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.

Floods
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.

Maps & Visualizations

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
Using geologic maps to find groundwater in New Mexico
The geologic and groundwater mapping products support county land use and planning decisions in this rapidly developing area. State water agencies, planners, developers, home owners, home buyers, real estate agents, and county officials use the maps to support an array of decisions regarding water...

Search all Case Studies & Factsheets

Webinars & Forums

Responding to societal needs with 3D geology: An international perspective
Geological Survey Organizations (GSOs) have been helping society face economic and environmental challenges for over 150 years. The technological transformation of geoscience is presenting new opportunities for GSOs, and the wider geoscience community, to respond to the societal challenges of...

Search all Webinars & Forums

GOLI Online Courses

Important Writing Skills for Careers in the Environmental Industry
Course Type: GOLI Online Course
View course
This course provides insight into the technical writing skills that are needed by geoscience students pursuing careers in the environmental consulting industry. Speakers discuss skills that are developed during undergraduate and graduate academic training, types of written products that are...

Search all GOLI courses