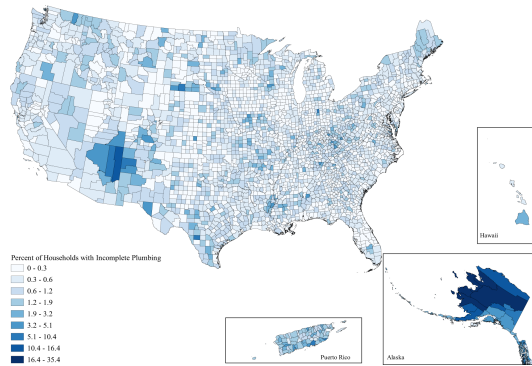


Poverty Cannot be Solved Without Solving Our Water Crisis



Poverty

- The combination of race and poverty can create a situation of neglect and lack of environmental oversight
- This can cause an underinvestment in environmental infrastructure and a lack of resolve and urgency to resolve crisis, such as unclean or contaminated drinking water
- The contaminated water crisis in Flint and the lack of urgency and speedy resolution to the crisis underscores the need for increased advocacy, awareness, and investment and maintenance in environmental infrastructure

Water

- Within as little as 50 years, many regions of the United States could see their freshwater supply reduced by as much as a third.
- Using data from the American Community Survey and the Environmental Protection Agency, we show there are 489,836 households lacking complete plumbing, 1,165 community water systems in Safe Drinking Water Act Serious Violation, and 21,035 Clean Water Act permittees in Significant Noncompliance.
- In 2020, about 1.8 billion patients and health workers face a higher risk of COVID-19 infection and other diseases due to the lack of basic water and sanitation services at health services, according to WHO and the U.N. Children's Fund (UNICEF).
- 44 million Americans rely on water sources that violate the requirements of the Safe Drinking Water Act
- In the United States, 23% of the private well water tested for quality showed contamination of harmful chemical elements such as arsenic, uranium, and nitrates.

Plumbing and Poor Water Quality In the U.S

- Many households in the United States face issues of incomplete plumbing and poor water quality. Prior scholarship on this issue has focused on one dimension of water hardship at a time, leaving the full picture incomplete.
- Based upon the most recent available data reported by both the United States Census Bureau via the American Community Survey and the Environmental Protection Agency via Enforcement and Compliance History Online, we find that incomplete plumbing and poor water quality affects millions of Americans as of 2014–2018 and August 2020, respectively. A total of 0.41% of households, or 489,836 households, lacked complete plumbing from 2014–2018 in the United States. Further, 509 counties, representing over 13 million Americans, have an elevated level of the issue where >1% of households do not have complete indoor plumbing thus, even if individuals are not experiencing the issue themselves, they may live in a community where incomplete plumbing is a serious issue.

Food and Water Insecurity

- Water is key to food security. Water scarcity has a huge impact on food production, further contributing to food insecurity among people that rely on water to grow crops
- Food and water insecurity is an environmental problem as the lack of these two crucial elements further contribute to malnutrition.
- Roughly one-sixth of the World's population live in severely water-constricted agricultural areas. Many of these are found in developing countries, with serious implications for food insecurity.

Policy & Regulations

- The Safe Drinking Water Act of 1974 was established to create standards and protect the quality of drinking water. This includes both under and above ground sources.
- National Primary Drinking Water Regulations created standards and techniques that public water systems must adhere to in order to limit containment levels.
- National Secondary Drinking Water Regulations established guidelines for managing the taste, color, and smell of public drinking water.
- Unregulated Contaminants was established so that a list of unregulated contaminants be published every 5 years and decide which to regulate.

References

- <https://www.nationalgeographic.com/science/article/partner-content-americas-looming-water-crisis>
 - <https://www.nature.com/articles/s41467-021-23898-z>
 - Environmental Protection Agency. (n.d.). *Summary of the Safe Drinking Water Act*. EPA. Retrieved April 5, 2022, from <https://www.epa.gov/laws-regulations/summary-safe-drinking-water-act>
 - Centers for Disease Control and Prevention. (2020, November 3). *Drinking water standards and regulations*. Centers for Disease Control and Prevention. Retrieved April 5, 2022, from <https://www.cdc.gov/healthywater/drinking/public/regulat>
 - *Flint, Michigan: Did race and Poverty Factor into water ...* (n.d.). Retrieved April 6, 2022, from <https://www.cnn.com/2016/01/26/us/flint-michigan-water-crisis-race-poverty/index.html>
<https://www.cnn.com/2016/01/26/us/flint-michigan-water-crisis-race-poverty/index.html>
 - Deitz, S. & Meehan, K. Plumbing poverty: mapping hot spots of racial and geographic inequality in U.S. household water insecurity. *Ann. Am. Assoc. Geogr.* 109, 1092–1109 (2019).
- Reid, Kathryn. "Global Water Crisis: Facts, Faqs, and How to Help." *World Vision*, 15 Mar. 2022, <https://www.worldvision.org/clean-water-news-stories/global-water-crisis-facts>.
- *Water Scarcity Threatens Food Insecurity for Billions* Retrieved on Apr 6, 2022 from <https://siwi.org/latest/water-scarcity-threatens-food-security-for-billions/>
 - We Build Value. "US Water Crisis: Facts and Causes." We Build Value, 9 Oct. 2020, <https://www.webuildvalue.com/en/global-economy-sustainability/us-water-crisis.html>.