

## 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.

### Basics



Groundwater is an inevitable result of gravity: if surface water can seep into the ground before it evaporates or flows away, it will. Water also flows through rocks underground and may flow out of the ground into streams, rivers, lakes, or the ocean in places where the land surface is lower than the water table (e.g., at the bottom of a valley or the side of a cliff) – these outflows of groundwater are commonly called “springs”. In this way, surface water and groundwater are intimately linked – in some places, changes in groundwater levels can have major effects on the levels of nearby rivers and lakes, and vice versa. [Read more](#)

## Frequently Asked Questions

What is groundwater used for?

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

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How do changes in land use impact water resources?

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What are the effects of contaminants on water quality?

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What affects the quality of surface and groundwater?

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## 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.



### Geothermal Energy

Geothermal energy is harvested by drilling into underground reservoirs of steam or water heated by the Earth. While western states like California and Nevada lead the country in geothermal energy production, emerging technologies may make it possible to extract geothermal energy throughout the United States.



### 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.



### 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.



## 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.

# Maps & Visualizations



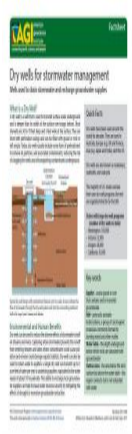
Interactive map of New England current water conditions

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



Dry wells for stormwater management

What is a Dry Well? A dry well is a well that is used to transmit surface water underground and is deeper than its width at the surface (see image, below). Most dry wells are 30 to 70 feet deep and 3 feet wide at the surface. They are lined with perforated

casings and can be filled with gravel or...

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## Webinars & Forums



### **Managing Groundwater Storage**

This webinar introduced the geoscience of managing groundwater storage and recharge, discussed groundwater storage policies and research in California and Texas, and reviewed case studies and potential future developments.

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