



## THE BIG PICTURE

Next generation data centers are reducing water use by adopting more efficient cooling methods and non-potable sources.

### Why Data Centers Use Water

Data centers process the data powering medical devices, scientific research, and more. Because their servers generate heat, water is often used as an energy-efficient method to cool them and maintain their operations.

### How Data Center Innovations Are Conserving Water

Operators are increasingly adopting waterless “closed-loop” cooling systems that reduce or virtually eliminate the need for an ongoing water supply. Another innovation is direct evaporative cooling. In climates like Maryland’s, evaporative cooling relies solely on outside air for 95% of the year, requiring water cooling less than 5% of the time.

New chip designs also allow servers to operate safely at higher temperatures, reducing overall cooling needs. Industry is also utilizing reclaimed wastewater as a cooling solution. AWS utilizes reclaimed water at 24 locations, and plans to expand to 120+ sites by 2030.

### Real Results for Nature

With operators shifting to more efficient cooling, Amazon expects to save 530 million gallons of fresh drinking water annually. Microsoft estimates it will save 33 million gallons of water per year per data center.

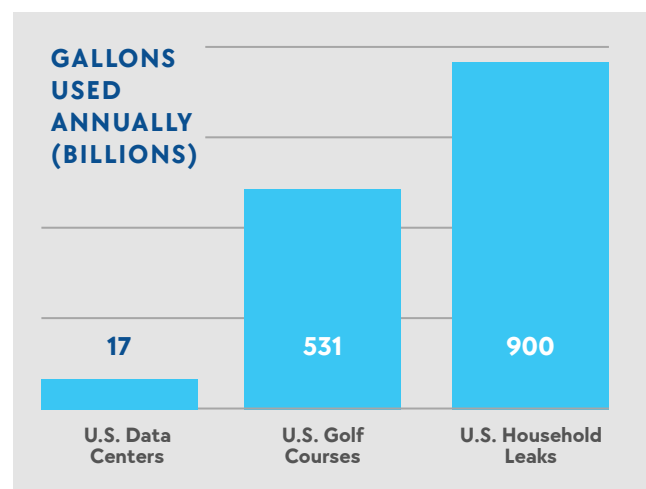
### What if a Data Center Operator Applies for Water Use?

Data center operators must get approval from a local utility to connect to a public water supply. If supply is available, operators pay fees to fund infrastructure upgrades and comply with a service agreement. For non-utility sources, operators must secure state and federal permits.

For wastewater discharge, operators work with utilities to ensure water quality meets pretreatment standards and pay connection fees and sewer rates. Direct discharge into a water body requires federal permits and strict adherence to water quality regulations.

### Fast Facts

- In 2022-2023, U.S. data centers used just 3.1 percent of the water consumed by U.S. golf courses.
- In Virginia, the world’s largest data center hub, most facilities use water at rates comparable to or lower than large office buildings, and data centers account for less than 0.5% of statewide water withdrawals.



#### Chart sources

Data Center Water Use: 2024 U.S. Data Center Energy Usage Report, Lawrence Berkeley National Laboratory  
Golf Course Water Use: U.S. Golf Course Superintendents of America, December 30, 2025  
Household Leaks: U.S. Environmental Protection Agency, Water Sense Statistics & Facts, March 11, 2026



[Learn more about Maryland Tech Council's Data Center Alliance of Maryland \(DCA-MD\)](#)