# You're Thinking About AI and Water All Wrong

*Molly Taft*

Last month, journalist Karen Hao posted a Twitter thread in which she acknowledged that there was a substantial error in her blockbuster book *Empire of AI*. Hao had written that a proposed Google data center in a town near Santiago, Chile, could require "more than one thousand times the amount of water consumed by the entire population"—a figure which, thanks to a unit misunderstanding, appears to have been off by a magnitude of 1,000.

In the thread, Hao thanked Andy Masley, the head of an effective altruism organization in Washington, DC, for bringing the correction to her attention. Masley has spent the past several months questioning some of the numbers and rhetoric common in popular media about water use and AI on his Substack. Masley's main post, titled "The AI Water Issue Is Fake," has been linked in recent months by other writers with large followings, including Matt Yglesias and Noah Smith. (Hao said in her Twitter thread that she would be working with her publisher to fix the errors; her publicist told me she was taking time off and was unavailable to chat with me for this story.)

When I called him to talk more about AI and water, Masley emphasized that he's not an expert, but "just some guy" interested in how the media was handling this topic—and how it was shaping the opinions of people around him.

"I would sometimes bring up that I used ChatGPT at parties, and people would be, like, 'Oh, that uses so much energy and water. How can you use that?'" he says. "I was a little bit surprised when people would be talking so grimly about just a little bit of water."

As local and national opposition to data centers has grown, so, too, have concerns about their environmental impacts. Earlier this week, more than 230 green groups sent a letter to Congress, warning that AI and data centers are "threatening Americans' economic, environmental, climate and water security."

The AI industry has started fighting back. In November, the cochairs of the AI Infrastructure Coalition, a new industry group, authored an op-ed for Fox News that touched on environmental worries. "Water usage? Minimal and often recycled—less than America's golf courses," they wrote. One of the authors of the op-ed, former Arizona senator Kyrsten Sinema, is currently advocating in favor of a data center project in the state that has prompted local pushback, including because of concerns about water use. The coalition also approvingly retweeted a post from Masley on the impact of AI on energy prices. (Masley maintains an exhaustive disclaimer on his Substack refuting allegations that he's being paid by industry to share his opinions.)

It's true that much of the discussion around water use and data centers lacks nuance. While carbon emissions are a zero-sum game—we need to cut greenhouse gases as much as possible, period, and climate change's impacts will touch us all, regardless of where emissions come from—water use is much more complex, and geographically varied. A project that can wreak havoc on one region's water supply may be a great match for an area with healthier reservoirs or fewer thirsty industries.

Experts I spoke to agreed that people often have a muddled understanding of how data centers use water, and that their overall consumption, in many places, is less of a risk than the public may think. But as the number of data centers continues to grow across the country—and as the Trump administration rolls back environmental protections to encourage more development—it's worth understanding what, exactly, data centers are using water for, and how popular estimates are produced. And it's worth having a bigger conversation about how and why we're choosing to use water to cool data centers in the first place.

# How AI Uses Water

You may have seen estimates of how much water a ChatGPT prompt uses, including the statistic that writing an email with AI consumes an entire bottle of water. But calculating such a figure is more complex than simply slapping a metric on an “average” query, experts say.

Onsite at a data center, water is mostly used for cooling. Processors in data centers run hot, and circulating water through them is one way to keep them at the right temperature; the water that absorbs the heat is then transferred to a cooling tower, where some of it evaporates. Salty and brackish water can corrode machinery, so many companies use potable water, drawing directly from municipal supplies. (Some big companies, like Amazon, Meta, and Apple, are increasingly using municipal wastewater that has been treated.)