

NEW YORK DISTRICT

COASTAL STORM RISK MANAGEMENT OVERVIEW

Olivia Ng Cackler, PhD
Plan Formulation Branch Chief
New York District
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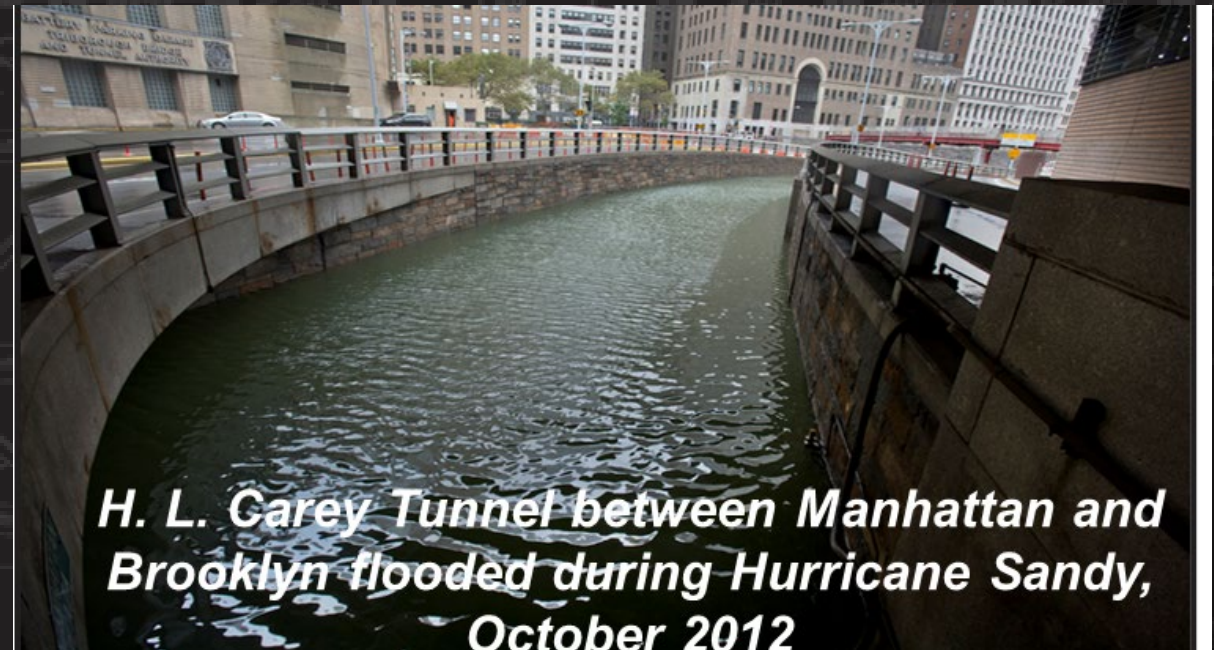


US Army Corps
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Flooding in Hoboken, NJ October 2012



*H. L. Carey Tunnel between Manhattan and
Brooklyn flooded during Hurricane Sandy,
October 2012*



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Actions Achieving the Vision of a World Class Harbor Estuary





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OVERVIEW



- **Authority**
- **Mission scope/Types of coastal measures**
- **Project Locations**
- **Hurricane Sandy – Impacts and Response (North Atlantic Coast Comprehensive Study)**
- **New York- New Jersey Harbor and Tributaries Study**



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AUTHORIZATION HISTORY



- 1936: Section 1 of the Flood Control Act of 1936 (33 USC 701a)
 - Allowed USACE participation in flood control activities
 - Improvements for flood control for rivers, harbors and other waterways are in the interest of the general welfare of the public
 - Benefits of proposed projects should outweigh the cost
 - 1946: Authorized USACE participation in coastal projects (33 USC 426e) - Stipulated addition of the nation's shores to mission
- Flood Control → Flood Damage Reduction → Flood Risk Management/
Coastal Storm Risk Management
- Project phases: Study authorization & funding → Chief of Engineers
Report to Congress → Construction authorization & funding → Design &
Construction



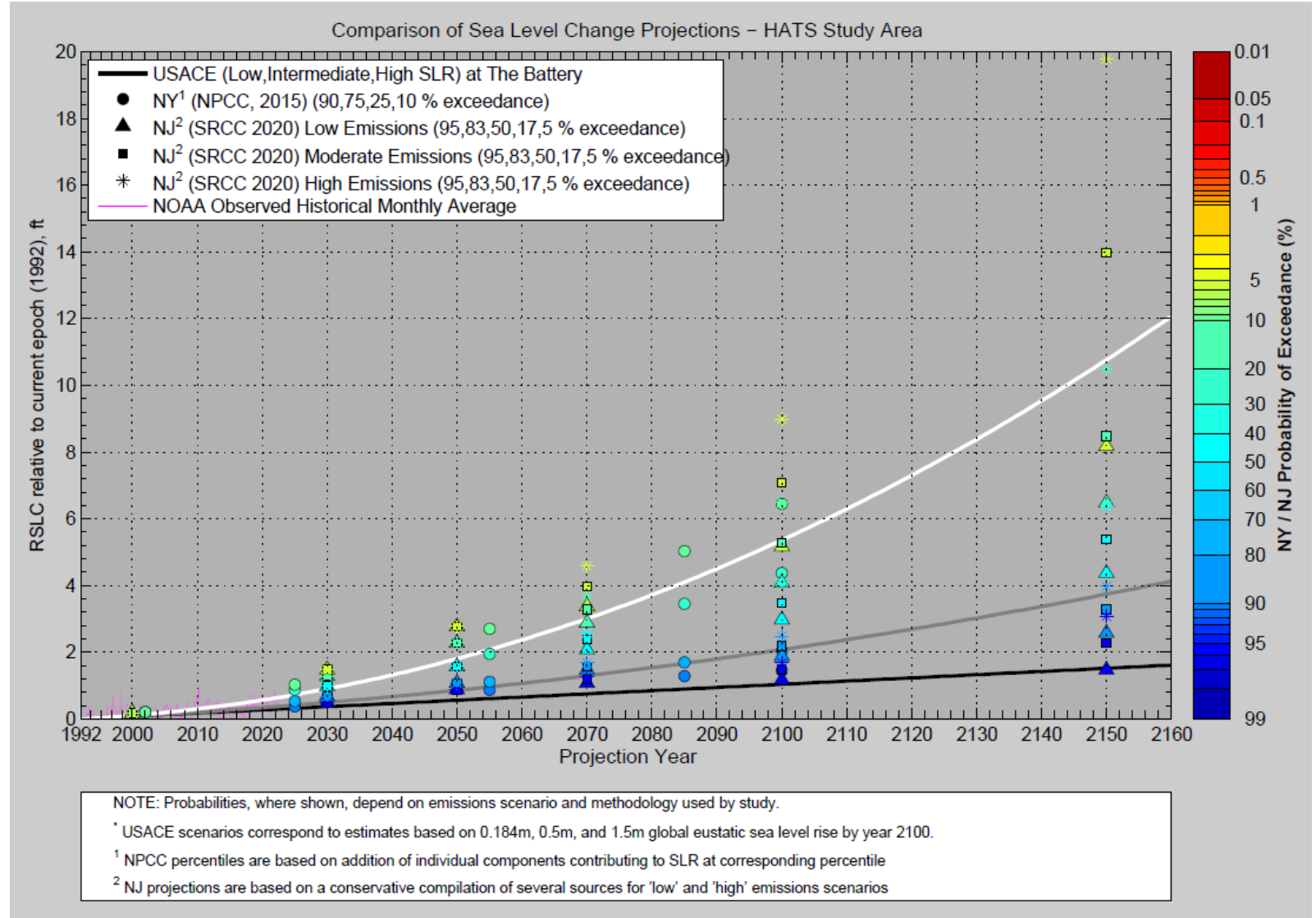
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MISSION SCOPE



- Goal: To manage risk of coastal flood damages to people, property, and natural resources to reduce vulnerability and support community resilience

- Incorporate relative sea level rise projections into planning





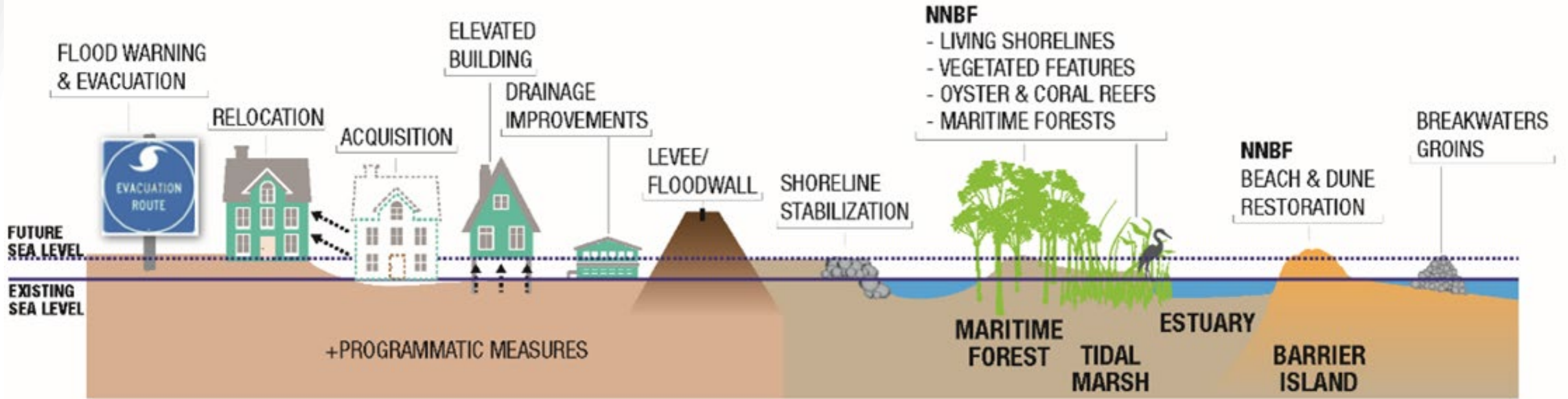
TYPES OF COASTAL MEASURES

Structural	Nonstructural	Nature Based Solutions
Storm surge barriers	Wet/dry Floodproofing	Beach nourishments
Seawalls/Floodwalls	Elevations	Dunes
Levees	Acquisitions/Buyouts	Marsh or wetland creation
Groins/jetties	<i>Flood warning systems</i>	Wetland restoration
Revetments	<i>Evacuation Planning</i>	Artificial reef establishment
Breakwaters	<i>Land use/zoning</i>	Living Shorelines

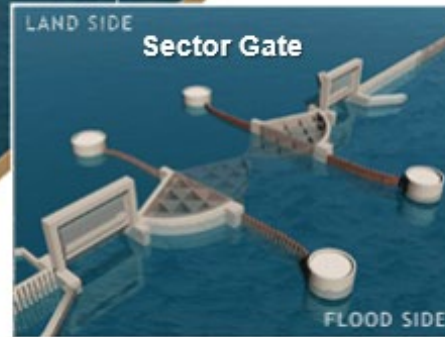
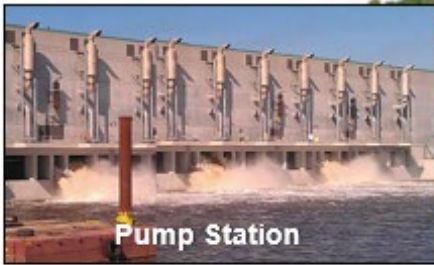


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TYPES OF COASTAL MEASURES



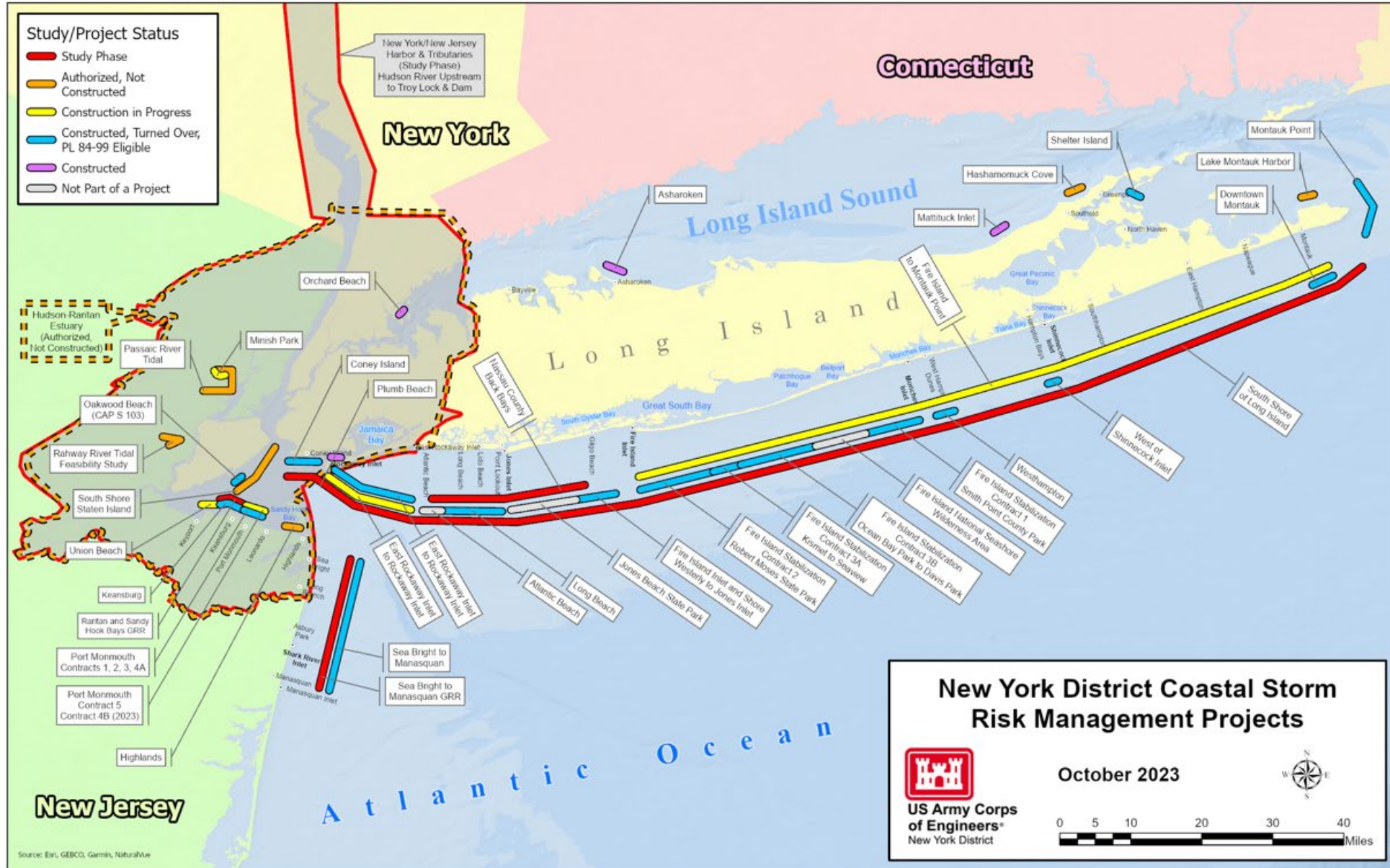
MEASURES WORKING TOGETHER





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NEW YORK DISTRICT CSRM PROJECTS





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HURRICANE SANDY

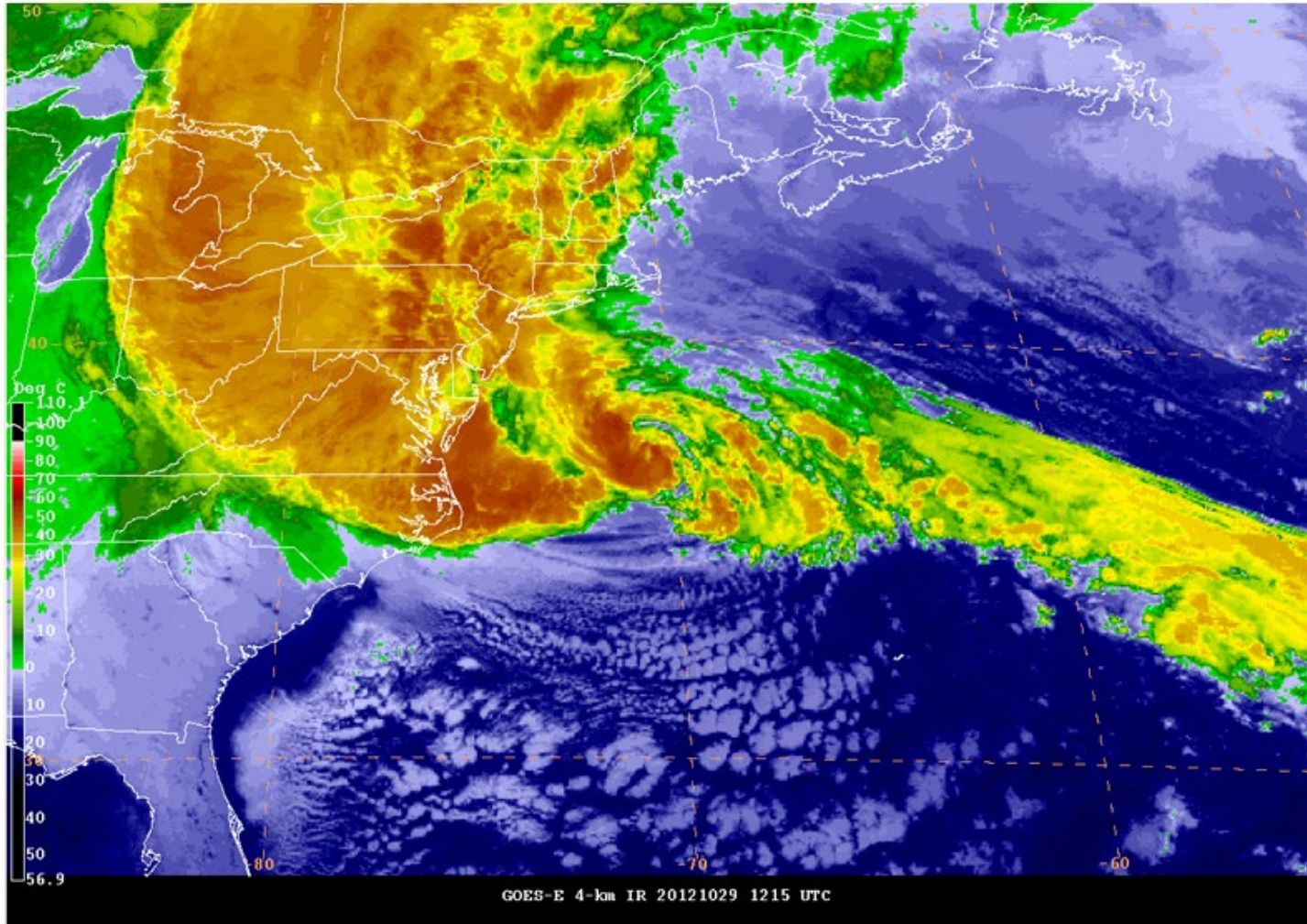


Figure 11. GOES-E infrared satellite image of Sandy at 1215 UTC 29 October 2012, near its secondary peak intensity. Blake et al, 2013. Tropical Cyclone Report Hurricane Sandy. National Hurricane Center, NOAA

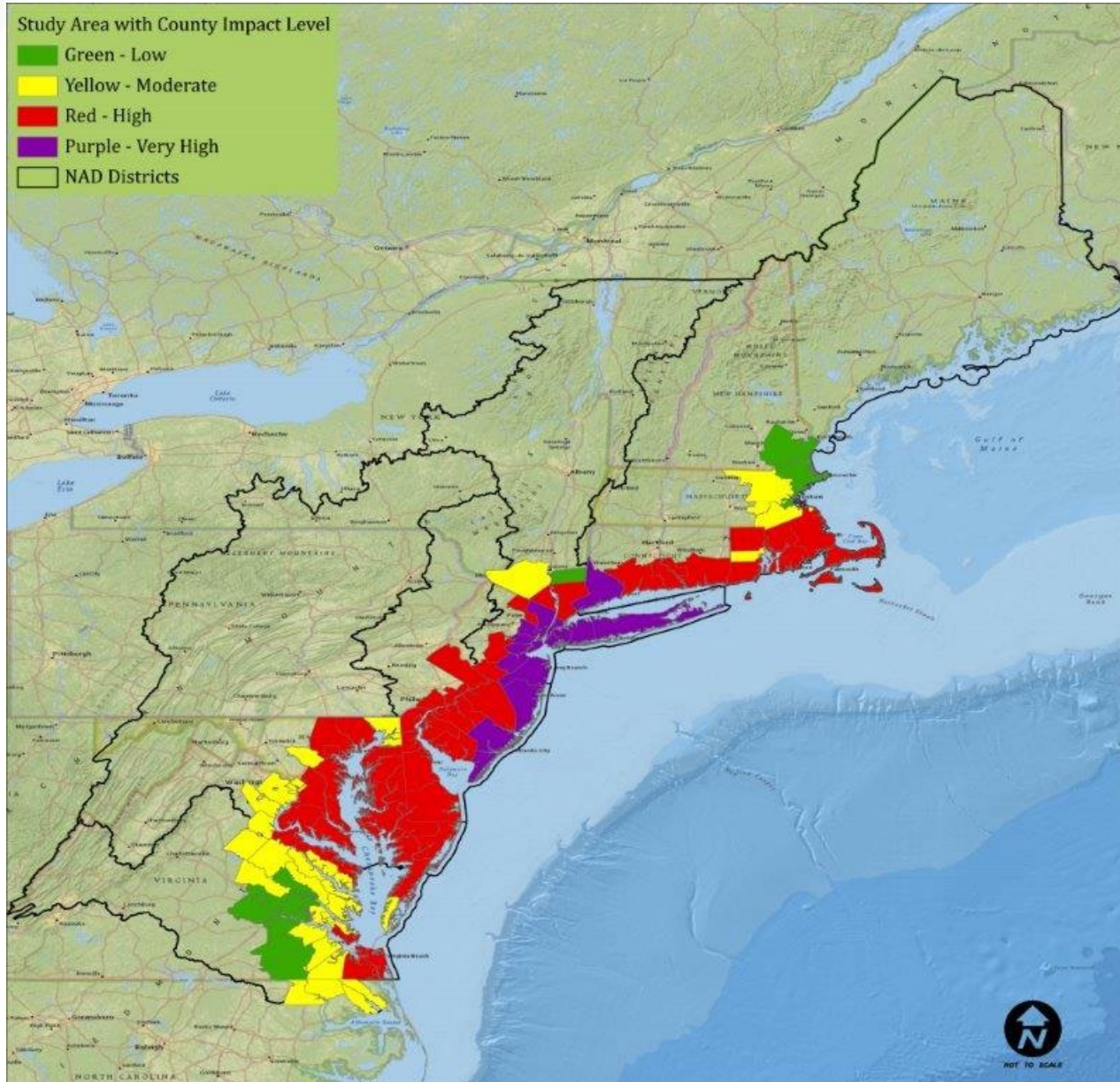


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NORTH ATLANTIC COAST COMPREHENSIVE STUDY (2015)



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- Updated risk assessment for coastal communities and collaborate on coastal storm risk management framework for addressing future risk
- Updated coastal modeling (Coastal Hazards System)
- Identified nine (9) high risk focus areas for further investigation, including:
 - New York – New Jersey Harbor & Tributaries CSRM Feasibility Study