


NOAA's Physical Oceanographic Real-time System (PORTS®)

Enabling Safe, Efficient Maritime Commerce

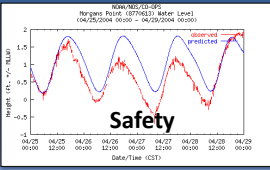
Jennifer Sprague
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NOAA's National Ocean Service

AMS Washington Forum
April 21, 2015





Why Do We Need Ocean and Met Obs?

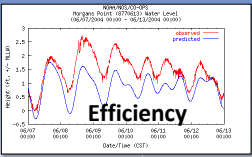
What is the Value of Real-Time Data?



Safety







Efficiency

Evolution of Container Shipping

- Ships are getting larger and waterways more congested
- Margin of error for safety is decreasing
- Shipping companies want to maximize reliability, predictability, and efficiency

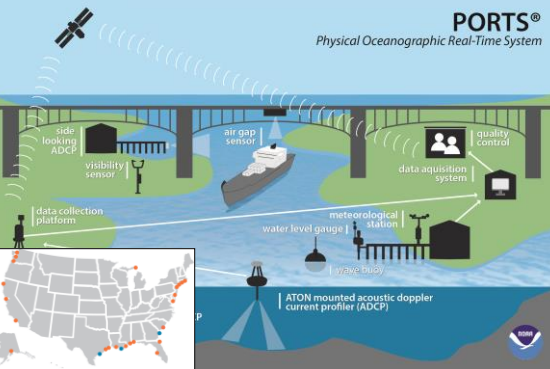
EVOLUTION OF SHIPPING

Year	TEU	TEU	TEU	TEU	TEU	TEU	TEU
1956	400	1,000	2,000	4,000	8,000	16,000	32,000
1970	1,000	2,000	4,000	8,000	16,000	32,000	64,000
1980	2,000	4,000	8,000	16,000	32,000	64,000	128,000
1990	4,000	8,000	16,000	32,000	64,000	128,000	256,000
2000	8,000	16,000	32,000	64,000	128,000	256,000	512,000
2010	16,000	32,000	64,000	128,000	256,000	512,000	1,024,000
2014	32,000	64,000	128,000	256,000	512,000	1,024,000	2,048,000



NOAA's PORTS®


Physical Oceanographic Real-Time System



Safety Statistics

Accidents have been reduced at seaports currently served by PORTS®.


- Collisions and Groundings
 - ↓ 59% Groundings (37% when groundings are combined with collisions)
 - ↓ 37% Property damage
 - ↓ 45% Injuries
 - ↓ 60% Deaths



Oil spills have been reduced at seaports currently served by PORTS®.

- Oil Spills
 - ↓ 21% Reduction in oil releases due to collisions and groundings at seaports currently served by PORTS®.

Port of Houston-Galveston: Value of an Inch



Water Levels at Eagle Point


Valid Time = 1300 (CDT) 04/17/2015

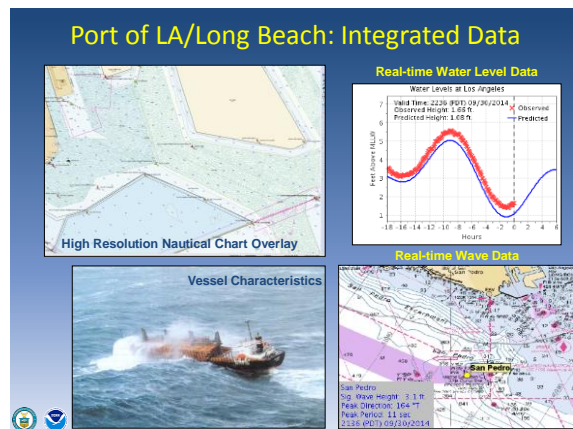
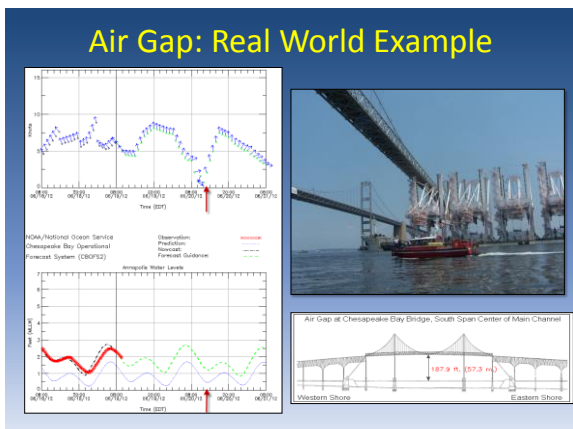
Observed Height: 2.03 m

Predicted Height: 0.82 m

14" more draft than expected

- With one inch of additional draft, a ship could carry an additional:
 - 99 Chevy Volts, worth over \$4 million in sales;
 - 36 John Deere tractors, worth \$2.4 million; OR
 - 163 metric tons of U.S. beef, worth over \$500 thousand





Thank you!

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PORTS URL
<http://ports.noaa.gov>

Web Services
<http://opendap.co-ops.nos.noaa.gov/>

PORTS® Partnership Program

PORTS® is a partnership with responsibility shared between NOAA and the local maritime community.

NOAA

- Program management
- Data collection and infrastructure
- Data dissemination
- 24/7 quality control
- National standards
- Development for enhancements

Partner

- Site selection for a user-defined system
- Funding for local:
 - Equipment
 - Installation
 - Annual operation
 - Maintenance

PORTS® Partners

PORTS	Partner
Charleston PORTS	South Carolina State Port Authority
Cherry Point PORTS	BP Cherry Point Refinery
Delaware	Philadelphia Port Authority
Houston/Galveston	Houston Port Authority
Humboldt Bay	Harbor District
Lake Charles PORTS	Lake Charles Harbor and Terminal District
Lower Chesapeake PORTS	US Navy, Mid-Atlantic
Lower Columbia River PORTS	Port or Portland
Lower Mississippi River PORTS	Associated Branch Pilots
Mobile PORTS	Alabama State Port Authority
Narragansett	Rhode Island DOT
New Haven PORTS	Connecticut DOT
New London PORTS	US Navy, Port Operations
New York/New Jersey	NV/NJ Port Authority
Pascagoula	Pascagoula Port Authority
Port of Anchorage	Port of Anchorage
Sabine Neches	Navigation District
San Francisco PORTS	Marine Exchange of the San Francisco Bay Region
Soo Locks	Army Corp
Tampa Bay PORTS	Great Tampa Bay Advisory Council Ports, Inc.
Upper Chesapeake PORTS	Maryland Port Administration
Verrazano Bridge Air Gap	Triborough Bridge and Tunnel Authority

Maritime Commerce in America

U.S. maritime commerce – 1607

U.S. maritime commerce – 2014