Water

Water is essential for society and, as demand steadily rises, our most precious commodity. Geoscientists study how to provide a clean and secure water source to meet society's needs.

Frequently Asked Questions

How does 3D geologic mapping benefit society?
Alberta Geological Survey

What is groundwater used for?
American Geosciences Institute

What is produced water?
American Geosciences Institute

Which areas in the United States are most dependent on groundwater?
American Geosciences Institute

Can floods be predicted?
U.S. Geological Survey

Do you have a question that's not listed here? Search all FAQs

Explore Related Topics

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.

Flooding
Flooding is 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.
Groundwater
Groundwater is the water found underground in the cracks and spaces in soil, sand, and rock. Groundwater has been used by humans for thousands of years; today it provides 25% of the fresh water used in the United States, mostly for irrigation and public water supplies.

Water Availability
Water is constantly moving on the Earth between the atmosphere, ocean, rivers and streams, snowpacks and ice sheets, and underground. Water availability, both as surface water and groundwater, is essential for agriculture, human consumption, industry, and energy generation.

Water Quality
Water quality refers to whether water is suitable for a certain purpose, like drinking or irrigation. Both natural and man-made factors can affect water quality. Contaminants can include bacteria, metals, and man-made chemicals like pesticides or pharmaceutical drugs.

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.

Latest News

House subcommittee meets to discuss ocean acidification bills
(2019-04-12)
April 9, 2019 The Subcommittee on Environment of the House Science Committee met on April 9 to discuss four bills to address ocean acidification: the National Estuaries and Acidification Research (NEAR) Act of 2019 (H.R.988), COAST Research Act of 2019 (H.R.1237), Coastal Communities Ocean...
Interactive map of New England current water conditions
U.S. Geological Survey

The U.S. Geological Survey's New England Water Science Center hosts an interactive map that displays current water conditions for each state in New England. The map has real-time, geolocated water data for New England, including: Surface water levels, including streamflow conditions Ground...

Search all Maps & Visualizations

Case Studies & Factsheets

Offshore Oil and Gas
Introduction Many of the world’s oil and gas resources lie beneath the oceans. Advances in exploration, drilling, and production technologies allow production in water more than 10,000 feet deep and more than 100 miles offshore. Major spills are rare but damage sensitive ocean and coastal...

Search all Case Studies & Factsheets

Webinars & Forums

Mapping Displacement and Subsidence with Time-series Radar
2020-04-15
In this webinar, experts from Hexagon and the Arizona Department of Water Resources will discuss the use of time-series displacement maps with a high point density for monitoring and mitigating subsidence due to subsurface extraction of resources such as water or hydrocarbons.

Search all Webinars & Forums
How Consulting Works

Course Type: GOLI Online Course

View course

This course covers what it takes to succeed while working for yourself. Topics include why consultants get hired, the pros and cons of consulting, and whether or not you might be a good fit. The course delves into the risks of consulting and how to minimize them...financing and promoting your...

Search all GOLI courses

Geological Surveys Database Publications

Earthquake outlook for the San Francisco Bay region 2014-2043

2016, United States Geological Survey

Using information from recent earthquakes, improved mapping of active faults, and a new model for estimating earthquake probabilities, the 2014 Working Group on California Earthquake Probabilities updated the 30-year earthquake forecast for California. They concluded that there is a 72 percent...

Search all publications