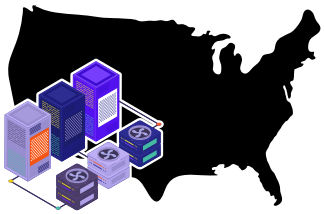
DATA & WATER

A data center is a facility that houses computer systems, servers, and storage devices. Data centers are growing rapidly due to increasing global data creation and the rise of cloud computing and artificial intelligence (AI). Data centers use large amounts of water to cool their processor chips to avoid overheating.

DATA CENTER WATER USE

DAILY WATER USE



On average, each U.S. data center consume 449 million gallons of water per day.

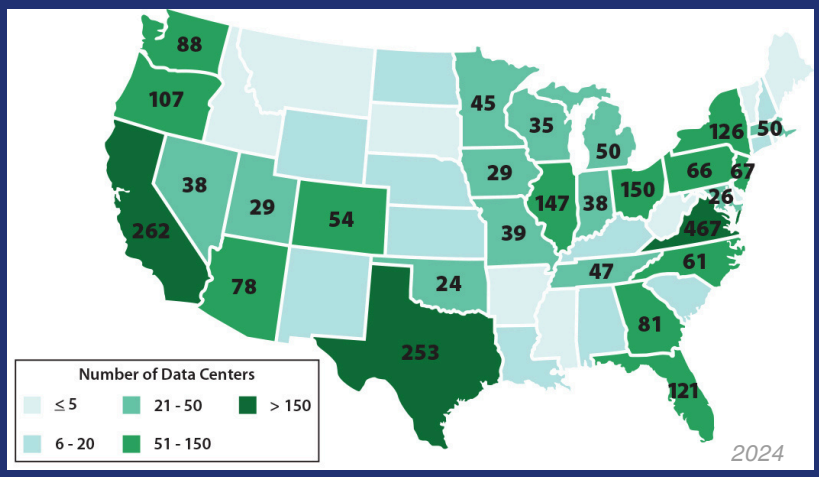
Indiana households consume 493 million gallons of water per day.

One U.S. data center will consume about the same amount of water as ALL residents of Indiana daily.

A medium-sized data center can consume up to 110 million gallons of water per year for cooling, equivalent to the annual water usage of 1,000 households. Larger data centers can each use up to 5 million gallons per day, or about 1.8 billion annually—usage equivalent to a town of 10,000 to 50,000 people. U.S. data centers consume 449 million gallons of water per day and 163.7 billion gallons annually (2021). Water consumption is expected to continue increasing as data centers grow in number, size, and complexity.

WATER IMPACTS IN NEARBY COMMUNITIES

Water used in data centers is treated with chemicals to prevent corrosion and bacterial growth, making it unsuitable for human consumption or agricultural use. This means that data centers are consuming large quantities of drinking water and removing it from the local water cycle. A large proportion of data centers are in regions with limited water resources, exacerbating existing water scarcity issues.



MAKING DATA CENTERS MORE WATER-EFFICIENT

Data centers can use innovative water management techniques to reduce water consumption, including closed-loop cooling systems, immersion cooling, air cooling, and using non-potable water sources (e.g., recycled wastewater and captured water). Powering data centers with renewable energy source requires significantly less water consumption than obtaining energy from fossil fuel power plants.