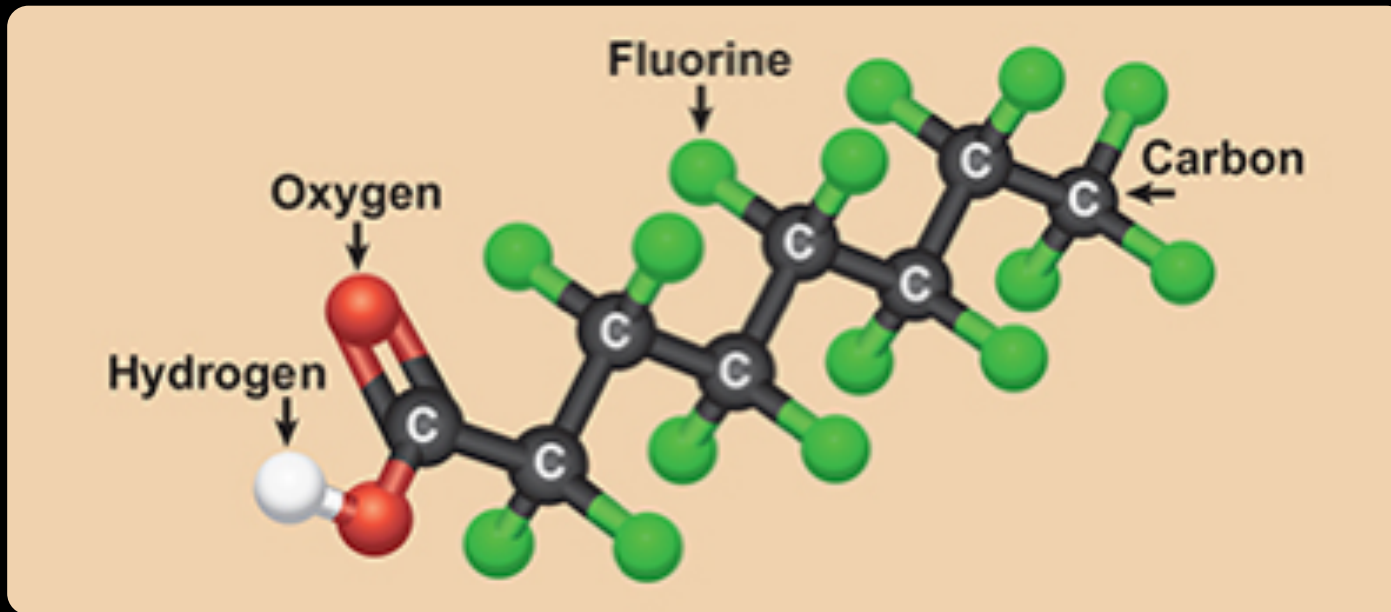




Evaluating PFAS Contamination in Underserved Communities in the United States

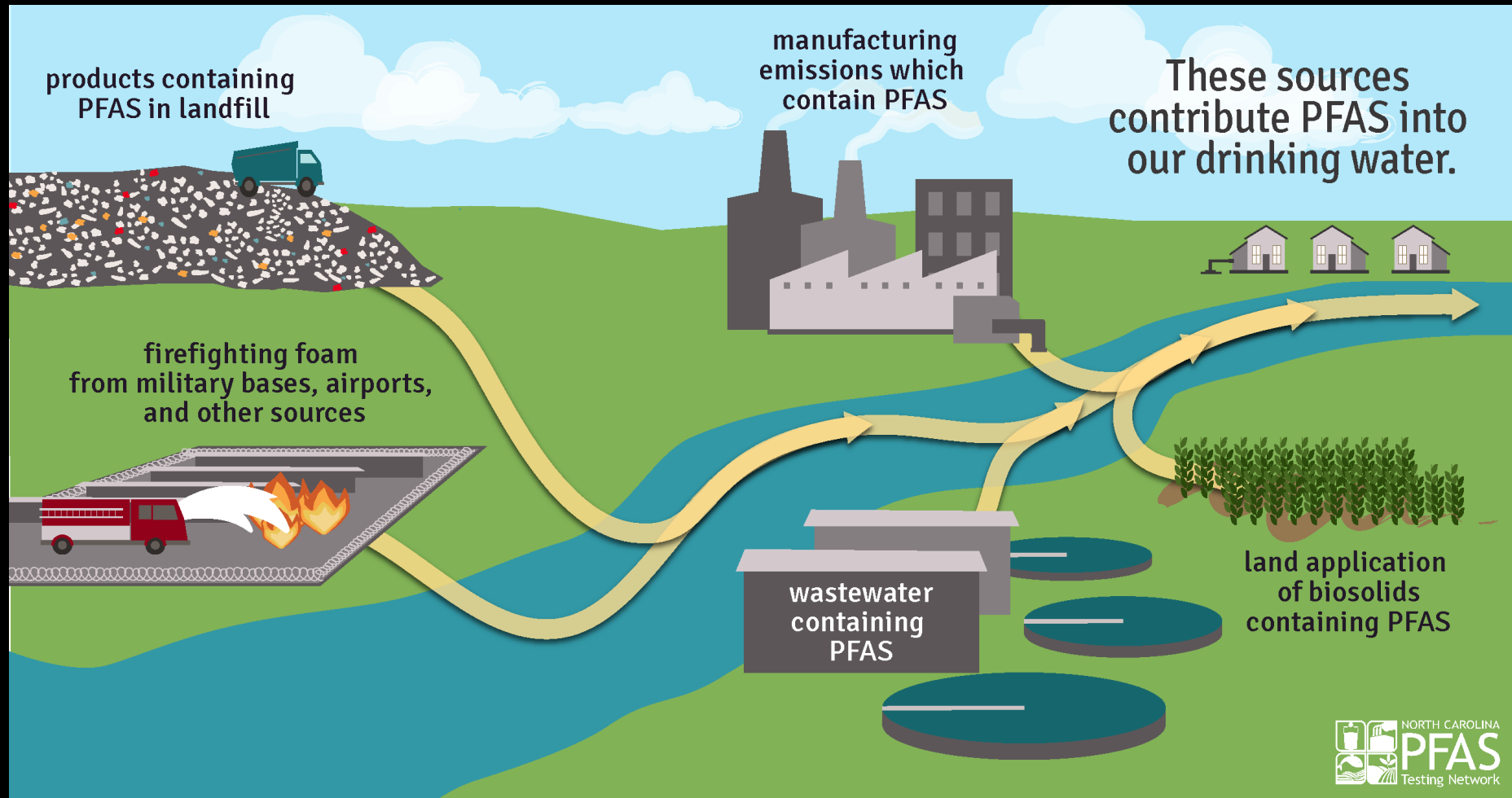
Anita Desikan, MS MPH
Research Analyst
Union of Concerned Scientists

What is PFAS? (per- and polyfluoroalkyl substances)



- Class of nearly **5,000 human-made** chemicals
- Widely used in **consumer and industry products** since 1940s (i.e. Teflon, Scotchgard, firefighting foam, etc)
- Persists and **can build up** in human body and environment

PFAS contaminates our drinking water



Source: https://ncpfastnetwork.com/files/2019/09/PFAS_General_full.text_.pdf

PFAS Health Effects

Source: [CDC/ATSDR](https://www.cdc.gov/atSDR/)



Increased cholesterol levels



Changes in liver enzymes



Small decreases in infant birth weights



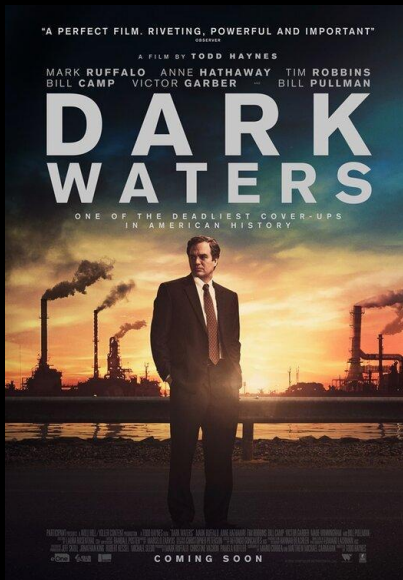
Decreased vaccine response in children



Increased risk of high blood pressure or pre-eclampsia in pregnant women



Increased risk of kidney or testicular cancer

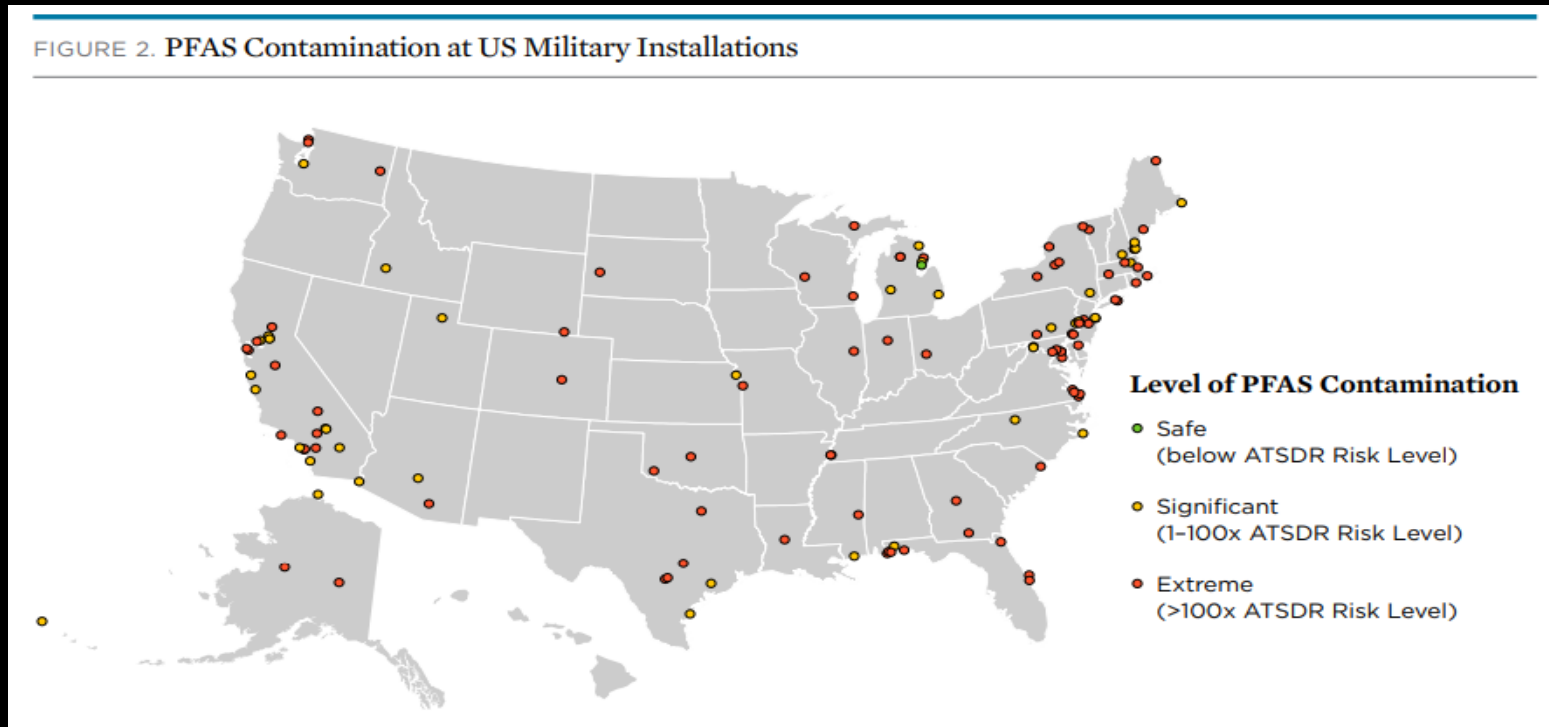


Study of 70,000 people in Mid-Ohio Valley on PFOA (type of PFAS)

- Greater risk of **non-Hodgkin's lymphoma** and kidney, testicular, prostate, and ovarian cancers
- **Drinking water was contaminated** with PFOA, from DuPont chemical facilities making Teflon

Current PFAS Standards Fail to Protect Health

Out of **131** military sites, only **one** site tested for PFAS contamination in the groundwater and drinking water did not exceed levels that the CDC considers a health risk



Research Question: Is PFAS an Issue of Environmental Justice?

Abandoned Science, Broken Promises

*How the Trump Administration's Neglect of Science Is
Leaving Marginalized Communities Further Behind*



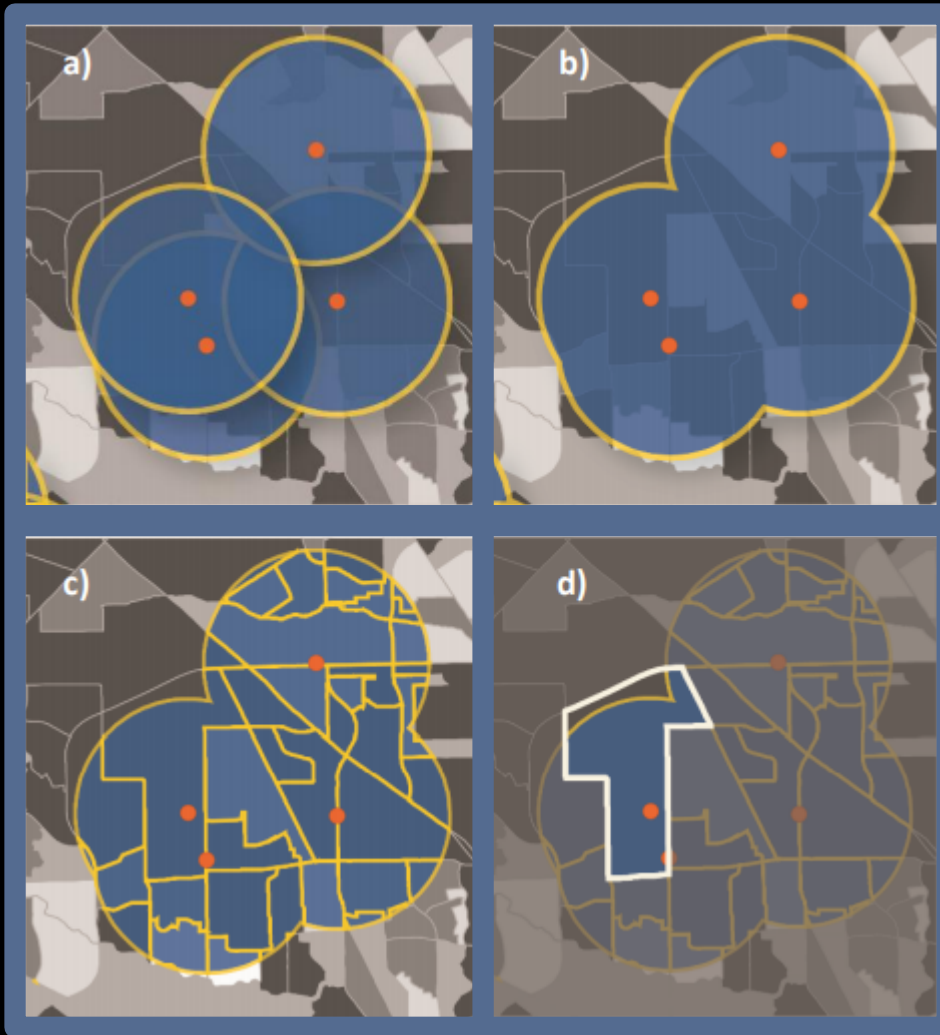
Indigenous communities, communities of color, and low-income communities have faced decades of systemic oppression

This has led to environmental injustice, such as the clustering of industrial facilities near communities, leading to increased pollution and adverse health effects.

This is being exacerbated by the Trump administration's attempts to sideline and attack science.

<https://www.ucsusa.org/resources/abandoned-science-broken-promises>

Mapping racial and income disparities in communities near heavily polluted PFAS sites



- PFAS data from publicly available materials (government websites, news articles, etc.)
- Racial/income data from US Census

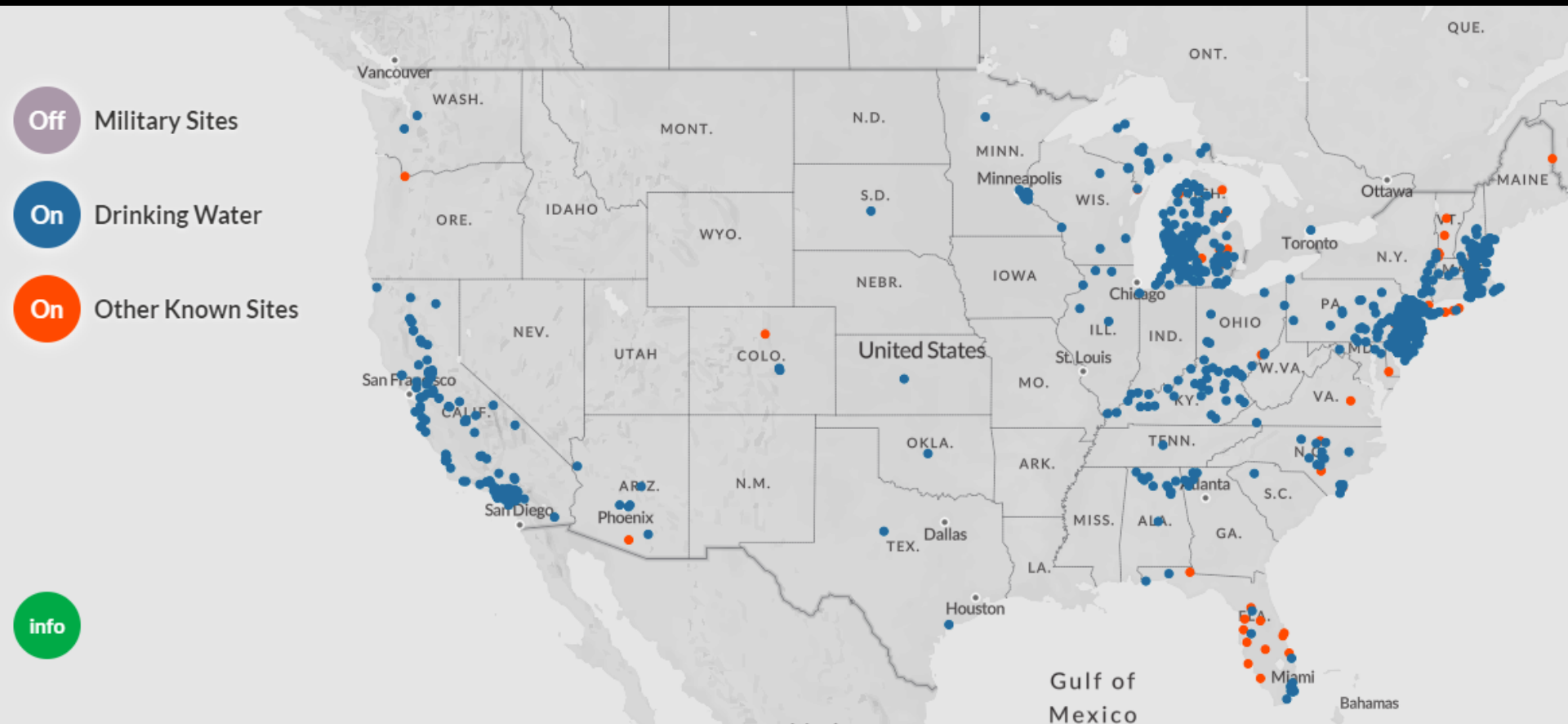
GIS buffer analysis to determine population make-up near PFAS sites



Northeastern University

*Social Science Environmental Health
Research Institute*

<https://pfasproject.com/pfas-contamination-site-tracker/>

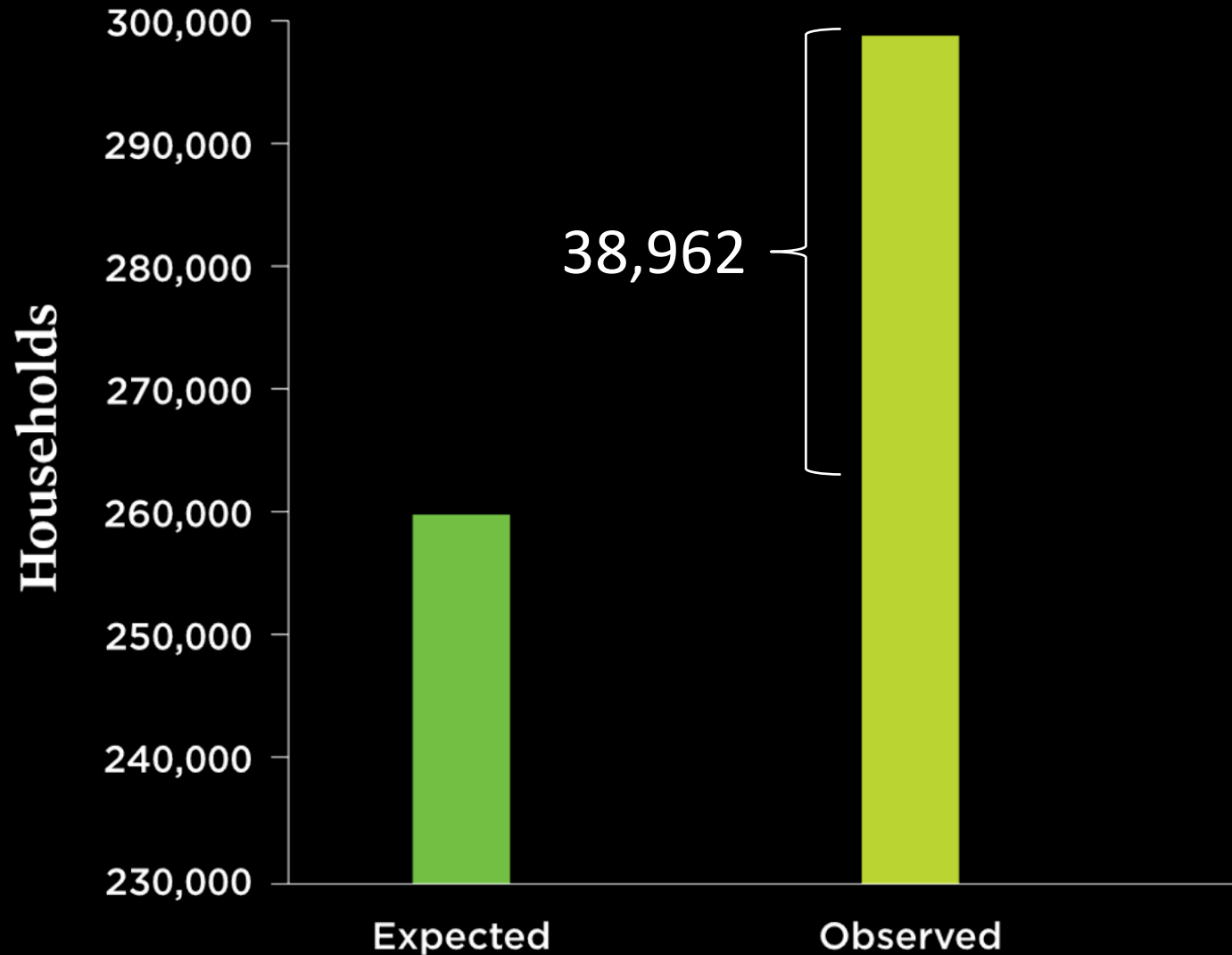


Hypothesis: PFAS sites are disproportionately located in low-income communities and communities of color

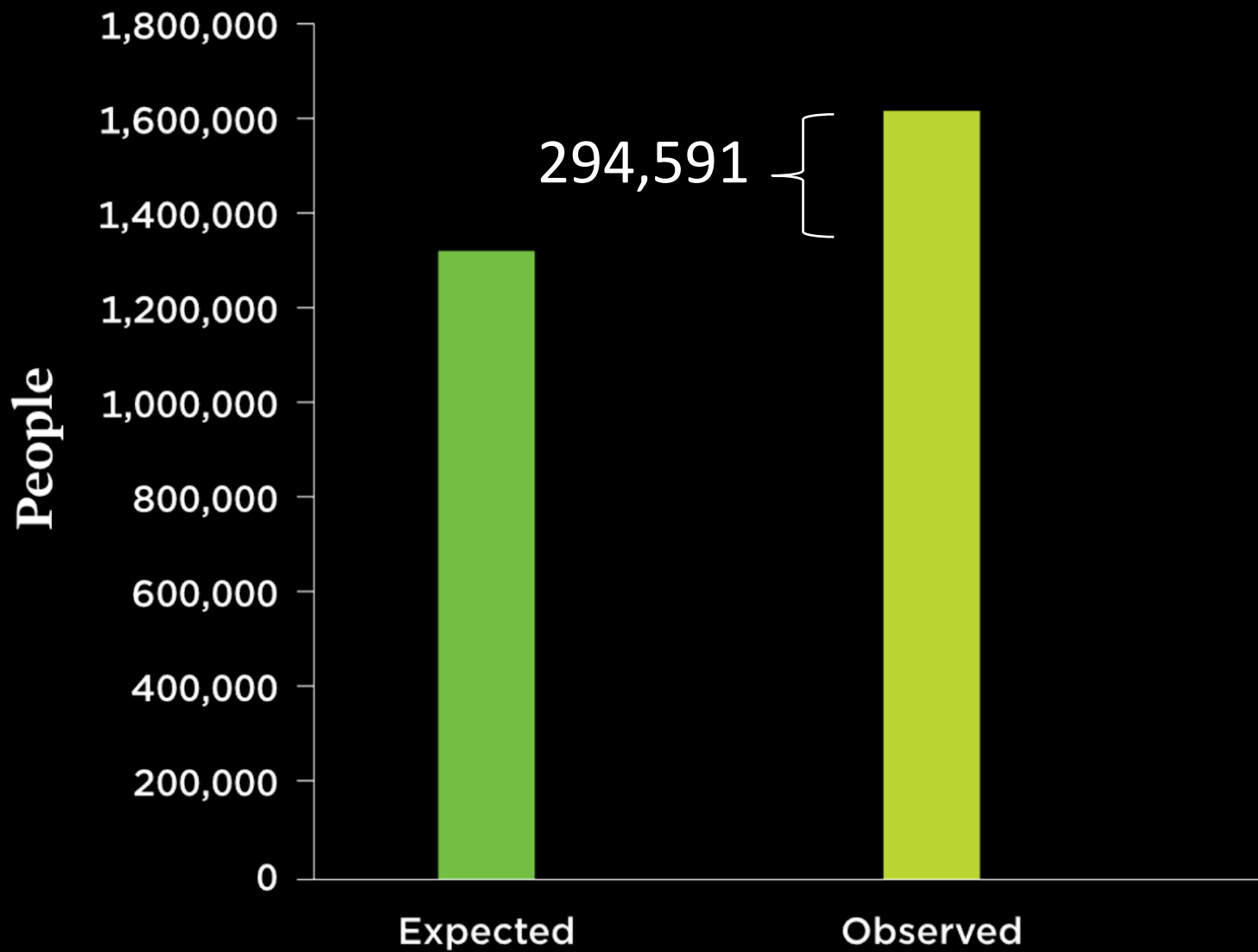
Null hypothesis: The income and racial demographic make-up of communities contaminated by PFAS are similar to the demographic make-up of the entire US

	US (no.)	5-miles from PFAS site (no.)	US (% of population)	5-miles from PFAS (% of population)	% Change
Low-income households	16,943,520	298,535	5.22	6.13	17.43
People of color	87,713,703	1,611,289	27.03	33.08	22.38
Total Population	324,473,299	4,870,768			

a. Low-Income Households Living Within Five Miles of a Reported PFAS Contaminated Area



b. People of Color Living Within Five Miles of a Reported PFAS Contaminated Area



Results/Discussion of Analysis



Nearly **40,000 more low-income households** and approximately **300,000 more people of color** live within **five miles** of a site contaminated with PFAS than expected based on US census data.

Our analysis suggests that low-income communities and communities of color are more likely to be located near PFAS-contaminated areas

Setting appropriate standards and enforcing those standards for PFAS may be especially important for underserved communities.

US Policy on PFAS: Set-Backs

- In 2018, **CDC health report** on PFAS was initially buried by the Trump administration for being a “**potential public relations nightmare.**”
- EPA has not been systematically tracking or regulating PFAS
 - EPA’s current health standard (70 parts per trillion) and EPA’s 2019 PFAS action plan is **not enforceable** and **not nearly strict enough.**
 - PFAS is still not considered hazardous by EPA so **Superfund sites** containing it aren’t being prioritized for cleanup

EPA Might Finally Regulate PFAS But the Process Matters

GENNA REED, LEAD SCIENCE AND POLICY ANALYST | FEBRUARY 24, 2020, 9:20 AM EDT

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The EPA announced last week that it is issuing a preliminary regulatory determination for public comment to set an enforceable drinking water standard to two of the most common and well-studied PFAS, PFOA and PFOS. This decision is based on three criteria: 1) PFOA and PFOS have an adverse effect on public health 2) PFOA and PFOS occur in drinking water often enough and at levels of public health concern; 3) regulation of PFOA and PFOS is a meaningful opportunity for reducing the health risk to those served by public water systems.

This is a good thing and should have happened sooner, but likely as a result of public pressure and the overwhelming evidence of harms caused by exposure to these chemicals, the EPA is officially embarking upon this long and arduous regulatory process with an uncertain outcome.

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Addition of Certain PFAS to the TRI by the National Defense Authorization Act

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) adds 172 per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA).

Updates on Implementation

- On June 22, 2020, EPA took the next step to implement an important per- and polyfluoroalkyl substances (PFAS) requirement of the National Defense Authorization Act (NDAA) by publishing a [final rule that officially incorporates these requirements into the Code of Federal Regulations for TRI](#).
- Note that NDAA requires additional implementation steps. For example, PFAS subject to a claim of protection from disclosure that otherwise met the automatic listing requirements provided by the NDAA must first go through a review process prior to being added to the TRI list. EPA is working to

Source: <https://www.epa.gov/toxics-release-inventory-tri-program/addition-certain-pfas-tri-national-defense-authorization-act>

Other Recent PFAS Developments

- A number of states (i.e., Michigan, New Jersey) have laws that set enforceable drinking water standards, monitoring, and cleanup requirements
- FY2020 National Defense Authorization Act contained some much needed efforts to track and regulate PFAS and protect military families and the FY2021 NDAA is expected to include more measures
- CDC's Agency for Toxic Substances and Disease Registry is currently carrying out a [multi-site study](#) on 2,000 children and 6,000 adults to examine health effects in impacted communities

Thank You

Eddy Sandoval
Environmental Justice
Presentation

