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.

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...

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...

Case Studies & Factsheets

Heavy Oil
Introduction Naturally occurring crude oil comes in many forms. The most familiar to many people is light crude oil, which is less dense than water and flows easily at room temperature. Heavy oil and bitumen are forms of crude oil that are more viscous (thicker) and dense. The largest crude oil...

Webinars & Forums

Geoscience for Community Priorities
2018-11-14
This webinar discusses a variety of different techniques, media, and principles for more effective communication and collaboration between community leaders, decision makers, and geoscientists.

GOLI Online Courses
Techniques for Developing High Resolution LNAPL Conceptual Site Models

Course Type: GOLI Online Course

View course

This course is intended for geologists involved in Light Non-Aqueous Phase Liquid (LNAPL) assessment and remediation. This course provides information on the development of high resolution conceptual site models that can be used to guarantee the project goals are met. The class will cover...

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...