By Barbara Sitzman and Regis Goode

Water Conflicts

"Whisky's for drinkin' and water's for fightin'," **a saying attributed to Mark Twain**, may soon headline our news! Will conflicts over water rights lead to international wars?

The problem

Turn on the tap or pump a well, and water comes out. Although often taken for granted, water is a necessary resource. The problem is that it is not always where it is needed. Water does not follow political boundaries—it flows across and under state and international borders—and water is not evenly distributed around the globe. A United Nations' (U.N.) map indicates that 85% of the world's population inhabits the driest areas of the planet. The demand for water is increasing because of population growth, increasing agricultural and industrial use, and less predictable rainfall due to climate change.

International crisis

As early as 2001, Kofi Annan, then U.N. secretary-general, stated, *"Water issues contain the seeds of violent conflict."* Often, access to water is disputed when major water sources are shared between countries (Table 1). For example, in the Middle East, water is often a more valuable resource than oil. As rivers run dry, the large al-Disi sandstone aquifer—a porous deposit of rock containing water that can be used to supply wells—shared by the Saudis and Jordanians is being drained.

Water Sources	Shared Water
Nile river	Egypt, Ethiopia
Indus river	India, Pakistan
Tigris and Euphrates rivers	Turkey, Syria
Jordan river	Israel, Palestine
Colorado river	United States, Mexico
Al-Disi aquifer	Saudi Arabia, Jordan

Table 1. International water conflicts

What can I do?

You may think: "This is such a large problem, and I am only one person!" But, on average, U.S. citizens use 2,000 gallons of water per day—the equivalent of 140 showers. If you say you don't use that much water, well, about 95% of your water use is hidden in the products you buy, the food you eat, and the energy you use. To find ways to conserve water, calculate your water footprint using the following site from National Geographic: http://environment.nationalgeographic.com/environment/freshwater/change-the-course/water-footprint-calculator/

U.S. crisis

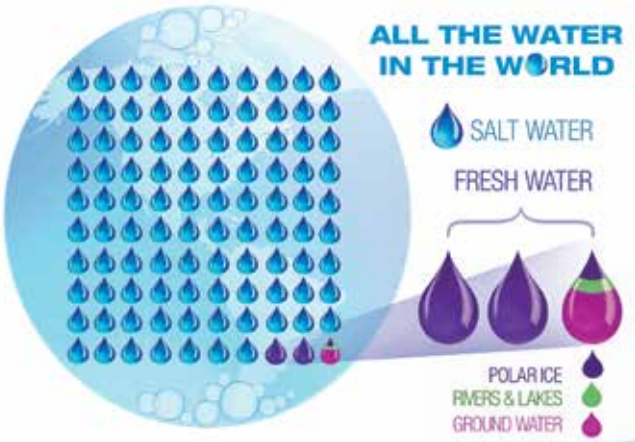
This is not just an international issue; it is also a U.S. problem. As many as 10% of U.S. watersheds—regions drained by rivers and streams—are stressed to the point that the demand for water exceeds the supply (Table 2). The National Oceanic and Atmospheric Administration predicts that water stress will worsen by 2030.

Water Sources	Affected States
Ogallala aquifer	TX, NM, OK, CO, KS, NE, WY, SD
Lake Mead	NV, AZ
Colorado river	CO, UT, AZ, NV, CA, NM, WY
Klamath river	OR, Klamath Tribal Nation
Chattahoochee river	GA, AL, FL

Table 2. Water conflicts among U.S. states

What can be done?

Water covers more than 70% of the Earth's surface! So what is the problem? Well, only 2.5% is fresh water; and most of this fresh water goes to agriculture, where much of it is lost through poor irrigation techniques. Waste can be reduced by using drip systems—watering systems that use a main hose with small holes that emit water directly to plants—that operate at close to 95% efficiency; developing plants that require less water, such as drought-resistant rice; and requiring industries to reclaim and recycle their water. Although future water supplies may be increased by desalinization, current processes are generally not economically feasible. Conservation of water is critical! The U.N. reports that 783 million people worldwide lack clean water. A supply of clean, potable water (safe for human consumption) is essential for life.



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