

# **Subtask 1.2:**

## Scenario-Driven and Real-Time Information based Storm and Evacuation Plan

### **Led by:**

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**Mar 27, 2014 Meeting**



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# SBU SUB-TASKS

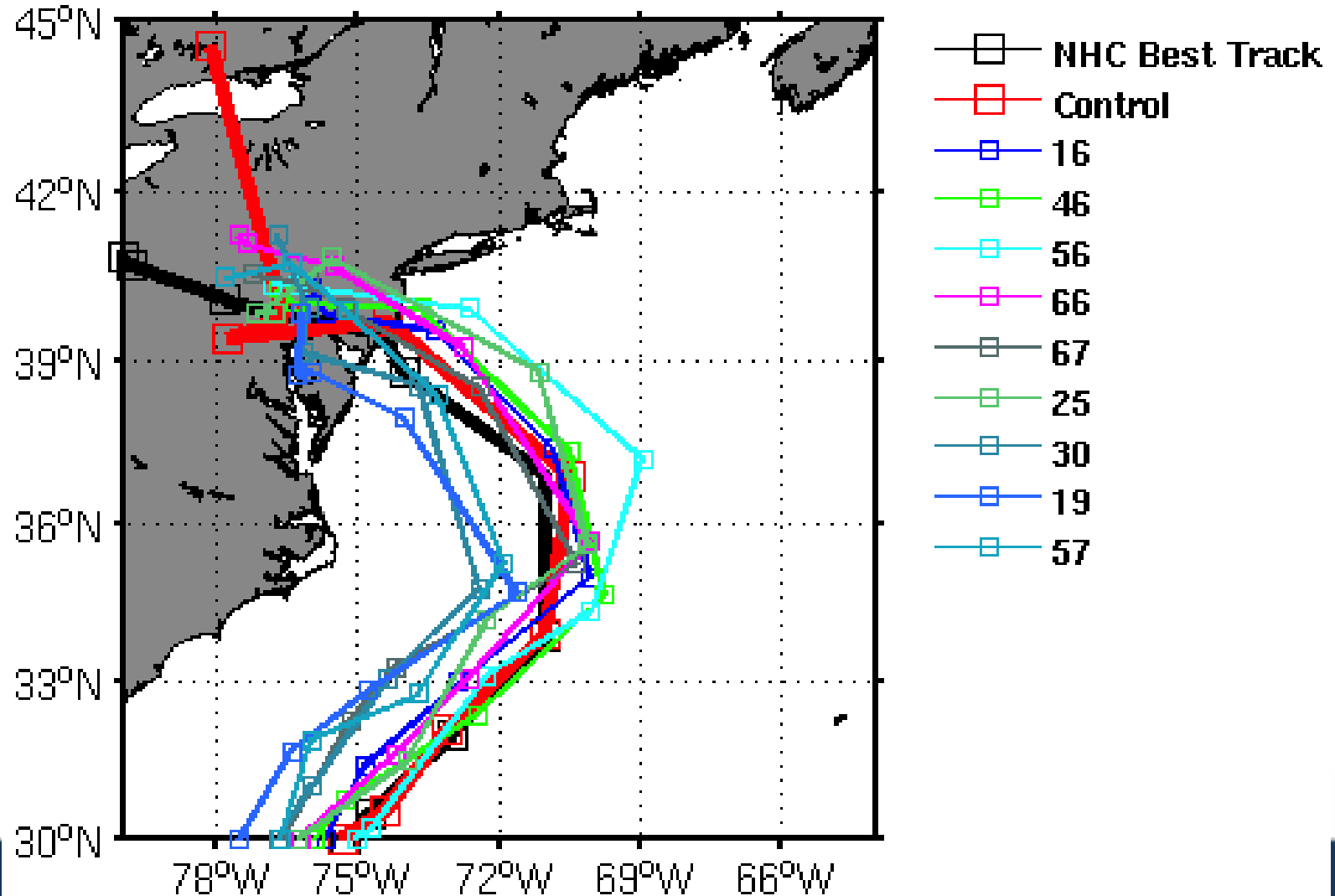
- Construct proof of concept dataset for evacuation and graphical display: Ensemble WRF/ADCIRC simulations of hurricane Sandy.
- Illustrate how relatively small changes in the track and intensity can lead to relatively large water level differences— good for evacuation scenario tests.
- Develop a mapping approach using LIDAR data and predictions to flood at street level for various storm surge scenarios.
- Display water level predictions in Virtual Reality Deck.



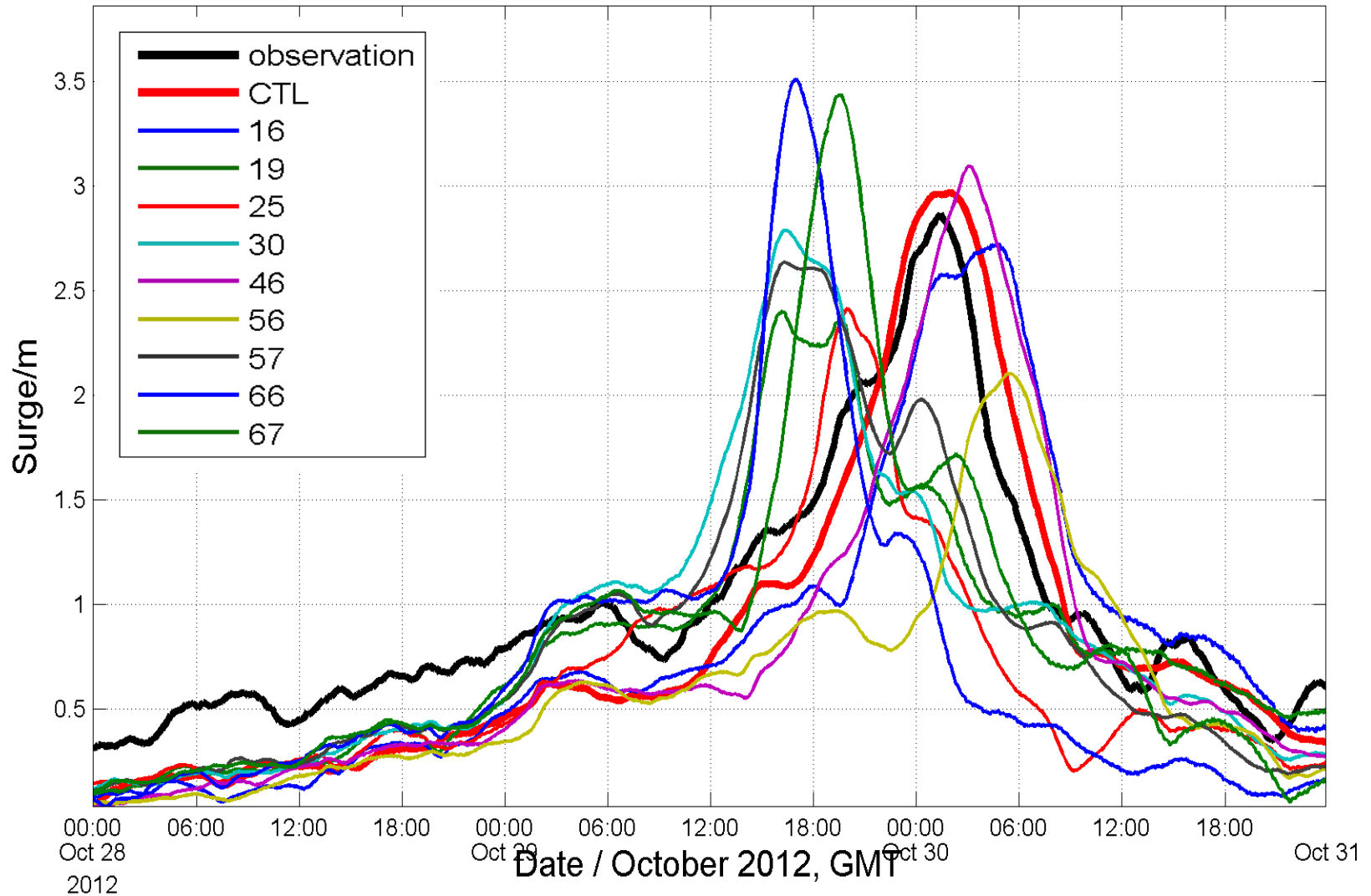
# 3-km WRF EnKF Runs Analyzed

**Control: 26/00Z – 28/00Z + 28/00-31/00Z Runs**

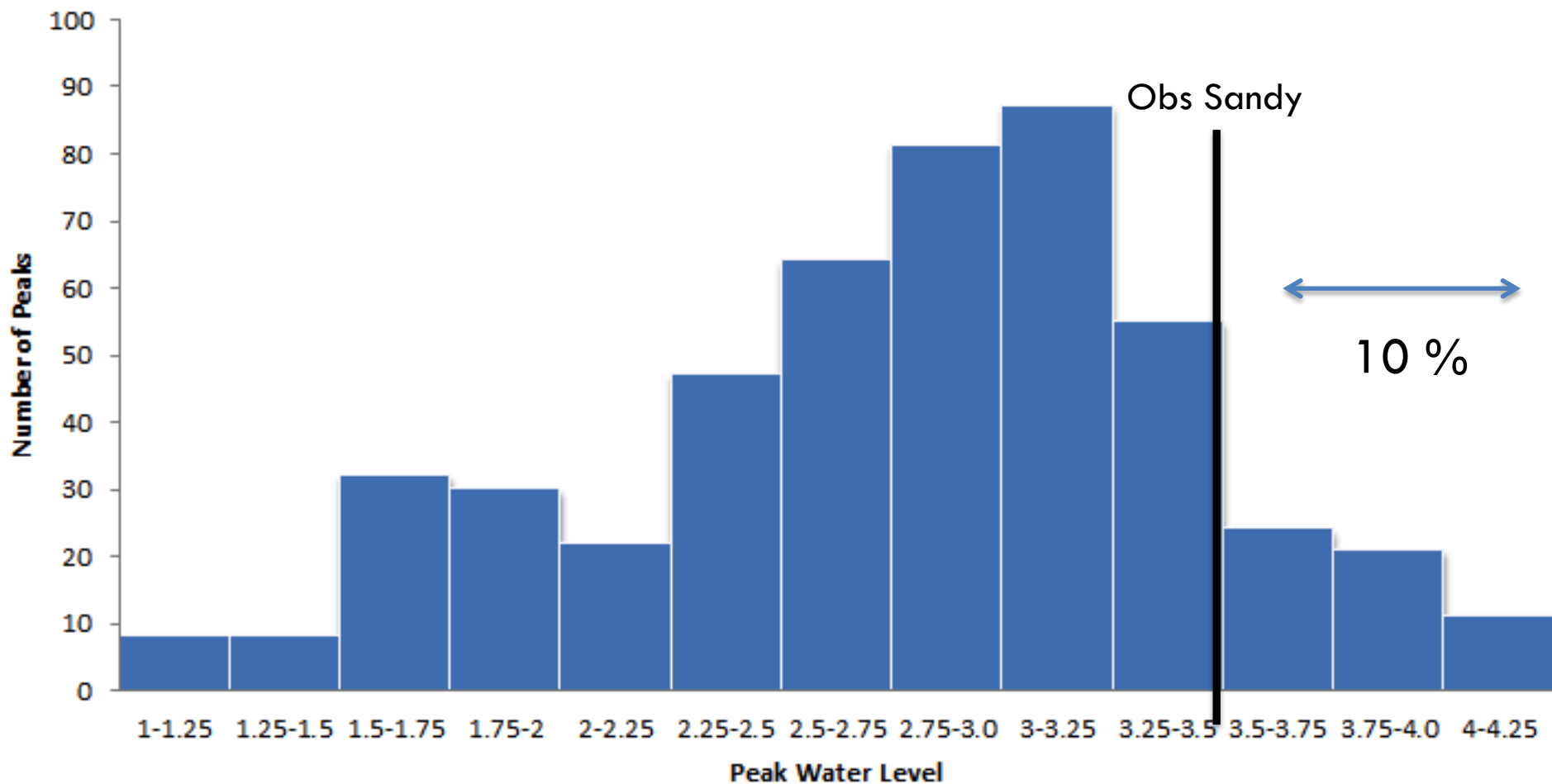
**Random 9 “Good” Members from 26/00Z**



# Battery: Ensemble Storm Surge (in meters)

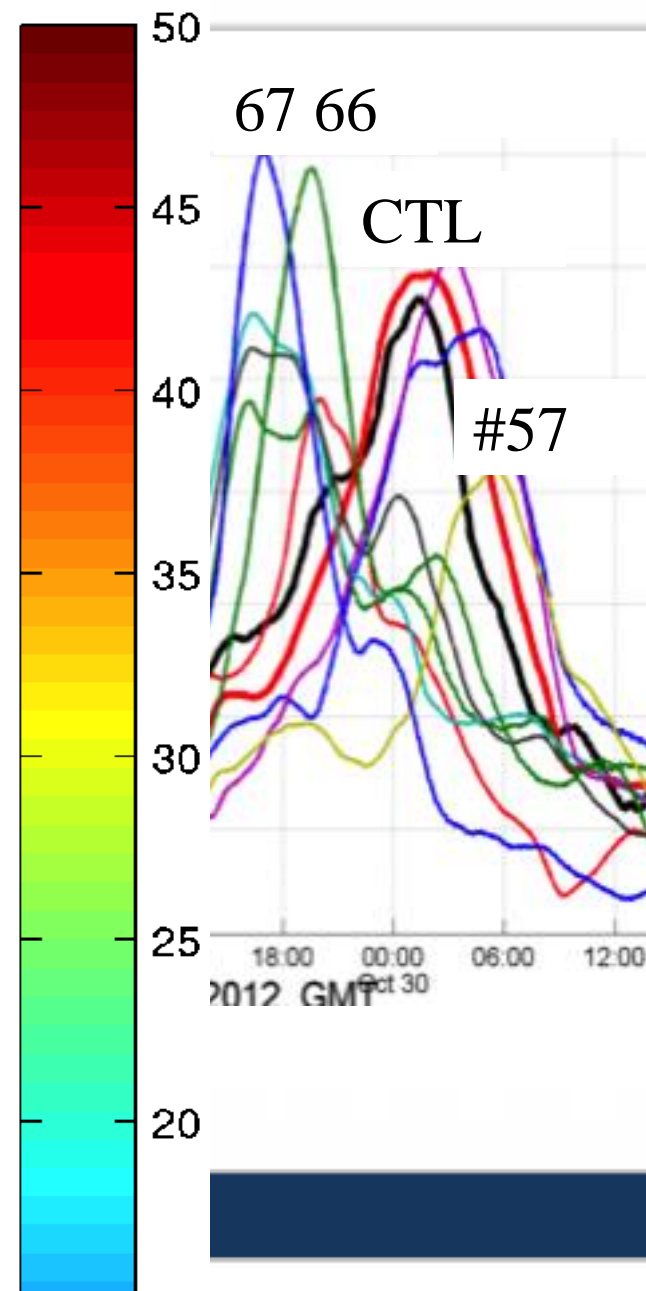
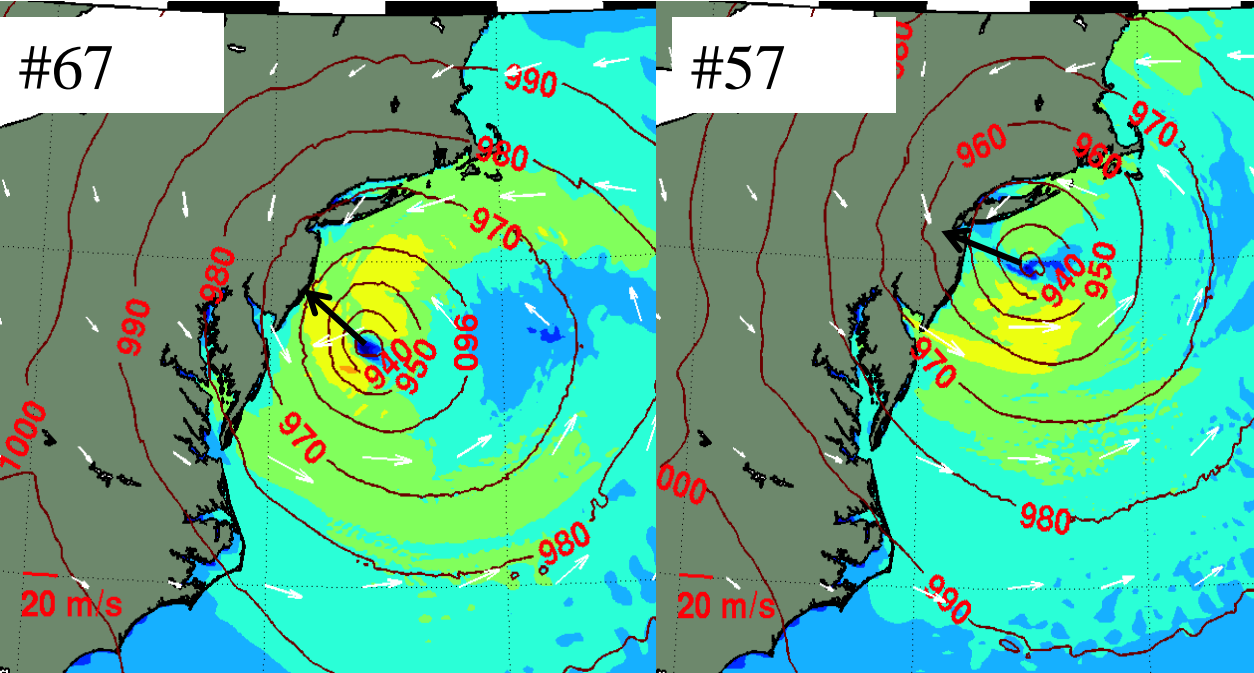
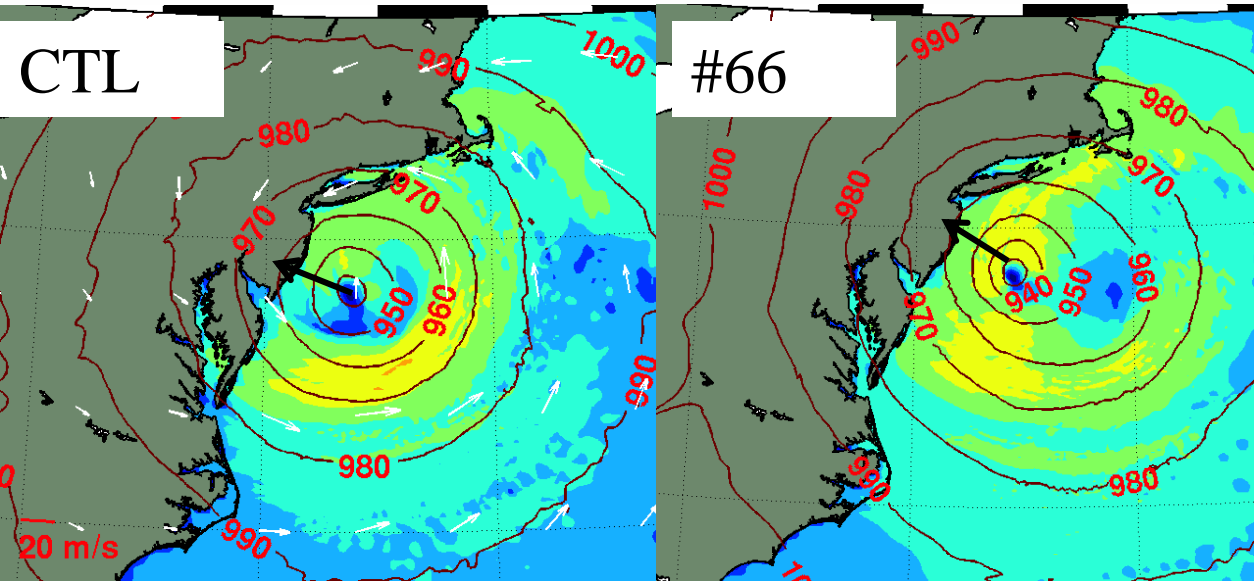


# Distribution of Peak Water Level based on shifted tide



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# Sensitivity to small track/wsp (m/s) changes

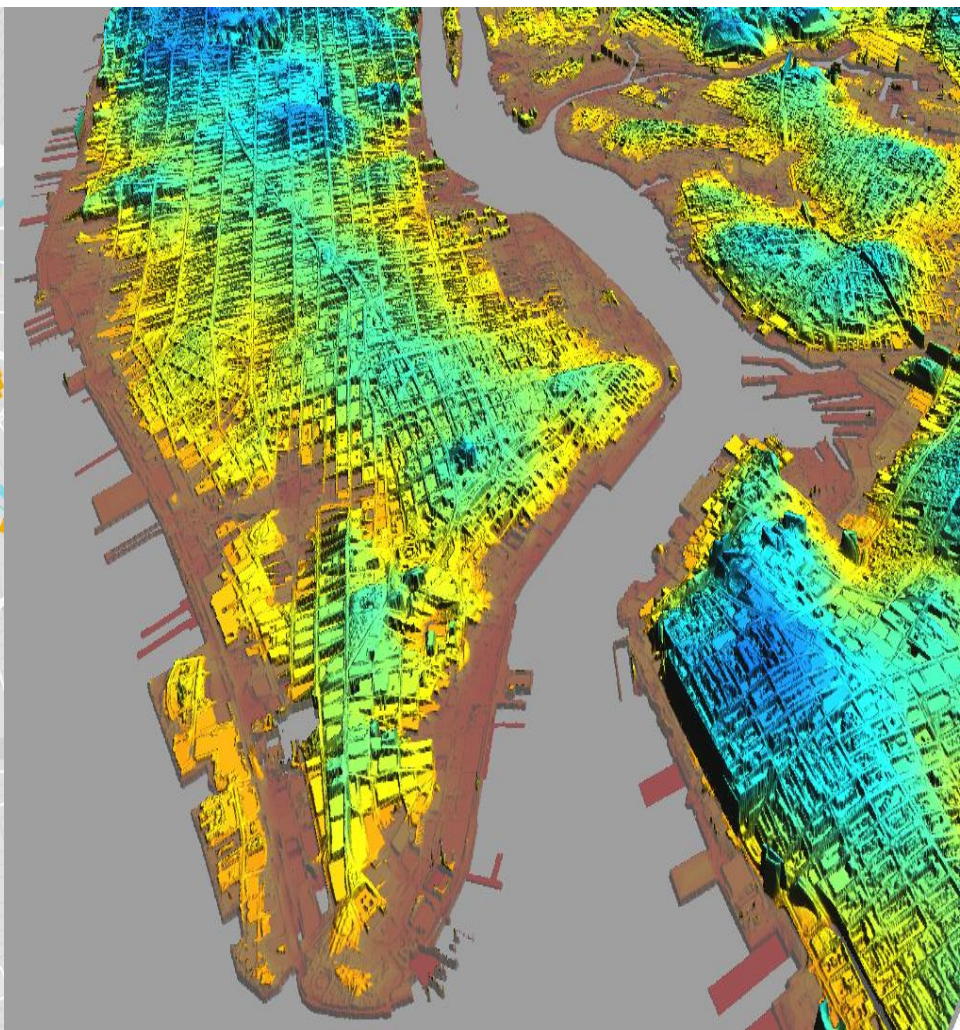


# NYC Observed flooding vs ADCIRC for CTL run (using 1-ft DEM from LIDAR)

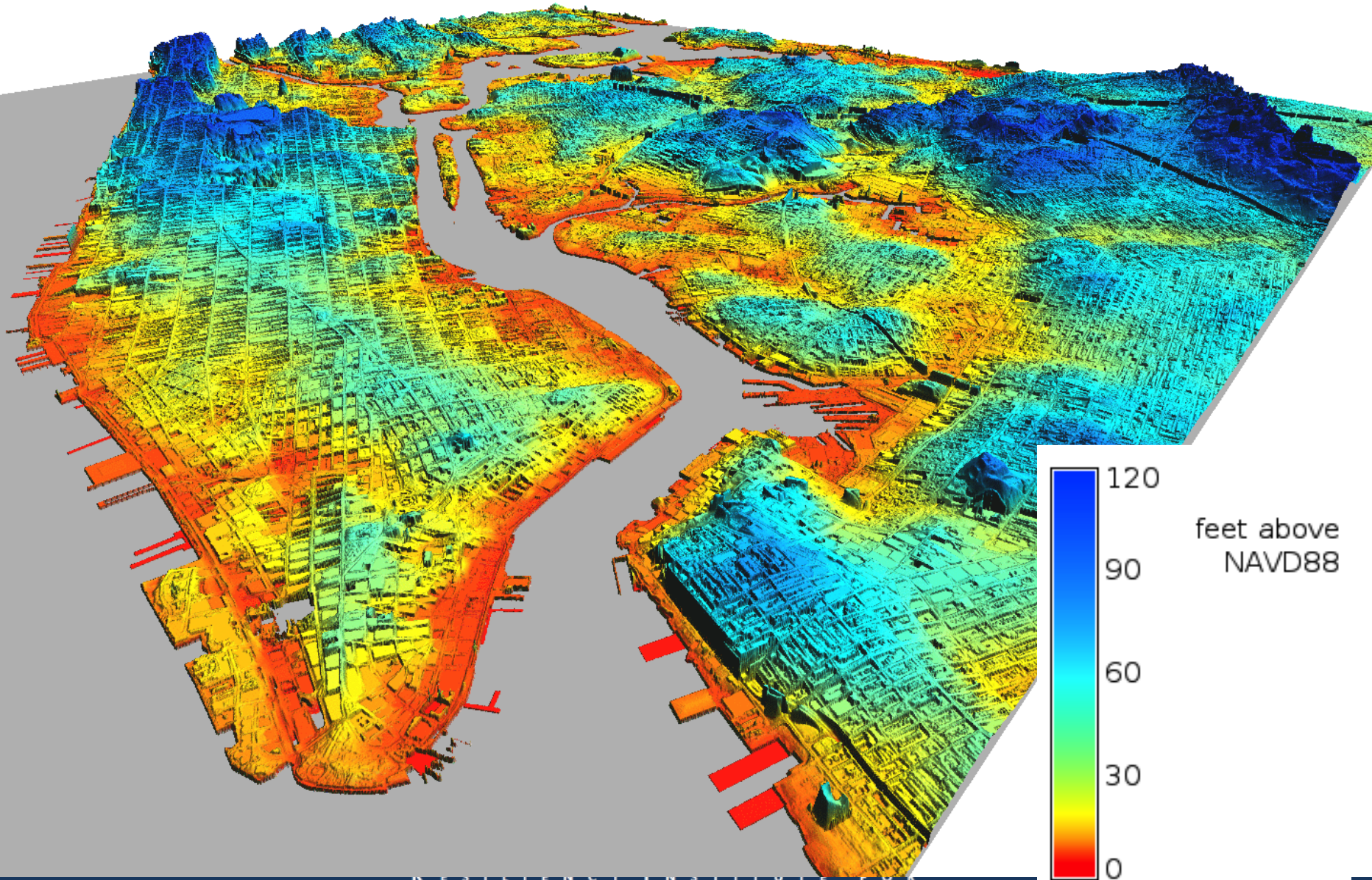
Obs Flooding (NY Times/USGS)



ADCIRC CTL run (brown = flood)



# ADCIRC larger surge #66 at high tide



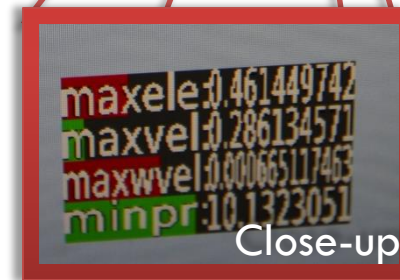
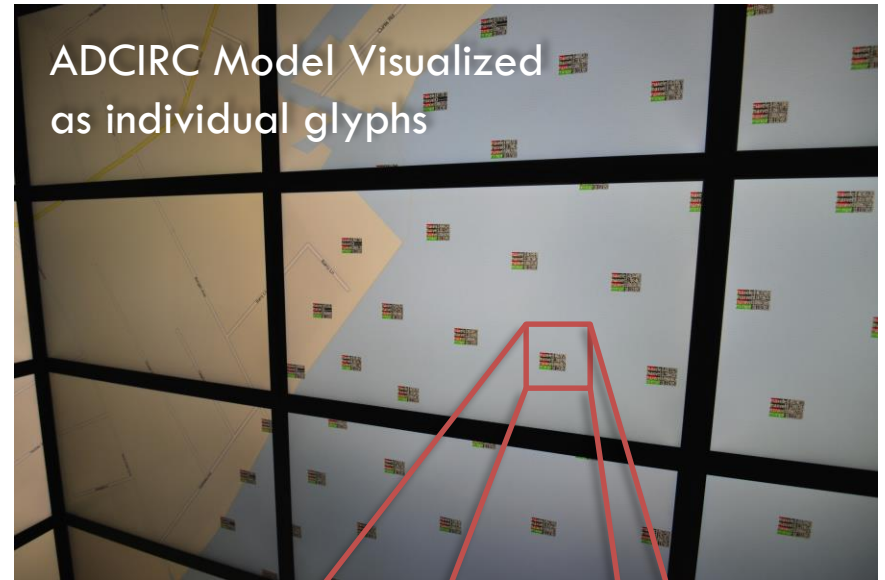
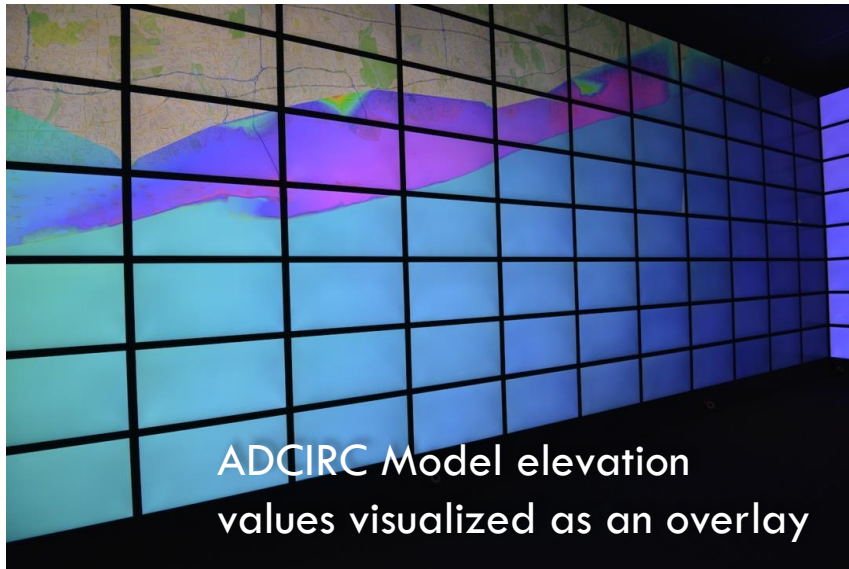


# CVC – MILESTONE STATUS

- ADCIRC Model Output Processing – Prototype Complete
- Multiple Visualization Modalities:
  - Glyphs – data value display + grid point visualization
  - Overlay – color-mapped simulation data
  - Visual storm-surge simulation
- TODOs:
  - Triangulation-preserving ADCIRC processing
  - Fusion of ADCIRC surge data with elevation
  - Preprocessing of multi-modal elevation (USGS+LiDAR)
  - Performance + UI Improvements



# CVC – RESULTS



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