Weather Hazards

Weather hazards impact the entire country, with enormous effects on the economy and public safety. Since 1980, weather/climate disasters have cost the U.S. economy more than $1.5 trillion. In an average year, the United States will be affected by six billion-dollar weather/climate disasters, but this number has increased in recent years: from 2013-2017 the average was 11.6 events.

Basics

Weather hazards include hurricanes, tornadoes, thunderstorms, lightning, hail, winds, and winter weather. Many of these phenomena are related to atmospheric conditions that can be monitored and forecast. Read more

Frequently Asked Questions

How does El Niño affect my area?
National Oceanic and Atmospheric Administration

What is the evidence that our present-day climate is changing?
American Geosciences Institute

How might global warming change hurricane intensity, frequency, and rainfall?
National Oceanic and Atmospheric Administration

How does the damage from hurricanes compare to that of tornadoes?
National Oceanic and Atmospheric Administration

How many tornadoes have there been in my state or county?
National Oceanic and Atmospheric Administration
Climate
Climate has an enormous impact on society, with wide-ranging effects on public safety and health, the economy, transportation, infrastructure, and agriculture. Geoscientists investigate our climate’s past and present to better understand how it may change in the future.

Drought
Since 1980 the United States has experienced more than 24 major droughts, resulting in almost 3,000 deaths and economic impacts exceeding $225 billion. All areas of the U.S. have some drought risk.

Floods
Floods are the most common and costliest natural hazard facing the United States. Each year, flooding causes billions of dollars in damages and dozens of deaths nationwide.

Hazards
Natural hazards such as earthquakes, landslides, hurricanes, floods, and wildfires endanger public health and safety, threaten critical infrastructure, and cost our economy billions of dollars each year. Geoscientists study these hazards to provide information and warnings to populations at risk.

Landslides
Landslides affect all 50 states and U.S. territories, where they cause 25 to 50 deaths and more than $1 billion in damages each year. Geoscientists study and monitor landslides to identify at-risk areas, prepare populations, and improve our understanding of why, when, and where landslides happen.
Sinkholes
Sinkholes have both natural and artificial causes. They tend to occur most often in places where water can dissolve the bedrock (especially limestone) below the surface, causing overlying rocks to collapse. Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania are most sinkhole-prone.

Wildfires
Wildfires are causing more frequent and wider-ranging societal impacts, especially as residential communities continue to expand into wildland areas. Since 2000, there have been twelve wildfires in the United States that have each caused damages exceeding $1 billion; cumulatively, these twelve wildfires have caused a total of $44 billion in damages.

Maps & Visualizations

Interactive map of real-time flood information for Texas
U.S. Geological Survey

The U.S. Geological Survey's Water On The Go app provides real-time information on stream flows, lake levels, and rainfall in Texas. The app automatically finds data near your current location (or any chosen location in Texas) for rapid access to water information. Special icons indicate rapidly...

Case Studies & Factsheets

Roadway deicing in the United States
Background In areas prone to winter precipitation, transportation infrastructure must be able to quickly respond to snow and ice on roadways. Ice removal is a vital service in these communities. Deicing chemicals melt ice by lowering the temperature at
which it melts. They can also prevent new ice...

Webinars & Forums

Planning for Coastal Storm and Erosion Hazards
This webinar will focuses on efforts to anticipate, mitigate, and respond to coastal storms, erosion, and associated hazards at the federal, state, and local level.

GOLI Online Courses

Assessing, Mitigating, and Communicating Flood Risk
Course Type: GOLI Online Course
View course
Flooding is a perennial hazard for rivers and coasts alike. Every year, flooding results in billions of dollars of damage and the loss of dozens to hundreds of lives across the United States. Efforts to mitigate this hazard rely on the work of geoscientists, planners, and communicators to assess...

Geological Surveys Database Publications

The geology and water resources of the Upper Suwannee River basin
1978, Florida Geological Survey

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