Understanding User Needs for Coastal Flooding Tools: Evolving NOAA's Water Information Services

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AWRA Spring Meeting, April 25, 2022

Project Team:

RAST B 1:30 pm CT Lori Cary-Kothera, NOAA OCM Chris Katalinas, Lynker on contract with NOAA OCM Tuscaloosa, AL Kate Tremblay, Ocean Associates, Inc.on contract with NOAA CO-OPS Shannan Lewinski, Lynker on contract with NOAA OCM Lisa Auermuller, on detail NOAA OCM



Current Capabilities

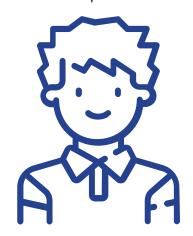


Coastal inundation products and predictions typically account up to one week and are often associated with extreme events/storm surge.

Sea level rise prediction is long range on timescales associated with the next decade to next century.



I'm a NOAA expert!
Let me give you what
I think you need in a
way that makes
sense to me!



Wow, this looks like great info! It's not exactly what I need, but I'll take it! Thanks!







Review and prioritize product and service development

Weather, Water, Climate Strategy

- Too much, too little, or water of poor quality can endanger life, property, economies and ecosystems
- Build strategic partnerships for water information services
- Establish a new model of Service Delivery
- Implementation of Service Delivery across NOAA





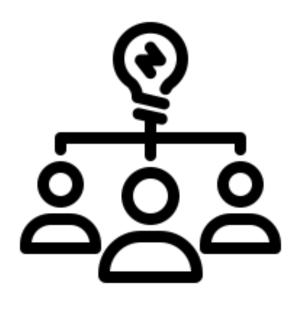
Repeated Needs We've Heard...

Decision-making is challenging

Decision support tool fatigue is real and growing

The coastal flooding tool space is crowded

What can we realistically do?





Project Objectives

Gather user feedback on needs related to coastal inundation analysis and tools to develop future sea level rise and high tide products

Address future flooding at climate timescales to better understand coastal total water levels







- Who? Coastal decision makers
- What? Understand user-driven needs to shape the future of coastal flood products
- How? Five targeted virtual workshops by sector
- When? Fall 2021 Fall 2022



- Planners November 8, 2021
- Navigation and transportation January
 25
- Realtors and insurers March 22
- Health and human services May 24
- Natural Resource Use and Floodplain
 Managers June 27
- Final workshop report September 2022

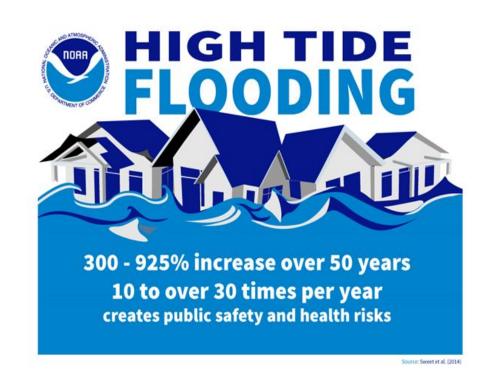


- How do you factor coastal flooding into your long-term resilience planning?
- What decisions do you make in your day-to-day work related to coastal flooding?
- What key information and/or tools would help you better understand flood risk?

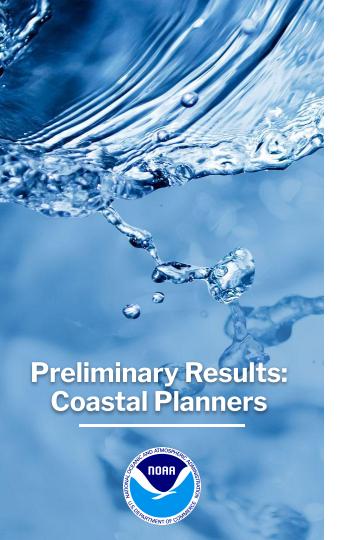
Outcomes

NOAA understands information needs for coastal inundation decision making on climate timescales

NOAA understands the data and tool gaps that would allow target audiences to make more informed decisions based on inundation risk



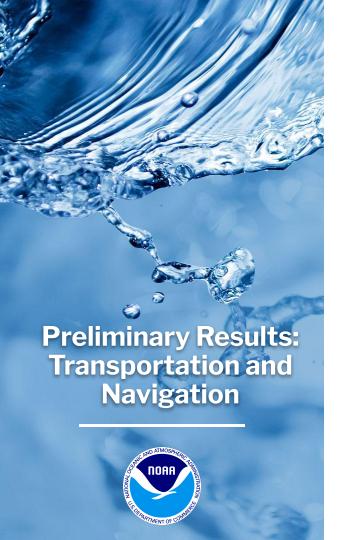




- 1. Loss of **property**
- 2. Loss of **ecosystems**
- 3. Loss of **life**
- 4. Loss of quality of life from chronic stress
- 5. Human health risks
- 6. Unfair burden on disadvantaged populations
- 7. Disrupted transportation
- 8. Not enough time to adapt
- 9. Preserving social and cultural resources
- 10. Economic loss



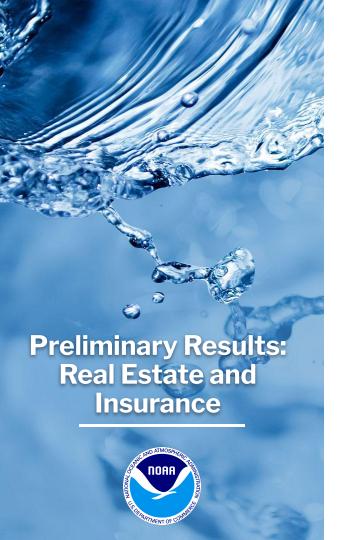
- Relocate homes inland
- 2. Intentional development
- 3. Stringent coastal construction codes
- 4. Living shorelines
- 5. More resilience **funding**
- 6. Bipartisan political support
- 7. Future development prohibited
- 8. Interdisciplinary collaboration
- 9. Informed residence
- 10. Integrated sea level rise thresholds
- 11. Affordable housing incentives



- Many unfamiliar with NOAA products
- Training needed on how to access and use tools
- Opportunity to build new relationships and products

Goals for transportation projects in relation to future flooding:

- Future wharf designs
- Resilience of ferry terminals
- Understanding flood-related traffic disruptions
- Raising roadway profiles without impacting nearby properties
- Mitigating current and future flooding for coastal airports



- Importance of messaging and multiple learning approaches (e.g. terms like 100-yr flood can be confusing)
- Local/community-sourced information is needed
- Maps with different scenarios to help decision-makers
- Better understand and address equity
 challenges by working with underserved and
 low-income communities
- Importance of economic information related to flood risk



- Conduct future listening sessions
 - Health and Human Services May 24
 - Natural Resource Use and Floodplain
 Managers June 27
- Compile and share results broadly
- Use results to improve NOAA and partner coastal products
- Leverage results and Infrastructure Investment and Jobs Act resources to advance coastal resilience science and services

