

# Center for Operational Oceanographic Products and Services

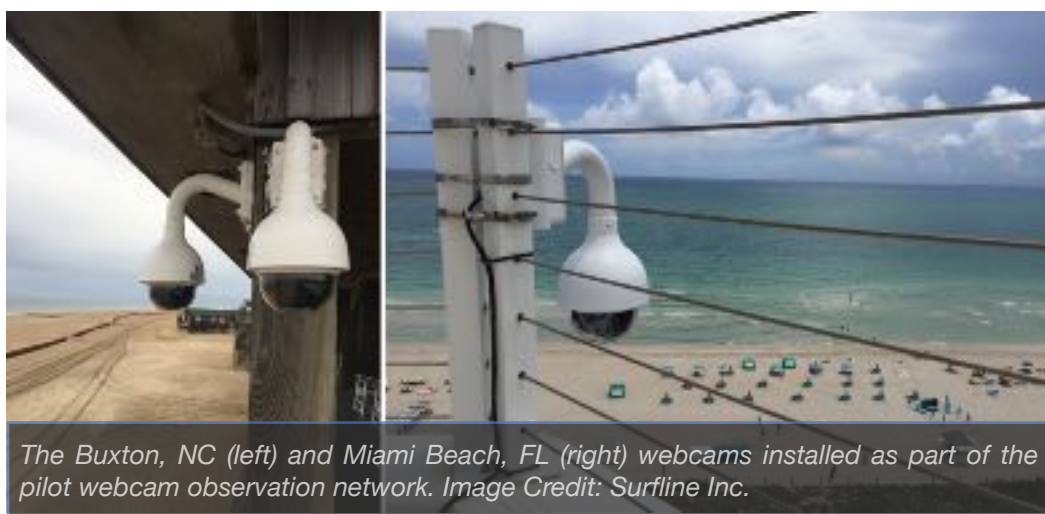
NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) is the authoritative source for accurate, reliable, and timely tides, water levels, currents and other oceanographic information. CO-OPS data, products and services support safe and efficient navigation, sound ecosystem stewardship, coastal hazards preparedness and response, and the understanding of climate change. Included below are two highlighted scientific projects by CO-OPS researchers and their partners.

## NOAA Development of a Webcam Coastal Observing Network

NOAA NOS launched a pilot observation network to collect imagery from a series of web-enabled cameras mounted along the southeast coast of the United States. The collected imagery provides a new way to collect data on rip currents, high tide flooding, and other coastal hazards.

Images are also used to identify marine mammals

along the coast, as well as to track human uses of natural resources — including beach use during the COVID-19 pandemic. Images are acquired and processed in a standardized way so they may be incorporated into a wide range of downstream scientific applications and products. The pilot program is a public-private partnership that includes NOAA, the Southeast Coastal Ocean Observing Regional Association, the U.S. Geological Survey, Surflife Inc., the University of North Carolina Wilmington, and University of South Carolina.



**FY20 Accomplishment(s):** Published peer reviewed journal article detailing the development and goals of the network; development of a software tool to enable remote webcam imagery rectification using Lidar data (journal article submitted); and use of the network to help assess beach use during the Covid-19 pandemic.

**Peer reviewed journal article:** Dusek et al. 2019 *Frontiers in Marine Science*  
<https://www.frontiersin.org/articles/10.3389/fmars.2019.00353/full>

**Pilot site for webcam network:**  
<https://secoora.org/webcat/>

**News article detailing camera calibration tool:**  
<https://secoora.org/new-open-source-tool-to-remotely-calibrate-web-camera-data/>

# Development and Demonstration of Wave Measurements from Radar Tide Gauge

NOAA CO-OPS is currently transitioning the primary water level sensor at most National Water Level Observation Network (NWLON) stations from an acoustic ranging system to microwave radars. With no stilling well and higher resolution of the open sea surface, microwave radars have the potential to provide real-time wave measurements at NWLON sites. Radar sensors at tide stations may offer a low cost, convenient way to increase nearshore wave observational coverage throughout the U.S. to support navigational safety and ocean research applications.



**FY20 Accomplishment(s):** Completed detailed laboratory and field testing and associated analysis to demonstrate microwave radar water level sensors' capability to simultaneously measure average sea level and waves

**Peer reviewed journal article:** Fiorentino et al. 2019 *Frontiers in Marine Science*  
<https://www.frontiersin.org/articles/10.3389/fmars.2019.00586/full>

**NOAA Ocean Podcast Coverage:**  
<https://oceanservice.noaa.gov/podcast/oct14/mw128-taking-measure.html>