

Slide 1: Hello. I'm Debra Hernandez, Executive Director for the SE Coastal Ocean Observing Regional Association. I'm presenting today on behalf of my colleagues listed here. Our topic is **Expanding Community Flood Resilience Through Partnerships with US Integrated Ocean Observing System Regional Associations.**

Slide 2: **Coastal communities worldwide are struggling to manage increasing flooding, erosion, and sea level rise.** Climate change is the driver behind many of these threats. While the forcing for these threats is global, the impacts vary significantly at the local scale necessitating high resolution data, and predictive tools to support local decision-making.

Slide 3: The **US Integrated Ocean Observing System (or IOOS)** is a partnership of 17 federal agencies and **11 Regional Associations.** This system **provides a robust and tailored observing and modeling infrastructure for decision support.** IOOS is a federally mandated program with a goal of providing data, models, and products that benefit the economy, the environment, and public health and safety. All 11 RAs are certified by NOAA as meeting federal requirements. Certification means that the RAs have the people and hardware necessary to operate a regional observing system. The data and models from the regions can seamlessly integrate with federal systems. This makes the RAs ideally suited to support local needs such as the provision of flood-related data and decision support tools.

Slide 4: Two RAs have launched water level programs that illustrate the capabilities throughout the IOOS system. At SECOORA, a new **Water Level Partnership** initiated this year will **deploy ~200 water level sensors to provide decision-support for communities.** The southeast is a regional hotspot for both hurricanes and sea level rise threats. In partnership with scientists and communities low-cost water level sensors with millimeter scale accuracy are being installed. These stations will provide real-time data to supplement data available from NOAA. The effort is guided by a steering committee of local, regional and national experts with a goal of establishing a sustained network that provides reliable and cost-effective water level information at the scale necessary to meet the local needs.

Slide 5: Alaska's Arctic environment – extensive, remote and critically under-instrumented - poses unique challenges to monitoring water levels, requiring the use of novel and inexpensive sensing systems. With warming ocean waters and less sea ice, communities are increasingly vulnerable to storm surge, flooding and erosion leading many to consider the need to relocate. AOOOS established the Alaska Water Level Watch with state, federal and industry partners to set priorities for observations, and pilot new technologies with lower long-term costs. Platforms using GPS reflectometry and low-cost pressure sensors are not gold standard, but they still provide robust data critical to decision makers. The information is used for tsunami warnings, storm surge modeling and forecasts, establishing tidal datums, coastal mapping, and land and resource management.

Slide 6: Although NOAA operates the national water level network and provides robust tide and flood predictions, they don't have sensors in all the places where they're needed. The efforts led by AOOS and SECOORA leverage the national program. Both RAs ensure that regional data is curated and made accessible in ways that support both local and national needs. These are great examples of how regional entities work with local and national partners to meet needs.