

BACKGROUND

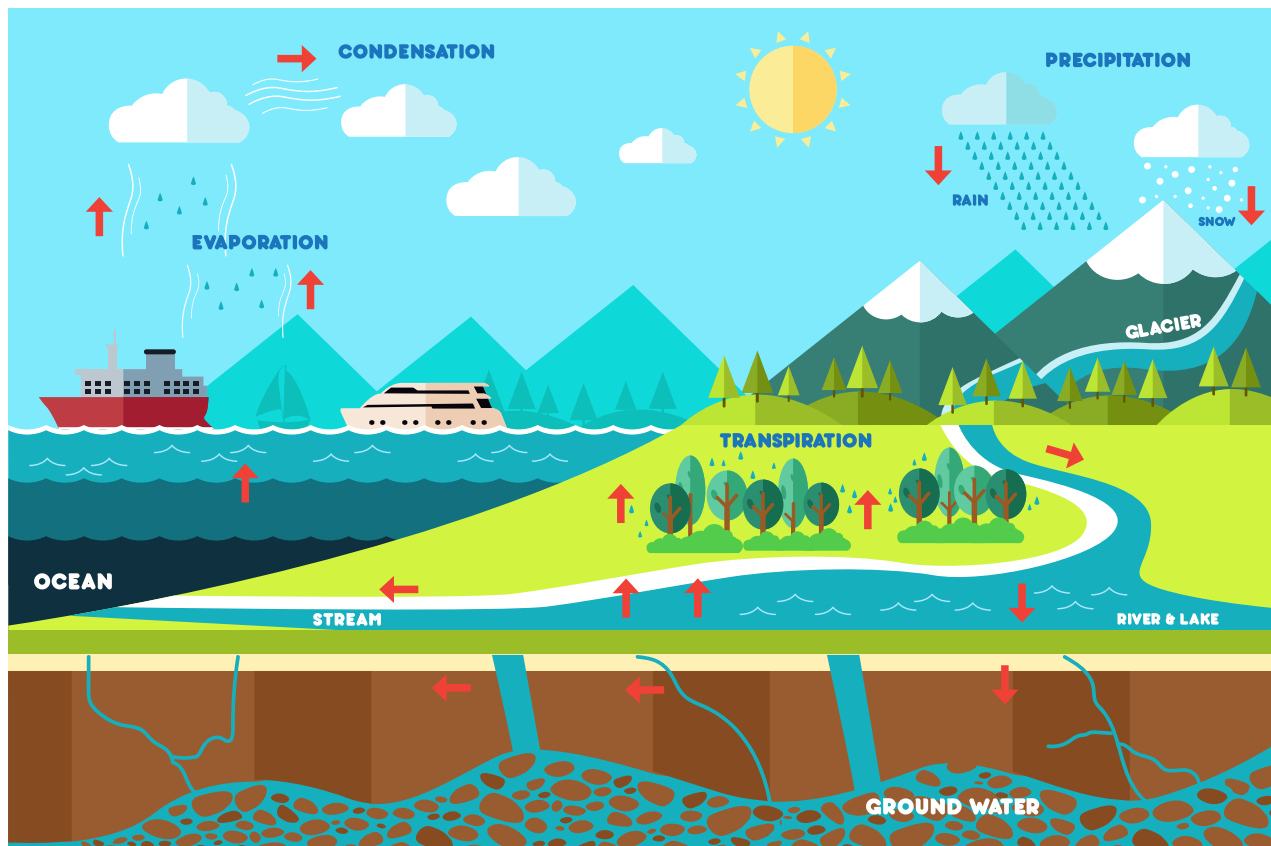
WATER AND SUSTAINABILITY

The quality and quantity of **natural resources**, such as water, soil, air, native plants, and wildlife, are vital to communities worldwide. It is difficult for a community to thrive and prosper if these resources are degraded and depleted. When resources abound and are used **sustainably**, communities flourish.

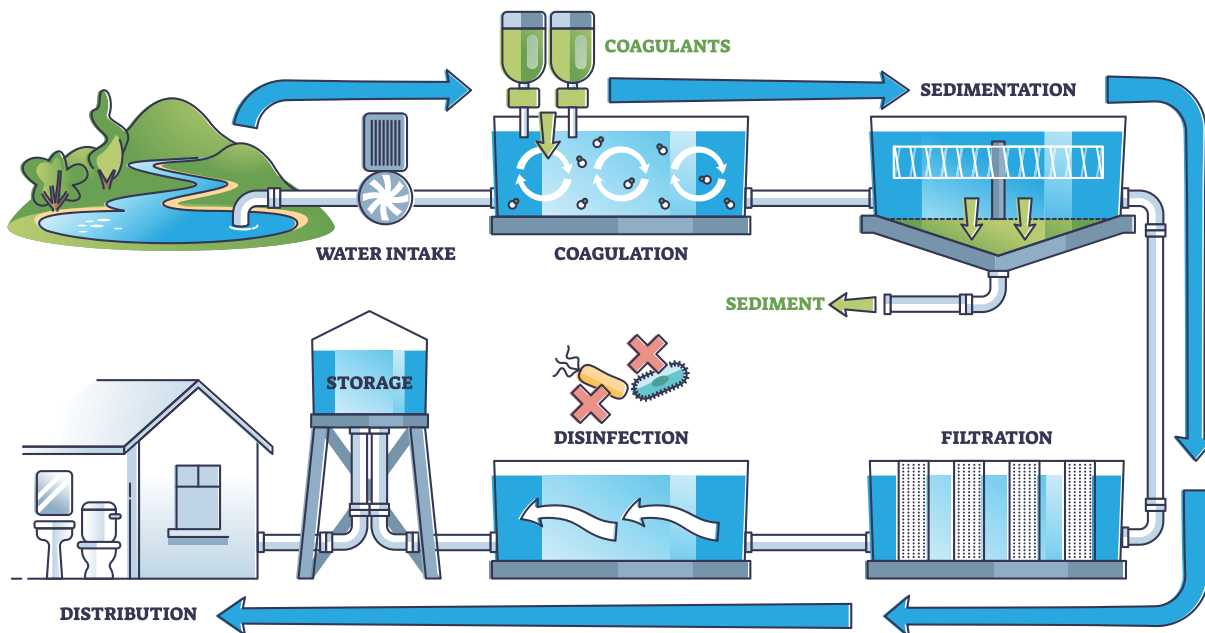
From the earliest cultures to the present, the ability to harness, control, and maintain water sources has been central to political stability and economic growth. Questions about who owns the water, who benefits from it, and who makes related decisions greatly affect how water is managed. Politics, power, and economics all come into play. The ways upstream neighbors treat their water resources affect human and biotic communities living downstream, even those hundreds of miles away. Around the world, competition for water resources presents potential for conflict, especially as more than 280 river systems cross national boundaries.

The Earth contains approximately the same total amount of water today as when our planet was first formed. Although the total amount of water on Earth is finite, it is recharged constantly through the **water cycle**, which includes essential processes such as **evaporation**, **transpiration**, **condensation**, and **precipitation**. Water covers approximately 80% of Earth's surface, yet only 1% exists as freshwater available to drink. When we pollute or contaminate our freshwater, we effectively reduce the available supply.

THE WATER CYCLE



WATER TREATMENT PROCESS



This process depicts the transformation of water from dirty to drinkable when collected from a river, lake, or reservoir. Other intakes from gray and sewage water are also treated and released back into the system.

Over two billion people lack access to safe drinking water. Other water inequities including water contamination, lack of sanitation infrastructure, and increased risk of natural disasters can be seen throughout the world. Water shortages are likely to increase with **climate change**. To ensure abundant and high-quality water supplies for future generations, the challenge to manage this resource in responsible, practical, sustainable, and equitable ways remains ever constant.

REFLECTION QUESTIONS

1. What does sustainable mean?
2. How might climate change affect the availability of water?
3. What are other challenges of managing water sustainably?



FOREST FACT

The Catskill and Delaware watersheds supply up to 1 billion gallons of forest-filtered water each day to 9.5 million people in New York City and four counties north of the city. Since 1997, the city has spent \$2.5 billion on source water protection measures, including forest conservation and forest management. This investment has allowed the city to avoid spending an estimated \$10 billion on a new water filtration facility.