



National Estuarine Research Reserve System




**System-Wide Monitoring Program
Backbone of the Integrated Ocean
Observing System (IOOS)**



National Estuarine Research Reserve System

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MISSION: To promote stewardship of the Nation's estuaries through science and education using a system of protected areas



1. Narragansett Bay, Rhode Island	11. North Inlet-Wrightsville Beach, South Carolina	21. Western San Francisco Bay, California
2. Hudson River, New York	12. ACE Basin, South Carolina	22. San Francisco Bay, California
3. Jacques Cousteau, New Jersey	13. Sapelo Island, Georgia	23. South Slough, Oregon
4. Chincoteague, Virginia	14. Suwannee-Salmon River, Florida	24. Pacific Bay, Washington
5. Nantuxet Bay, Massachusetts	15. Wokewah Bay, Florida	25. Old Woman Creek, Ohio
6. North Inlet-Wrightsville Beach, South Carolina	16. Apalachicola, Florida	26. Proprietary - St. Lawrence River, New York
7. Chincoteague, Virginia	17. North Bay, Alabama	27. Kachemak Bay, Alaska
8. Chesapeake Bay, MD	18. Grand Bay, Mississippi	28. Alaska Bay, Puerto Rico
9. Chesapeake Bay, VA	19. Mission Aransas, Texas	
	20. Tibouron River, California	
	21. Elkhorn Slough, California	

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6 NERRs MACOORA



4. Narragansett Bay	7. Delaware
5. Hudson River	8. Chesapeake Bay, MD
6. Jacques Cousteau	9. Chesapeake Bay, VA

National Estuarine Research Reserve System

State-federal partnership

Federal role

- Funding (70%)
- National coordination
- Technical assistance

State role




- Land ownership and management
- Staff
- Program implementation




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NERRS Programs





- Research and long-term monitoring (SWMP)
- Education
 - K-12 (curriculum development, field trips, E-Live)
 - Professional Training (Coastal Training Program)
- Resource protection and stewardship

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NERRS System-wide Monitoring Program (SWMP)

- Weather and Water Quality Monitoring – currently system-wide; near-real time (GOES)
- Biological Monitoring – moving toward system-wide
- Land Use and Habitat Change – moving toward system-wide

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System-wide Monitoring Program (SWMP)

Weather – 8 parameters measured

- By end of 2006, 27 weather stations telemetered

Weather

- air temperature
- pressure
- relative humidity
- precipitation
- wind speed
- wind direction
- photosynthetically active radiation
- total incoming radiation




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System-wide Monitoring Program (SWMP)

Water quality – 8 parameters measured

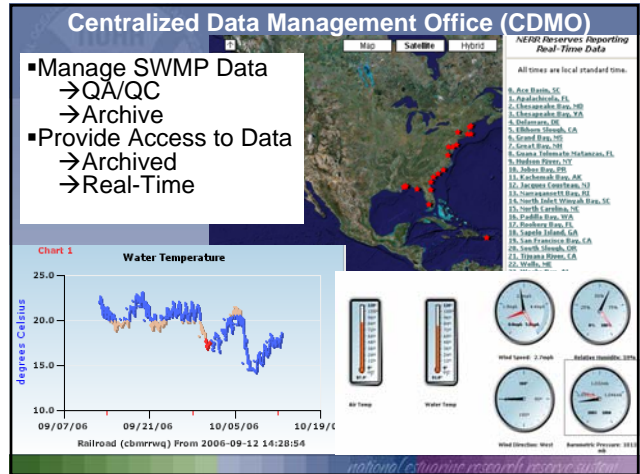
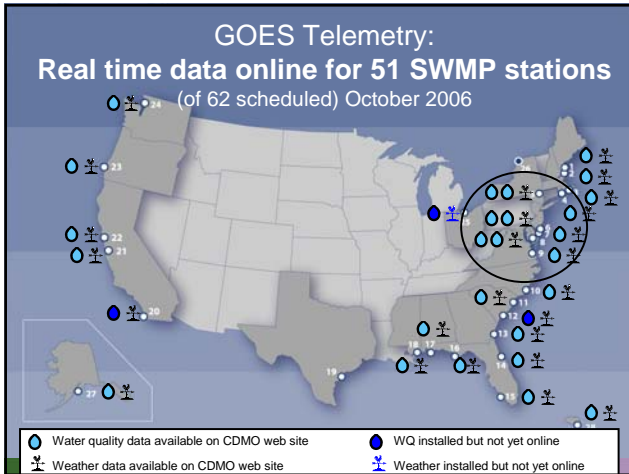
- By end of 2006, 35 water quality stations telemetered



Water Quality

- temperature
- conductivity
- salinity
- DO (mg/L)
- DO (%)
- depth
- fluorescence
- turbidity

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Compliant with IOOS DMAC

- METADATA:** FGDC compliant and submitted to clearinghouse.
- TRANSPORT & ACCESS:** OpenDAP (data access protocols) will be used as long as required.
- PARTICIPATION:** Staff participate in appropriate DMAC working groups.
- ARCHIVE:** Authoritative data set and are archived annually at NODC.

Data Products

NOW <ul style="list-style-type: none"> Real-time Data stream <ul style="list-style-type: none"> – Weather – Water Quality – Water Level Visualizations such as graphs and gauges All Data and Metadata available 	FUTURE <ul style="list-style-type: none"> More context (e.g., meaningful thresholds for comparison) Email alerts of threshold violations (improve data quality) As defined by user groups
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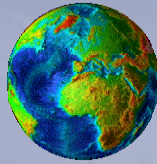
NERRS IOOS Emerging Partnerships

Within NOAA:

- Hydrometeorological Automated Data System (HADS), NWS
- Local Weather Forecast Offices (WFOs), NWS
- National Ocean Data Center (NODC), NESDIS
- Center for Operational Oceanographic Products and Services (CO-OPS), NOS
- NOAA Center for Coastal Ocean Science (NCCOS), NOS
- NowCOAST, Coast Survey Development Lab, Marine Modeling and Analysis Programs, NOS
- National Data Buoy Center (NDBC), NWS

Other:

- Academic Institutions
- States
- Other Federal (USGS, USCG, etc.)
- IOOS Regional and Sub-regional Associations



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Targeted NERRS SWMP Data Users

- Coastal resource managers
- Research Scientists
- Fish & shellfish harvesters & growers
- Modelers
- Weather forecasters
- Teachers & students
- Recreational users
- Search & rescue operations
- Nationwide decision-makers



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Integration of the NERRS into the Integrated Ocean Observing System and Emerging Regional Associations

The goal of this project is to:

“Establish the NERRS as a provider of environmental information supporting integrated research, education and stewardship applications in coastal and estuarine ecosystems as a component of the Integrated Ocean Observing System.”

Key tasks:

- 1) Install GOES telemetry in two regions (Mid-Atlantic and Pacific Northwest),
- 2) Align data management with federal standards,
- 3) Demonstrate several pilot applications of real-time SWMP data.



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Access Data:

- www.nerrs.noaa.gov
- <http://cdmo.baruch.sc.edu/>
- www.nws.noaa.gov/ohd/hads/



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