



System-Wide Monitoring Program

The National Estuarine Research Reserve System Wide Monitoring Program (SWMP, pronounced “swamp”) was established in 1995 to track short-term variability and long-term changes in estuaries and coastal areas, to understand how human activities and natural events can affect ecosystems.

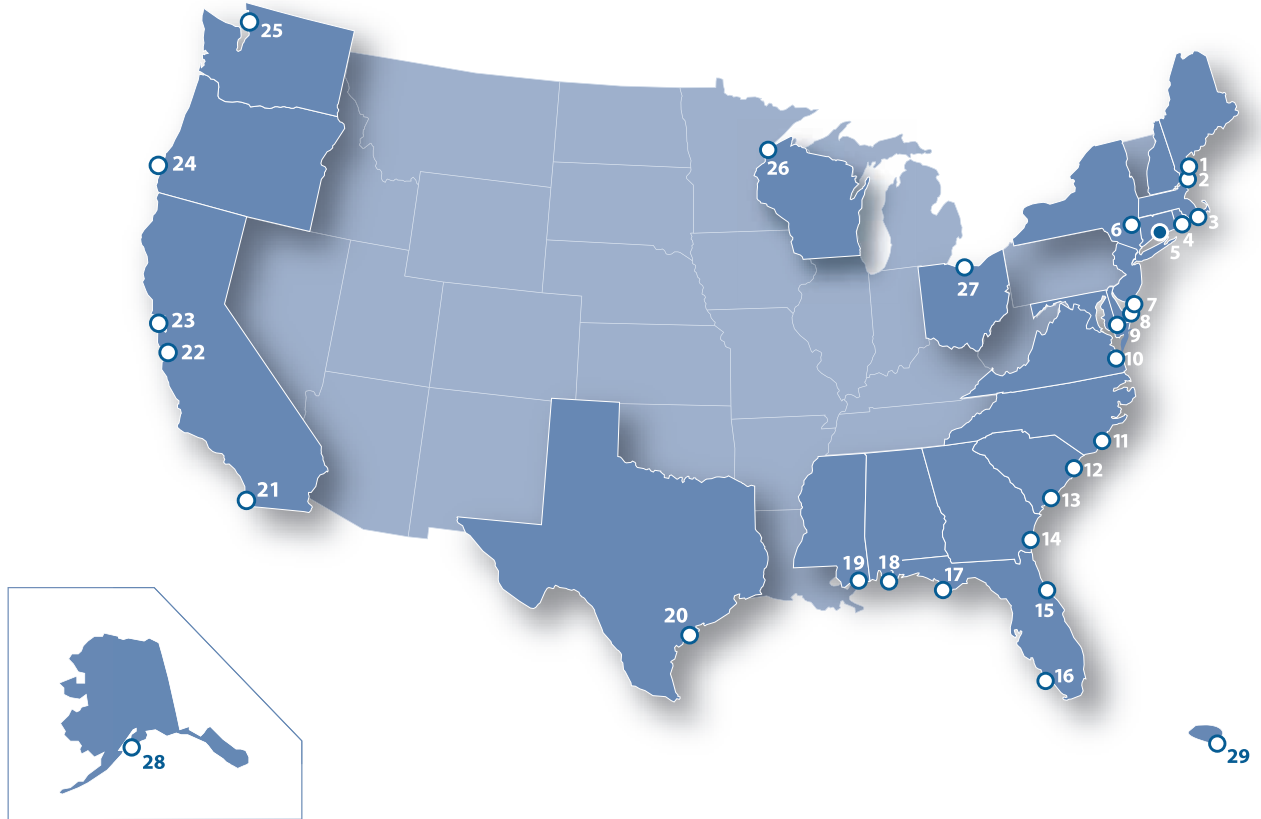
SWMP focuses on three related broad environmental measures: (1) abiotic monitoring, including atmospheric conditions, nutrients and contaminants, and physical water quality factors such as salinity, dissolved oxygen, and tidal range; (2) biological monitoring, including biodiversity, habitat and population characteristics; and (3) watershed and land use classification, including changes over time in coastal and estuarine habitat and land use.

The program currently provides valuable long-term data on water quality and weather at high frequency time intervals (every 15 to 30 minutes) to researchers, natural resource managers, and other coastal decision makers. These types of data are critical indicators of environmental conditions for numerous estuarine species and their habitats. More recently, the program has begun to expand to monitor biological conditions and the effects of land use on habitats and water quality.

The System Wide Monitoring Program has already provided some coastal managers with tools to make informed decisions on local and regional issues such as nutrient management, habitat restoration, storm damage analysis, and regulatory compliance. As the program expands, the ability to correlate specific land use practices with the health of estuaries will increase on a national level, as will our understanding of how estuaries function and change naturally over time.

The System Wide Monitoring Program has been identified as a backbone component of the burgeoning Integrated Ocean Observing System. Telemetry equipment has been installed on dataloggers that are now providing real-time data for a variety of purposes, including weather forecasts, fisheries, stewardship, and transportation.

On average the NERRS SWMP annually collects at least 13.5 million water quality data points, 34.4 million meteorological data points, and 31,104 nutrient data points. Monitoring data for each reserve are available from the reserve system’s Centralized Data Management Office at <http://cdmo.baruch.sc.edu/>.



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| 1. Wells, Maine | 16. Rookery Bay, Florida |
| 2. Great Bay, New Hampshire | 17. Apalachicola, Florida |
| 3. Waquoit Bay, Massachusetts | 18. Weeks Bay, Alabama |
| 4. Narragansett Bay, Rhode Island | 19. Grand Bay, Mississippi |
| 5. Connecticut * | 20. Mission-Aransas, Texas |
| 6. Hudson River, New York | 21. Tijuana River, California |
| 7. Jacques Cousteau, New Jersey | 22. Elkhorn Slough, California |
| 8. Delaware | 23. San Francisco Bay, California |
| 9. Chesapeake Bay, Maryland | 24. South Slough, Oregon |
| 10. Chesapeake Bay, Virginia | 25. Padilla Bay, Washington |
| 11. North Carolina | 26. Lake Superior, Wisconsin |
| 12. North Inlet-Winyah Bay, South Carolina | 27. Old Woman Creek, Ohio |
| 13. ACE Basin, South Carolina | 28. Kachemak Bay, Alaska |
| 14. Sapelo Island, Georgia | 29. Jobos Bay, Puerto Rico |
| 15. Guana Tolomato Matanzas, Florida | |

** Proposed Reserve*

● designated ○ proposed

