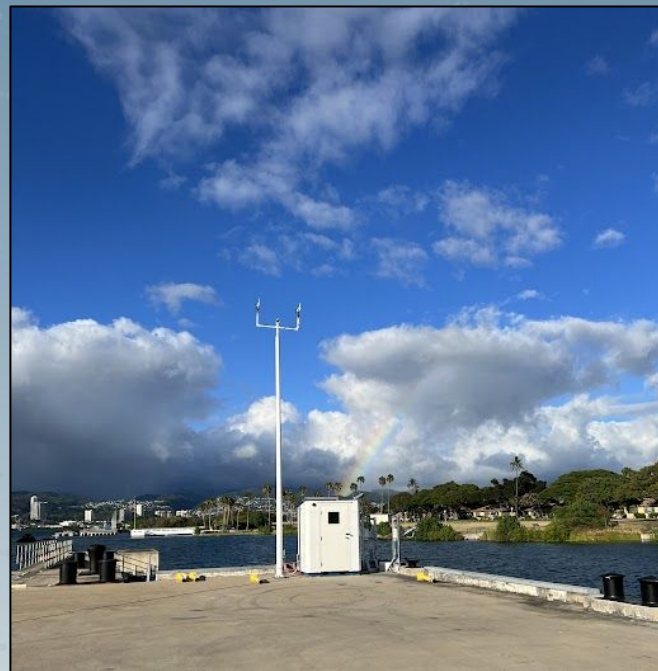# Center for Operational Oceanographic Products and Services (CO-OPS) Updates and Outlook

Derrick Snowden, Acting Director
September 29, 2023

Overview

- High Tide Flooding Product Enhancements
- Wave Measurement Development
- WebCOOS Cameras on NWLON Tide Stations
- PORTS® Program Updates
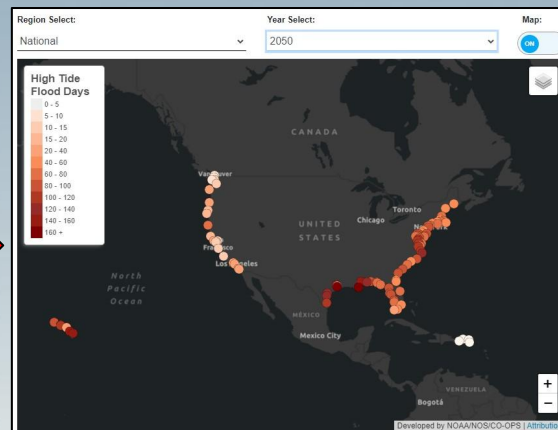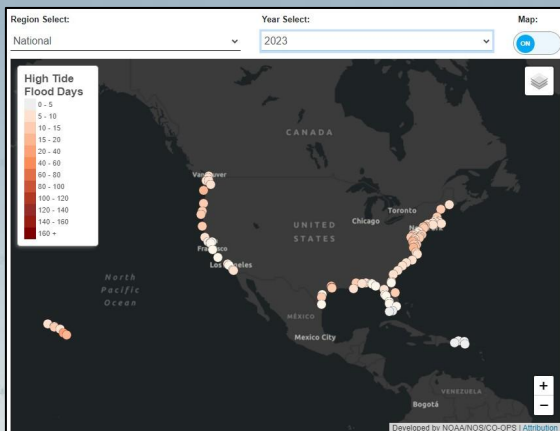- PORTS® Assessment
- NCOP Tidal Current Surveys
- OceansMap

Newly Installed Pearl Harbor, HI PORTS Water Level Station (1612401), Ford Island, Pearl Harbor, O'ahu island, Hawai'i.

High Tide Flooding Product Enhancements

- **Integrated High Tide Flooding Products**
- **Interactive dashboards** & visualizations
- Links to additional **internal & external resources**
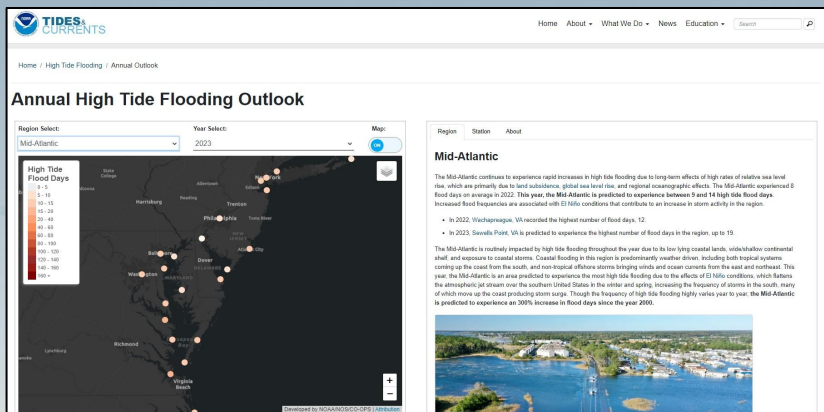- **Flooding predictions across timescales**

# High Tide Flooding Product Enhancements

Annual High Tide Flooding Outlook

- Number of high tide flood days for the coming year at specific stations
- Projections out to 2050
- Regional impact summaries
- Supports long-term planning

Monthly High Tide Flooding Outlook

- Daily flooding likelihoods for specific stations, up to a year in advance
- Regional impact summaries
- Supports near-term planning
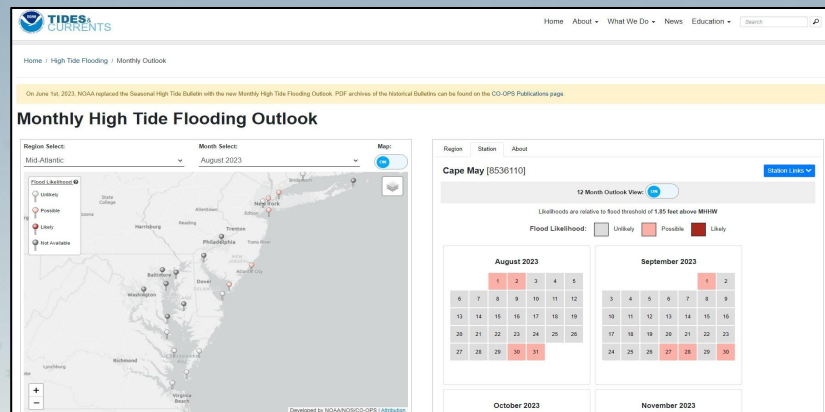
Wave Measurement Development

- Advancing R2O Readiness of Wave Measurements from MWWL Sensors to Support Flood Monitoring and Prediction

- Nearshore Coastal Wave Observations is currently one of the biggest coastal ocean data gaps in our Nation.

- Expectations are growing for CO-OPS to adapt our foundational observing network toward capturing a "dynamic" still water (still water level + wave setup) observations.

Myrtle Beach Installation (May 2023).
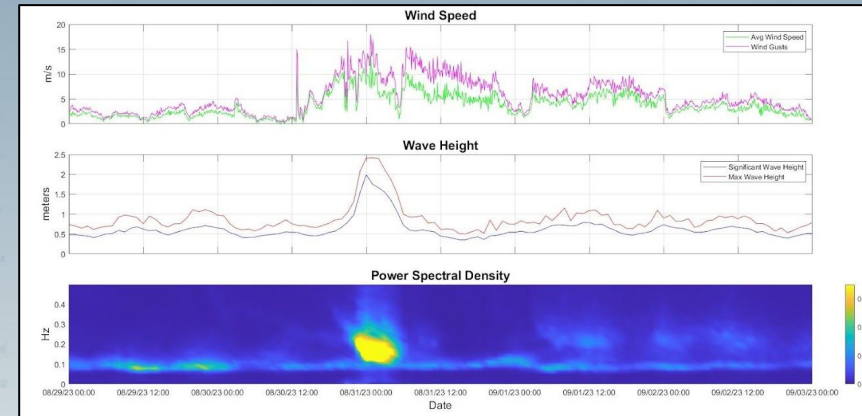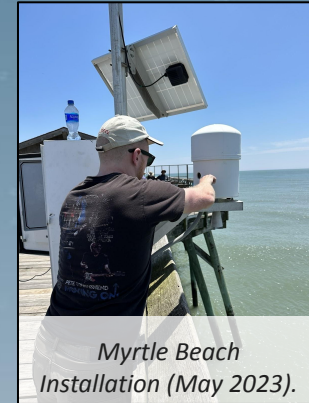
Real-time wind and waves measurements collected by OSTEP's Myrtle Beach test platform during the passage of tropical storm Idalia.

WebCOOS Cameras on NWLON Tide Stations

Monitors:

- Rip Currents
- Beach Erosion
- Beach Usage
- **Flood Monitoring**

Hurricane Idalia - Charleston, SC NWLON and WebCOOS camera near MHHW and peak water level

MHHW
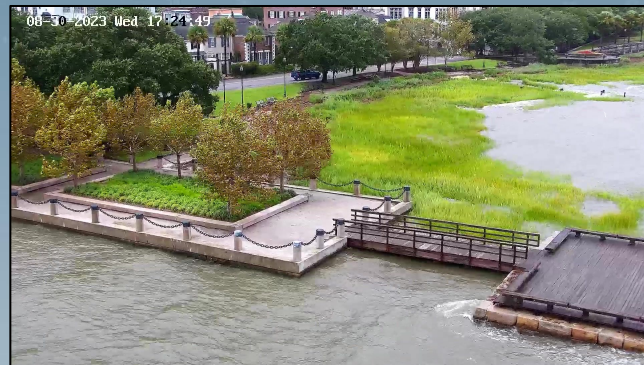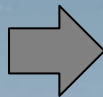
Peak WL
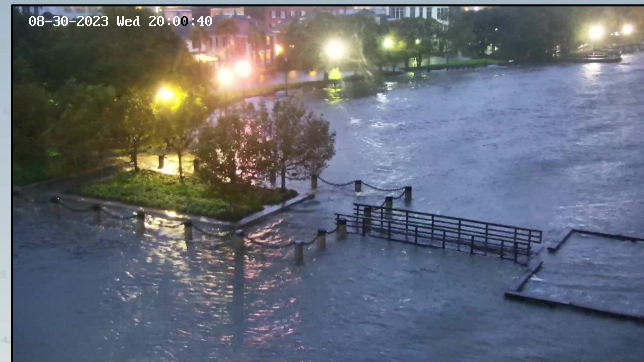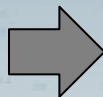
PORTS® Program Updates

FY23 Enhancements
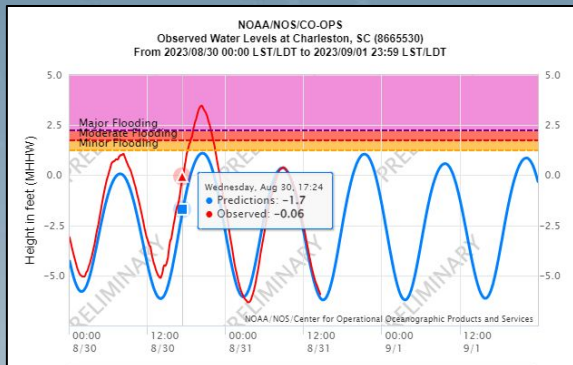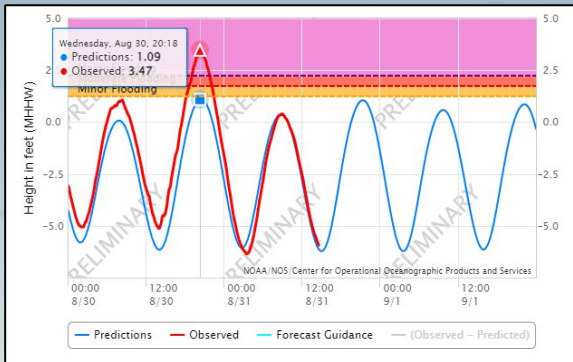
- **Portsmouth, NH** - Current Meter
- **New Bedford, MA** - Water Level Station, Meteorological Station
- **Bethany Beach, DE** - CDIP Wave Buoy
- **Hollywood Beach, FL** - CDIP Wave Buoy
- **Fort Morgan, AL** - Visibility Station
- **Kalama, WA** - Water Level Station

New PORTS in the works

Pearl Harbor, HI (FY23-24)

- Partnership with the U.S. Navy
- Integrate 1 NWLON, install 1 water level with meteorological station, 2 current meters, integrated CDIP wave buoy

Upcoming new PORTS

Seattle, WA (FY24)

- Partnership with Port of Seattle
- Integrate 1 NWLON, add a current meter and stand alone meteorological station

PORTS® Assessment

Contracted Eastern Research Group (ERG) to Host 21 PORTS® Assessment Workshops

- 11 Regionally Targeted Sessions
- 10 Make-Up Sessions

Evaluating governance options for:

- Existing cost share model
- A wholly owned federal program
- A hybrid model where certain PORTS aspects are wholly owned by the federal government.
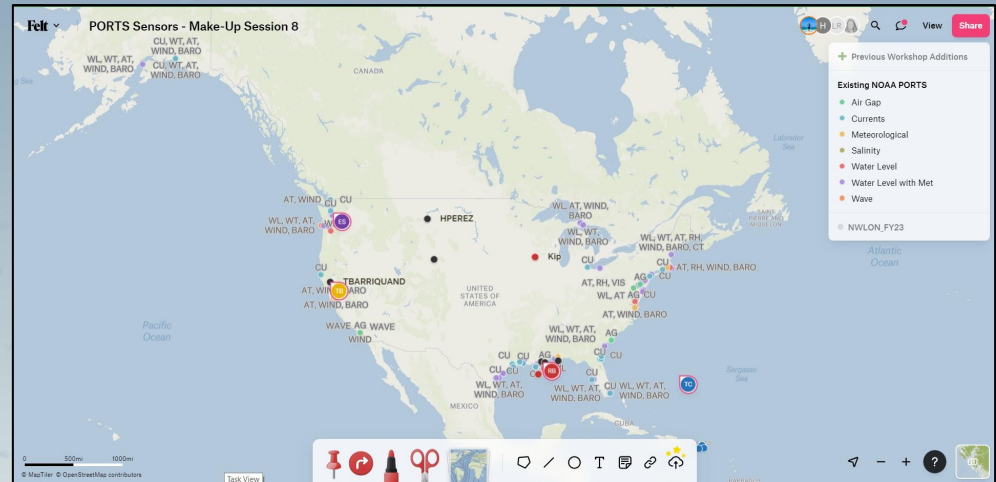
Determine requirements for a fully built out system

- Number, type & locations of sensors needed to support safe and efficient marine navigation in each of the 175 top seaports

NCOP Tidal Current Survey Update

Columbia River
- Currents observations collected in 2022 and 2023
- Predictions will be updated at 32 locations in the Lower Columbia River and two long-term stations will collect data for the entire survey period

Delaware Bay
- Predictions updated at 32 locations
- Conductivity, temperature and density data collected and shared with USGS partners

Savannah River
- Pilots have been requesting updated currents information for over 10 years
- Following completion of harbor deepening project, observations were collected in 2023 at 25 locations

Charleston Harbor (planned for FY24)
- Field reconnaissance planned for October 2023 for ~40 locations in the Harbor and surrounding rivers.
- Requirements based primarily on navigation needs.
- Data will also support model validation and coastal circulation analyses.
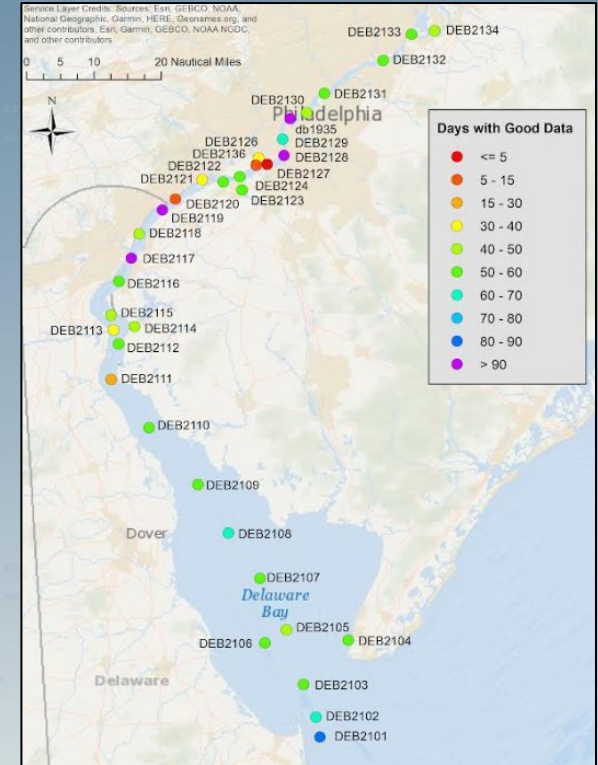
OceansMap

OceansMap is a new tool that integrates real-time observations with OFS forecasts to provide up-to-date assessments of ocean conditions.

Nationwide Visualization of Water Levels on 7/7/2023 15:00

CO-OPS OceansMap Beta-launch Q1 FY24

Cook Inlet OFS

NEW Salish Sea & Columbia River OFS **Available August 2024**

Lake Superior OFS

Lake Ontario OFS

Lake Michigan & Huron OFS

Gulf of Maine OFS

Lake Erie OFS

New York OFS

San Francisco OFS

Delaware Bay OFS & Chesapeake Bay OFS

Northern Gulf of Mexico OFS

In Development East Coast OFS **FY28** High resolution: Northeast Coast OFS **FY26** Southeast Coast OFS **FY27**

Tampa Bay OFS

West Coast OFS

48.4432N, 50.5567W
500mi

Questions?