Geoscientific Model Development

Supplement for

NAAC (v1.0): A Seamless Two-Decade Cross-Scale Simulation from the North American Atlantic Coast to Tidal Wetlands Using the 3D Unstructured-grid Model SCHISM (v5.11.0)

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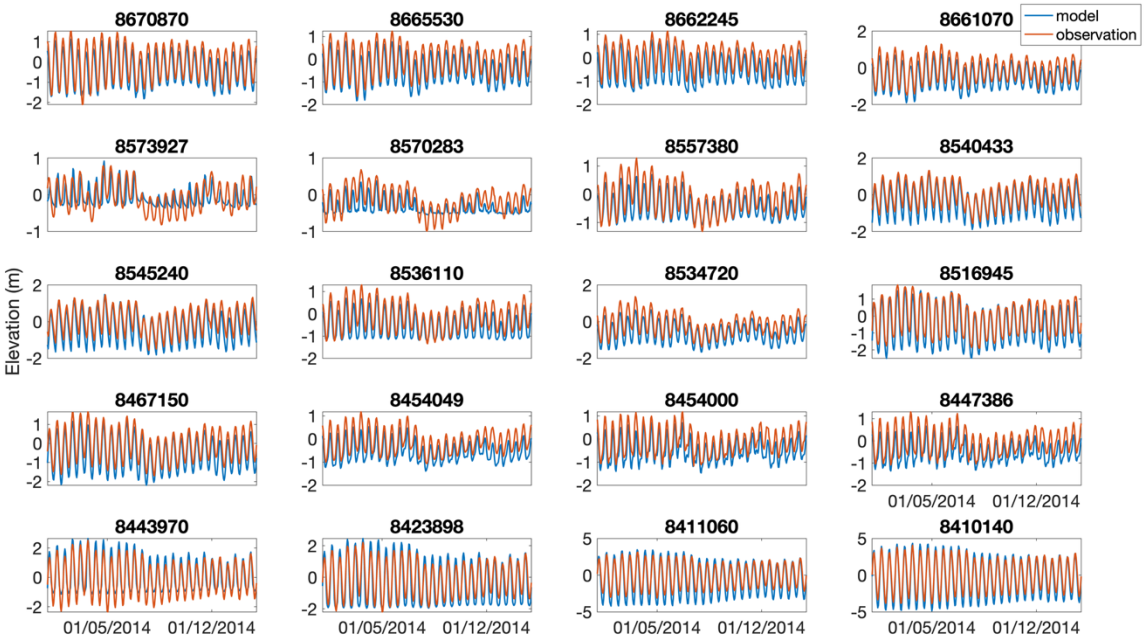
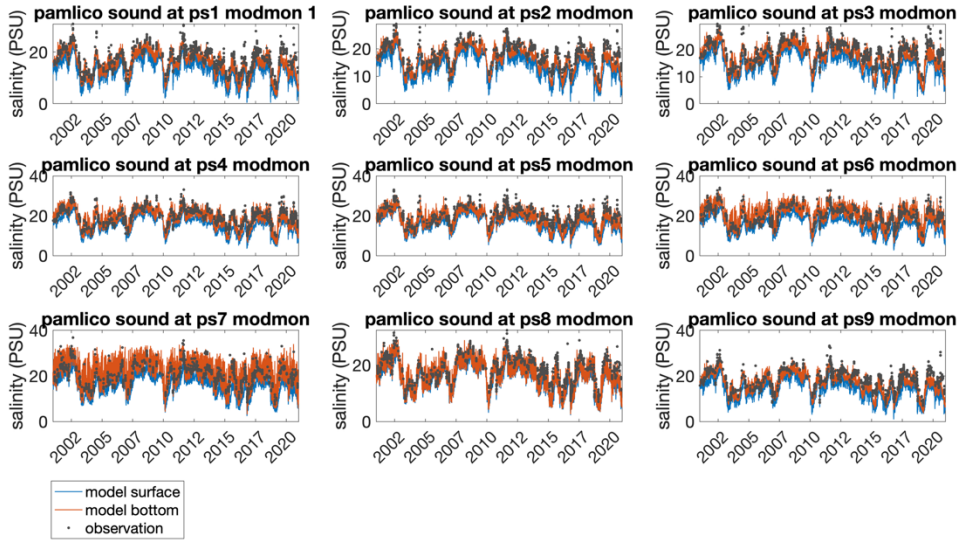


Figure S1. Time series comparison of simulated elevation with continuous observations at NOAA-COOPS.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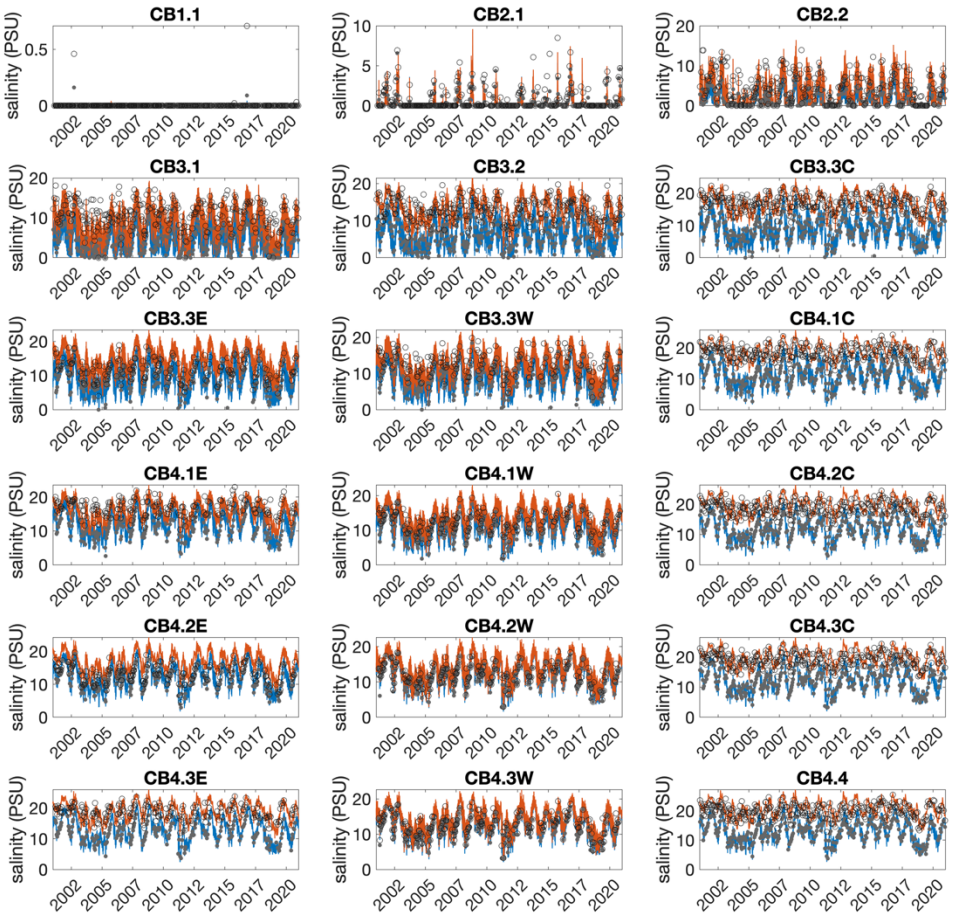
pamlico sound at ps2 modmon
pamlico sound at ps3 modmon
pamlico sound at ps4 modmon
pamlico sound at ps5 modmon
pamlico sound at ps6 modmon
pamlico sound at ps7 modmon
pamlico sound at ps8 modmon
pamlico sound at ps9 modmon
salinity (PSU)
model surface
model bottom
observation


CB1.1
CB2.1
CB2.2
CB3.1
CB3.2
CB3.3C
CB3.3E
CB3.3W
CB4.1C
CB4.1E
CB4.1W
CB4.2C
CB4.2E
CB4.2W
CB4.3C
CB4.3E
CB4.3W
CB4.4
salinity (PSU)

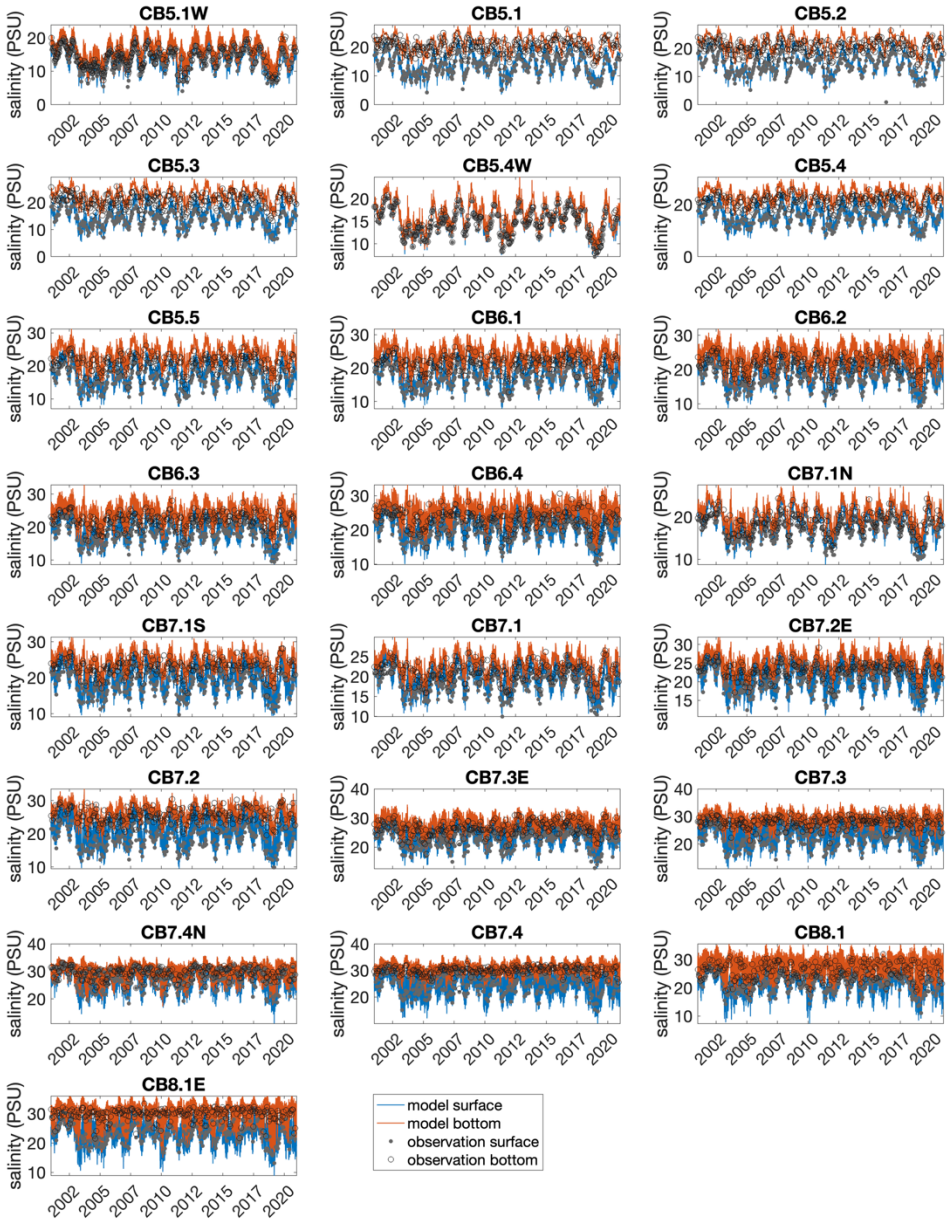
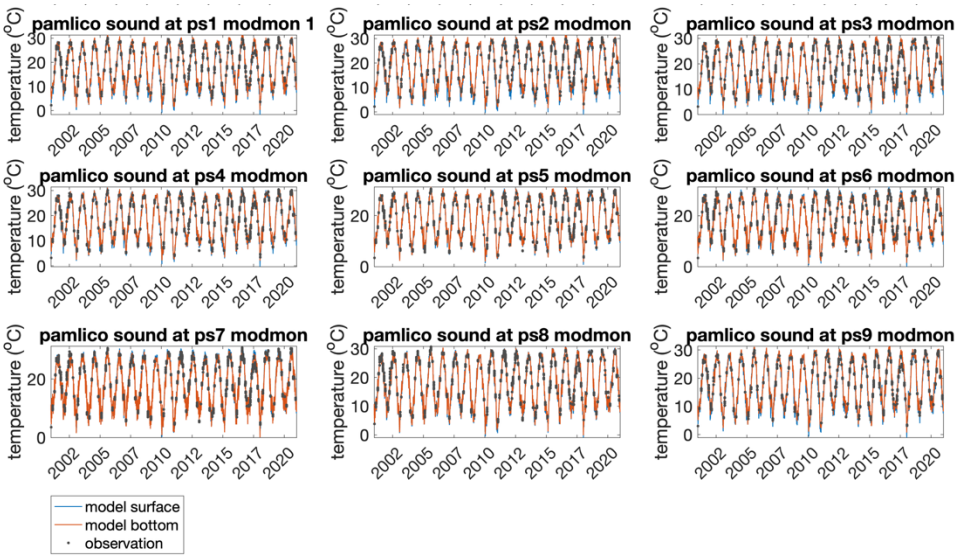
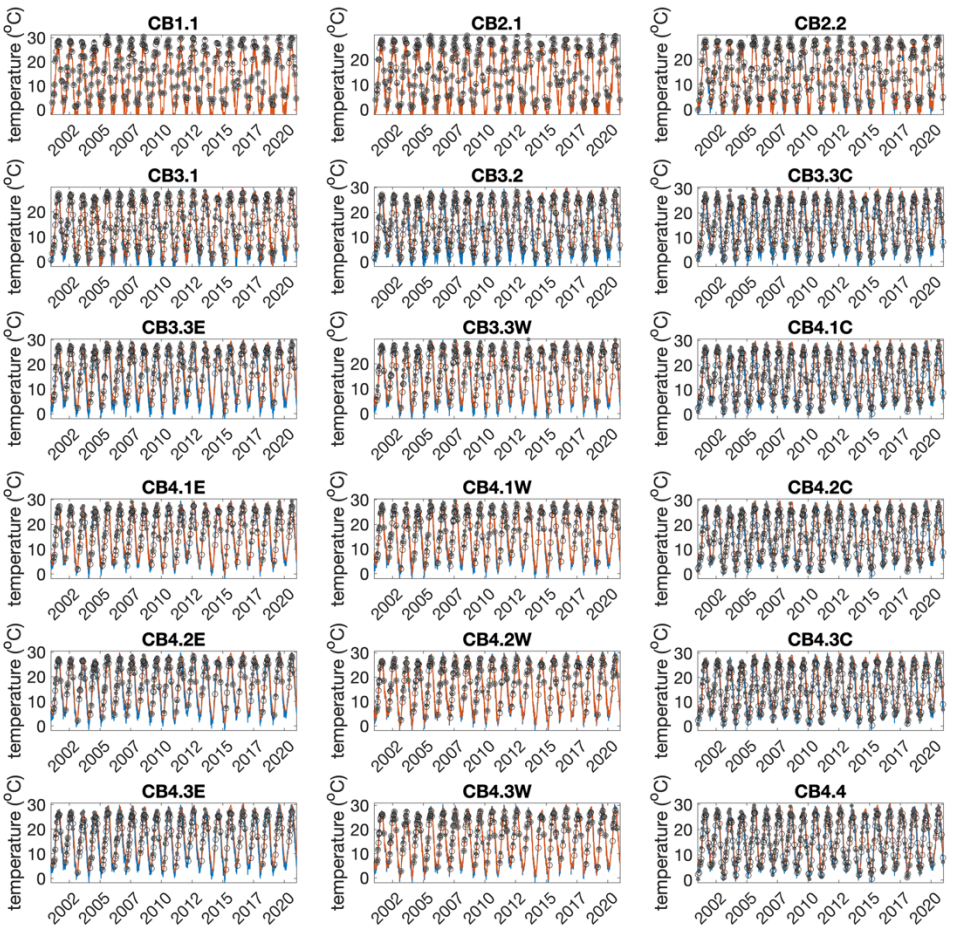


Figure S2. Time series comparison of simulated salinity with continuous observations at APES and CBP.


pamlico sound at ps1 modmon 1
pamlico sound at ps2 modmon
pamlico sound at ps3 modmon
pamlico sound at ps4 modmon
pamlico sound at ps5 modmon
pamlico sound at ps6 modmon
pamlico sound at ps7 modmon
pamlico sound at ps8 modmon
pamlico sound at ps9 modmon
temperature (°C)
model surface
model bottom
observation


CB1.1
CB2.1
CB2.2
CB3.1
CB3.2
CB3.3C
CB3.3E
CB3.3W
CB4.1C
CB4.1E
CB4.1W
CB4.2C
CB4.2E
CB4.2W
CB4.3C
CB4.3E
CB4.3W
CB4.4
temperature (°C)

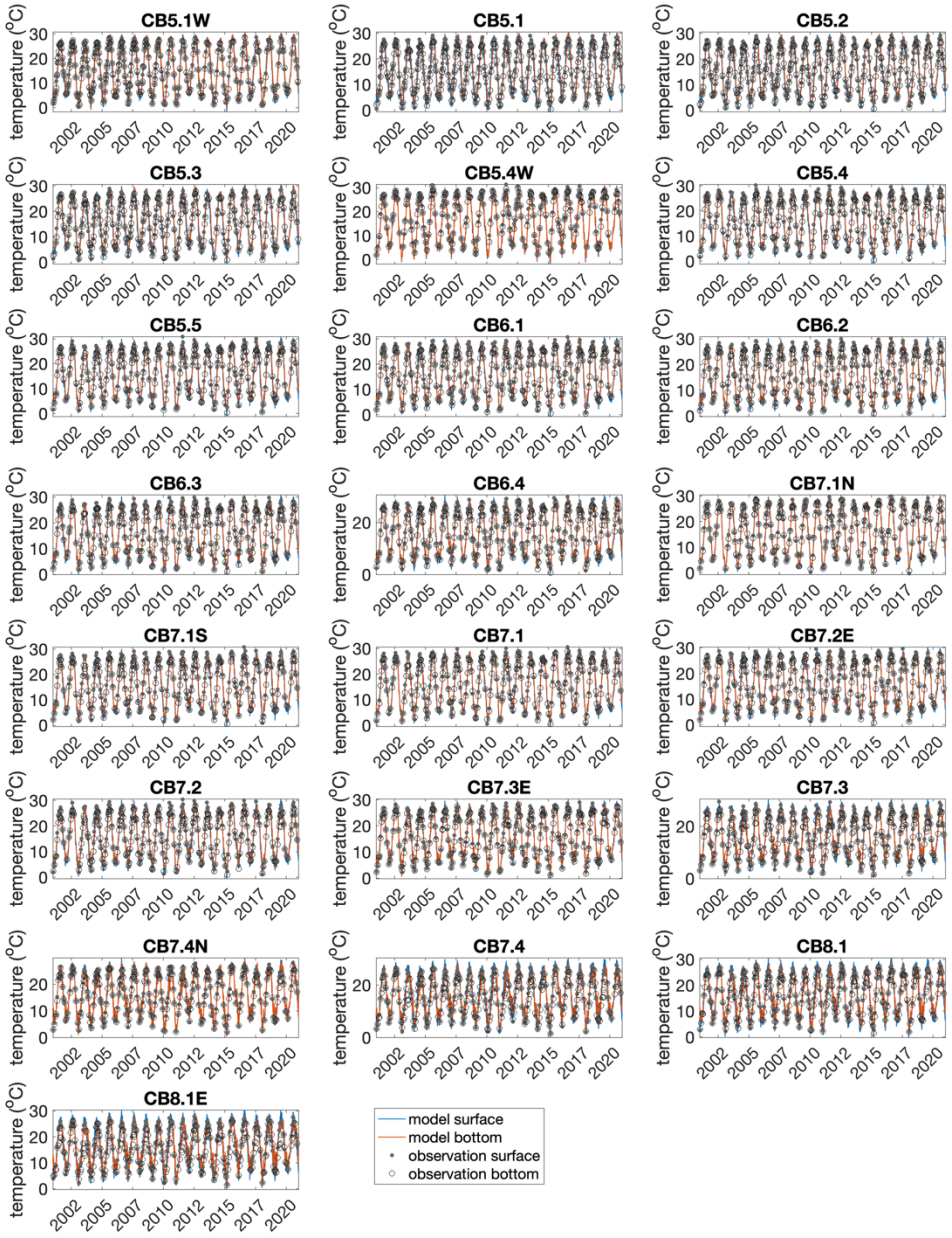
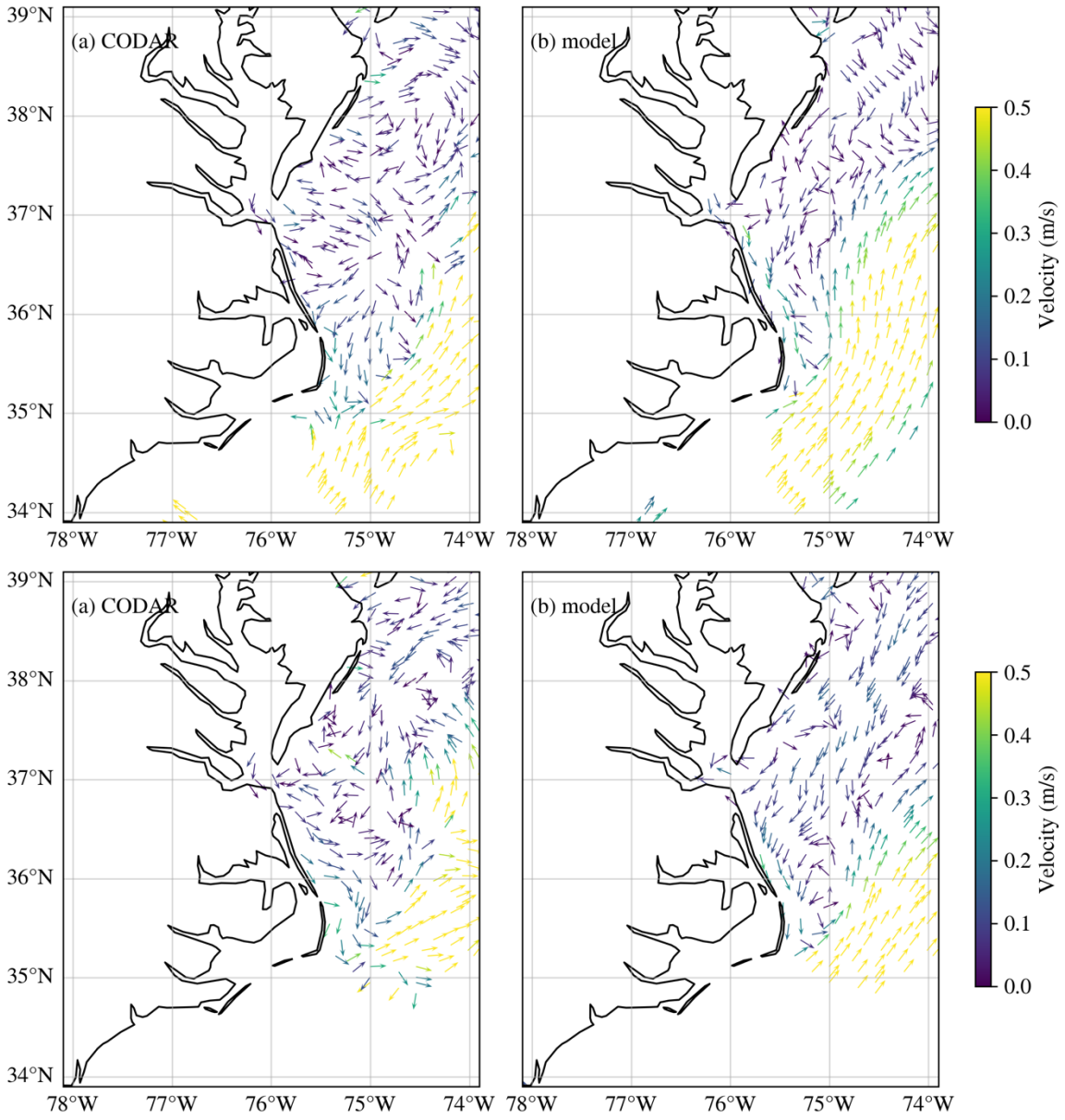
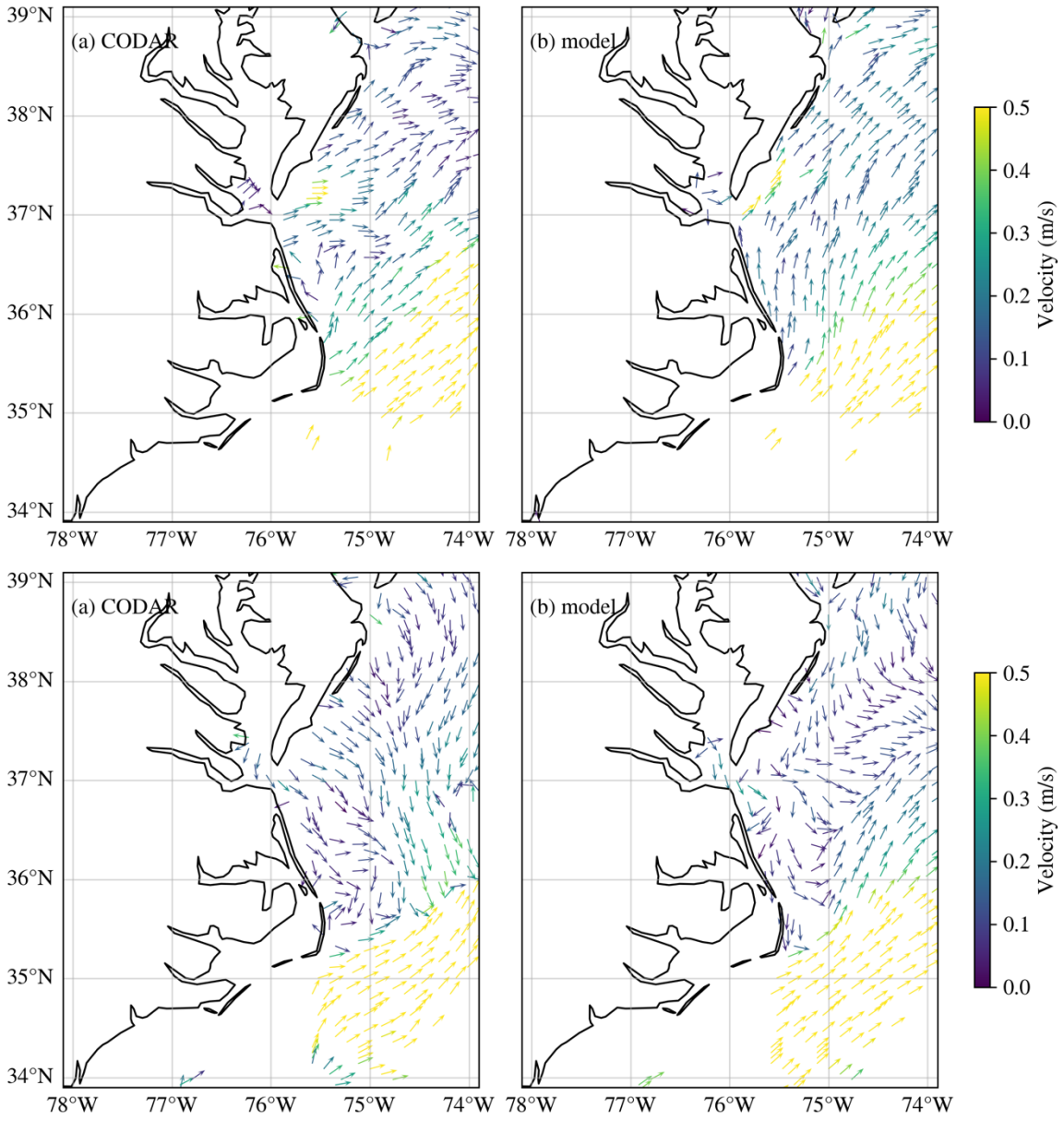


Figure S3. Time series comparison of simulated temperature with continuous observations at APES and CBP.


(a) CODAR
(b) model
39°N
38°N
37°N
36°N
35°N
34°N
78°W
77°W
76°W
75°W
74°W
0.5
0.4
0.3
0.2
0.1
0.0
Velocity (m/s)


(a) CODAR
(b) model
39°N
38°N
37°N
36°N
35°N
34°N
78°W
77°W
76°W
75°W
74°W
0.5
0.4
0.3
0.2
0.1
0.0
Velocity (m/s)

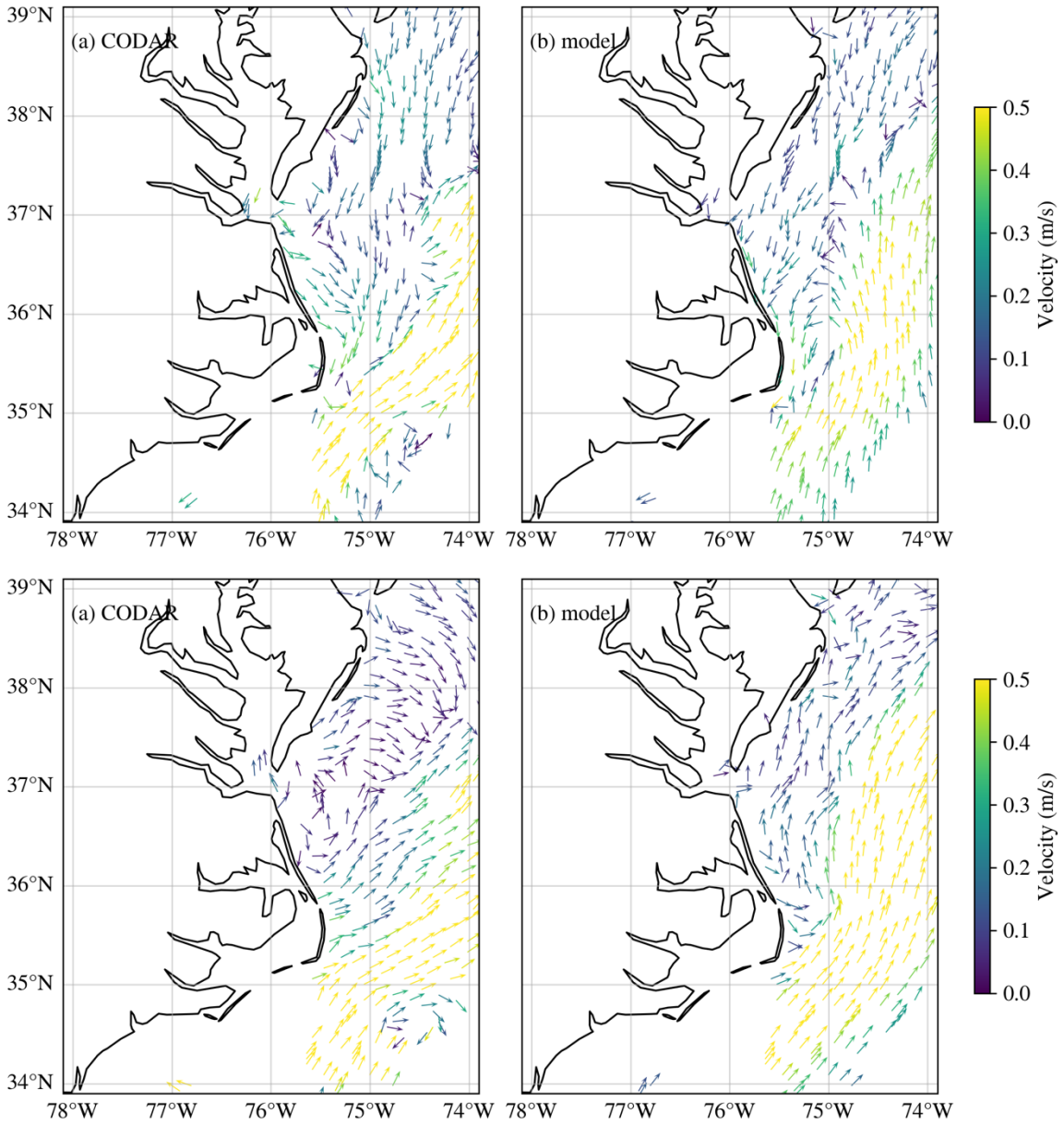


Figure S4. Time series comparison of simulated temperature with continuous observations at APES and CBP. Daily averaged surface currents over the Mid-Atlantic coast from (a) CODAR observations and (b) model outputs on the 10th and 30th (28th for February) of February, July, and August 2015.