

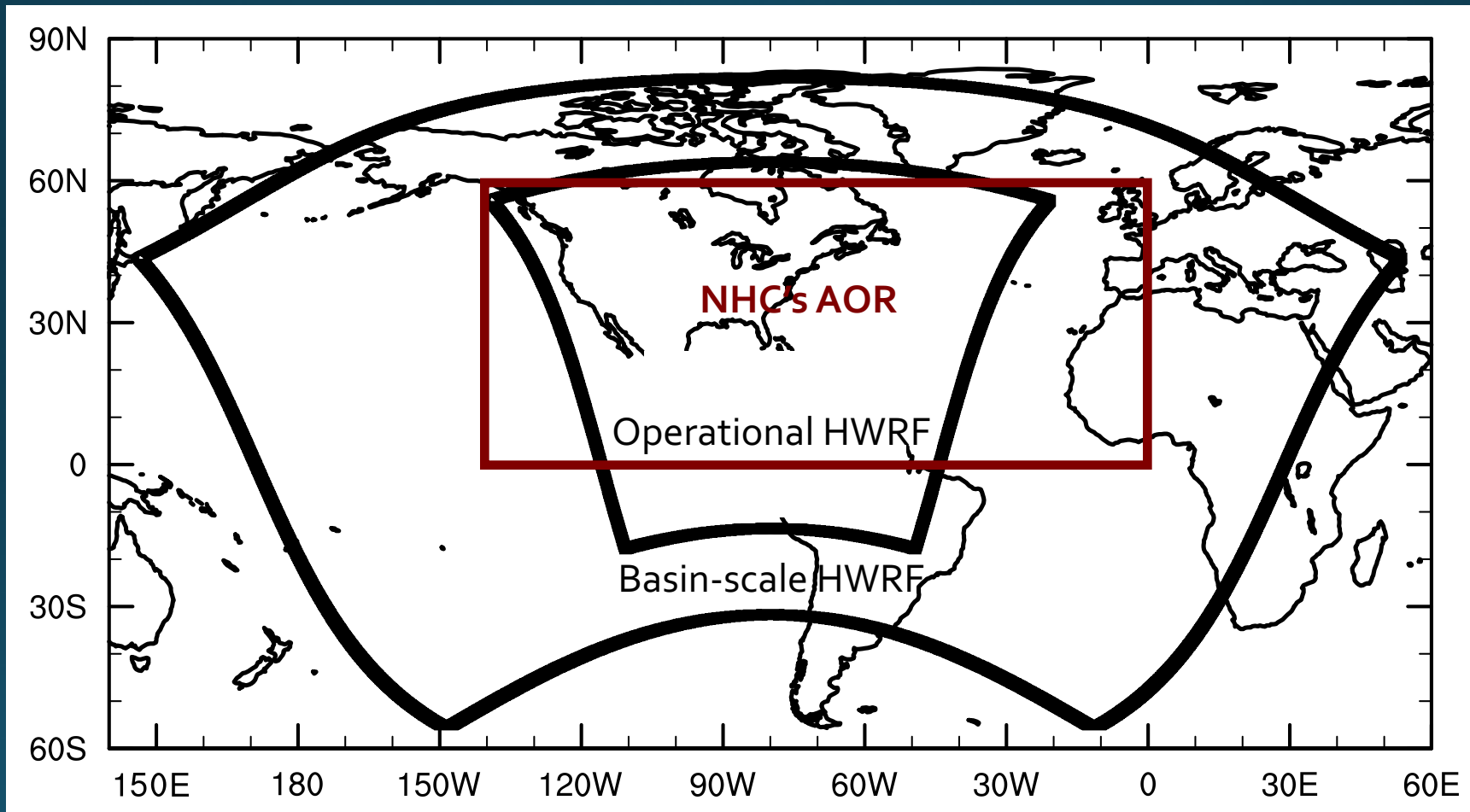
# Developing Basin-scale HWRF (HWRF-B) Ocean-Atmosphere Coupled System

Presented by Xuejin Zhang & Ghassan Alaka (AOML/HRD & University of Miami/CIMAS)

Collaborators: AOML/HRD modeling team; NCEP/EMC HWRF Team; DTC; University of Rhode Island; GFDL

Acknowledgement: HFIP

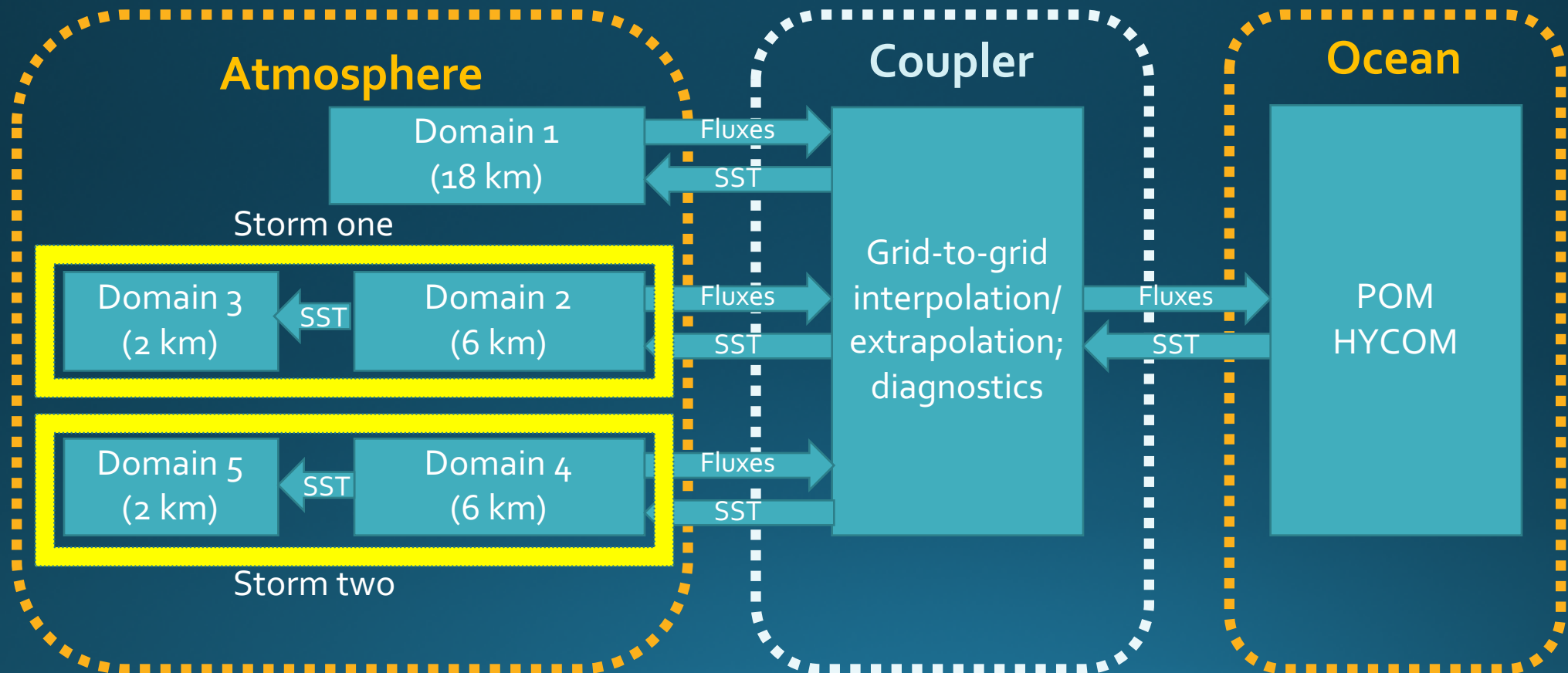
# HWRF-O vs. HWRF-B



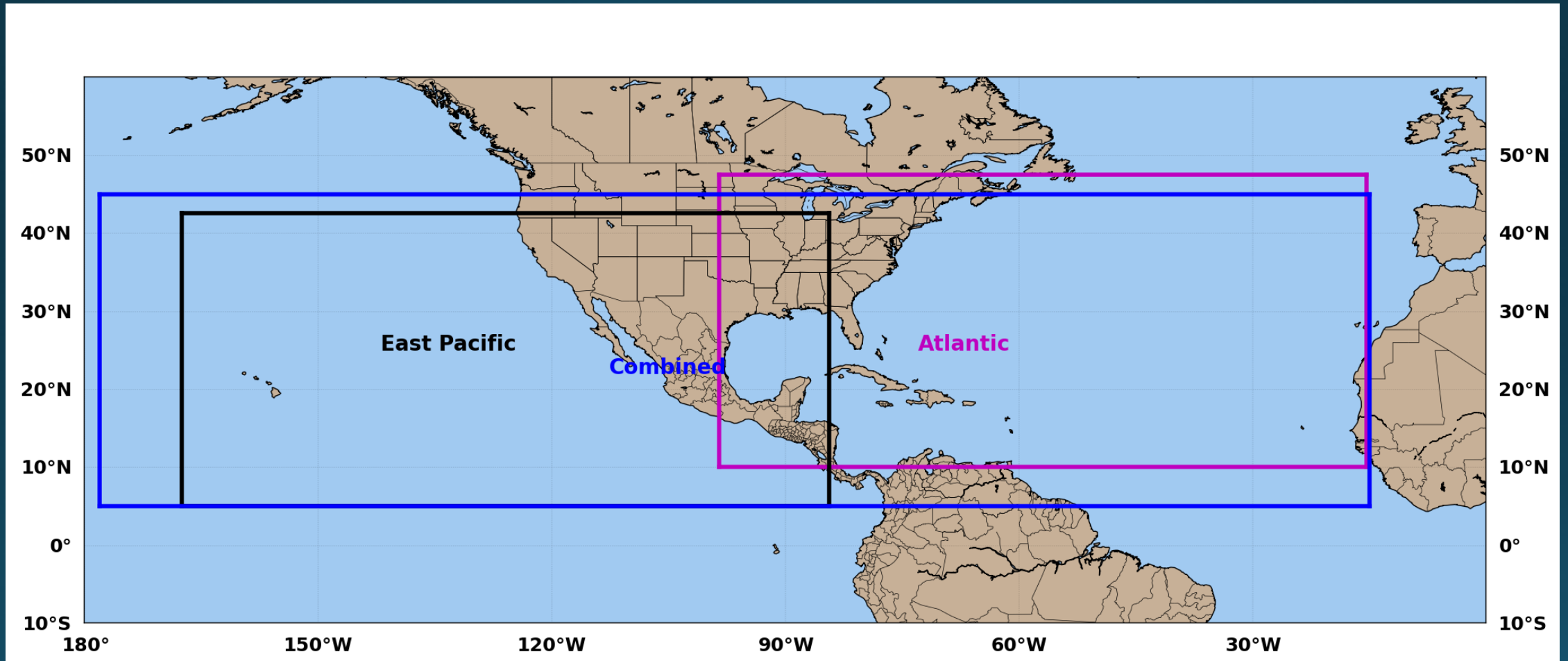
Outer black box: Basin-scale HWRF; Inner black box: Operational HWRF

Red box: NHC's Areas of Responsibility

# HWRF-B Ocean-Atmosphere Coupled System

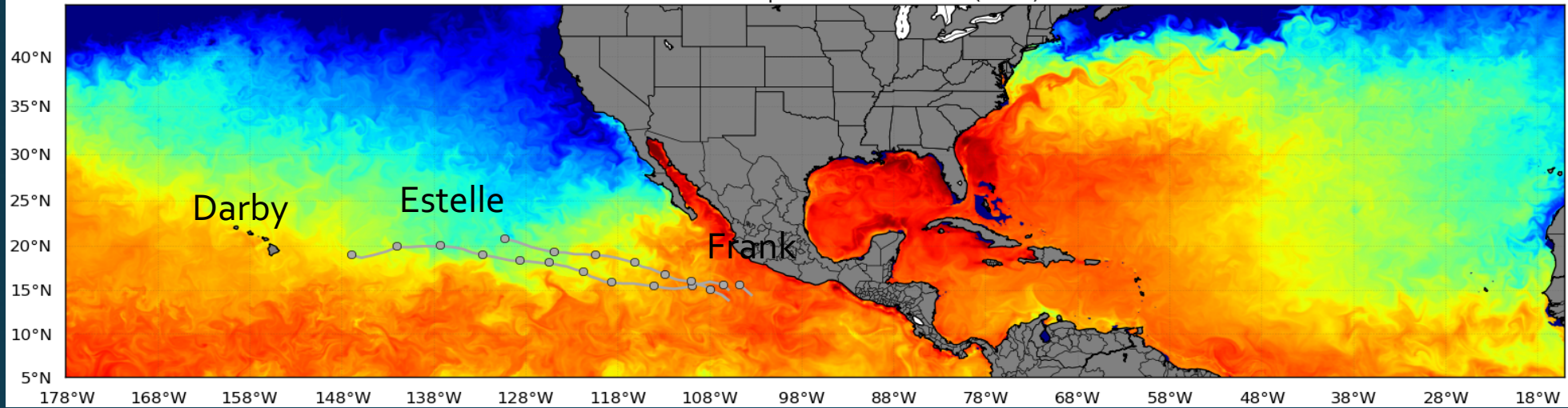


# HWRF-B Oceanic Component (MPIPOM-TC)

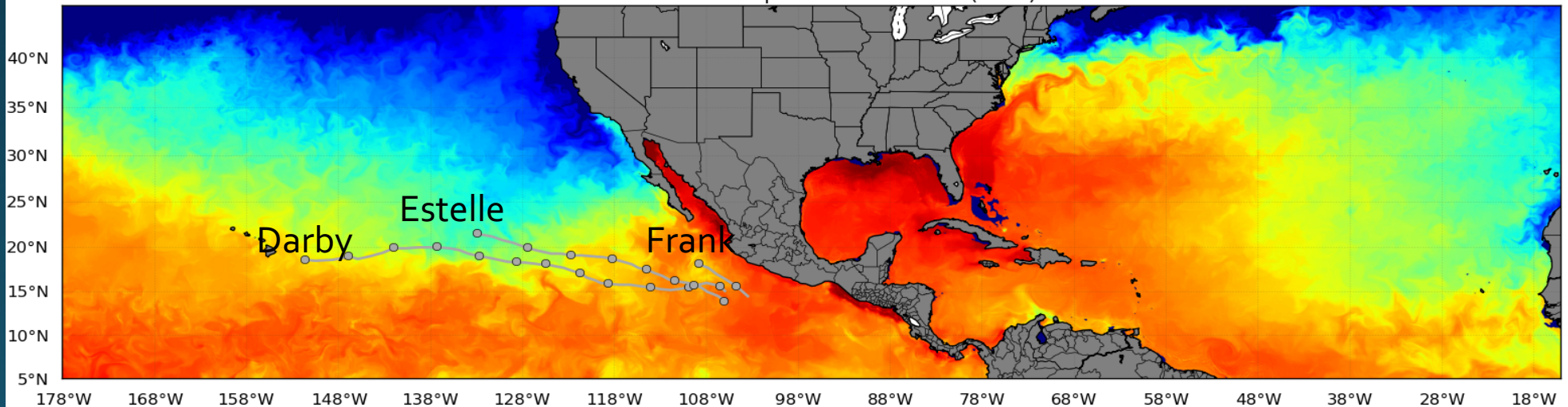


# Sea Surface Temperature

Hurricane: DARBY, FRANK & ESTELLE(Jul. 22 2016 00Z)  
Sea Surface Temperature at 00Hours(FCST)

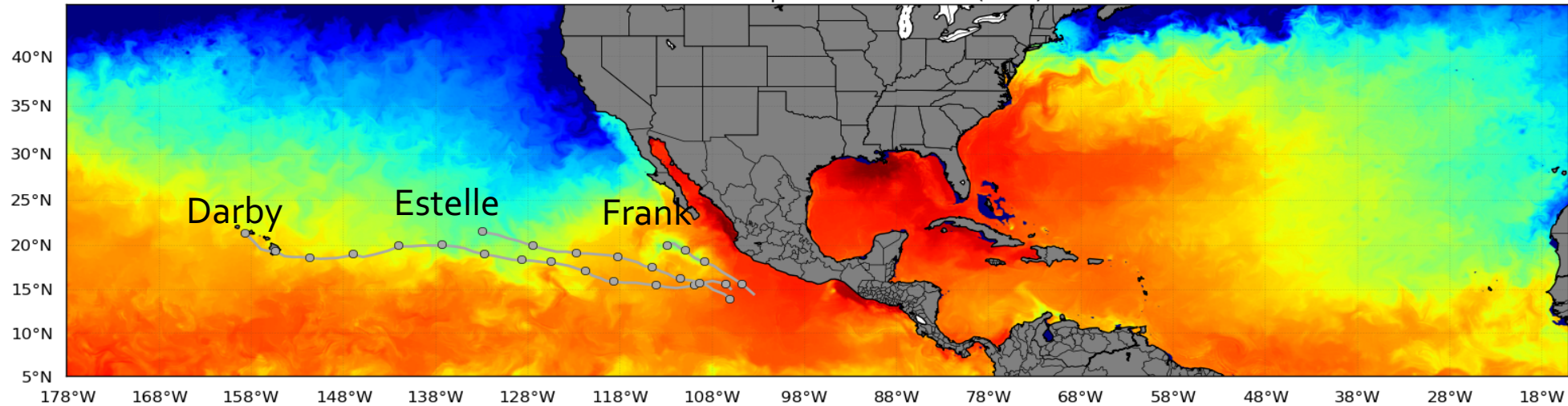


Hurricane: DARBY, FRANK & ESTELLE(Jul. 22 2016 00Z)  
Sea Surface Temperature at 24Hours(FCST)

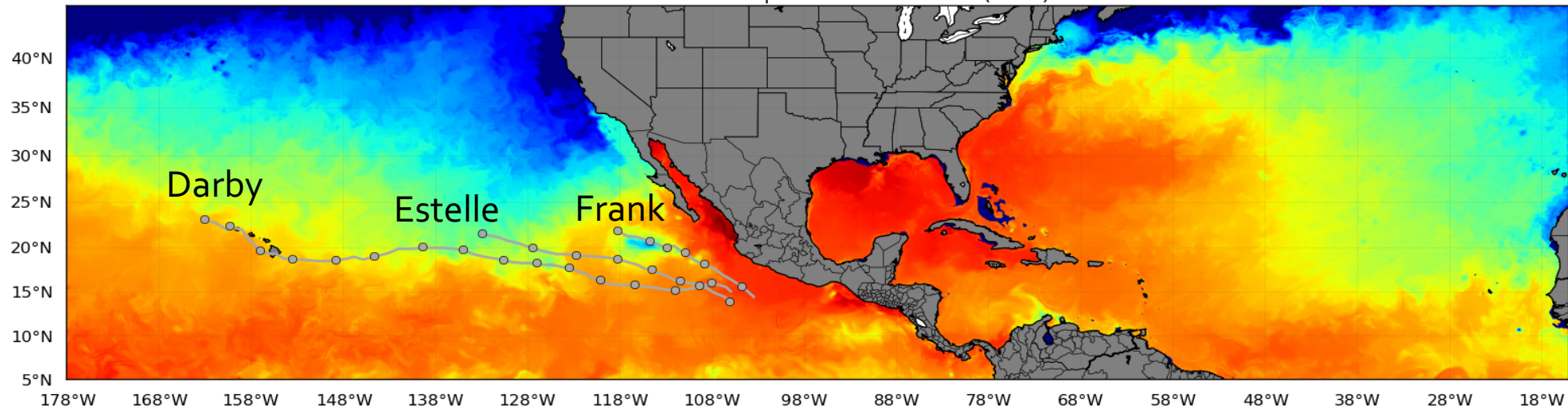


# Sea Surface Temperature

Hurricane: DARBY, FRANK & ESTELLE(Jul. 22 2016 00Z)  
Sea Surface Temperature at 72Hours(FCST)

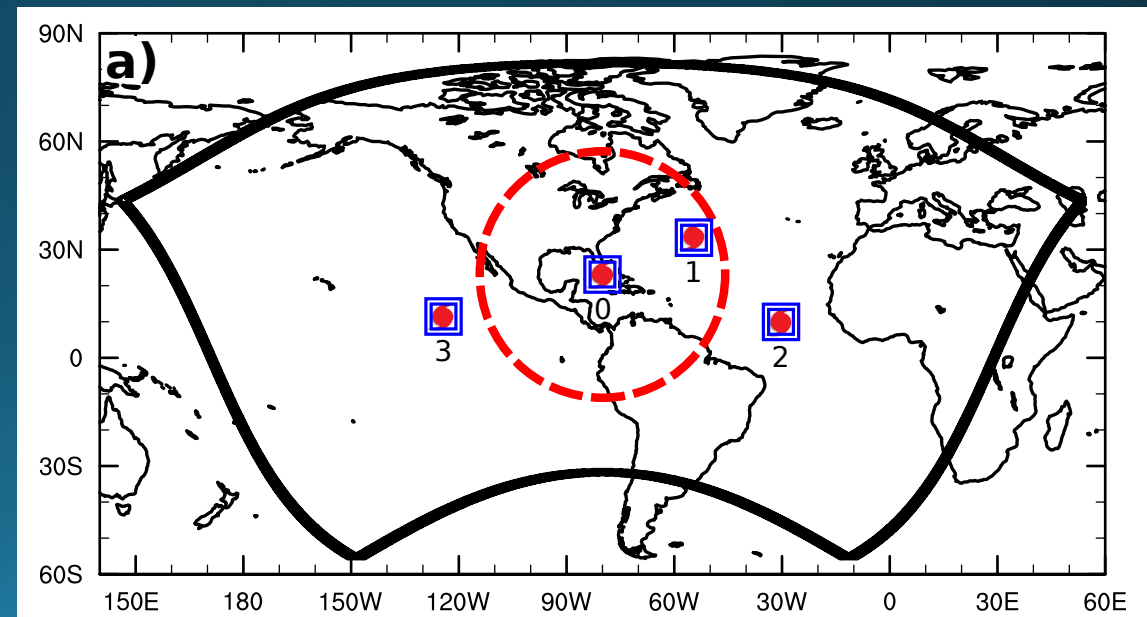


Hurricane: DARBY, FRANK & ESTELLE(Jul. 22 2016 00Z)  
Sea Surface Temperature at 120Hours(FCST)



# Real-Time Basin-Scale HWRF

- Large outer domain, multiple storms
- Same physics as operational HWRF
- Running two nearly identical systems:
  - HB16 (18-6-2,  $\leq 4$  storms)
    - Ocean coupling soon
    - Run in JET reservation
  - HB15 (27-9-3,  $\leq 5$  storms)
    - Baseline for HB16
    - Run outside reservation



<http://storm.aoml.noaa.gov>

## Basin-Scale HWRF

Mean Sea-Level Pressure (hPa; shading and contours)

Init: 06z Wed, Sep 07 2016 Forecast Hour:[000] valid at 06z Wed, Sep 07 2016

