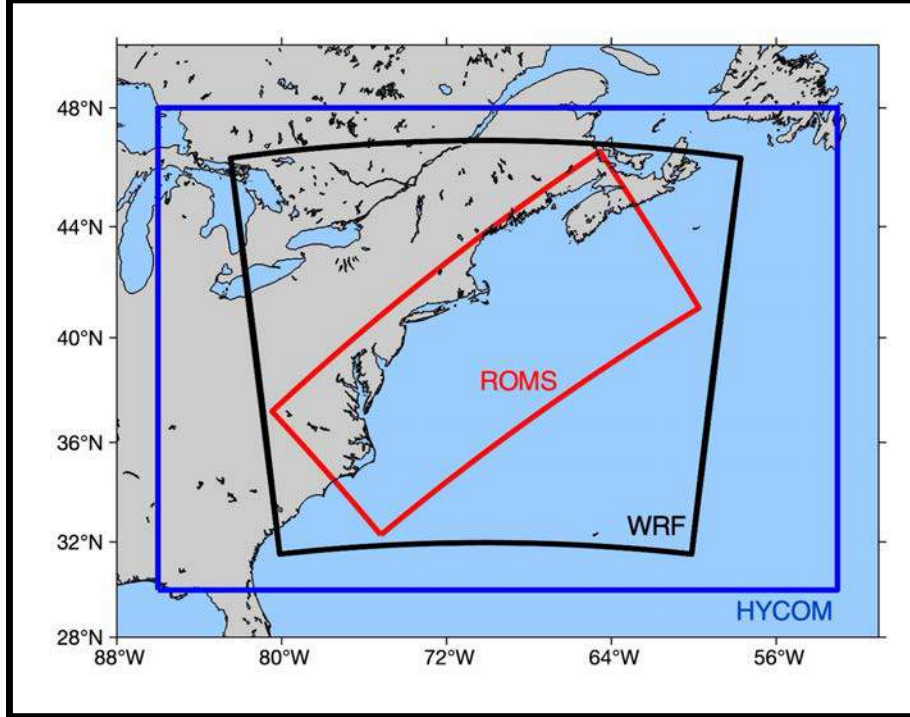


Integrating COARE 3.5 and Wind-Current Feedbacks into ROMS-WRF Coupling

L. Fernando Pareja-Roman, John Wilkin, Hernan Arango
 Department of Marine and Coastal Sciences, Rutgers University

ROMS, WRF and HYCOM (Data)



Relative wind speed

$$U_{air} = U_{wind} - U_{sur}$$

$$V_{air} = V_{wind} - V_{sur}$$

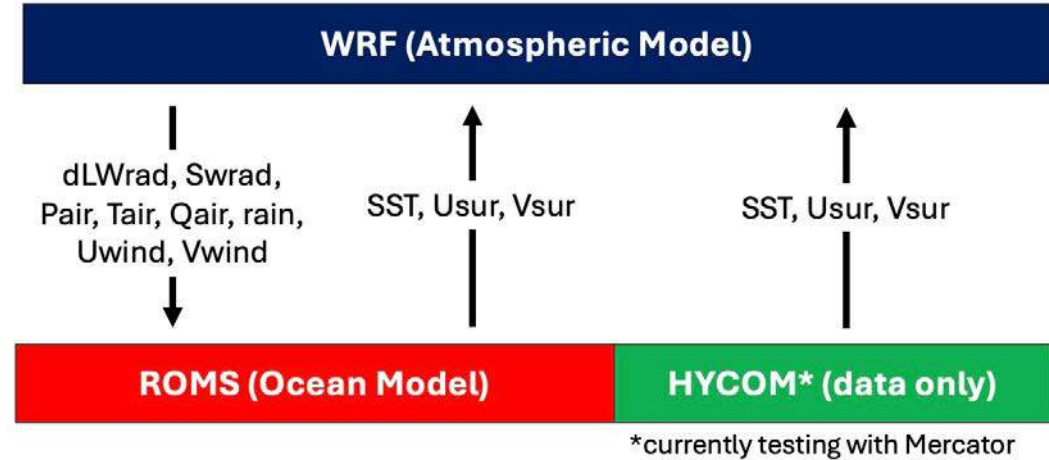
Gustiness-augmented speed

$$W_{mag} = \sqrt{U_{air}^2 + V_{air}^2}$$

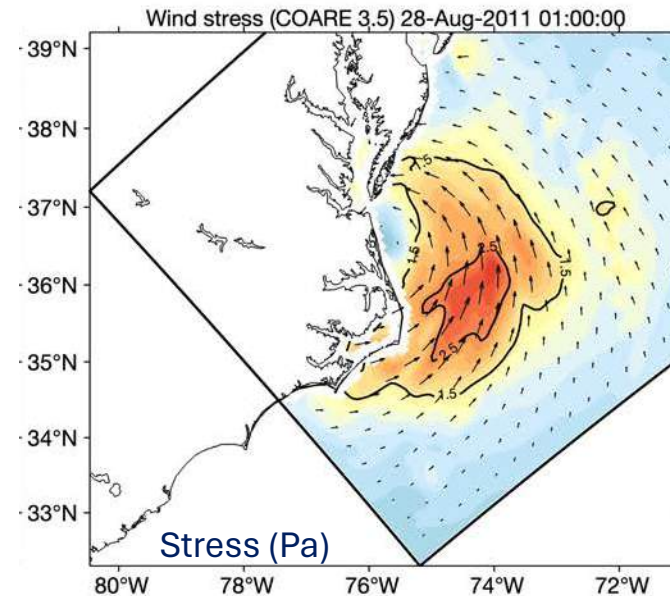
$$W_{speed} = \sqrt{U_{air}^2 + V_{air}^2 + W_{gus}^2}$$

Changes to Charnock alpha (v3.0 to v3.5)

NUOPC/ESMF Coupling with non-matching model grids



COARE 3.5 No currents



COARE 3.5 With currents

