**SUMMARY**

NOAA’s Sea Grant is supporting research where Stevens Institute scientists are running computerized storm surge simulations and collaborating with Jersey City planners to develop coastal protection measures and test their efficacy.

Here, we show the effect of projected sea level rise on 100-year flood zones, as well as the detailed summary of our model results for two adaptation plans. Below, we also show how the actual height of the 100-year flood for our region is highly uncertain.

**MODELING OVERVIEW**

We used the flood model ADCIRC to simulate the Hurricane Sandy storm tide

We ran the simulations on the grid used for flood mapping by FEMA, for their new draft flood maps

Root mean square errors were 1.1 feet, though smaller in the area around Jersey City (see prior poster for a map of model versus observation points)

**WHAT ARE THE EFFECTS OF CLIMATE CHANGE?**

- Sea level rise brings up the base upon which storm surges start, and thus causes higher flood levels and wider zones
- We do not have evidence that hurricanes have intensified due to climate change, but it is expected to occur eventually

**FUTURE WORK**

Future plans in the final six months of the project are to test our the protections against additional storms, to transfer our knowledge and methods more broadly around our region with a final regional stakeholder meeting, to write a project report and to publish the research in a peer-reviewed journal.

**WHAT IS THE 100-YEAR FLOOD?**

It is the flood height that has a 1% chance of being exceeded each year. For NY/NJ Harbor, the historical record below gives clues; but many studies disagree on the exact height.

**Adaptation Plan #1**

Both adaptation plans are very similar, except:

- Plan #1 Includes a surge barrier at Tidewater Basin
- Plan #2 Relies on bermed land instead of surge barrier

Additional flood adaptation plans are welcomed!