



Data Centers and Water Use

The data center industry is committed to responsible water use, and it prioritizes efficient water practices and responsible management across operations and development. Collectively, the data center industry used significantly less water than other essential industries in 2025, including the agriculture, power, food and beverage, and semiconductor sectors.

The data center industry continues to invest in water management and deploy water efficiency practices through air-cooled systems, closed-loop water recycling, and dry cooling technologies. DCC member companies are also piloting advanced solutions, including AI-driven cooling optimization and on-site water recycling systems, to further reduce consumption and maximize water efficiency.

The Facts on Data Center Water Use

- According to the [Joint Legislative Audit and Review Commission \(JLARC\)](#) in Virginia, the world's largest data center market, 83% of data centers use as much, if not less, water than a large commercial office building. The report also found data center water use in the state is sustainable.
- A [Bluefield Research report](#) found that data centers are estimated to use approximately 39 billion gallons per year (BGY) of water in 2025. That is compared to:
 - Utility water leakage: 2,500 BGY—18% of municipal treated water is lost to leakage
 - Food and beverage industry: 533 BGY
 - Semiconductor industry: 59 BGY
- A recently released report from [Kyl Center for Water Policy at Arizona State University](#) showed that data centers in Arizona are estimated to use less acre-feet of water than:
 - Power generation
 - Semiconductor manufacturing (which has a significant presence in the state)
 - Sand & gravel mining
 - Golf courses
 - Beverage facilities
- [Research finds](#) that data centers in the U.S. consumed approximately 0.2% of the nation's freshwater in 2023.
- The [Houston Advanced Research Center \(HARC\) report](#) estimates that between direct (on-site cooling) and indirect (electricity generation) water consumption, existing data centers in Texas consume approximately 25 billion gallons (or 77,000 acre-feet) of water—**the equivalent of 0.4% of total water use in Texas in 2025.**



Key Context for Data Center Cooling & Associated Water Use

Servers generate heat and require cooling. Many technologies, such as air cooling, water cooling, or some combination, can help keep data center server halls at the right temperature and humidity. There is no one-size-fits-all solution for cooling, and the best approach often depends on local factors, such as humidity, climate/temperature, and availability of water, including recycled, non-potable, or harvested rainwater sources.

Types of Cooling

Air cooling

- Air cooling uses air conditioning, fans, and vents to circulate ambient air, expelling the hot air produced by computing equipment. It's the most traditional cooling method.

Liquid cooling

- Liquid cooling systems use coolants, including water, that circulate through a pipe network, absorbing heat away from IT equipment.
- Many data centers who employ liquid cooling use a closed-loop system, where an initial input of water is cycled through the system repeatedly without the need for additional water to be added.

Immersion cooling

- Immersion cooling directly submerges IT infrastructure components in dielectric fluids that cool by absorbing heat. Servers, which are kept in nonconductive, absorbent fluids, provide effective heat management.

Evaporative cooling

- Evaporative cooling uses fans to draw outside air in, cooling it before deploying it to cool IT equipment. Through water evaporation, this method draws heat away from the air efficiently.

Hybrid cooling strategy

- A hybrid cooling approach integrates multiple cooling technologies to optimize thermal management based on specific IT equipment demands.

The Bottom Line

The Data Center Coalition and our members support responsible data center growth across the nation. These facilities are a small share of water use, and with modern cooling technology and local planning, we can protect water resources while continuing to grow jobs and investment.

About DCC

The Data Center Coalition (DCC) is the membership association for leading data center owners and operators, as well as large end users. As the voice of the industry, DCC advocates for a strong business climate, as well as policies and investments that support the growth and success of the sector.

Contact Us

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