

IMPACTS FROM HURRICANES

Sandy and Matthew Updates

11 October 2017

North Atlantic Division

South Atlantic Division

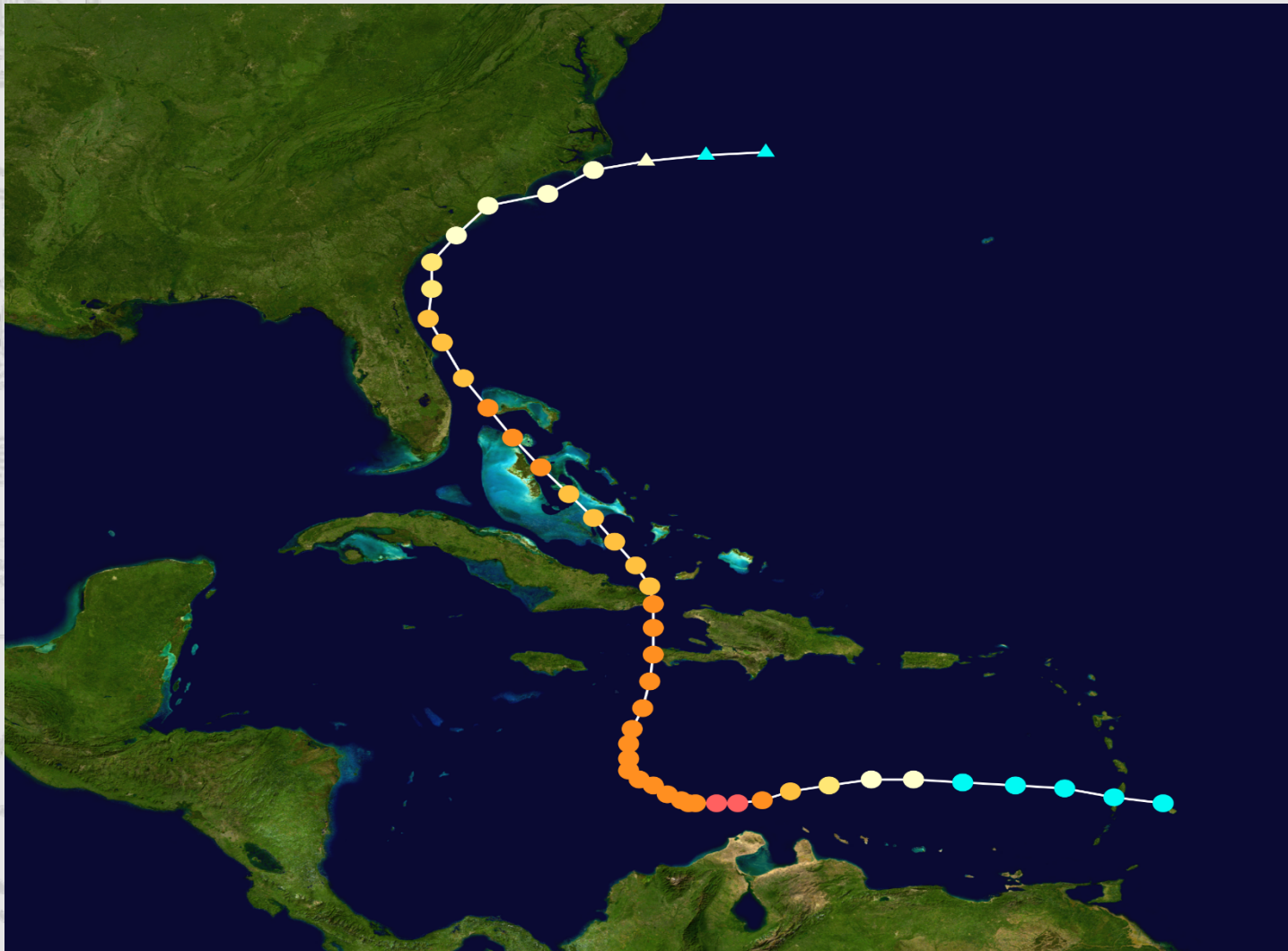
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HURRICANE MATTHEW



Saffir-Simpson scale	
Category	Wind speeds
Five	≥70 m/s, ≥137 knots, ≥157 mph, ≥252 km/h
Four	58–70 m/s, 113–136 knots, 130–156 mph, 209–251 km/h
Three	50–58 m/s, 96–112 knots, 111–129 mph, 178–208 km/h
Two	43–49 m/s, 83–95 knots, 96–110 mph, 154–177 km/h
One	33–42 m/s, 64–82 knots, 74–95 mph, 119–153 km/h

Related classifications	
Tropical storm	18–32 m/s, 34–63 knots, 39–73 mph, 63–118 km/h
Tropical depression	≤17 m/s, ≤33 knots, ≤38 mph, ≤62 km/h

File Name



HURRICANE SANDY



Saffir-Simpson scale	
Category	Wind speeds
Five	≥70 m/s, ≥137 knots, ≥157 mph, ≥252 km/h
Four	58-70 m/s, 113-136 knots, 130-156 mph, 209-251 km/h
Three	50-58 m/s, 96-112 knots, 111-129 mph, 178-208 km/h
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File Name



Hurricane Sandy Program

(Info as of 3rd quarter FY17)

Three Corps Divisions Received Program Funding: LRD, SAD, NAD

NAD Program Overview

- Flood Control & Coastal Emergencies (FCCE)
- Operations and Maintenance (O&M)
- Authorized but Unconstructed (ABU)
- Ongoing Studies (OGS)
- Continuing Authorities Program (CAP)



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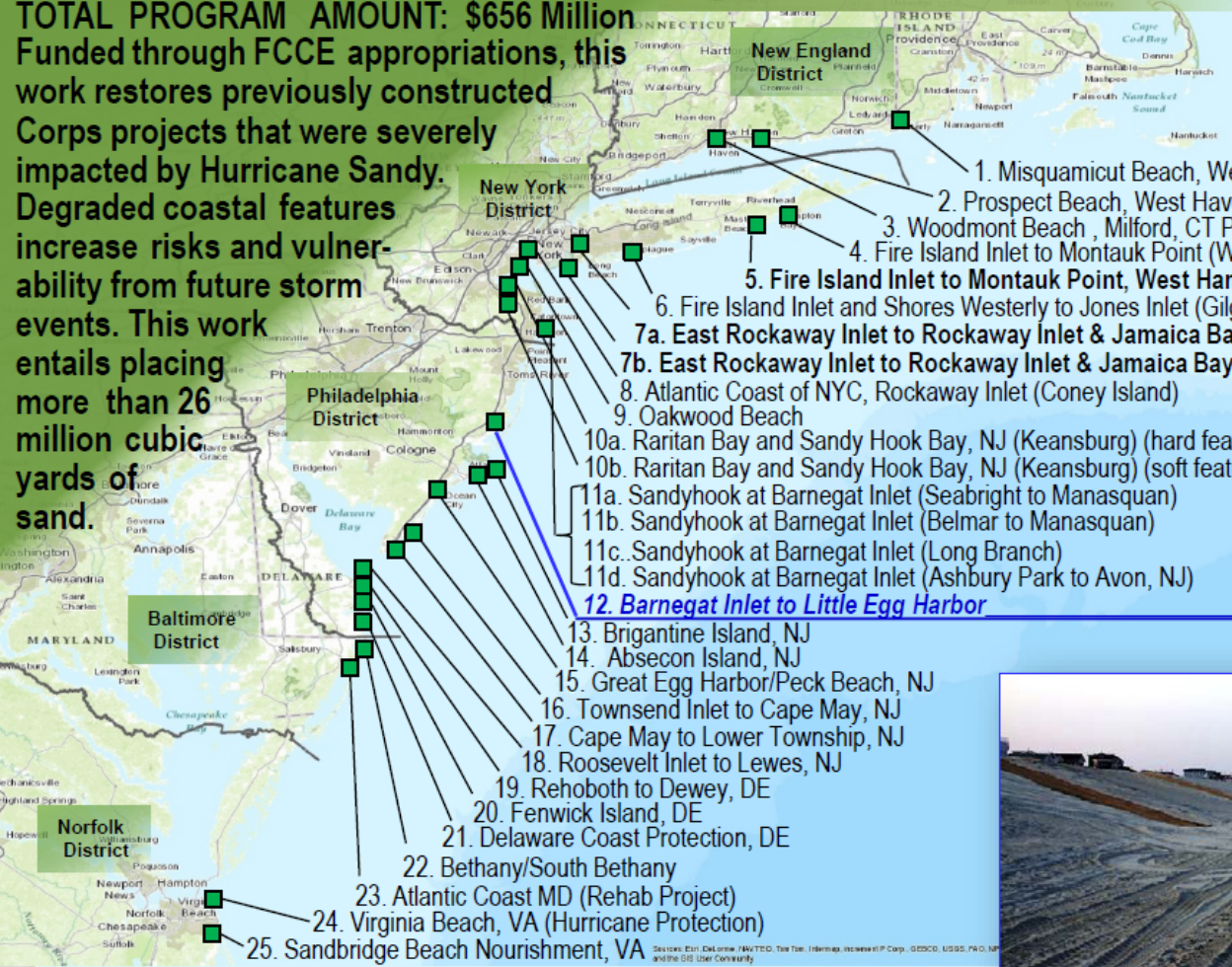


FCCE (100% COMPLETE)

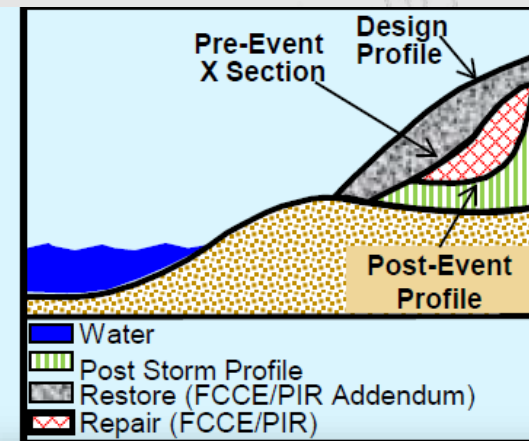
Flood Control and Coastal Emergencies

TOTAL PROGRAM AMOUNT: \$656 Million

Funded through FCCE appropriations, this work restores previously constructed Corps projects that were severely impacted by Hurricane Sandy. Degraded coastal features increase risks and vulnerability from future storm events. This work entails placing more than 26 million cubic yards of sand.



1. Misquamicut Beach, Westerly, RI
2. Prospect Beach, West Haven, CT
3. Woodmont Beach, Milford, CT PL84-99
4. Fire Island Inlet to Montauk Point (WOSI)
5. Fire Island Inlet to Montauk Point, West Hampton, NY
6. Fire Island Inlet and Shores Westerly to Jones Inlet (Gilgo)
- 7a. East Rockaway Inlet to Rockaway Inlet & Jamaica Bay, NY (1A)
- 7b. East Rockaway Inlet to Rockaway Inlet & Jamaica Bay, NY (1B)
8. Atlantic Coast of NYC, Rockaway Inlet (Coney Island)
9. Oakwood Beach
- 10a. Raritan Bay and Sandy Hook Bay, NJ (Keansburg) (hard features)
- 10b. Raritan Bay and Sandy Hook Bay, NJ (Keansburg) (soft features)
- 11a. Sandyhook at Barnegat Inlet (Seabright to Manasquan)
- 11b. Sandyhook at Barnegat Inlet (Belmar to Manasquan)
- 11c. Sandyhook at Barnegat Inlet (Long Branch)
- 11d. Sandyhook at Barnegat Inlet (Ashbury Park to Avon, NJ)
12. Barnegat Inlet to Little Egg Harbor
13. Brigantine Island, NJ
14. Absecon Island, NJ
15. Great Egg Harbor/Peck Beach, NJ
16. Townsend Inlet to Cape May, NJ
17. Cape May to Lower Township, NJ
18. Roosevelt Inlet to Lewes, NJ
19. Rehoboth to Dewey, DE
20. Fenwick Island, DE
21. Delaware Coast Protection, DE
22. Bethany/South Bethany
23. Atlantic Coast MD (Rehab Project)
24. Virginia Beach, VA (Hurricane Protection)
25. Sandbridge Beach Nourishment, VA



Harvey Cedars Beach area of Barnegat Inlet to Little Egg Harbor (LBI) Project, NJ, before (above) and after beach replenishment.



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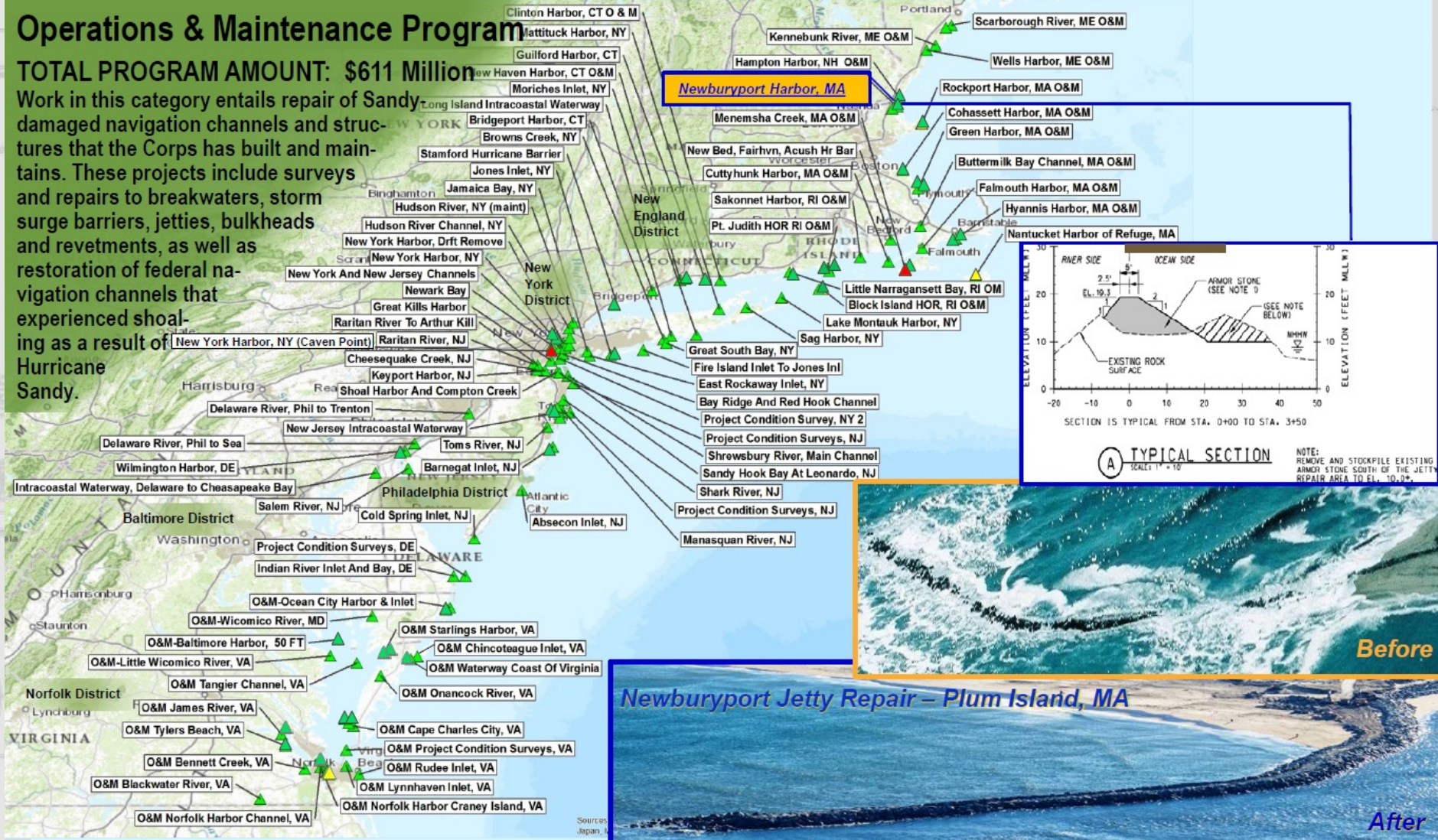


O&M (86 PROJECTS, MOST COMPLETE)

Operations & Maintenance Program

TOTAL PROGRAM AMOUNT: \$611 Million

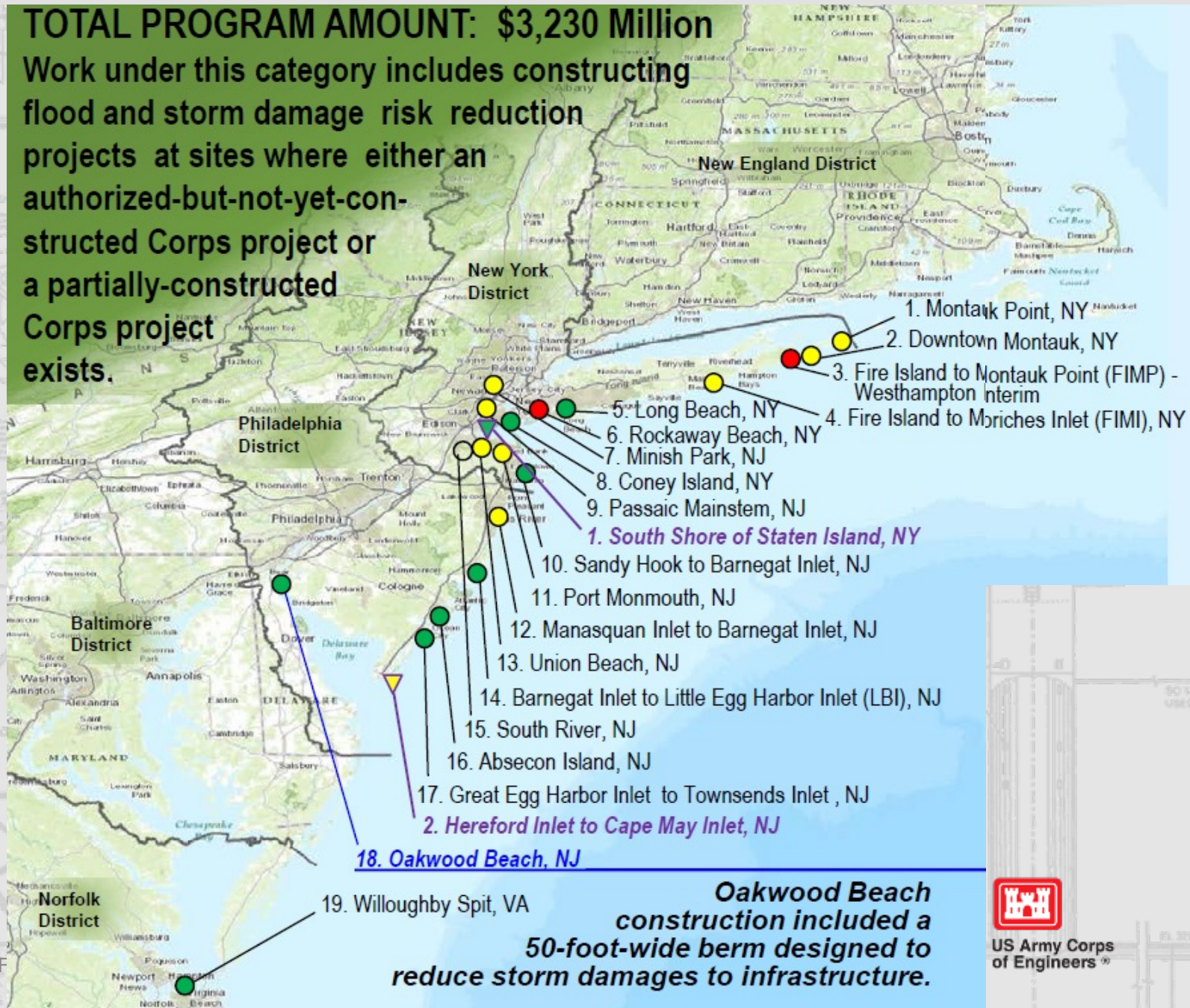
Work in this category entails repair of Sandy damaged navigation channels and structures that the Corps has built and maintains. These projects include surveys and repairs to breakwaters, storm surge barriers, jetties, bulkheads and revetments, as well as restoration of federal navigation channels that experienced shoaling as a result of Hurricane Sandy.



AUTHORIZED BUT UNCONSTRUCTED PROJECTS

TOTAL PROGRAM AMOUNT: \$3,230 Million

Work under this category includes constructing flood and storm damage risk reduction projects at sites where either an authorized-but-not-yet-constructed Corps project or a partially-constructed Corps project exists.



1. Montauk Point, NY
2. Downtown Montauk, NY
3. Fire Island to Montauk Point (FIMP) - Westhampton Interim
4. Fire Island to Moriches Inlet (FIMI), NY
5. Long Beach, NY
6. Rockaway Beach, NY
7. Minish Park, NJ
8. Coney Island, NY
9. Passaic Mainstem, NJ
1. *South Shore of Staten Island, NY*
10. Sandy Hook to Barnegat Inlet, NJ
11. Port Monmouth, NJ
12. Manasquan Inlet to Barnegat Inlet, NJ
13. Union Beach, NJ
14. Barnegat Inlet to Little Egg Harbor Inlet (LBI), NJ
15. South River, NJ
16. Absecon Island, NJ
17. Great Egg Harbor Inlet to Townsends Inlet, NJ
2. *Hereford Inlet to Cape May Inlet, NJ*
18. *Oakwood Beach, NJ*

Oakwood Beach construction included a 50-foot-wide berm designed to reduce storm damages to infrastructure.

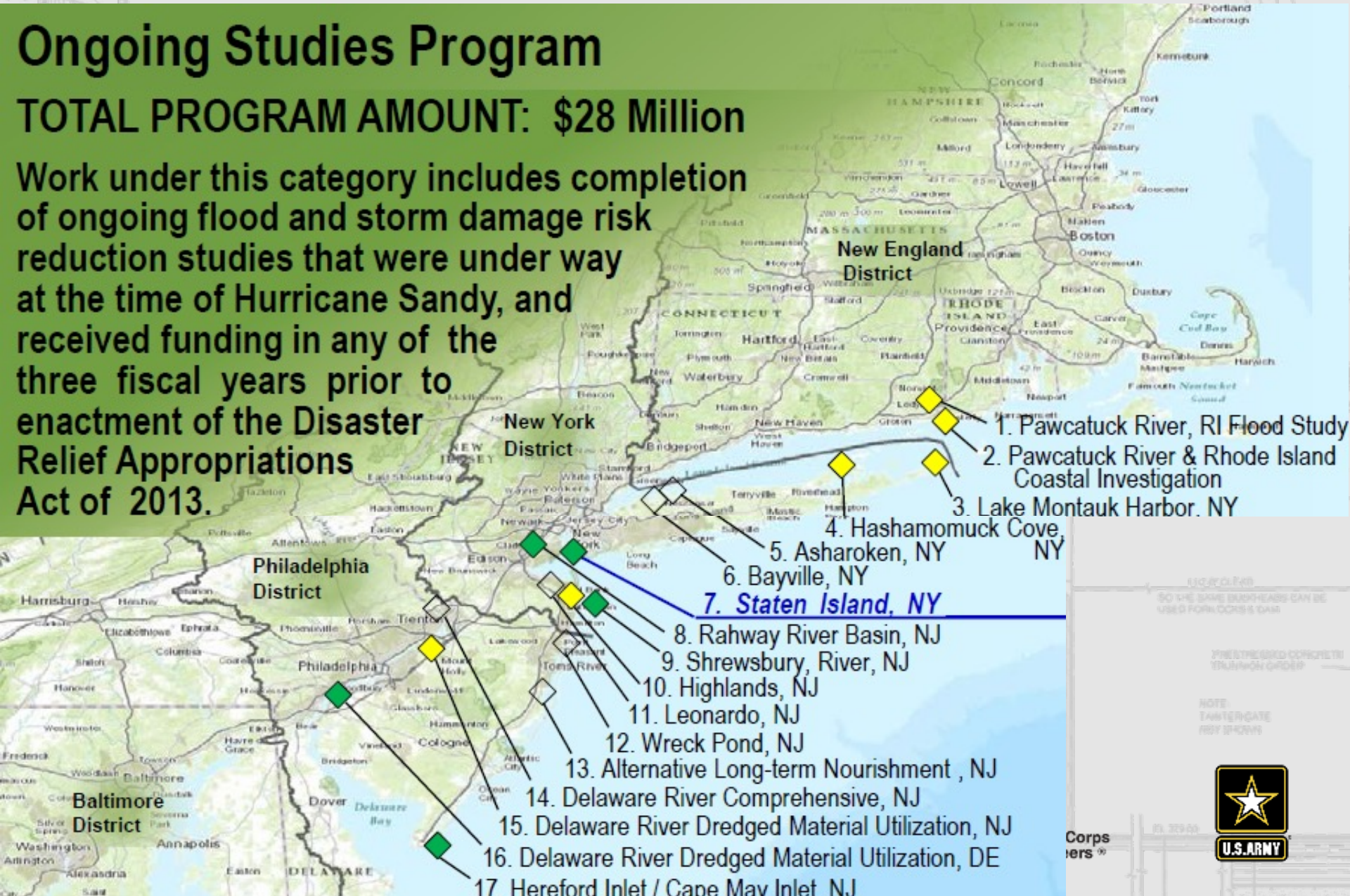


ONGOING STUDIES (OGS) PROGRAM

Ongoing Studies Program

TOTAL PROGRAM AMOUNT: \$28 Million

Work under this category includes completion of ongoing flood and storm damage risk reduction studies that were under way at the time of Hurricane Sandy, and received funding in any of the three fiscal years prior to enactment of the Disaster Relief Appropriations Act of 2013.



CONTINUING AUTHORITIES PROGRAM (CAP)

Study Phase Efforts

AUTHORITY	PROJECT PURPOSE
Section 14 , Flood Control Act of 1946, as amended	Streambank and shoreline erosion protection of public works and non-profit public services
Section 103 , River and Harbor Act of 1962, as amended (amends Public Law 79-727)	Beach erosion and hurricane and storm damage reduction
Section 107 , River and Harbor Act of 1960, as amended	Navigation improvements
Section 111, River and Harbor Act of 1968, as amended	Shore damage prevention or mitigation caused by Federal navigation projects
Section 204 , Water Resources Development Act of 1992, as amended	Beneficial uses of dredged material
Section 205 , Flood Control Act of 1948, as amended	Flood control
Section 206 , Water Resources Development Act of 1996, as amended	Aquatic ecosystem restoration
Section 208 , Flood Control Act of 1954, as amended (amends Section 2, Flood Control Act of August 28, 1937)	Removal of obstructions, clearing channels for flood control
Section 1135 , Water Resources Development Act of 1986, as amended	Project modifications for improvement of the environment

District	State	Project (NFS)	CAP Auth
NAE	MA	Marshfield (MA)	103
	MA	Nantasket Beach (MA)	103
NAN	NY	Island Park Beach (Village of Island Park)	103
	NJ	Raritan Bay and Sandy Hook Bay, Leonardo, NJ	103
NAP	NJ	Seaside Park (NJDEP)	103
	NJ	Cape May City Seawall	103
	NJ	Chelsea Heights, Atlantic City	205
	NJ	Delaware Bayshore (Downe & Lawrence Twps)	205
	NJ	Cape May, Delaware Ave	14
	NAB	MD	Janes Island (City of Crisfield)
	MD	Southeast Crisfield, MD	103
NAO	VA	The Hague (City of Norfolk)	205
	VA	Newmarket Creek	205

Design and Implementation Phase Efforts

District	State	Project (NFS)	CAP Auth
NAE	MA	Nantasket Beach (Commonwealth of MA)	103
NAN	NJ	Leonardo	103
NAN	NJ	Shrewsbury	103
NAP	NJ	Cape May, Delaware Ave	14



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