

## NOAA SENTINEL SITE PROGRAM

### San Francisco Bay and Outer Coast Sentinel Site Cooperative

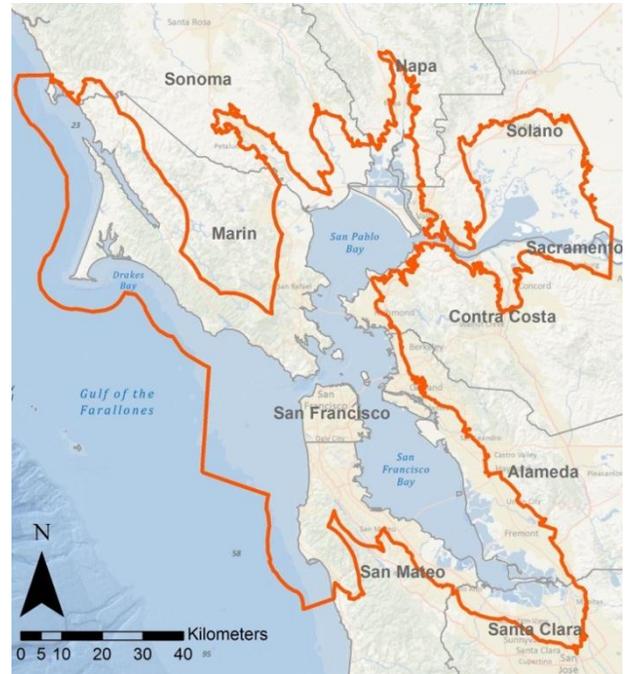
**Website:**

<http://oceanservice.noaa.gov/sentinelsites/welcome.html>

**NOAA Sentinel Site Program:** The NOAA Sentinel Site Program (SSP) utilizes existing assets, programs, and resources in a place-based, issue-driven approach to ask and answer questions of local, regional, and national significance that affect both NOAA Trust Resources and the surrounding communities.

**Abstract**

San Francisco (SF) Bay and its Outer Coast comprise the largest estuarine area on the west coast of the United States. Home to a bounty of natural areas such as Gulf of Farallones and Cordell Bank National Marine Sanctuaries and the San Francisco Bay National Estuarine Research Reserve as well as over 7 million people, the region serves as an ideal area for the variety of NOAA and partner programs to help achieve the vision of the NOAA Sentinel Site Program.



The NOAA Sentinel Site Program provides a place-based, issue-driven approach to ask and answer questions of local, regional, and national significance that affect both NOAA Trust Resources and the surrounding communities, that will leverage existing assets, programs, and resources. The effort for the SF Bay Sentinel Site Cooperative is led by NOAA’s Coastal Services Center, Gulf of the Farallones National Marine Sanctuary, and two NOAA-state partnerships – SF Bay Conservation and Development Commission and SF Bay National Estuarine Research Reserve.

The SF Bay Area Sentinel Site Cooperative combines and enhances current NOAA and partner efforts on climate change projects and programs addressing sea level rise and storms, ranging from Bodega Bay to Ano Nuevo along the coast, and San Francisco Bay, such as:

- Our Coast–Our Future: Planning for Sea Level Rise and Storm Hazards Within the Bay Area
- Bay Area Ecosystems Climate Change Consortium
- NOAA San Francisco Bay Coordination Group
- Adapting to Rising Tides
- San Francisco King Tides Initiative

NOAA and our partner programs are uniquely positioned and active in supporting and leveraging this effort, which will produce high visibility successes on climate change science, tools, adaptation, and outreach.

The goal of the SF Bay Sentinel Site Cooperative is to improve resilience of coastal communities and natural areas to sea level rise and its impacts by providing:

- Tools to visualize potential sea level rise, inundation, flood frequency, marsh and socioeconomic impacts



- Socioeconomic vulnerability analysis that can be used as a model for other regions
- Adaptation plan for a Bay Area community that is transferable to other communities in and around the Bay region, and for protected area coastal habitats

#### **Current Sources of NOAA and Partner Data and Information:**

- NOAA water level gauges and Physical Oceanographic Real Time System (PORTS)
- National Estuarine Research Reserve and National Marine Sanctuary System-Wide Monitoring Programs
- Topographic, land elevation base layer data for sea level rise and inundation mapping
- Central and Northern California Ocean Observing System data sets and tools (e.g., wave frequency and energy)
- Stanford Unstructured Nonhydrostatic Terrain-following Adaptive Navier-Stokes Simulator (SUNTANS) model for understanding wetland changes, and restoration options
- NOAA National Ocean Service's Operational Forecast System
- U.S. Geological Survey Coastal Storm Modeling System (CoSMoS) – predicts inundation/flooding, wave heights, beach erosion, and cliff failures
- Delft 3D (limited area) – currently supports the Innovative Wetland Adaptation Techniques in Lower Corte Madera Creek Watershed project

#### **NOAA Programs**

- Office of Oceanic and Atmospheric Research:
  - Climate Program Office
- National Ocean Service:
  - Coastal Services Center
  - Cordell Bank National Marine Sanctuary
  - Gulf of the Farallones National Marine Sanctuary
  - National Geodetic Survey
  - Office of Coast Survey
  - San Francisco Bay National Estuarine Research Reserve
  - Bay Conservation and Development Commission
- National Marine Fisheries Service
  - Office of Habitat Conservation
  - Southwest Restoration Center
  - Southwest Science Center
- National Weather Service

#### **Key Partners**

- Bay Area Ecosystems Climate Change Consortium
- Point Reyes Bird Observatory (PRBO) Conservation Science
- National Park Service
- U.S. Geological Survey
- U.S. Fish and Wildlife Service

#### **Point of Contact**

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