

WATER CONSUMPTION IN MODERN DATA CENTERS



One of the most common concerns raised about data centers is water consumption. While that concern is understandable, **many of the numbers often cited by opponents come from older facilities or refer to the initial fill and flush of cooling systems rather than normal day-to-day operations.**

Modern data centers have become significantly more efficient in their water use. Many facilities now utilize closed-loop cooling systems and **advanced air-cooled technologies that reduce water consumption by 70% to 90% compared to traditional evaporative cooling methods.** Some facilities can reduce cooling-related water consumption even further, while **purely air-cooled facilities consume little to no direct water for cooling operations.**

In a closed-loop cooling system, water continuously recirculates rather than being consumed through evaporation. **Once the system is filled, daily water use is often limited primarily to normal business activities such as restrooms, maintenance, and cleaning.** This is a significant change from older generations of facilities that relied on less efficient cooling technologies.

It is also important to put water usage into context. An average American 18-hole golf course can use more than 300,000 gallons of water per day for irrigation. A large water park resort typically consumes between 125,000 and 160,000 gallons per day. A 100-room hotel can use between 10,000 and 40,000 gallons daily. Large grocery stores and commercial buildings often consume roughly 22,000 gallons of water per day.

By comparison, modern closed-loop data center cooling systems typically consume between 5,000 and 50,000 gallons per day while supporting infrastructure that millions of Americans rely on every day. Every community should carefully evaluate water resources, but those discussions should be based on current technology and accurate information rather than outdated assumptions. **The conversation should focus on what data centers are today, not what they looked like twenty years ago.**

WATER USE IN CONTEXT AVERAGE DAILY WATER USAGE



MODERN DATA CENTERS USE WATER DIFFERENTLY.

*CLOSED-LOOP COOLING SYSTEMS RECIRCULATE WATER, HELPING
REDUCE DAILY WATER USE COMPARED TO OLDER FACILITIES.*

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