

Overview

System-Wide
Monitoring

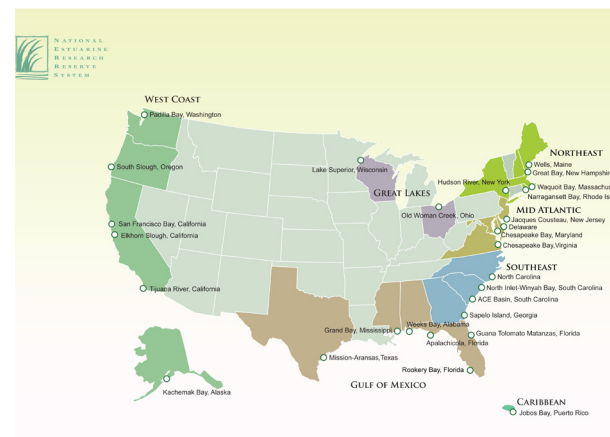
Research Projects

Resources for
Visiting Scientists

Publications

National Estuarine Research Reserves are living laboratories and ideal sites for research and long-term monitoring. By understanding how estuaries function and change over time, scientists are in a better position to predict how coastal ecosystems will respond to climate change and natural and human-induced disturbances both locally and on a national level.

As part of the national network of 28 reserves, we participate in the [System-Wide Monitoring Program \(SWMP\)](#). This long-term program collects data using standardized instrumentation and protocols across the coordinated network of coastal observing sites for detecting and understanding environmental change. The program is broadly divided into three functional groups or toolkits.



[Abiotic-water quality and weather monitoring](#)

Water quality parameters include, temperature, conductivity (salinity), dissolved oxygen, pH, turbidity, and fluorescence as a proxy for chlorophyll and productivity, as well as nutrient concentration. Weather parameters include, wind direction, speed, precipitation, photosynthetically active radiation (PAR), and barometric pressure.

[Biological Monitoring](#)

Biological monitoring includes a wide variety of natural resources including submerged aquatic vegetation, [salt marsh sentinel Site monitoring](#), as well as others.

[Mapping habitat and land-use](#)

The Reserve generates maps of coastal habitats in order to track how they are changing over time. Changes can occur at broad scales (e.g. the amount of impervious cover), which in turn can impact habitats as the local scale.(e.g. the composition of habitats of Reserve salt marshes).

Archived data

After extensive quality control SWMP data are available from the NOAA-funded [Centralized Data Management Office](#)

Real-time data

Each reserve also has at least one water quality station and one weather station providing immediate, real-time information.

Contact

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