

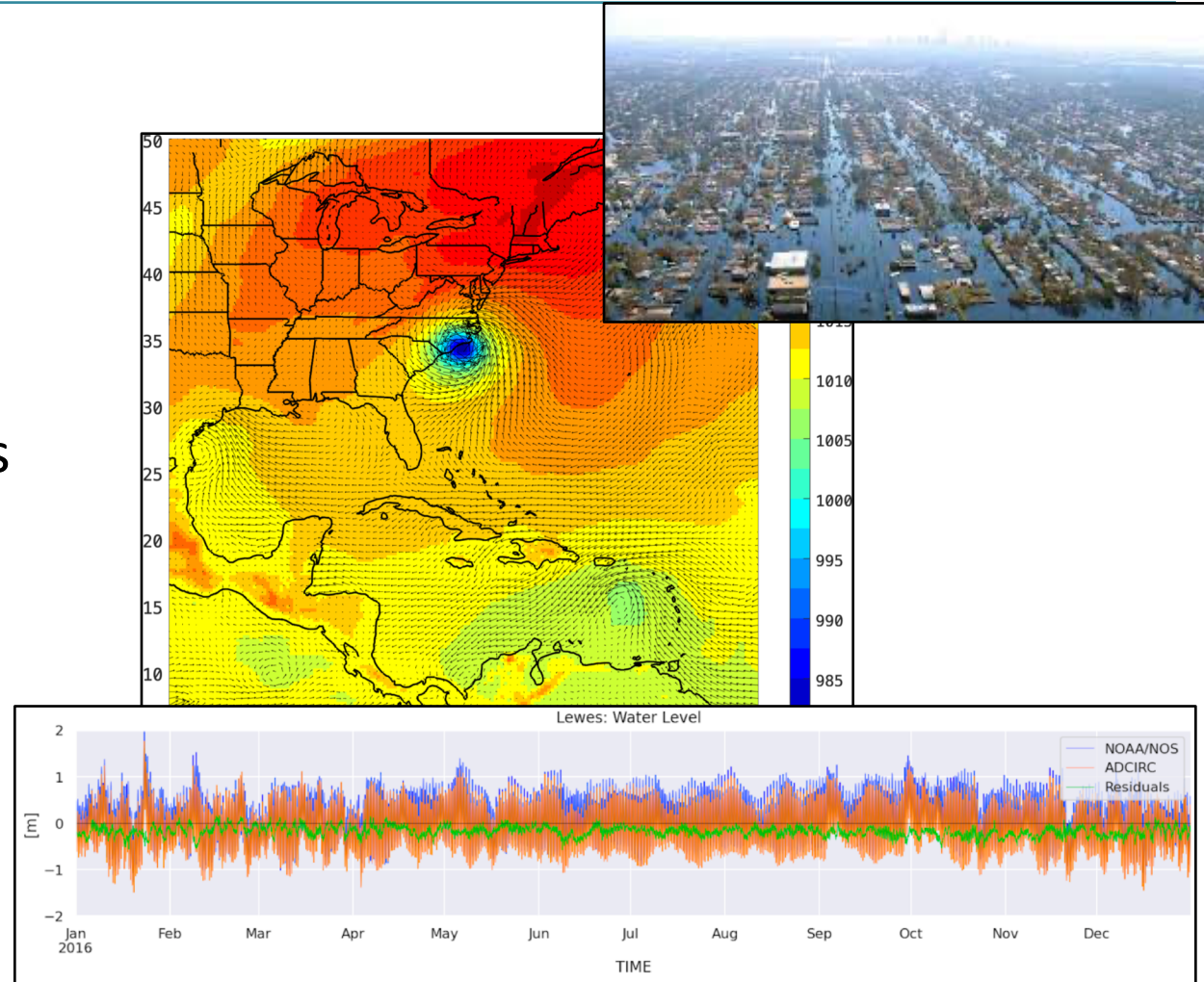
Multi-decadal reanalysis of coastal water level to support NOAA sea level and flood risk products

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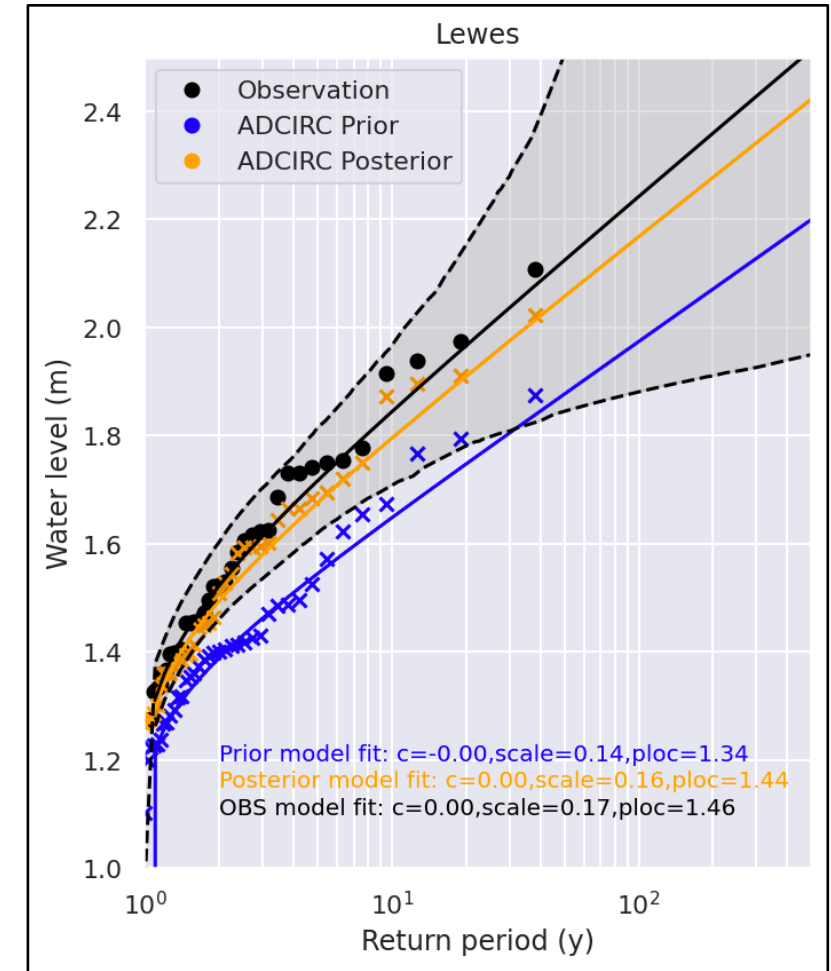
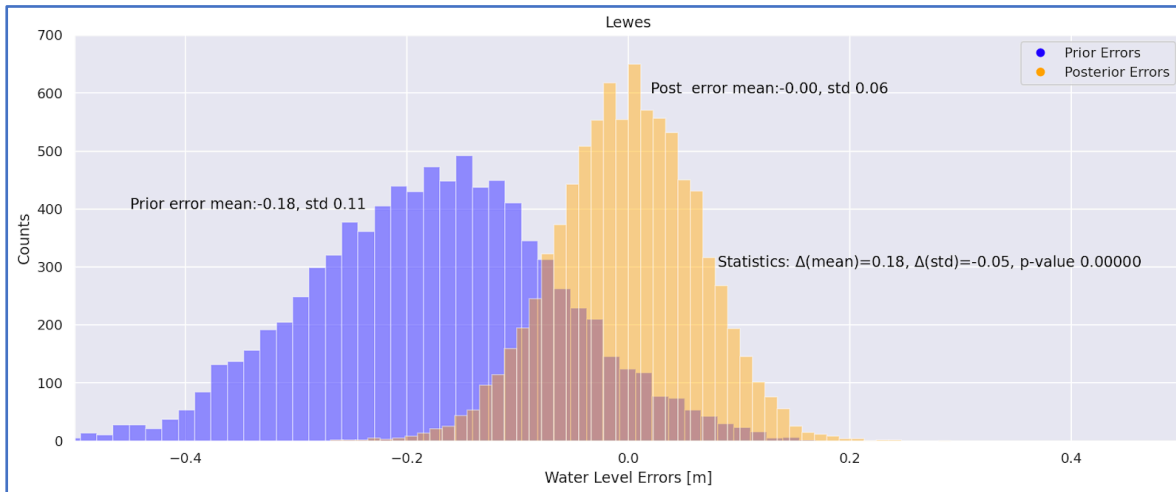
Overview of the Project

- Compute a comprehensive coastal water level **RE**analysis for the US East and Gulf of Mexico coasts.
- ADCIRC/SWAN + new Data Assimilation Scheme
- Provide long-term time series and statistics datasets for coastal hazard and risk analysis, impact studies, and (eventually) project into future climates
- Better understand sources of errors in water level predictions



Accomplishments

- Completed prototype in Delaware, Chesapeake Bay
- Substantial improvement in predicted hazard levels



Challenges and Looking Ahead

- Challenges
 - “Sparse” historical water level records
 - Compute resources, big computational problem
- Next steps
 - Finalize East Coast, GoMex analysis
 - Add in (depth-integrated) baroclinic component

