Federal Agency Hurricane Coordination

Federal Interagency Committee

Doug Newcomb, Chair

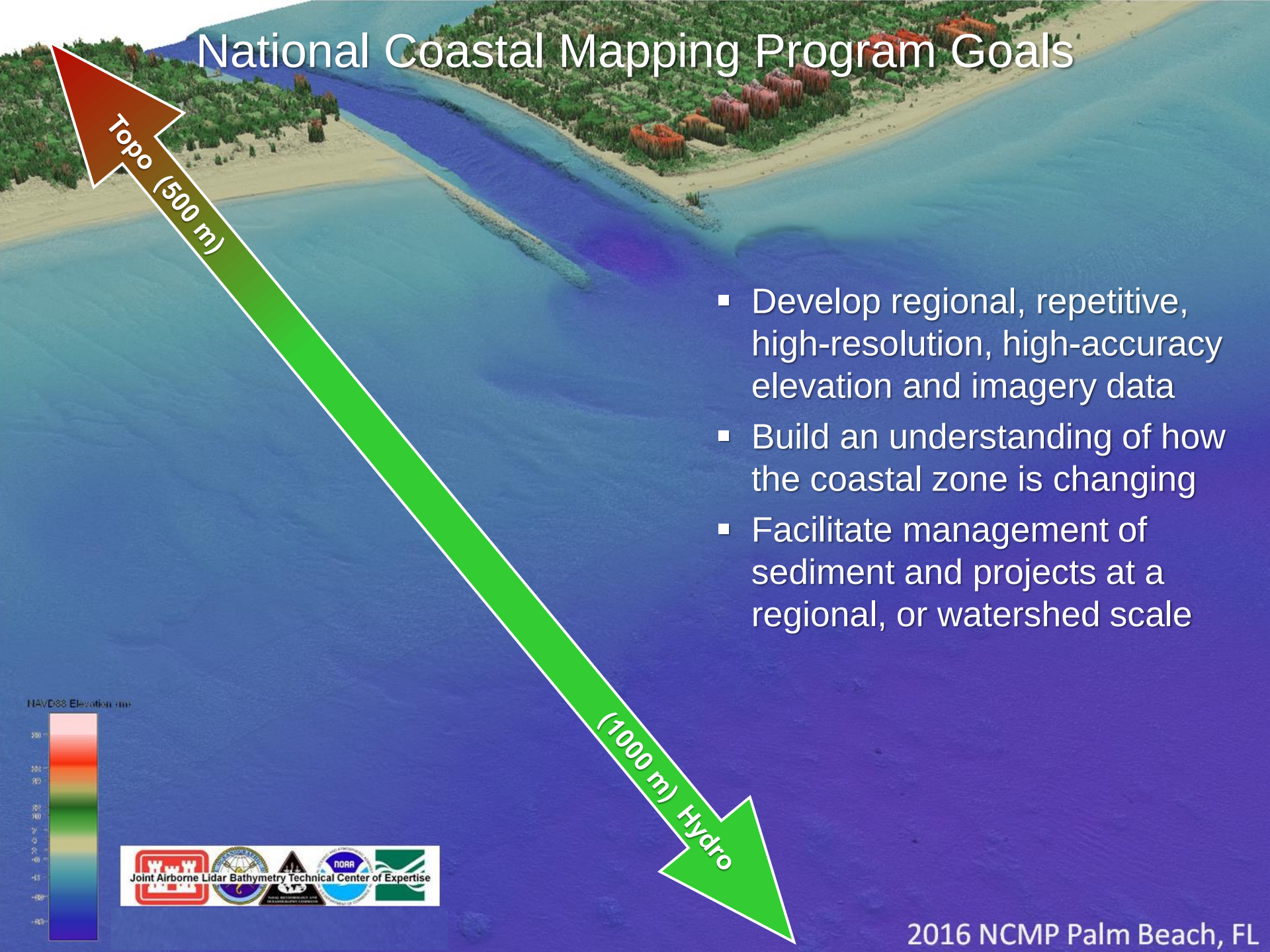
2/9/2017

Federal Agency Hurricane Activities (incomplete list)

- USGS – Stream discharge measurements, pre-storm sensor deployment. High water marks and Inundation mapping at FEMA's request for 7 urban areas.
- USACE Wilmington – Emergency Permits in advance of the storm.
- NRCS – Emergency Watershed Program. Working with FEMA for Assistance in Hazard Locations
- FEMA Coordinates activities between agencies . Works with predefined GIS data sets. Mapstory Book on Arcgis Online Disaster Journal – work in progress.
- USACE – Coordinate with U.S Coast Guard on navigation channel surveys (Wilmington, Morehead, then others)
- NOAA – Aerial Photo acquisition and distribution (Normal and Oblique),Channel survey assistance .
- EPA – Ongoing Resilience Planning to minimize effects of Events.

USACE Topobathy Lidar Activities

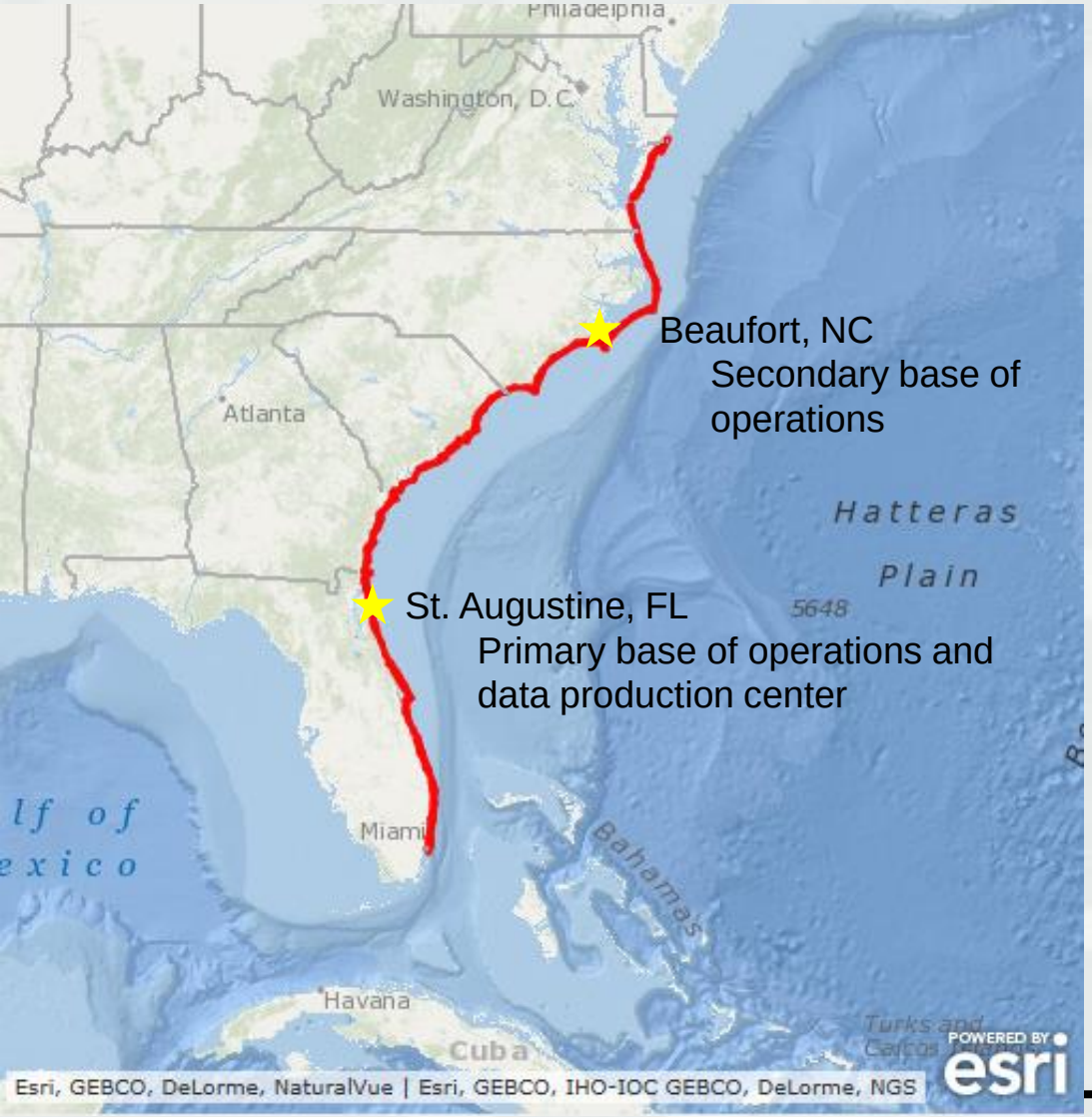
National Coastal Mapping Program Goals



- Develop regional, repetitive, high-resolution, high-accuracy elevation and imagery data
- Build an understanding of how the coastal zone is changing
- Facilitate management of sediment and projects at a regional, or watershed scale

2016 Post-Matthew Operations Overview

BUILDING STRONG



Key Biscayne, FL to VA/MD Border

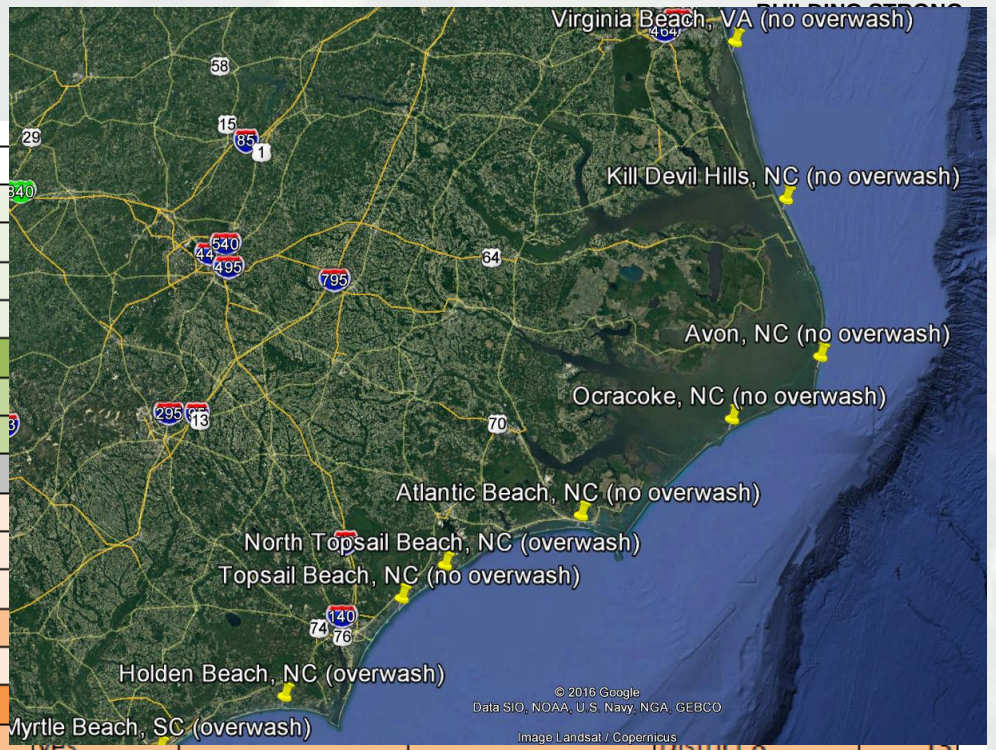
- Dual aircraft operations
- 991 flight lines
- 27 Oct – 2 Dec
- 36 days
- 76 flights

- 4 ground-truth teams (USGS)

- 24-hr field office
- Rapid-response data product deliveries
- Advanced lidar products for emergency response

Post-Matthew Ground Truth Locations

Ground-truth data acquired by USGS, a JALBTCX partner

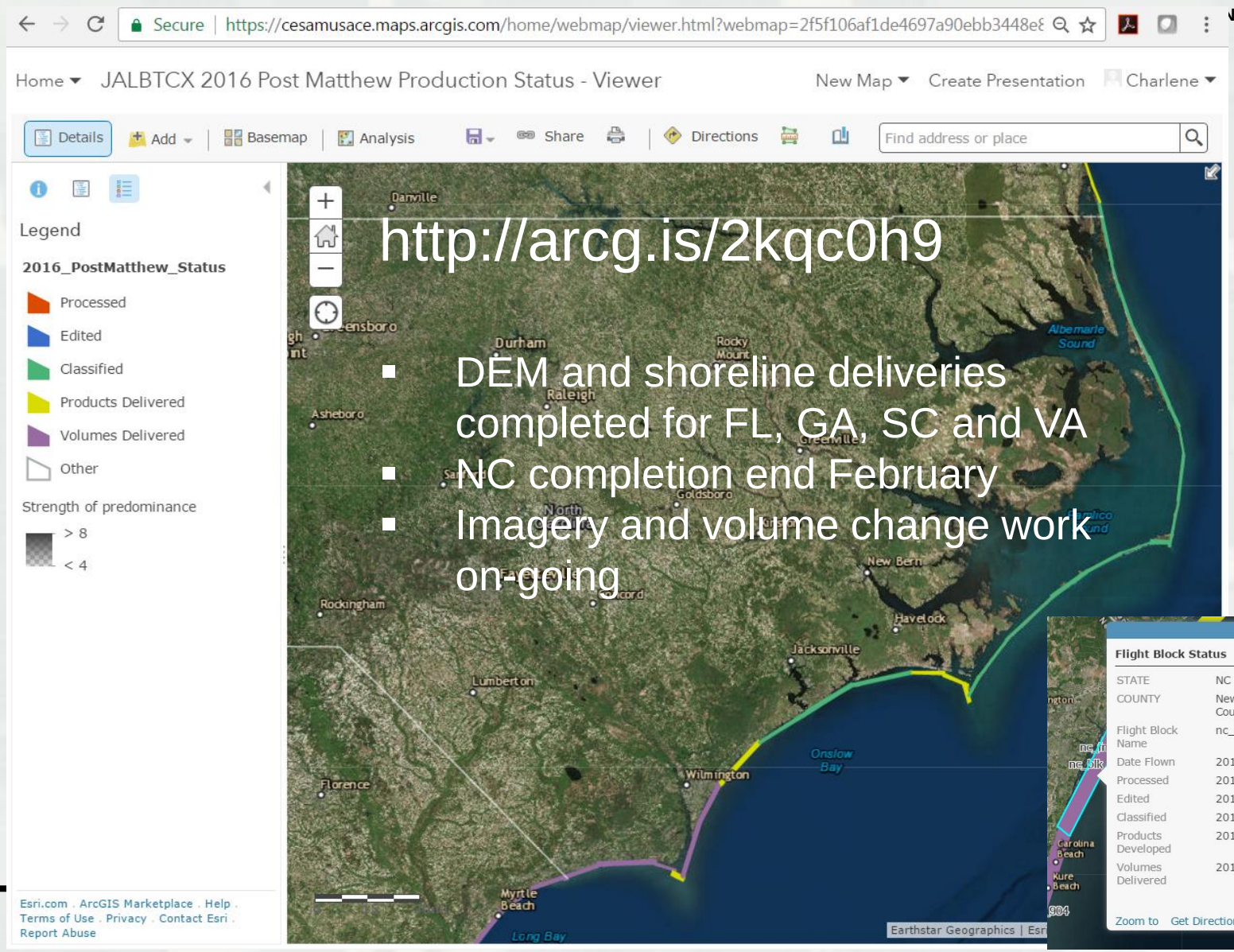


Longitude	Latitude	Location	State					
-80.07566773060	26.31310308590	Deerfield Beach	FL					
-80.09284778300	27.01430013400	Jupiter Isl	FL					
-80.36767394000	27.69254016400	Indian River Shores	FL					
-80.60569005000	28.27613202000	Cocoa Beach	FL					
-80.74604795100	28.81063976670	Canaveral	FL					
-81.13955668210	29.50628632610	Flagler Beach	FL					
-81.35589437440	30.16215084960	Ponte Vedra Beach	FL					
-81.43145400000	31.01100300000	Jekyll Island***	GA					
-81.34169300000	31.18519800000	Sea Isl	GA					
-80.84668300000	31.99078700000	Tybee Isl	GA					
-80.67970500000	32.20760600000	Hilton Head Island	SC					
-80.31385343800	32.49082791500	Edisto Beach	SC					
-79.71812565000	32.81674940000	Isle of Palms	SC					
-79.15621900000	33.34343600000	Debidue Isl	SC					
-78.90458631200	33.66921707900	Myrtle Beach	SC	yes			District 8	13
-78.25914619190	33.91407399730	Holden Beach	NC	yes			Brunswick	14
-77.65895144000	34.34171256000	Topsail Beach	NC	no			Pender	15
-77.43809852380	34.48360742470	North Topsail Beach	NC	yes			Onslow	16
-76.73935686000	34.69733911000	Atlantic Beach	NC	no			Carteret	17
-75.95963460000	35.10261714000	Ocracoke	NC	no		Ferry?	Carteret	18
-75.49778956990	35.36327878790	Avon	NC	no	Cape Hatteras NS		Dare	19
-75.66751730080	36.03039443430	Kill Devil Hills	NC	no			Dare	20
-75.92661182240	36.70070609310	Virginia Beach	VA	no			Virginia Dare	21
-75.77991902330	37.29622988970	Cobb Island	VA	no		Checking: VIMS	Eastern Shore	22
-75.37830423000	37.85356672000	Sthrn Assateague Isl	VA	no			Eastern Shore	23

Cell Phones

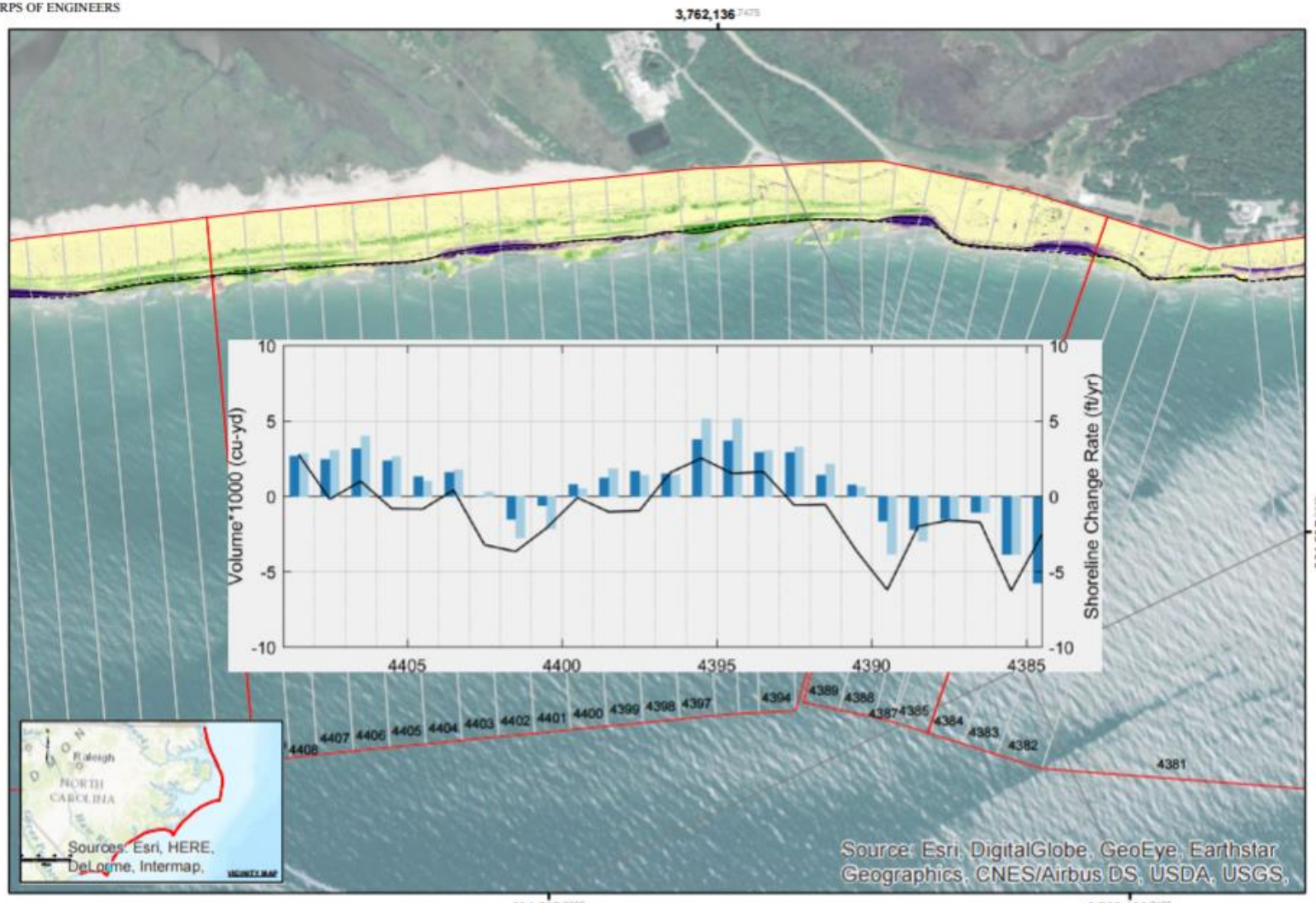
These locations are approximate; adjust to be within 500m of waterline for use as control for lidar survey.

Post-Matthew Data Production Status Map



CORPS OF ENGINEERS

U.S. ARMY



Section	Volume Change (cu-yd)	MHW Volume Change(cu-yd)	Shoreline Change Rate (ft/yr)	Section	Volume Change (cu-yd)	MHW Volume Change(cu-yd)	Shoreline Change Rate (ft/yr)	Section	Volume Change (cu-yd)	MHW Volume Change(cu-yd)	Shoreline Change Rate (ft/yr)
4,385	-5,980	-5,755	-2.51	4,401	-2,116	-595	-2.11				
4,386	-3,843	-3,851	-6.27	4,402	-2,760	-1,494	-3.67				
4,387	-1,085	-1,046	-1.73	4,403	288	-4	-3.23				
4,388	-1,710	-1,491	-1.60	4,404	1,779	1,568	0.41				
4,389	-2,981	-2,170	-2.00	4,405	1,008	1,307	-0.86				
4,390	-3,827	-1,642	-6.21	4,406	2,636	2,336	-0.82				
4,391	615	761	-3.61	4,407	4,003	3,163	1.00				
4,392	2,145	1,381	-0.55	4,408	3,940	2,468	-0.05				
4,393	3,281	2,905	-0.60	4,409	2,863	2,871	2.76				
4,394	3,036	2,908	1.62								
4,395	5,127	3,684	1.50								
4,396	5,134	3,760	2.52								
4,397	1,415	1,494	1.58								
4,398	1,379	1,656	-0.97								
4,399	1,834	1,217	-1.03								
4,400	490	782	-0.10								
4,401	-2,116	-595	-2.11								

Elevation Difference (feet)

High : 5

Low : -5

Miles 0 0.1 0.2

Horizontal Coordinate System:
NAD 1983 2011 UTM Zone 18N
Datum: NAD 1983 2011
Distance Units: Meter

Joint Airborne Lidar Bathymetry Technical Center of Expertise

The information depicted on this map represents elevation changes along the North Carolina Coast comparing the post-Hurricane Matthew with the pre- storm condition.

Volumes included in the table were computed in 300-ft alongshore sections, and are provided in units of cubic yards (cu-yd). Pre- and post-storm shorelines are included on the map as a dashed black line and solid black line, respectively. The bar chart includes the Volume Change (light blue) and MHW Volume Change (dark blue). The Shoreline Change Rate is represented by the black line.

Data Sources: 2014 National Geodetic Survey and 2016 National Coastal Mapping Program topobathymetric lidar elevation data from the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX).

US Army Corps of Engineers Mobile District

-- DISCLAIMER --

U.S. ARMY CORPS OF ENGINEERS

North Carolina
Elevation Difference and Volume
Map Number:

Sheet Reference Number
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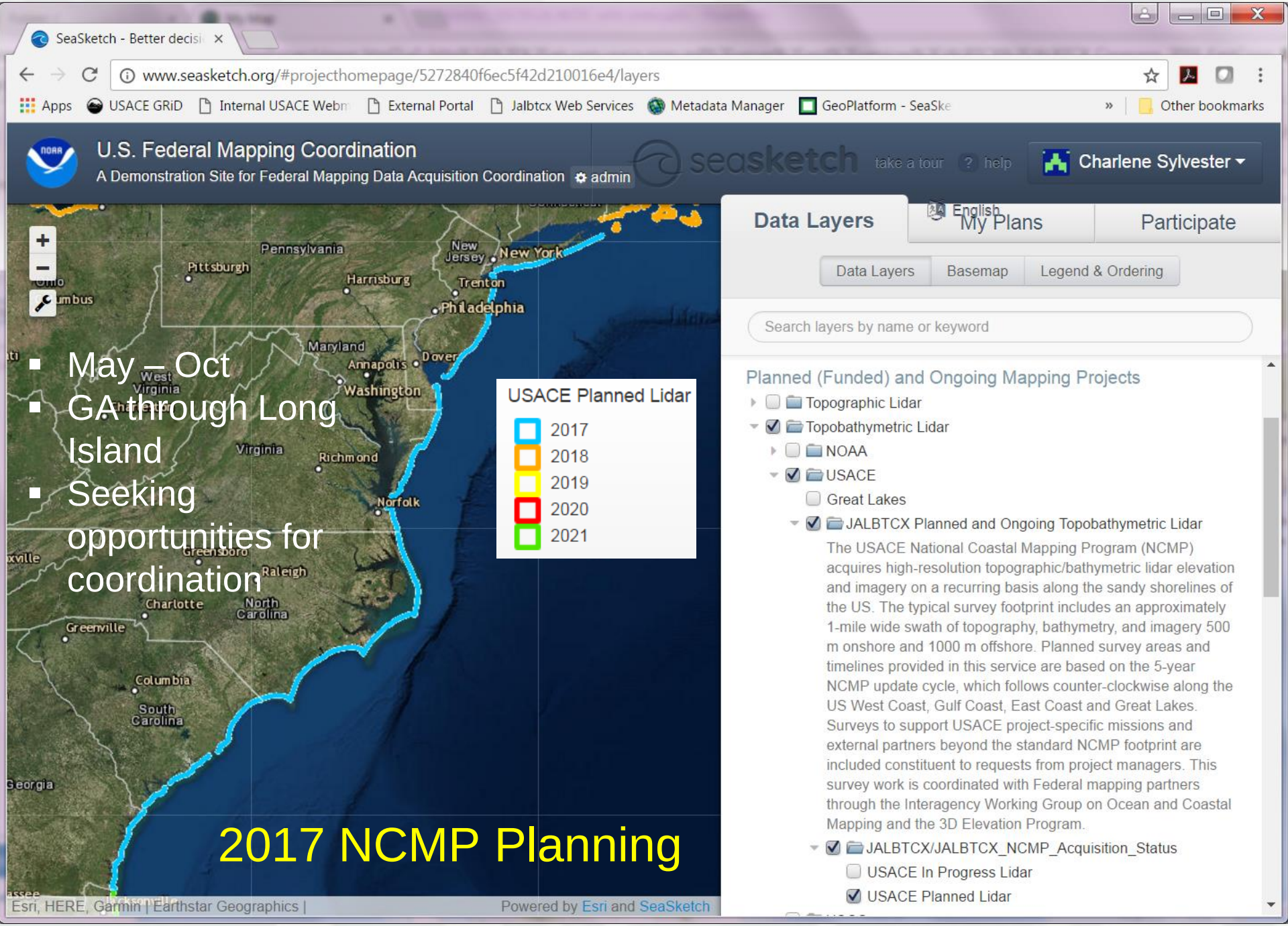
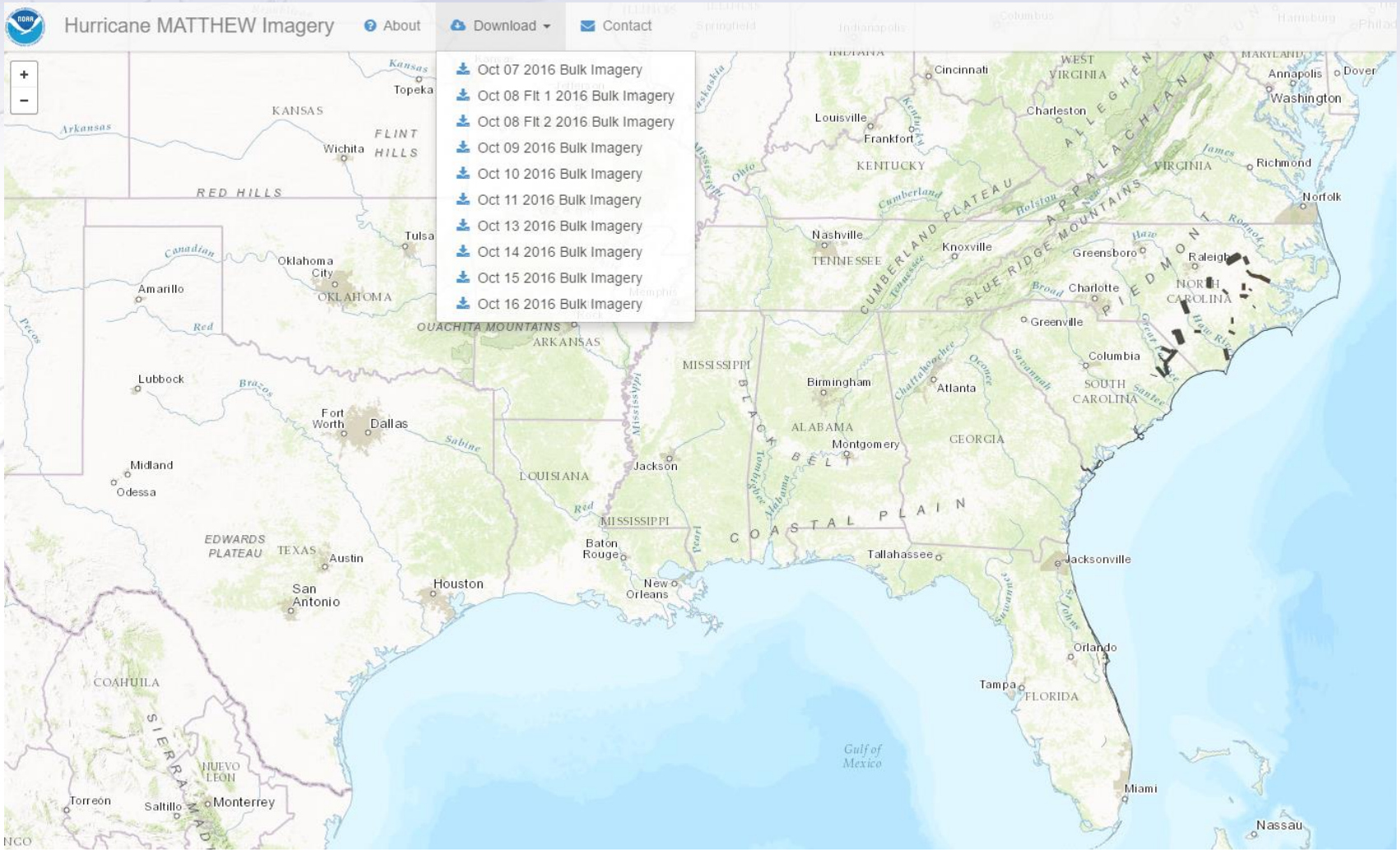

SeaSketch - Better decisi
www.seasketch.org/#projecthomepage/5272840f6ec5f42d210016e4/layers
Apps
USACE GRiD
Internal USACE Webm
External Portal
Jalbtcx Web Services
Metadata Manager
GeoPlatform - SeaSke
Other bookmarks
U.S. Federal Mapping Coordination
A Demonstration Site for Federal Mapping Data Acquisition Coordination
admin
seasketch
take a tour
help
Charlene Sylvester
Data Layers
English
My Plans
Participate
Data Layers
Basemap
Legend & Ordering
Search layers by name or keyword
Planned (Funded) and Ongoing Mapping Projects
Topographic Lidar
Topobathymetric Lidar
NOAA
USACE
Great Lakes
JALBTCX Planned and Ongoing Topobathymetric Lidar
The USACE National Coastal Mapping Program (NCMP) acquires high-resolution topographic/bathymetric lidar elevation and imagery on a recurring basis along the sandy shorelines of the US. The typical survey footprint includes an approximately 1-mile wide swath of topography, bathymetry, and imagery 500 m onshore and 1000 m offshore. Planned survey areas and timelines provided in this service are based on the 5-year NCMP update cycle, which follows counter-clockwise along the US West Coast, Gulf Coast, East Coast and Great Lakes. Surveys to support USACE project-specific missions and external partners beyond the standard NCMP footprint are included constituent to requests from project managers. This survey work is coordinated with Federal mapping partners through the Interagency Working Group on Ocean and Coastal Mapping and the 3D Elevation Program.
JALBTCX/JALBTCX_NCMP_Acquisition_Status
USACE In Progress Lidar
USACE Planned Lidar
Pennsylvania
Pittsburgh
Harrisburg
New Jersey
New York
Trenton
Philadelphia
Maryland
Annapolis
Dover
West Virginia
Washington
Virginia
Richmond
Norfolk
Greensboro
Raleigh
Charlotte
North Carolina
Greenville
Columbia
South Carolina
Georgia
USACE Planned Lidar
2017
2018
2019
2020
2021
May – Oct
GA through Long Island
Seeking opportunities for coordination
2017 NCMP Planning
Esri, HERE, Garmin | Earthstar Geographics |
Powered by Esri and SeaSketch

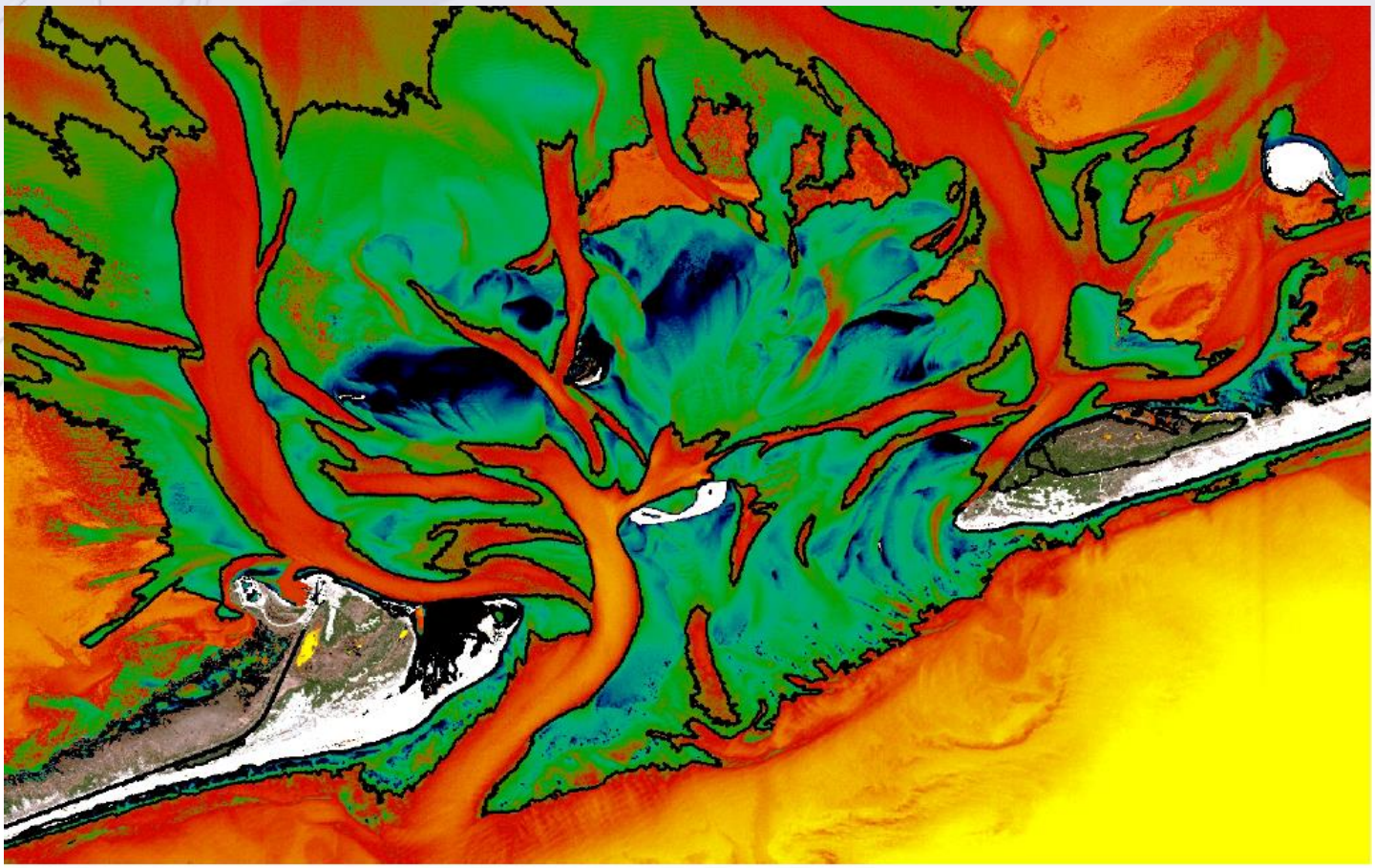
NOAA Channel survey activities (incomplete)

Hurricane Matthew



Hatteras Inlet Satellite-Derived Bathy

Hatteras Inlet Satellite-Derived Bathy



ENVI Relative Depth Image and Danger Area Boundary (in black)

Hurricane Matthew Request - Landsat