

NOAA Climate Services User Engagement



COASTAL HAZARDS



OVERVIEW

Global climate change and extreme coastal weather events pose an enormous challenge to the coastal hazards sector. Reducing risk to human life and to a community's economic, social, cultural, and environmental assets from climate and weather-related events is a major concern. Useful and timely information that aids decision makers in reducing vulnerability and increasing resiliency is critical to protecting people and maintaining healthy ecosystems and robust economies.



KEY STAKEHOLDERS

NCDC works with various groups, both as an actionable information provider and as an applied research partner, to examine the effects of weather and climate on coastal hazards:

- Federal, state, and local emergency managers
- Federal, state, and local coastal resource managers
- Government agencies and non-government entities that support critical infrastructure and essential facilities (e.g., energy, transportation, communication)
- Recreation and tourism businesses
- Agriculture and fisheries industries
- Academia and other researchers

SECTOR NEEDS

NOAA is effectively partnering with the coastal hazards sector to translate climate data into accessible, useful, and accurate products.

For example:

- Using rainfall data to help develop coastal erosion control procedures for local construction projects.
- Using local climatology data to assist in the design and construction of homes and infrastructure that can withstand hurricanes, storm surge, and other extreme coastal weather events.
- Using tide gauge data to evaluate local sea-level rise and the potential impacts on residential communities, infrastructure, and transportation in low-lying coastal regions.

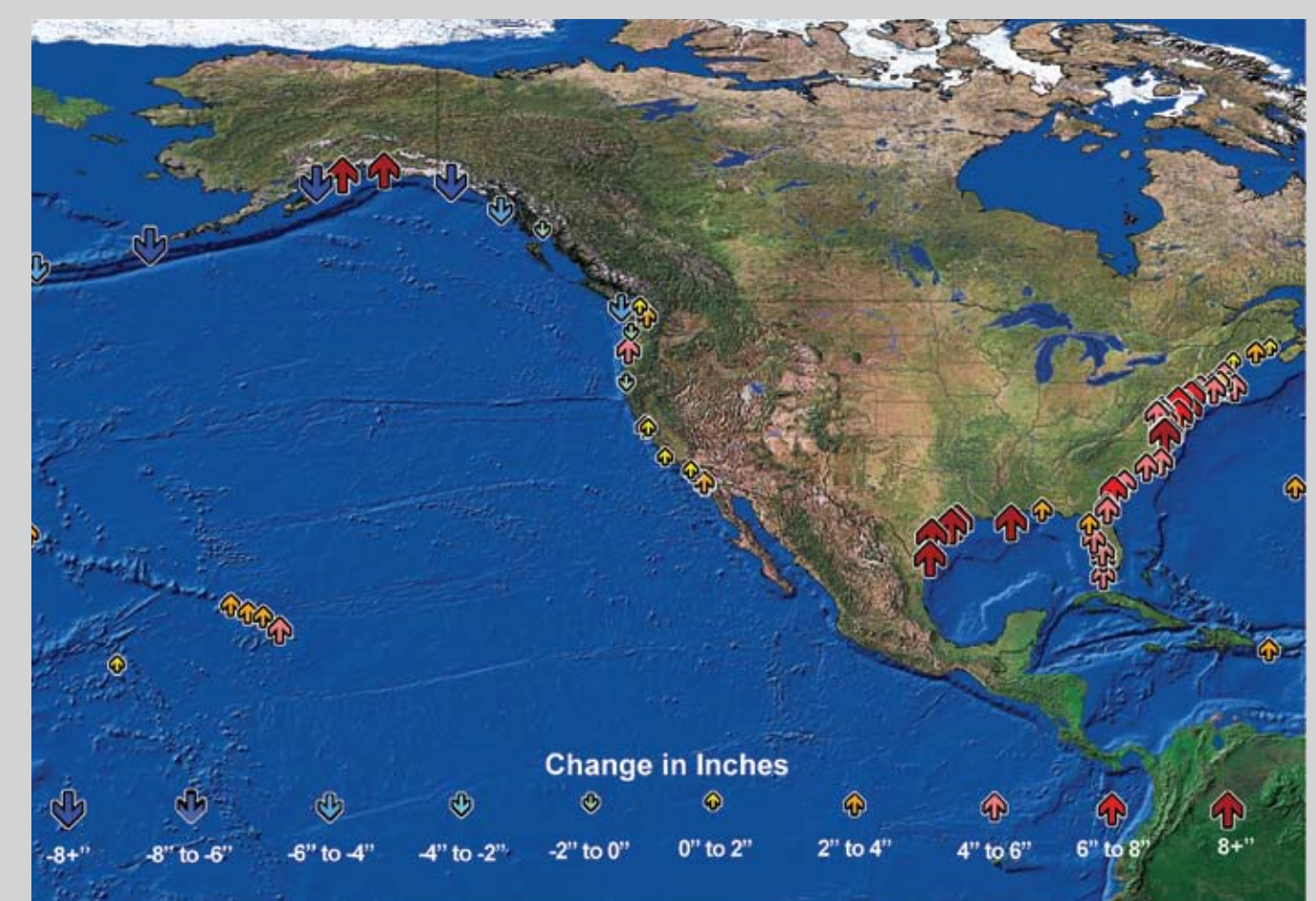
NOAA DATA AND PRODUCTS

There are many different types of useful climate information available.

Examples include:

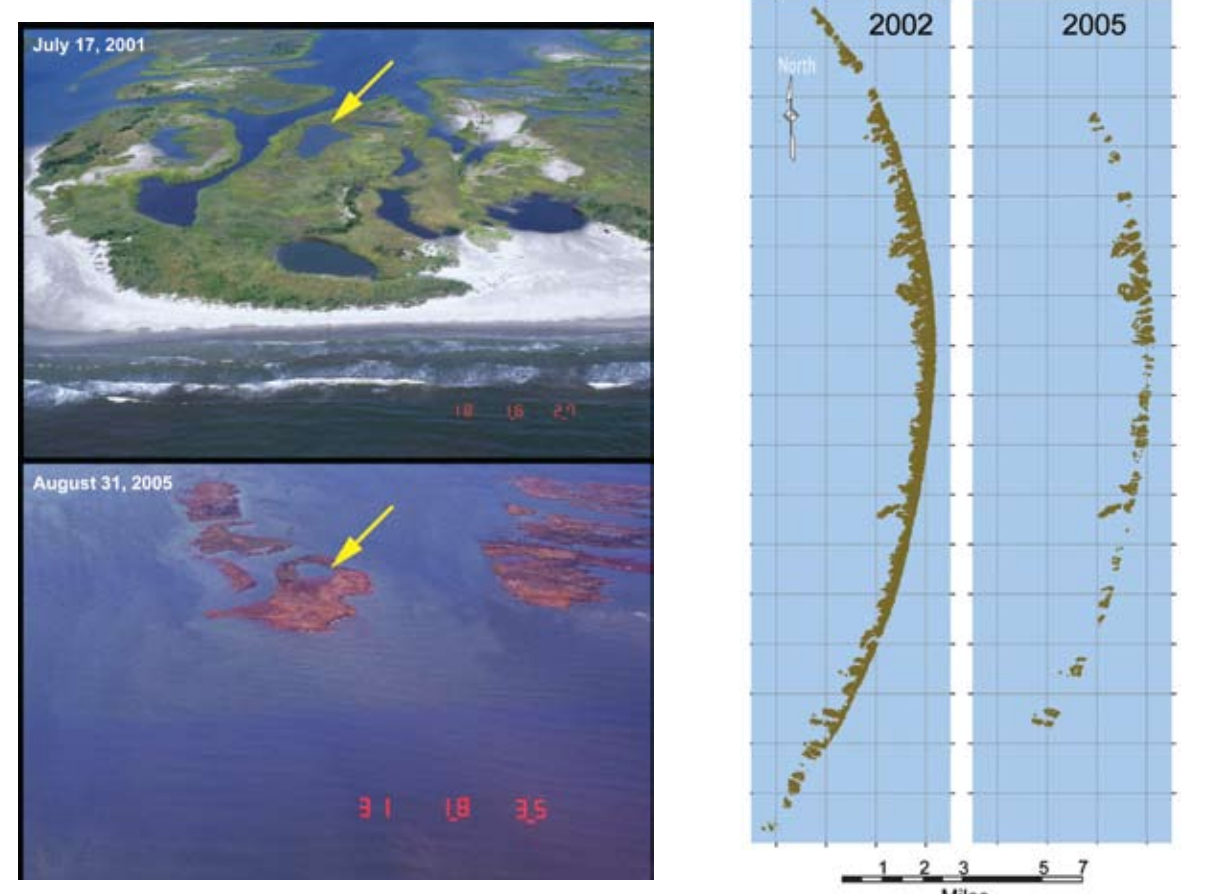
- The *Global Historical Climate Network*, which contains worldwide historical temperature and precipitation data.
- *Sea Ice* chart information and database, which provides sea ice extent.
- Global tropical cyclone positions and intensities in the new *International Best Track Archive for Climate Stewardship (IBTrACS)* tropical cyclone database.

Relative Sea-Level Changes on U.S. Coastlines, 1958 to 2008



Observed changes in relative sea level from 1958 to 2008 for locations on the U.S. coast. Some areas along the Atlantic and Gulf coasts saw increases greater than 8 inches over the past 50 years.

Land Lost During 2005 Hurricanes



In 2005, 217 square miles of land and wetlands were lost to open water during hurricanes Rita and Katrina. The photos and maps show the Chandeleur Islands, east of New Orleans, before and after the 2005 hurricanes; 85 percent of the islands' above-water land mass was eliminated.

IBTrACS

International Best Track Archive for Climate Stewardship

Providing tropical cyclone best track data in a centralized location to aid our understanding of the distribution, frequency, and intensity of tropical cyclones worldwide.