

How much water is there on, in, and above the Earth?

As you know, the Earth is a watery place. But just how much water exists on, in, and above our planet? About 70 percent of the Earth's surface is water-covered, and the [oceans](#) hold about 96.5 percent of all Earth's water. But water also exists in the air as [water vapor](#), in [rivers](#) and [lakes](#), in icecaps and [glaciers](#), in the ground as soil moisture and in [aquifers](#), and even in you and your dog.

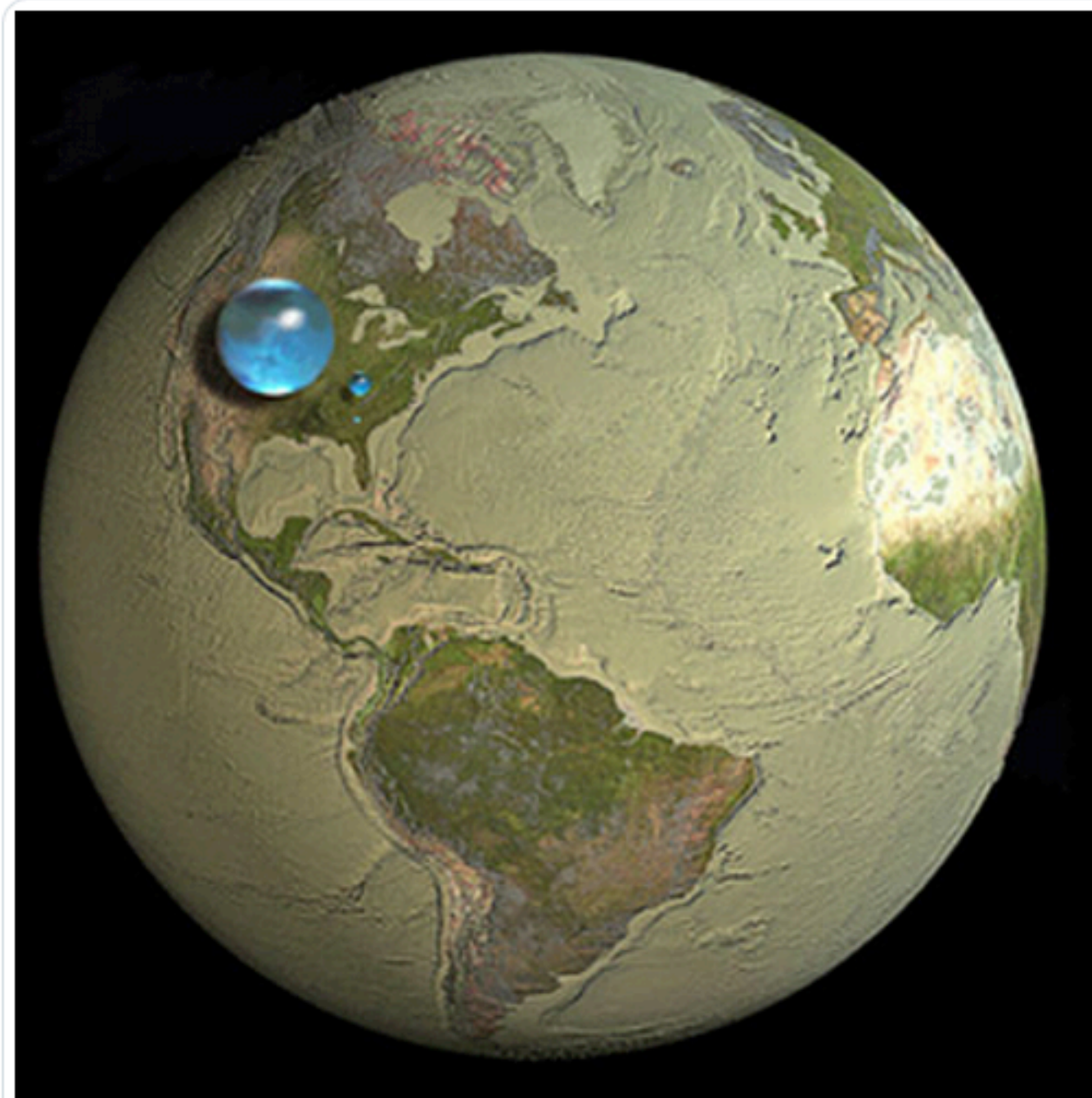
Water is never sitting still, though, and thanks to the [water cycle](#), our planet's water supply is constantly moving from one place to another and from one form to another. Things would get pretty stale without the water cycle!

All Earth's water in a bubble

[This drawing](#) shows various blue spheres representing relative amounts of Earth's water in comparison to the size of the Earth. Are you surprised that these water spheres look so small? They are only small in relation to the size of the Earth. This image attempts to show three dimensions, so each sphere represents "volume." The volume of the largest sphere, representing all water on, in, and above the Earth, would be about 332,500,000 cubic miles (mi^3) (1,386,000,000 cubic kilometers (km^3)), and be about 860 miles (about 1,385 kilometers) in diameter.

The smaller sphere over Kentucky represents Earth's liquid fresh water in groundwater, swamp water, rivers, and lakes. The volume of this sphere would be about 2,551,000 mi^3 (10,633,450 km^3) and form a sphere about 169.5 miles (272.8 kilometers) in diameter. Yes, all of this water is fresh water, which we all need every day, but much of it is deep in the ground, unavailable to humans.

Do you notice that "tiny" bubble over Atlanta, Georgia? That one represents fresh water in all the lakes and rivers on the planet, and most of the water people and life of earth need every day comes from these surface-water sources. The volume of this sphere is about 22,339 mi^3 (93,113 km^3). The diameter of this sphere is about 34.9 miles (56.2 kilometers). Yes, Lake Michigan looks way bigger than this sphere, but you have to try to imagine a bubble almost 35 miles high—whereas the average depth of Lake Michigan is less than 300 feet (91 meters).



All Earth's water, liquid fresh water, and water in lakes and rivers

Spheres showing:

- (1) All water (sphere over western U.S., 860 miles in diameter)
- (2) Fresh liquid water in the ground, lakes, swamps, and rivers (sphere over Kentucky, 169.5 miles in diameter), and
- (3) Fresh-water lakes and rivers (sphere over Georgia, 34.9 miles in diameter).

Credit: [Howard Perlman](#), USGS; globe illustration by [Jack Cook](#), Woods Hole Oceanographic Institution ([@](#)); [Adam Nieman](#).

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