

# **Subtask 1.2:**

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

### **Led by:**

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**July 24, 2014 Meeting**



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# SBU 1.2 TASKS

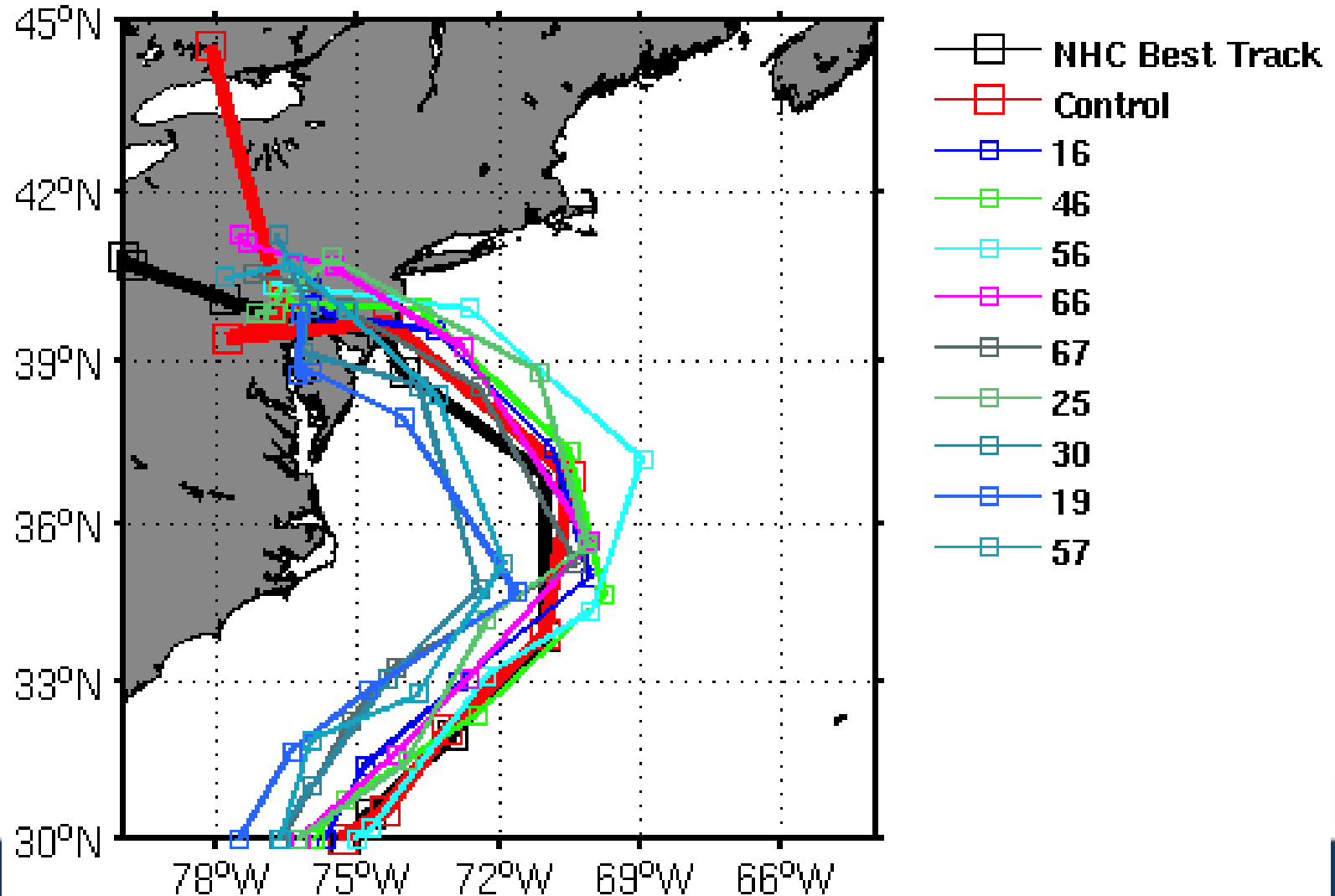
- Construct proof of concept dataset for evacuation and graphical display: Ensemble WRF/ADCIRC simulations of hurricane Sandy.
- Illustrate how relatively small changes in the track and intensity can lead to relatively large water level differences— good for evacuation scenario tests.
- Develop a mapping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



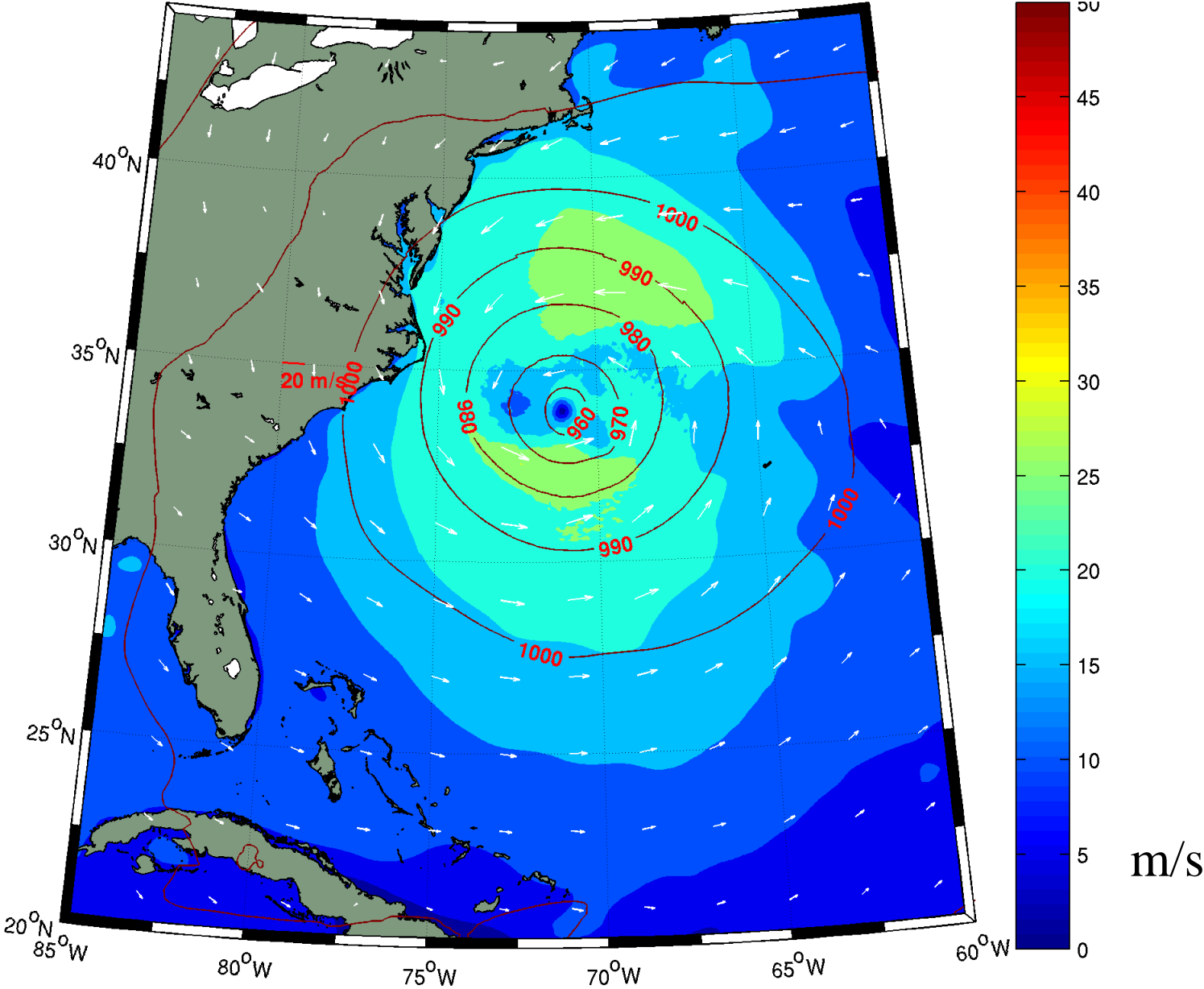
# 3-km WRF EnKF Runs Analyzed

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

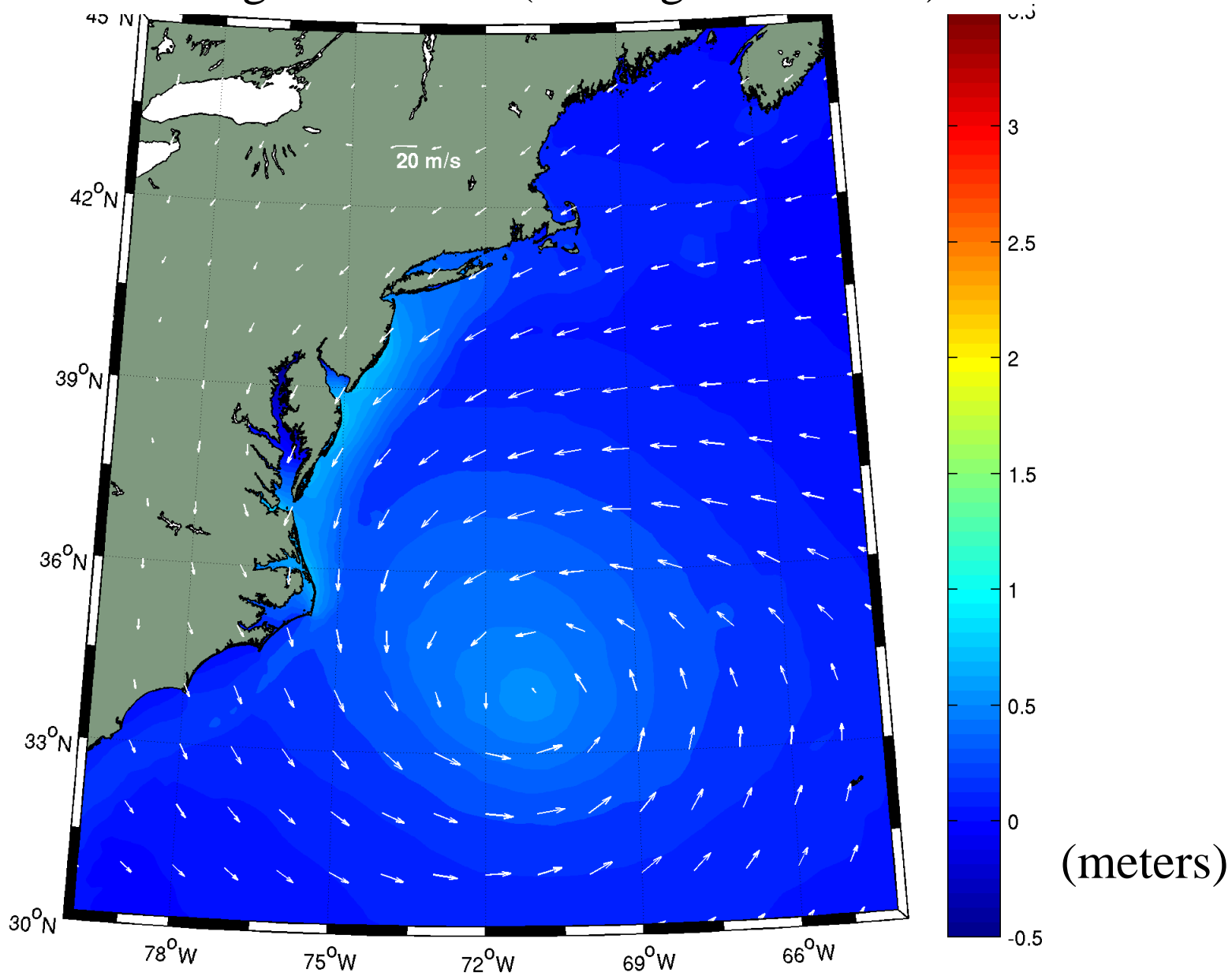
**Random 9 “Good” Members from 26/00Z**



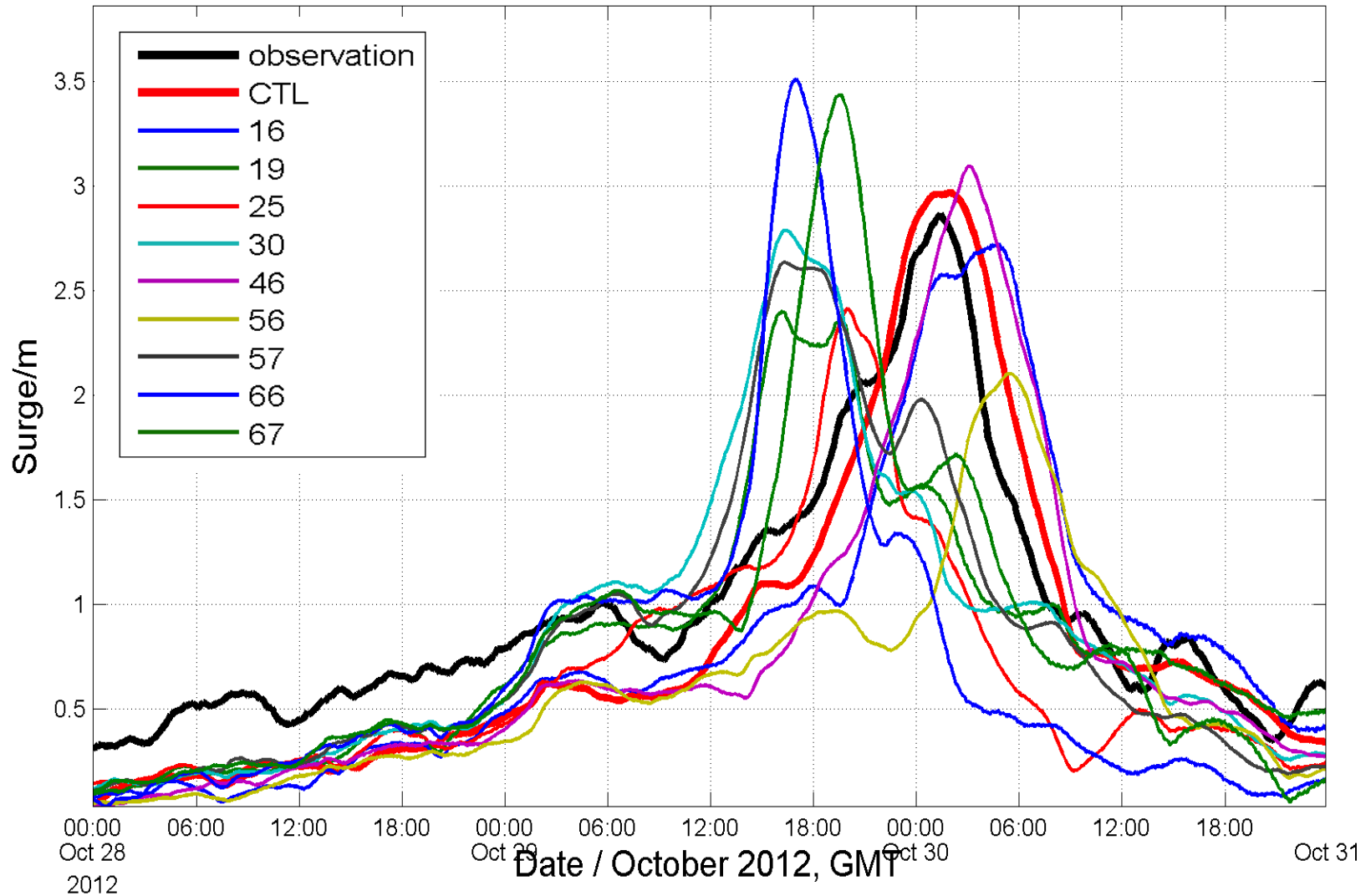
# CTL WRF run wind/slp animation (starting 29/00 UTC)



# CTL surge animation (starting 29/00 UTC)

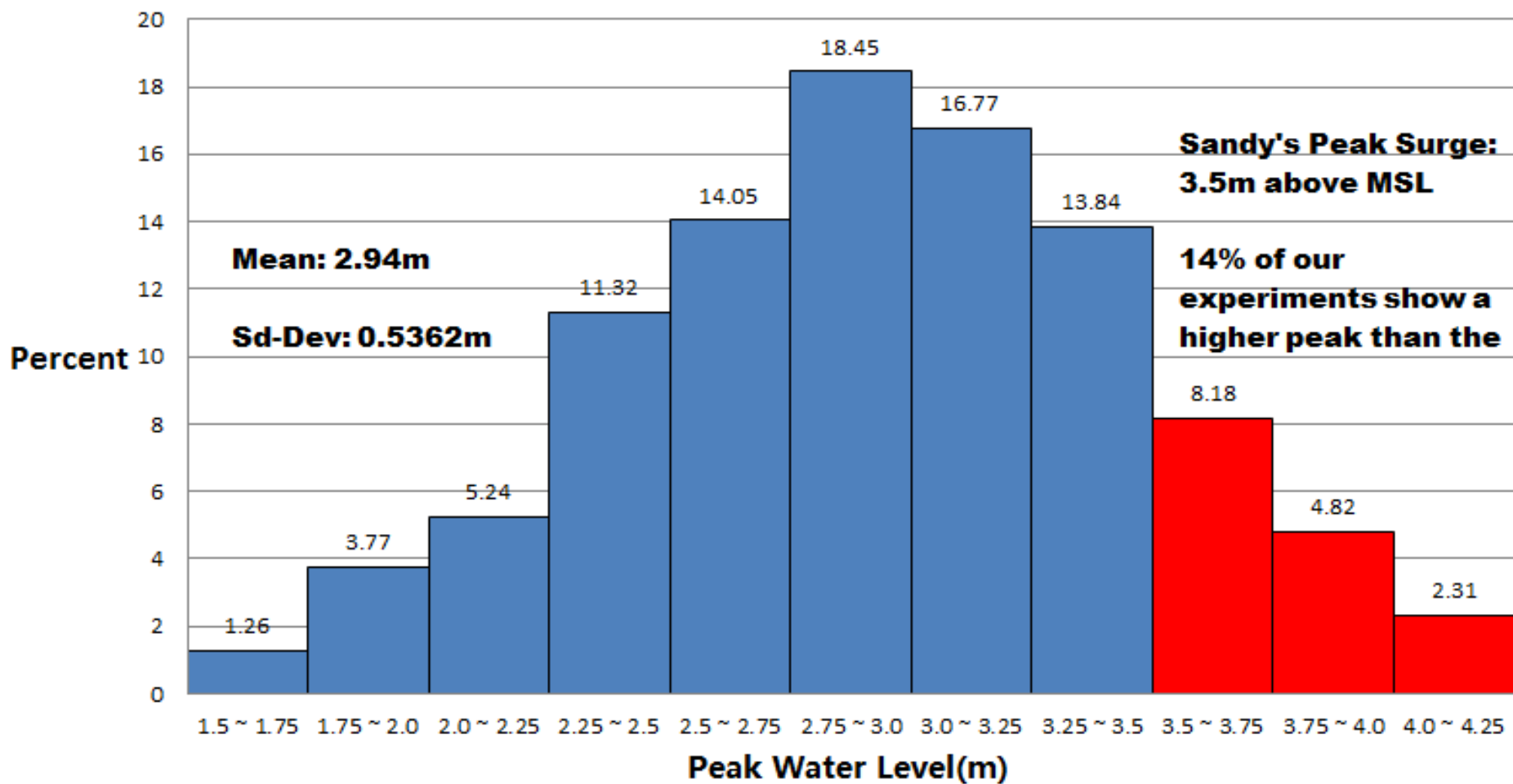


# Battery: Ensemble Storm Surge (in meters)





## Distribution of Peak Water Level at Battery NY

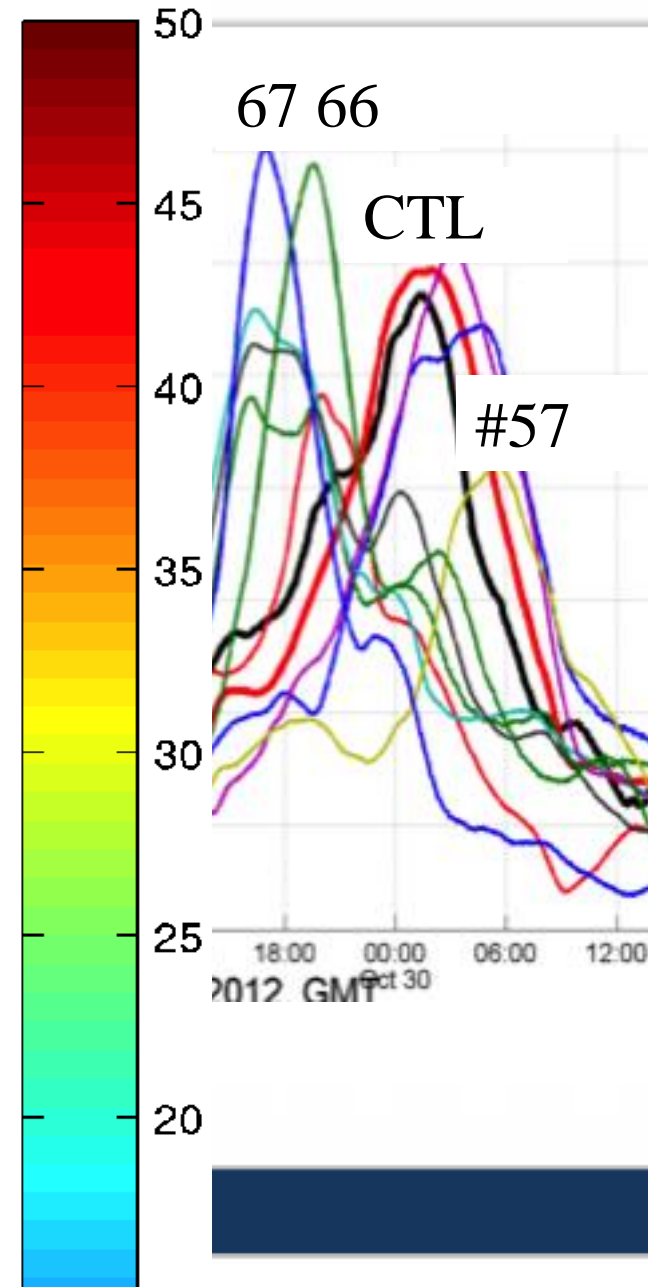
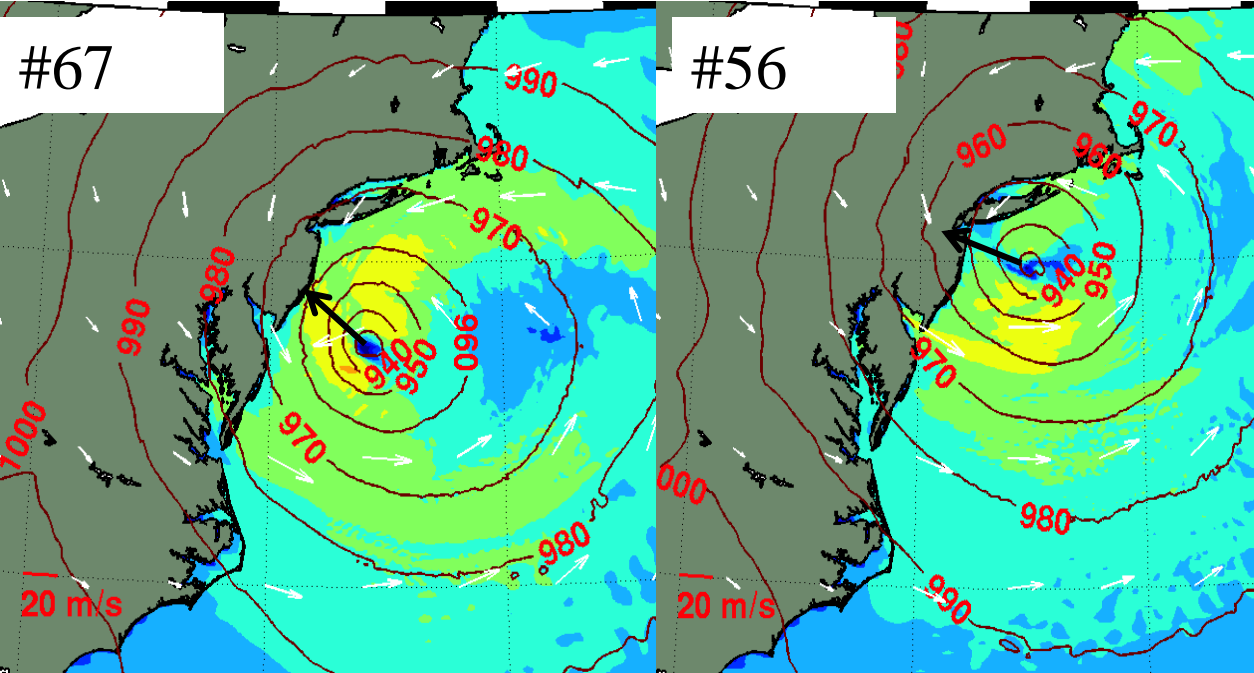
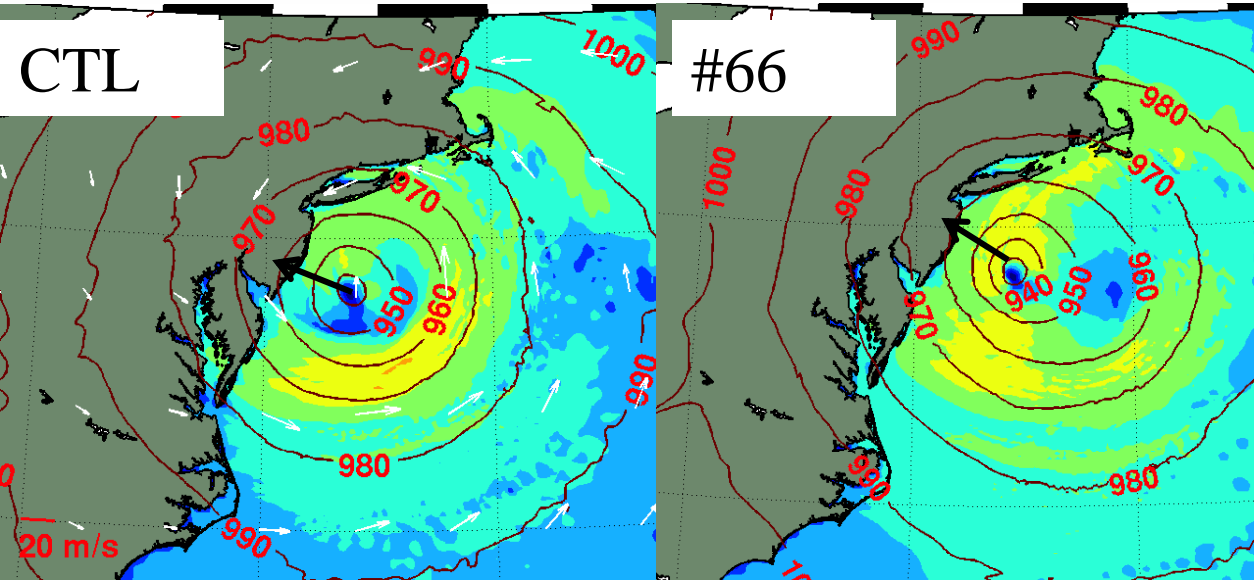


NYS RISE

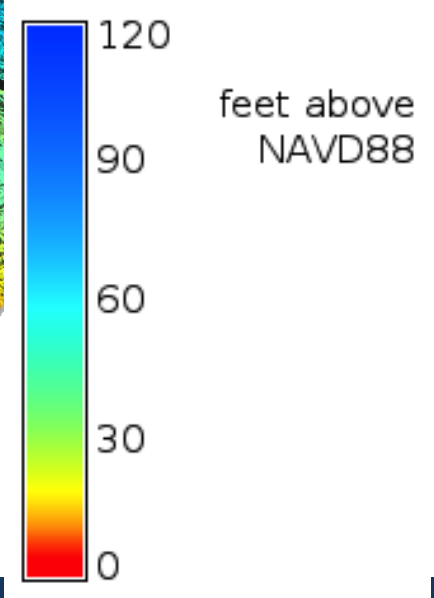
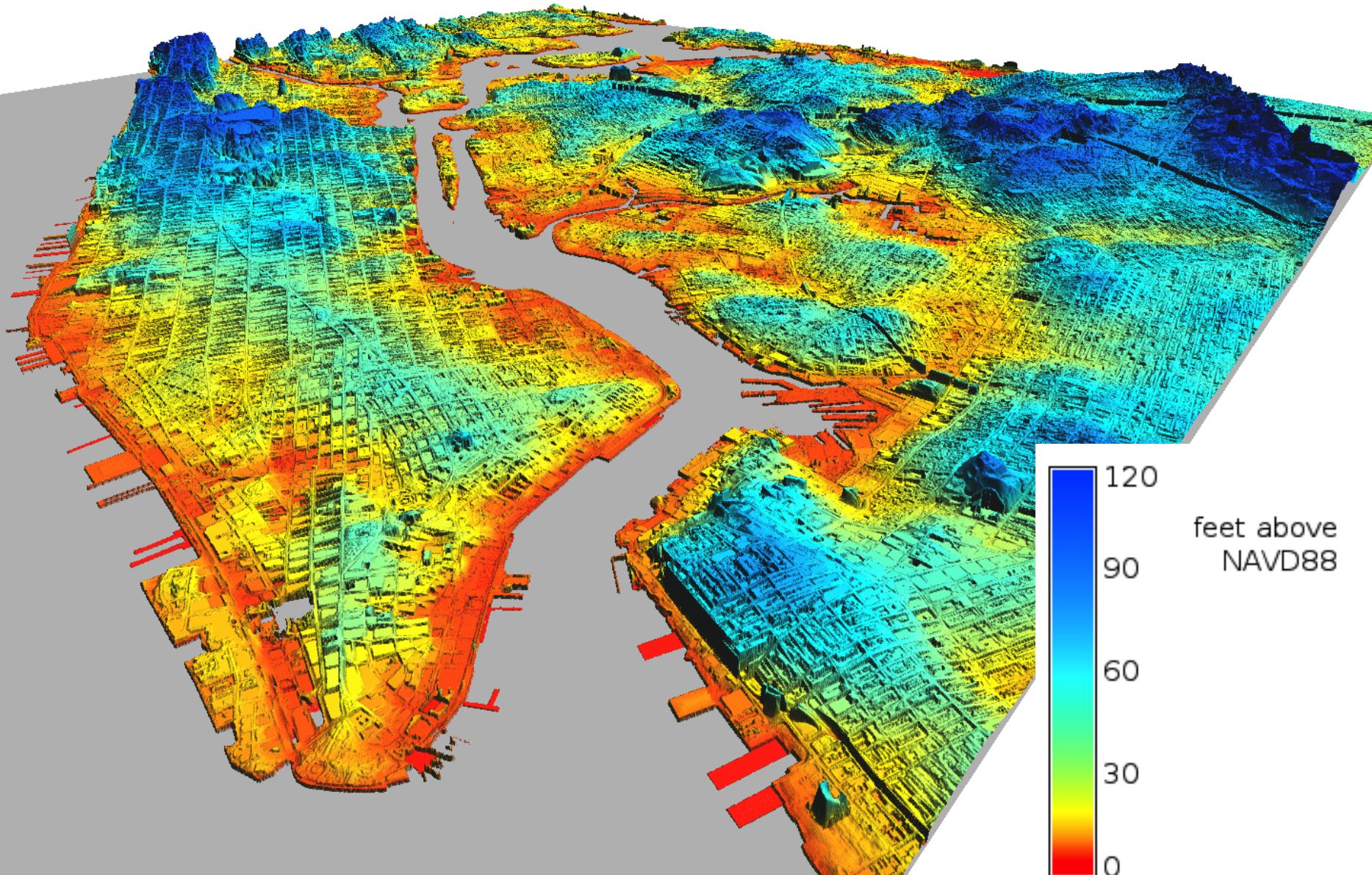
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# Sensitivity to relatively small track/wsp (m/s) changes



# Sandy Flooding Simulated



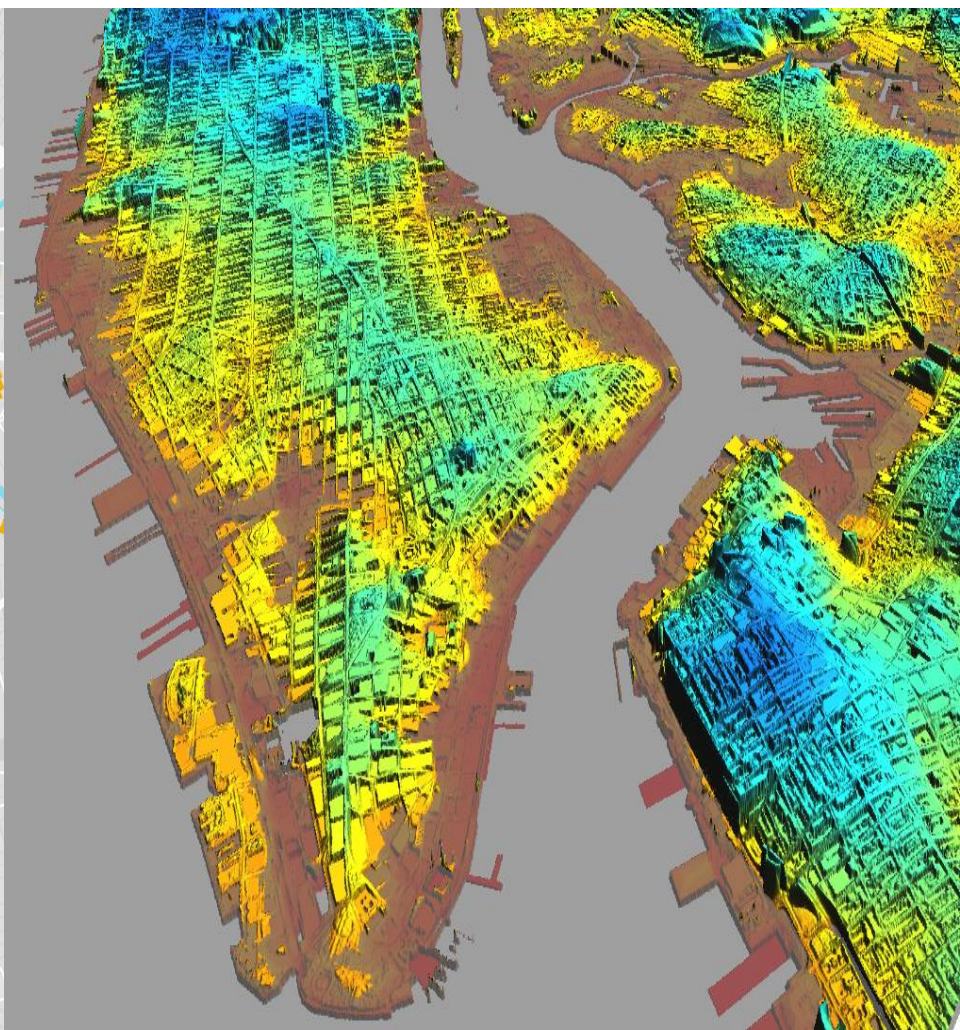


# NYC Observed flooding vs ADCIRC for CTL run (using 1-ft DEM from LIDAR)

Obs Flooding (NY Times/USGS)

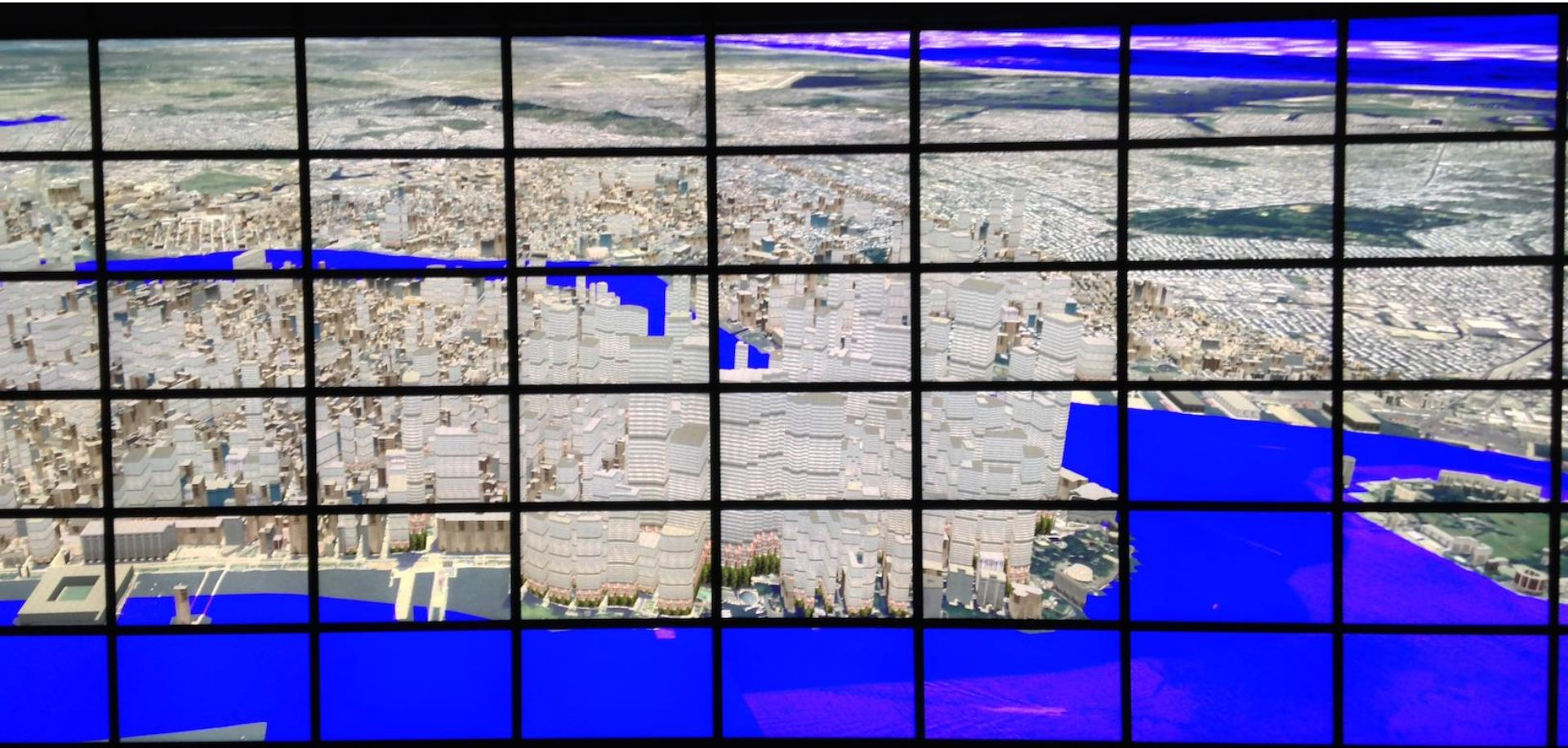


ADCIRC CTL run (brown = flood)





# ADCIRC MODEL IN REALITY DECK



Satellite Imagery (Mapquest Open)  
LiDAR DEM (NYC OpenData)  
Building Outlines (NYC OpenData)  
Manhattan



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