2019 Resilient Counties Luncheon

Addressing Threats due to Adverse Weather Patterns

NOAA Research for Planning and Preparedness

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Climate is what we expect, weather is what we get.

Mark Twain
Source: National Centers for Environmental Information; NOAA
Observed US Trends in Heavy Precipitation

Source: US National Climate Assessment; 2018
Social trends increase our vulnerability to extremes... in heat, in precipitation, storm surge, wildfires....

- Concentration of development (coasts)
- Aging population
- Increasing urbanization
- Increasing populations in the West
Where and how can our research help communities and businesses improve planning and preparedness?
Science and services networks

- Social Science to Improve Daily Forecasts in Alaska
- Communicating Storm Surge Levels to Protect Infrastructure
- Better Risk Communication for Fire Managers

Western Alaska, Port of Houston, Texas, California and Nevada
Research Programs that Support “the last mile” – planning and preparedness

- ‘Boots on the ground’ trusted science and stakeholder experts
- In-depth knowledge of regional needs
- Extending value of NOAA data and products
EXAMPLE: Bringing NOAA data to Wyoming hazard mitigation plans


Source: NOAA NCEI Storm Events Database
EXAMPLE: Assessing impacts of floods in coastal communities

Carteret County Health Department
Charleston County Emergency Management (South Carolina)
EXAMPLE: Simple Planning Tool for Arkansas

SCIPP/RISA

Bentonville and Siloam Springs -- APA
EXAMPLE: Understanding Changes in Extremes in San Diego
EXAMPLE: “Convergence” in the Carolinas
EXAMPLE: Supporting water resource and community planners

**Water Resources Dashboard**: a one-stop location for water-relevant data sets.

Designed through case studies on extreme events and risk management
THE CLIMATE EXPLORER

Explore graphs and maps of historical and projected climate variables for any county in the contiguous United States.
From the NOAA Nat’l Ocean Service – Office of Coastal Management:

Adapting Stormwater Management for Coastal Floods

Communities can use this website to determine how the flooding of today and tomorrow can affect their stormwater systems, and generate a report that can be used to:

- Educate community stakeholders on implications of coastal flooding
- Display local information about the current and future flooding impacts
- Inform planning efforts and make the case for funding

1. Learn more about coastal flooding and sea level rise.
2. Calculate current and future coastal flood frequency and impacts.
3. Determine if, when, and how your stormwater system will be impacted.
4. Learn different ways to mitigate flooding issues.

Coastal total water levels at an ocean or large lake shoreline can be defined as the combination of tidal variation, regional oceanographic effects (such as the El Niño-Southern Oscillation), storm surge (including wave setup), local wave action, and long-term sea level rise or lake level change. Water levels related to seiches or tsunamis could be included with these elements where they are key contributors to coastal flooding, but these sources are not evaluated as a part of this website.

Location plays a large role in the proportional influence of each coastal element, especially during extreme water level events. Variations in astronomical tides can be a principal factor in Alaska, whereas in other places storm surge (Gabriel, Taylor) and wave runup (San Francisco, California) primarily drive...
Coastal County Snapshots

Overview

This online tool provides managers and citizens with easy-to-understand charts and graphs that describe complex coastal data. Users select a county of interest and the website does the rest, creating a helpful educational tool for governing bodies and citizen groups. Current snapshot topics include flood exposure, wetland benefits, and ocean and Great Lakes jobs.

Tell us how your county uses the snapshots.

Features

- Assess your county's exposure and resilience to flooding
- Learn how your county benefits economically from the ocean or Great Lakes
- Examine the benefits your county receives from its wetlands
A few more NOAA resources....

- Nat’l Ocean Service (NOS):
  https://coast.noaa.gov/digitalcoast/tools/slr
- National Weather Service (NWS):
  www.weather.gov/wrn
- National Centers for Environ. Info. (NCEI)
  www.ncei.gov
- NOAA Research:
  www.climate.gov; www.drought.gov
Thank you

Feel free to contact me:

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