

# The Value of **PORTS**<sup>®</sup> to the Nation



How Real-time Observations Improve Safety and Economic Efficiency of Maritime Commerce

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

National Oceanic and Atmospheric Administration  
U.S. Department of Commerce



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

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## National Water Level Observation Network (NWLON)

- Water level, wind speed and direction, barometric pressure, air and water temperature, conductivity
- Short-term water level station deployments



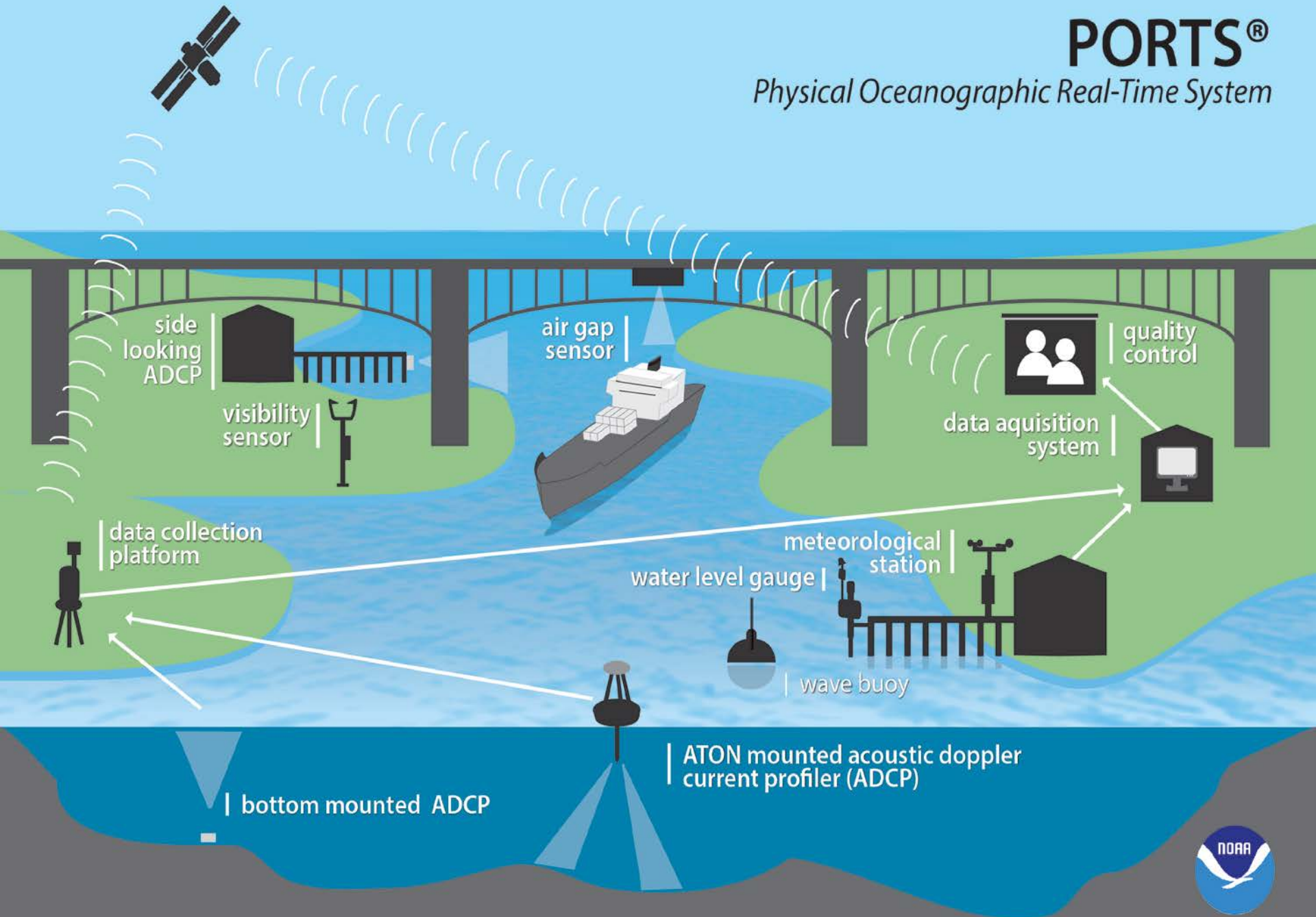
## National Current Observations Program

- Short-term current meter deployments (~70 sites a year)



# PORTS<sup>®</sup>

*Physical Oceanographic Real-Time System*

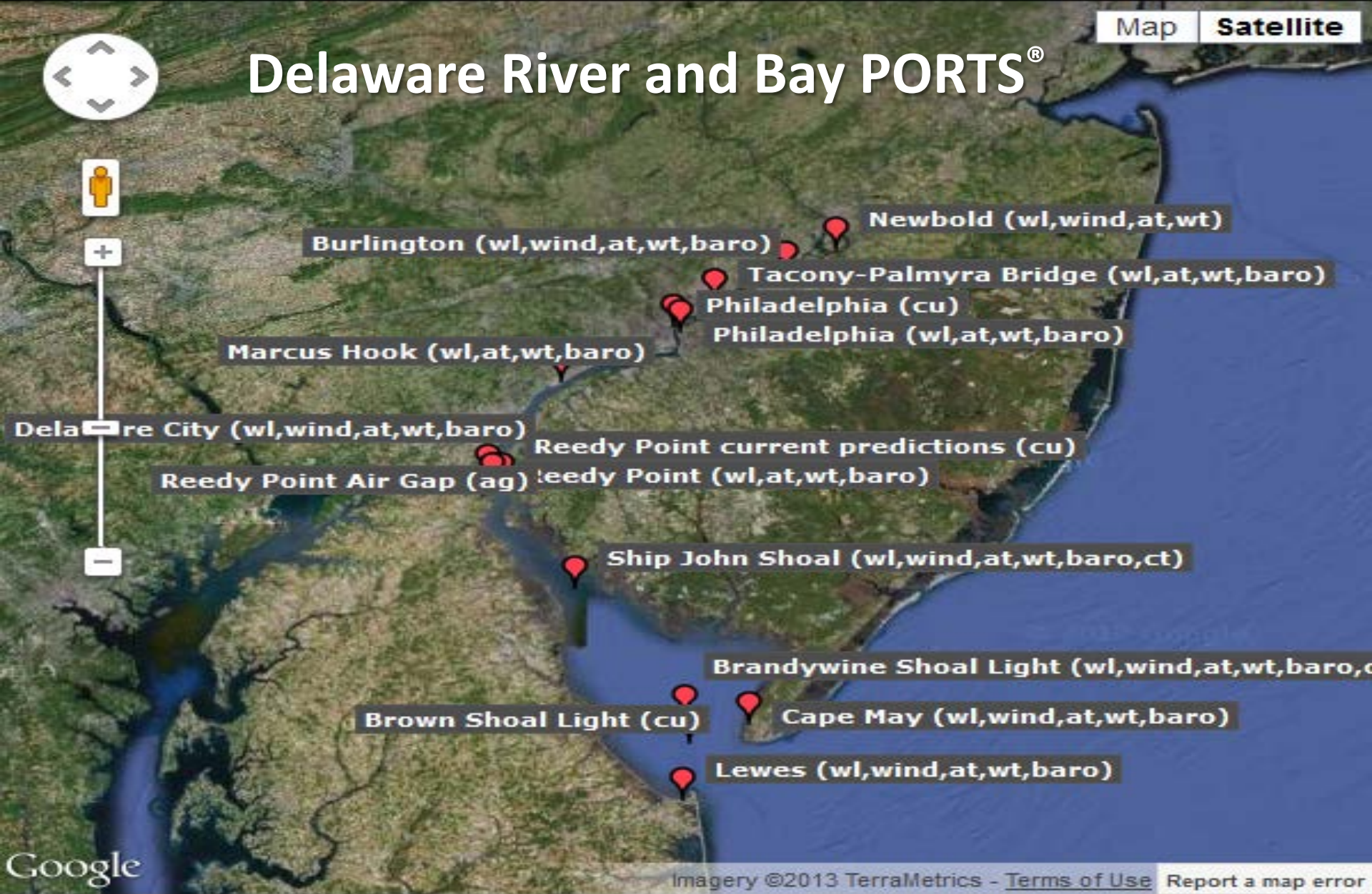






Map **Satellite**

# Delaware River and Bay PORTS<sup>®</sup>



**Legend:**

wl - water level	cu - current	ct - conductivity/salinity
wt - water temperature	wind - speed and direction	baro - barometric pressure
at - air temperature	ag - air gap	vi - visibility



# Why Do You Need PORTS?

USS New York Under Huey Long Bridge



Physical Oceanographic Real-time System (PORTS®)

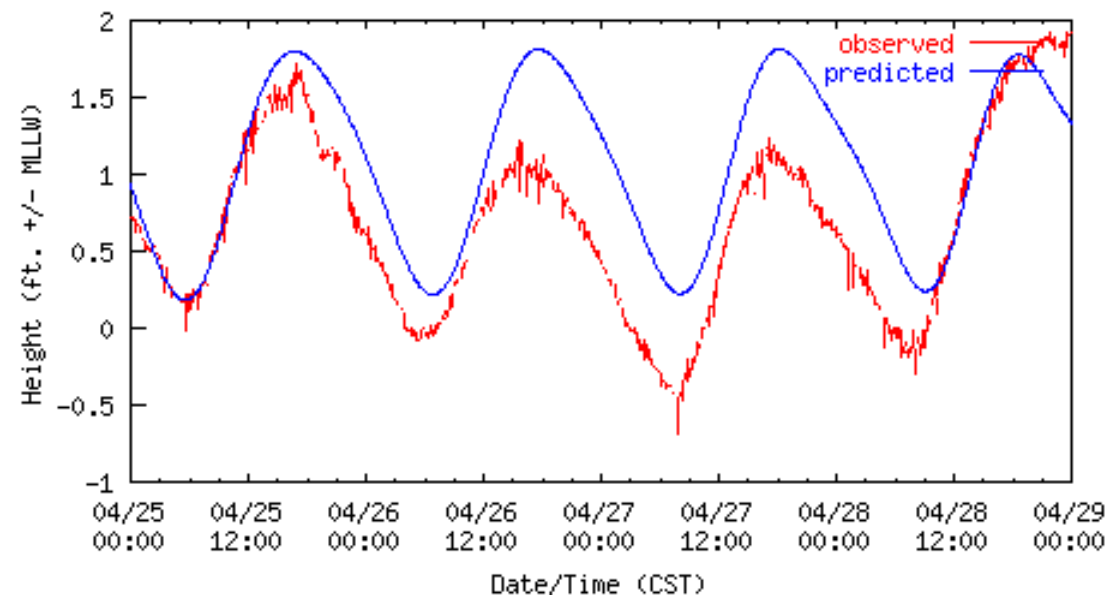
# Why Do You Need PORTS?

USS New York Under Huey Long Bridge



Physical Oceanographic Real-time System (PORTS®)

NOAA/NOS/CO-OPS  
Morgans Point (8770613) Water Level  
(04/25/2004 00:00 - 04/29/2004 00:00)

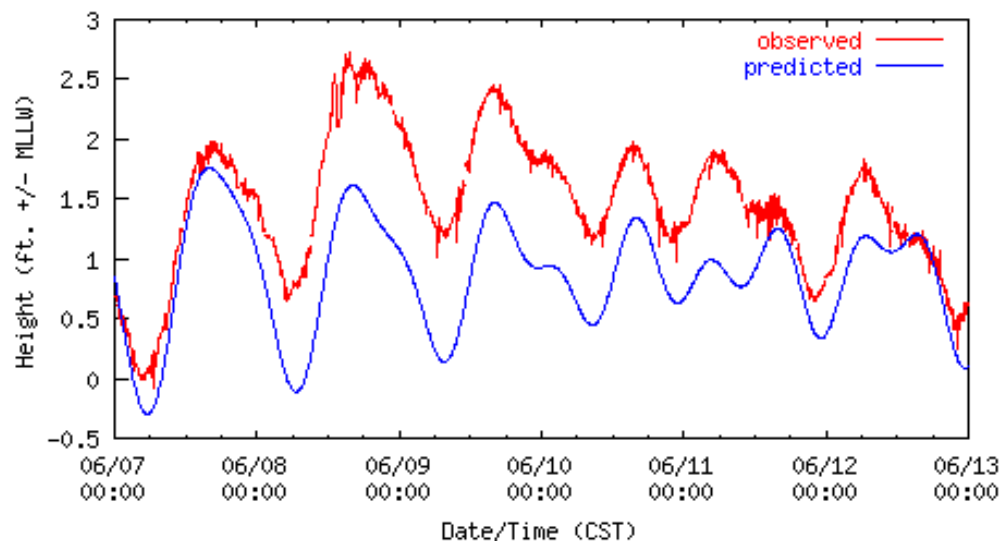


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# Safety?

# More Cargo?

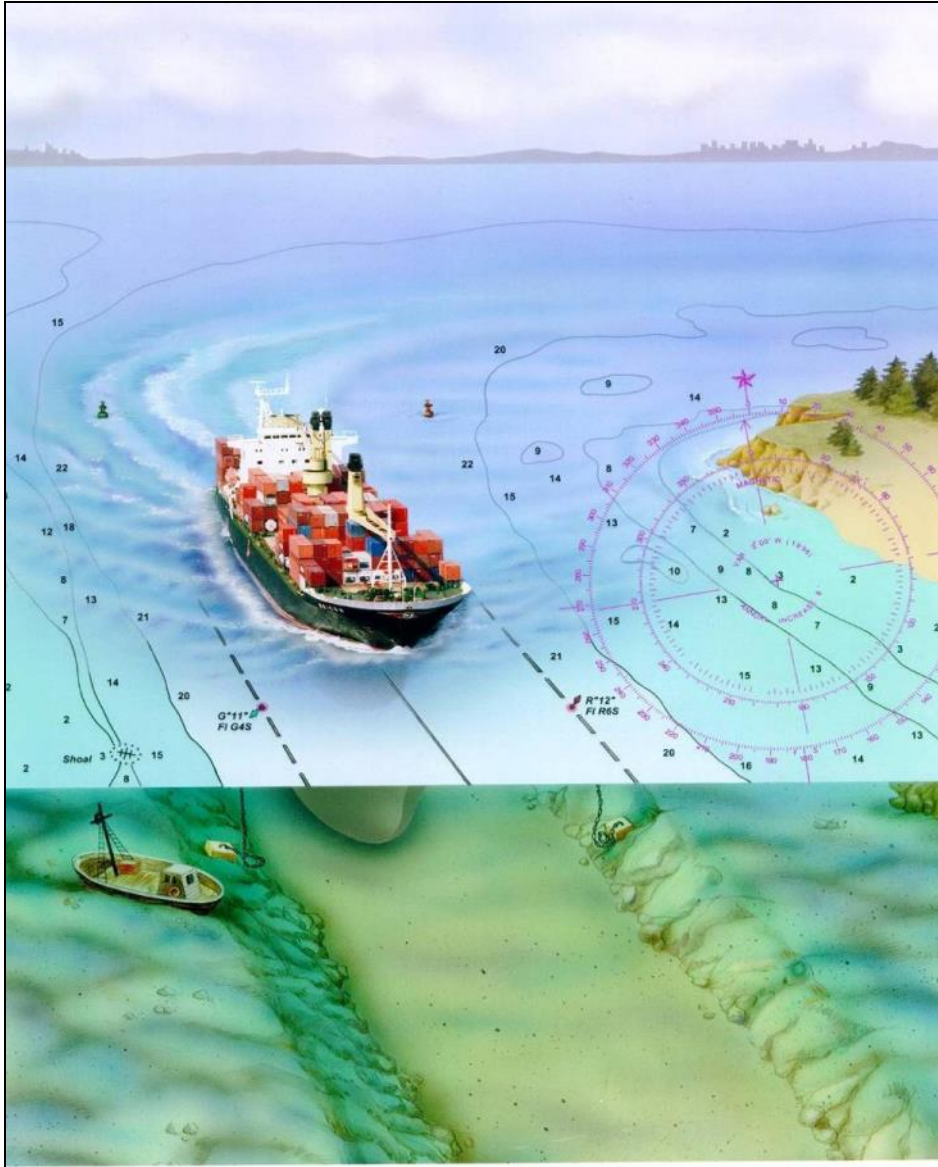
NOAA/NOS/CO-OPS  
Morgans Point (8770613) Water Level  
(06/07/2004 00:00 - 06/13/2004 00:00)





# **“The greatest safety concern...is the availability of timely, accurate, and reliable navigation information.”**

1999 MTS Report to Congress



- **Larger vessels in small channels**
- **Zero tolerance for error**



# PORTS®

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**PORTS® is a NOAA program that provides:**

- **Accurate real-time information to improve safety**
  - Avoided groundings
  - Safer vessel maneuvers
- **Efficiency of maritime commerce**
  - Increased cargo
  - Reduced delays
  - Improved SAR performance
- **Environmental Protection and Planning Assistance**
  - Improved hazardous material response
  - Improved environmental restoration activities

# PORTS®

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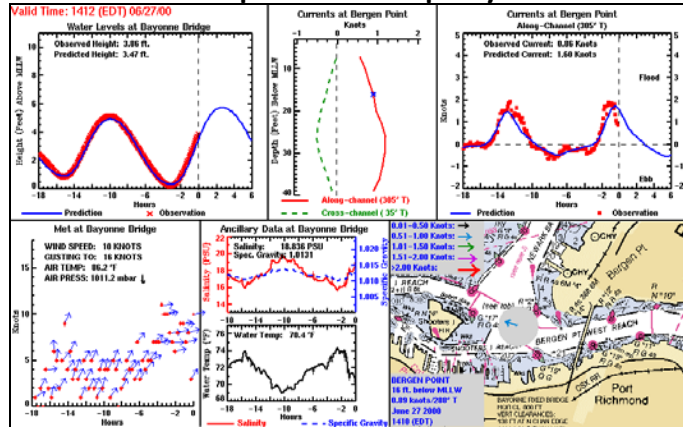
- **Recreational Planning Assistance**
  - Boating decisions
  - Fishing decisions
  - Beach visit decisions
- **Improved Forecasts**
  - Marine weather forecasts
  - Storm surge forecasts
- **Scientific and Educational Information**
  - Scientific research
  - Secondary education



# PORTS® PROVIDES

1-866-307-6787

Graphical Display



Text Display

New York/New Jersey Harbor PORTS Text Screen

New York Harbor and New Jersey PORTS, NOS at 7:54 am EST December 5, 2006

TIDES		CURRENTS	
Bayonne Bridge	5.8 ft.	Bergen Point	*****
Kings Point	*****	Bayonne Bridge predicted	0.1 kts. (S), 080°T
The Battery	5.4 ft.	The Narrows	1.7 kts. (F), 325°T
Sandy Hook	5.7 ft.		

(F)lood, (S)lack, (E)bb, towards °True

Wind Speed/Dir		Air Pressure		Air Temp	
Bayonne Bridge	4 knots from WSW, gusts to 7	1023 mb		29°F	
Sandy Hook	13 knots from W, gusts to 22	1024 mb			
Robbins Reef	14 knots from WSW, gusts to 19	1023 mb		31°F	
Kings Point	*****	*****		*****	

Salinity -- S.G. --		Water Temp	
Bayonne Bridge	16.6 psu 1.014	50°F	
Sandy Hook	19.6 psu 1.016	48°F	
Kings Point		***	

Airgap / Bridge Clearance	
Bayonne Bridge	150.1 ft.

\*\*\*\* - Data not displayed as a result of quality control monitoring. For more information, go to [https://corms.nos.noaa.gov/instrument\\_status.html](https://corms.nos.noaa.gov/instrument_status.html)



By Phone

- Observed and Predicted
  - Water Levels
  - Currents
- Meteorological
  - Wind Speed/Direction
  - Barometric Pressure
  - Air/Water temperature
  - Visibility (Fog)

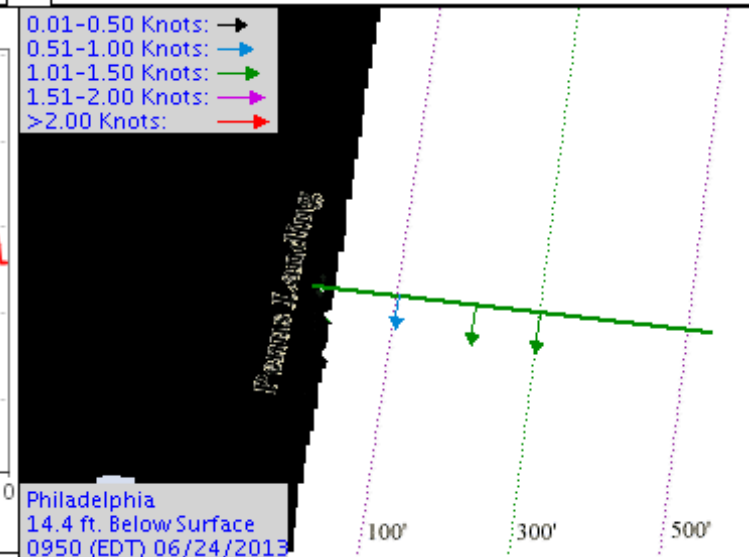
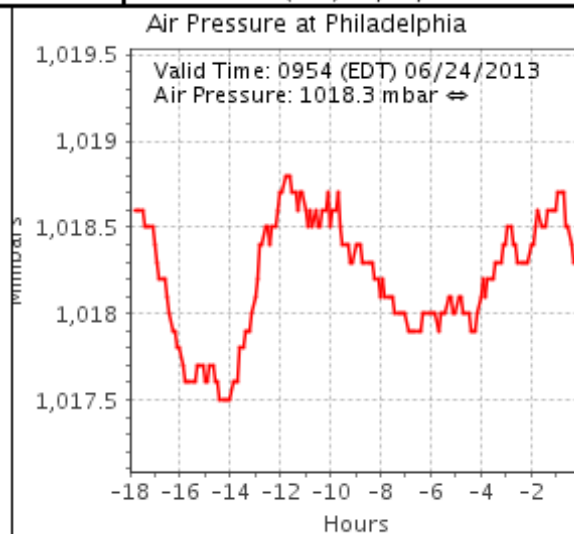
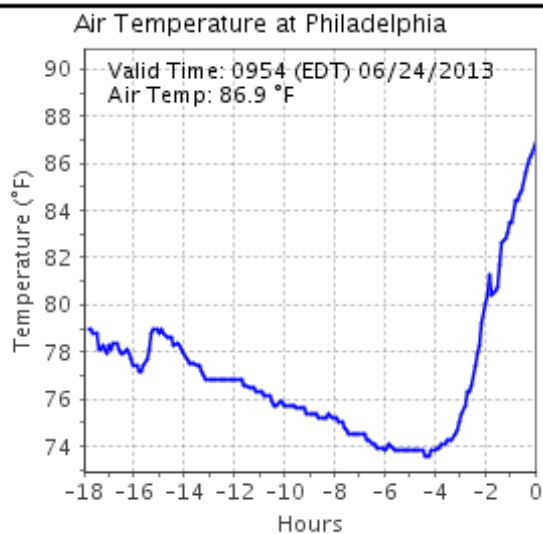
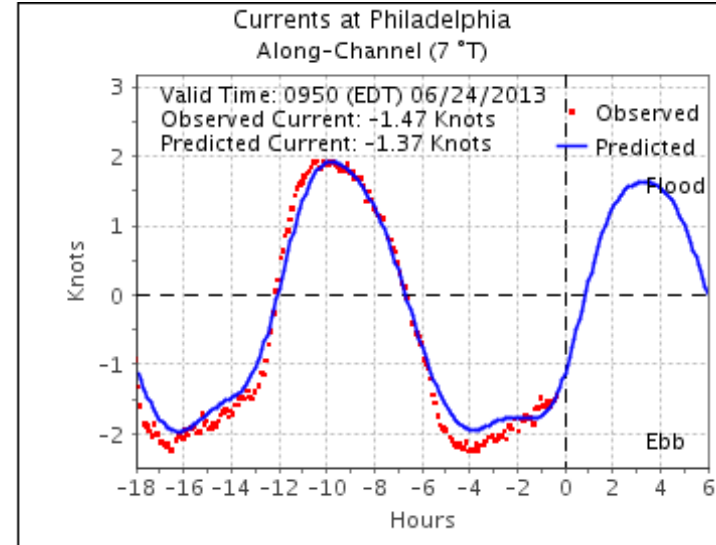
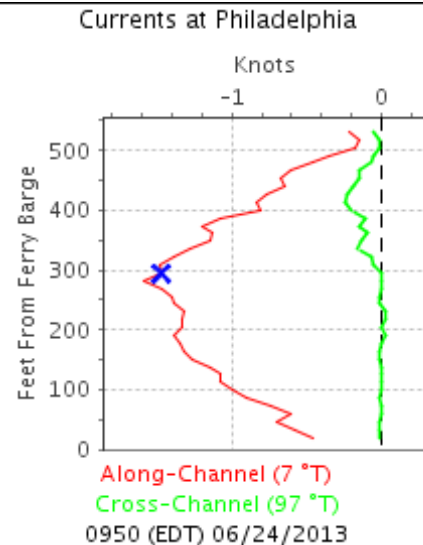
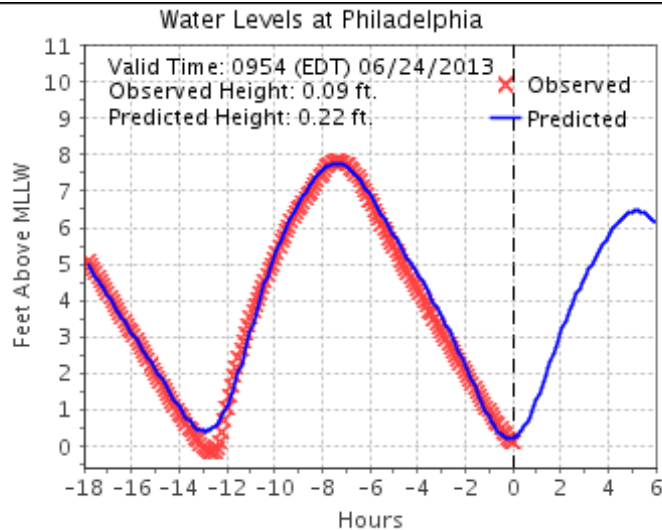
- Bridge Air Gap
- Salinity
- Waves

**ALL DATA QA/QC'd 24/7, 365**

Physical Oceanographic Real-time System (PORTS®)

# PORTS® Graphics

## Philadelphia

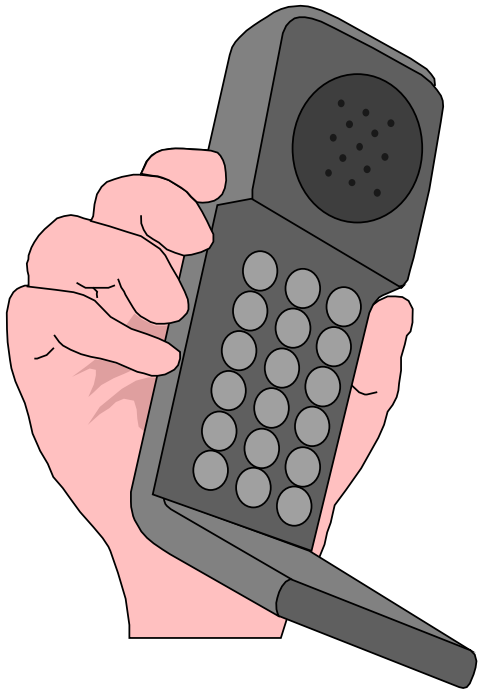




# PORTS<sup>®</sup> Voice System

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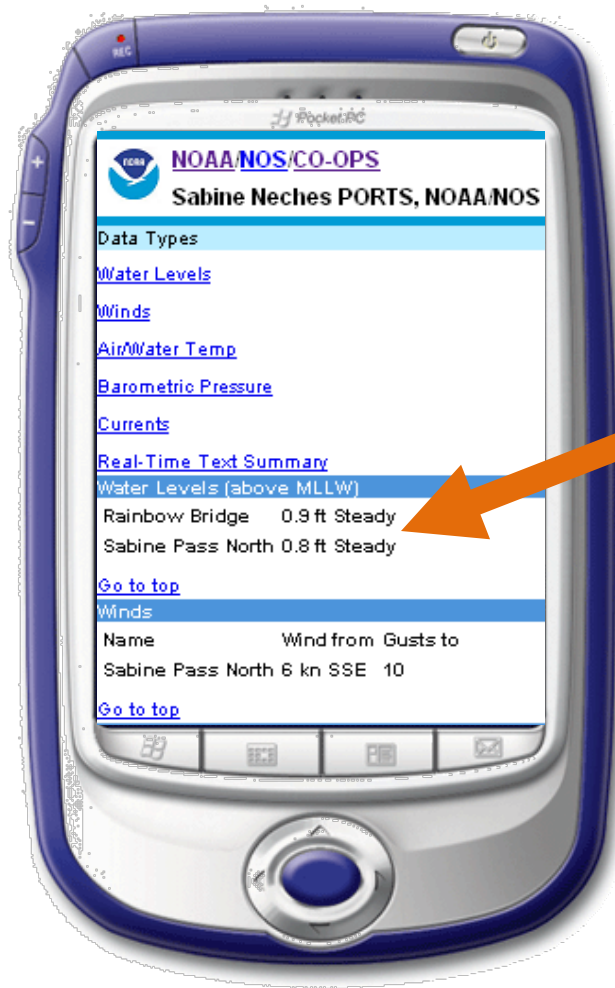
**“Good afternoon you have reached the port of-----real-time system called PORTS.”**



<b>For Current Data Press</b>	<b>#1</b>
<b>For Water Levels Press</b>	<b>#2</b>
<b>For Meteorological Data Press</b>	<b>#3</b>
<b>For Salinity Data Press</b>	<b>#4</b>

<b>NY/NJ PORTS</b>	<b>866 - 21 -PORTS</b>
<b>Tampa PORTS</b>	<b>866 - TB -PORTS</b>
<b>H/G PORTS</b>	<b>866- HG-PORTS</b>
<b>SF PORTS</b>	<b>866- SB -PORTS</b>
<b>Chesapeake Bay</b>	<b>866- CH-PORTS</b>
<b>Narragansett Bay</b>	<b>866- 75 -PORTS</b>
<b>Port of Anchorage</b>	<b>866- AK-PORTS</b>
<b>Delaware R&amp;B</b>	<b>866- 307- 6787</b>

# MOBILE PORTS® Text Screen



```
Sabine Neches PORTS, NOAA/NOS 2010-05-18 13:24 CDT

-----Water Levels (above MLLW)-----
Rainbow Bridge      0.9 ft, Steady  Sabine Pass North      0.8 ft, Steady
-----Winds-----
Sabine Pass North   6.1 kn SSE  10
-----Air and Water Temperature-----
Sabine Pass North   83 °F  82 °F
-----Barometric Pressure-----
Sabine Pass North   1015 mb Falling
-----Currents (F)lood, (S)lack, (E)bb, towards °T-----
Port of Beaumont    0.1 kn (S), 296.0°T Rainbow Bridge    0.7 kn (F), 285.0°T
West Port Arthur Br.. 0.1 kn (S), 306.0°T Sabine Front Range    *** kn ( ), ***°T
USCG Sabine         0.4 kn (F), 294.0°T Sab. Bank Ch LBB 34    0.2 kn (E), 85.0°T

*** Data not displayed as a result of missing data or quality control monitoring. For more
information, go to https://corms.nos.noaa.gov/instrument\_status.html, or call CORMS
at 301-713-2540.
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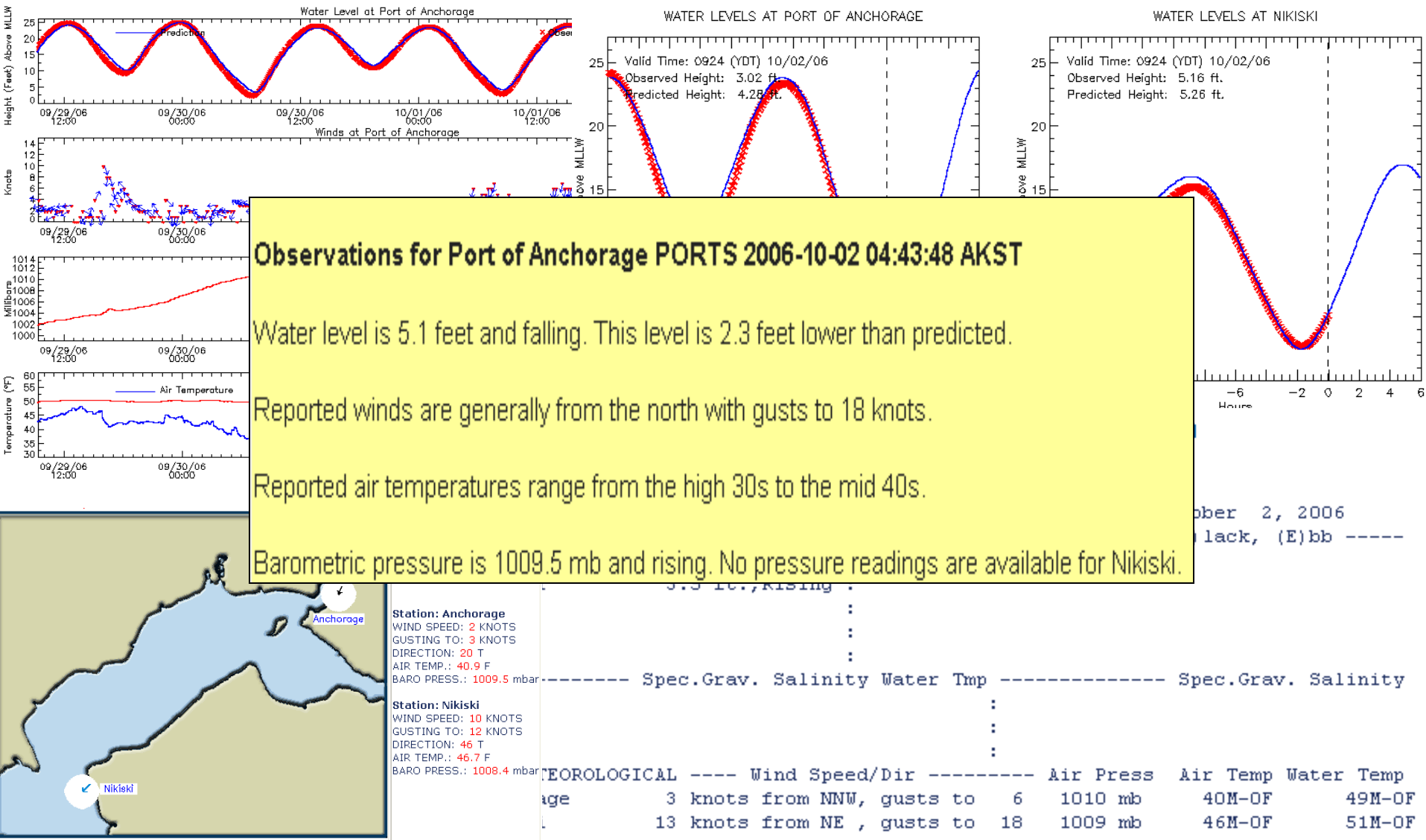
<http://mobile.tidesandcurrents.noaa.gov/>

Physical Oceanographic Real-time System (PORTS®)



# ARNS

## Automated Real-time Narrative Summary



6	8
4	0
0	0
x	x
4	6
8	0
0	0

- Delaware River and Bay
  - Cape May - 8536110
    - Water Levels
      - 8536110 Cape May 24hr WL
      - 8536110 Cape May 72hr WL
    - Winds
      - 8536110 Cape May 24hr Winds
      - 8536110 Cape May 72hr Winds
    - Air Temp
      - 8536110 Cape May 24hr Air Temp
      - 8536110 Cape May 72hr Air Temp
    - Water Temp
      - 8536110 Cape May 24hr Water Temp
      - 8536110 Cape May 72hr Water Temp
    - Baro

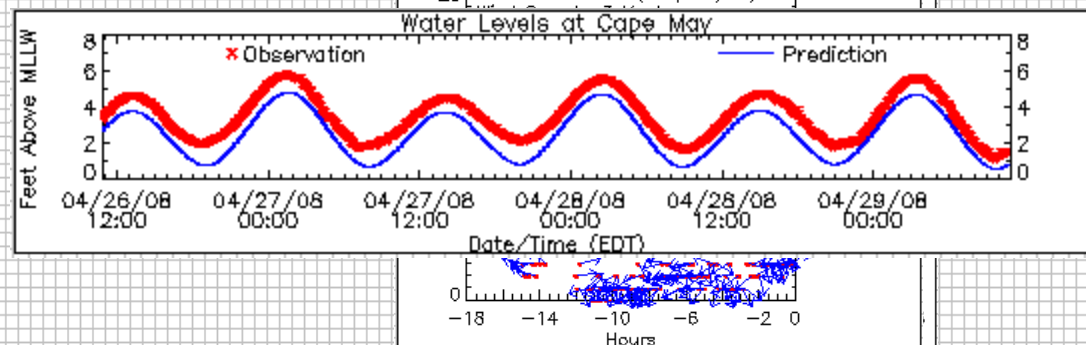
640x480

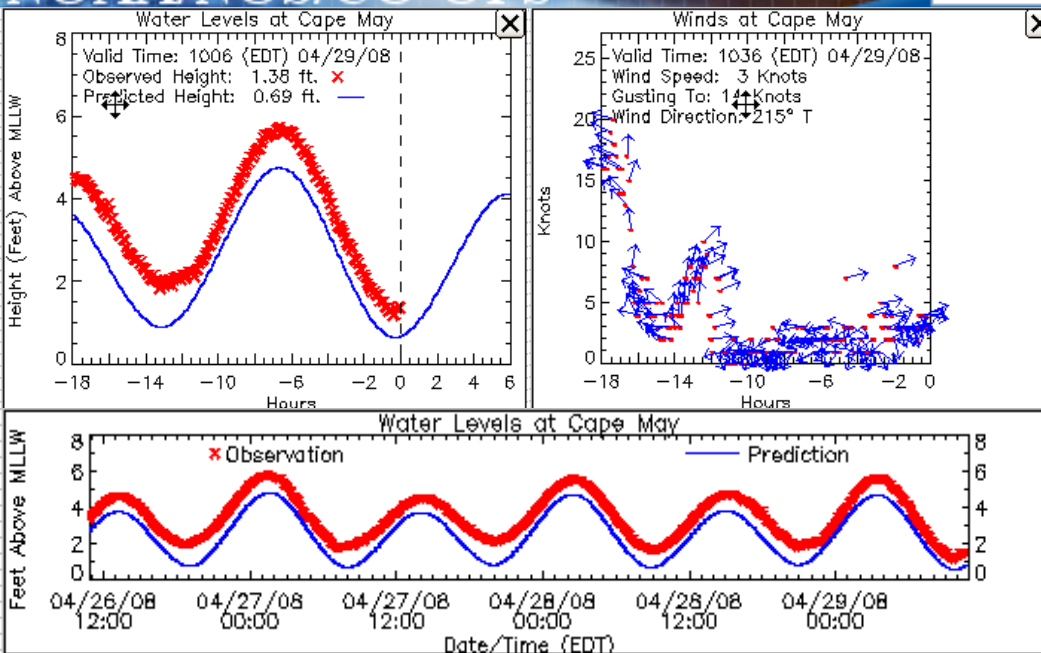
800x600

1024x768

Winds at Cape May

25 Valid Time: 1036 (EDT) 04/29/08





**MyPORTS**  
(Build your own pages)

<http://tidesandcurrents.noaa.gov/myports/>



# PORTS<sup>®</sup> Partnership Program

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PORTS<sup>®</sup> 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

# Physical Oceanographic Real-Time System<sup>®</sup>

## PORTS<sup>®</sup>



# 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
<b>Improved Safety</b>		
Reduced Commercial Marine Transportation Accidents <i>Property Damages</i> <i>Injuries and Deaths</i>	\$7.7 \$19.1	\$64.4 \$156.3
Reduced Recreational Boating Accidents <i>Property Damages</i> <i>Injuries and Deaths</i>	<\$0.1 \$0.4	<\$0.1 \$3.1
Reduced Oil Spill Remediation	\$5.2	\$42.3
<b>Increased Efficiency</b>		
More Efficient Commercial Marine Transportation	\$265.5	\$2,172.3
Enhanced Fishing Productivity <i>Commercial Fishing</i> <i>Recreational Fishing</i>	\$1.8 \$0.2	\$15.1 \$2.5
<b>Total</b>	<b>\$300.0</b>	<b>\$2,456.0</b>

(Millions of 2010 dollars)

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



# Funding Options

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- **Full Federal Funding**

- Pros

- Local partner funding not needed
    - Potential for more uniform PORTS growth

- Con

- Government controls priorities (new PORTS and sensors)
    - Subject to federal budget cuts

- **True Cost Share**

- Dollar for Dollar Partner/Fed match?



# Steps for Funding Increases

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- **NOAA requests** a budget increase.
- Request is reviewed by the **Department of Commerce (DOC)**.
- If approved the request goes before the **Office of Management and Budget (OMB)**.
- If approved becomes part of the **President's budget request**.
- **Congress** receives the President's request and **deliberates** and presents a **budget bill** for the President to sign into law.

# Useful URL's

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- **CO-OPS Main Website**
  - <http://tidesandcurrents.noaa.gov/>
- **PORTS Page**
  - <http://tidesandcurrents.noaa.gov/ports.html>
- **MyPORTS**
  - <http://tidesandcurrents.noaa.gov/myports/>
- **Mobile PORTS**
  - <http://mobile.tidesandcurrents.noaa.gov/>





# Thank you!

Darren Wright

[darren.wright@noaa.gov](mailto:darren.wright@noaa.gov)

301-713-2981

**PORTS URL**

**<http://tidesandcurrents.noaa.gov/ports.html>**