

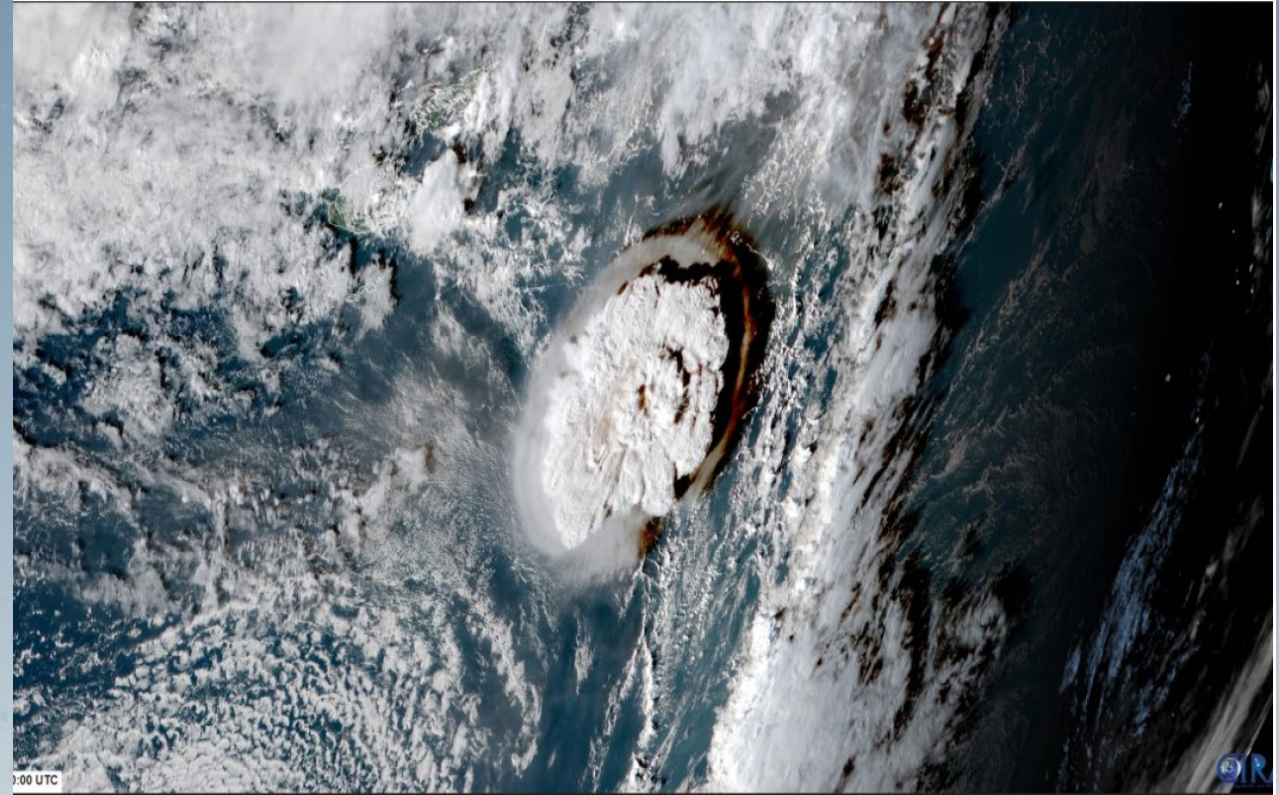
Center for Operational Oceanographic Products and Services (CO-OPS) Updates

Richard Edwing, Director
March 9, 2022



Overview

- Tidal Currents Surveys
- Dauphin Island, AL NWLON
- PORTS program status
- Mobile Bay Marine Channel Forecast
- Coastal Inundation Dashboard
- Sea Level Rise Technical Report
- Tonga eruption – tsunami warnings



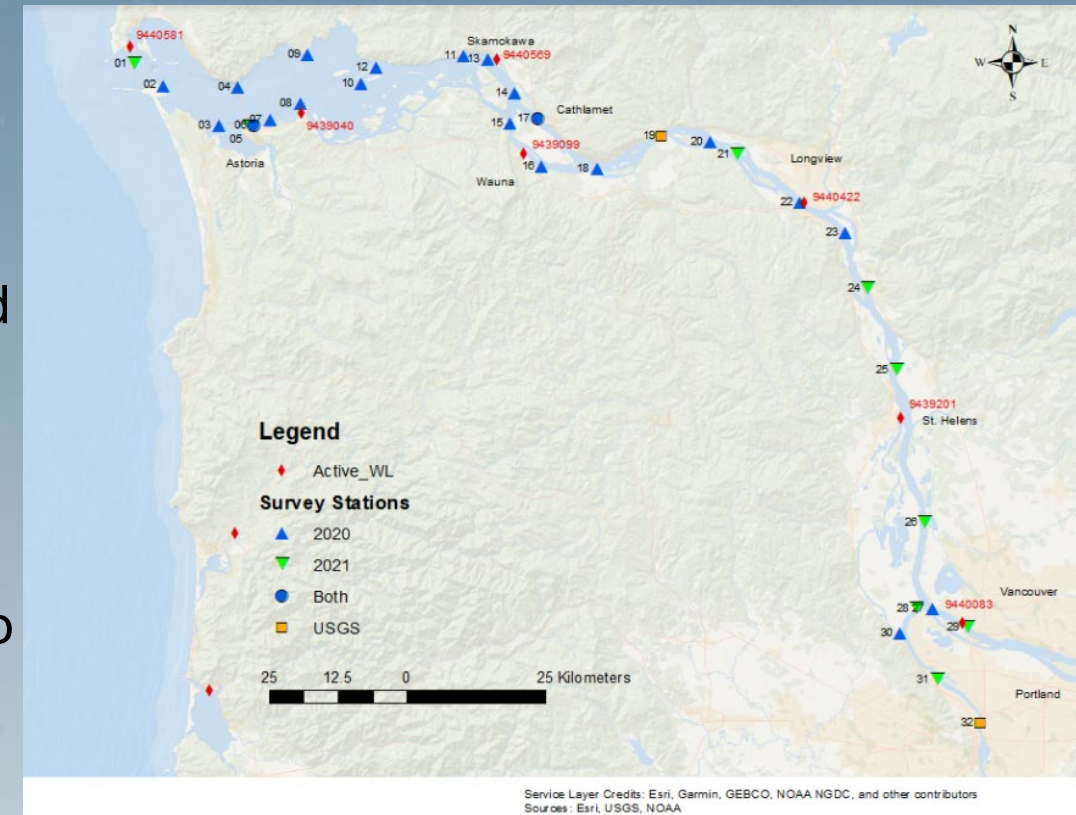
Tidal Current Surveys

Delaware Bay

- Completed in November 2021
- Predictions updated at 35 locations
- Conductivity, temperature and density data collected

Columbia River

- Main river channel was deepened to 43' by the U.S. Army Corps of Engineers between 2005 and 2010 to allow larger container and grain ships to reach the ports of Portland and Vancouver.
- Survey begun this month.
- Predictions will be updated at 32 locations in the Lower Columbia River and two long-term stations will collect data entire survey period (into FY23)



Dauphin Island NWLON Recapitalization

- Dauphin Island NWLON platform originally constructed in 1980, with supplemental funds from Hurricane Frederick. Designed to operate and provide continuous data through major storms.
- One of few NWLONs in the central northern gulf that survived Hurricanes Katrina and Rita, leading to design and construction of 10 Single Pile Instrumentation Platforms along northern gulf and Texas coast.
- The timber structure is well past its life span and Congress provided funds in 2019 to recapitalize. A cost effective three pile design used.
- After COVID delays, new structure recently completed and instrumentation just installed. The station will be provisionally operational after data QA/QC and internal reviews completed



FY22 PORTS® Enhancements and new PORTS

FY22 Enhancements

- Lake Charles - buoy mounted current meter
- Portsmouth - meteorological and salinity sensors
- Jacksonville – wind sensors to a station
- Matagorda Bay - current meters restored after long term outage of a station



Jacksonville seaport

New PORTS

Kitsap Peninsula, WA (FY22)

- Partnership with U.S. Navy
- 1 tide station and 2 current meters

Freeport, TX (FY22)

- Partnership with Port Freeport
- Integrate 1 NWLON, and 2 current meters

Pearl Harbor, HI (FY23)

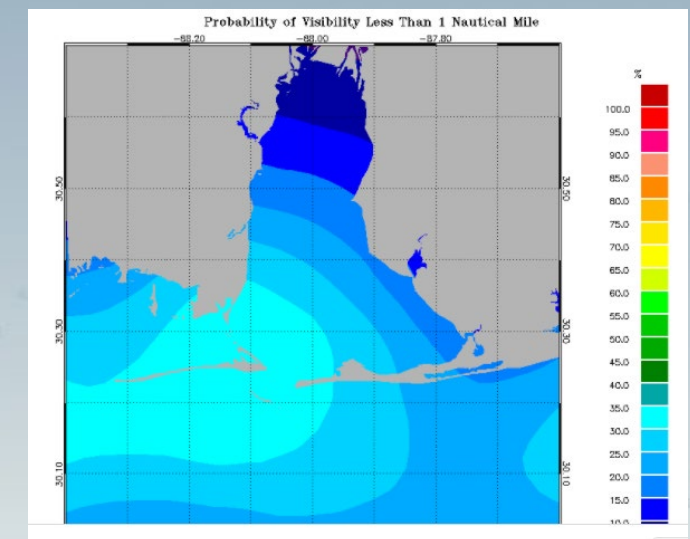
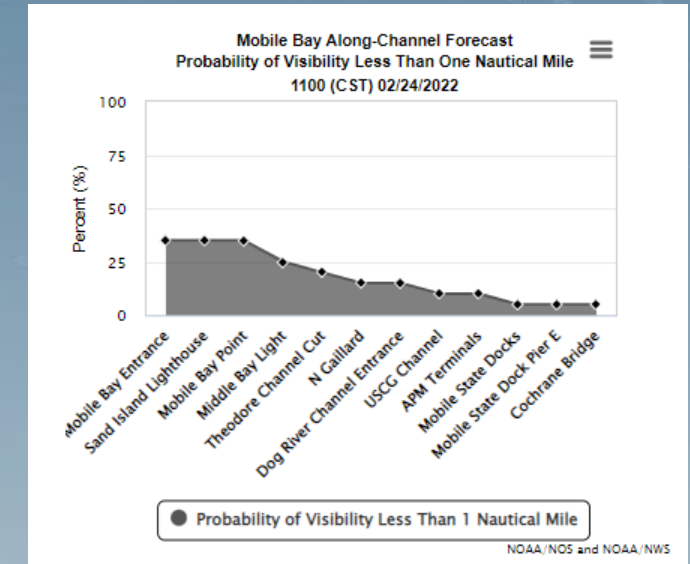
- Partnership with the U.S. Navy
- Integrate 1 NWLON, add 2 current meters

Brownsville, TX (FY23)

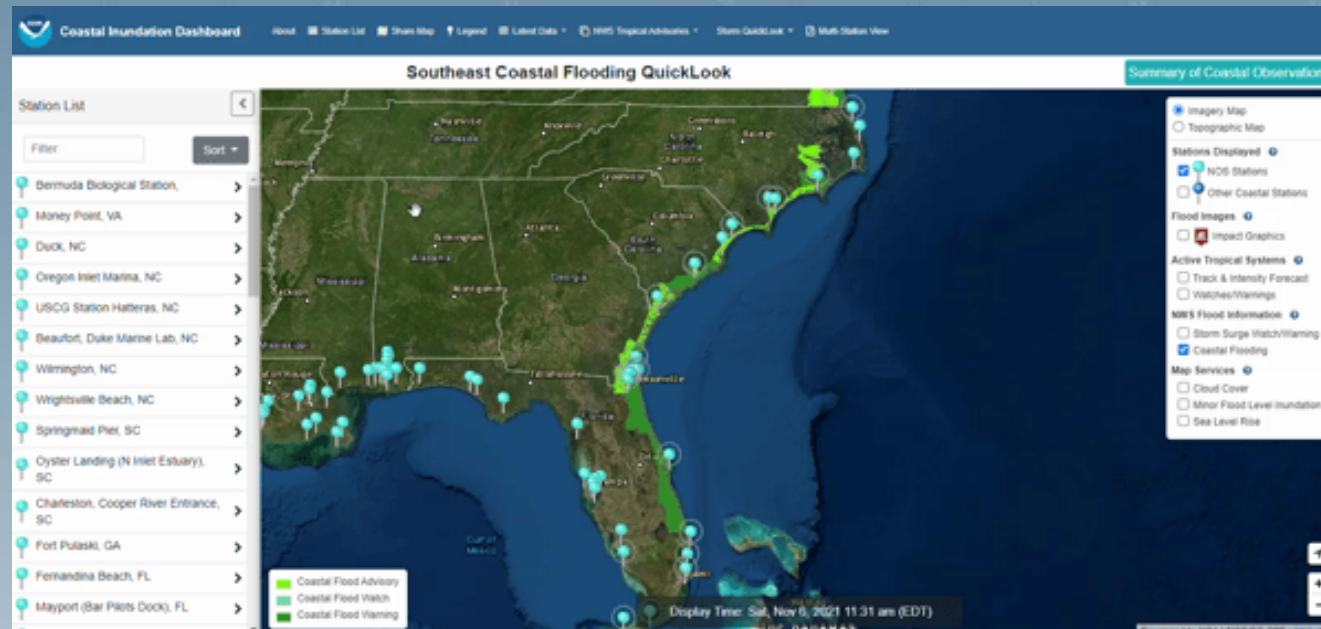
- Partnership with Port of Brownsville
- Integrate 1 NWLON, 2 TCOON and add 1 current meter

Mobile Bay Marine Channel Forecast (MCF)

- Decision support tool that integrates critical oceanographic and meteorological forecasts
- Culmination of a collaboration with the National Weather Service's (NWS) Weather Forecast Offices in [Mobile Bay/Pensacola](#) and [Tampa Bay](#).
- Second of its kind, and expands the 2017 Tampa Bay MCF into a new region.
- Vessel operators can view all NOS water level and tidal current forecasts right alongside NWS 24-hour weather forecasts for winds, wind gusts, rain chance, and marine hazard alerts.
- Addresses HSRP recommendation to improve visibility observations, forecasts and technology



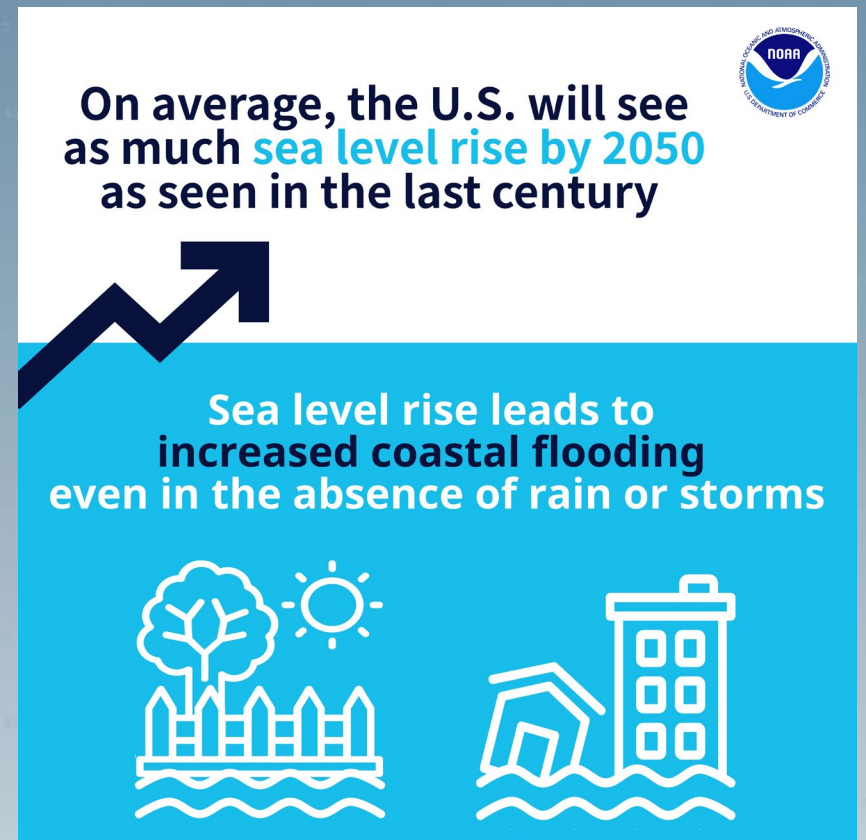
Dashboard now includes Extra-Tropical Storms



- Expanding when we alert the public to water levels associated with High Tide/Extra-tropical driven flooding in the [Coastal Inundation Dashboard \(CID\)](#)
- Aligns with the existing suite of products CO-OPS now supports.
- Existing monthly and annual outlook products across the weather-climate continuum will also be integrated into CID over the next two years.

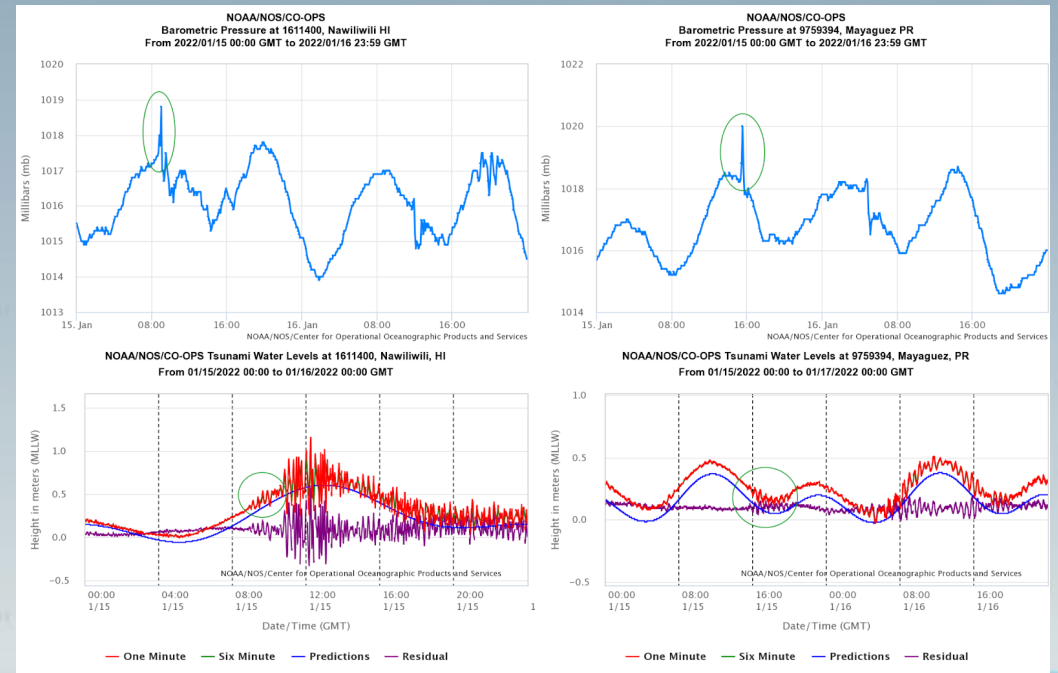
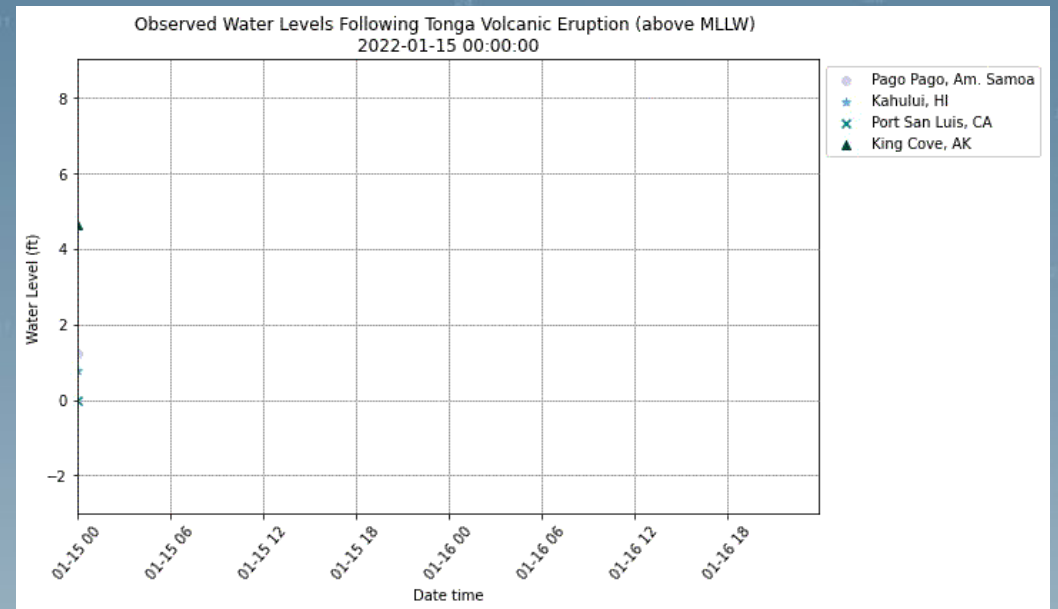
2022 Sea Level Rise Technical Report

- NOAA recently led development of an interagency report that provides the most up-to-date sea level rise projections by decade for the next 100 years and beyond.
- Updated the 2017 report and used data from tide gauge and satellite observations along with the model ensembles from the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC).
- CO-OPS provides the data from this report via its Applied Programming Interfaces, which is valuable for stakeholders who want to use the data in their own applications.
- Over 70 media outlets covered the release of this report with articles appearing in local and national newspapers across the U.S.



Tonga volcanic eruption

- On January 15, 2022 a significant tsunami was observed across the Pacific basin resulting from the undersea volcanic eruption near Tonga.
- CO-OPS operates tsunami capable tide stations on all US coasts in support of tsunami warning
- CO-OPS first observed the tsunami wave at its station in Pago Pago, American Samoa, less than an hour later. Record water levels were observed at Kahului, Hawaii, and 3 locations in California.
- The eruption created a global air pressure change above water, resulting in something similar to a [meteotsunami](#), observed at some Atlantic Ocean and Caribbean locations.



Questions?

