

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

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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...

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Case Studies & Factsheets



Managed Aquifer Recharge

Why water storage? A reliable water supply is essential for economic, environmental, and public health, but natural water supplies vary with the seasons and between years. Water storage, whether in reservoir lakes or underground, helps to ensure that water is available even during droughts....

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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...

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