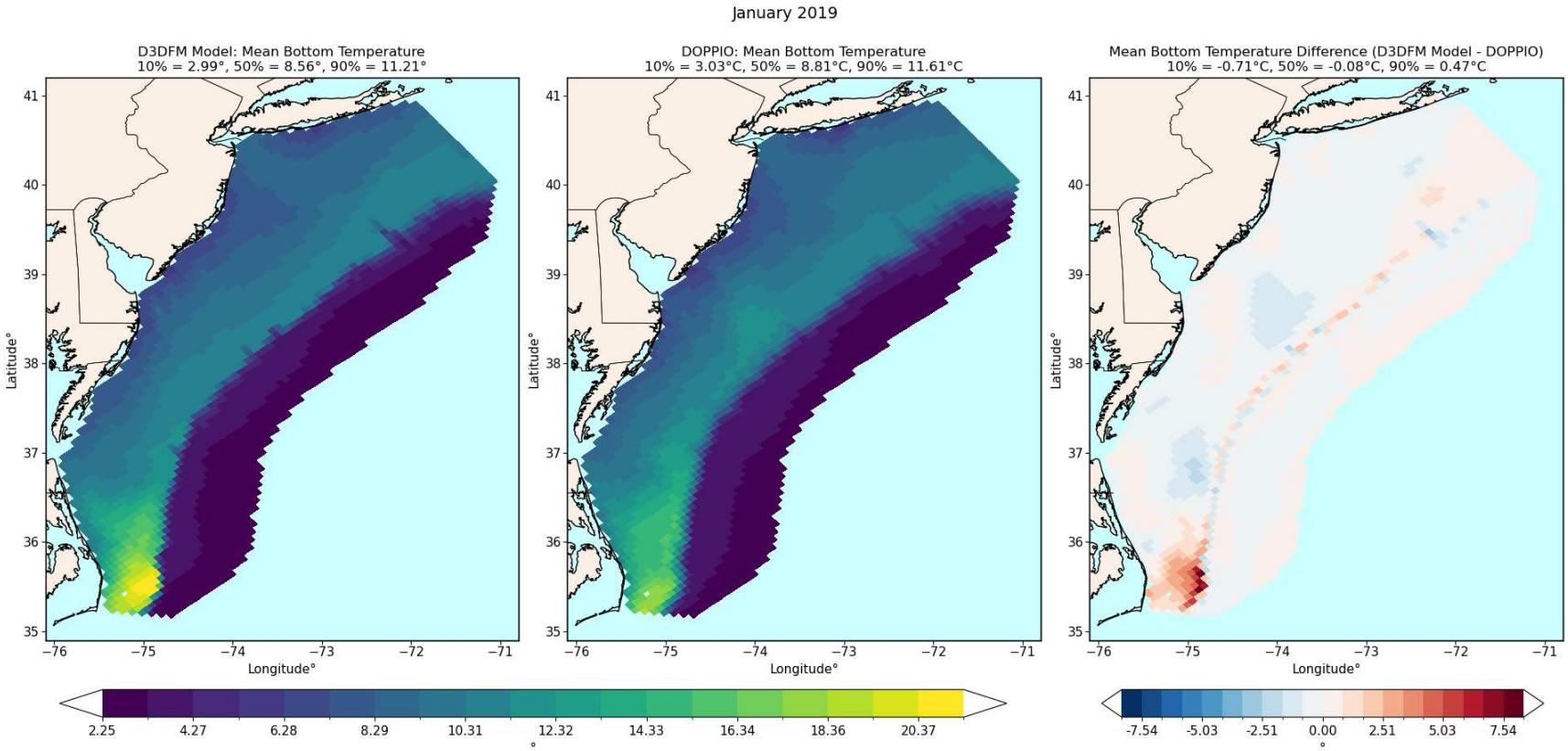
Apx Figure 81. Mean bottom temperature in October 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



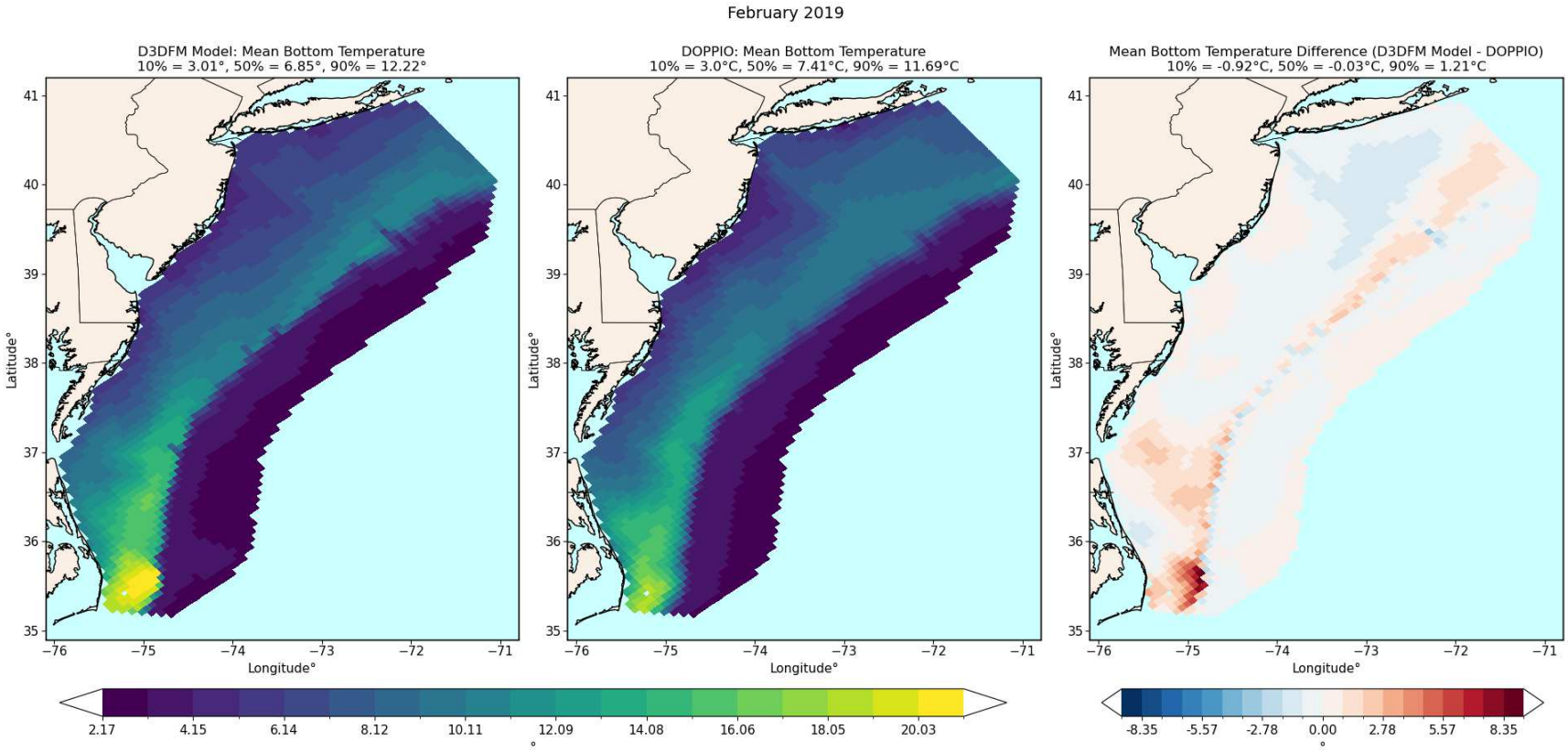
Apx Figure 82. Mean bottom temperature in November 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



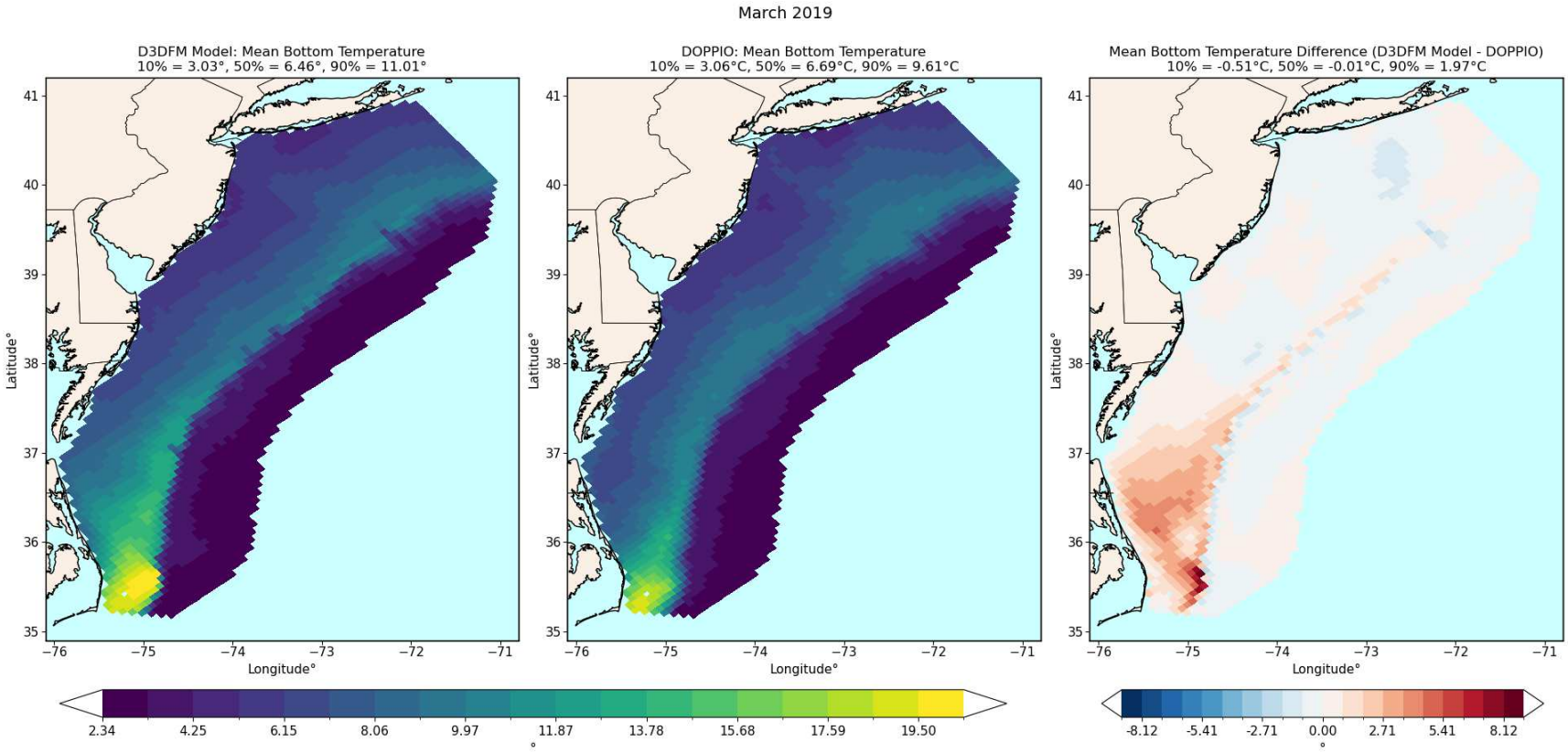
Apx Figure 83. Mean bottom temperature in December 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



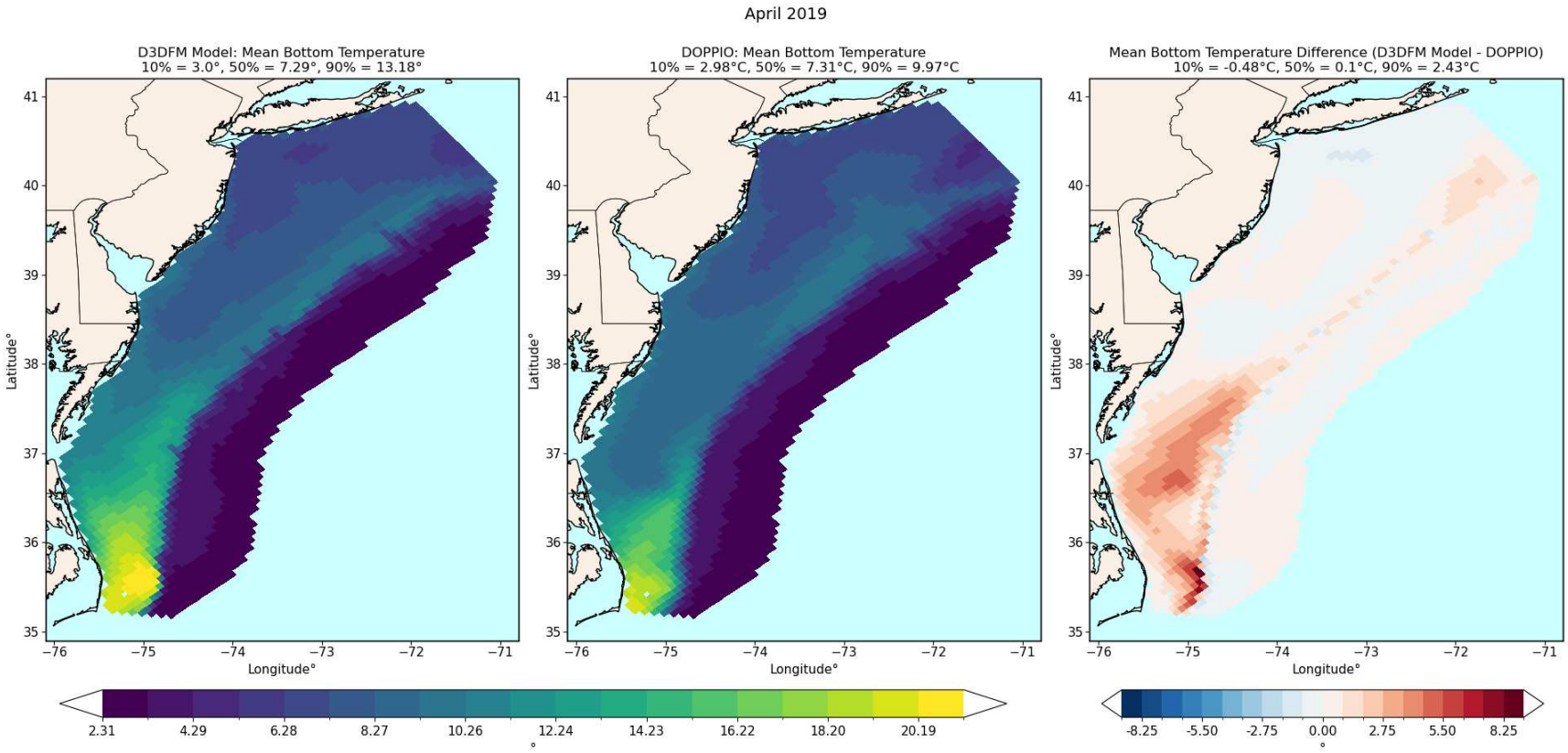
Apx Figure 84. Mean bottom temperature in January 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



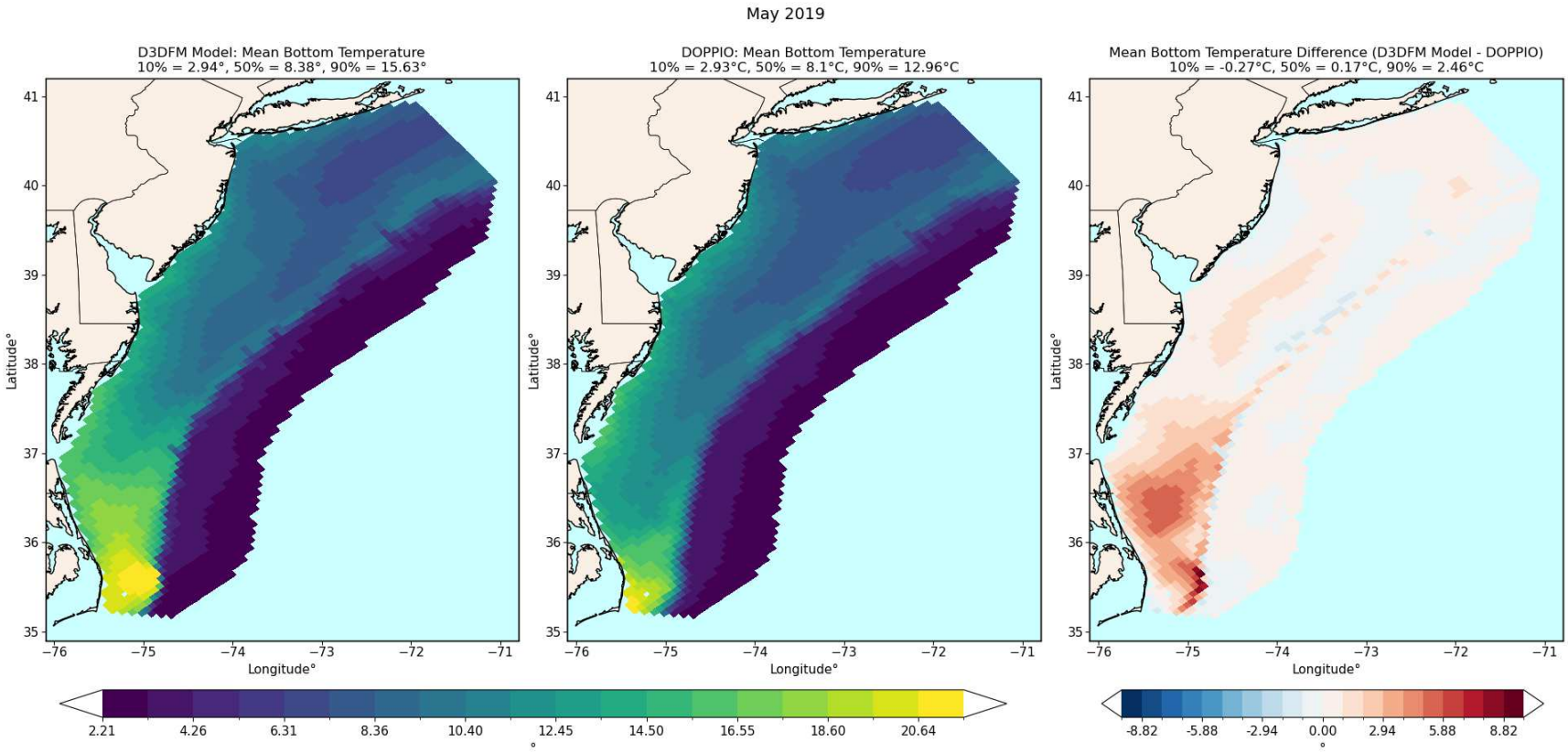
Apx Figure 85. Mean bottom temperature in February 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



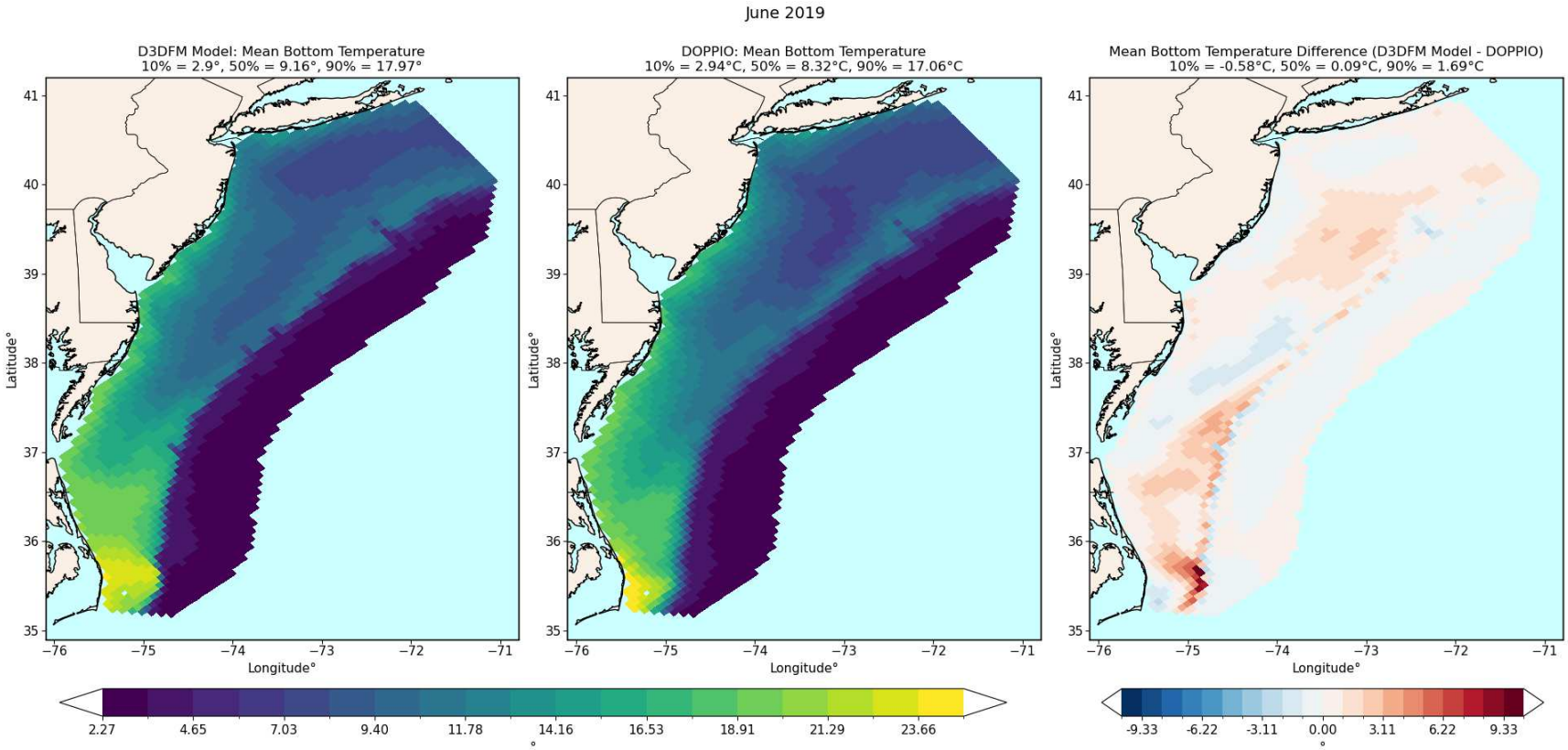
Apx Figure 86. Mean bottom temperature in March 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



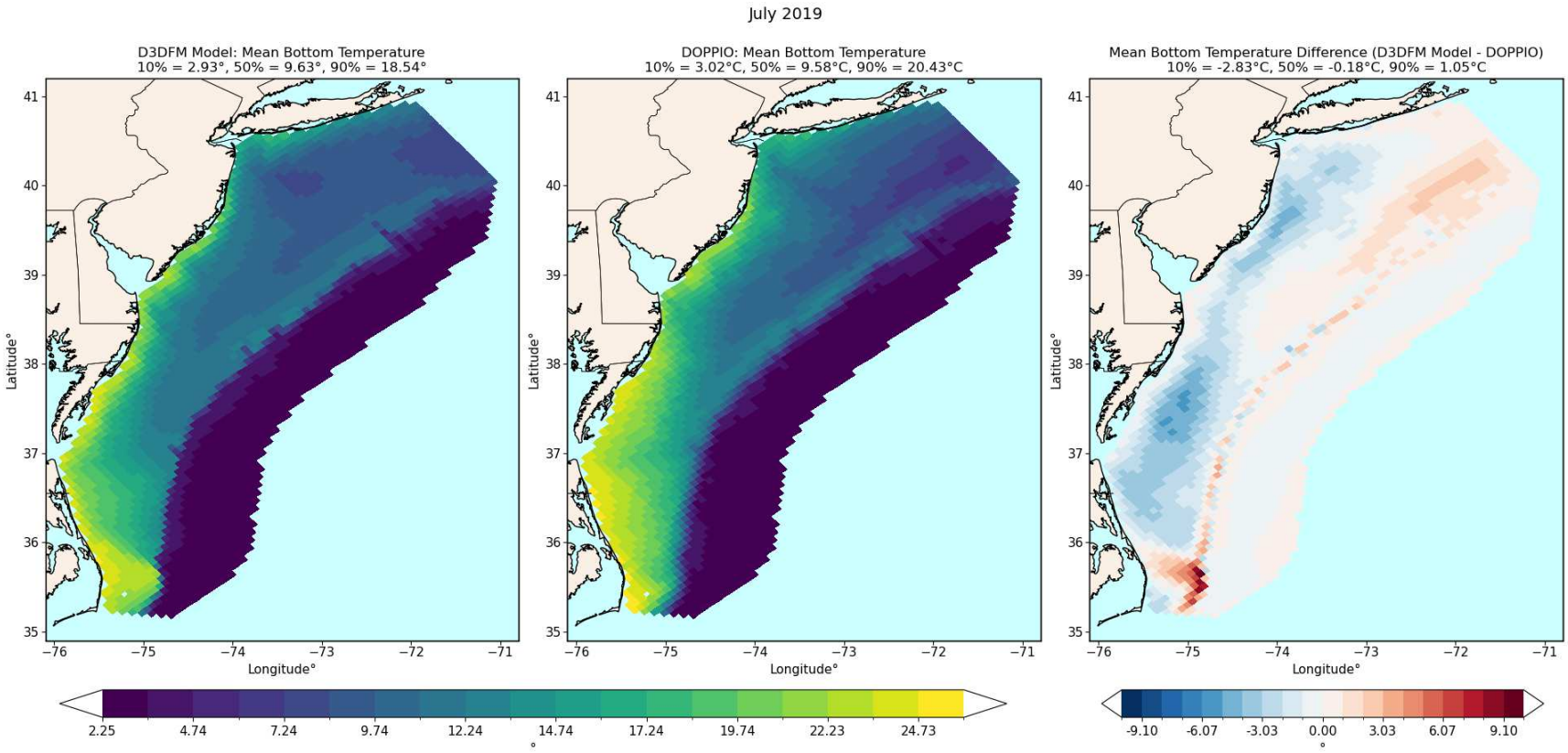
Apx Figure 87. Mean bottom temperature in April 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



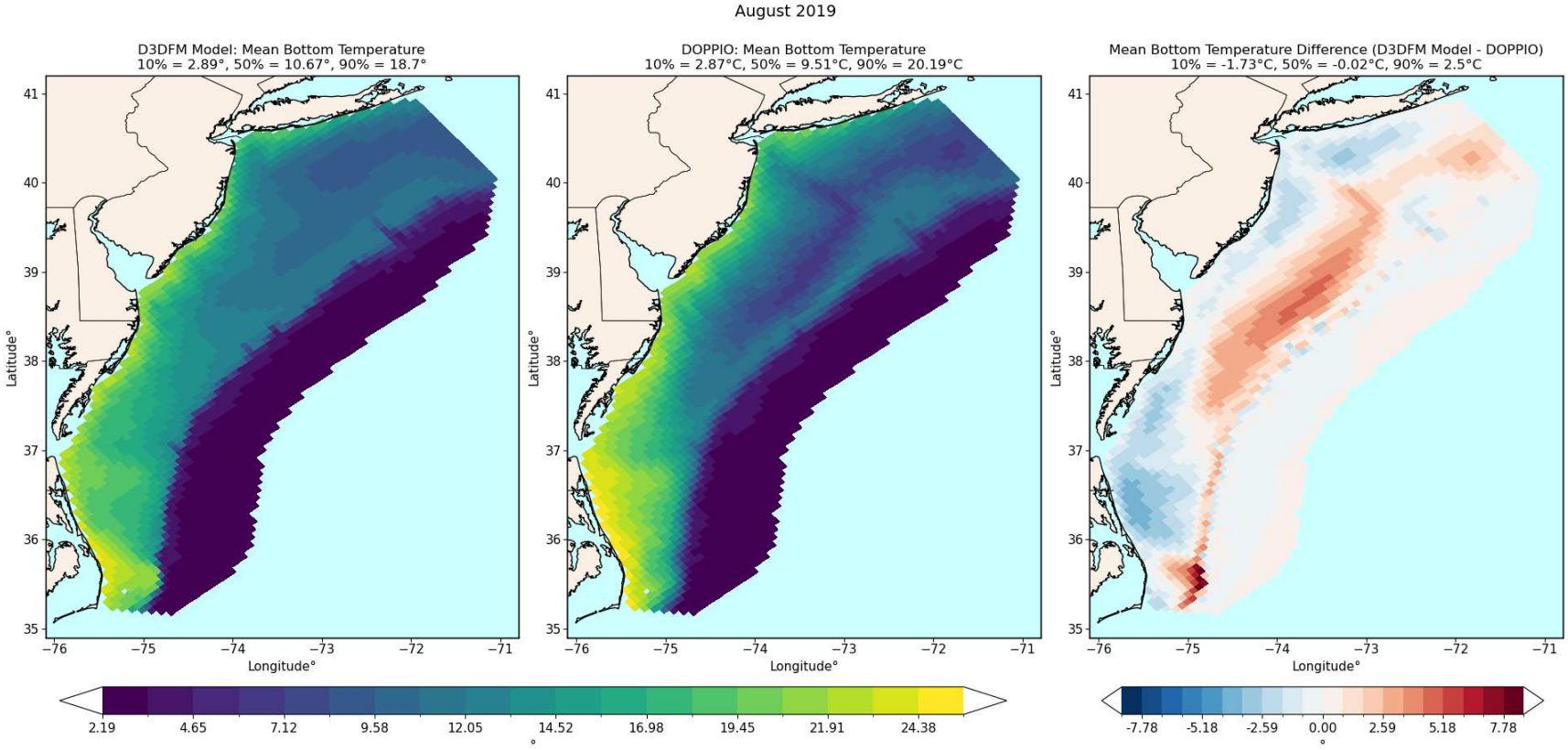
Apx Figure 88. Mean bottom temperature in May 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



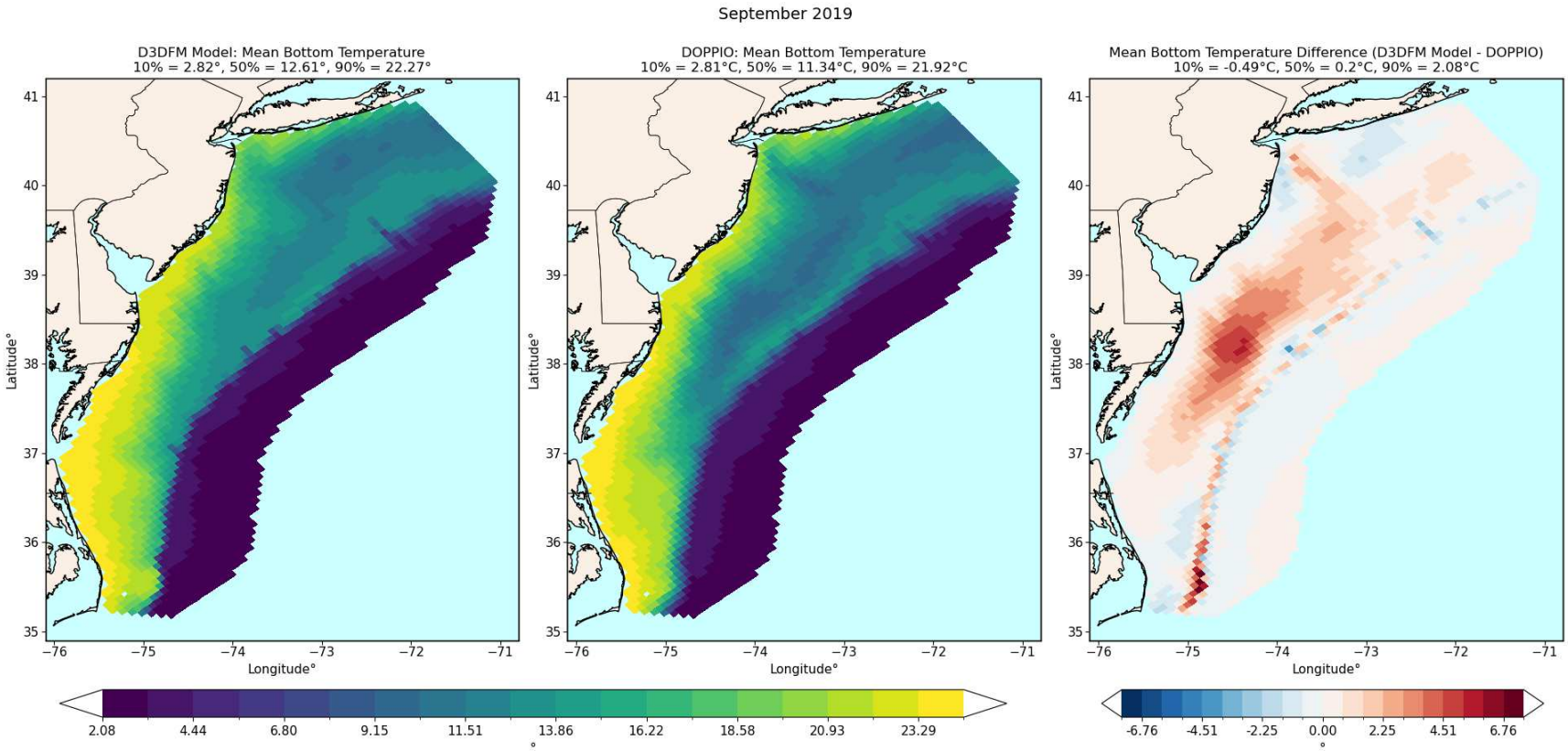
Apx Figure 89. Mean bottom temperature in June 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



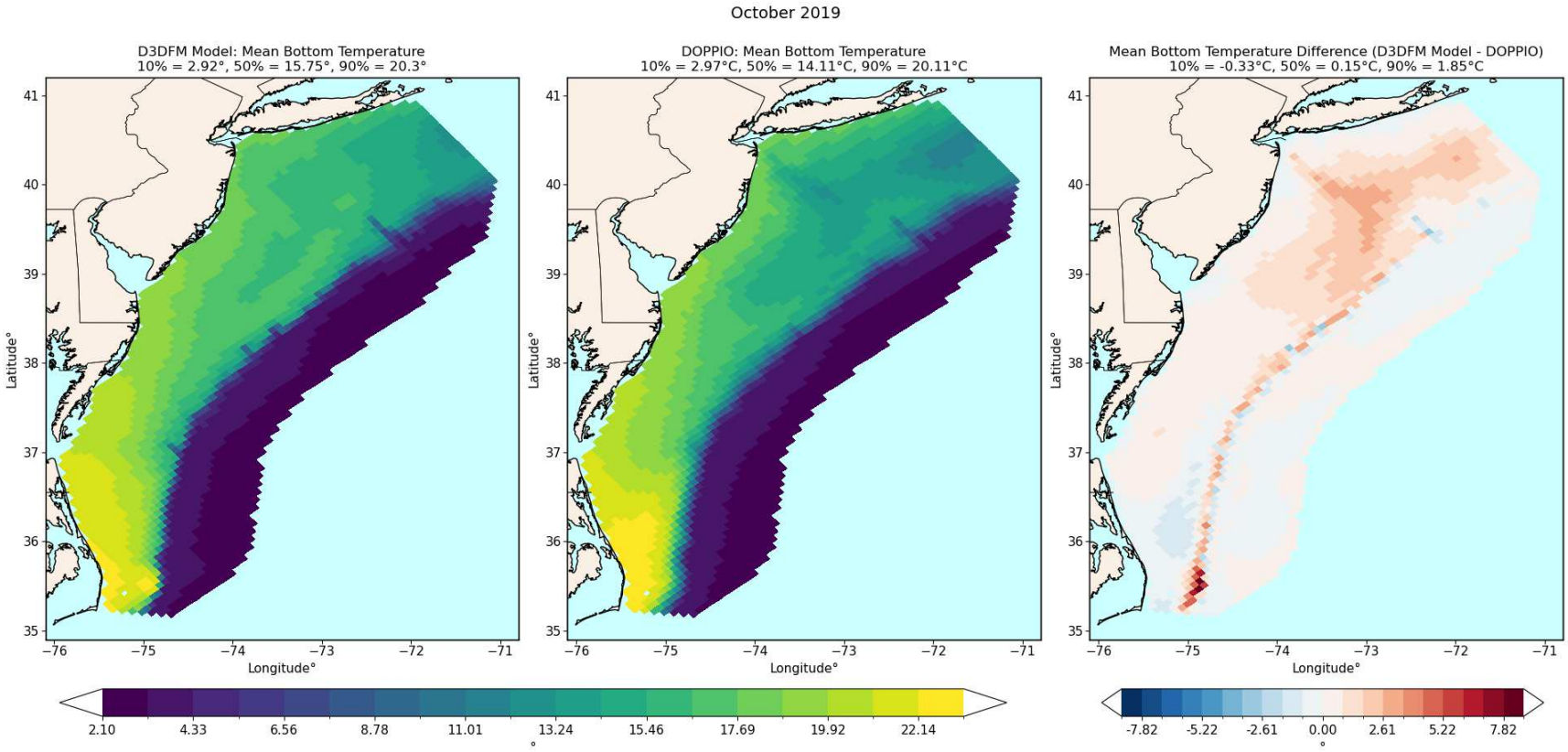
Apx Figure 90. Mean bottom temperature in July 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



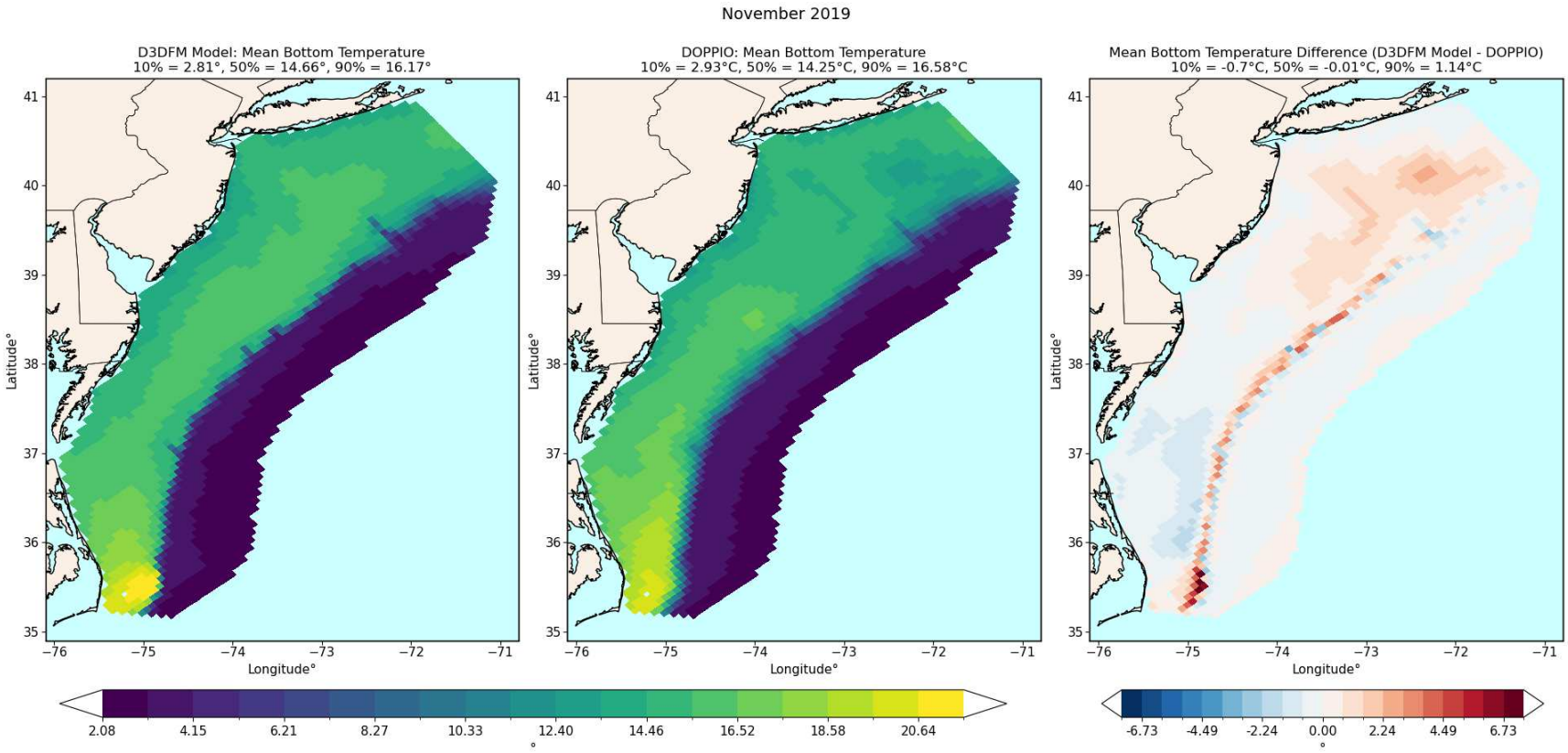
Apx Figure 91. Mean bottom temperature in August 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



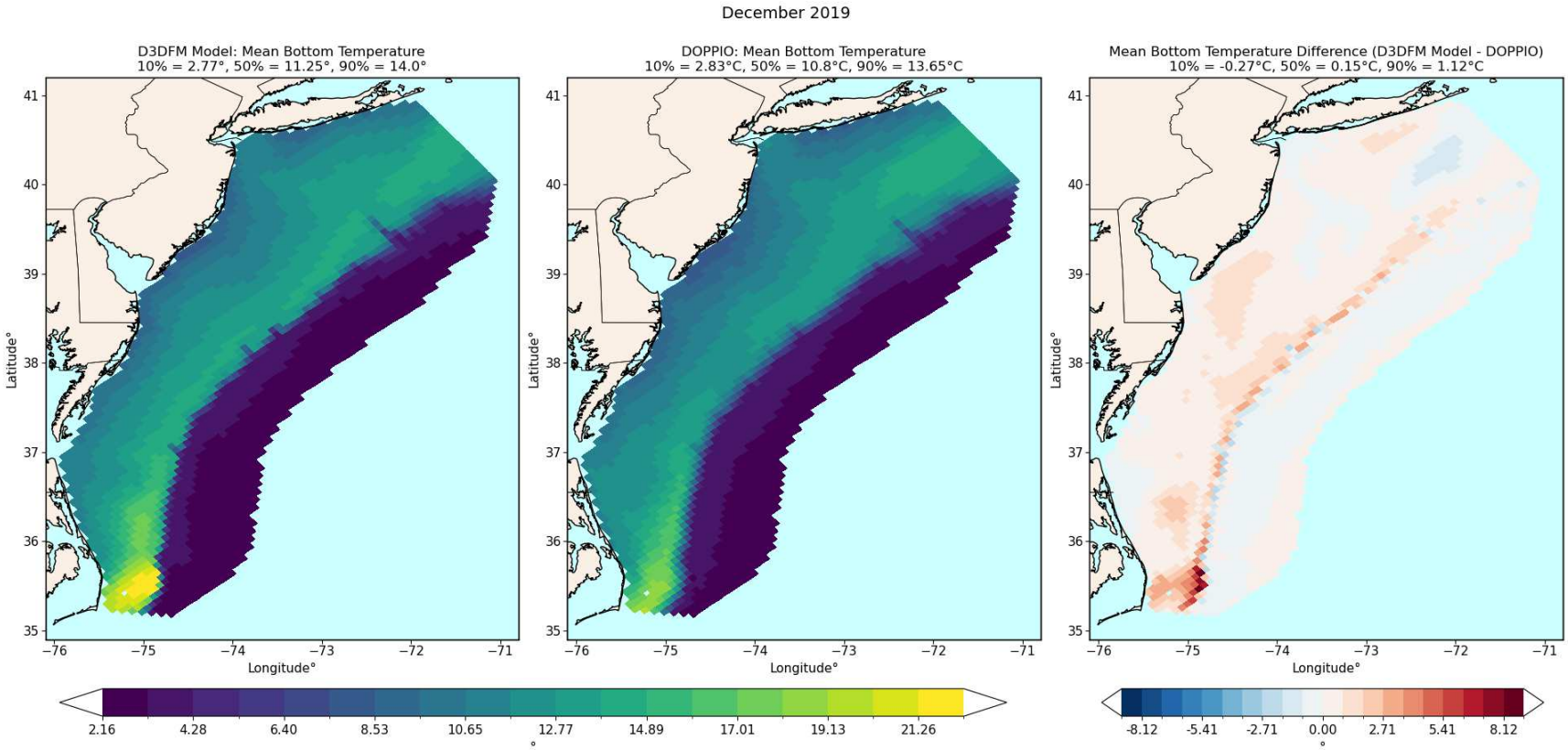
Apx Figure 92. Mean bottom temperature in September 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



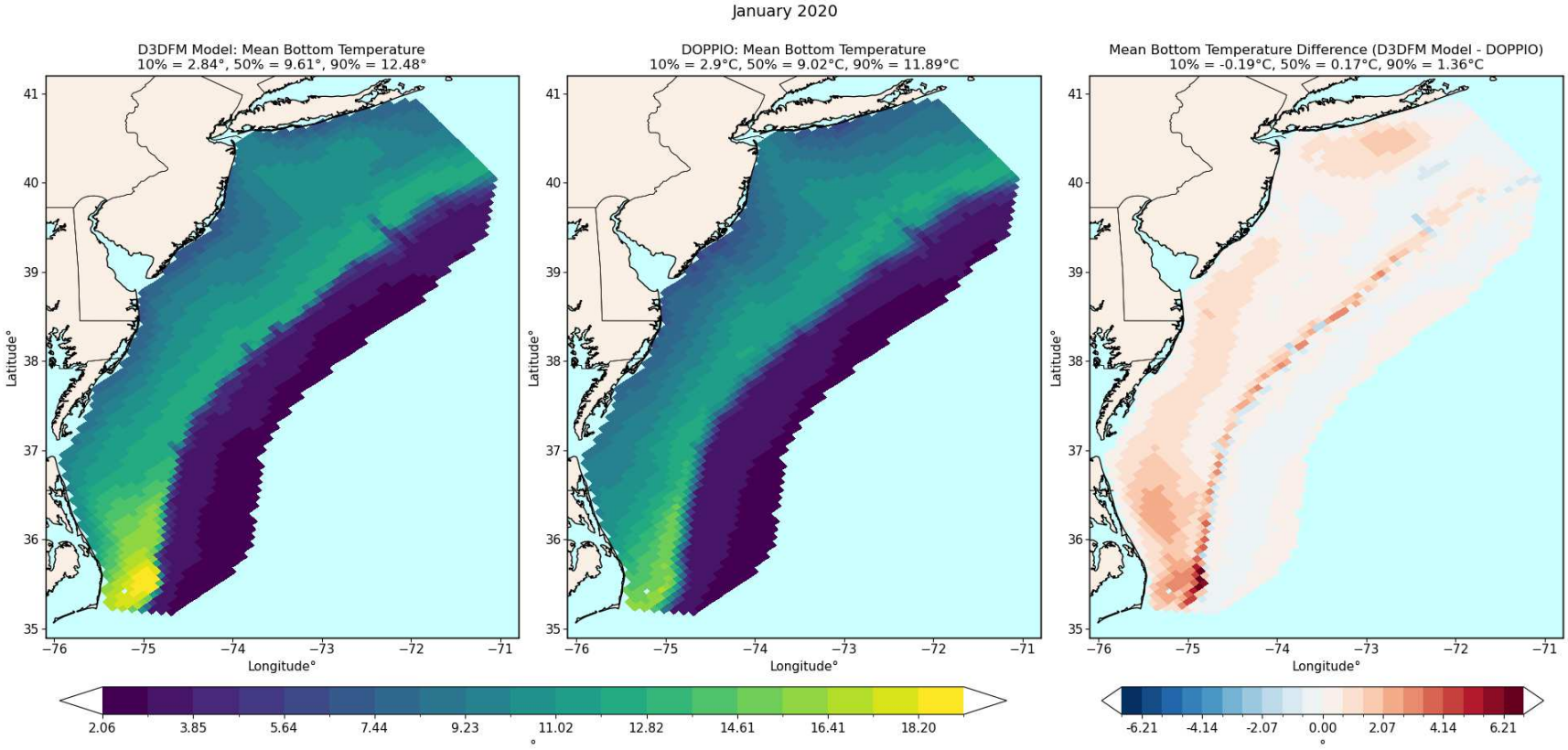
Apx Figure 93. Mean bottom temperature in October 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



Apx Figure 94. Mean bottom temperature in November 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

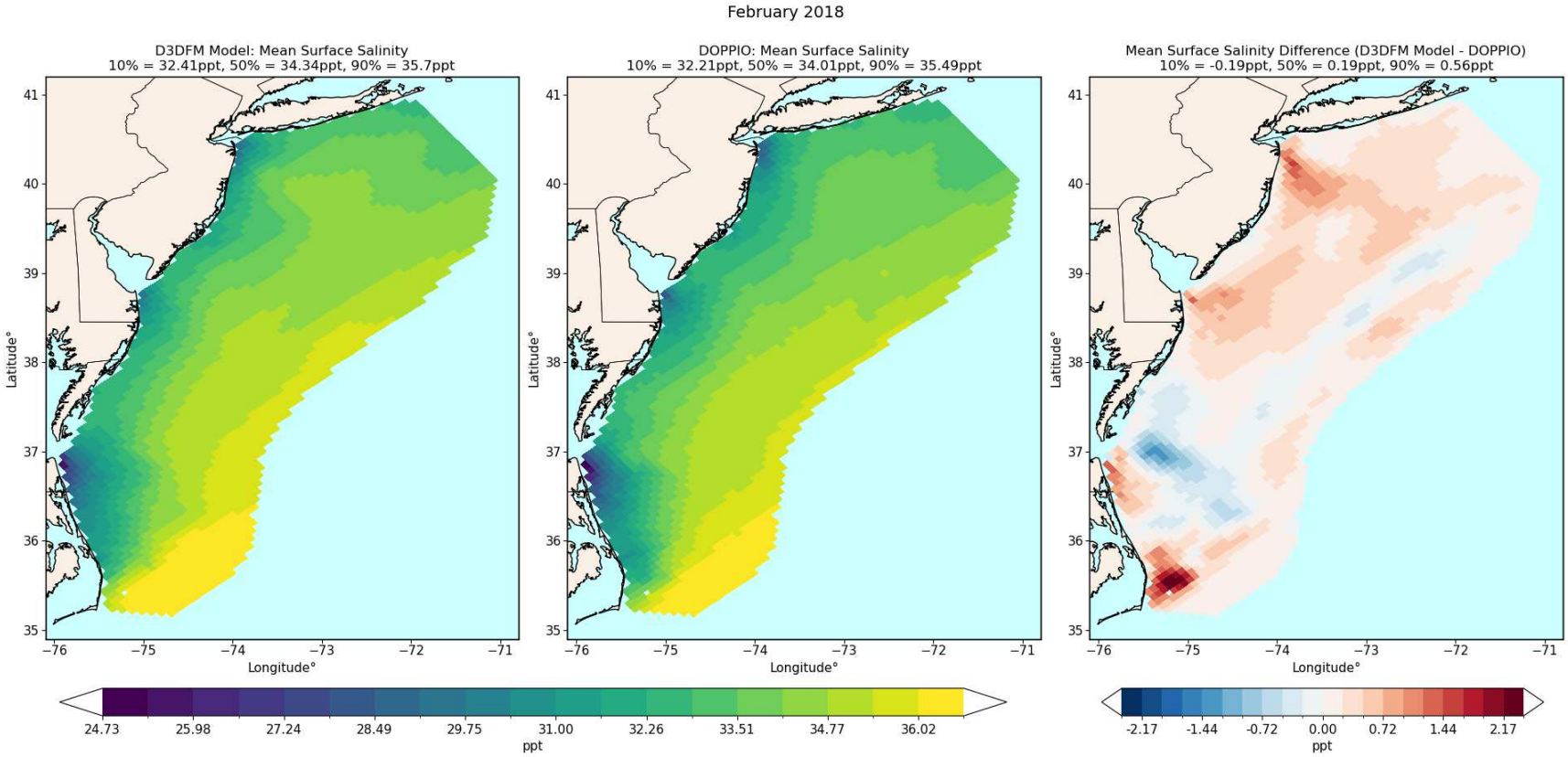


Apx Figure 95. Mean bottom temperature in December 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

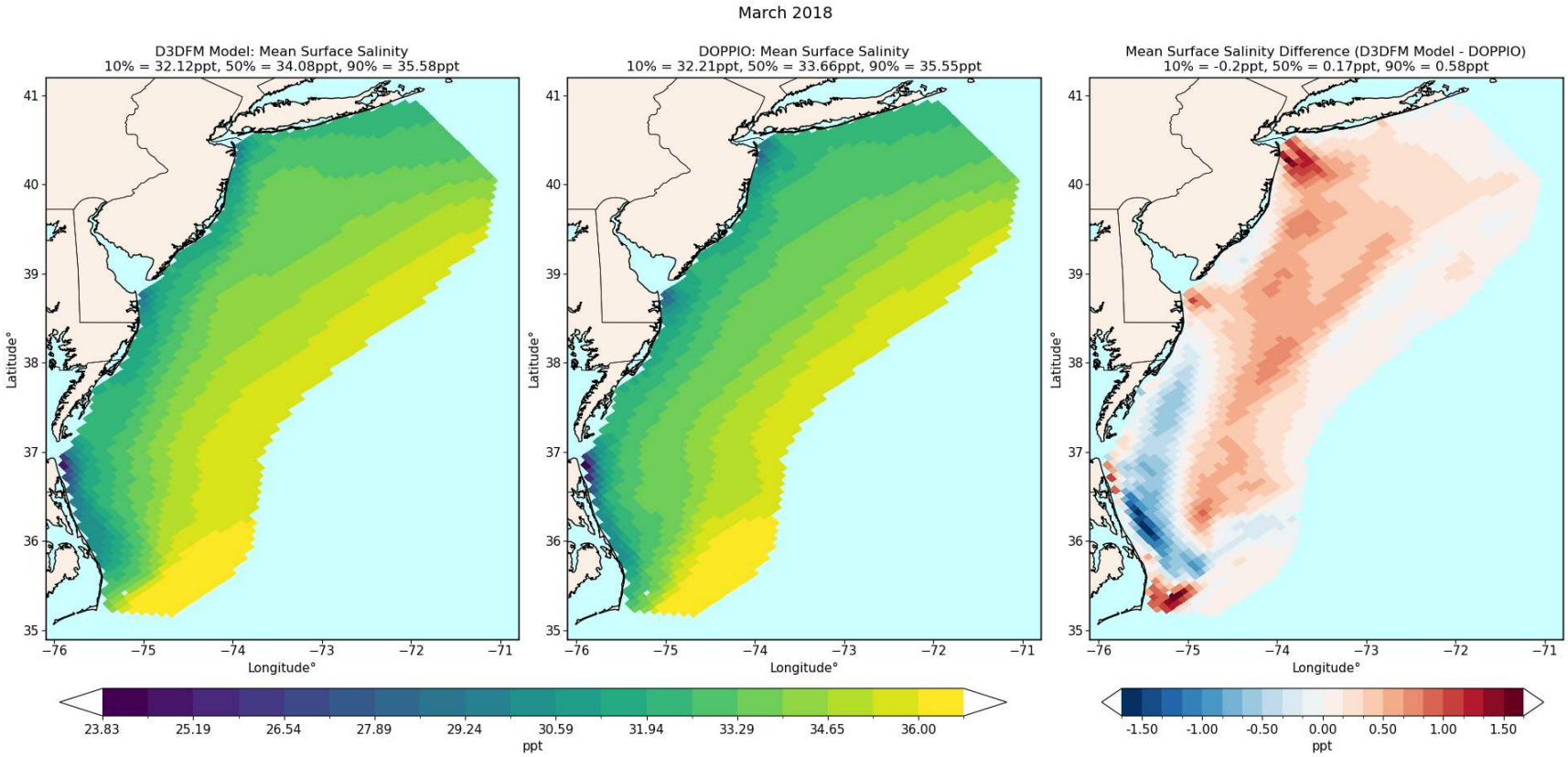


Apx Figure 96. Mean bottom temperature in January 2020, of the model (left), DOPPIO dataset (middle), and difference (right).

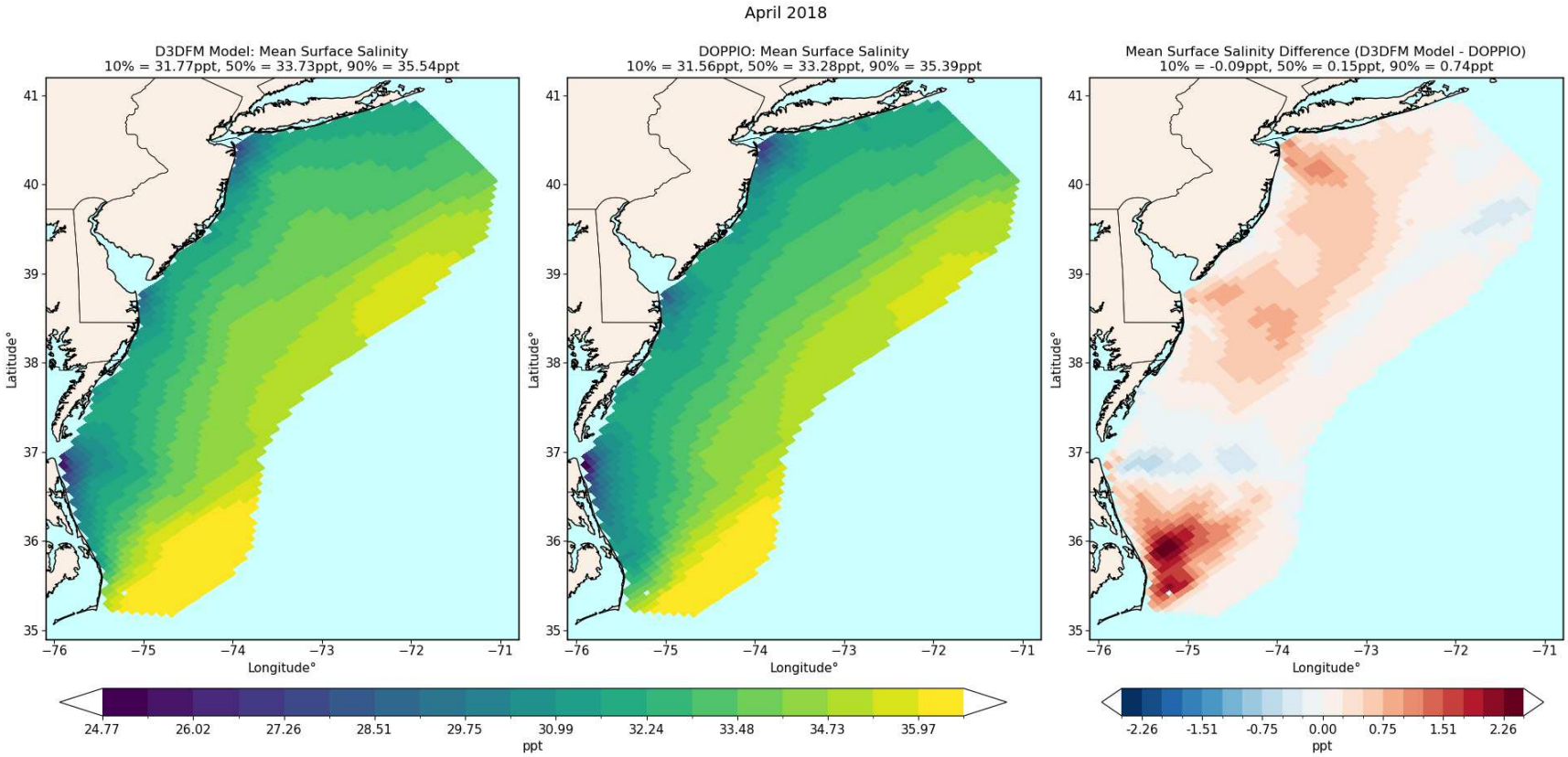
A.5 Surface Salinity of the Model and Doppio Dataset



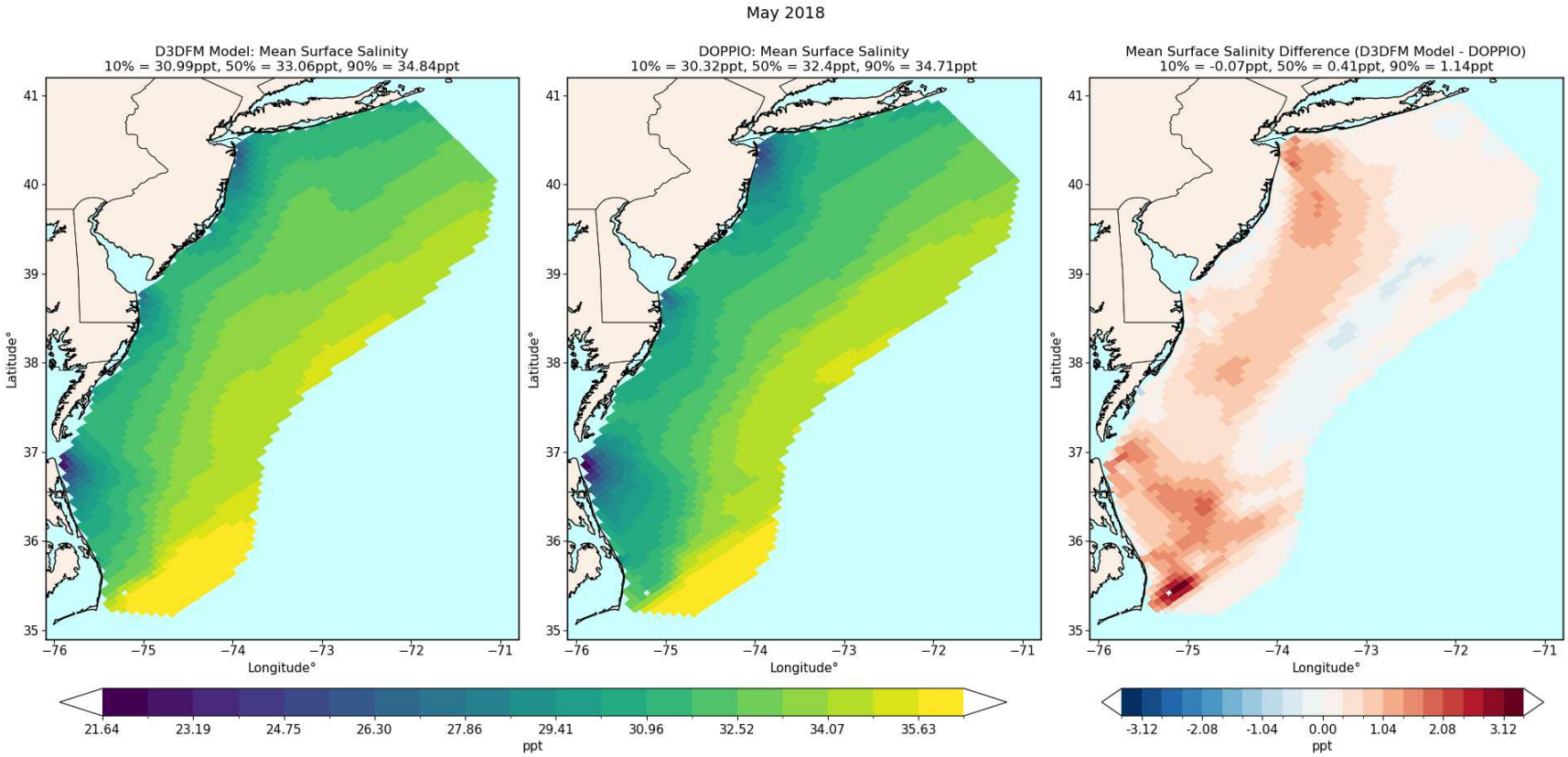
Apx Figure 97. Mean surface salinity in February 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



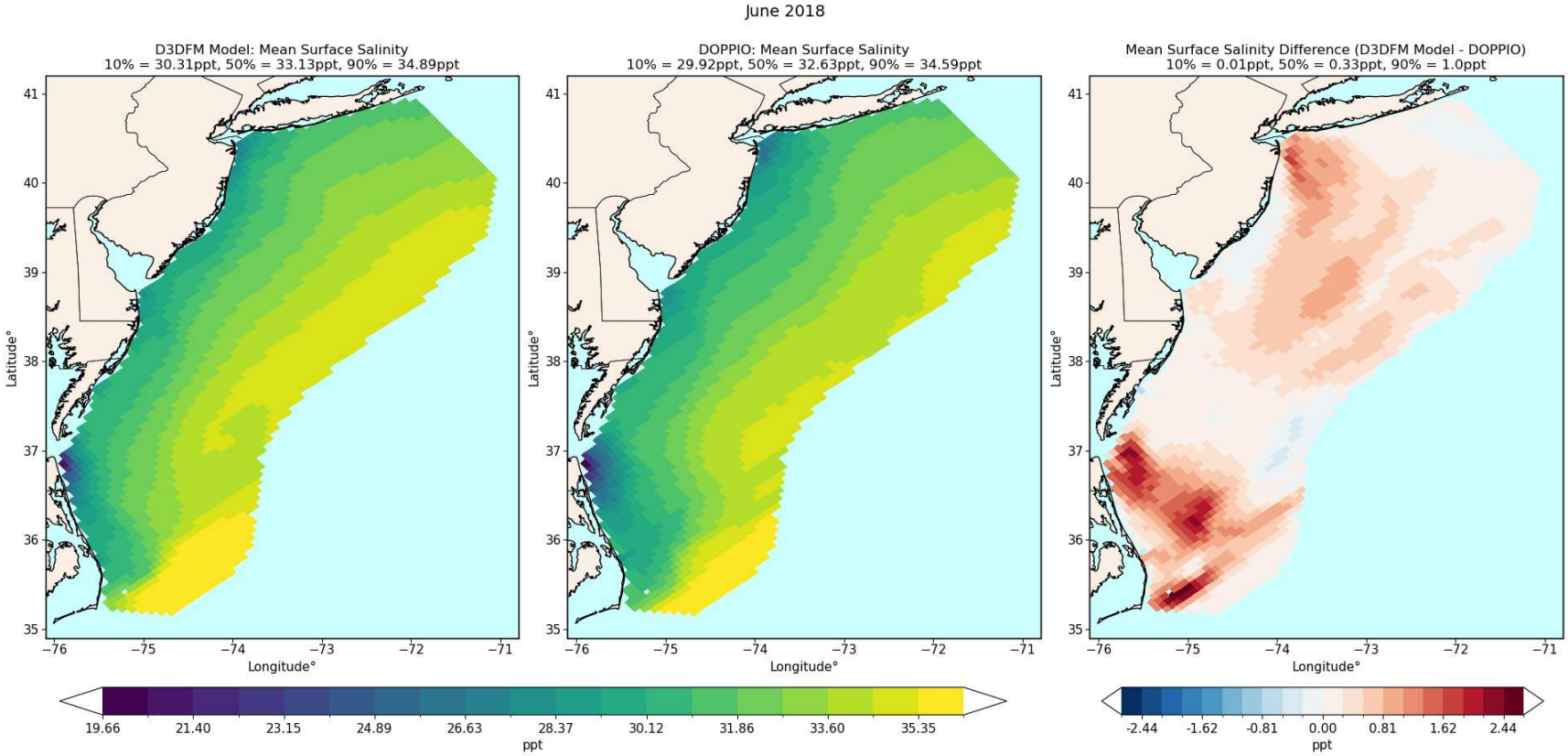
Apx Figure 98. Mean surface salinity in March 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



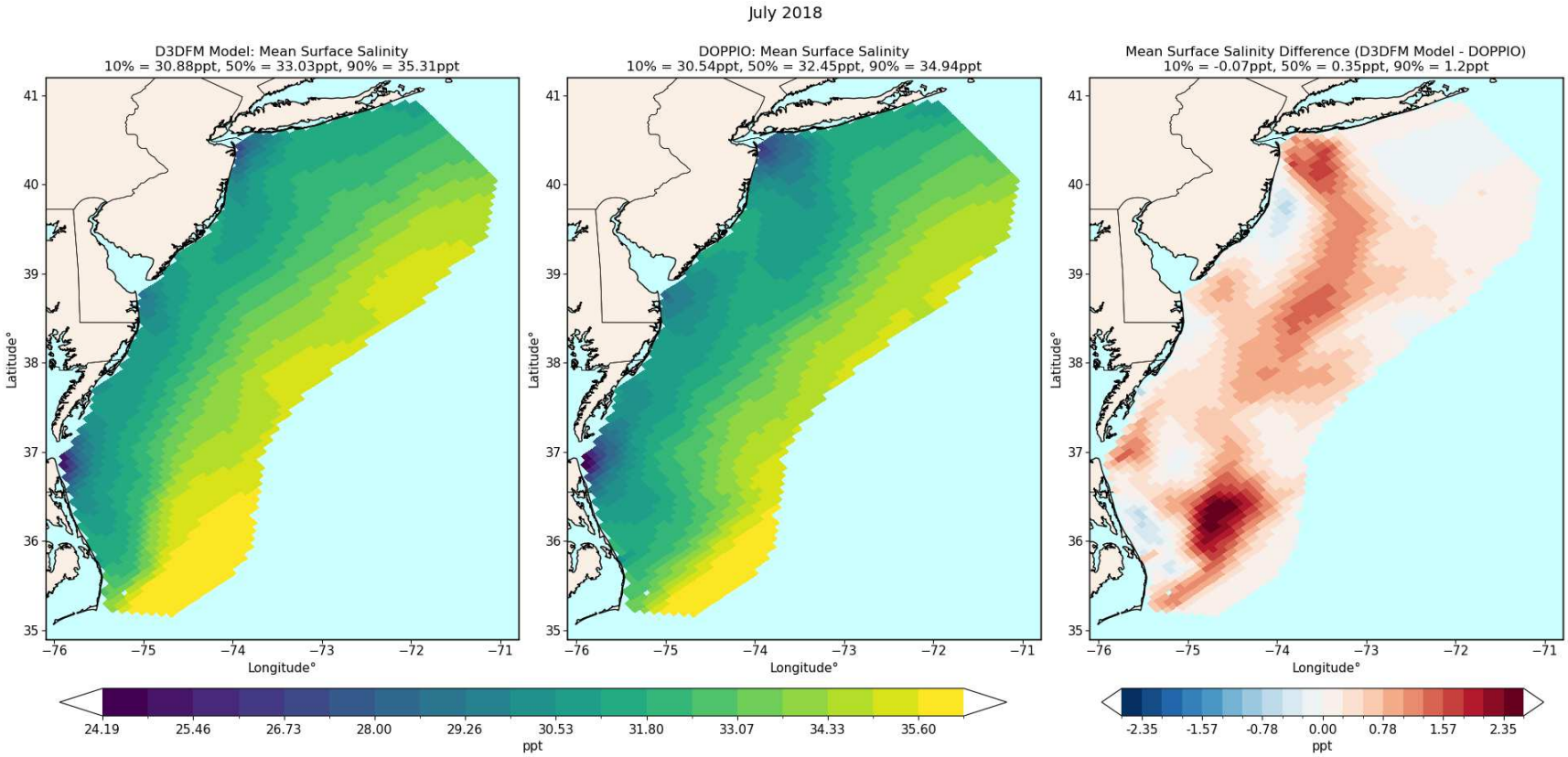
Apx Figure 99. Mean surface salinity in April 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



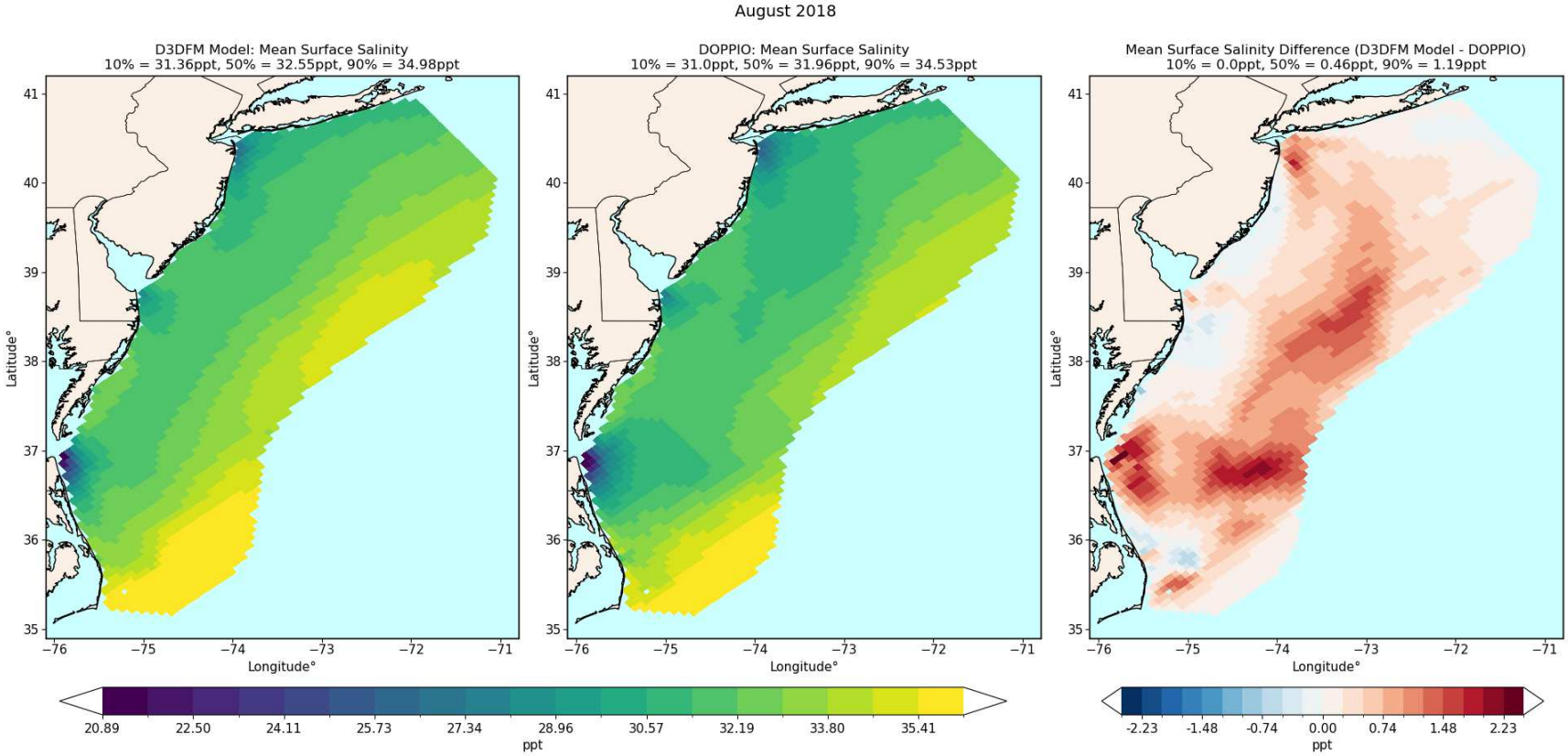
Apx Figure 100. Mean surface salinity in May 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



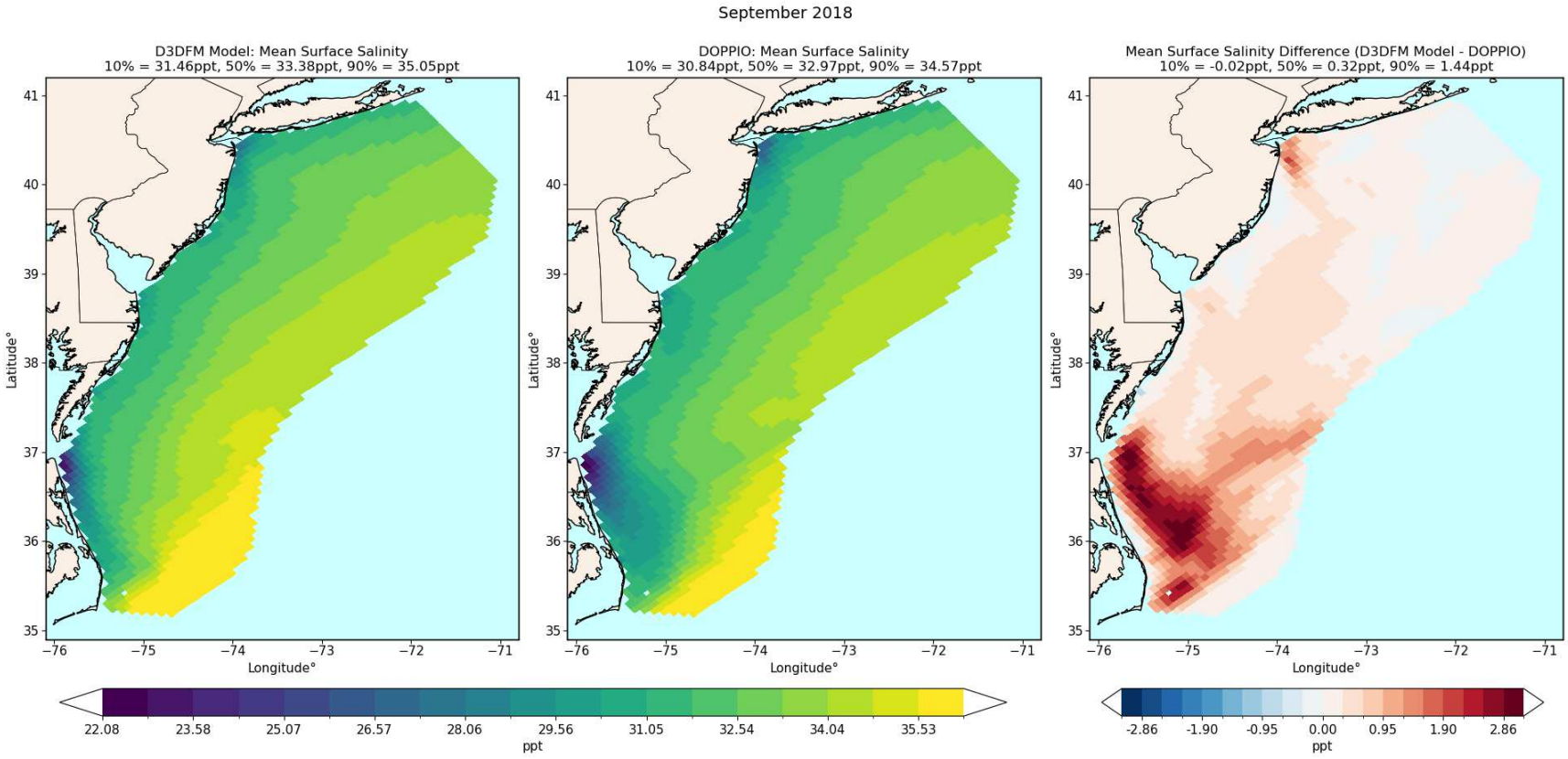
Apx Figure 101. Mean surface salinity in June 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



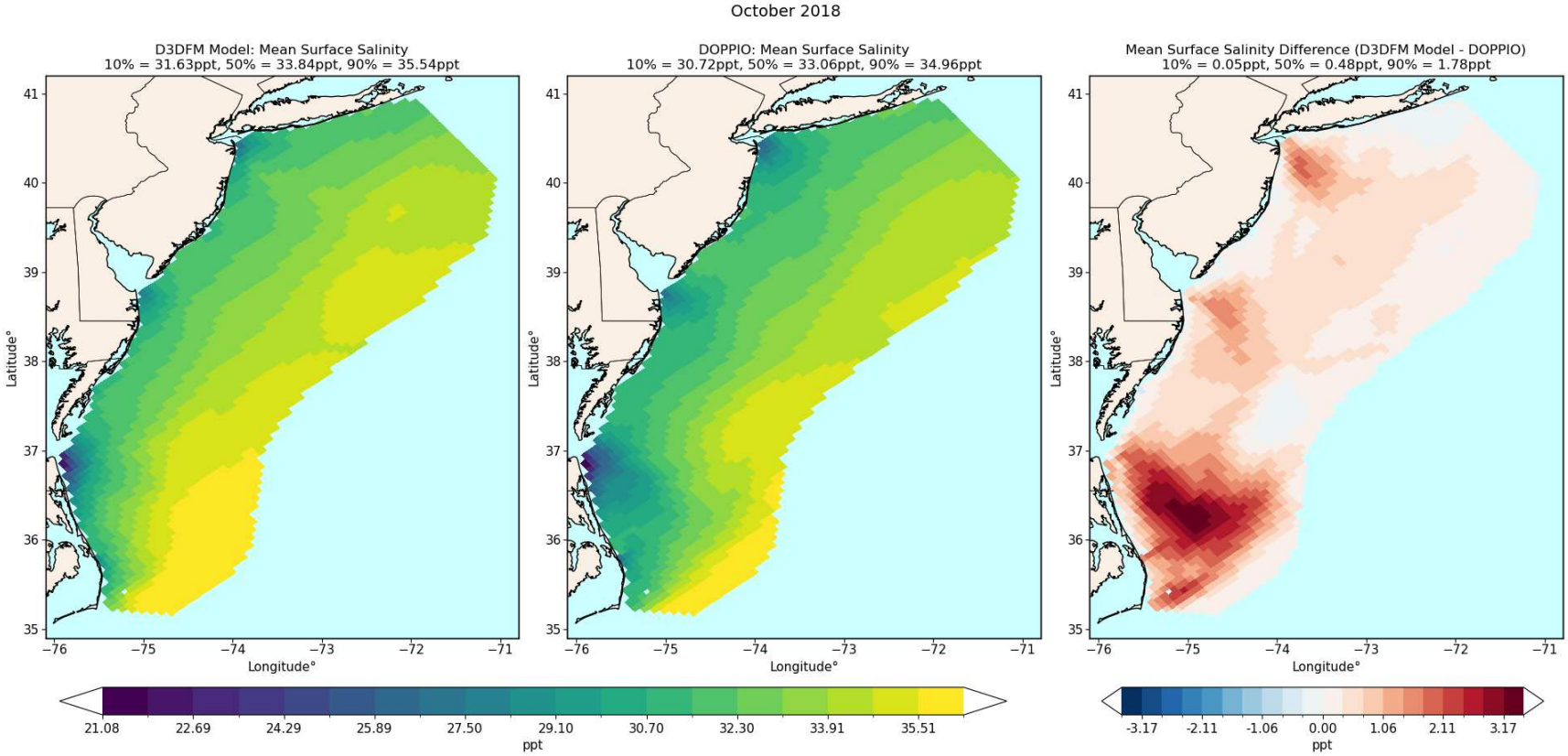
Apx Figure 102. Mean surface salinity in July 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



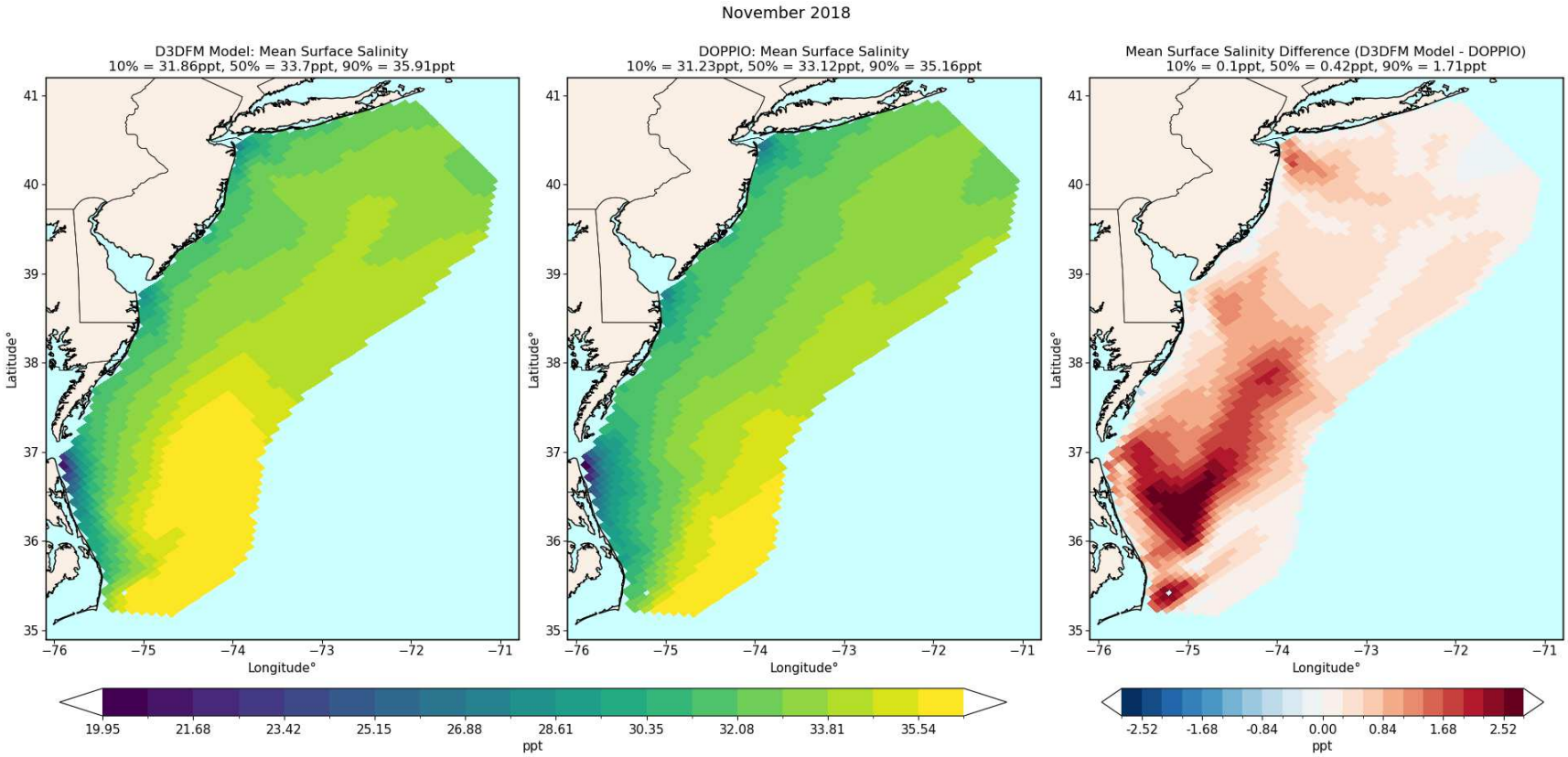
Apx Figure 103. Mean surface salinity in August 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



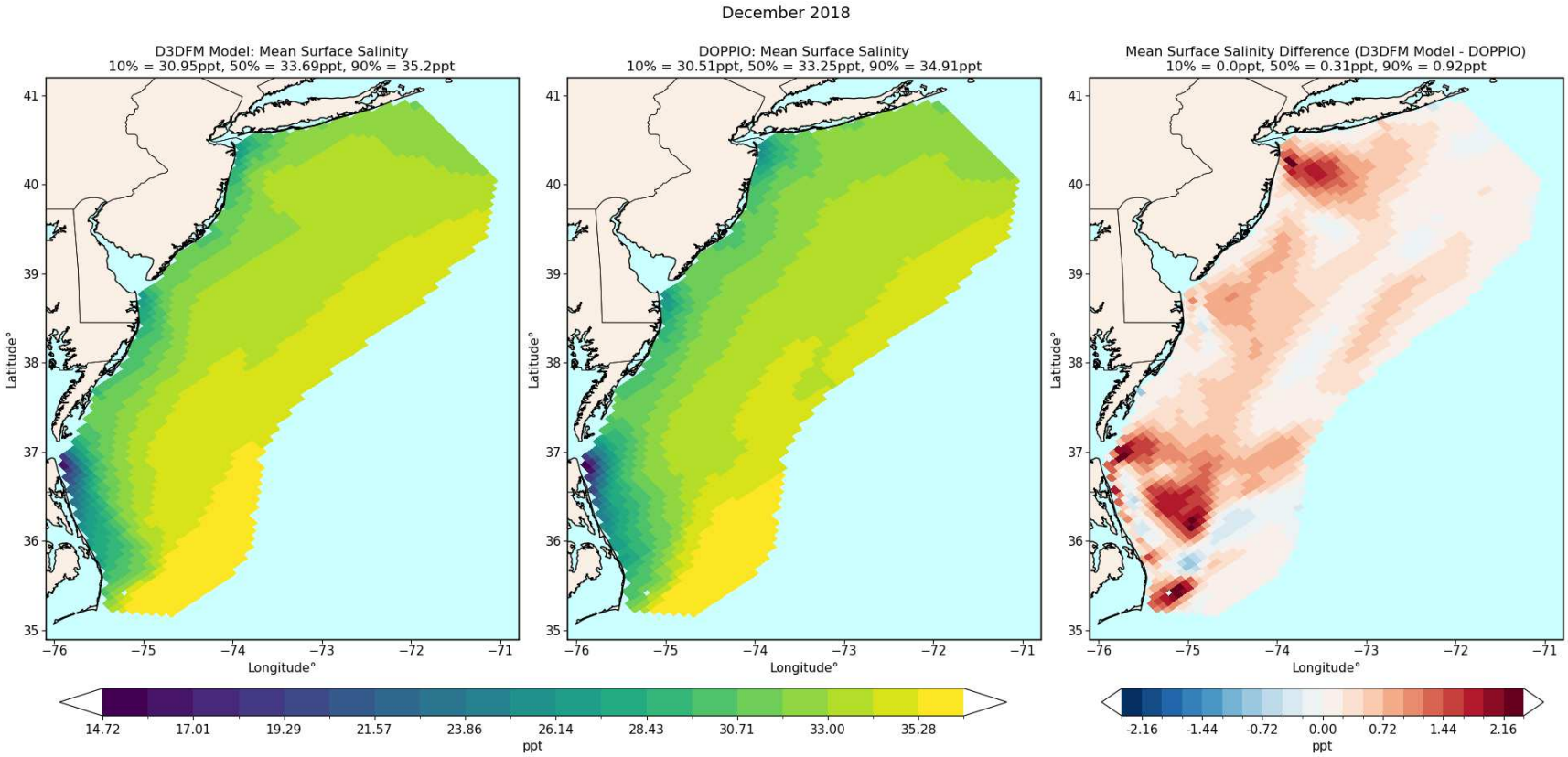
Apx Figure 104. Mean surface salinity in September 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



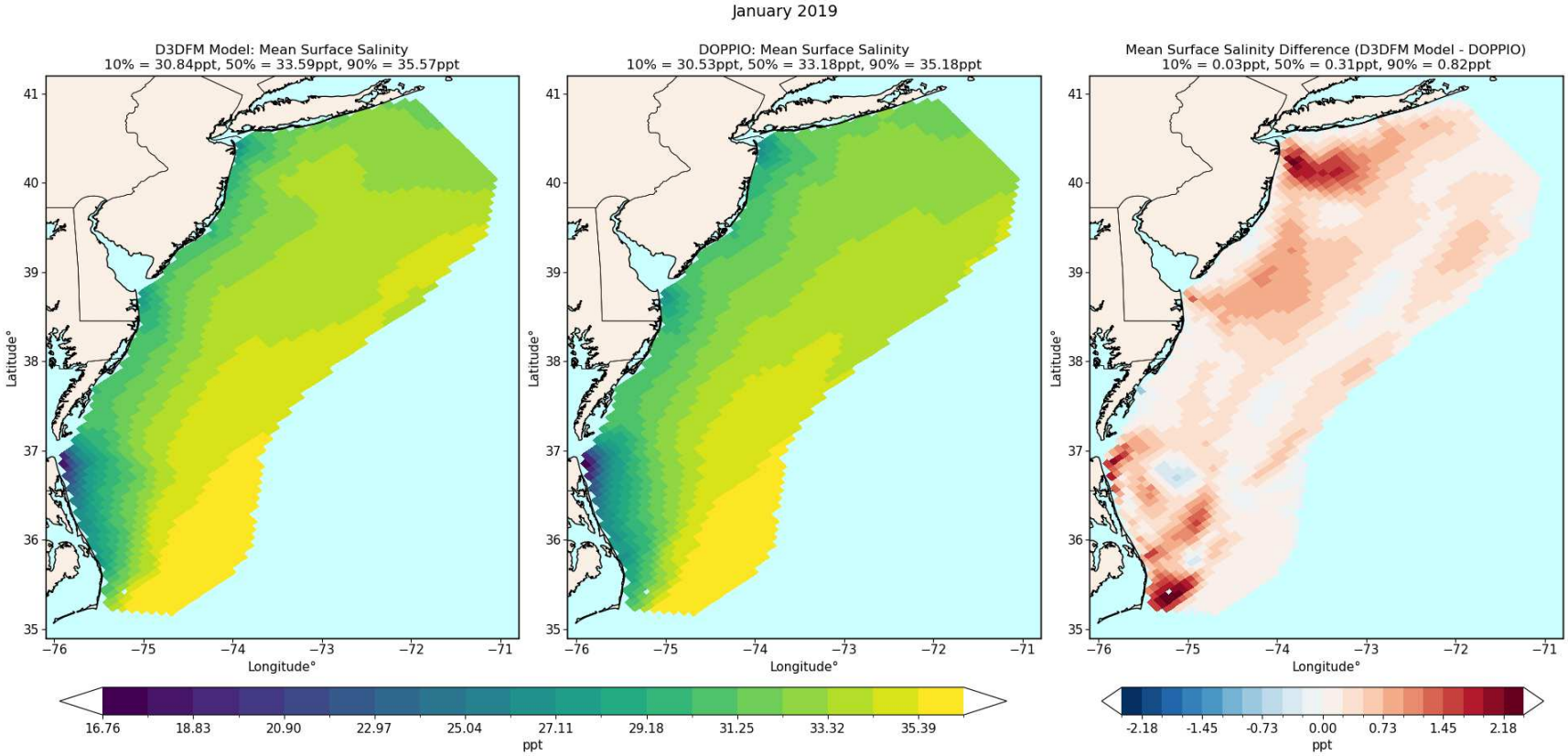
Apx Figure 105. Mean surface salinity in October 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



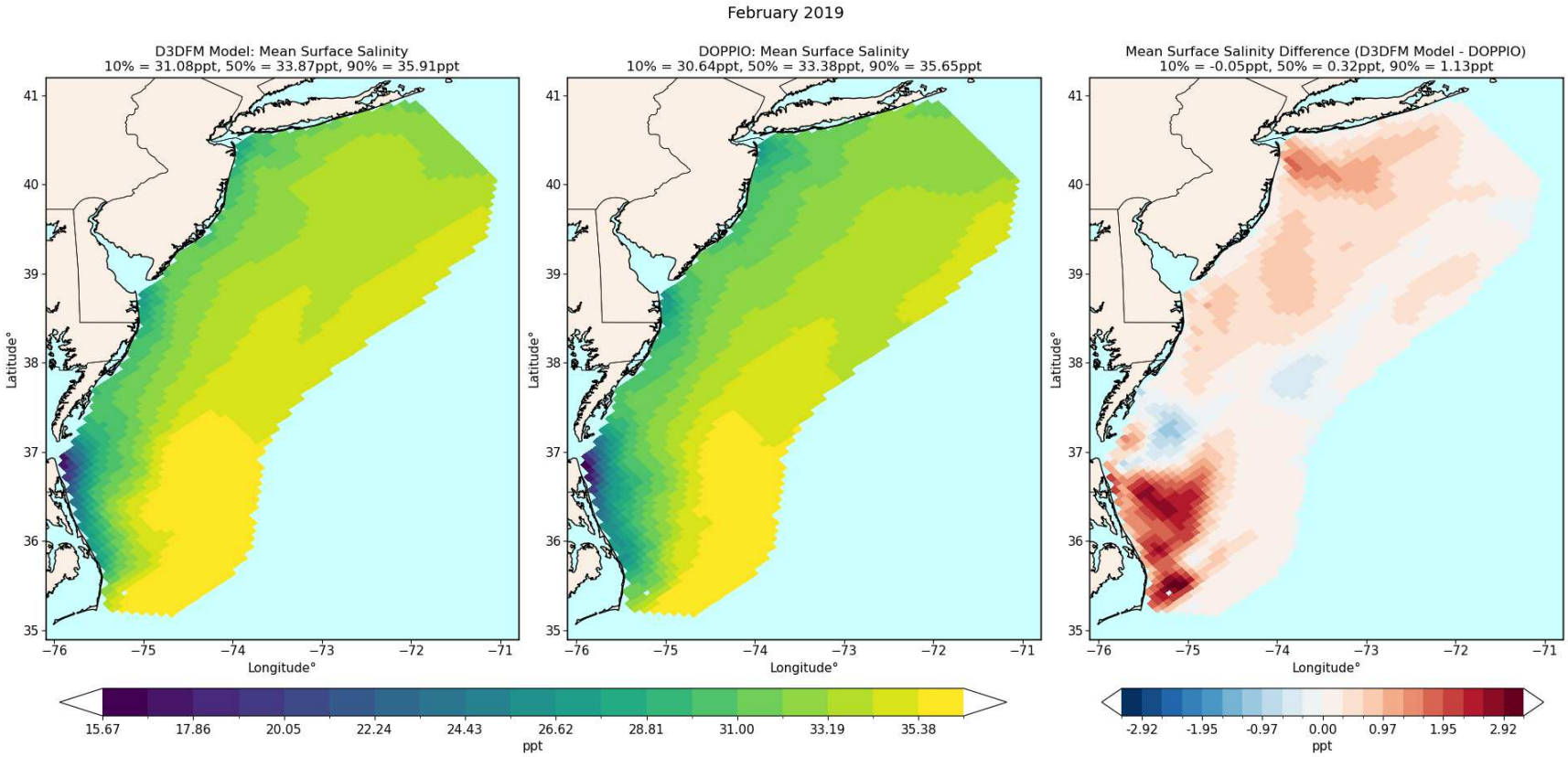
Apx Figure 106. Mean surface salinity in November 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



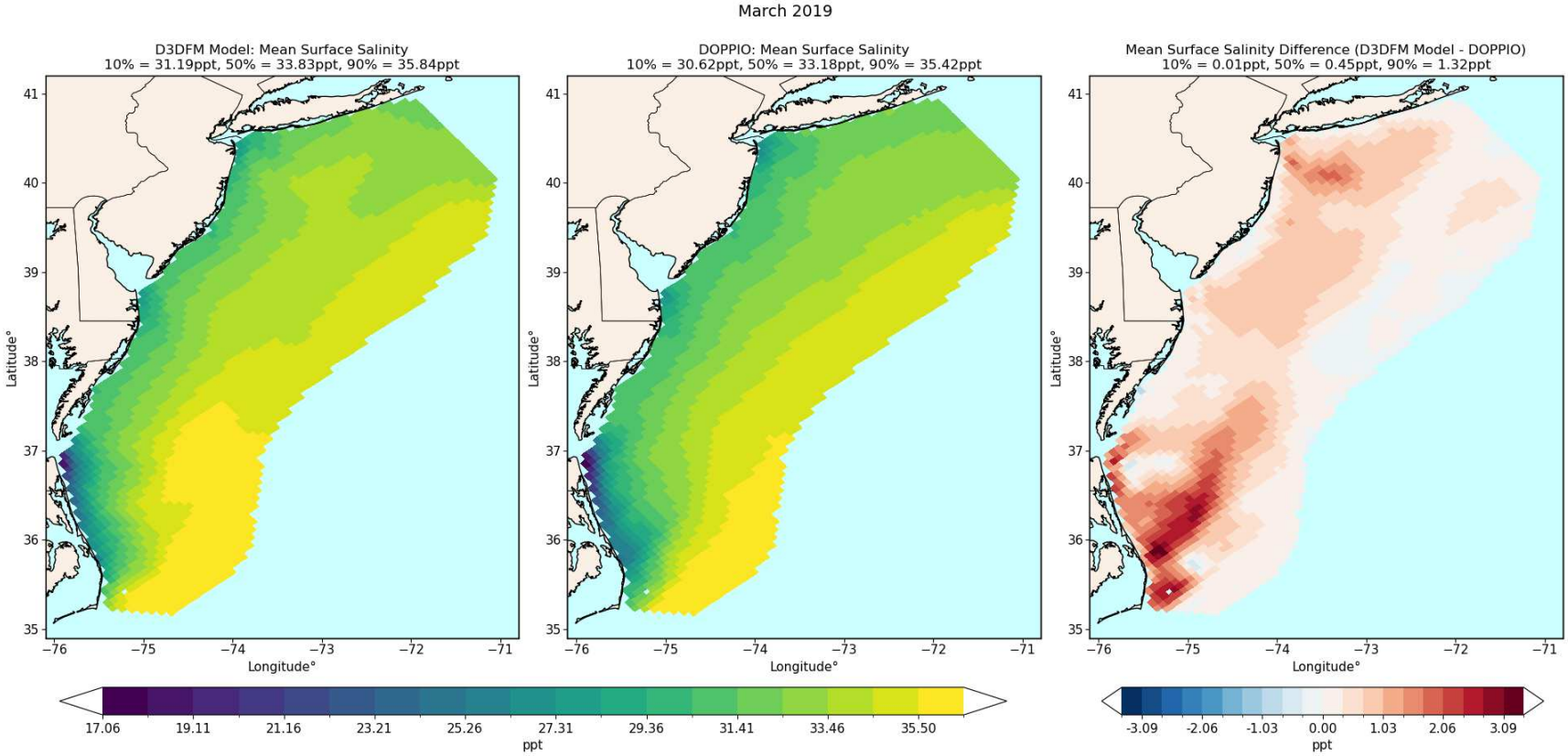
Apx Figure 107. Mean surface salinity in December 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



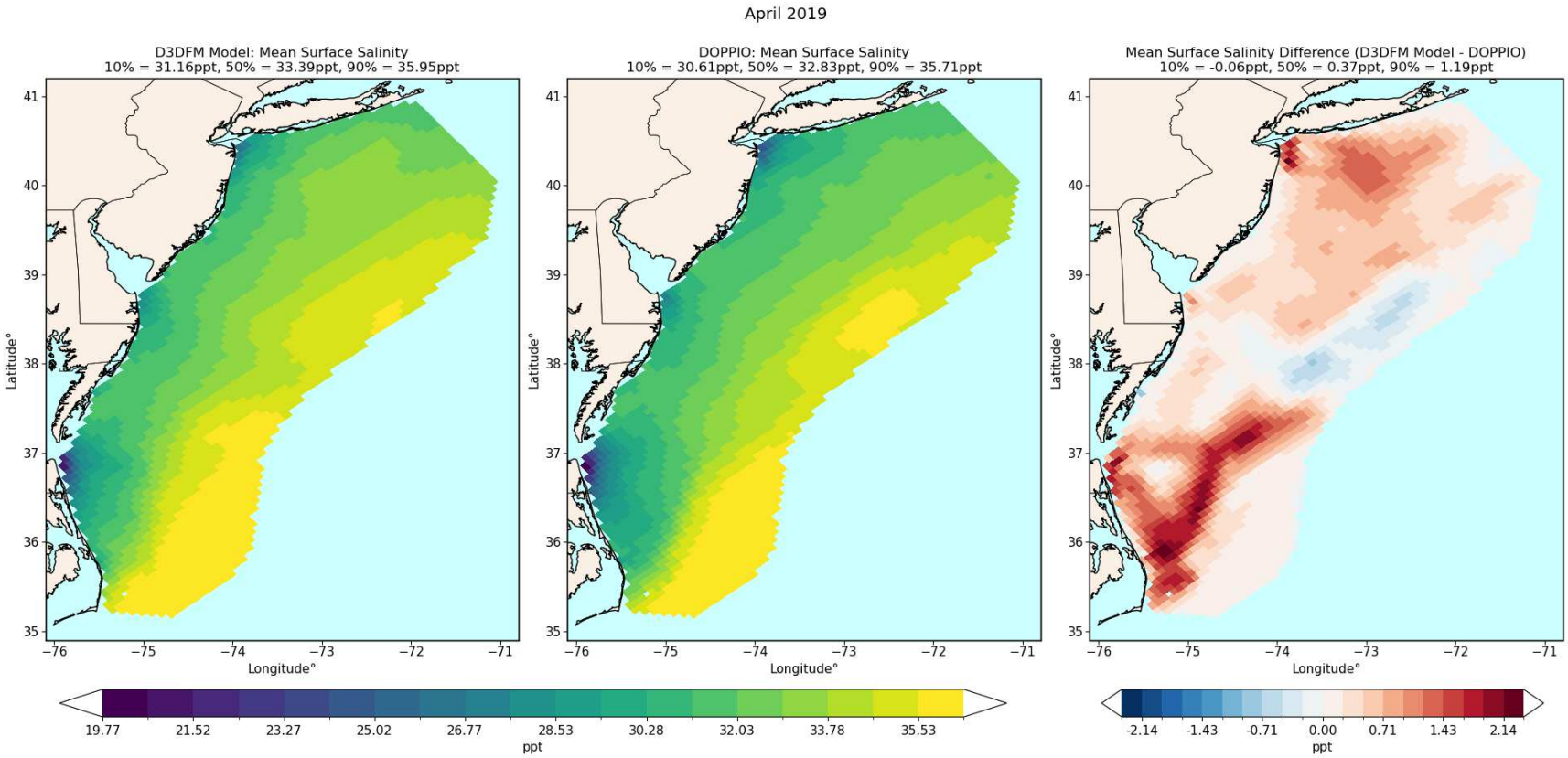
Apx Figure 108. Mean surface salinity in January 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



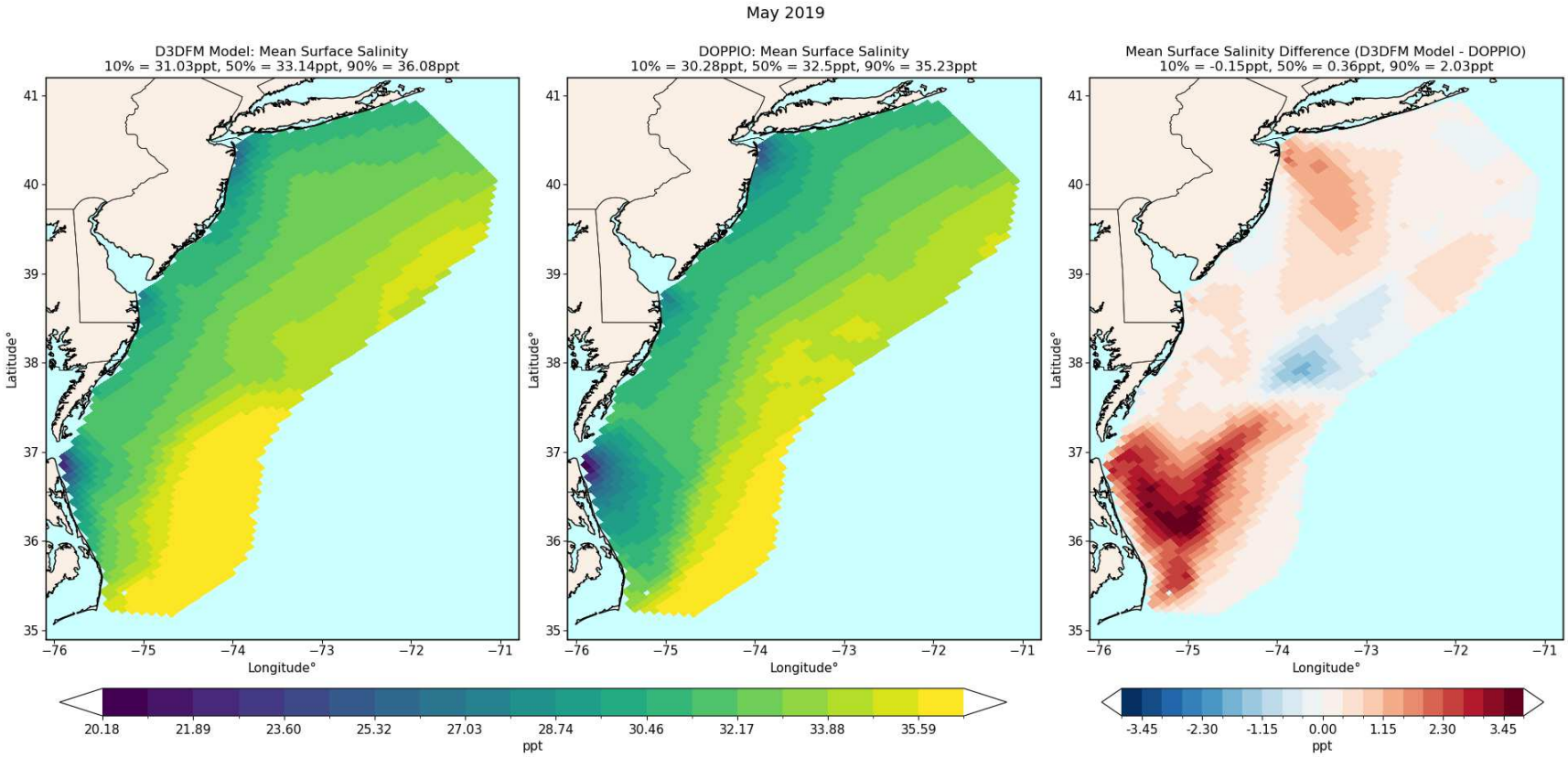
Apx Figure 109. Mean surface salinity in February 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



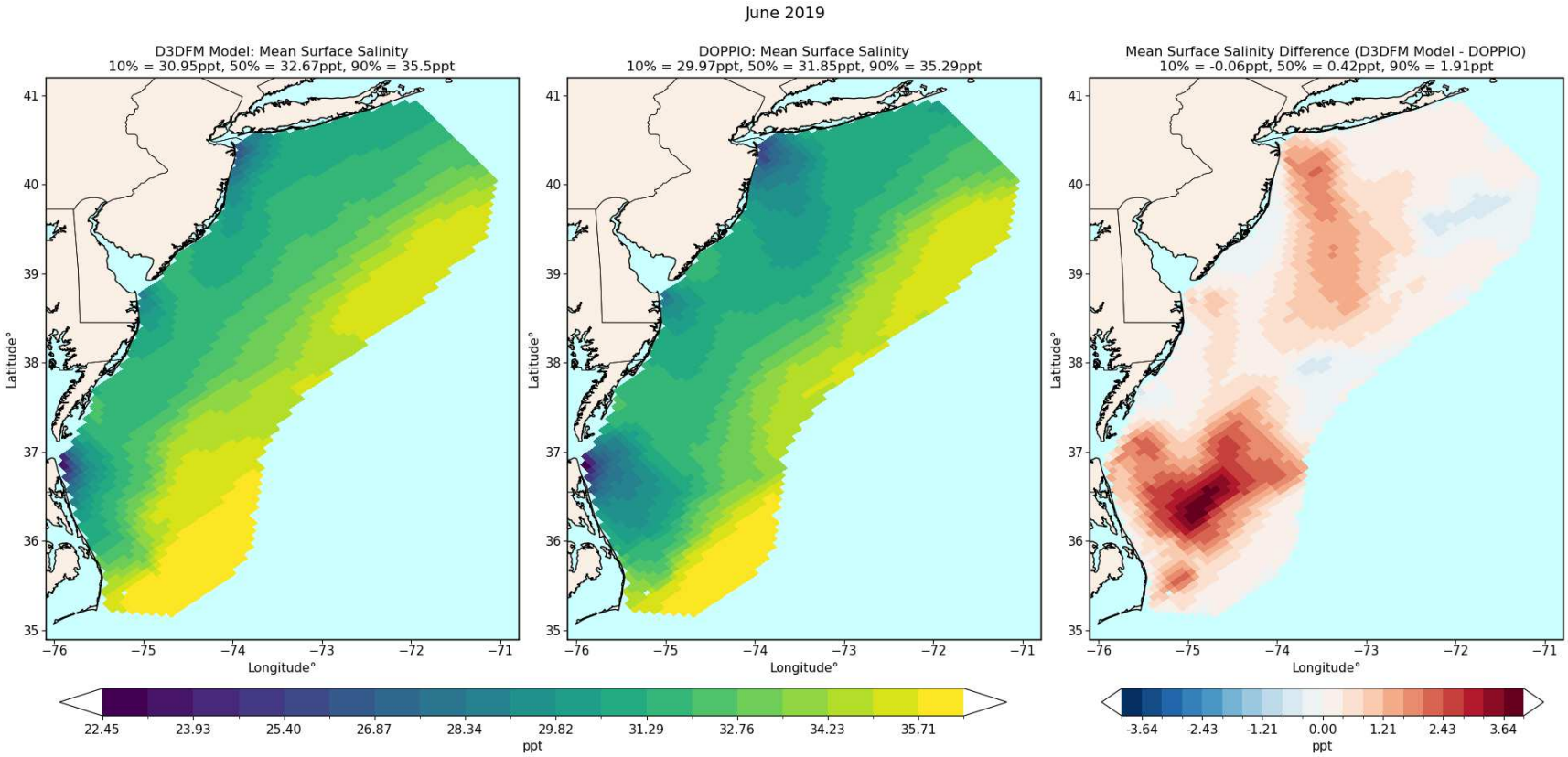
Apx Figure 110. Mean surface salinity in March 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



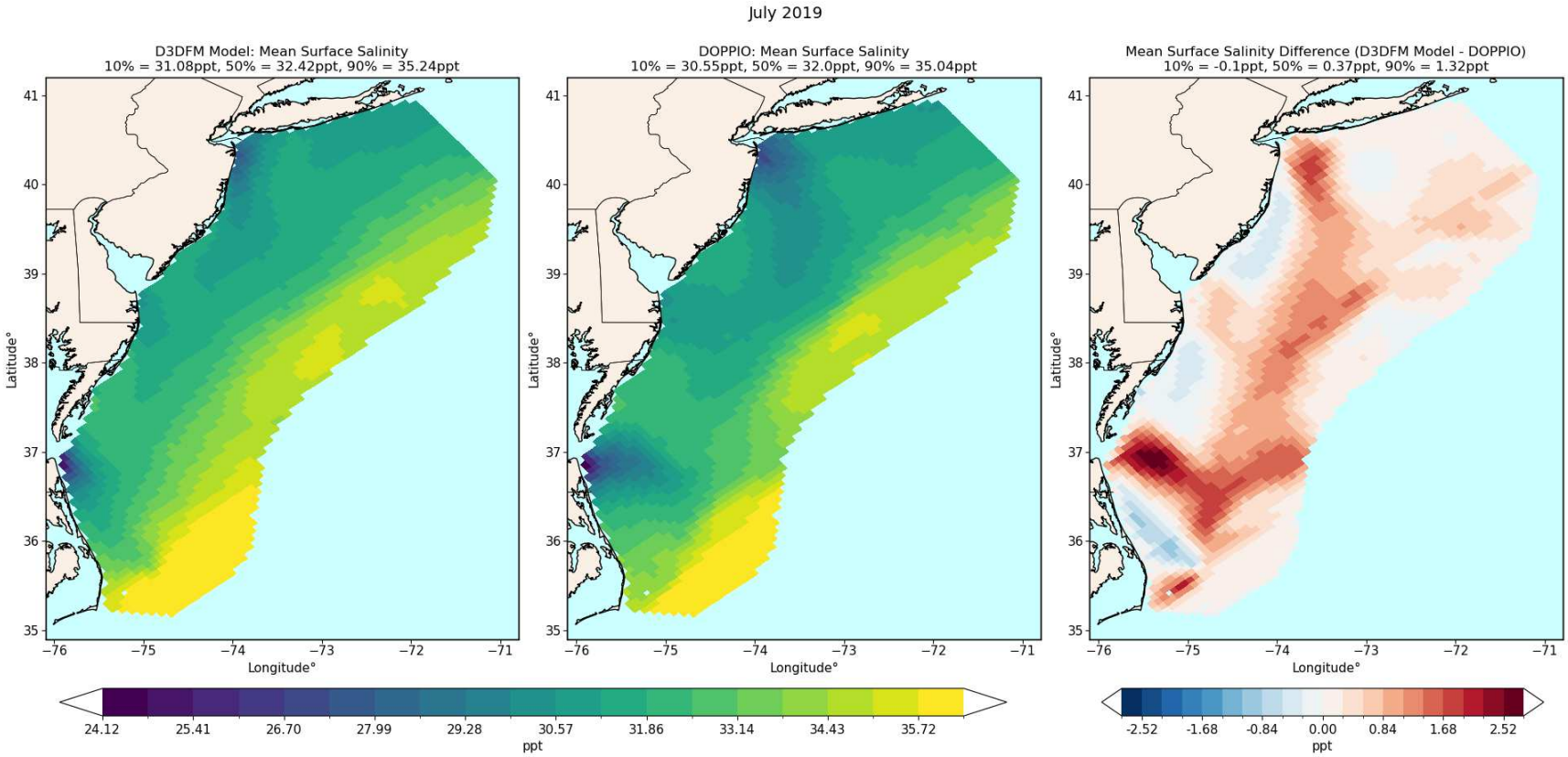
Apx Figure 111. Mean surface salinity in April 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



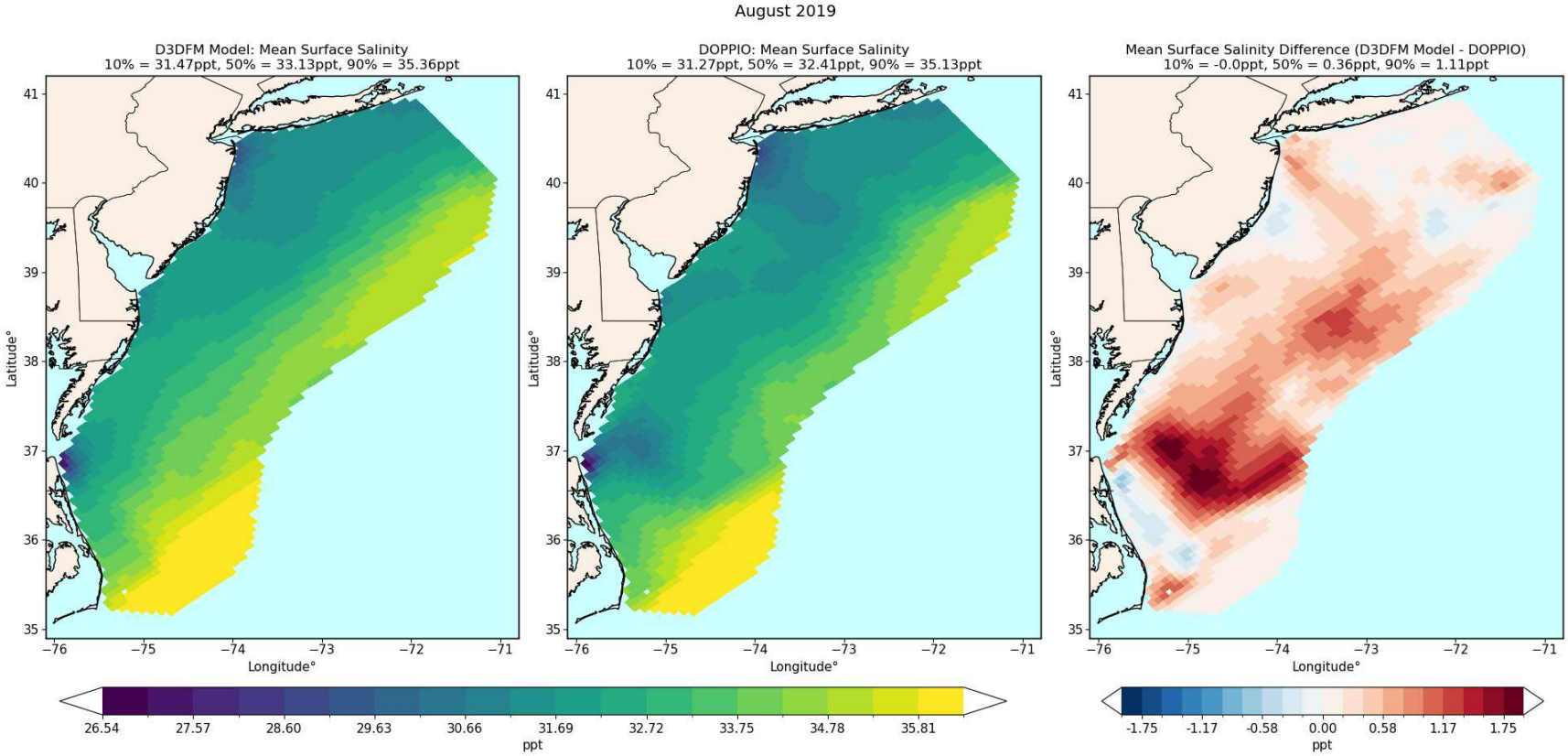
Apx Figure 112. Mean surface salinity in May 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



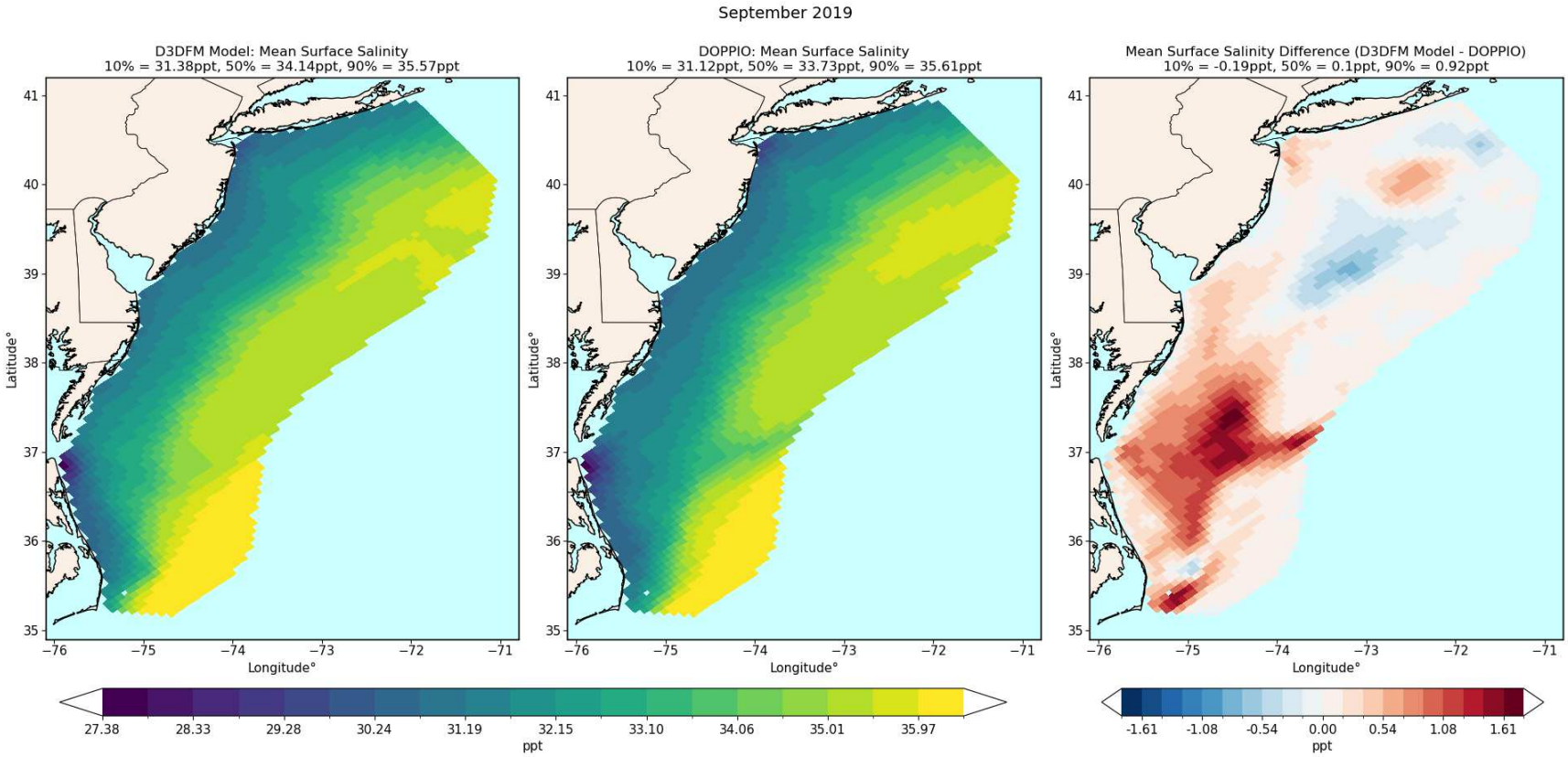
Apx Figure 113. Mean surface salinity in June 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



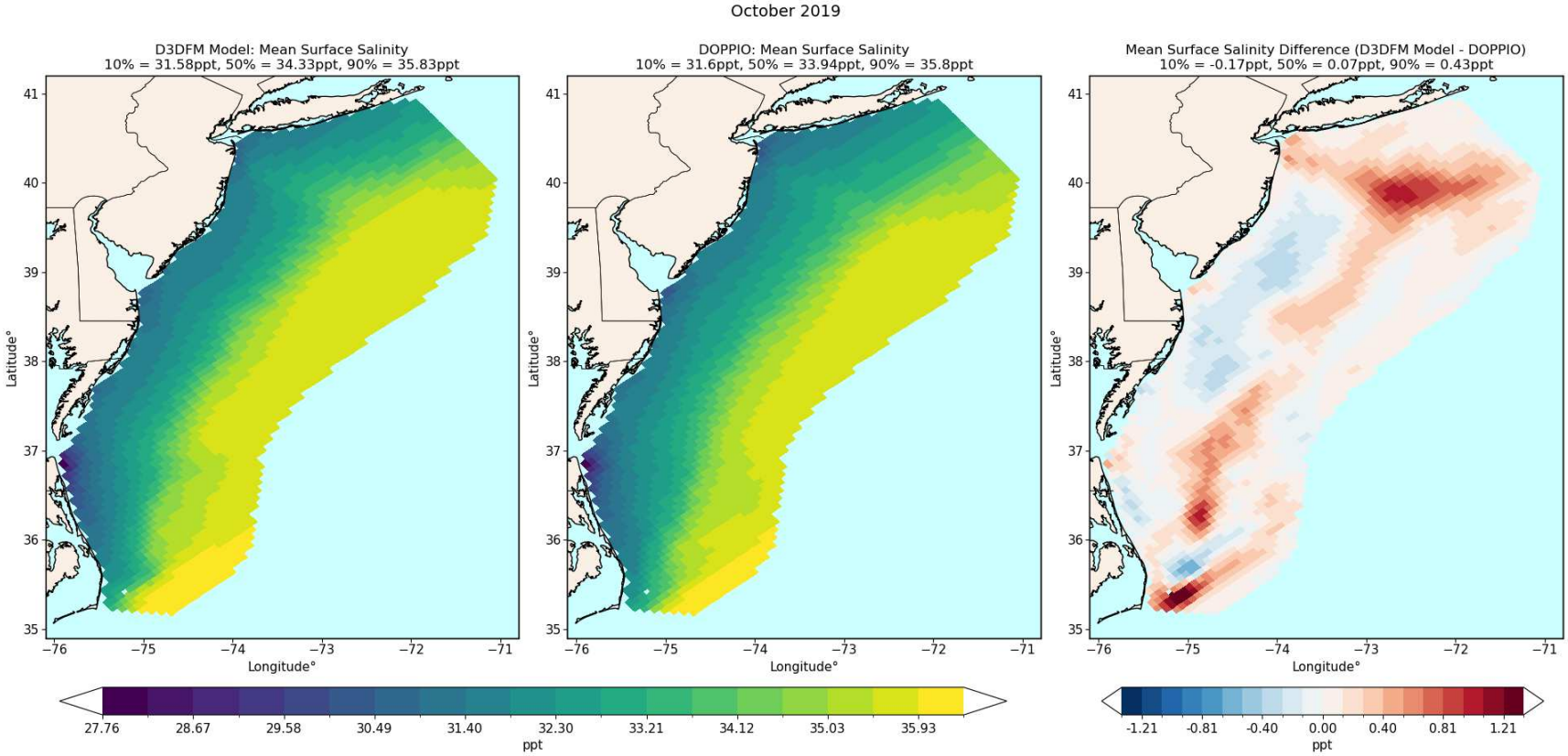
Apx Figure 114. Mean surface salinity in July 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



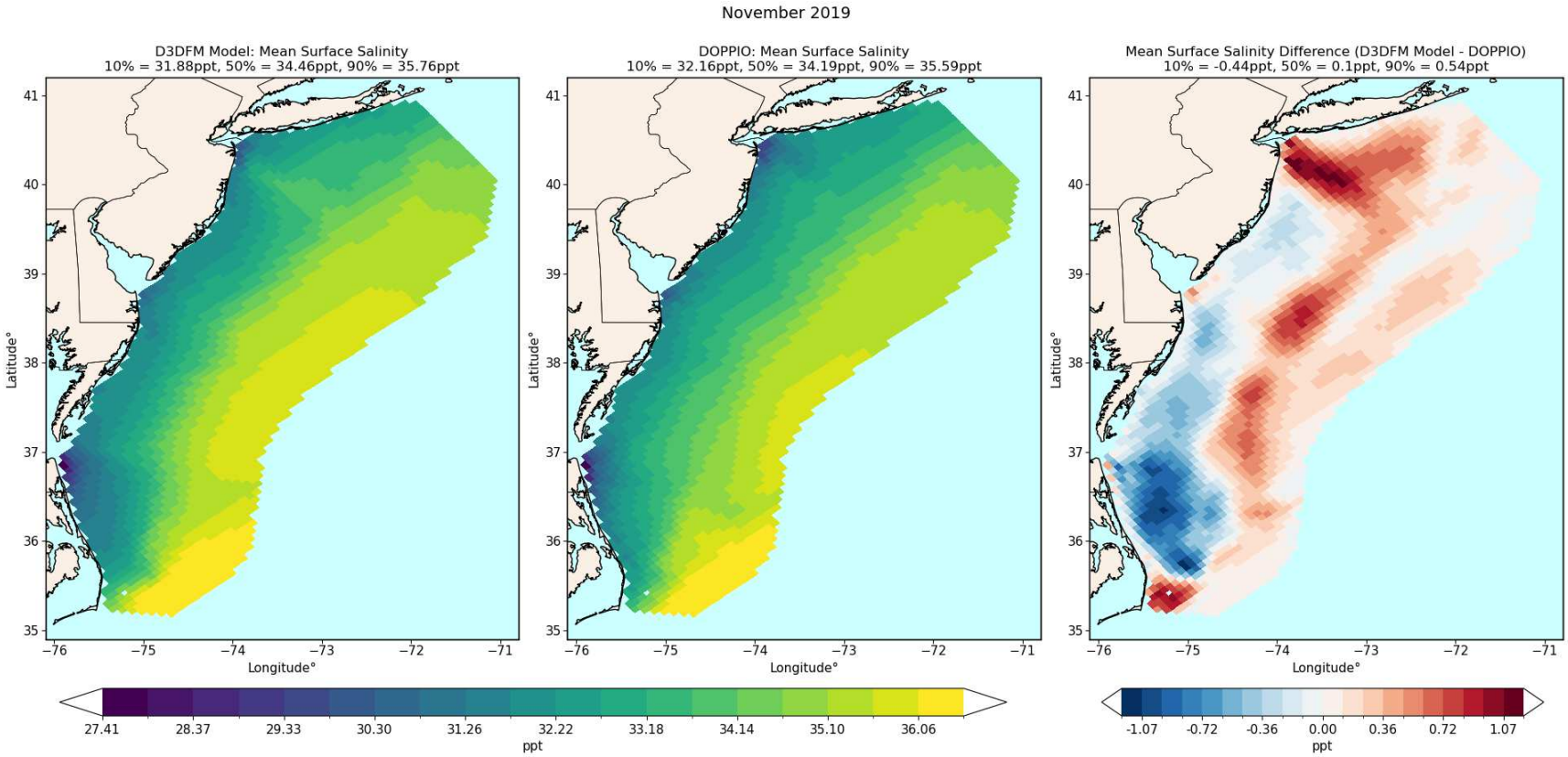
Apx Figure 115. Mean surface salinity in August 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



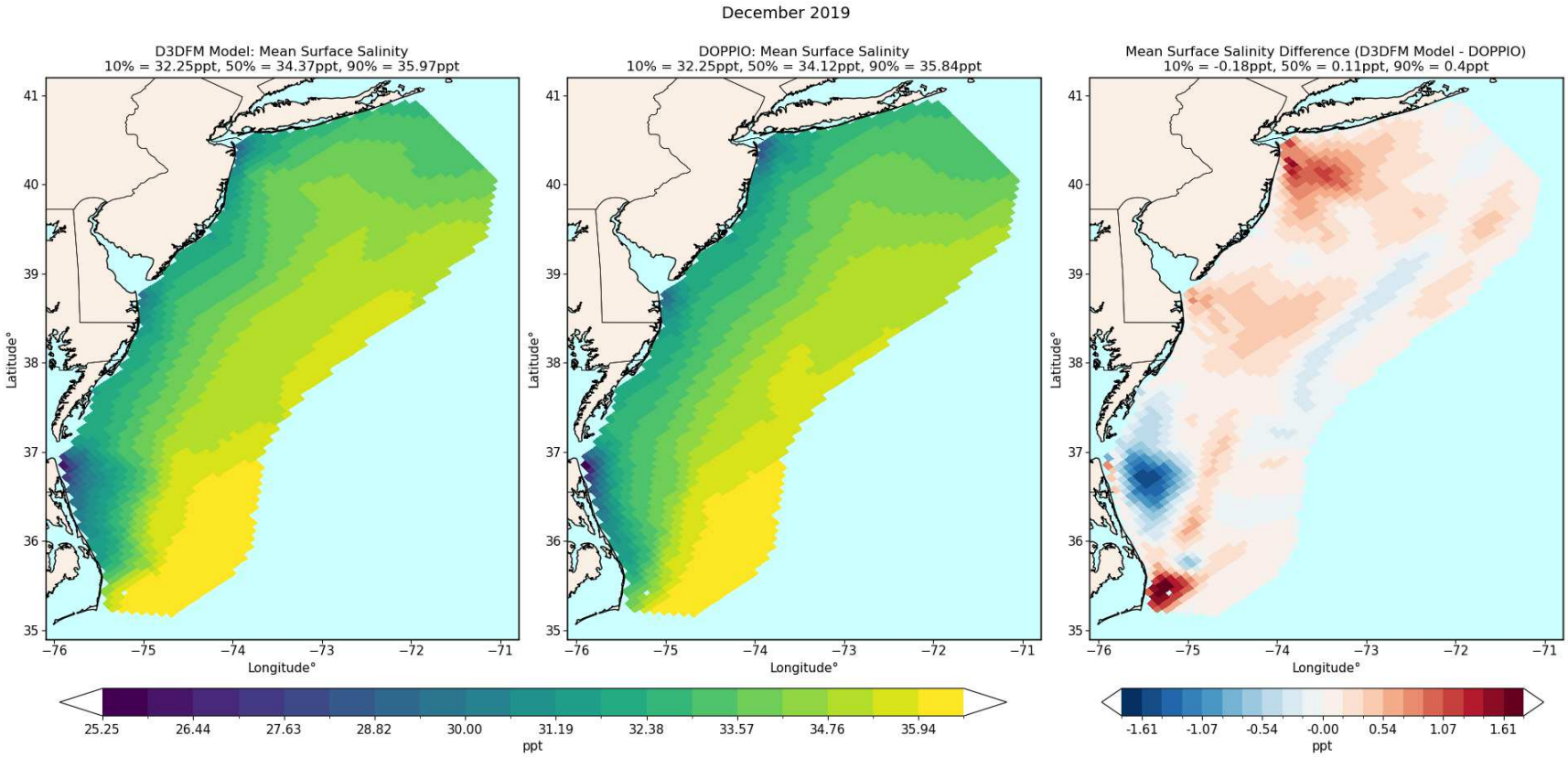
Apx Figure 116. Mean surface salinity in September 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



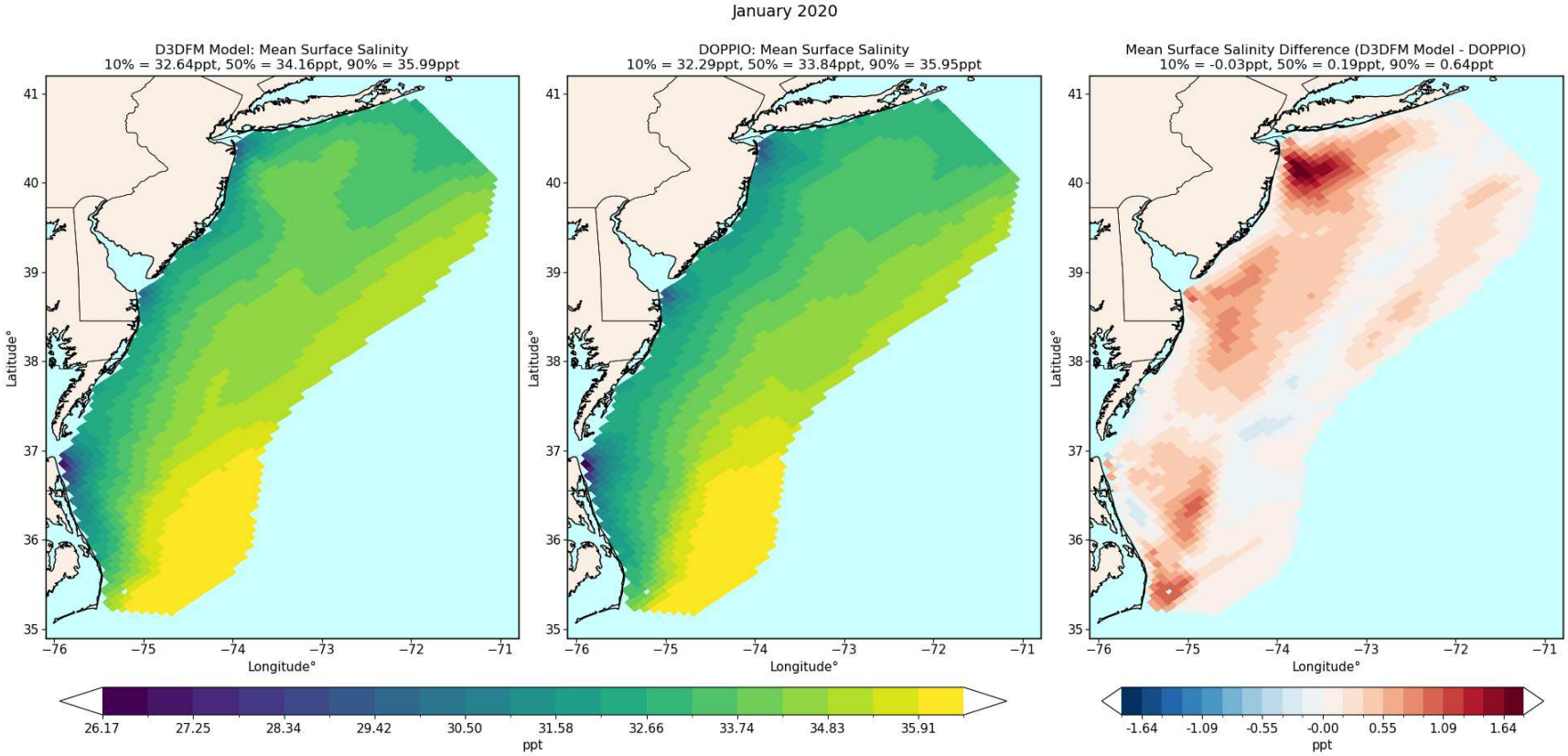
Apx Figure 117, Mean surface salinity in October 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



Apx Figure 118. Mean surface salinity in November 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

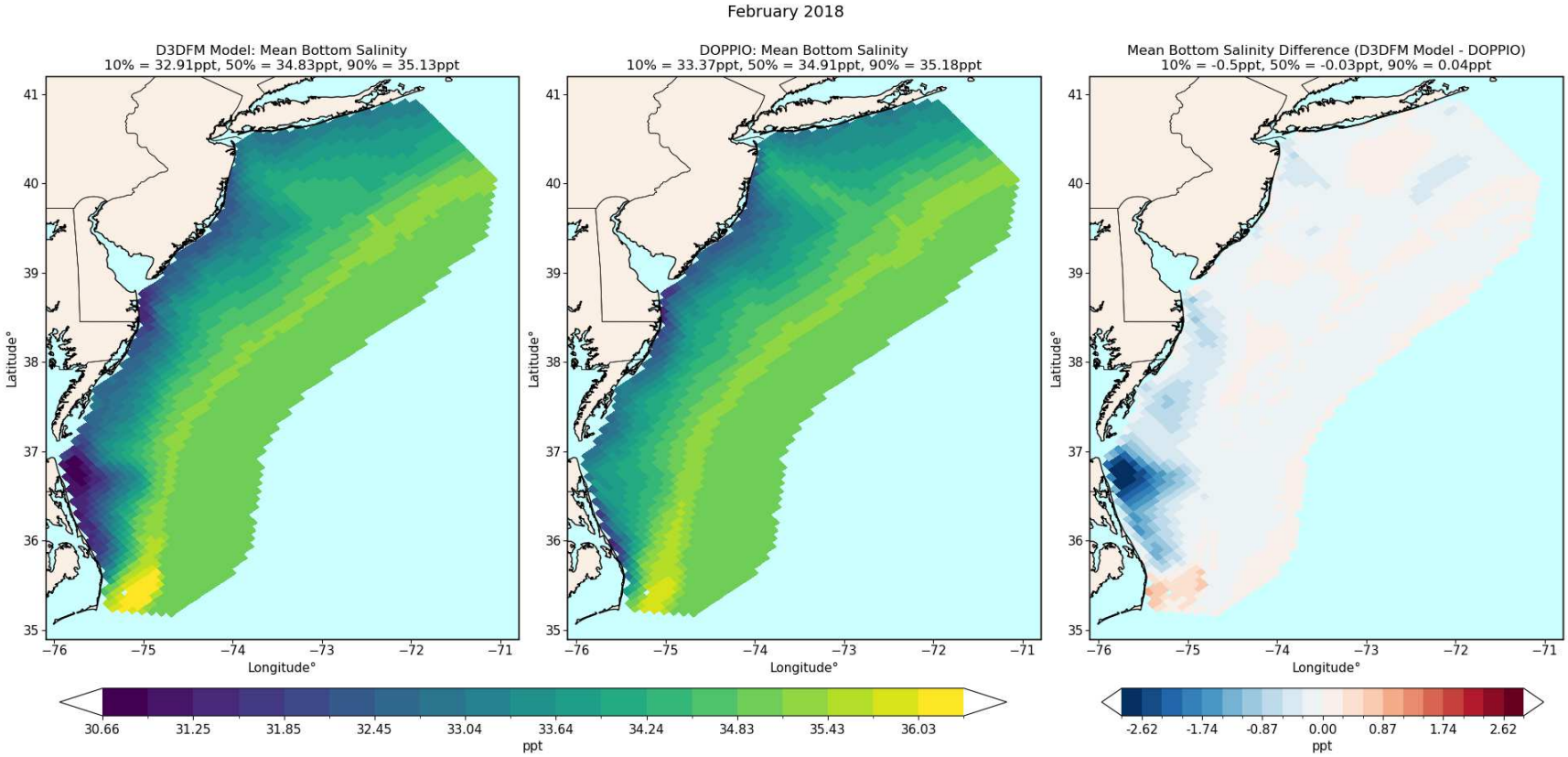


Apx Figure 119. Mean surface salinity in December 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

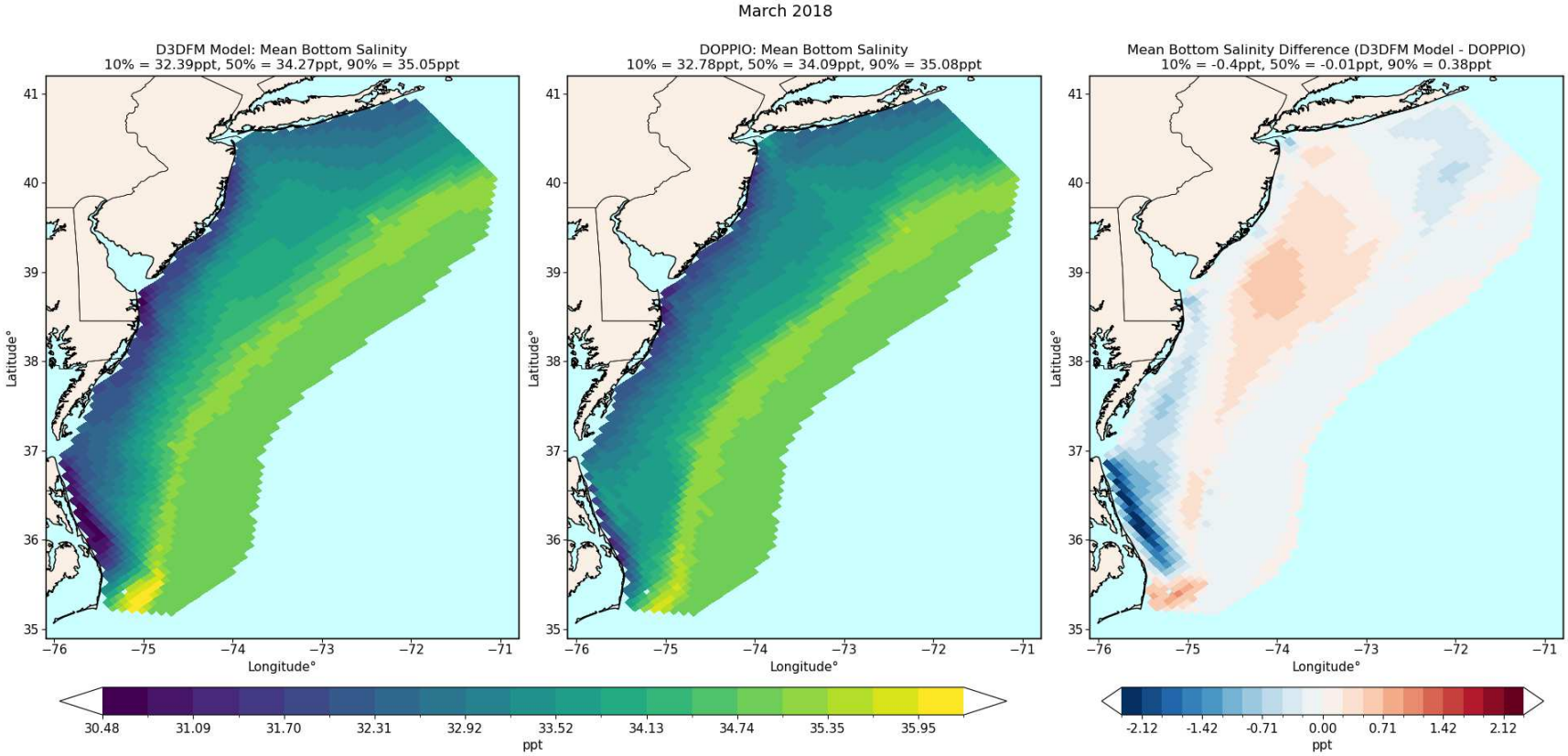


Apx Figure 120. Mean surface salinity in January 2020, of the model (left), DOPPIO dataset (middle), and difference (right).

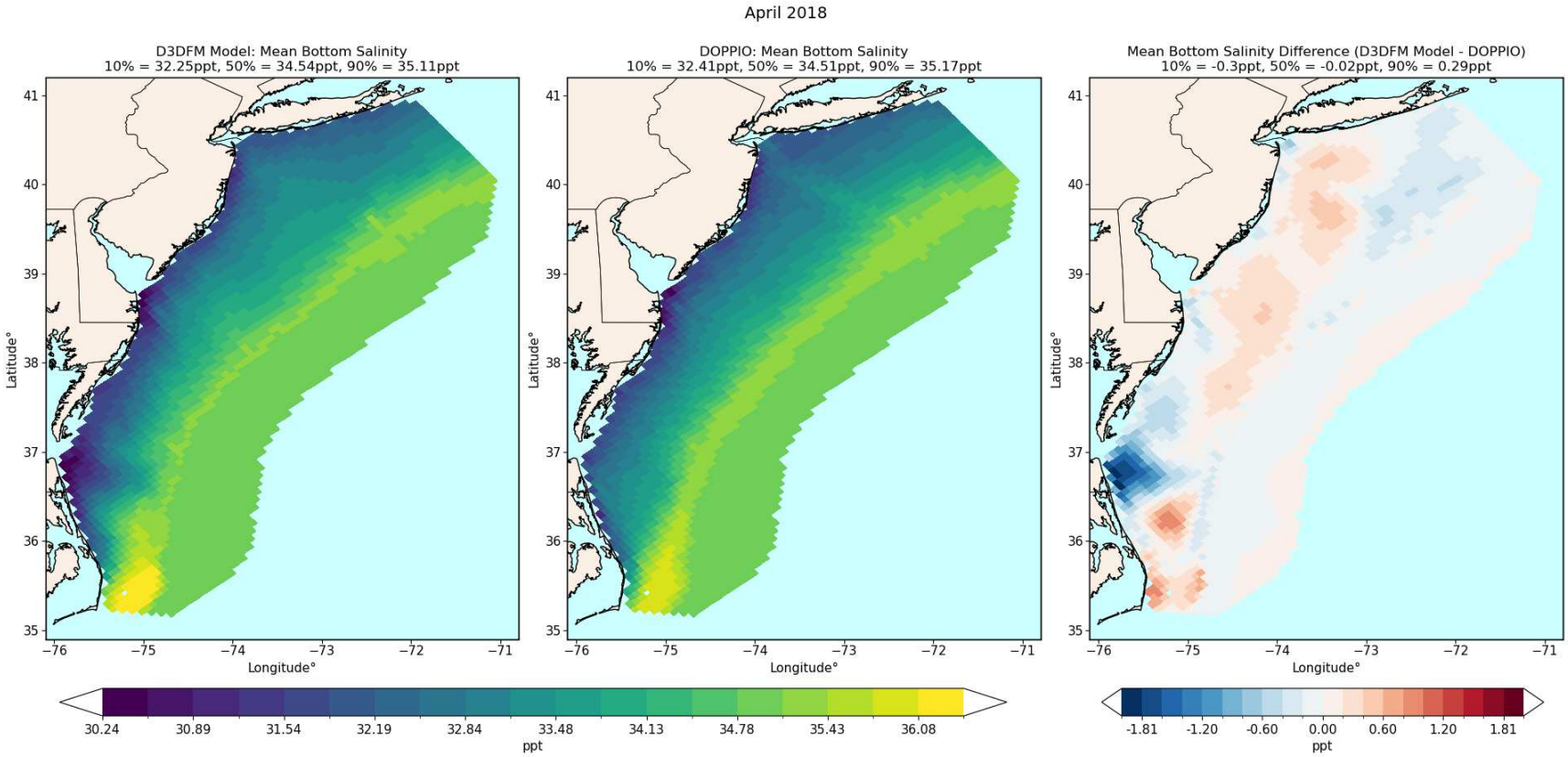
A.6 Bottom Salinity of the Model and Doppio Dataset



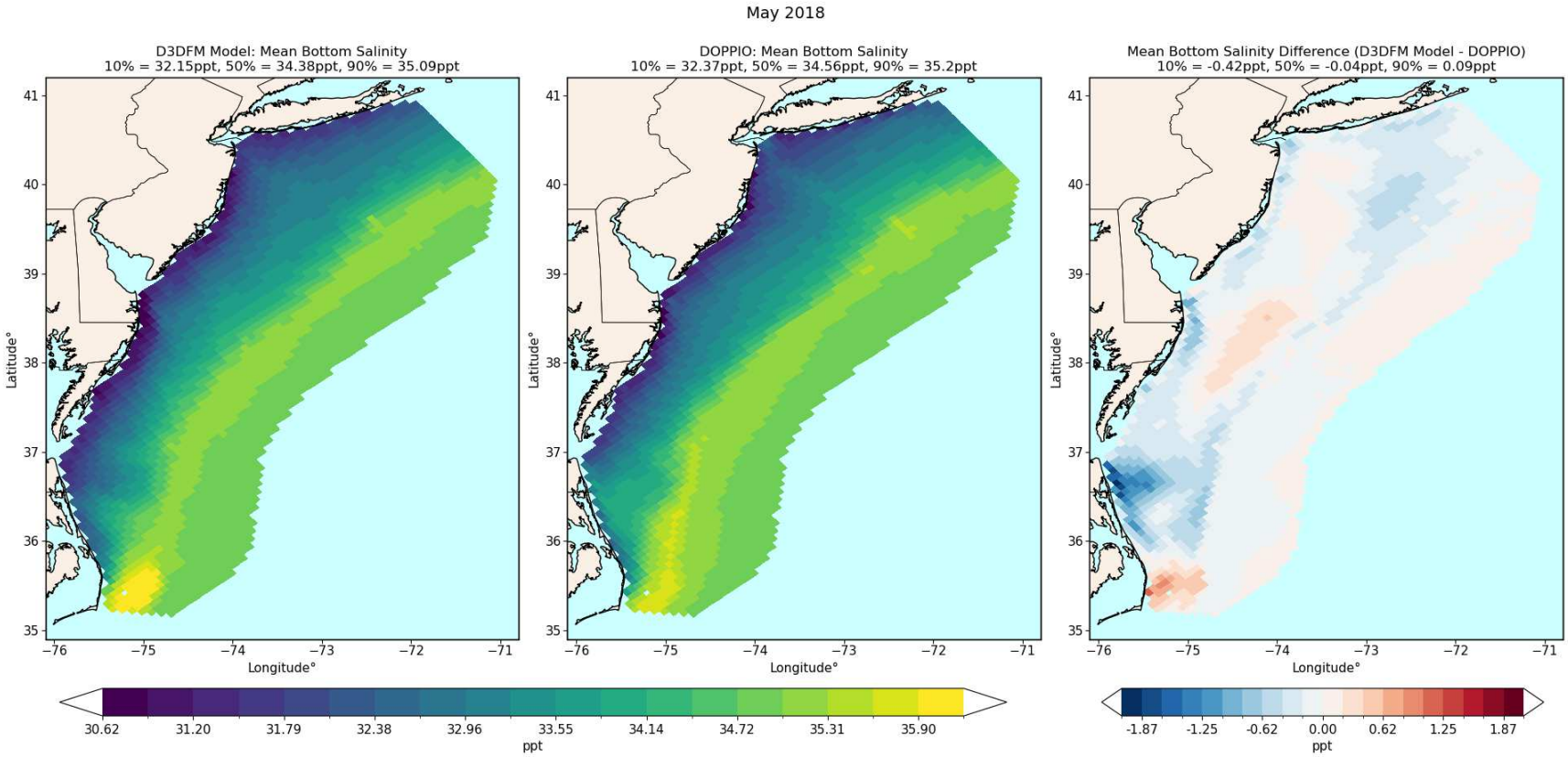
Apx Figure 121. Mean bottom salinity in February 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



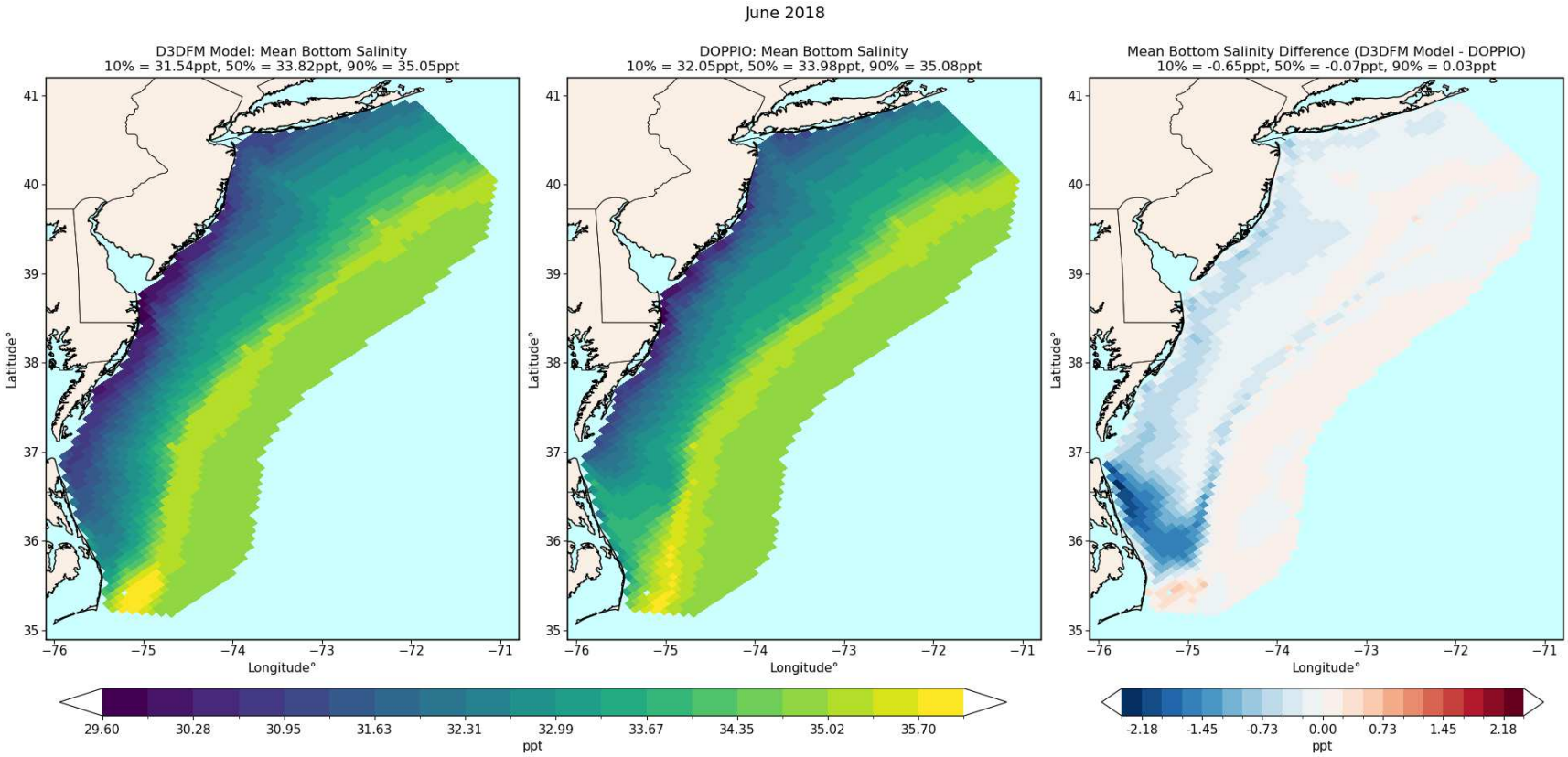
Apx Figure 122. Mean bottom salinity in March 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



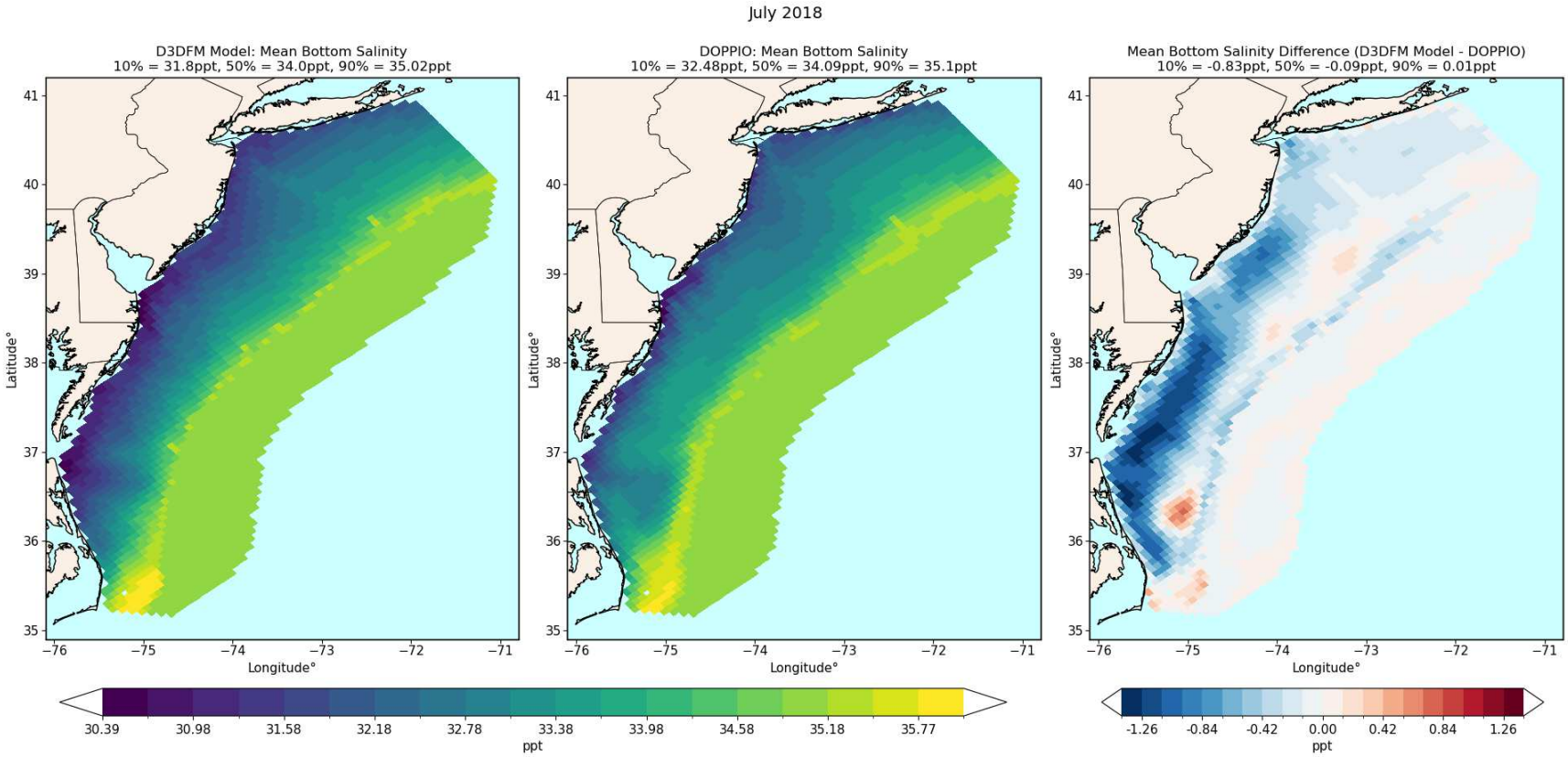
Apx Figure 123. Mean bottom salinity in April 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



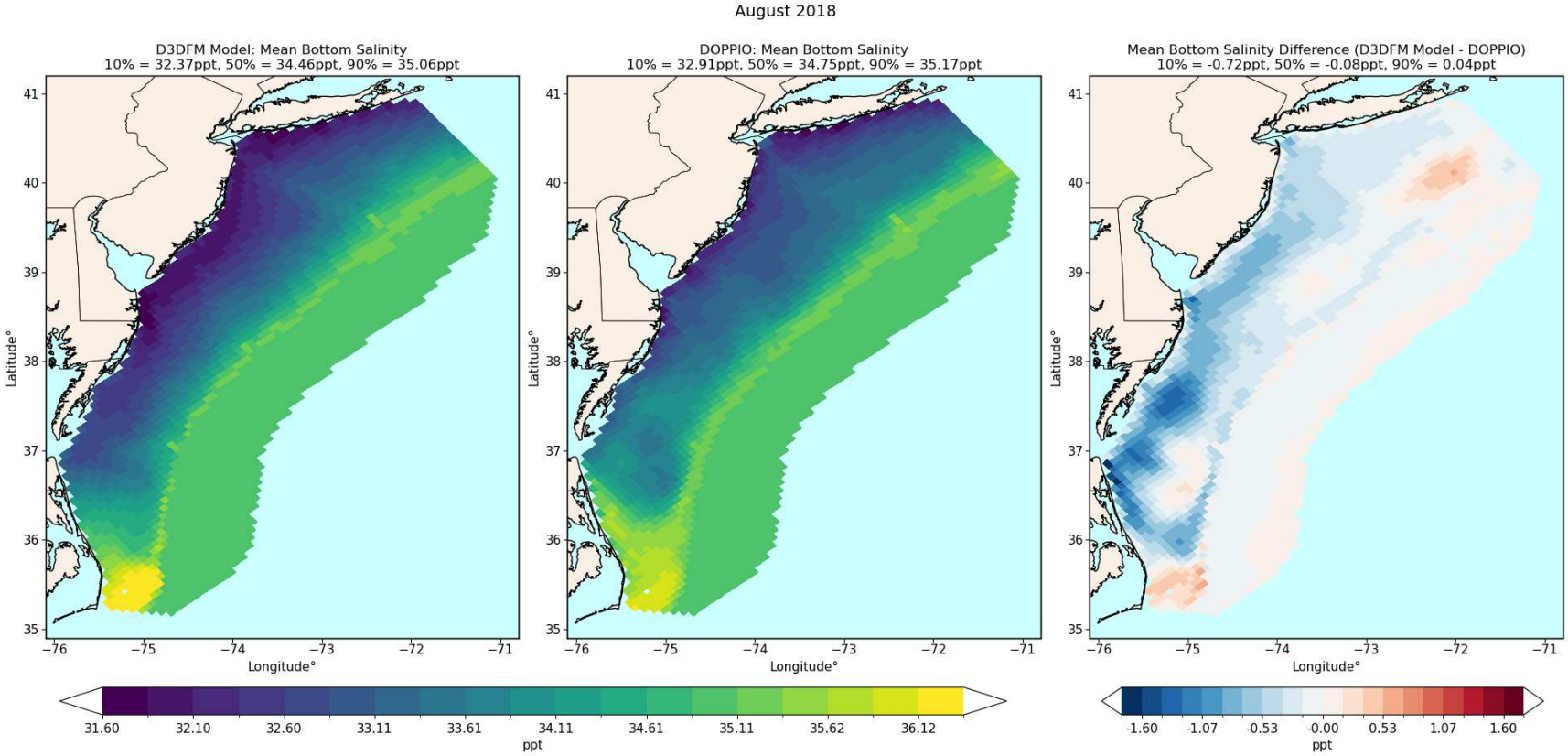
Apx Figure 124. Mean bottom salinity in May 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



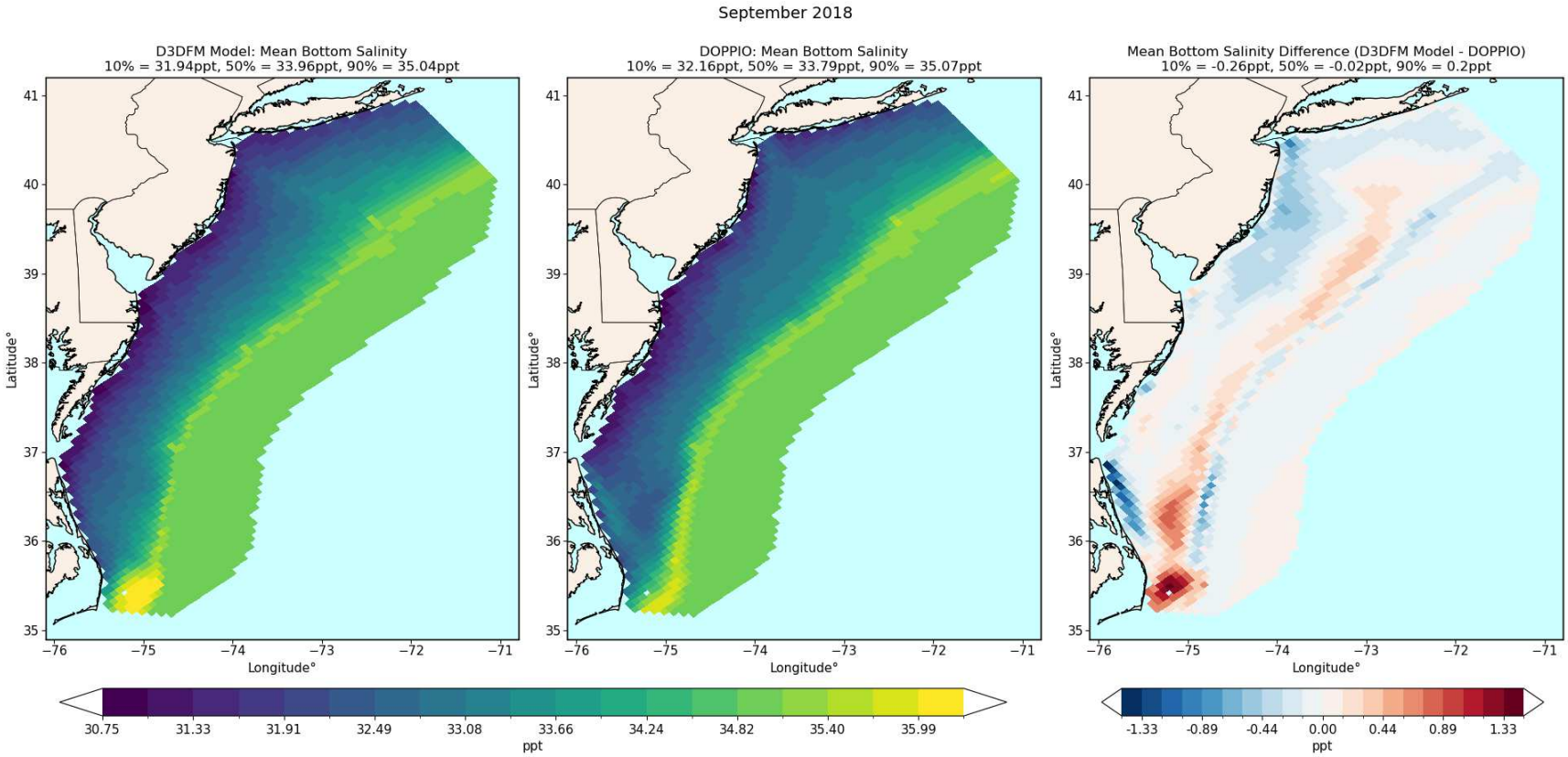
Apx Figure 125. Mean bottom salinity in June 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



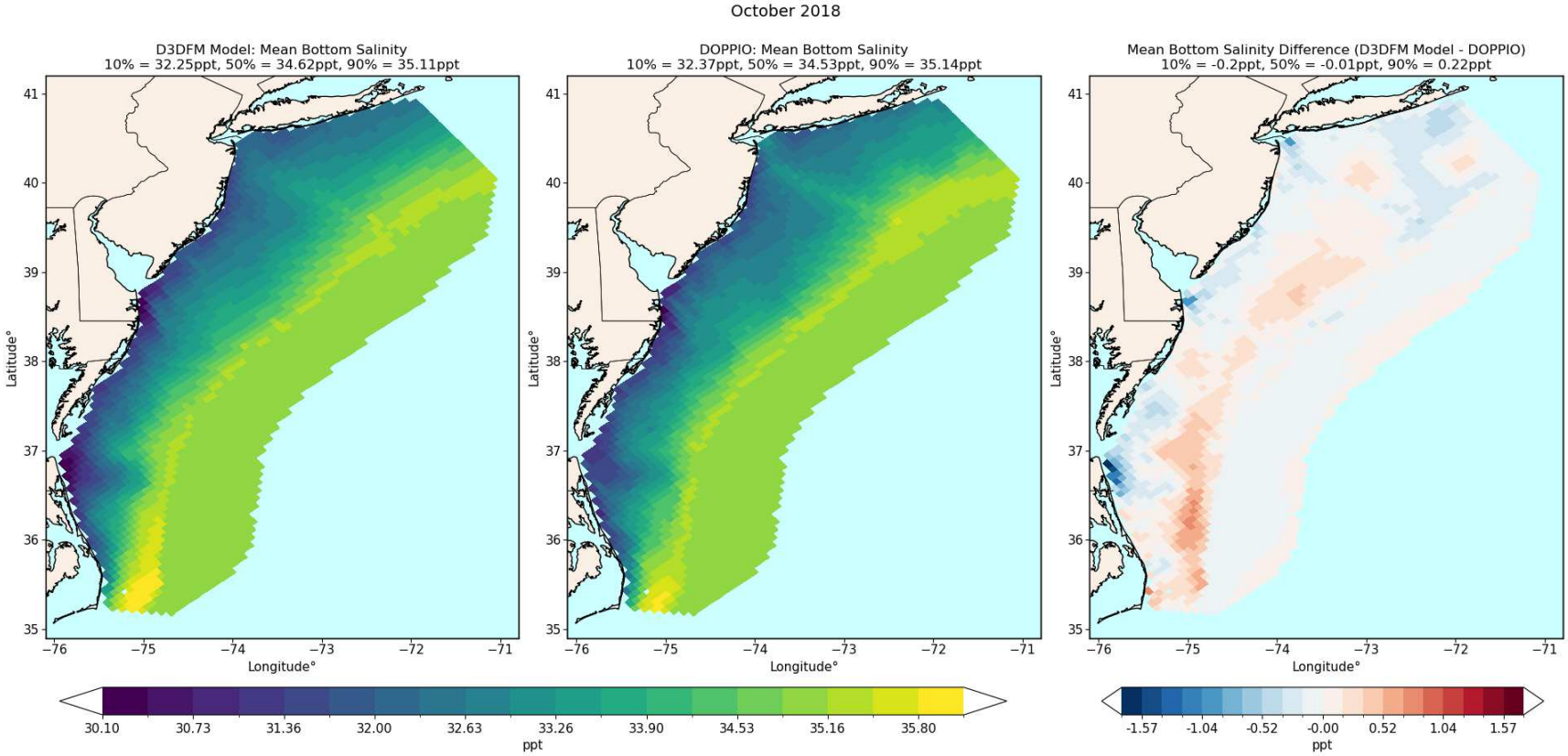
Apx Figure 126. Mean bottom salinity in July 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



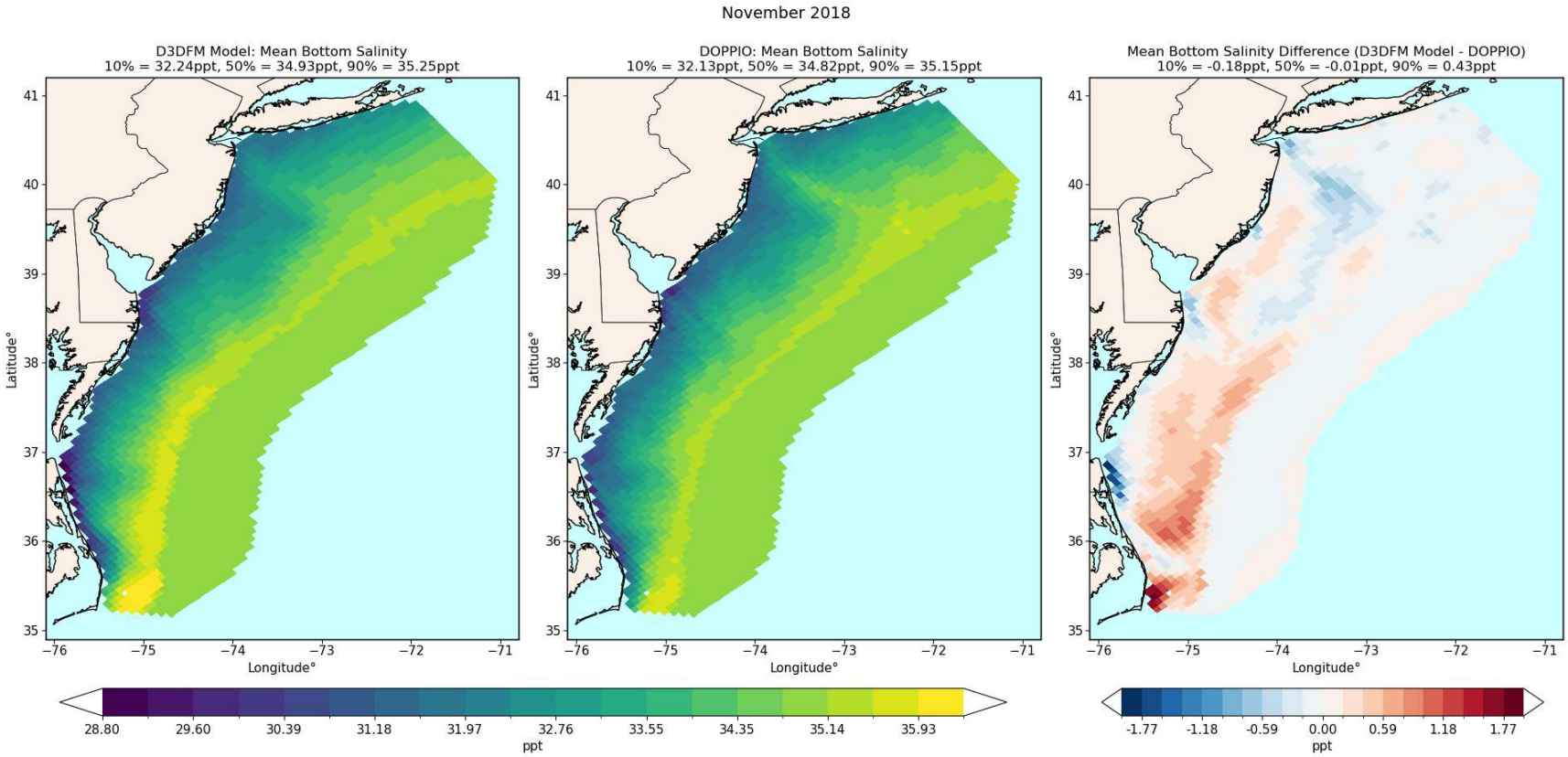
Apx Figure 127. Mean bottom salinity in August 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



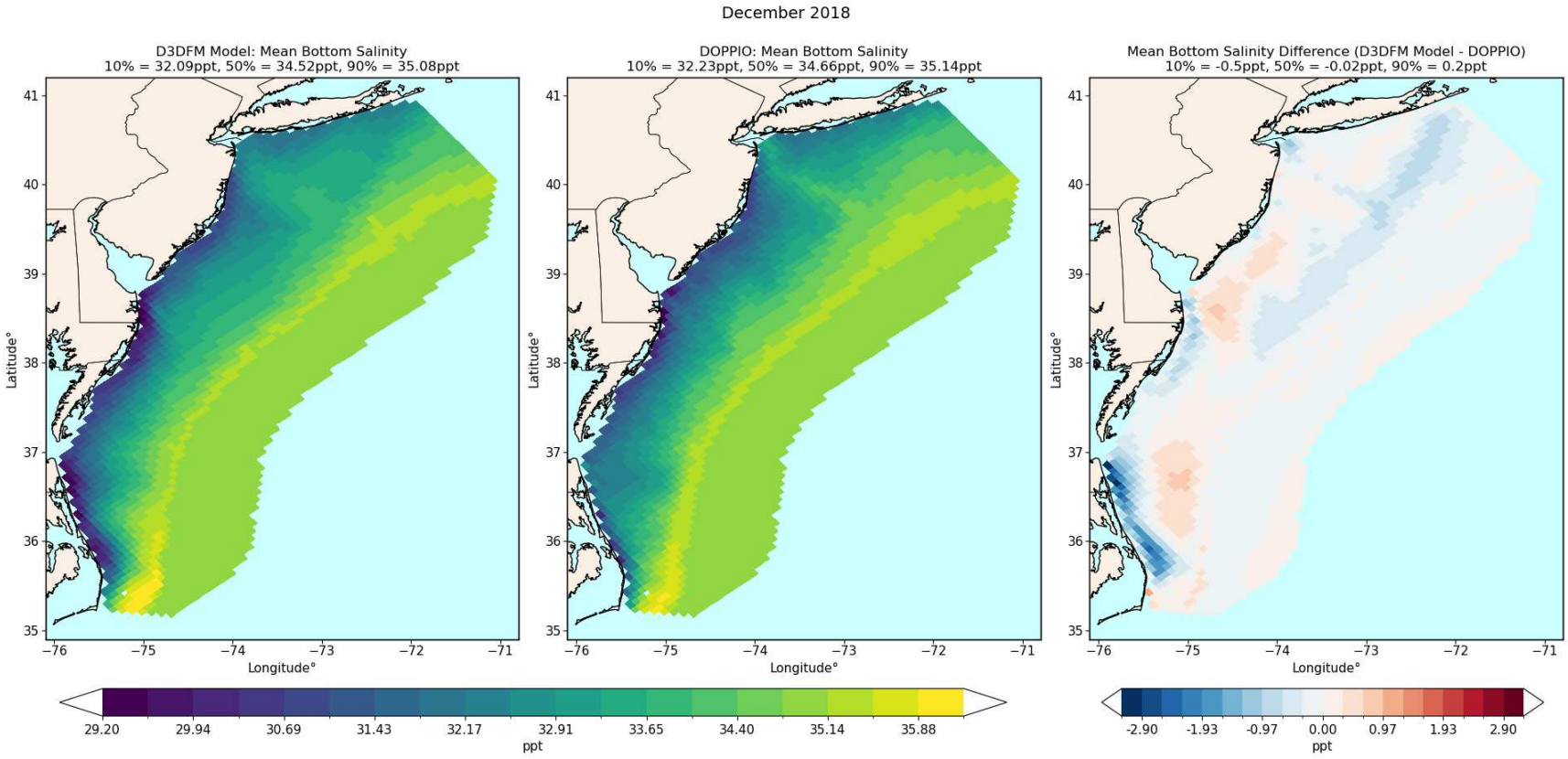
Apx Figure 128. Mean bottom salinity in September 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



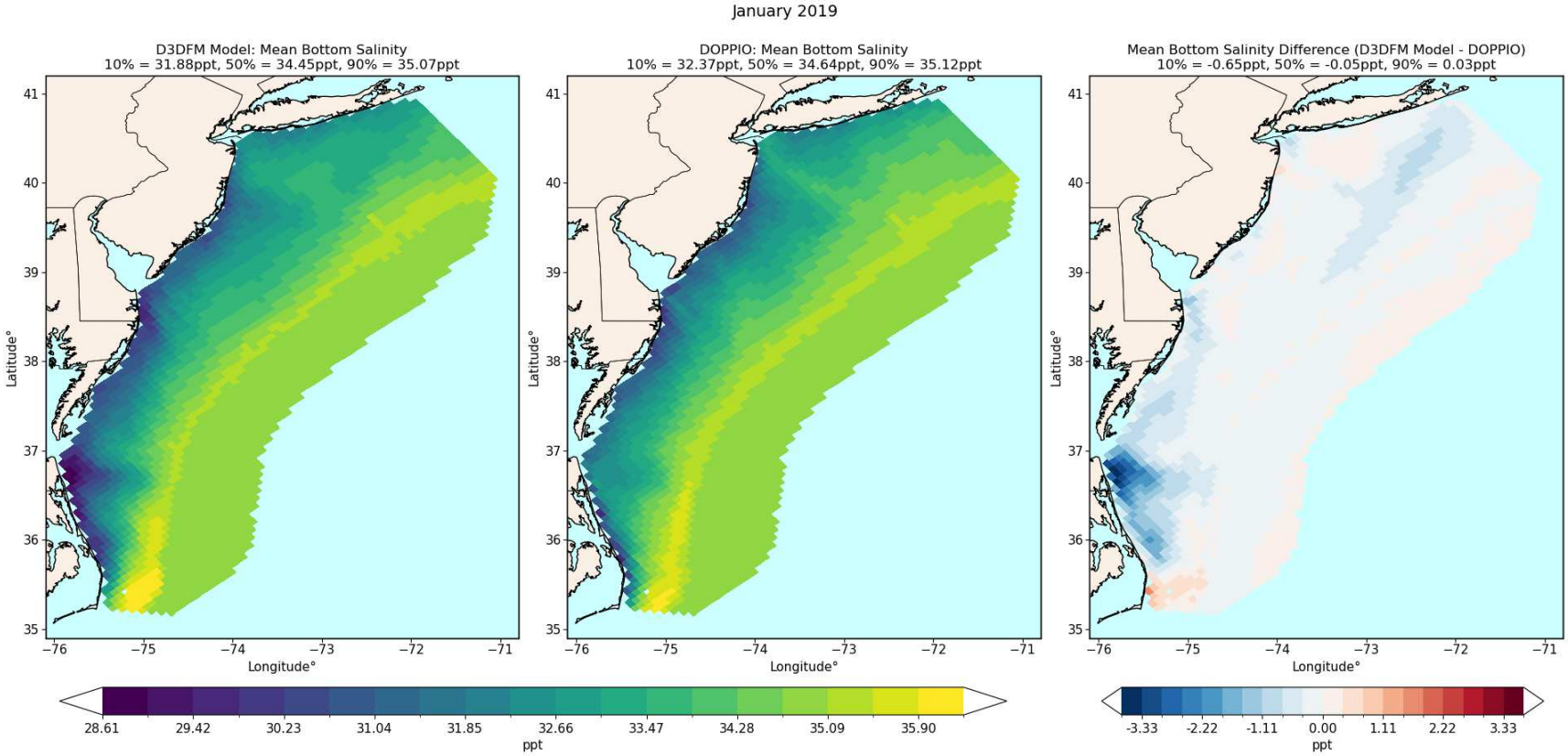
Apx Figure 129. Mean bottom salinity in October 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



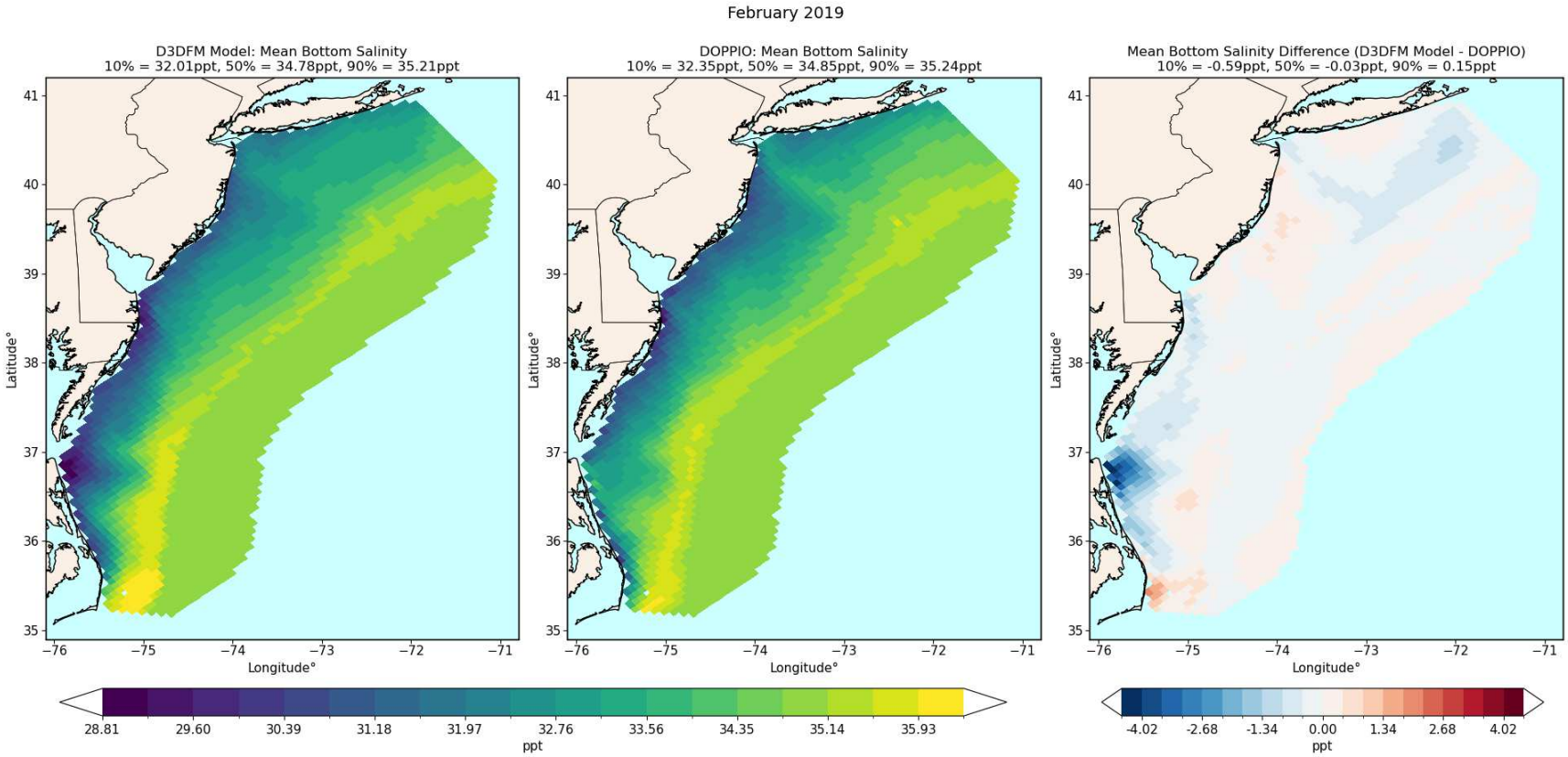
Apx Figure 130. Mean bottom salinity in November 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



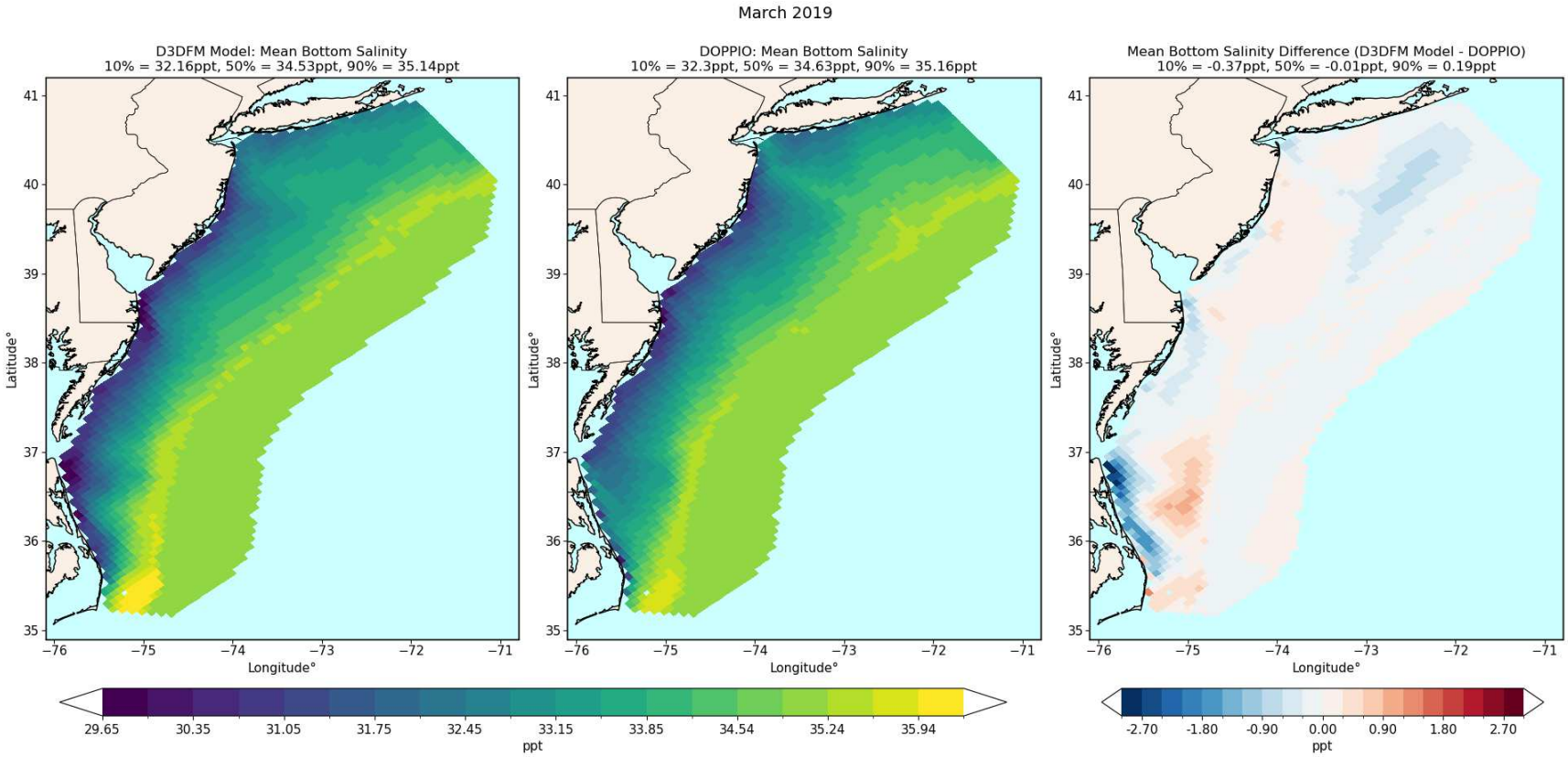
Apx Figure 131. Mean bottom salinity in December 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



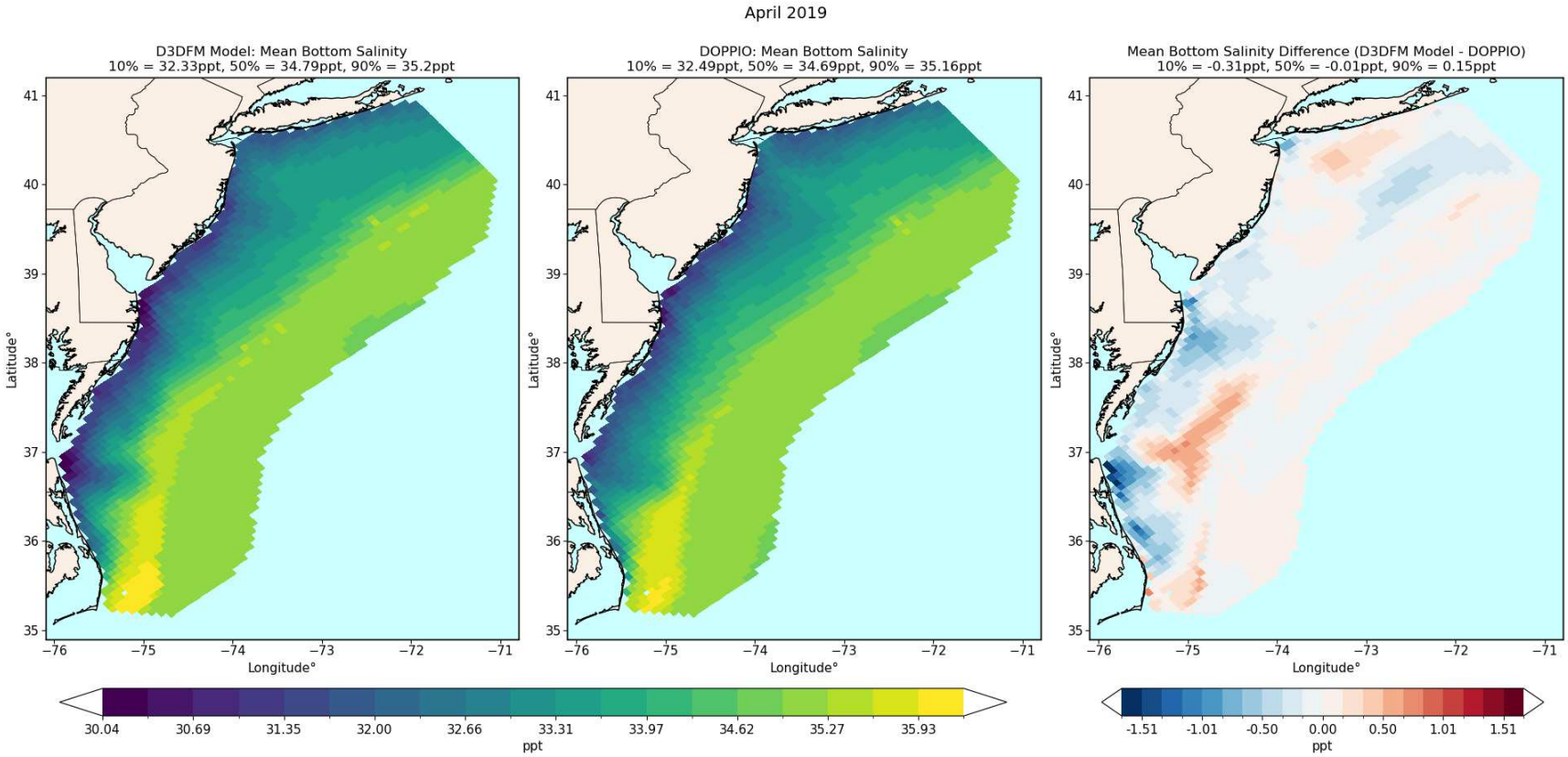
Apx Figure 132. Mean bottom salinity in January 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



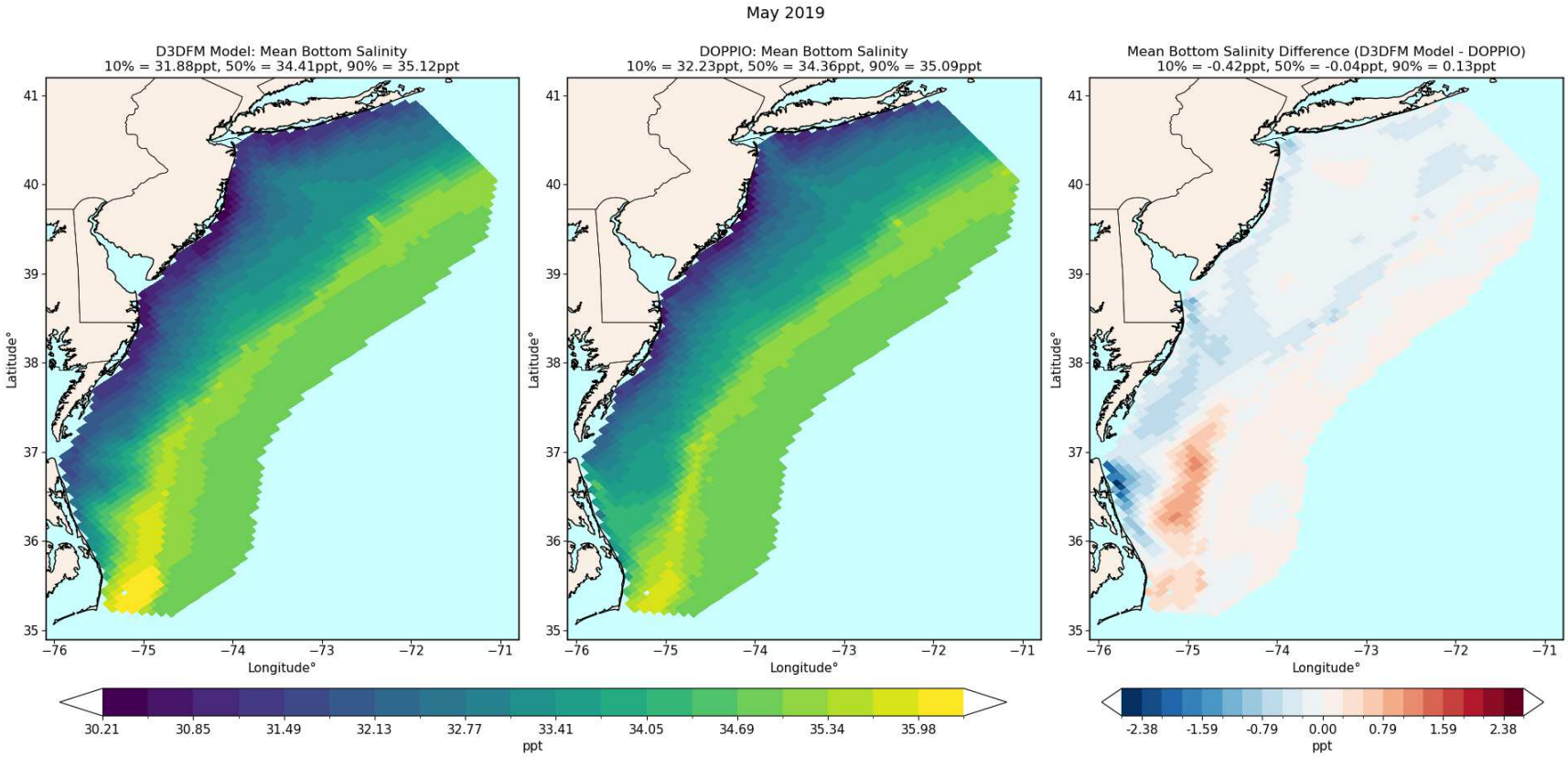
Apx Figure 133. Mean bottom salinity in February 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



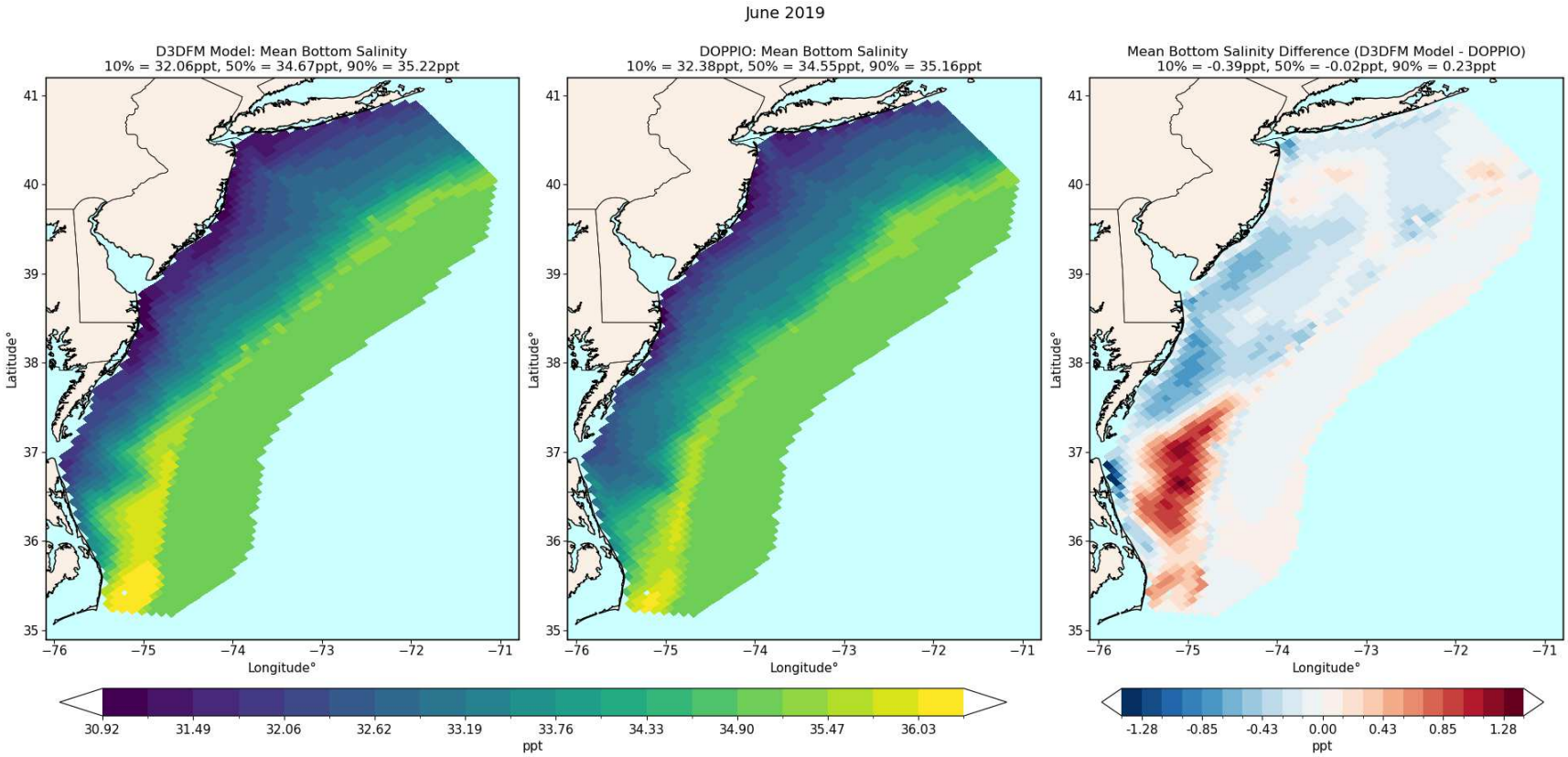
Apx Figure 134. Mean bottom salinity in March 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



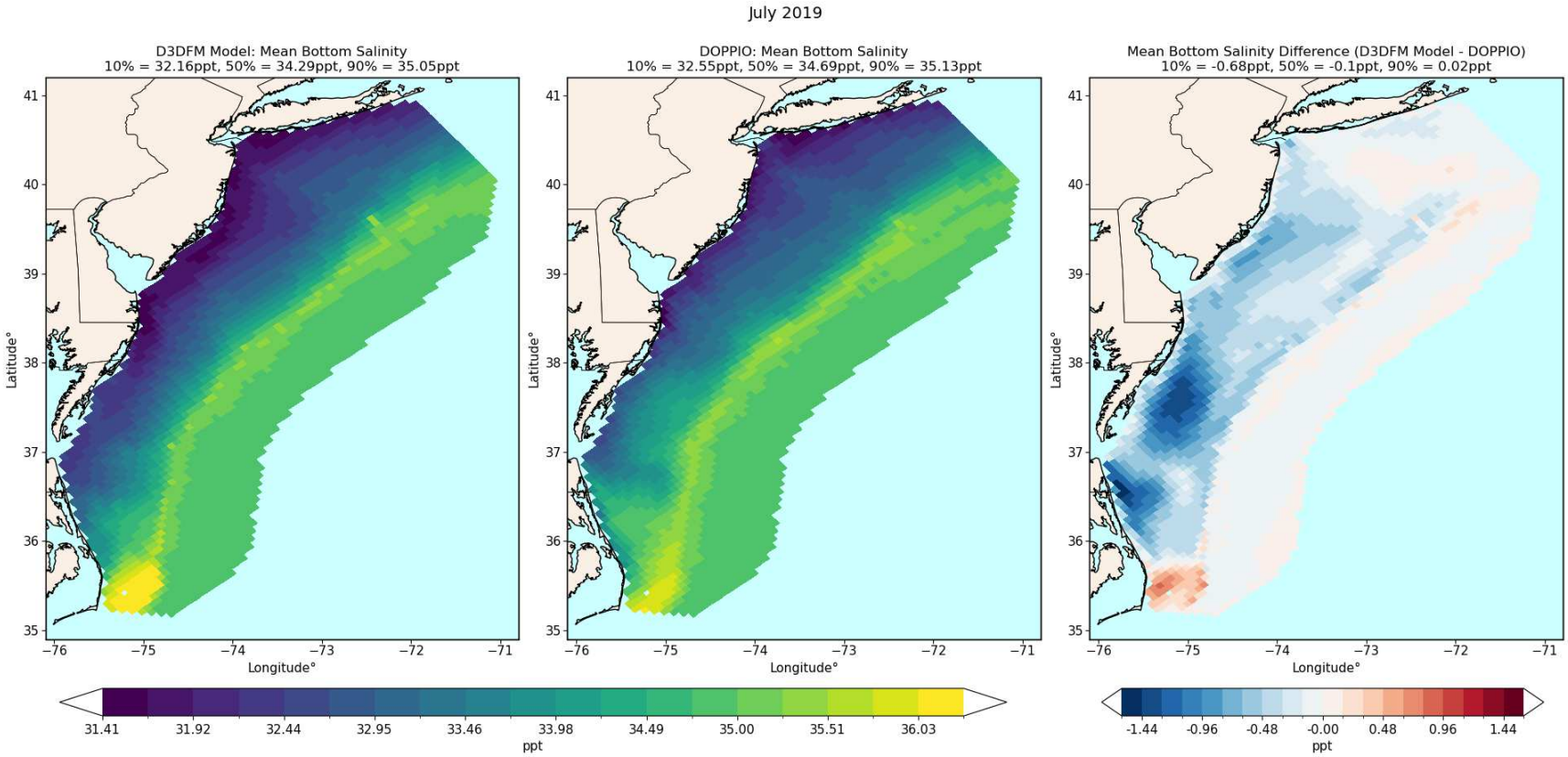
Apx Figure 135. Mean bottom salinity in April 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



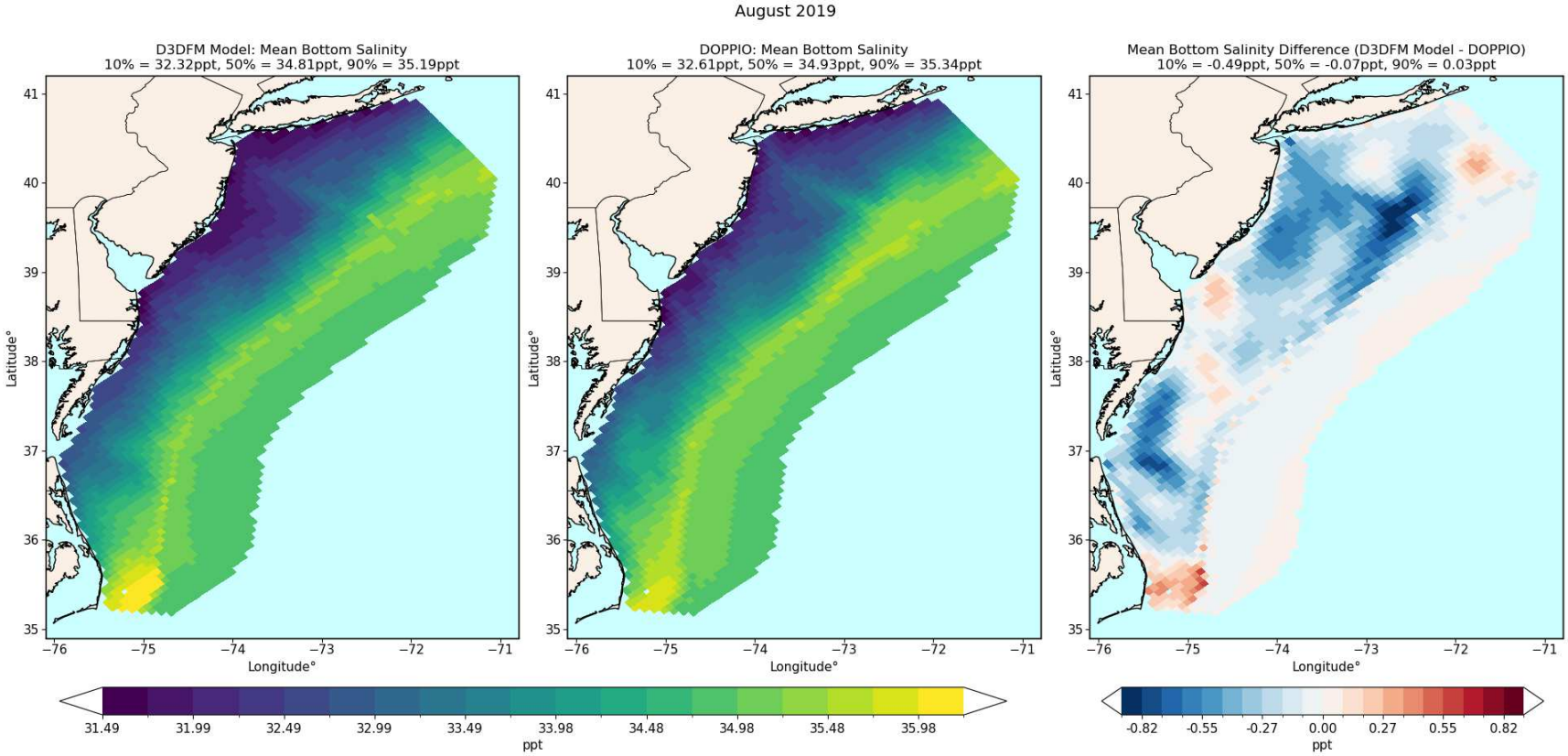
Apx Figure 136. Mean bottom salinity in May 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



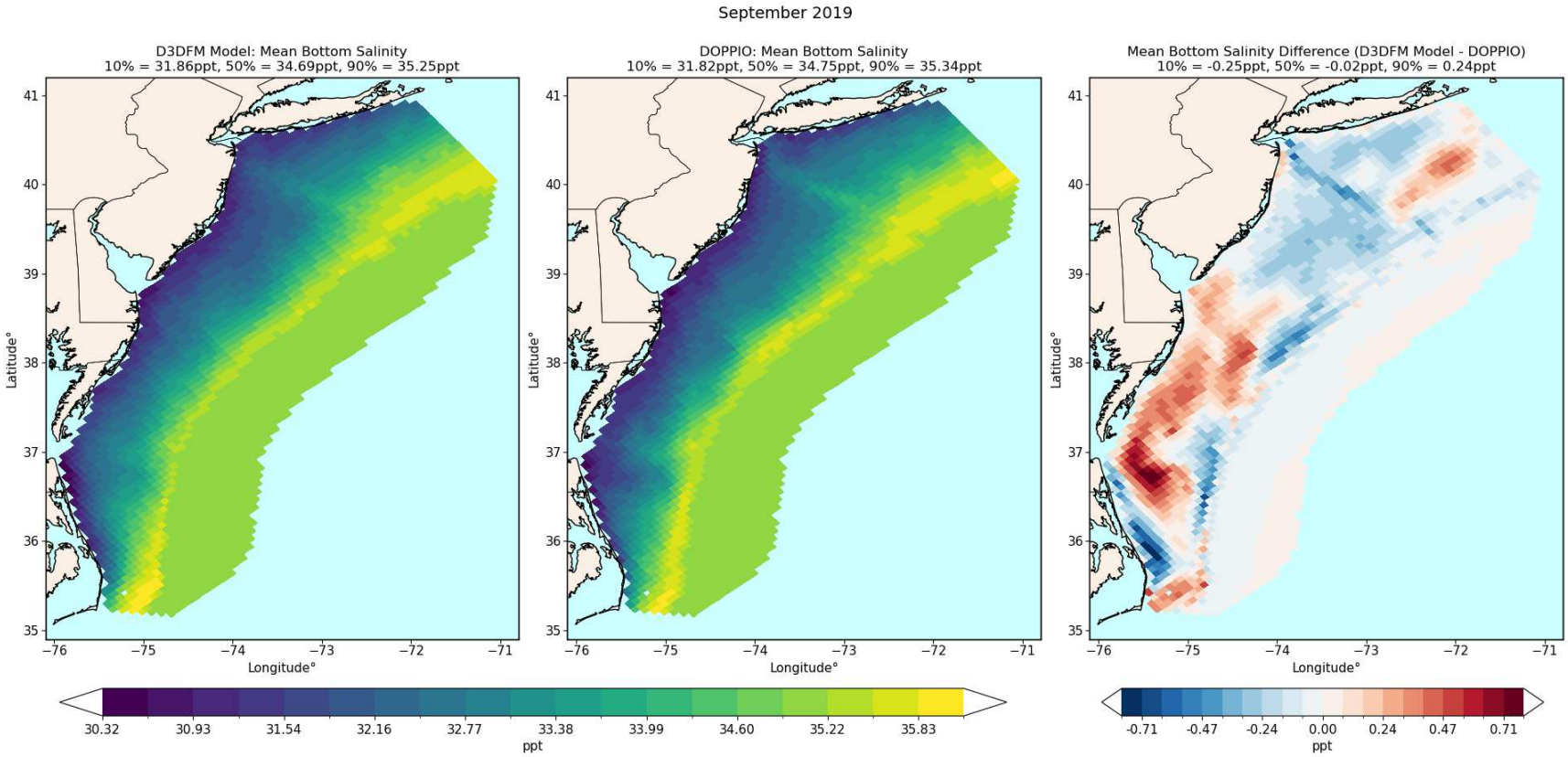
Apx Figure 137. Mean bottom salinity in June 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



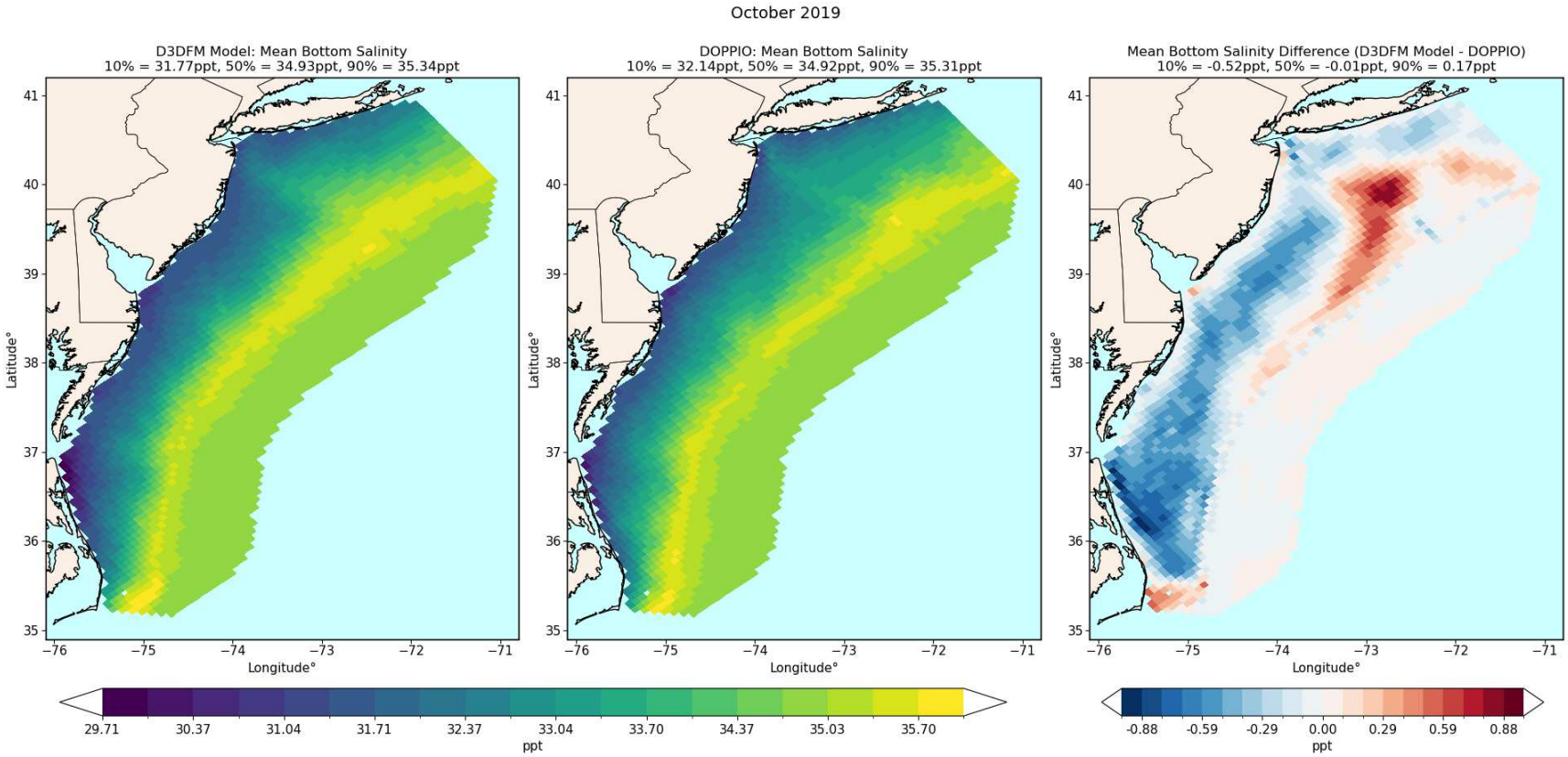
Apx Figure 138. Mean bottom salinity in July 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



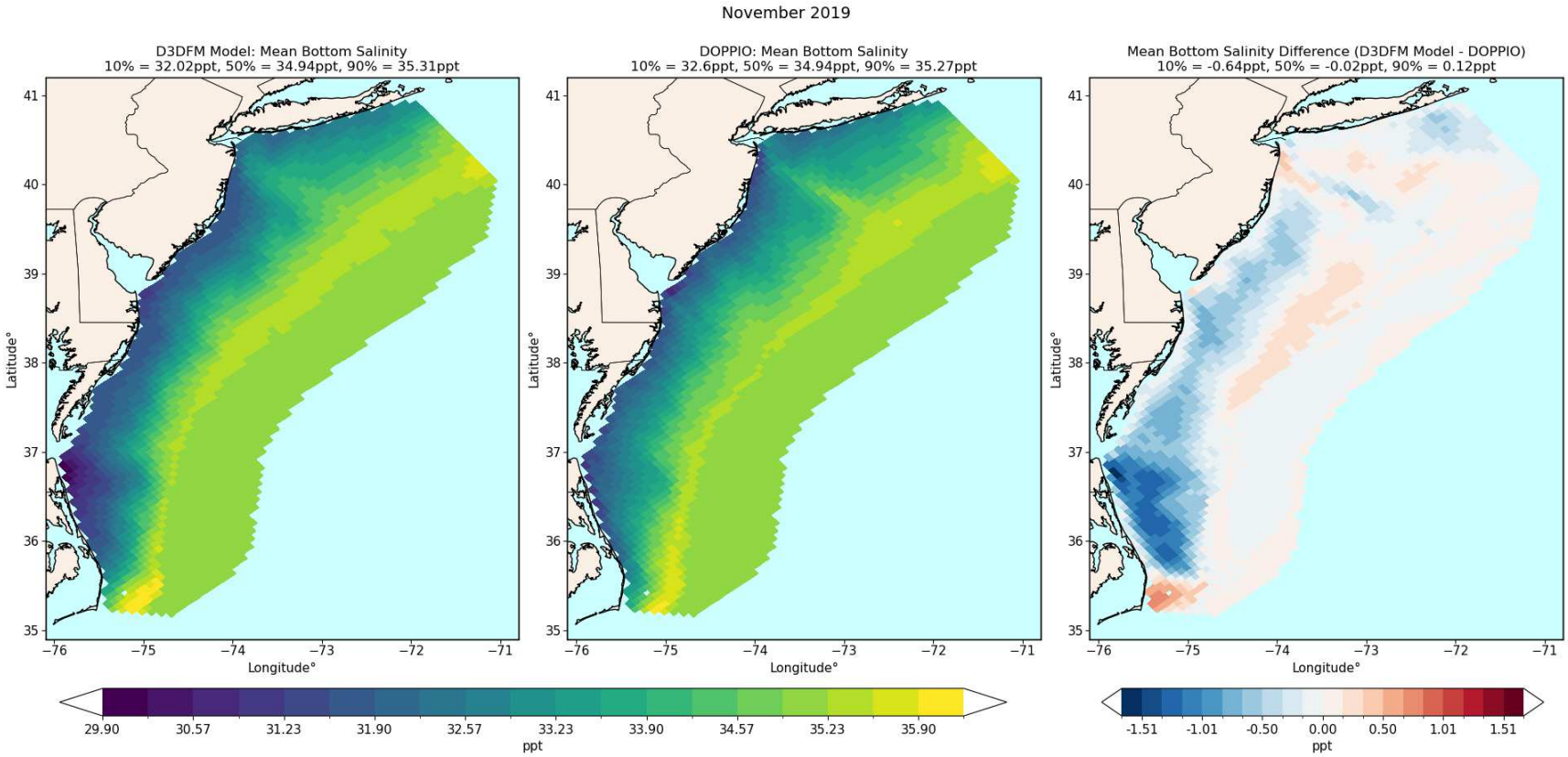
Apx Figure 139. Mean bottom salinity in August 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



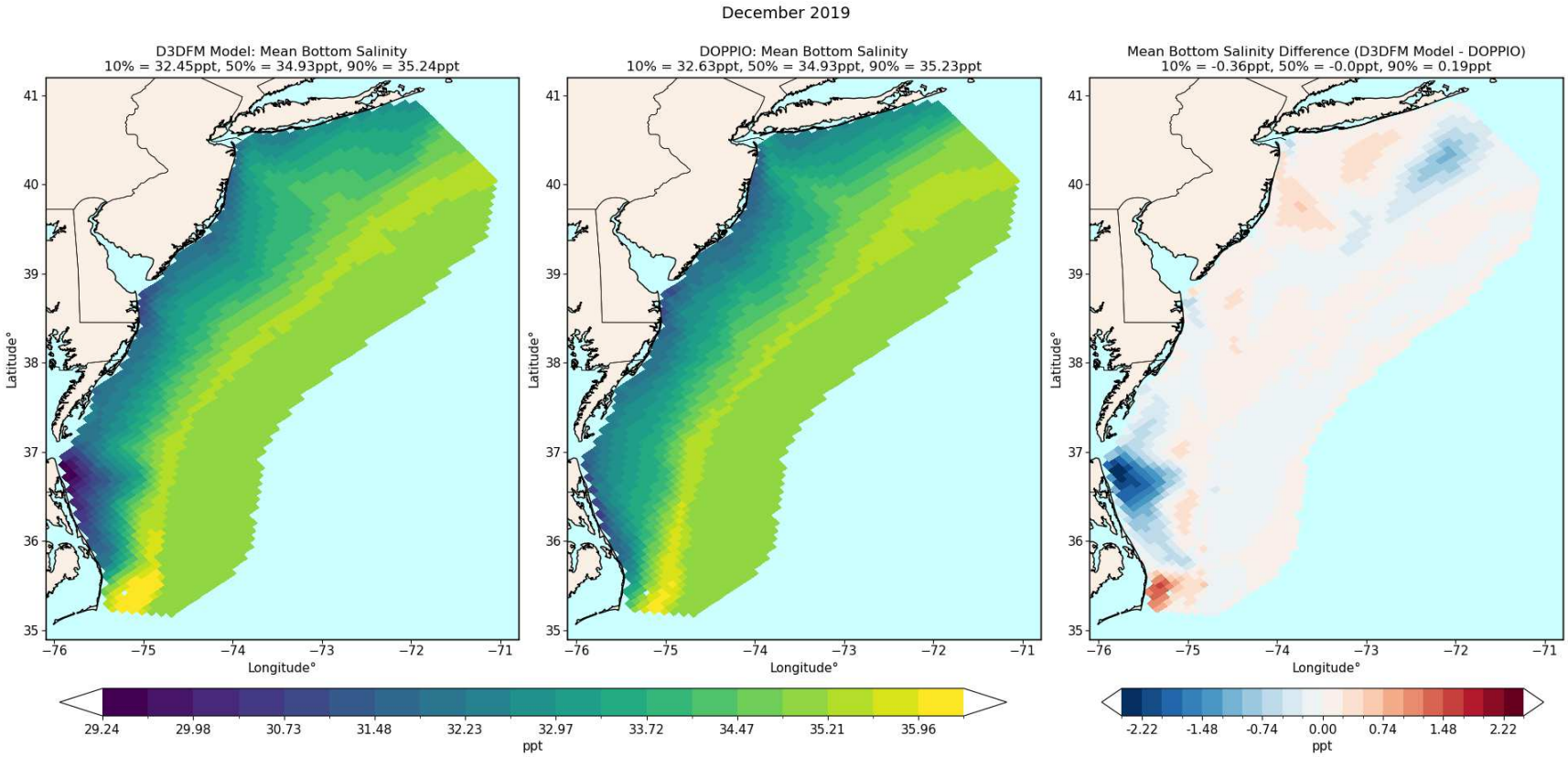
Apx Figure 140. Mean bottom salinity in September 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



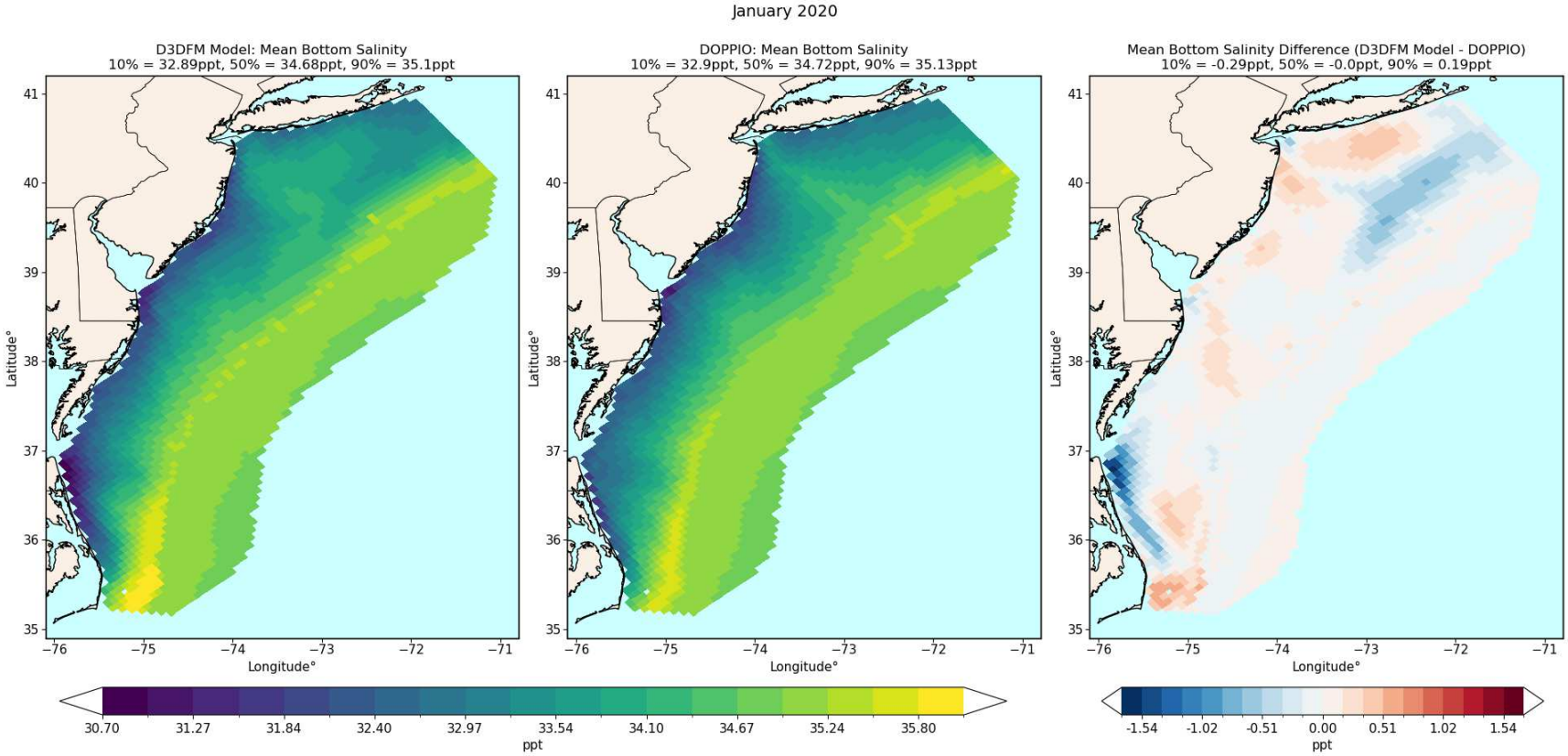
Apx Figure 141. Mean bottom salinity in October 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



Apx Figure 142. Mean bottom salinity in November 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

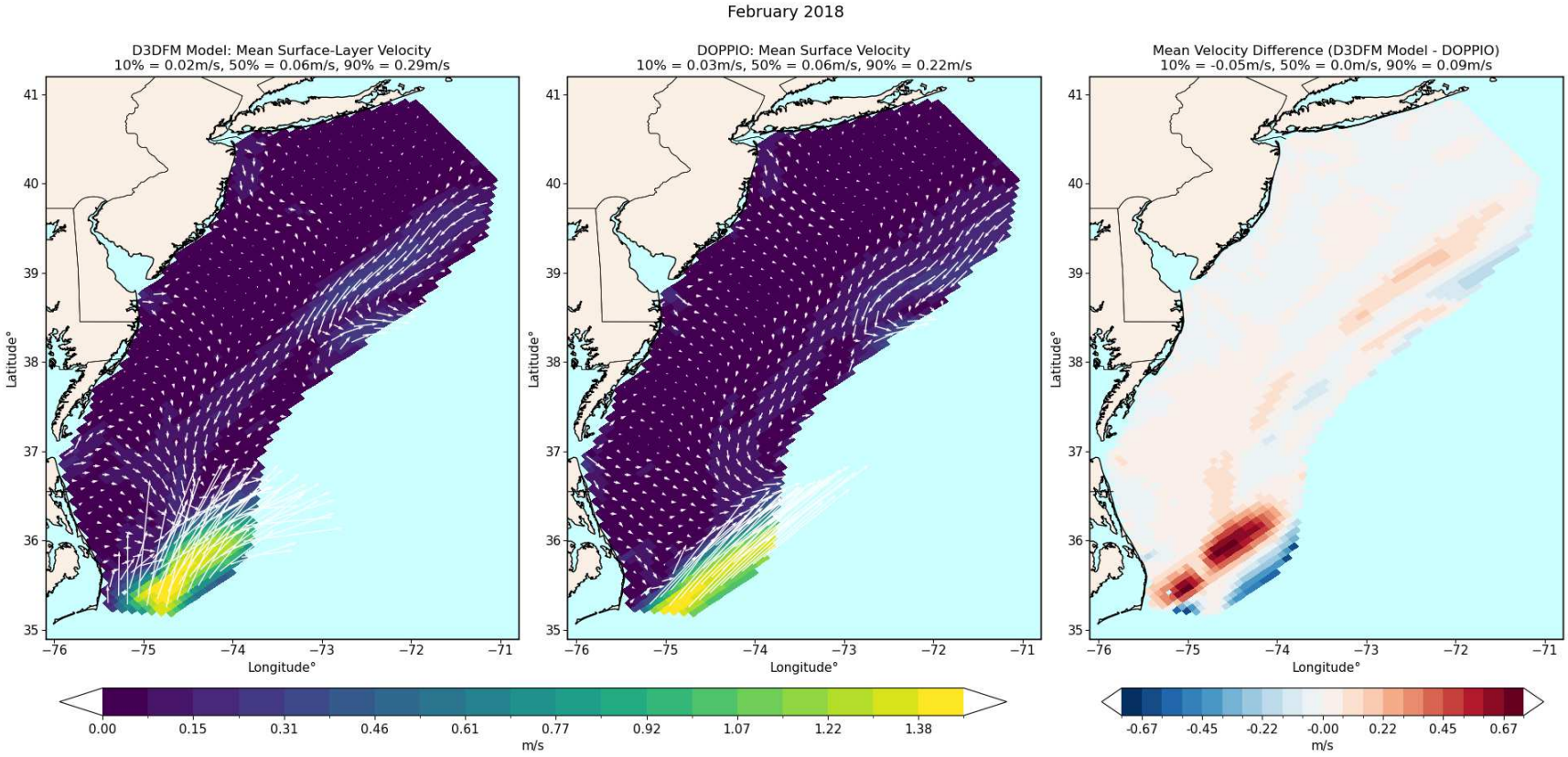


Apx Figure 143. Mean bottom salinity in December 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

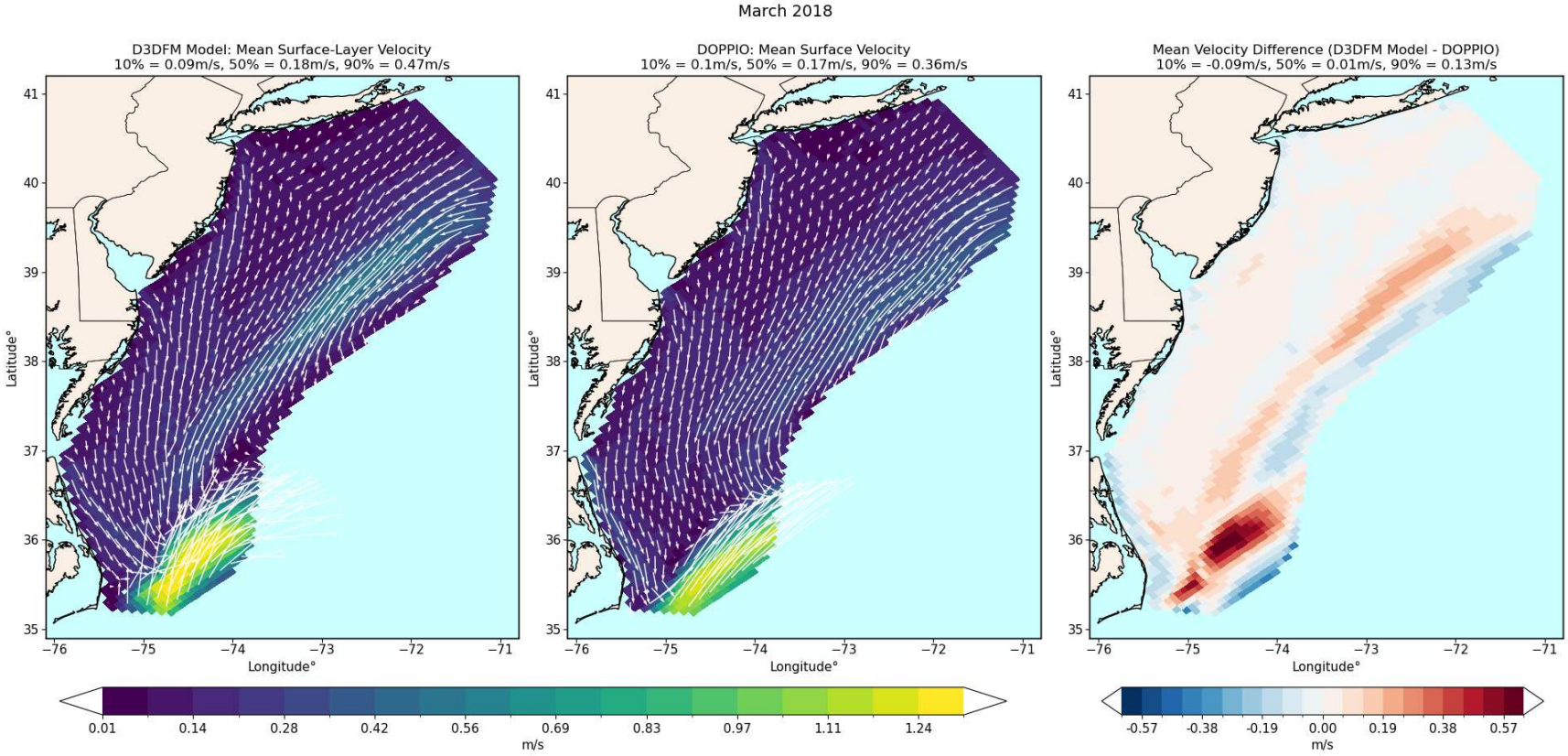


Apx Figure 144. Mean bottom salinity in January 2020, of the model (left), DOPPIO dataset (middle), and difference (right).

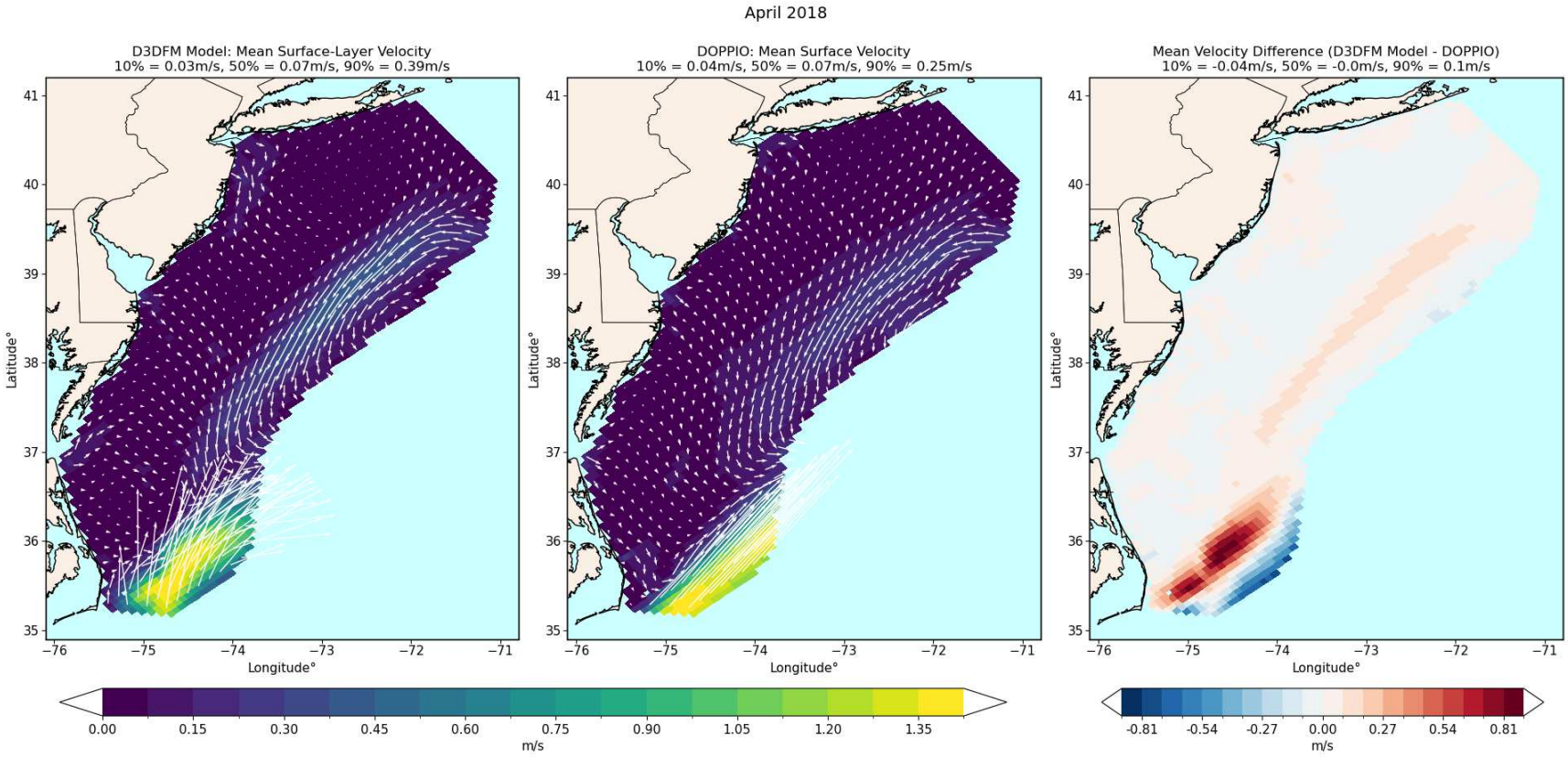
A.7 Surface Current of the Model and Doppio Dataset



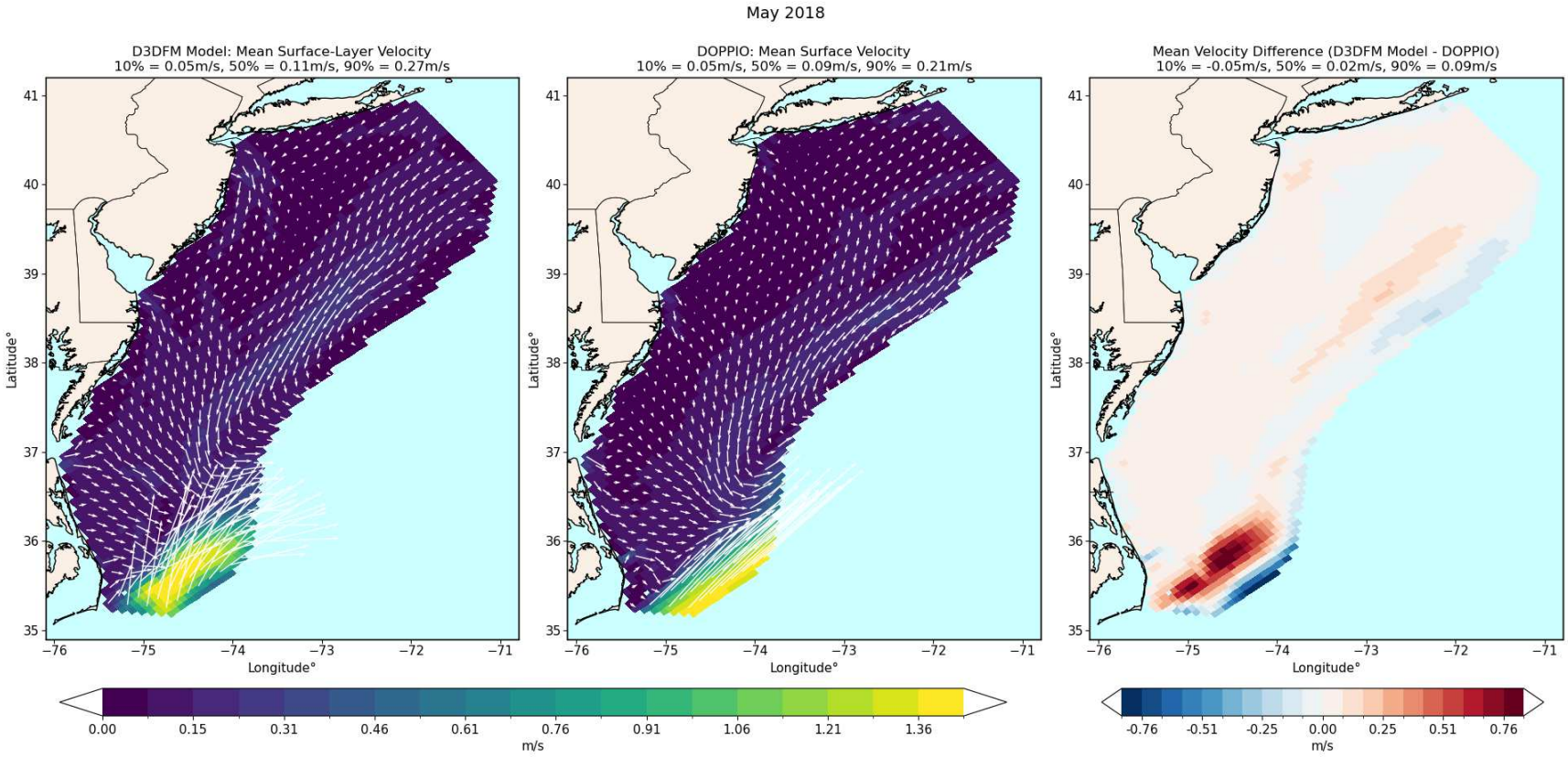
Apx Figure 145. Mean surface velocity in February 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



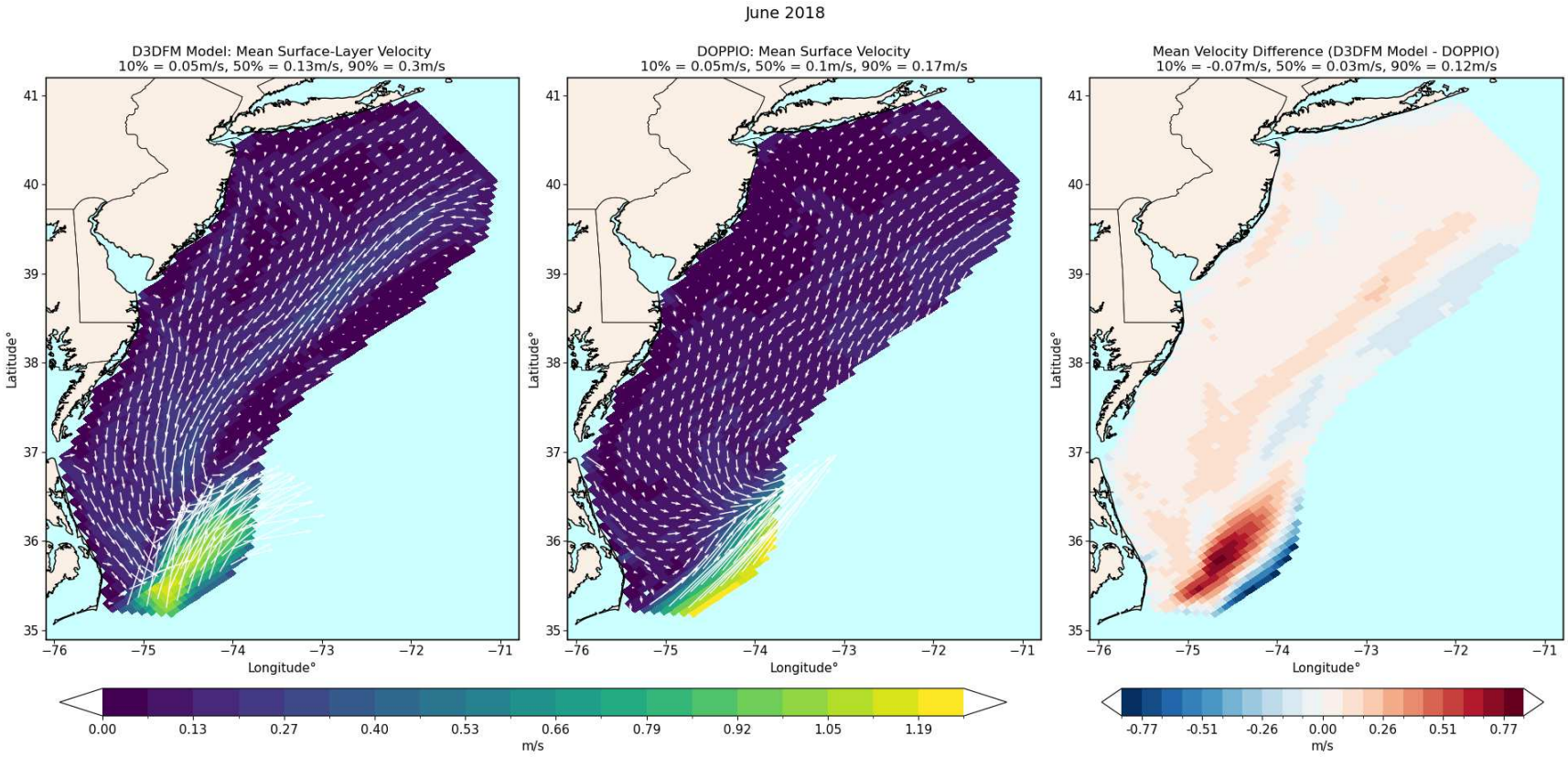
Apx Figure 146. Mean surface velocity in March 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



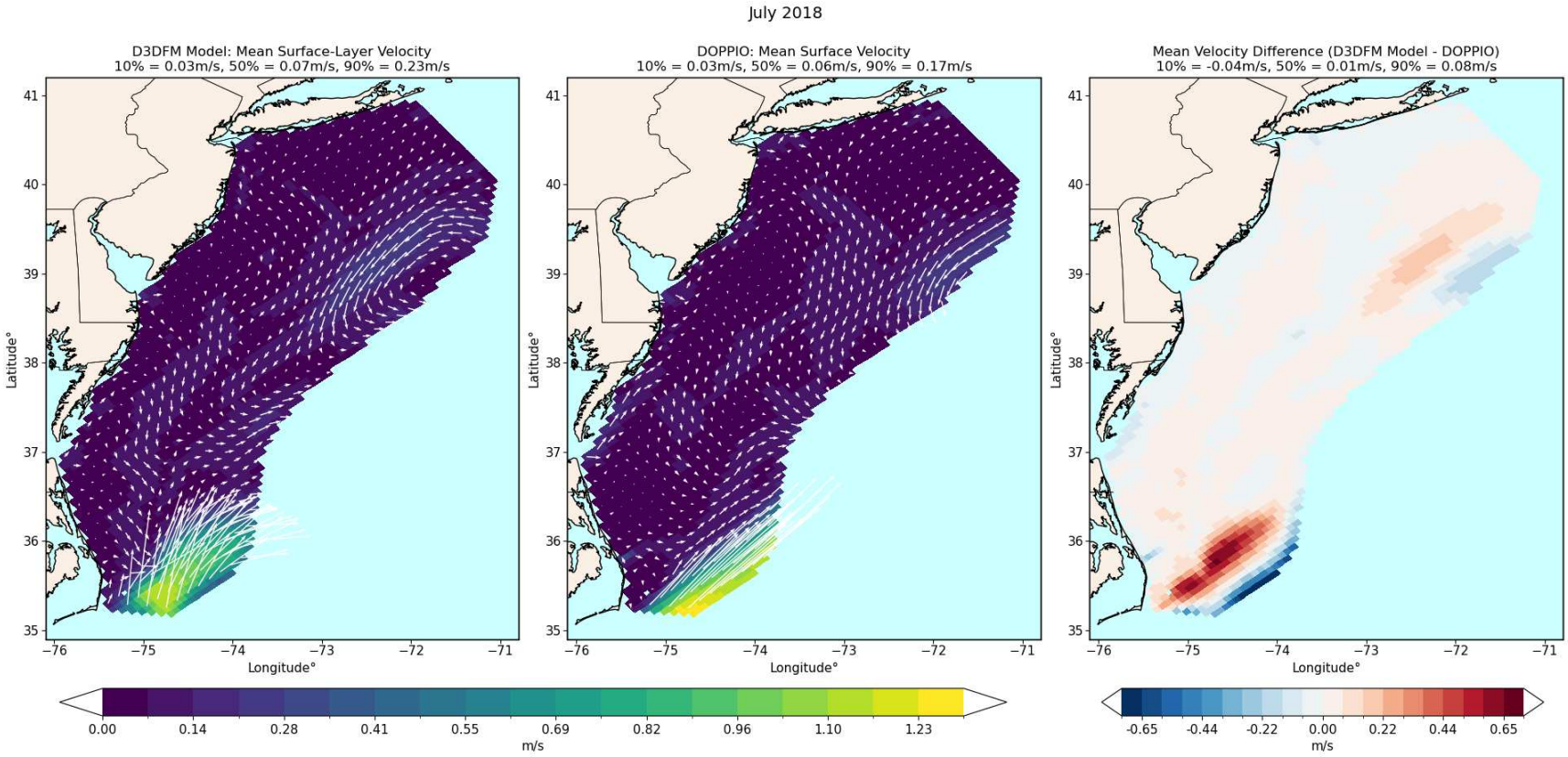
Apx Figure 147. Mean surface velocity in April 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



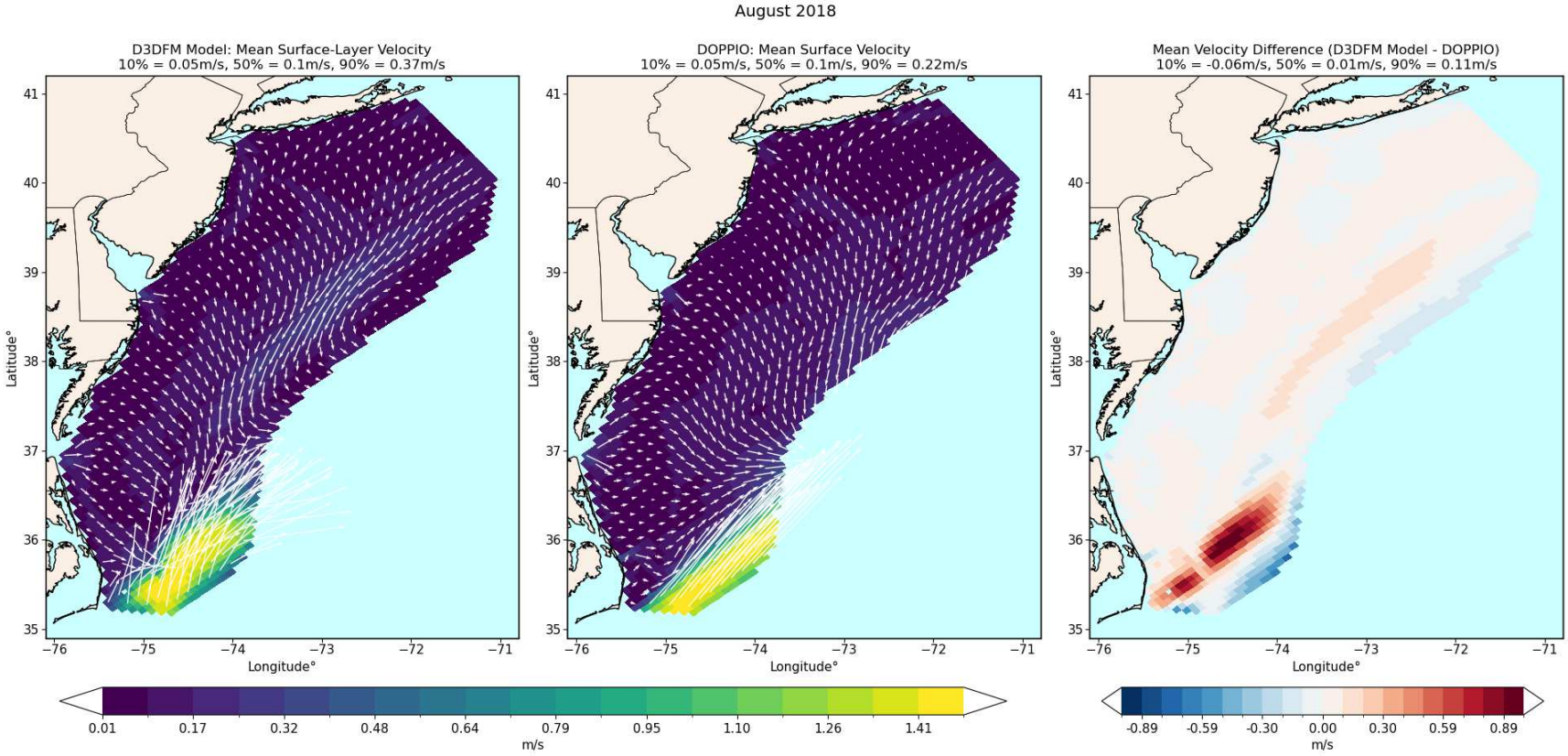
Apx Figure 148. Mean surface velocity in May 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



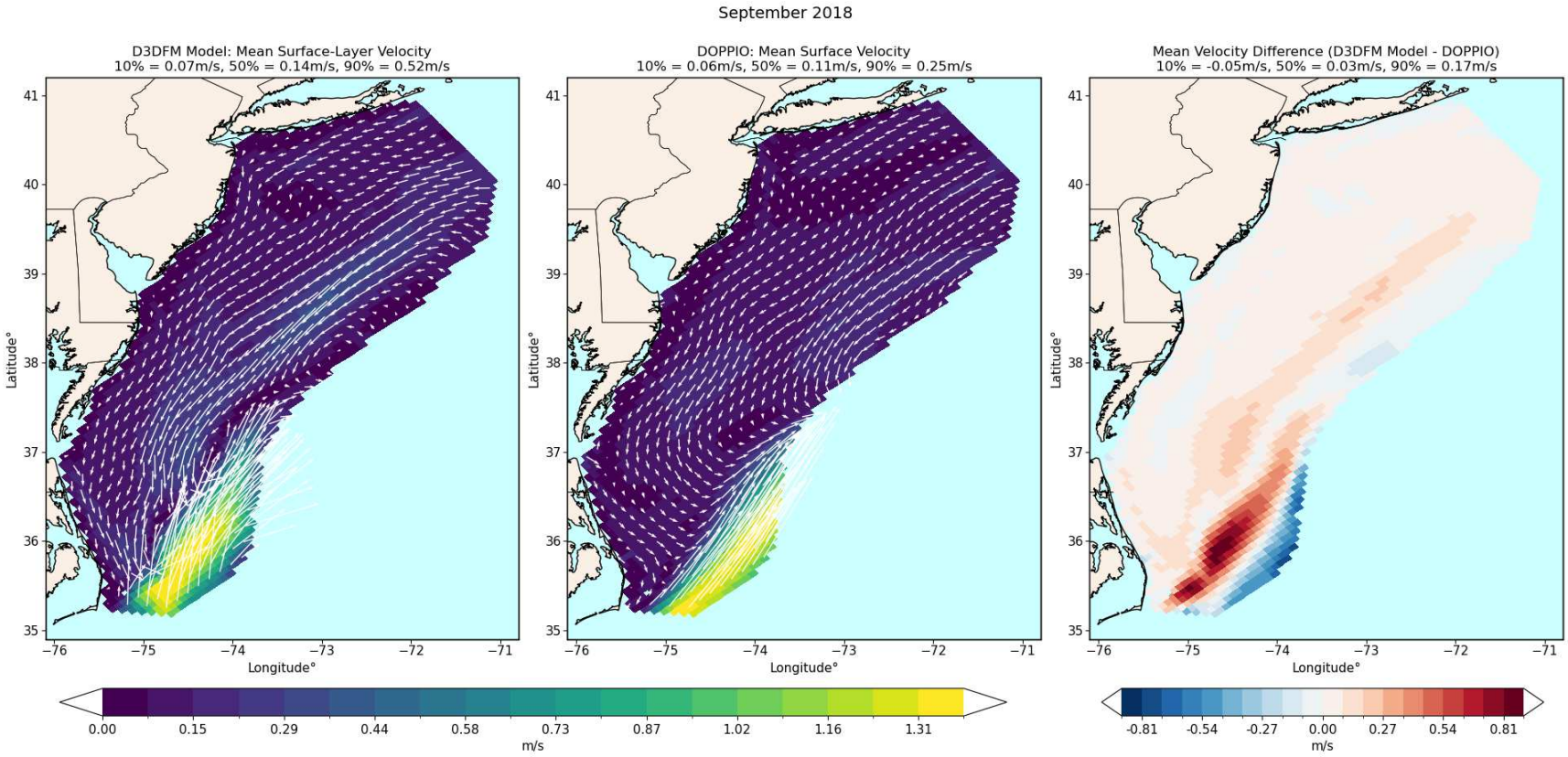
Apx Figure 149. Mean surface velocity in June 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



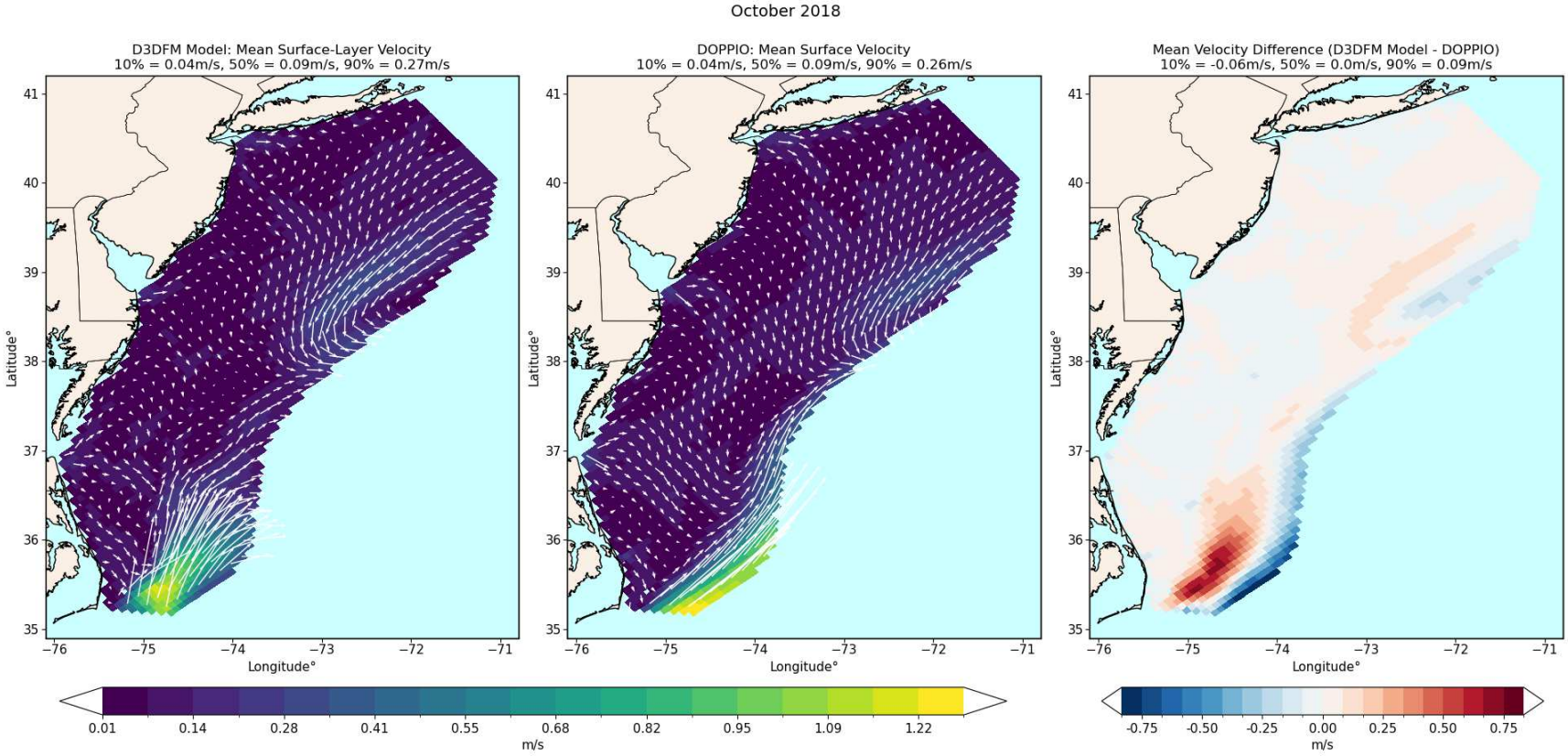
Apx Figure 150. Mean surface velocity in July 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



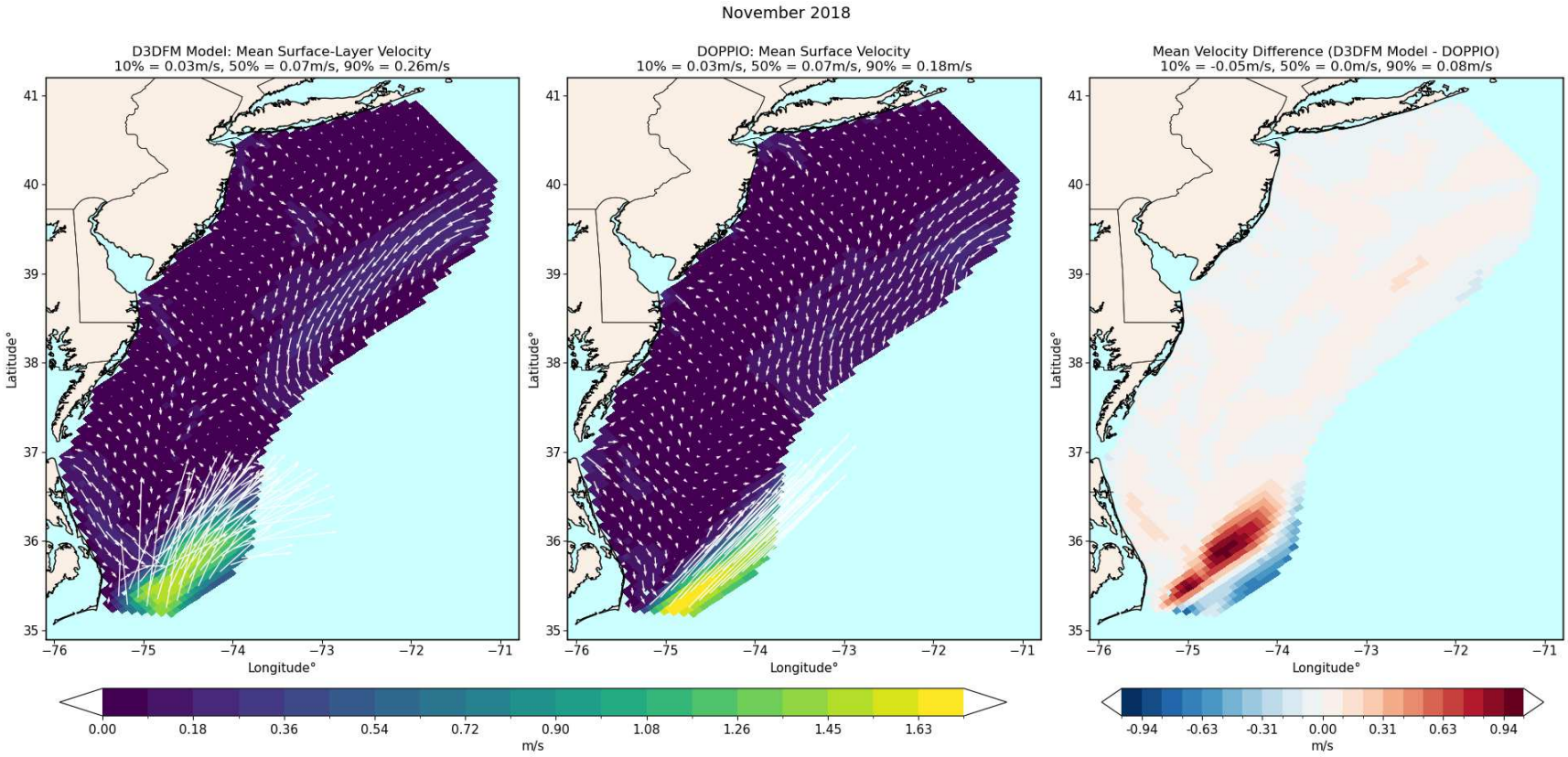
Apx Figure 151. Mean surface velocity in August 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



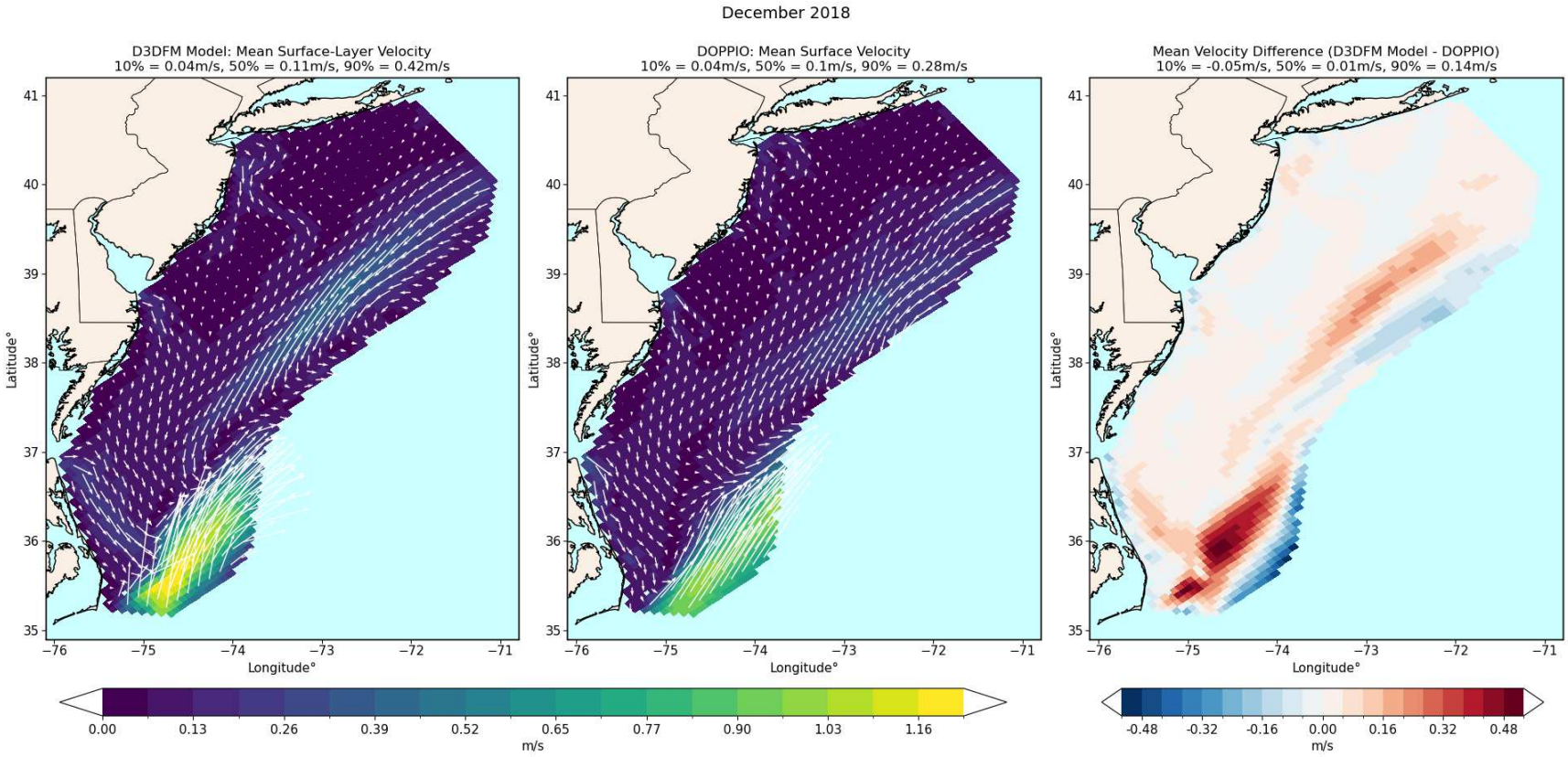
Apx Figure 152. Mean surface velocity in September 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



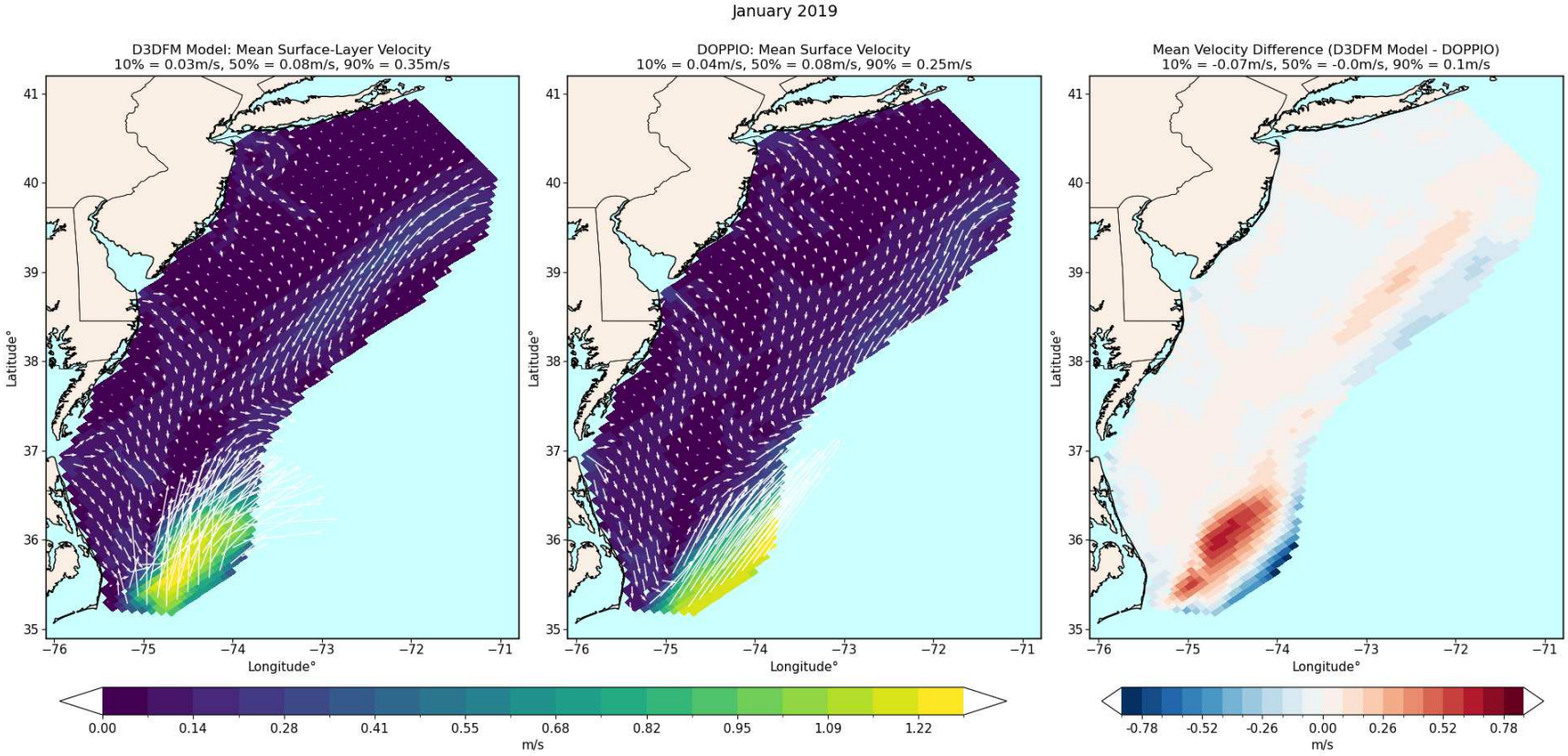
Apx Figure 153. Mean surface velocity in October 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



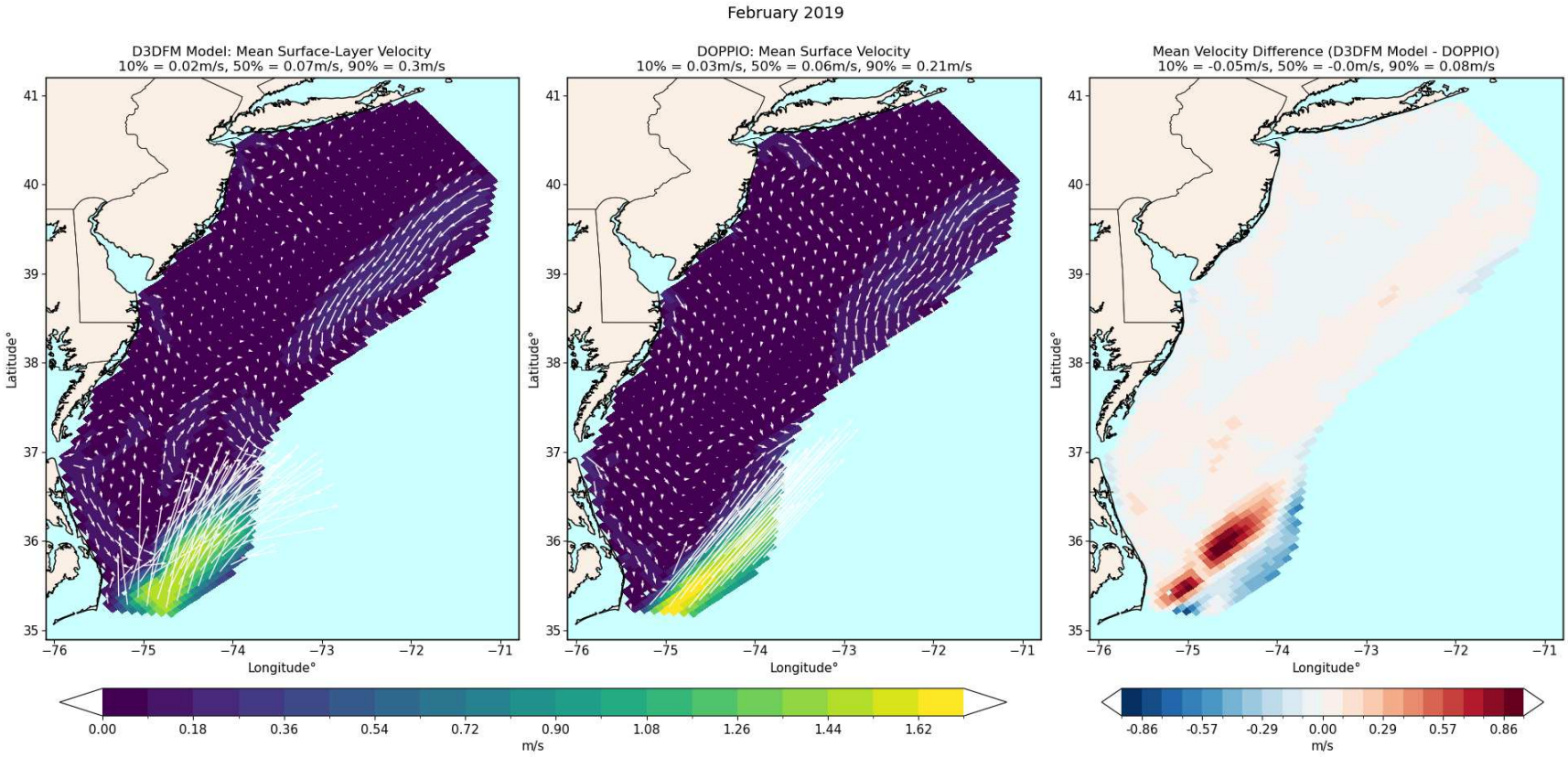
Apx Figure 154. Mean surface velocity in November 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



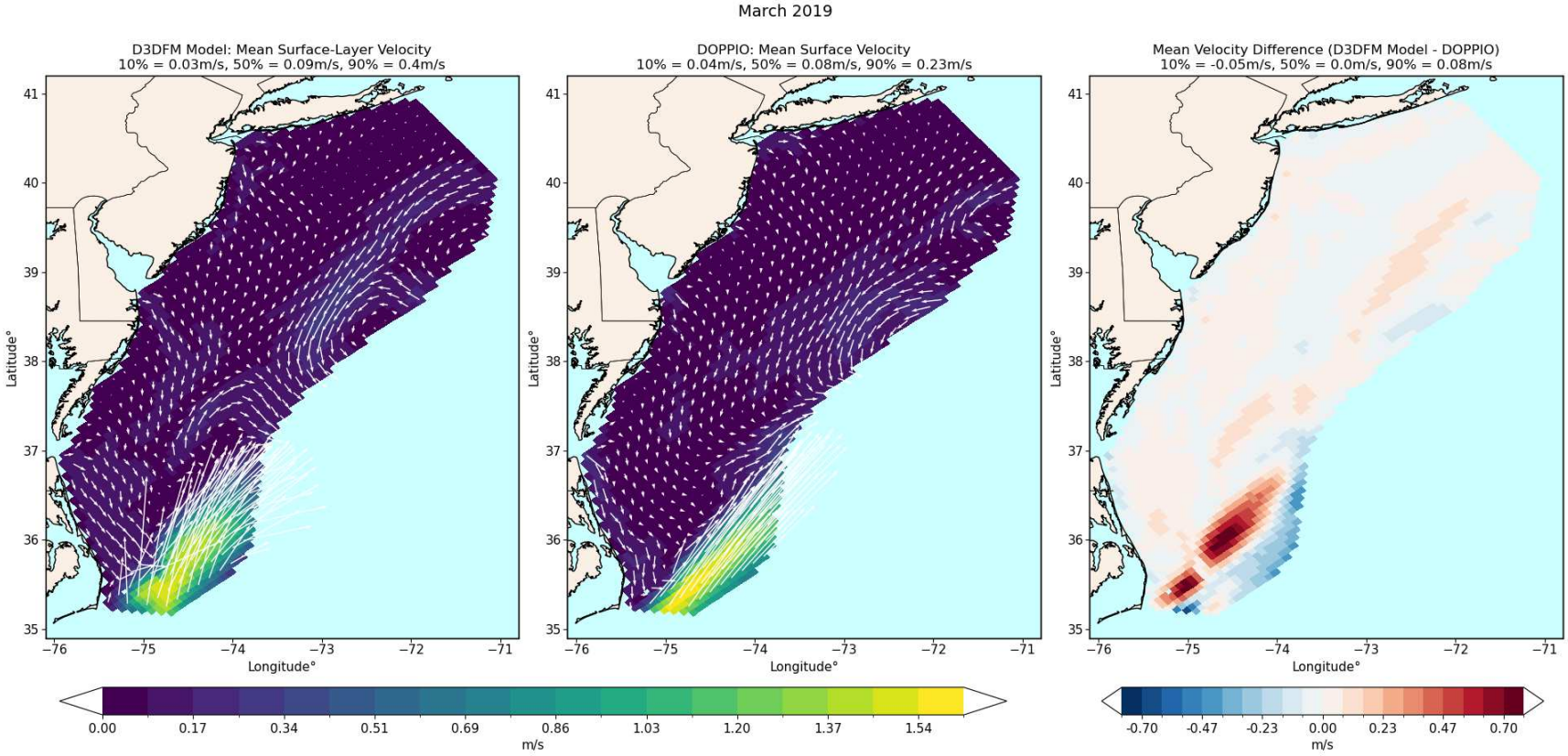
Apx Figure 155. Mean surface velocity in December 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



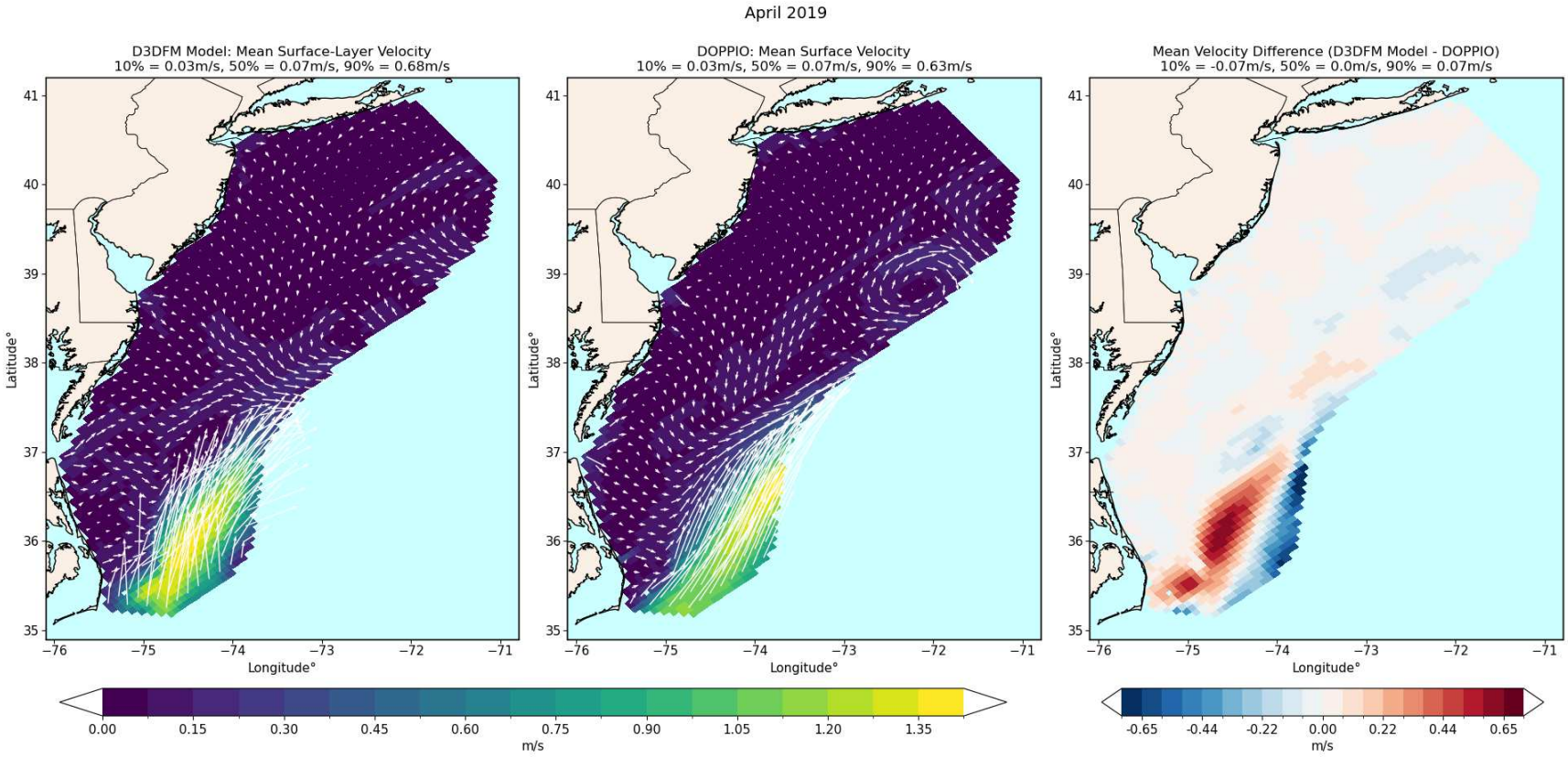
Apx Figure 156. Mean surface velocity in January 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



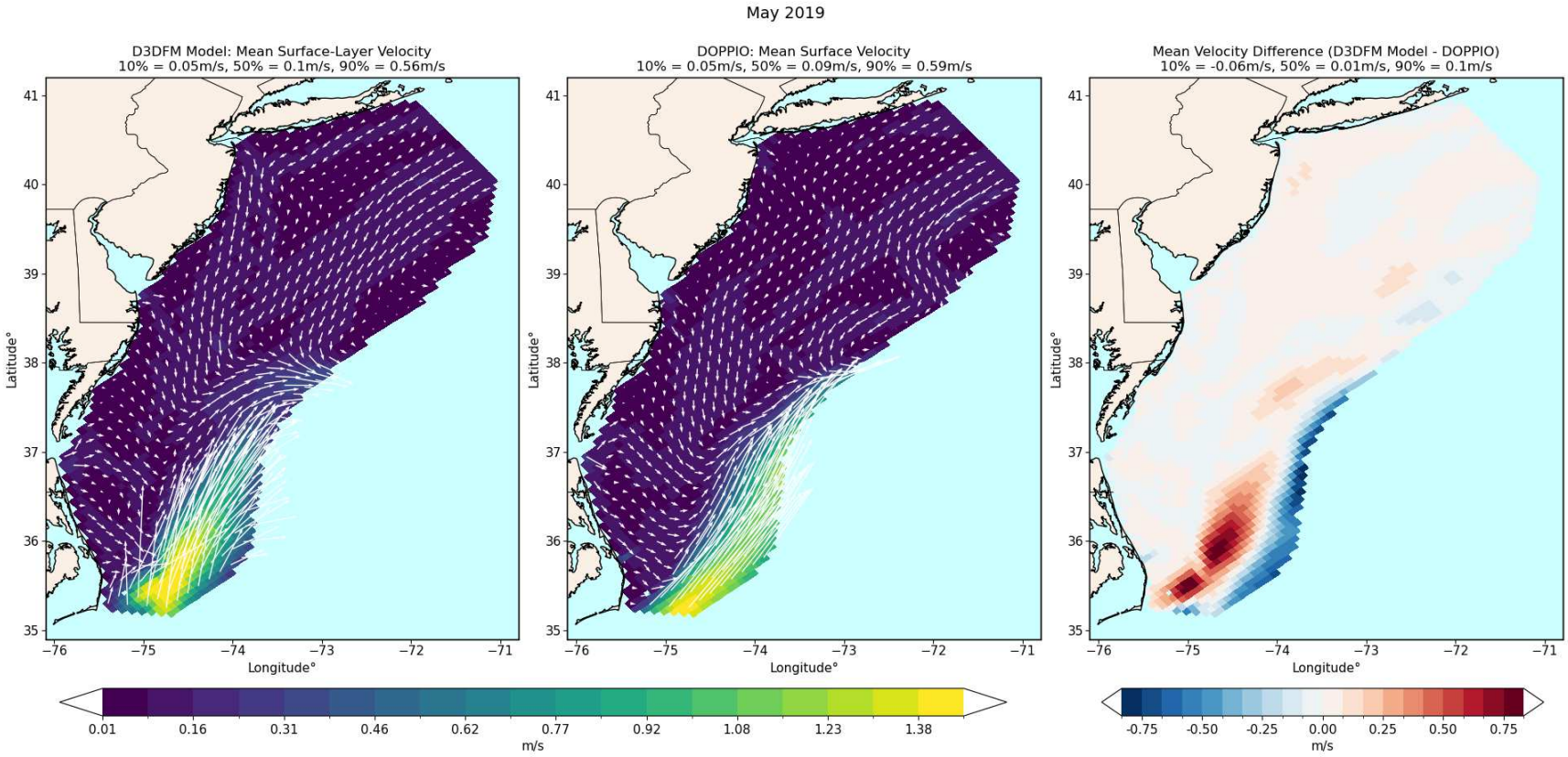
Apx Figure 157. Mean surface velocity in February 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



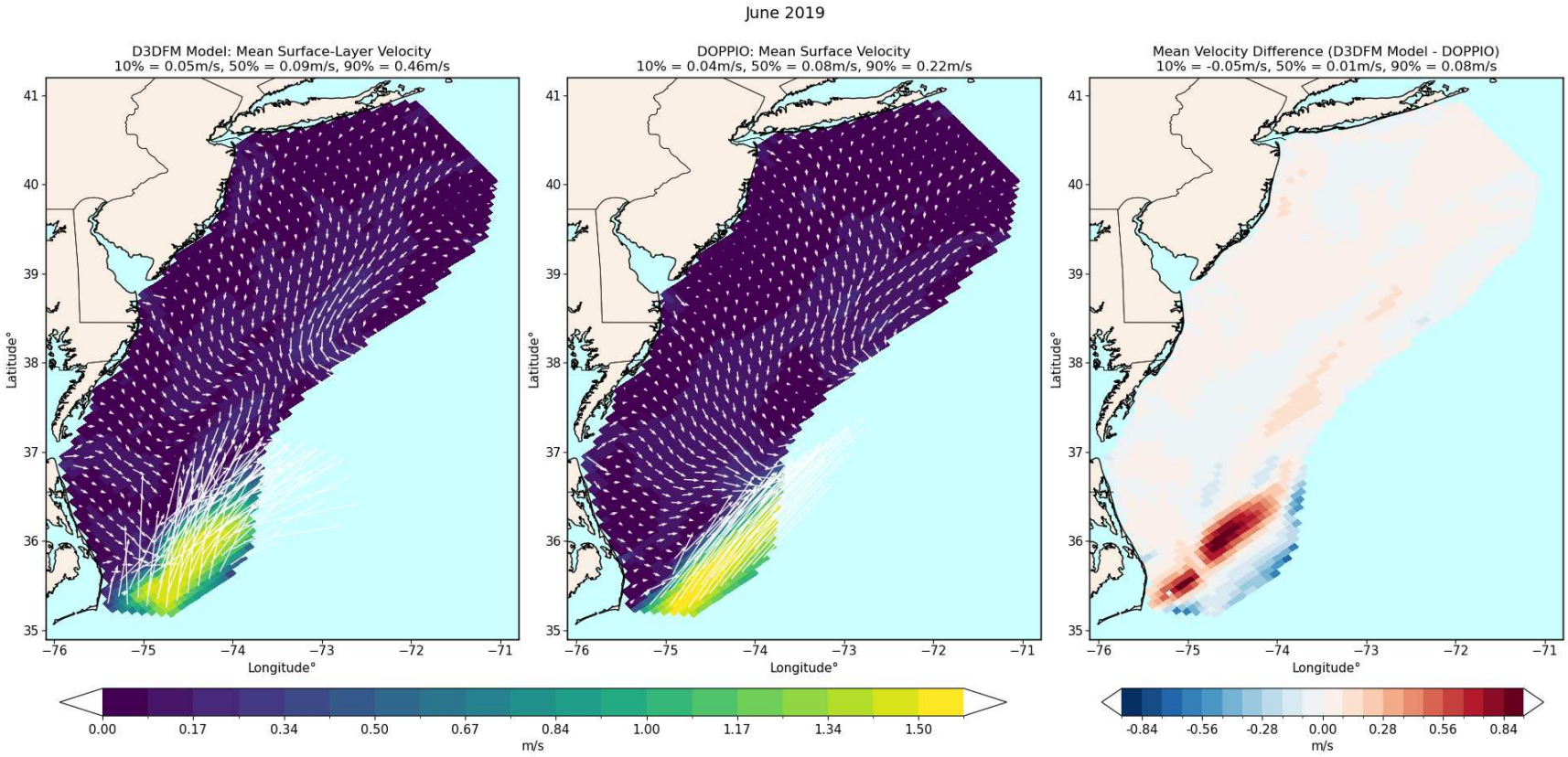
Apx Figure 158. Mean surface velocity in March 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



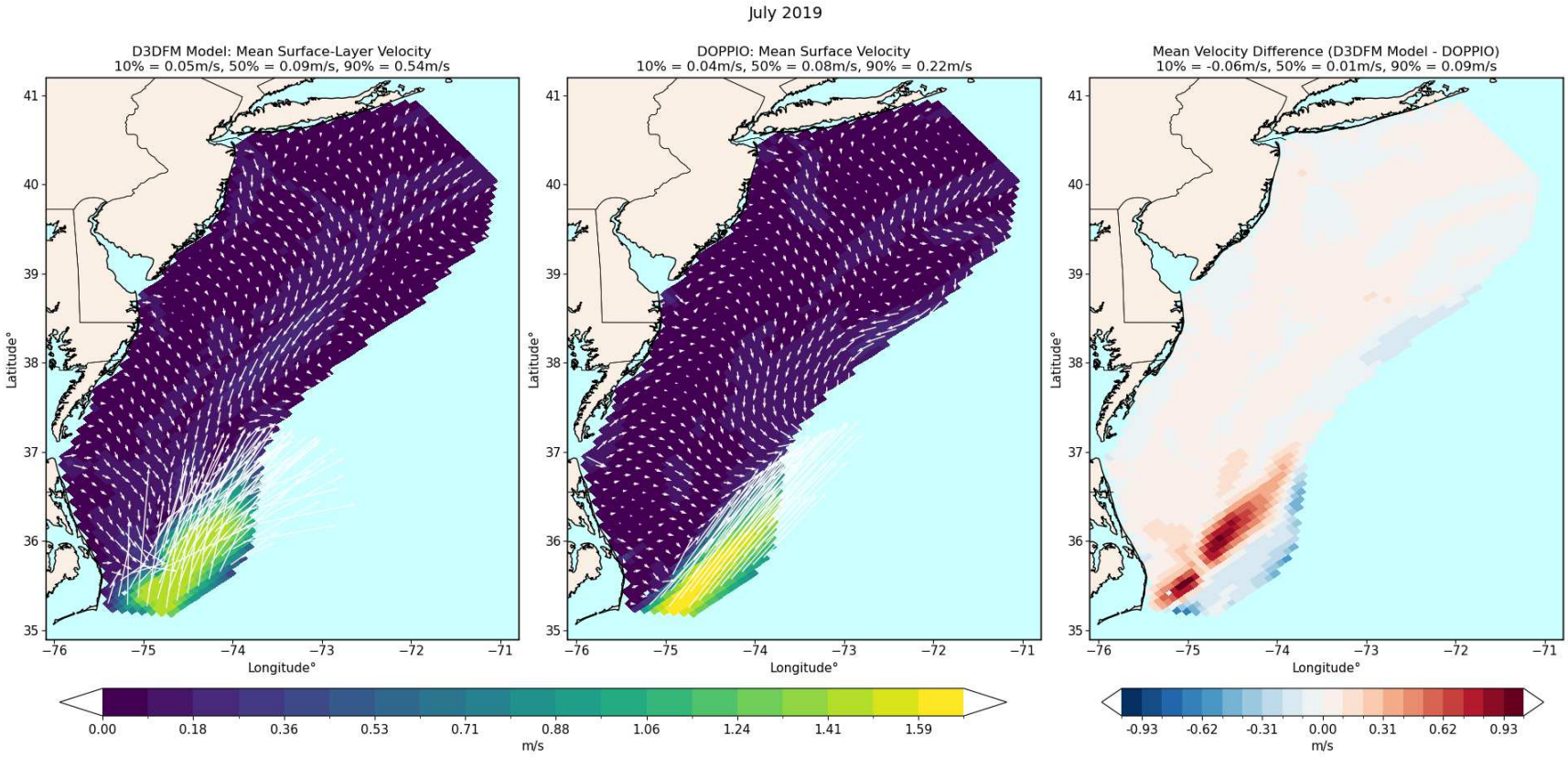
Apx Figure 159. Mean surface velocity in April 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



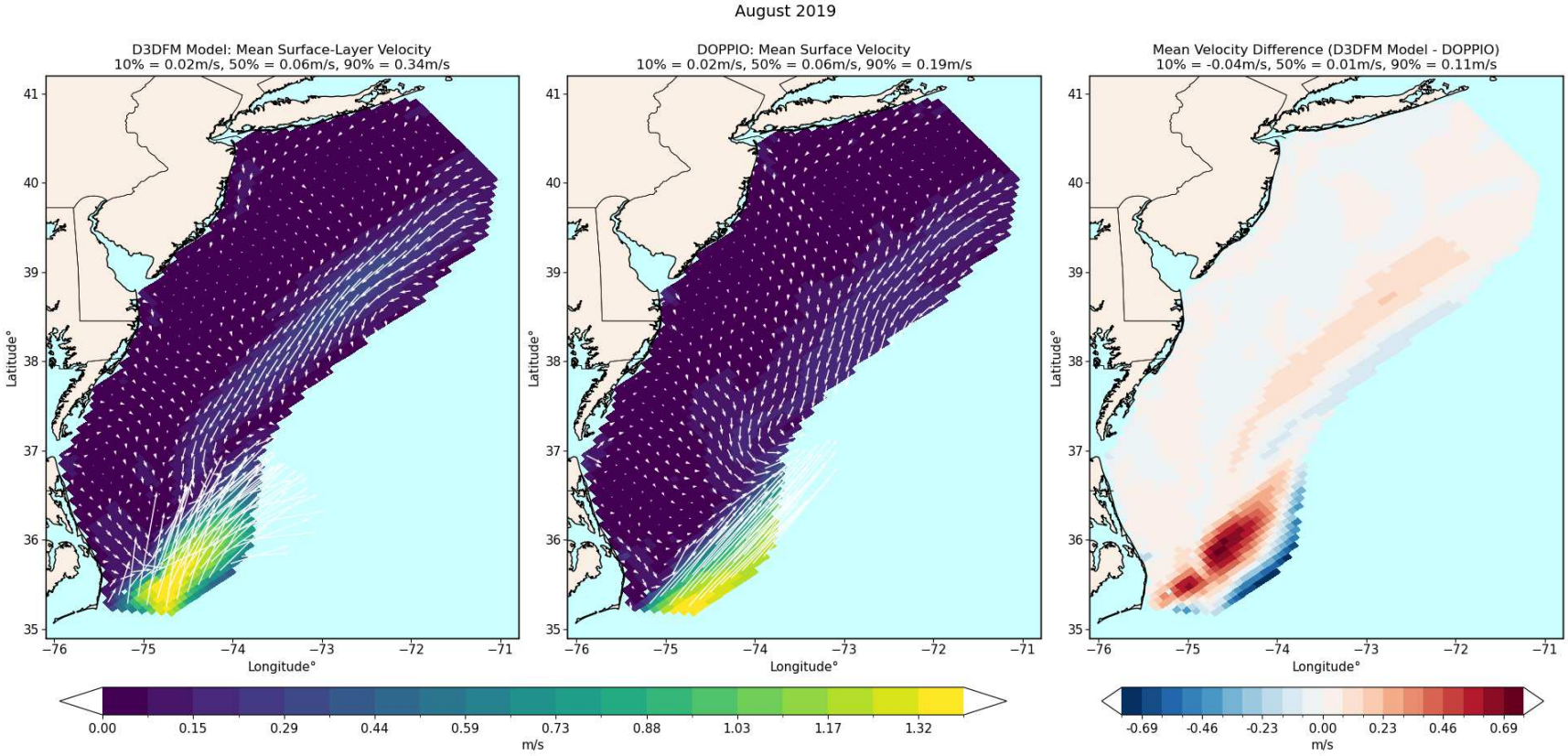
Apx Figure 160. Mean surface velocity in May 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



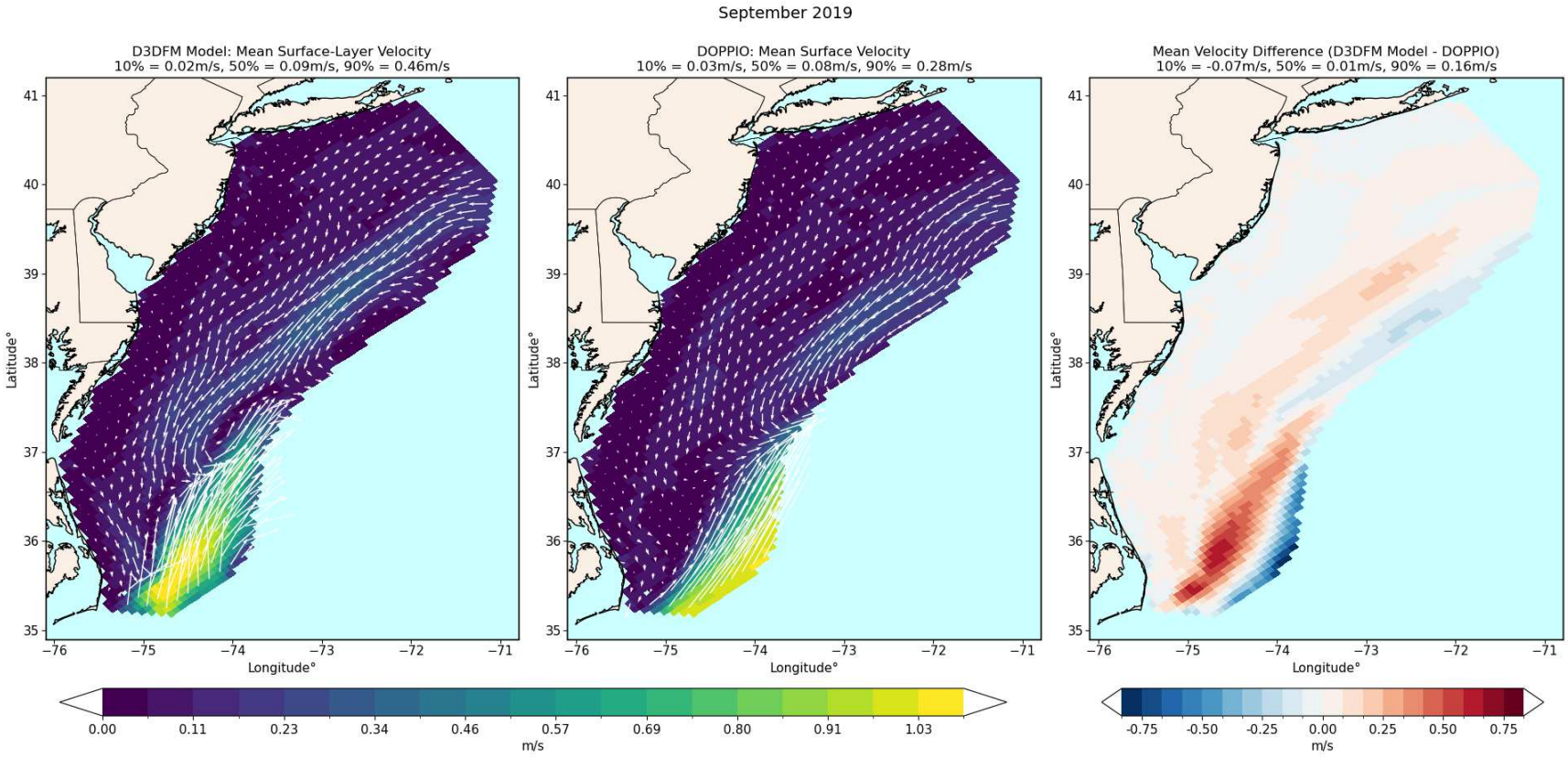
Apx Figure 161. Mean surface velocity in June 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



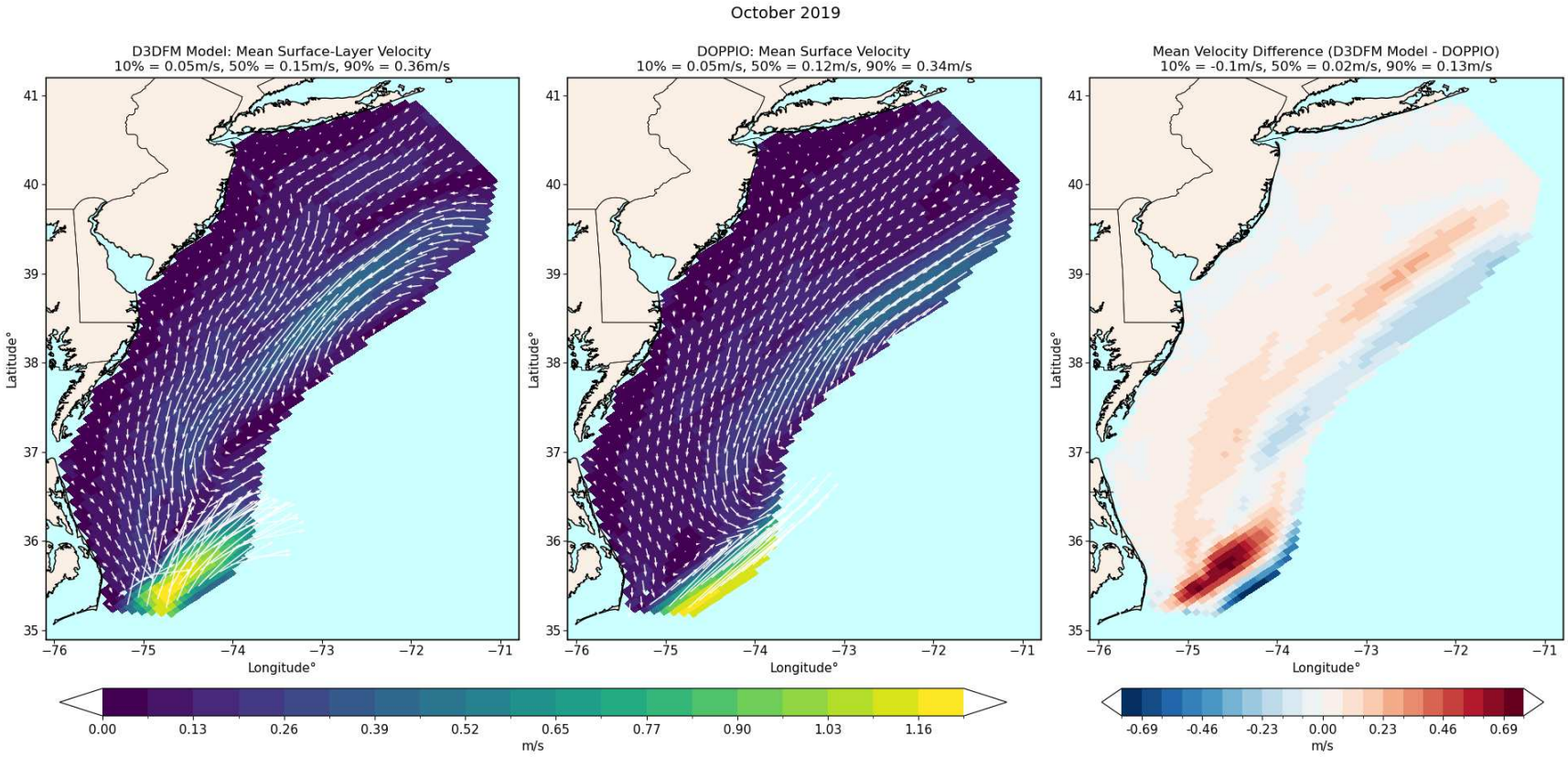
Apx Figure 162. Mean surface velocity in July 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



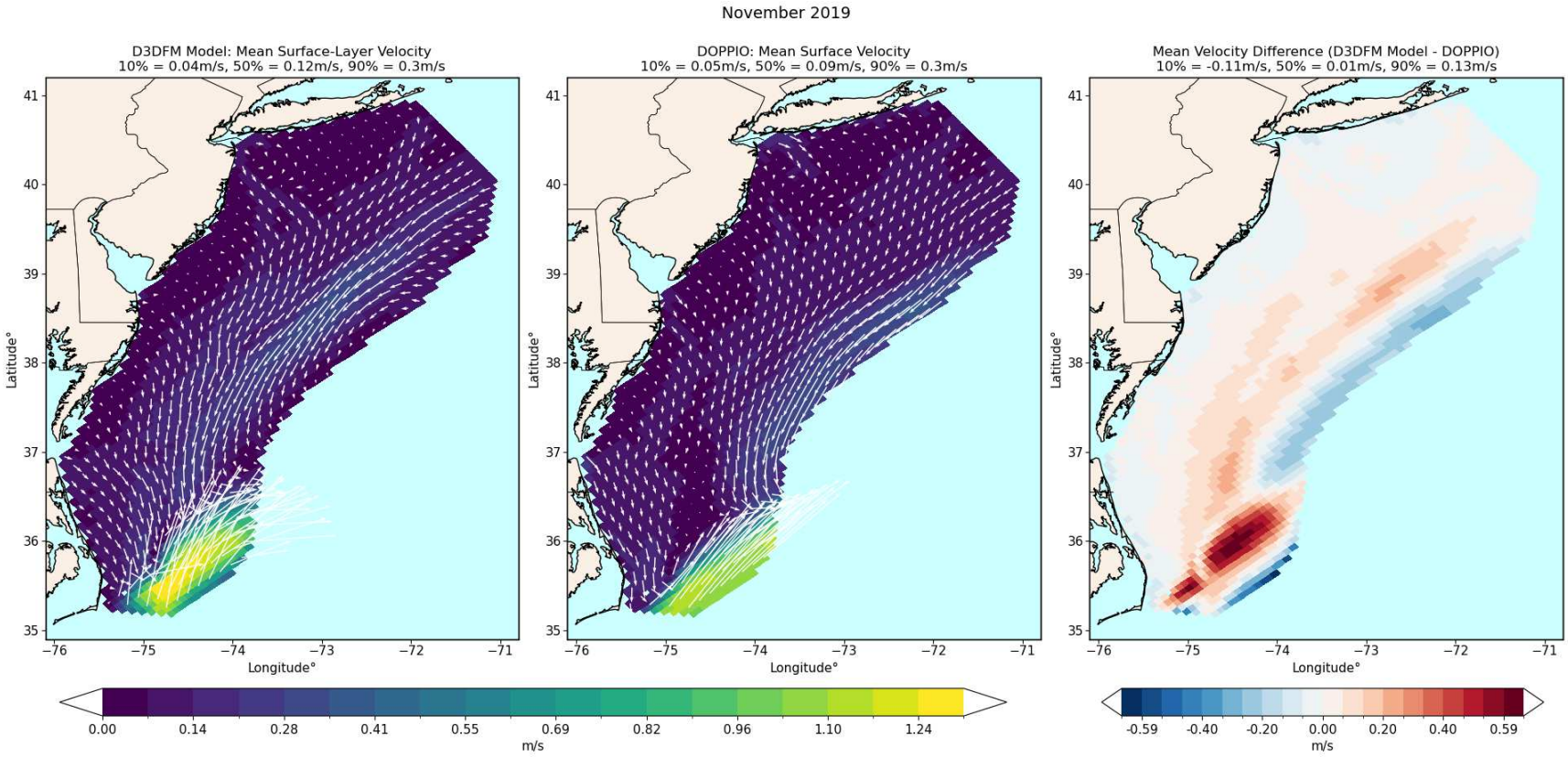
Apx Figure 163. Mean surface velocity in August 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



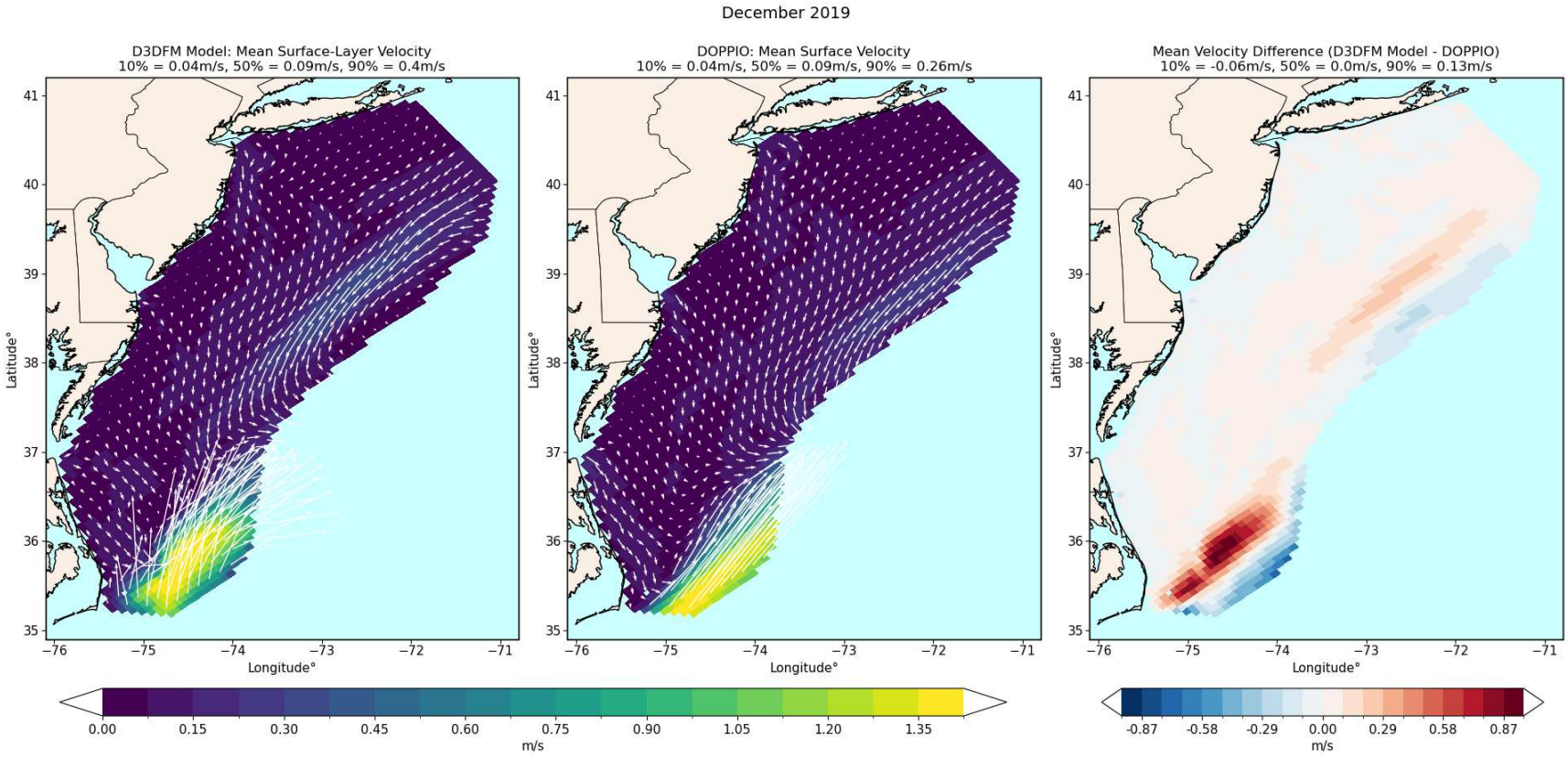
Apx Figure 164. Mean surface velocity in September 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



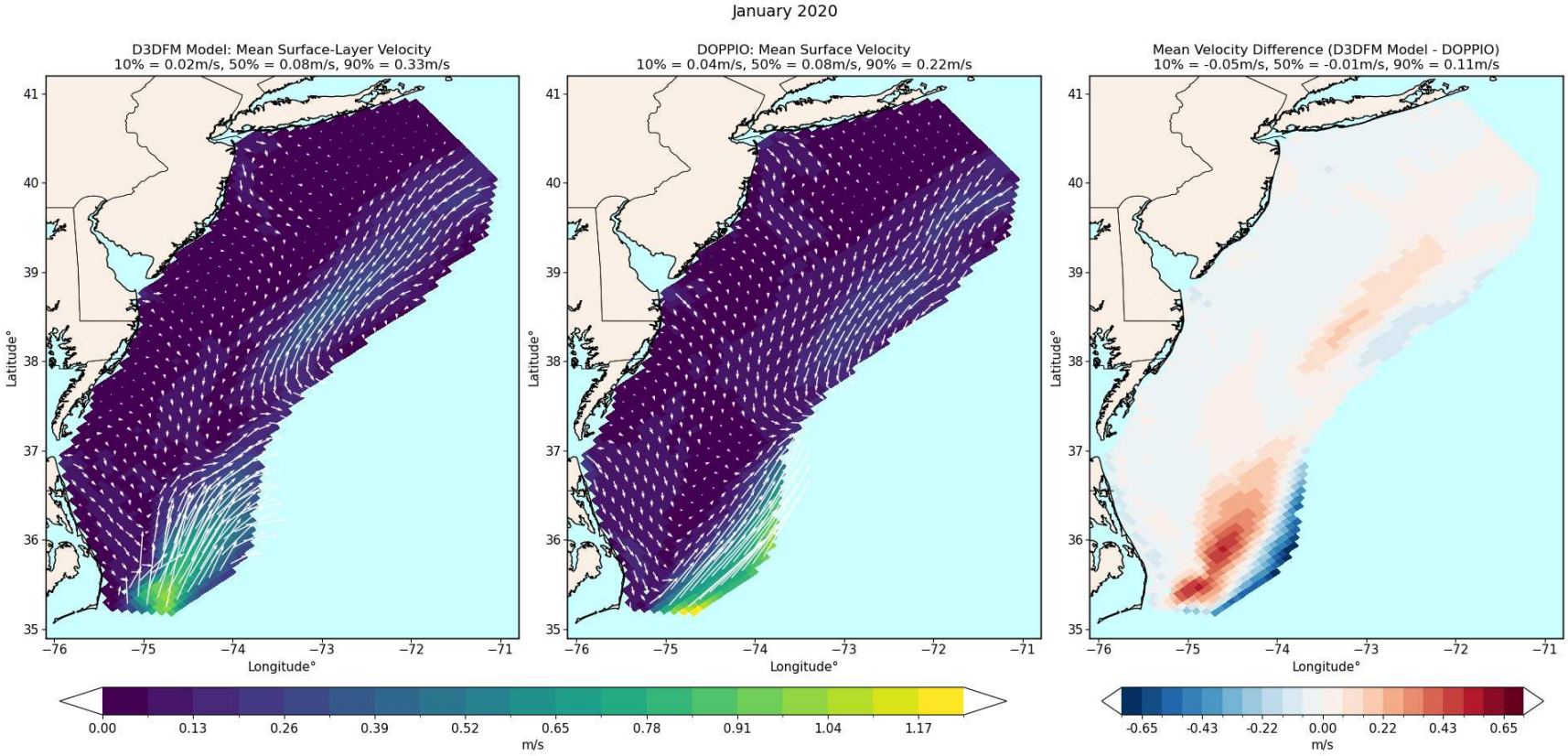
Apx Figure 165. Mean surface velocity in October 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



Apx Figure 166. Mean surface velocity in November 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

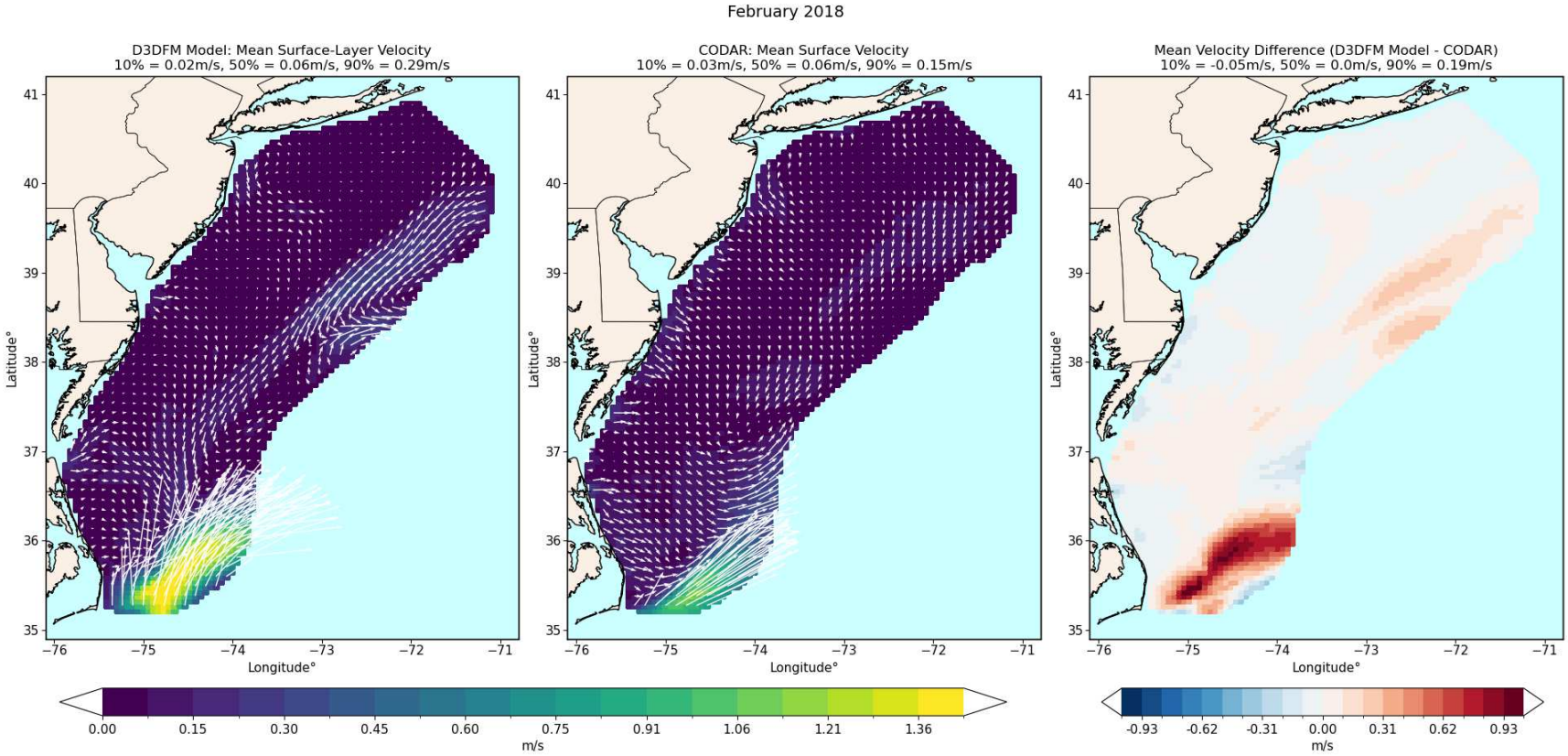


Apx Figure 167. Mean surface velocity in December 2019, of the model (left), DOPPIO dataset (middle), and difference (right).

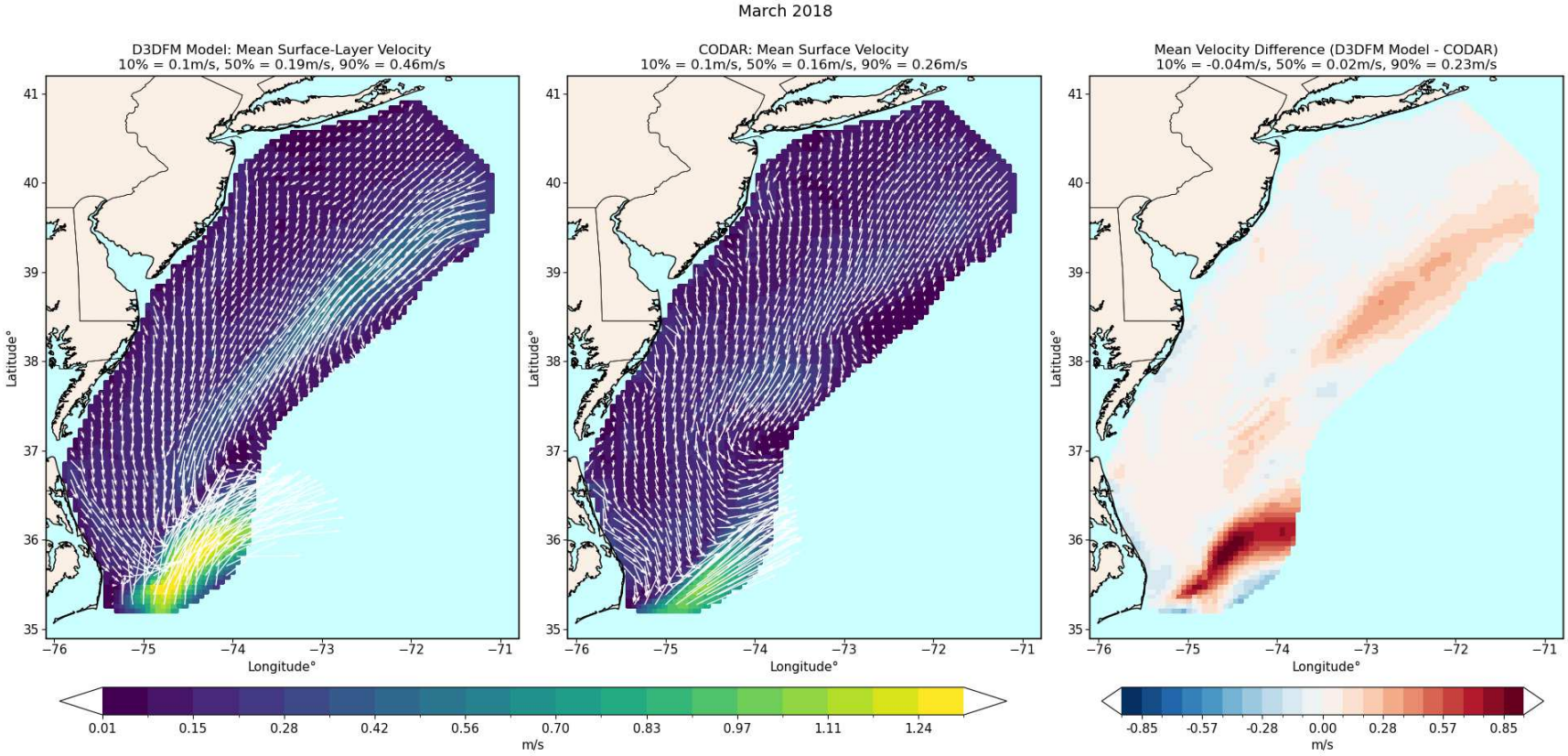


Apx Figure 168. Mean surface velocity in January 2020, of the model (left), DOPPIO dataset (middle), and difference (right).

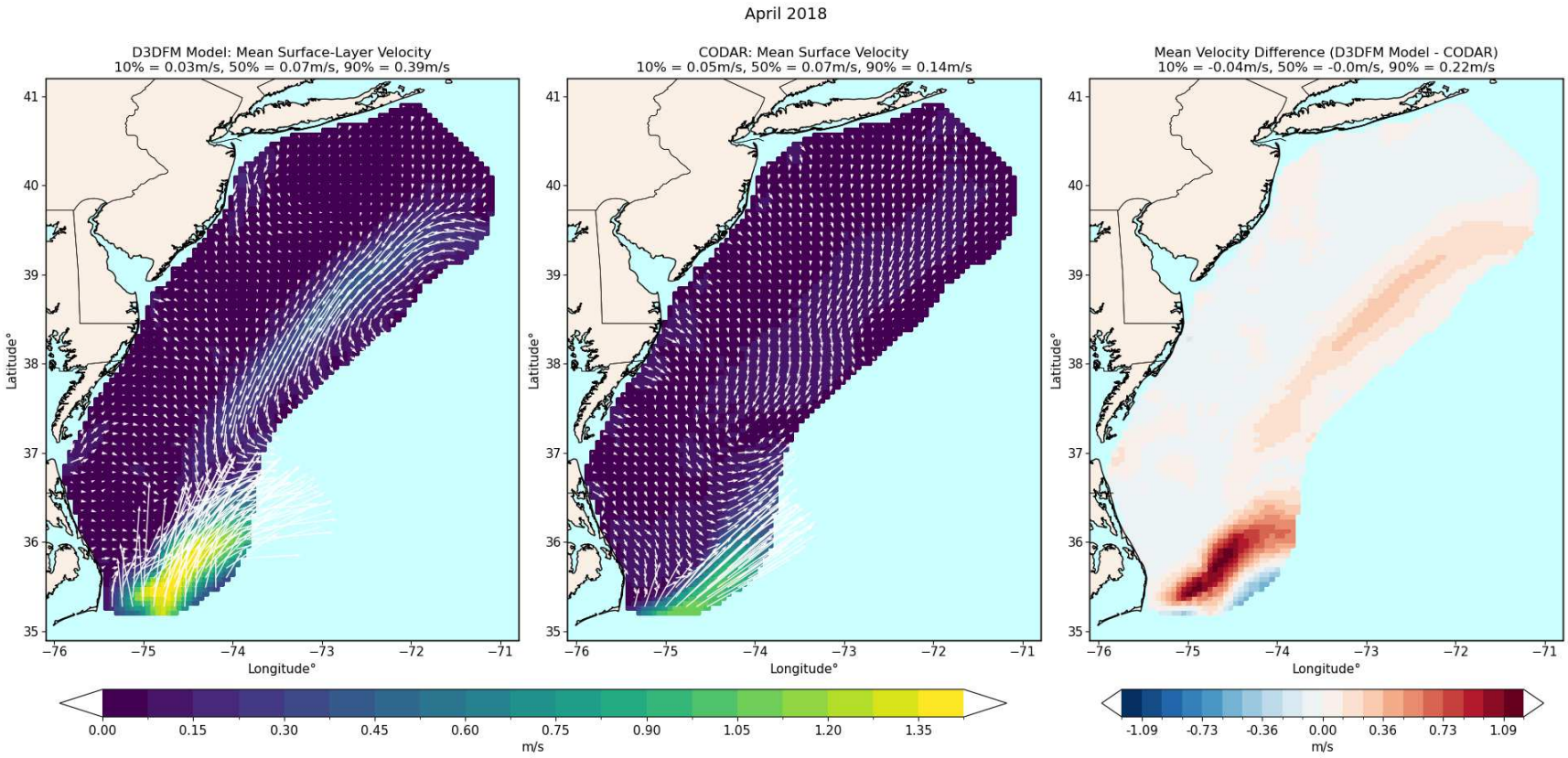
A.8 Surface Current of the Model and HF-Radar Dataset



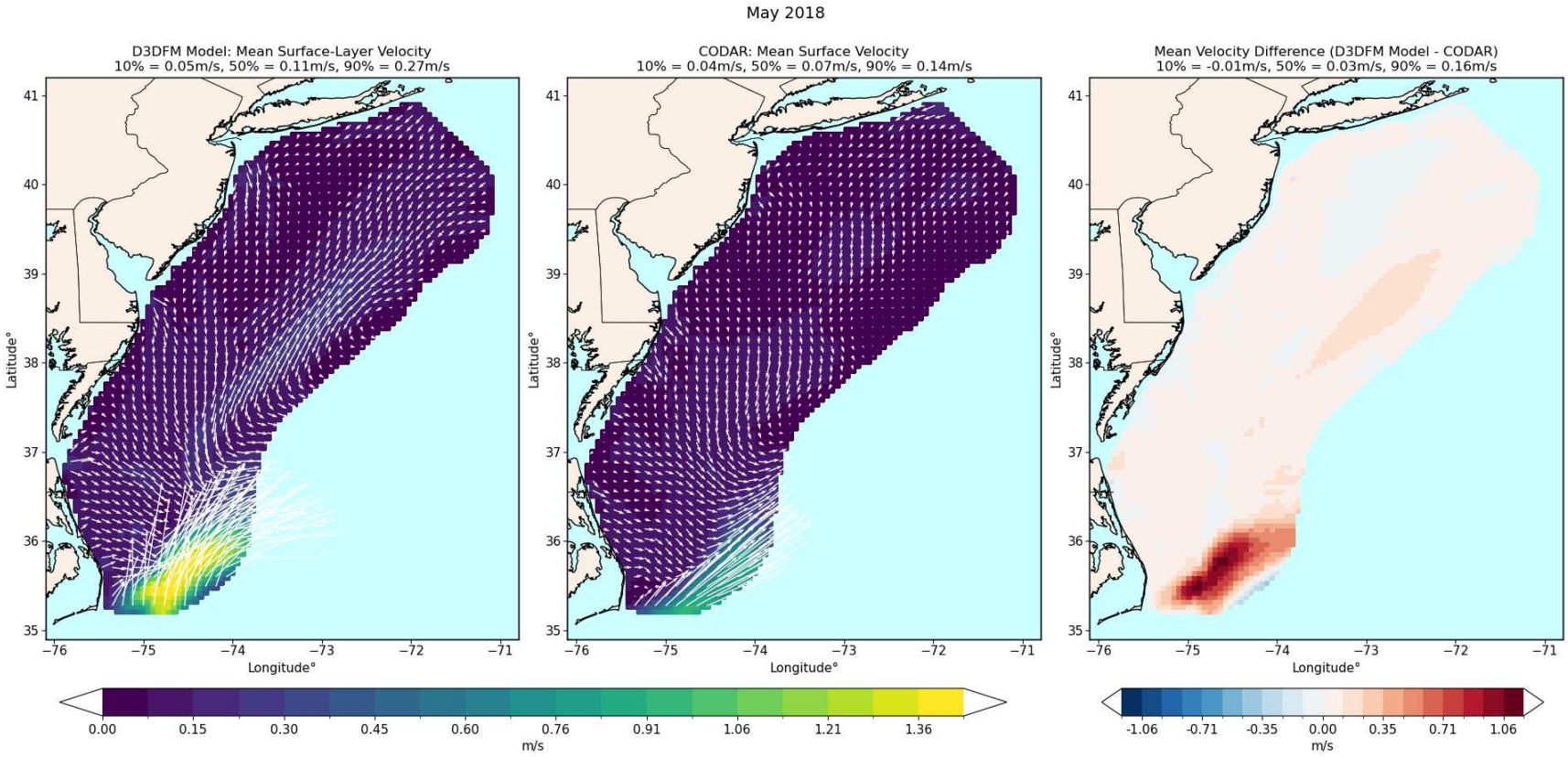
Apx Figure 169. Mean surface velocity in February 2018, of the model (left), CODAR dataset (middle), and difference (right).



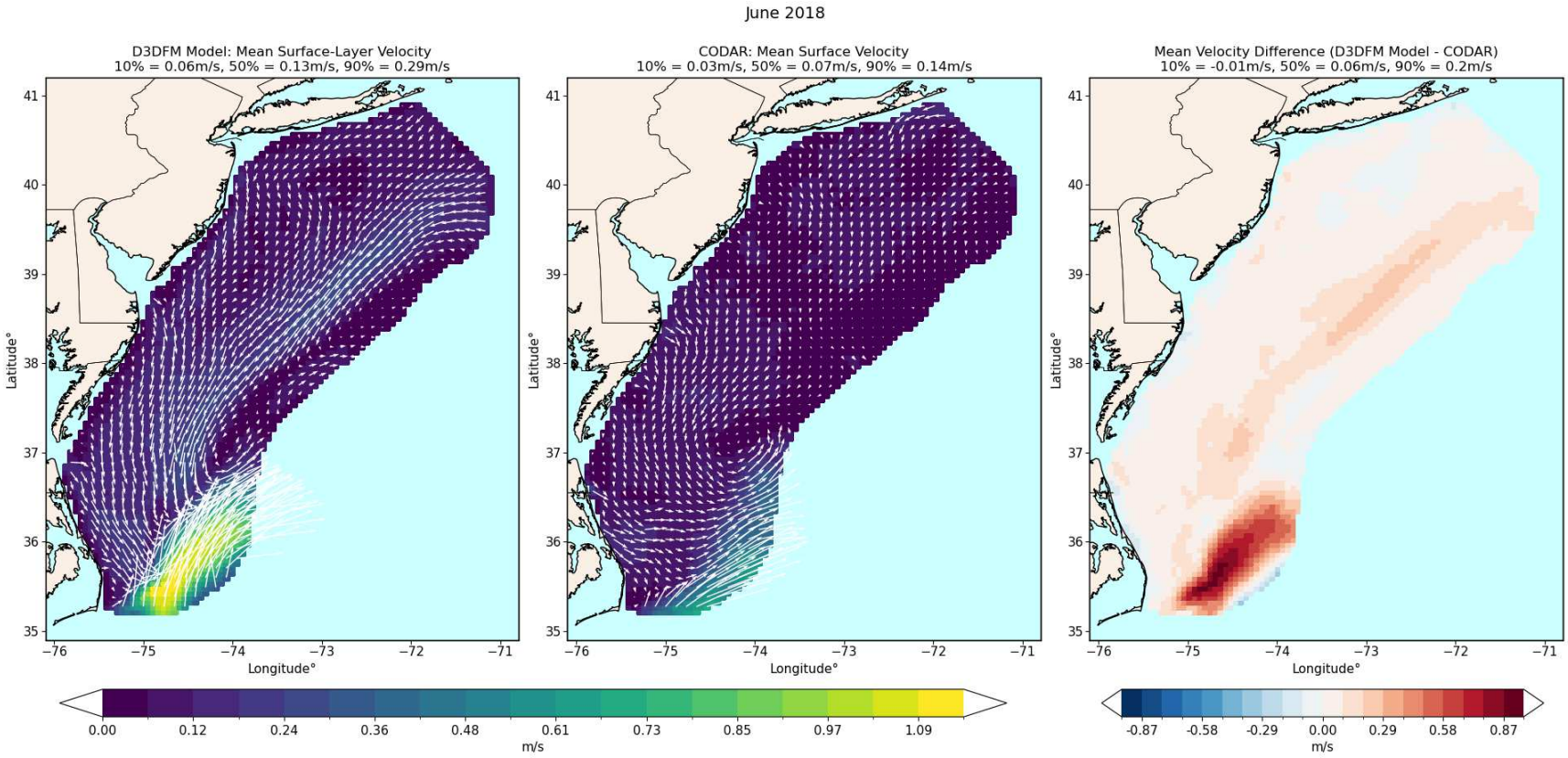
Apx Figure 170. Mean surface velocity in March 2018, of the model (left), CODAR dataset (middle), and difference (right).



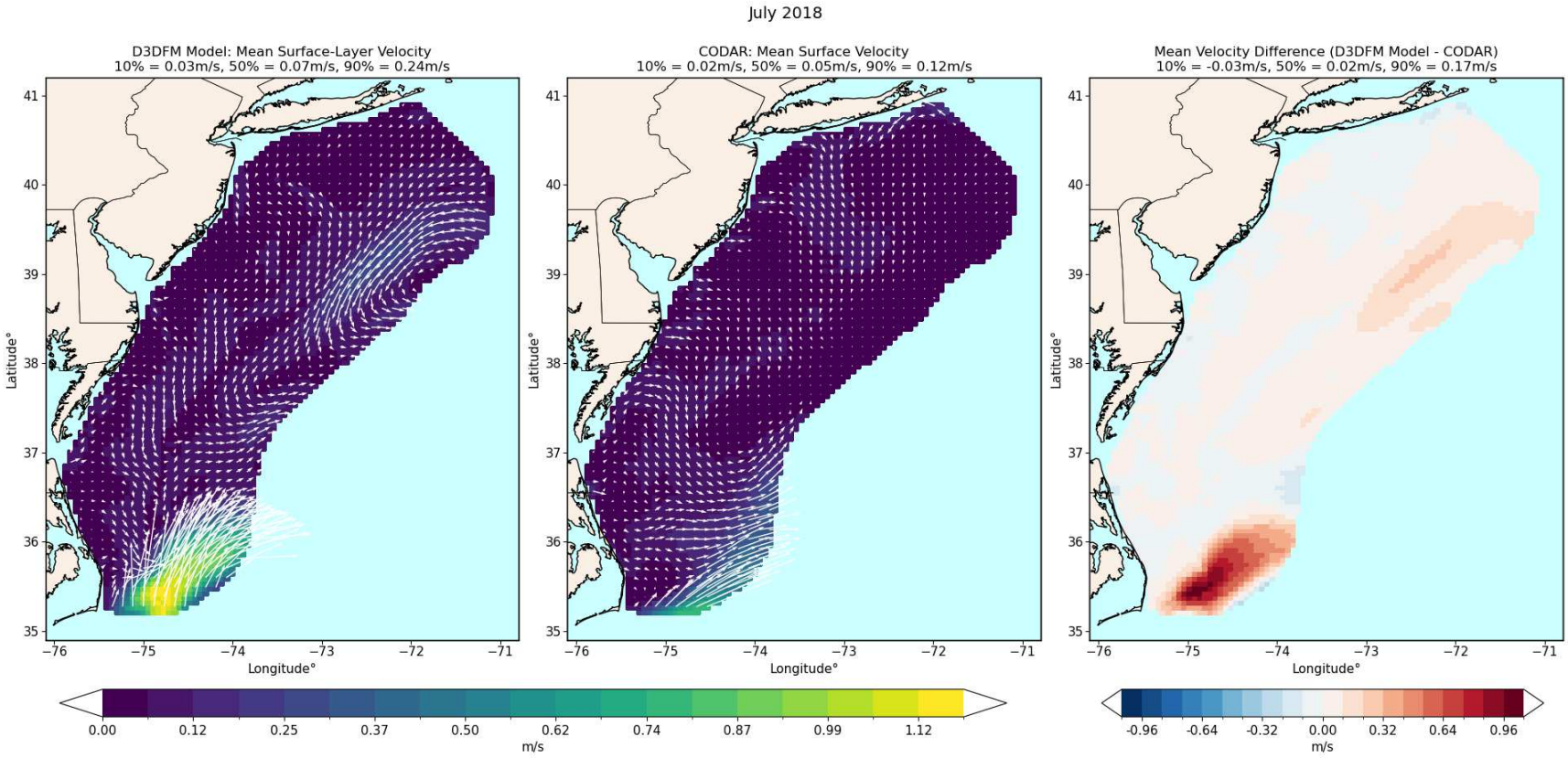
Apx Figure 171. Mean surface velocity in April 2018, of the model (left), CODAR dataset (middle), and difference (right).



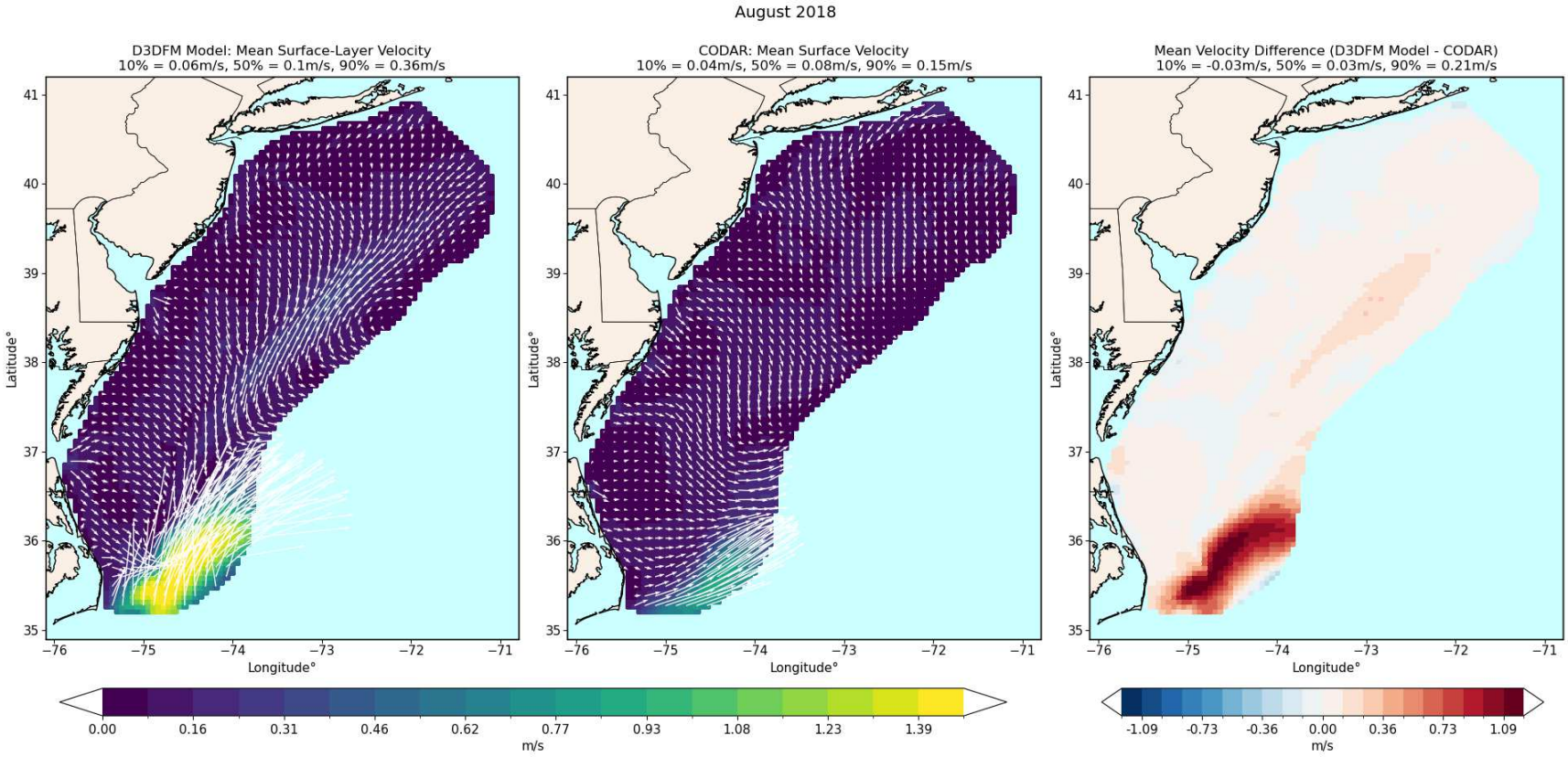
Apx Figure 172. Mean surface velocity in May 2018, of the model (left), CODAR dataset (middle), and difference (right).



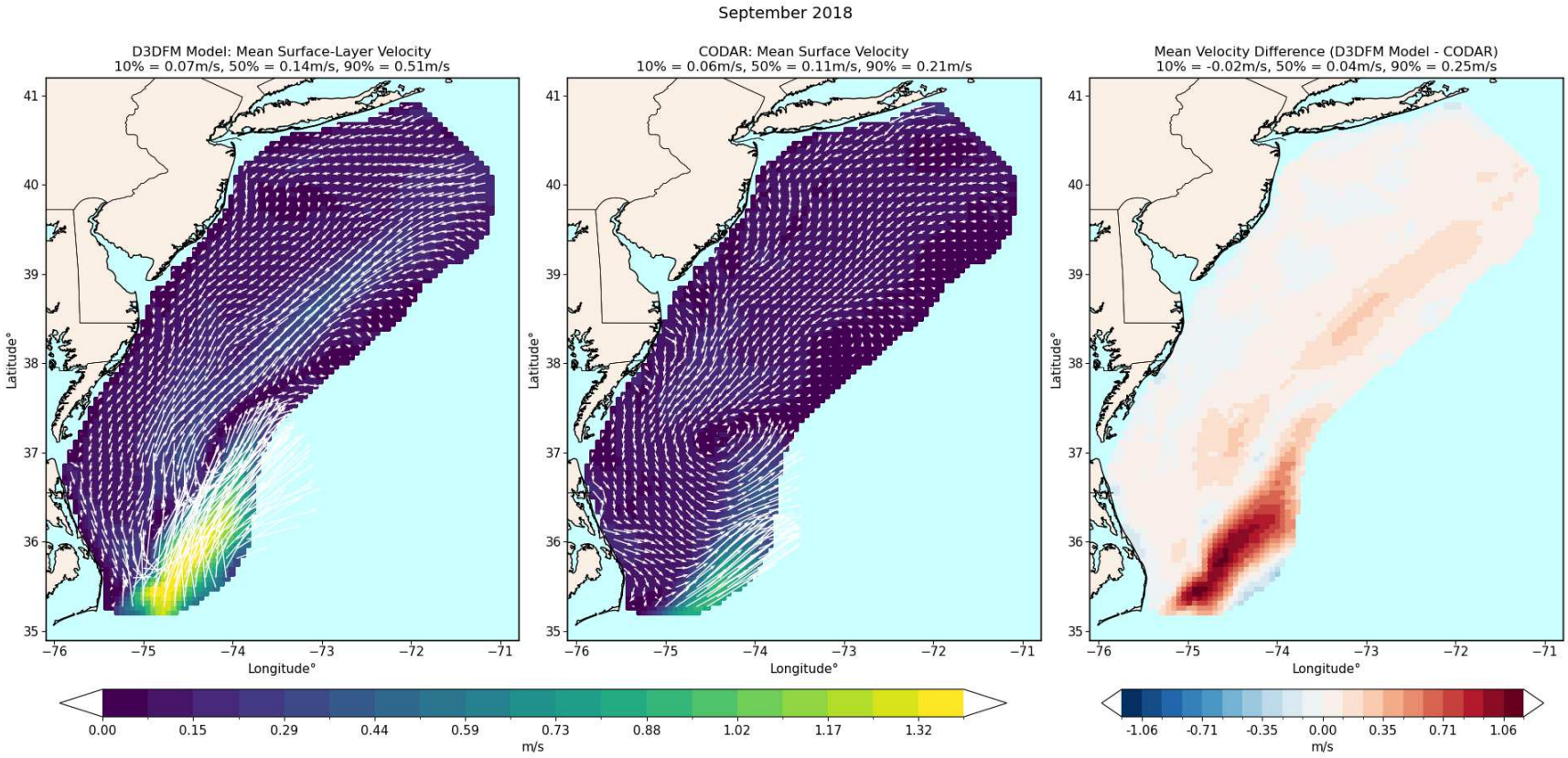
Apx Figure 173. Mean surface velocity in June 2018, of the model (left), CODAR dataset (middle), and difference (right).



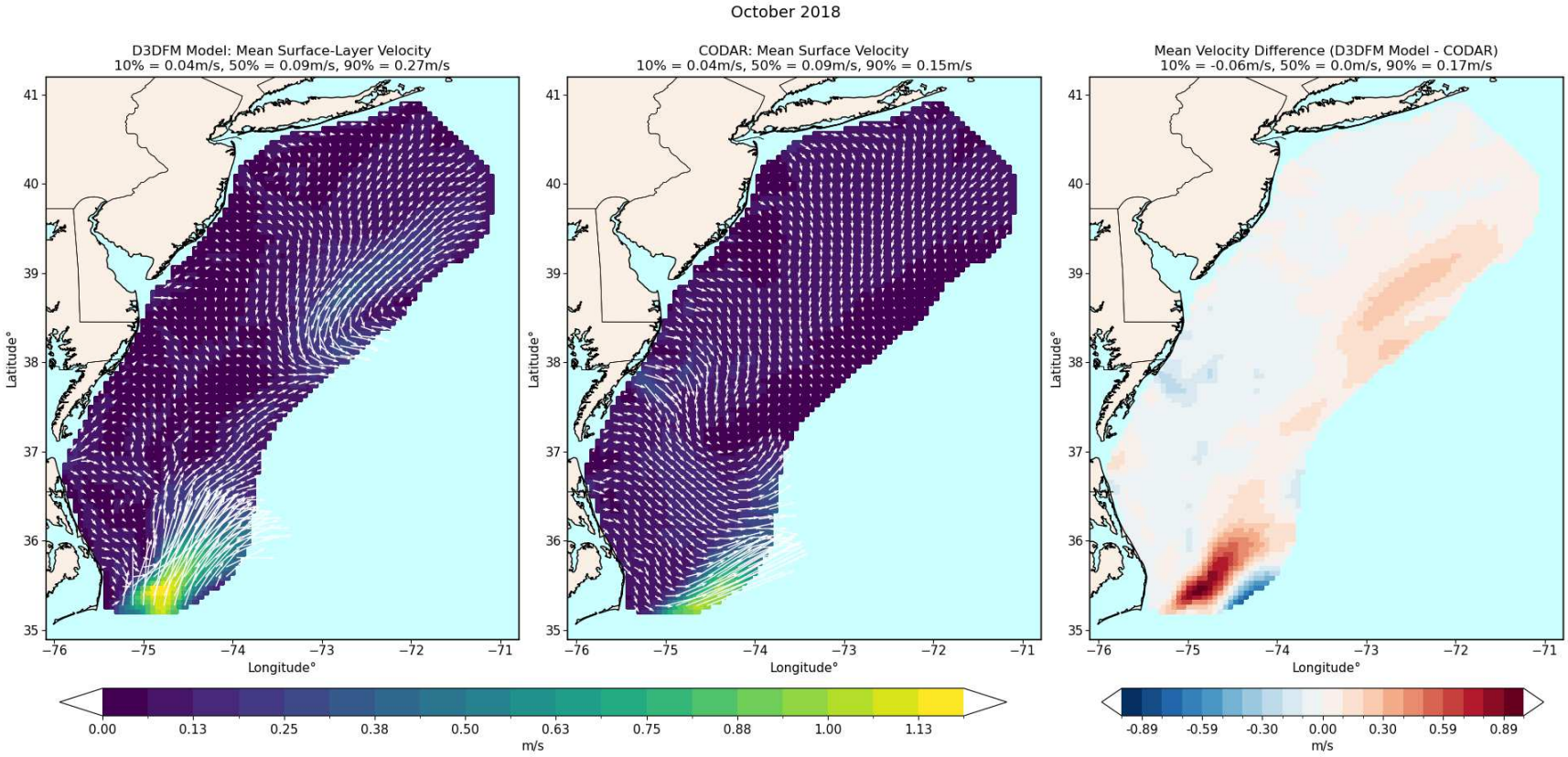
Apx Figure 174. Mean surface velocity in July 2018, of the model (left), CODAR dataset (middle), and difference (right).



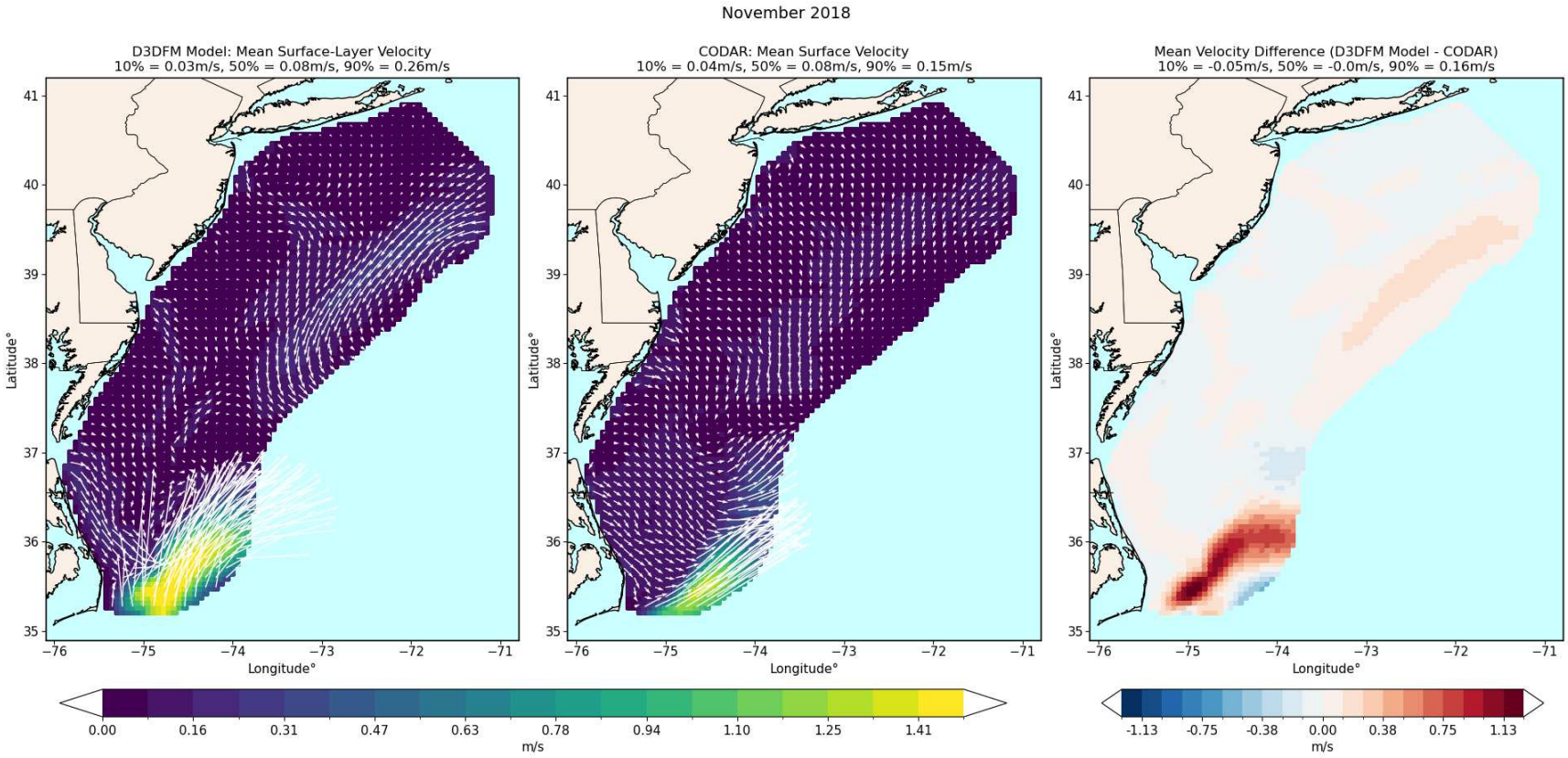
Apx Figure 175. Mean surface velocity in August 2018, of the model (left), CODAR dataset (middle), and difference (right).



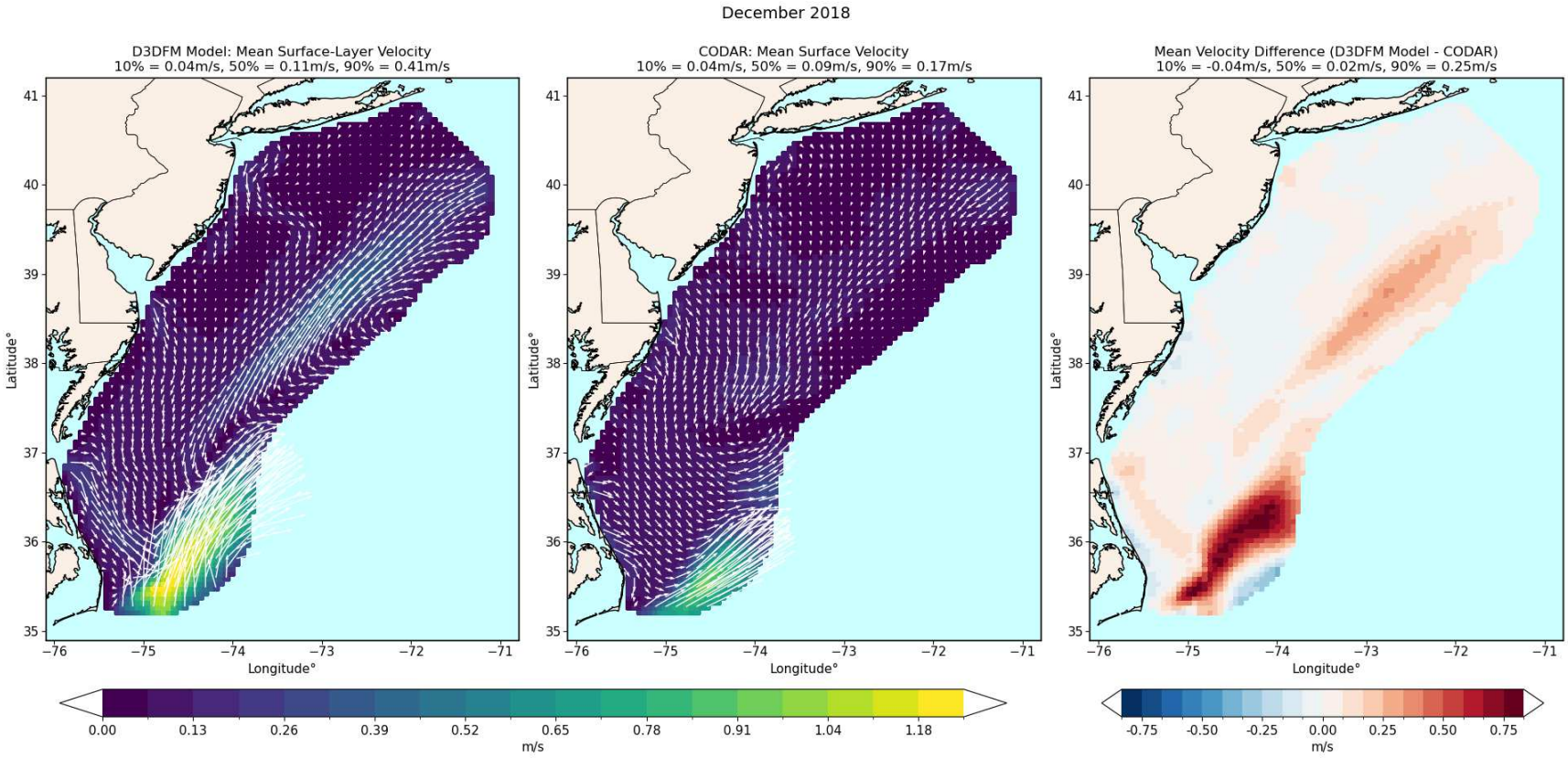
Apx Figure 176. Mean surface velocity in September 2018, of the model (left), CODAR dataset (middle), and difference (right).



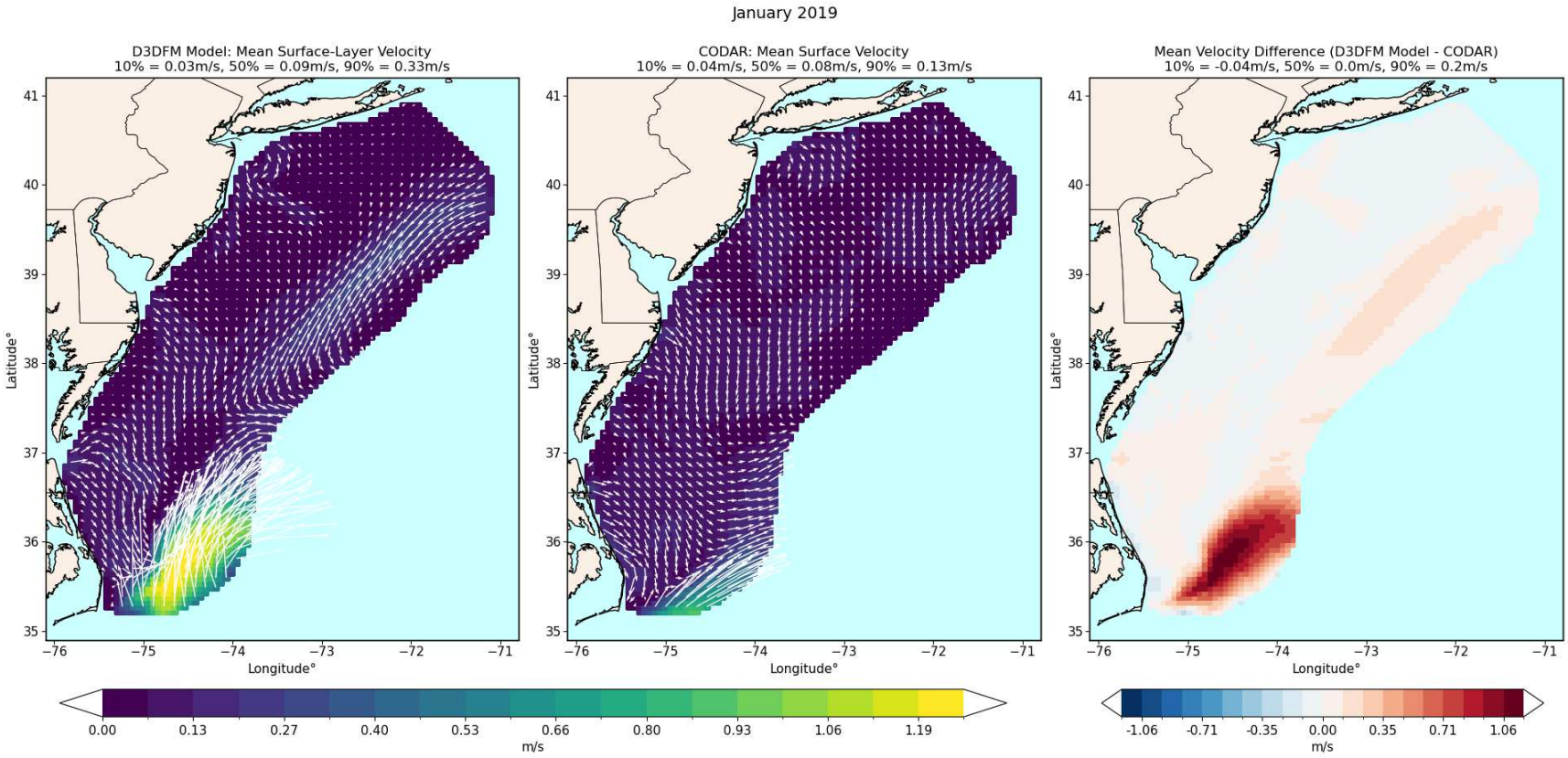
Apx Figure 177. Mean surface velocity in October 2018, of the model (left), CODAR dataset (middle), and difference (right).



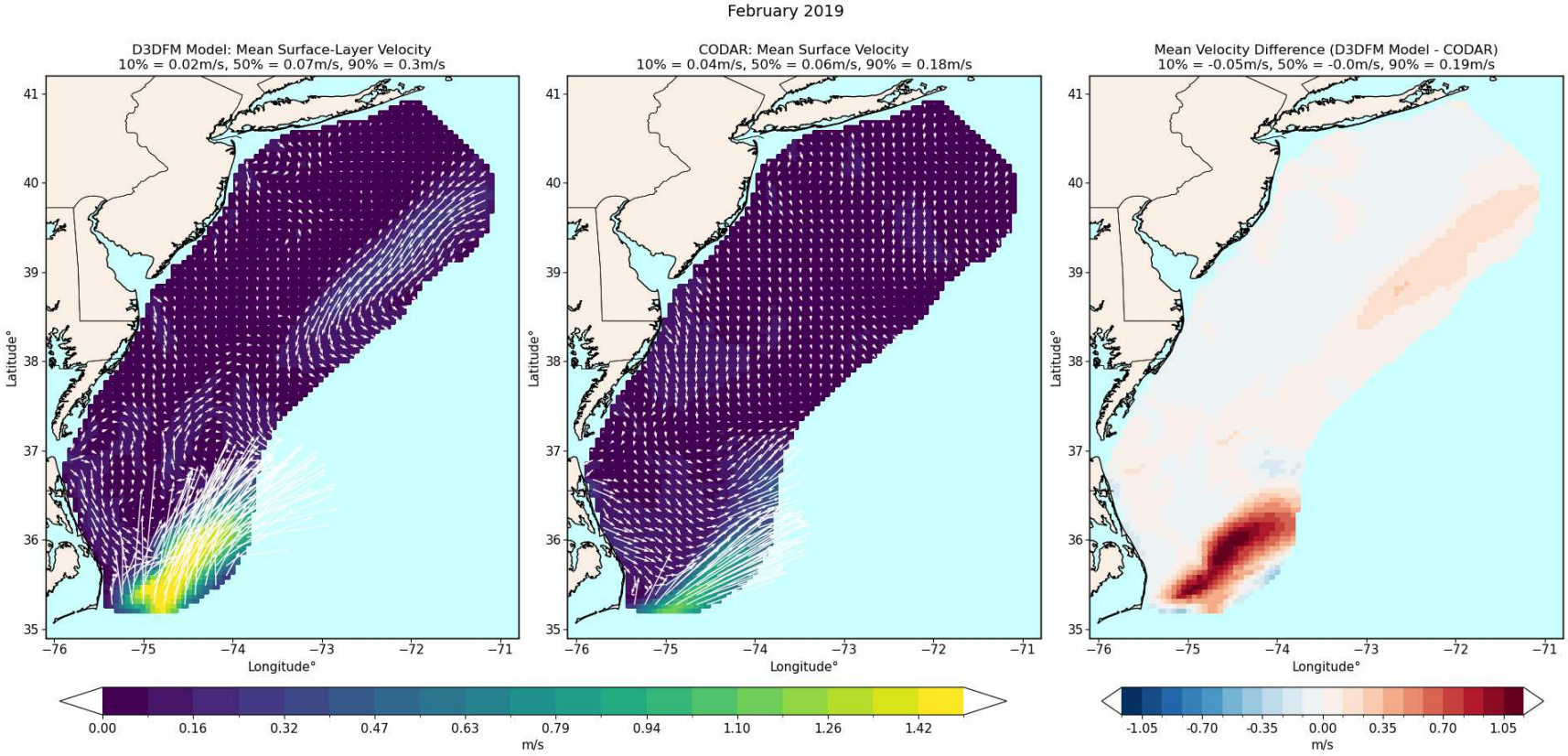
Apx Figure 178. Mean surface velocity in November 2018, of the model (left), CODAR dataset (middle), and difference (right).



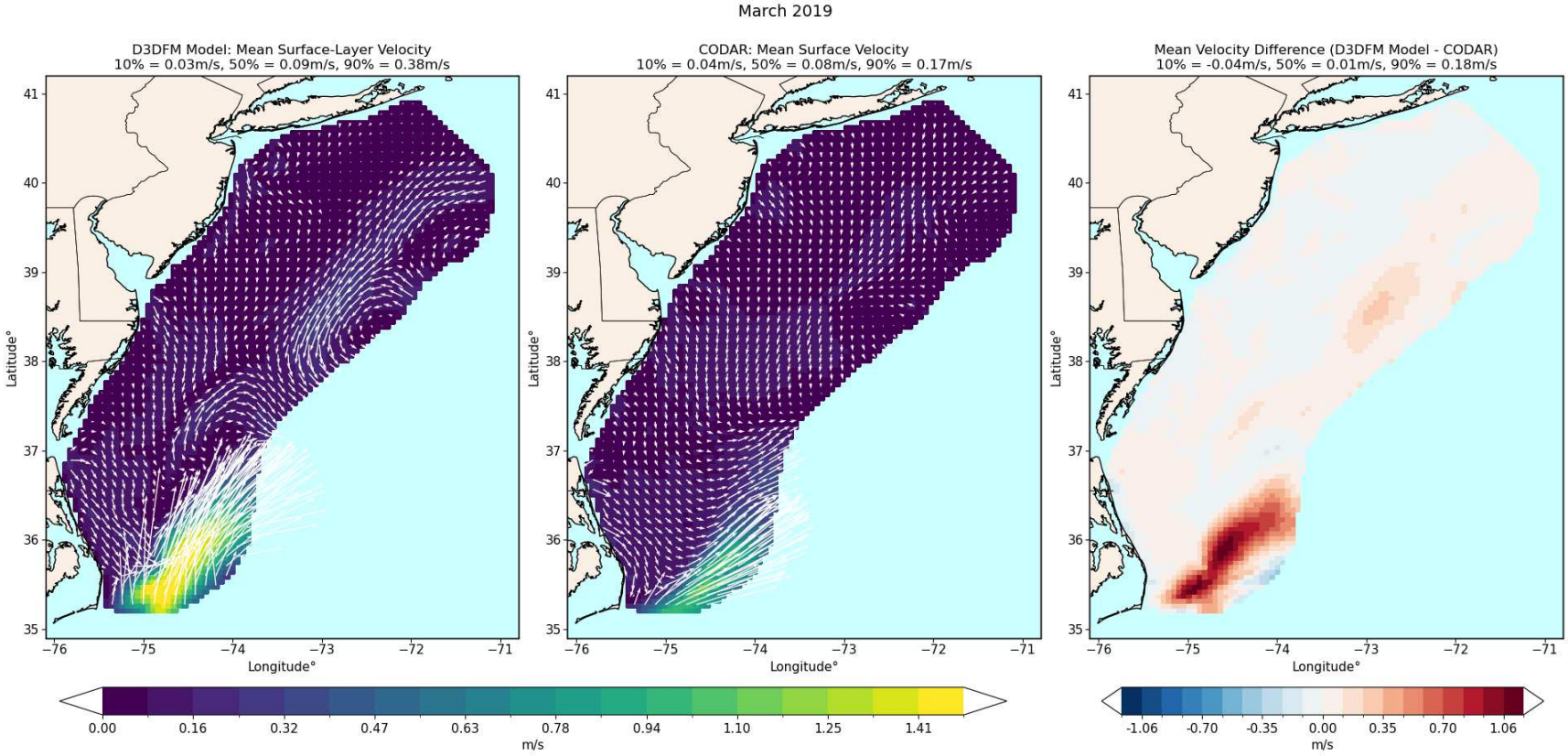
Apx Figure 179. Mean surface velocity in December 2018, of the model (left), CODAR dataset (middle), and difference (right).



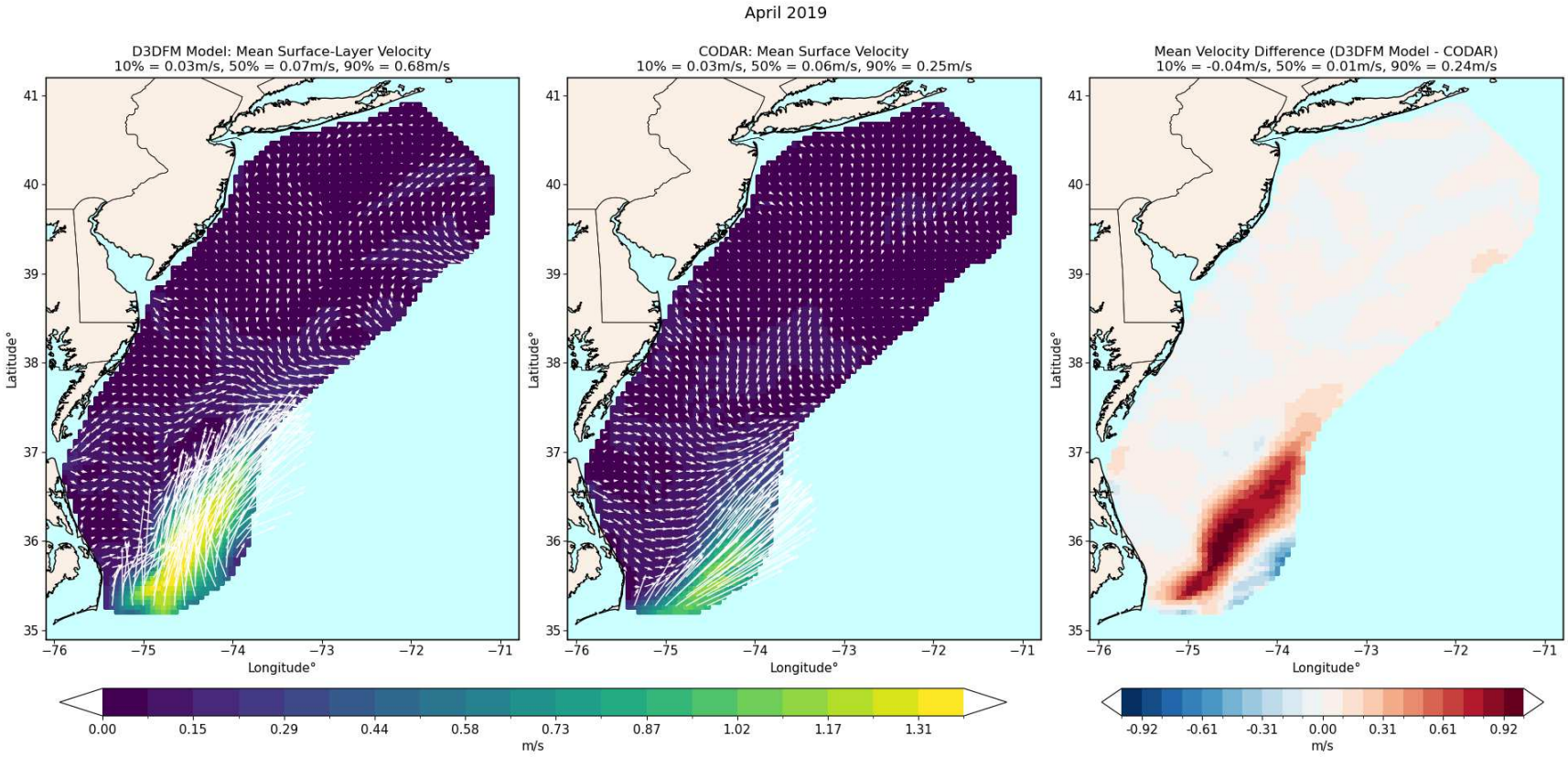
Apx Figure 180. Mean surface velocity in January 2019, of the model (left), CODAR dataset (middle), and difference (right).



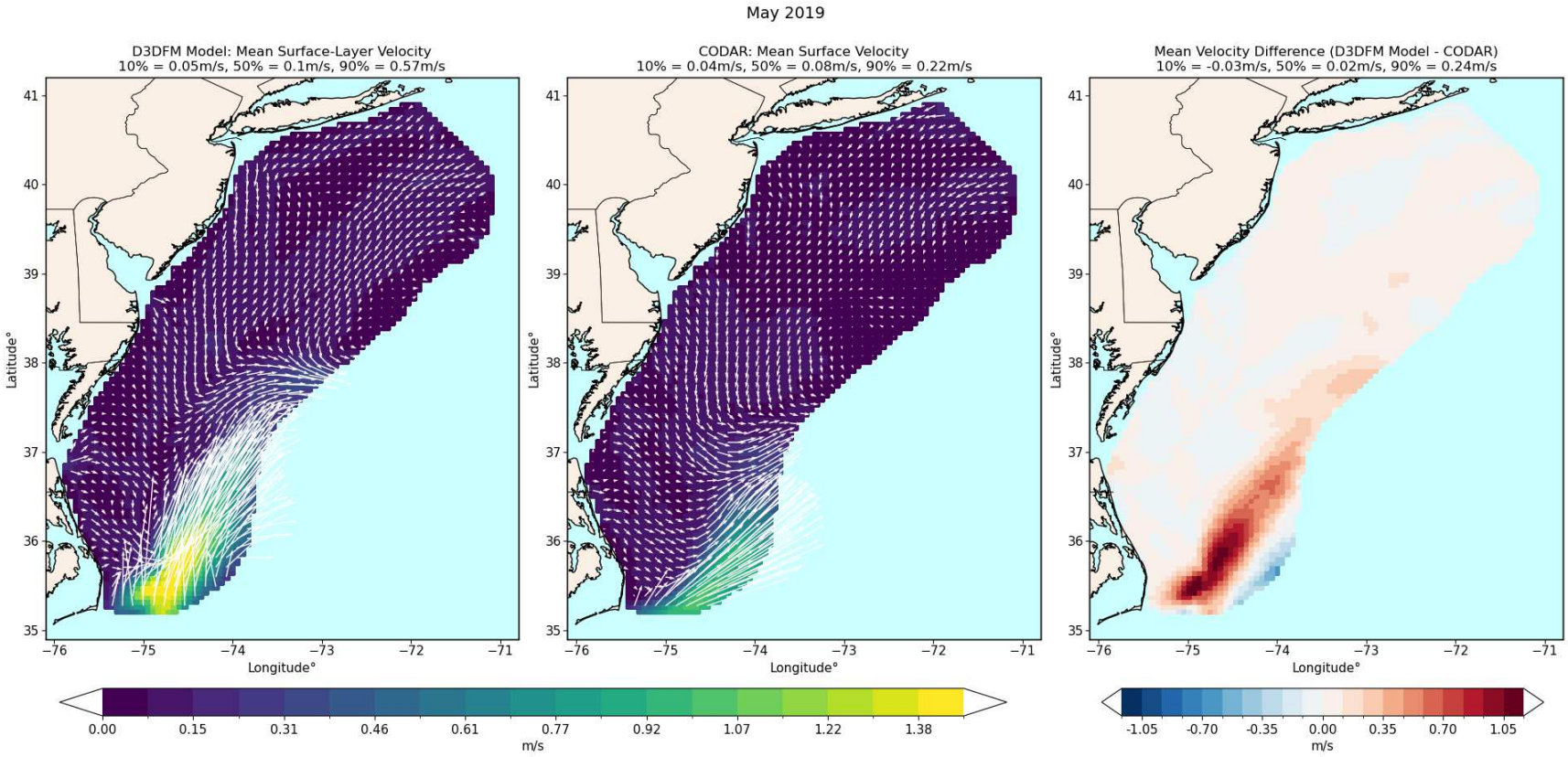
Apx Figure 181. Mean surface velocity in February 2019, of the model (left), CODAR dataset (middle), and difference (right).



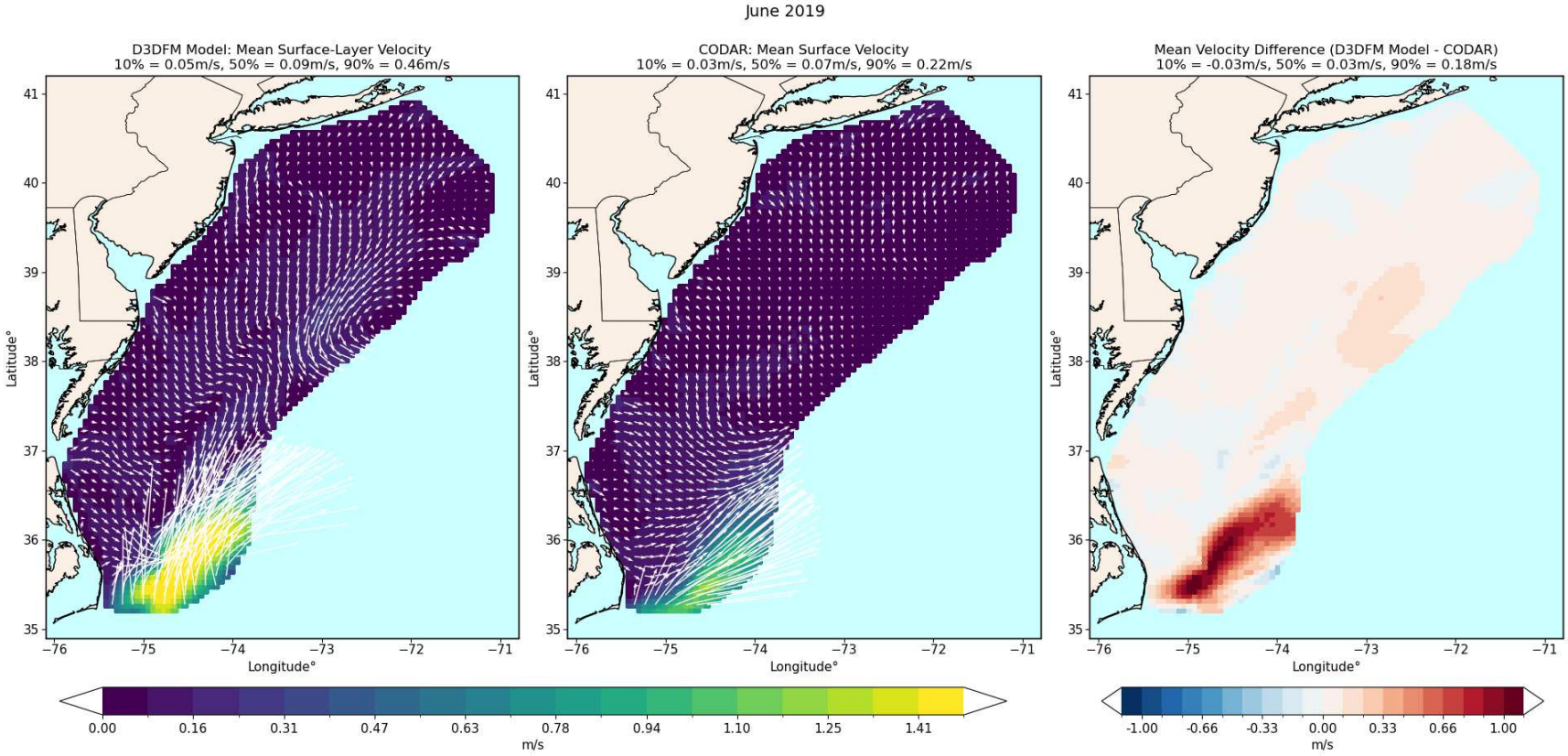
Apx Figure 182. Mean surface velocity in March 2019, of the model (left), CODAR dataset (middle), and difference (right).



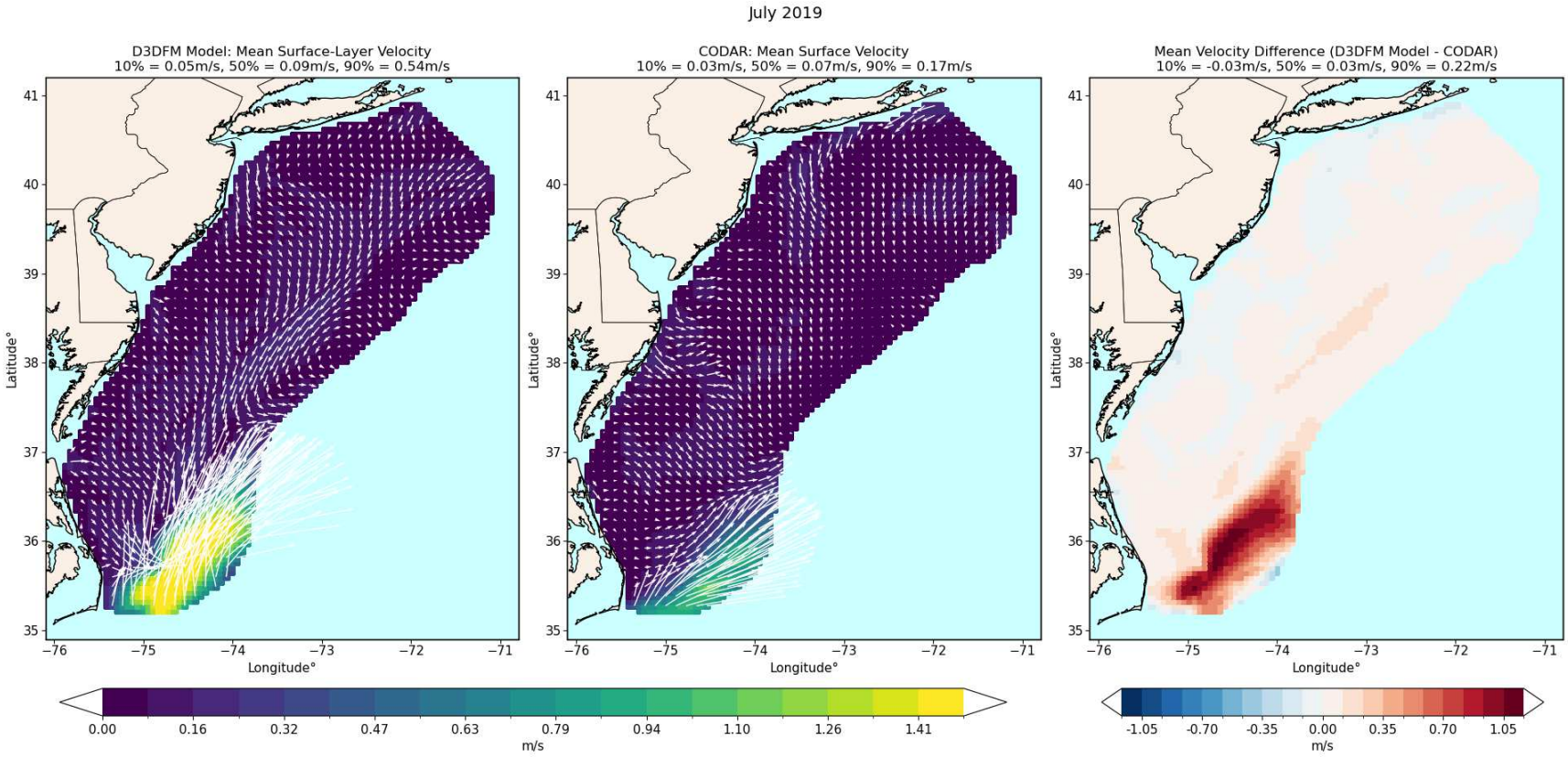
Apx Figure 183. Mean surface velocity in April 2019, of the model (left), CODAR dataset (middle), and difference (right).



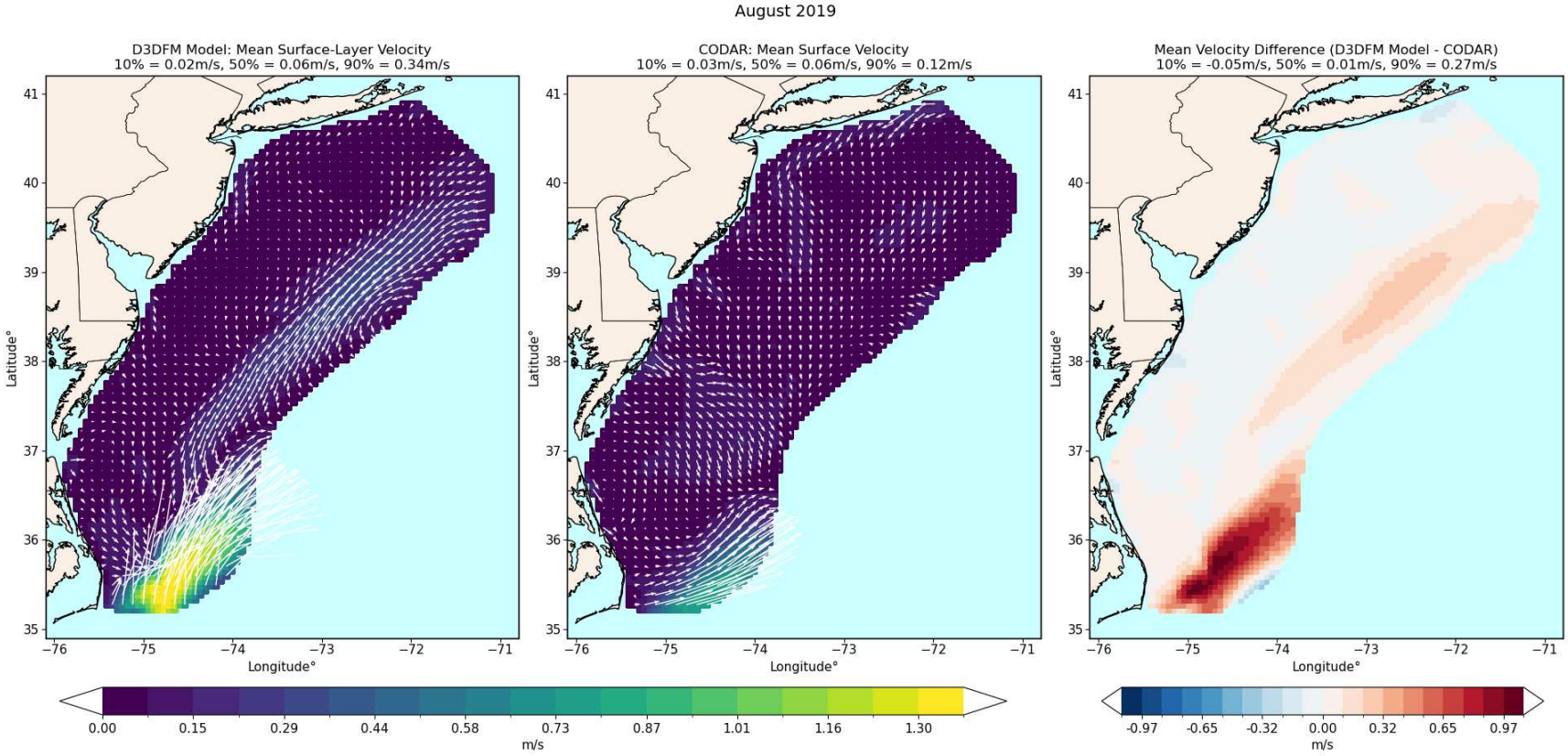
Apx Figure 184. Mean surface velocity in May 2019, of the model (left), CODAR dataset (middle), and difference (right).



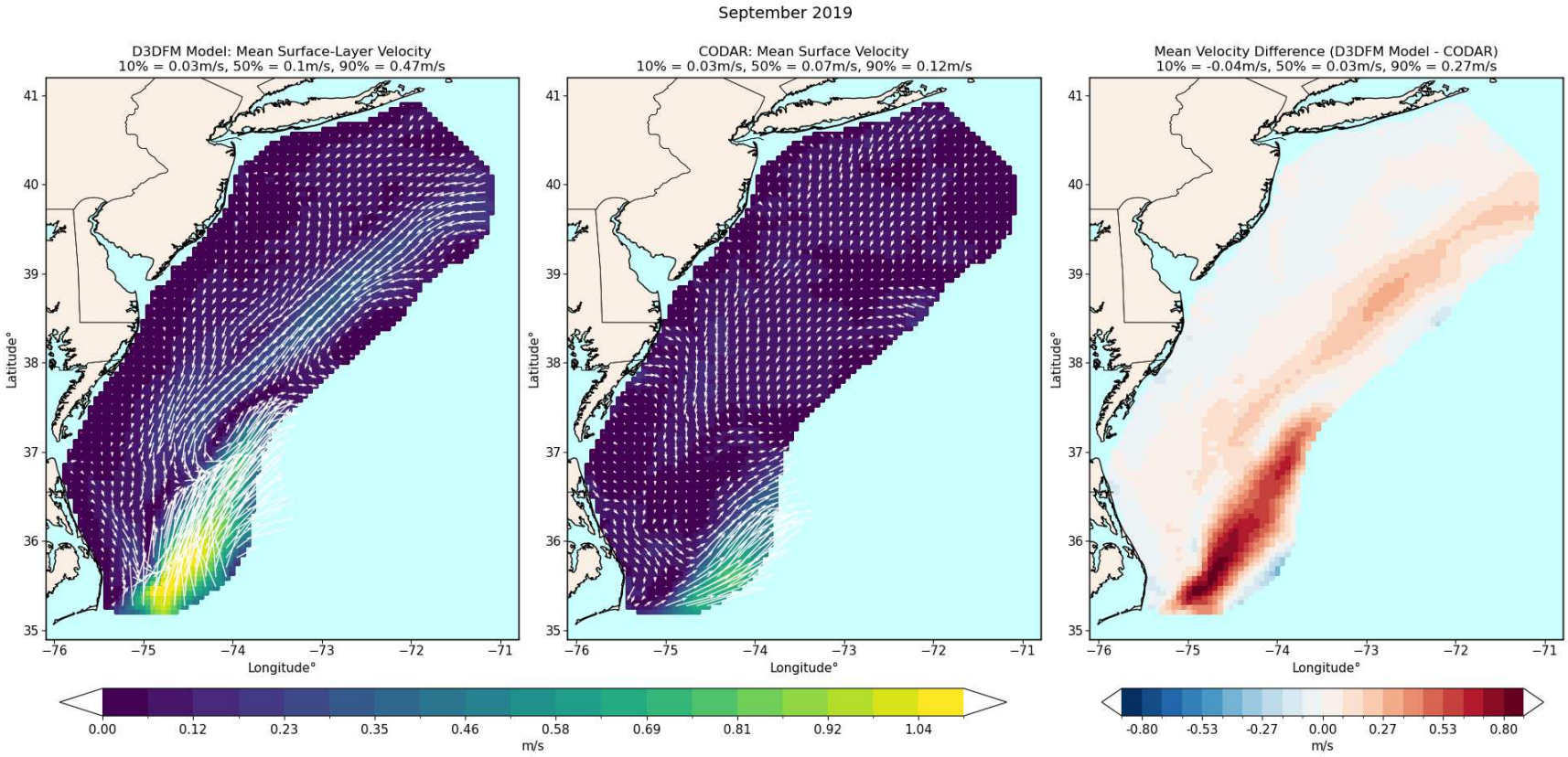
Apx Figure 185. Mean surface velocity in June 2019, of the model (left), CODAR dataset (middle), and difference (right).



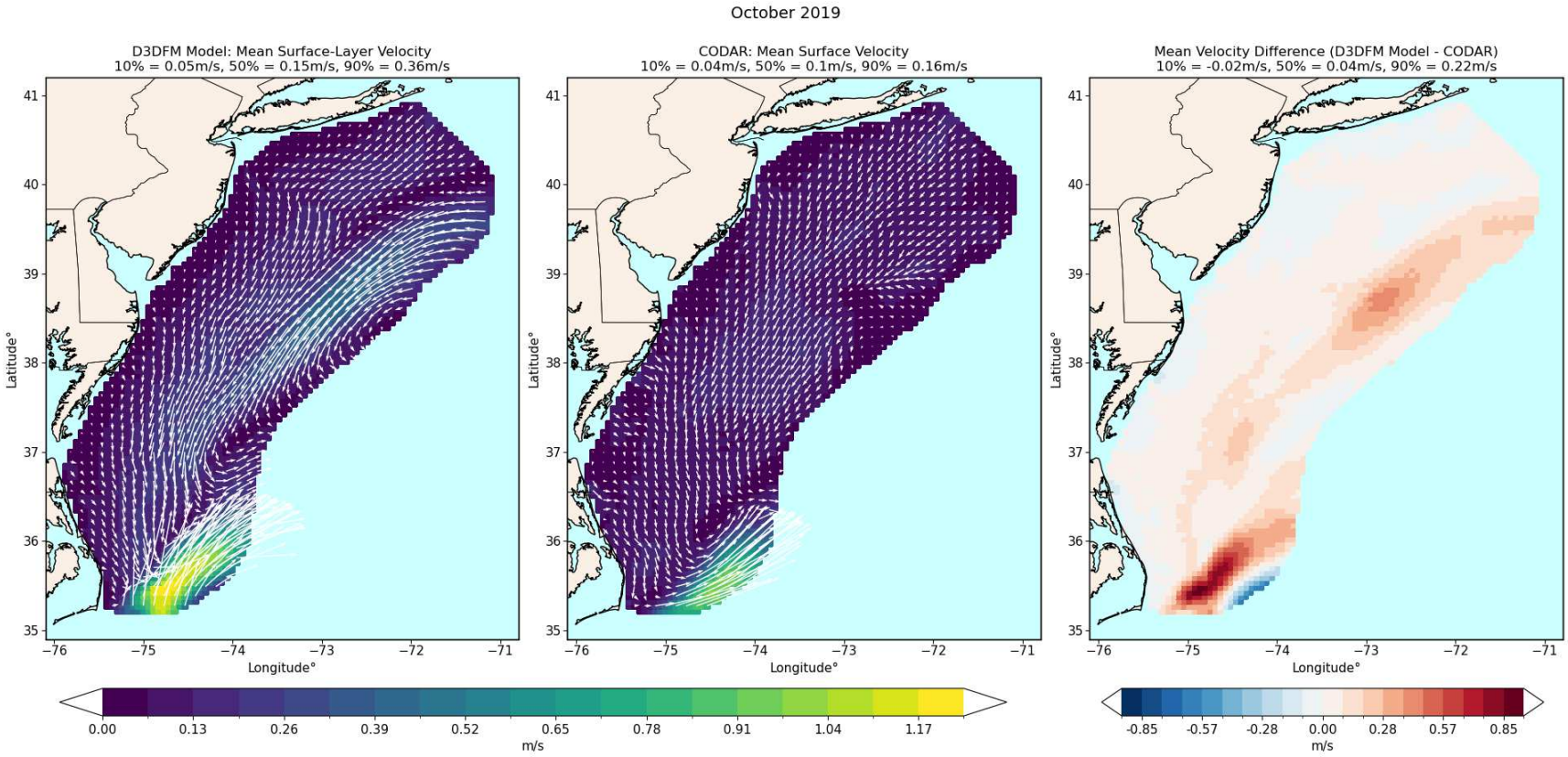
Apx Figure 186. Mean surface velocity in July 2019, of the model (left), CODAR dataset (middle), and difference (right).



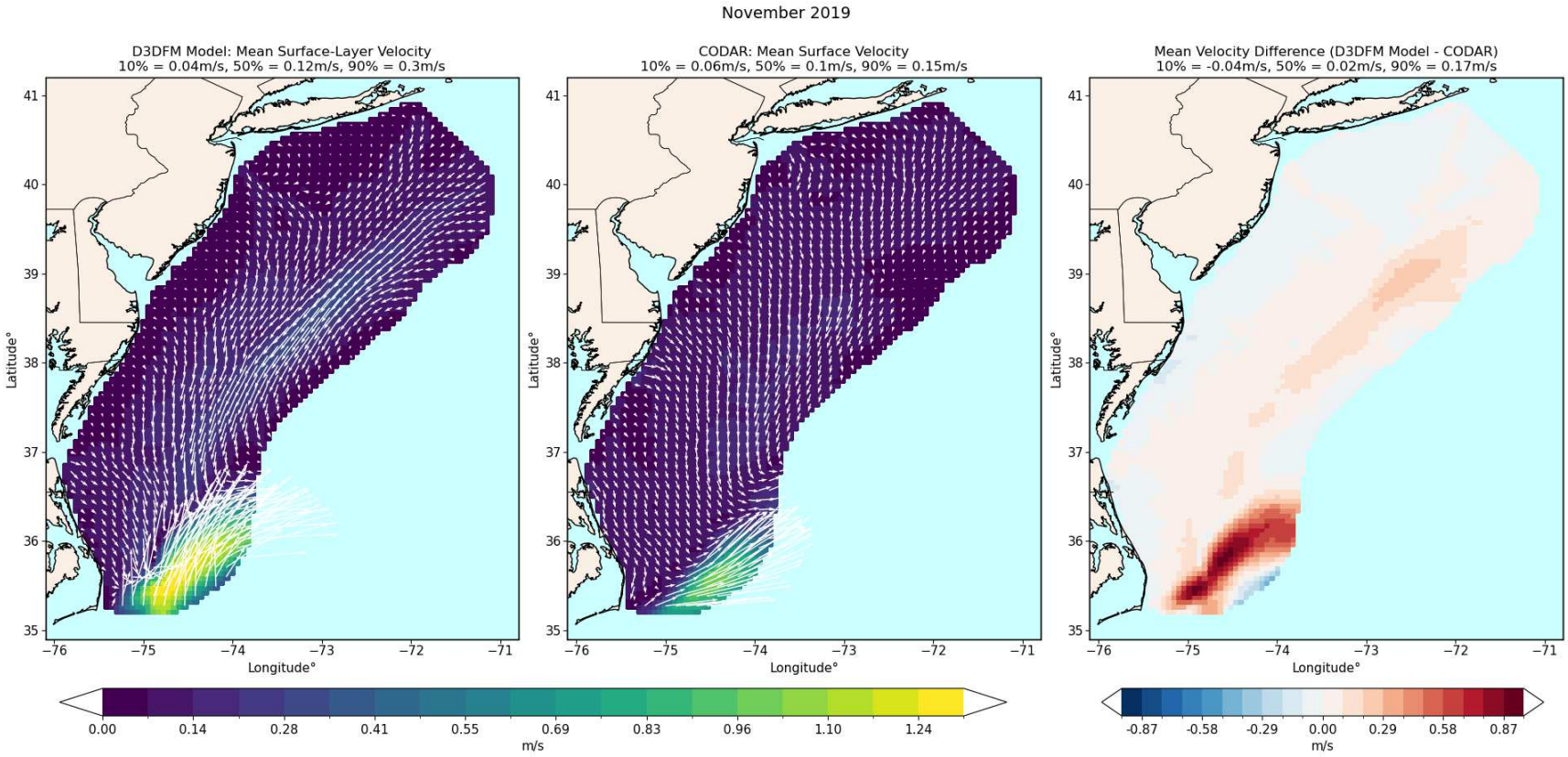
Apx Figure 187. Mean surface velocity in August 2019, of the model (left), CODAR dataset (middle), and difference (right).



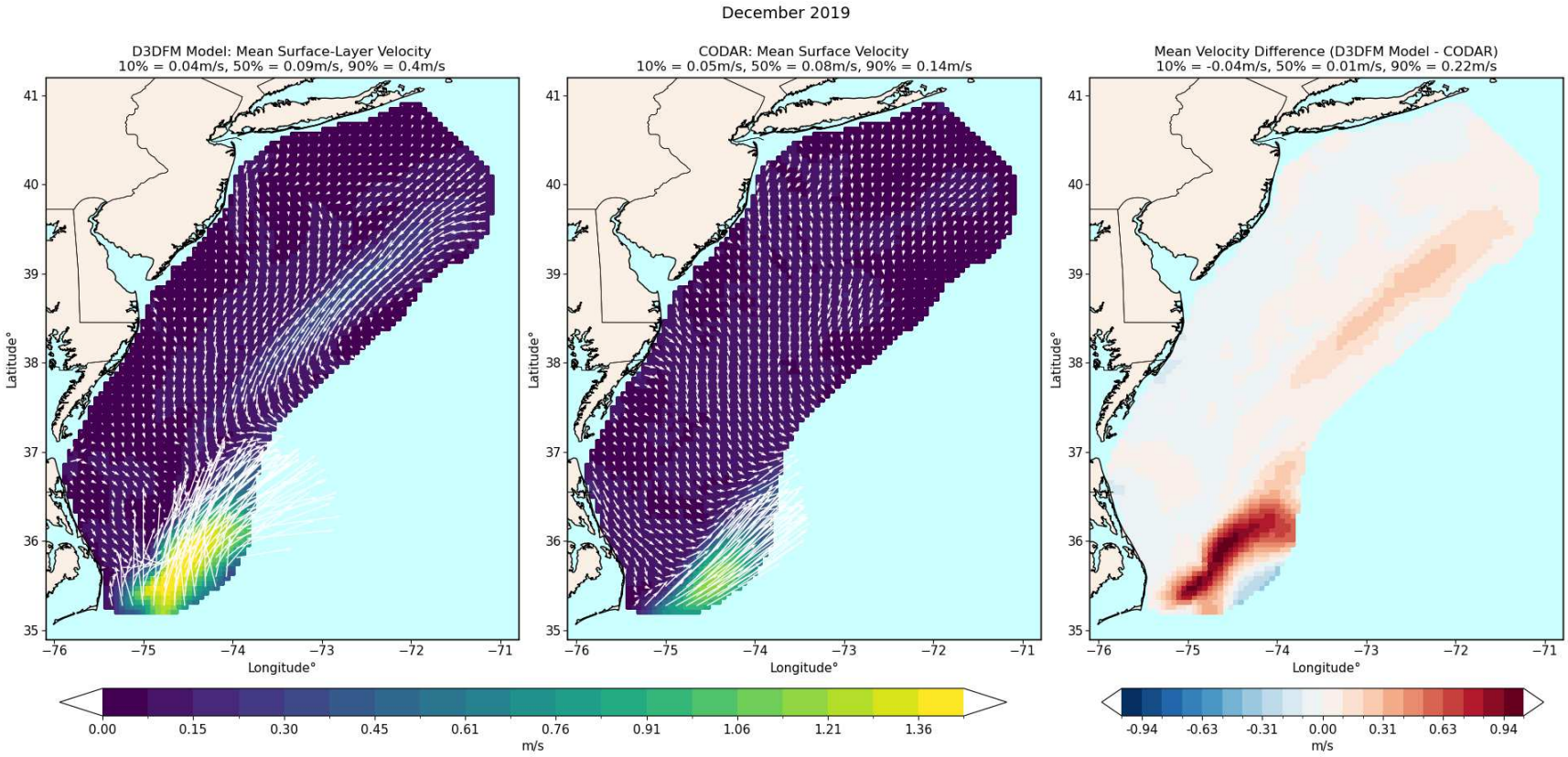
Apx Figure 188. Mean surface velocity in September 2019, of the model (left), CODAR dataset (middle), and difference (right).



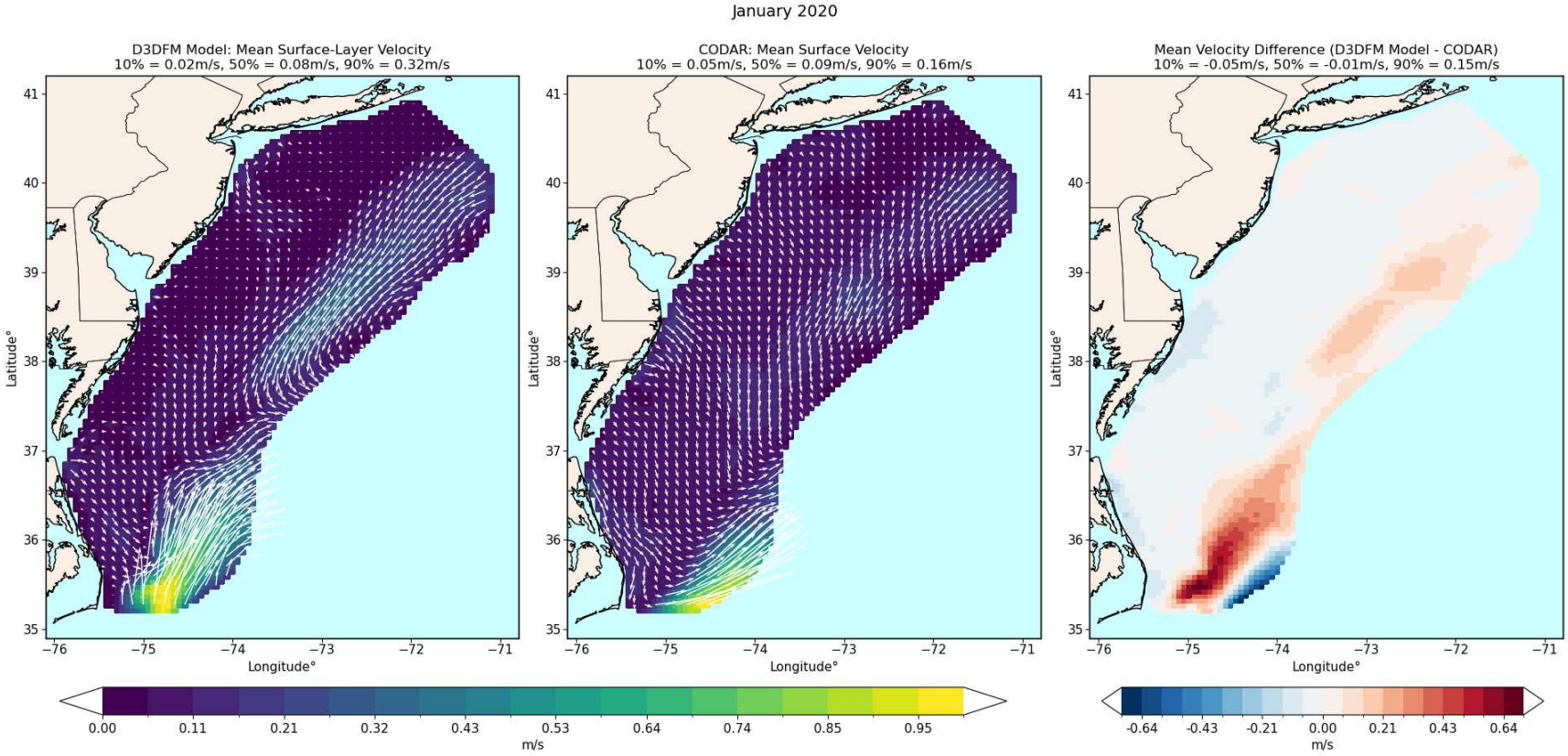
Apx Figure 189. Mean surface velocity in October 2019, of the model (left), CODAR dataset (middle), and difference (right).



Apx Figure 190. Mean surface velocity in November 2019, of the model (left), CODAR dataset (middle), and difference (right).

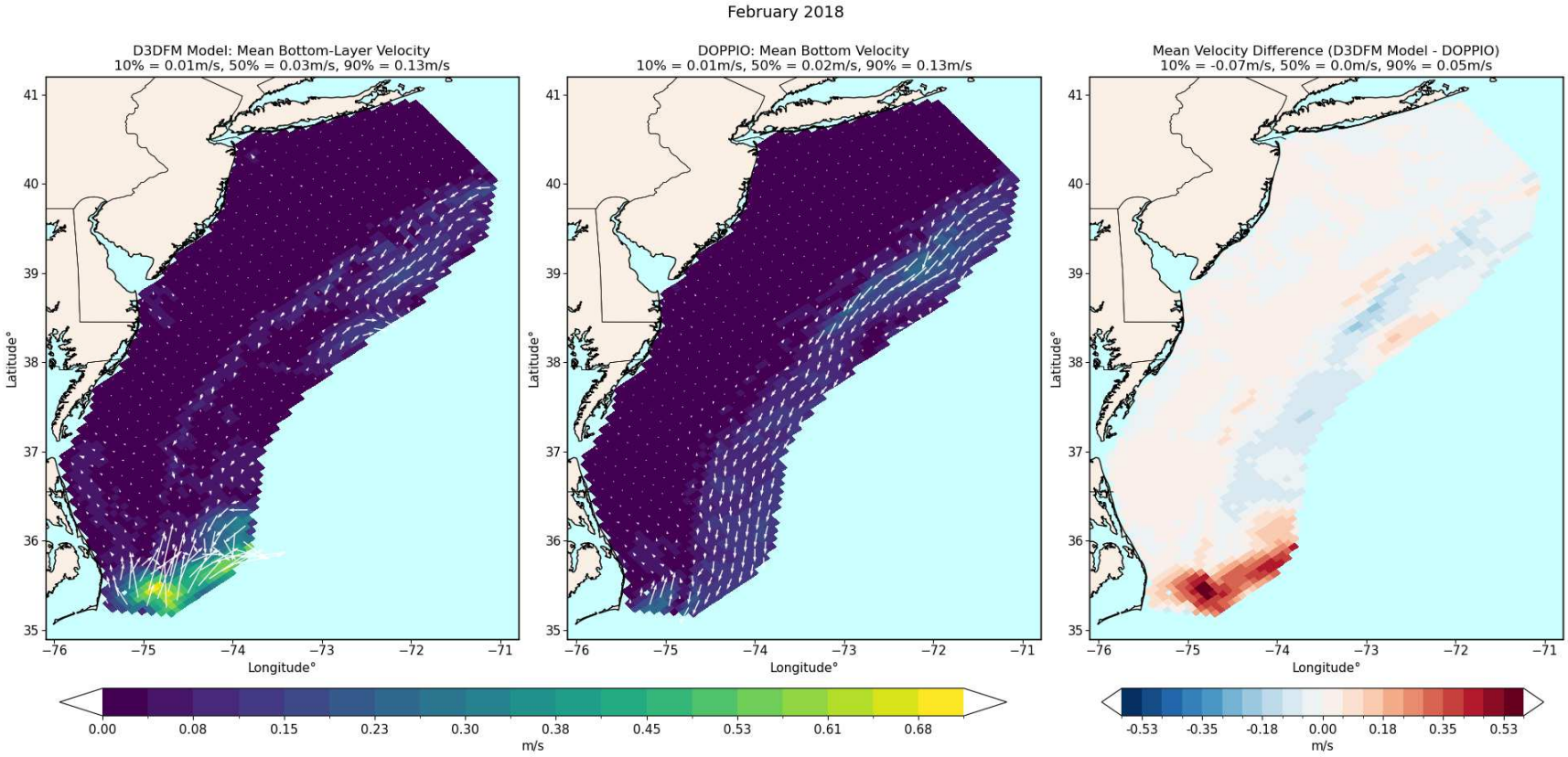


Apx Figure 191. Mean surface velocity in December 2019, of the model (left), CODAR dataset (middle), and difference (right).

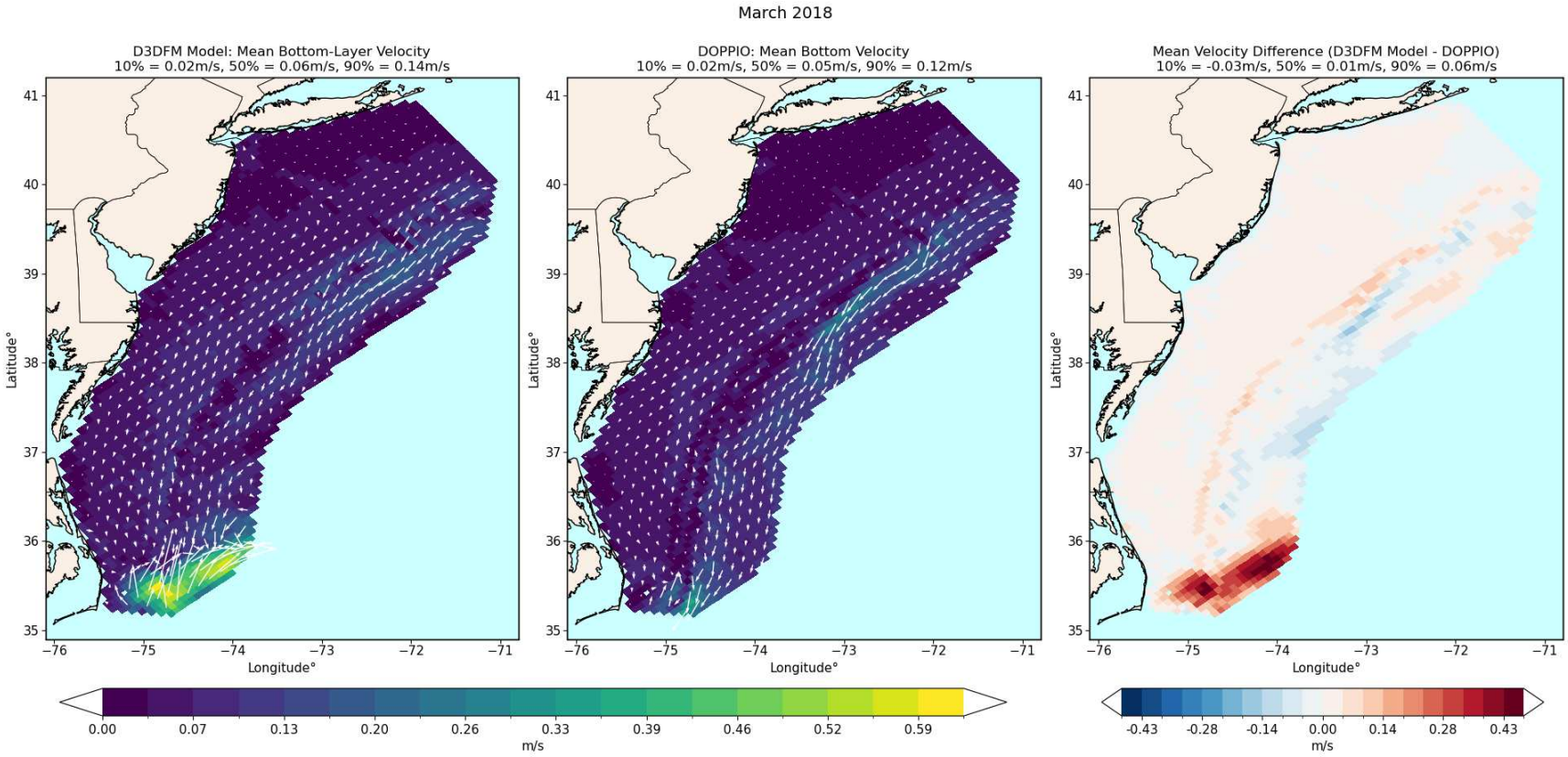


Apx Figure 192. Mean surface velocity in January 2020, of the model (left), CODAR dataset (middle), and difference (right).

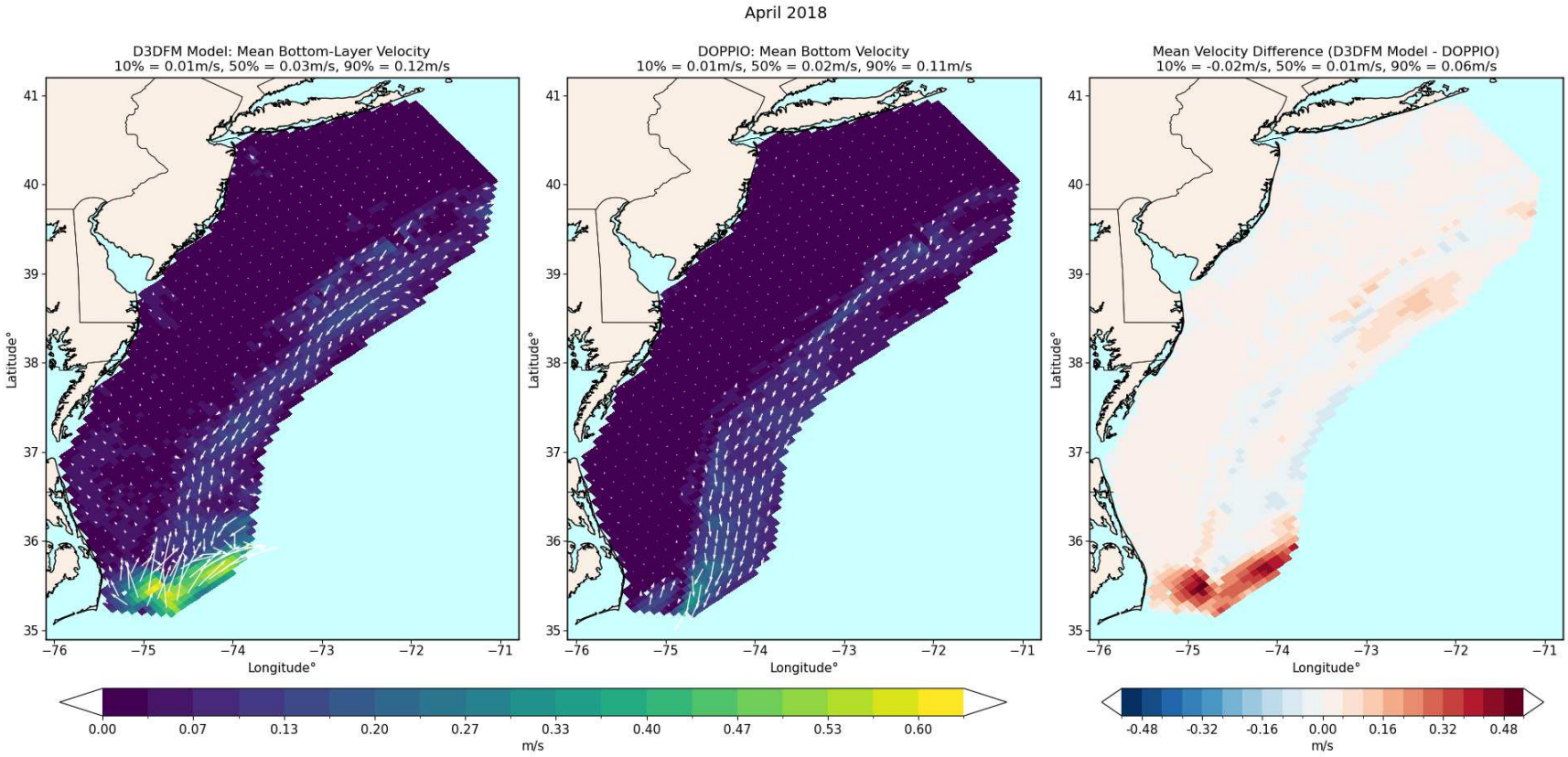
A.9 Bottom Current of the Model and Doppio Dataset



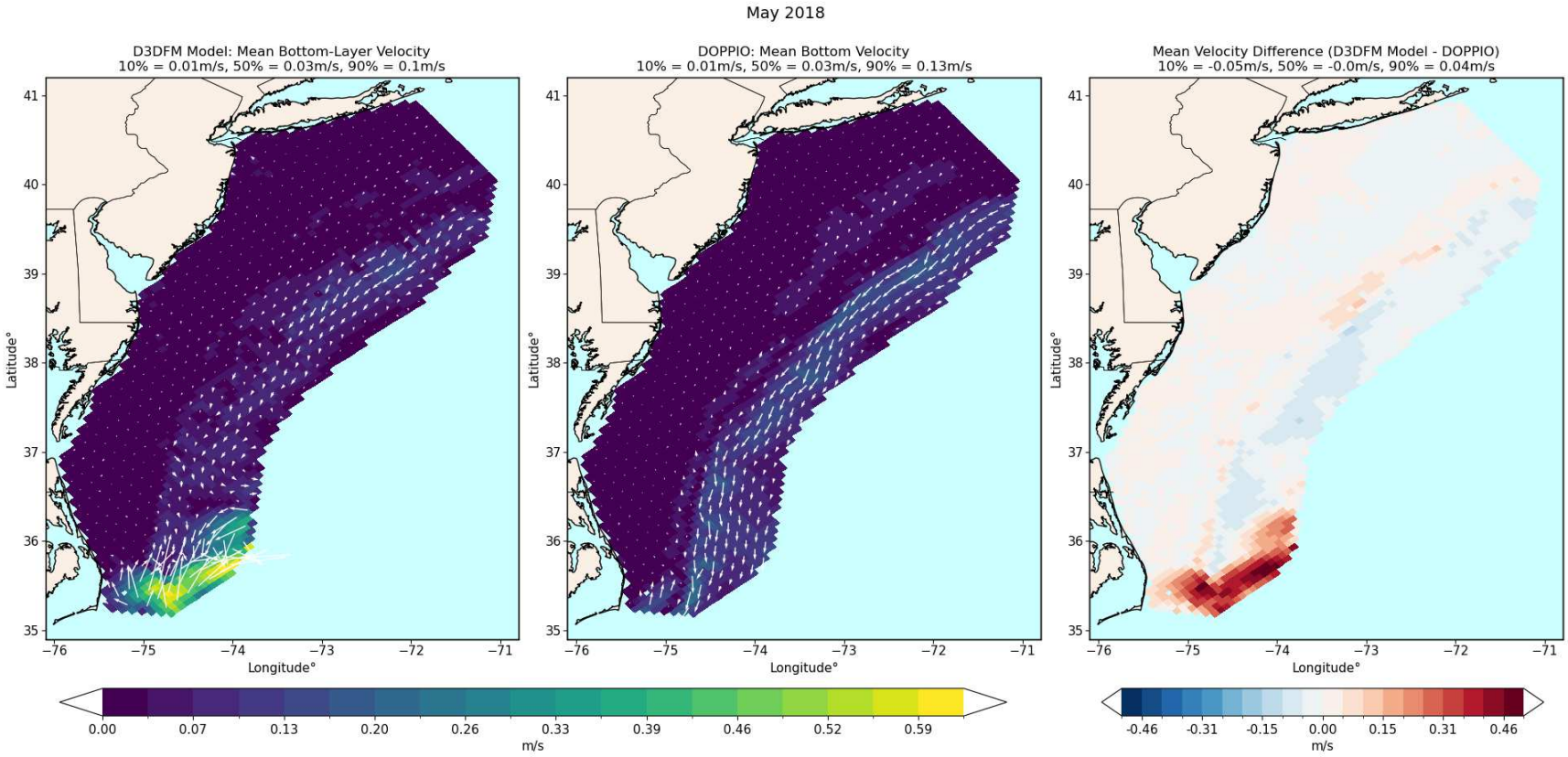
Apx Figure 193. Mean bottom velocity in February 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



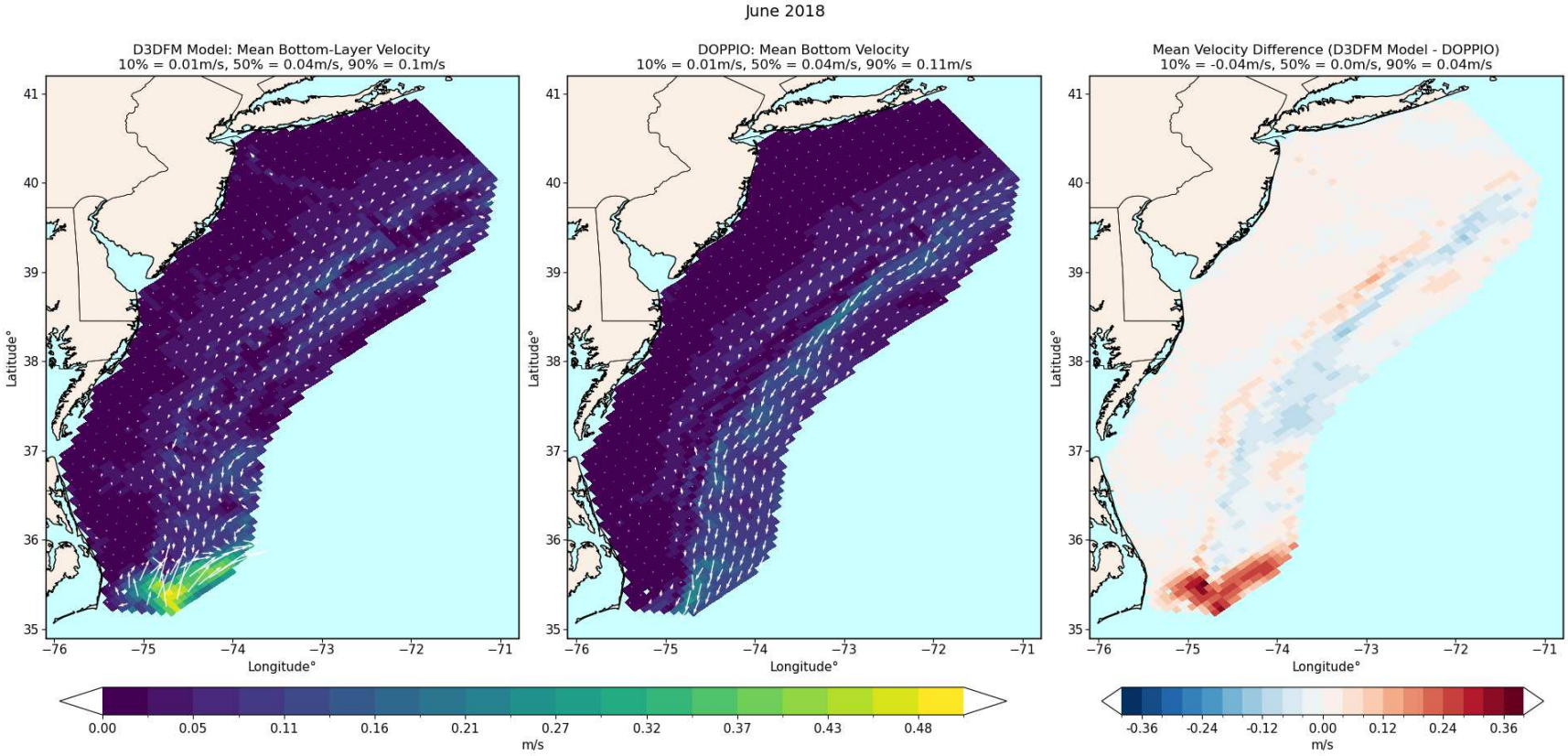
Apx Figure 194. Mean bottom velocity in March 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



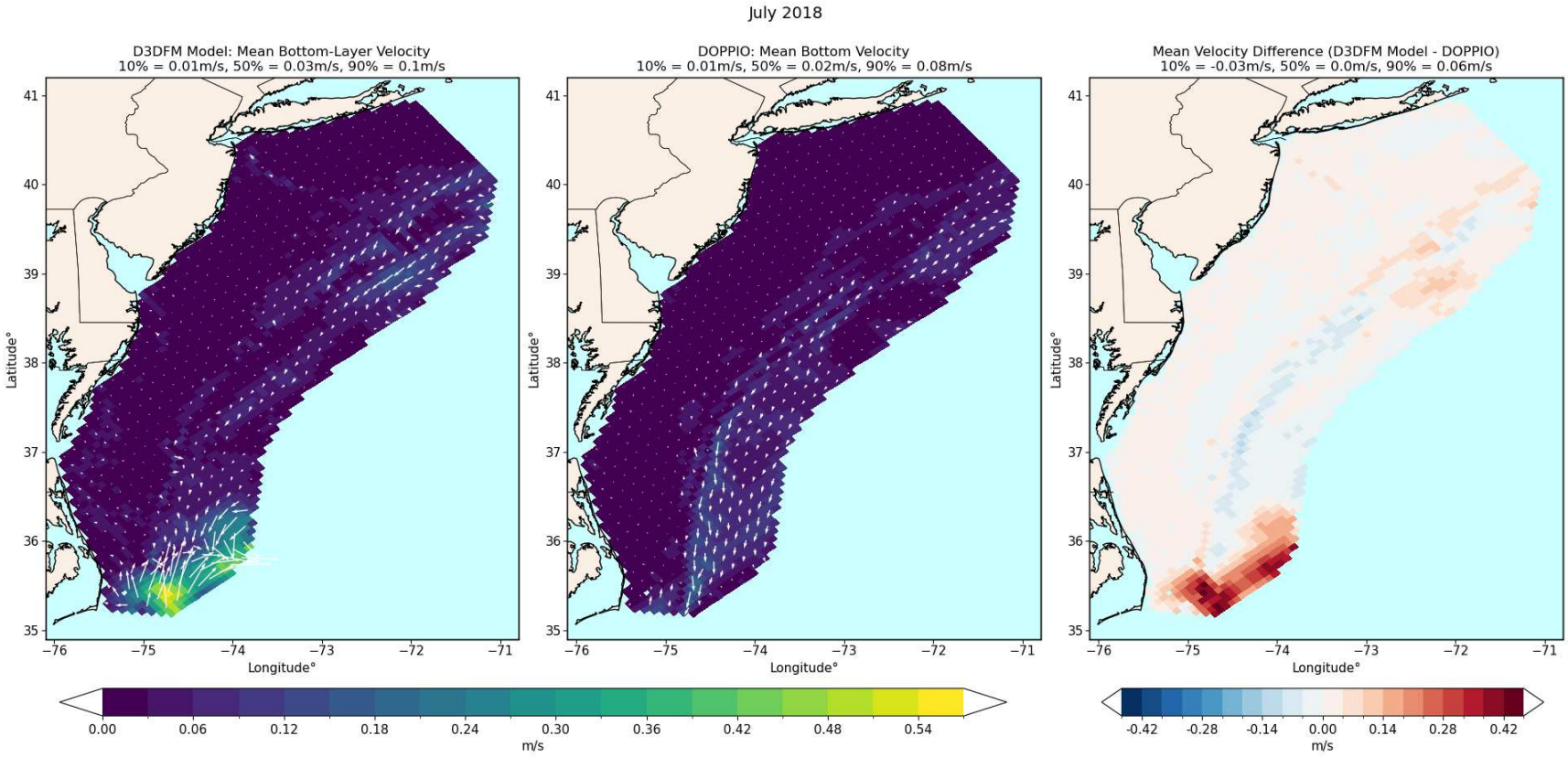
Apx Figure 195. Mean bottom velocity in April 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



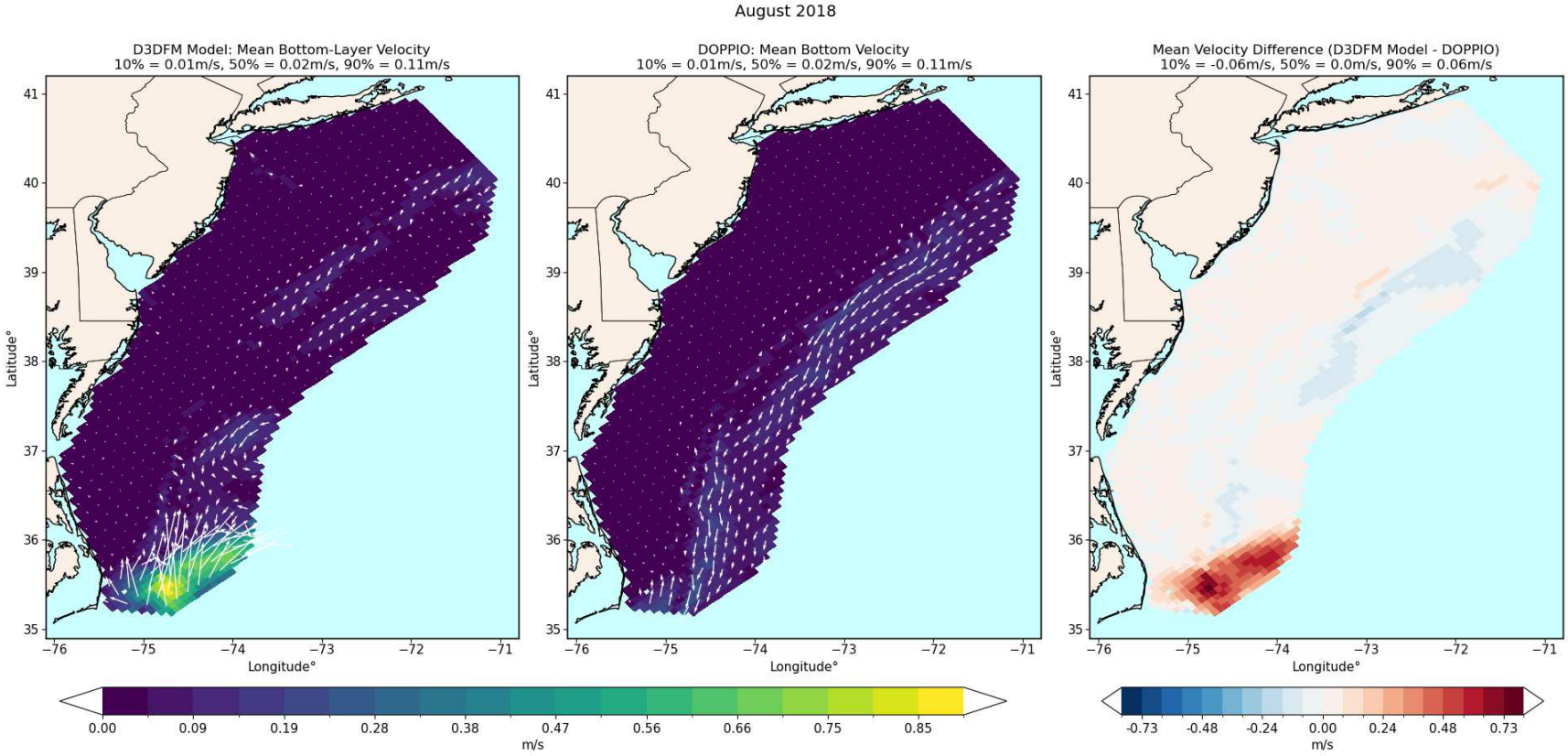
Apx Figure 196. Mean bottom velocity in May 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



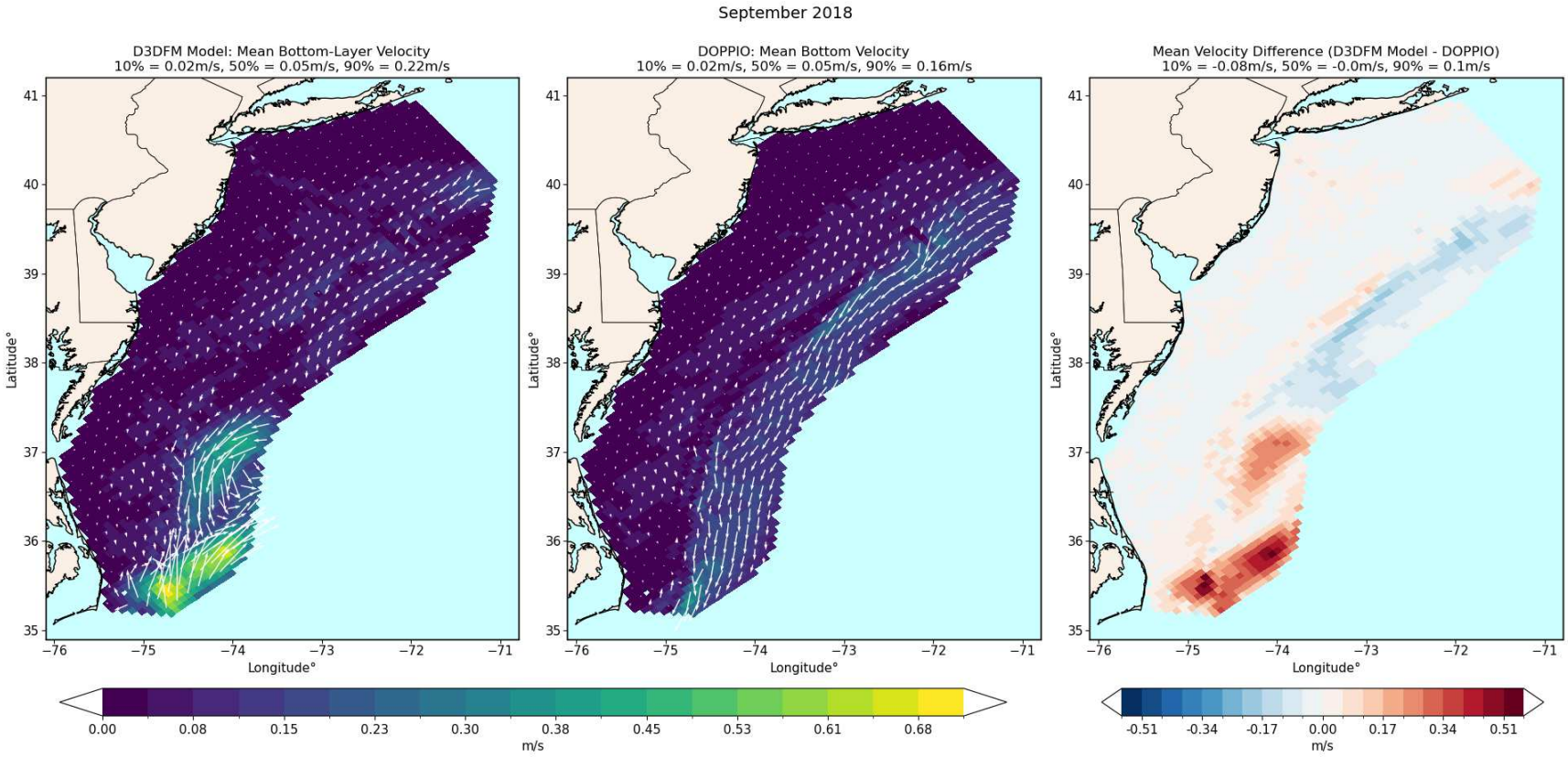
Apx Figure 197. Mean bottom velocity in June 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



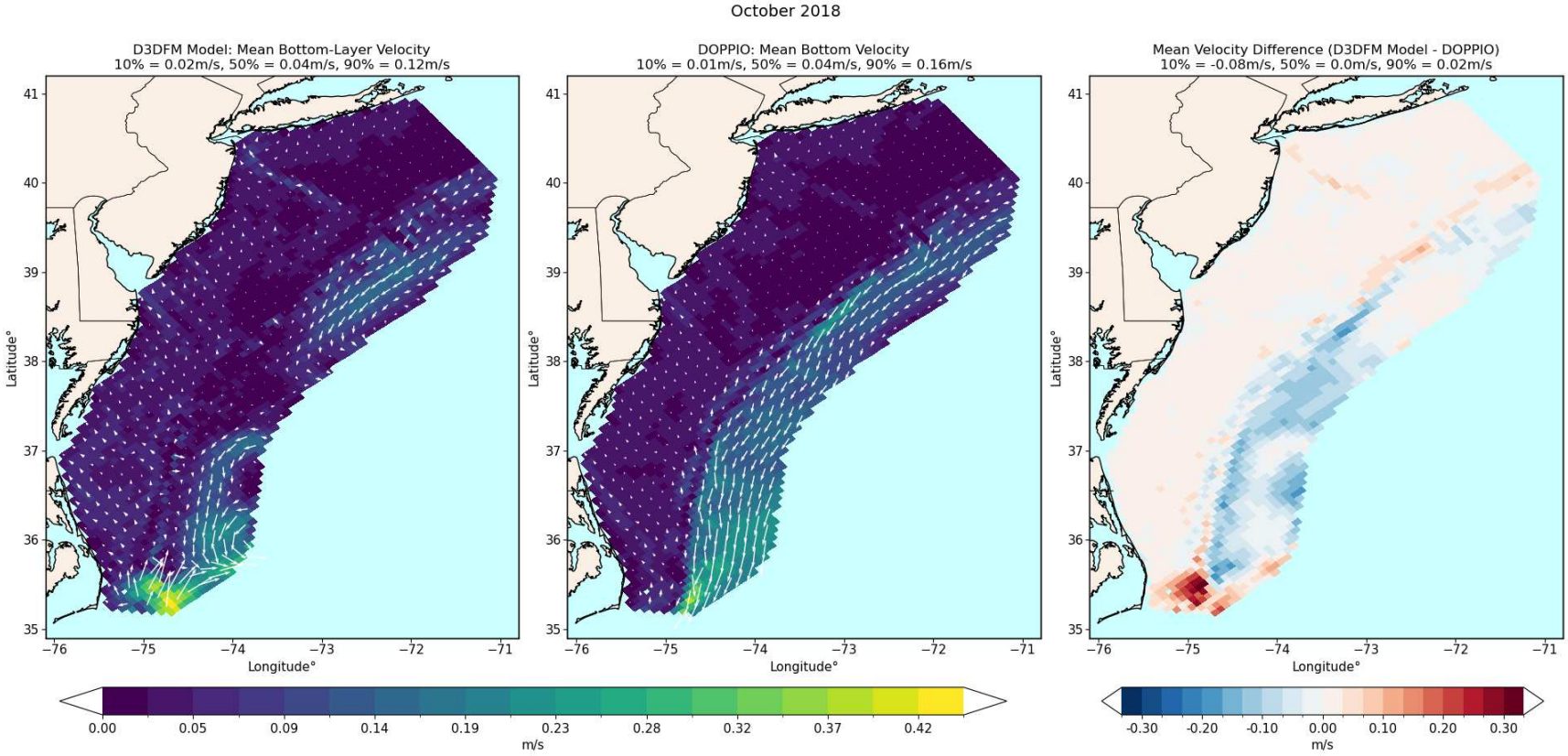
Apx Figure 198. Mean bottom velocity in July 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



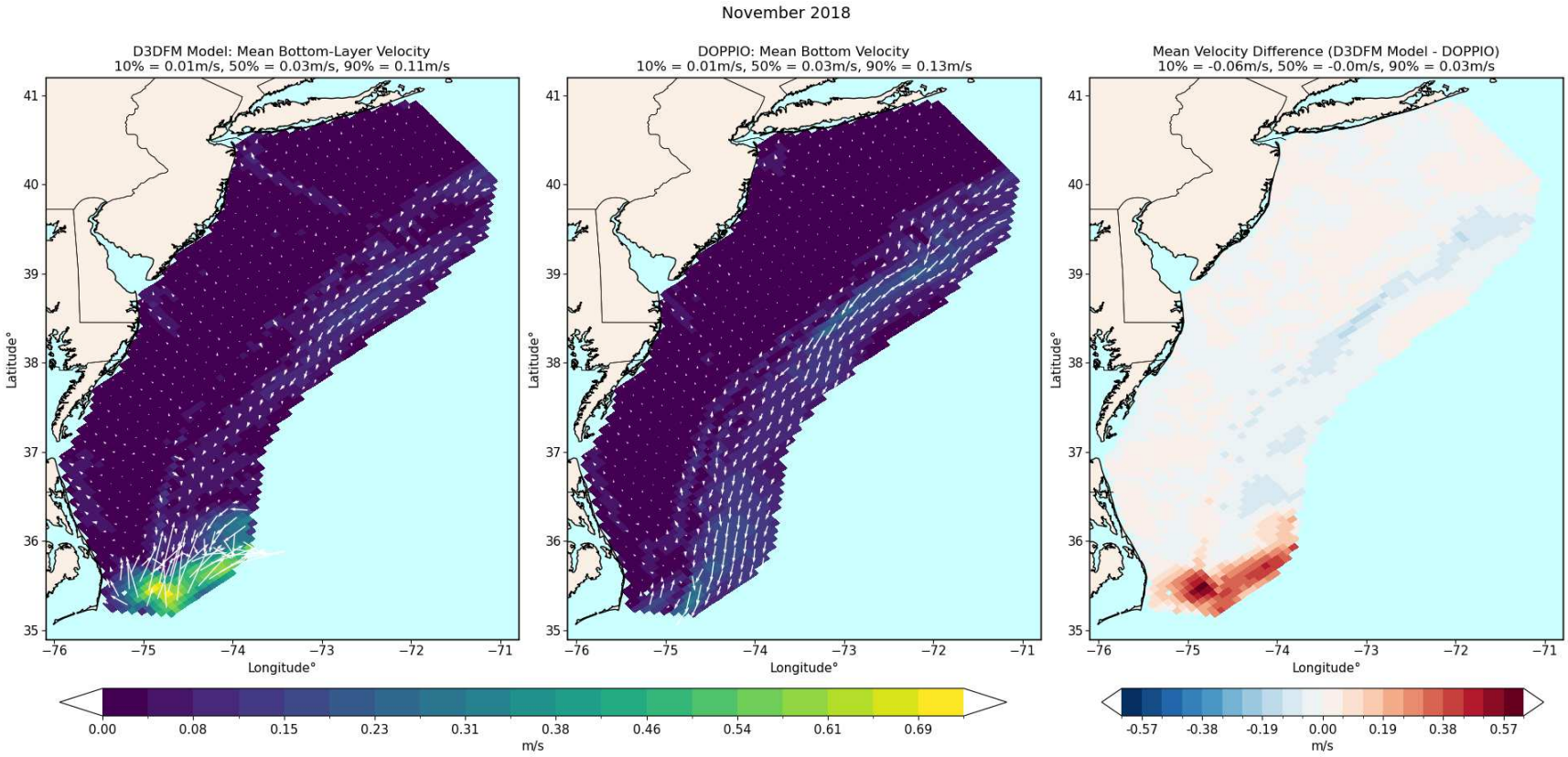
Apx Figure 199. Mean bottom velocity in August 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



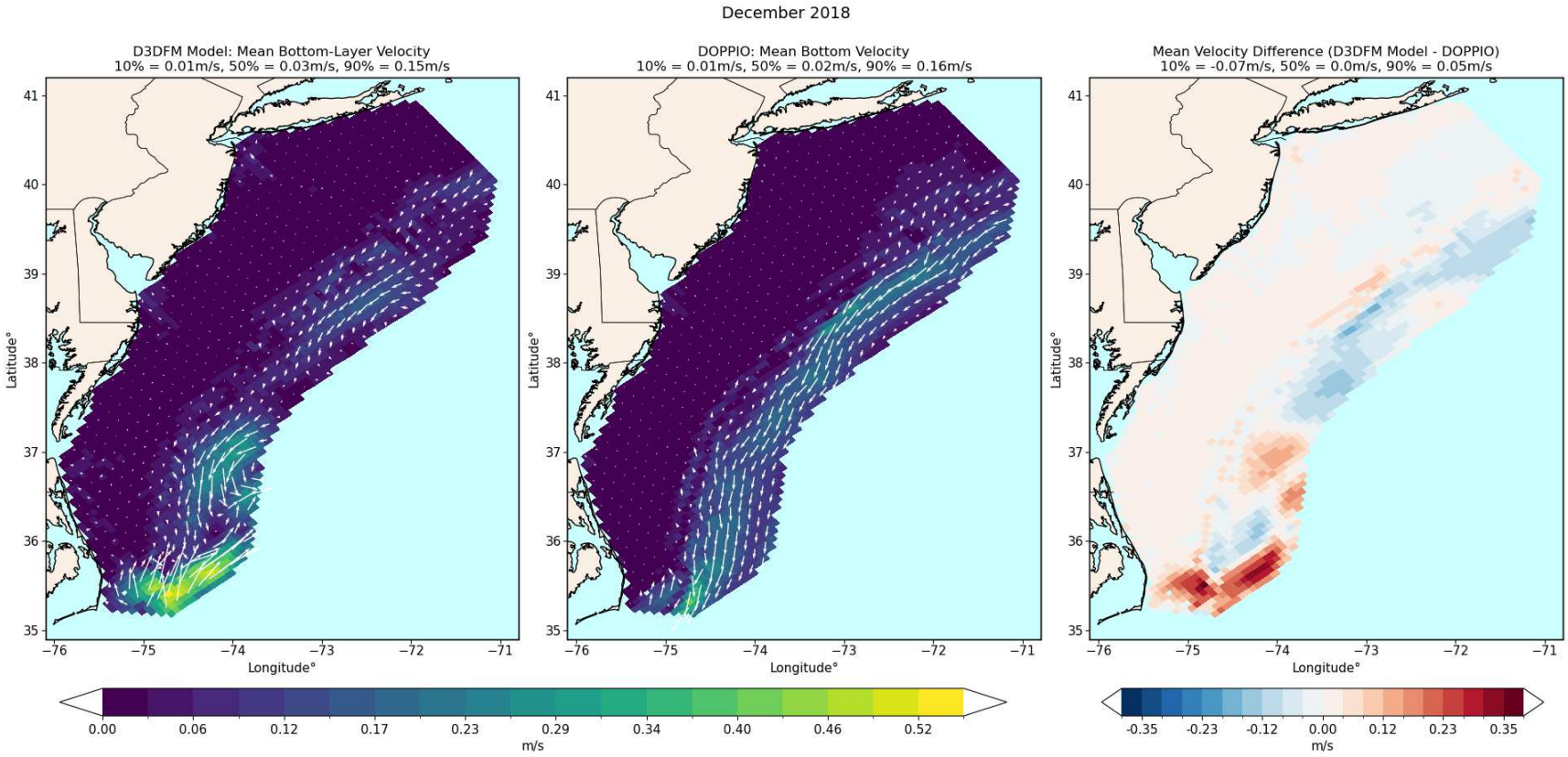
Apx Figure 200. Mean bottom velocity in September 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



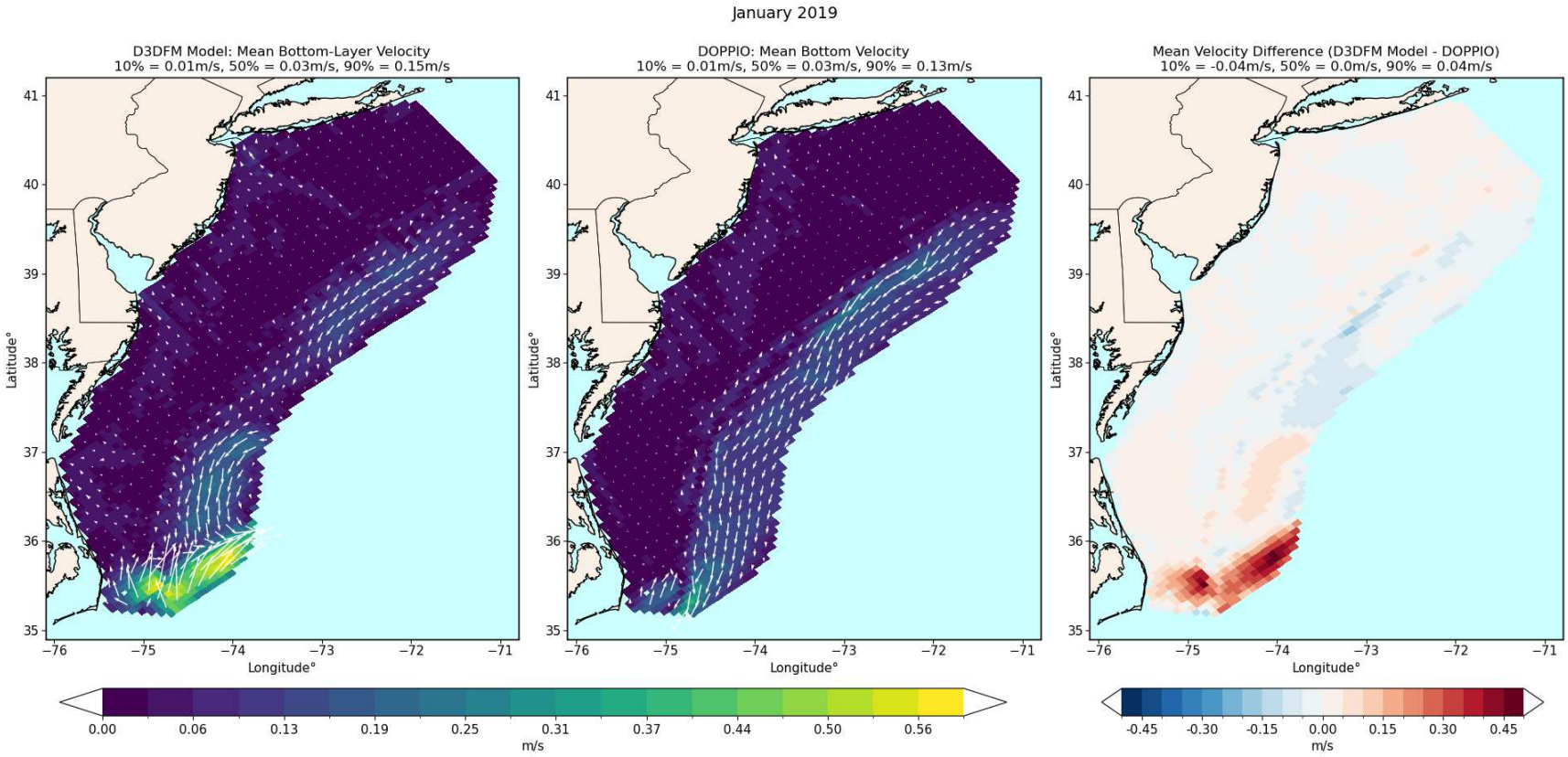
Apx Figure 201. Mean bottom velocity in October 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



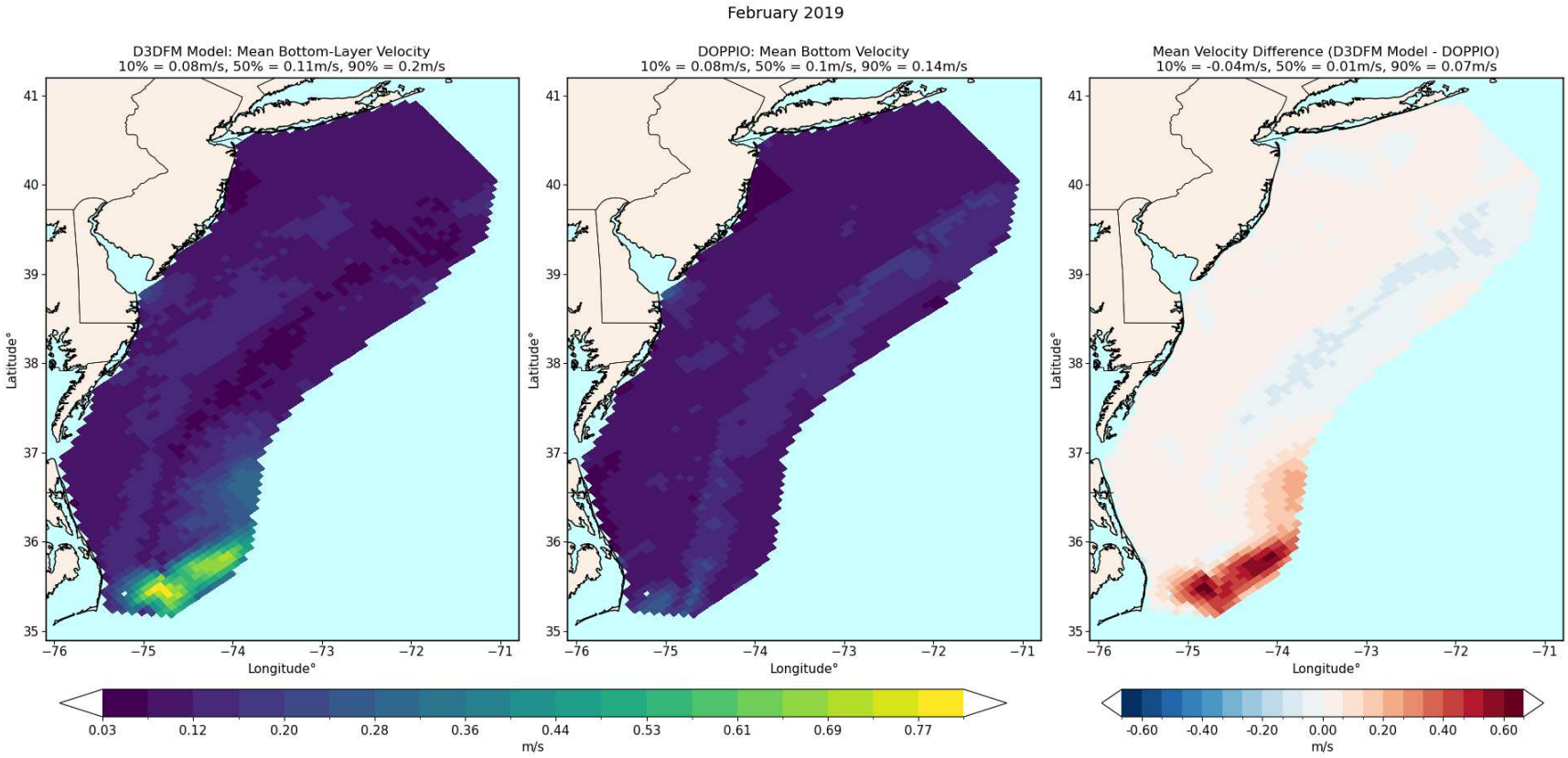
Apx Figure 202. Mean bottom velocity in November 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



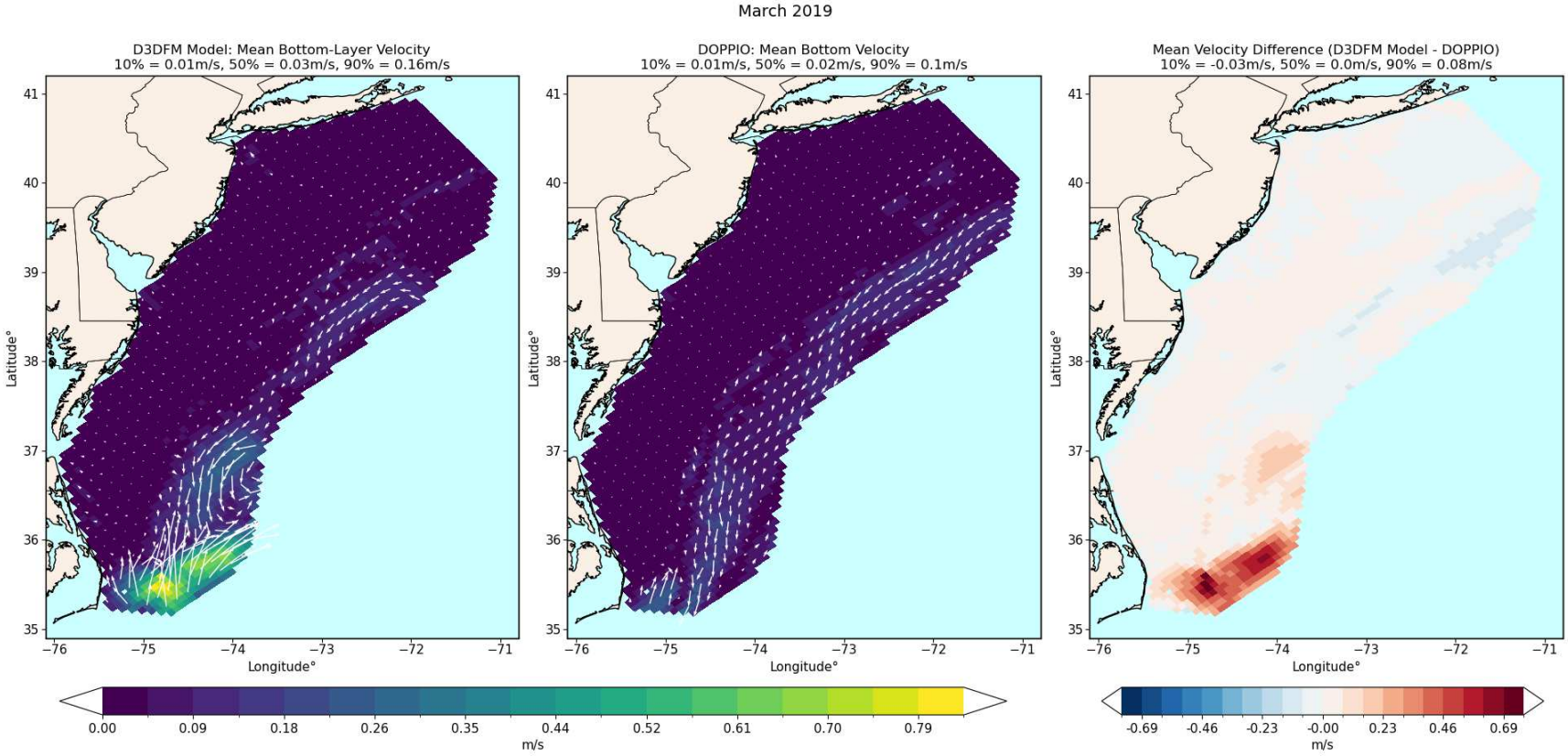
Apx Figure 203. Mean bottom velocity in December 2018, of the model (left), DOPPIO dataset (middle), and difference (right).



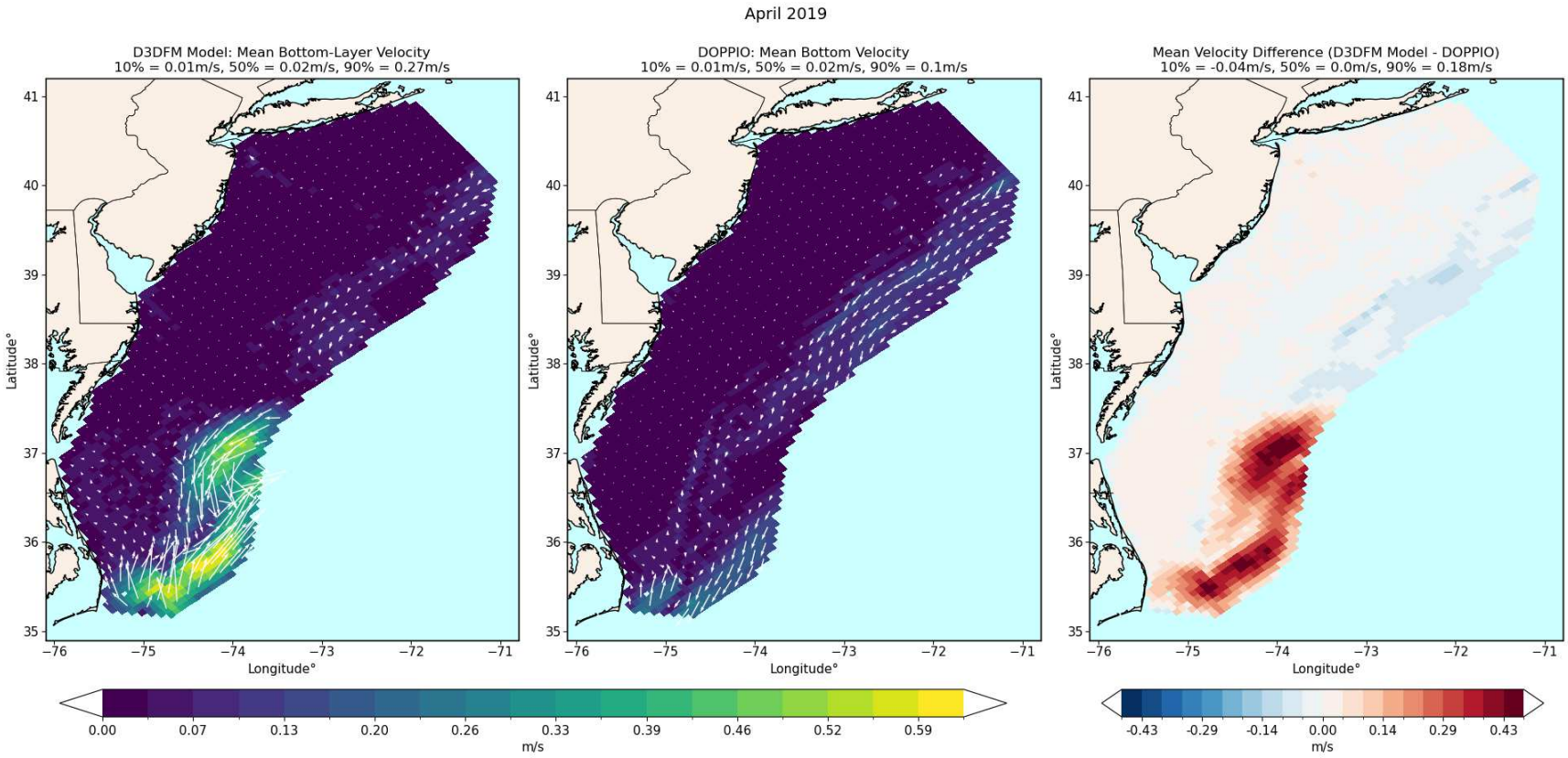
Apx Figure 204. Mean bottom velocity in January 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



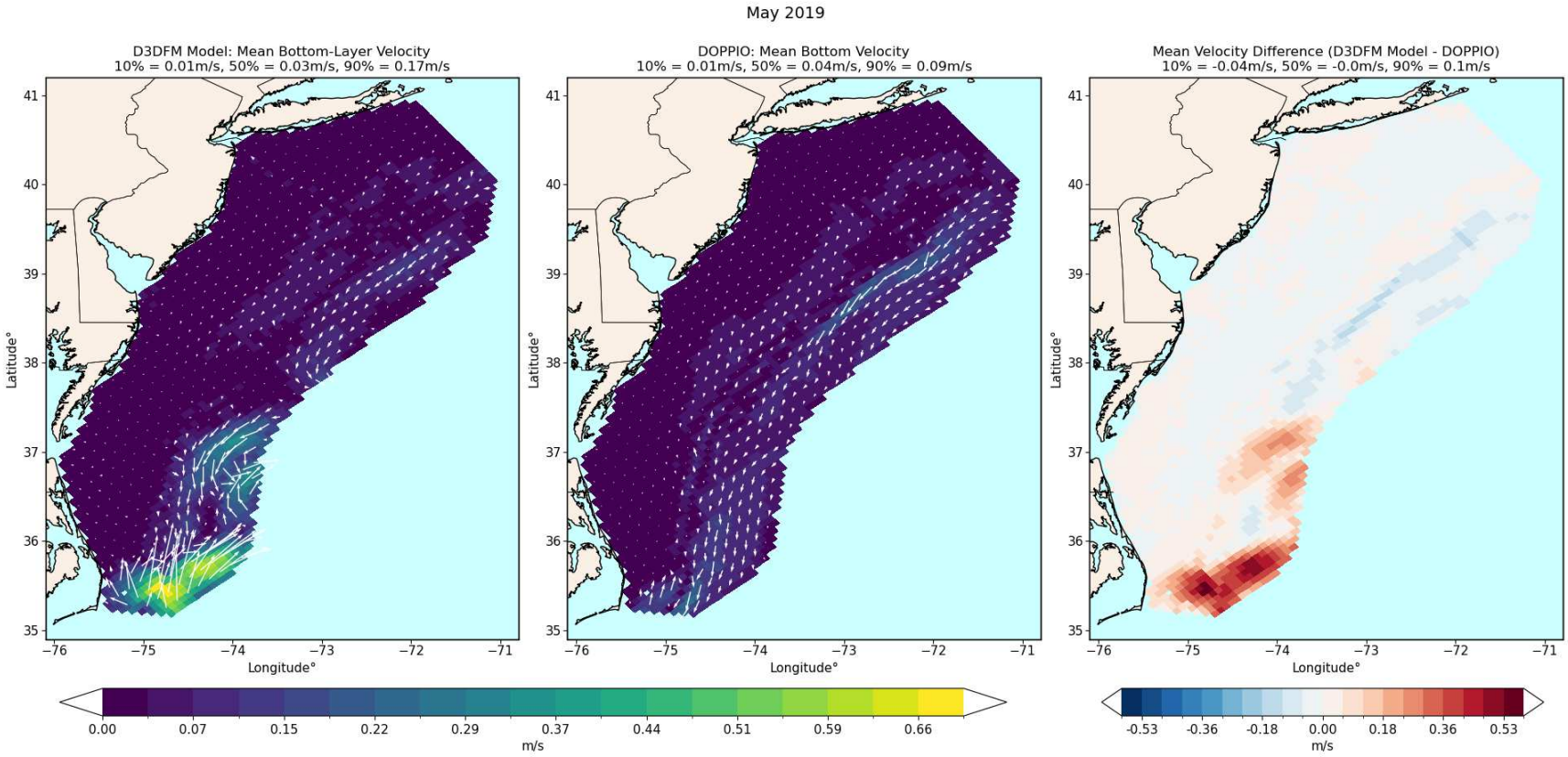
Apx Figure 205. Mean bottom velocity in February 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



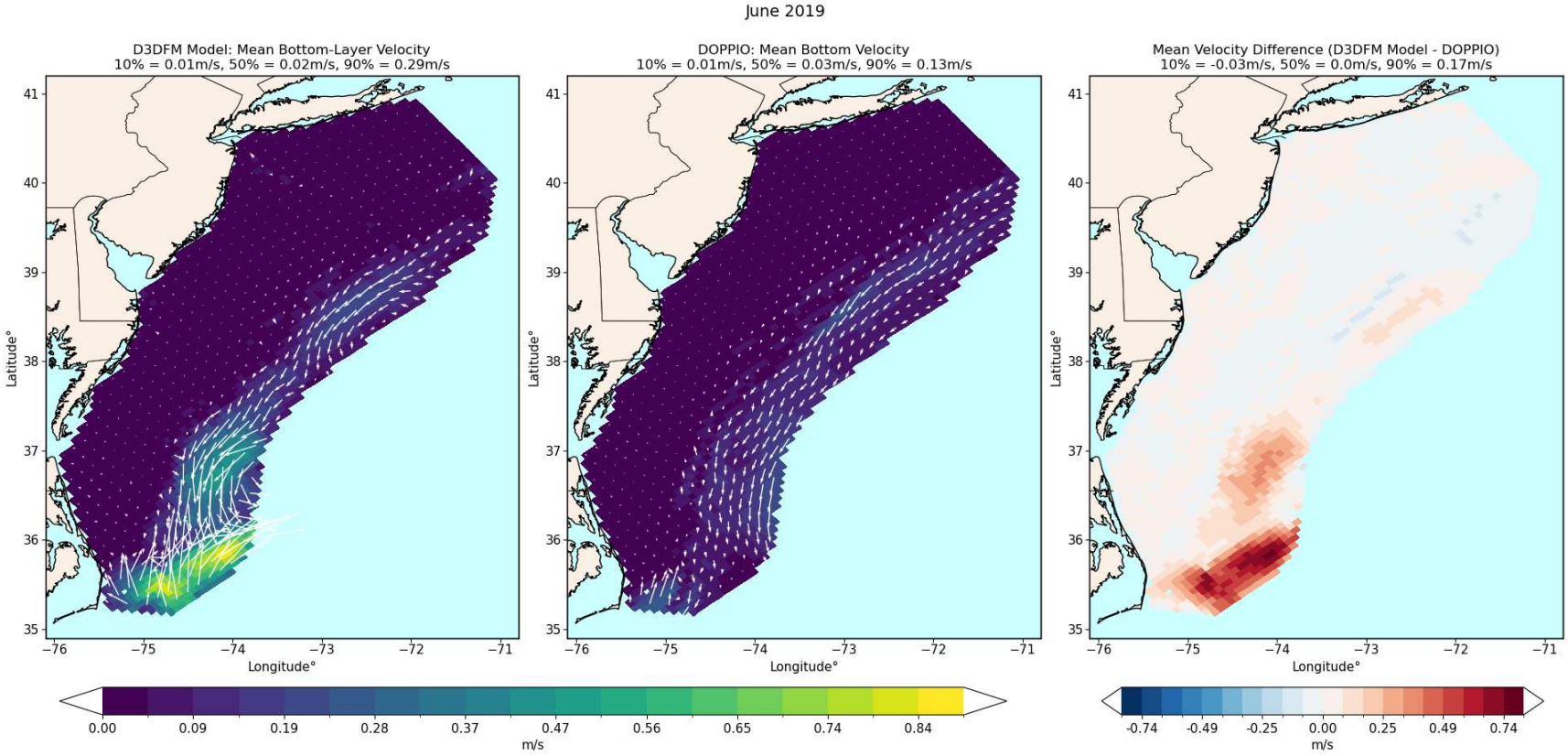
Apx Figure 206. Mean bottom velocity in March 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



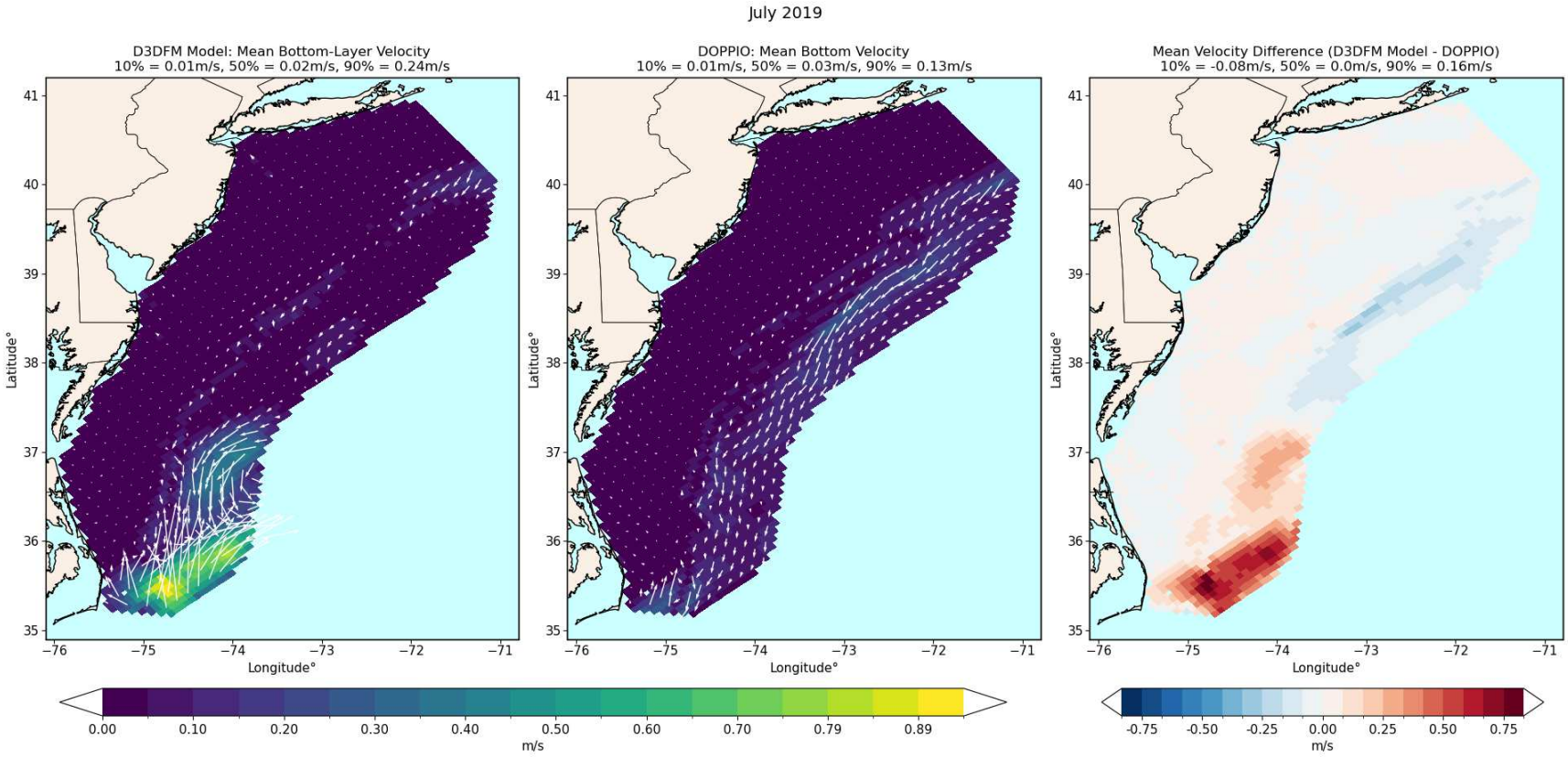
Apx Figure 207. Mean bottom velocity in April 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



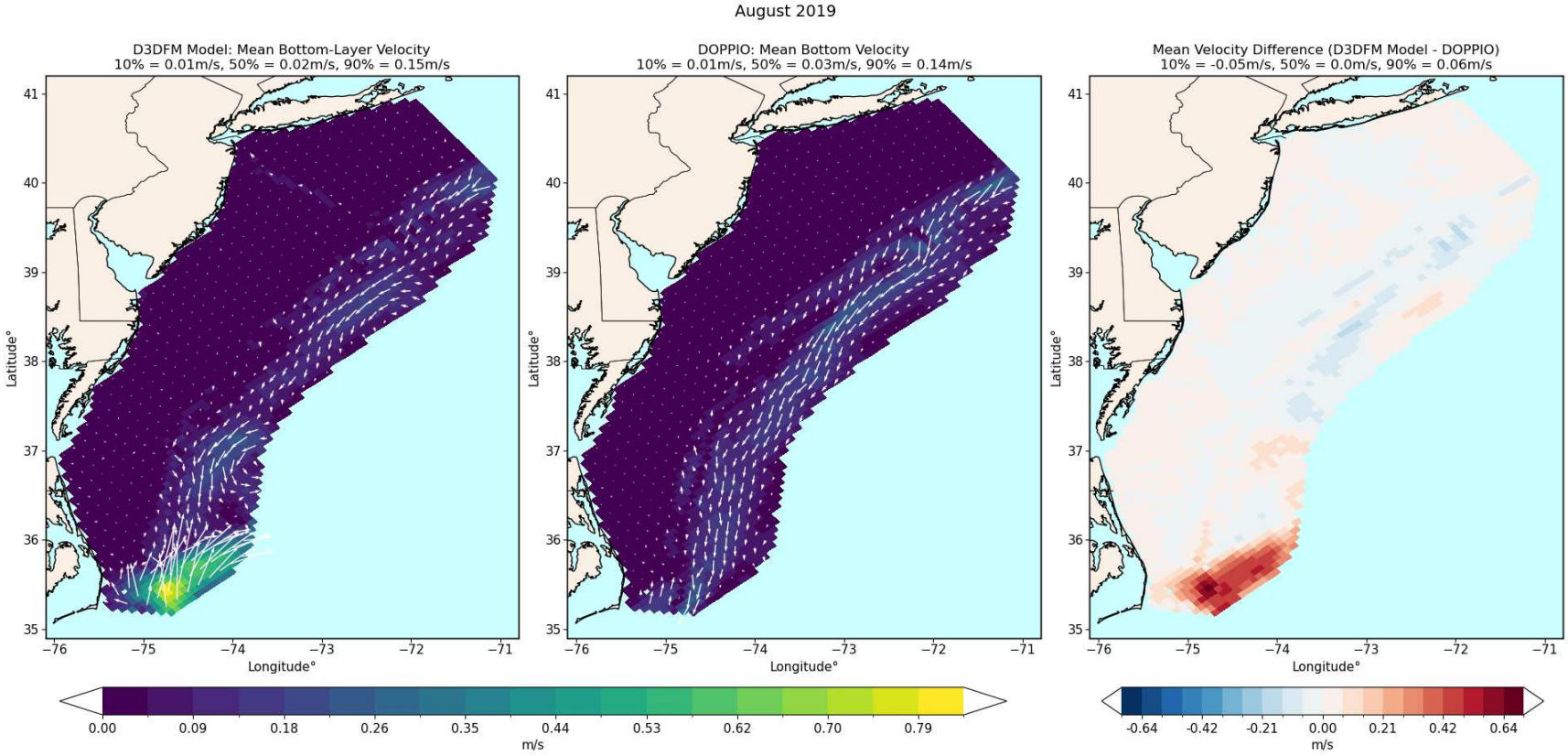
Apx Figure 208. Mean bottom velocity in May 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



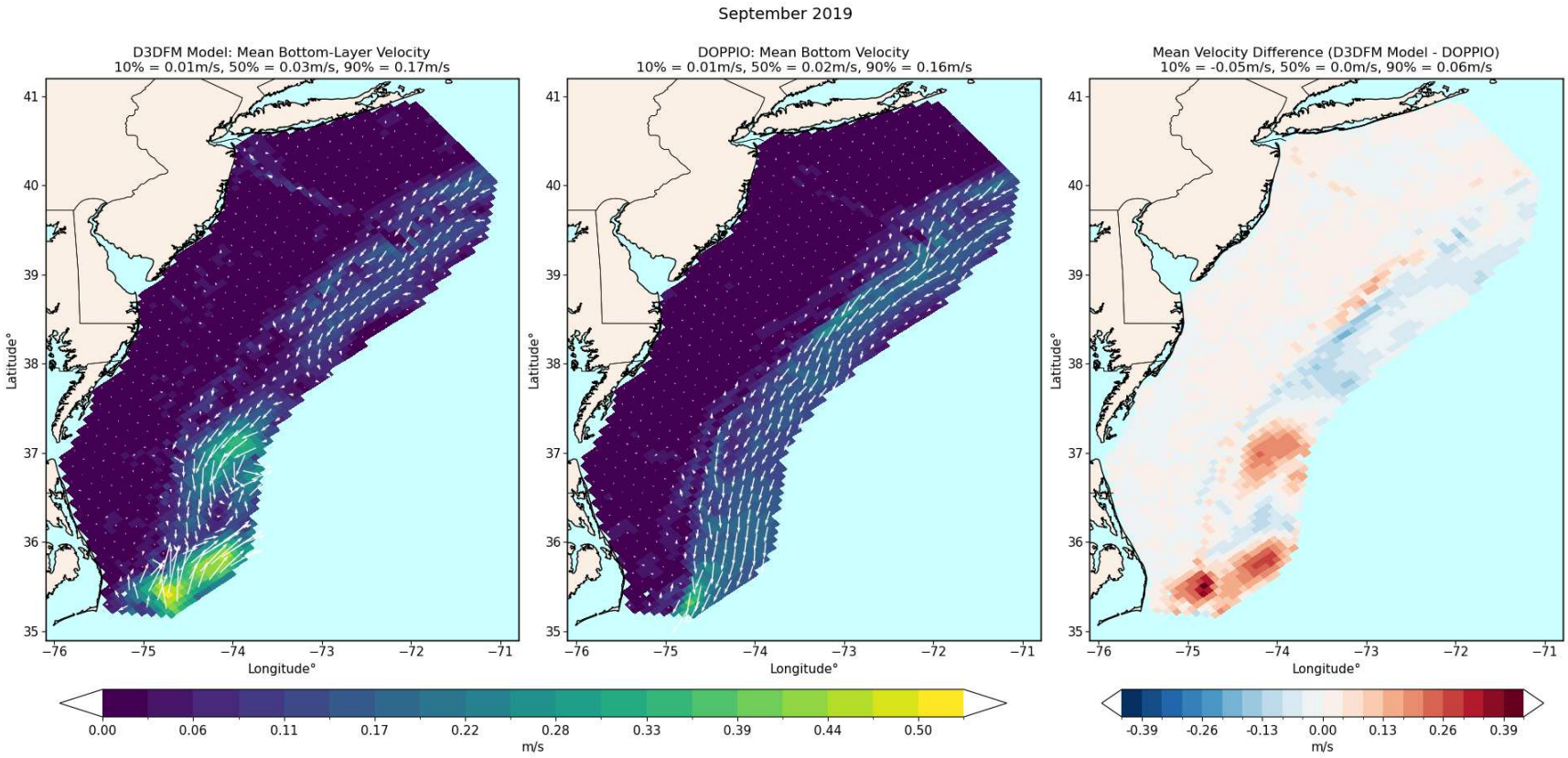
Apx Figure 209. Mean bottom velocity in June 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



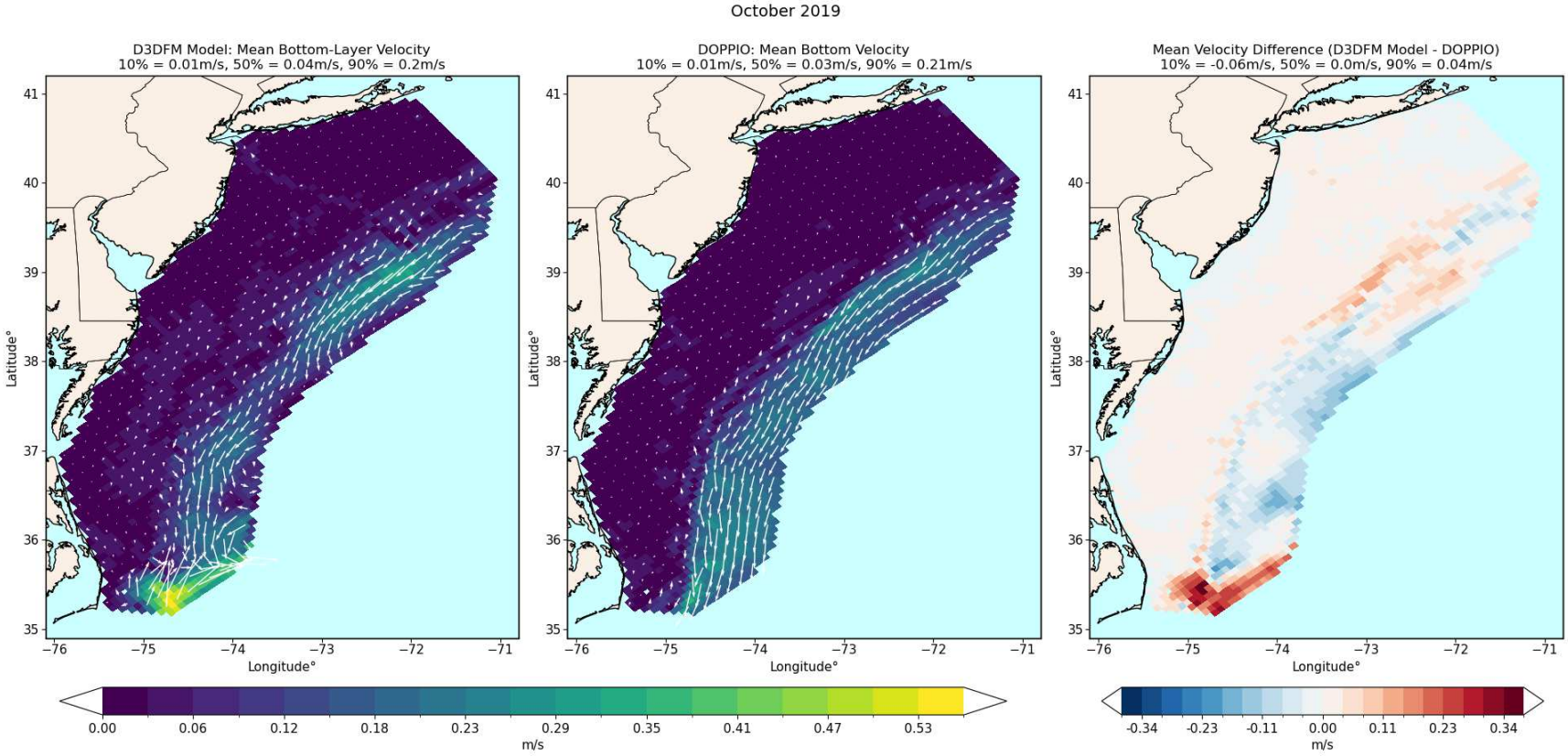
Apx Figure 210. Mean bottom velocity in July 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



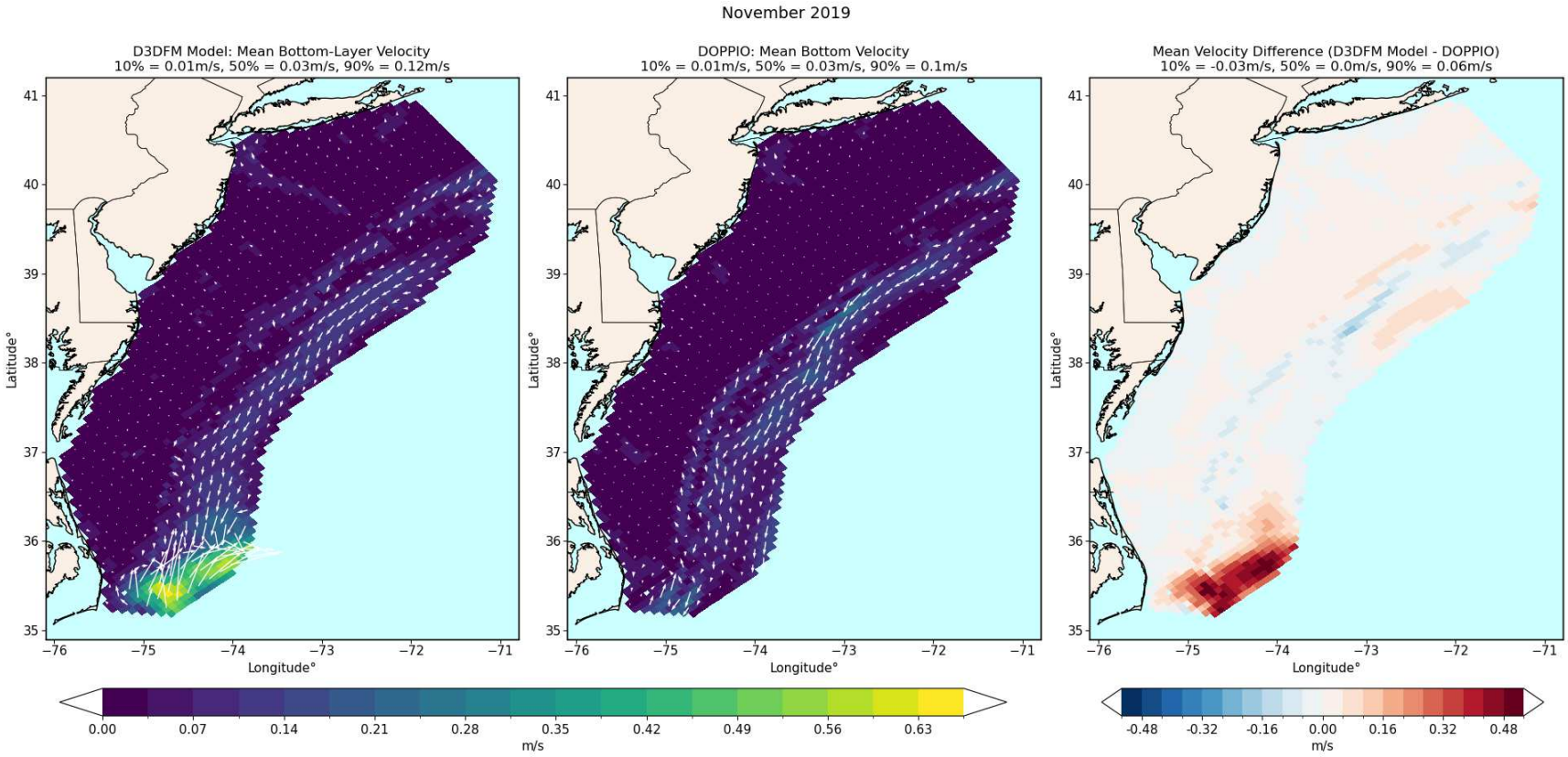
Apx Figure 211. Mean bottom velocity in August 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



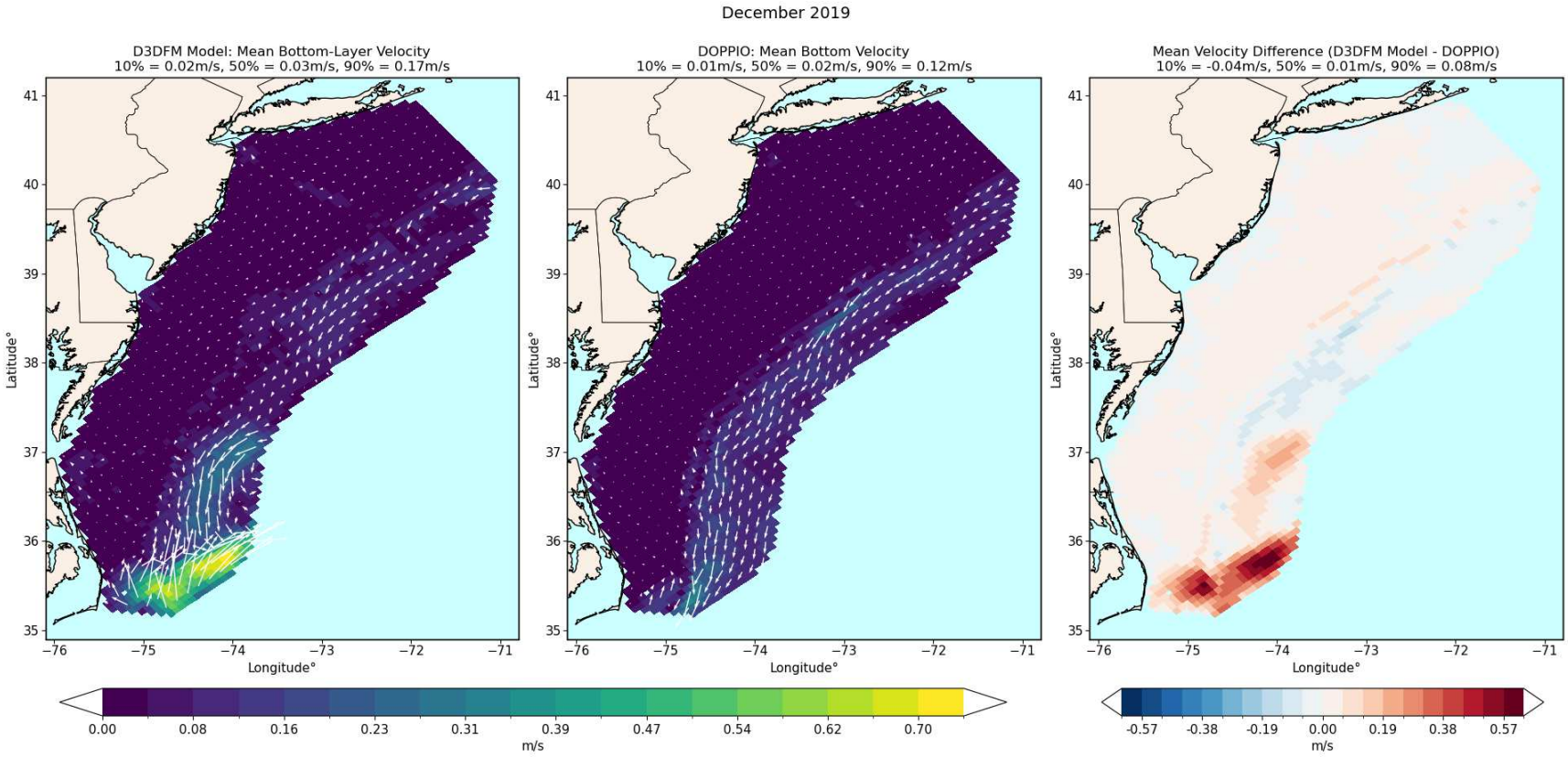
Apx Figure 212. Mean bottom velocity in September 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



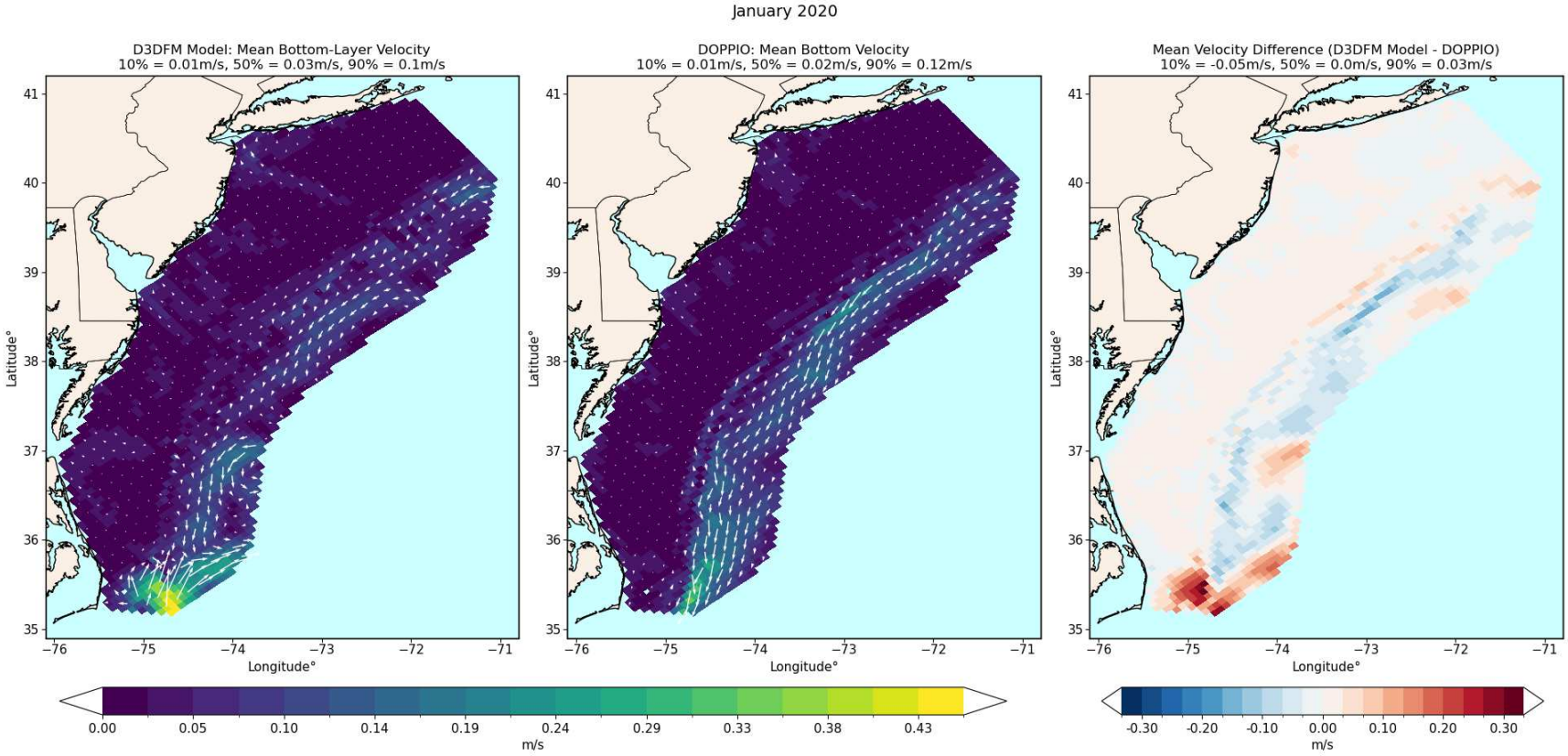
Apx Figure 213. Mean bottom velocity in October 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



Apx Figure 214. Mean bottom velocity in November 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



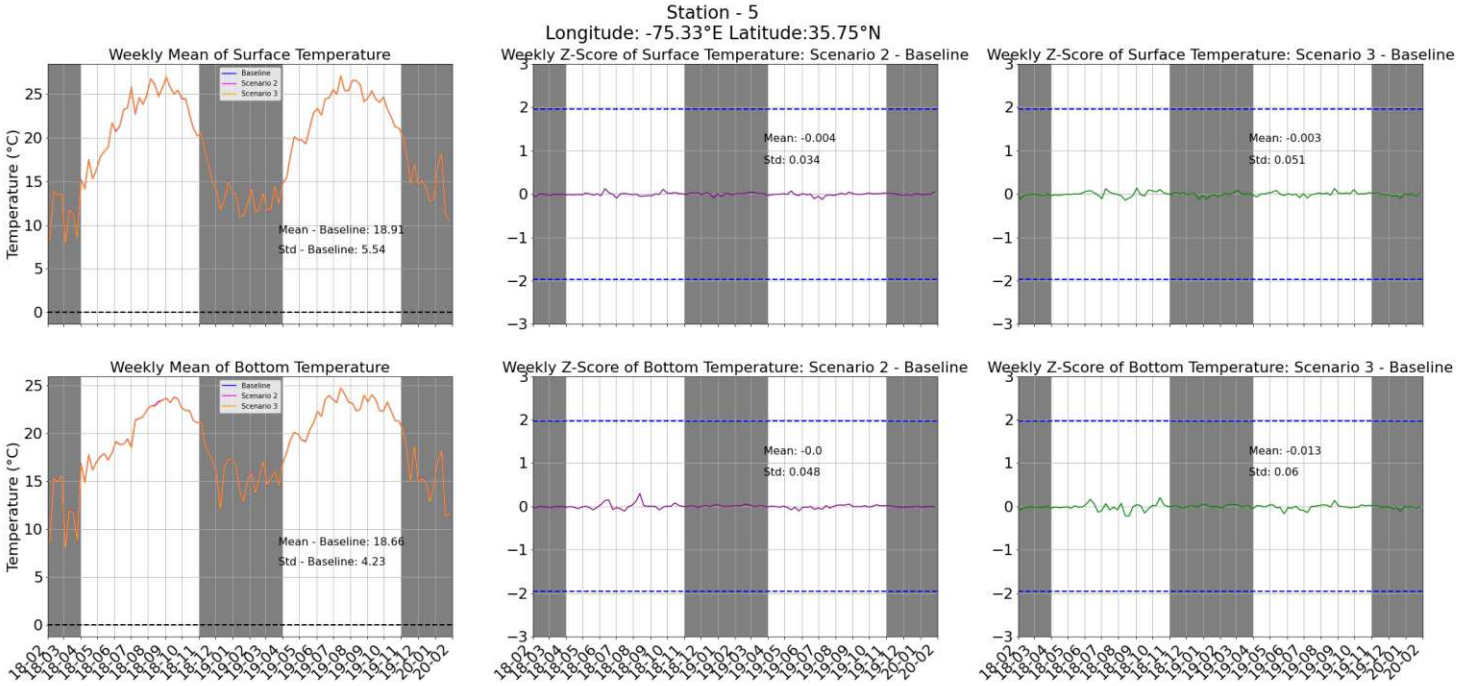
Apx Figure 215. Mean bottom velocity in December 2019, of the model (left), DOPPIO dataset (middle), and difference (right).



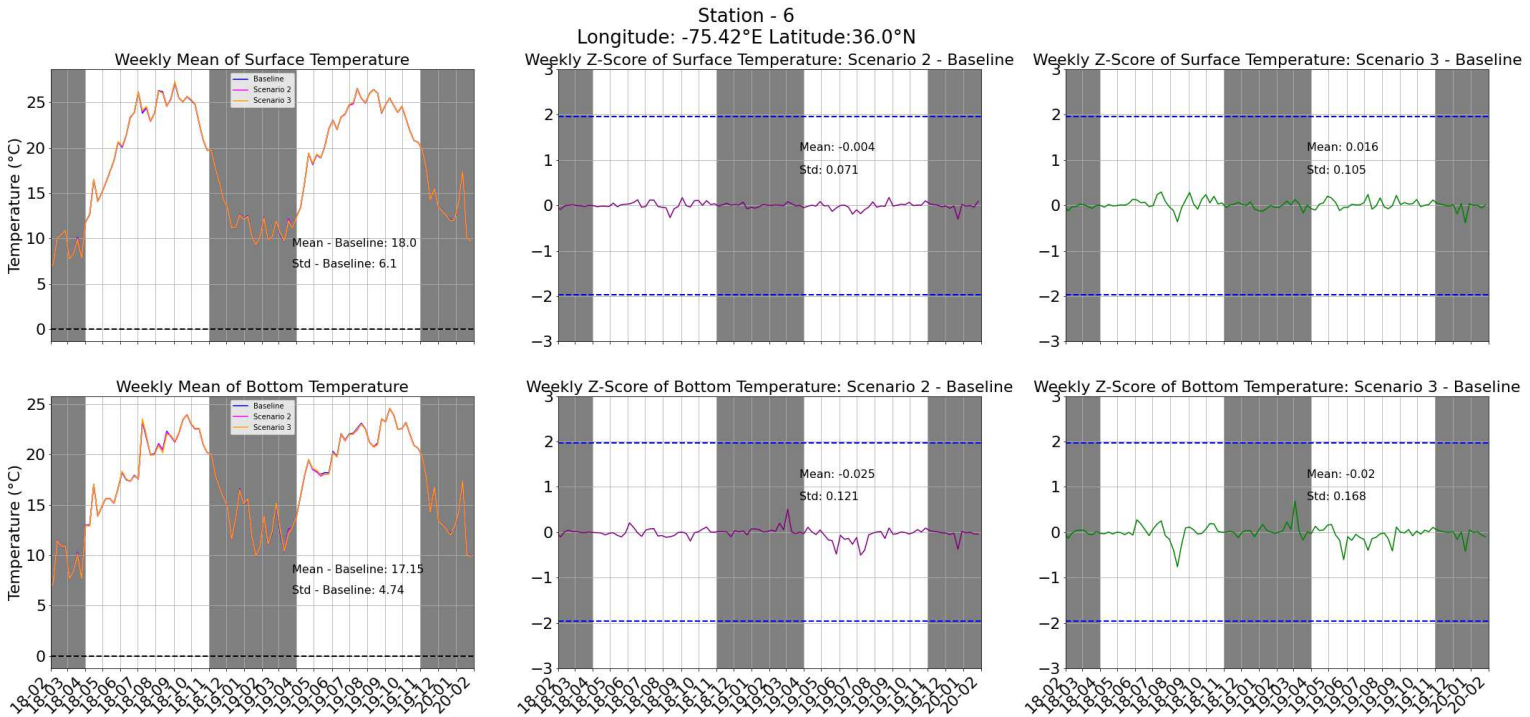
Apx Figure 216. Mean bottom velocity in January 2020, of the model (left), DOPPIO dataset (middle), and difference (right).

B Oceanographic Processes – Time Series Analysis at Specific Locations

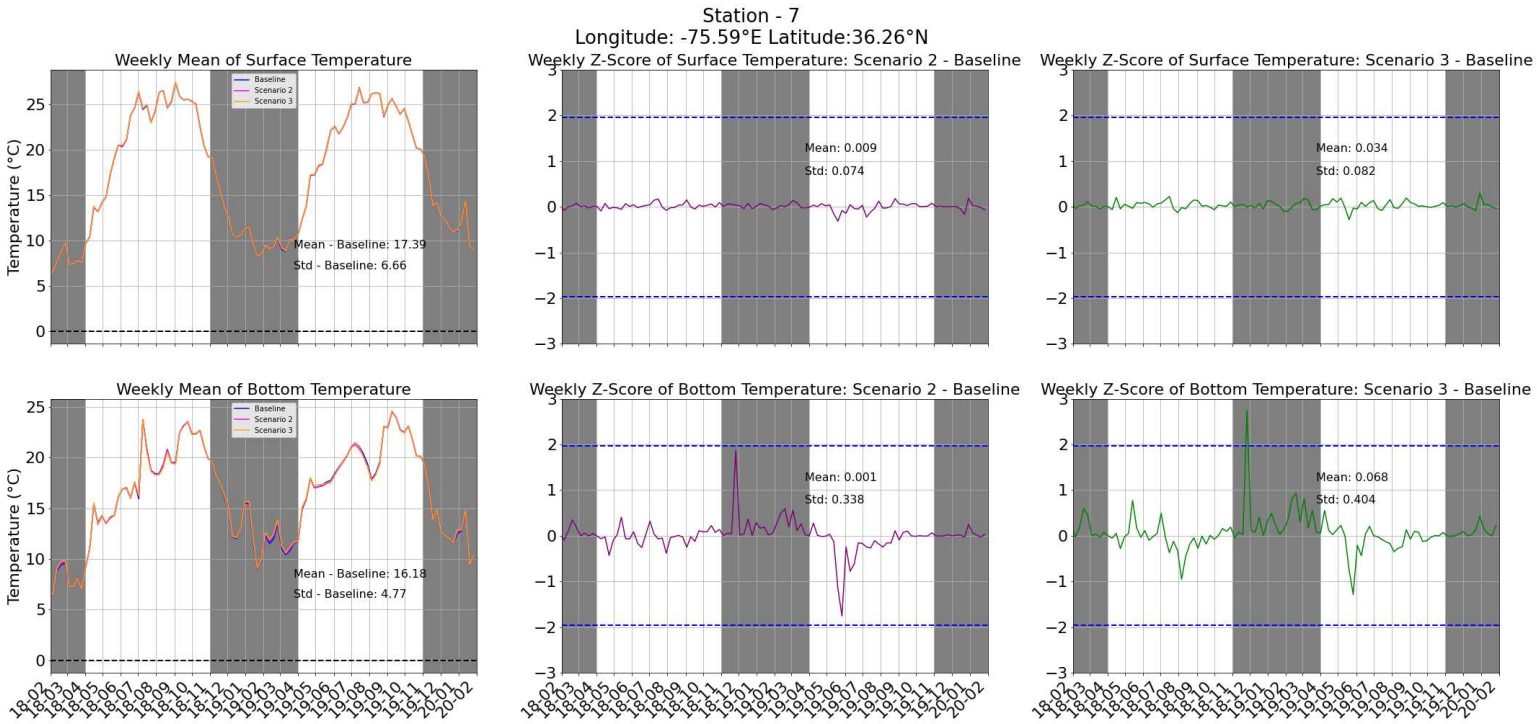
B.1 Water Temperature



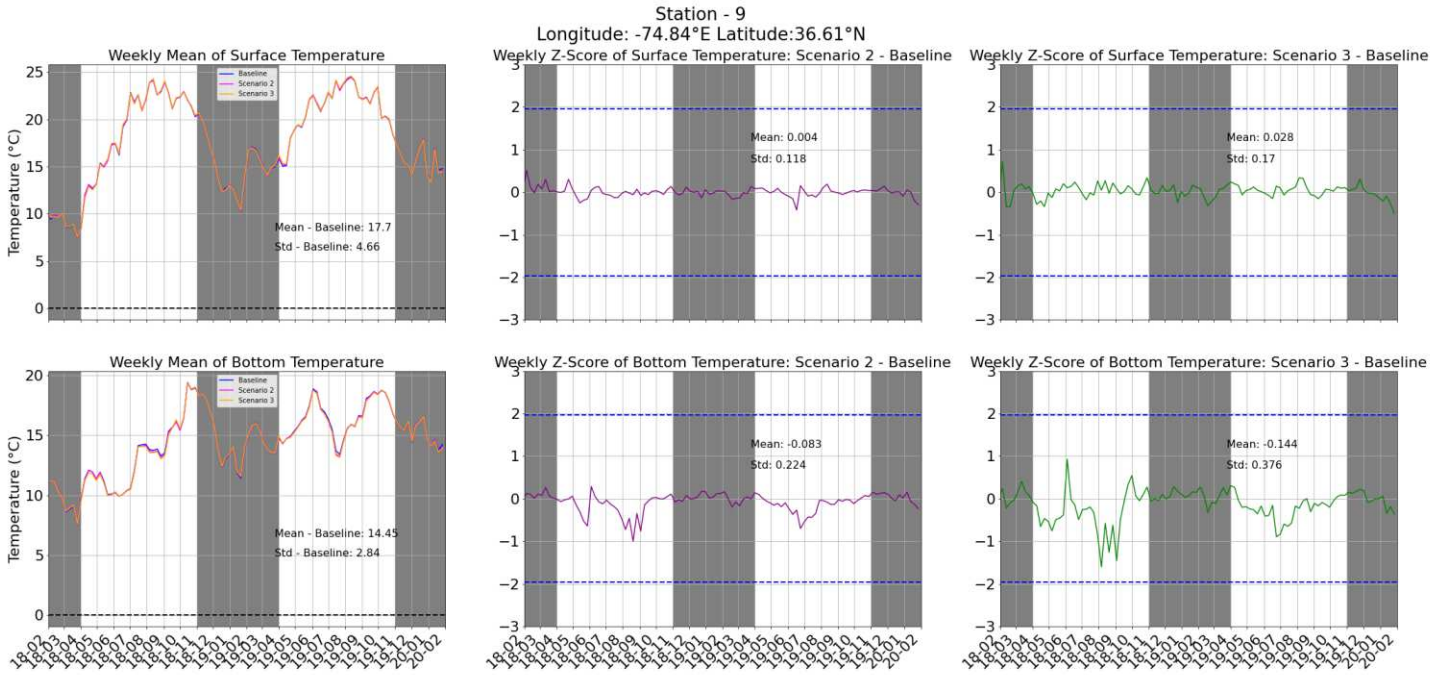
Apx Figure 217. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 5.



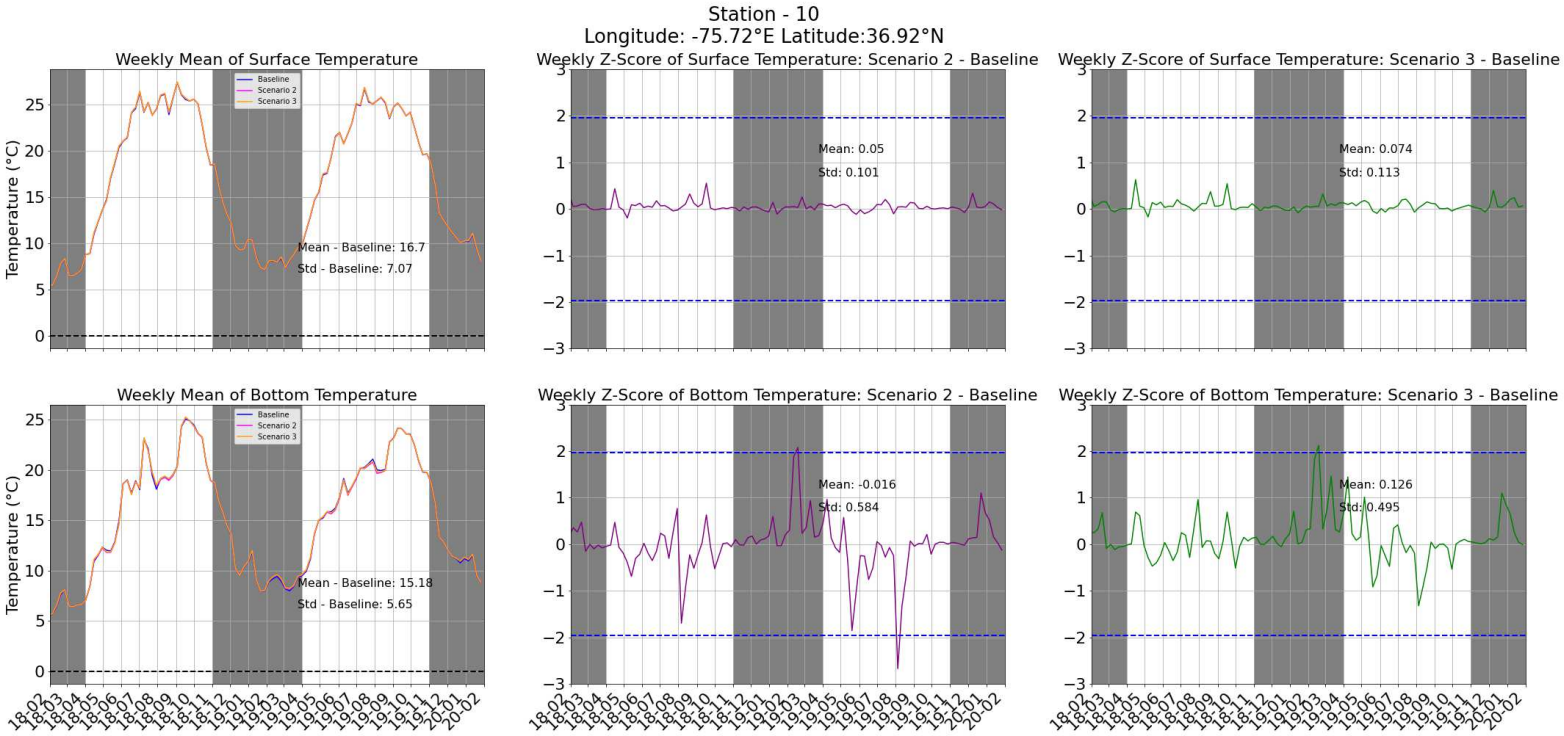
Apx Figure 218. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 6.



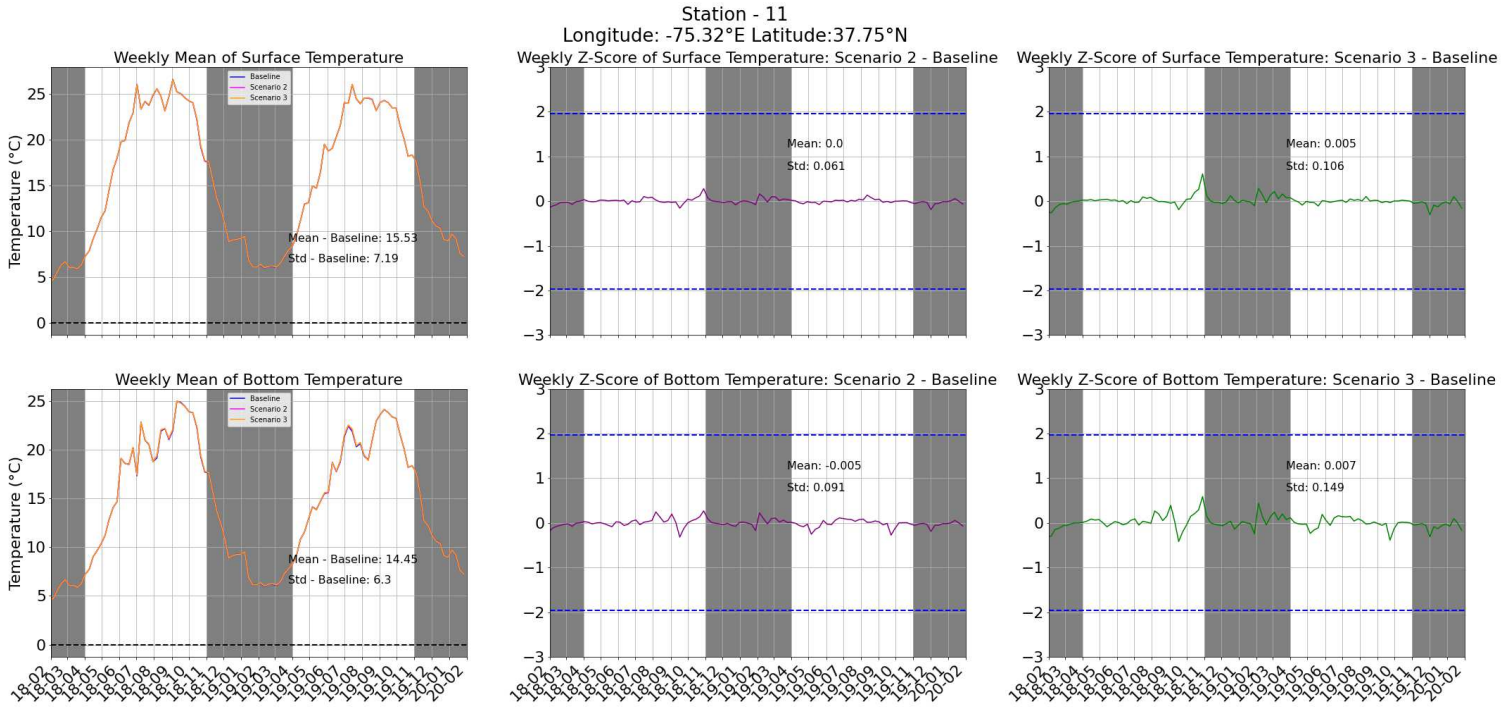
Apx Figure 219. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 7.



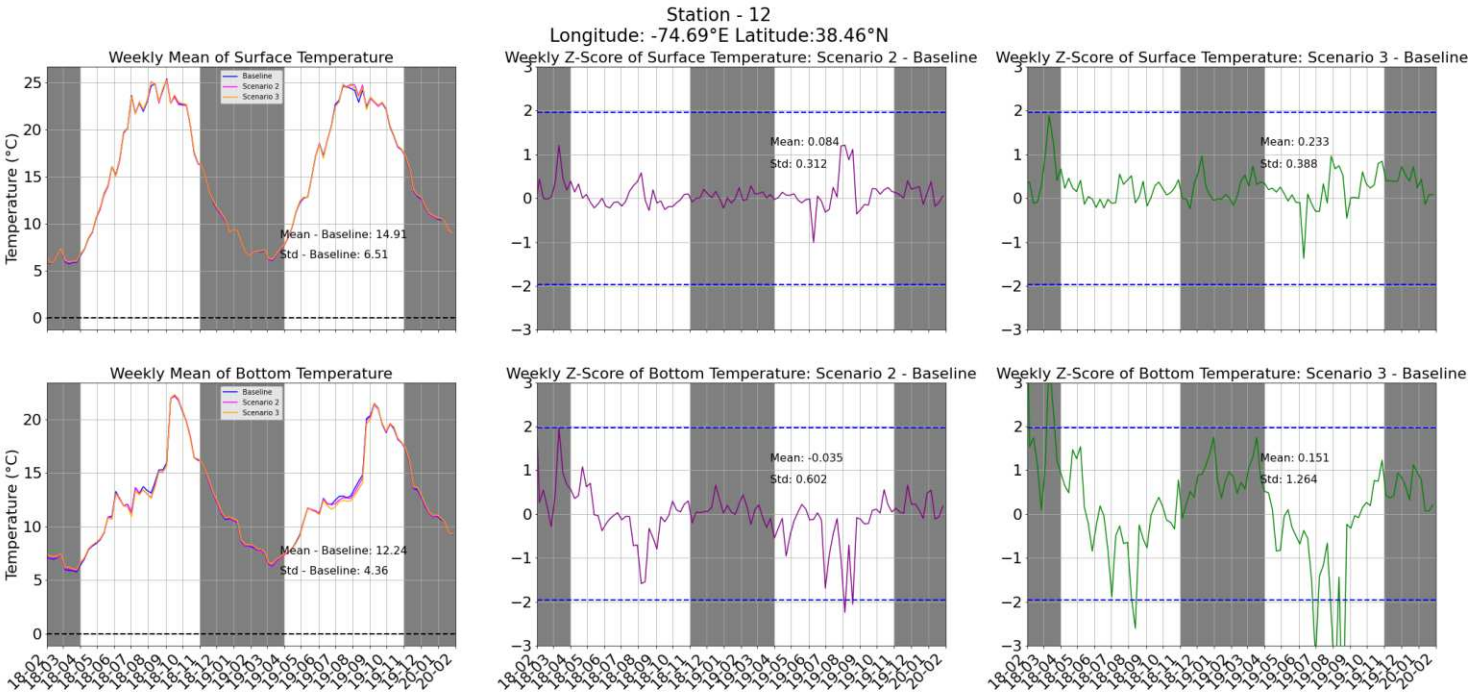
Apx Figure 220. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 9.



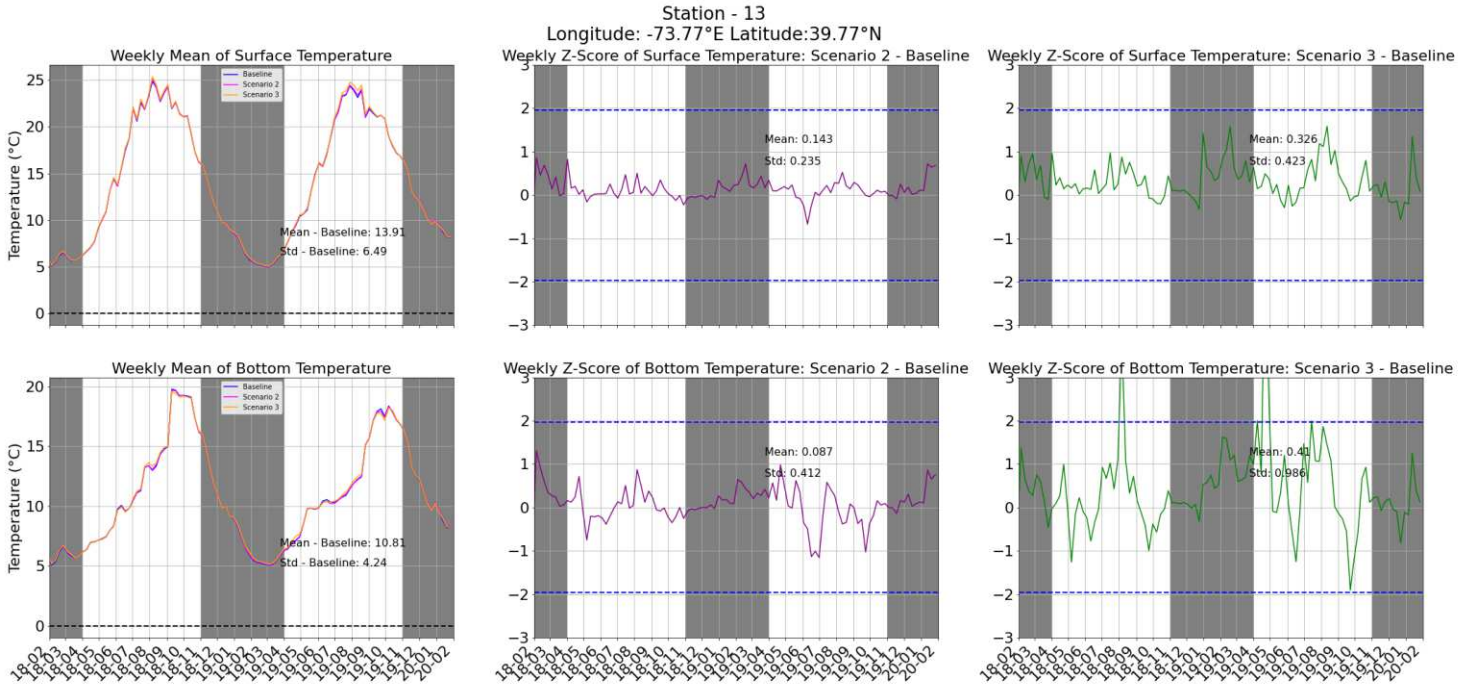
Apx Figure 221. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 10.



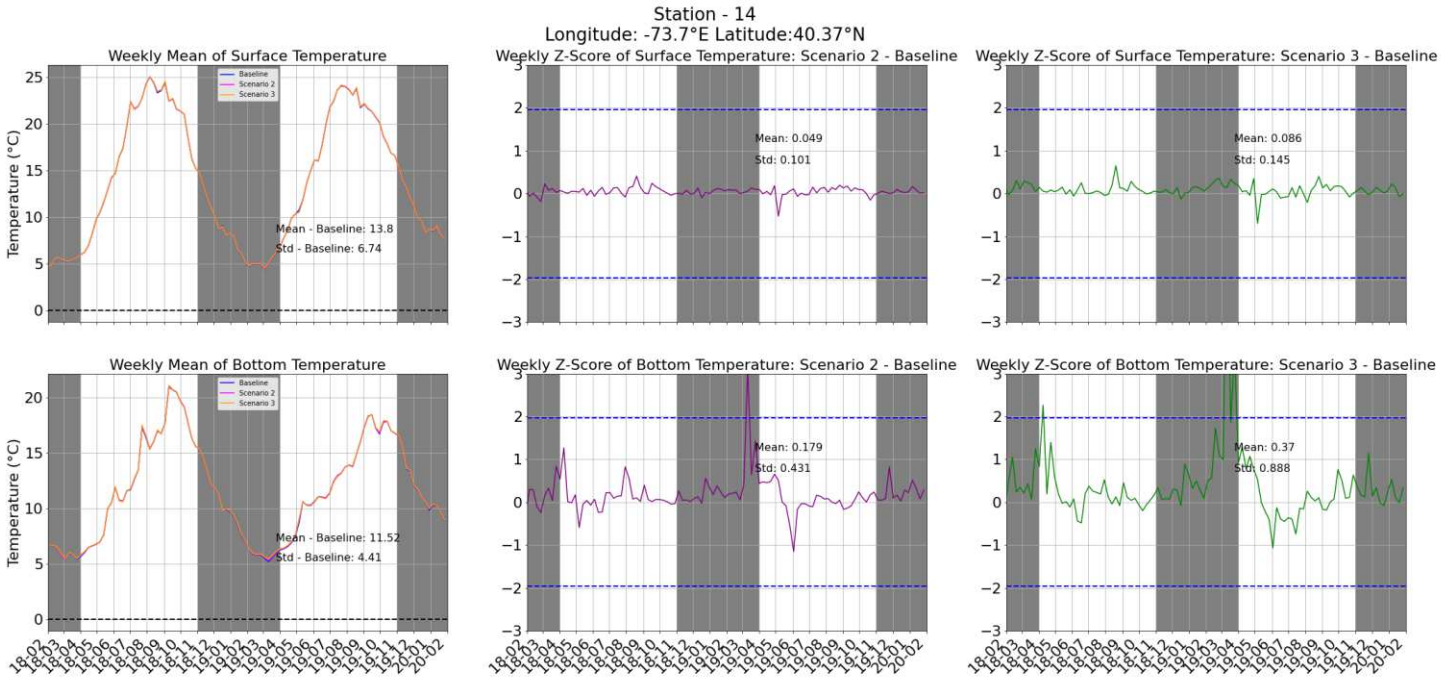
Apx Figure 222. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 11.



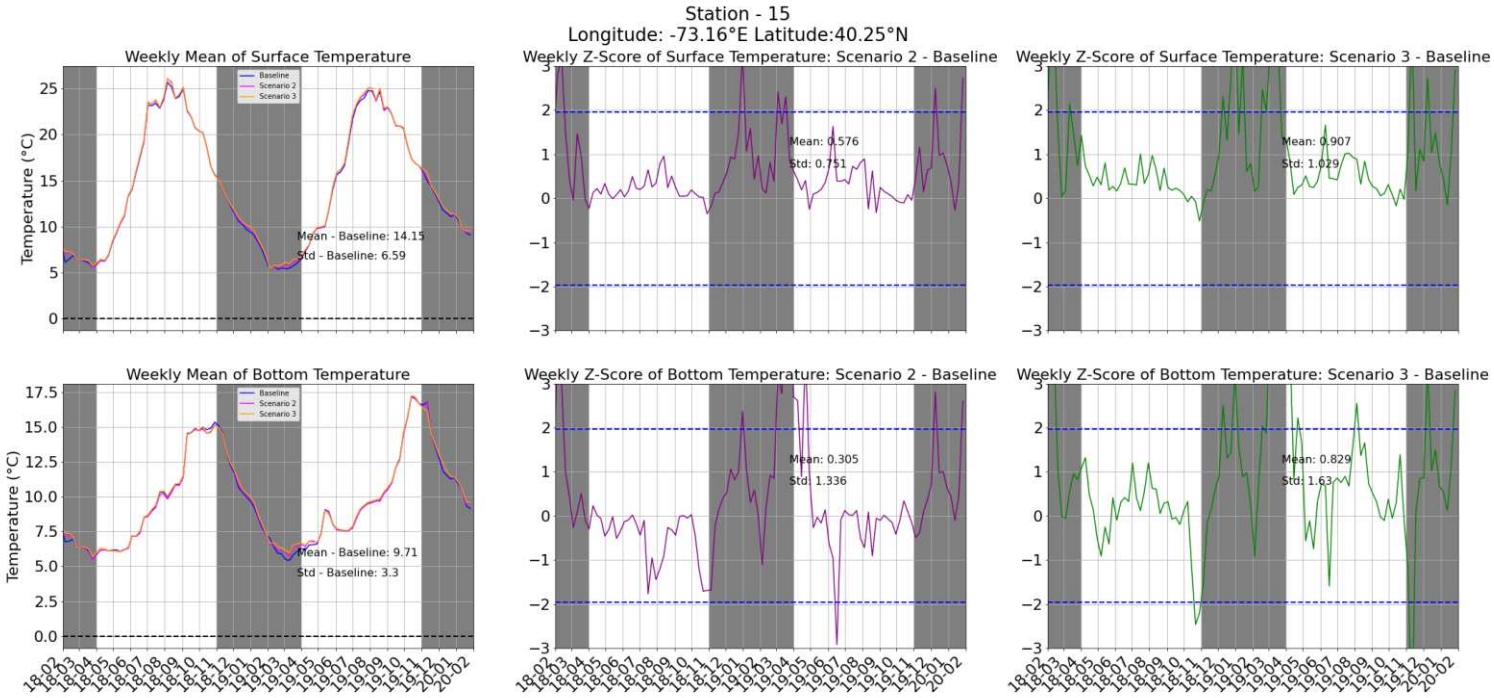
Apx Figure 223. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 12.



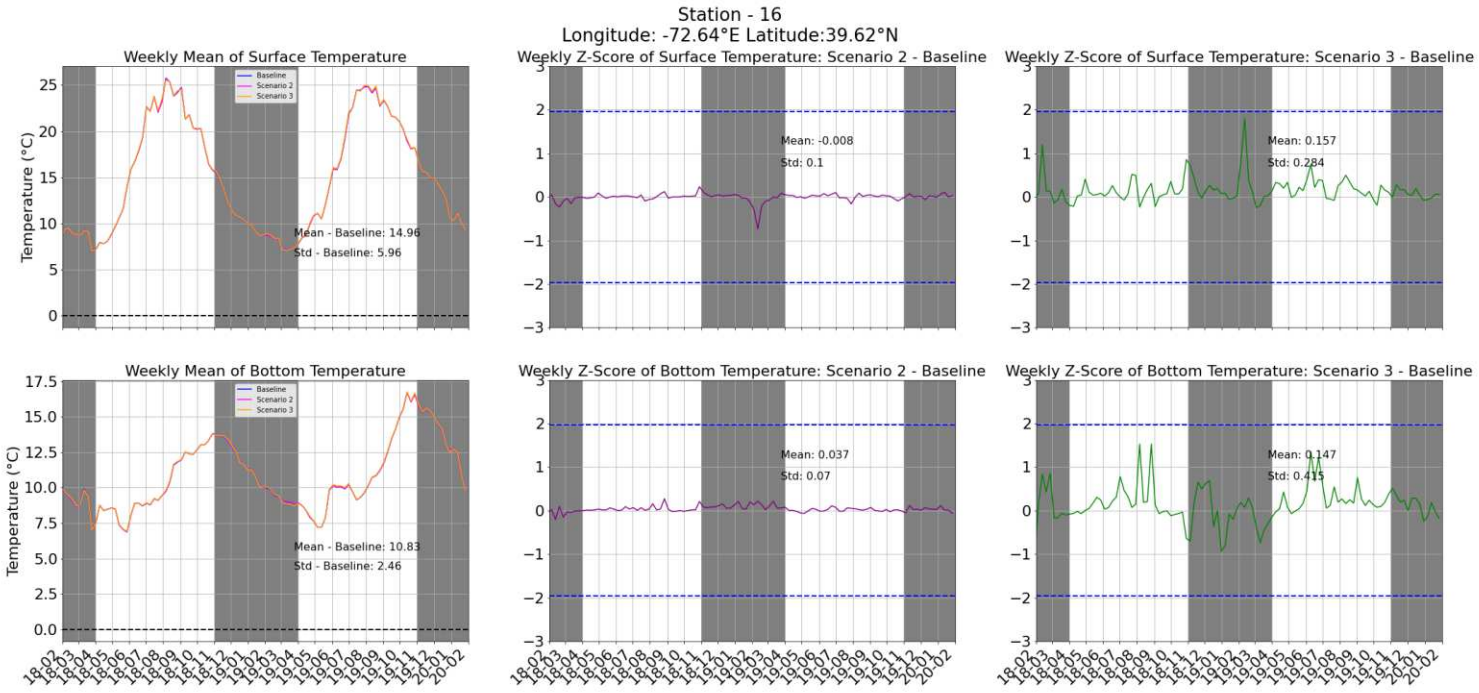
Apx Figure 224. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 13.



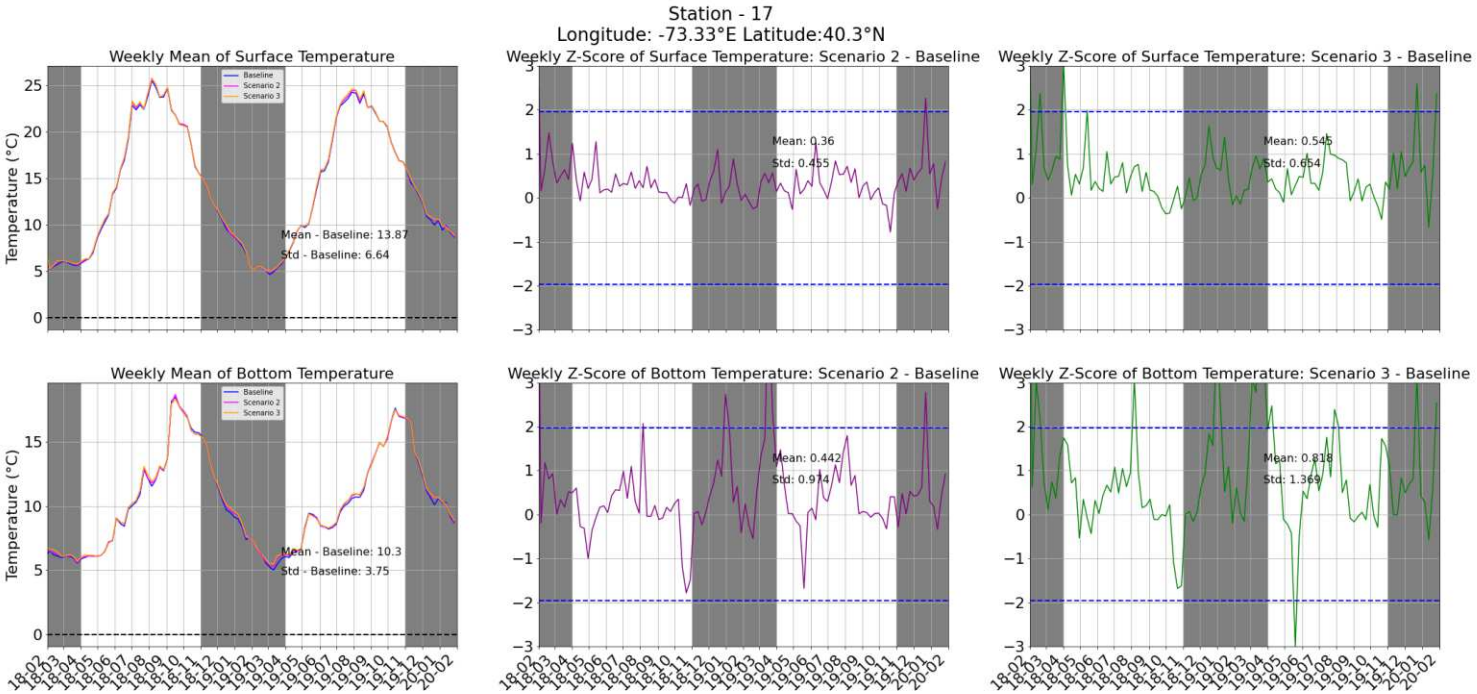
Apx Figure 225. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 14.



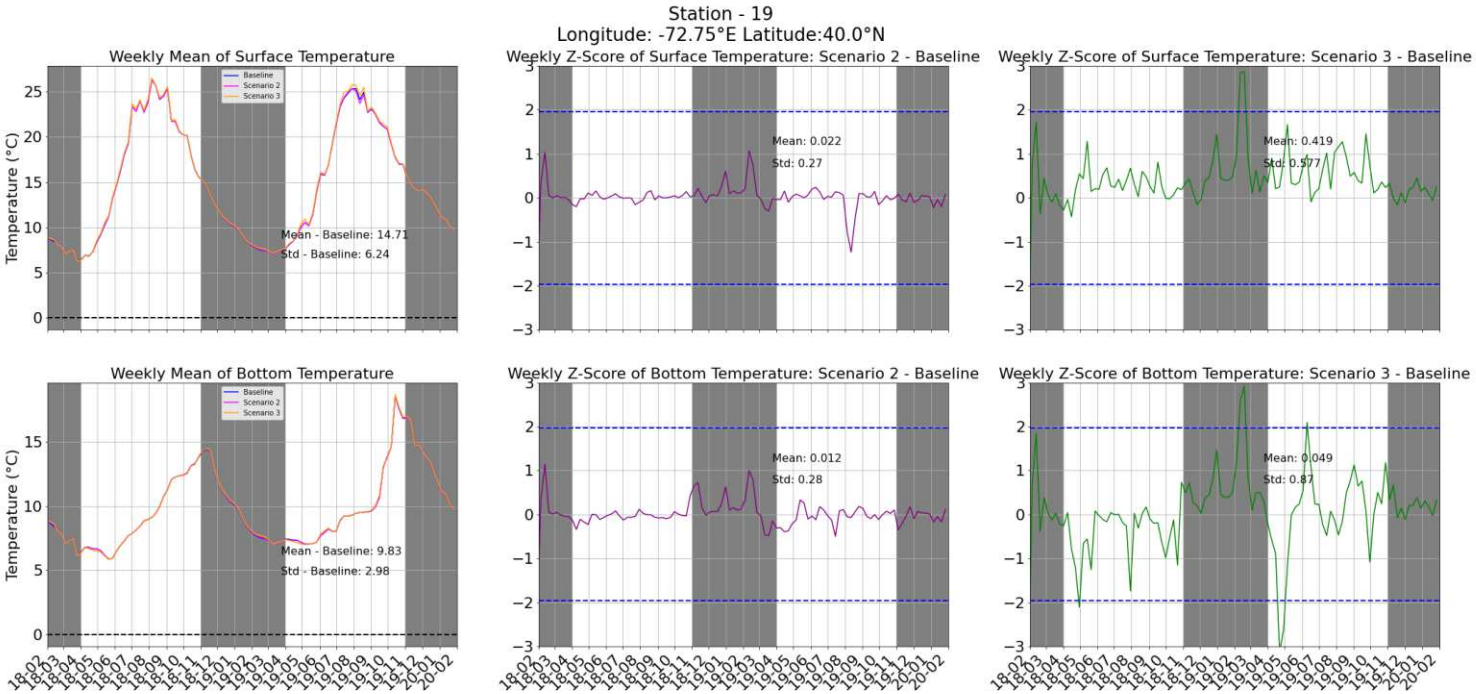
Apx Figure 226. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 15.



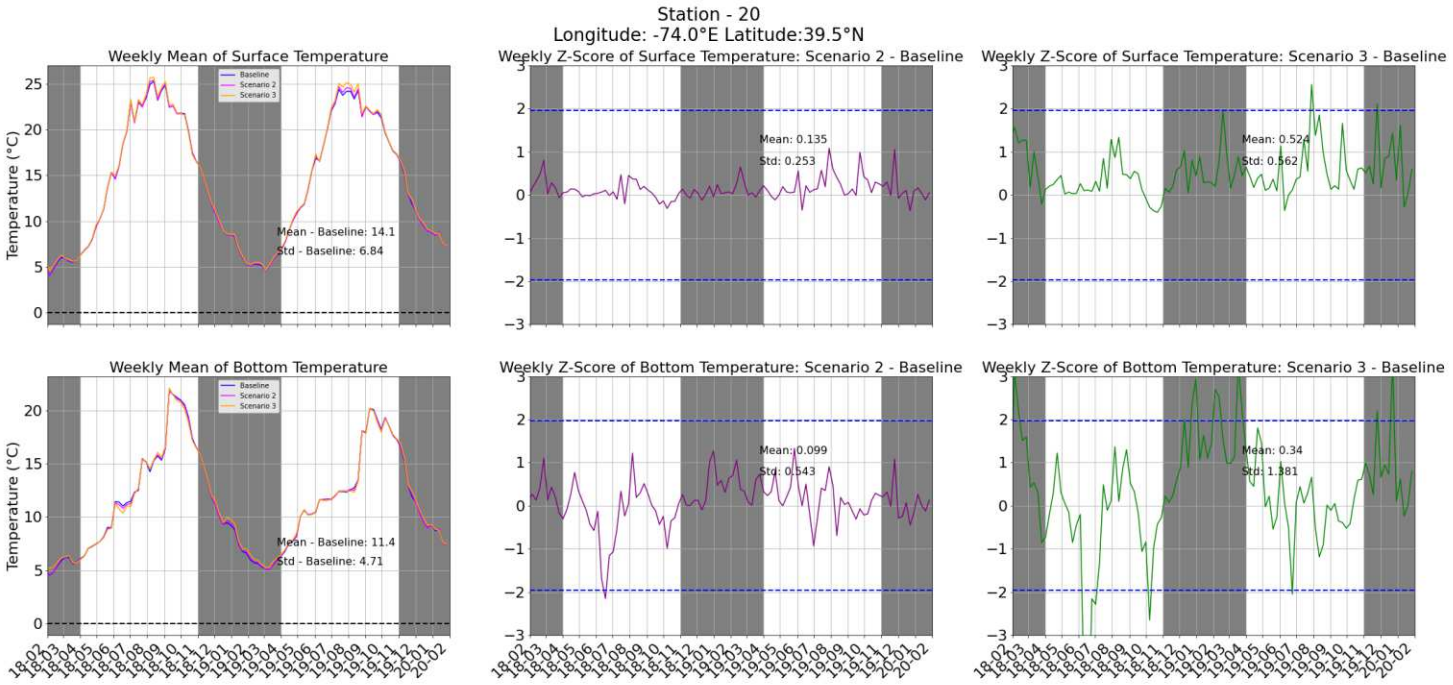
Apx Figure 227. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 16.



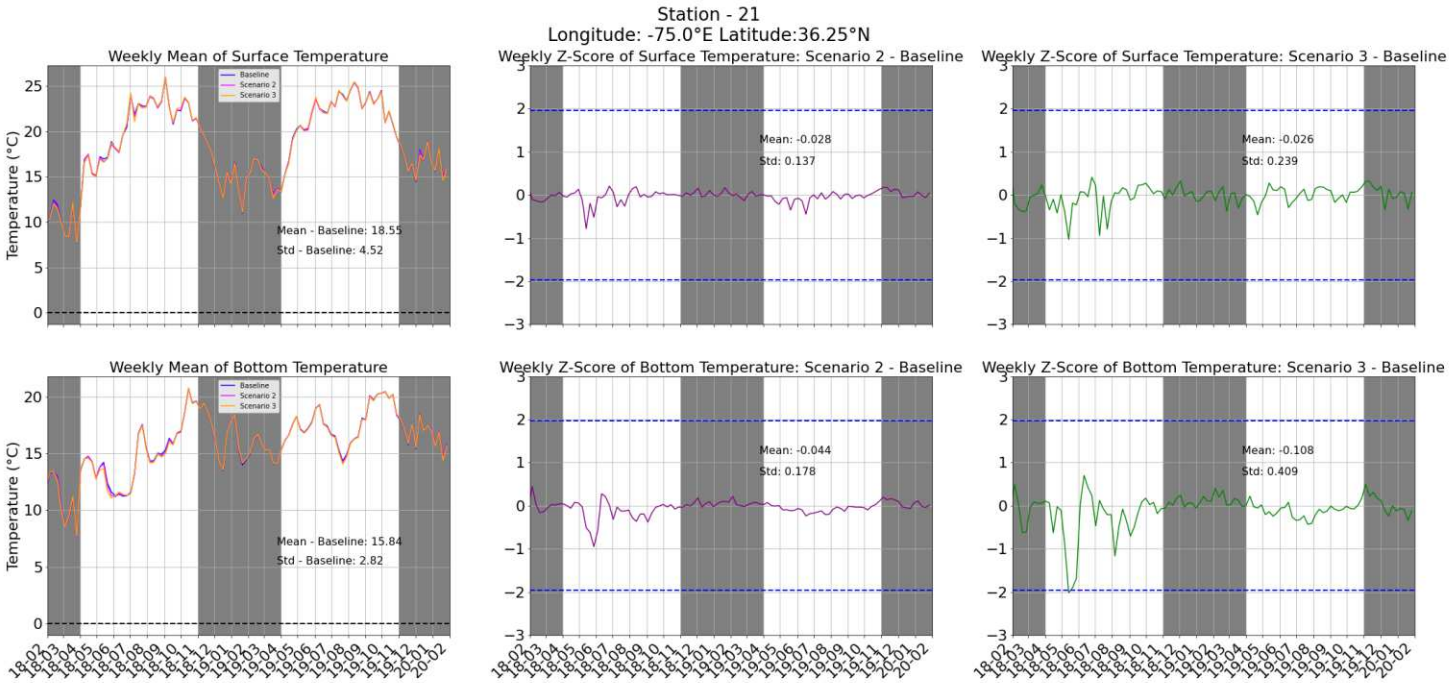
Apx Figure 228. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 17.



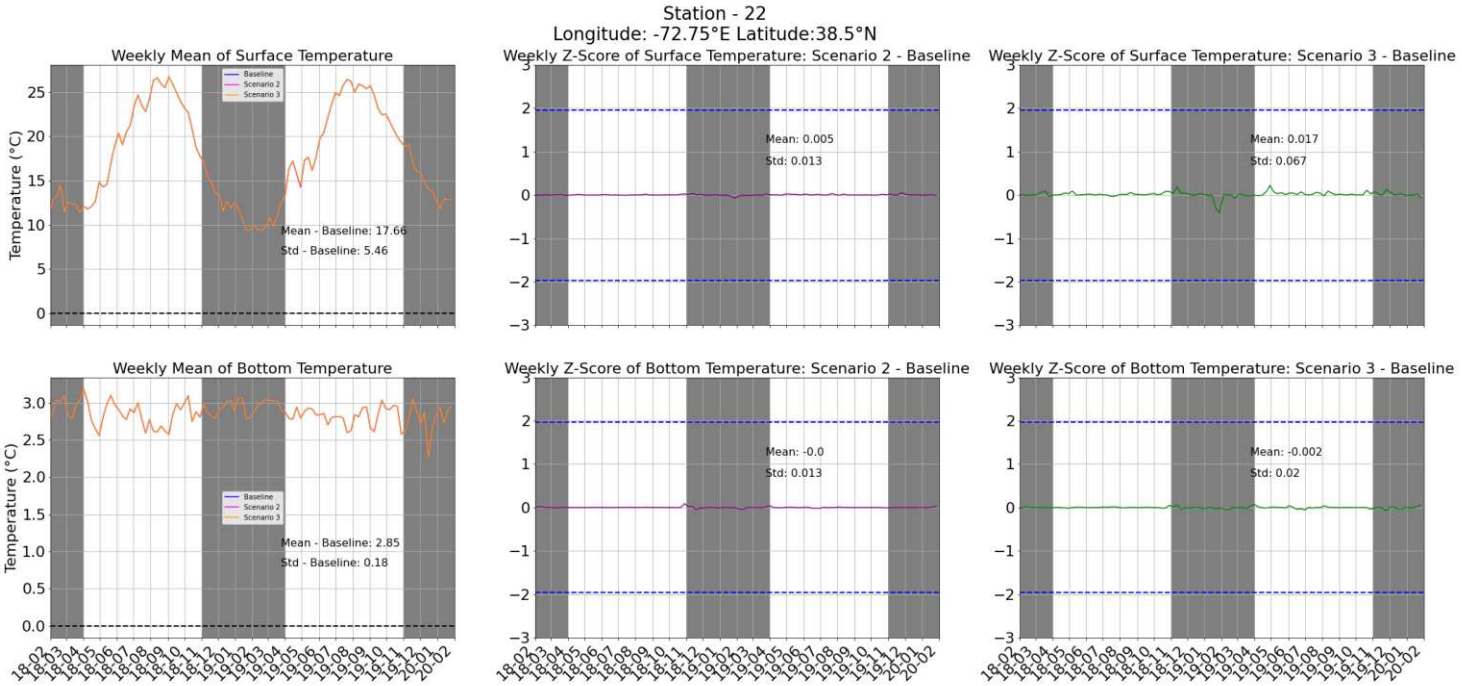
Apx Figure 229. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 19.



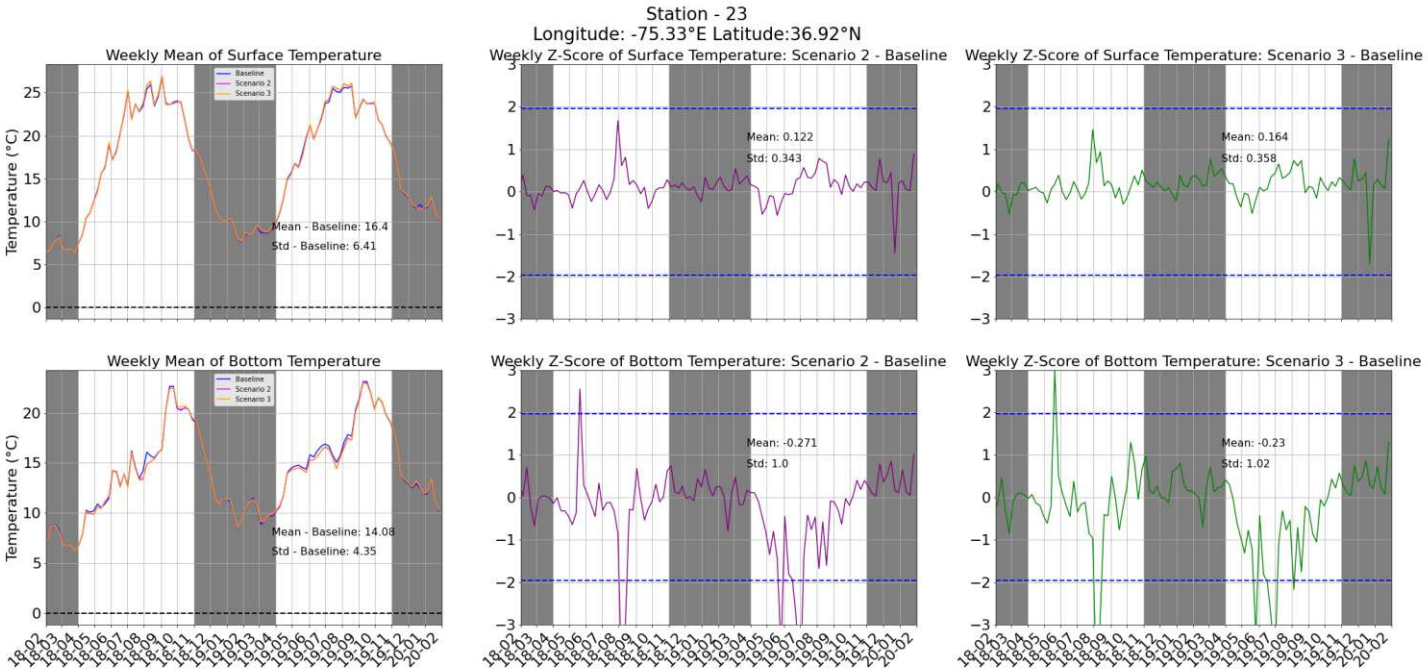
Apx Figure 230. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 20.



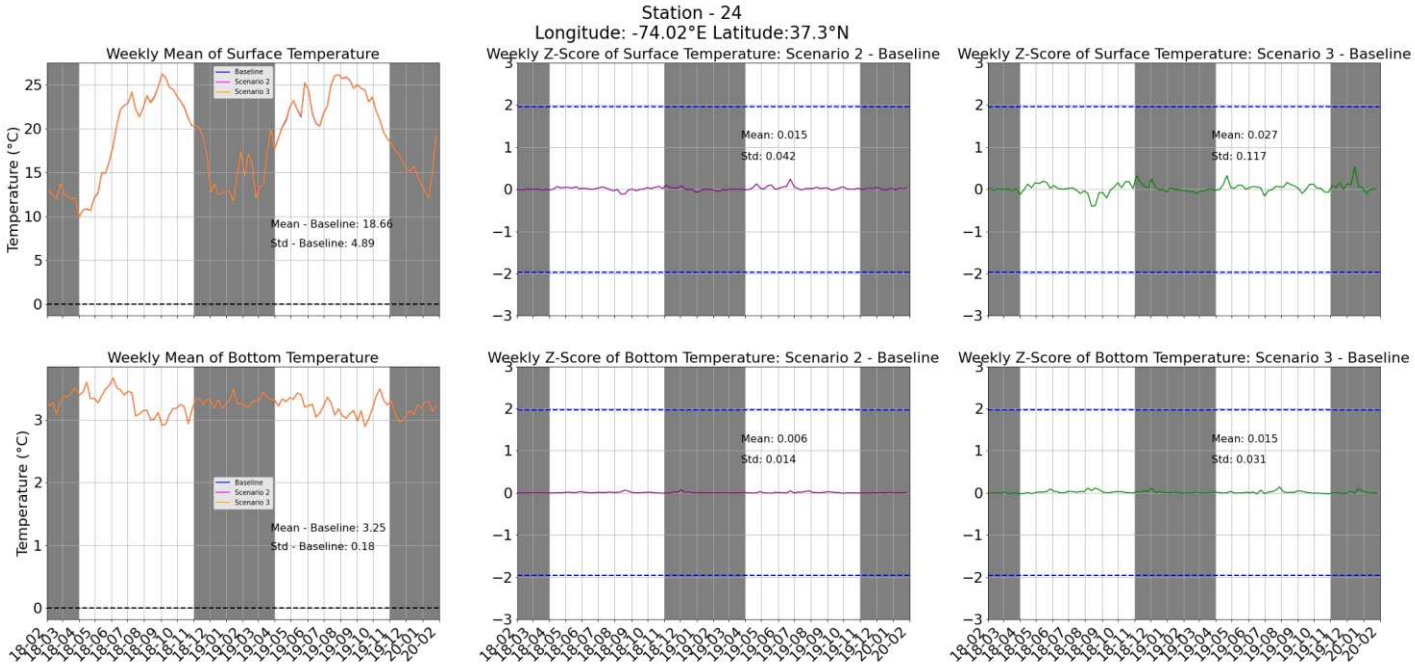
Apx Figure 231. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 21.



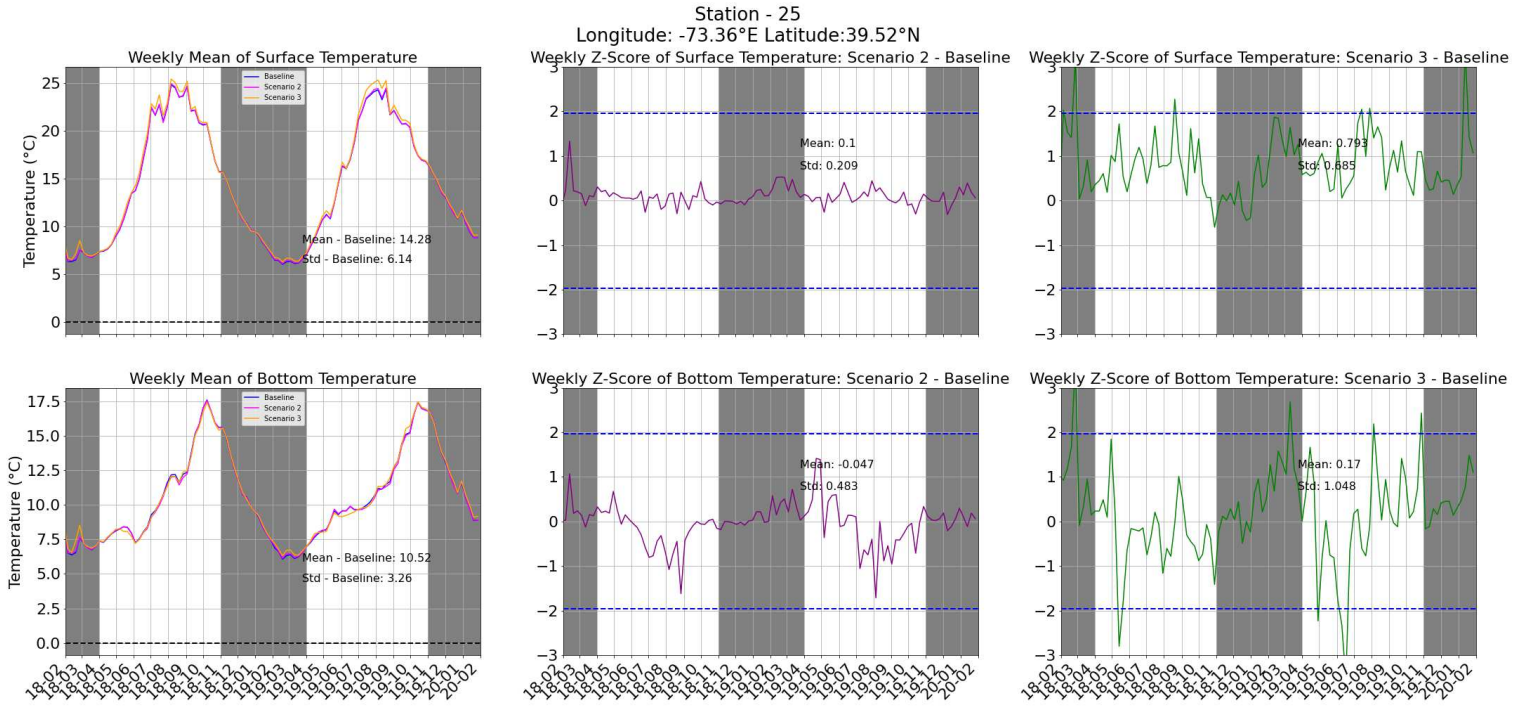
Apx Figure 232. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 22.



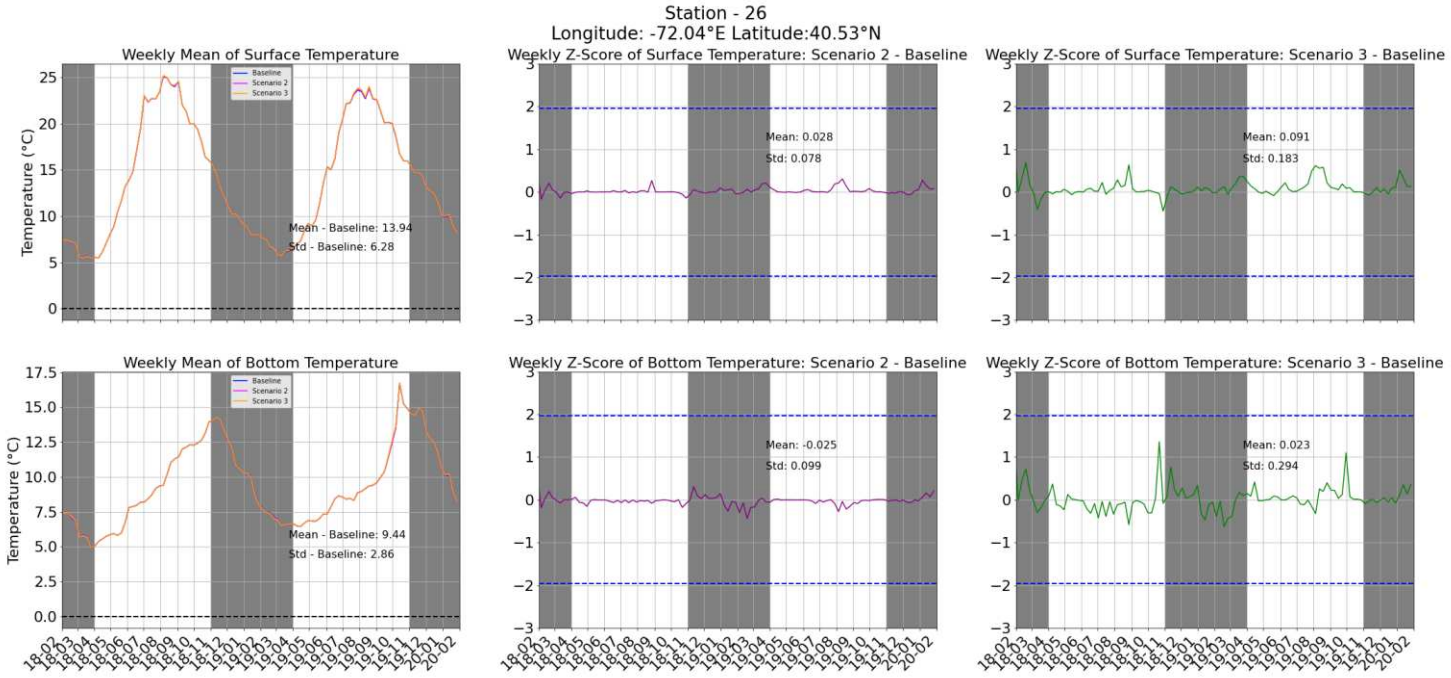
Apx Figure 233. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 23.



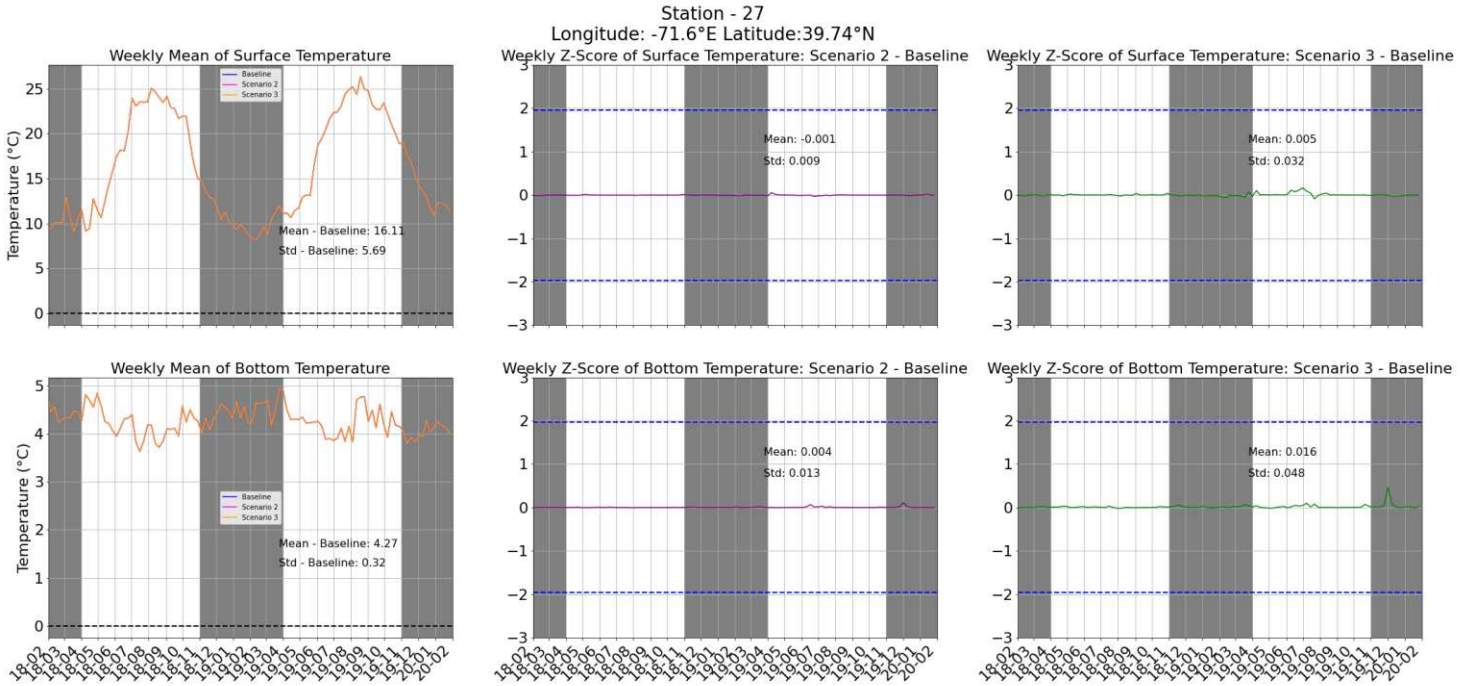
Apx Figure 234. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 24.



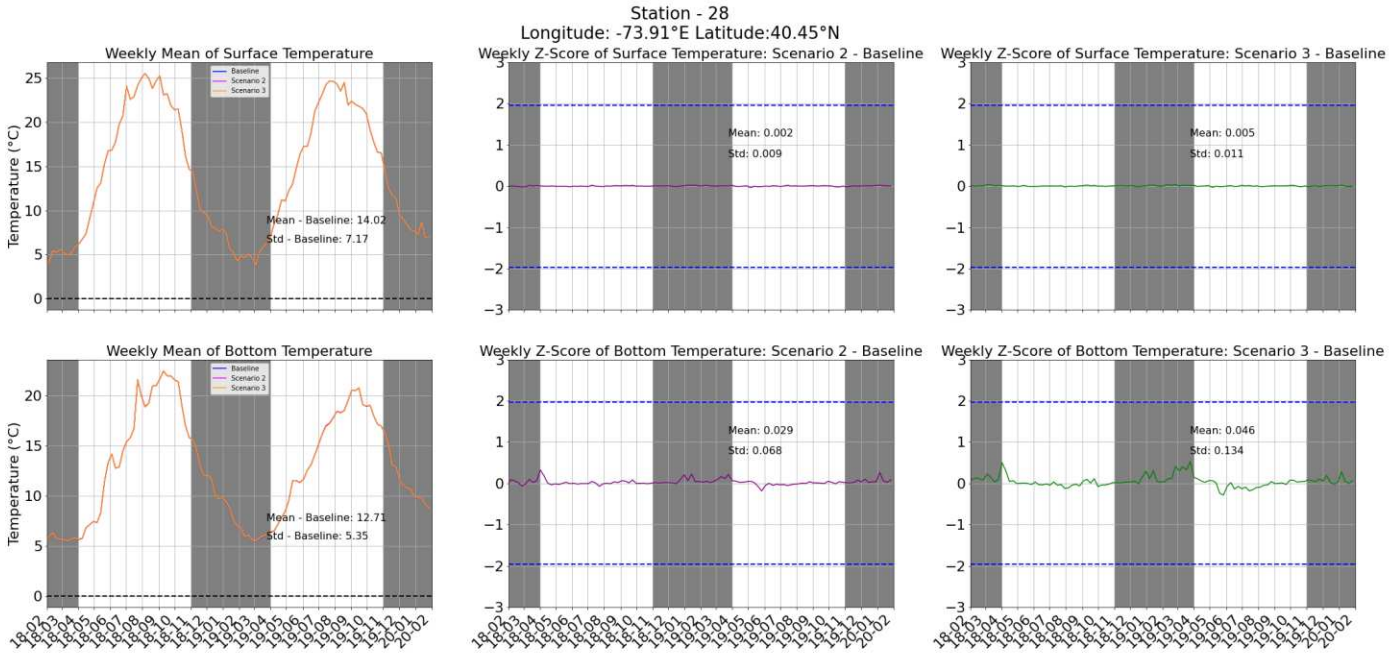
Apx Figure 235. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 25.



Apx Figure 236. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 26.

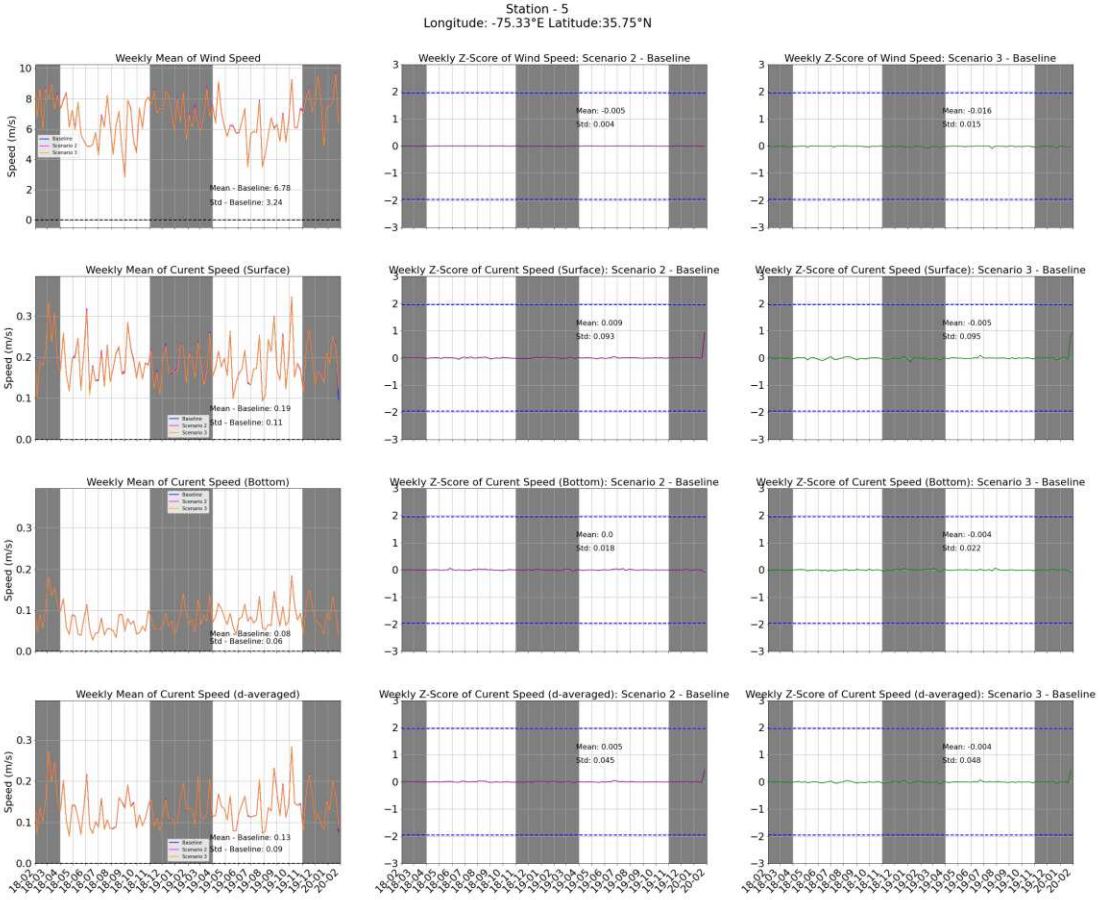


Apx Figure 237. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 27.

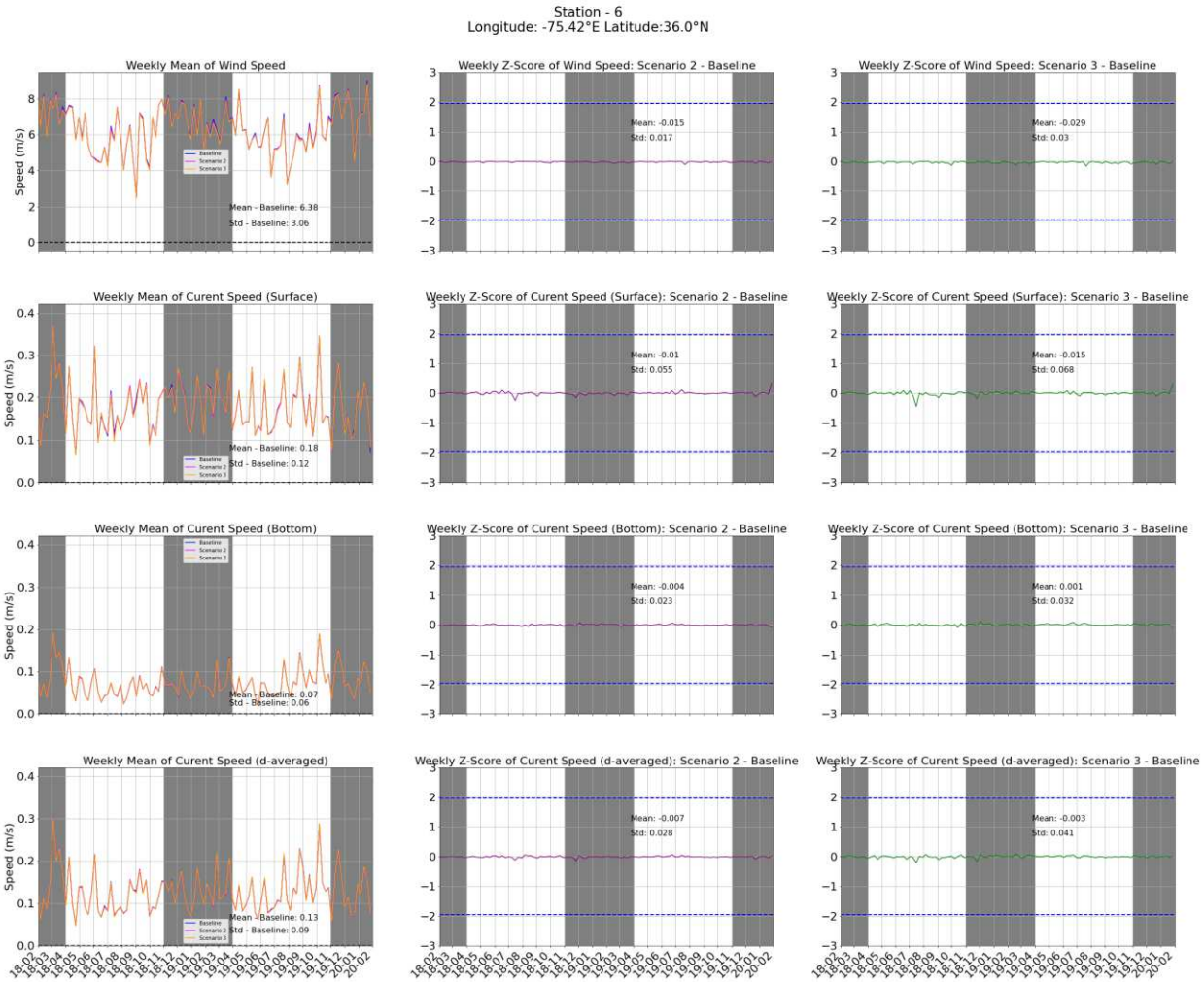


Apx Figure 238. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for surface (upper panels) and bottom temperature (lower panels) at station 28.

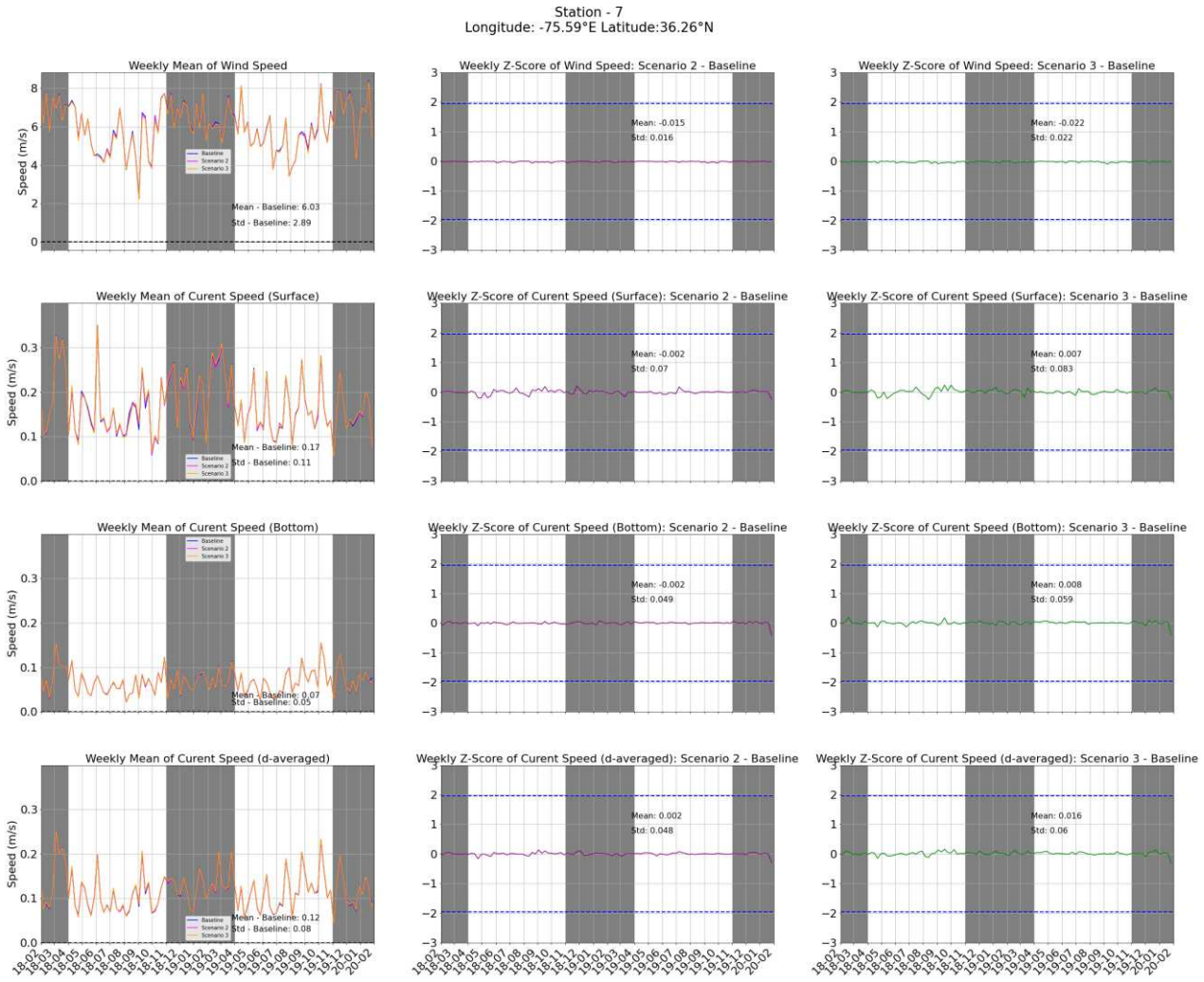
B.2 Wind and Current



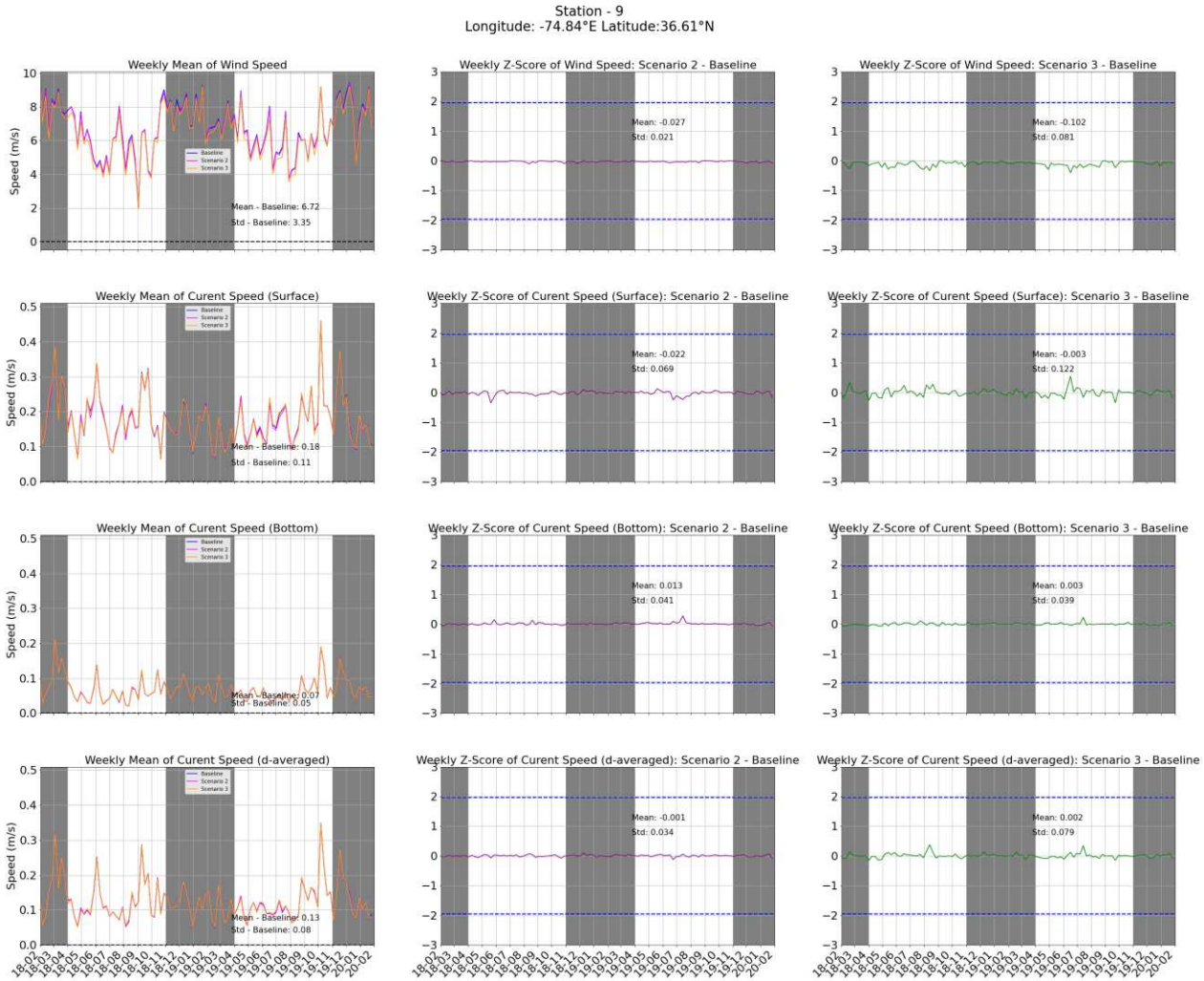
Apx Figure 239. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 5.



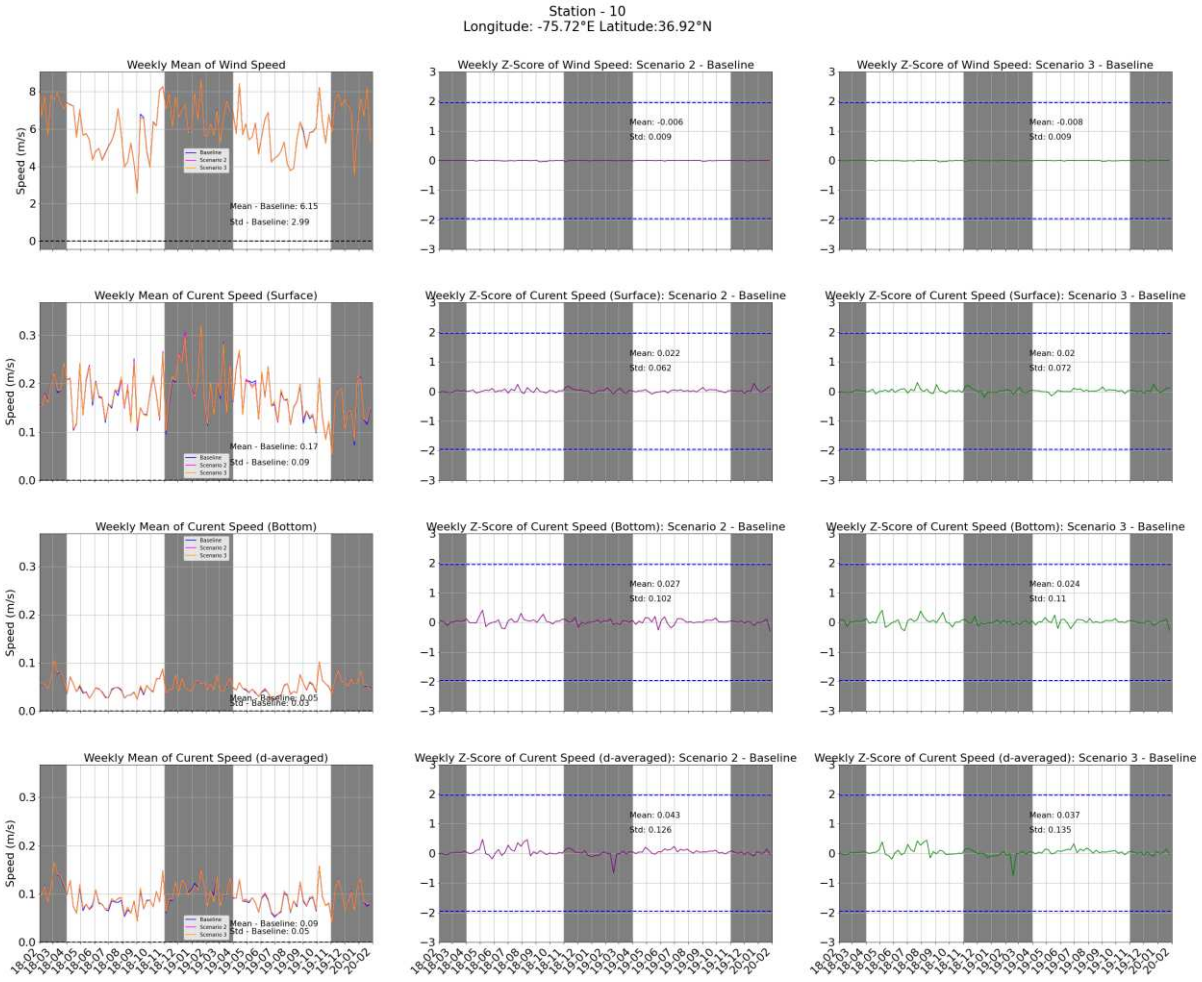
Apx Figure 240. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 6.



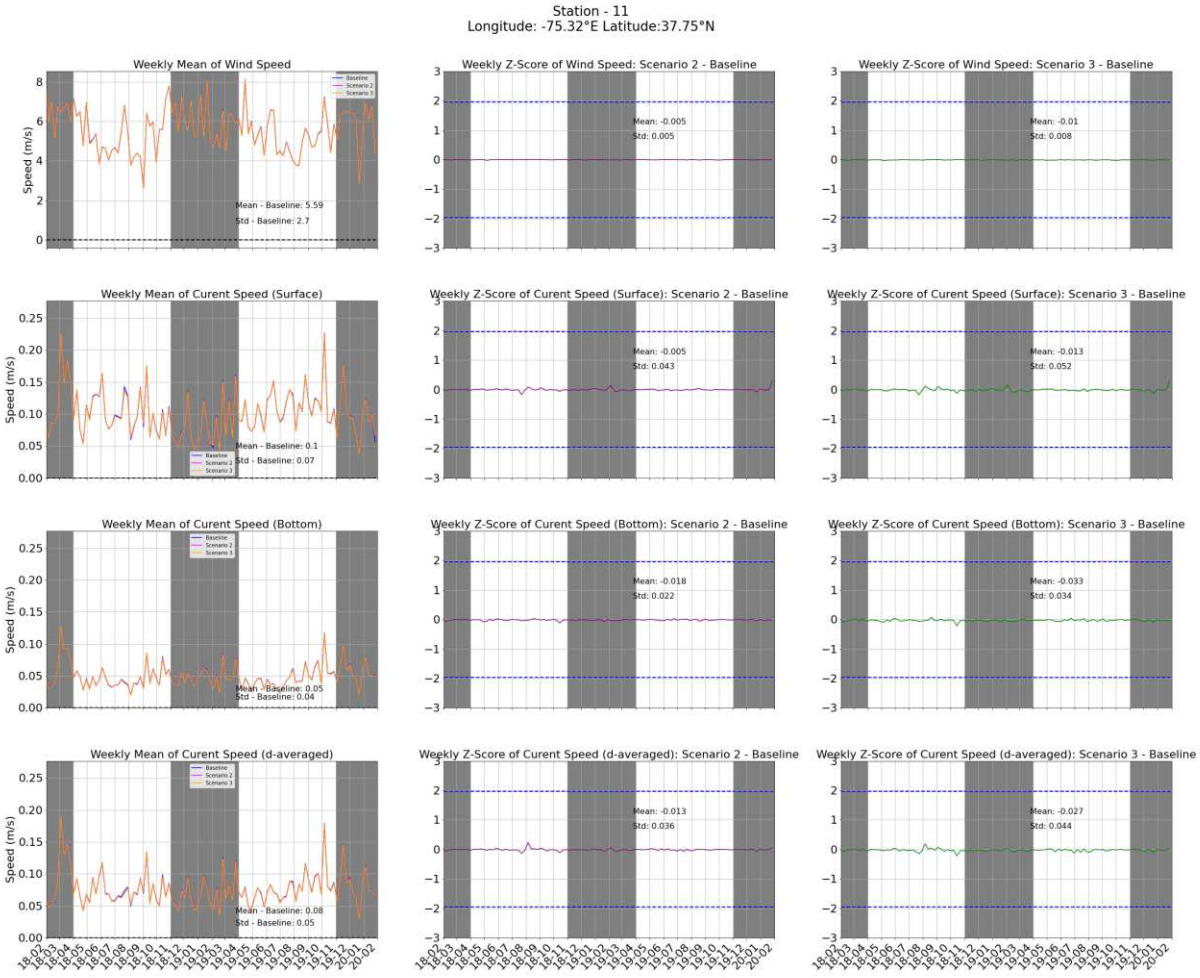
Apx Figure 241. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 7.



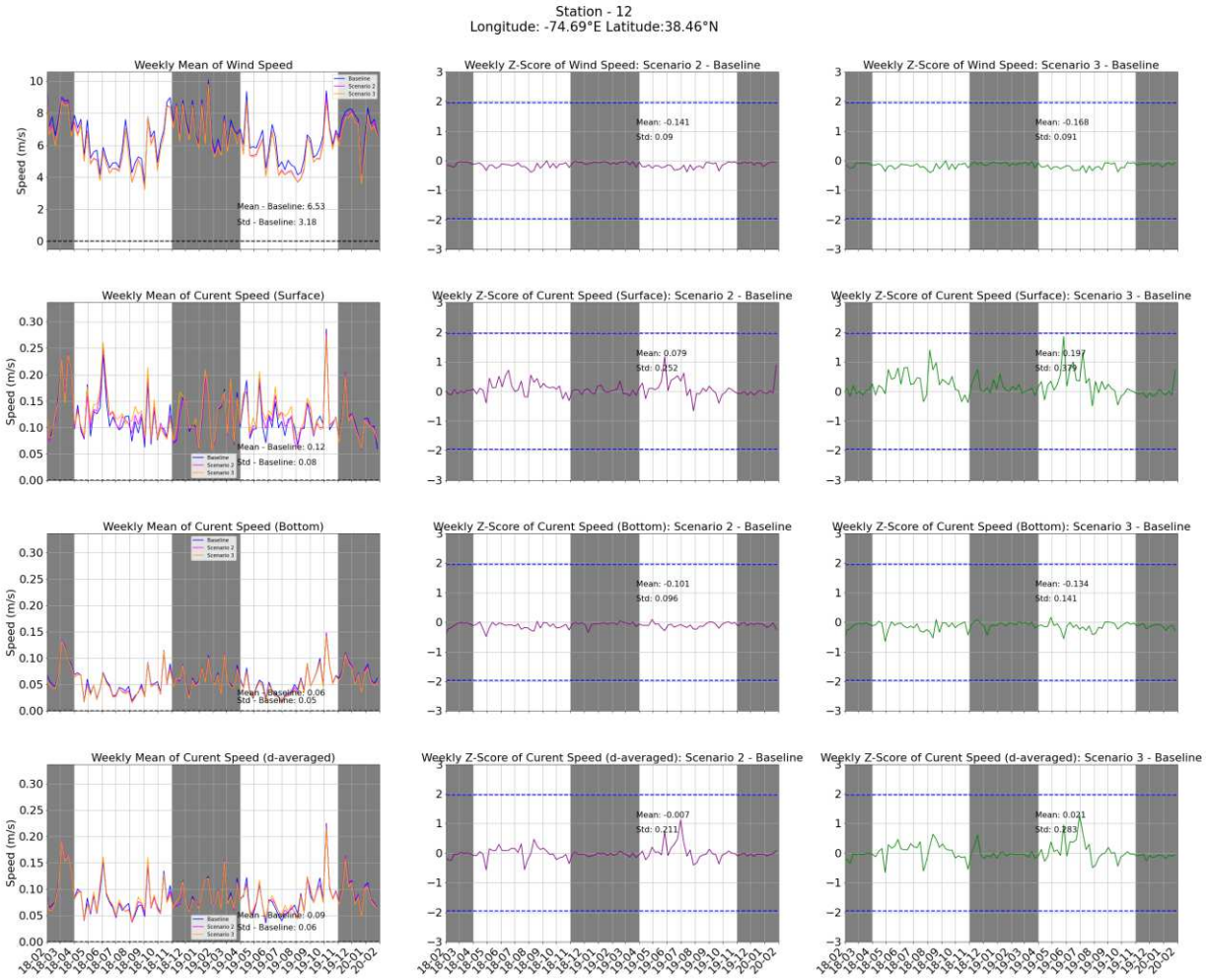
Apx Figure 242. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 9.



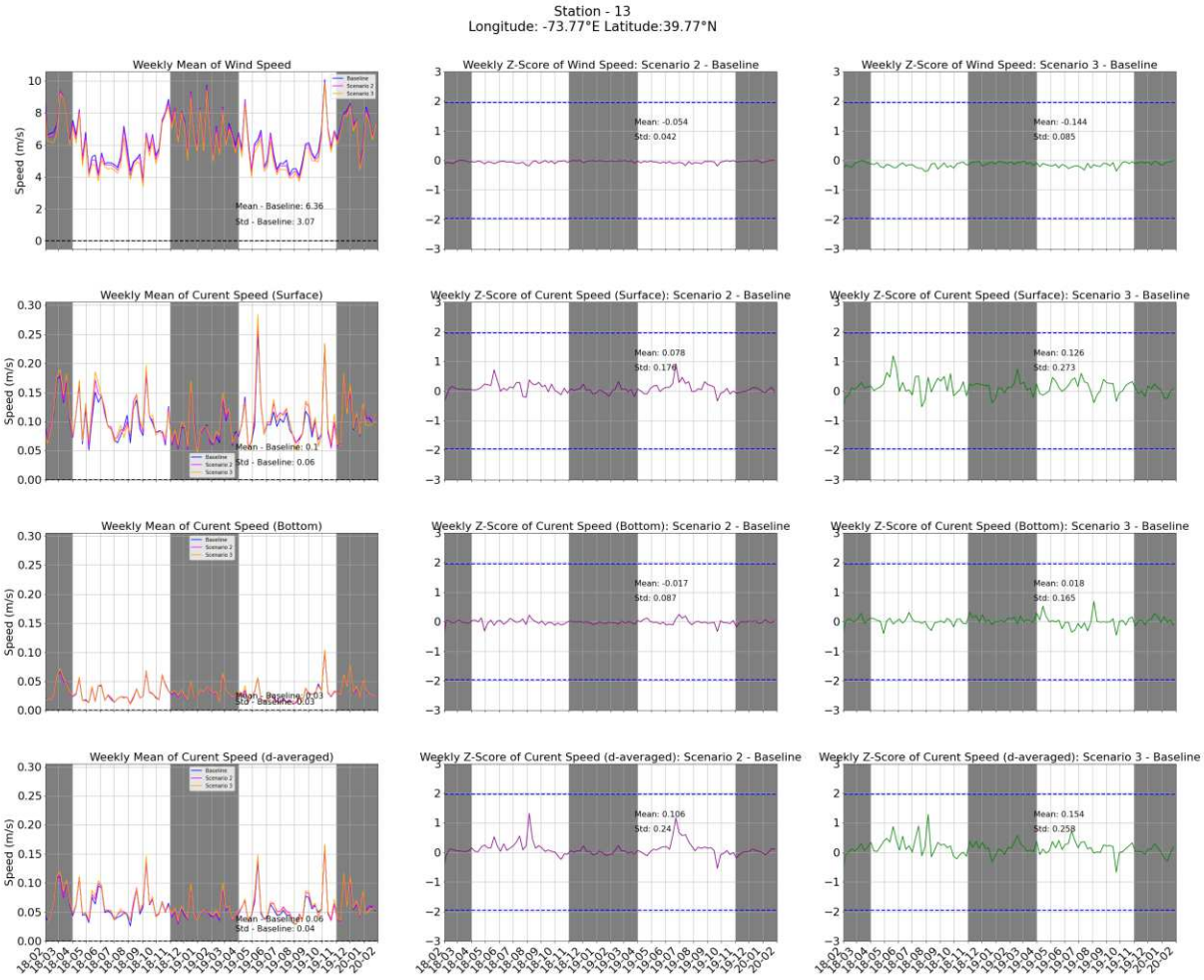
Apx Figure 243. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 10.



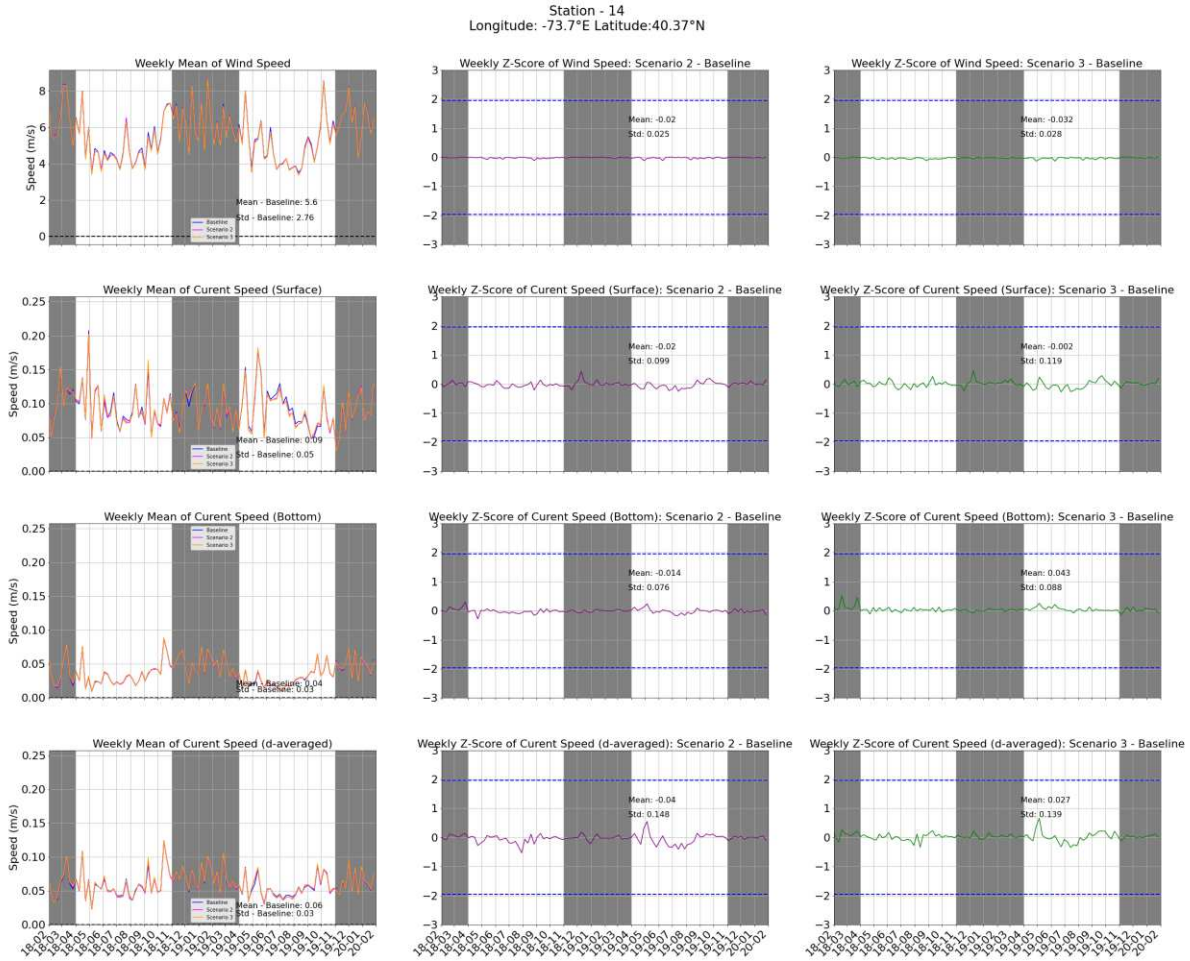
Apx Figure 244. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 11.



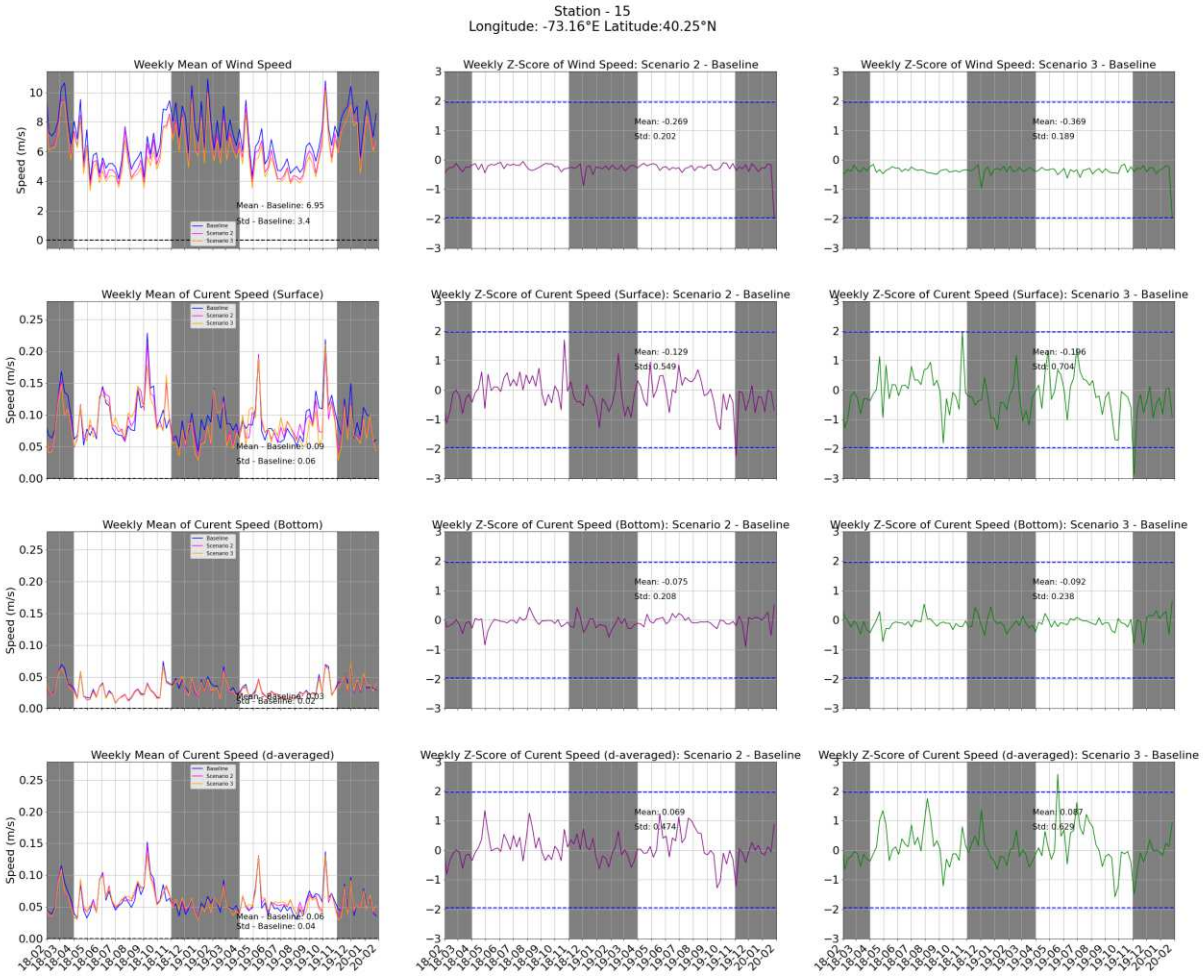
Apx Figure 245. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 12.



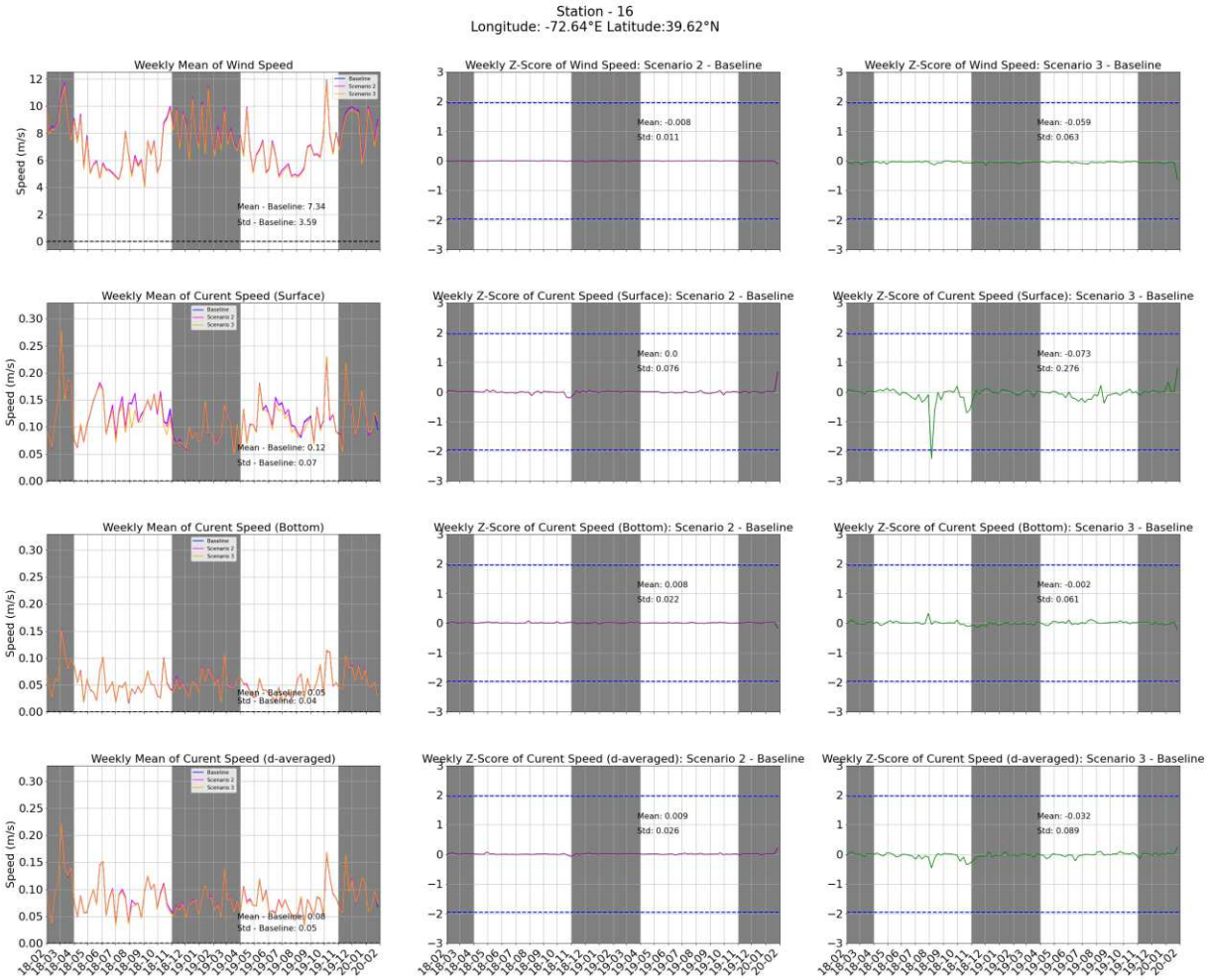
Apx Figure 246. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 13.



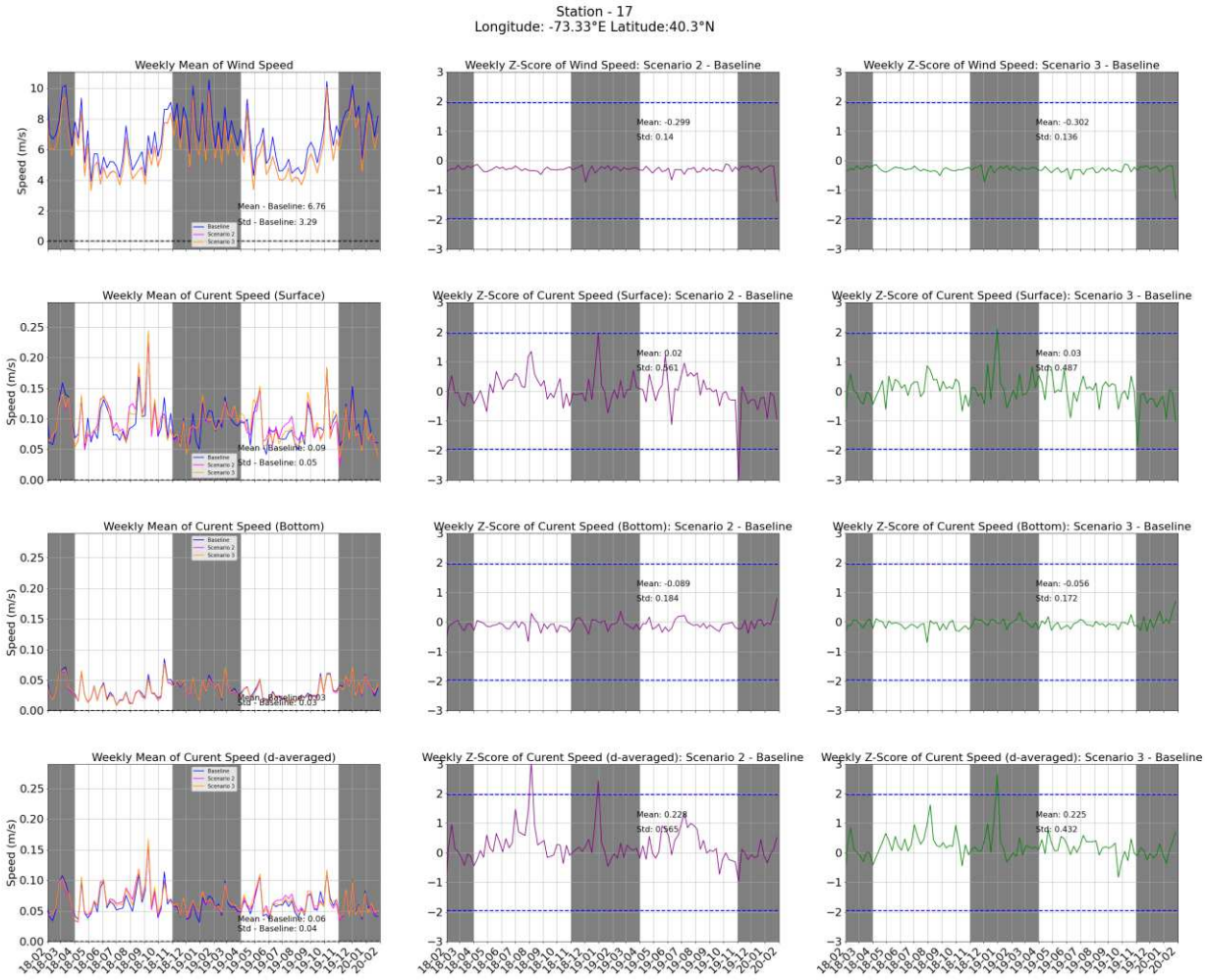
Apx Figure 247. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 14.



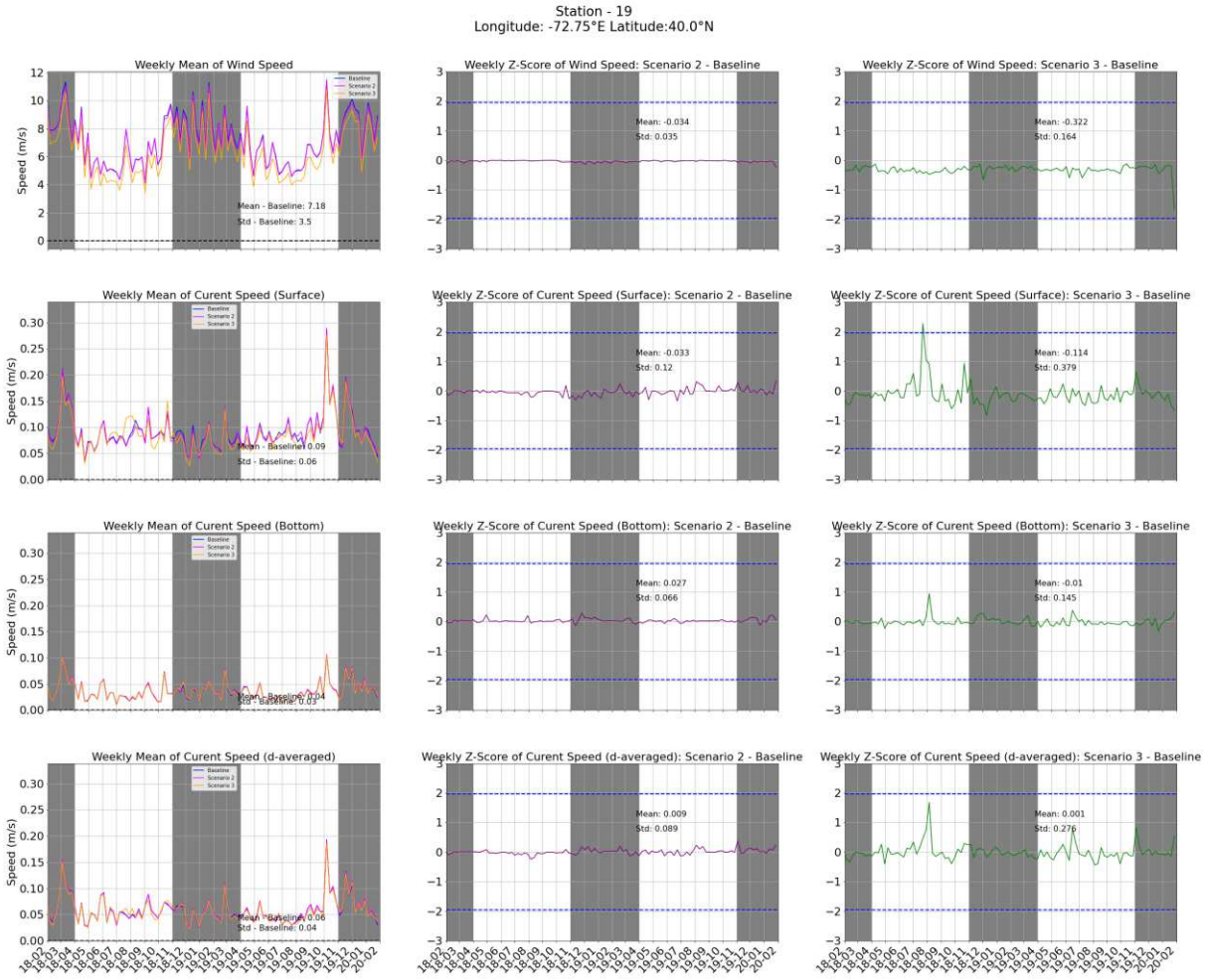
Apx Figure 248. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 15.



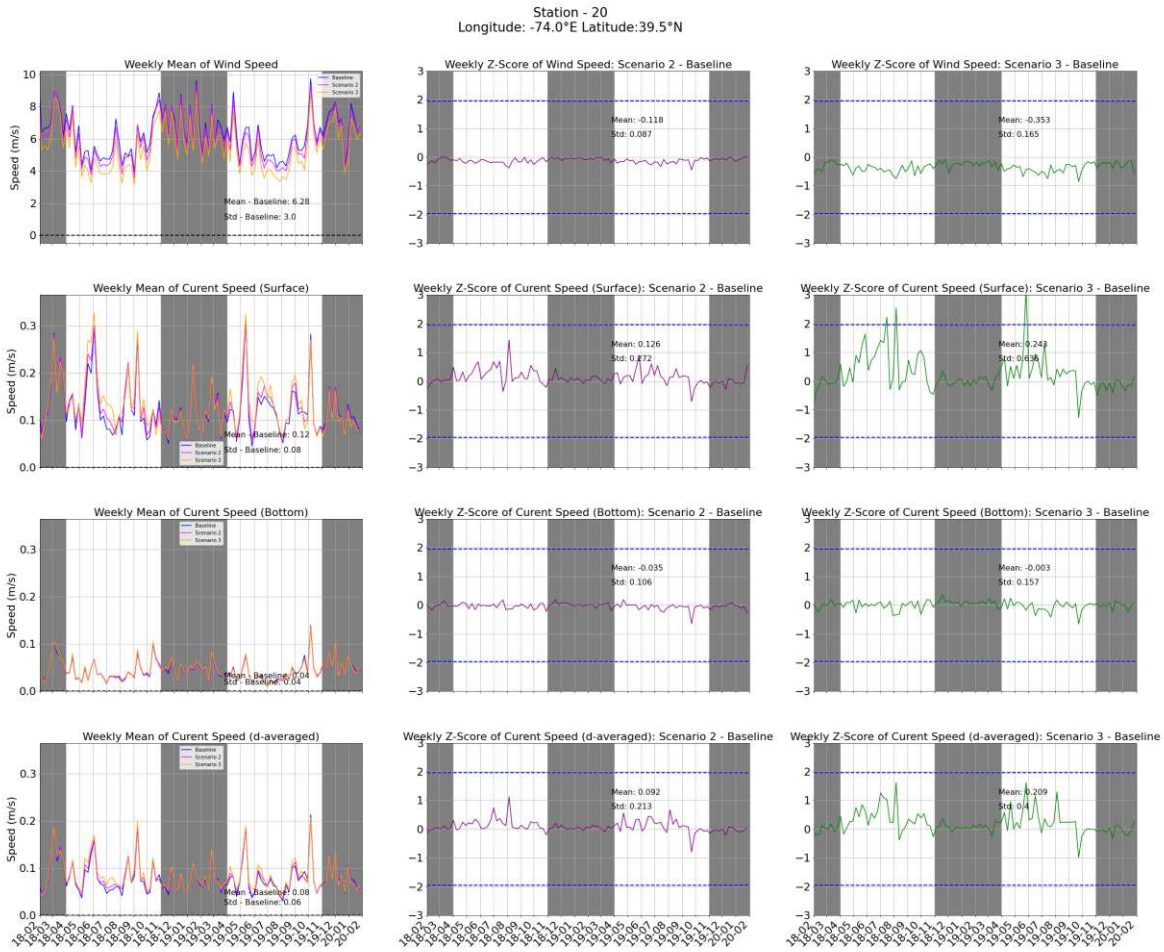
Apx Figure 249. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 16.



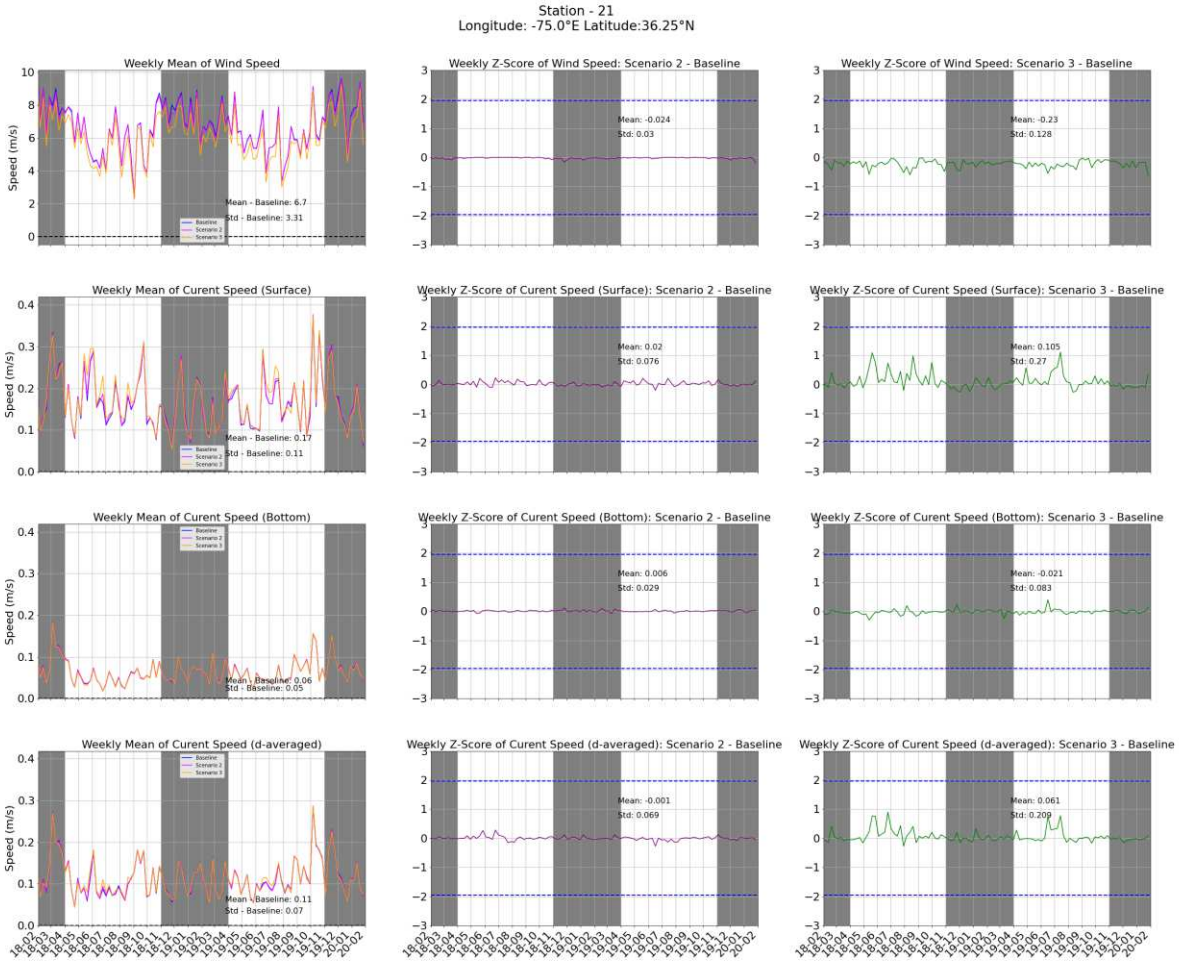
Apx Figure 250. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 17.



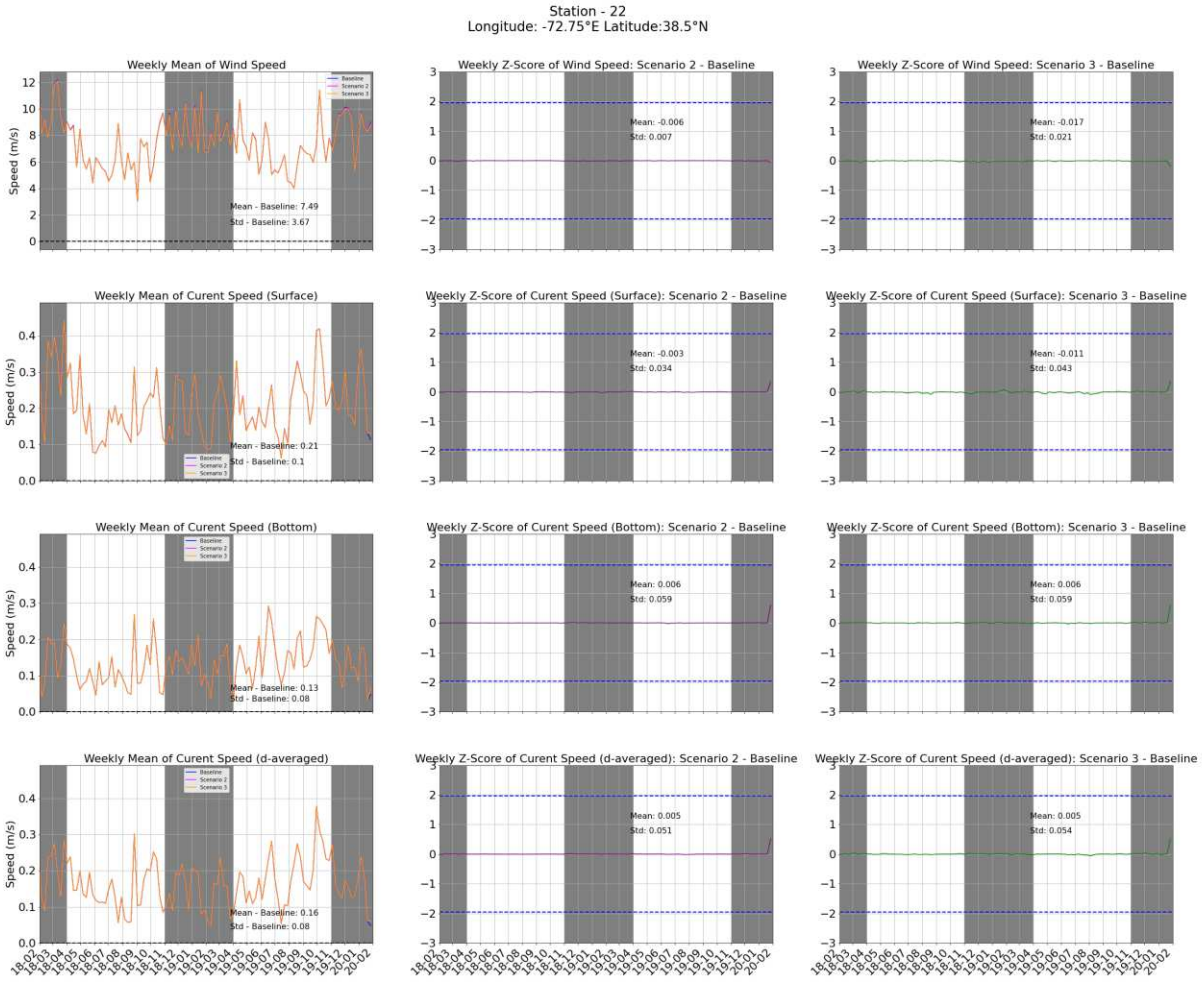
Apx Figure 251. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 19.



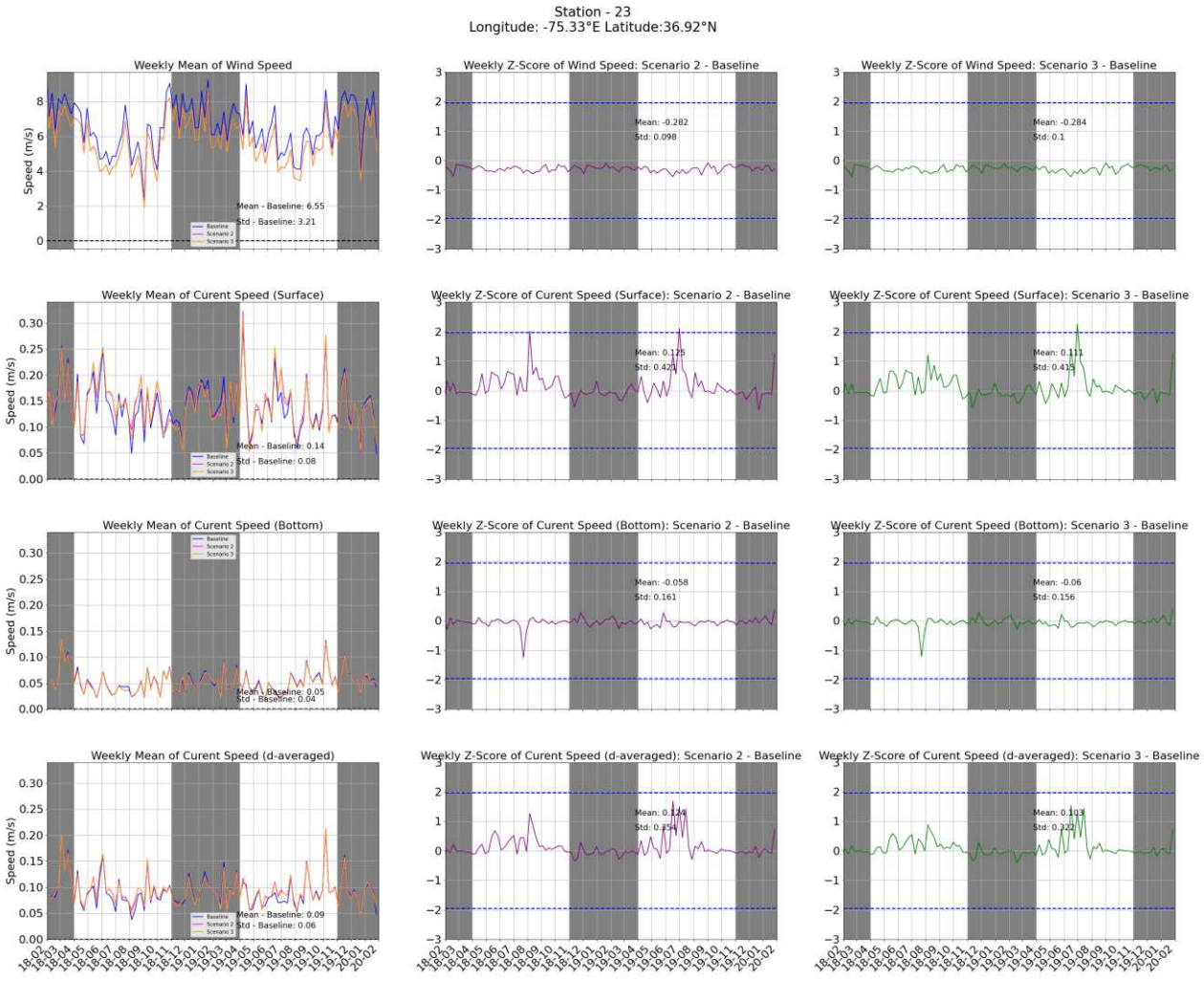
Apx Figure 252. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 20.



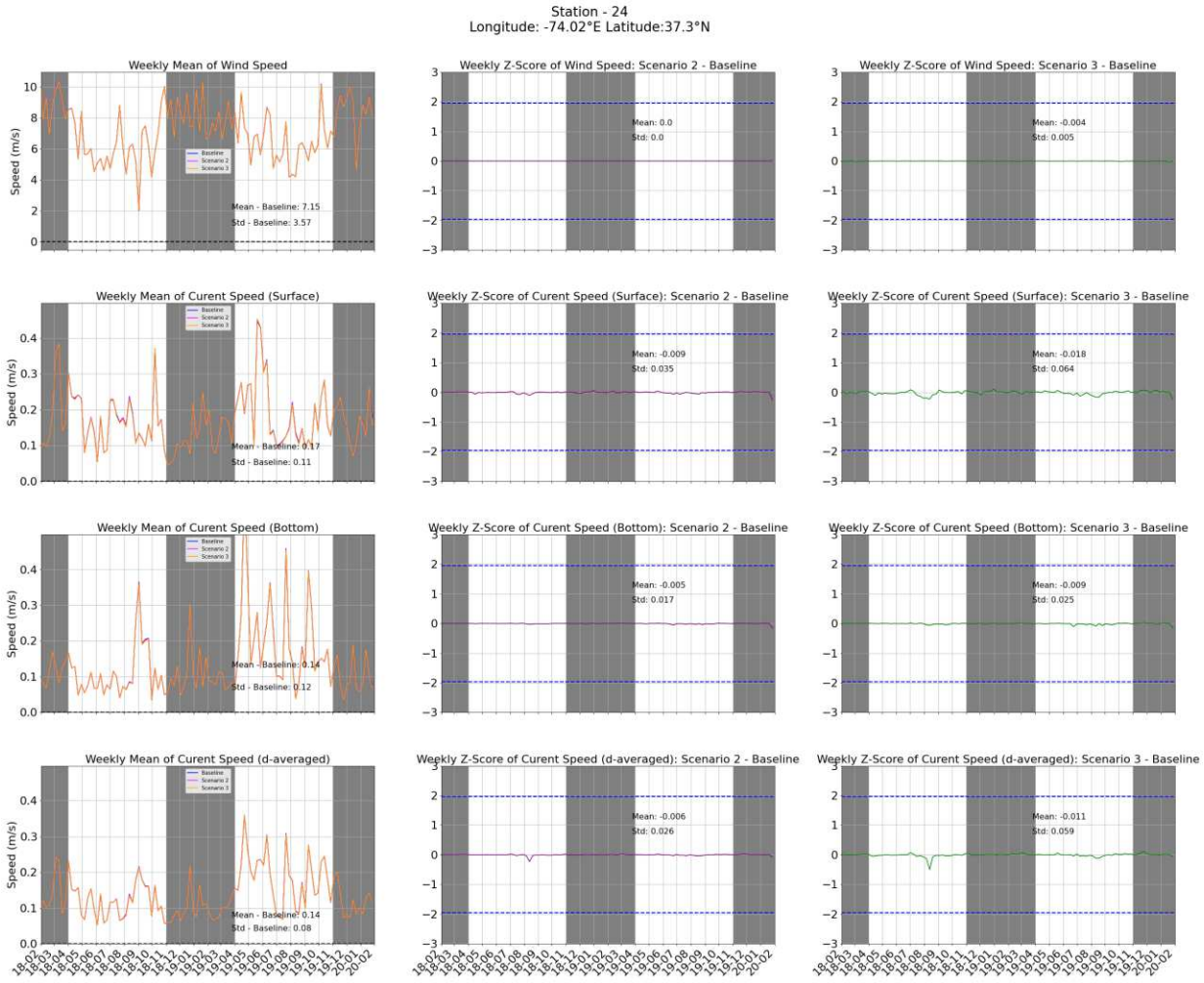
Apx Figure 253. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 21.



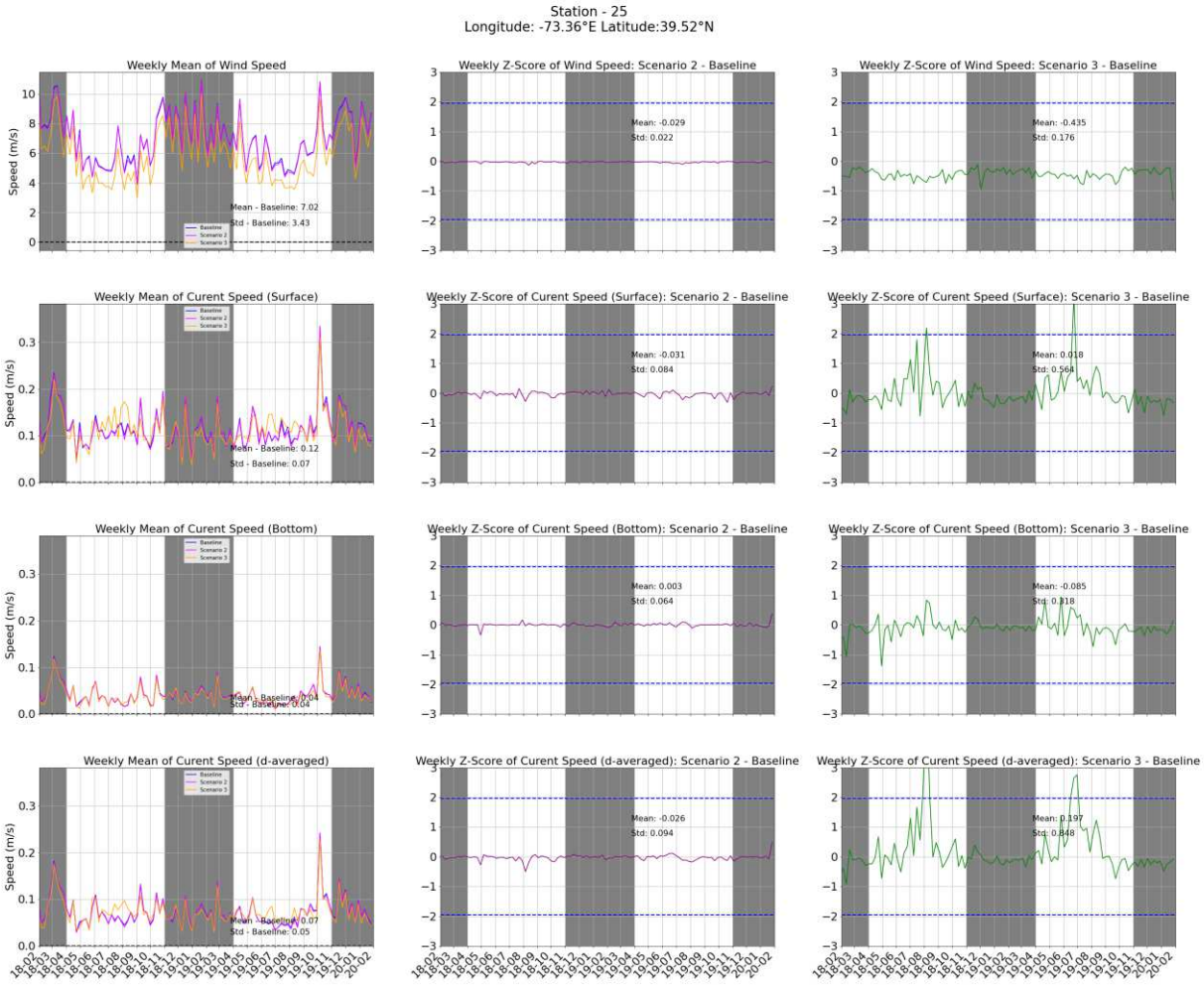
Apx Figure 254. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 22.



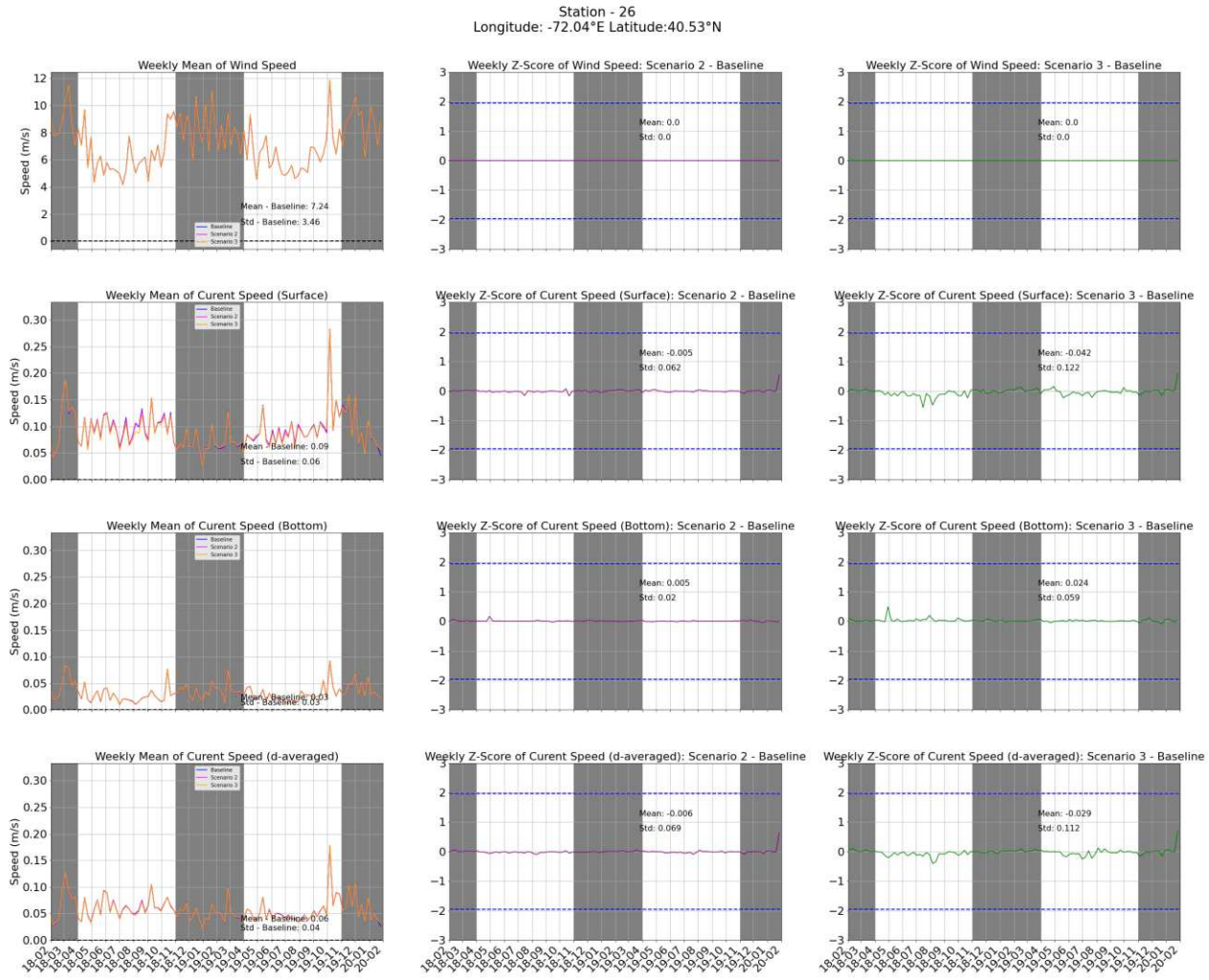
Apx Figure 255. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 23.



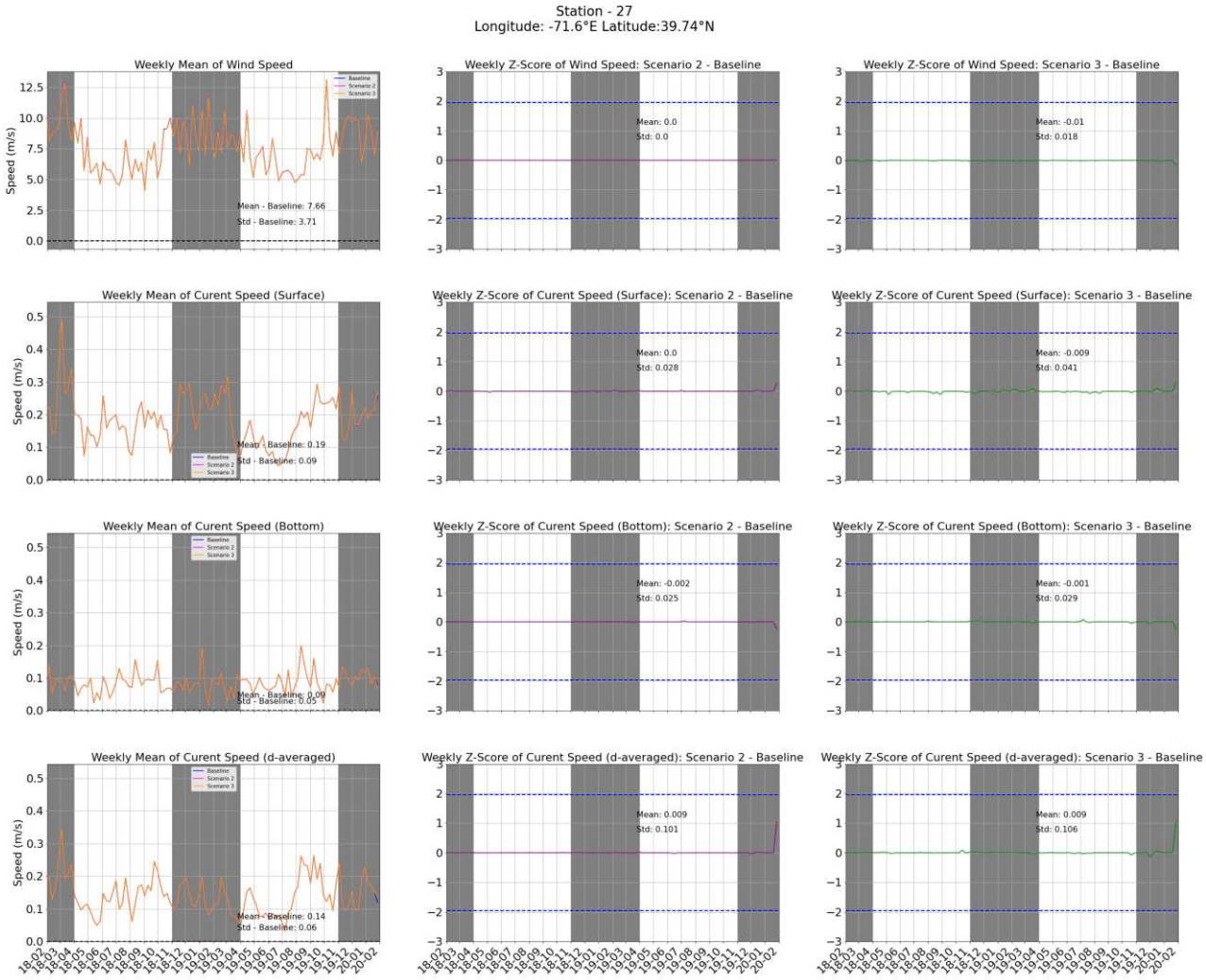
Apx Figure 256. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 24.



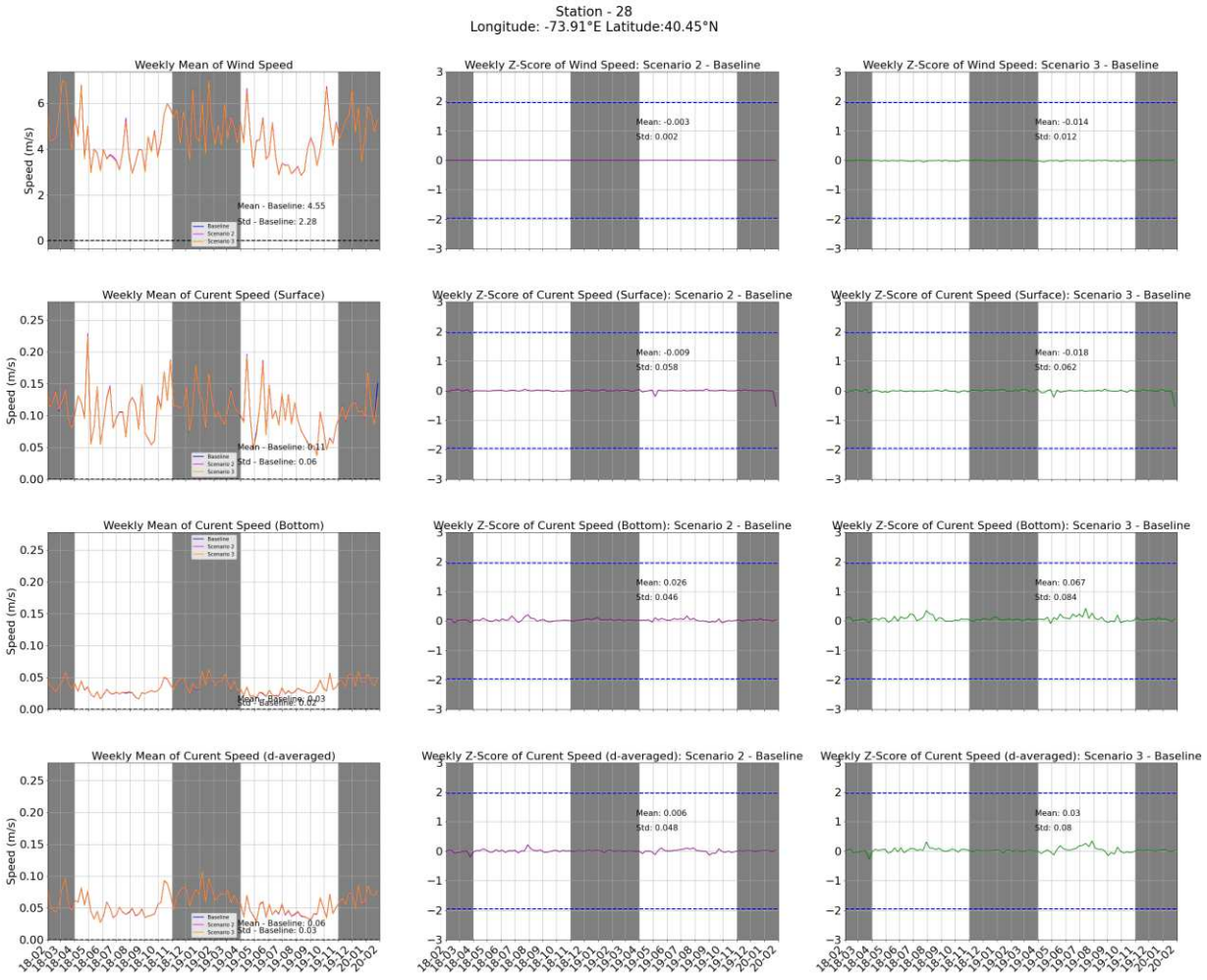
Apx Figure 257. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 25.



Apx Figure 258. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 26.

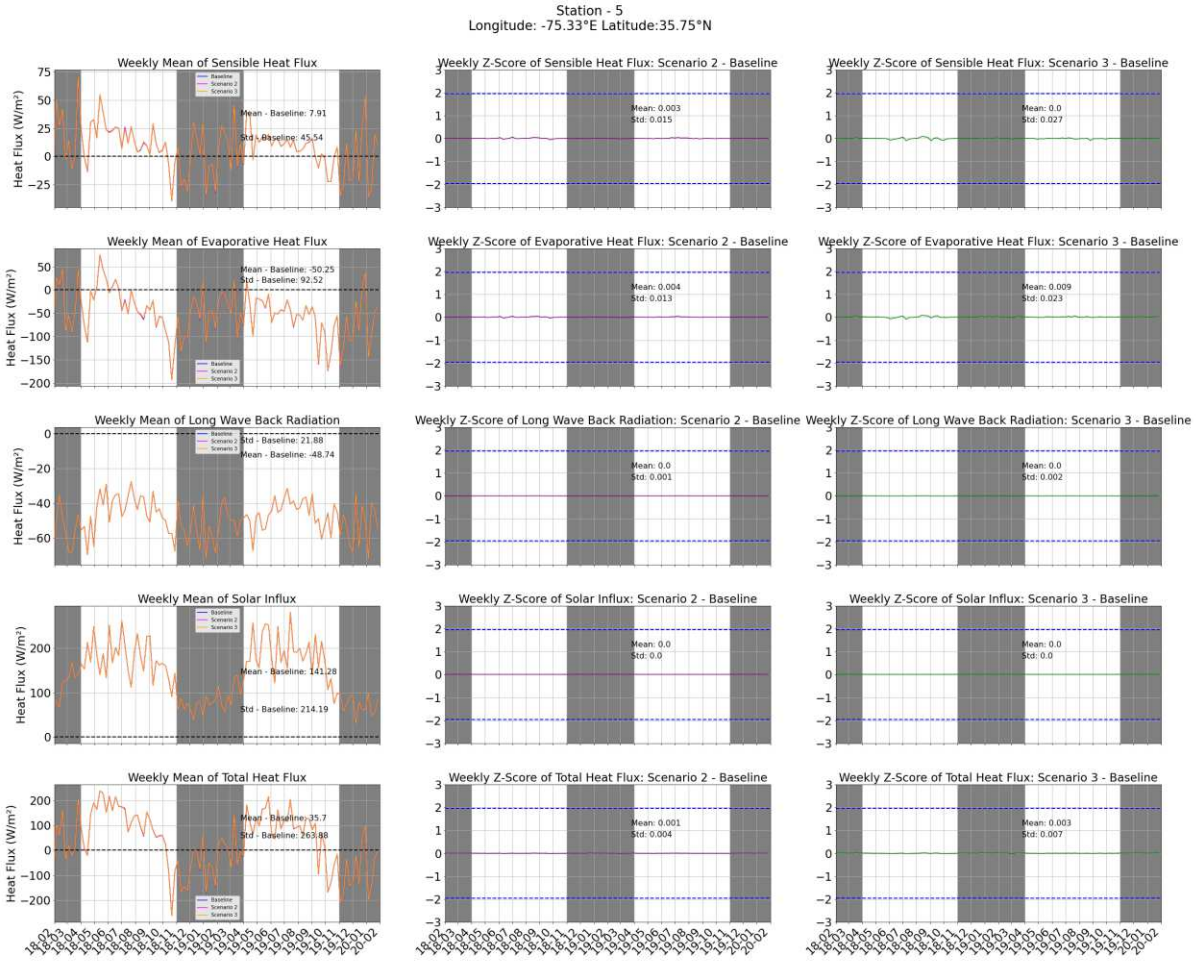


Apx Figure 259. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 27.

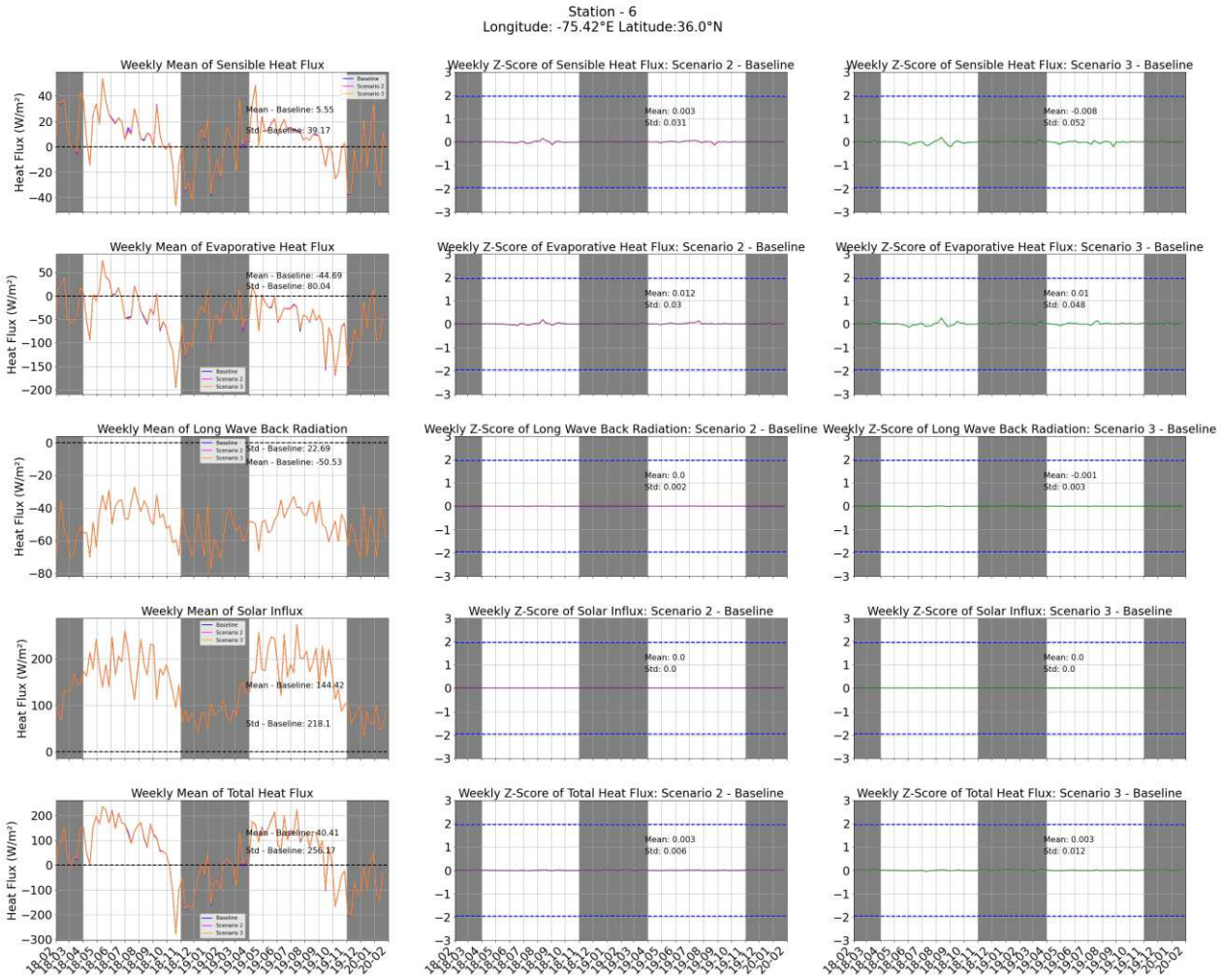


Apx Figure 260. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for wind speed and current speed (surface, bottom, and depth-averaged) at station 28.

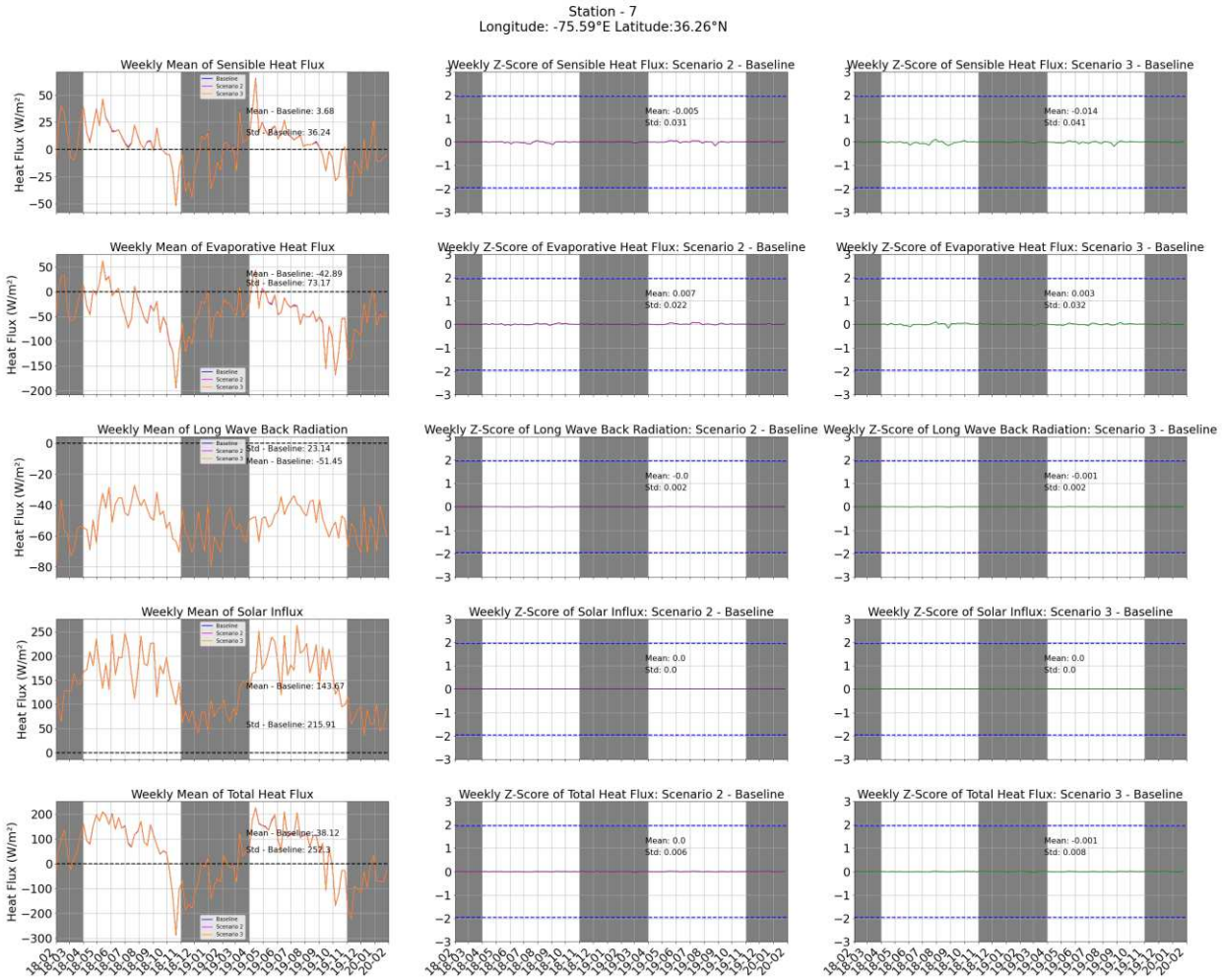
B.3 Surface Heat Fluxes



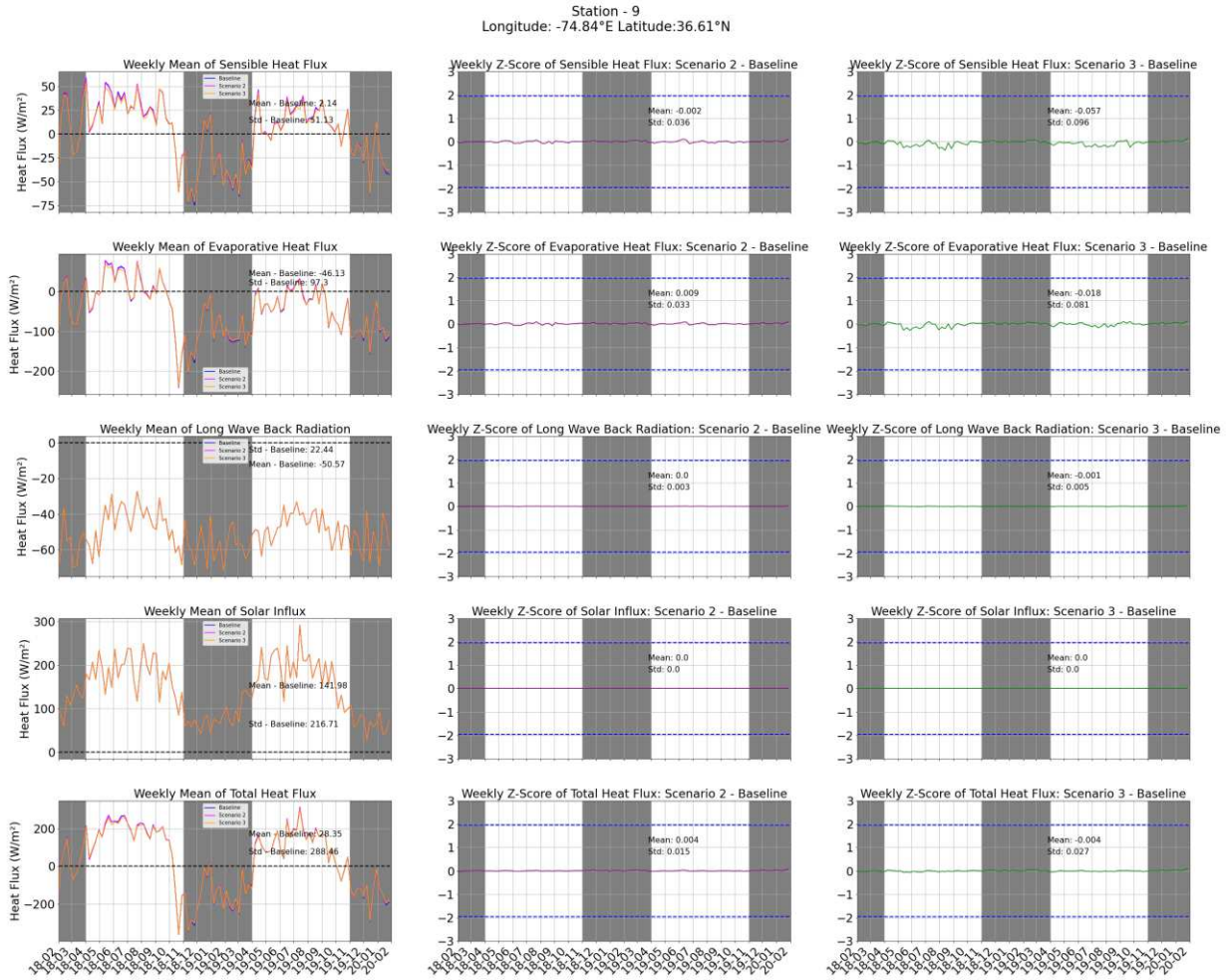
Apx Figure 261. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 5.



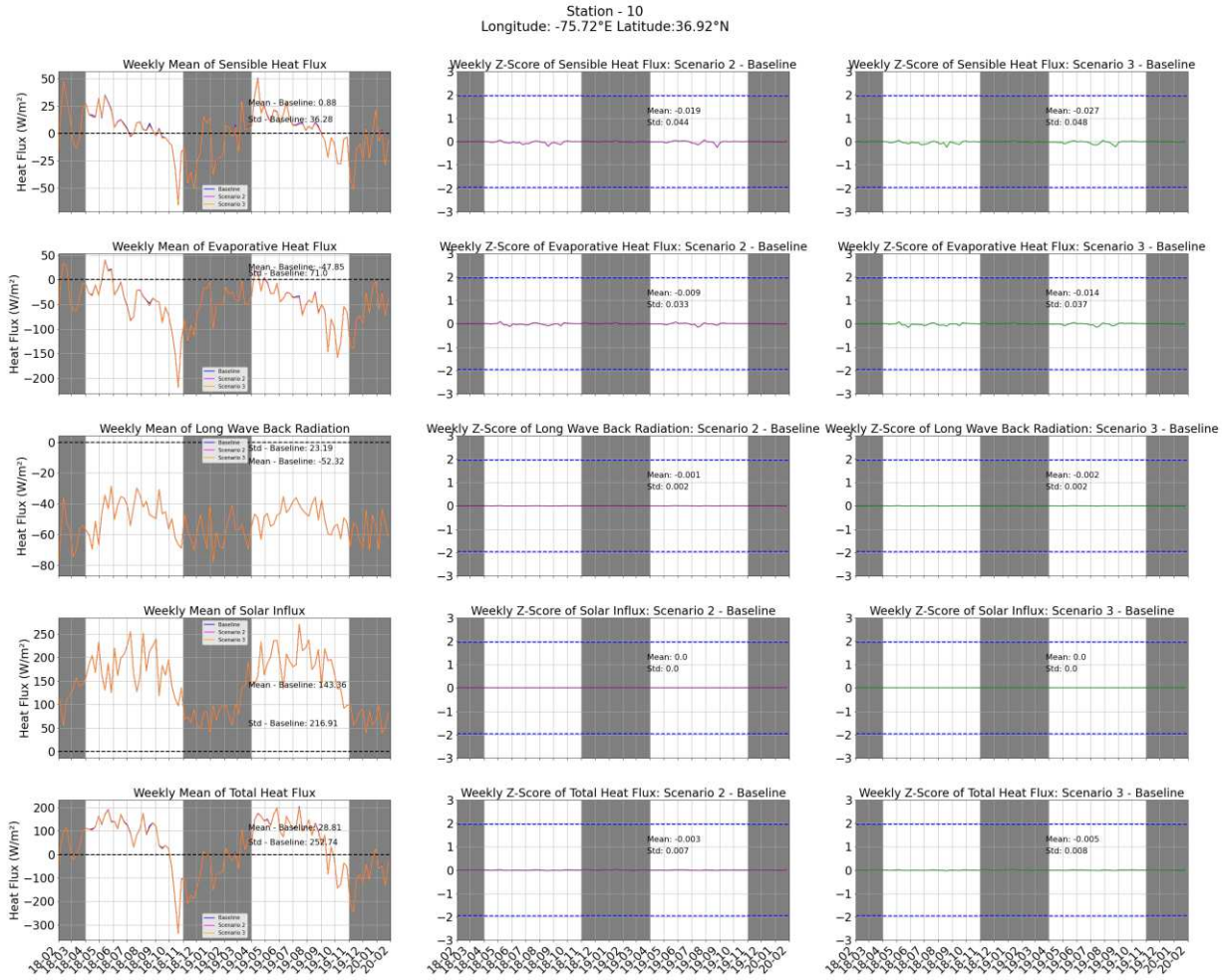
Apx Figure 262. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 6.



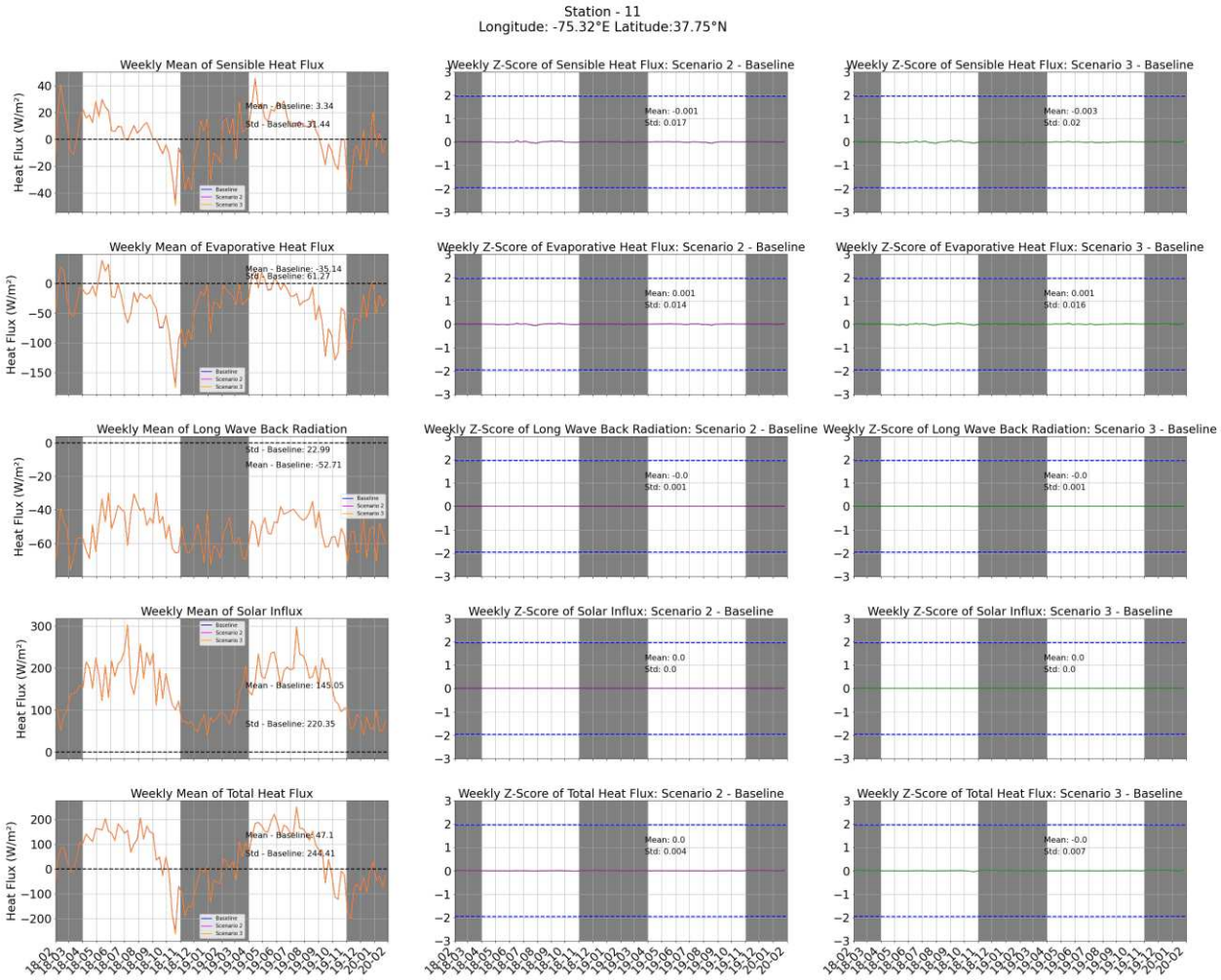
Apx Figure 263. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 7.



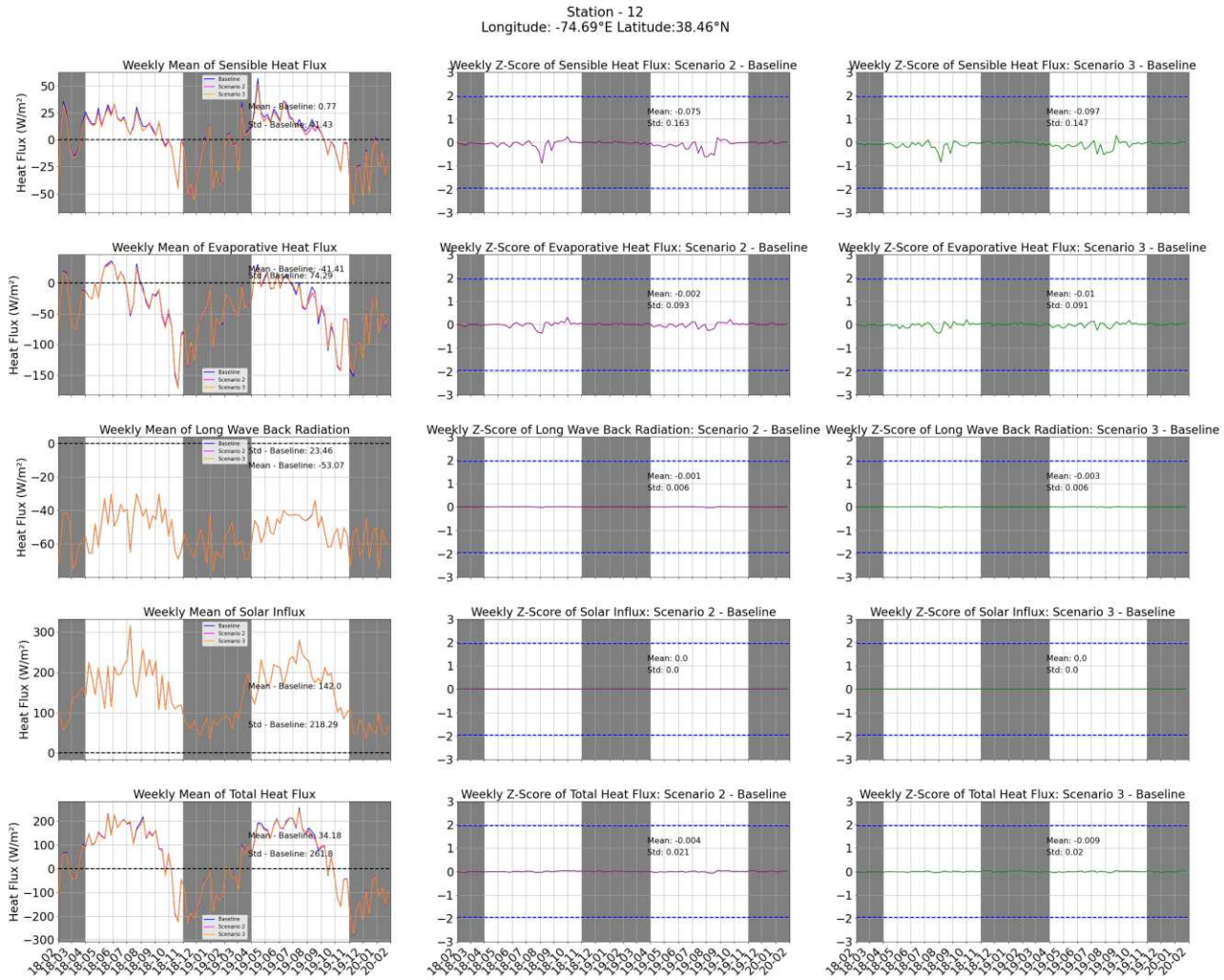
Apx Figure 264. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 9.



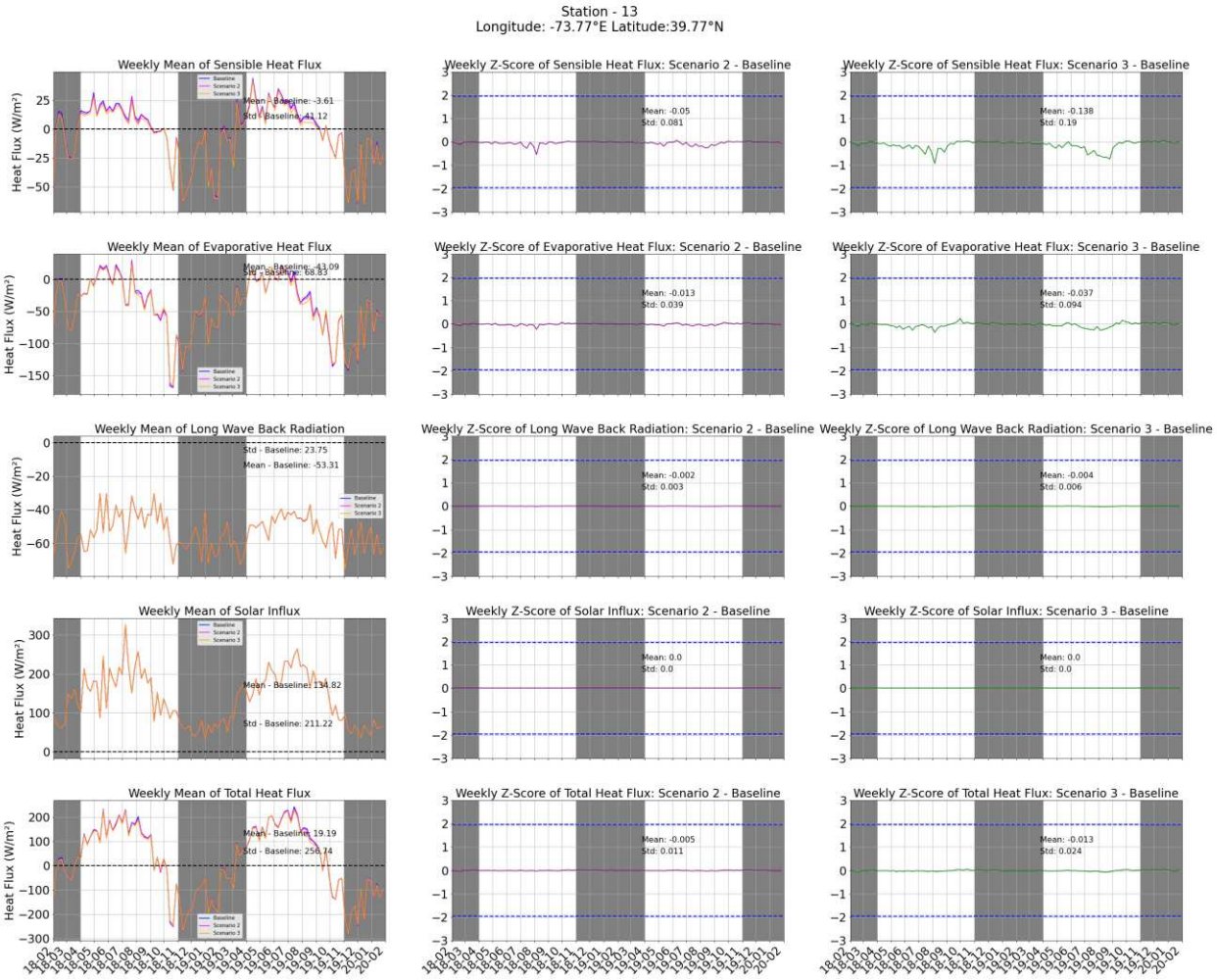
Apx Figure 265. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 10.



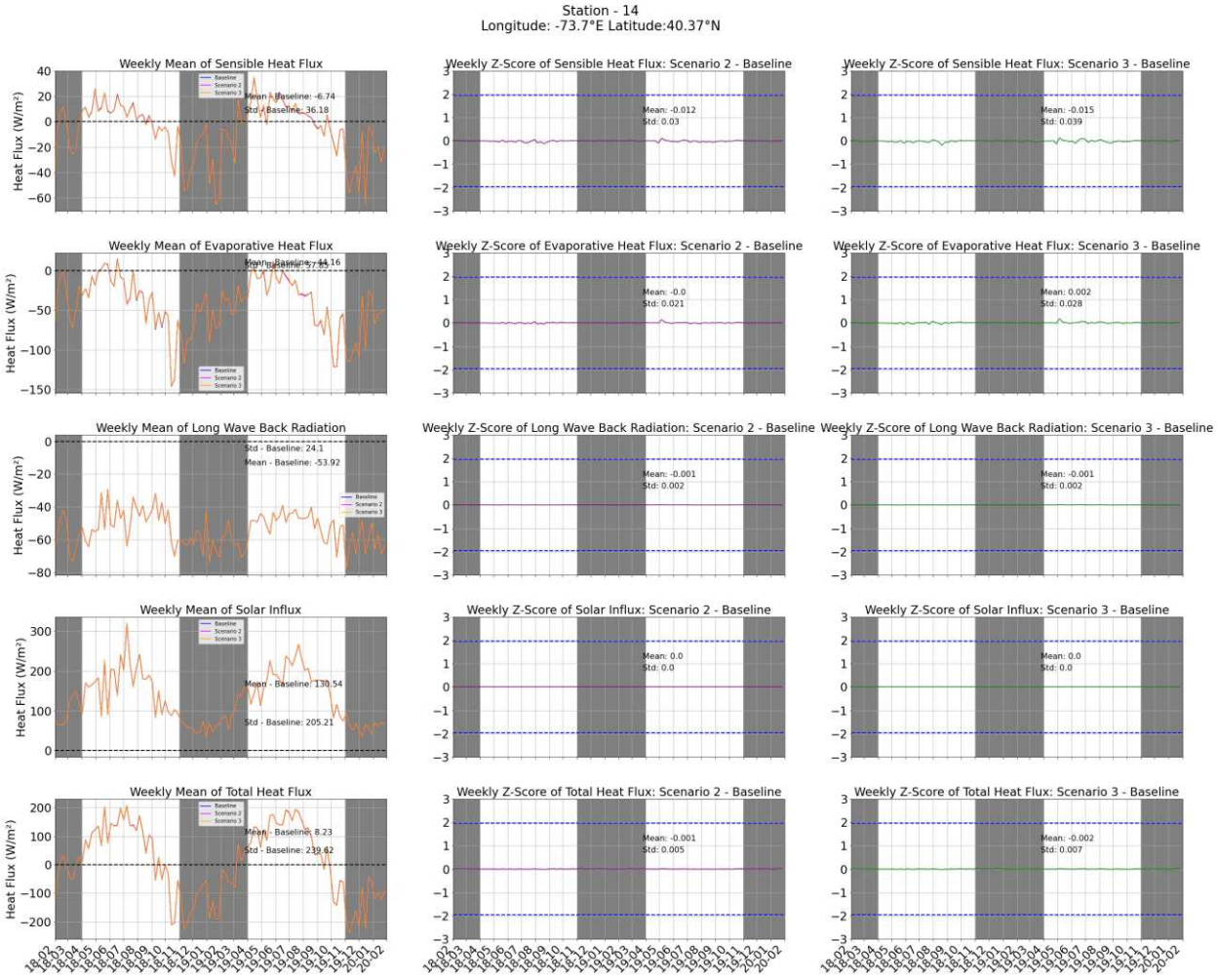
Apx Figure 266. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 11.



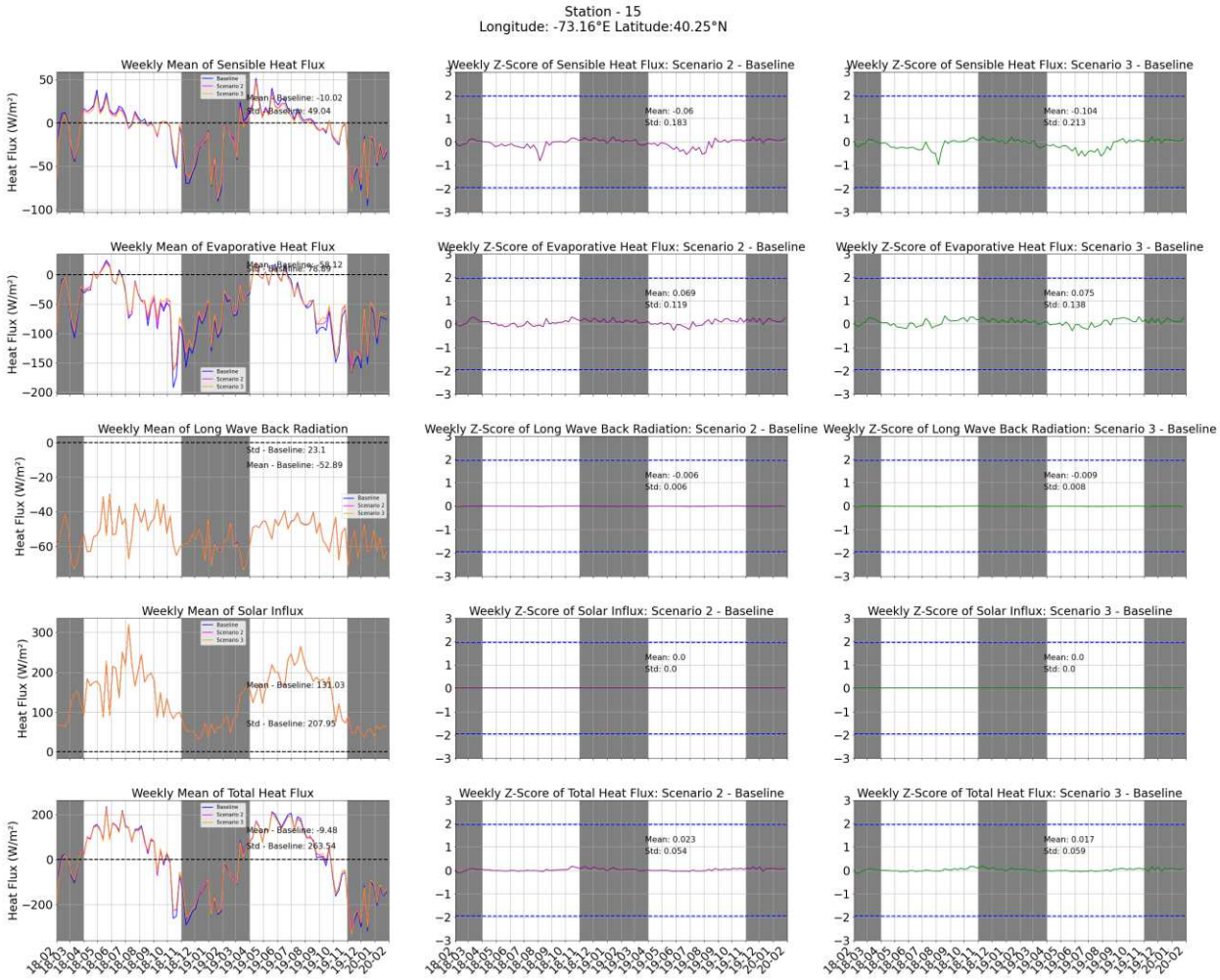
Apx Figure 267. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 12.



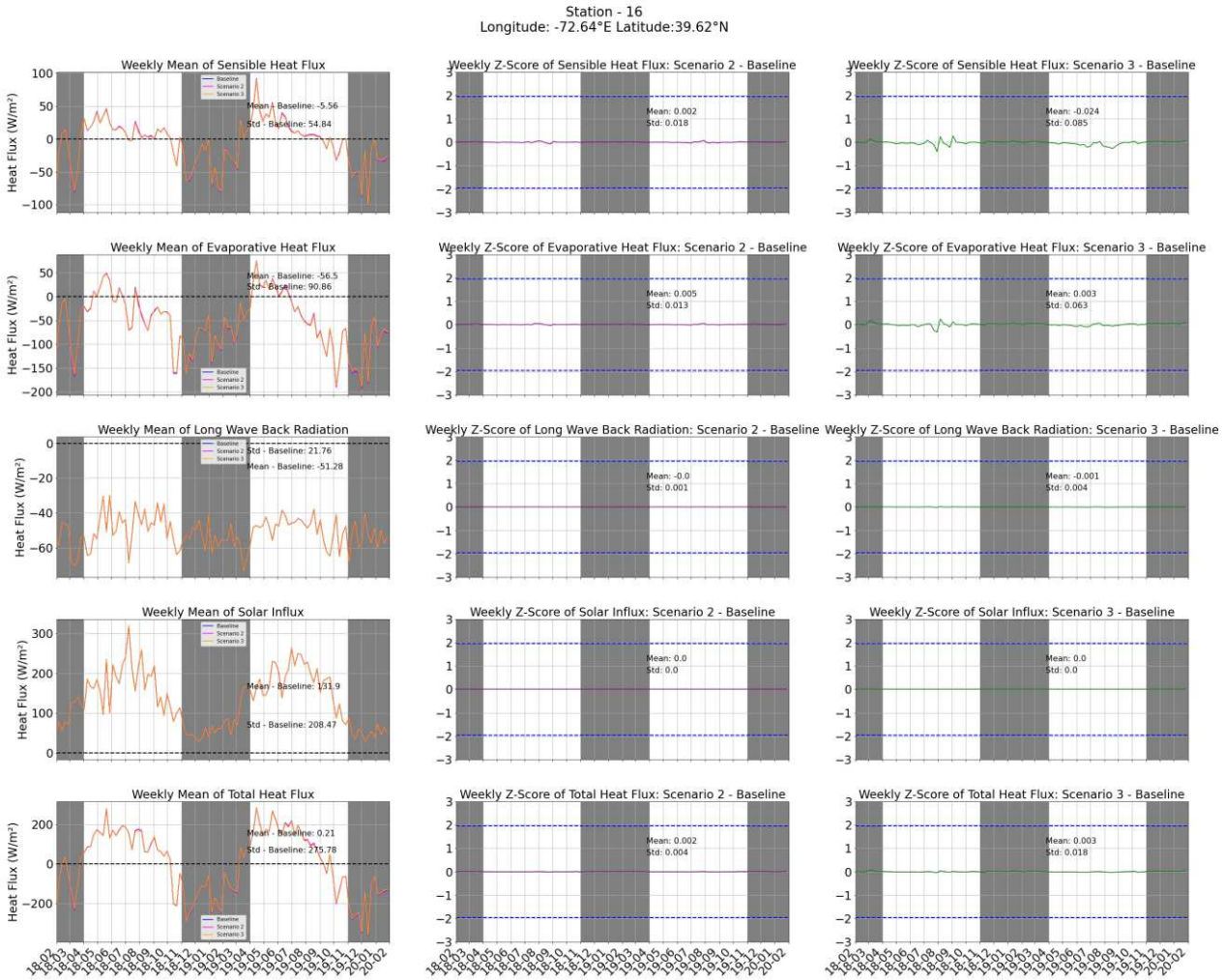
Apx Figure 268. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 13.



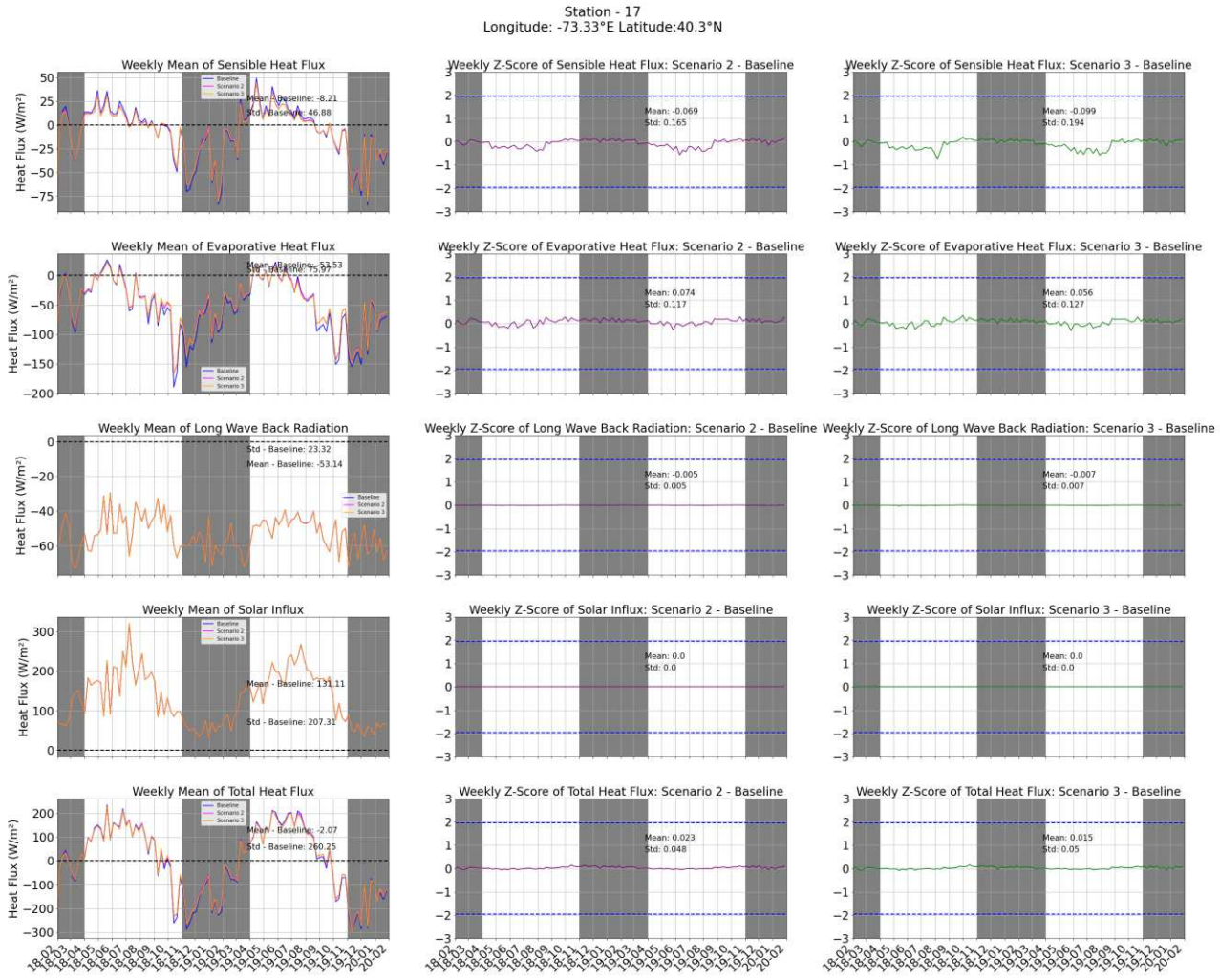
Apx Figure 269. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 14.



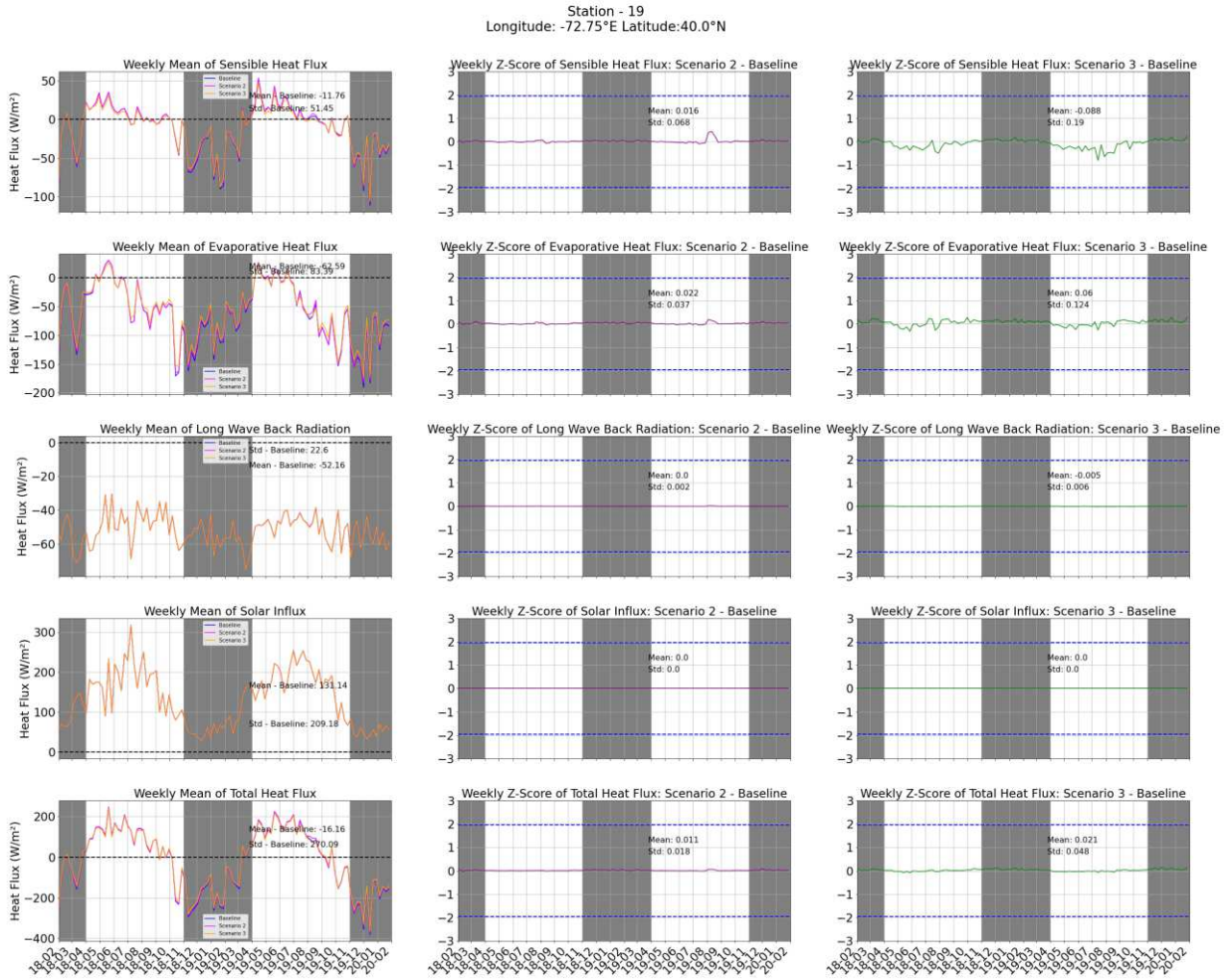
Apx Figure 270. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 15.



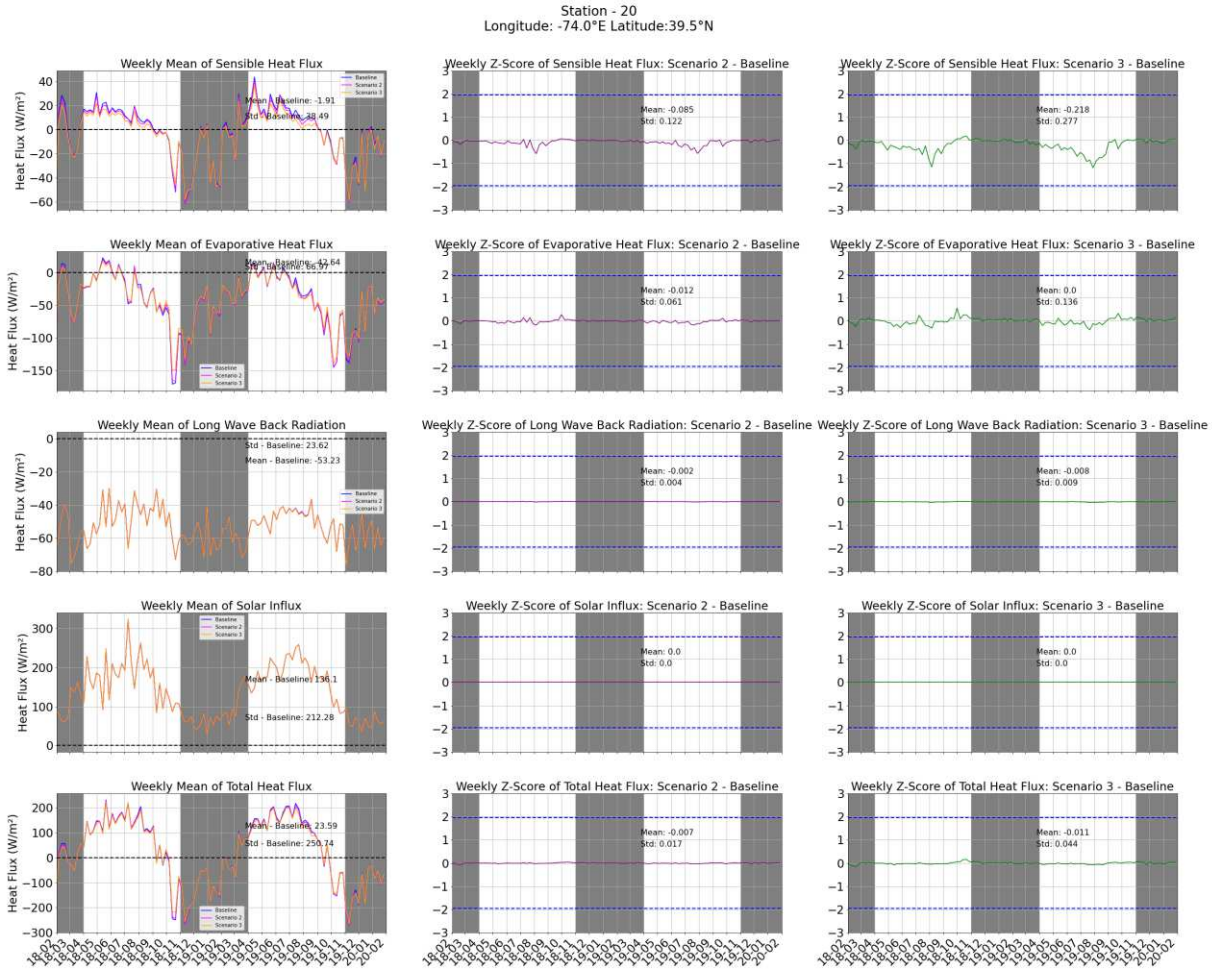
Apx Figure 271. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 16.



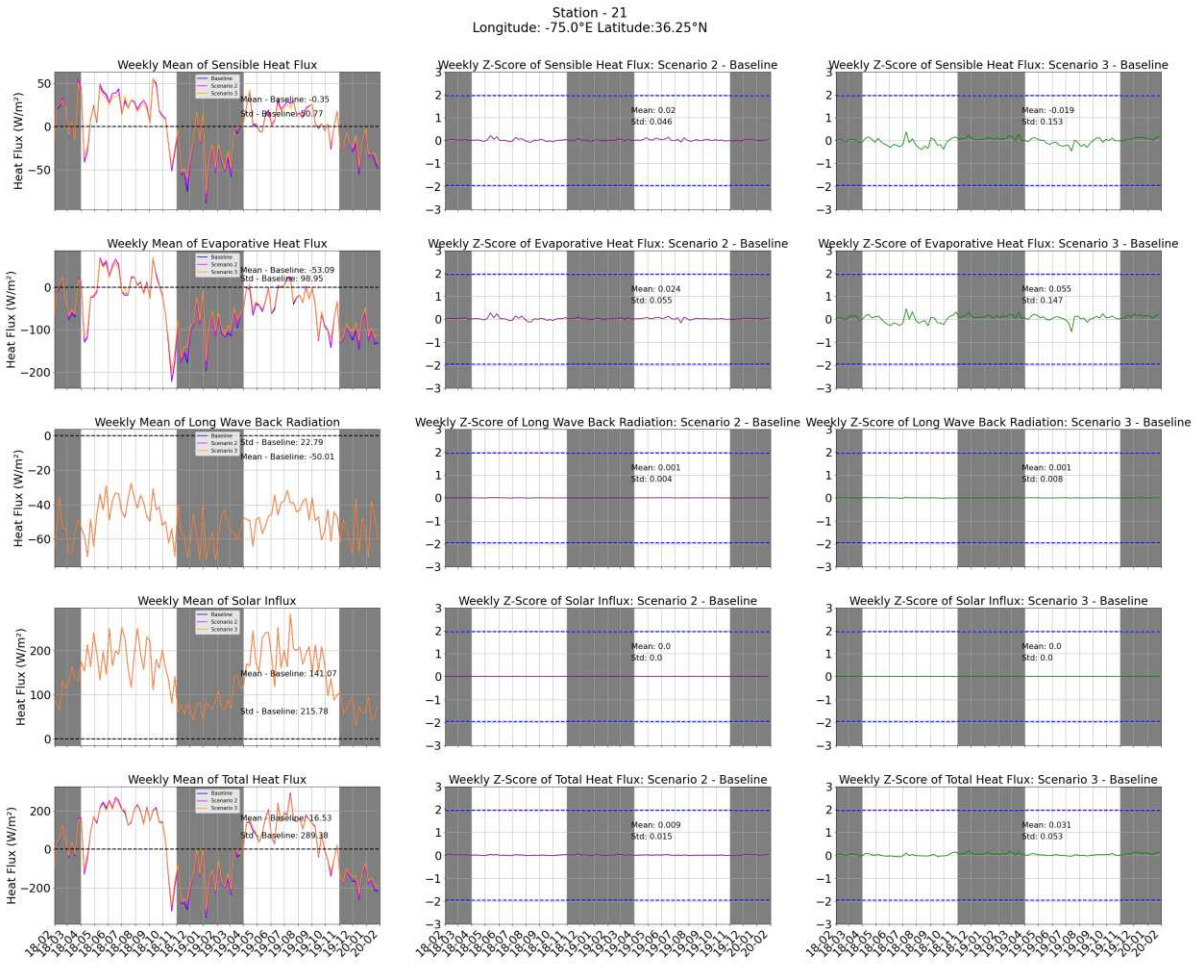
Apx Figure 272. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 17.



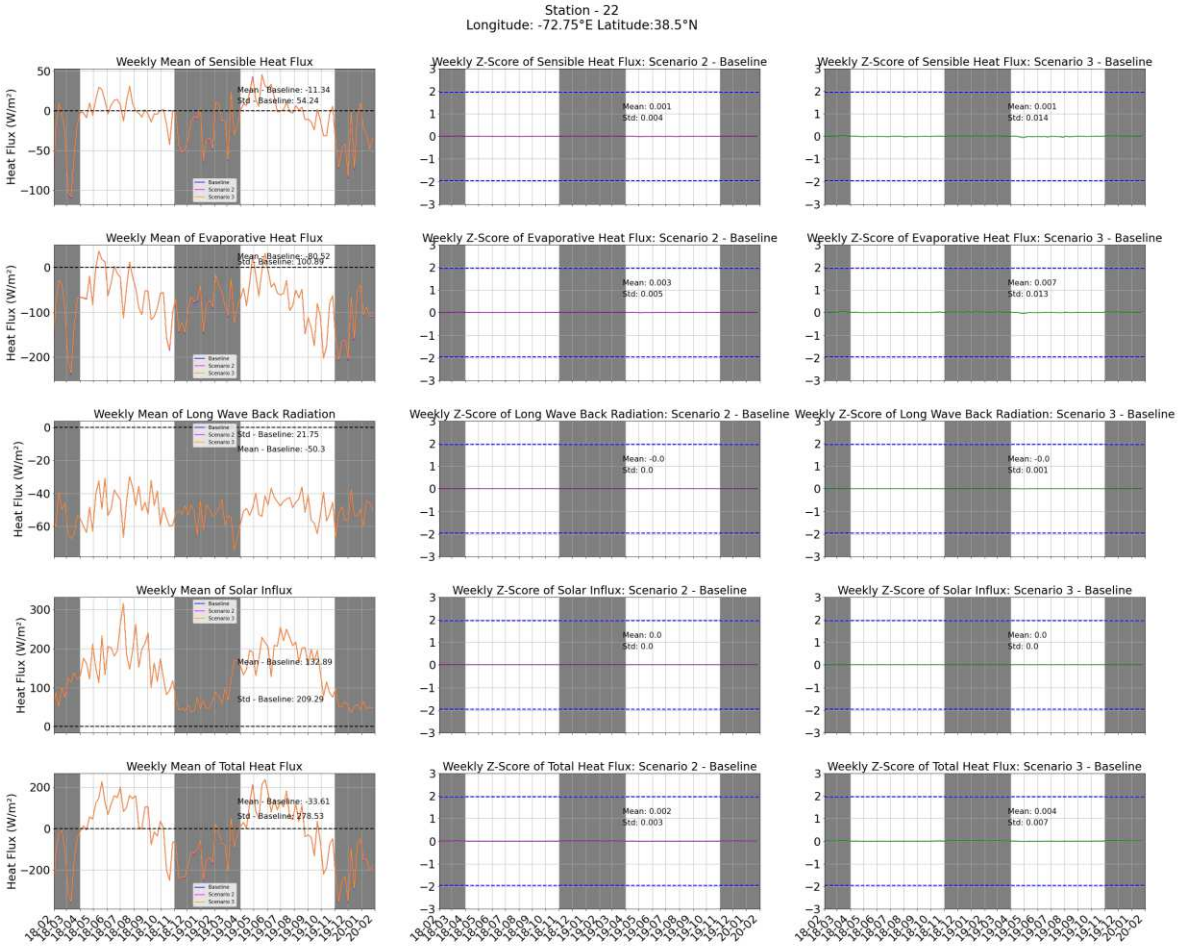
Apx Figure 273. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 19.



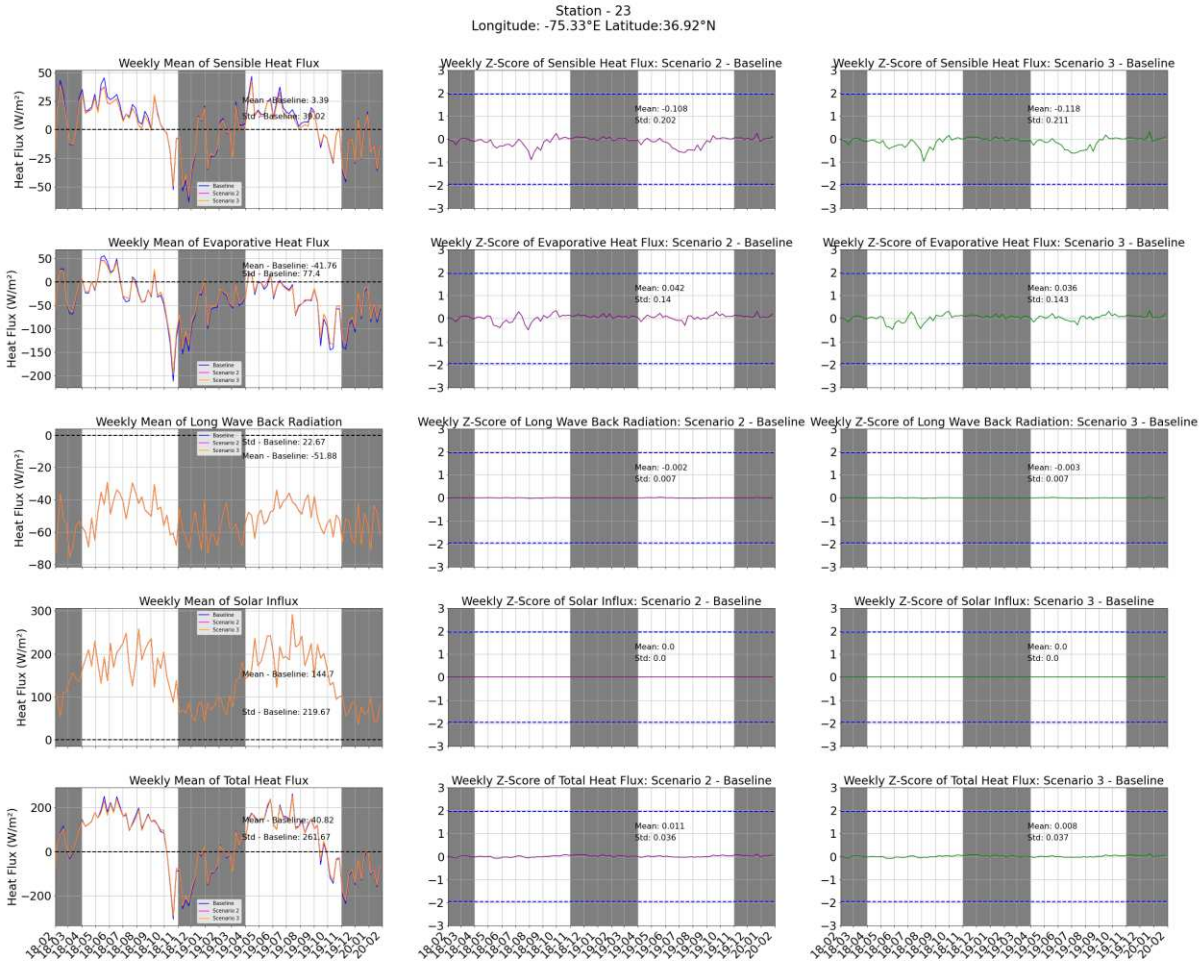
Apx Figure 274. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 20.



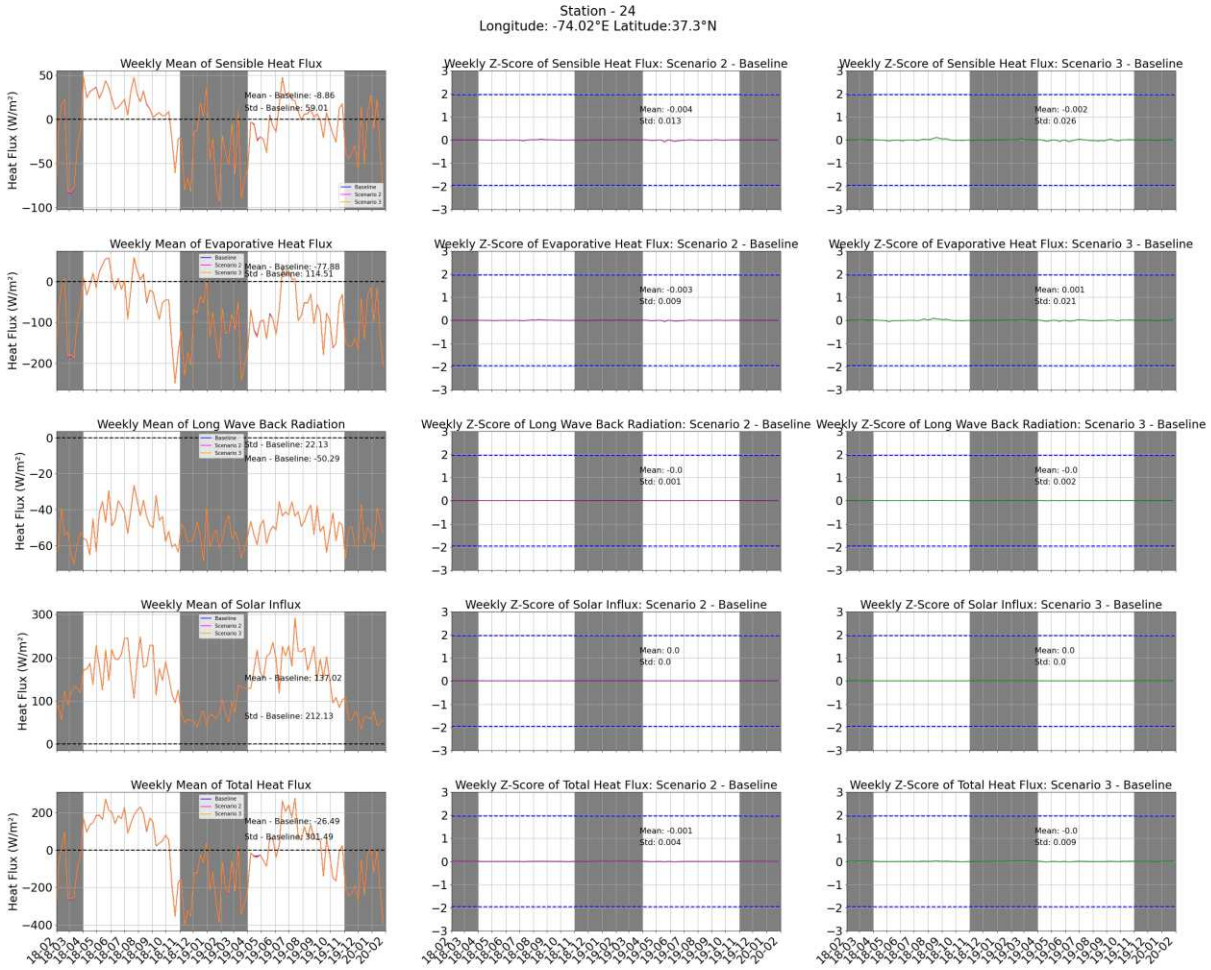
Apx Figure 275. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 21.



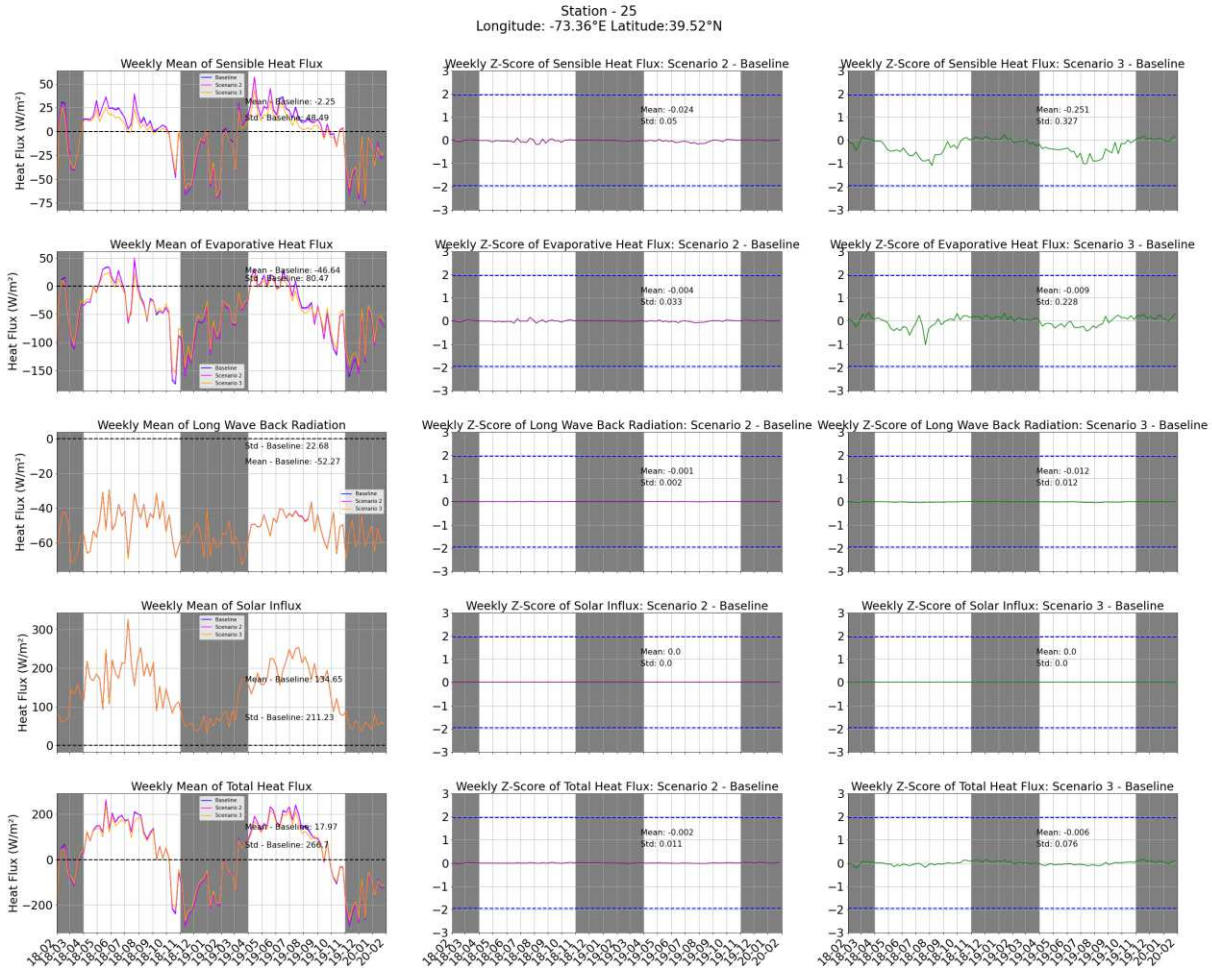
Apx Figure 276. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 22.



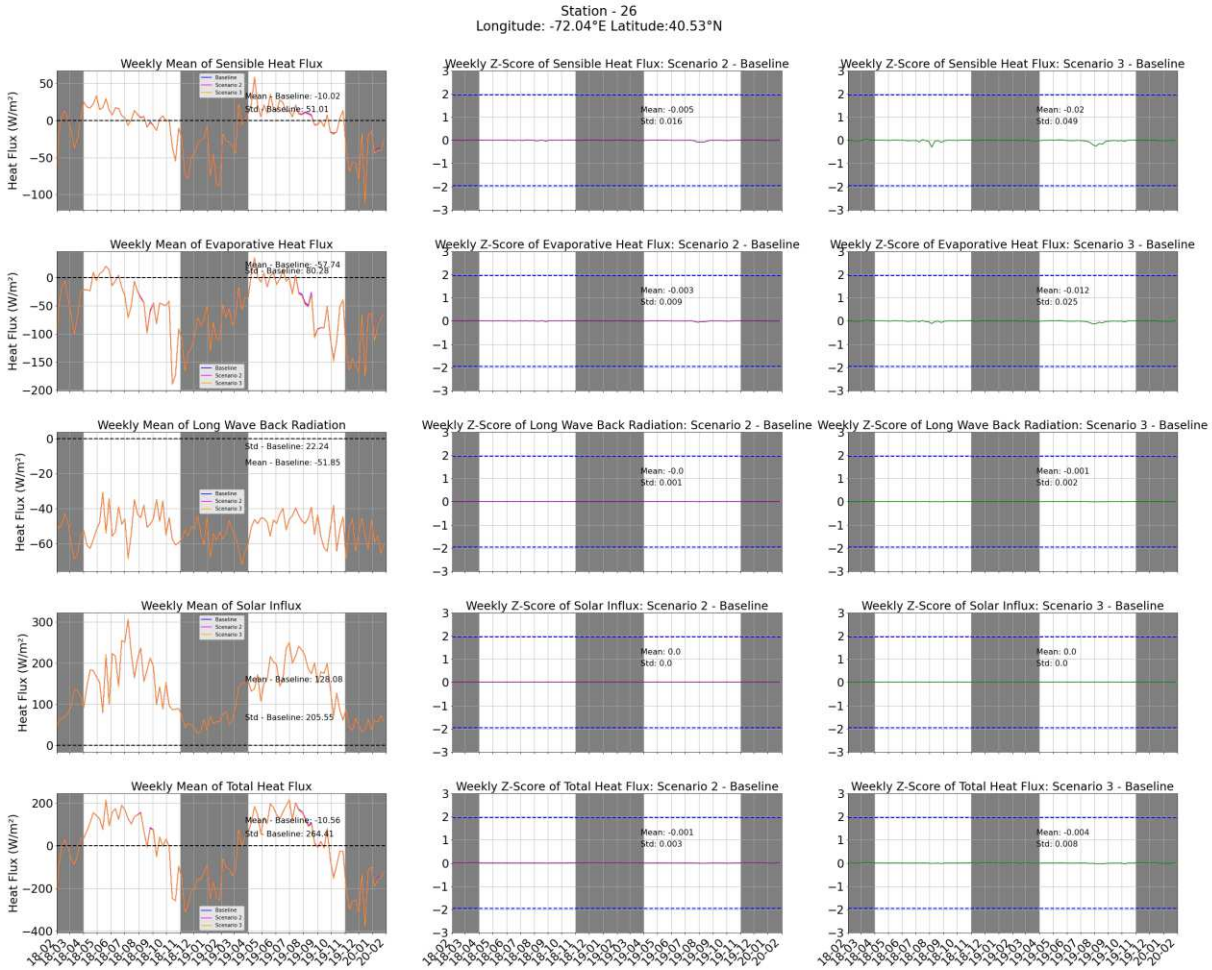
Apx Figure 277. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 23.



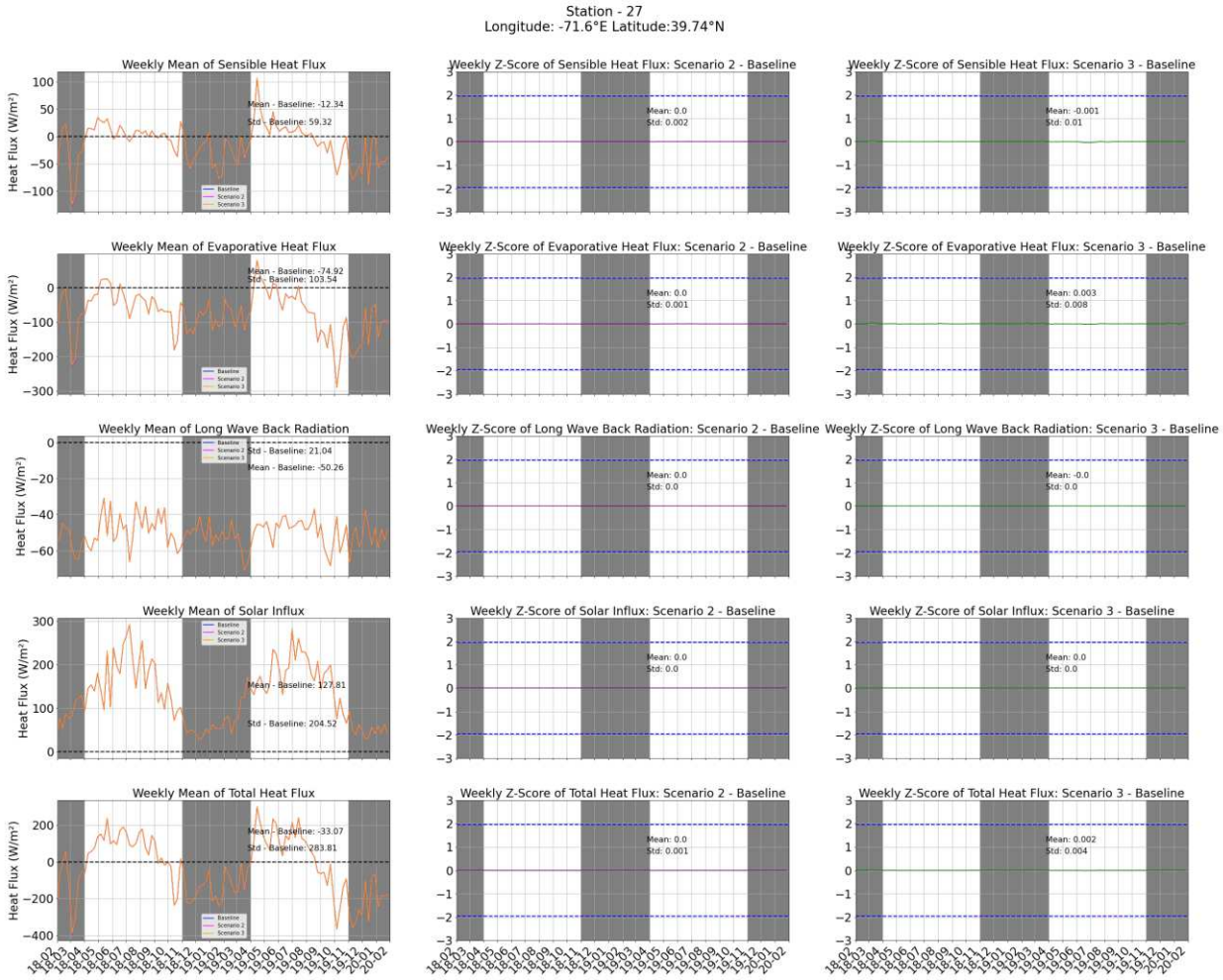
Apx Figure 278. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 24.



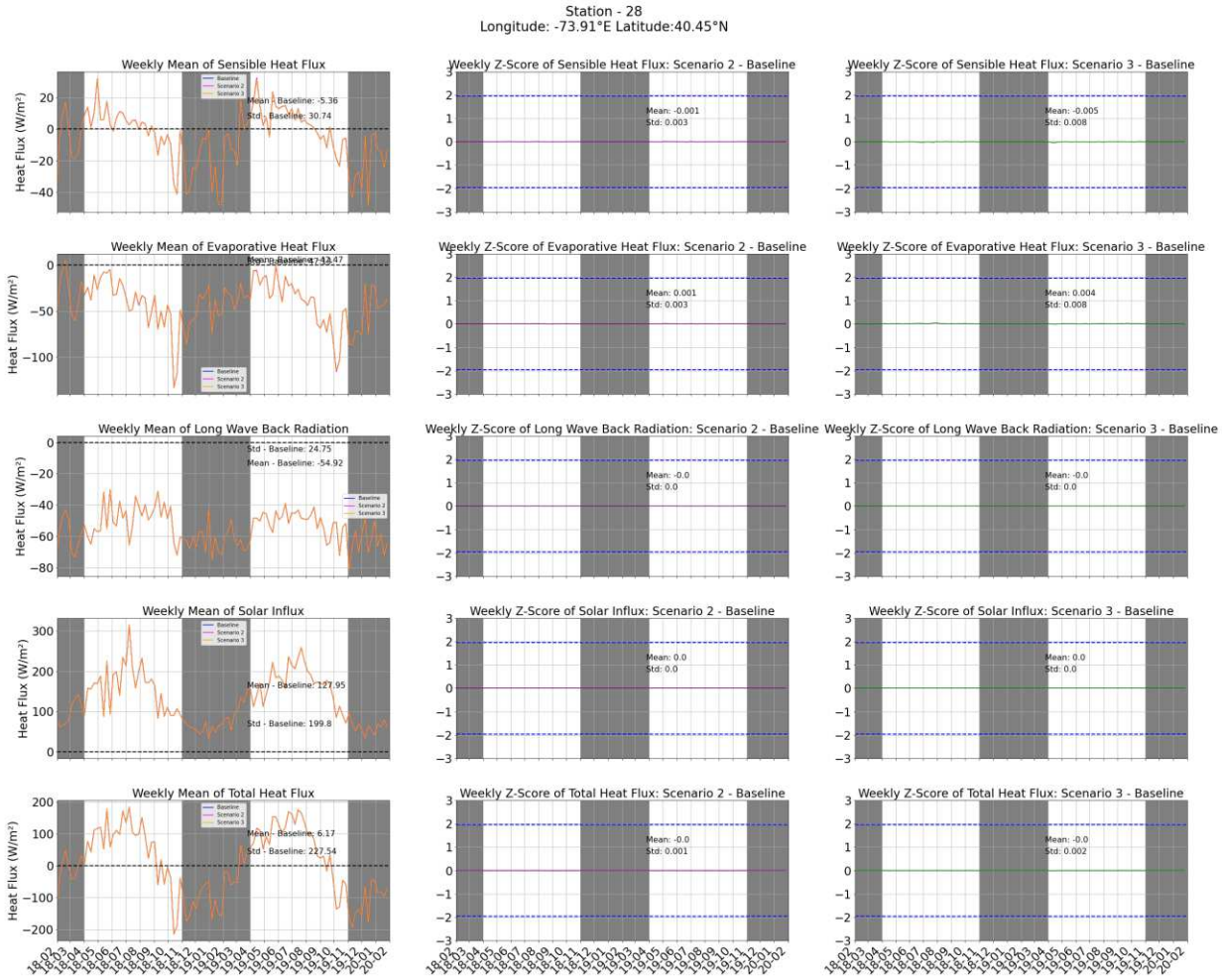
Apx Figure 279. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 25.



Apx Figure 280. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 26.

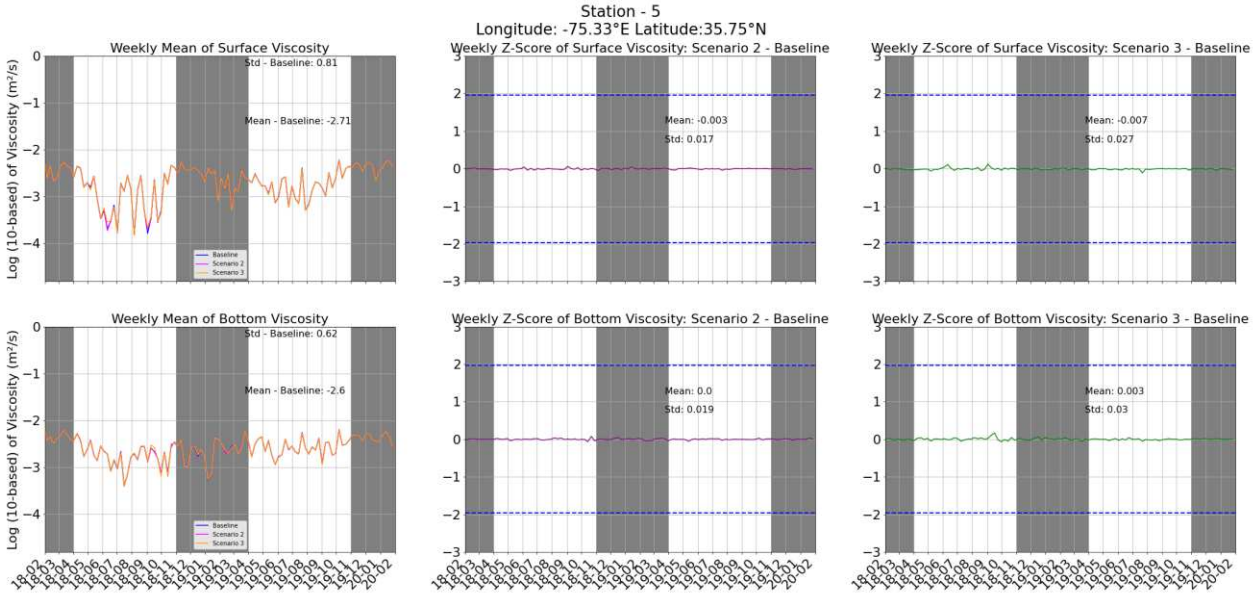


Apx Figure 281. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 27.

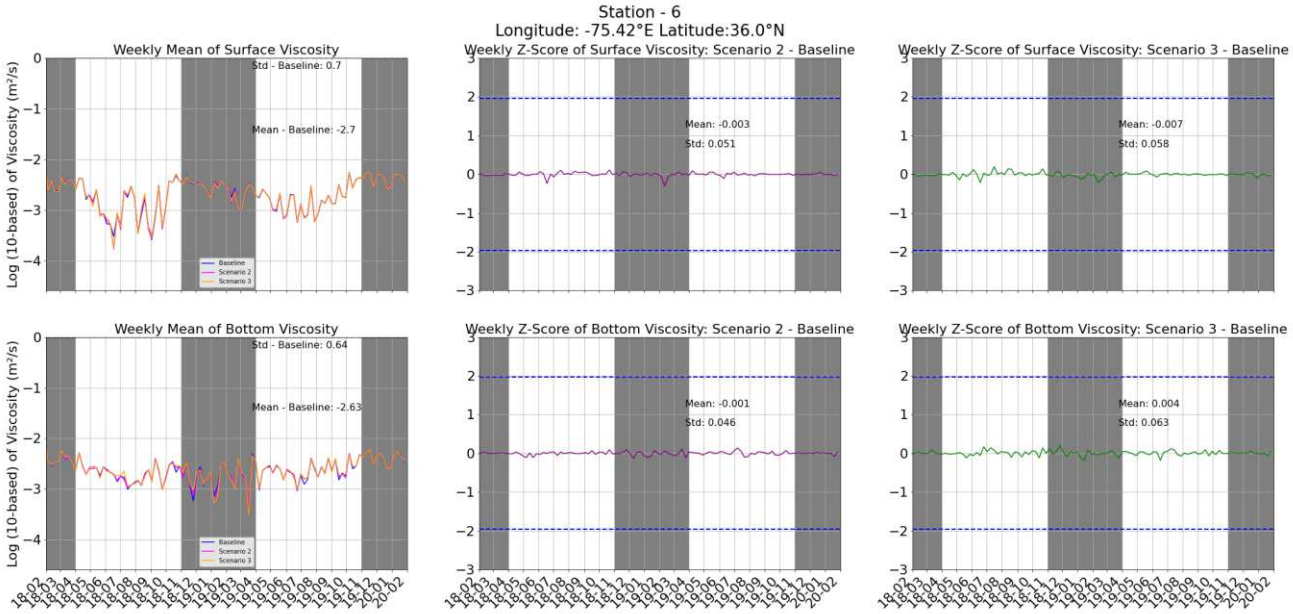


Apx Figure 282. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for different heat fluxes at station 28.

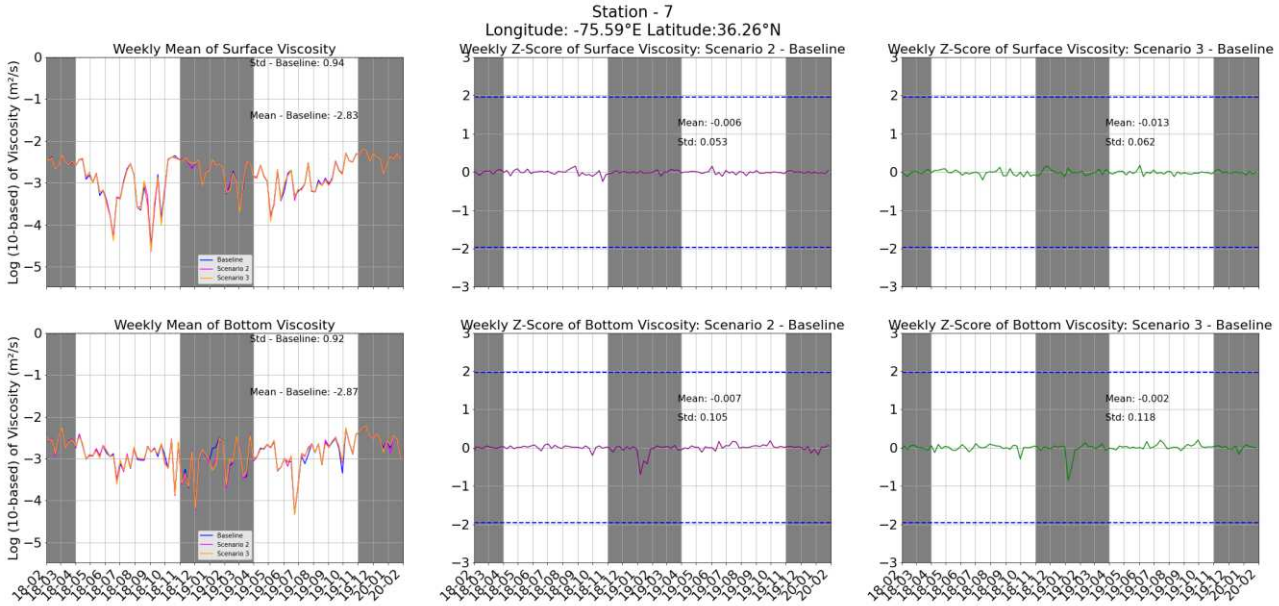
B.4 Turbulent Vertical Eddy Viscosity



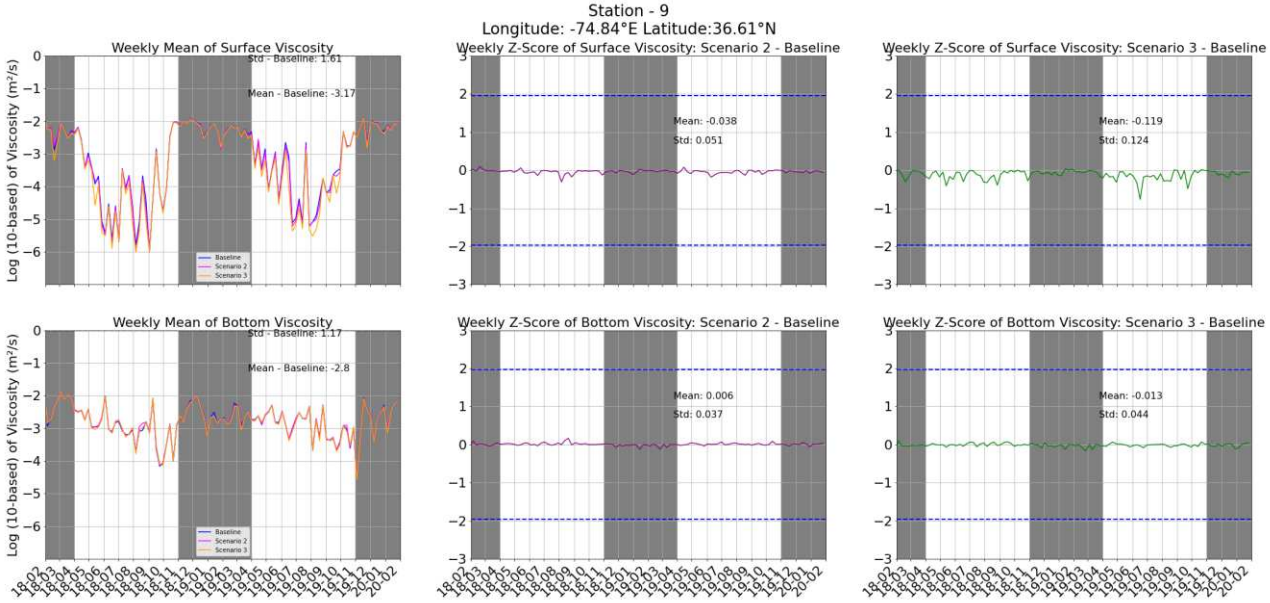
Apx Figure 283. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 5.



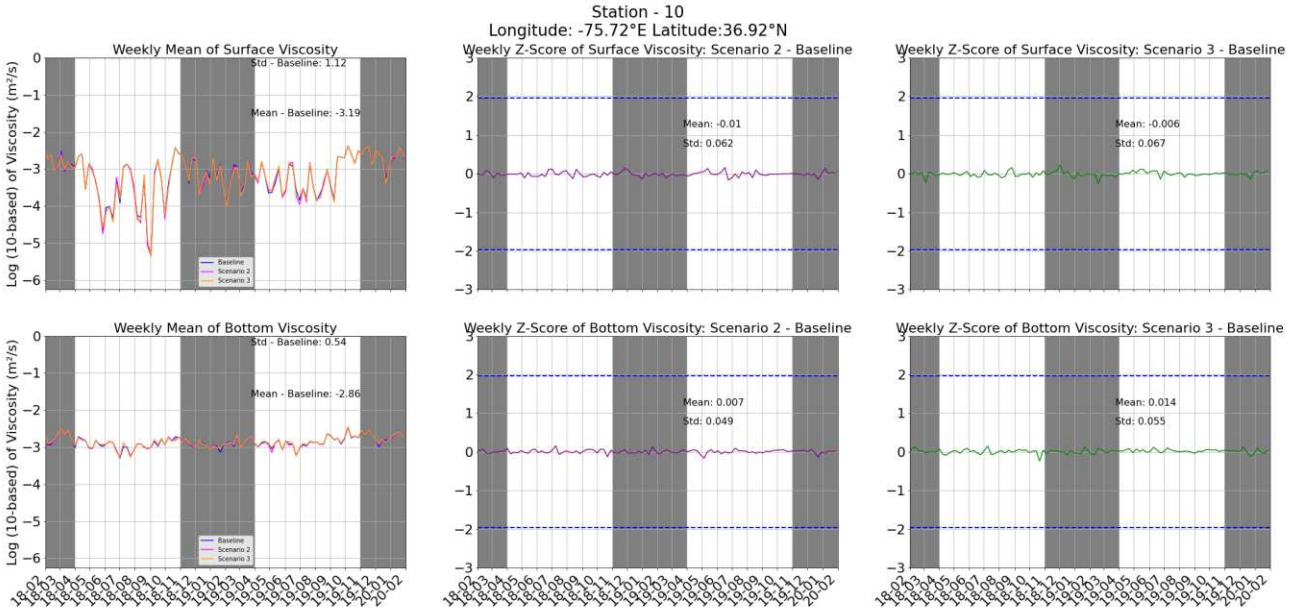
Apx Figure 284. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 6.



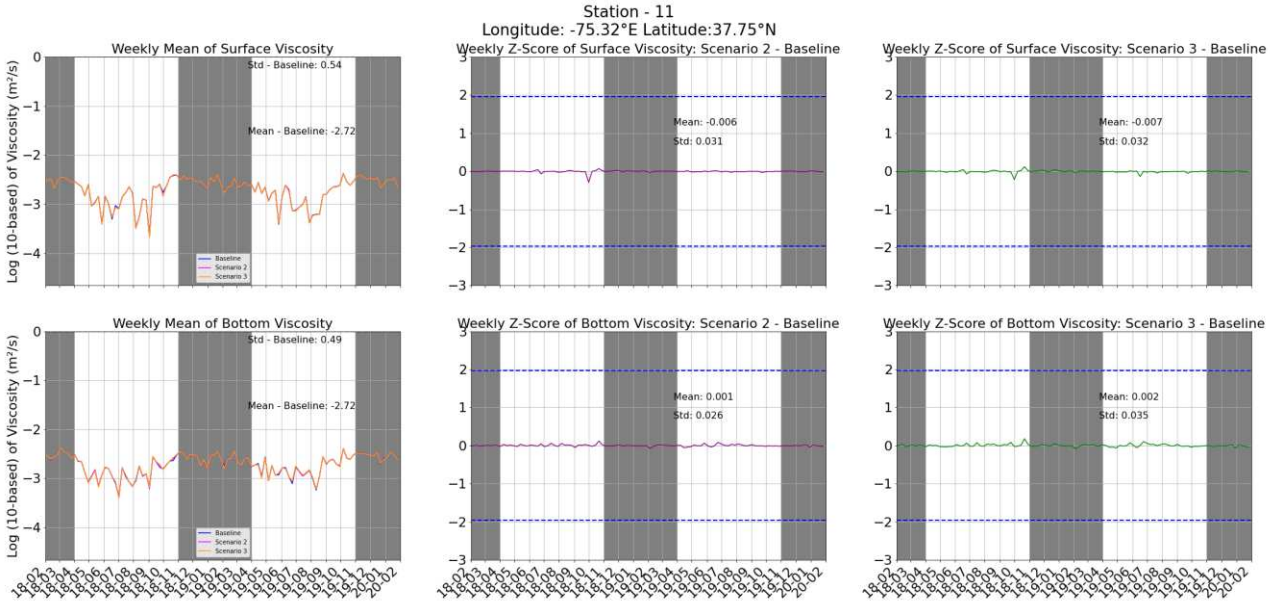
Apx Figure 285. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 7.



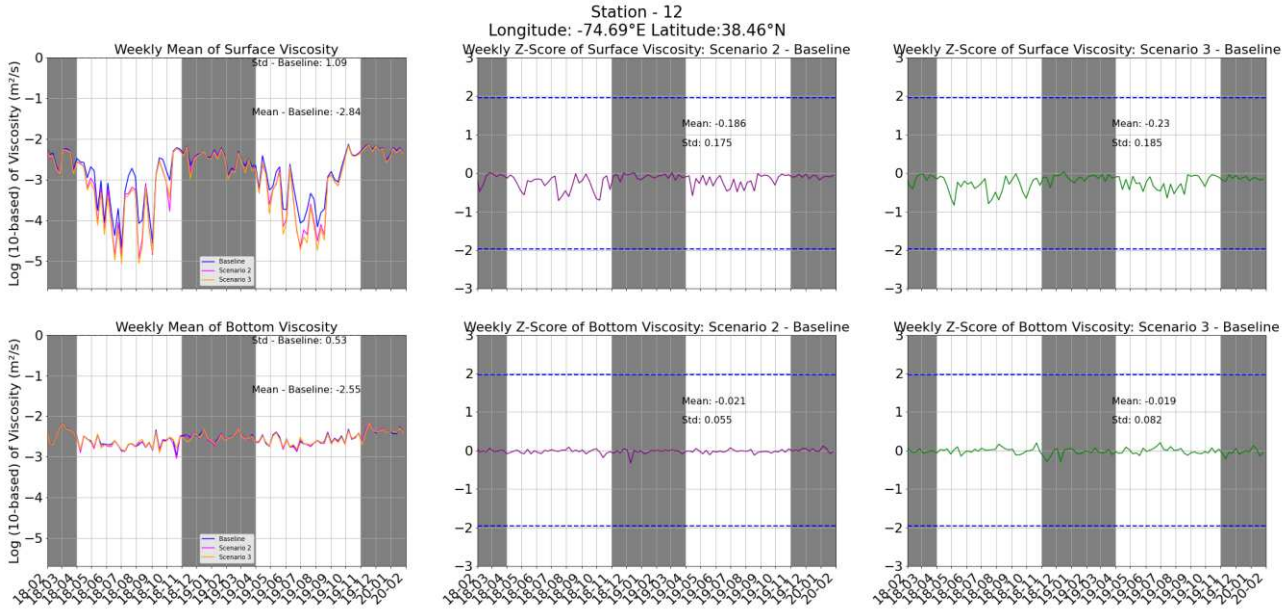
Apx Figure 286. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 9.



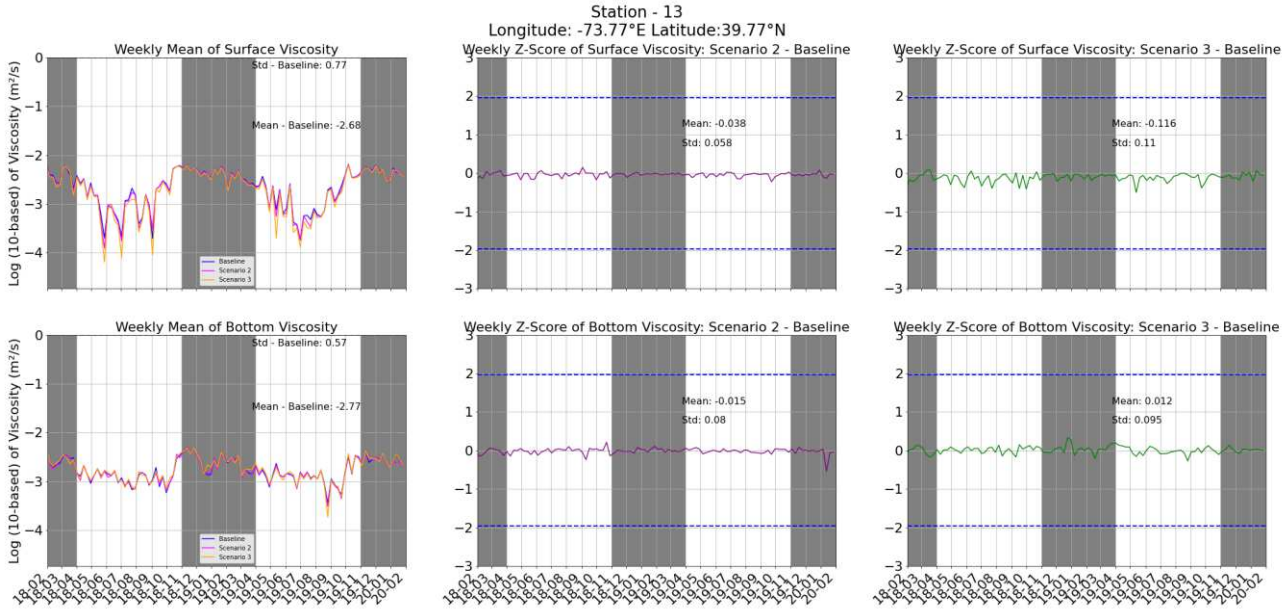
Apx Figure 287. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 10.



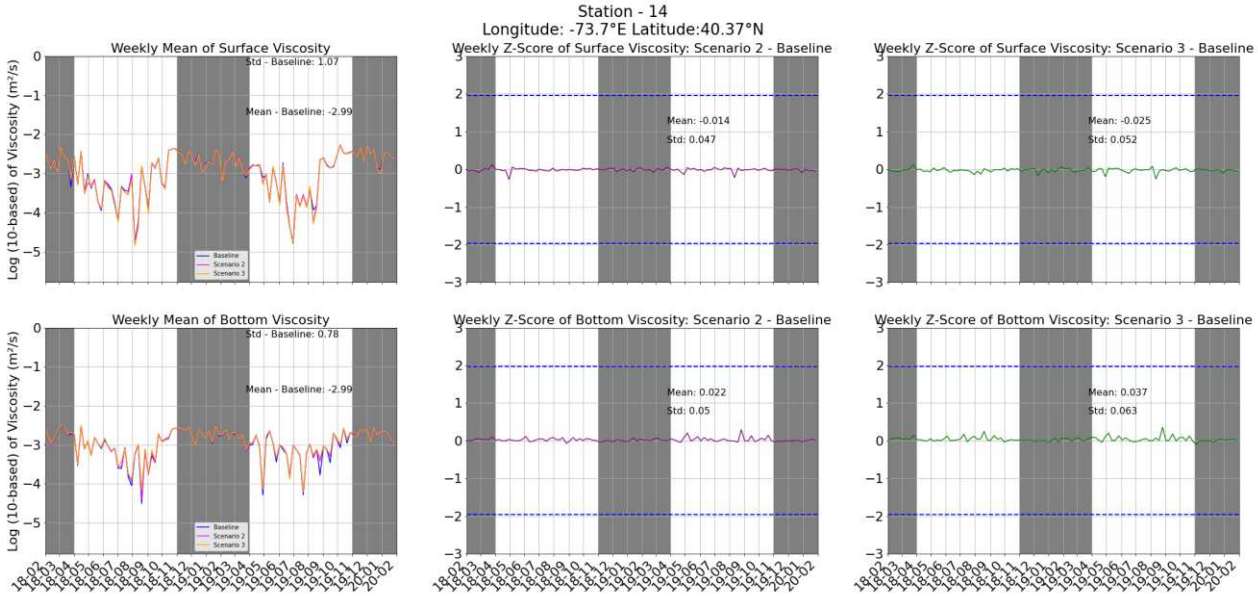
Apx Figure 288. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 11.



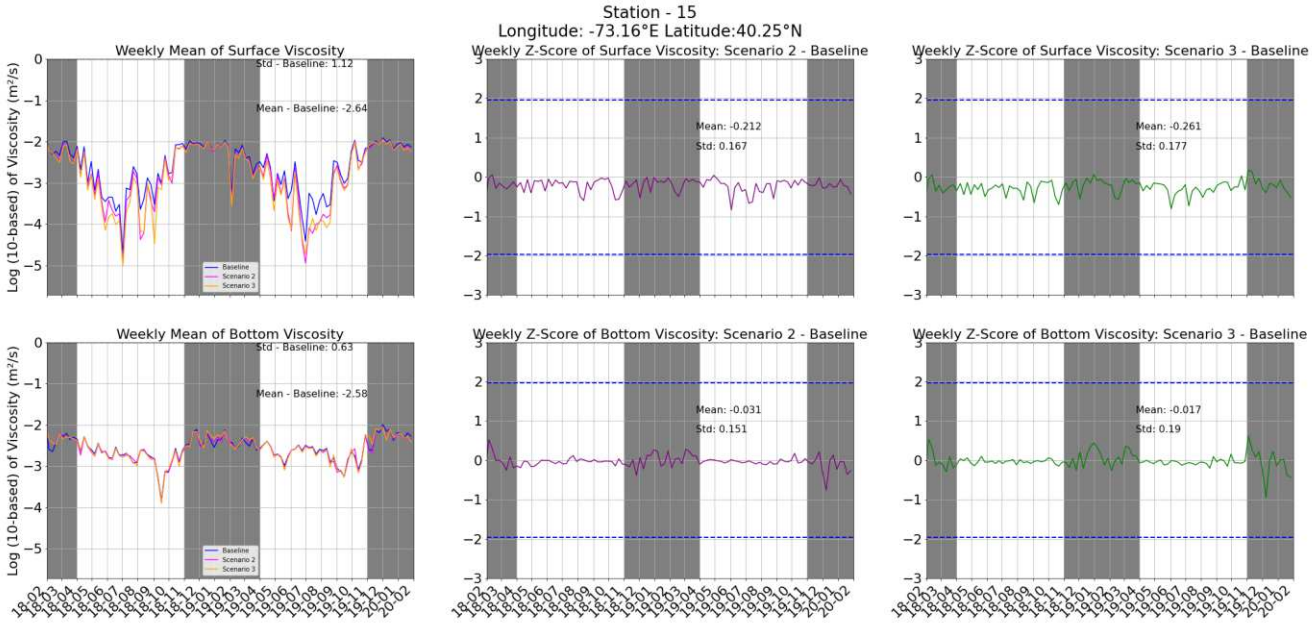
Apx Figure 289. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 12.



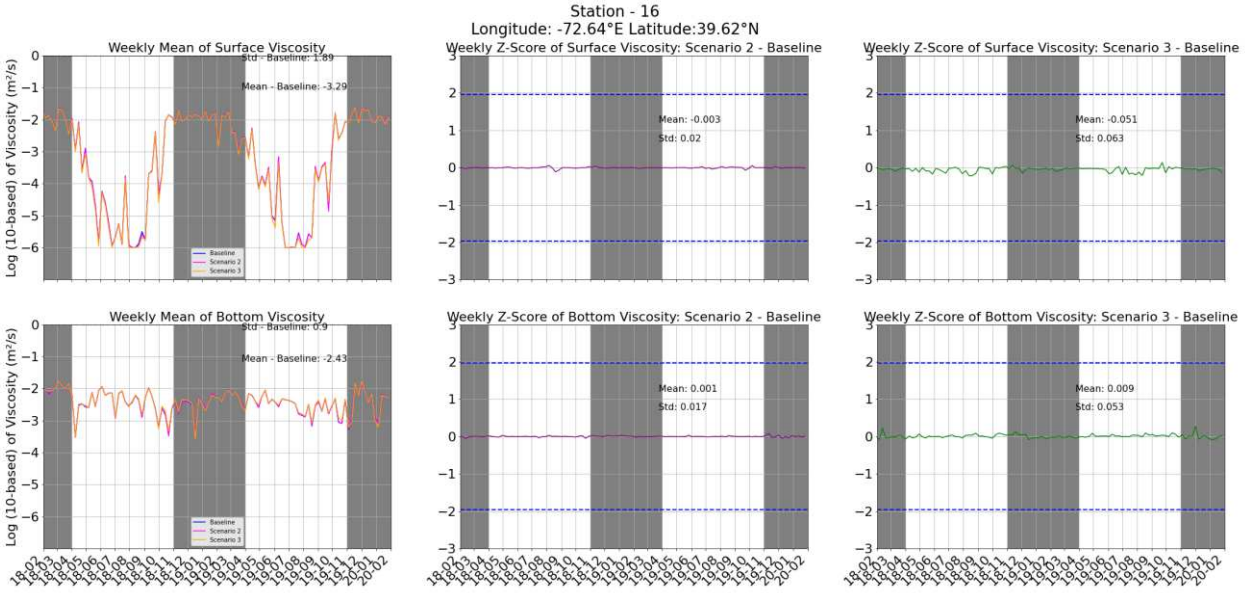
Apx Figure 290. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 13.



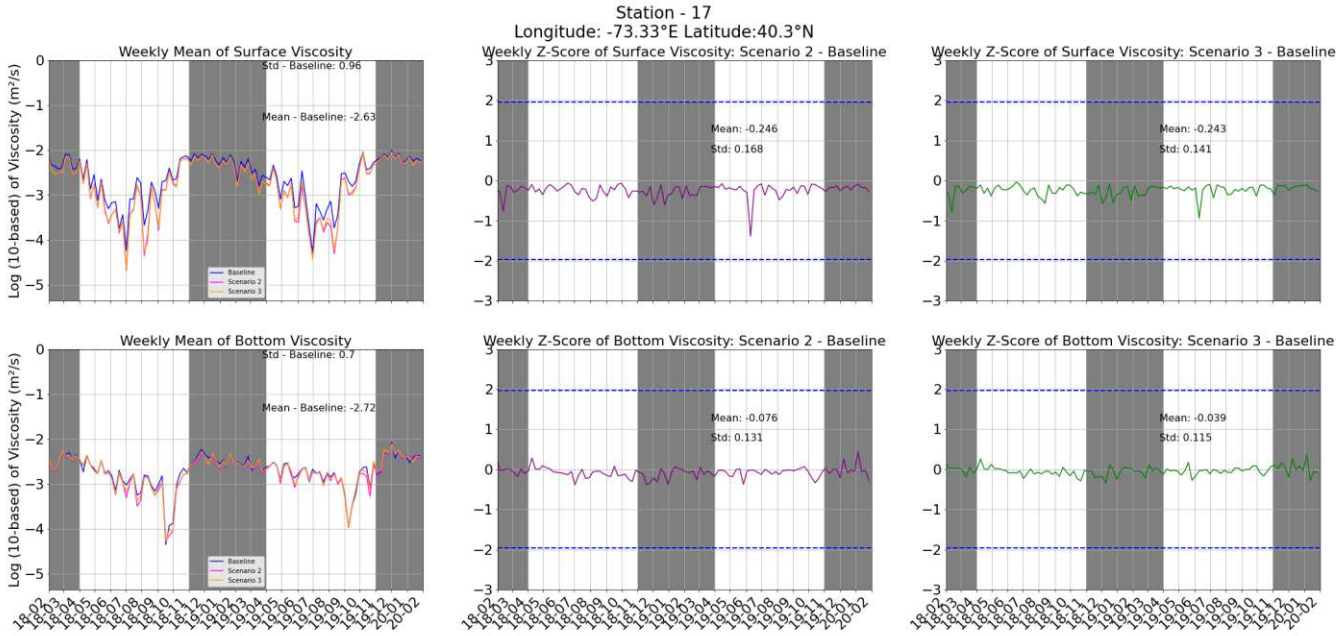
Apx Figure 291. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 14.



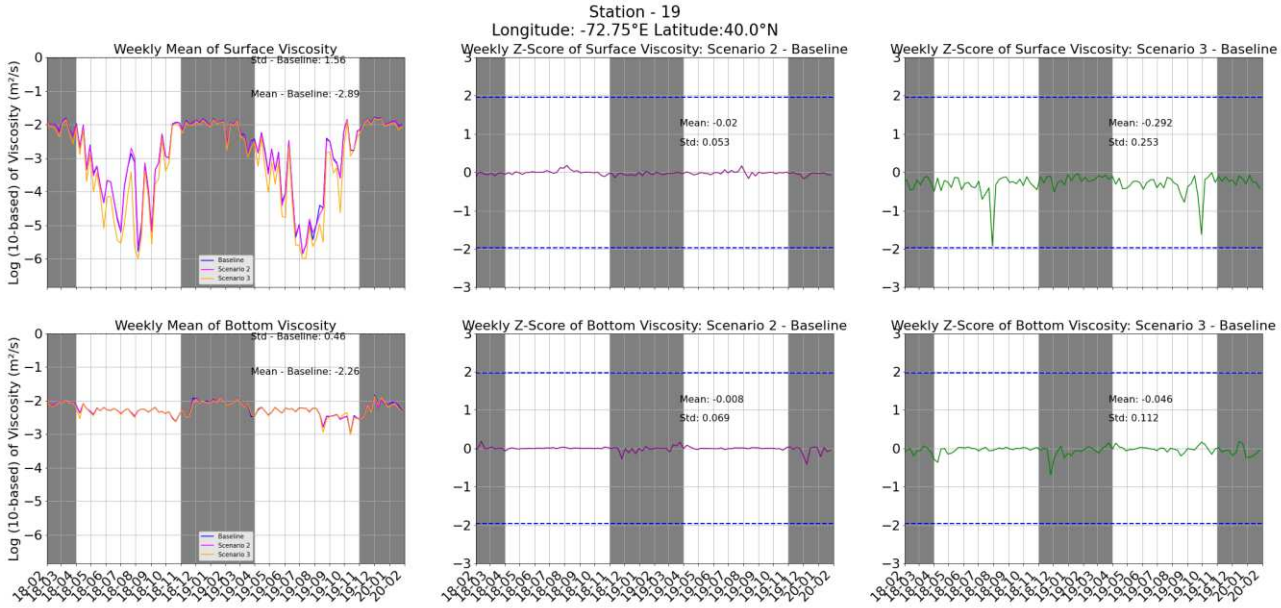
Apx Figure 292. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 15.



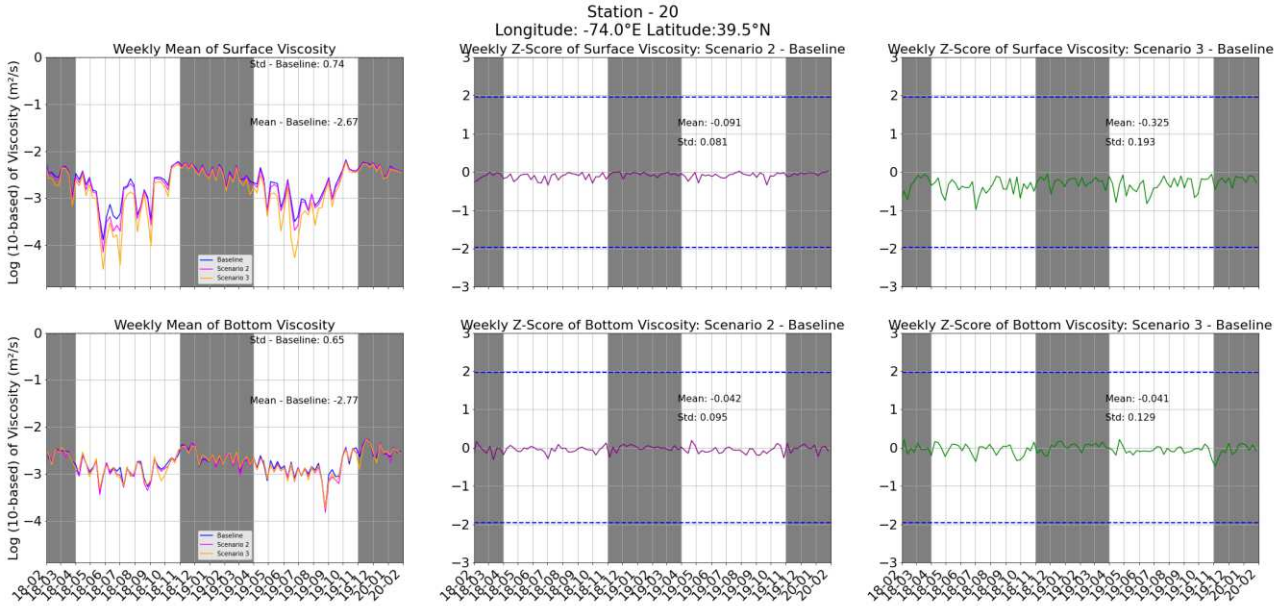
Apx Figure 293. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 16.



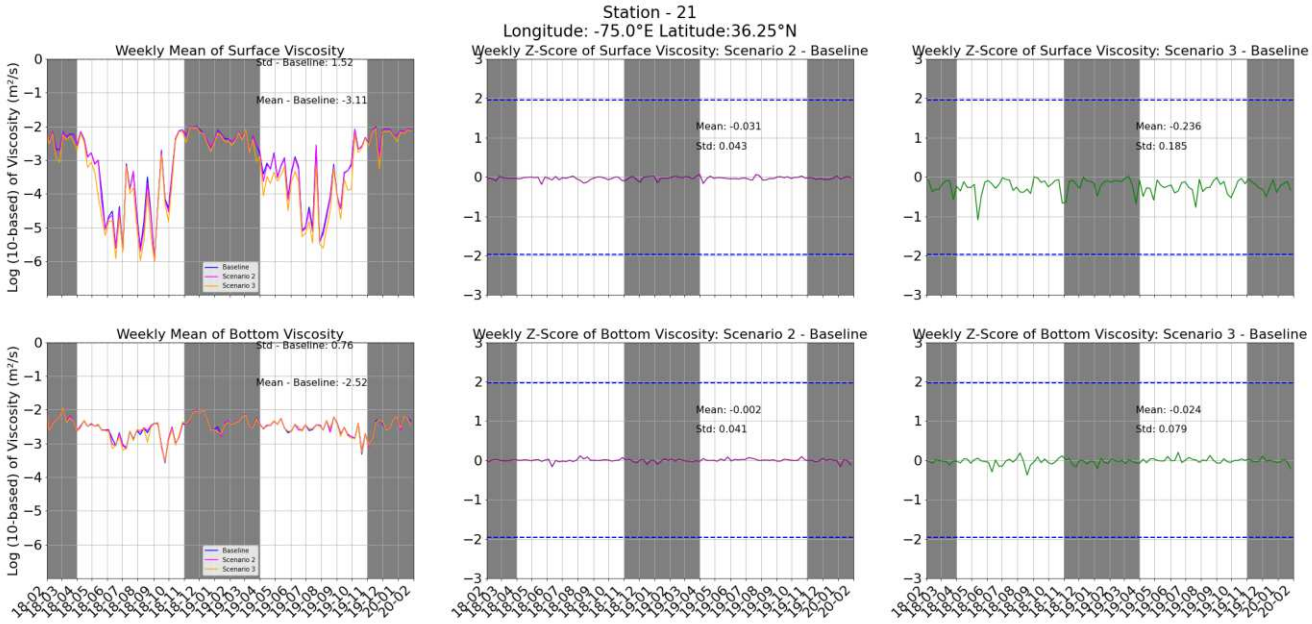
Apx Figure 294. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 17.



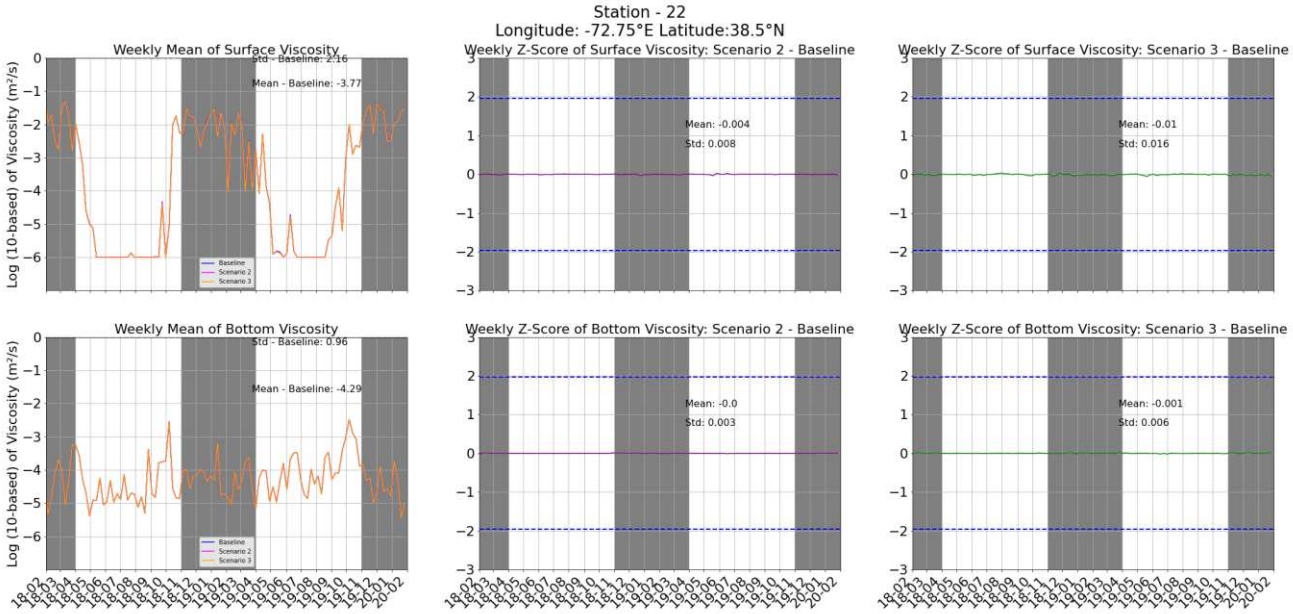
Apx Figure 295. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 19.



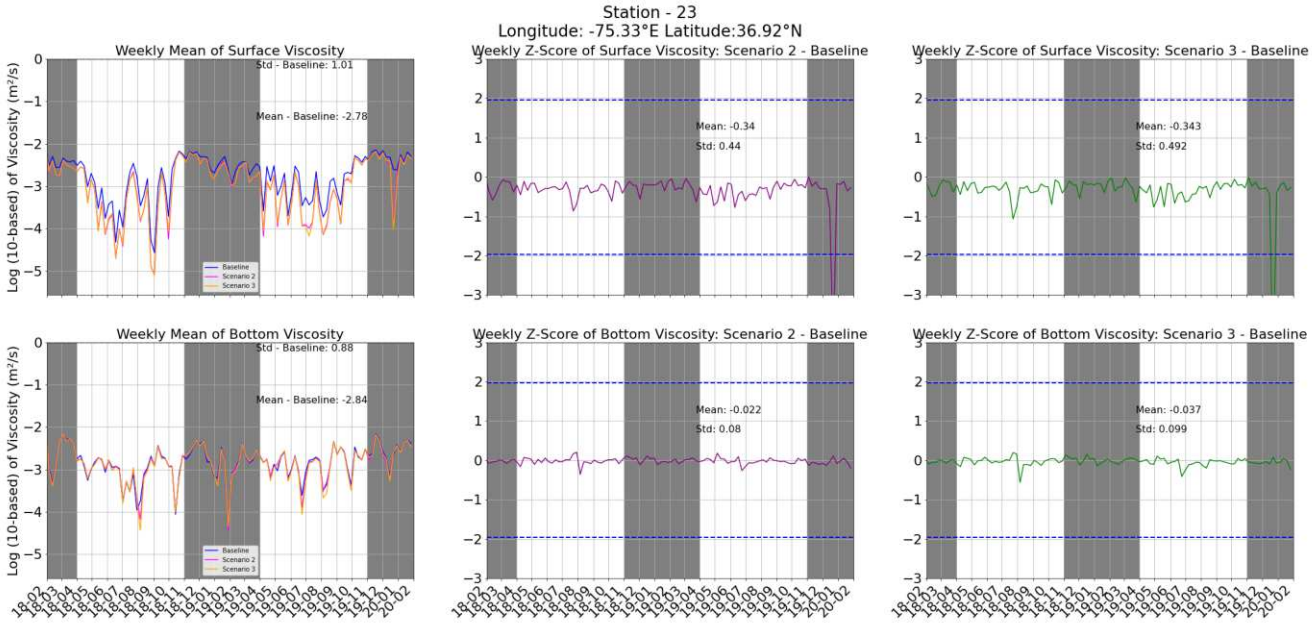
Apx Figure 296. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 20.



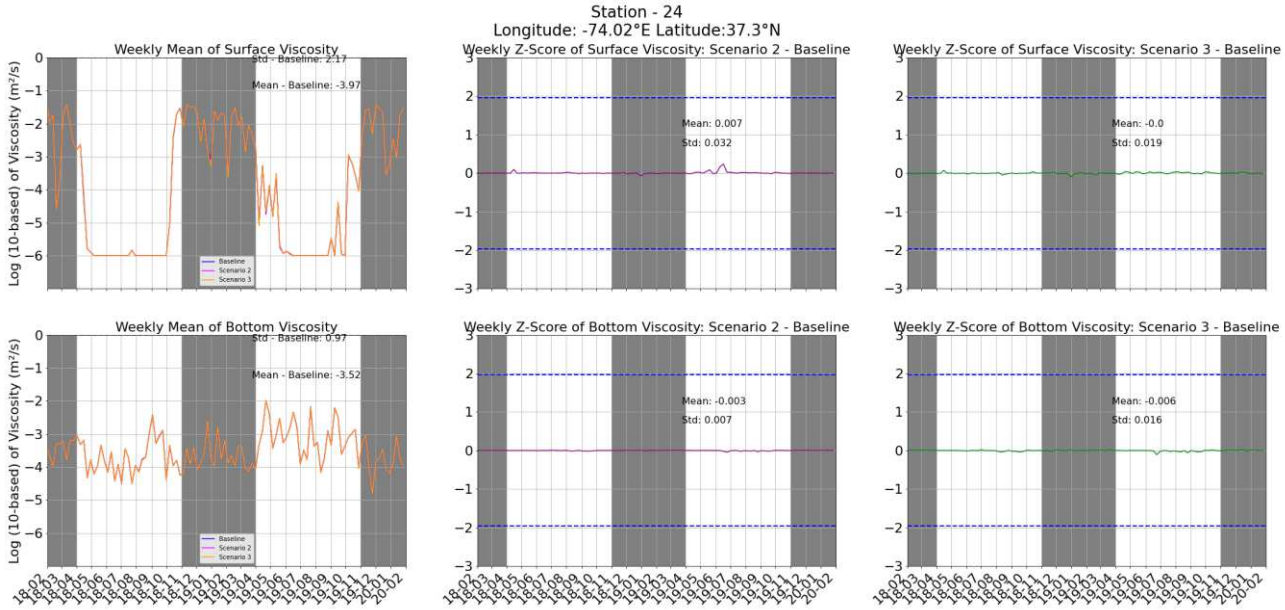
Apx Figure 297. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 21.



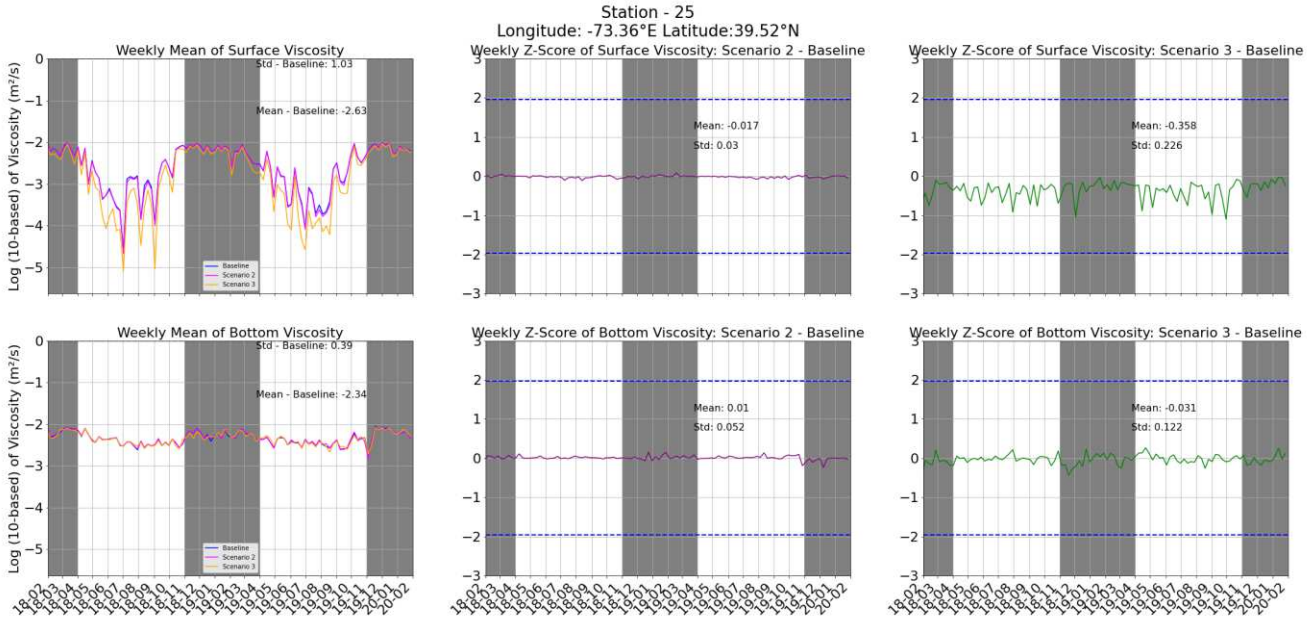
Apx Figure 298. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 22.



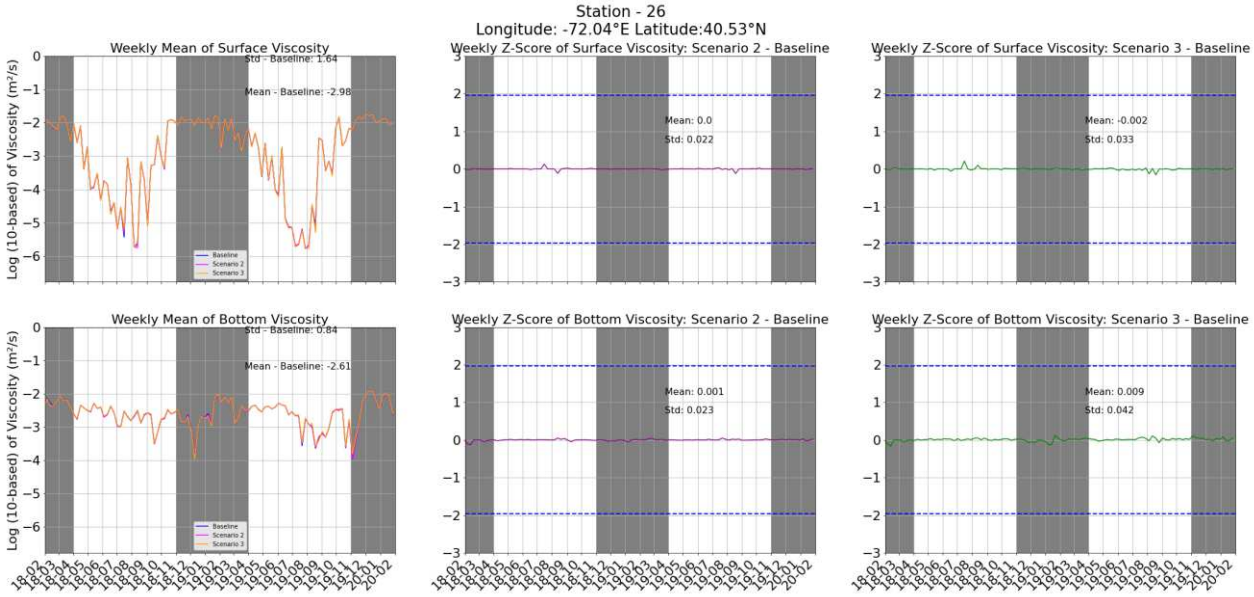
Apx Figure 299. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 23.



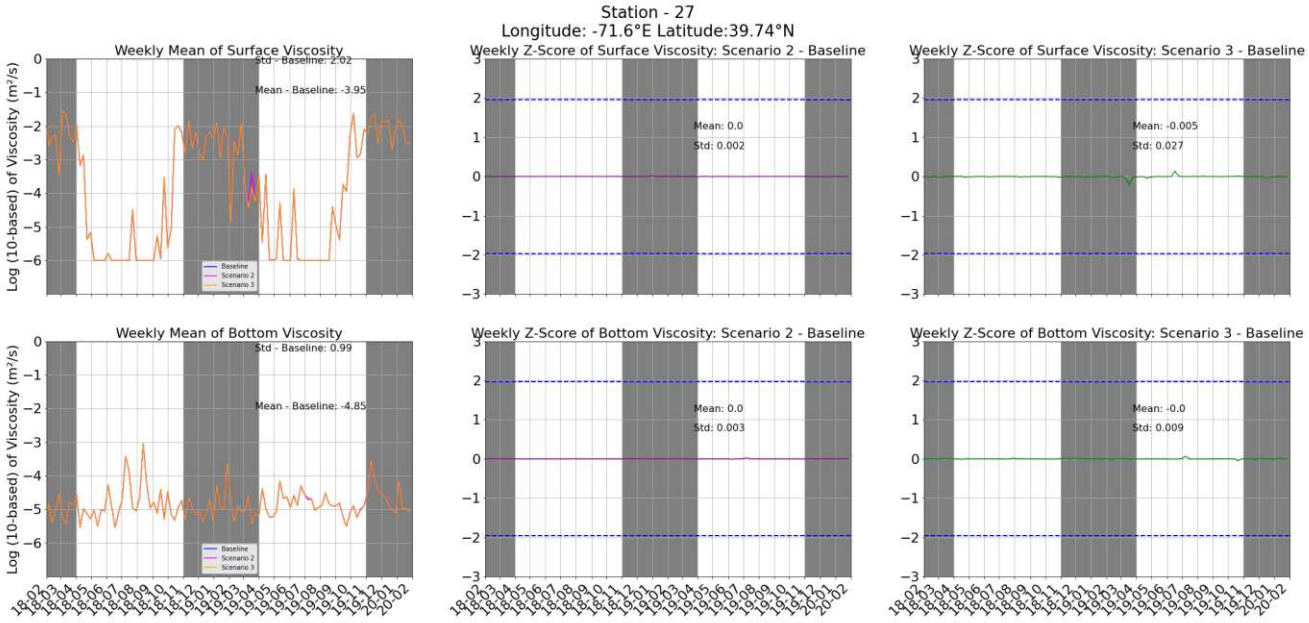
Apx Figure 300. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 24.



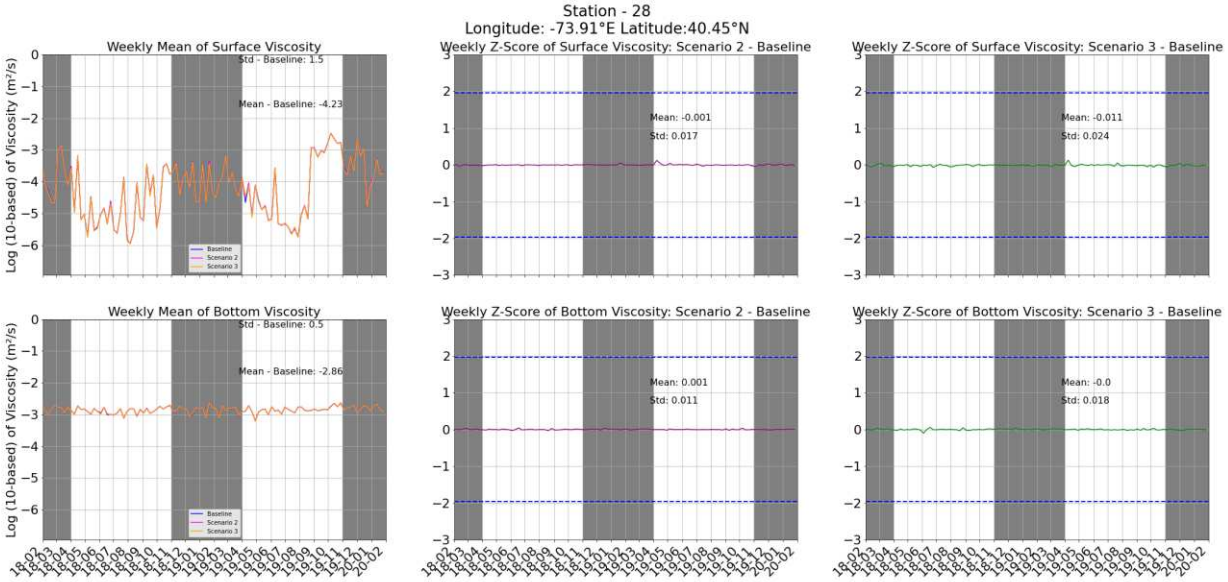
Apx Figure 301. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 25.



Apx Figure 302. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 26.

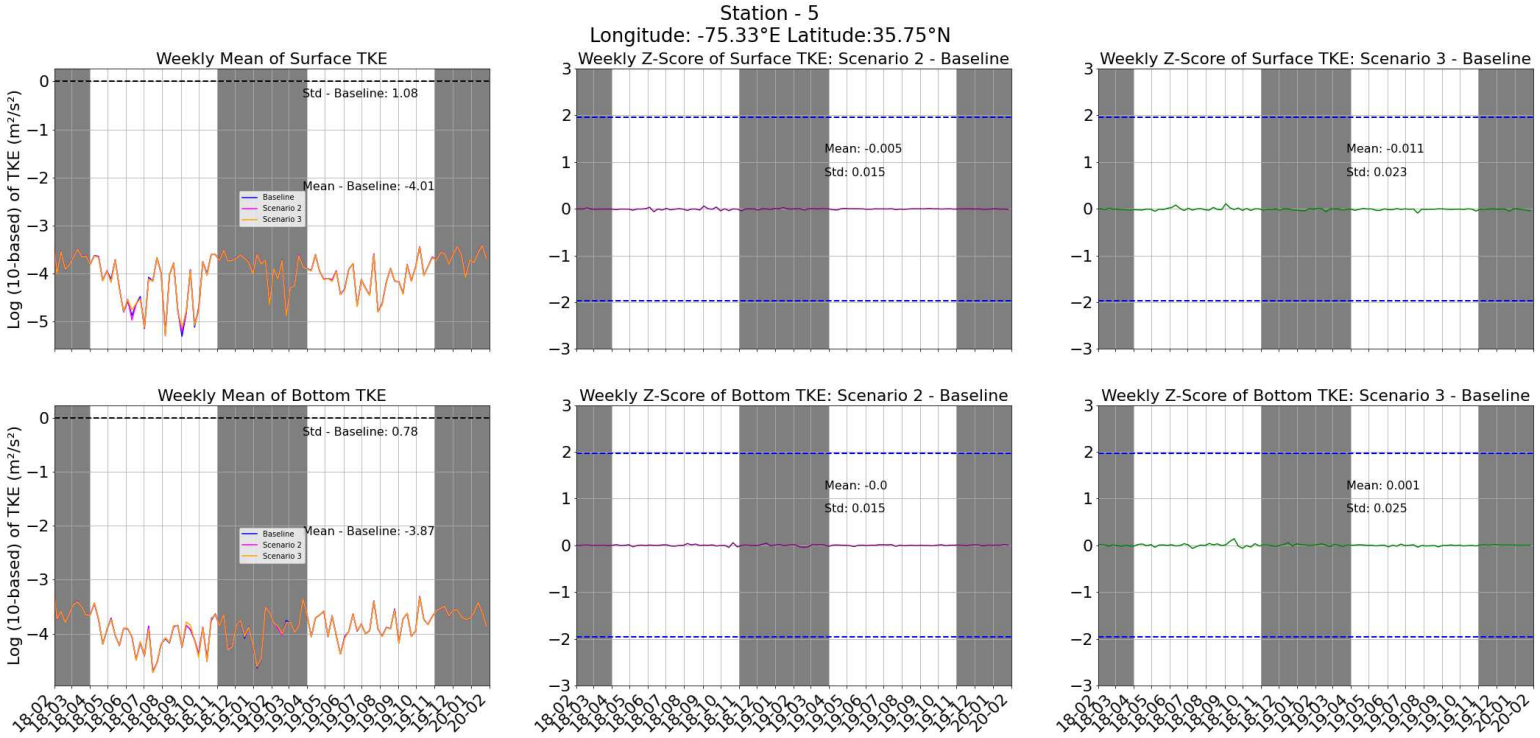


Apx Figure 303. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 27.

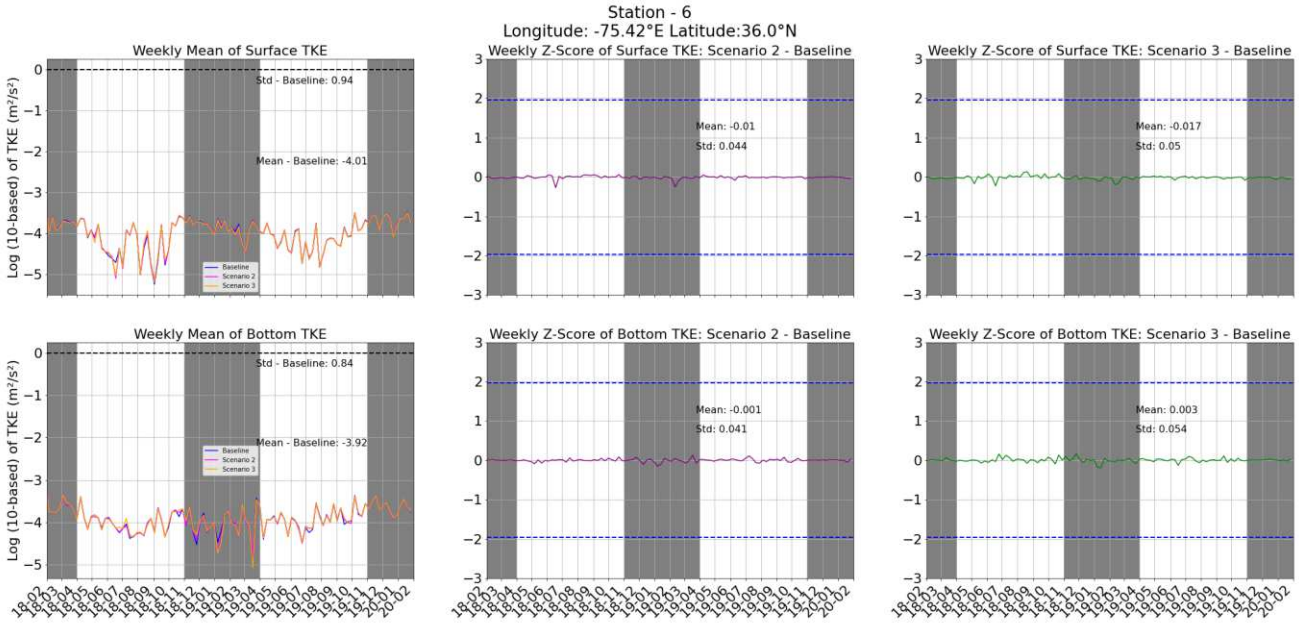


Apx Figure 304. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for turbulent vertical eddy viscosity (surface and bottom) at station 28.

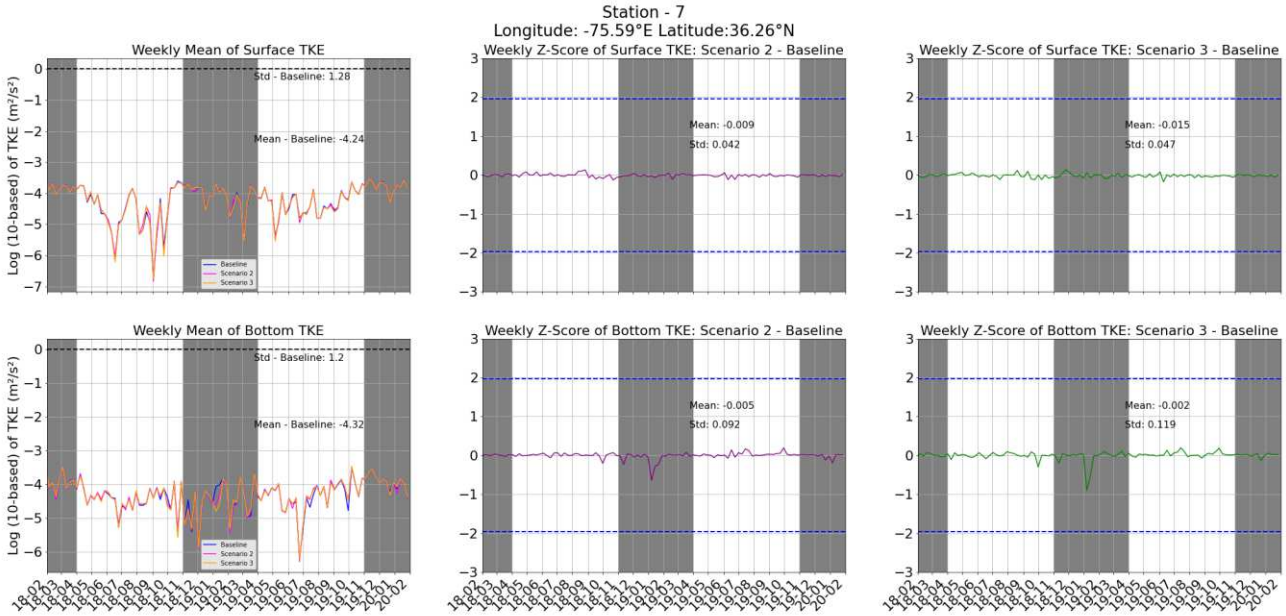
B.5 Turbulent Kinetic Energy



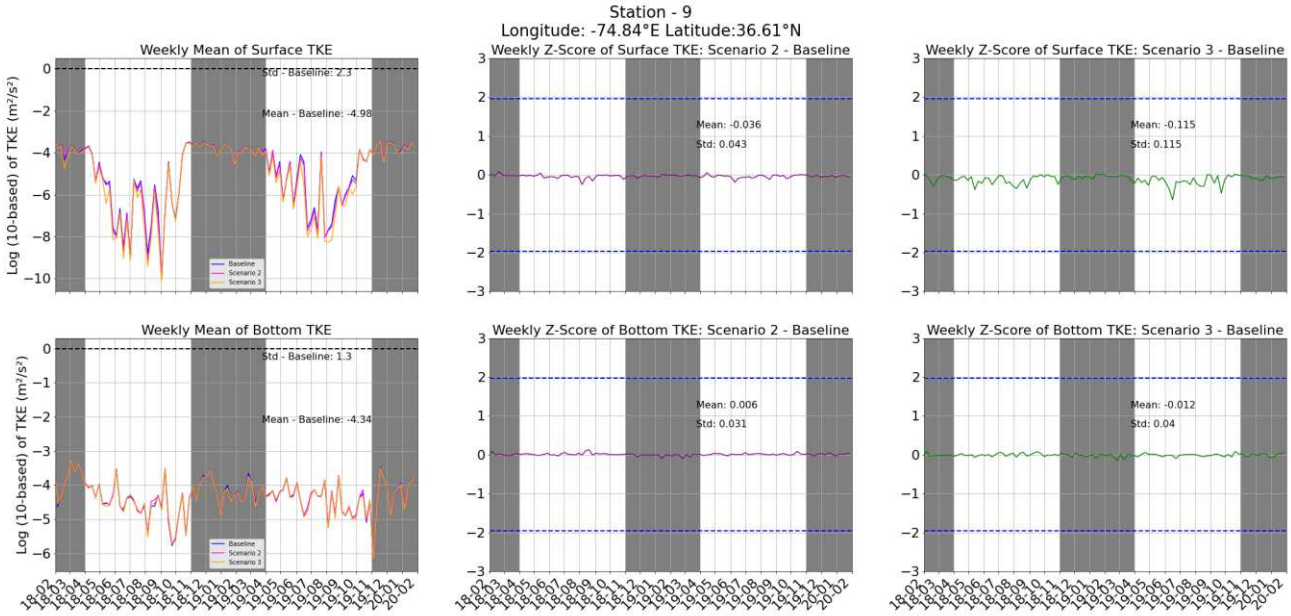
Apx Figure 305. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 5.



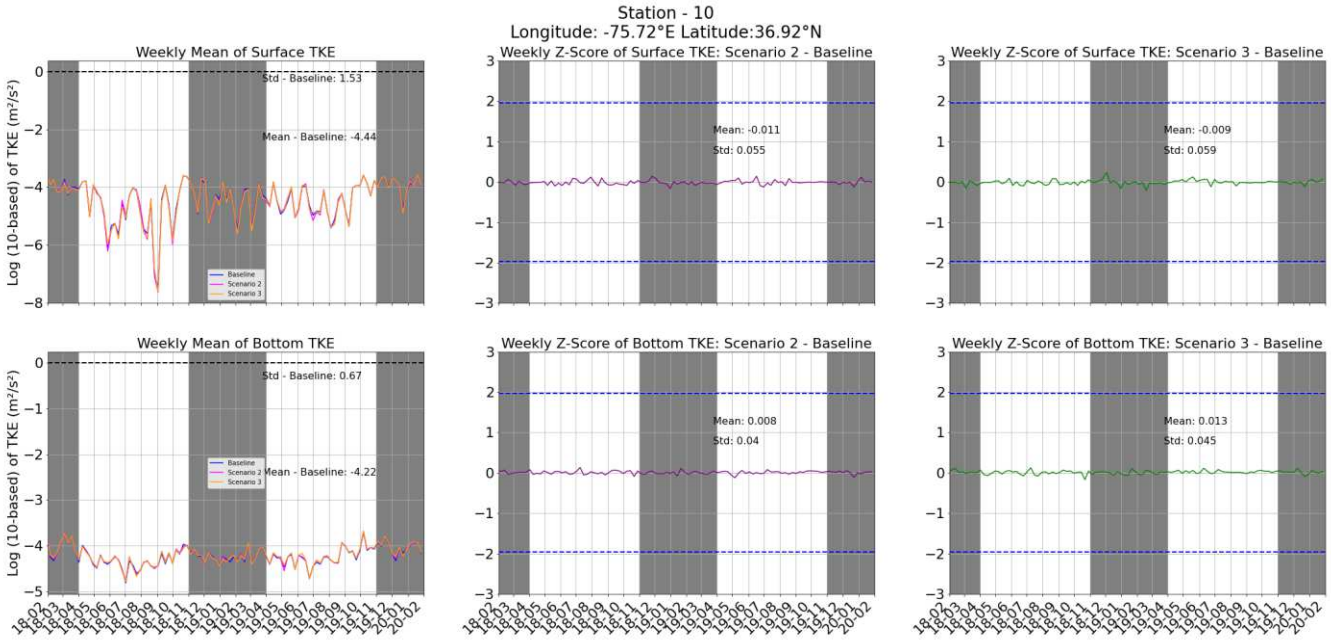
Apx Figure 306. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 6.



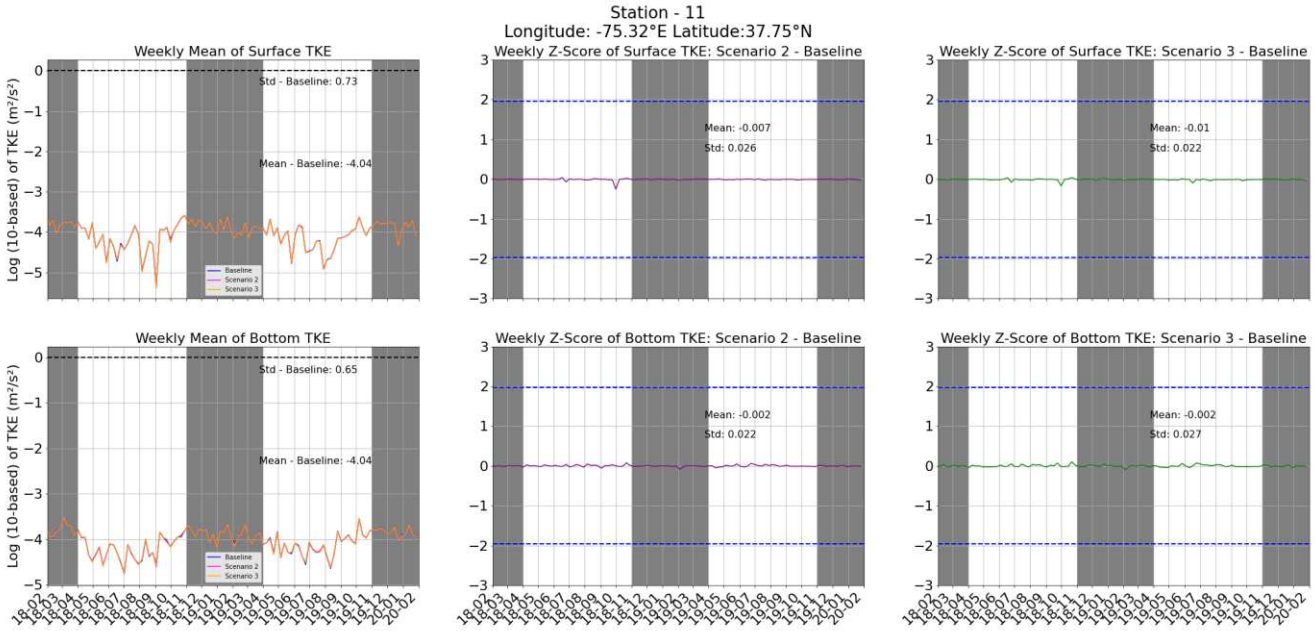
Apx Figure 307. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 7.



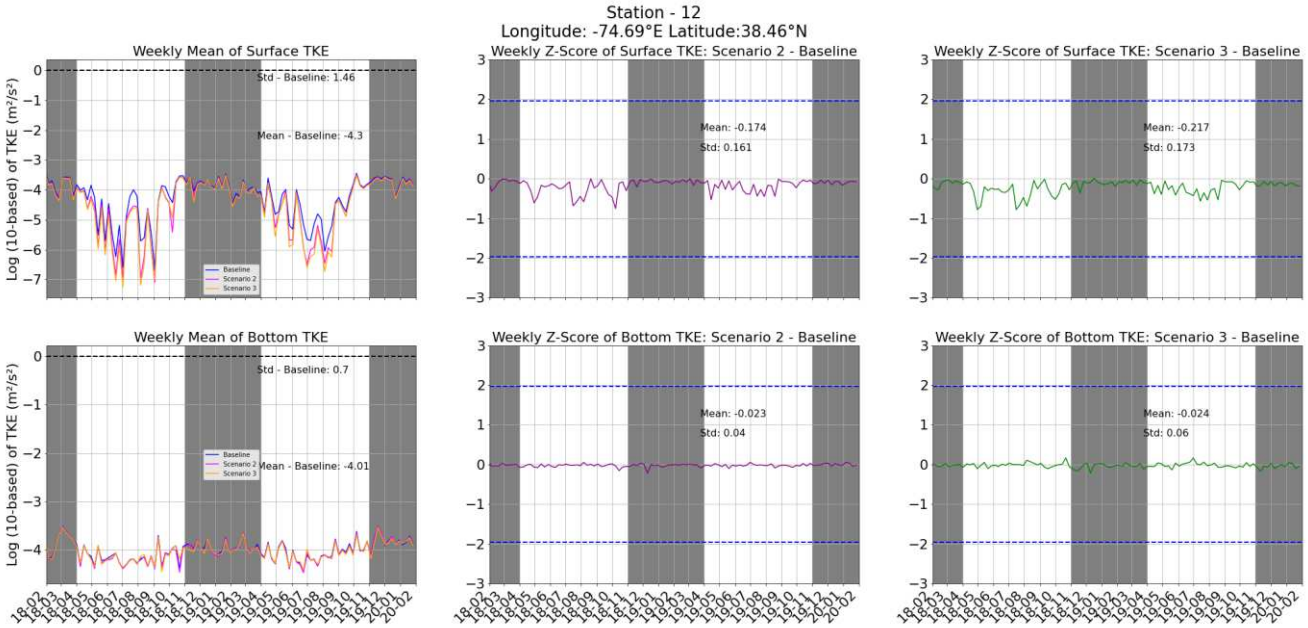
Apx Figure 308. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 9.



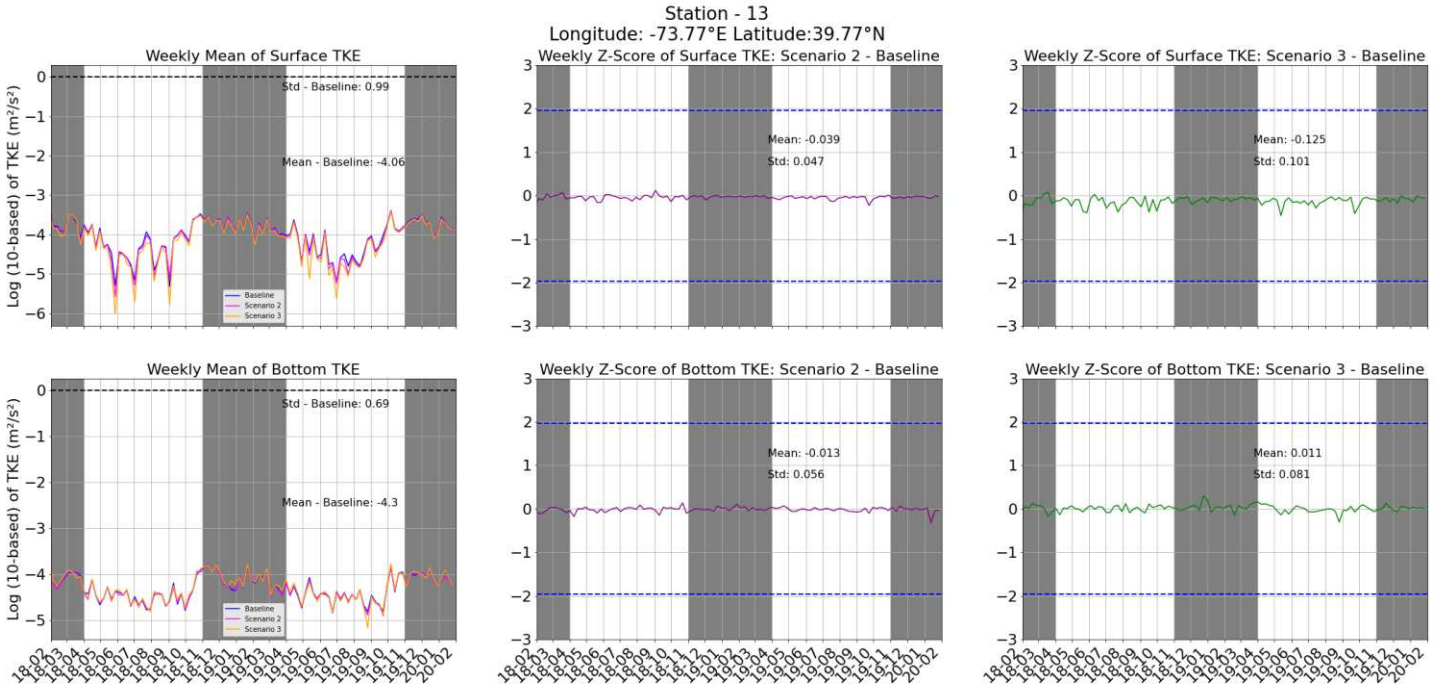
Apx Figure 309. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 10.



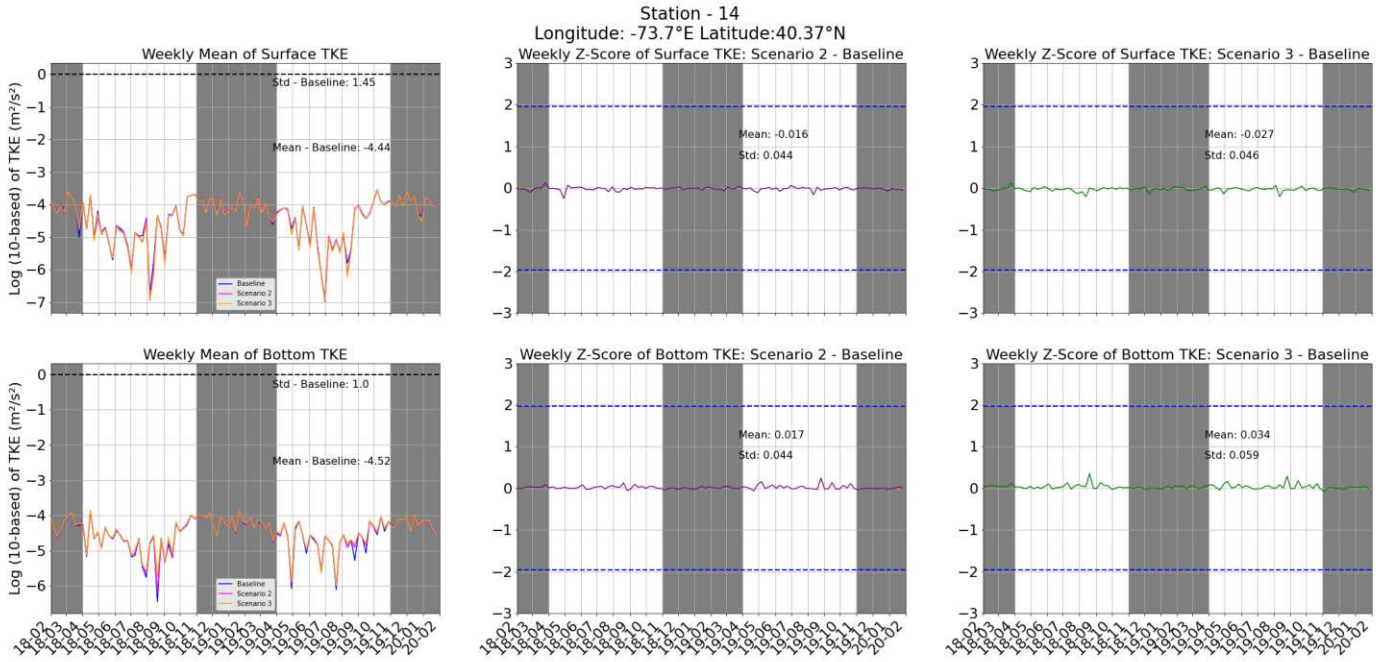
Apx Figure 310. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 11.



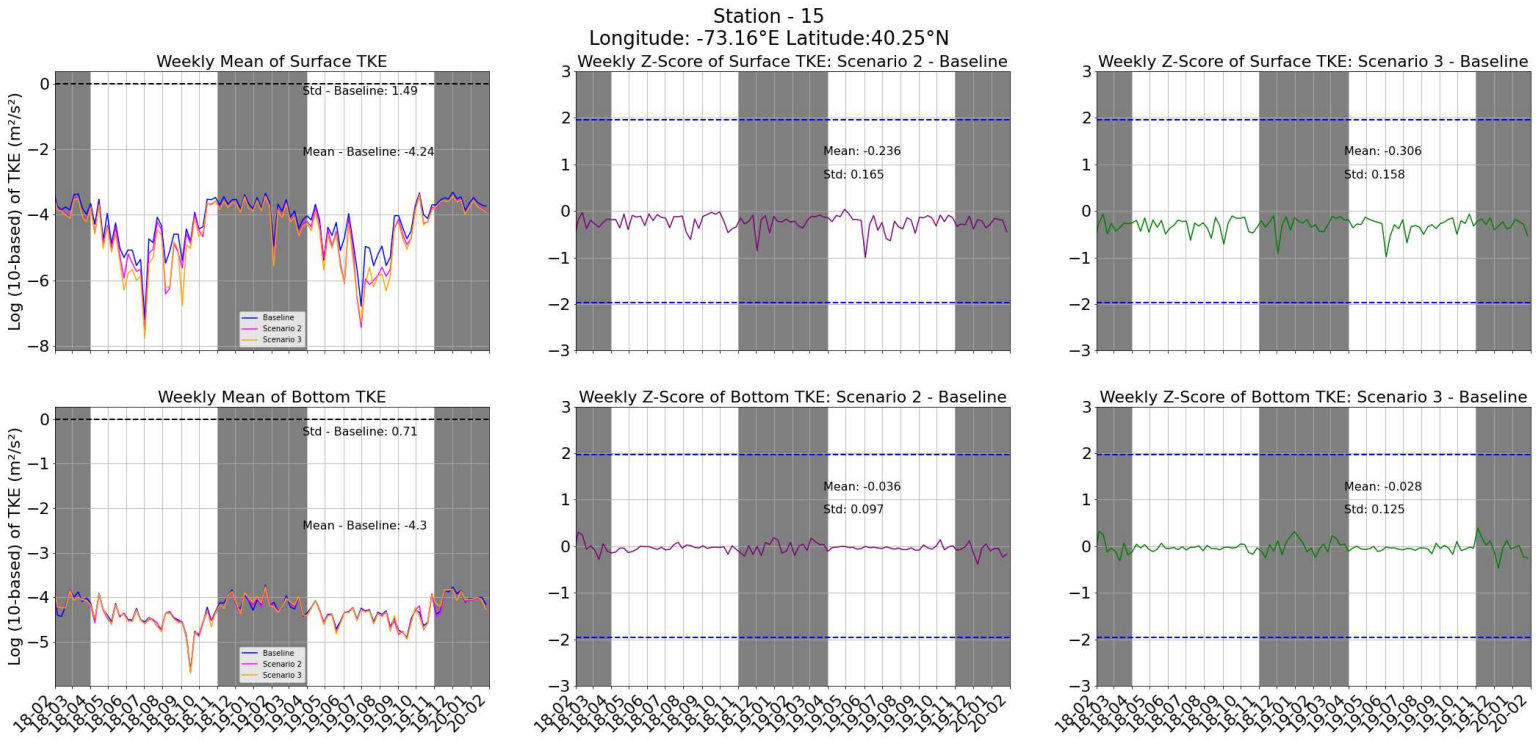
Apx Figure 311. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 12.



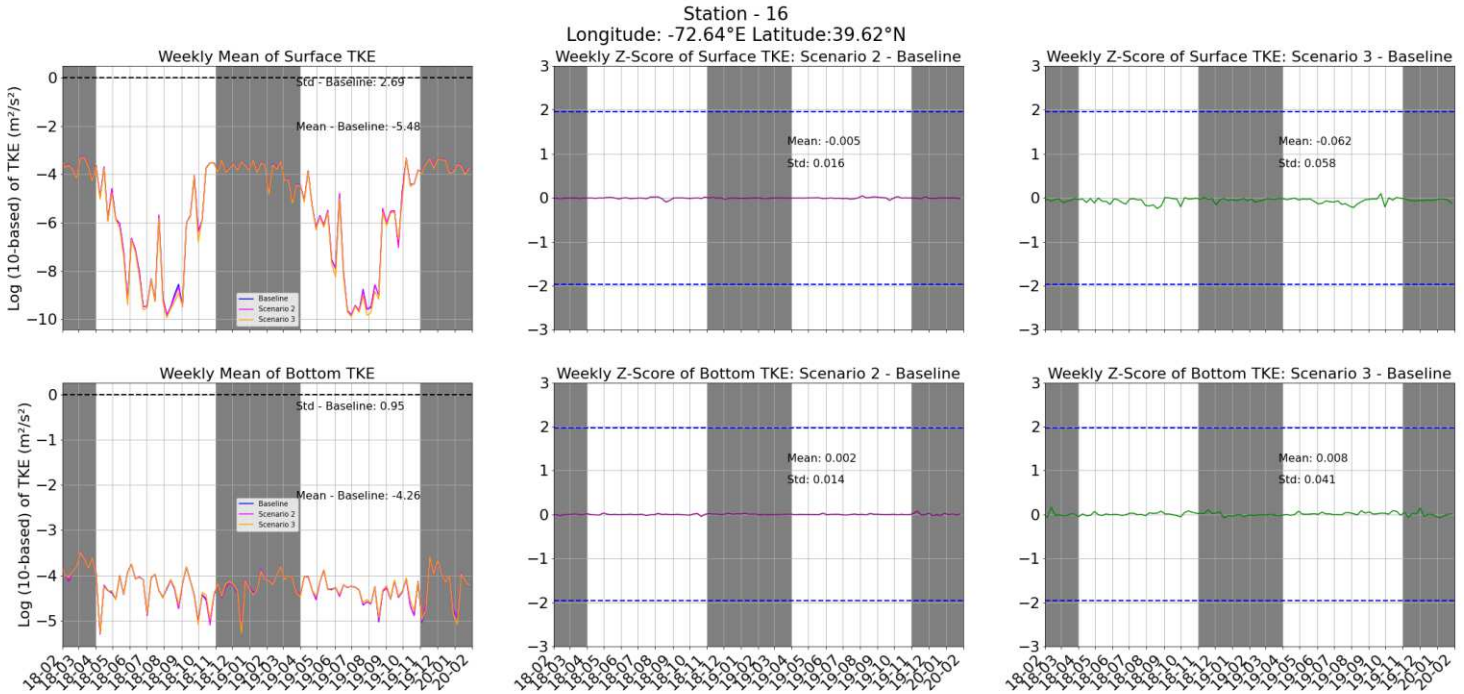
Apx Figure 312. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 13.



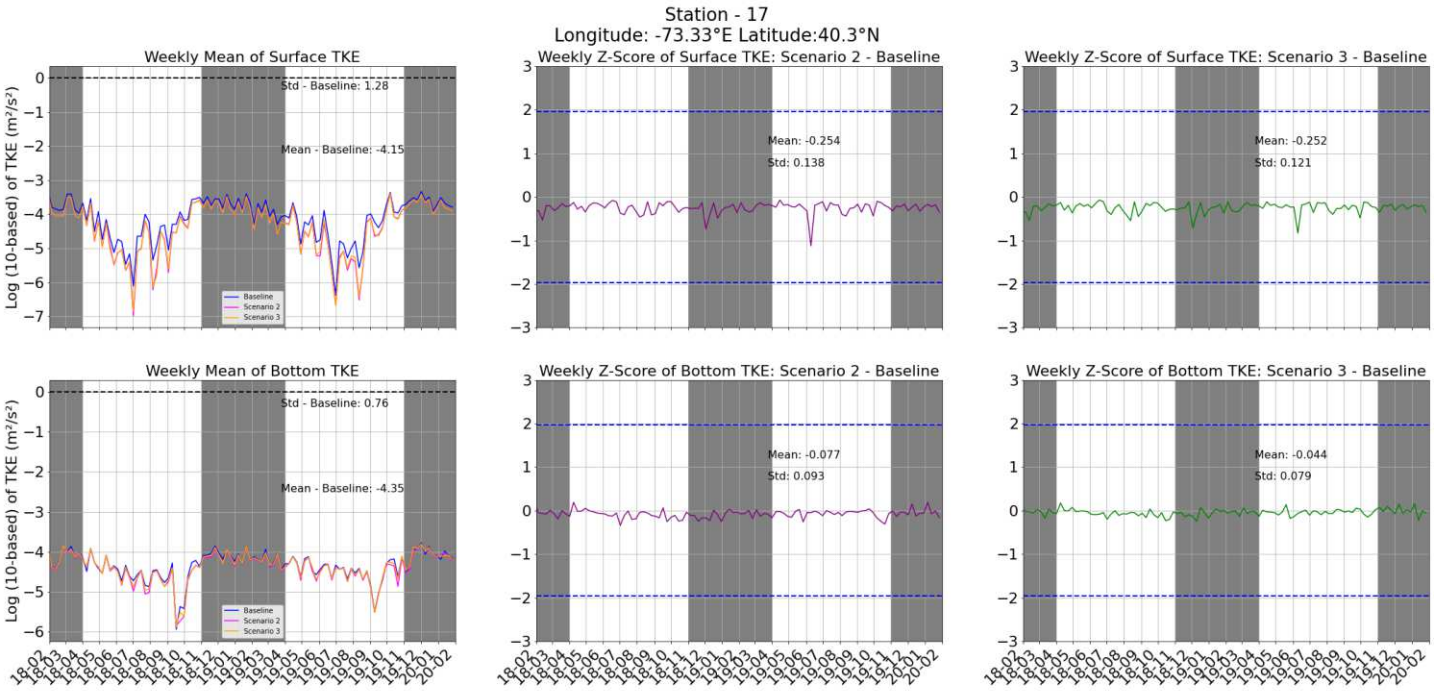
Apx Figure 313. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 14.



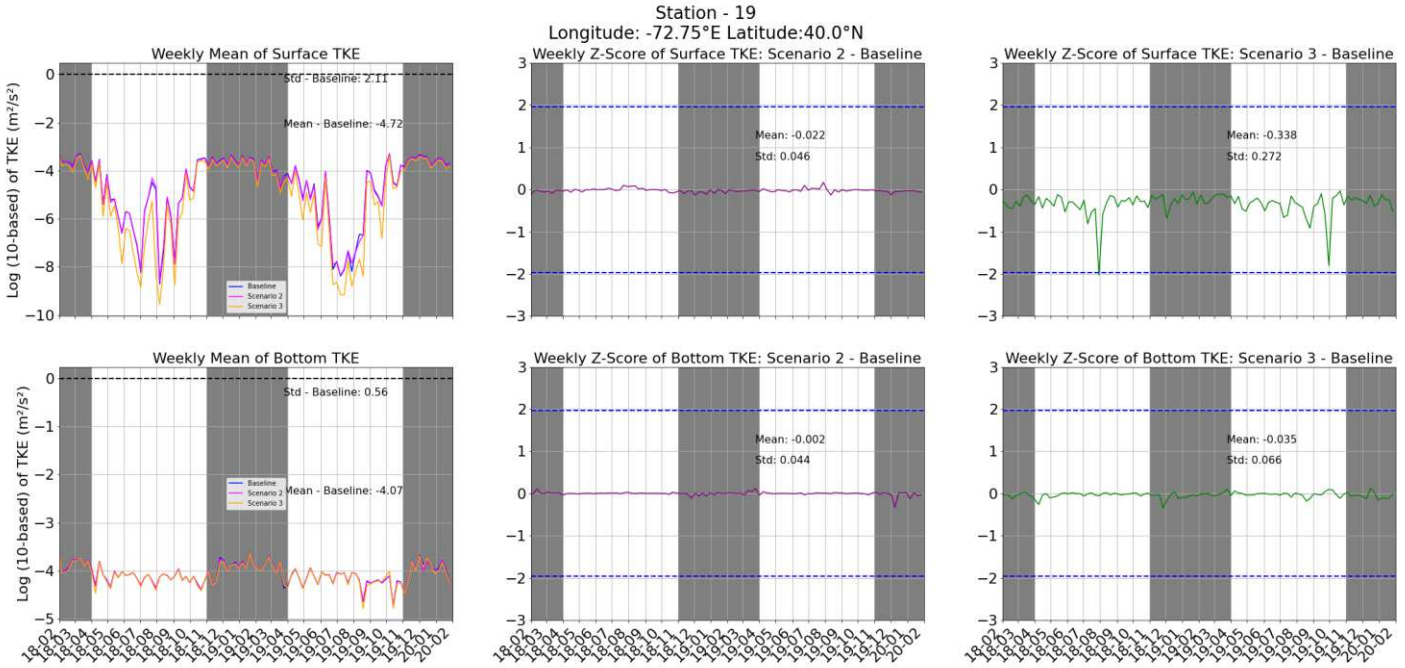
Apx Figure 314. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 15.



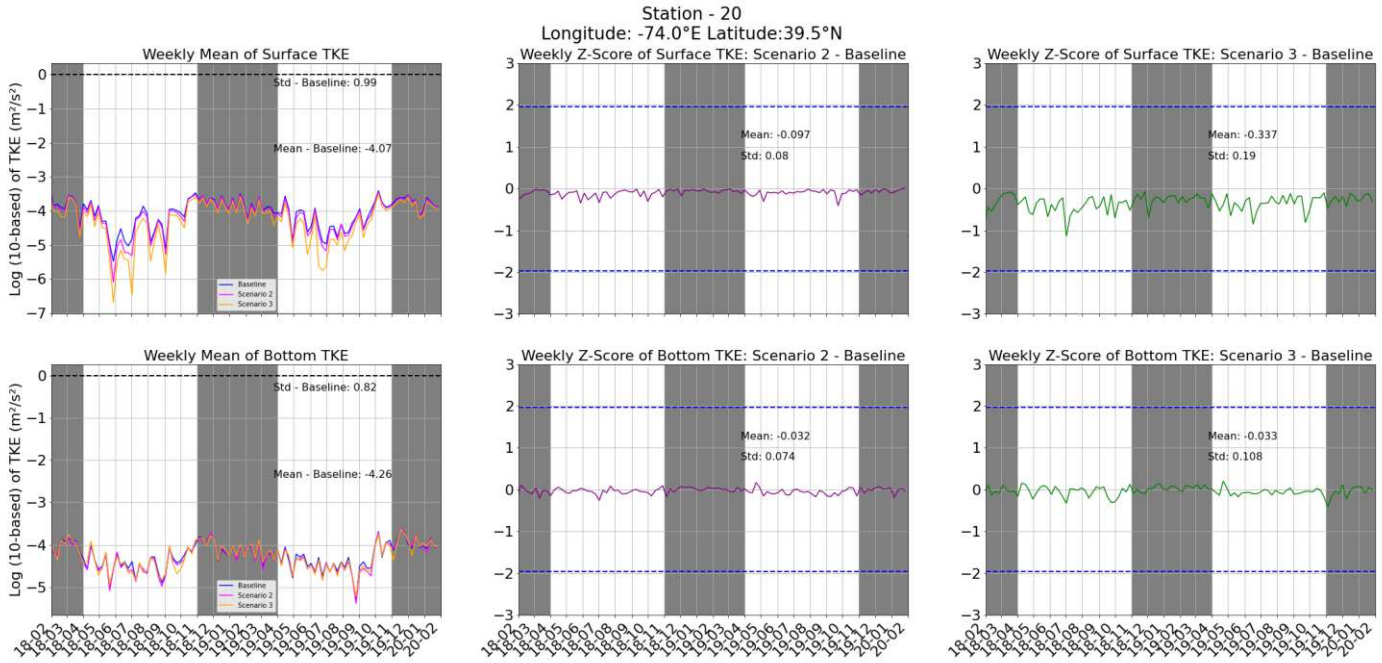
Apx Figure 315. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 16.



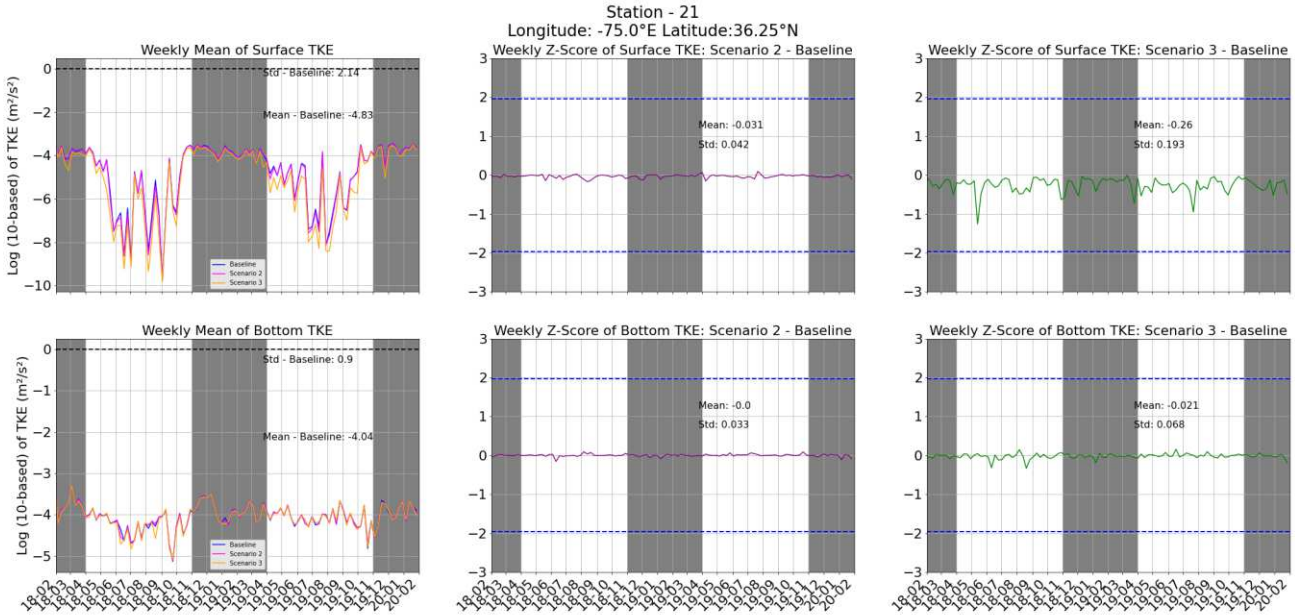
Apx Figure 316. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 17.



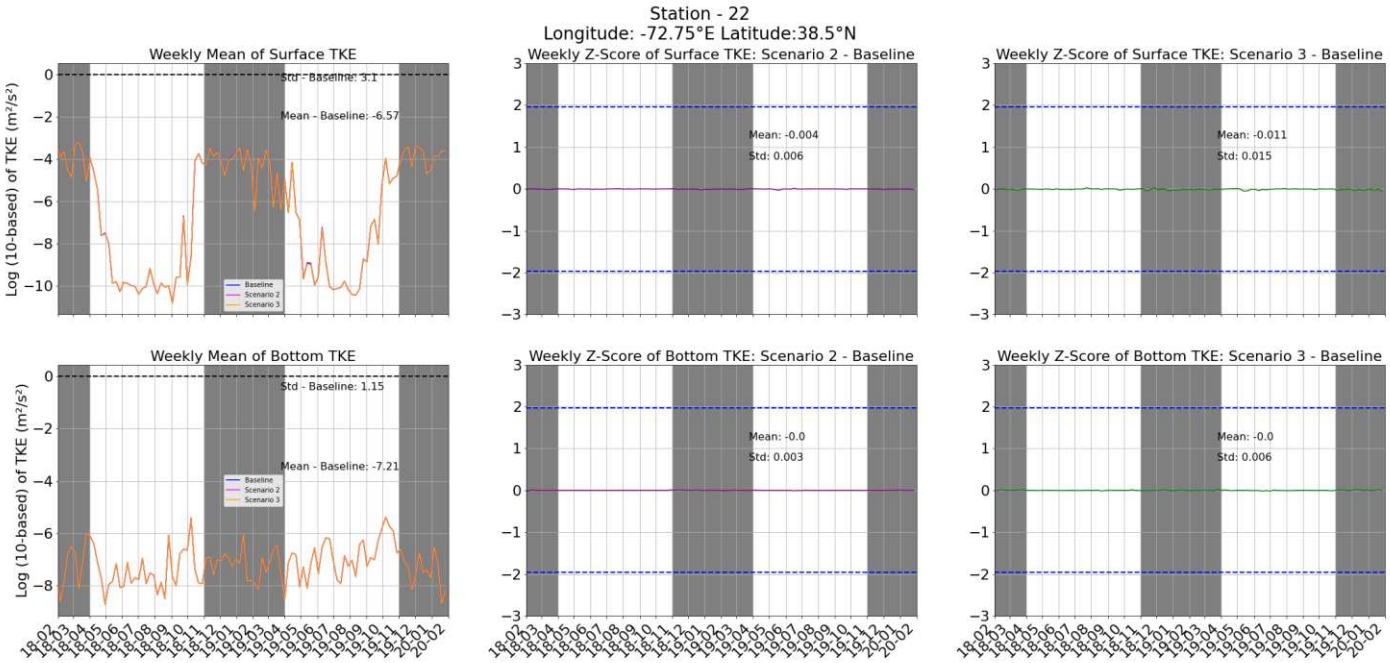
Apx Figure 317. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 19.



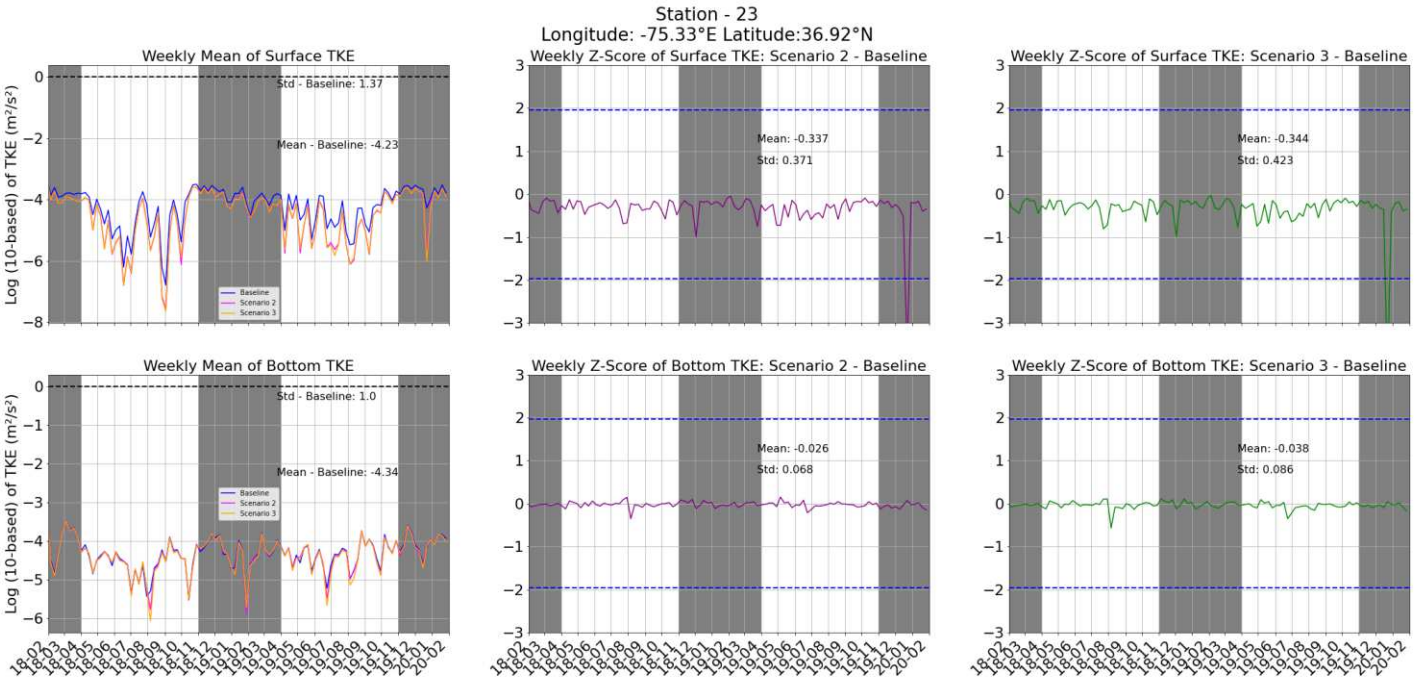
Apx Figure 318. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 20.



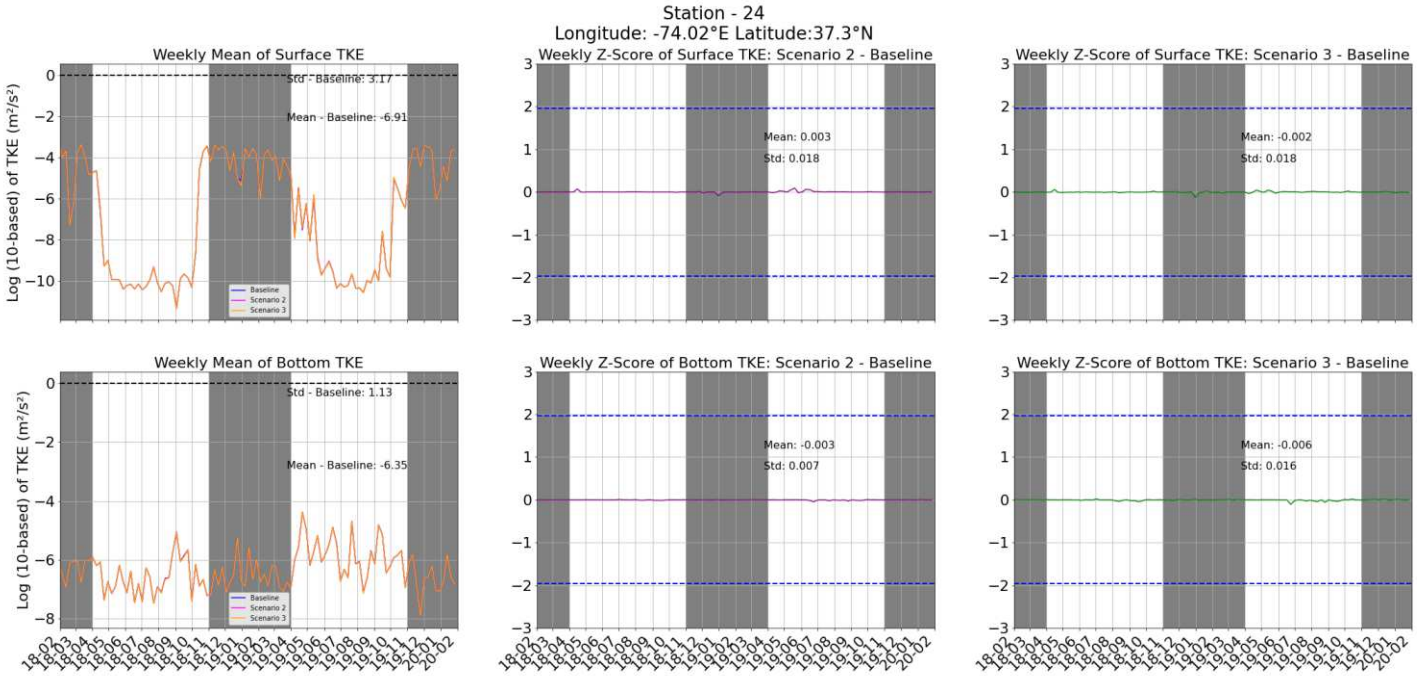
Apx Figure 319. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 21.



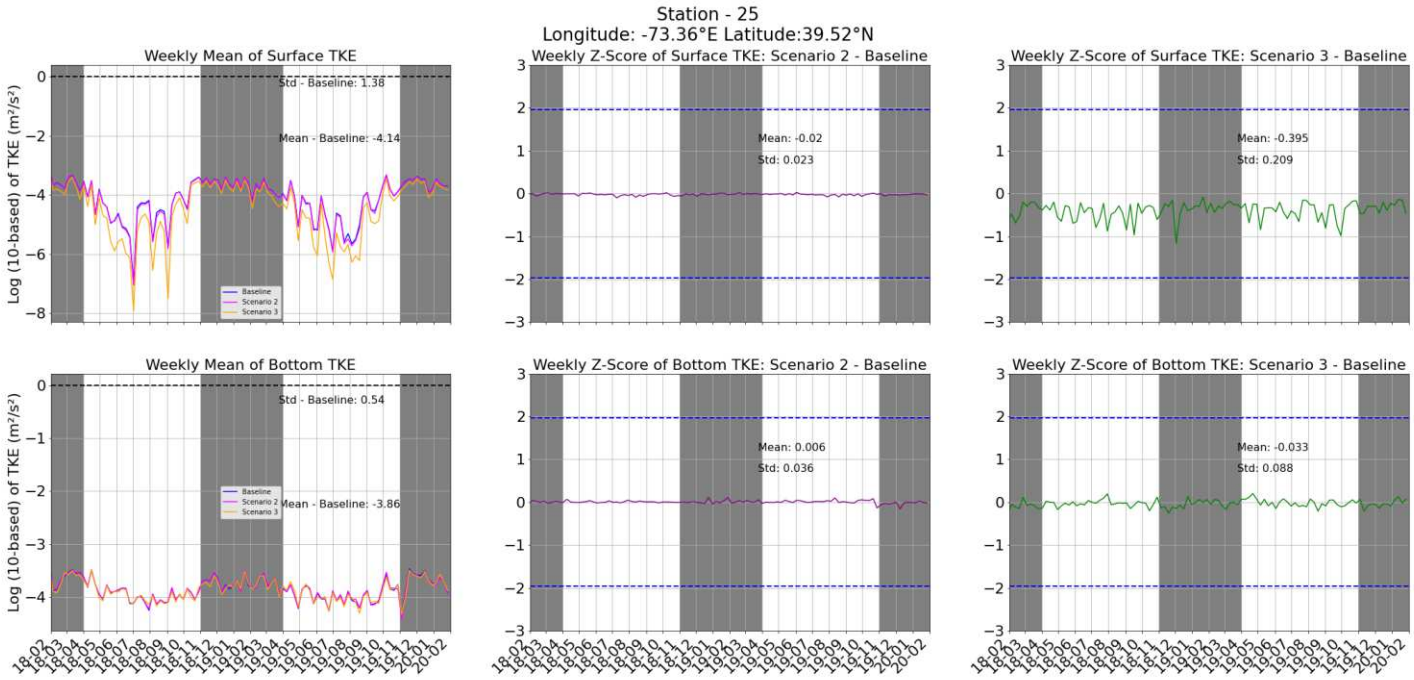
Apx Figure 320. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 22.



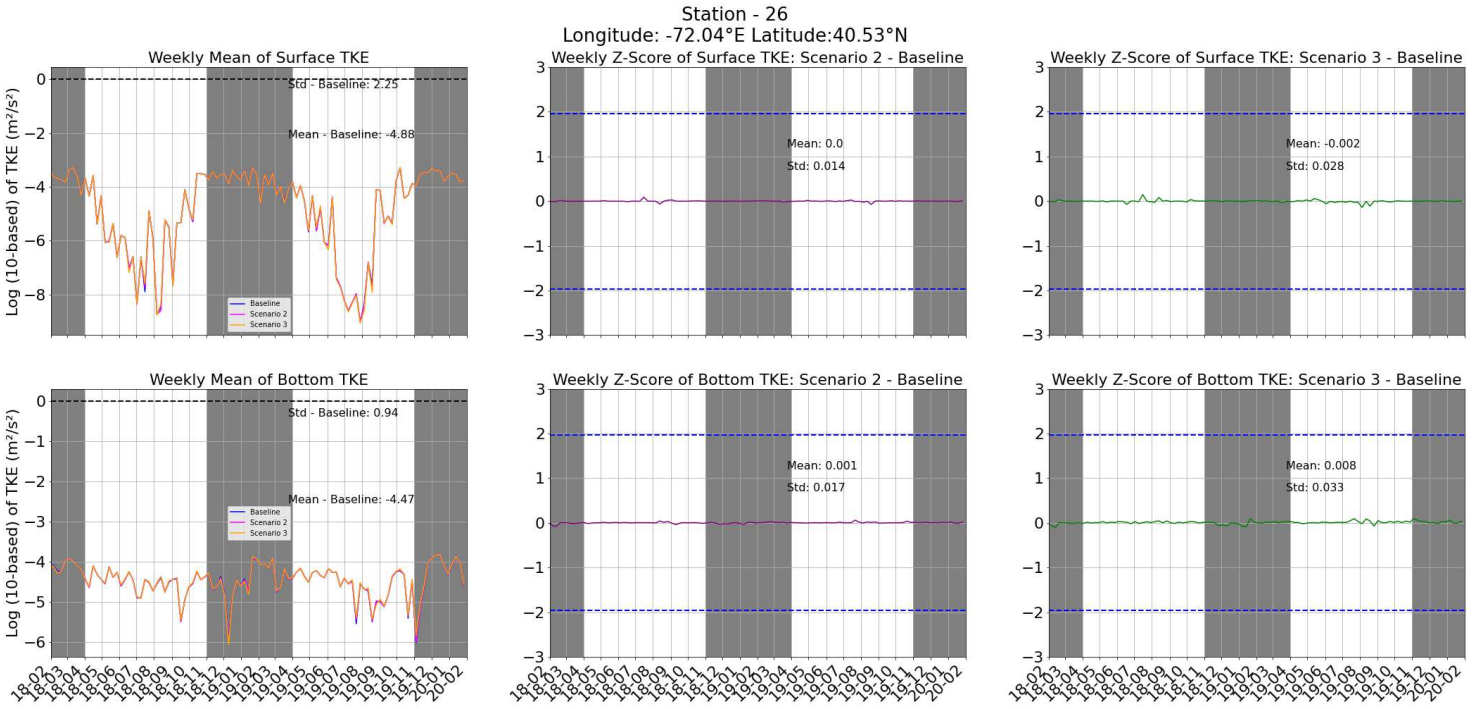
Apx Figure 321. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 23.



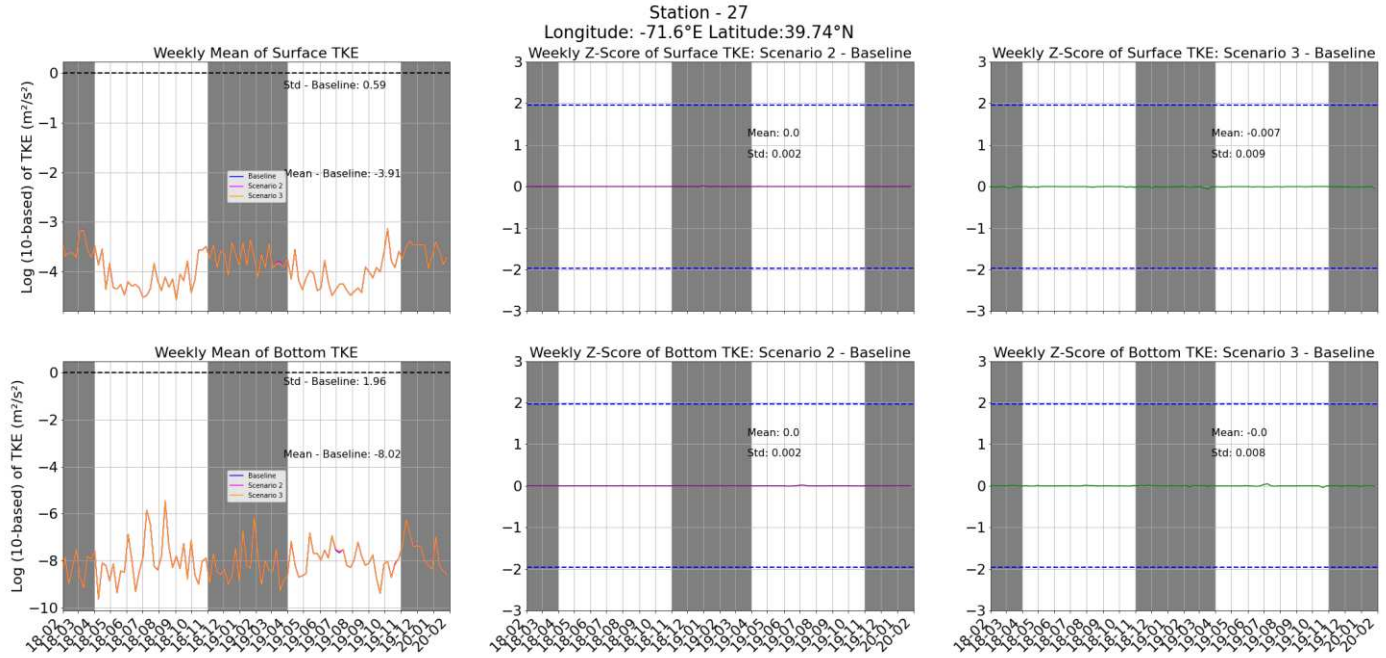
Apx Figure 322. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 24.



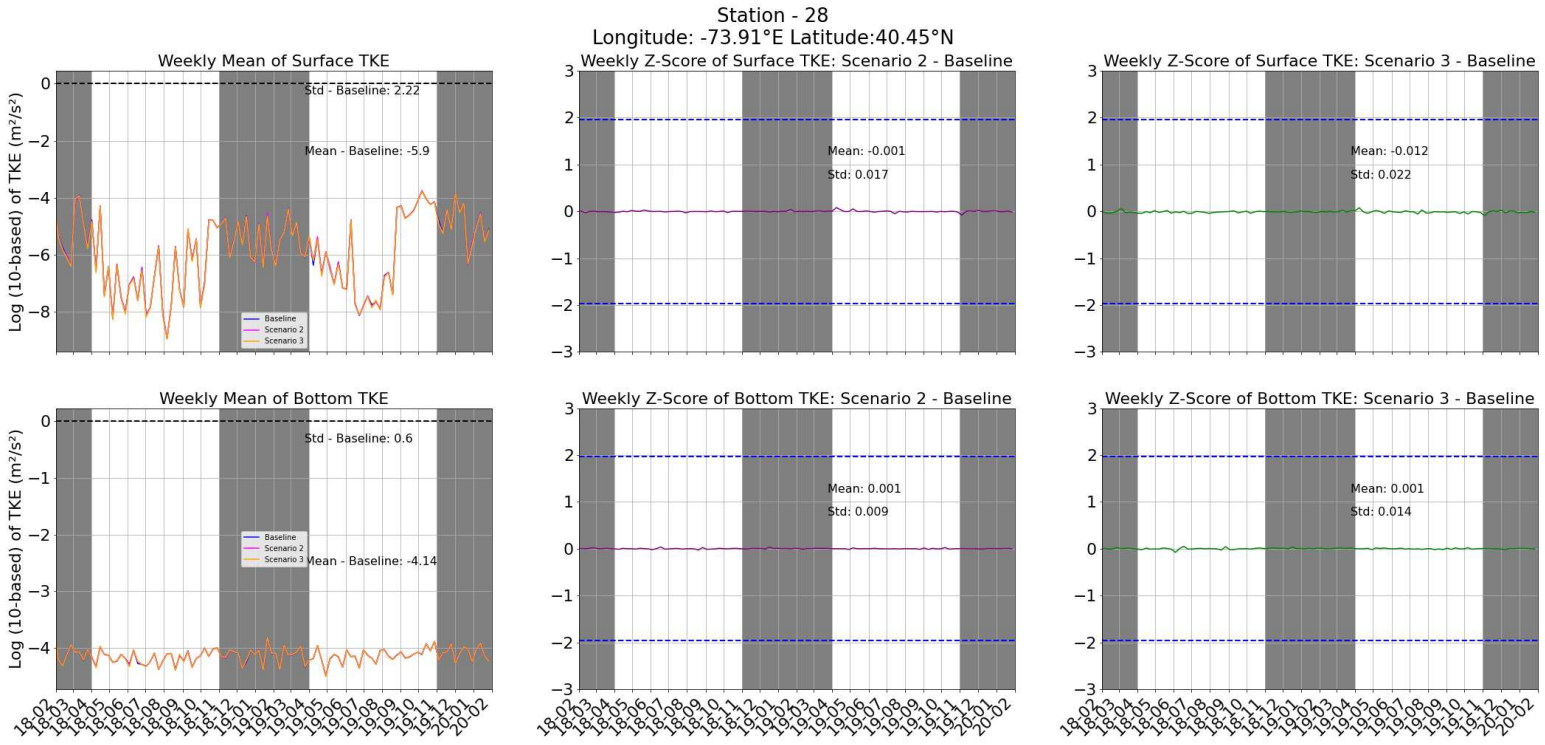
Apx Figure 323. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 25.



Apx Figure 324. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 26.

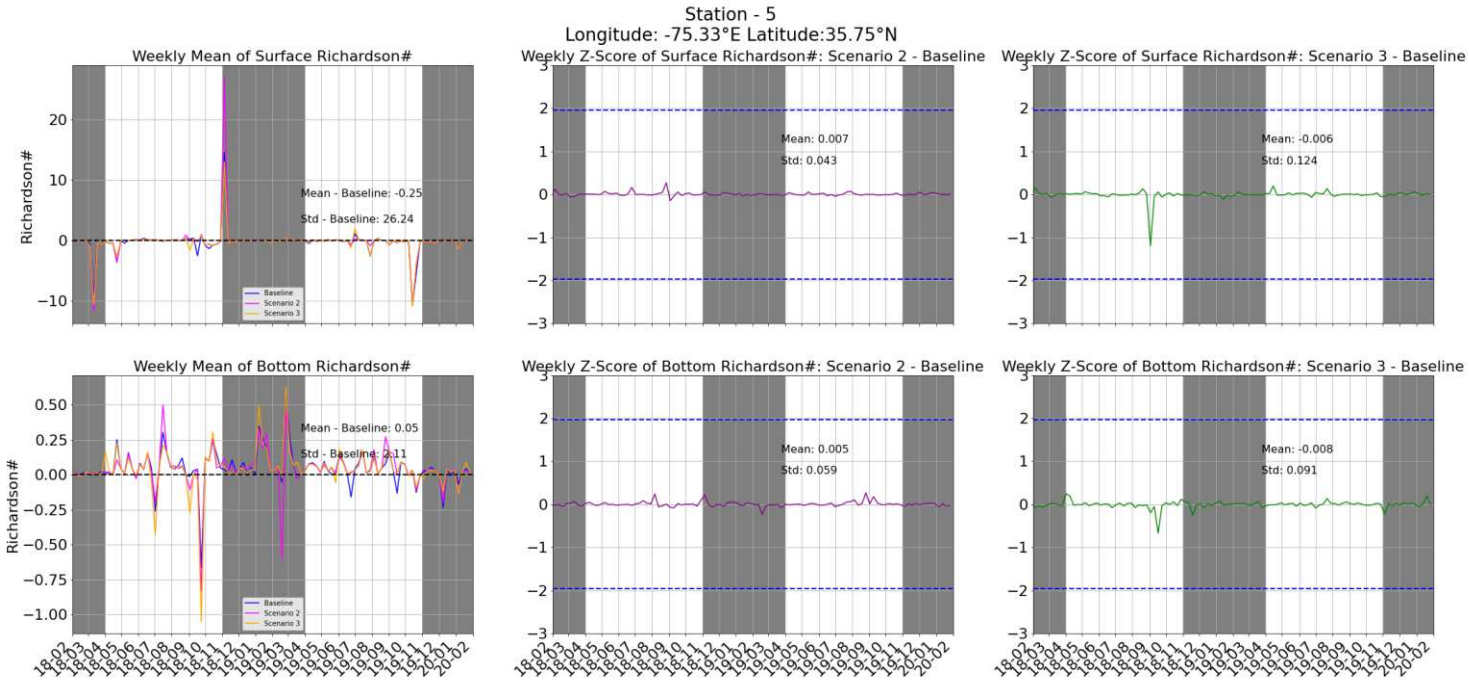


Apx Figure 325. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 27.

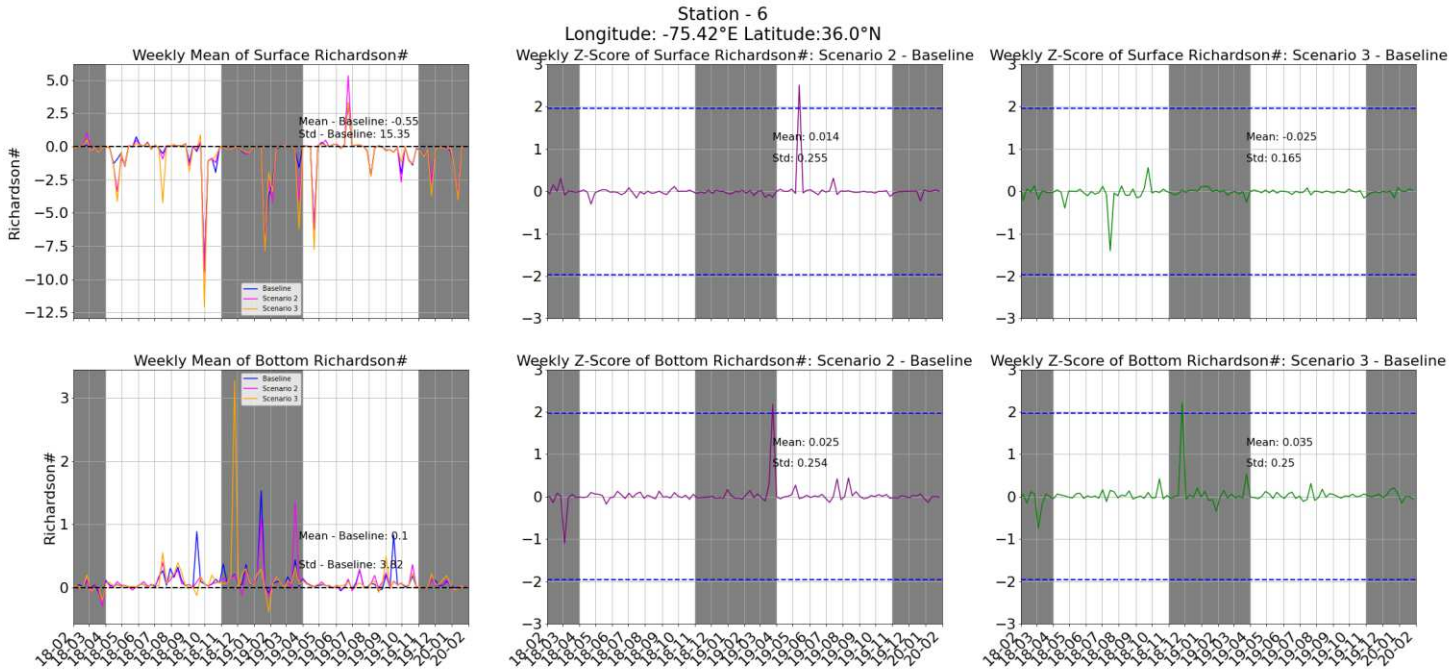


Apx Figure 326. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for TKE (surface and bottom) at station 28.

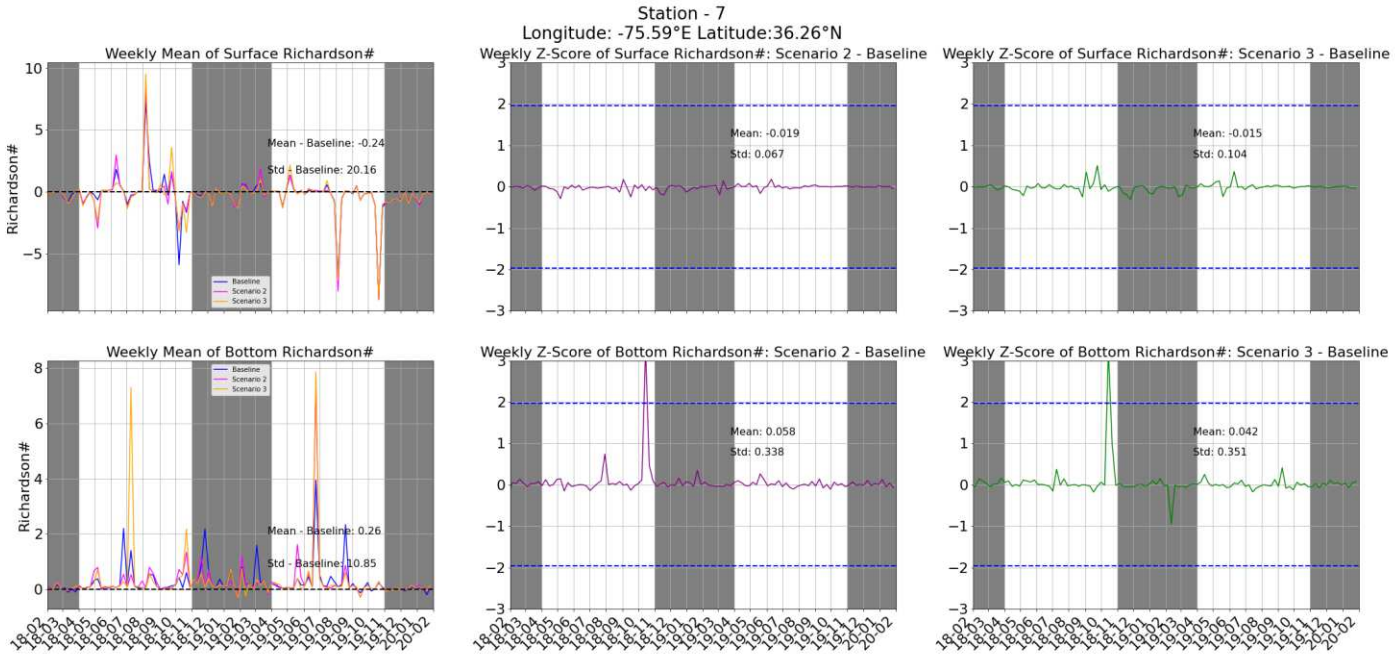
B.6 Stability – Richardson Number



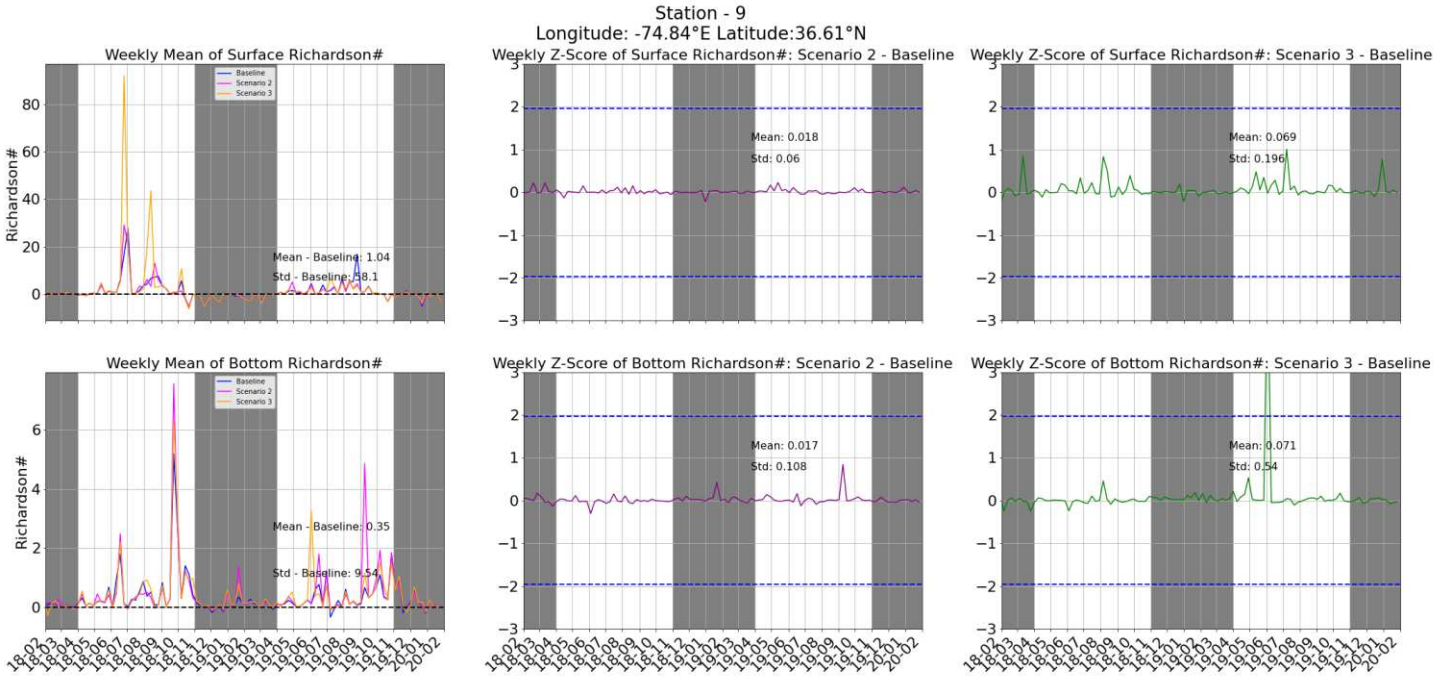
Apx Figure 327. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 5.



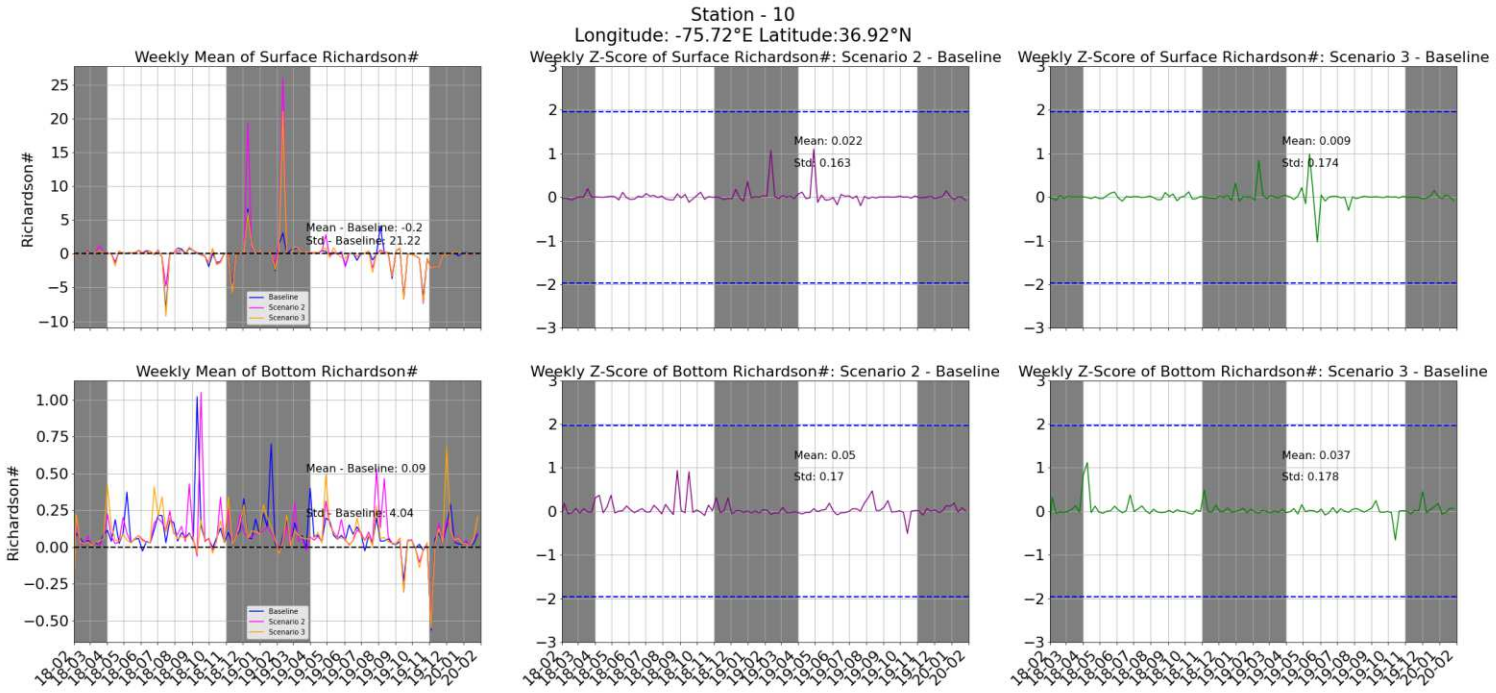
Apx Figure 328. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 6.



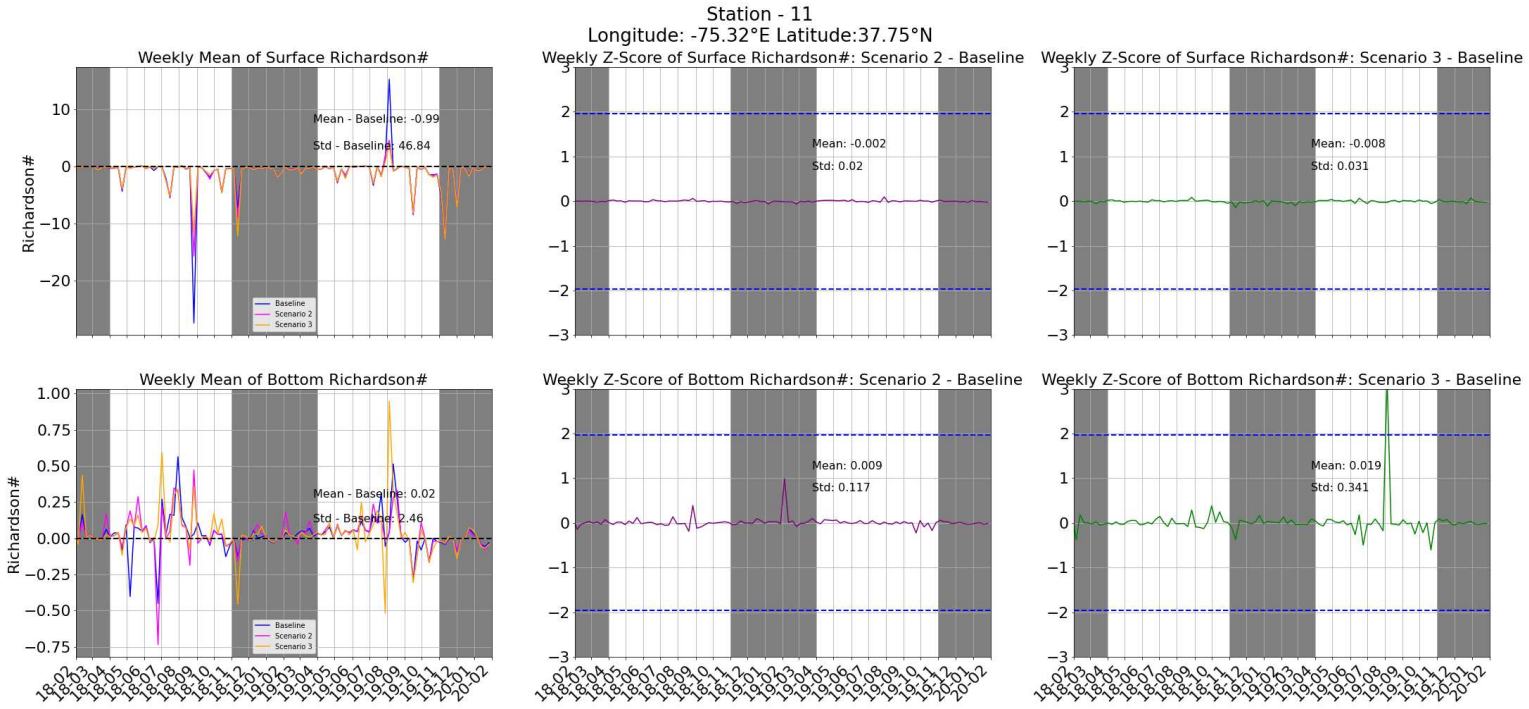
Apx Figure 329. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 7.



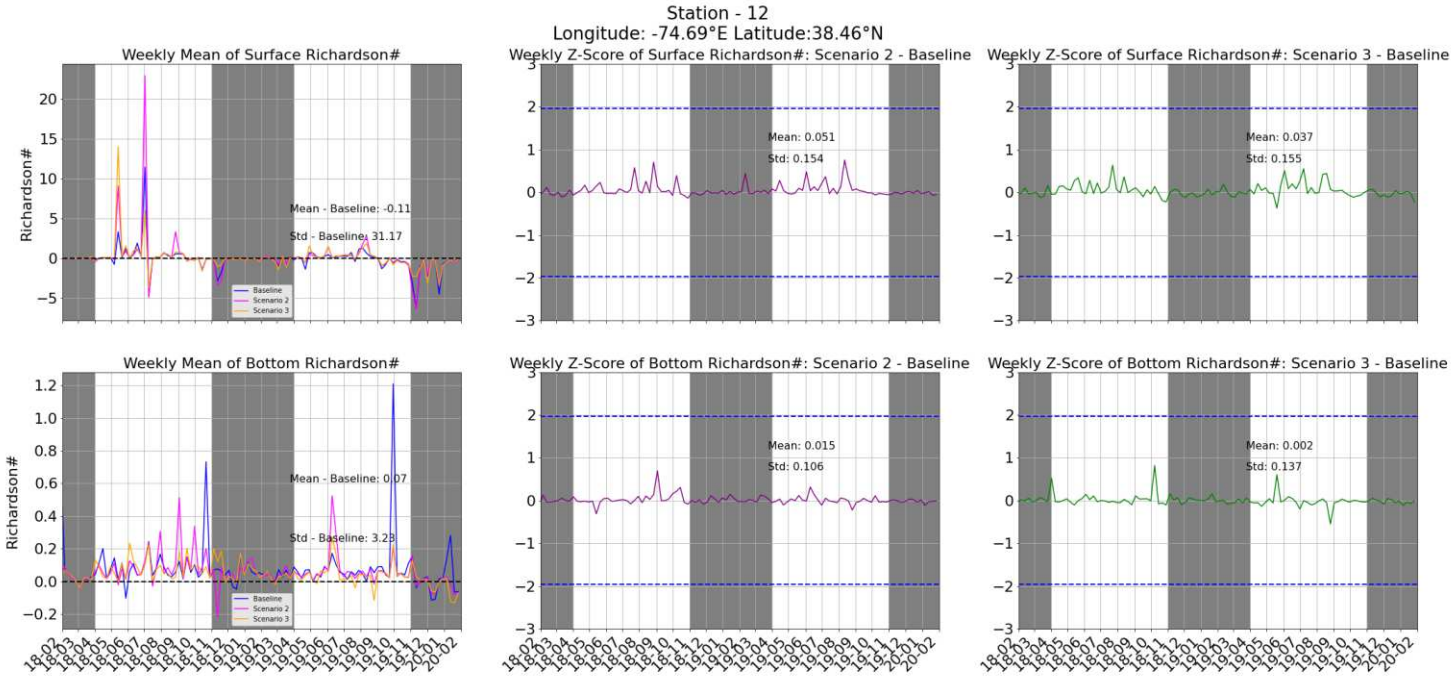
Apx Figure 330. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 9.



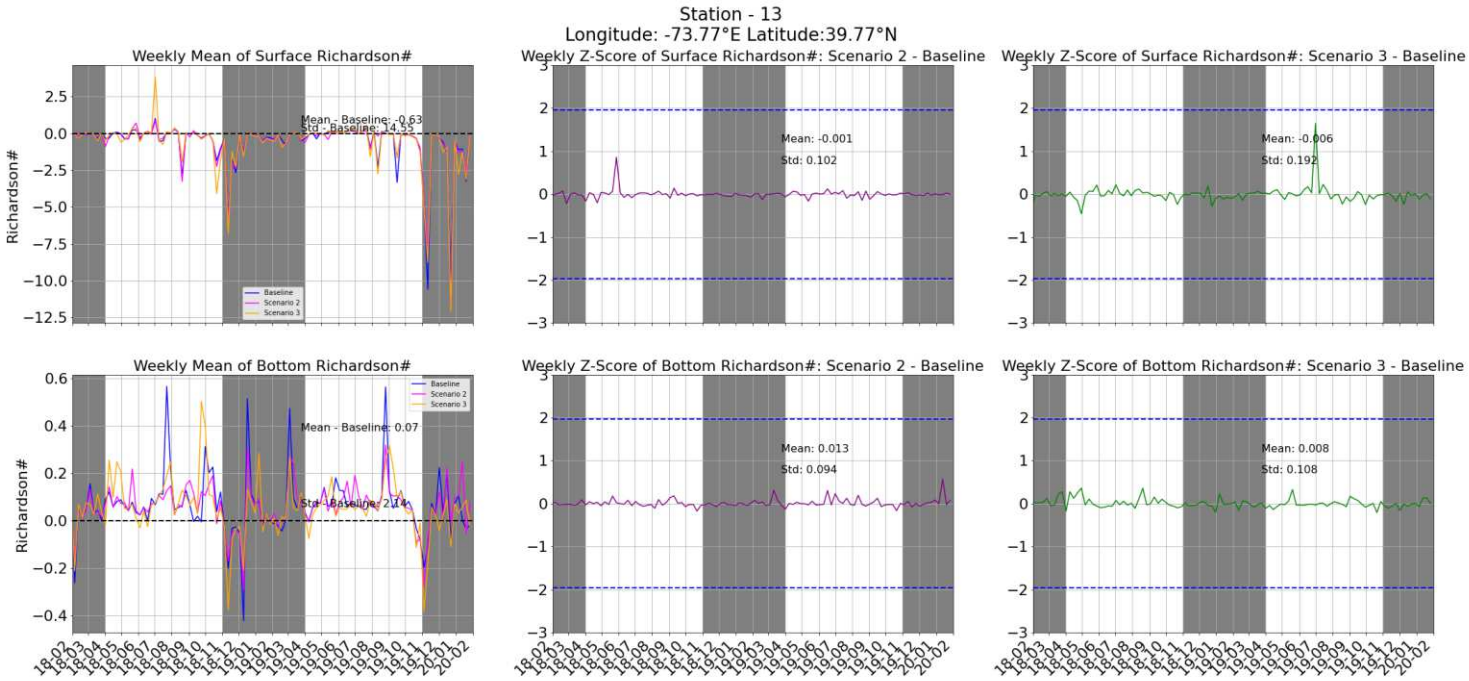
Apx Figure 331. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 10.



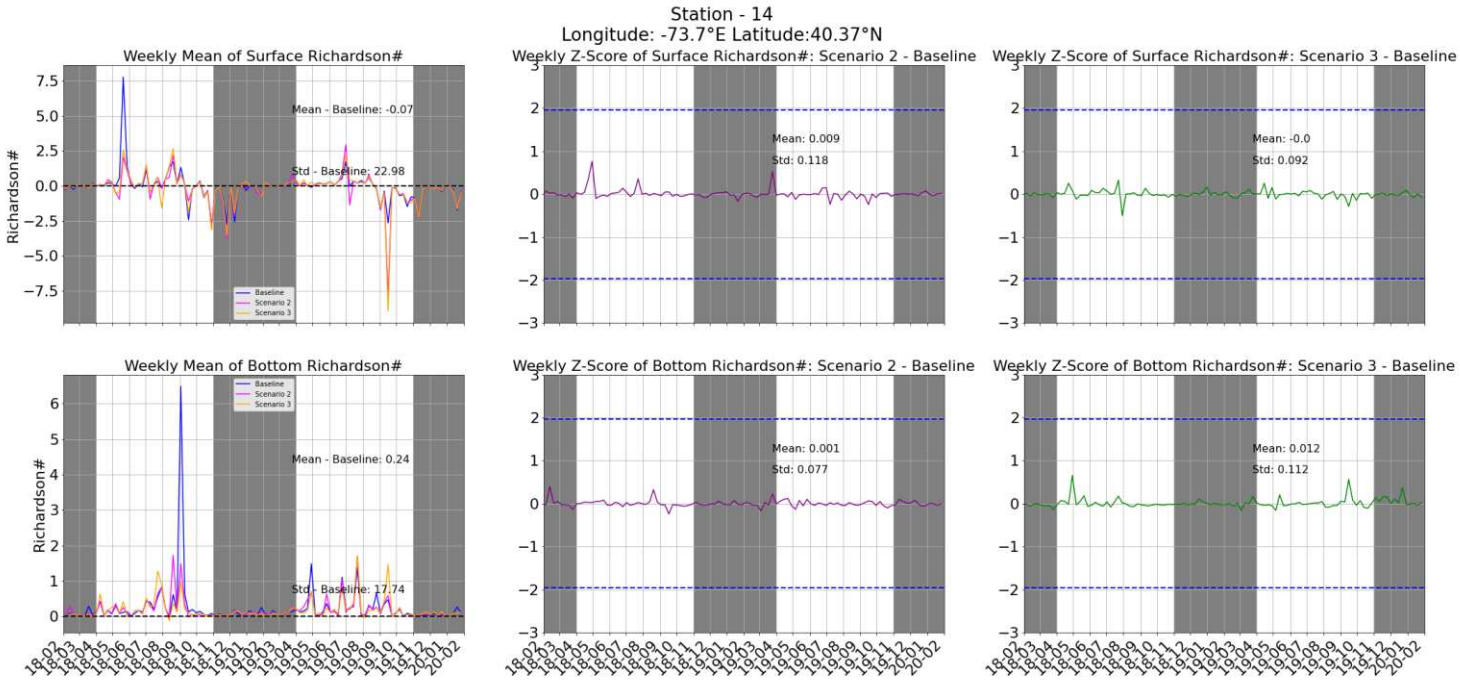
Apx Figure 332. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 11.



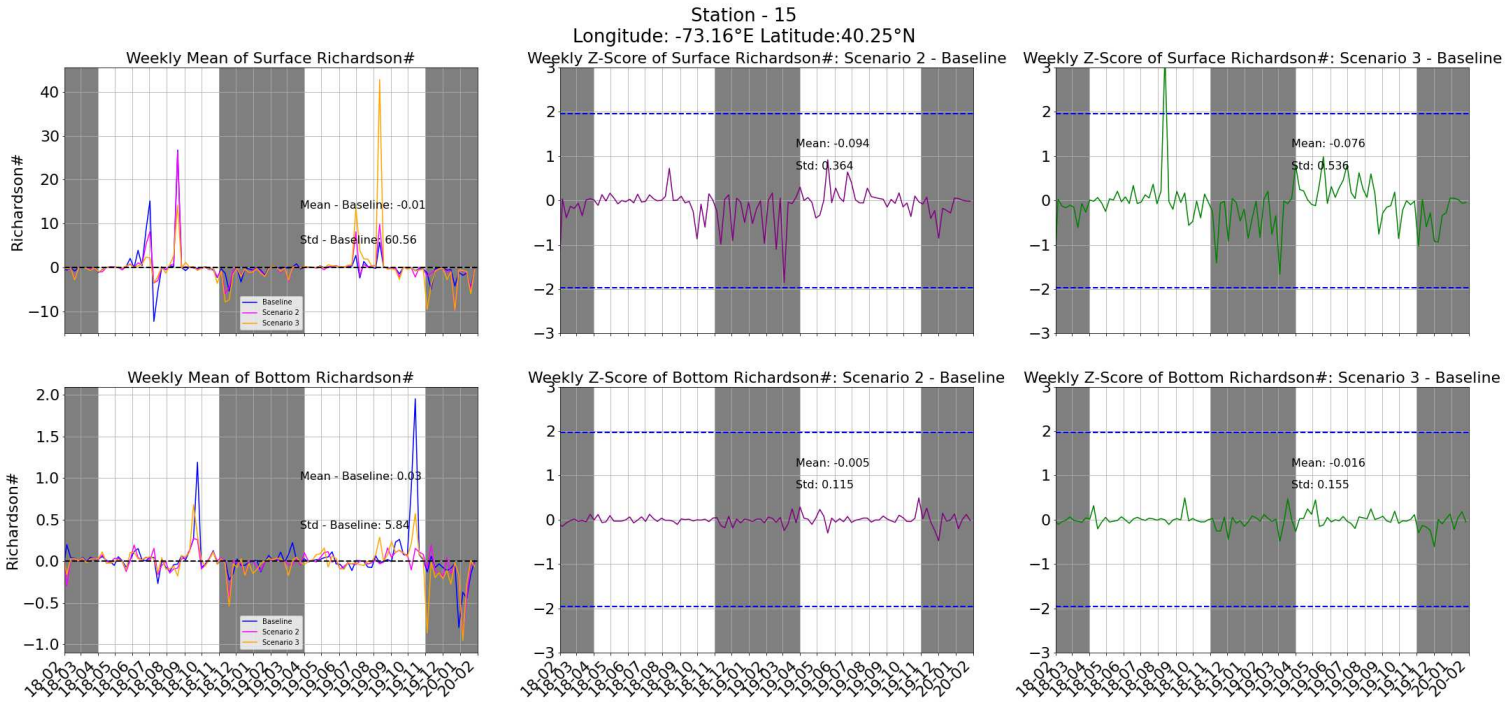
Apx Figure 333. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 12.



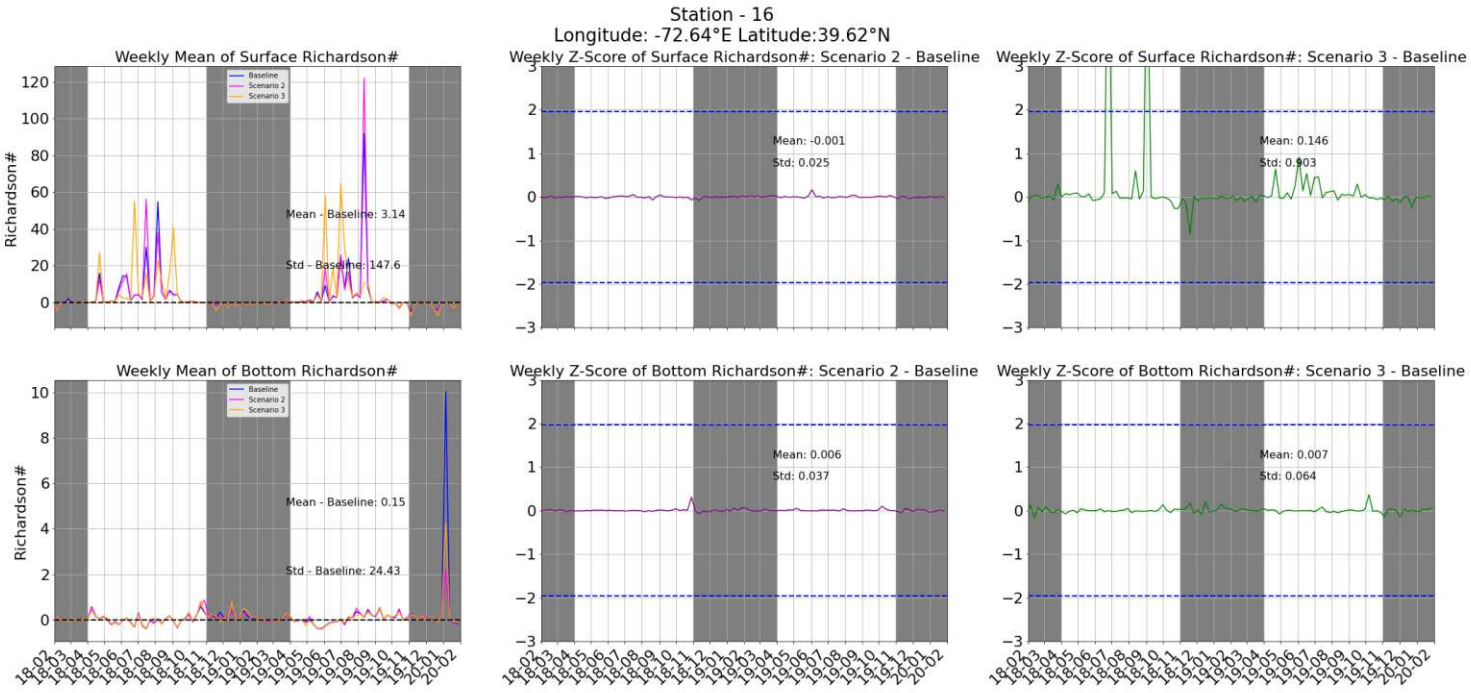
Apx Figure 334. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 13.



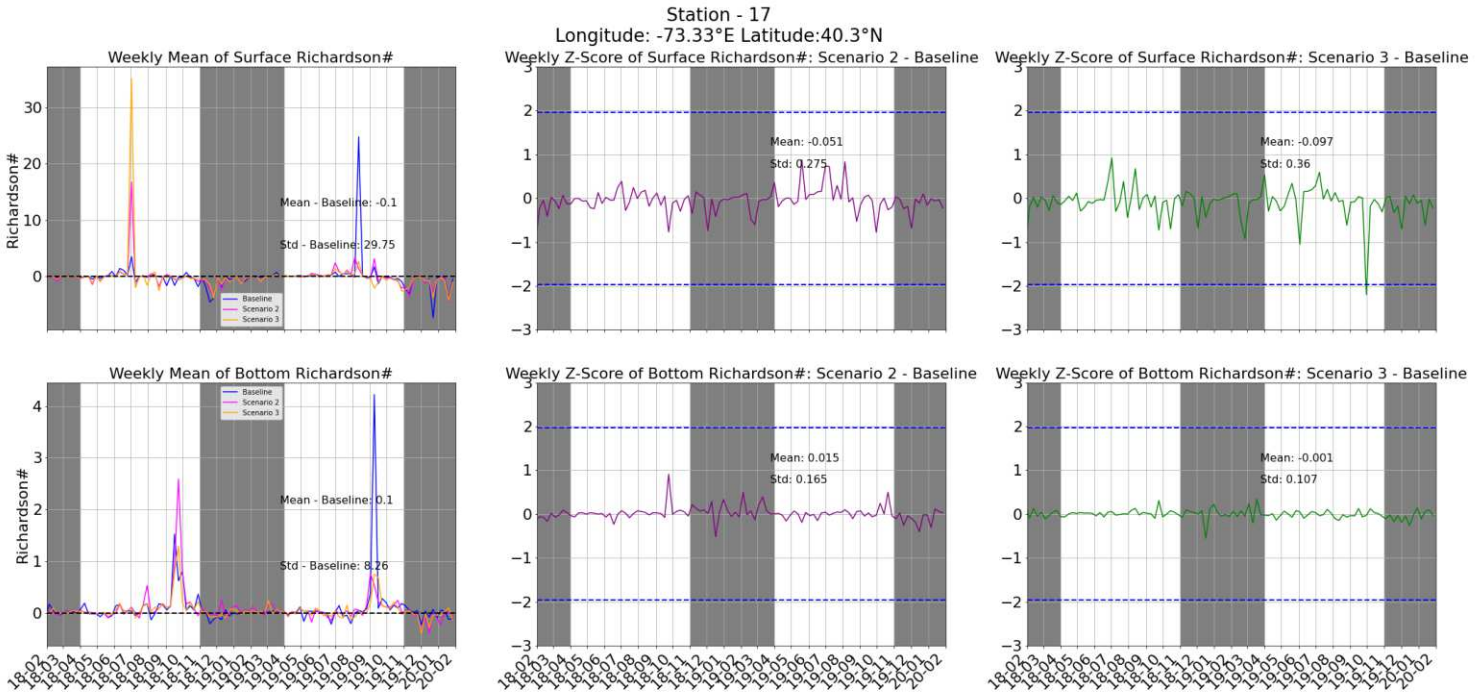
Apx Figure 335. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 14.



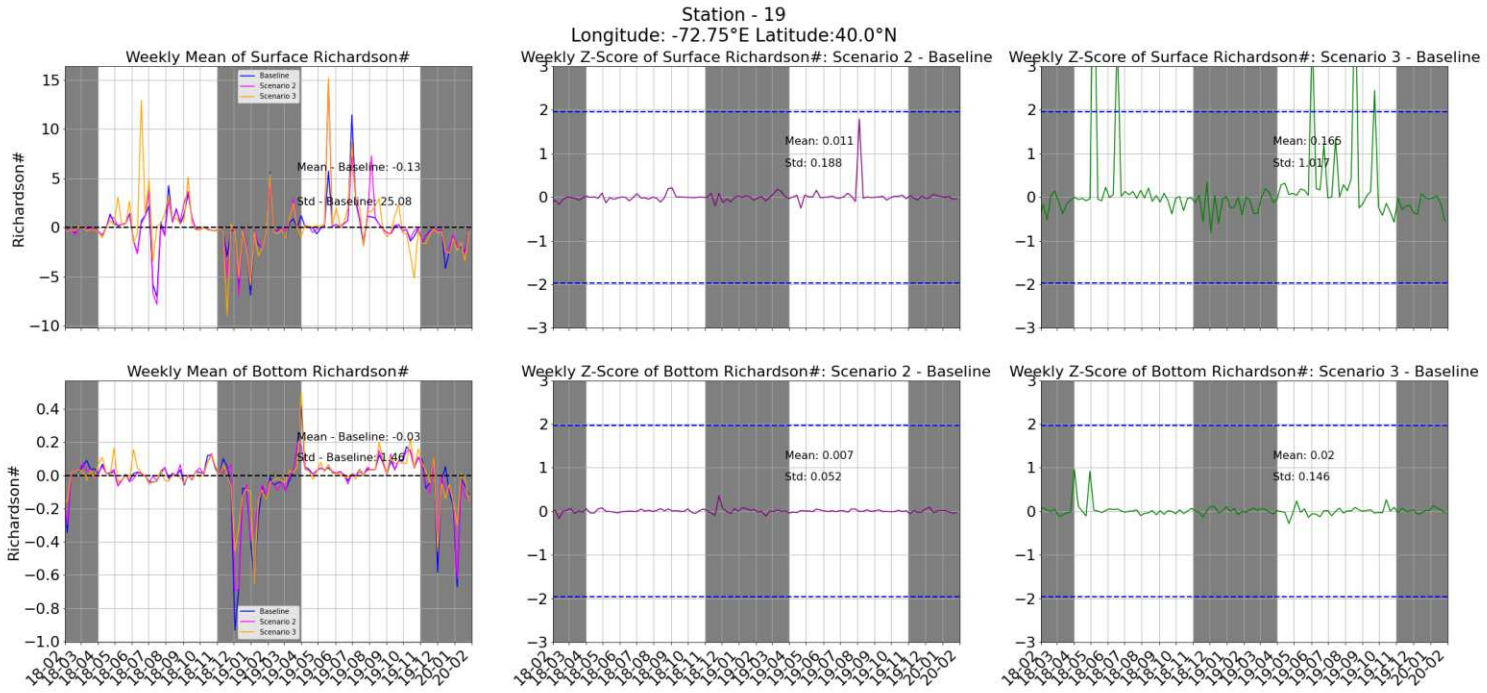
Apx Figure 336. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 15.



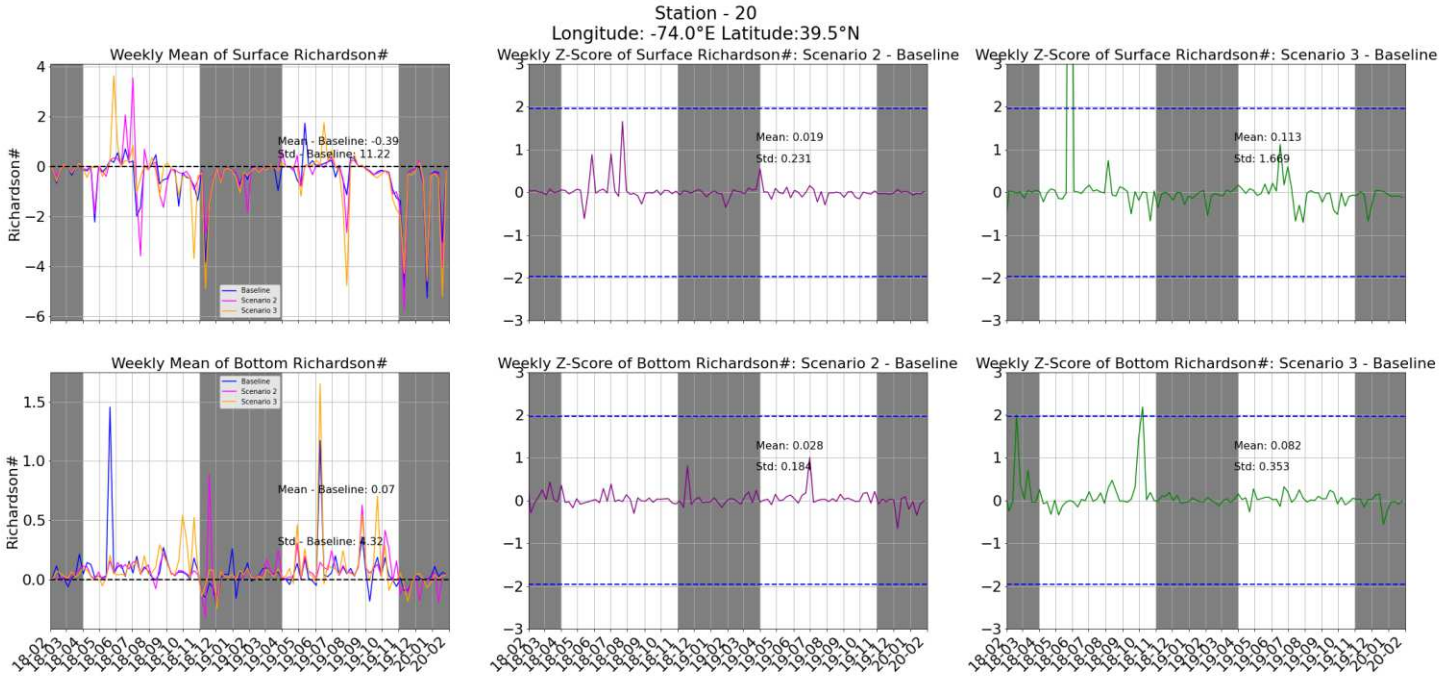
Apx Figure 337. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 16.



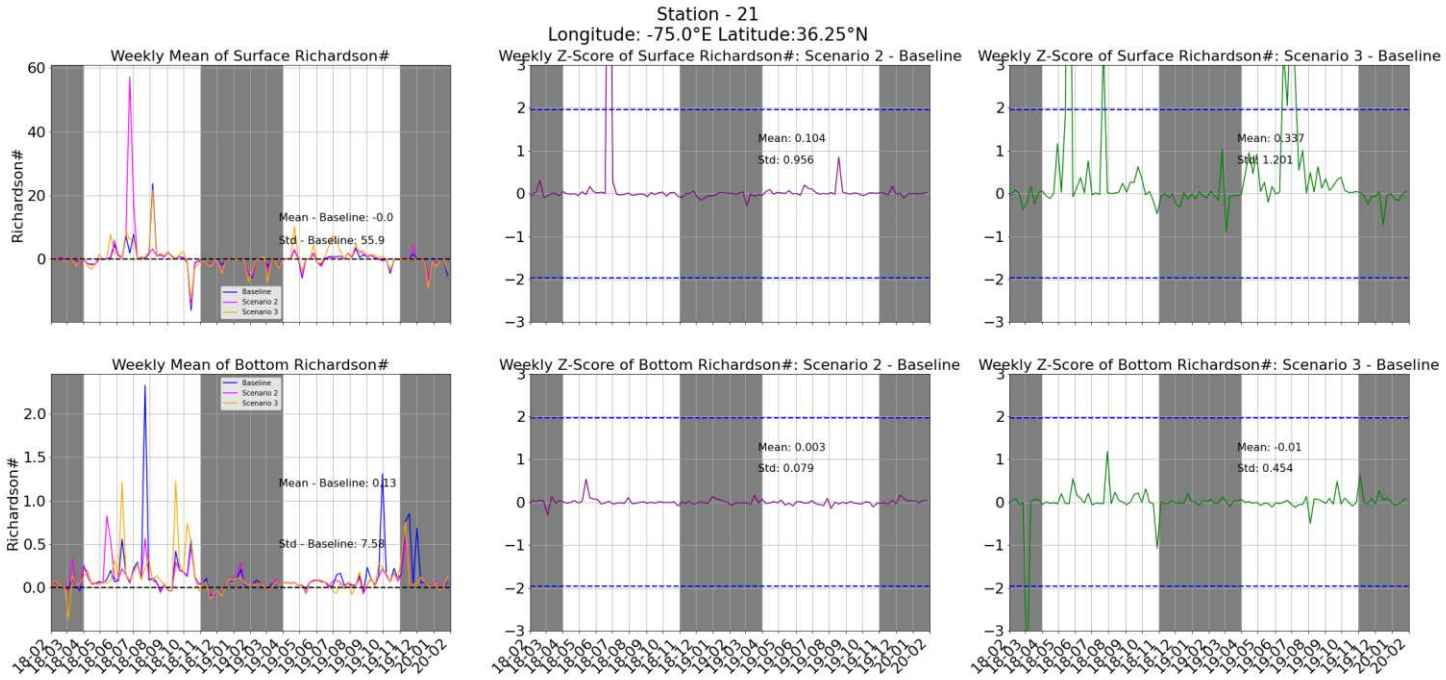
Apx Figure 338. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 17.



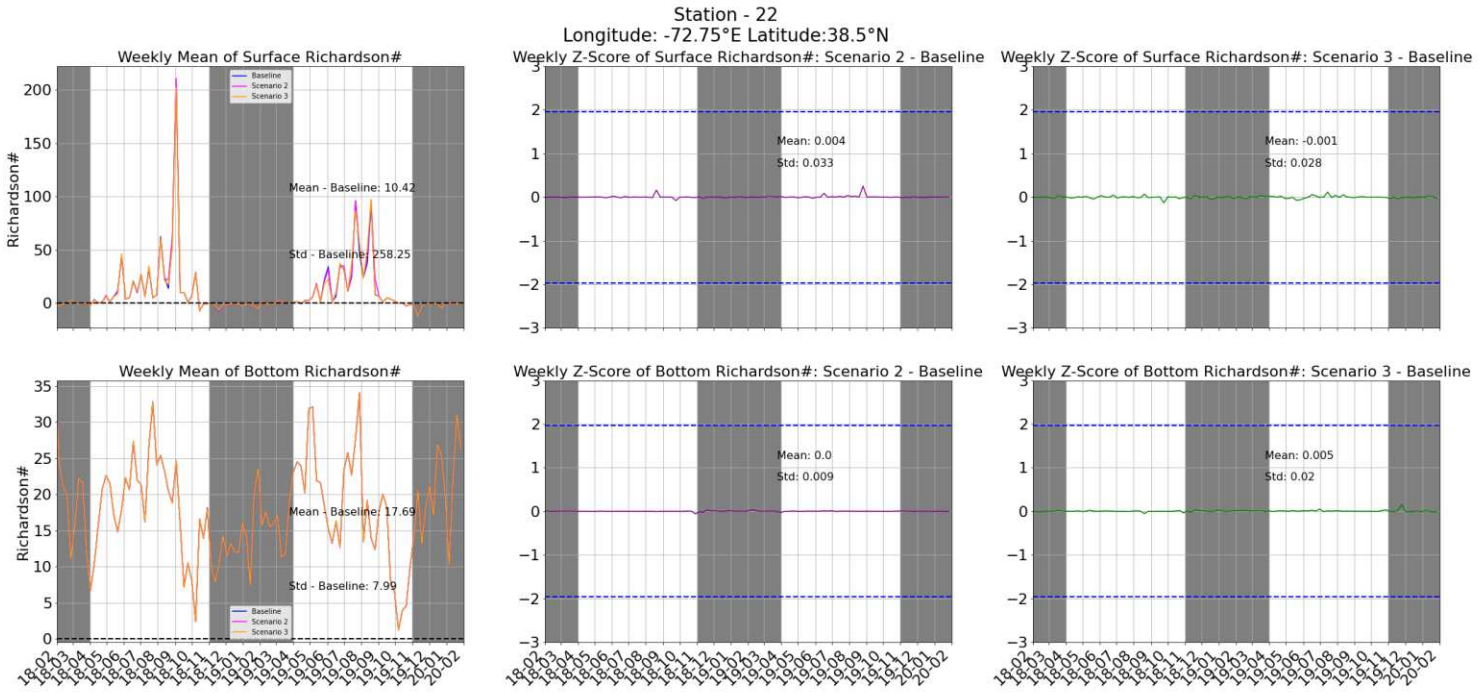
Apx Figure 339. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 19.



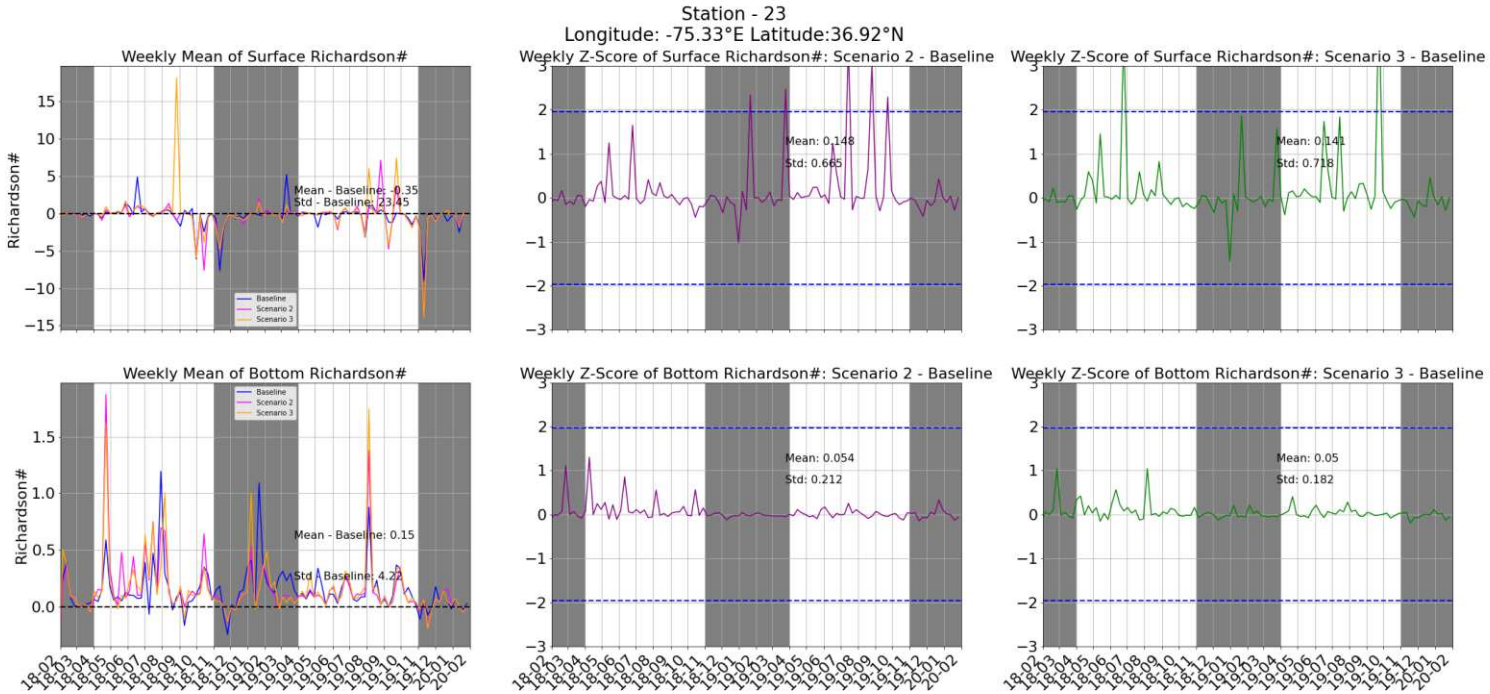
Apx Figure 340. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 20.



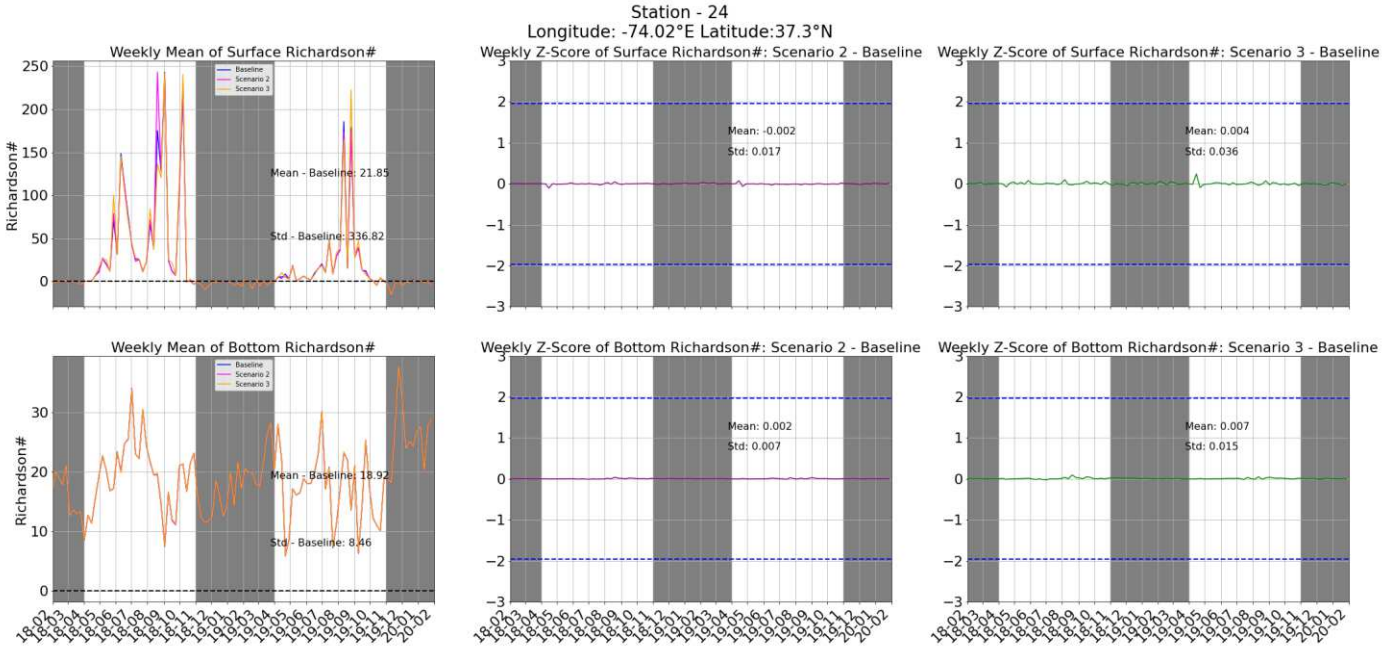
Apx Figure 341. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 21.



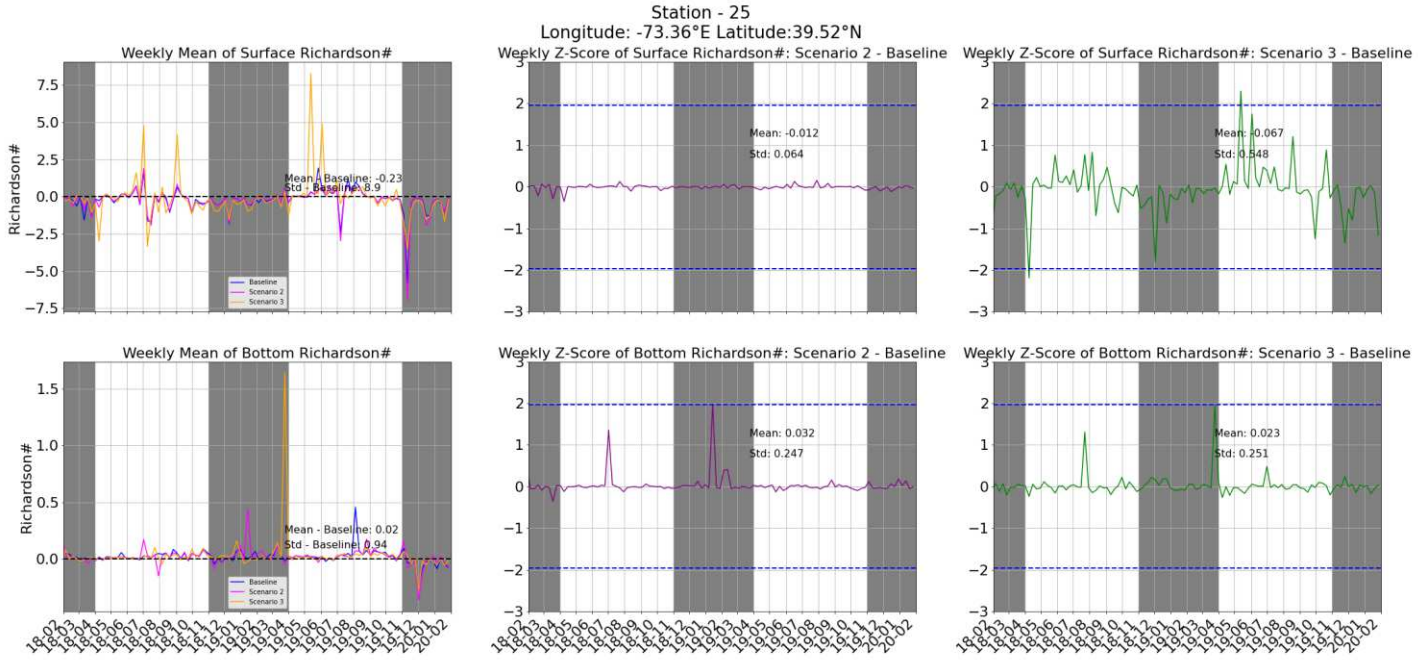
Apx Figure 342. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 22.



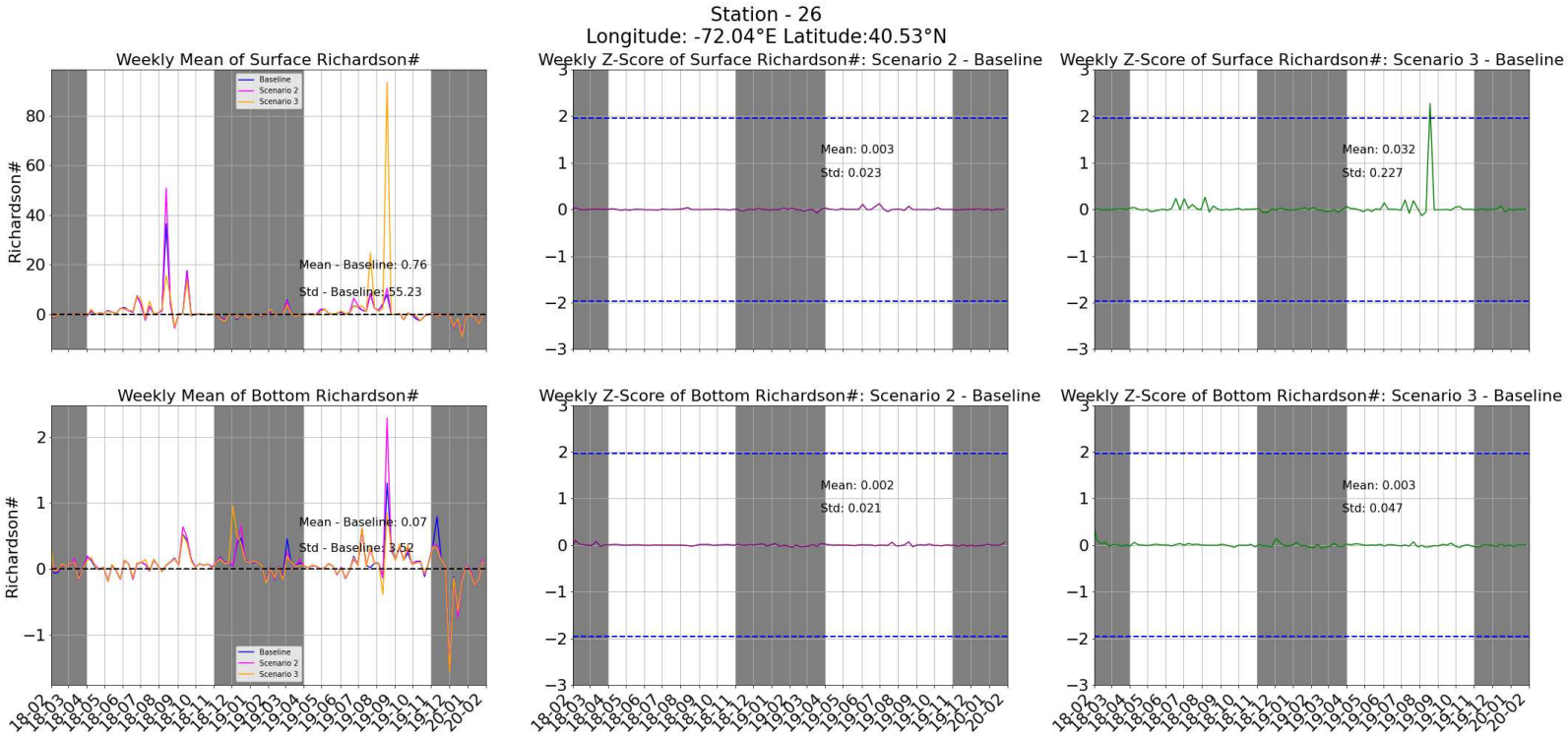
Apx Figure 343. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 23.



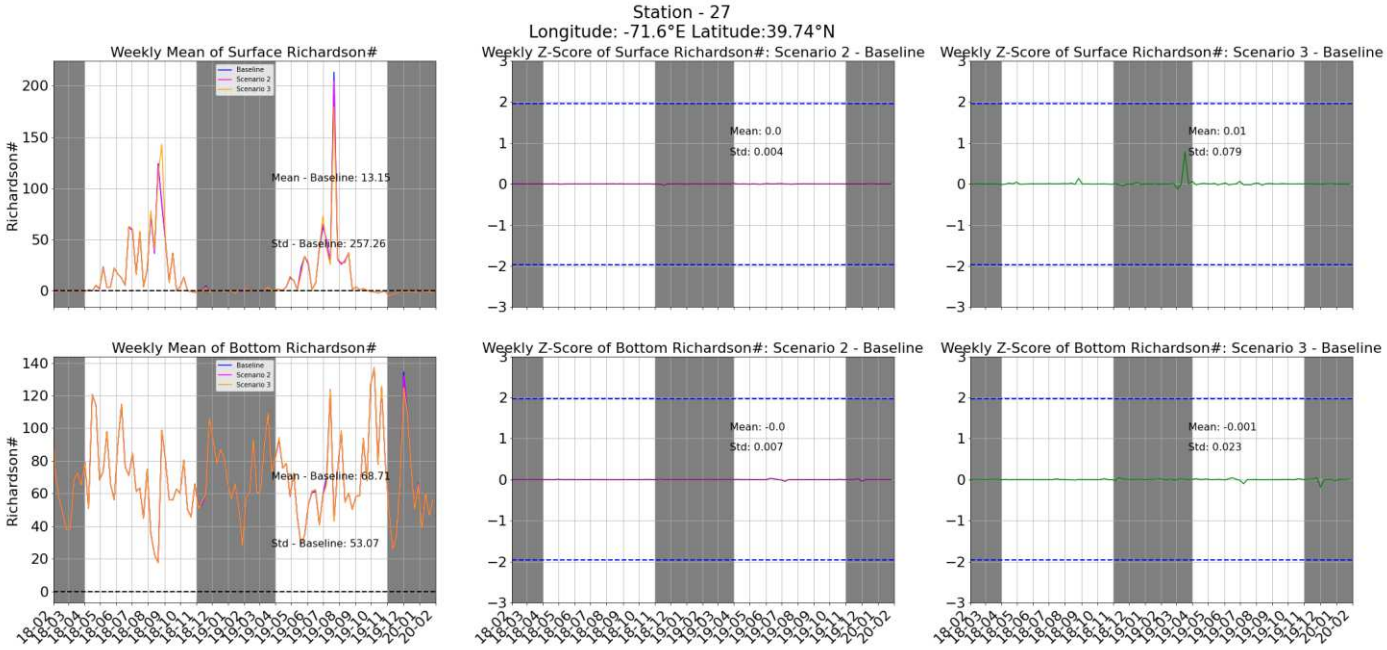
Apx Figure 344. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 24.



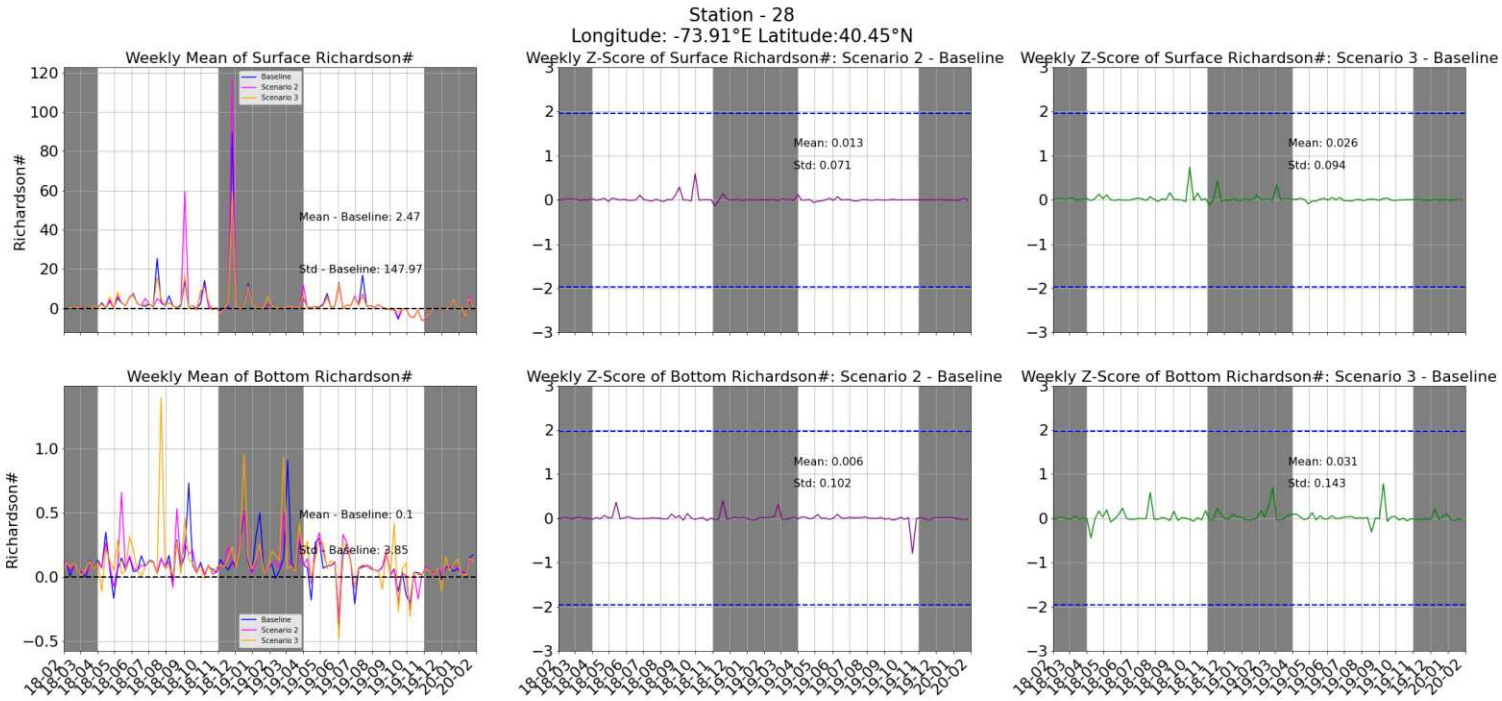
Apx Figure 345. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 25.



Apx Figure 346. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 26.

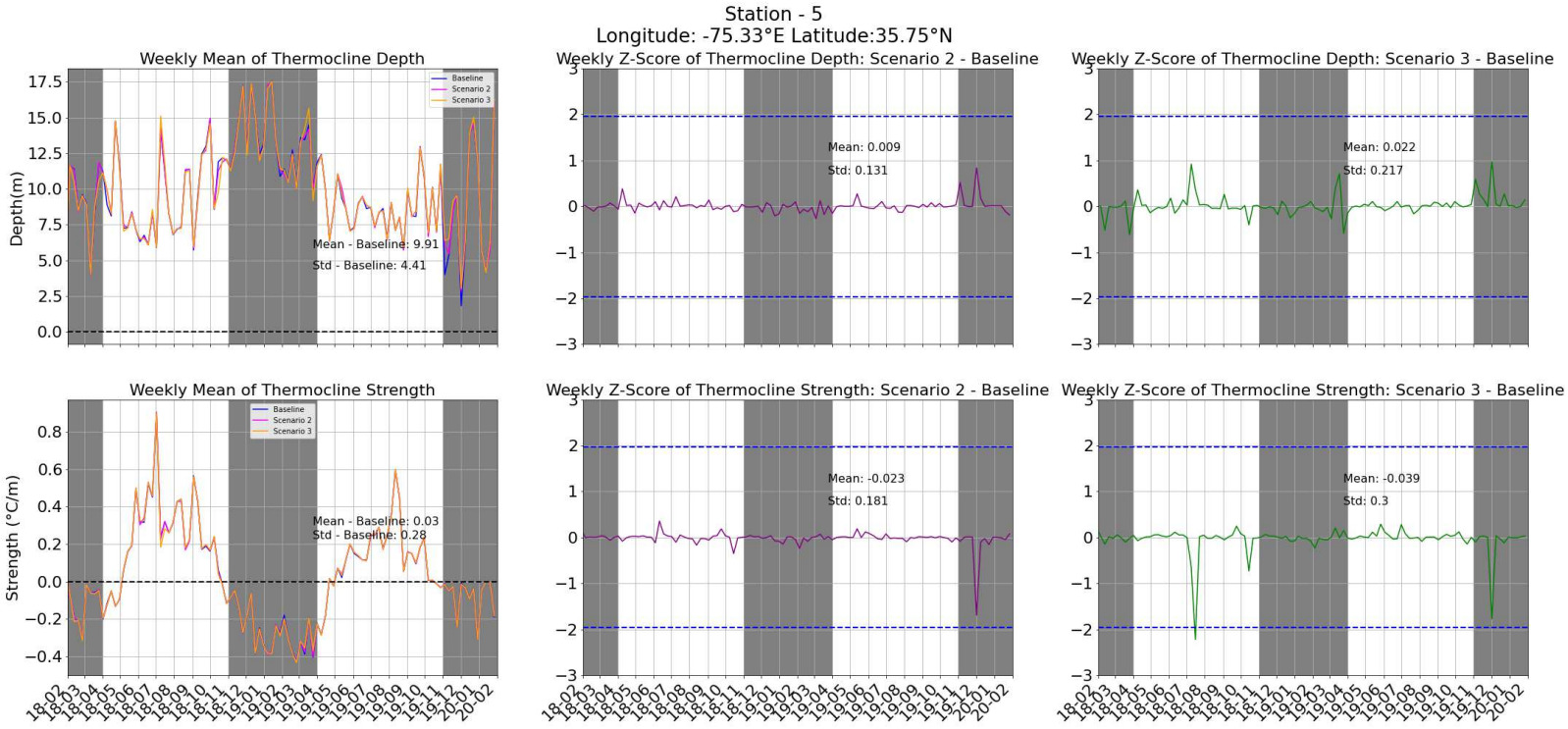


Apx Figure 347. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 27.

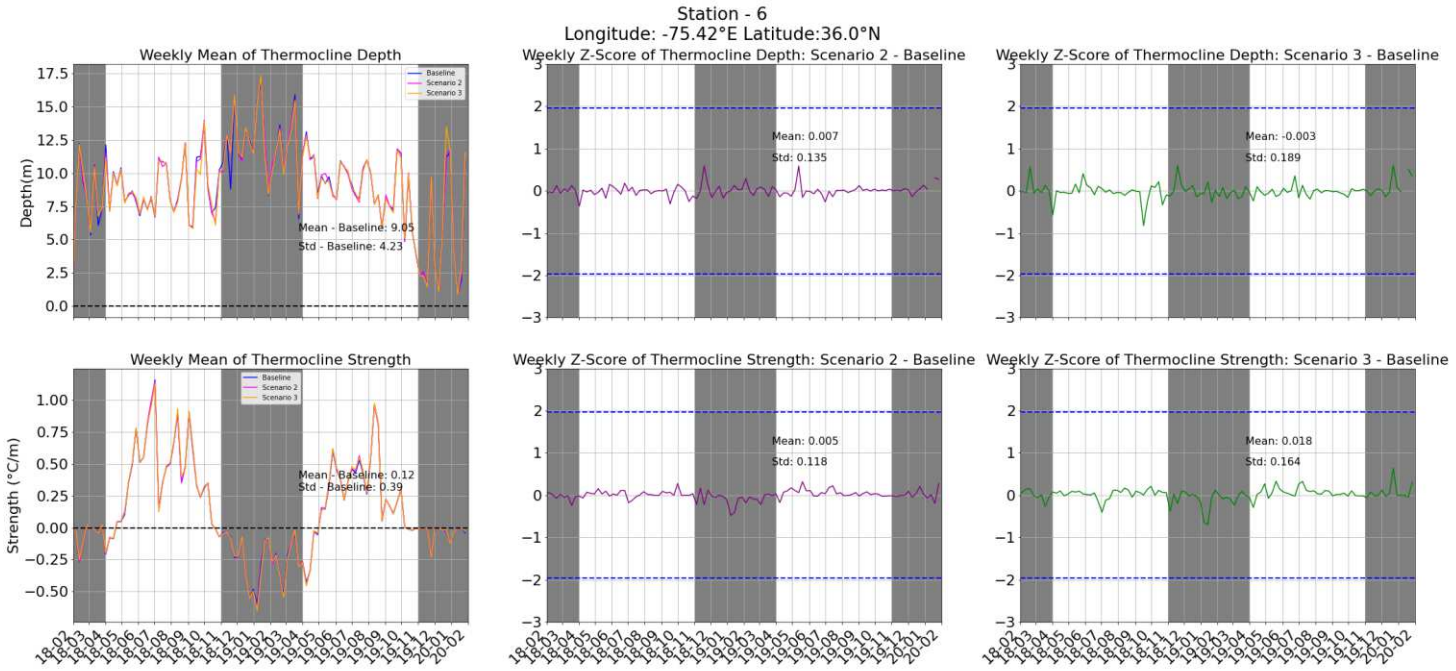


Apx Figure 348. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for Richardson Number (surface and bottom) at station 28.

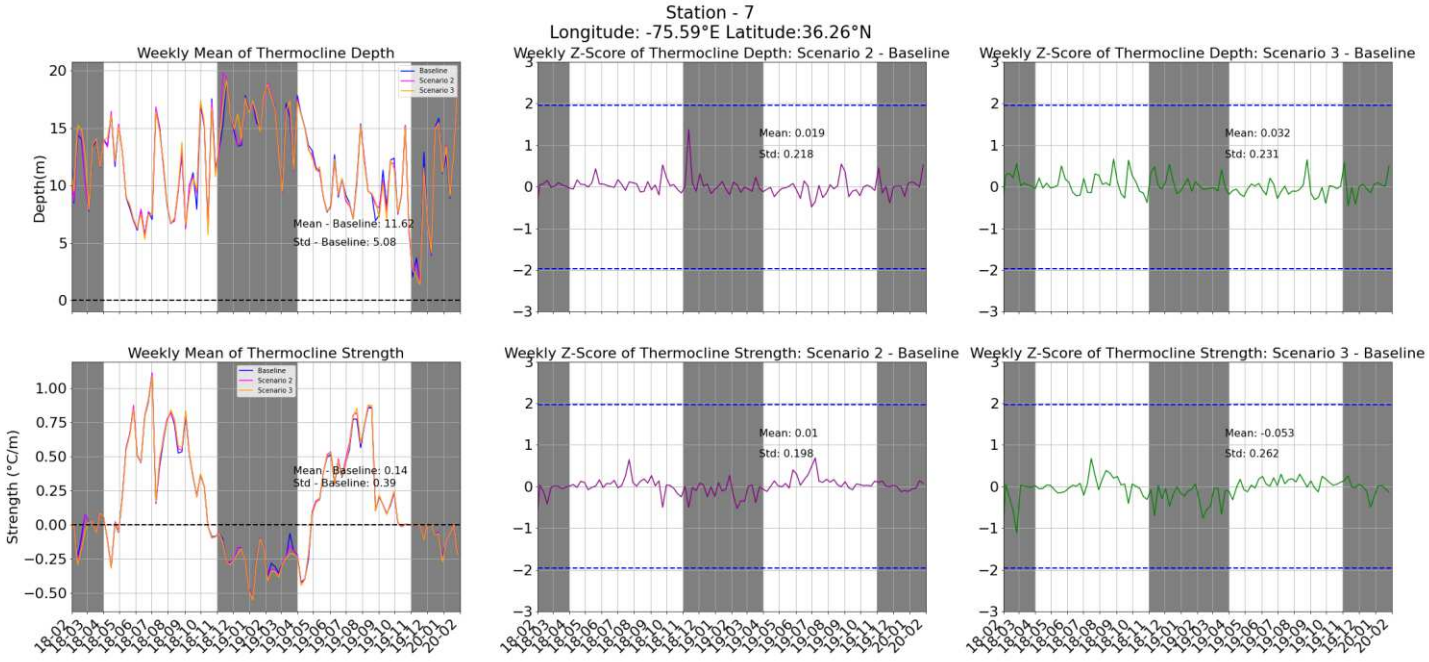
B.7 Thermocline Depth and Strength



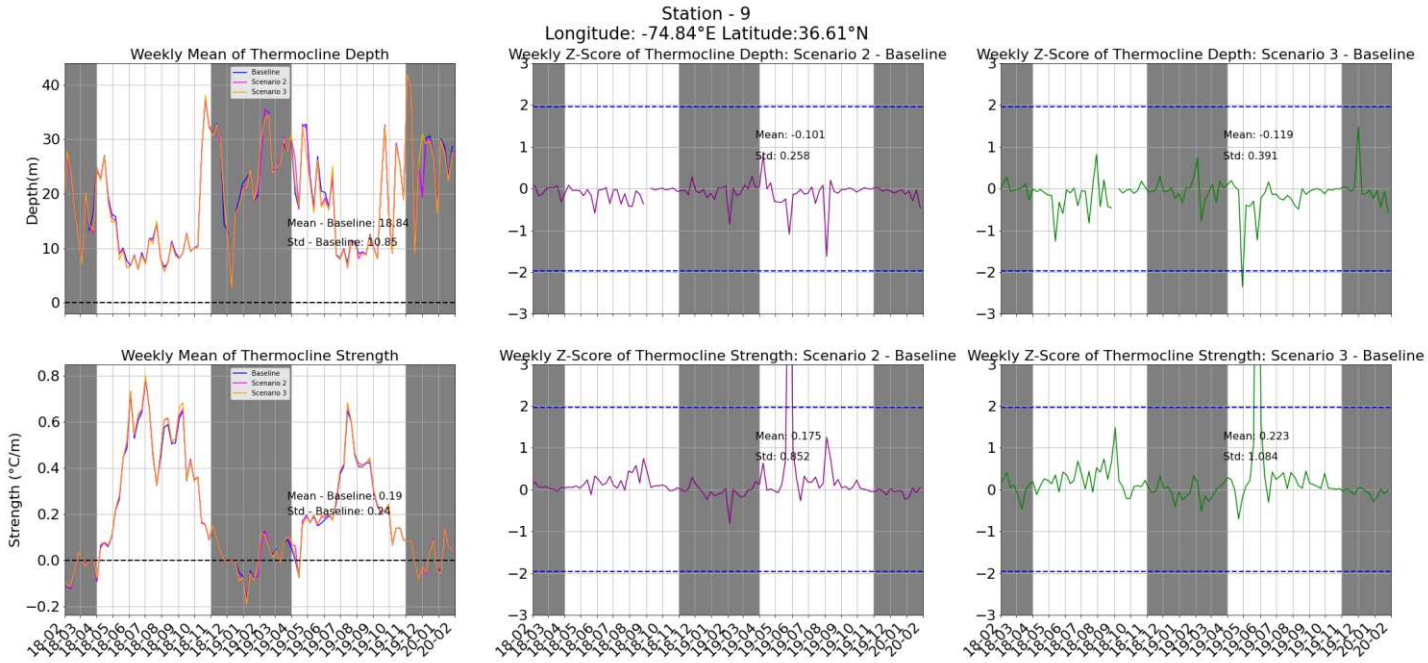
Apx Figure 349. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 5.



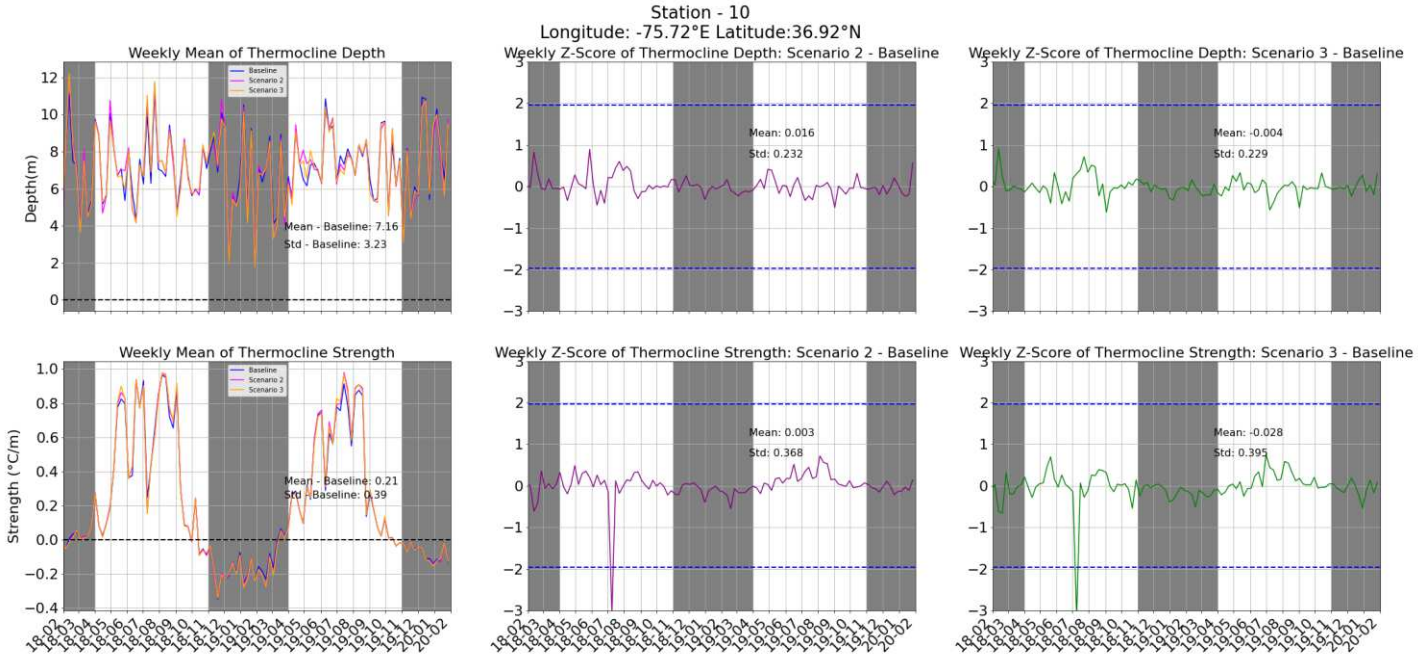
Apx Figure 350. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 6.



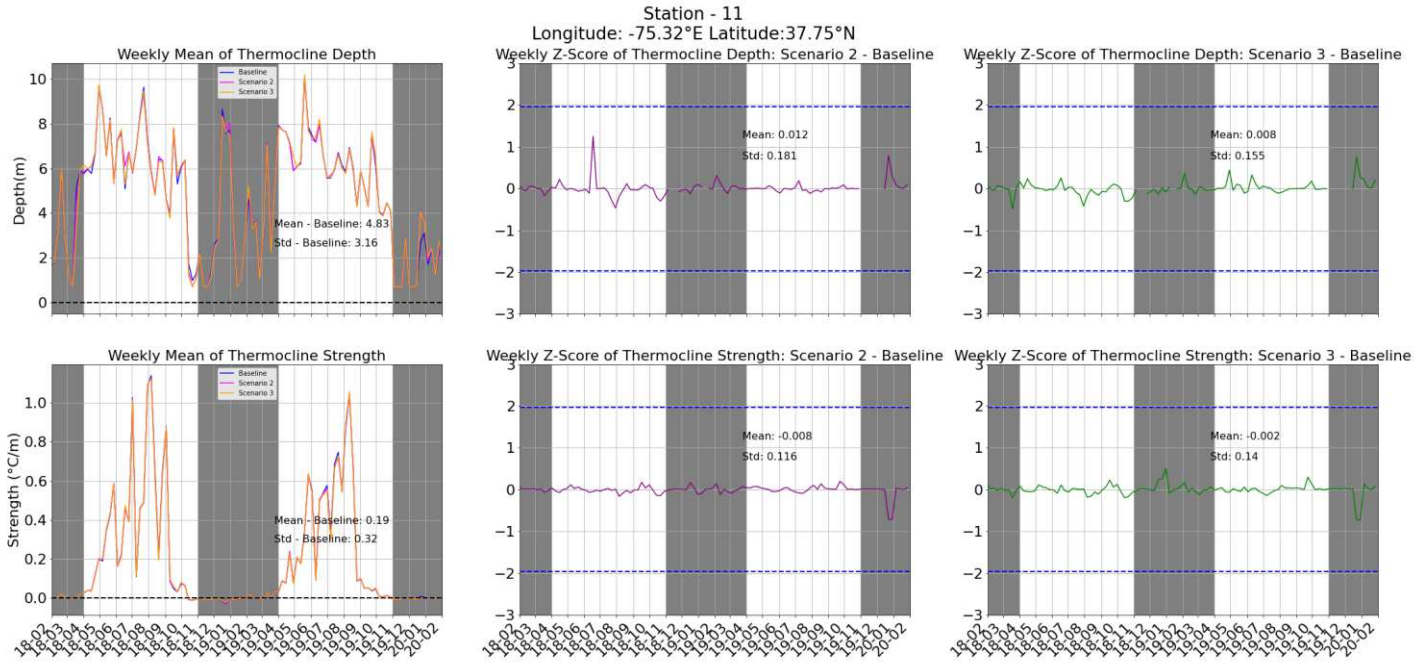
Apx Figure 351. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 7.



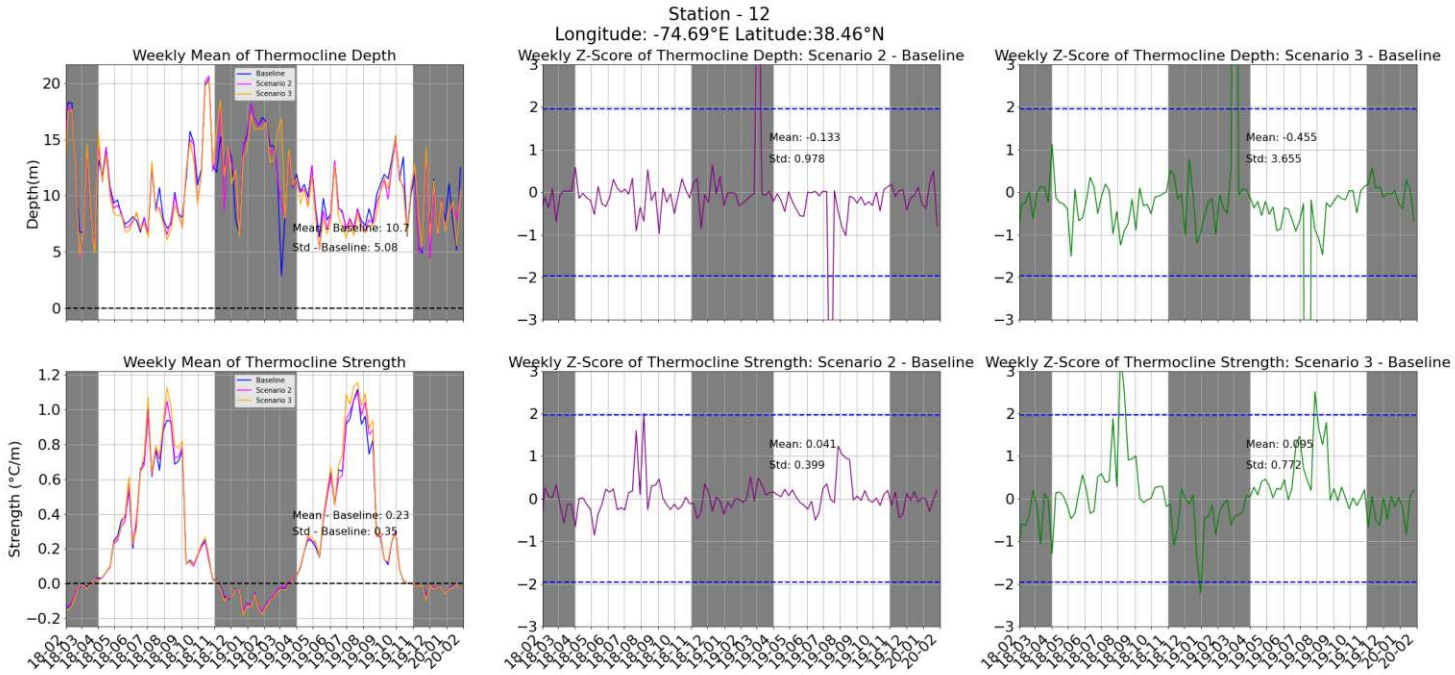
Apx Figure 352. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 9.



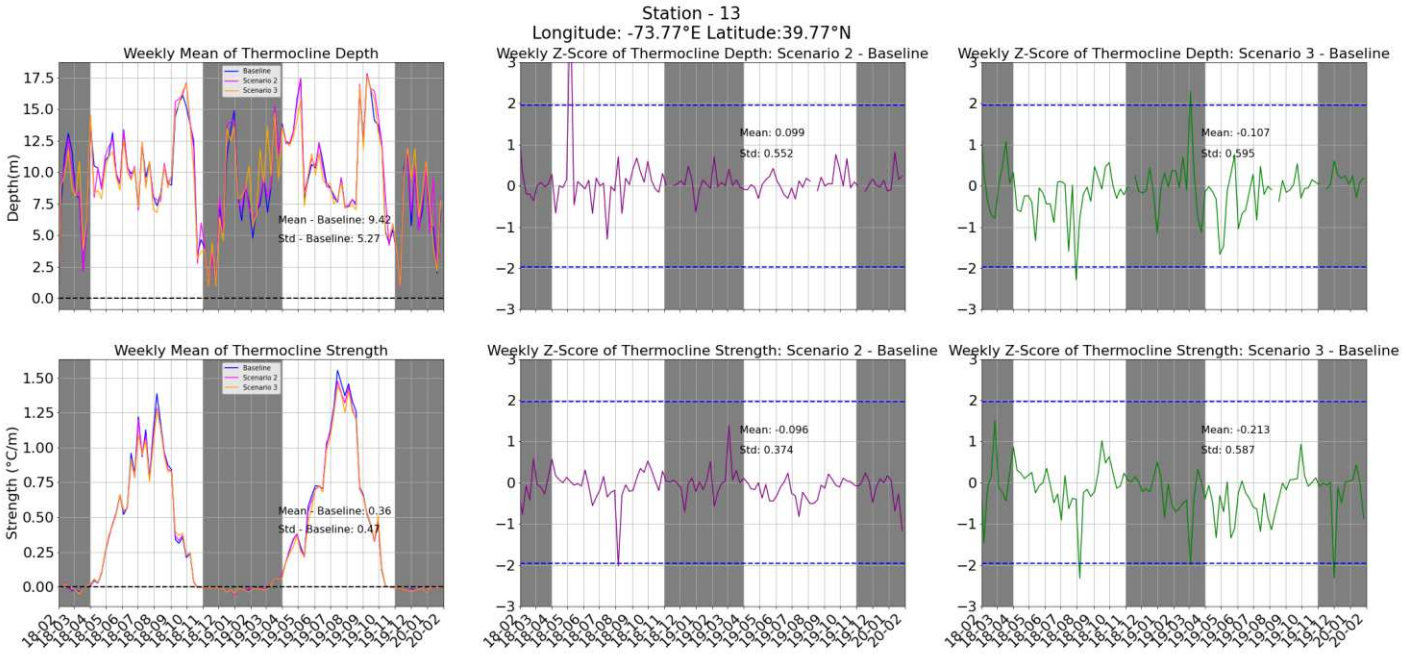
Apx Figure 353. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 10.



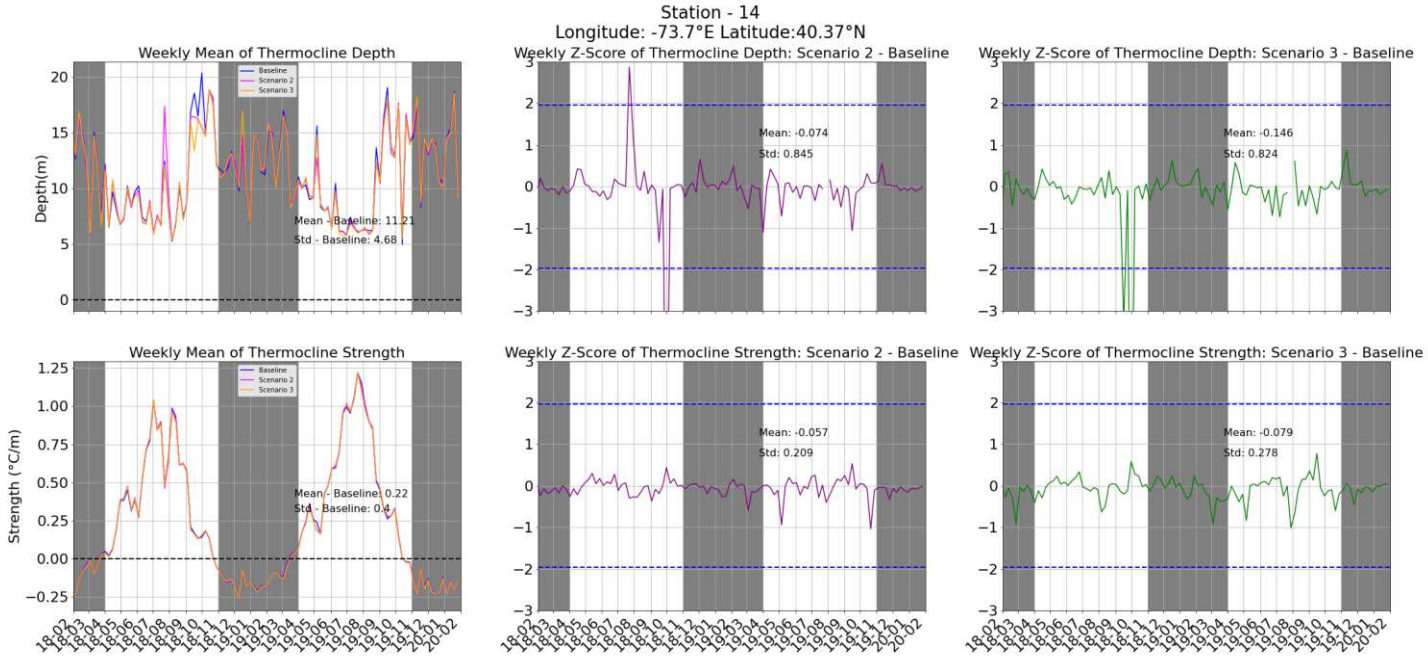
Apx Figure 354. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 11.



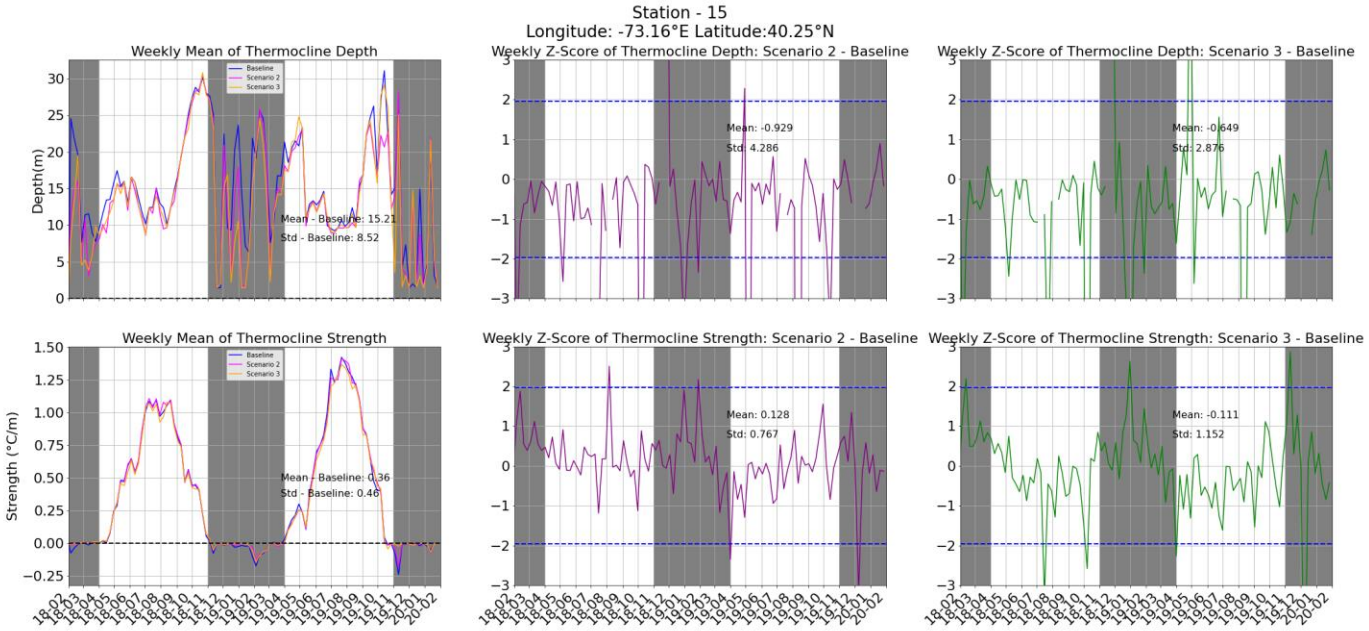
Apx Figure 355. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 12.



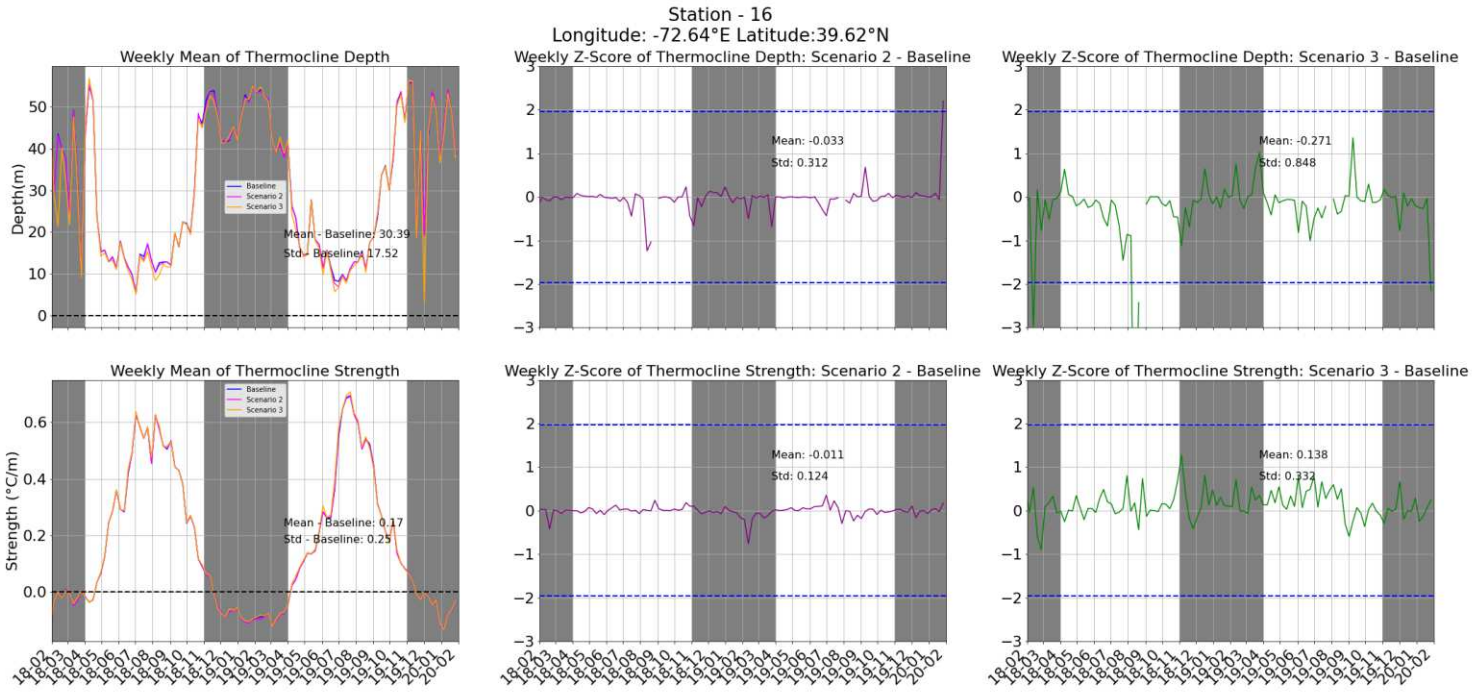
Apx Figure 356. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 13.



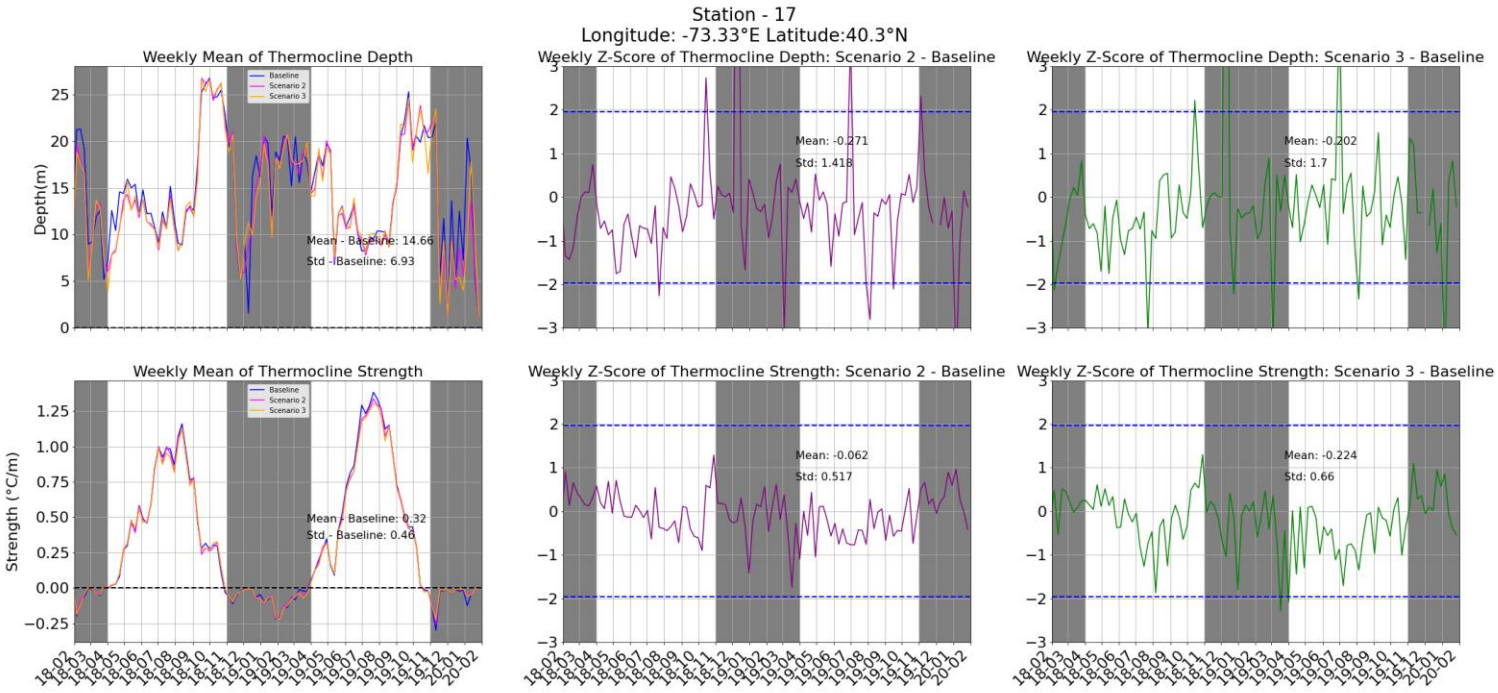
Apx Figure 357. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 14.



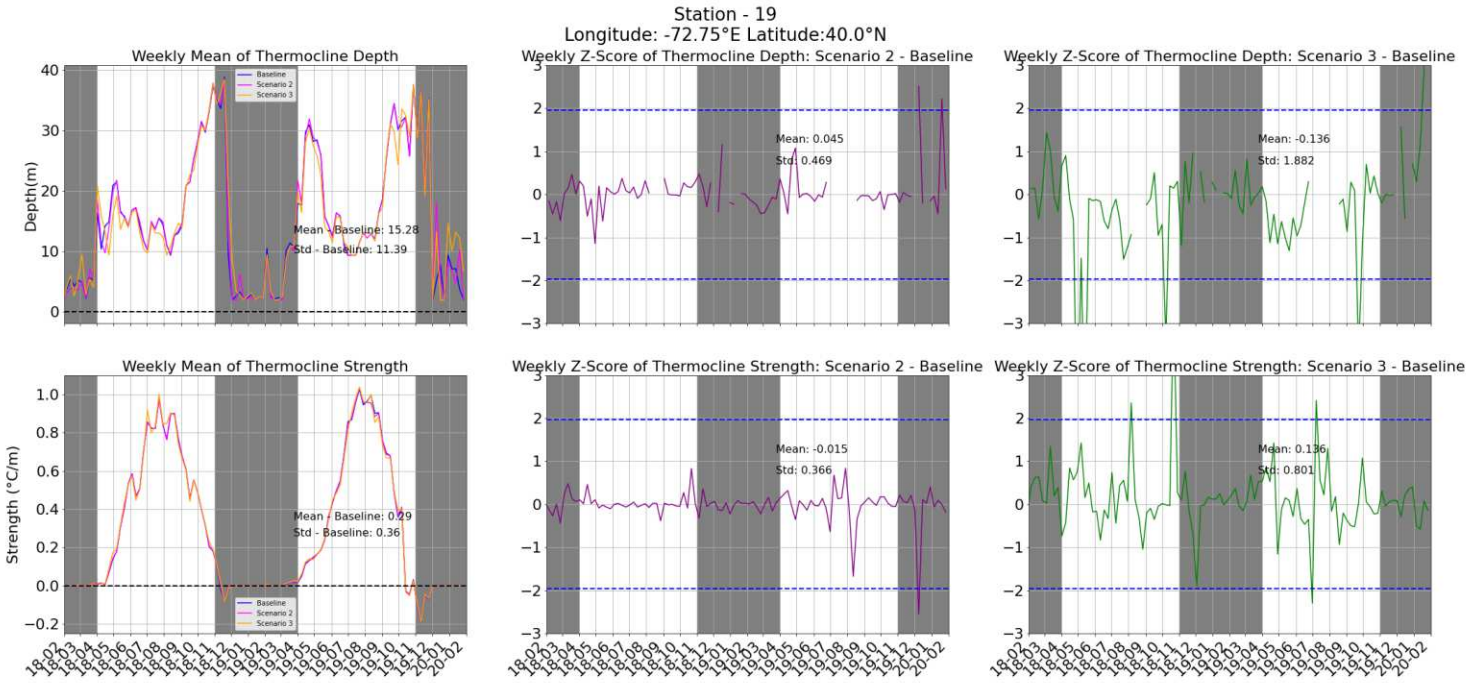
Apx Figure 358. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 15.



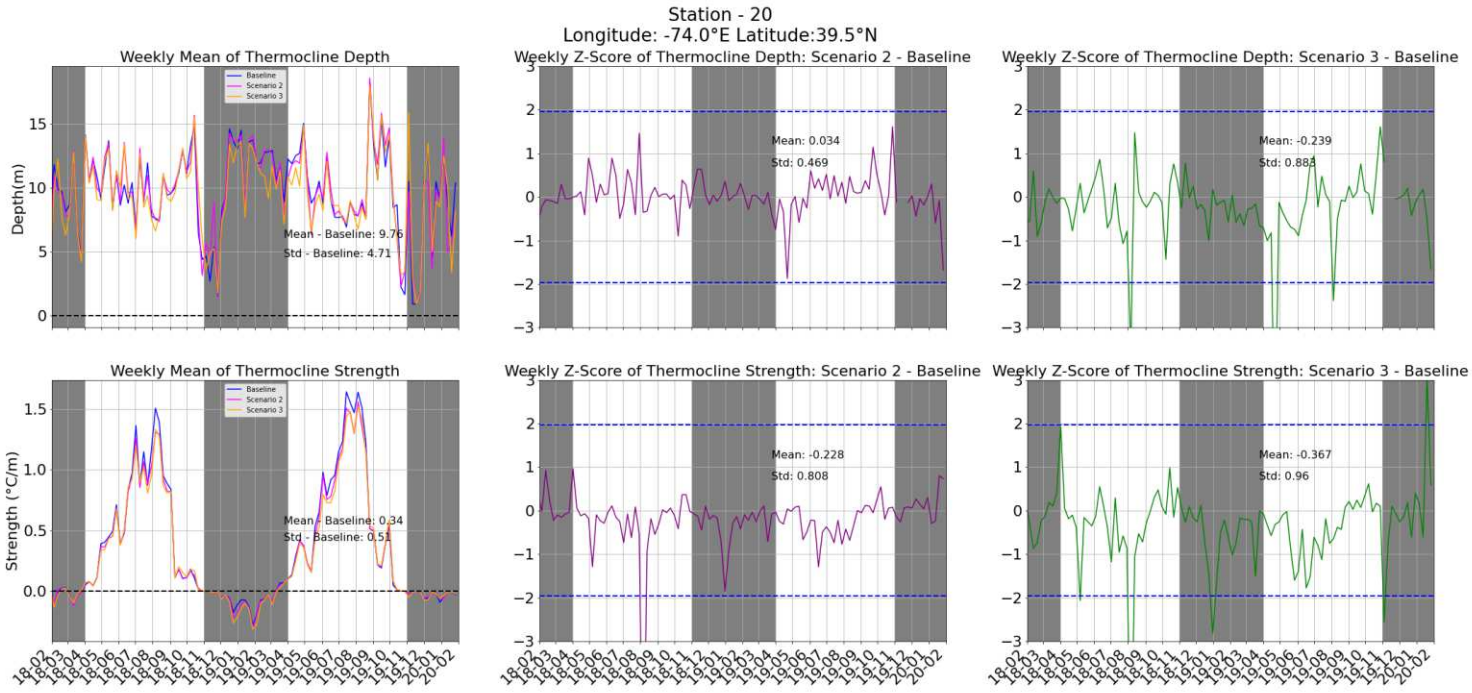
Apx Figure 359. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 16.



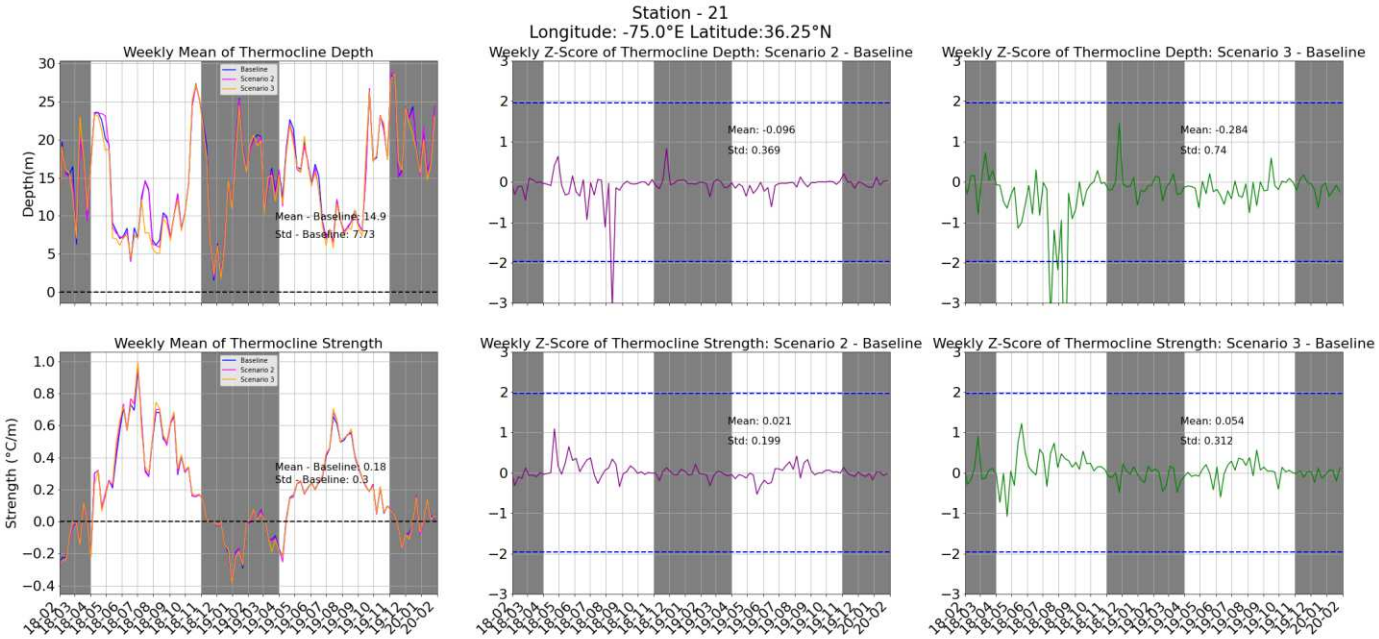
Apx Figure 360. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 17.



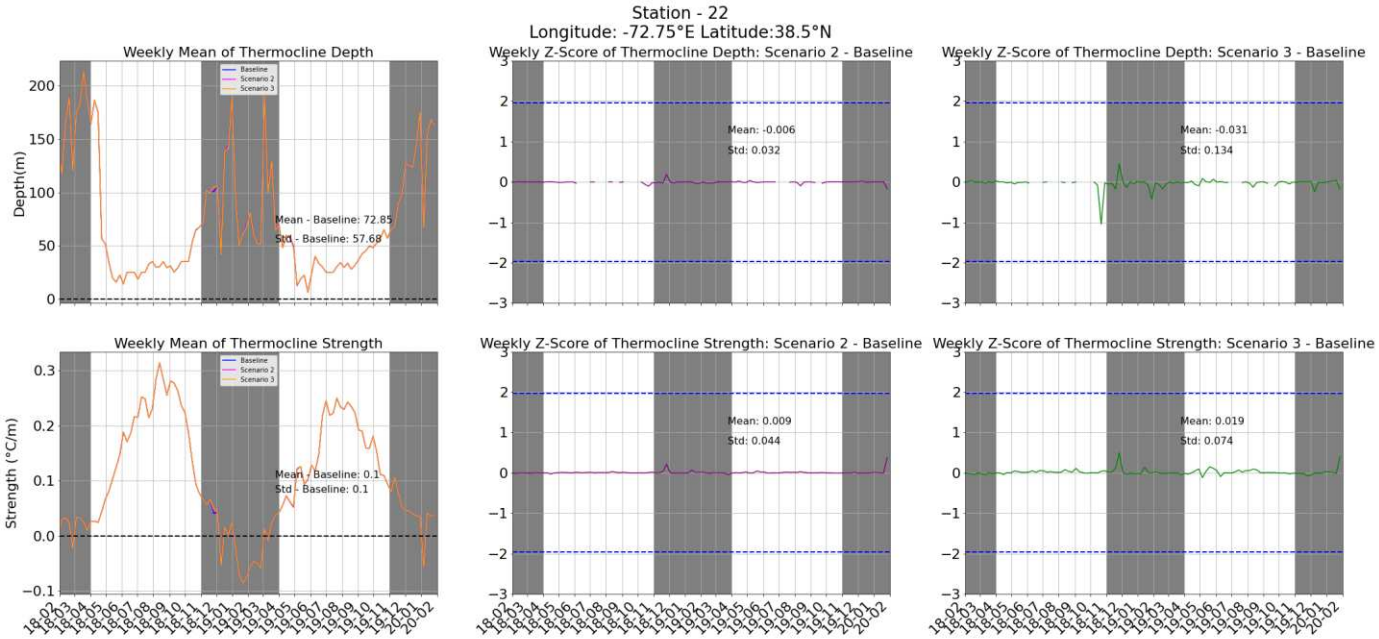
Apx Figure 361. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 19.



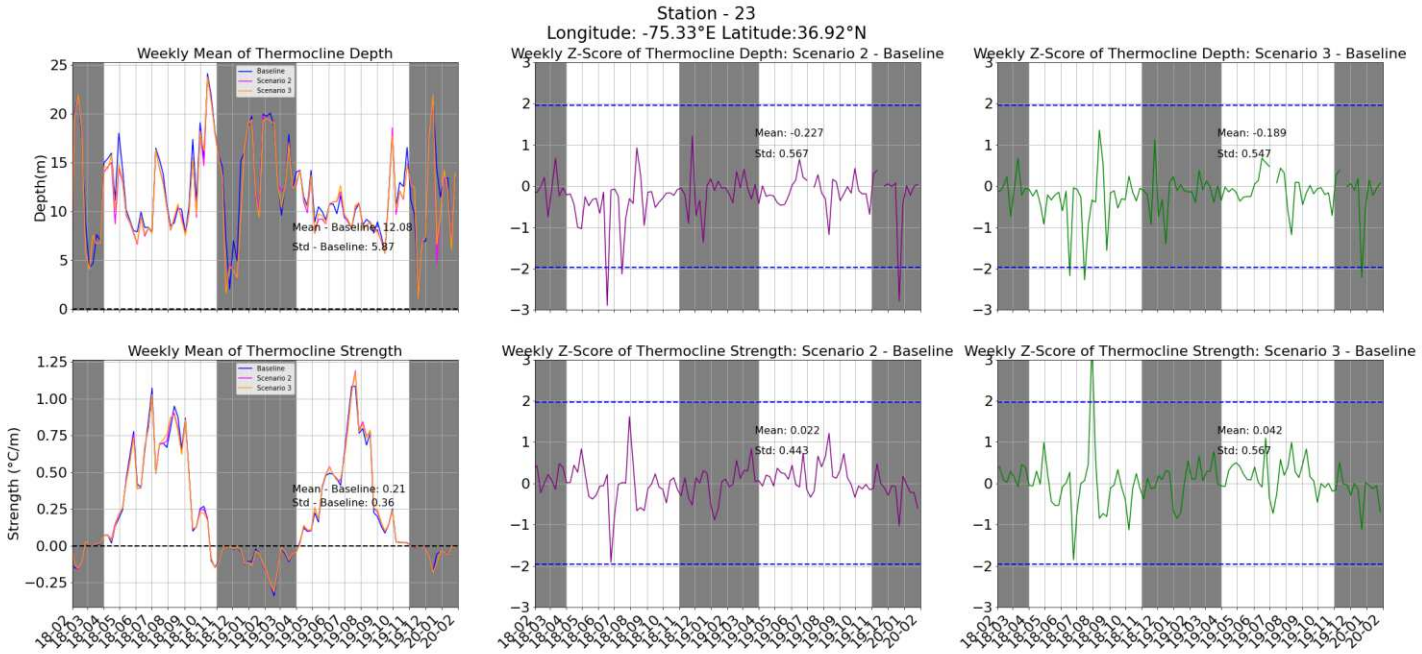
Apx Figure 362. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 20.



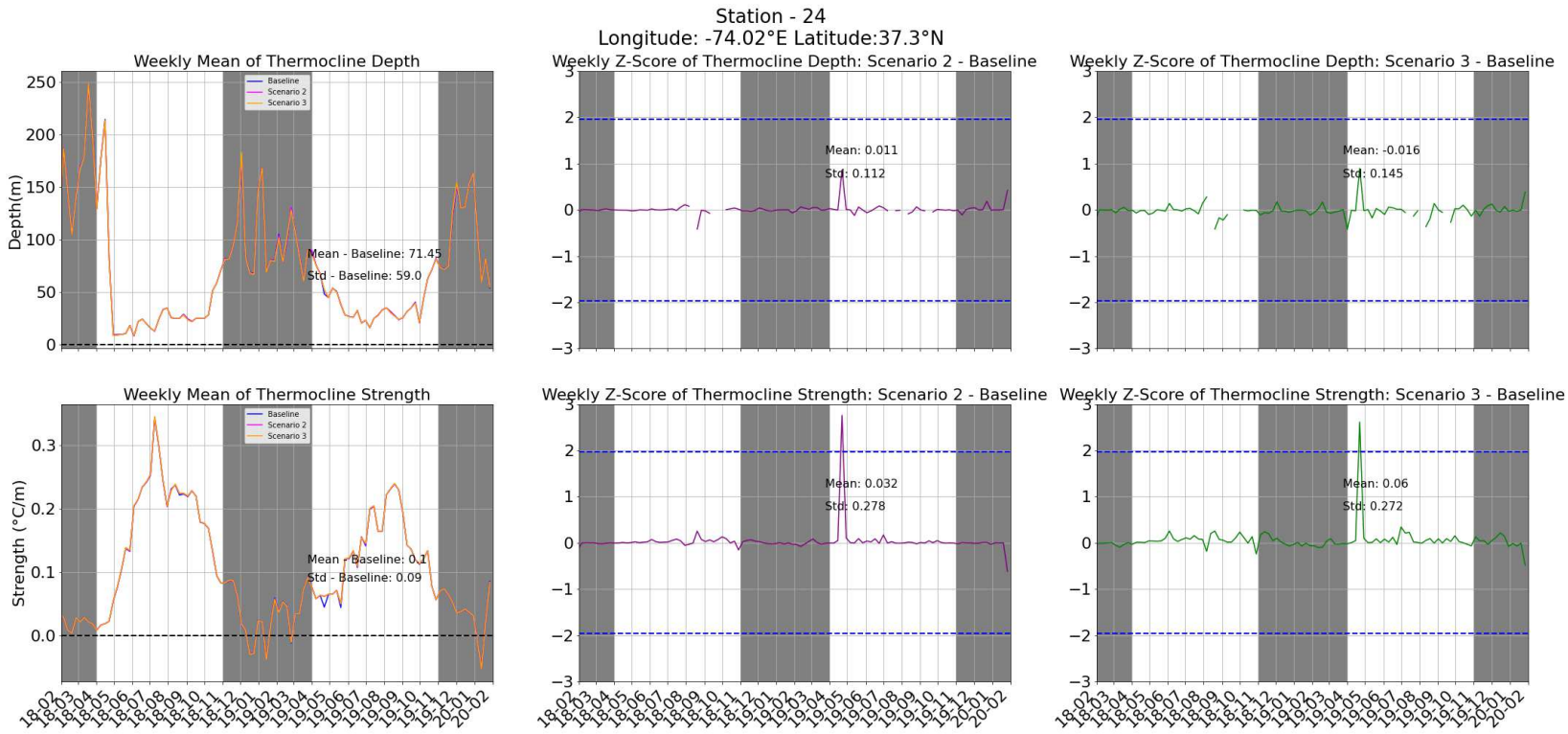
Apx Figure 363. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 21.



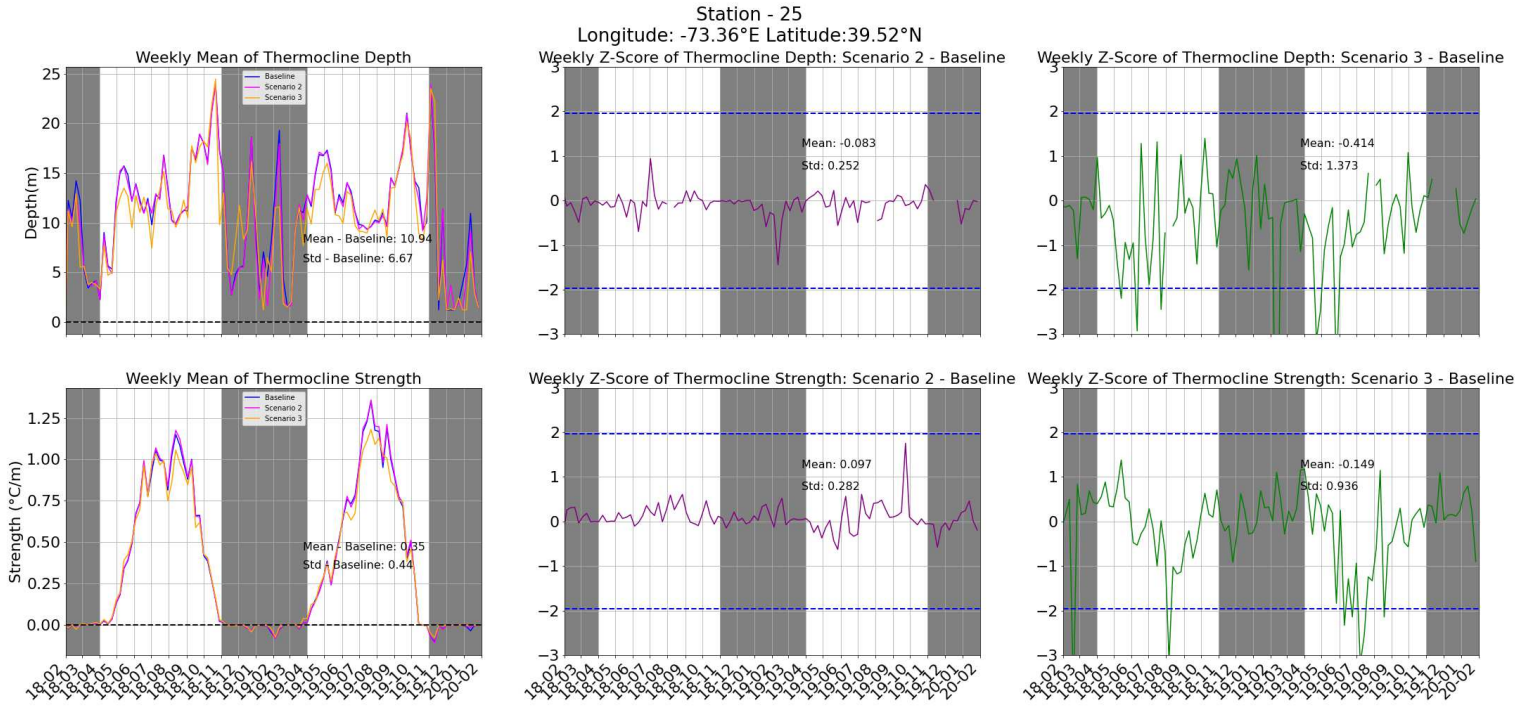
Apx Figure 364. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 22.



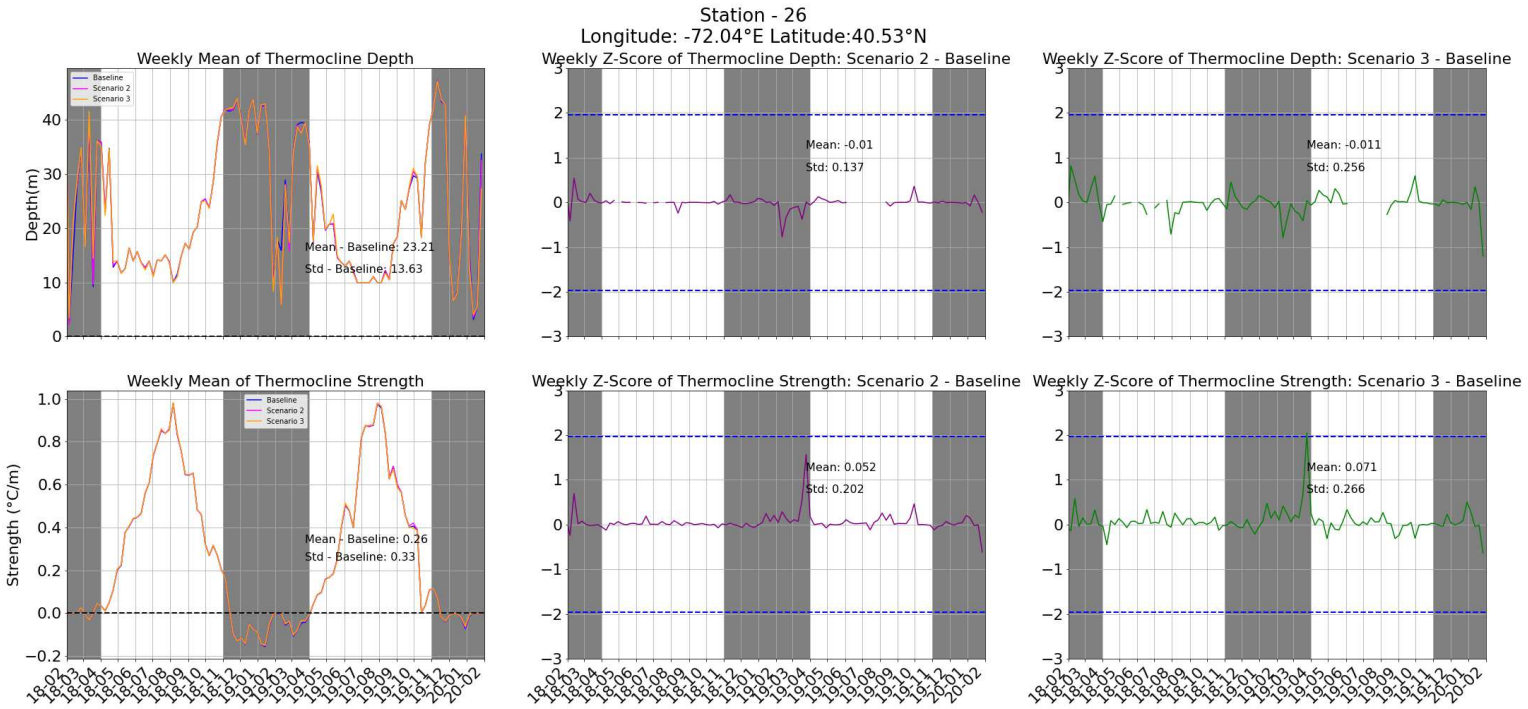
Apx Figure 365. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 23.



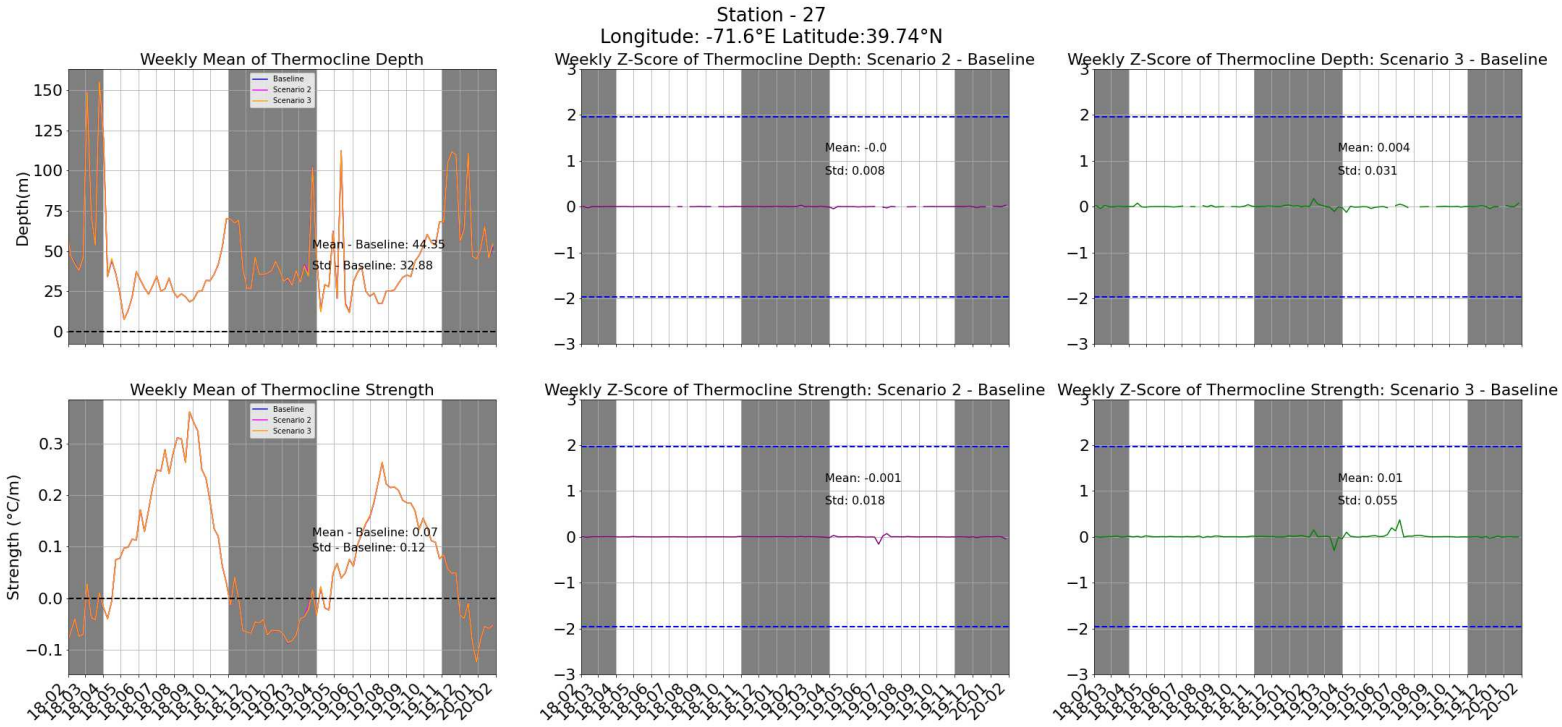
Apx Figure 366. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 24.



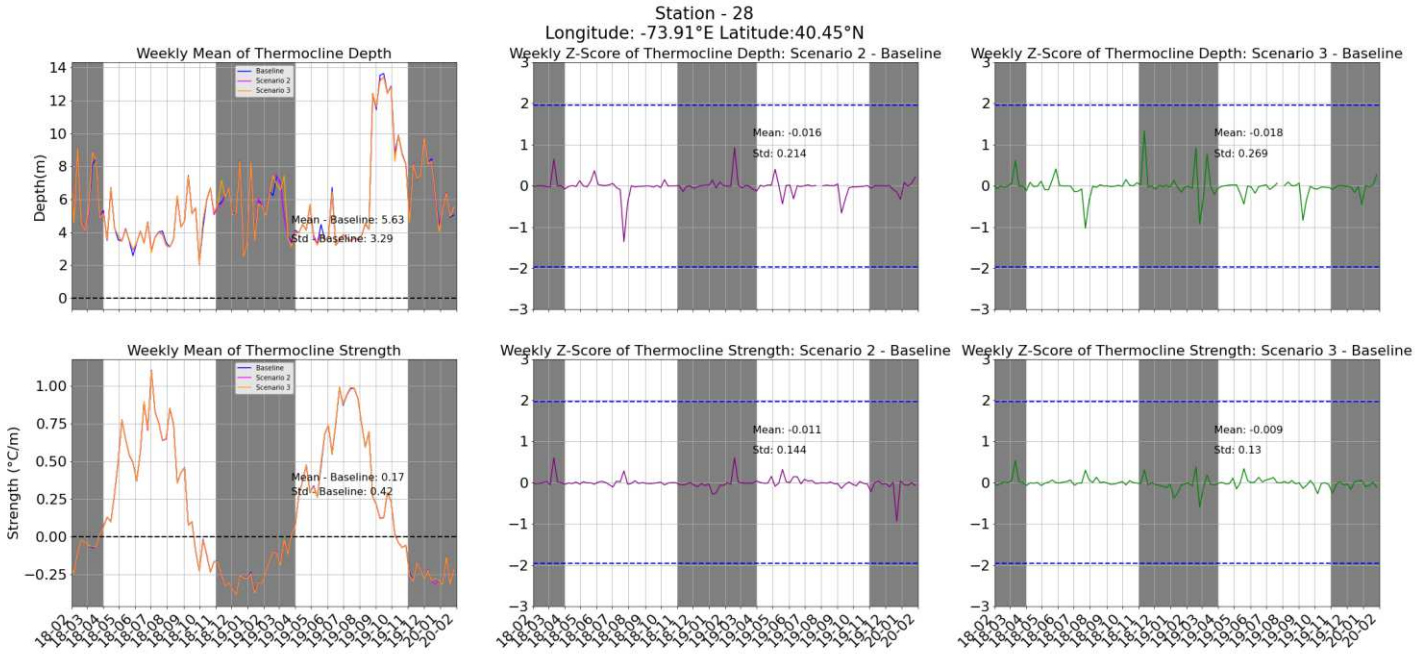
Apx Figure 367. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 25.



Apx Figure 368. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 26.

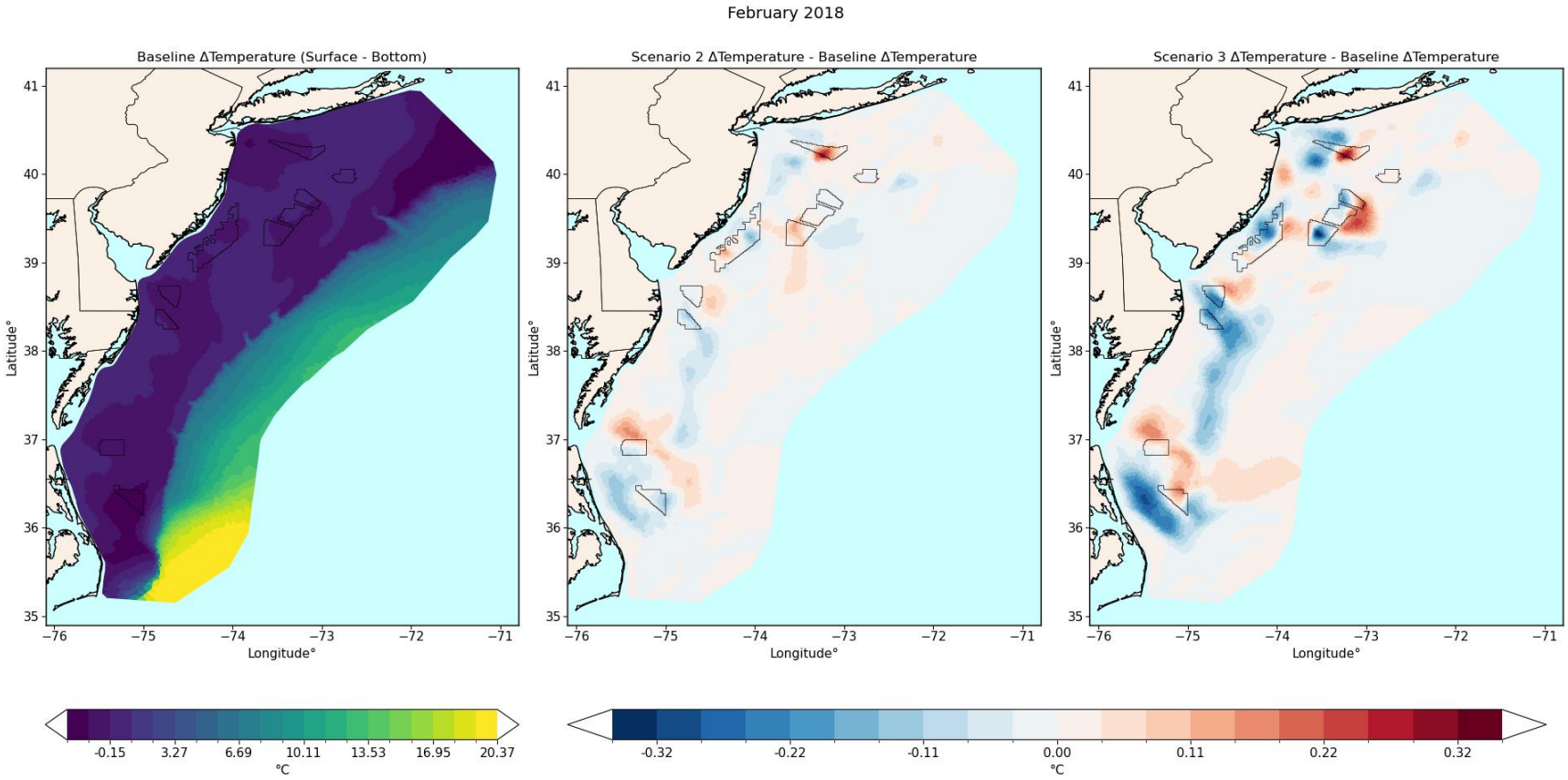


Apx Figure 369. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 27.

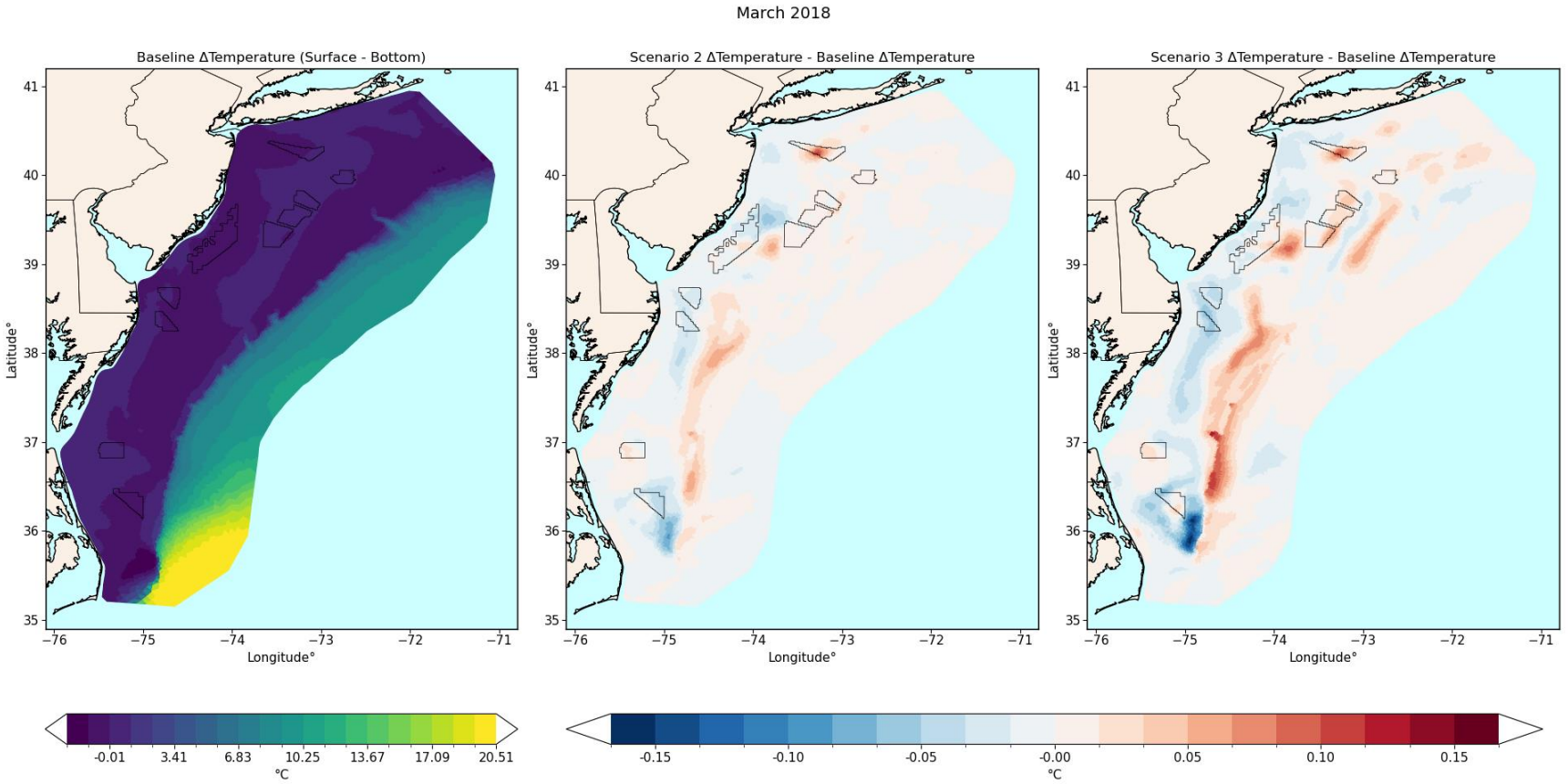


Apx Figure 370. Weekly mean (left panels), and weekly z-score for scenario 2 - baseline (middle panels) and scenario 3 – baseline (right panels) for thermocline depth and strength at station 28.

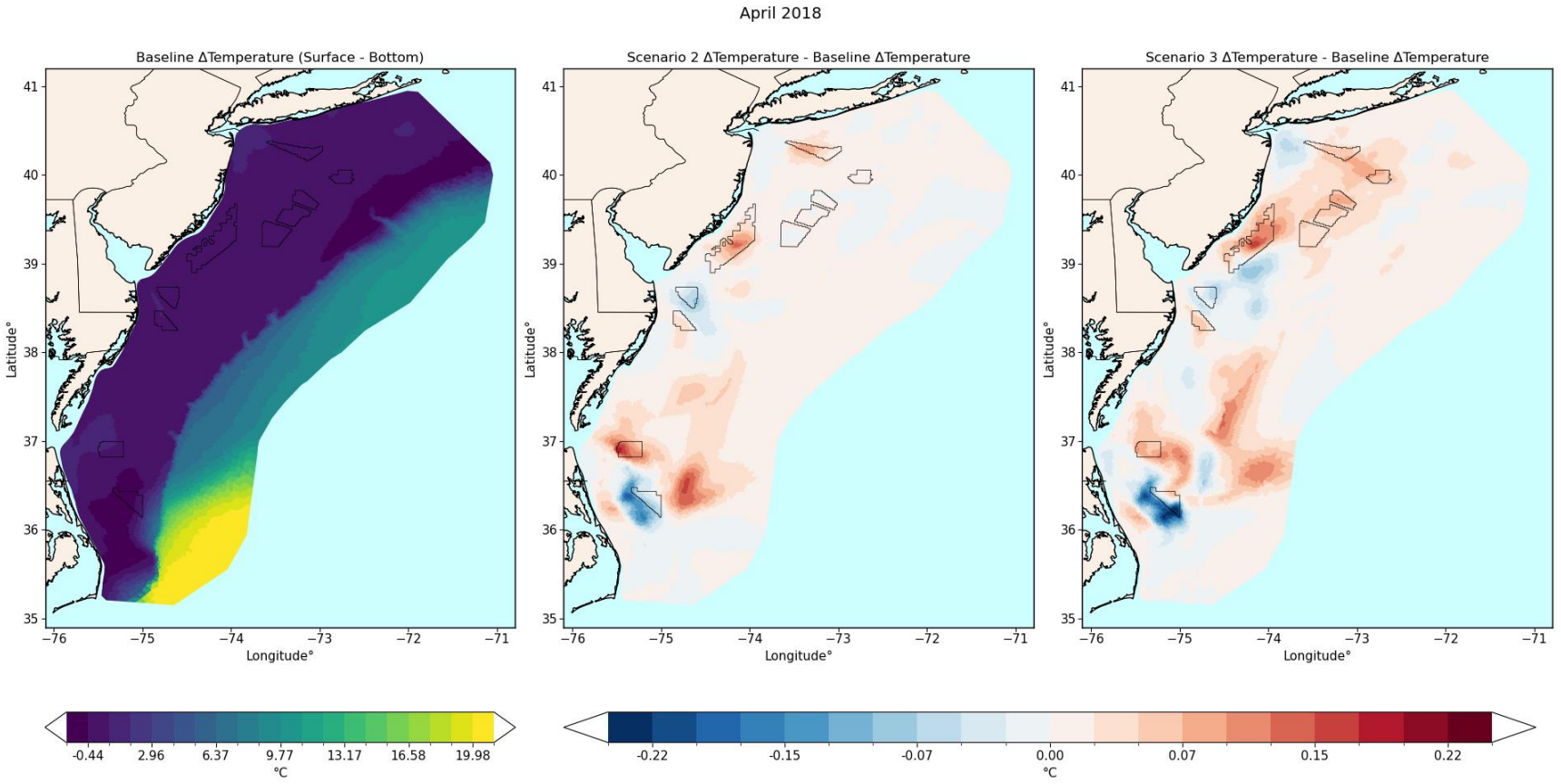
C Thermal Stratification Maps



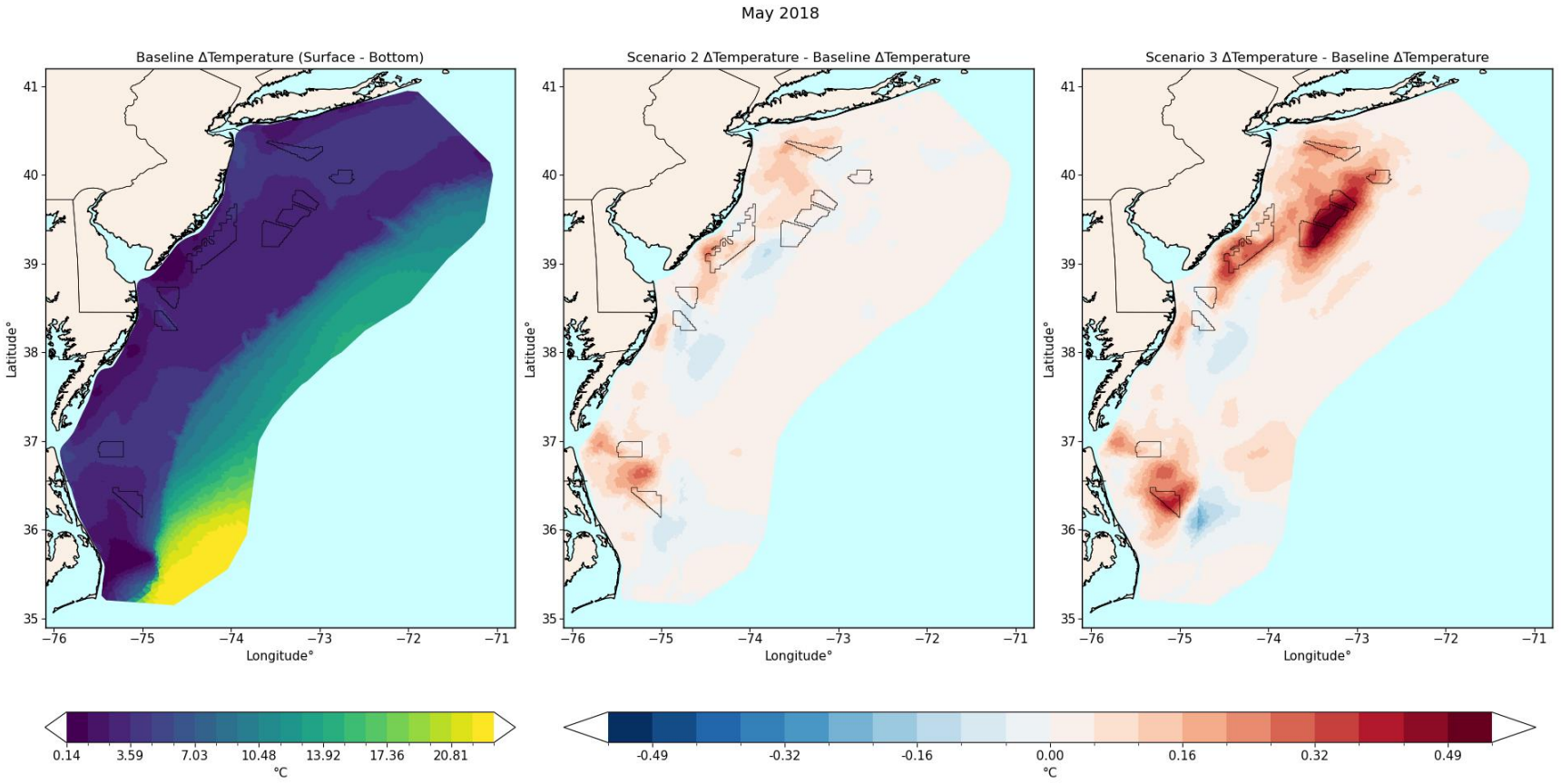
Apx Figure 371. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for February 2018.



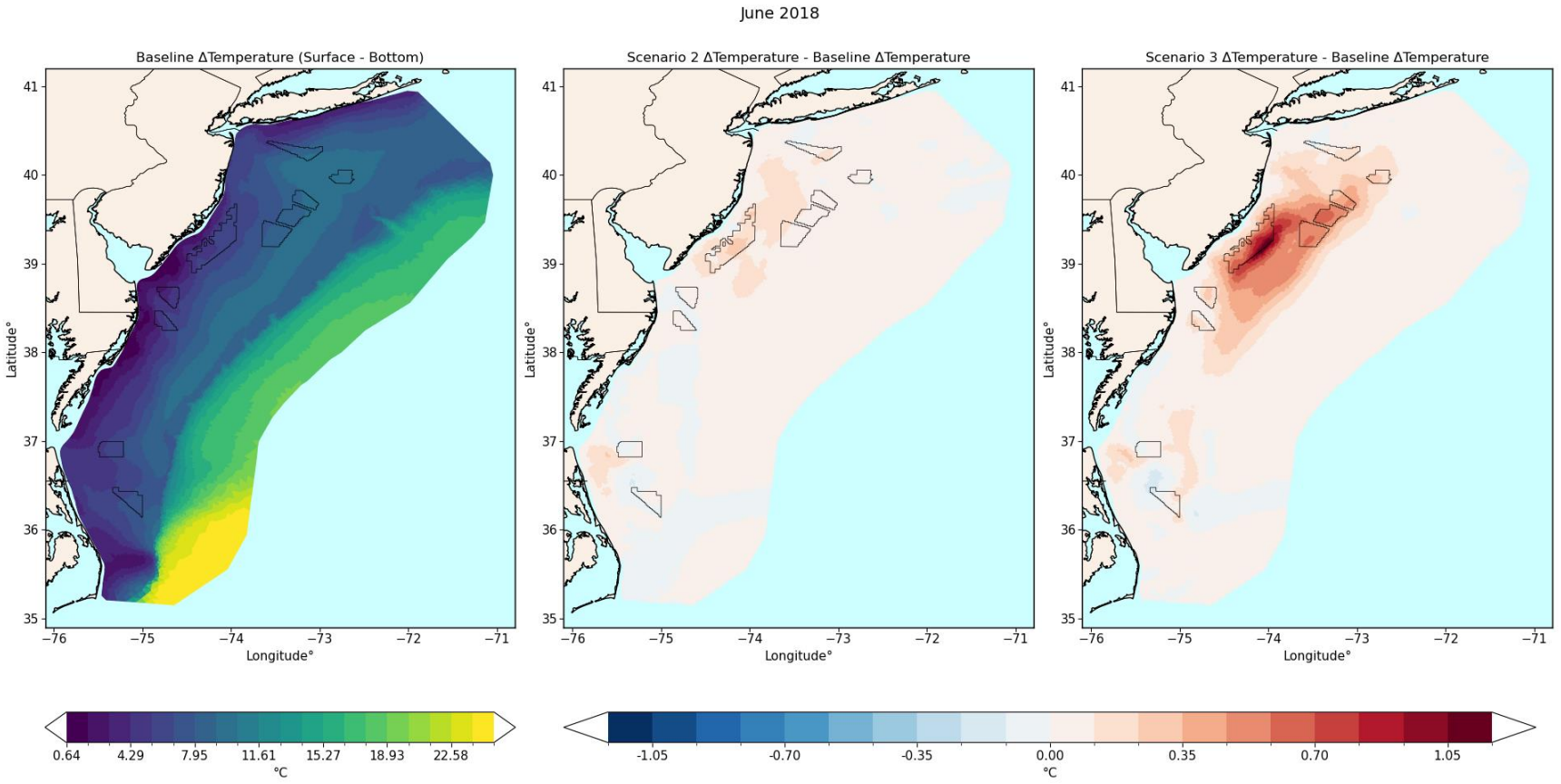
Apx Figure 372. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for March 2018.



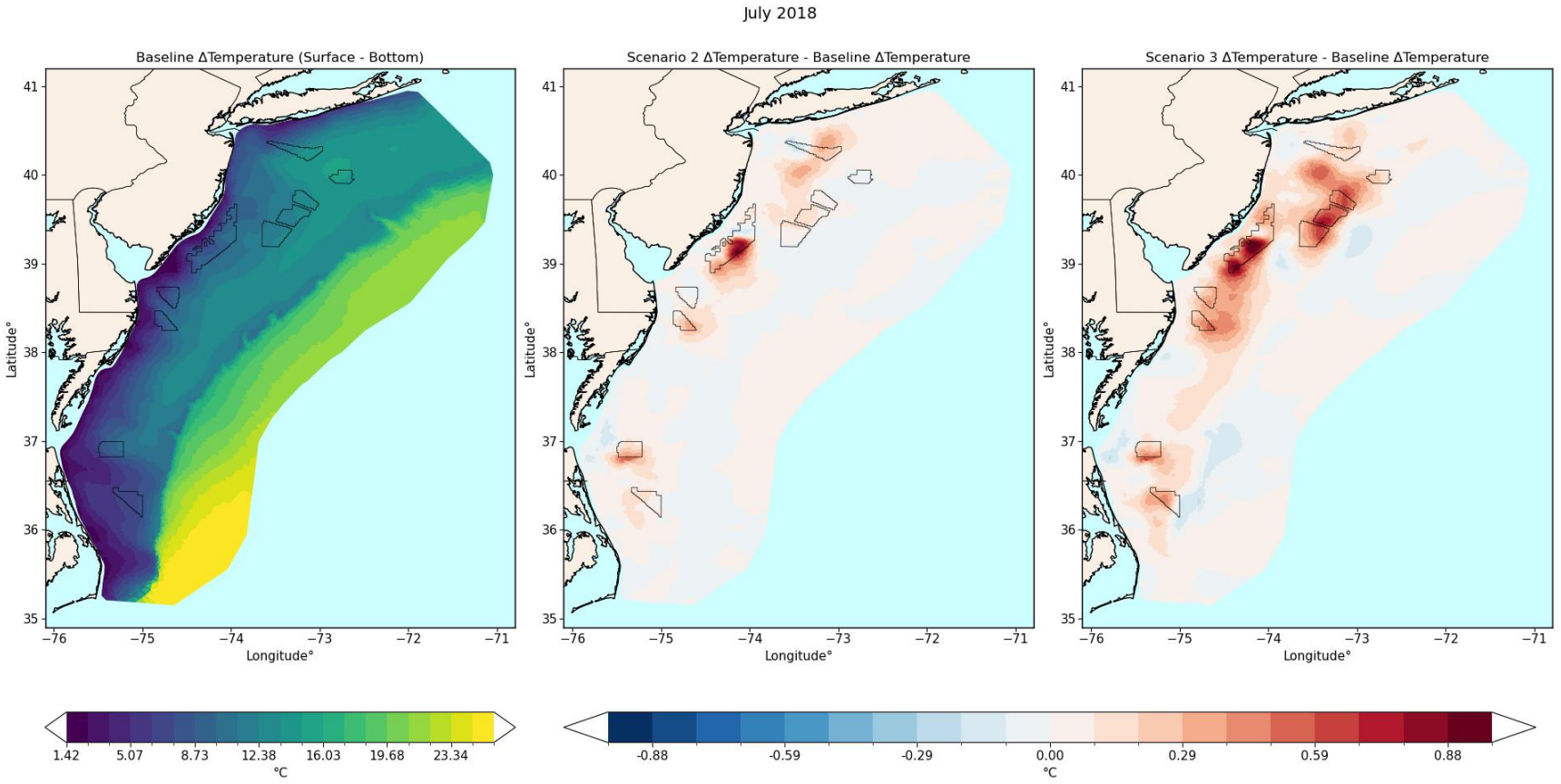
Apx Figure 373. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for April 2018.



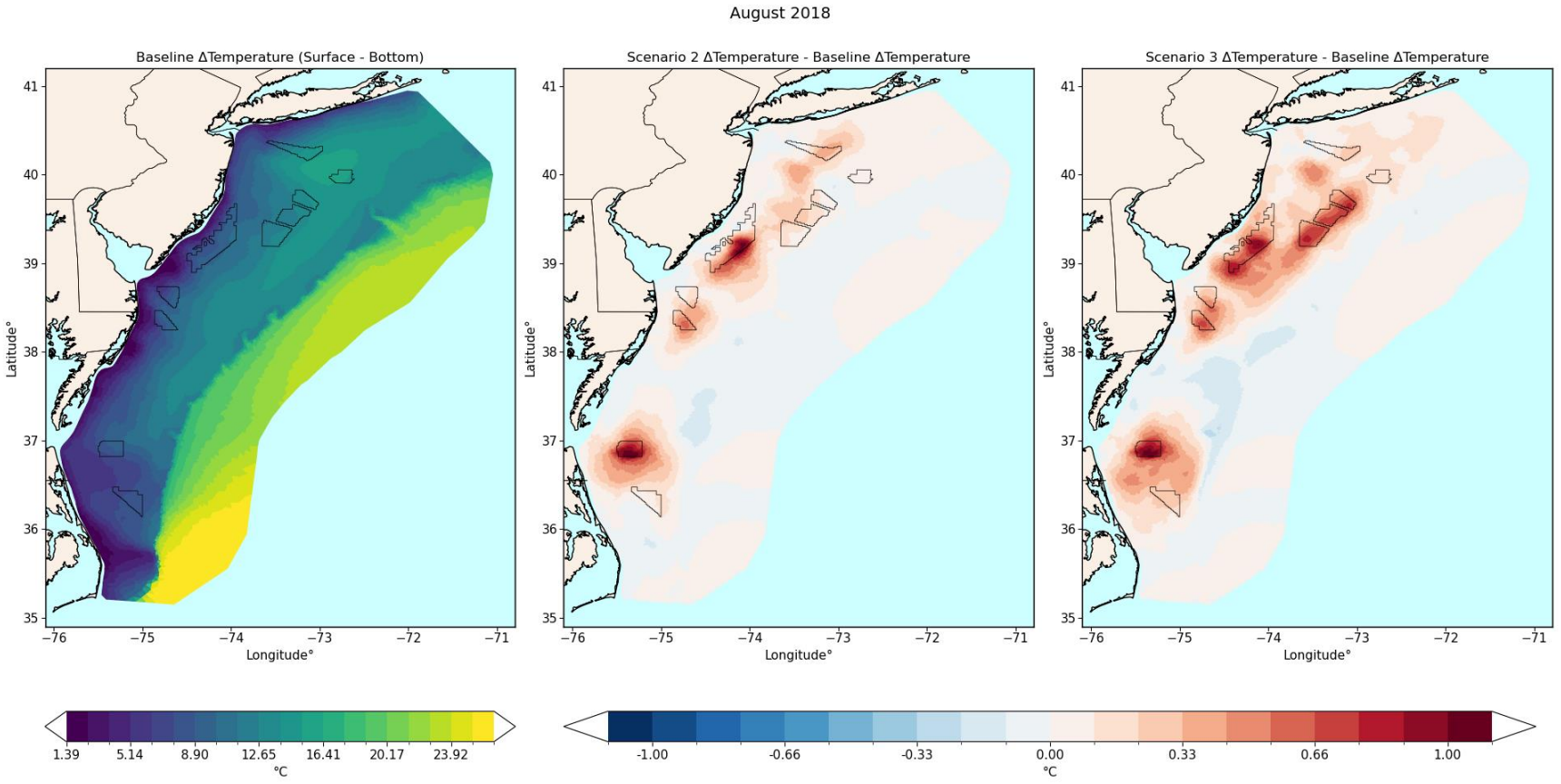
Apx Figure 374. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for May 2018.



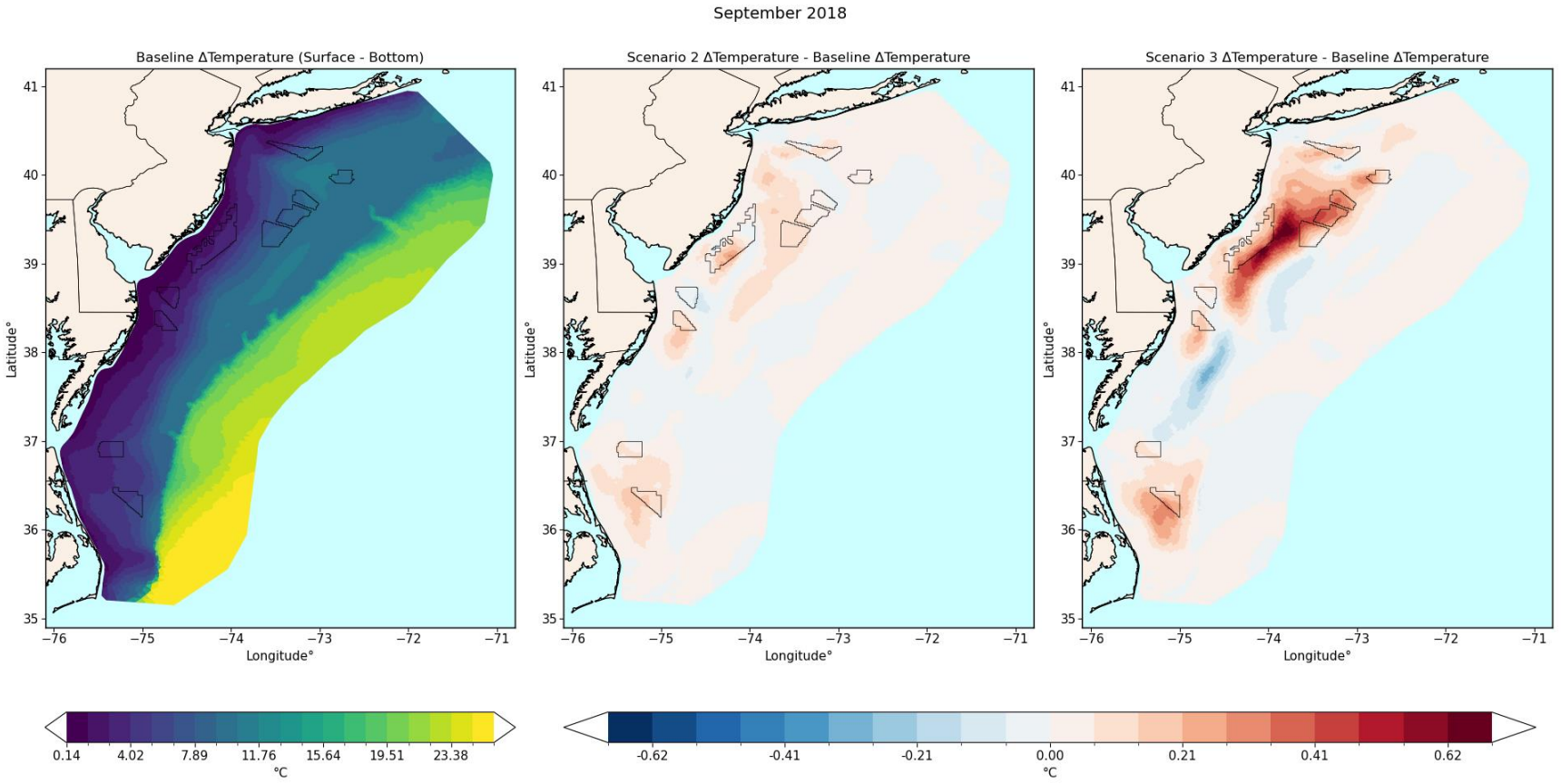
Apx Figure 375. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for June 2018.



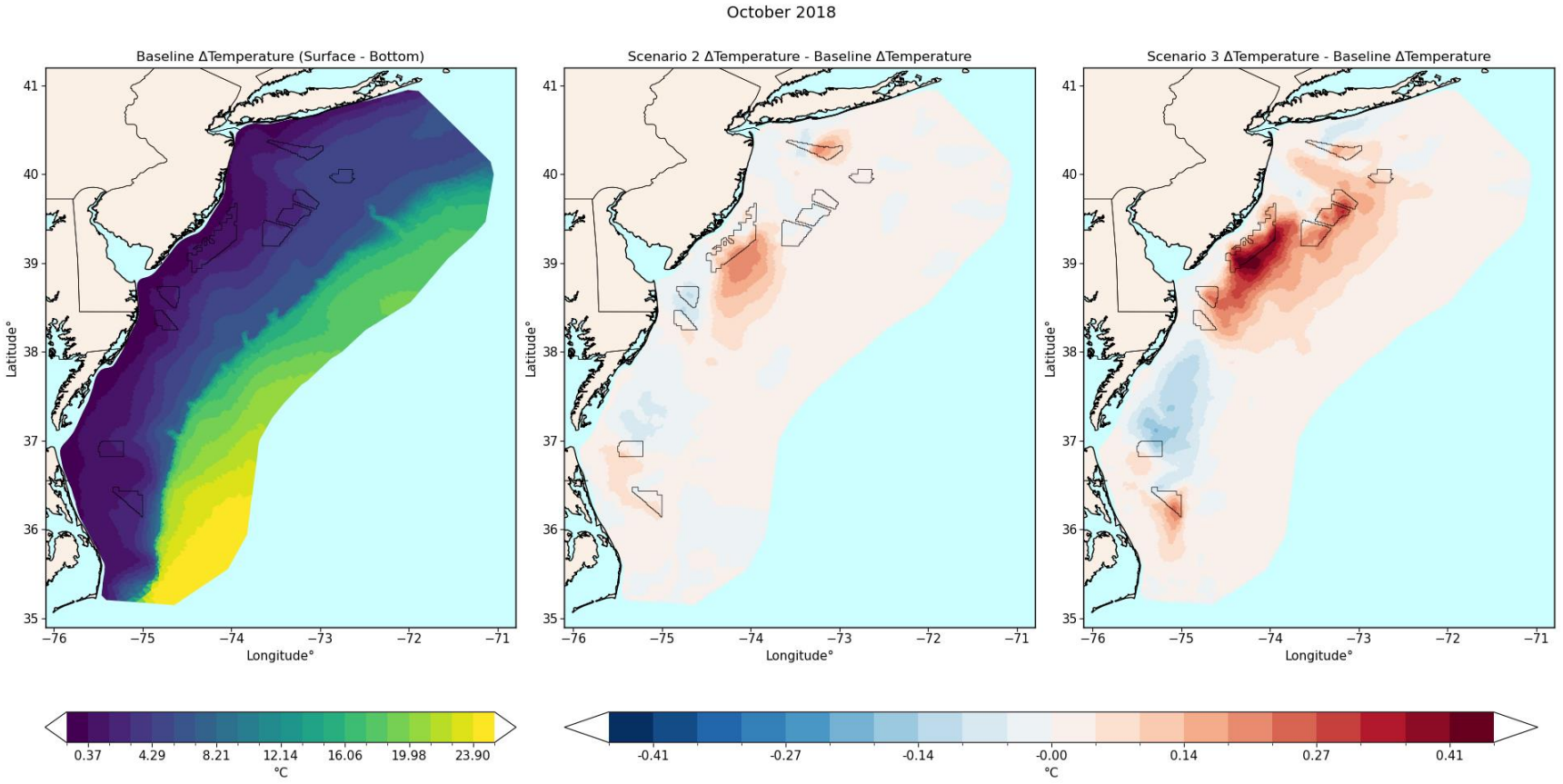
Apx Figure 376. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for July 2018.



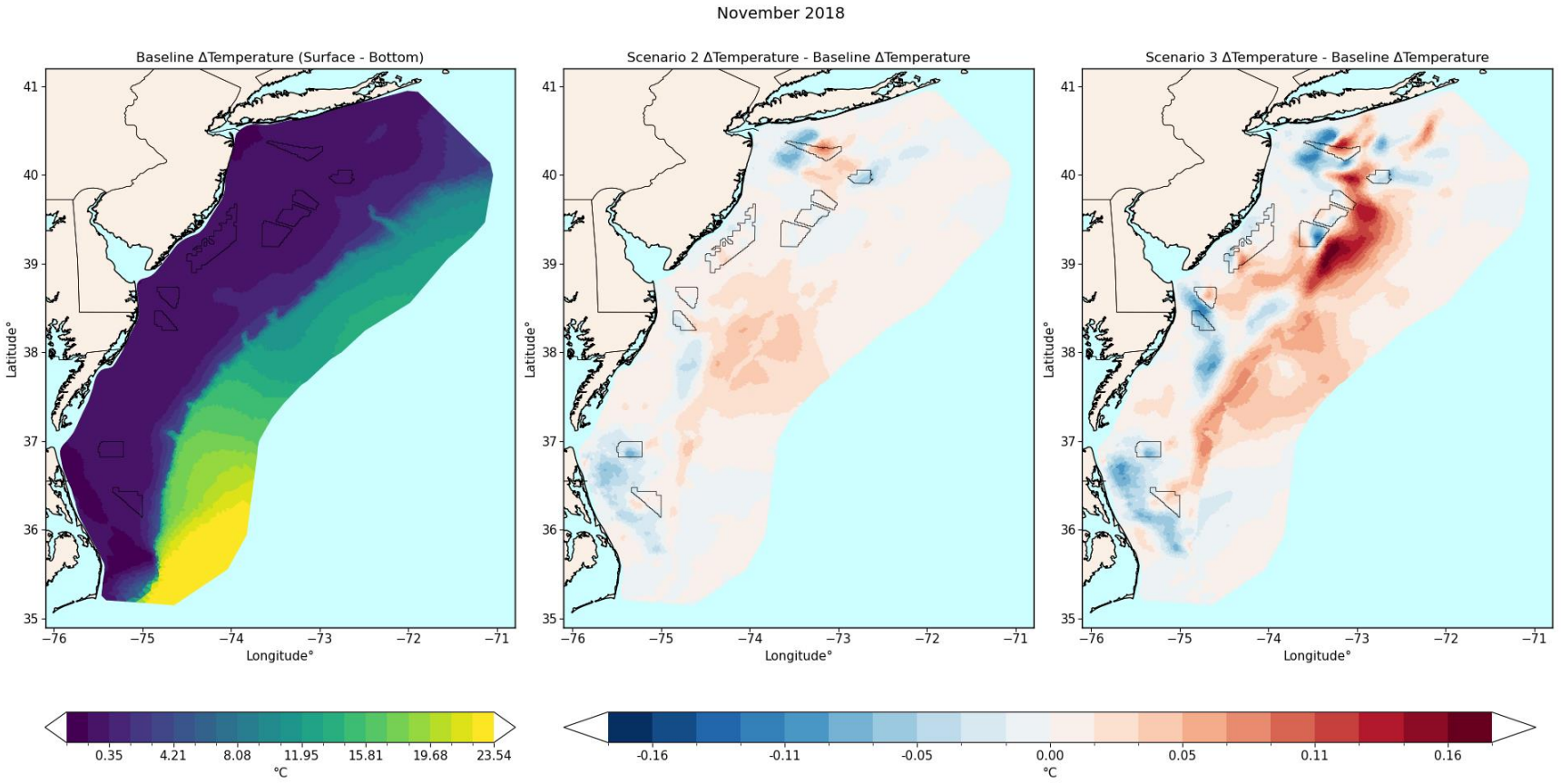
Apx Figure 377. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for August 2018.



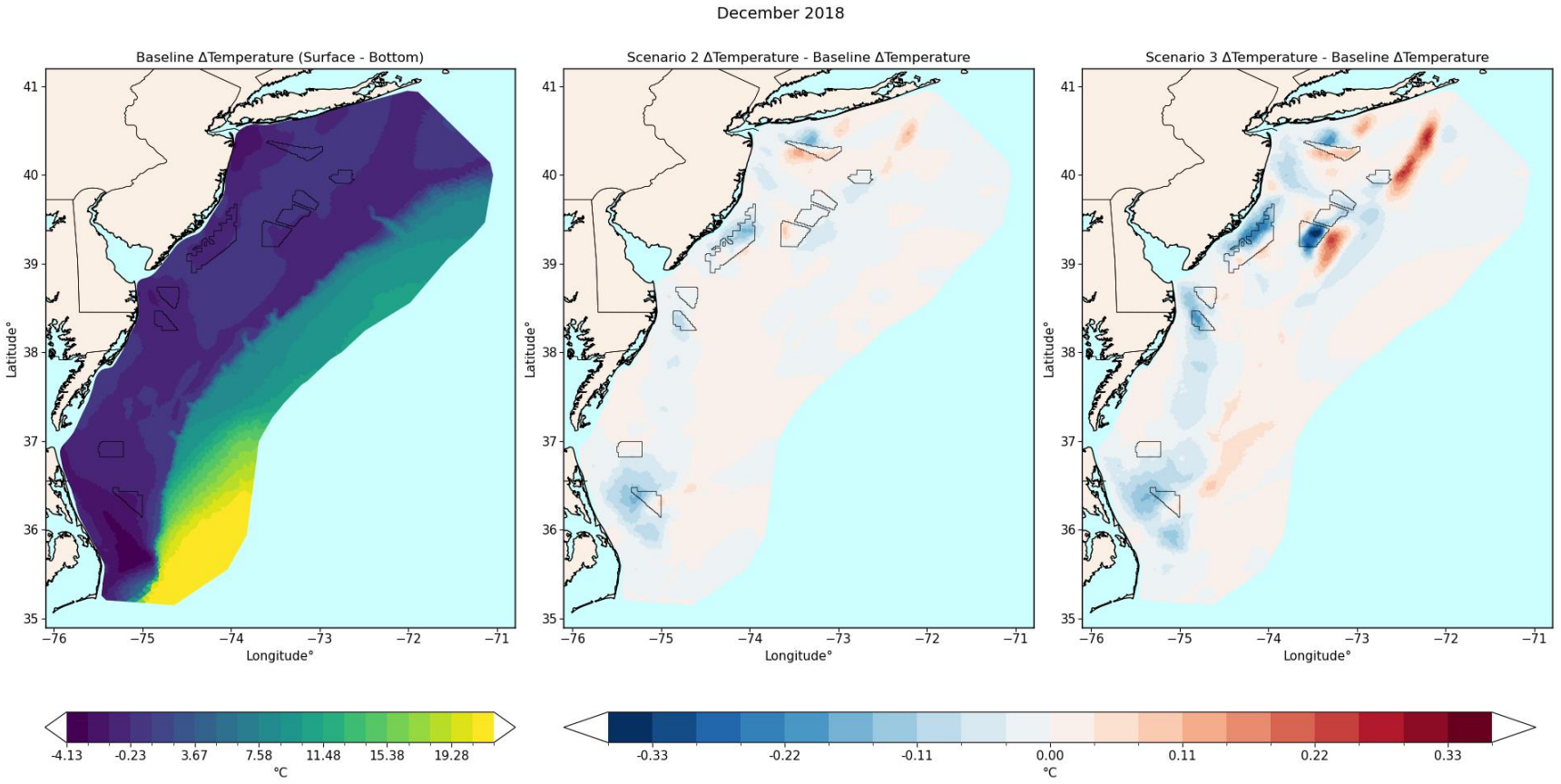
Apx Figure 378. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for September 2018.



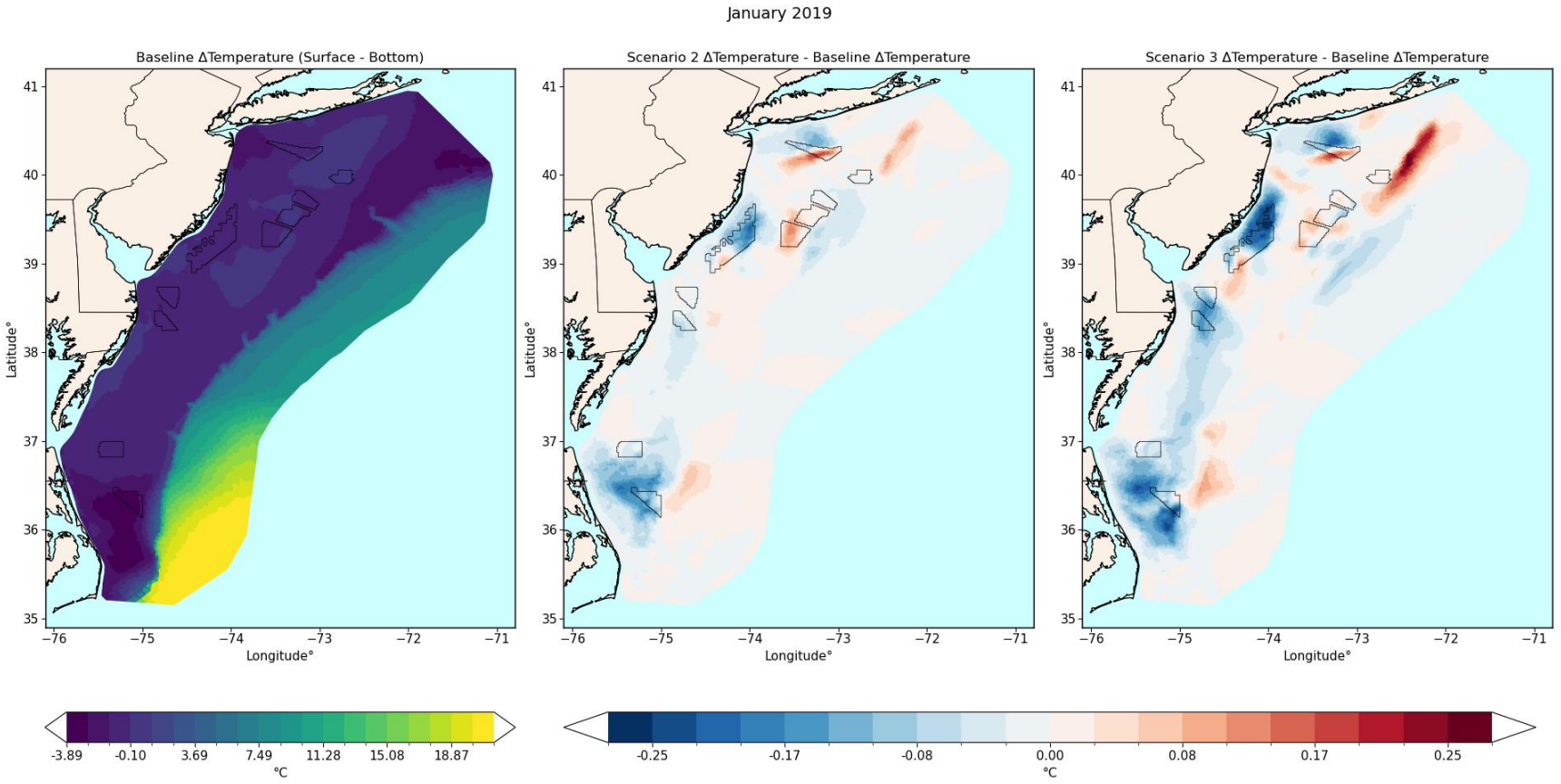
Apx Figure 379. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for October 2018.



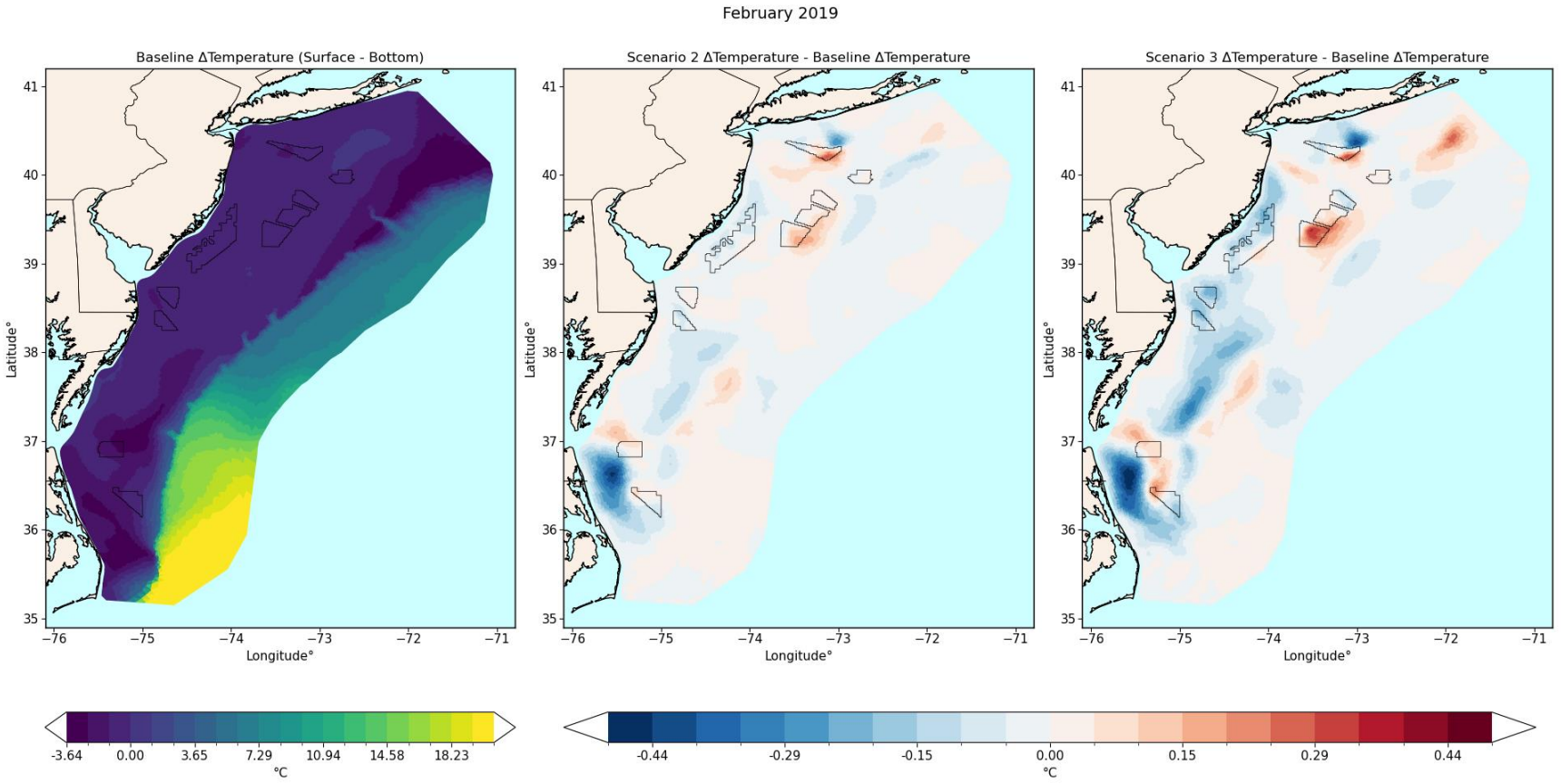
Apx Figure 380. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for November 2018.



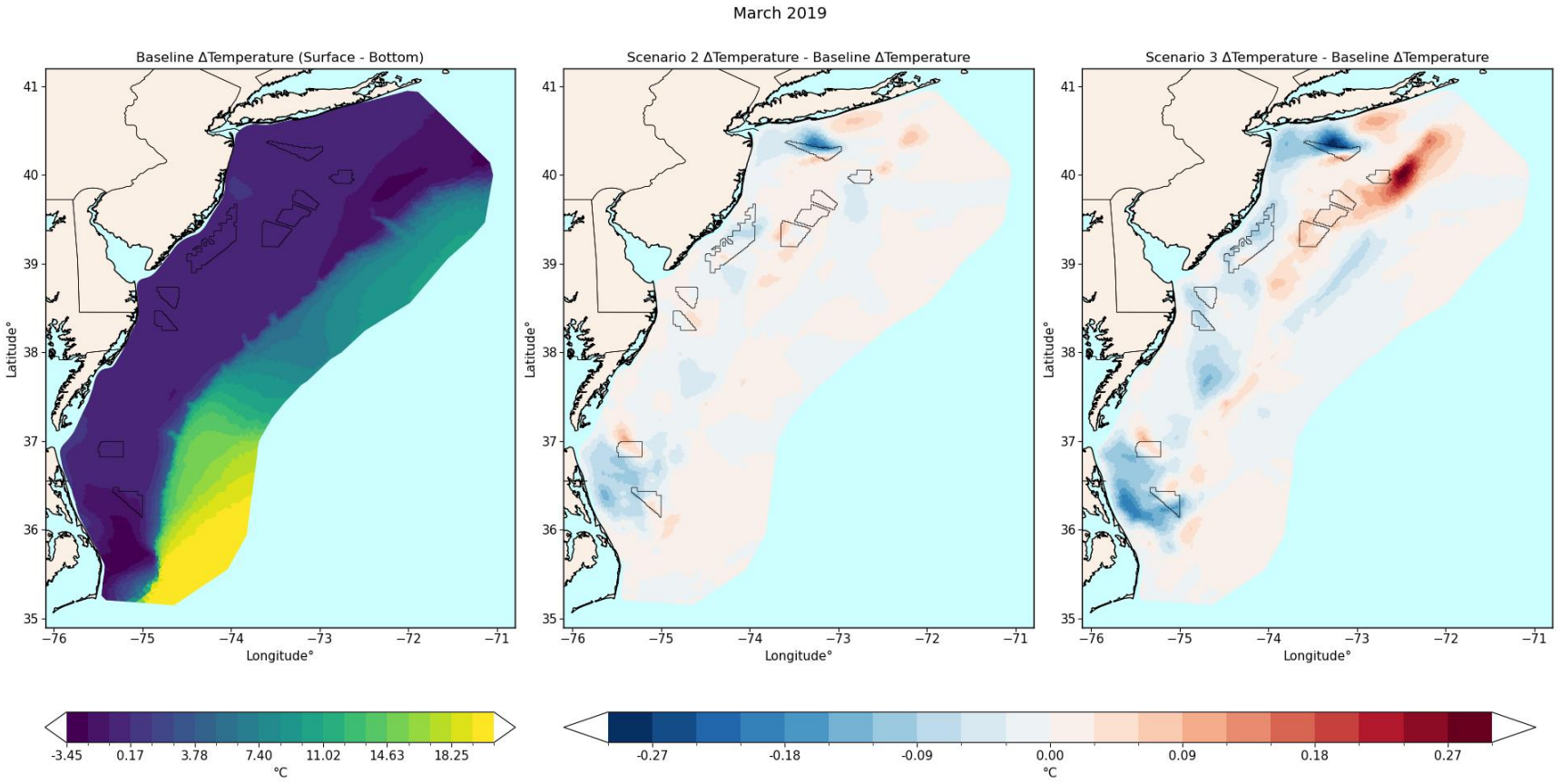
Apx Figure 381. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for December 2018.



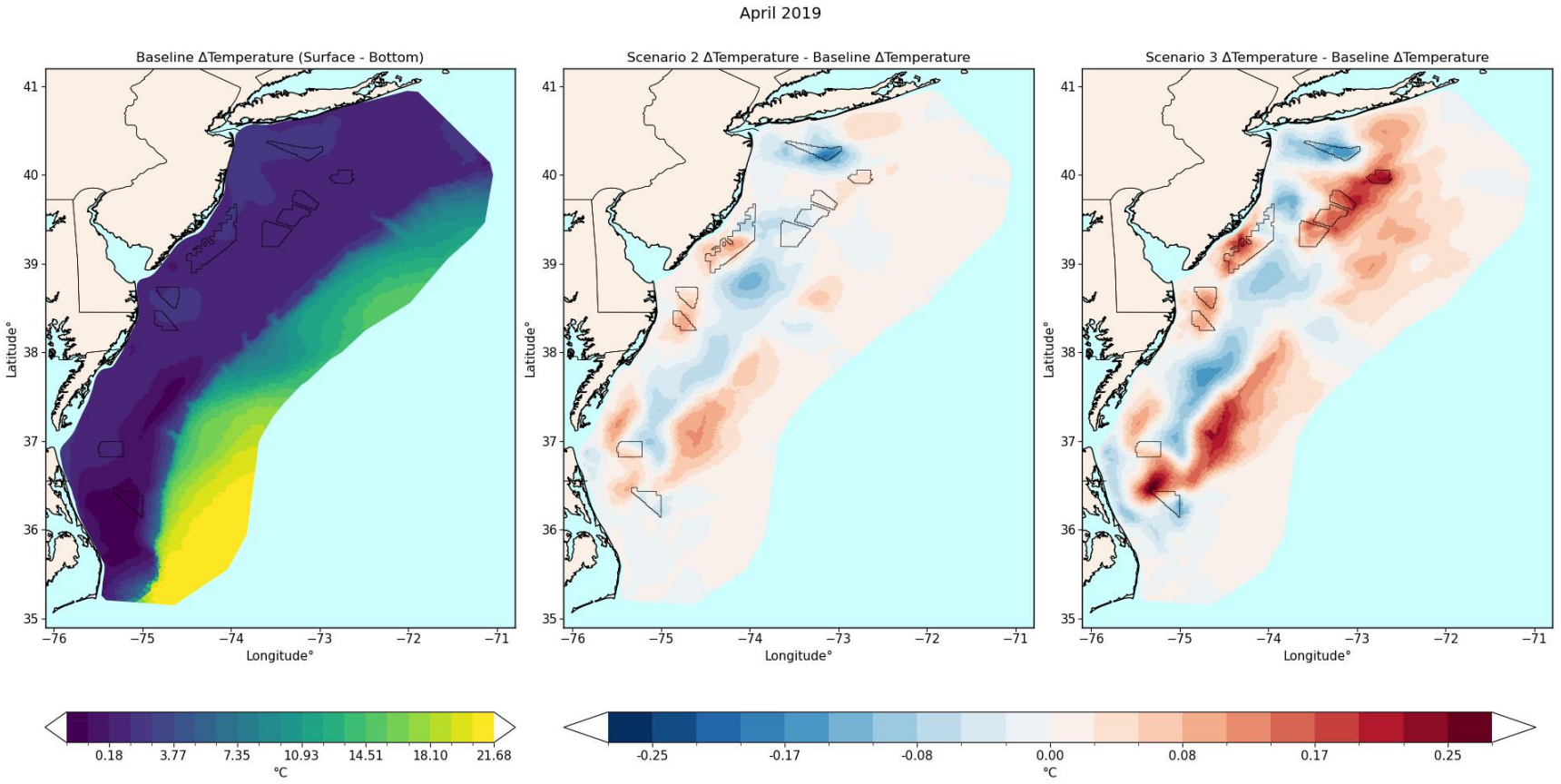
Apx Figure 382. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for January 2019.



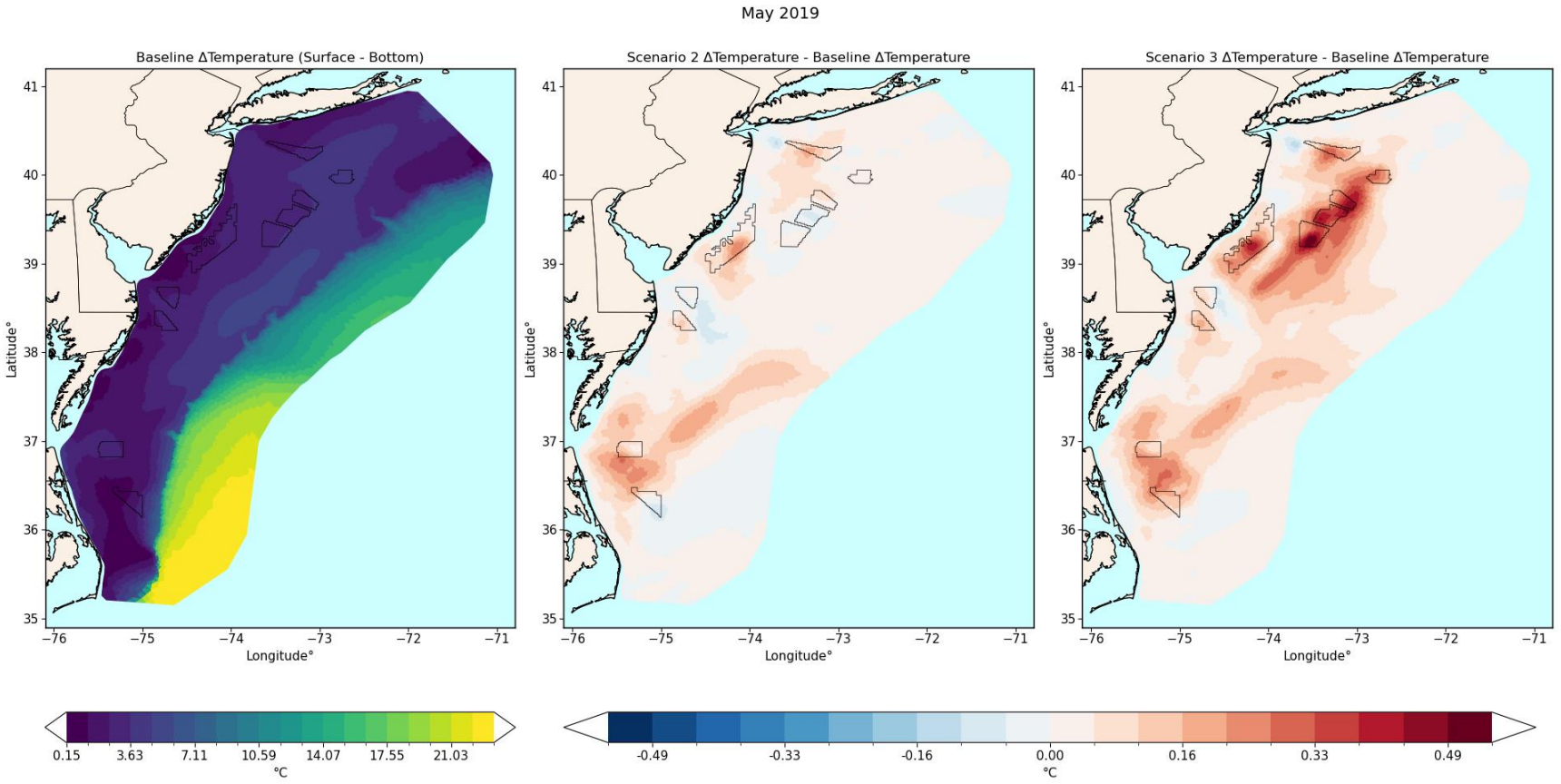
Apx Figure 383. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for February 2019.



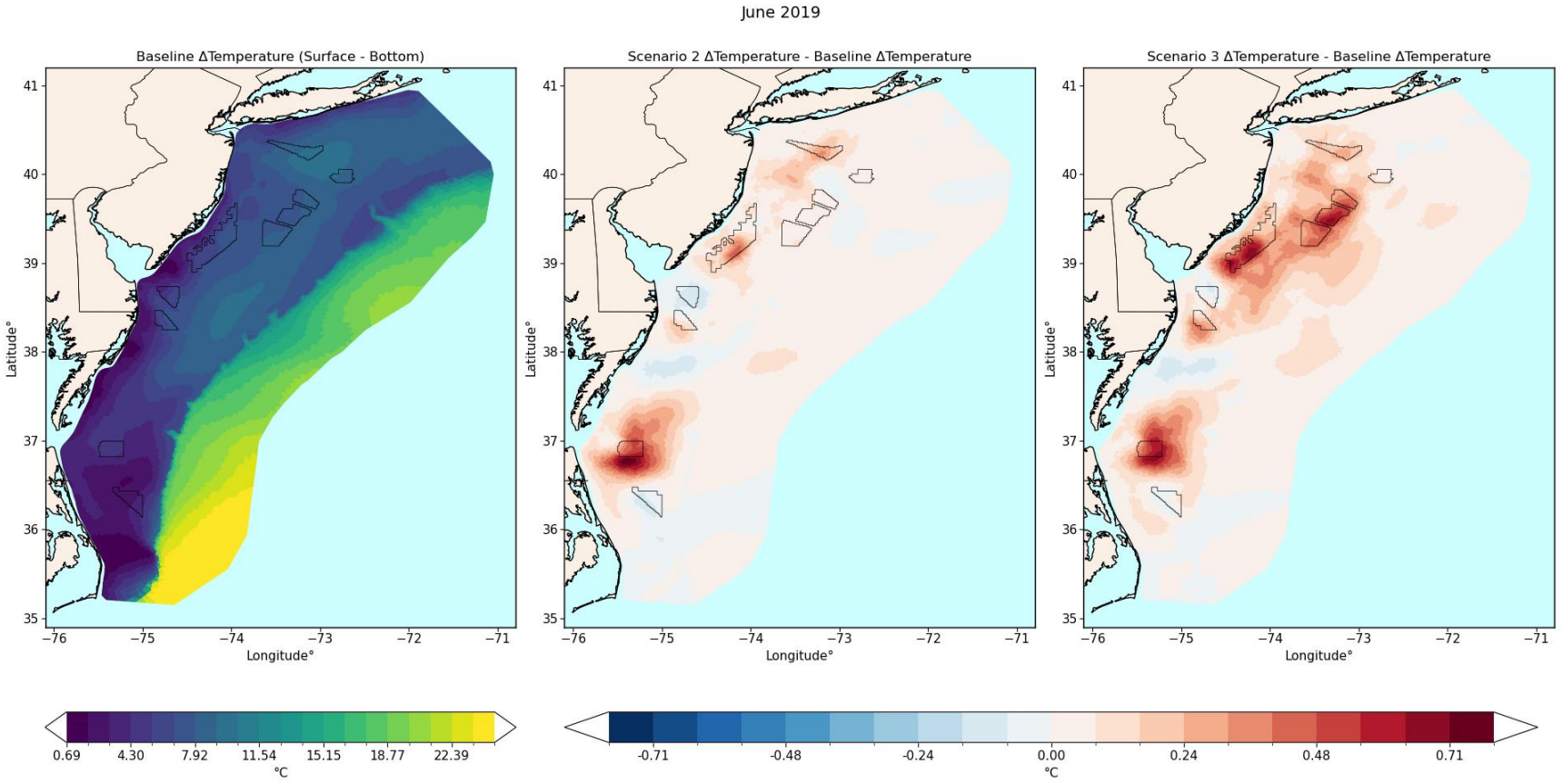
Apx Figure 384. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for March 2019.



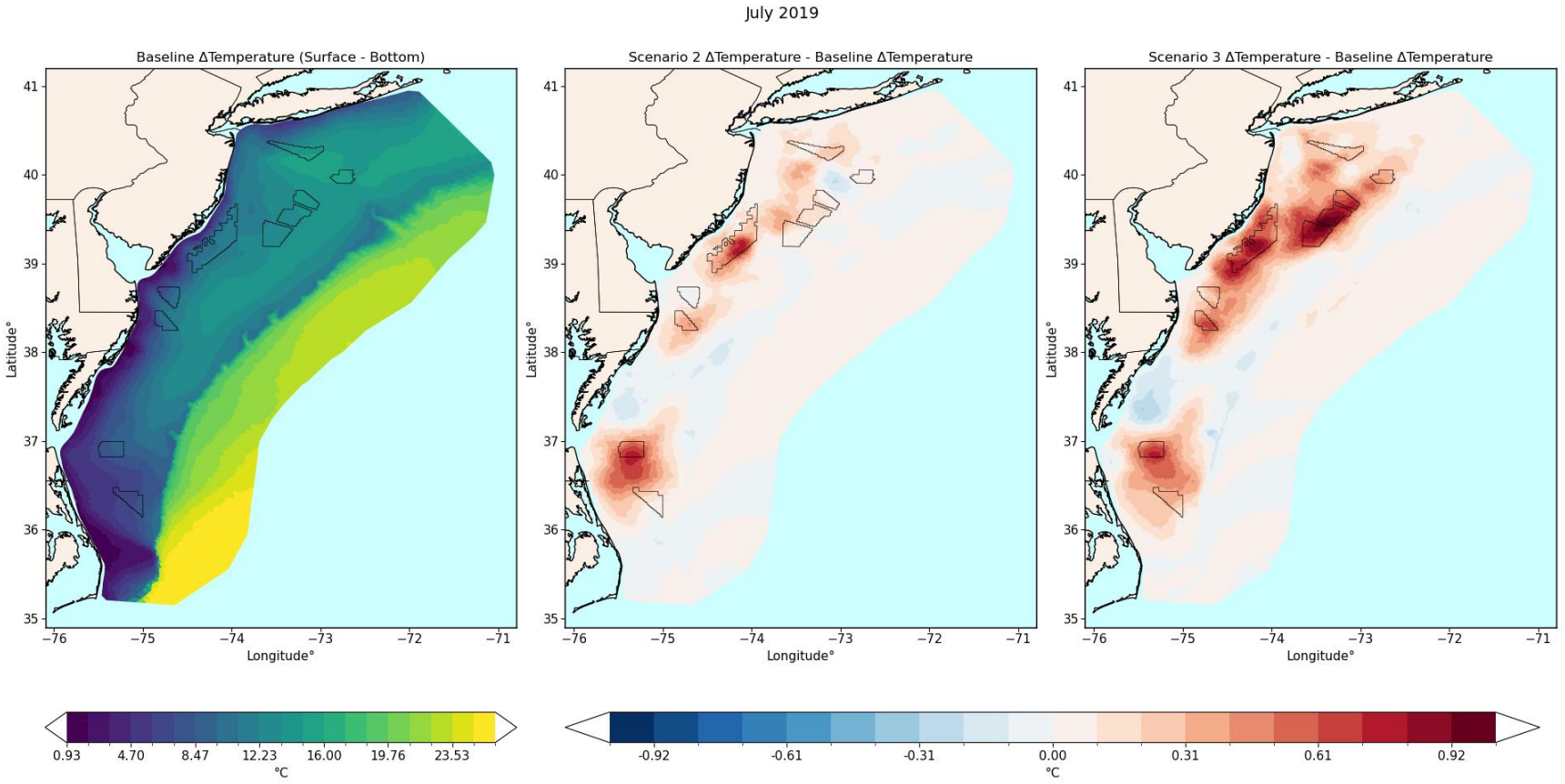
Apx Figure 385. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for April 2019.



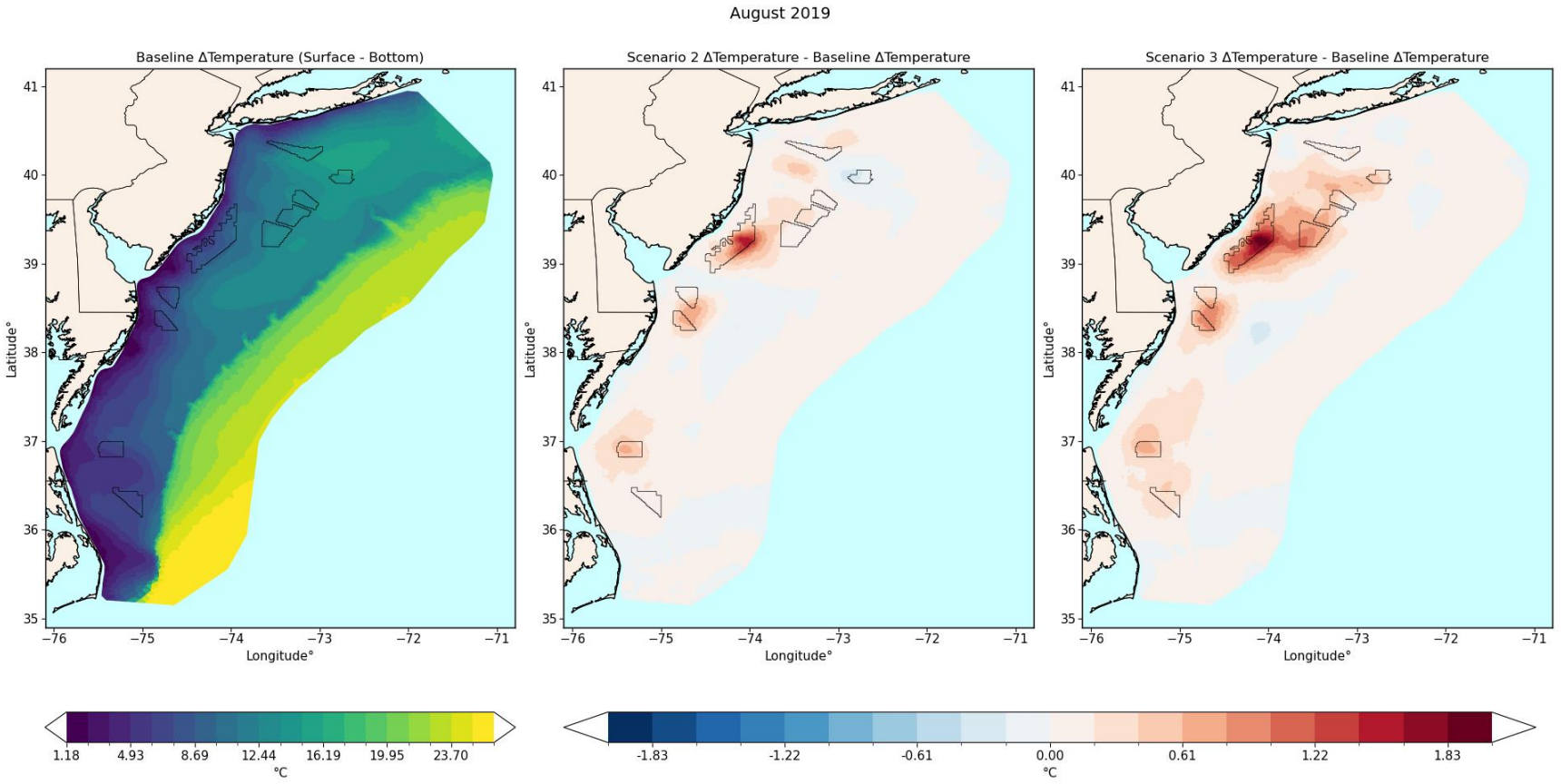
Apx Figure 386. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for May 2019.



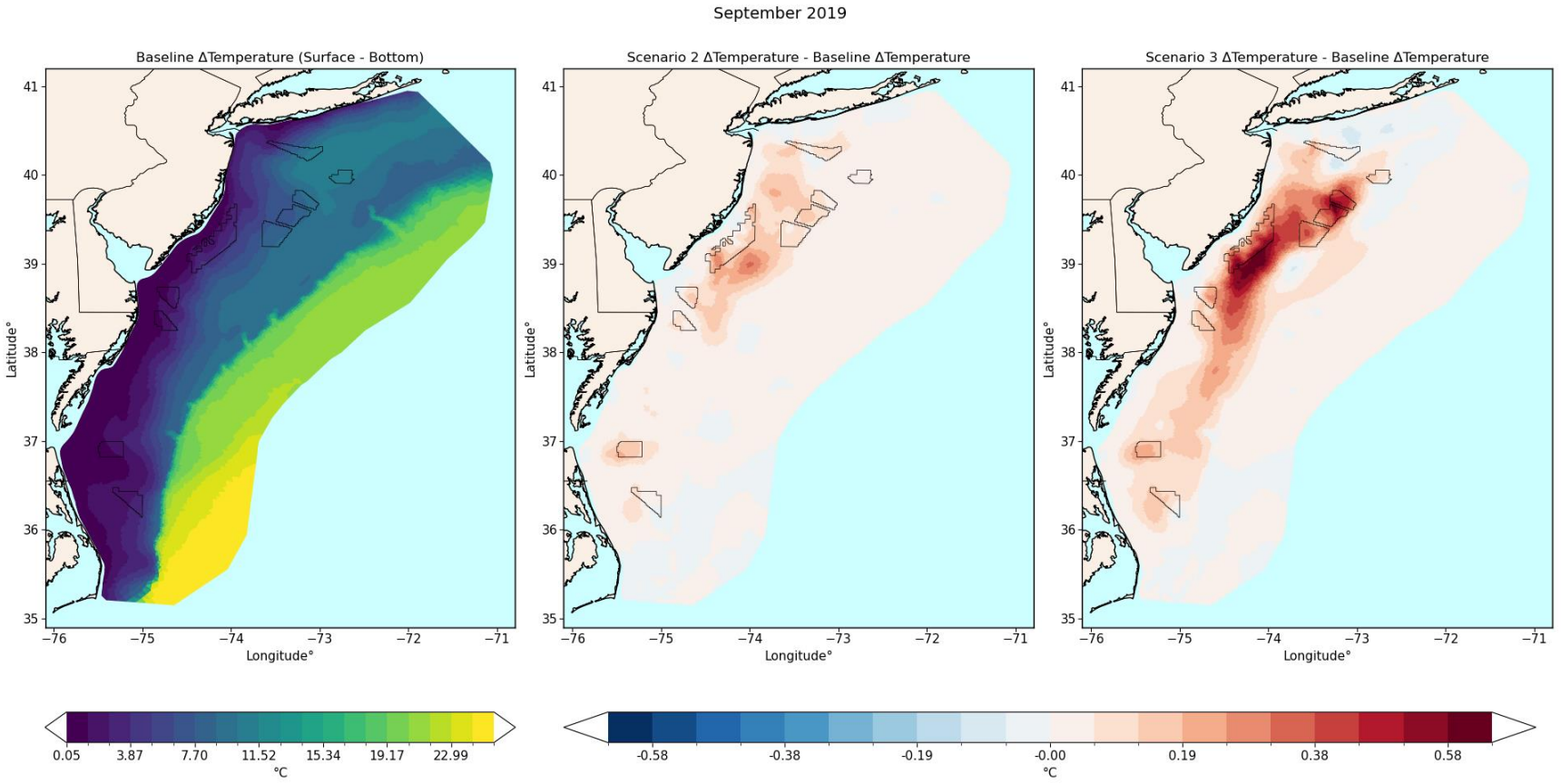
Apx Figure 387. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for June 2019.



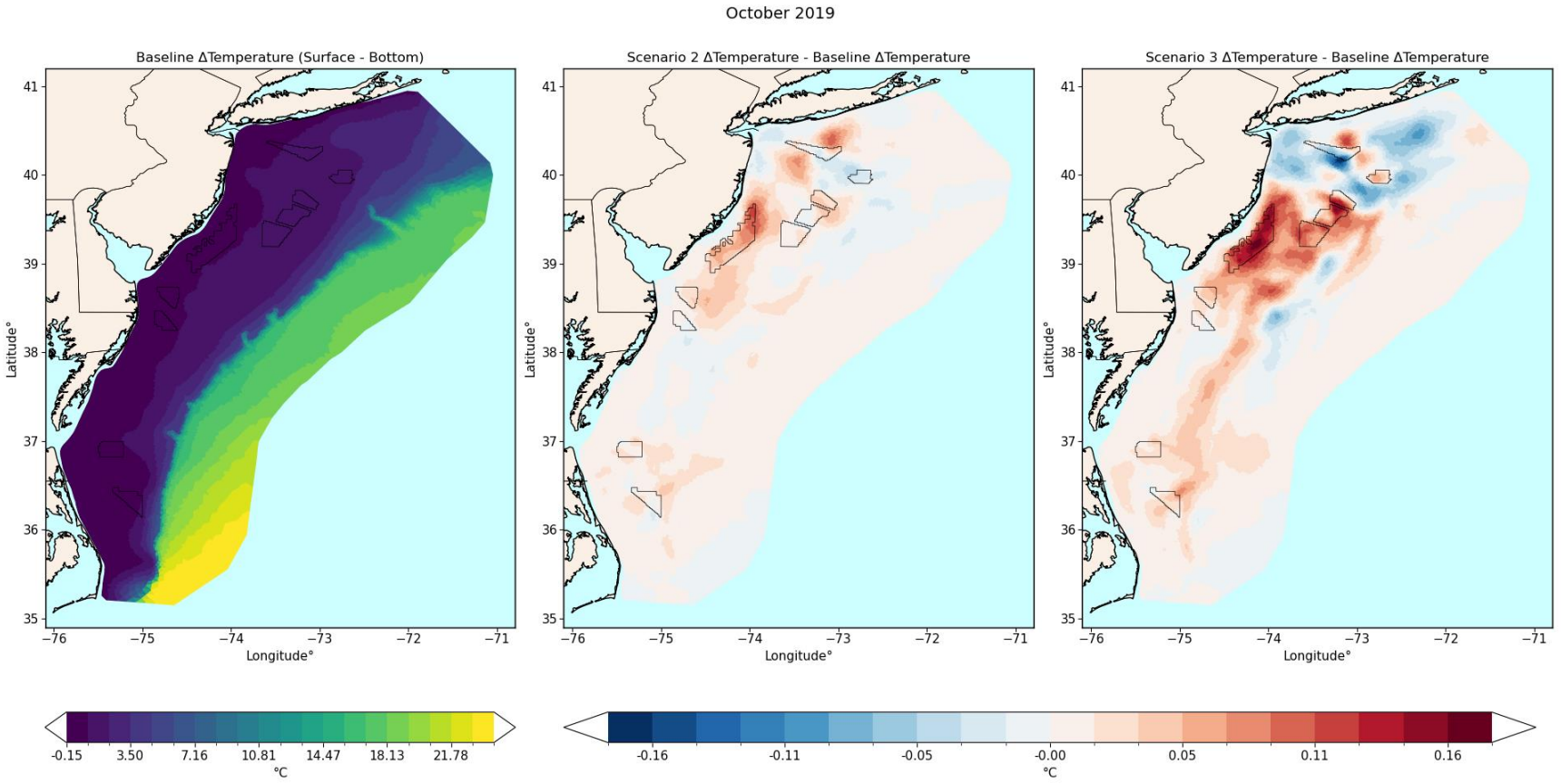
Apx Figure 388. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for July 2019.



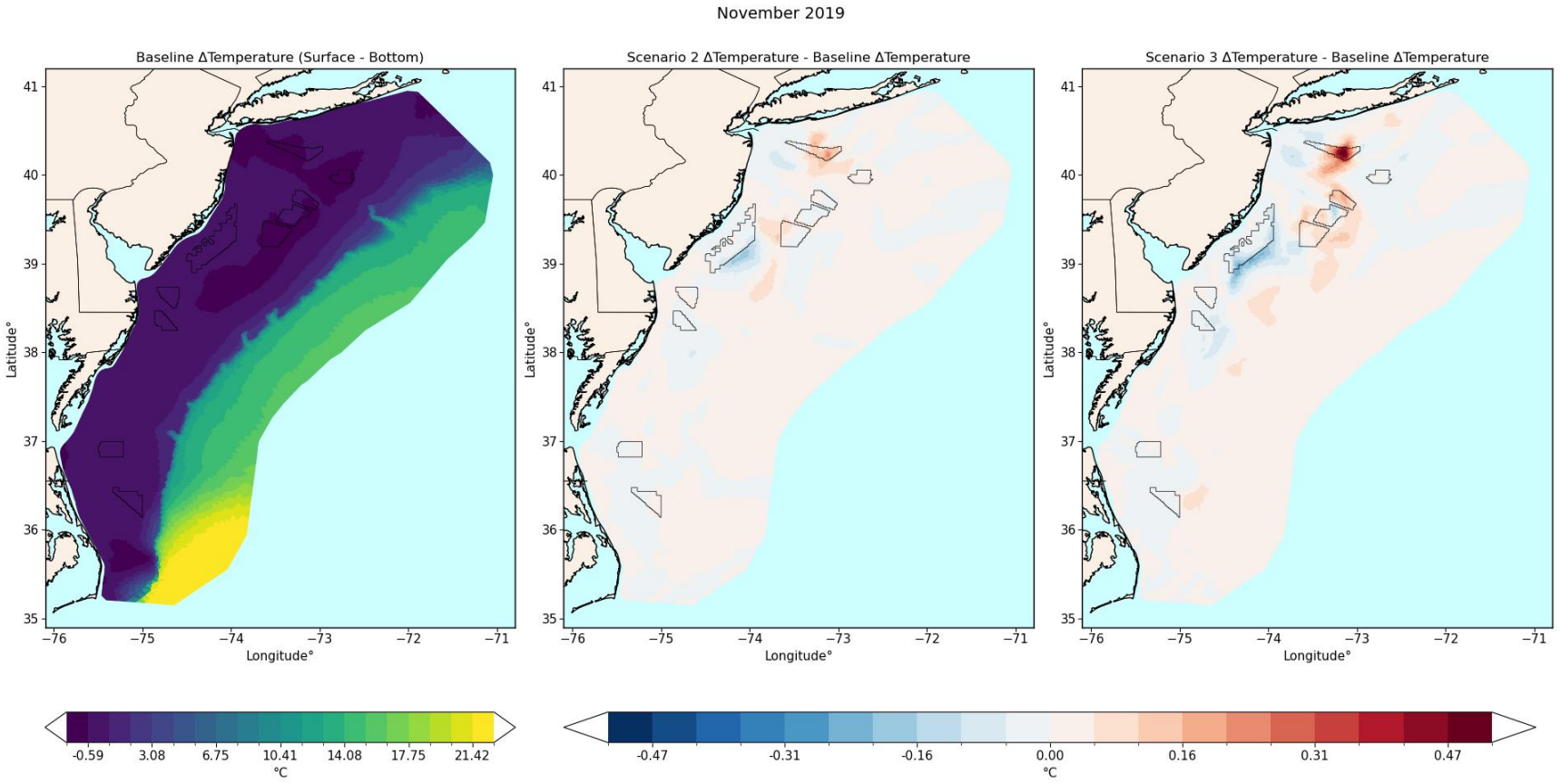
Apx Figure 389. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for August 2019.



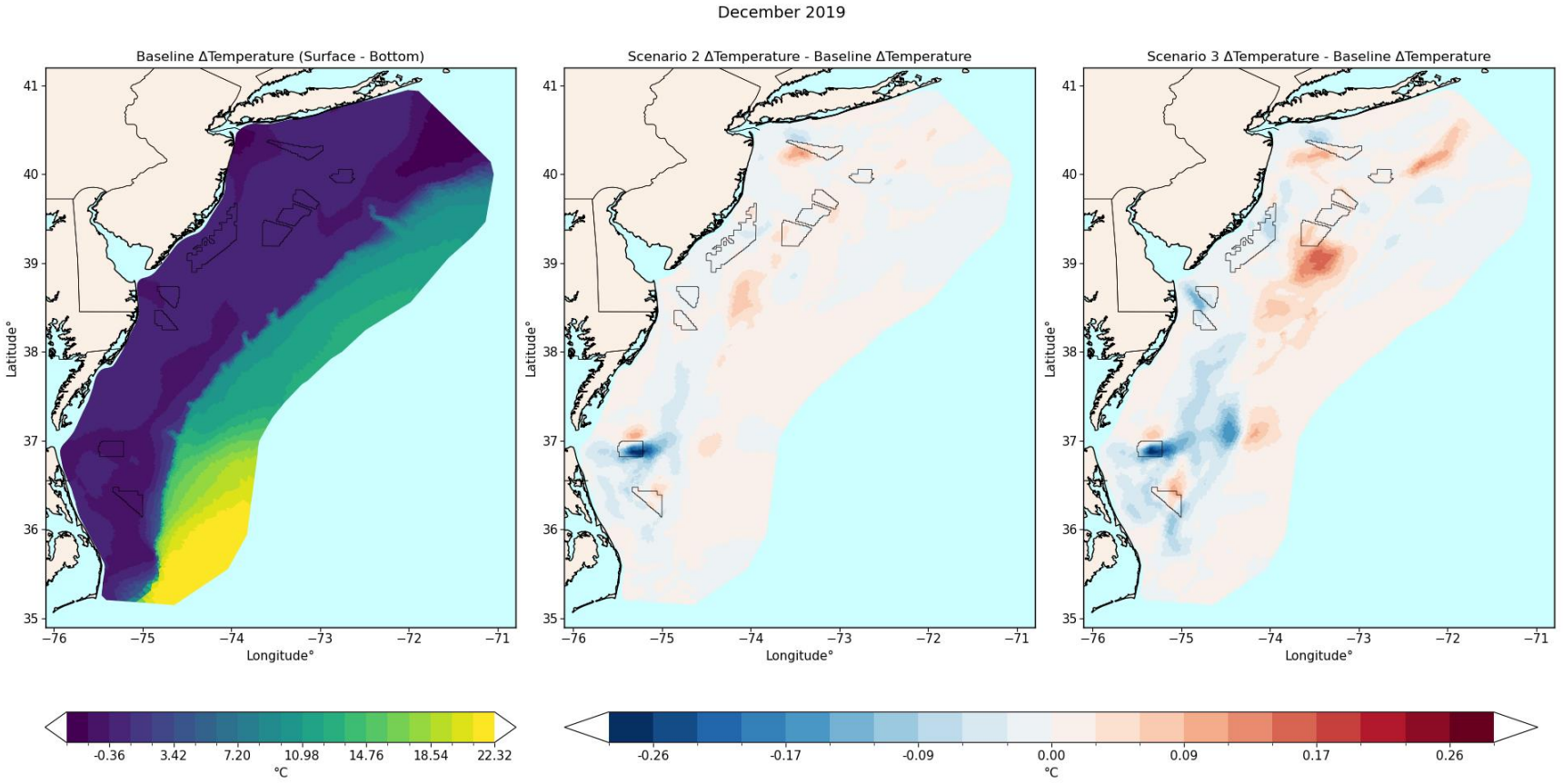
Apx Figure 390. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for September 2019.



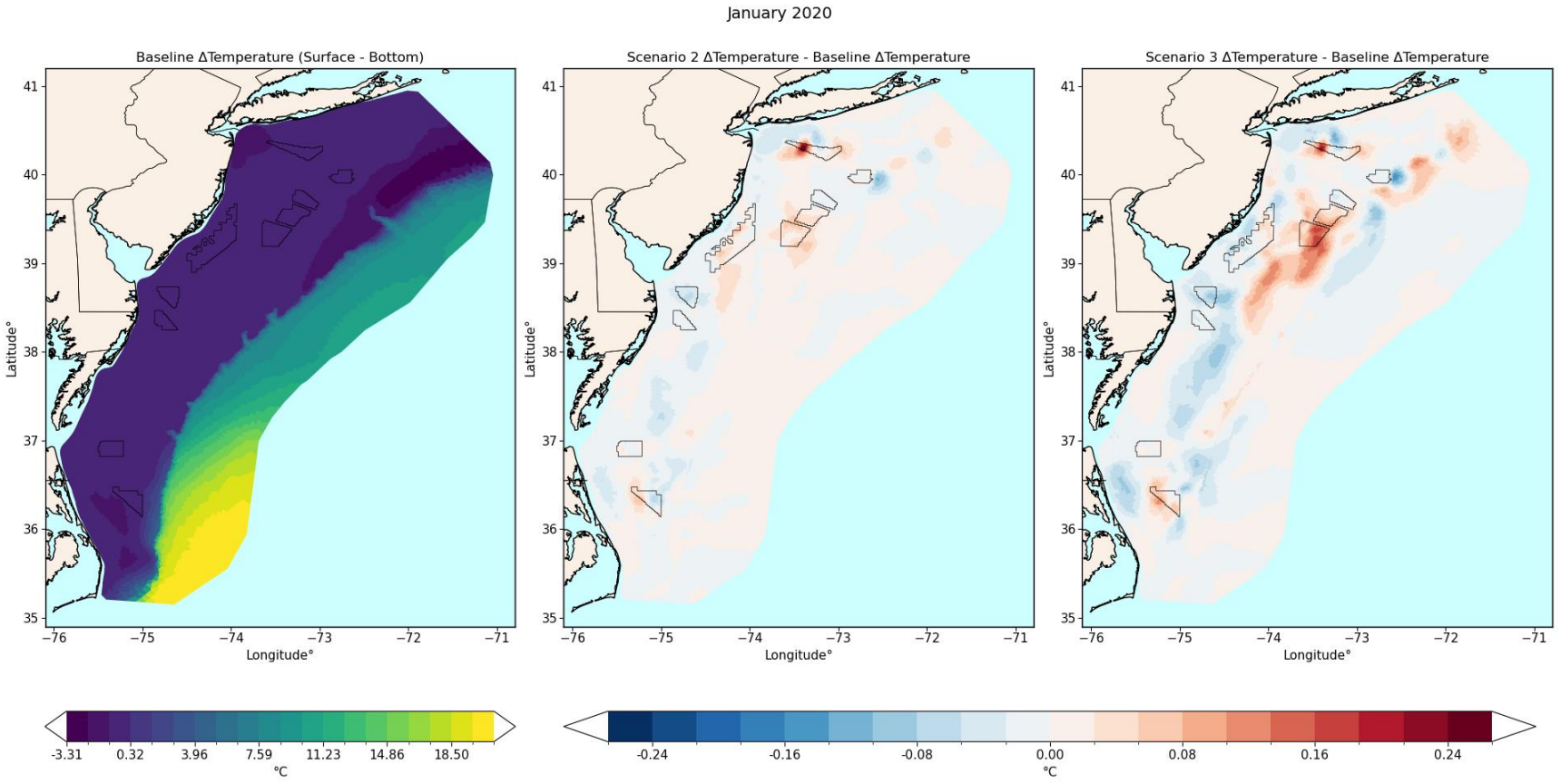
Apx Figure 391. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for October 2019.



Apx Figure 392. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for November 2019.

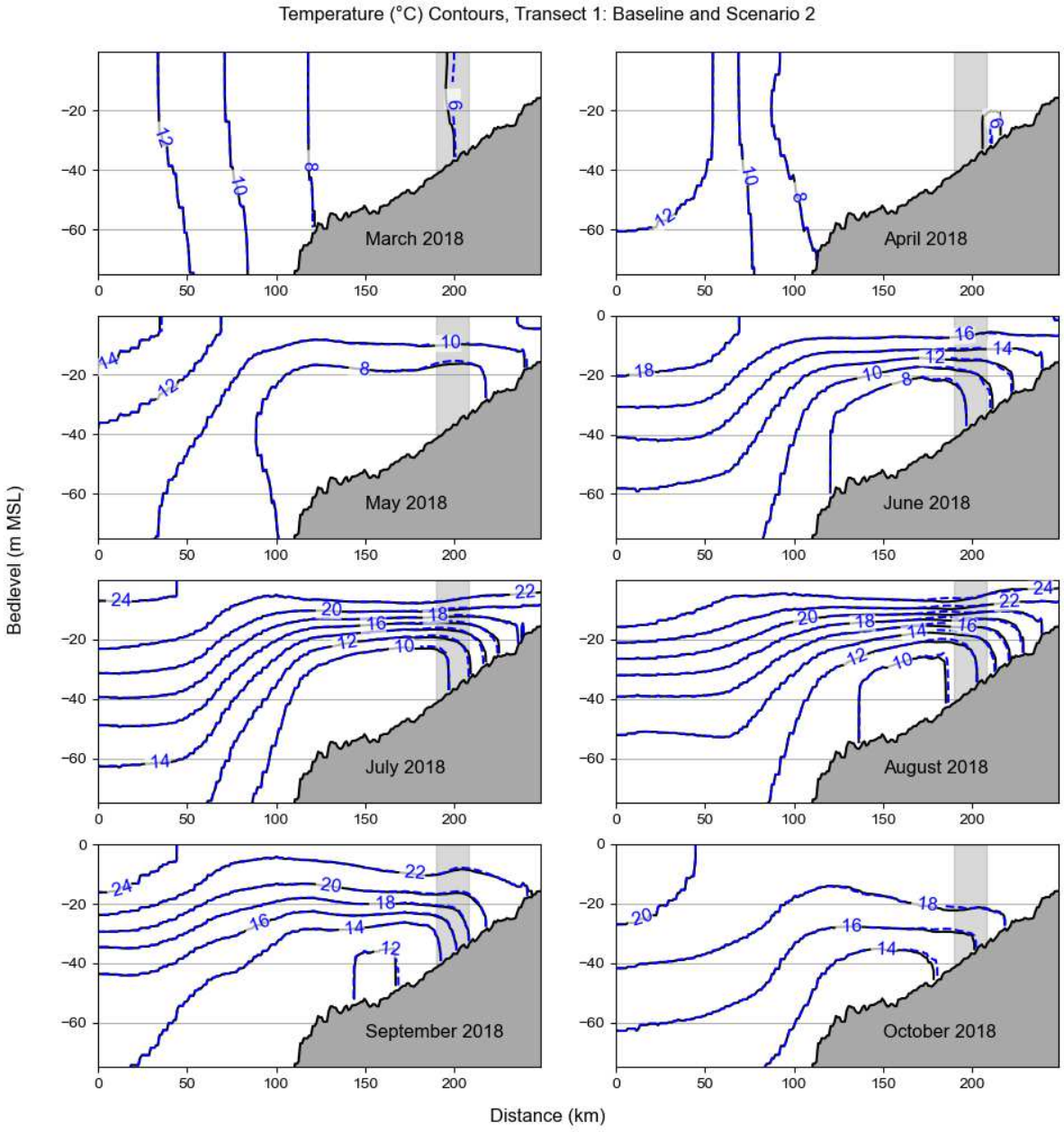


Apx Figure 393. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for December 2019.

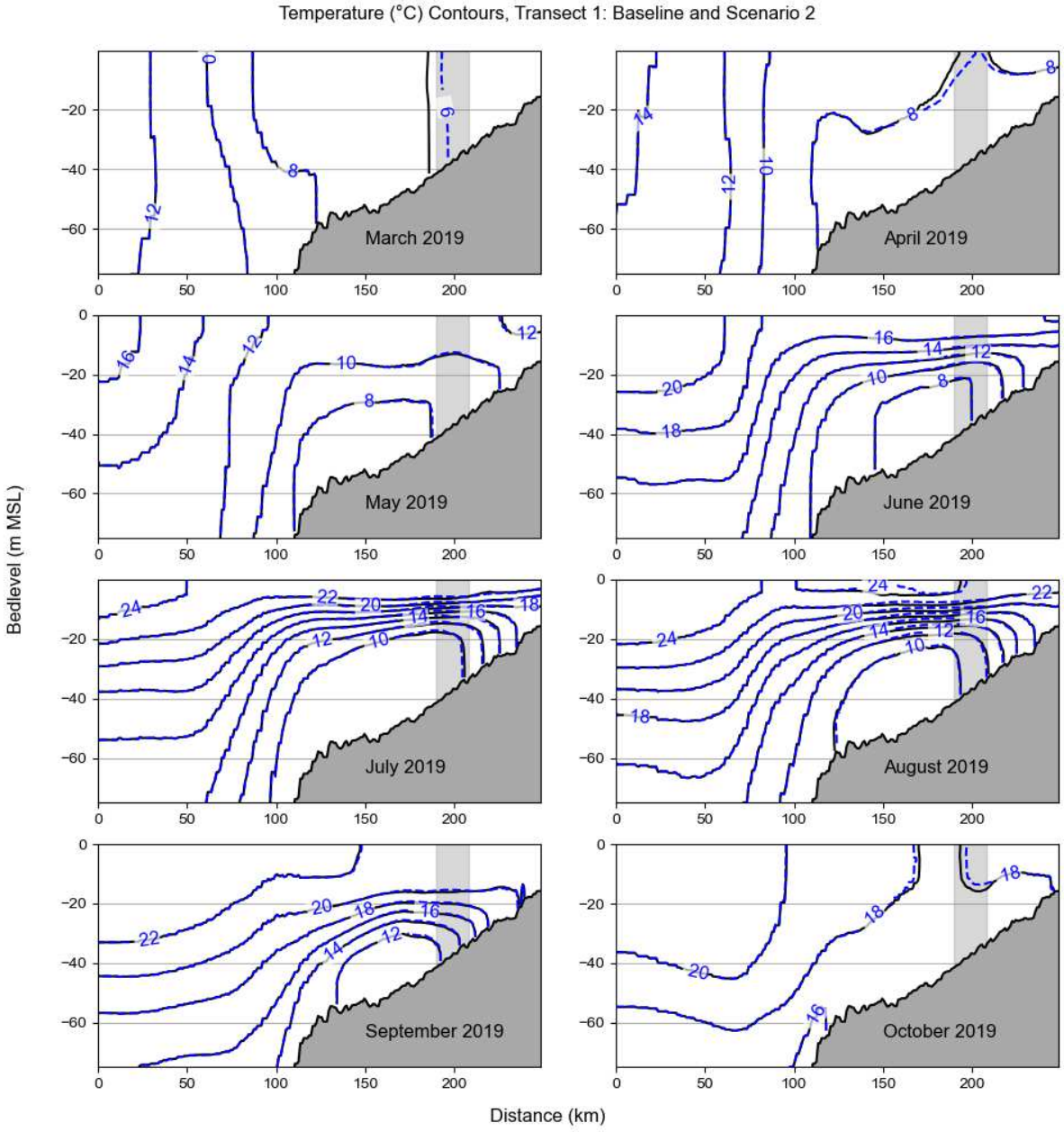


Apx Figure 394. Change in temperature delta between surface and bottom for baseline conditions (no windfarms) compared to Scenario 2 (partial wind farm build out) and Scenario 3 (full windfarm buildout) for January 2020.

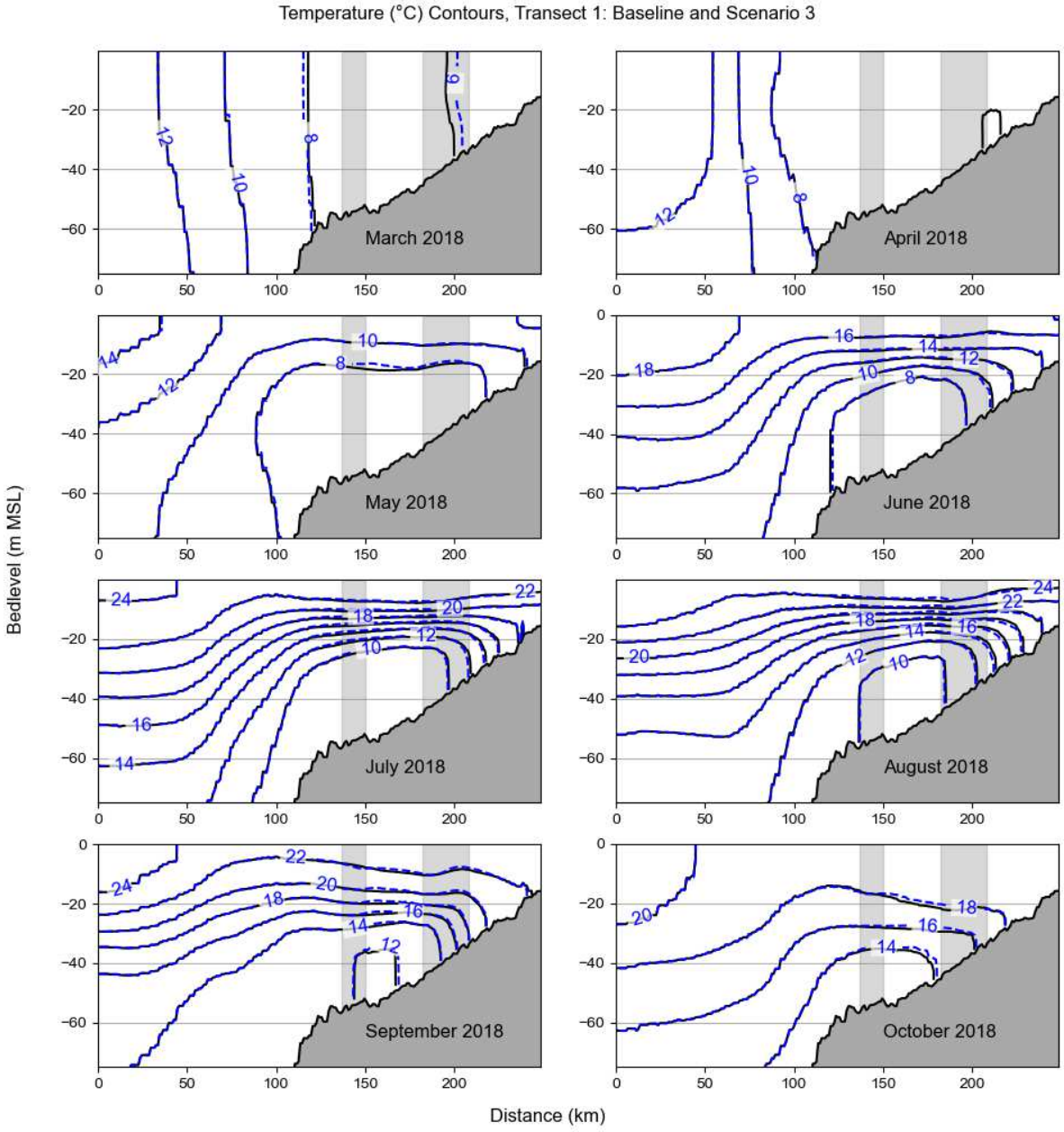
D Cold Pool Temperature Transect



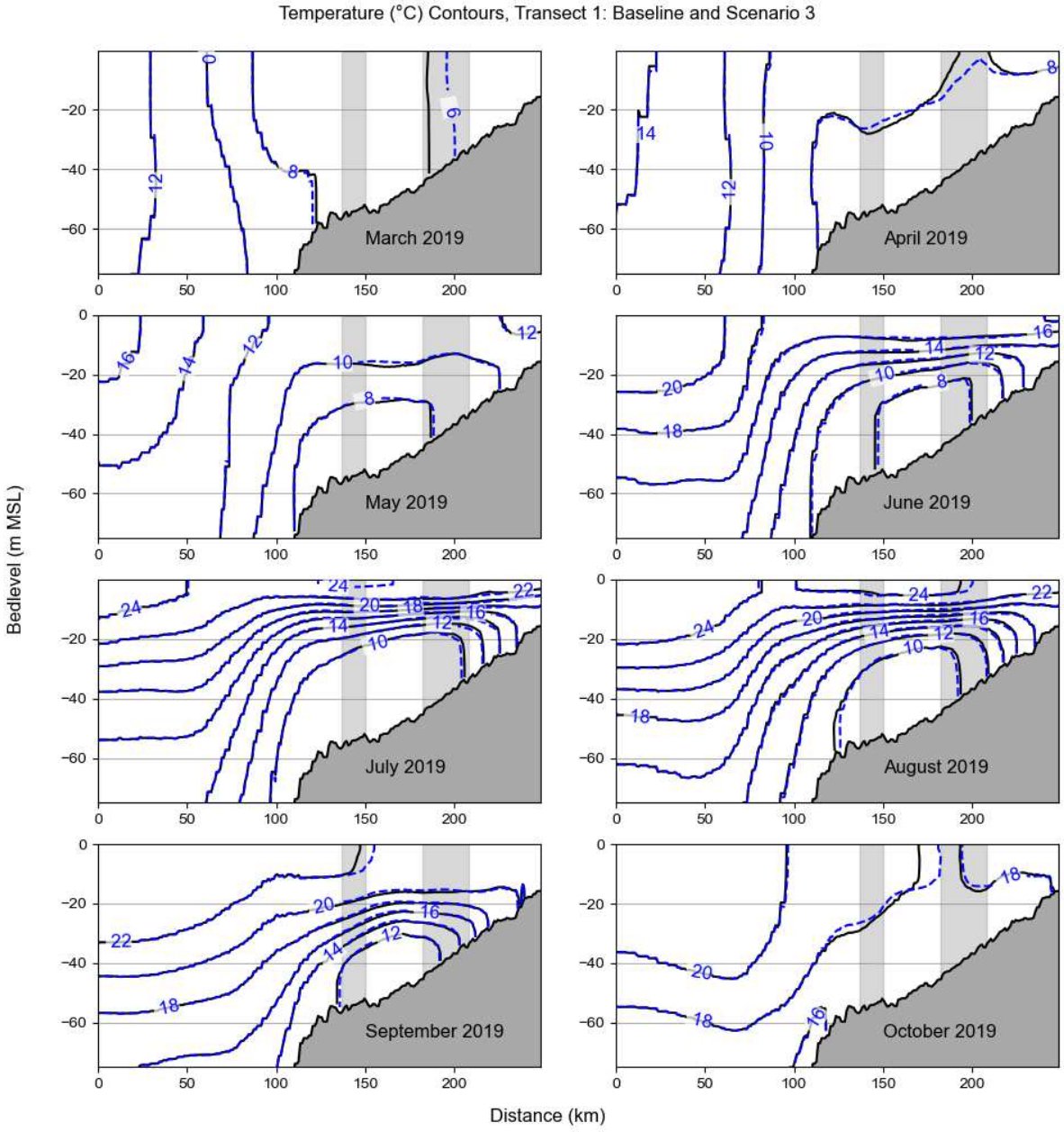
Apx Figure 395. Temperature contours under baseline (solid black line) and scenario 2 (dashed blue line) conditions, from March to October 2018, at transect 1.



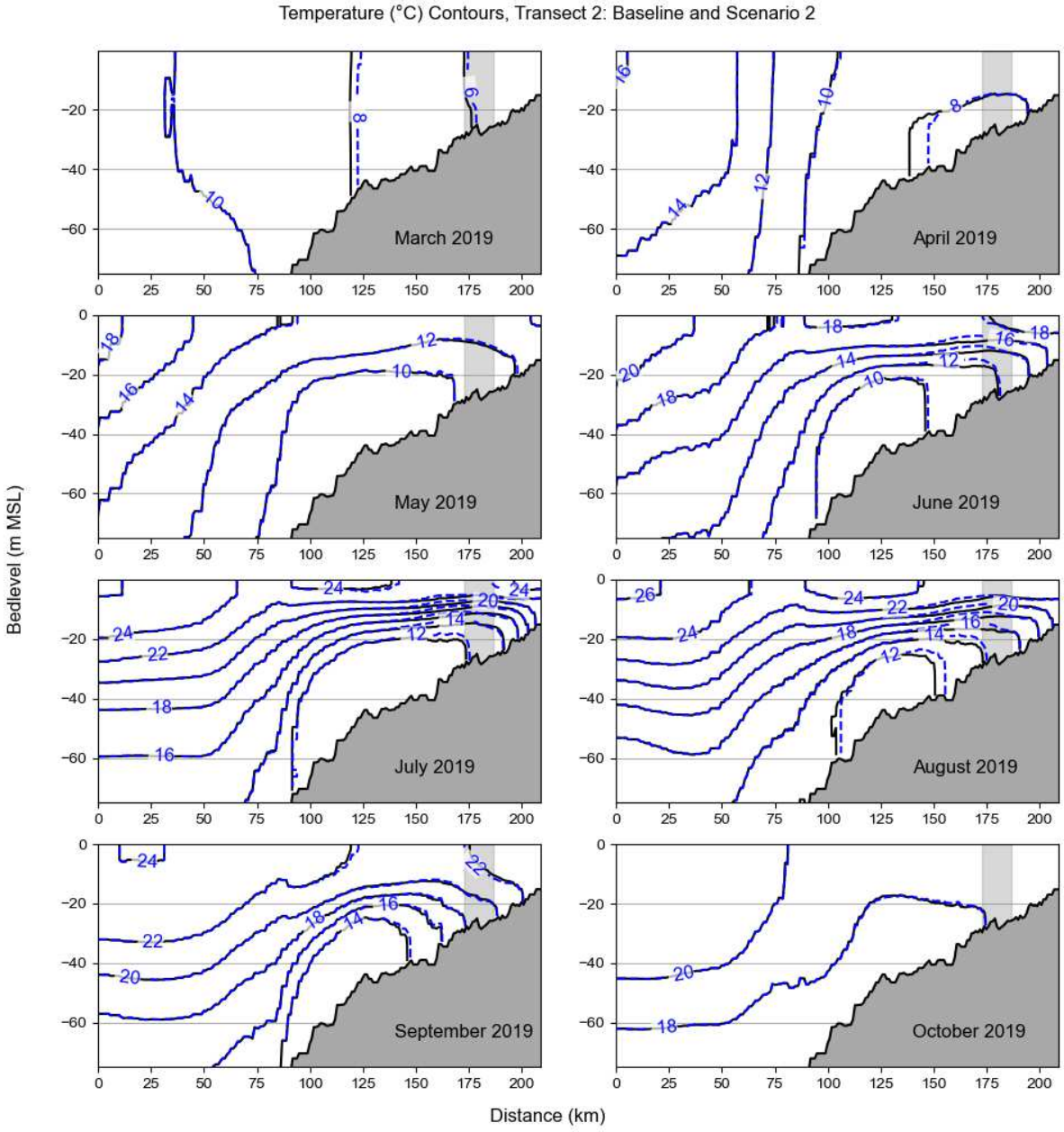
Apx Figure 396. Temperature contours under baseline (solid black line) and scenario 2 (dashed blue line) conditions, from March to October 2019, at transect 1.



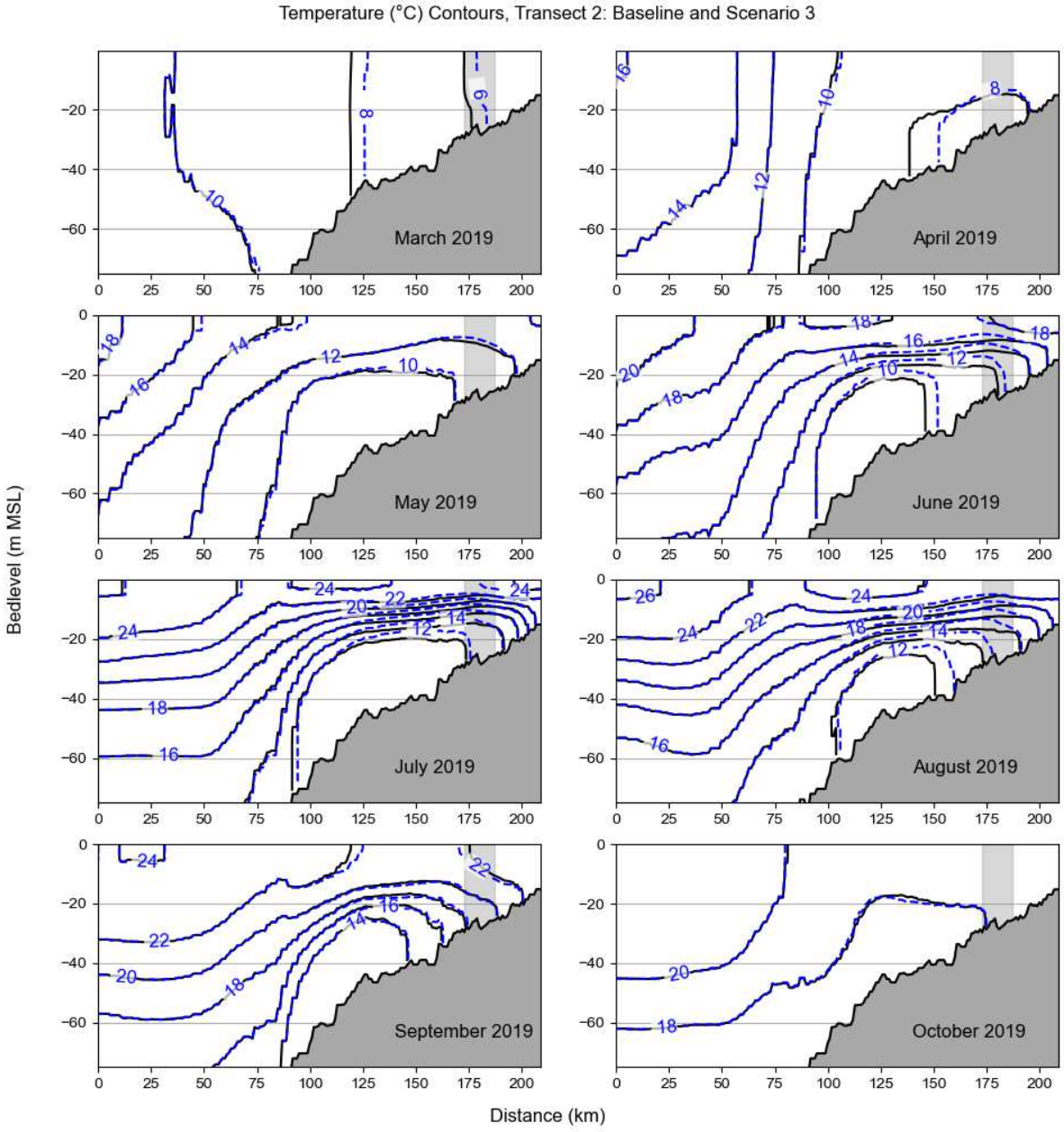
Apx Figure 397. Temperature contours under baseline (solid black line) and scenario 3 (dashed blue line) conditions, from March to October 2018, at transect 1.



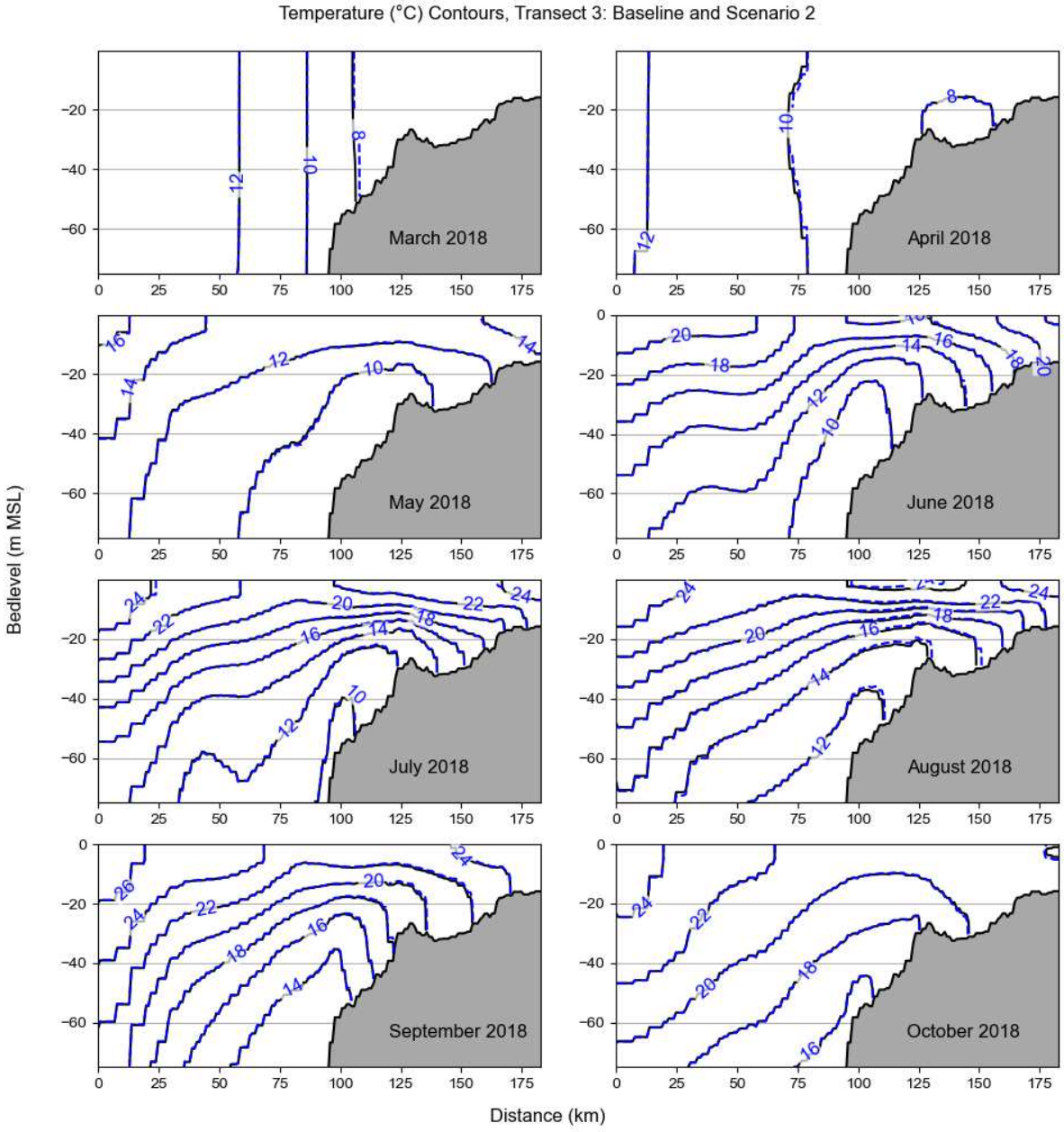
Apx Figure 398. Temperature contours under baseline (solid black line) and scenario 3 (dashed blue line) conditions, from March to October 2019, at transect 1.



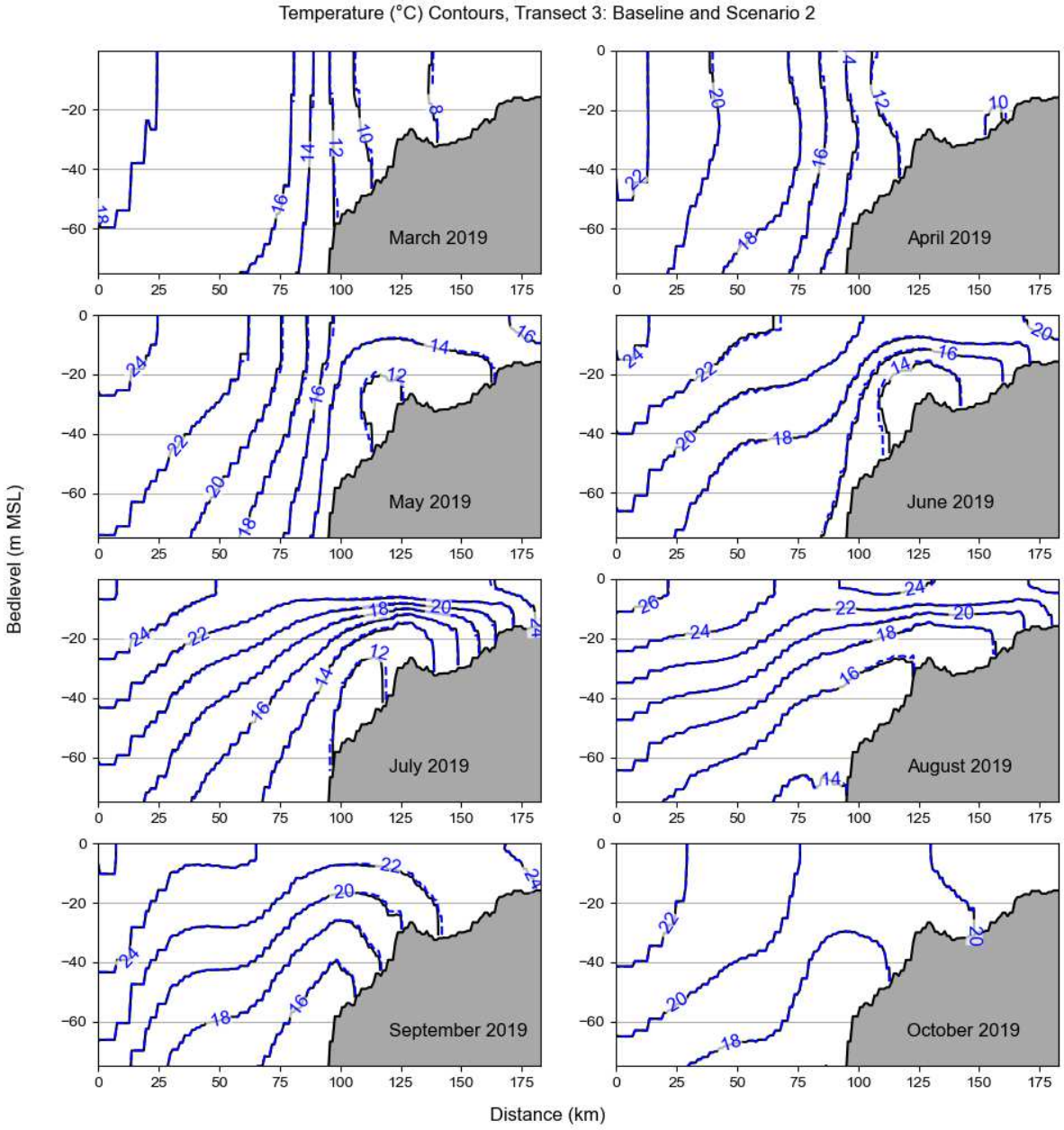
Apx Figure 399. Temperature contours baseline (solid black line) and scenario 2 (dashed blue line) conditions, from March to October 2019, at transect 2.



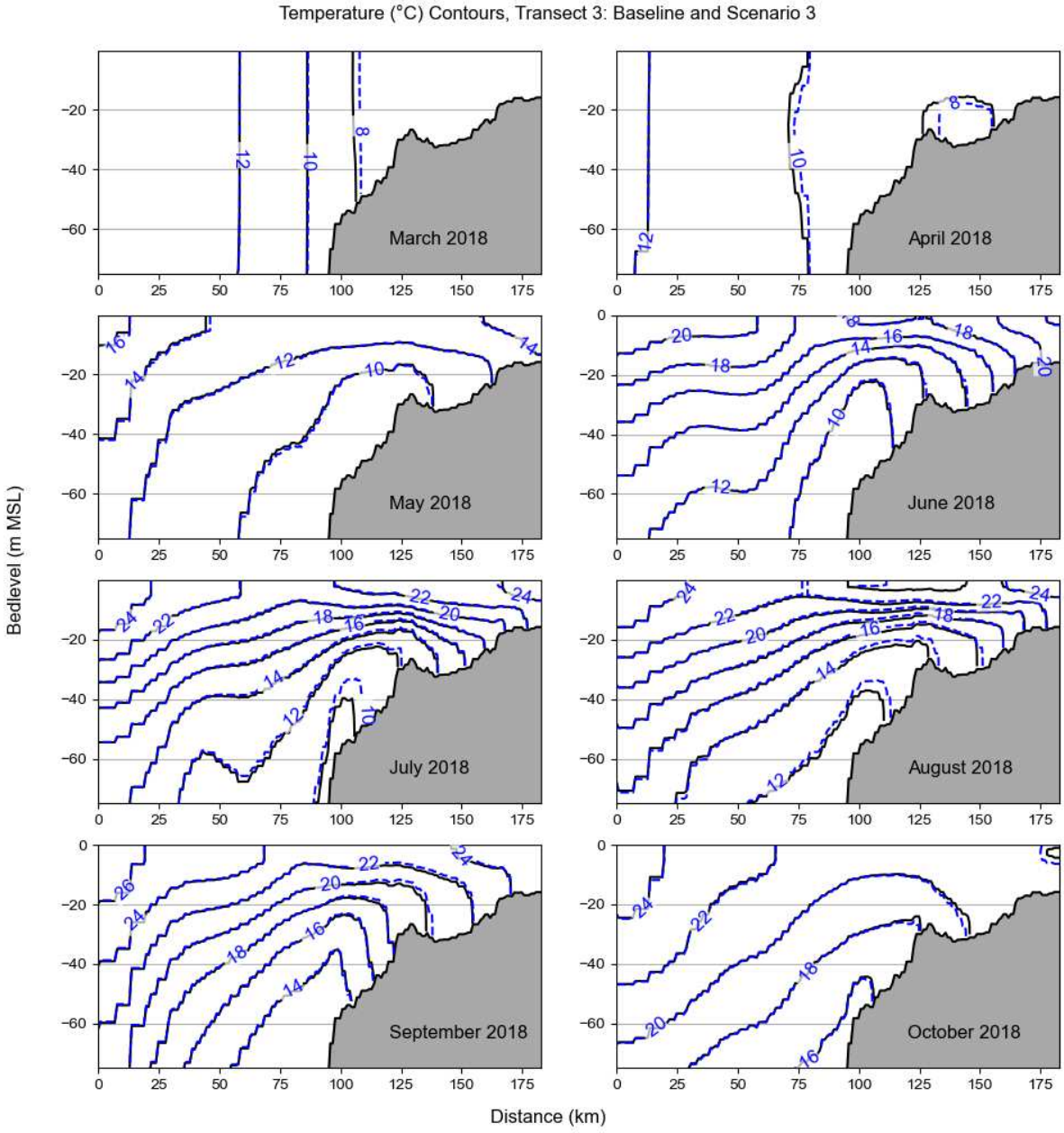
Apx Figure 400. Temperature contours under baseline (solid black line) and scenario 3 (dashed blue line) conditions, from March to October 2019, at transect 2.



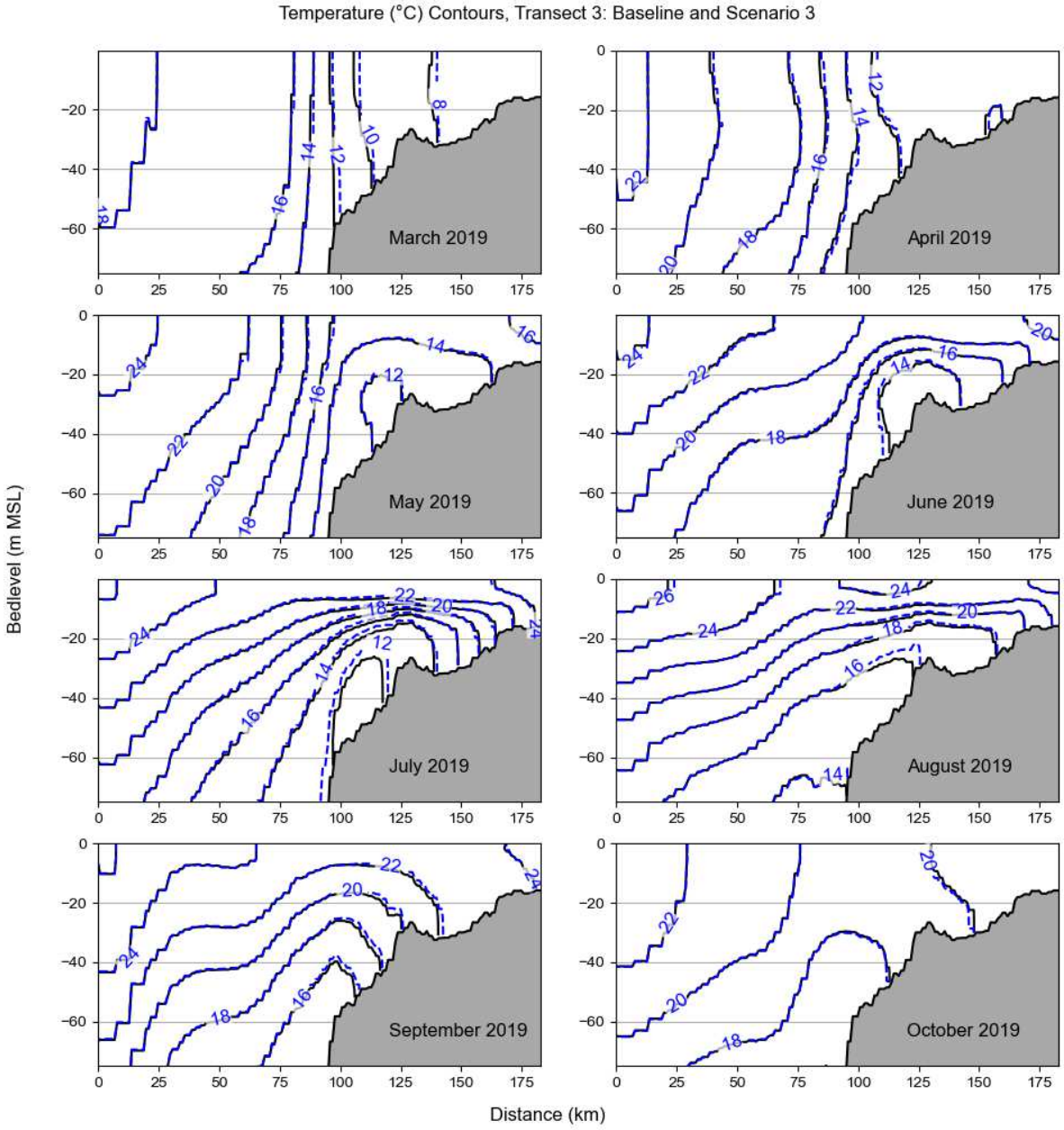
Apx Figure 401. Temperature contours under baseline (solid black line) and scenario 2 (dashed blue line) conditions, from March to October 2018, at transect 3.



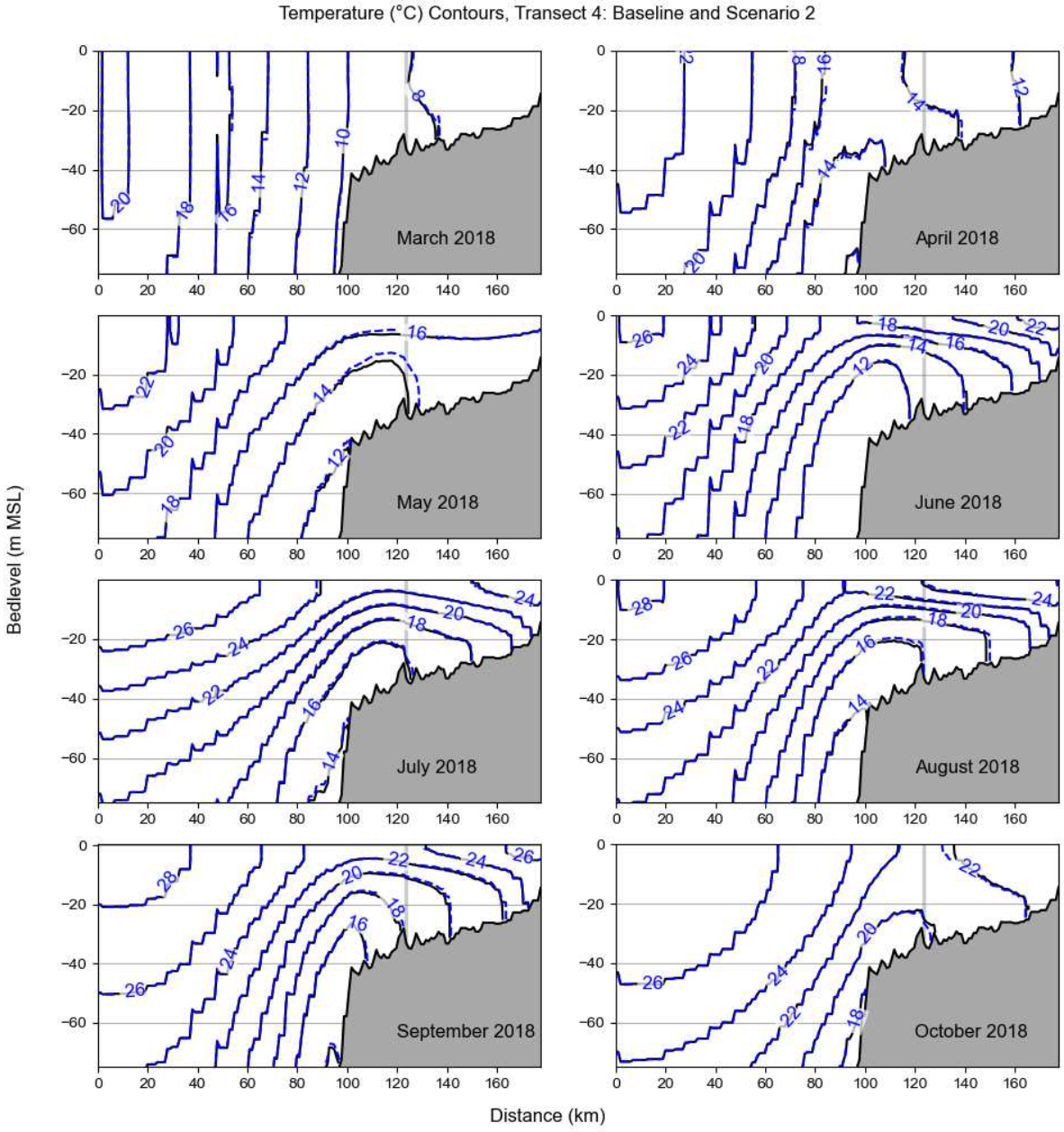
Apx Figure 402. Temperature contours under baseline (solid black line) and scenario 2 (dashed blue line) conditions, from March to October 2019, at transect 3.



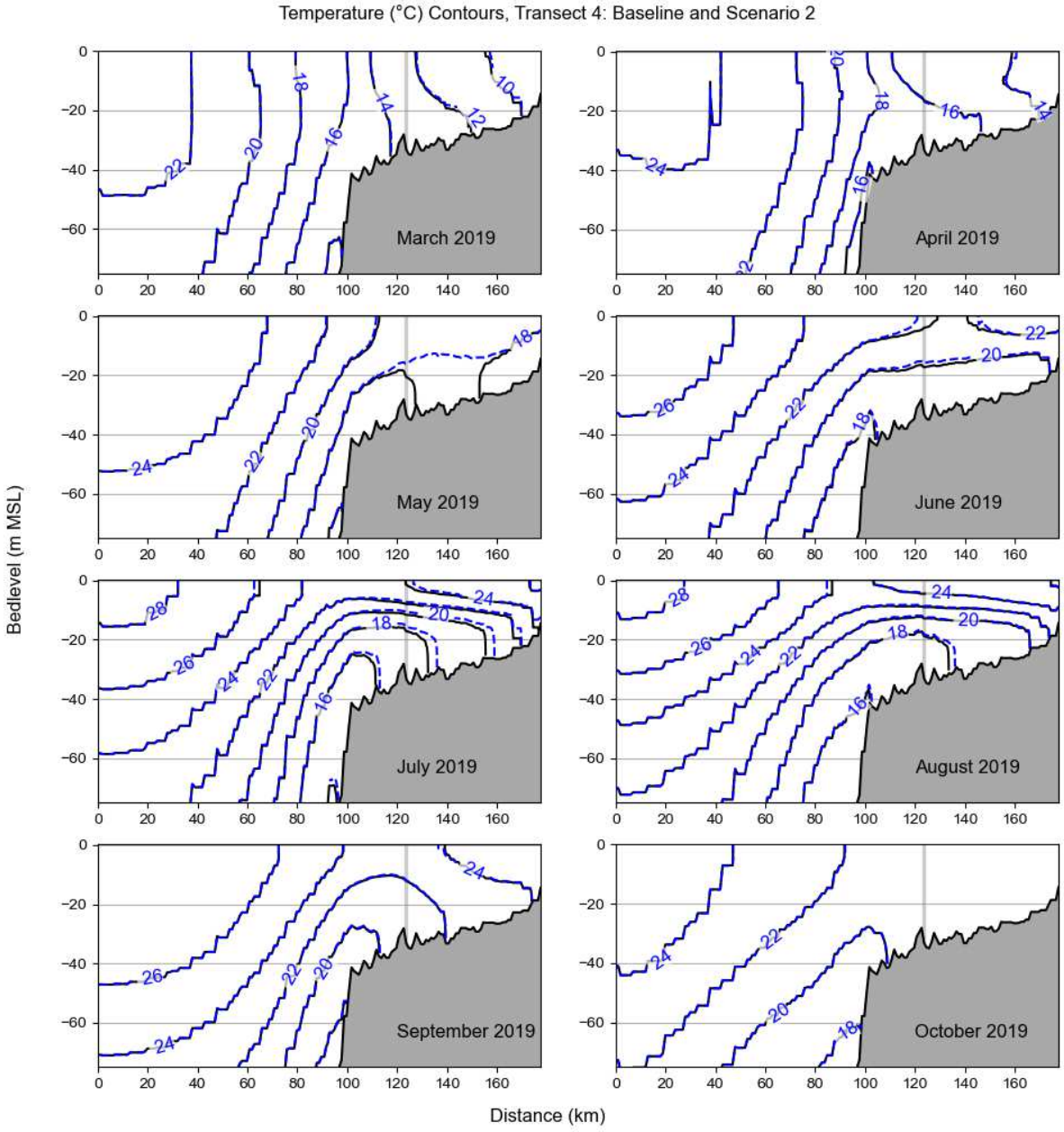
Apx Figure 403. Temperature contours under baseline (solid black line) and scenario 3 (dashed blue line) conditions, from March to October 2018, at transect 3.



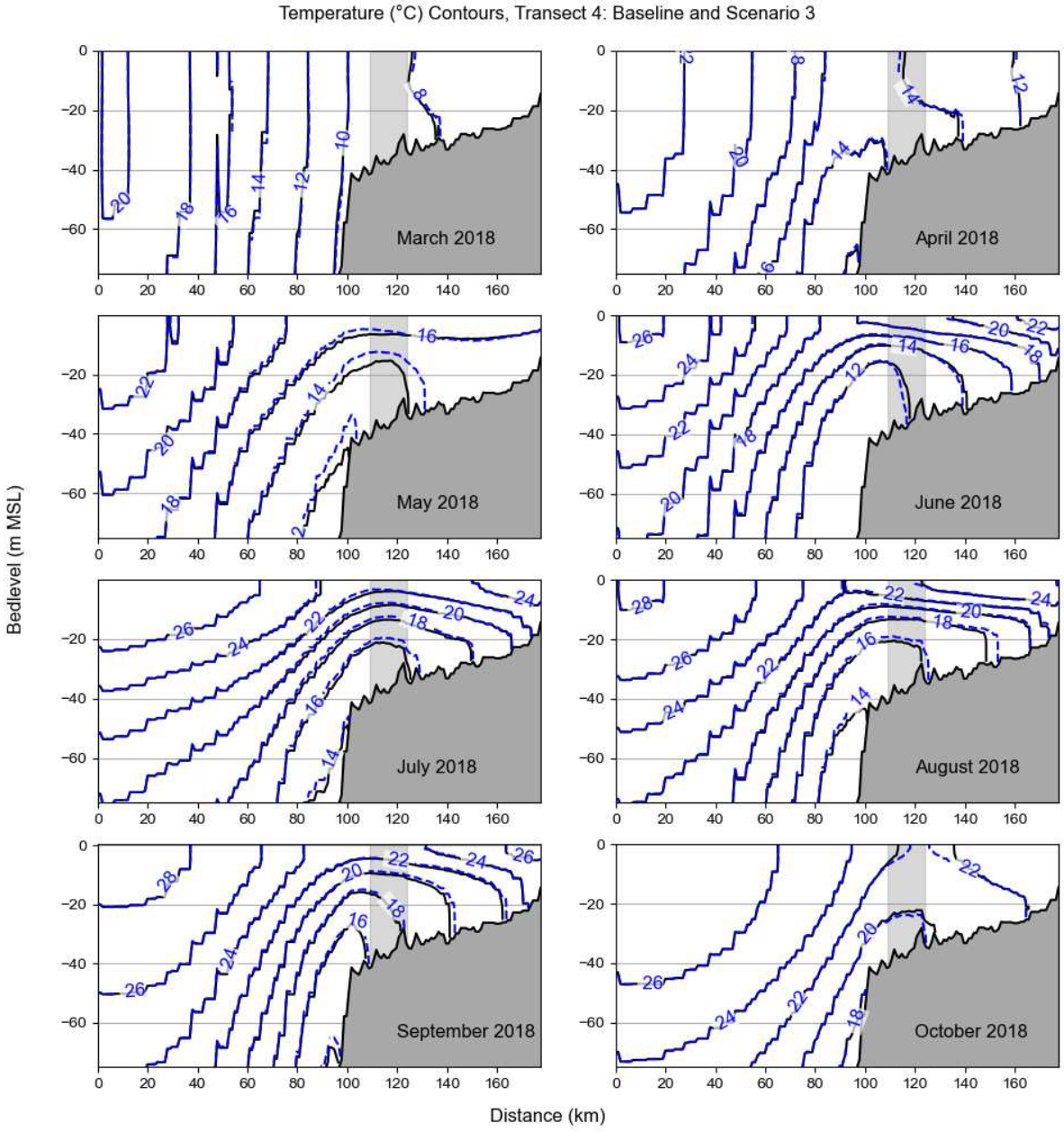
Apx Figure 404. Temperature contours under baseline (solid black line) and scenario 3 (dashed blue line) conditions, from March to October 2019, at transect 3.



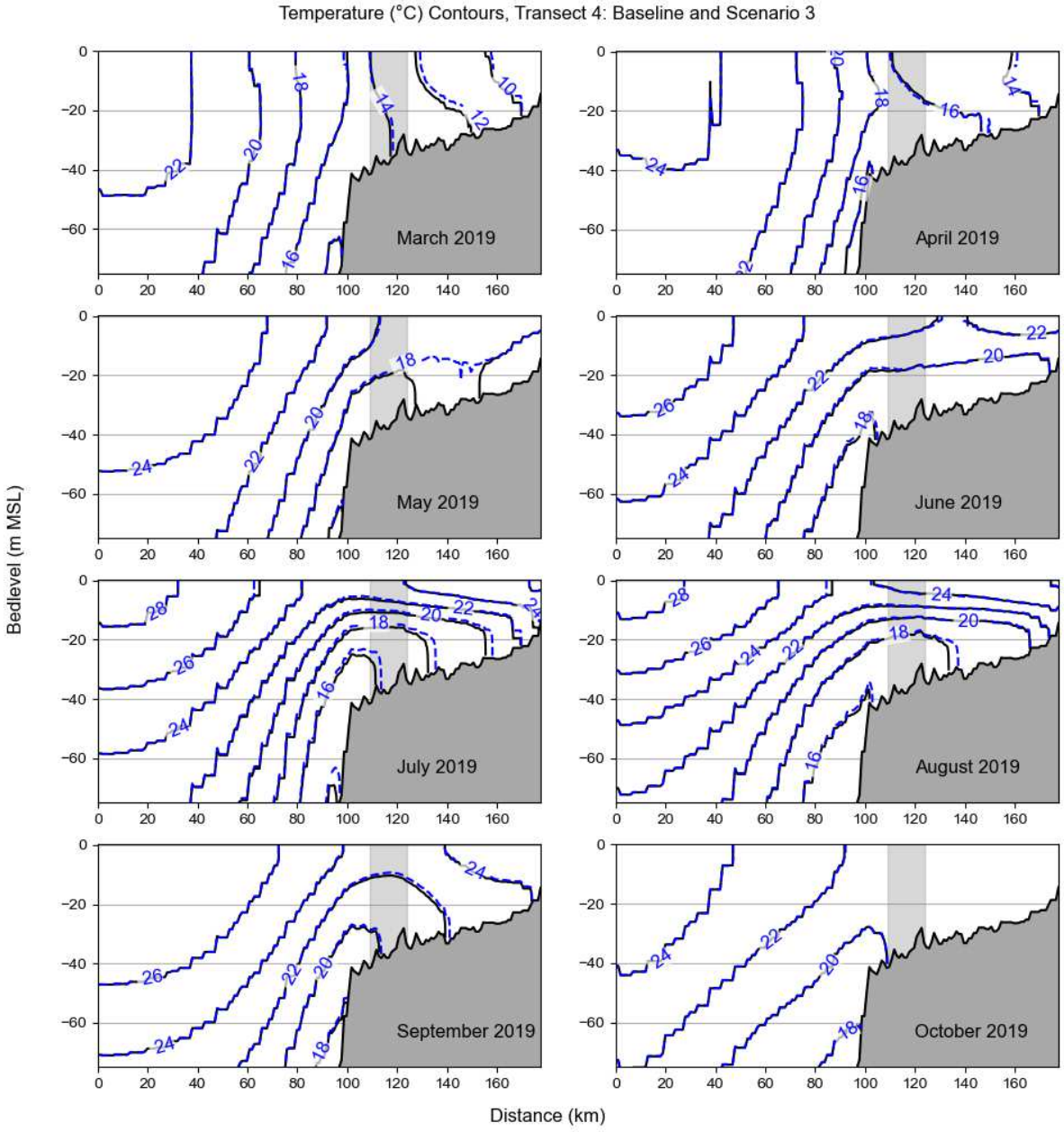
Apx Figure 405. Temperature contours under baseline (solid black line) and scenario 2 (dashed blue line) conditions, from March to October 2018, at transect 4.



Apx Figure 406. Temperature contours under baseline (solid black line) and scenario 2 (dashed blue line) conditions, from March to October 2019, at transect 4.



Apx Figure 407. Temperature contours under baseline (solid black line) and scenario 3 (dashed blue line) conditions, from March to October 2018, at transect 4.



Apx Figure 408. Temperature contours under baseline (solid black line) and scenario 3 (dashed blue line) conditions, from March to October 2019, at transect 4.

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Bureau of Ocean Energy Management (BOEM)
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