NOAA Update
AAPA Harbors and Navigation Committee meeting

Richard Edwing

Director, NOAA's Ocean Service

Center for Operational Oceanographic Products and Services

September 2018

NOAA HEADQUARTERS ORGANIZATION

CORPORATE FUNCTIONS

Deputy Assistant Secretary for International Fisheries
Drew Lawler

Military Liaisons

U.S. Coast Guard Liaison
CAPT Kurt Zegowitz, NOAA Corps

Liaison to the Oceanographer of the Navy
CDR Jason Mansour, NOAA Corps

Assistant Secretary of Commerce for Oceans and Atmosphere and Acting Under Secretary of Commerce for Oceans and Atmosphere
RDML Timothy Gallaudet, Ph.D., USN Ret.

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Dr. Neil Jacobs

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Craig McLean (A)

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Benjamin Friedman

Chief of Staff
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Kevin Wheeler

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Deirdre Jones (A)

Chief Financial Officer
Mark Seiler

Chief Information Office/HP Computing & Communications
Zach Goldstein

Workforce Management
Kimberlyn Bauhs

LINE OFFICES

NMFS

Assistant Administrator National Marine Fisheries Service
Chris Oliver

Deputy Assistant Administrator for Operations
Paul Doremus

Deputy Assistant Administrator for Regulatory Programs
Sam Rauch

Director of Scientific Programs & Chief Science Advisor
Dr. Cisco Werner

NOS

Assistant Administrator National Ocean Service
Nicole LeBoeuf (A)

Deputy Assistant Administrator
John Armor (A)

NESDIS

Assistant Administrator National Environmental Satellite, Data & Information Service
Dr. Stephen Volz

Deputy Assistant Administrator
Mark S. Paese

OAR

Assistant Administrator Oceanic & Atmospheric Research
Craig McLean

Deputy Assistant Administrator for Laboratories & Cooperative Institutes
Dr. Gary Matlock

Deputy Assistant Administrator for Programs & Administration
Ko Barrett

NWS

Assistant Administrator National Weather Service
Dr. Louis Uccellini

Deputy Assistant Administrator
Mary Erickson

OMAO

Director Office of Marine & Aviation Operations & Director, NOAA Corps
RADM Michael Silah

Deputy Director for Operations and Deputy Director, NOAA Corps
RDML Nancy Hann

Deputy Assistant Administrator for Programs and Administration
Gary Reisner

Key: (A) = Acting Last updated 09/17/18

National Weather Service

Marine Forecasts: Marine, Tropical and Tsunami Services Branch

- Provide current, accurate weather and water information relating to the 95,439 statute miles of shoreline mileage of the U.S. (including the Great Lakes and offshore and high seas waters)
- This information aims to:
  - Ensure the safety of life and protection of property
  - Promote international and interstate commerce by improving the efficiency of marine operations
  - Mitigate environmental impacts
  - Enhance the quality of life for the United States

THE NWS IS CONSIDERING CHANGES TO THEIR PUBLIC HAZARDS NOTIFICATION SYSTEM

Too many products

Confusing terms

Possibly Changing
"Watch, Warning, Advisory"

The Hazard Is Either "Possible" Or "It's Happening!"

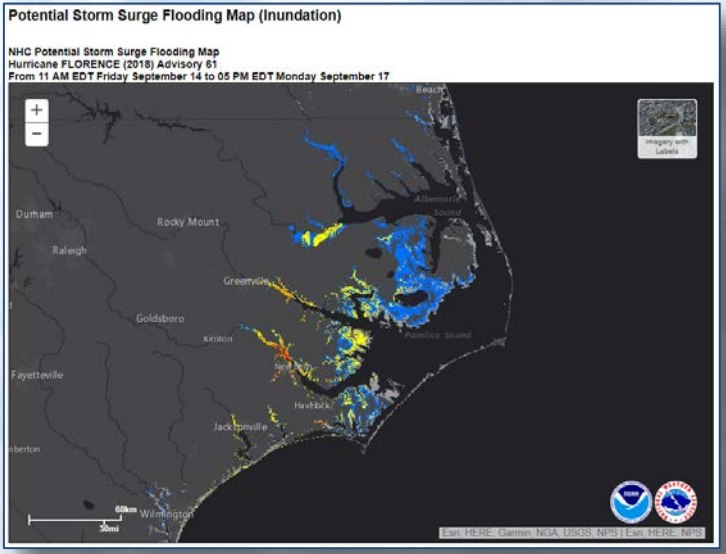
Possible	Happening
"Notice" (replaces "Watch")	"Orange Warning" (replaces "Advisory")
	"Red Warning" (for today's "Warning")
	"Emergency" (Rare, high impact situations)

Possible Applications to Marine
(Variation on Combined Prototype)

Gale Notice
Orange Warning: Small Craft
Red Warning: Gale Force Winds
Hazardous Seas Emergency (Applied for rare, high impact events)

TROPICAL AND NON-TROPICAL PRODUCT CONSISTENCY

- Consistent flood messaging including storm surge
- Reduce size of warning area from marine zones to a polygons around affected area
- Improved water level forecasting by integrating river and coastal forecast models
- Use a common inundation graphic for tropical and non-tropical events



Common Inundation Graphic

National Ocean Service (NOS) Navigation Services

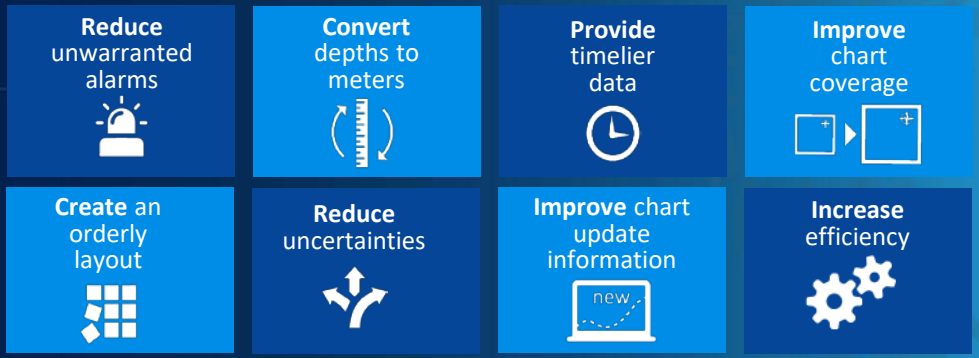
NOS Office of Coast Survey (OCS)

NATIONAL CHARTING PLAN

A strategy to transform nautical charting

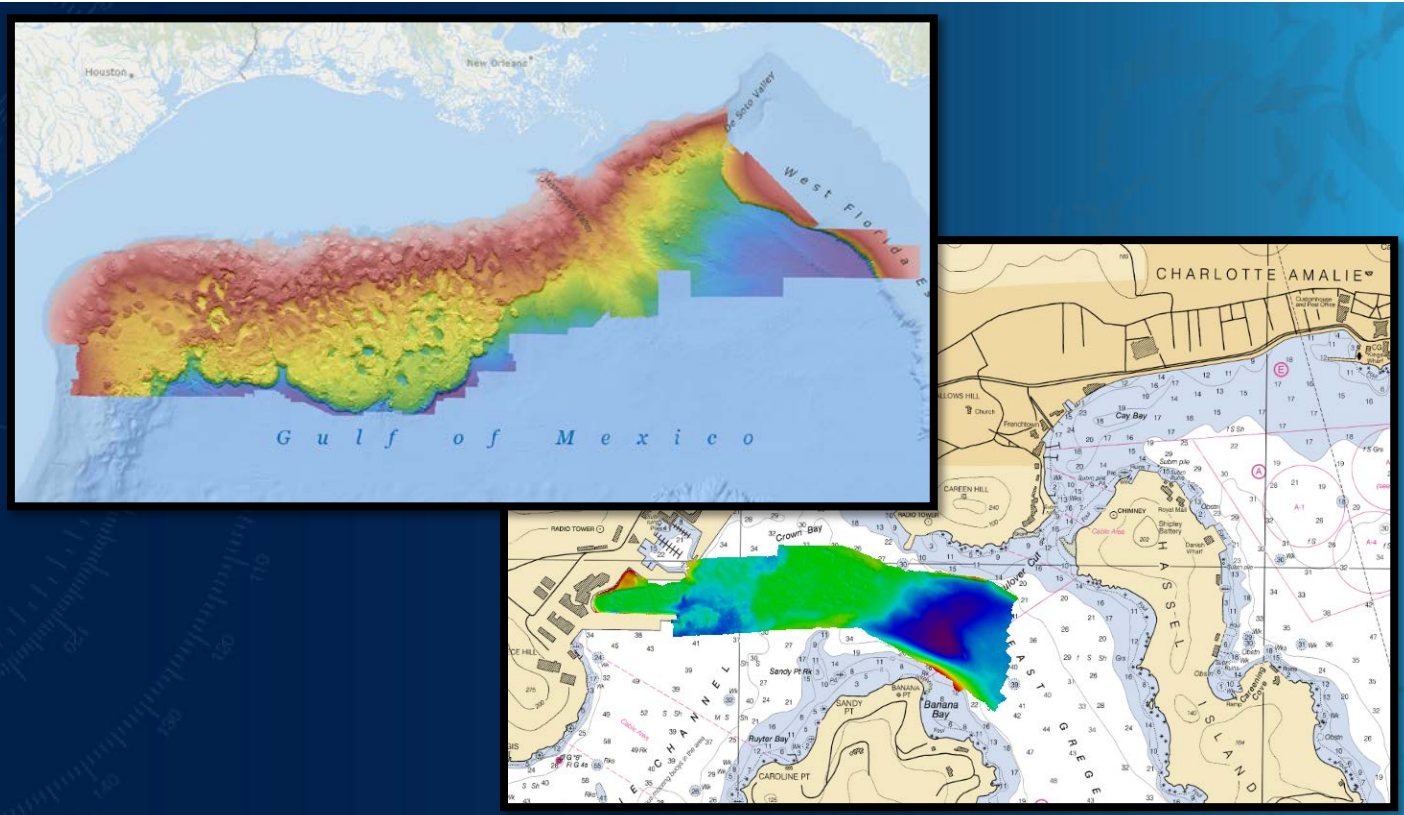
Purpose Improve NOAA nautical chart coverage, products, and distribution

Improvements



Outcome Ease of access to more precise, higher-resolution charts that deliver the most up-to-date navigation information possible

External Source Data



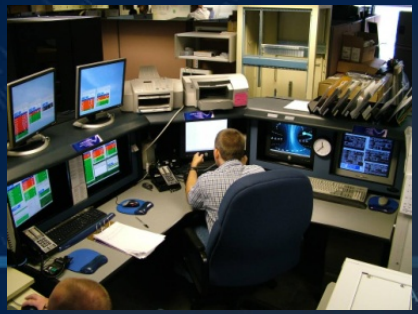
Uncrewed Systems

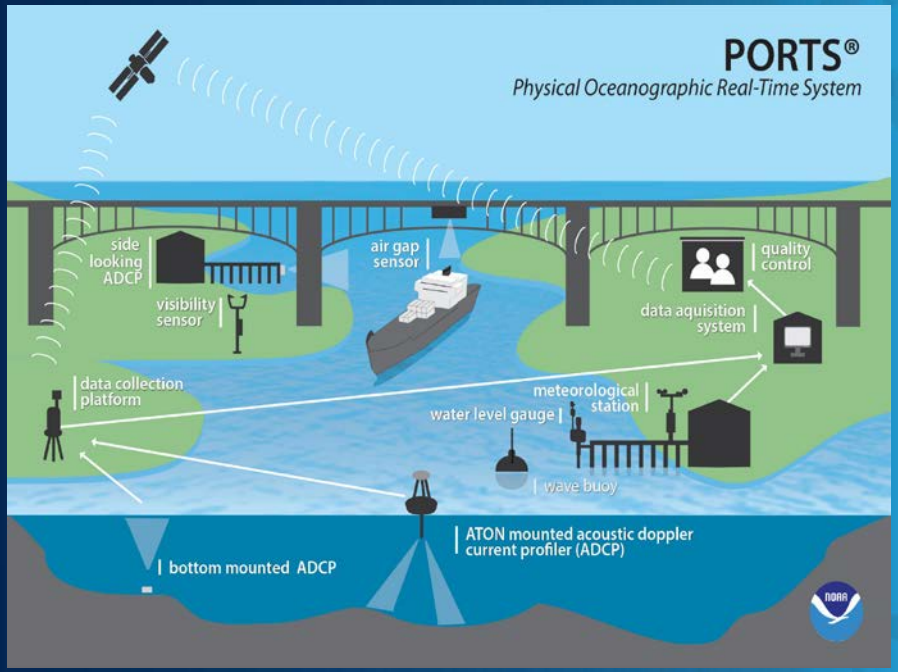
Office of Coast Survey Autonomous System Strategy

Center for Operational Oceanographic Products and Services (CO-OPS)

Parameters observed:

- Water levels
- Currents
- Salinity
- Air gap
- Meteorological parameters
- Visibility
- Waves

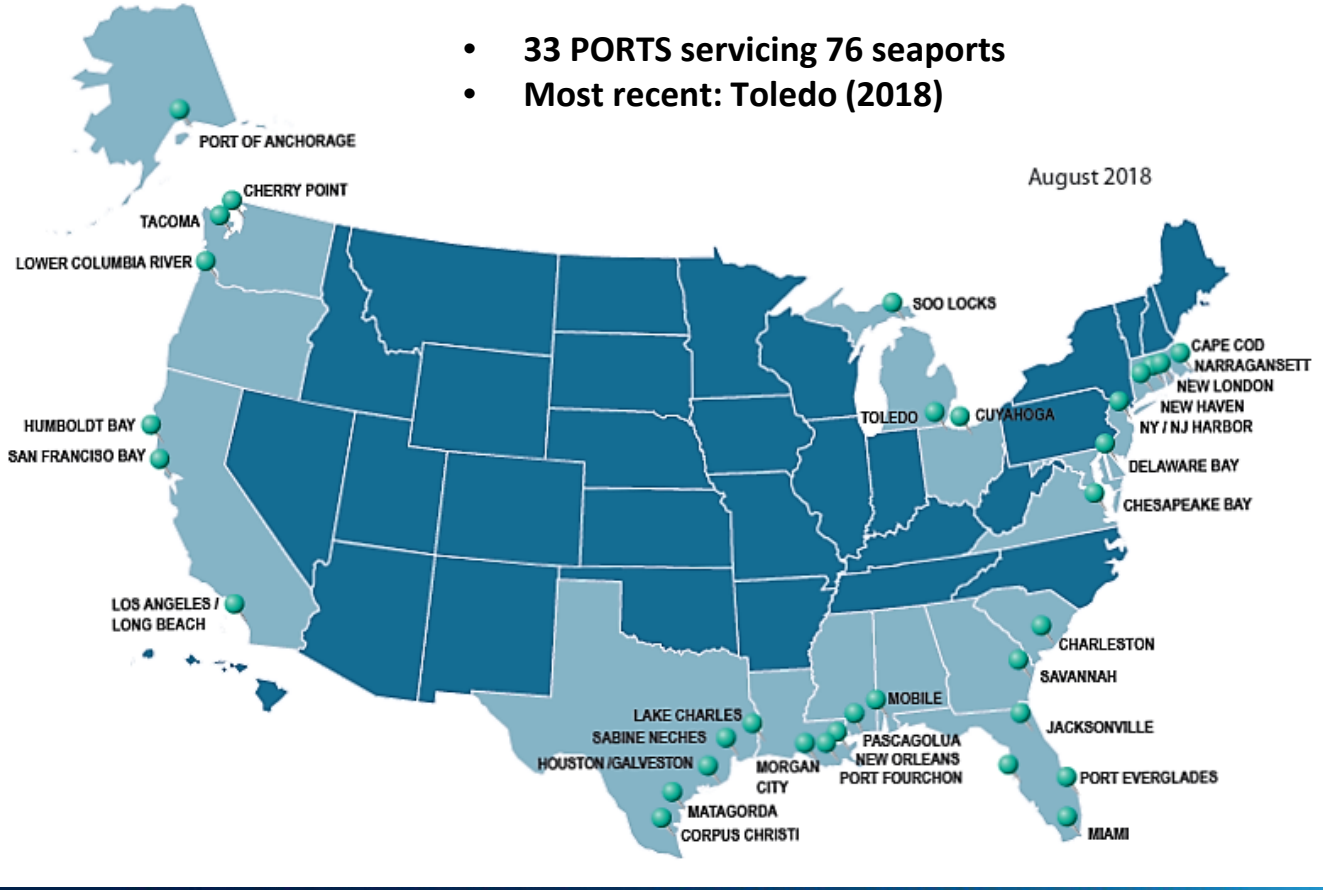




CORMS – Continuous Real-Time Monitoring System (Quality Control)

Physical Oceanographic Real-Time System (PORTS®)

- **33 PORTS servicing 76 seaports**
- **Most recent: Toledo (2018)**



Miami PORTS dedication – April 2018

iAton Buoy install

3 most common PORTS enhancements

Air Gap

Visibility Sensor

Current Meters

Estimated Economic Benefits of a Fully-Built National PORTS® System

Potential Value of an Expanded PORTS® System Serving 175 Major U.S. Seaports

Benefit Area	Potential Annual Value	Potential Ten-Year Net Present Value
Improved Safety		
Reduced Commercial Marine Transportation Accidents		
Property Damages	$7.7	$64.4
Injuries and Deaths	$19.1	$156.3
Reduced Recreational Boating Accidents		
Property Damages	<$0.1	<$0.1
Injuries and Deaths	$0.4	$3.1
Reduced Oil Spill Remediation	$5.2	$42.3
Increased Efficiency		
More Efficient Commercial Marine Transportation	$265.5	$2,172.3
Enhanced Fishing Productivity		
Commercial Fishing	$1.8	$15.1
Recreational Fishing	$0.3	$2.5
Total	**$300.0**	**$2,456.0**

(Millions of 2010 dollars)
(Ten-Year Net Present Value is the sum of discounted benefit values for the next 10 years.)

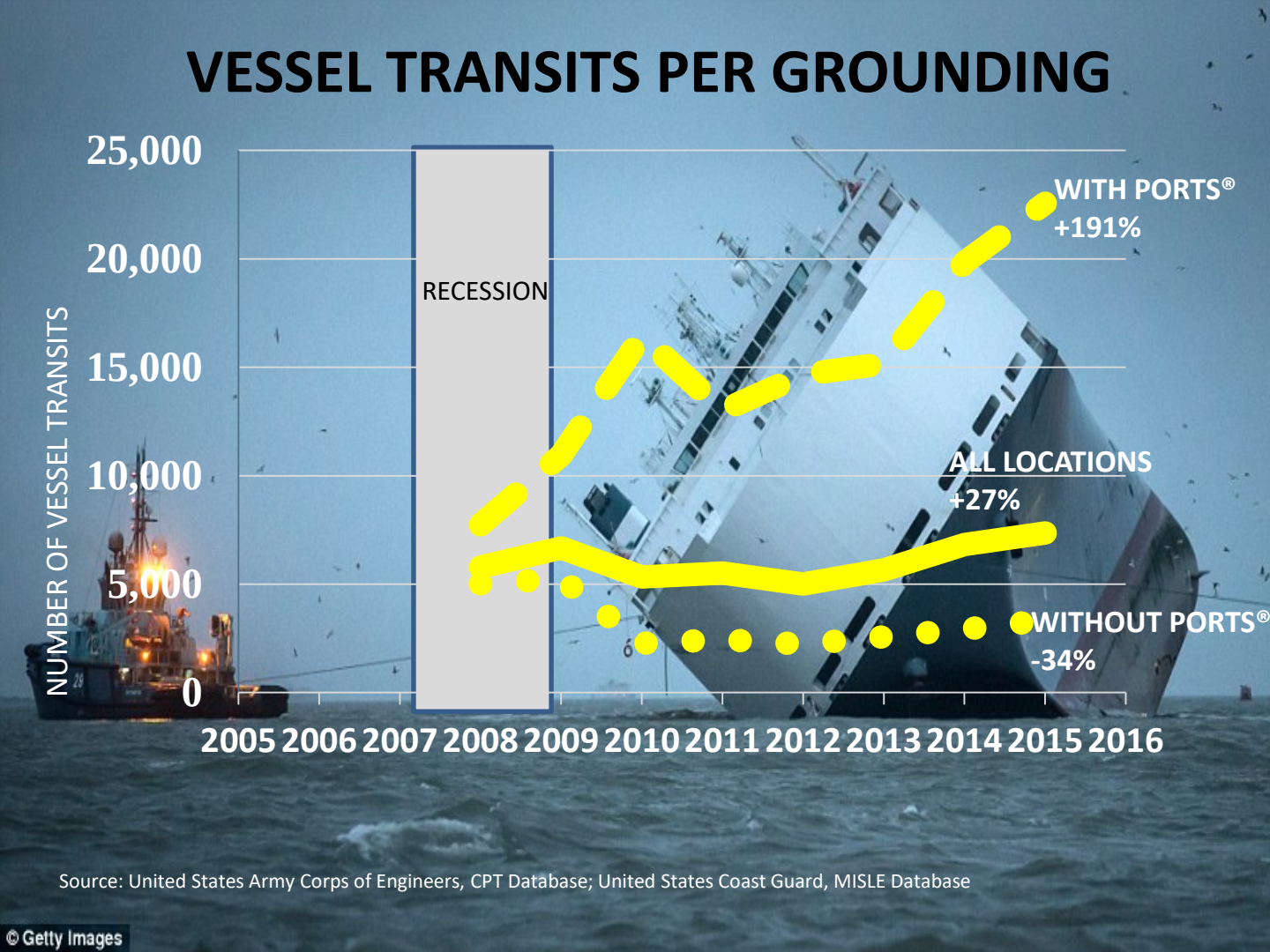
Vessel allision, collision and grounding incidents: estimated impact of ports®

K. Eric Wolfe
Chief Economist
NOAA
National Ocean Service
Office of the Assistant Administrator

February 21, 2018

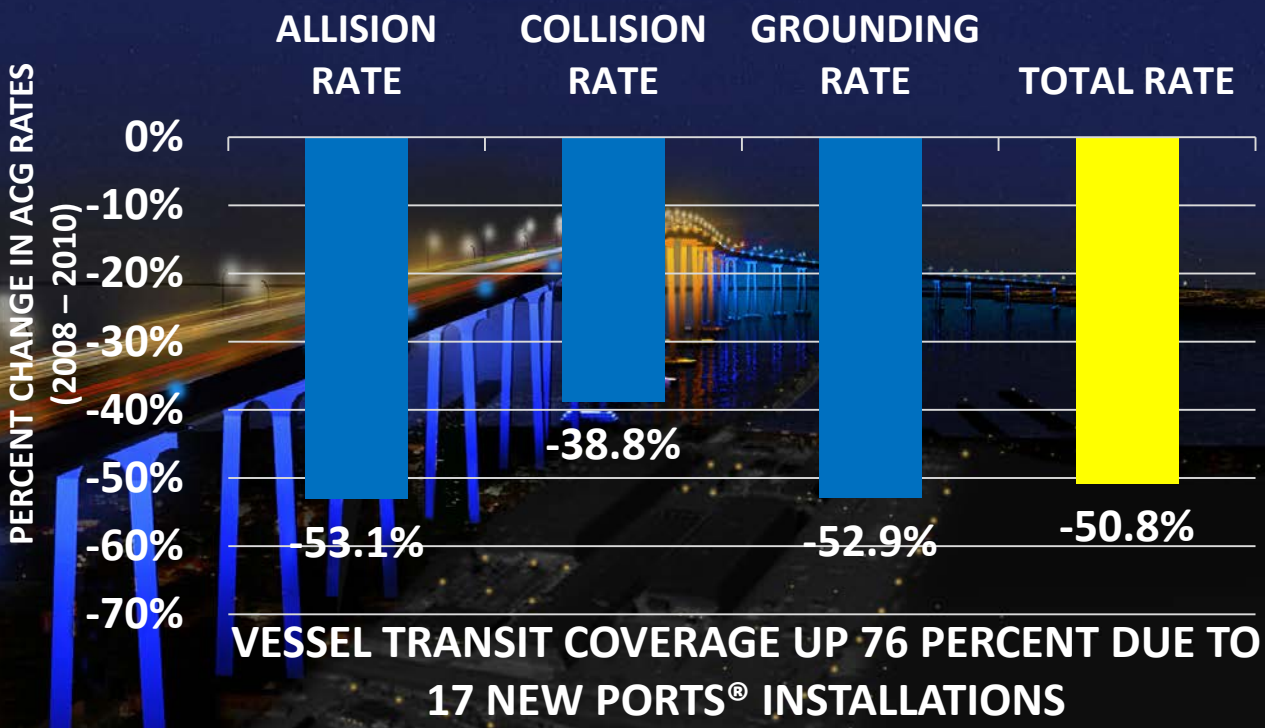
Background:
Wolfe, K. Eric and MacFarland, David, 2016.
"A Valuation Analysis of the Physical Oceanographic Real Time System (PORTS®),"
Journal of Ocean and Coastal Economics, Vol. 3, Issue 1, Article 12.
Refer to: http://cbe.miis.edu/joce/vol3/iss1/12/

VESSEL TRANSITS PER GROUNDING



Source: United States Army Corps of Engineers, CPT Database; United States Coast Guard, MISLE Database

IMPACT OF PORTS®
DURING TIME OF LARGE EXPANSION

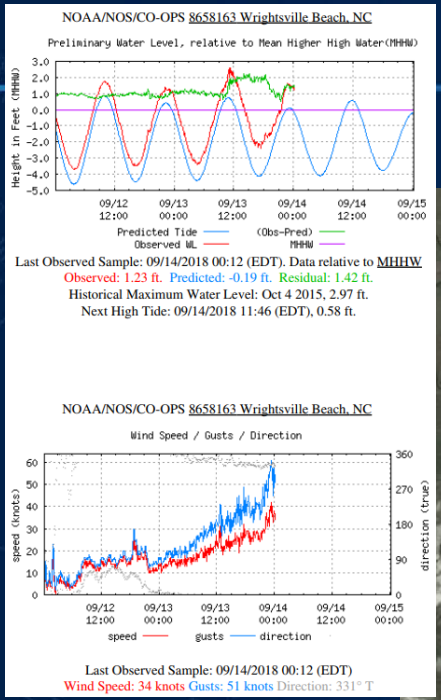


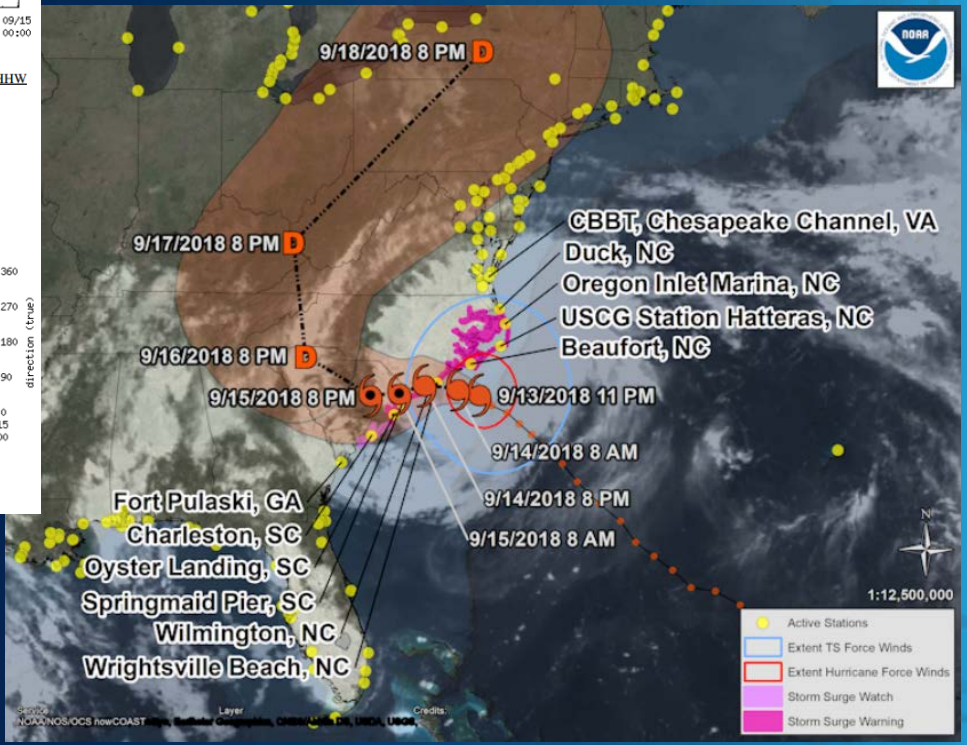
VESSEL TRANSIT COVERAGE UP 76 PERCENT DUE TO 17 NEW PORTS® INSTALLATIONS

Source: United States Army Corps of Engineers, CPT Database; United States Coast Guard, MISLE Database

NOAA Response to Florence

CO-OPS Storm QuickLook



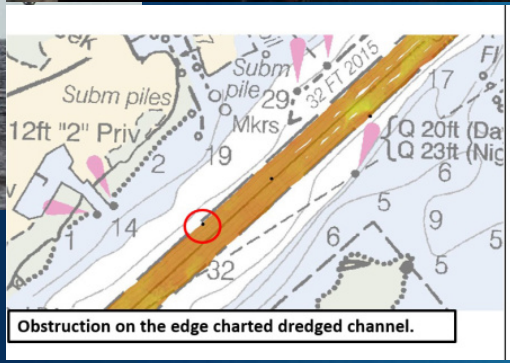


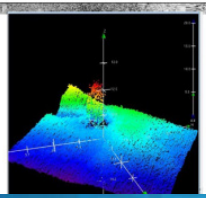
Emergency Response Imagery

- NGS collected over 65,000 emergency response images, covering 24,000 square kilometers in response to hurricanes Harvey, Irma, and Maria
- Images can be viewed at: https://storms.ngs.noaa.gov

Reopening Seaports

Navigation Response Teams

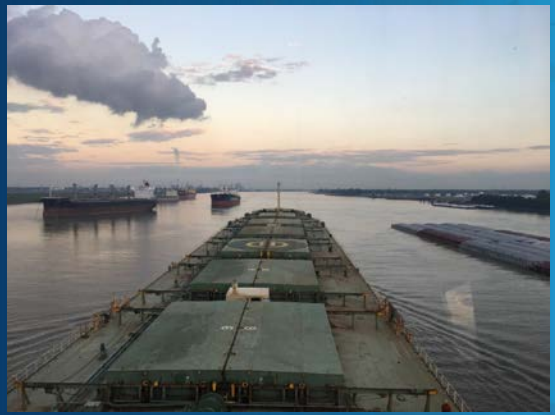




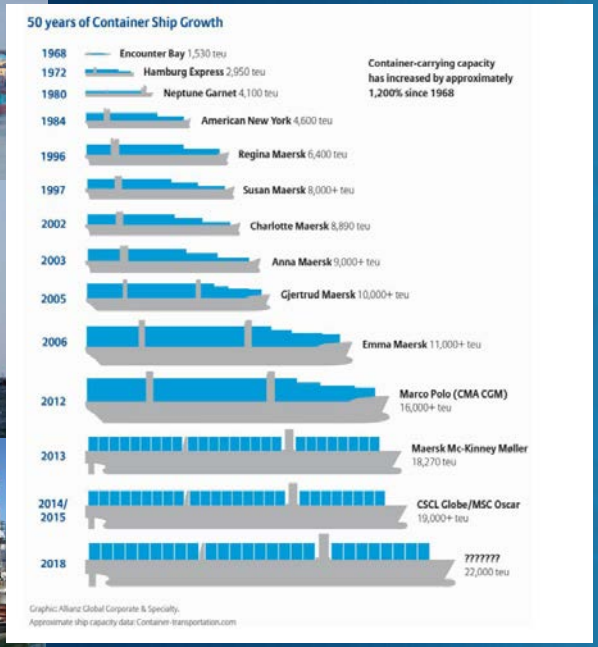
Precision Navigation Initiative

NOAA Precision Navigation

- Precision Navigation provides mariners with integrated, port-specific, forecasts and real-time information in order to make increasingly complex navigation decisions between the sea buoy and the berth.
- It can reduce the costs that affect the competitiveness of American exports and can potentially lower the cost of our imports.
- We have completed a successful pilot in Port of Long Beach and we are planning projects underway for a number of other ports.



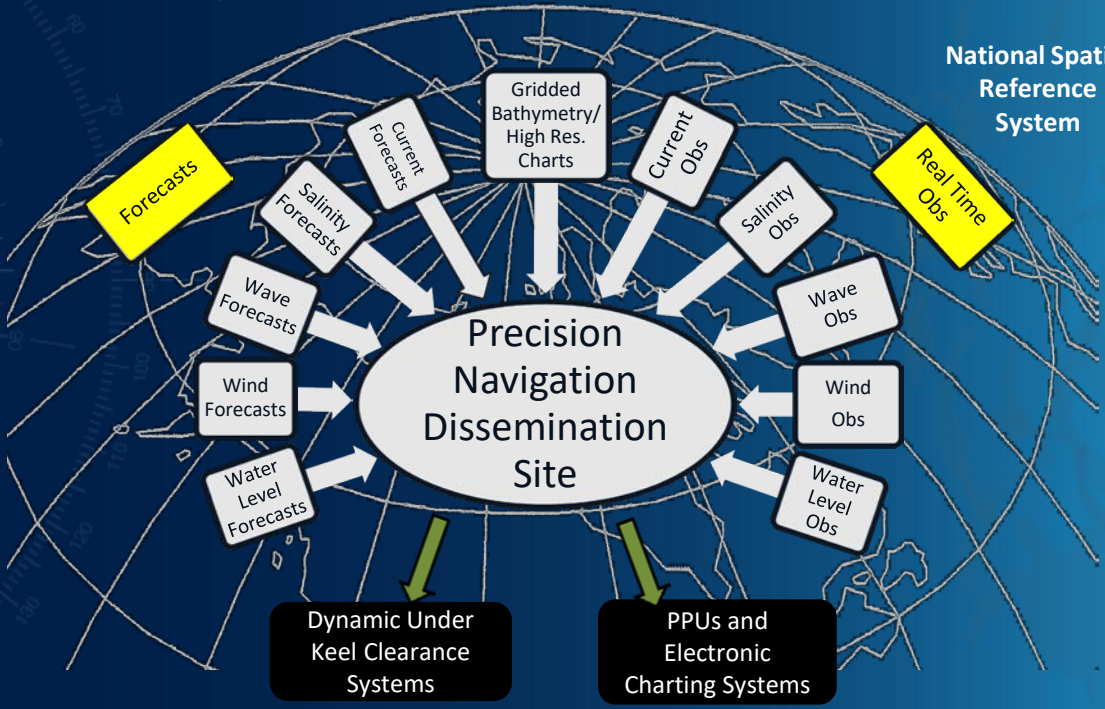

RACCOON


50 years of Container Ship Growth
1968 Encounter Bay 1,530 teu
1972 Hamburg Express 2,950 teu
1980 Neptune Garnet 4,100 teu
1984 American New York 4,600 teu
1996 Regina Maersk 6,400 teu
1997 Susan Maersk 8,000+ teu
2002 Charlotte Maersk 8,890 teu
2003 Anna Maersk 9,000+ teu
2005 Gjertrud Maersk 10,000+ teu
2006 Emma Maersk 11,000+ teu
2012 Marco Polo (CMA CGM) 16,000+ teu
2013 Maersk Mc-Kinney Møller 18,270 teu
2014/2015 CSCL Globe/MSC Oscar 19,000+ teu
2018 ??????? 22,000 teu
Container-carrying capacity has increased by approximately 1,200% since 1968
Graphic: Allianz Global Corporate & Specialty.
Approximate ship capacity data: Container-transportation.com

Goals of Precision Navigation

- Enable 24x7 Port Operations
- Increase the efficient flow of marine commerce
- Increase the safety of that maritime commerce
  - Decrease collisions
  - Decrease groundings
  - Decrease allisions
- Protect the environment from the damaging effects of marine catastrophes
- Enhance Blue Economy through Maritime Information Infrastructure

Integrated Data for Better Decisions



Thank You

If you have any questions or comments please contact:

Darren Wright - NWS National Marine Program Leader
Darren.Wright@noaa.gov (301-427-9283)
RDML Shep Smith – NOS Office of Coast Survey
shep.smith@noaa.gov (301) 713-2770
Richard Edwing – NOS Center for Operational Oceanographic Products & Services
richard.edwing@noaa.gov (240) 533-0482
Juliana Blackwell – NOS National Geodetic Survey
juliana.blackwell@noaa.gov (240) 533-9658