Research Area 4
Climate Change and Sea-Level Rise

4.1 Improved Evacuation Zone (EZ) Modeling

- **Sea-level rise for evacuation modeling**

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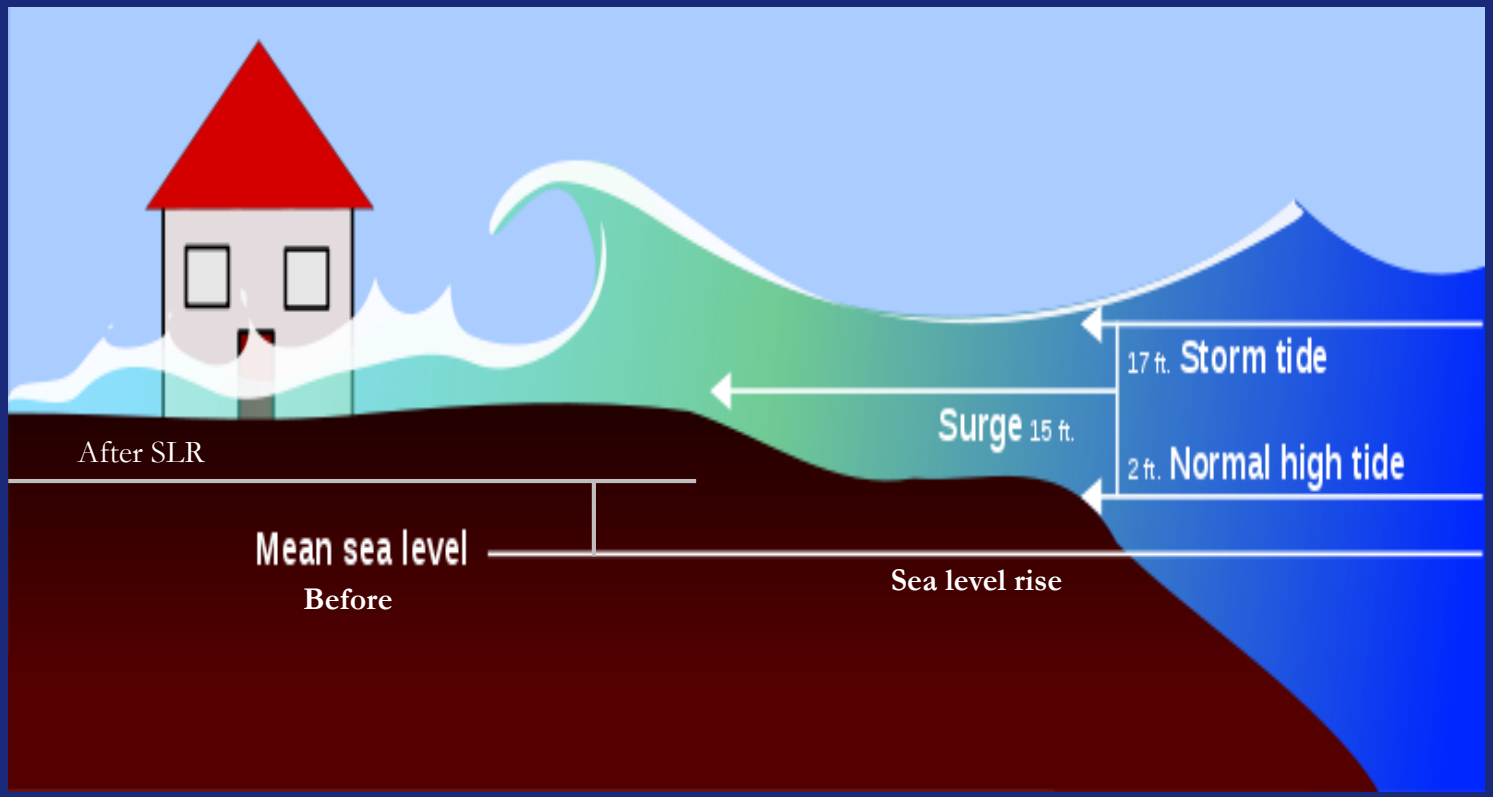
- ***Evacuation modeling***

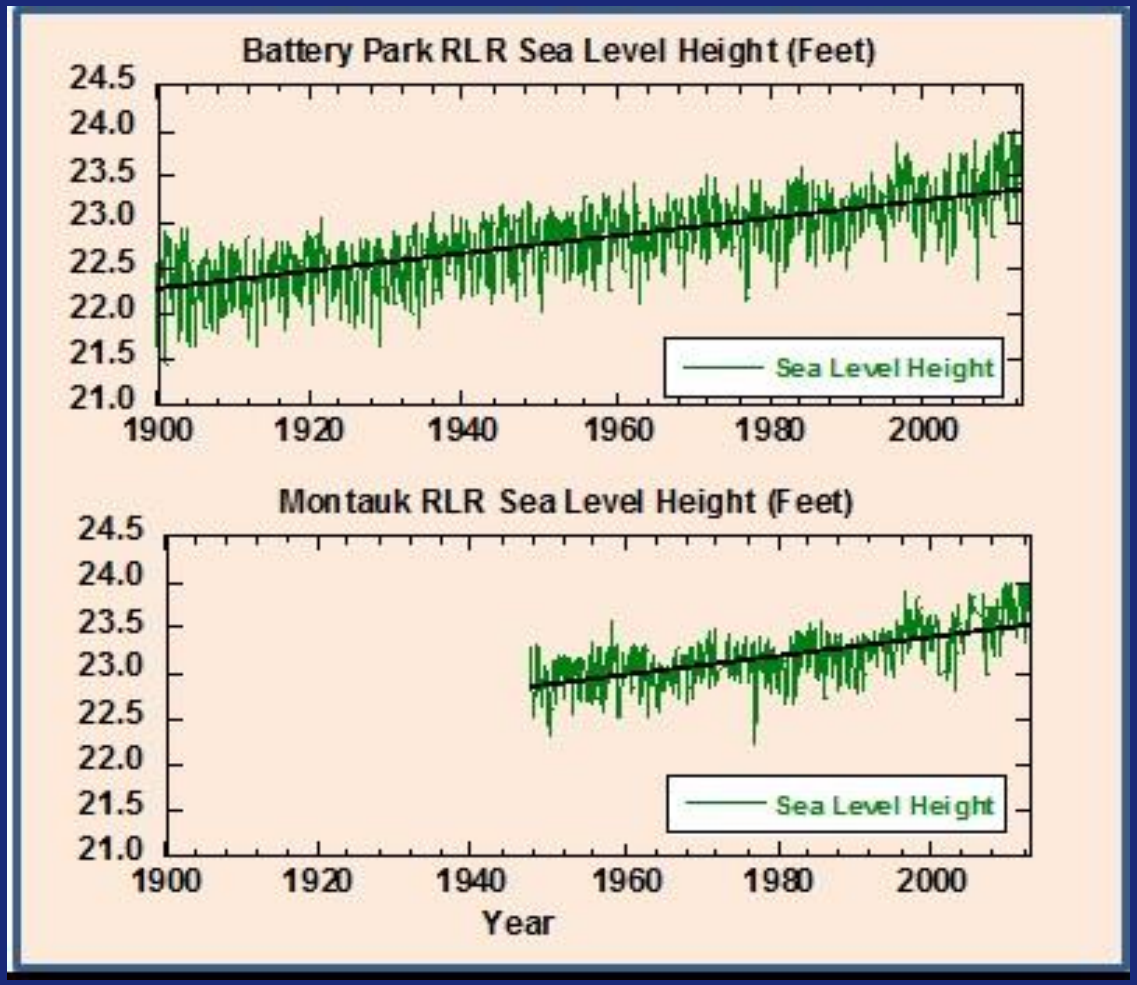
Kaan Ozbay and Team

Risks of Flooding: Relative Water Level

Normal High Tide + Storm Surge + Breaking Waves + SLR



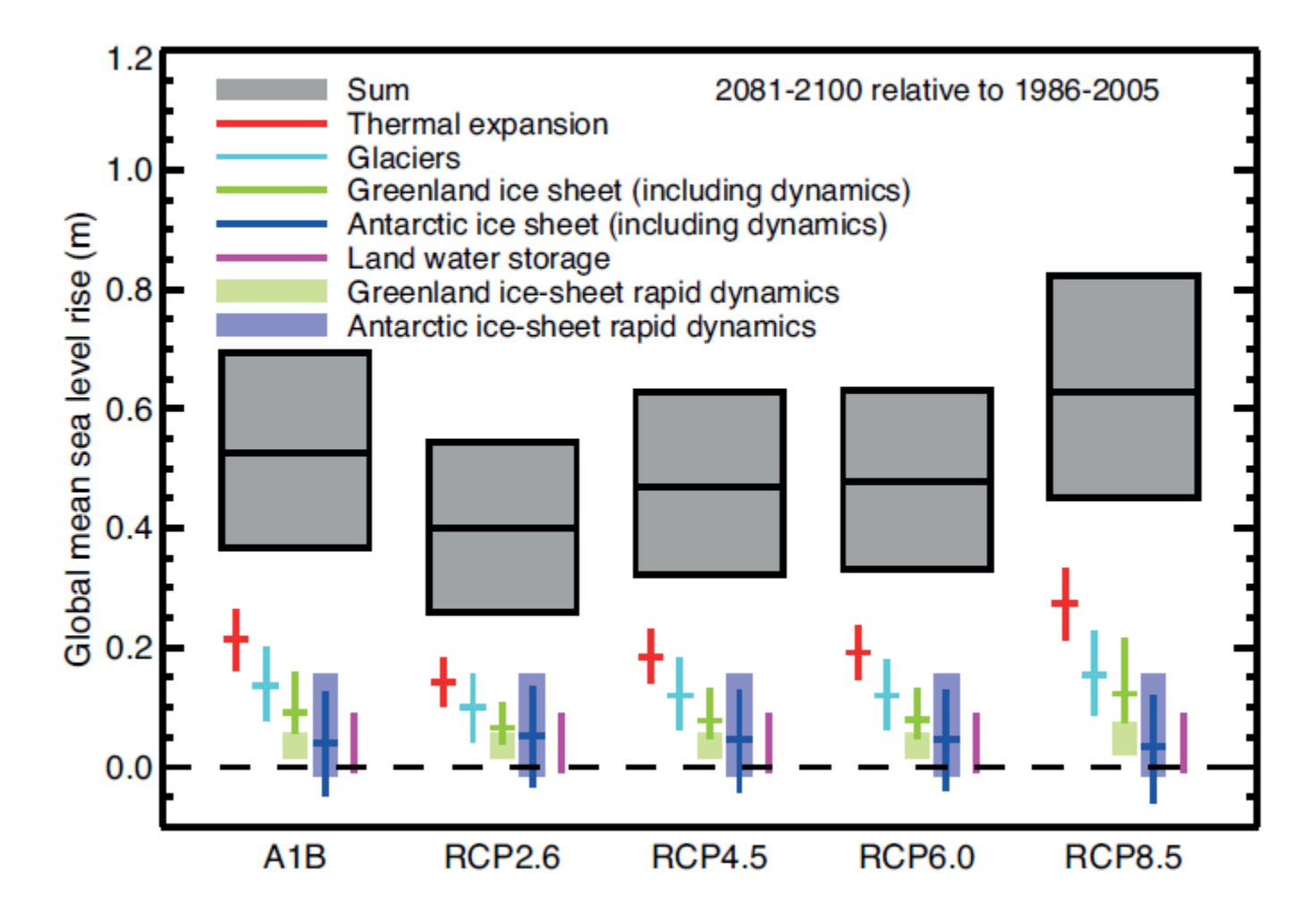
SLR at Battery Park and Montauk

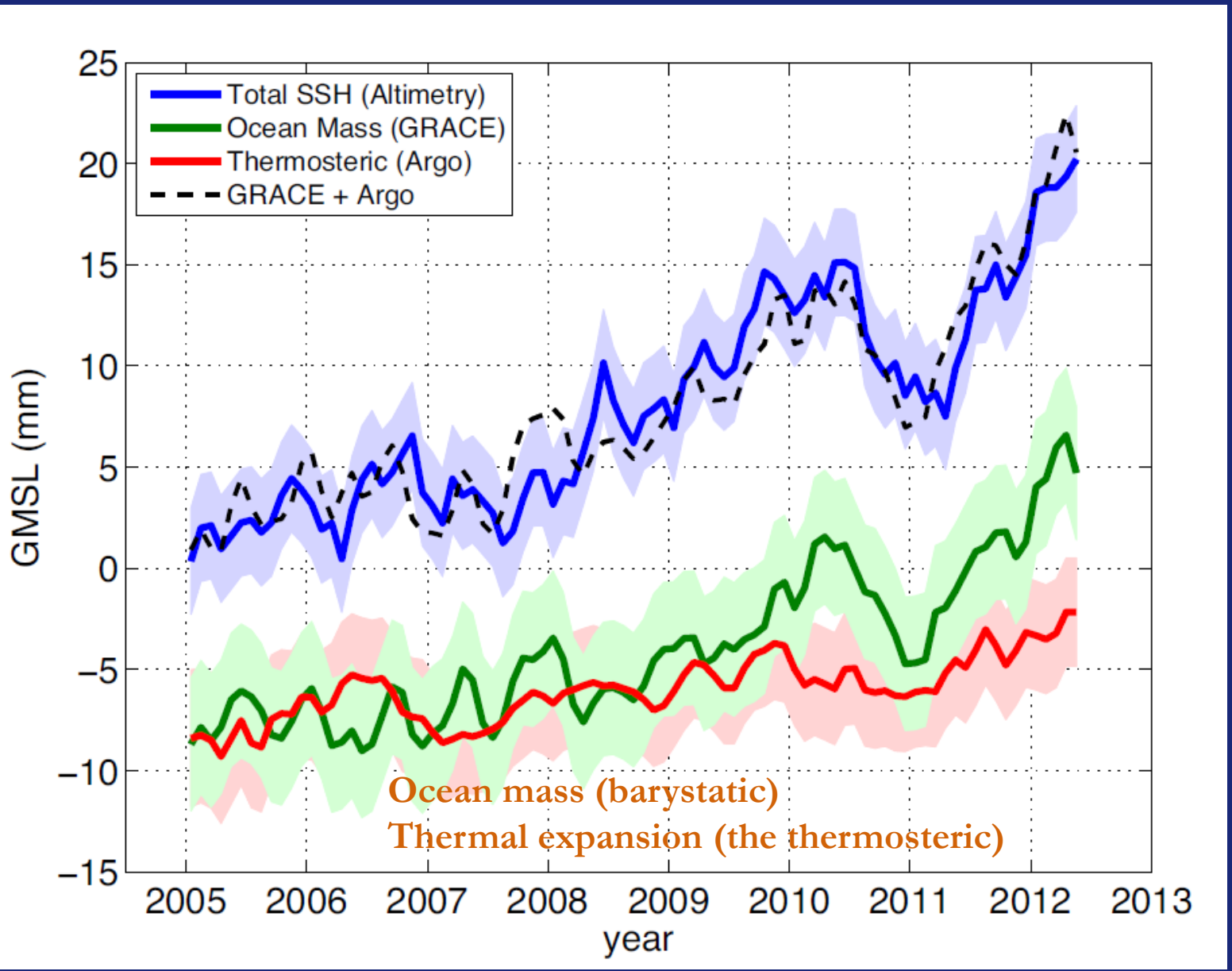


Future SLR Calculation: Terminology

- “dynamic”: redistribution by currents, spatial inhomogeneity of temperature and salinity, changes in surface air pressure
- "steric (thermosteric)”: sea level change due to thermal expansion and salinity change
- “eustatic”: change of water mass (glaciers, ice sheets, soil moisture)
- "isostatic“: changes in the level of the land from tectonic process (Post Glacial Rebound)

Future Global SLR Calculation: Accounting



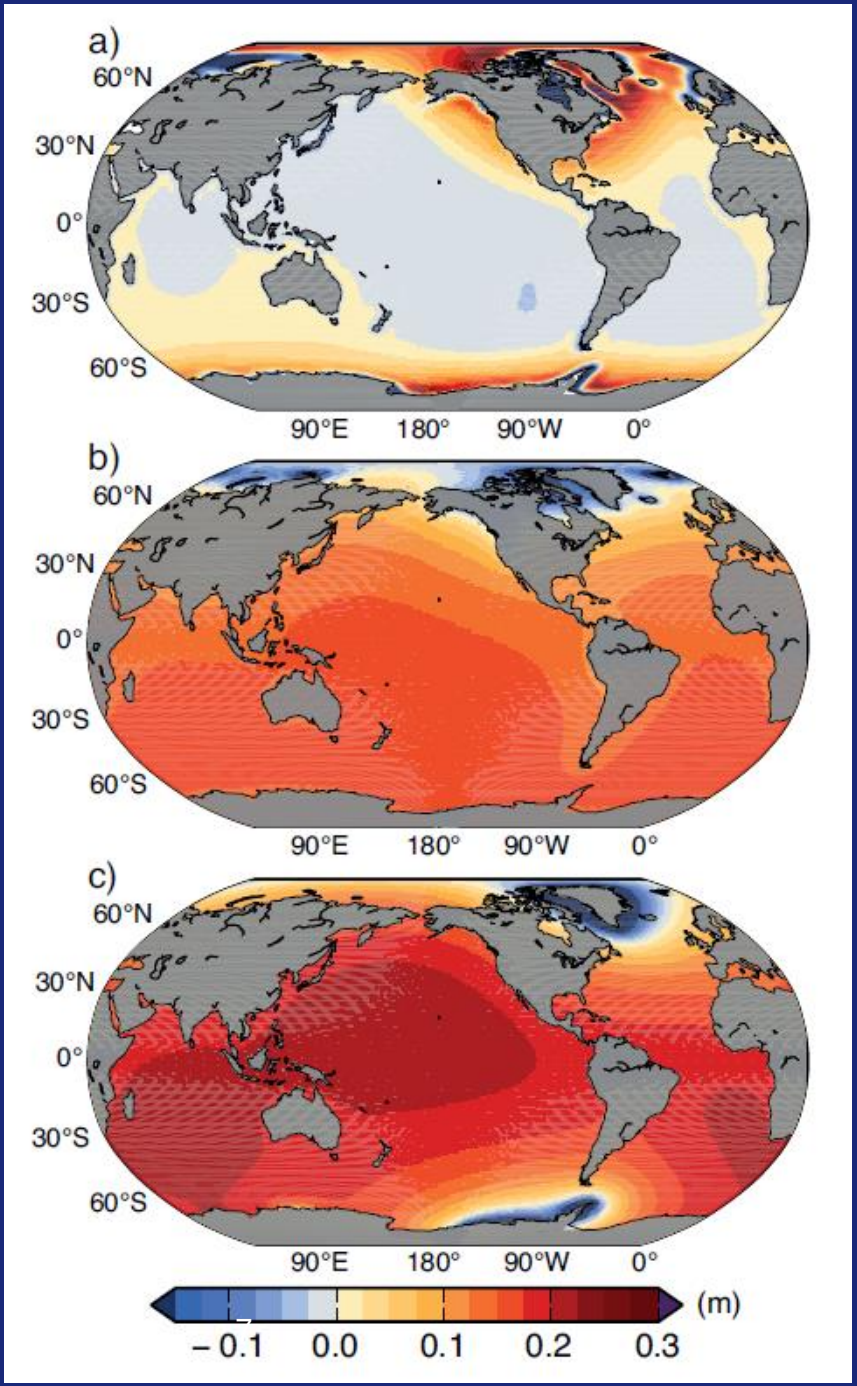


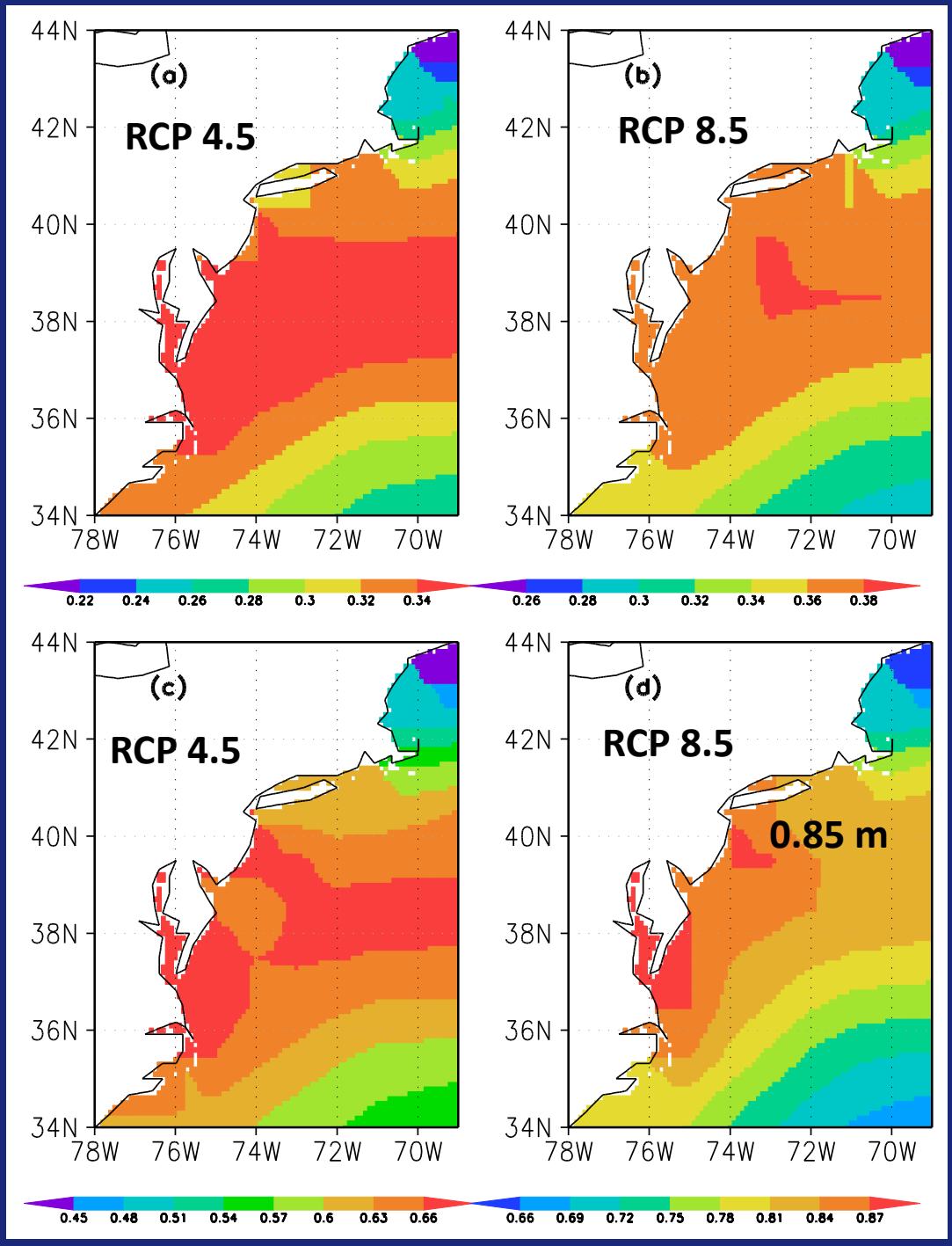
Global SLR in the last seven years can be explained

Isostatic Term (GIA)

Eustatic Glaciers

Eustatic Ice Sheets



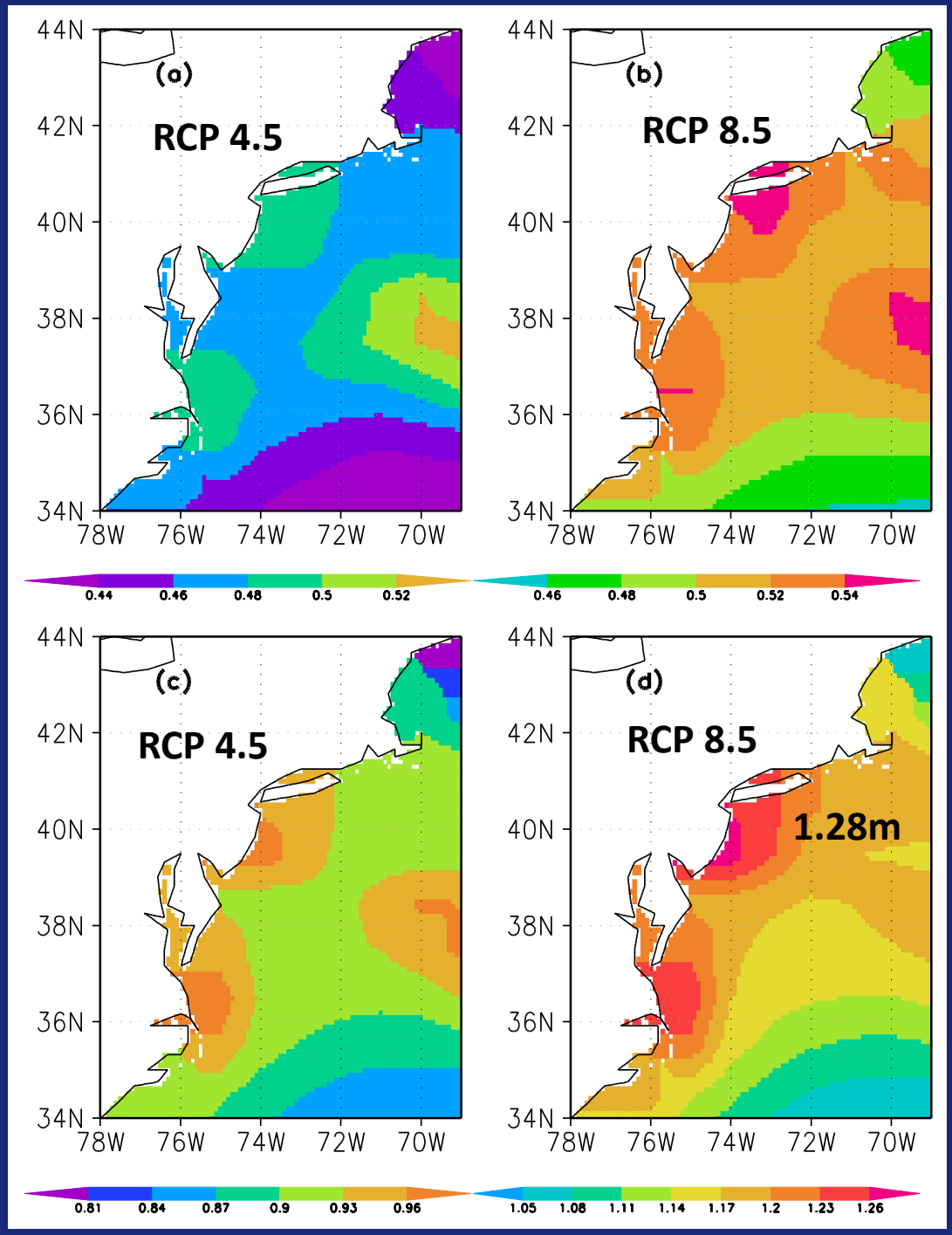


Mean Regional **SLR**

(unit: meter)

2050

2090



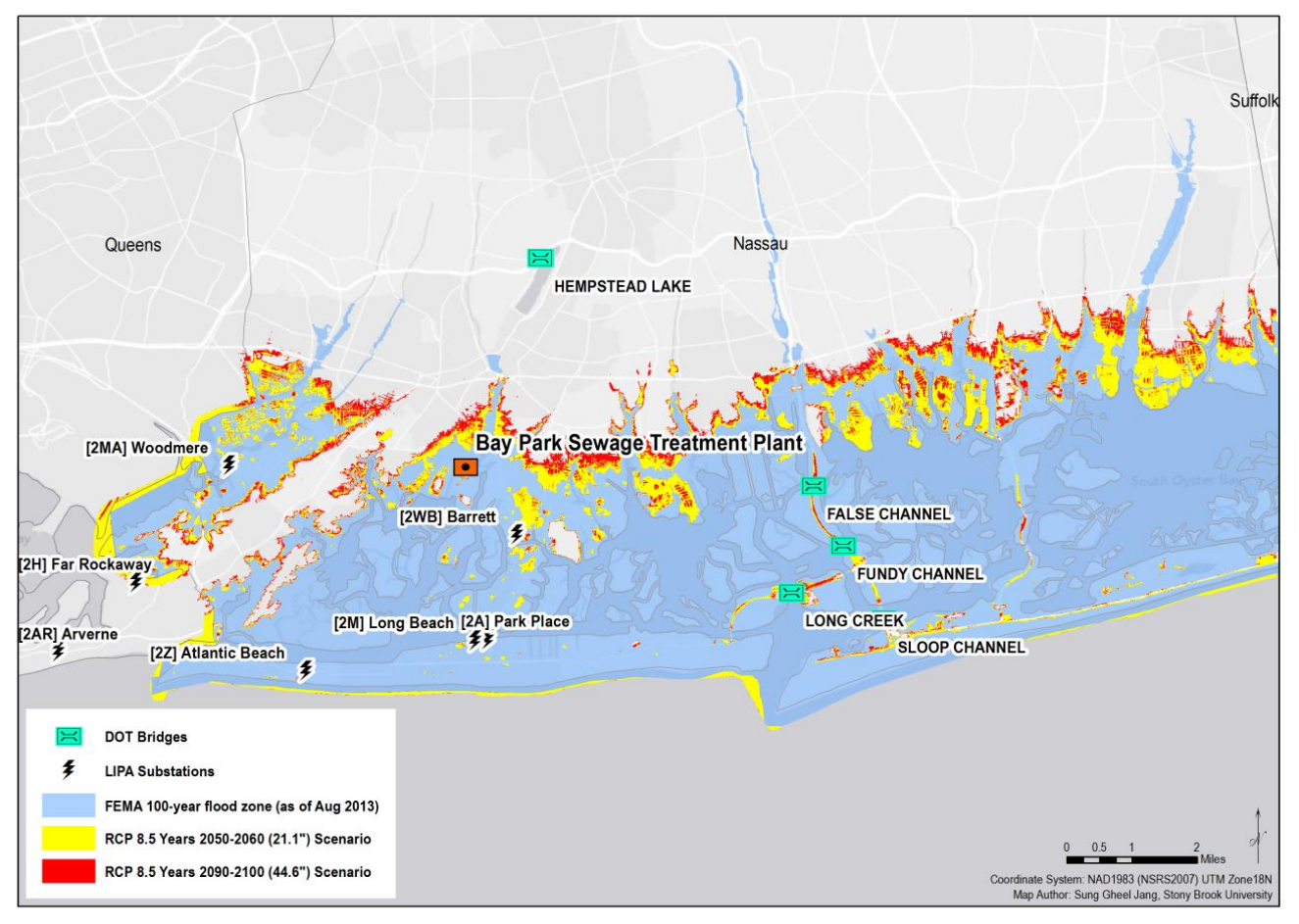
Upper Range **SLR**

(unit: meter)

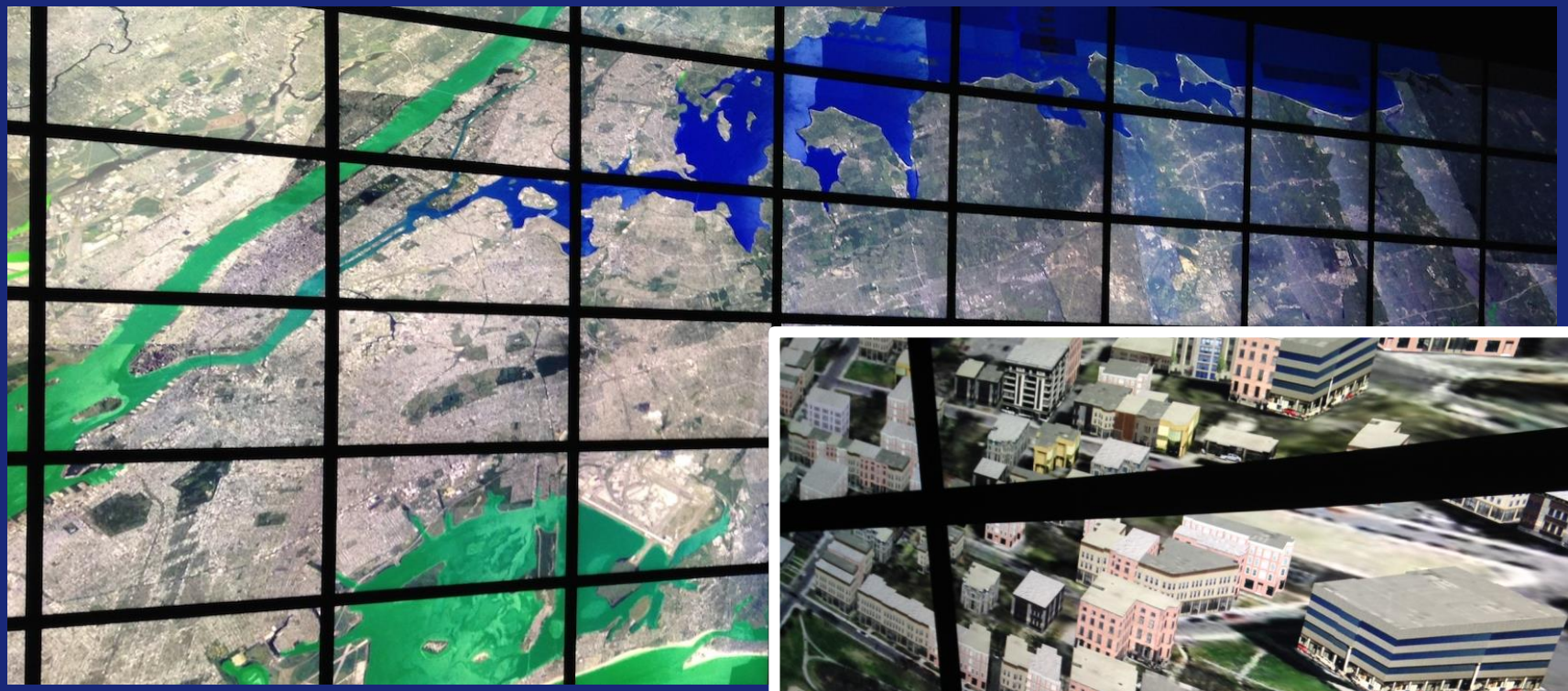
2050

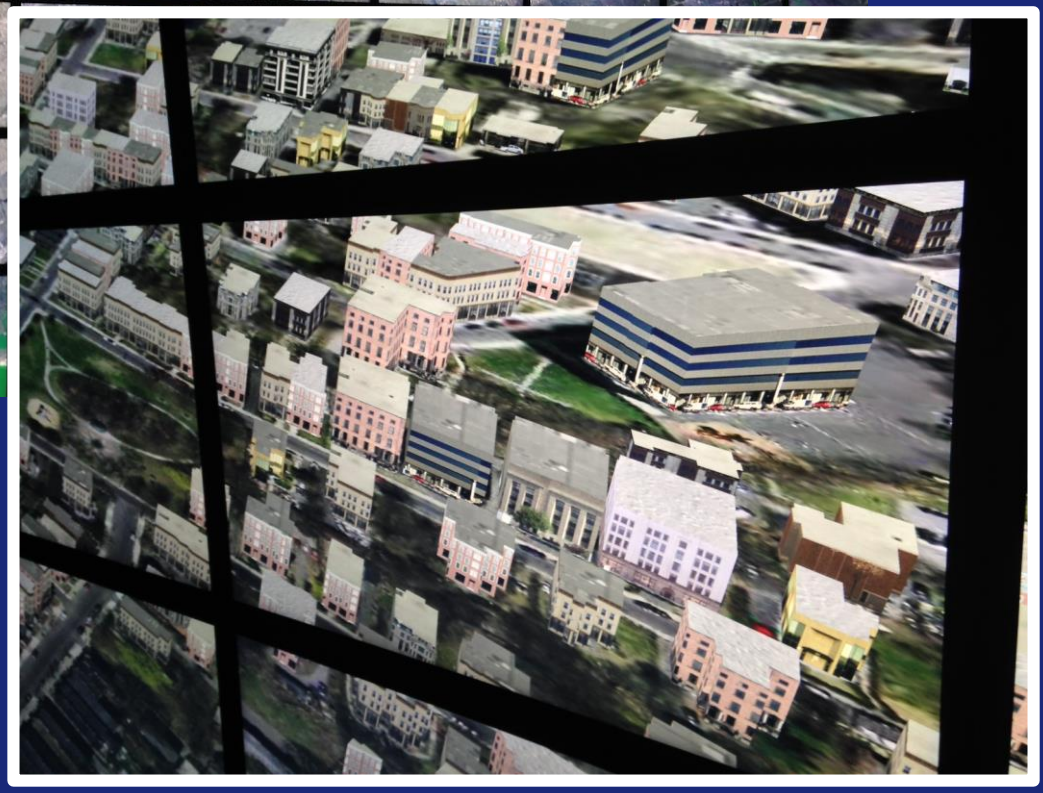
2090

Next: Include SLR in ADCIRC Storm Surge Model and Evacuation Model (Collaboration with Work Unit 1.2)



Next: Visualization of SLR + Storm Surge





Next: Input to Evacuation Model (Kaan Ozbay)