Missouri Coalition for the Environment
EFFECTIVE CITIZEN ACTION SINCE 1969

ENVIRONMENTAL IMPACTS OF DATA CENTERS

WATER

Data centers are incredibly water intensive: directly onsite to cool equipment and indirectly by energy consumption.

- Large data centers can consume over **5 million gallons of water per day.**[1]
- Water used by data centers is mostly evaporated, which means they will concentrate existing pollutants, such as PFAS, nitrates, and heavy metals, in the water they discharge back into our watershed.[2]

ENERGY

Massive amounts of energy are needed to power data centers. Increased use of fossil fuels, like natural gas, will continue to accelerate droughts, floods, and severe storms across the state.

- One large data center can use over 120 MW of electricity, or the equivalent of 88,000 homes.[3]
- **Electricity rates skyrocket for homes near data centers, rising up to 20%.**[4]
- Homes near data centers are at higher risk for electricity outages: In 2022, Texas data centers caused 112 MW of outages.[5]

HEAT + HEALTH

Data centers are hot, noisy nuisances. They run 24/7, creating non-stop heat, noise, and light pollution, which disrupts human health.

- Internal noise levels in data centers reach up to **96 decibels,** which can cause permanent hearing loss after just 30 minutes of exposure.[6]
  - Constant noise exposure affects sleep, increases stress, and damages cardiovascular health.[7]
- Light pollution from constant security lighting can disrupt sleep and is linked to breast cancer and negative effects on mental and cardiovascular health.[8]
- Data centers increase temperatures by 4 degrees F within a 6 mile radius.[9]
  - **Heat is already deadliest weather event in the country,** claiming over 1,200 lives each summer.[10]
- Nationwide, data centers are expected to **increase healthcare costs by $5.6 billion.**[11]

ELECTRONIC WASTE HAZARDS

Like any digital technology, data center equipment has a limited lifespan. E-waste from data centers is expected to reach **5 million tons by 2030**, which will need to be safely reused or recycled.[12]

- Missourians have already suffered from improper e-waste recycling of lithium ion batteries, which caused an explosion resulting in evacuations, a fish kill, and respiratory problems.[13]
- Improperly handled e-waste can release up to 1,000 different chemical substances, causing stillbirth, damaging neurodevelopment, and exacerbating respiratory illness.[14]

1] Yañez-Barnuevo, Miguel. "Data Centers and Water Consumption," Environmental and Energy Study Institute, June 25, 2025. 2] Cooper, Sean Patrick. "How Oregon's Data Center Boom Is Supercharging a Water Crisis," Rolling Stone, Nov. 24, 2025. 3] City of St. Louis Planning & Urban Design Agency. "Data Center Energy Usage" June 30, 2026. 4] Halper, Evan and Caroline O'Donovan. "As data centers for AI strain the power grid, bills rise for everyday customers," *The Washington Post*, Nov. 1, 2024. 5] McLaughlin, Tim. "Big Tech's data center boom poses new risk to US grid operators," *Reuters*, March 19, 2025. 6] American Speech-Language-Hearing Association. "Loud Noise Dangers." ASHA. Accessed Sept. 15, 2025. 7] Araújo Alves, Juliana et al. "Low-Frequency Noise and Its Main Effects on Human Health," *Journal of Applied Scientists*, July 28, 2020. 8] Cho, Y., et al. "Effects of artificial light at night on human health: A review of the literature." Environmental Research, 2015. 9] Andrea Marinoni et al., "The Data Heat Island Effect: Quantifying the Impact of AI Data Centers in a Warming World," Cornell University ariXiv, March 21, 2026. 10] Adams-Fuller, Terri. "Extreme Heat Is Deadlier Than Hurricanes, Floods and Tornadoes Combined," *Scientific American*, July 1, 2023. 11] Han et al. "The Unpaid Toll: Quantifying the Public Health Impact of AI," Cornell University ariXiv, Dec. 2024. 12] Wang, Peng et al. "E-waste challenges of generative artificial intelligence," Nature Computational Science no. 4 p. 818–823, Oct. 28, 2024. 13] Kite, Allison. "After battery plant fire, southeast Missouri town alarmed about potential contamination," *Missouri Independent*, Feb. 17, 2025. 14] World Health Organization. "Electronic Waste Key Facts," Oct. 1, 2024.