Coastal Resilience

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HSRP APRIL 9, 2015

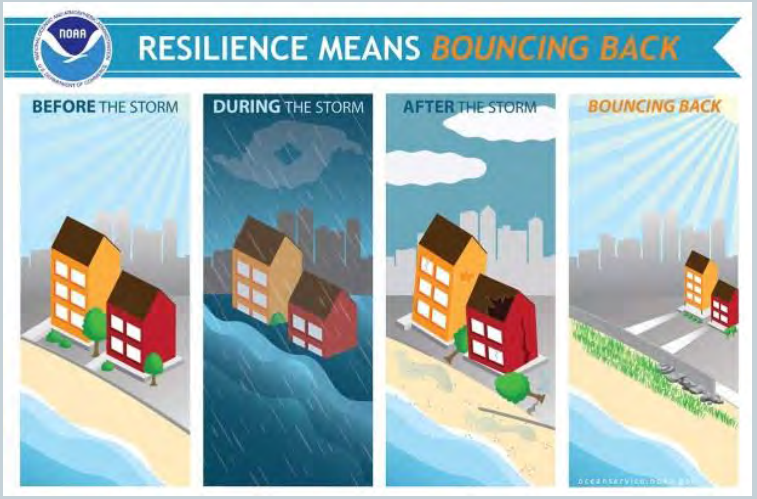
Overview

- **Section 1: Setting the Stage**
  - Review definitions and trends in Coastal Resilience
- **Section 2: Making the Connection**
  - Coastal Intelligence support to Coastal Resilience
- **Section 3: Exploring Opportunities**
  - Discuss opportunities where foundational data can support Coastal Resilience

Coastal Resilience Defined

- Resilience is the ability to recover from a challenge. It can also be thought of as bouncing "forward" - not only returning to a previous state, but moving forward to a better, more thriving community.

- The National Academies of Science has a more formal definition: the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events. This is the definition used by the National Ocean Service.



Components of Resilience

Resilience is determined by combination of these three dimensions:

- **Economic** resilience, for instance the cost of building resilience and the costs of failing to do so. How disasters can impact the economy of a community.
- **Societal** resilience involves minimizing human vulnerabilities to disasters and strengthening social and institutional foundations in coastal communities.
- **Ecological** resilience includes maintaining and creating the healthy habitat and healthy waters that provide natural protection against hazards. It also includes helping ecosystems bounce back after an event.

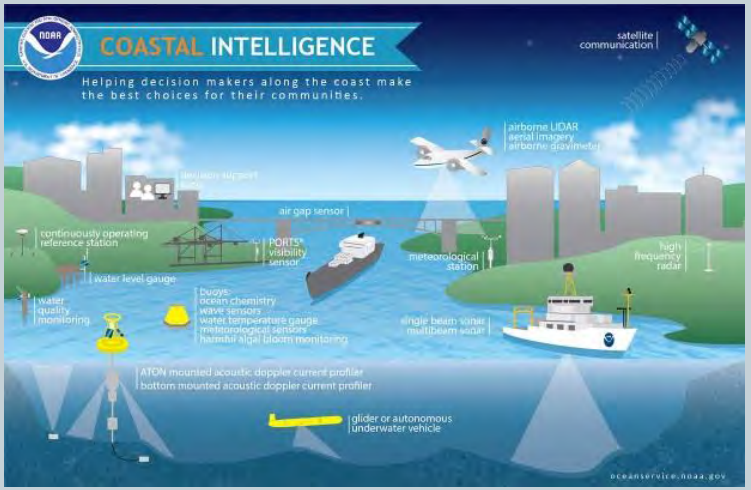
Trends in Coastal Resilience

- Risk management has become more proactive and focused on preventing or reducing risk.
- Manage risk over a range of hazards (e.g. multi-hazard management) and assess uncertainty.
- Community resilience has become the center-piece of risk management today with focus on the ability of communities to respond or recover to that risk.
- Coastal managers have become focused on assessing, tracking and predicting indicators of resilience
- Ecosystems are an important strategy for achieving community resilience

Importance of Coastal Intelligence

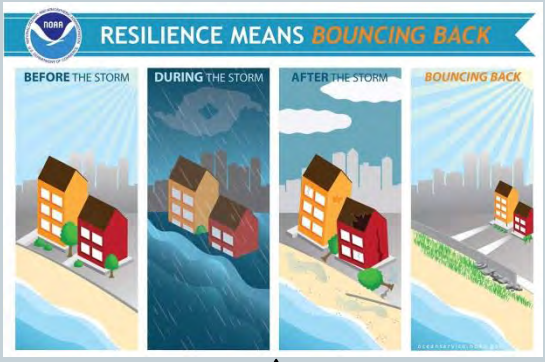
- Communities rely on NOS' authoritative and reliable positioning and water level information to plan for sea level rise and impacts to infrastructure, transportation, etc.

- Coastal resilience, broadly defined, is our end-goal, and we will get there by strengthening both the coastal intelligence that NOS provides, as well as by increasing our efforts to protect the environment and special places.

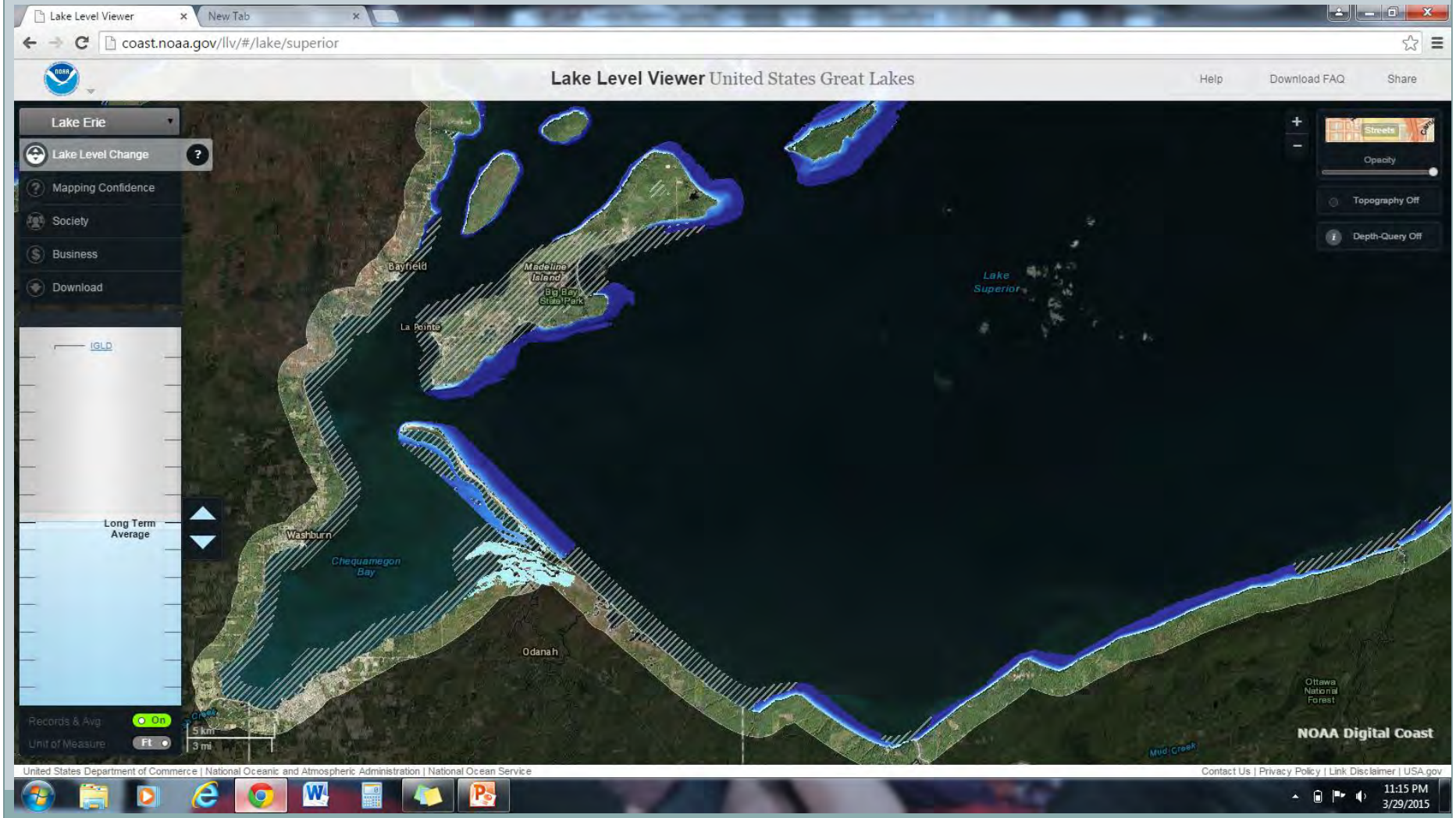


Making the Connection

- Coastal Resilience is not possible without Coastal Intelligence
- Coastal Resilience "sits on the shoulders" of Coastal Intelligence
- Coastal Resilience provides new narrative to advocated for foundational data.

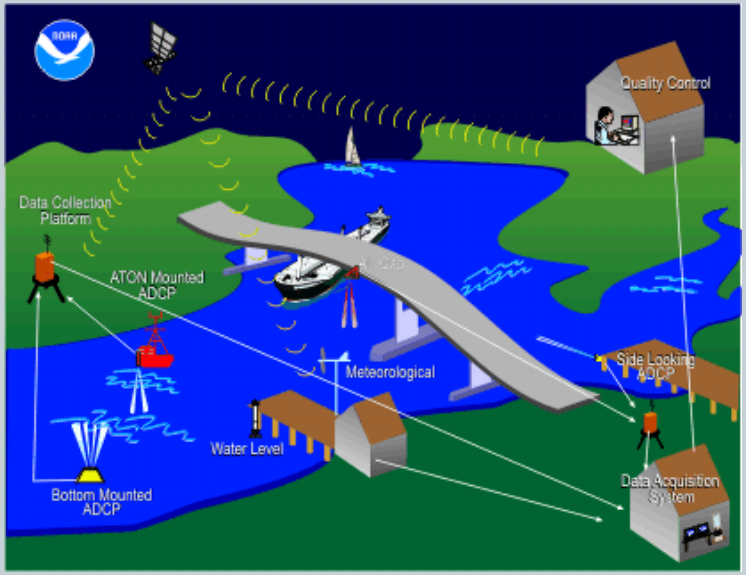


NOAA Lake Level Viewer



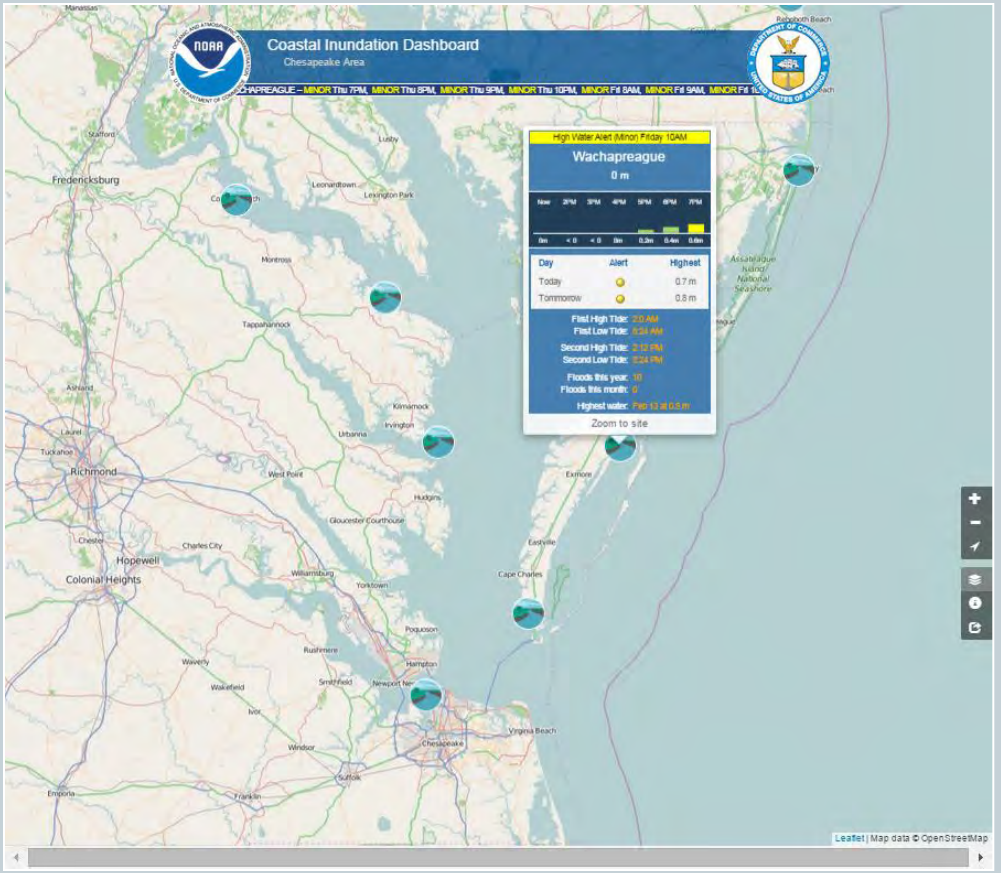
Opportunity #1: Adapt existing foundational technologies, instrumentation, and procedures to support resilience

- Develop techniques to utilize observations beyond the real-time applications (i.e. meteorological, wave and current data).
  - Pre and post-event conditions
  - Analyze data for long term trends
- Apply reference frame to monitor changes in coastal land elevations (i.e. subsidence) and water levels



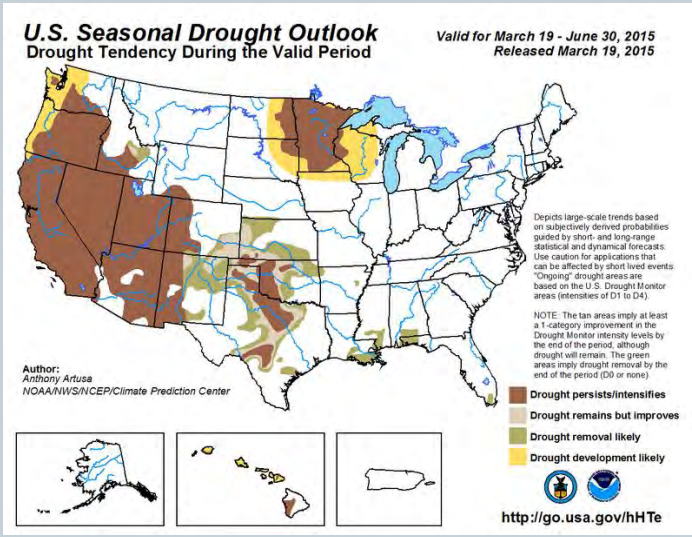
Opportunity #2: Increase the use of observations to validate hydrodynamic models

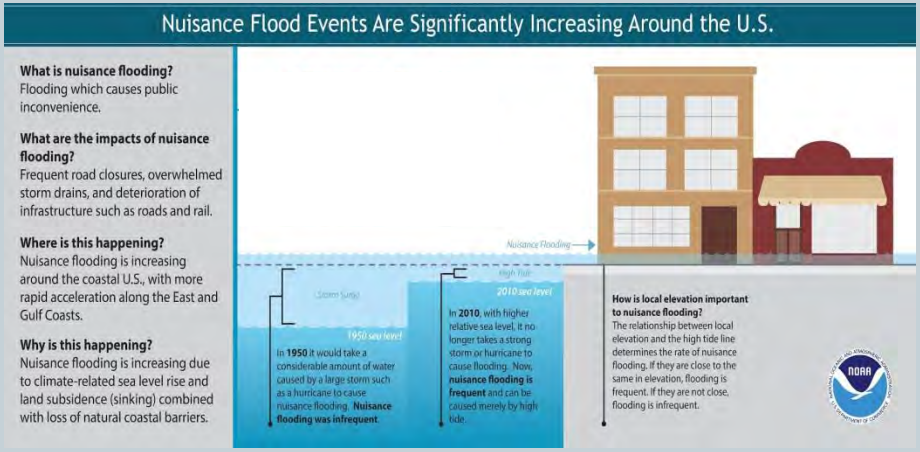
- Better use of observations to validate hydrodynamic model to expand use in applications.
- Use these baseline monitoring to support decision support applications



Opportunity #3: Extend support to Ports beyond real-time navigation applications.

- Enable better decision making to support intermodal transportation network.
  - Provide an integrated suite of to products/applications that also provide information associate to MHHW.
  - Monthly/seasonal water level outlooks (i.e. nuisance flood impacts)





QUESTIONS

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