NOAA Chesapeake Bay Office

The NOAA Chesapeake Bay Interpretive Buoy System

August 2009

A little bit about us

Annapolis, MD

Oxford, MD

Gloucester Point, VA

Norfolk, VA

MISSION

Focusing NOAA's capabilities in science, service, and stewardship to protect and restore the Chesapeake Bay.




A little bit about us

Ecosystem Science

- Fisheries Science
- Marine Debris
- Coastal Observations
- Habitat Maps
- Ecosystem Models

Coastal & Living Resource Mgmt

- Coastal Management
- Blue Crab & Oyster Policy

- Fisheries Management
- Habitat Restoration

Environmental Literacy

- Hands-on Student Learning
- Teacher Training
- Education Resources
- Community Education
- Outreach
- Communications

Impetus for Chesapeake Bay Interpretive Buoy System

CBIBS was intended to support the needs of . . .

mariners/recreational boaters

scientists

resource managers

John Smith Trail users

Students and Teachers

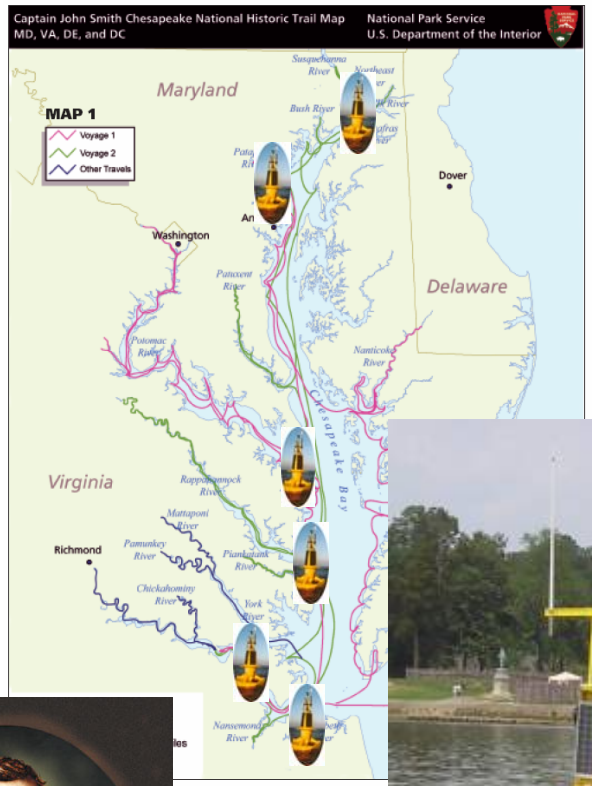
Chesapeake Bay Interpretive Buoy System

“Smart Buoys” Connect People to Their Local Coastal Environment.

Real-time buoys designed with input from:

- Mariners/recreational boaters
- Scientists/decisionmakers
- Educators

Buoys highlight points along the Captain John Smith Chesapeake National Historic Trail.



CBIBS: The System

Presently six buoys in the Chesapeake Bay

Jamestown	J	37.2044 N	76.7774 W	13	5/07
Point Lookout	PL	38.0330 N	76.3356 W	13	7/07
Patapsco	SN	39.1519 N	76.3913 W	7	8/07
Stingray Point	SR	37.5674 N	76.2572 W	7	7/08
Susquehanna	S	36.8460 N	76.3025 W	12	9/08
Nauticus	N	39.5444 N	76.0766 W	3	9/08

Buoys provide Real Time Data for You

Safe Boating Info

Environmental Info

Weather (wind speed & direction, air temp, barometric pressure, relative humidity)

Wave Height, Currents & GPS (latitude/longitude)

Water Quality– water temperature, salinity, dissolved oxygen, Chlorophyll A, Turbidity, pH

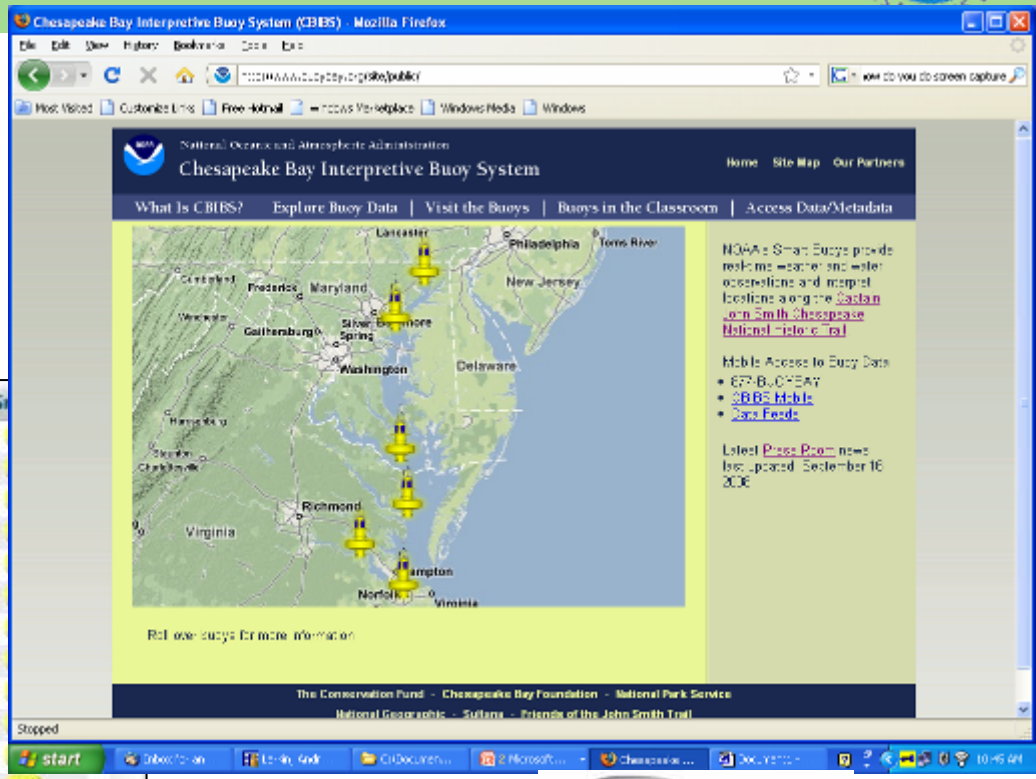
Experimenting With

- Water Level
- Nutrient Sensors

Real-time Data Available via Web and Phone

877-BUOY-BAY

www.buoybay.org



Parameter	Value	Unit	Time (EST)	Quick G
Buoy Offline				1 7
Barometric Pressure	30.04	inches	2008-09-16 08:00	1 7
Air Temperature	70	F	2008-09-16 08:00	1 7
Chlorophyll A	2.2	ug/L	2008-09-16 08:00	1 7
Dissolved Oxygen	5.0	mg/L	2008-09-16 08:00	1 7
Current Direction	189	degrees	2008-09-16 08:00	1 7
Current Velocity	0.49	knots	2008-09-16 08:00	1 7
Latitude	38.0329	degrees	2008-09-16 08:00	1 7
Longitude	-76.3354	degrees	2008-09-16 08:00	1 7
Relative Humidity	67	percent	2008-09-16 08:00	1 7
Maximum Wave Height	1.0	ft	2008-09-16 08:00	1 7
Mean Wave Direction	87	degrees	2008-09-16 08:00	1 7 30
Significant Wave Height	0.7	ft	2008-09-16 08:00	1 7 30
Significant Wave Period	2.1	s	2008-09-16 08:00	1 7 30
Water Conductivity	2.72	S/m	2008-09-16 08:00	1 7 30
Water Salinity	16.6	PSU	2008-09-16 08:00	1 7 30
Water Temperature	77	F	2008-09-16 08:00	1 7 30
Turbidity	18	NTU	2008-09-16 08:00	1 7 30
Wave Direction Spread	45	degrees	2008-09-16 08:00	1 7 30
Wind Direction	28	degrees	2008-09-16 08:00	1 7 30
Wind Speed	17	knots	2008-09-16 08:00	1 7 30
Wind Gust	20	knots	2008-09-16 08:00	1 7 30
Barometric Pressure	30.08	inches	2008-09-16 08:00	1 7 30
Air Temperature	70	F	2008-09-16 08:00	1 7 30

What criteria for a buoy location?

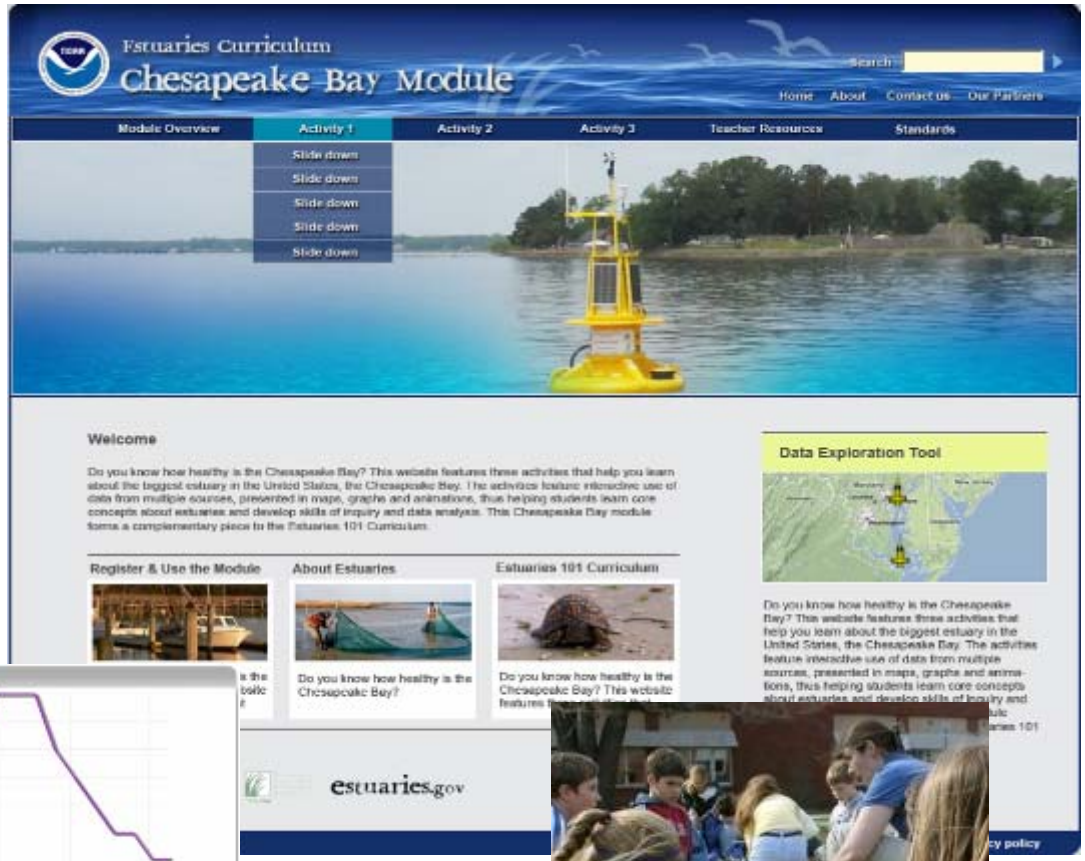
- Historical link to the John Smith Trail
- Sufficient Depth: 18+ feet of water
- Cell phone coverage
- Target audience--Who will use the data?
- How will the audience use the data?
- Little interference with shipping lanes/fishing grounds

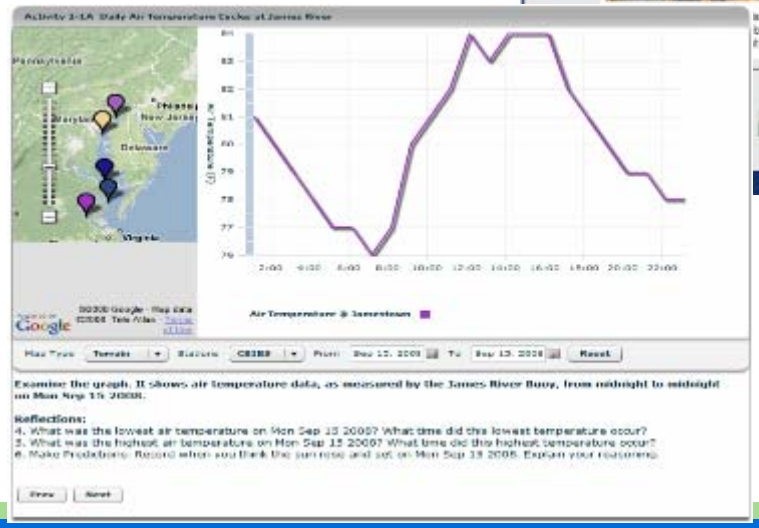
Leveraging Partnerships for Expanded Outreach

- National Geographic Society
- Chesapeake Bay Foundation
- The Conservation Fund/Friends of the John Smith Trail
- U.S. Army Corps of Engineers
- Dominion Power
- Nauticus Museum
- CBOS
- National Park Service
- Coast Guard/Coast Guard Aux.

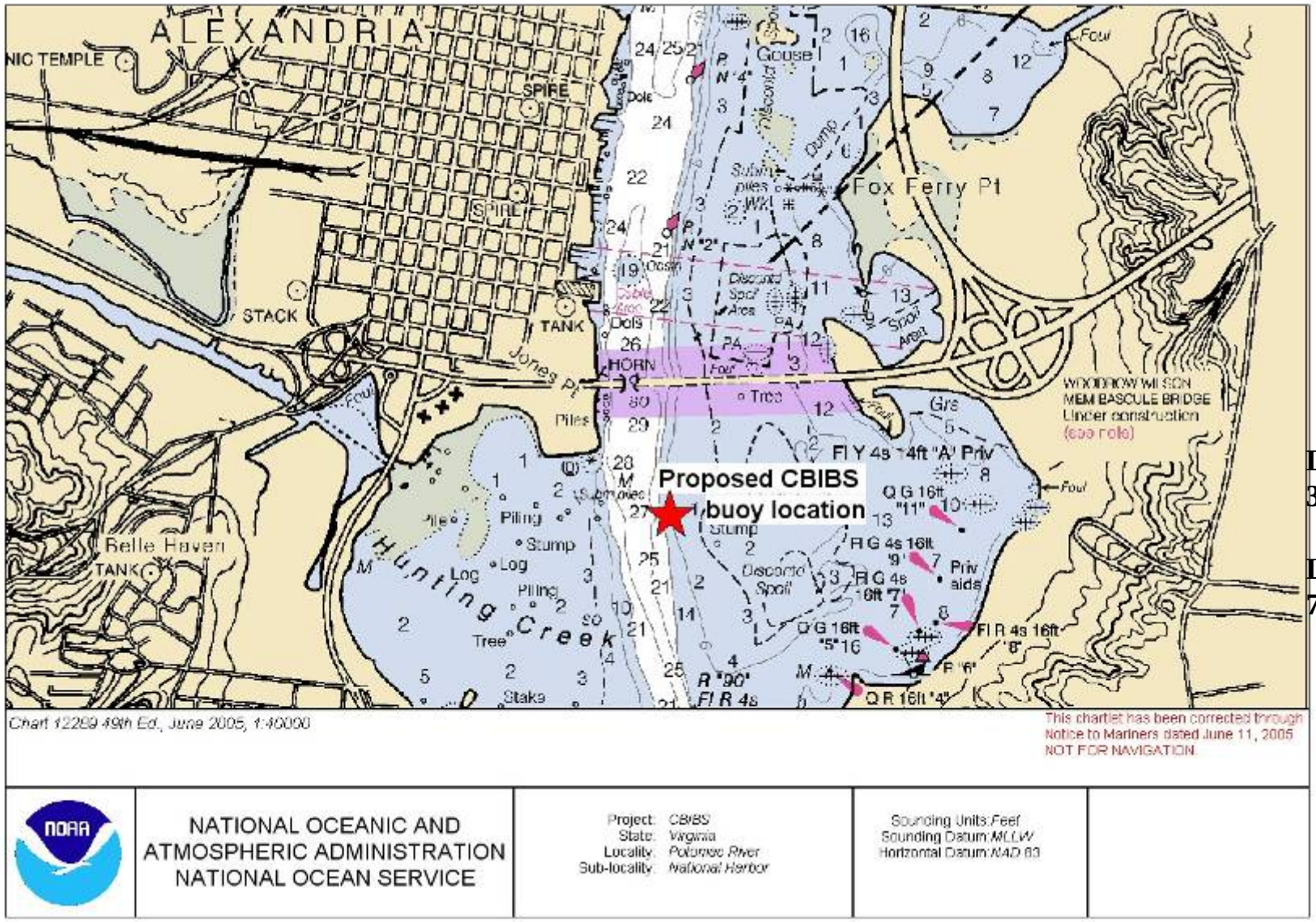
CBIBS Education

- Hope to launch Chesapeake Exploration Curriculum in 2009-10
- Build-A-Buoy program a hit—dozens of schools groups have been engaged.





Proposed Northern Potomac Buoy Location



Lat
38 47.256 N

Long.
77 02.133 W

Future Plans

- Hope to enlist the USCG A in an “Eyes on the Buoy” Program
- New buoys are coming to Annapolis, MD and the Upper Potomac River in Fall 2009!
- Revamp the CBIBS website and 1-877-BuoyBay to make more user friendly
- Make better use of new media
- Better evaluate our outreach work