

Water, Water  
Everywhere, but  
Where Is the Water  
We Drink?



An image of the Earth from outer space. AFP/Nasa

Earth is called the Blue Planet because it has so much water. We know that life cannot exist without liquid water. Water gives life. Scientists looking for life on other planets often look for liquid water on the planet surface. Planets too close to their star cannot keep liquid water – it evaporates. Planet too far from their star cannot keep liquid water – it freezes. Earth travels around our sun in the “Goldilocks Zone.” It is just right for liquid water.

About 71% of the earth’s surface is covered with water. That is a lot of water, but most of it is saltwater. Imagine a beaker that could hold all the liquid water on earth. About 97% of the water would be saltwater. The remaining 3% of the water on earth is fresh water. More than 2/3 of all our fresh water on earth is held in glaciers and icecaps. A little less than 1/3 of the fresh water is underground. A very tiny amount is in rivers or lakes. Everything living on land depends on that water.



<http://www.ck12.org/book/CK-12-Biology-Concepts/section/1.19/>

Let's analyze the importance of each kind of water.

## Saltwater is 97% of all the water on earth



<http://video.nationalgeographic.com/video/why-ocean-matters>

Why are oceans important?

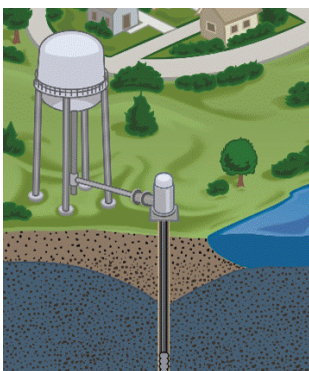
- Phytoplankton are microorganisms in the ocean that make much more than half of the oxygen we breathe.
  - When saltwater in the ocean evaporates, the salt stays behind in the ocean. Only fresh water moves into the air and becomes clouds. These clouds bring fresh water as rain, snow, sleet or hail to everyone on earth.
  - Oceans control weather and climate. Because water and land do not heat or cool at the same rate, winds are created. These winds push clouds over the land.
- One out of every six jobs in the United States is related to the oceans. These jobs are in transportation, fishing, recreation, tourism, and electricity production.
  - We can take water out of saltwater to make fresh water. This is called desalination. Currently this process uses a lot of energy, making the water very expensive.

## Fresh Water is 3 % of all the water on earth



<http://water.usgs.gov/edu/watercycle-kids-adv.html>

Polar icecaps and glaciers hold 68% of all the fresh water on earth. Polar icecaps are white, and so they reflect heat from the sun back into space. This helps to keep our planet from getting too hot. Polar ice also affects ocean currents and world weather patterns.



<http://www.groundwater.org/kids/overview.html>

Ground water is about 30% of the fresh water on earth. Albuquerque relies on ground water from our aquifer for about half of our water. This water has been underground for hundreds of years. We pump up and use a lot of ground water from our aquifer each year. However, very little water trickles back down into our aquifer. Cities use ground water, but so do some farmers. In New Mexico, farmers can grow crops on dry lands if they pump up ground water to water their plants.



<http://www.abcwua.org/education/WaterFest.html>

Water in fresh rivers and lakes makes up a tiny amount of our water on earth. About half of the water you use at home comes from the river. Albuquerque's power company uses river water to make most of our electricity. Farmers use our river water too. Ditches called acequias carry river water to some farmers' fields. The acequia system was built by the Spanish colonists when they settled in New Mexico. Today farmers grow crops like chile for people to eat, or they grow crops like alfalfa for cattle to eat.

Clearly, all the water on earth is important. We need to protect all of it. But, here in New Mexico we rely on the fresh water from our underground aquifer and our rivers. We use fresh water to grow crops, to make our electricity – we use it in our homes. Plants and animals living in our bosque, our mountains and our deserts all rely on our precious fresh water.

The Water Authority supplies **drinking** water to our city. About half of our drinking water is groundwater. Wells pump this water up 600 feet from our aquifer. Water in the aquifer is already clean, so we do not have to clean it. About half of our drinking water comes from the river. That water is cleaned at our Drinking Water Treatment Plant. We mix the groundwater and cleaned river water together to make your drinking water. Did you know that we water our parks, soccer fields, and golf courses with drinking water? We also use drinking water in our showers, baths, and toilets. Drinking water flows through our dishwashers, washing machines, and carwashes. Drinking water is not just for drinking.

Fresh water is a limited resource. Fresh **drinking** water is an even more limited resource. As good citizens, it is our responsibility to protect the things we share, like fresh water. In order to protect water, we should never waste it. Fix leaky faucets or at least put a bowl underneath to catch the drips. Take short showers, five minutes or less. Water your trees and plants when it is cool outside. Our water is too important to waste. If we are careful with our water now, we will have enough water in the future for all of us.

# Vocabulary Words

1. Ground water
2. Aquifer
3. Glacier
4. Icecaps
5. Phytoplankton
6. Microorganism
7. Desalination
8. Currents
9. Acequias
10. Drinking Water
11. Bosque

## Questions

1. What are 2 or more main ideas in the article?
2. What reasons does the text give to convince readers of the importance of fresh water?
3. Compare and contrast saltwater and fresh water. How are they the same? How are they different?
4. List 10 ways you use drinking water.
5. One third of the world's population does not have easy access to clean water. How would your life change if you had to walk miles to bring back water for your family?

**Challenge:** Three percent of the water in the world is fresh water. The text states that about  $\frac{2}{3}$  of our fresh water is in glaciers or icecaps, and that is 2% of all the water on earth (counting the oceans). Can you use words or a diagram to explain that?