
The
Impacts
of Water Quality

Only about **71%** of people on earth have reliable access to clean water from modern technology and infrastructure. Over **770,000,000** people do not have reliable access to clean water.

Do you prefer to drink bottled water or tap water?

Have you ever worried about the quality of your water?

Clean water sources can be polluted by human activity. Industries release toxic chemicals and metals into water bodies, which can harm aquatic life and affect the health of people who use the water. Sewage and agricultural runoff carry pollutants such as nitrogen, phosphorus, and bacteria that can lead to algal blooms, fish kills, and diseases in humans.

Industrial Metals

Heavy metal pollutants such as arsenic, copper, nickel, lead and mercury can contaminate private wells through groundwater movement and surface water seepage and runoff.

Agricultural Runoff

Agricultural runoff from poorly managed facilities can carry pathogens such as bacteria and viruses, and nutrients that contaminate water quality.

Sewage

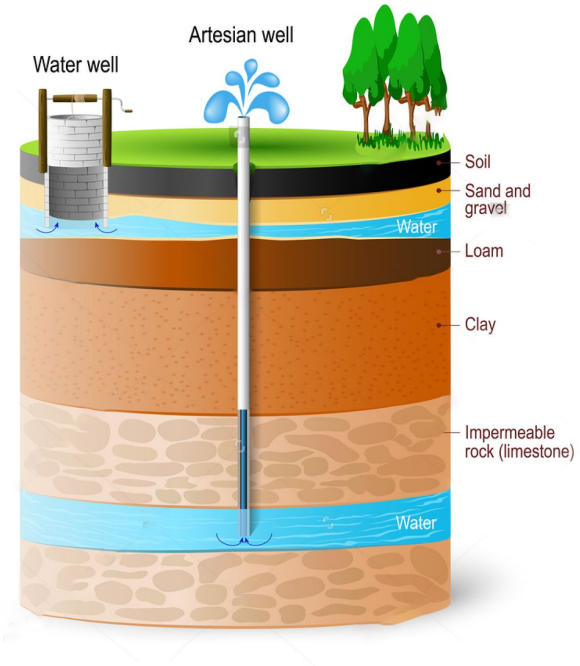
Sewage contamination can occur from raw sewage overflow, septic tanks, leaking sewer lines, land application of sludge and partially treated wastewater.

Lead is one of the most common contaminants across the U.S., most notably in Flint, Michigan. Due to aging water systems, lead leaches into the water and results in various health effects including developmental delays both physically and mentally. It may also pose a risk for developing high blood pressure and kidney problems.

Bottled water has been marketed as solution to the dangers of tap water contamination. Yet, single use plastic bottles present their own problems to the environment and to your health. Recent studies found bottled water to be contaminated with **microplastics** and traces of toxic **chemicals** from their plastic packaging.

While the negative impacts of poor water quality on the developed world are rare, **80% of diseases** and **50% of child deaths** are related to poor drinking water quality in the developing world. For this reason, providing sustainable **clean drinking water** to communities in need is often a top priority.

The water stored deeper below ground in **aquifers** are free from bacteria and the quality is generally better than a shallow dug well, which are constructed by digging a large hole on the property and intersecting shallow **ground water**.



As we look toward the future, **quality water** is one of the most important factors of inhabiting other planets **in space**. Water is hard to come by, but it is not scarce in the solar system. The **moon** and **Mars** both have ice that could theoretically be turned into drinking water.