

Advancing Public Access to Drinking Water Contaminant Data: The EWG Tap Water Database

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Abstract

Objective: Access to reliable, transparent data on drinking water quality is essential for public health protection and informed decision-making. The Environmental Working Group (EWG) developed the Tap Water Database, the most comprehensive publicly available resource on drinking water contaminants in the United States.

Methods: Here we will highlight the methodology behind the database, including data collection, interpretation of health risks, and comparison of contaminant levels to both federal legal standards and health-based standards. The database examines the gaps in current drinking water regulations and emphasizes the need for stronger health-protective limits and increased transparency in water quality reporting.

Results: The database compiles water quality data from nearly 50,000 utilities nationwide, assessing contaminants against health-based benchmarks and documenting their prevalence and potential health risks from long-term exposure over a lifetime.

Discussion: The EWG Tap Water Database serves as a critical resource for researchers, policymakers, and the public to identify disparities in water quality and advocate for improved regulatory safeguards. By democratizing access to drinking water data, this initiative empowers communities to demand cleaner, safer water and supports the push for science-driven policy reforms. The database is a tool for leveraging data for environmental advocacy, risk communication, and regulatory improvements in drinking water standards.

Methods

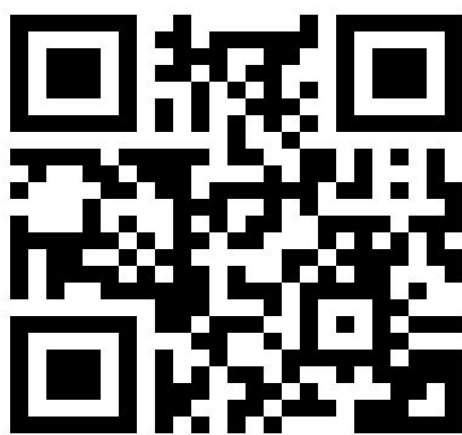
Drinking water monitoring data were collected from state health or environmental health offices or downloaded directly from some states.

The most recent update of the data included data from 2021 to 2023 for most contaminants and data from UCMR programs from 2013-2024 for unregulated contaminants. EWG calculated arithmetic mean averages of the contaminant concentrations for each community water system for the analyzed data period. Test results reported as “non-detects” were assigned a value of zero and included in the calculation of averages.

EWG compared average contaminant concentrations to the federal legal limits and health guidelines published by government agencies and those from peer-reviewed research.

Table 1
EWG Developed health-based water standards based on peer-reviewed literature, California public health goals, and 10-6 cancer levels.

CONTAMINANT	FEDERAL LEGAL LIMIT (PARTS PER BILLION OR PARTS PER MILLION)	EWG-RECOMMENDED HEALTH GUIDELINE	HEALTH EFFECTS
Atrazine	3 ppb	0.1 ppb	Hormone disruption; cancer; harm to the developing fetus and reproductive system; changes in the nervous system, brain and behavior
Barium	2 ppm	0.7 ppm	High blood pressure; harm to the kidneys, heart and blood vessels
Glyphosate	700 ppb	5 ppb	Cancer; harm to fetal growth and the kidneys
Nitrate	10 ppm	0.14 ppm	Cancer; harm to fetal growth and child development
PFOS	4 ppt	0.03 ppt	Cardiovascular harm; harm to fetal growth
PFOA	4 ppt	0.09 ppt	Harm to fetal growth, child development, the immune system; increased cholesterol
Trihalomethanes	80 ppb	0.15 ppb	Bladder and skin cancer, harm to fetal growth and development



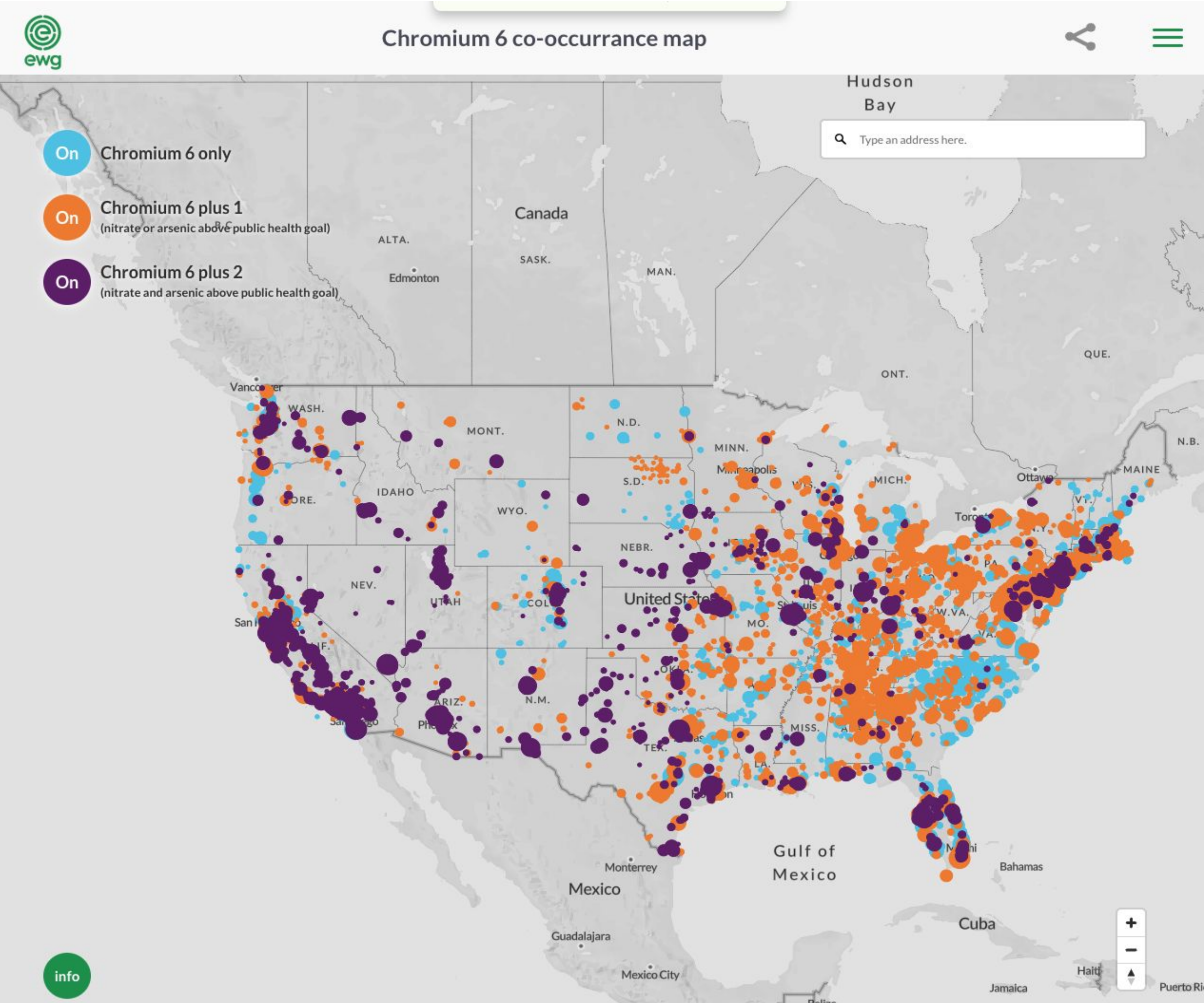
Results

EWG’s Tap Water Database was released with updated data in 2025, its 6th updated since the first release in 2005. Since the release in February 2025, over 1.5 million users have visited the database.

EWG has published 112 health-based standards for both regulated and unregulated contaminants, including 17 PFAS. The database includes information on 324 contaminants, including 231 that are unregulated, detailing their sources, detection in utilities, associated health concerns and what filtration technology is effective for reduction.

As of July 2025, EWG published 11 peer-reviewed journal articles based on data from the Tap Water Database.

Figure 1
An interactive map was developed to display water systems with co-occurring contaminants with hexavalent chromium that can be removed by similar treatment.



Actions needed

- Consider contaminants as groups to optimize removal of multiple contaminants, not just one contaminant at a time. Health benefits of multi-contaminants removed should be considered.
- Review of outdated Maximum Contaminant Levels that are not protective of health.
- Review of the inefficient process for development new standards for unregulated contaminants.
- Uphold the standards developed for PFAS and mixtures of PFAS.
- Invest in drinking water monitoring, treatment and infrastructure.

