

**Written Testimony of Dr. Adrienne L. Hollis, Senior Climate Justice and Health Scientist,
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Union of Concerned Scientists**

**The CLEAN Future Act and Environmental Justice: Protecting Frontline
Communities**

Subcommittee on Environment and Climate Change

of the Committee on Energy and Commerce

April 15, 2021

Hello and thank you, Committee on Energy and Commerce Chairman Pallone, Ranking Members Rodgers and McKinley, Subcommittee Chairman Tonko and Members of the Subcommittee on Environment and Climate Change, for providing me the opportunity to testify here today. My name is Dr. Adrienne Hollis and I am the Senior Climate Justice and Health Scientist in the Climate and Energy program at the Union of Concerned Scientists. I am here today to share my perspectives on the impacts of climate change on environmental justice communities, and to underscore the importance of legislation aimed at addressing data gaps, eliminating harms experienced by environmental justice communities and providing equal protection under law.

The Syndemic

I would like to begin with an overview of the current situation. We are in the midst of a Syndemic. A Syndemic occurs when a set of two or more linked health problems interact and negatively compound each other's effects. For a lot of people, the syndemic involves the COVID-19 pandemic and the accompanying economic crisis only. However, many more people have begun experiencing the syndemic, as areas of the country deal with extreme weather and power outages, and contaminated water supplies, and as wildfires rage, floodwaters rise, and hurricanes intensify. The Covid-19 pandemic is highlighting a host of long-standing racial, geographic, and class disparities. Over the last year, incomes have become nonexistent for many as infections increase again, evictions increase, and despair grows.

Environmental justice communities have existed in the middle of a syndemic for years, facing challenges of structural racism, environmental injustice, and climate change. Any of these on their own is deadly but together the damage is immeasurable. Add that to existing adverse conditions in communities that survive despite the presence of systemic racism, where poverty exists, and incomes have never been healthy-and neither have the communities.

The Impact of Systemic Racism on Environmental Justice

The first issue in the syndemic that I am describing is systemic racism, which became the norm during slavery, as Africans were brought to the United States (and other areas) to work as slaves

for White owners. While slavery occurred in various places across the United States, it was concentrated in greater numbers in certain locations. Figure 1 depicts ‘slave states’, areas where the practice of slavery was most widespread and fell the heaviest on people. A strikingly similar pattern is observed today when examining current data around the impacts of environmental justice, climate change, adverse health effects and COVID-19. Environmental and economic conditions experienced by people of color are influenced not only by the environmental injustices of living in contaminated areas, but also by climate change impacts. Those impacts affect vulnerable communities first and worst, and this is exacerbated by COVID-19, which has ravaged the lives of Black, Latinx and Indigenous communities. The underlying cause that runs through these issues is racism, plain and simple.

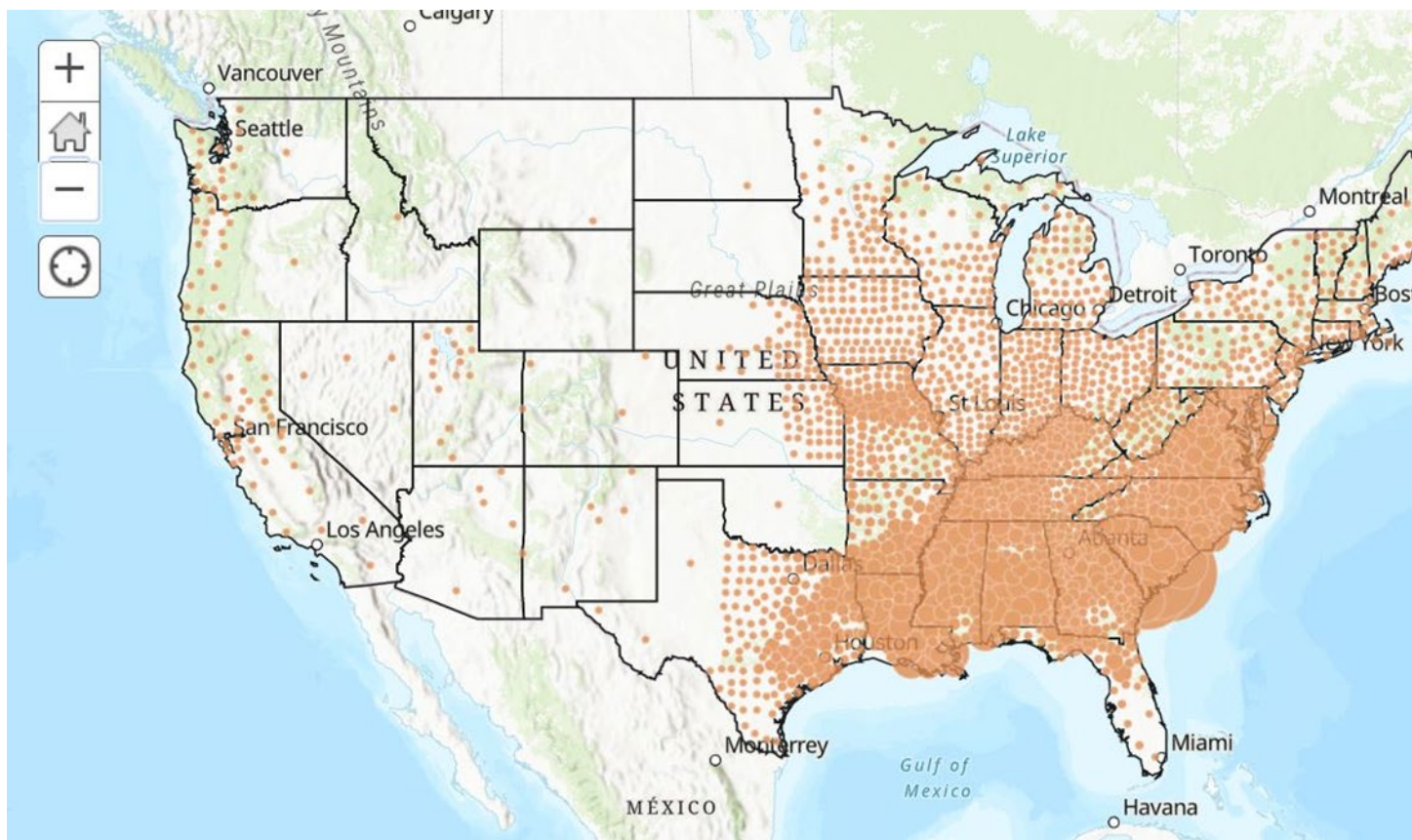


Figure 1. Enslaved as a percentage of the population 1850

In the United States, systemic racism against Black and Brown people affects every aspect of our lives, from education to employment, from housing to healthcare, from the food we eat to the air we breathe. Systemic racism takes many forms, including the practice of ‘redlining’ which began in 1930, was outlawed after decades, but which still occurs in some form or fashion. Through redlining, many banks in the U.S. denied mortgages to people, mostly Black people, in urban areas, preventing them from buying homes in certain neighborhoods or getting loans to renovate their homes. The practice — once backed by the U.S. government — took place across the country, including many large cities like Atlanta, Chicago, Detroit, Tampa and others with large minority populations. As a result of redlining, loans for creditworthy Black borrowers were commonly rejected by banks and lenders – based not only on where they lived, but on the color

of their skin. In redlining practices, geographic maps were either marked in red – to denote areas where Black populations lived and which were not favorable areas for positive lending practices, yellow for areas with mostly Black and Latinx populations, blue for areas where it was still ‘safe’ for White buyers and lenders or green which denoted all White areas – safe for lending and home purchase activities. As a result of redlining and racial segregation, Black people were limited in the areas of cities, counties and states, as well as parts of the country, where they could live. The practice of redlining has had deeply harmful long-term consequences particularly for Black Americans, denying them the ability to build and pass on wealth, forcing them to live in neighborhoods more exposed to environmental pollution and risks such as flooding and extreme heat – neighborhoods that have also been systematically deprived of good schools, affordable transportation options, infrastructure and economic opportunities.

Figure 2 depicts the percent of the Black population by county. When compared with Figure 1 it is apparent that for the most part, the majority of Black people still reside in the areas where slavery was greatest.

Other racist practices included the use of racially restrictive housing covenants, which prohibited Black people from buying certain properties in certain neighborhoods and from acquiring generational wealth compared to their White counterparts. ‘NIMBYism’ – which stands for ‘Not in my Backyard’ – is a term used to describe the argument by wealthy, White people against the siting of locally undesirable land uses (LULUs) in their communities, while still recognizing the need for incinerators, landfills, factories and other unwanted businesses. These facilities were then placed in communities of color.

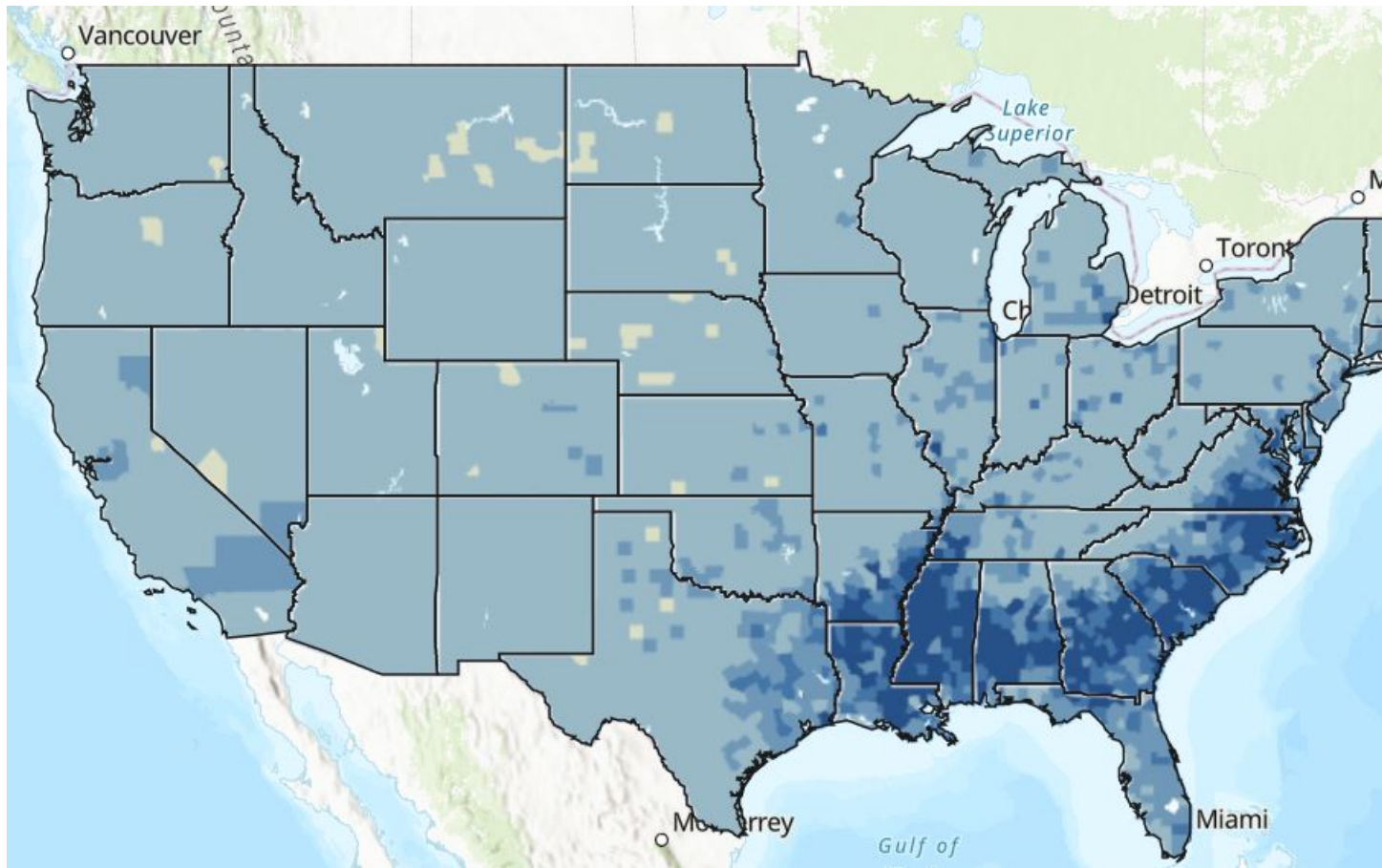


Figure 2. Black population by County

Systemic or Structural Racism is a public health issue. Racist practices have placed Black communities and other communities of color and poor communities directly in the path of pollution producing industries, landfills, incinerators, confined animal feeding operations and other environmental assaults. As such, the American Public Health Association, (APHA) along with many state and local leaders, have declared racism to be a public health crisis, as indicated in figure 3 below. According to the APHA, racism is a driving force of the Social Determinants of Health and is a barrier to health equity.

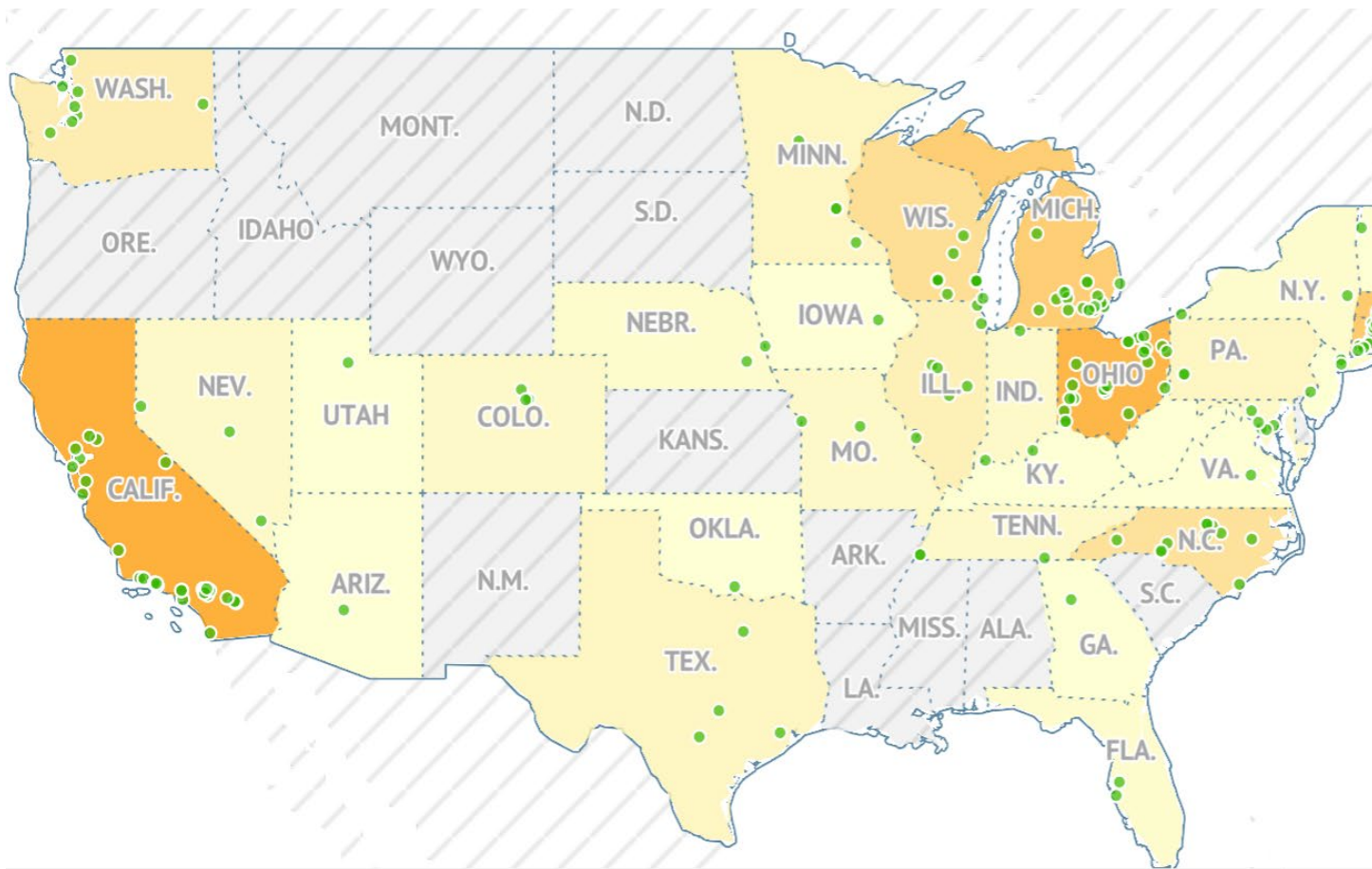


Figure 3. American Public Health Association’s Map of Declarations of Racism as a Public Health Crisis by color. 1 (yellow) to 30+ (dark gold)

<https://www.mapbox.com/> at <https://www.apha.org/topics-and-issues/health-equity/racism-and-health/racism-declarations>

Impacts of Environmental Contamination and Exposure on Environmental Justice Communities

Long before Mr. Eric Garner, an unarmed Black man who was killed in 2014 after being put in a chokehold by New York City Police, or Mr. George Floyd, killed last year in Minnesota or more than 70 other murdered individuals urgently and fearfully cried out that they could not breathe, communities had been adamantly asserting and insisting that they could not breathe, thanks in large part to where they were forced to live because of systemic racism and the contaminants to which they are exposed. Their voices were largely ignored.

People of color are exposed to environmental pollution at a rate that far exceeds White communities. According to a 2018 EPA report, people of color are much more likely to live near polluters and breathe polluted air. Those in poverty had a 1.35 times higher burden of facilities than did the overall population, and non-Whites had a 1.28 times higher burden. Black Americans had a 1.54 times higher burden than did the overall population, which translates to a

54 percent increase in the number of facilities for Black Americans. In addition, 88% of Latinx people and 54% Black people live near facilities that handle, manufacture, use, or store certain flammable or toxic substances, as required under section 112(r) of the Clean Air Act (CAA) (RMP – Risk Management Plan – facilities), 42% percent of Latinx and 30% of Black people live near National Priority List sites and 41% percent of Black people and 46% of Latinx people are exposed to diesel particulate matter.

The EPA study indicated that inhaling particulate matter (PM or particle pollution) leads to higher rates of asthma, heart attacks and lowered life expectancy rates. PM is a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye and others are very, very small. That exposure is more likely for residents living in neighborhoods with polluting facilities or in proximity to highways, underscoring the need to clean up polluted areas. Exposure to PM is important in the context of this syndemic, as research suggests that the COVID-19 virus may attach to the PM, thereby allowing it to enter the lowest areas of the lung.

Approximately 21 million people live within 1 mile of a Superfund site (roughly 6% of the U.S. population) including approximately 6% of all Blacks in the U.S., 9% of all Hispanics in the U.S., 8% of all minorities in the U.S. and 7% of all households in the U.S. below the poverty line. In addition, approximately 73 million people live within 3 miles of a Superfund site (approximately 22% of the U.S. population), including 26% of all Black people in the U.S., 29% of all Hispanics in the U.S., 24% of all households in the U.S. below the poverty line, and 28% of all minorities in the U.S. Figure 4 shows the percentage of people of color who live within 5 miles of a toxic release inventory (TRI) site. The majority of the population in port cities live within 5 miles of a TRI facility.

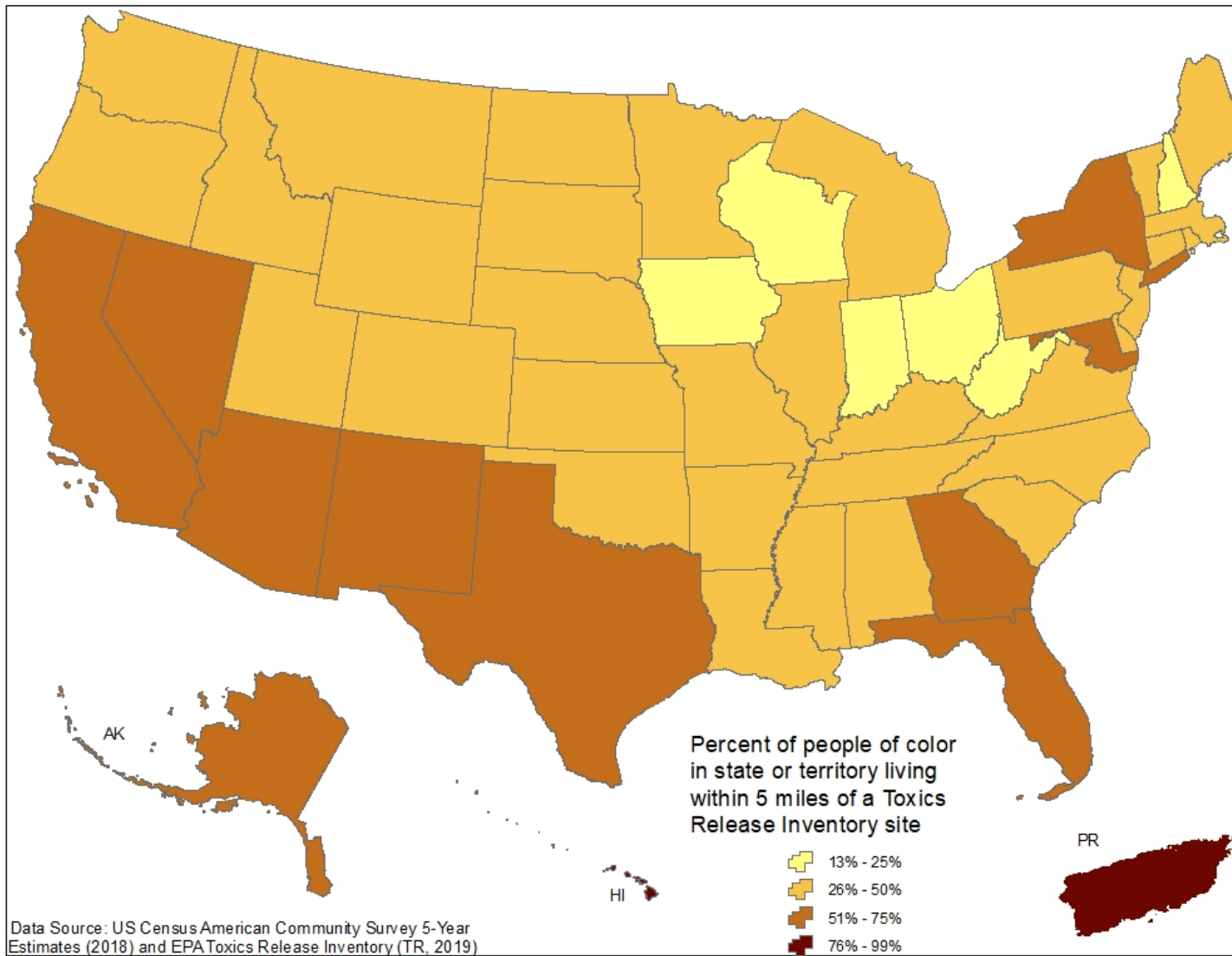


Figure 4. Percent of people of color living within 5 miles of a Toxic Release

As Figure 5 indicates below, Indigenous people, Black Americans, Latinx and people from low socioeconomic groups are more likely to be adversely affected by air pollution, and in some cases, to die earlier than the general population from breathing polluted air that is largely driven by burning fossil fuels. It also reported that US energy-related carbon emissions rose in 2018, and it was the largest increase in 8 years. People living near hazardous facilities already experience adverse health effects from exposures, including respiratory effects, like asthma or chronic obstructive pulmonary disease, increased cardiac disease and others. To allow facilities to increase the amount of pollutants they release into the environment, particularly since there are no real repercussions, puts these communities at ground zero!

Black, Hispanic, and Indigenous individuals in the U.S. face THE HIGHEST BURDEN OF ASTHMA.

These disparities are caused by complex factors including systemic and structural racism.

Compared to white Americans:



Black Americans are nearly **1.5 times** more likely to have asthma



Puerto Rican Americans are nearly **2 times** more likely to have asthma



Black Americans are **5 times** more likely to visit the emergency department due to asthma



Black Americans are **3 times** more likely to die from asthma



When sex is factored in, **BLACK WOMEN** have the highest rates of death due to asthma



Asthma and Allergy
Foundation of America

aafa.org/asthmadisparities

Figure 5. Asthma Burden – Black Americans

Black people are three times more likely to die from asthma-related causes than White Americans and that increases to 10 times for children. Black children are over four times more likely to be admitted to hospitals for asthma compared to white children. Black Americans not only have a higher prevalence of asthma than Whites; they also have higher rates of asthma-related morbidity and death. Multiple factors contribute to this disparity in prevalence rates including socioeconomic status, environmental factors. Figure 6 shows the prevalence of asthma by race and ethnicity from 2001 to 2017.

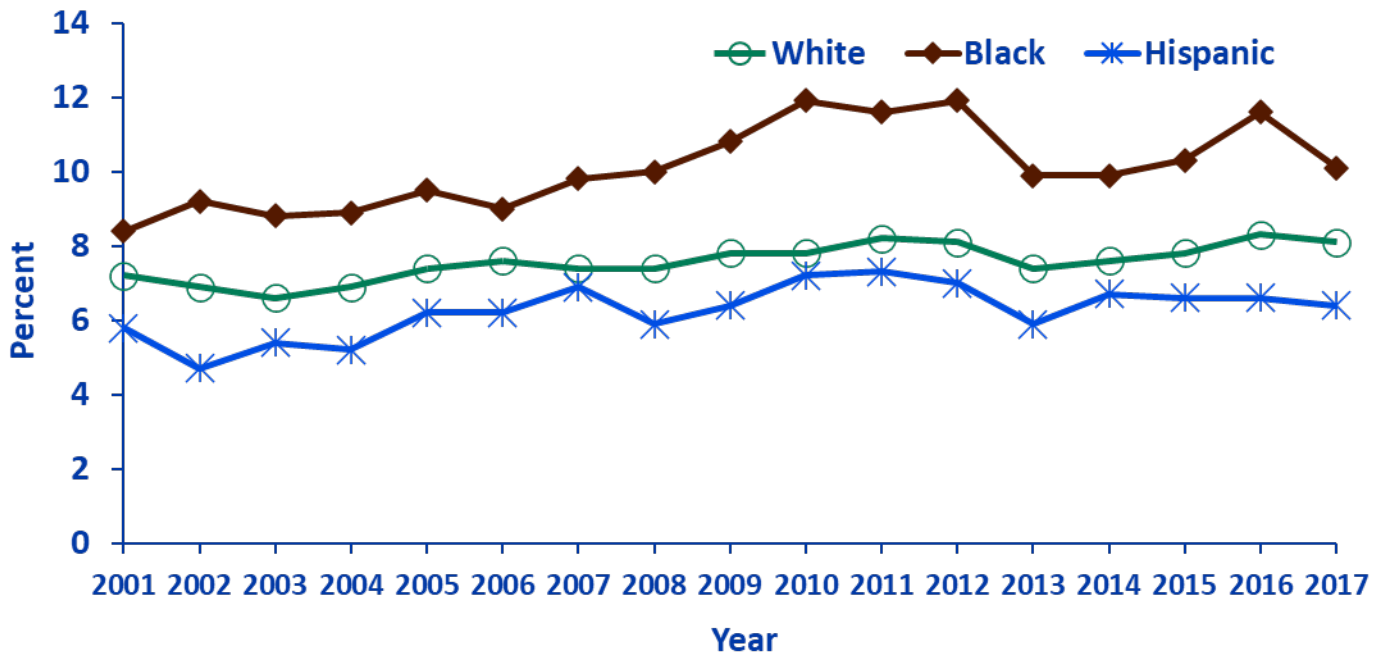


Figure 6. Current Asthma Prevalence by Race and Ethnicity: United States, 2001-2017

African Americans also have the highest rate of deaths from heart disease. African American women and low-income women have an increased risk of premature births and infant deaths than their white counterparts, and premature babies have a greater incidence of chronic health issues, including lung and breathing problems.

Impact of Climate Change on Environmental Justice Communities

The U.S. Policy Brief of the Lancet Report discusses the ways in which vulnerable and marginalized populations are negatively and disproportionately impacted by climate change. It specifically examines impacts on minorities and other vulnerable populations, like the poor, the very young, the elderly, pregnant women and children. One of the Brief’s focus areas—heat—describes how people in the US are negatively affected by extreme temperatures. This is similar to findings from our UCS [report](#), *Killer Heat in the United States*. Figure 7 shows areas in the U.S. that historically had temperatures above 90 degrees Fahrenheit, and those same areas if no action is taken to address climate change. Note that more states will have at minimum an extra month of days with temperatures above 90 degrees. A similar pattern was observed for temperatures above 105 degrees Fahrenheit. Compare the pattern observed with extreme heat with the location of Black and Brown communities in Figures 8 and 9. Certain populations are more susceptible to adverse health effects from climate change, African Americans, and communities of color, low-income communities, and other vulnerable populations in metros and rural areas and specifically highlights the outdoor workers and the elderly. In the UCS report, scientists observed that rapid, widespread increases in extreme heat are projected to occur across the country due to climate change, including conditions so extreme that a heat index cannot be measured.

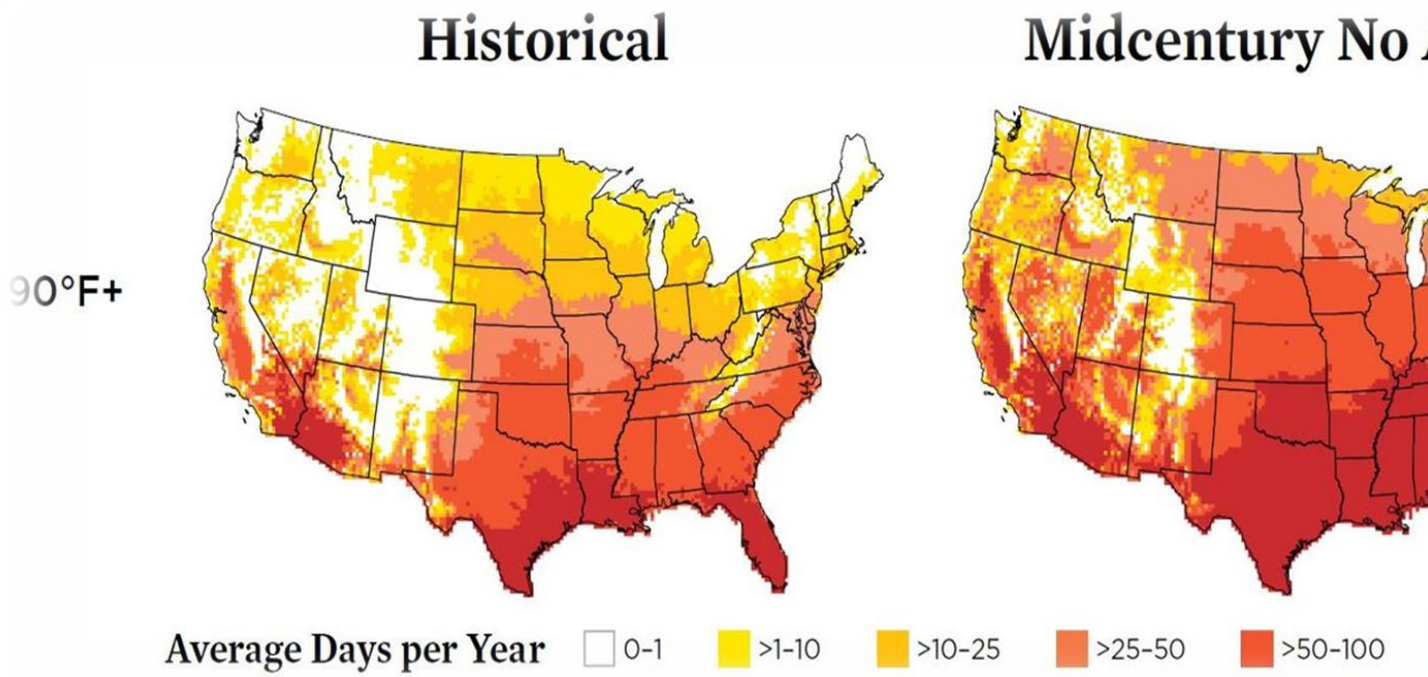


Figure 7. Average days per year of temperatures above 90 degrees in the U.S.: historically and mid century

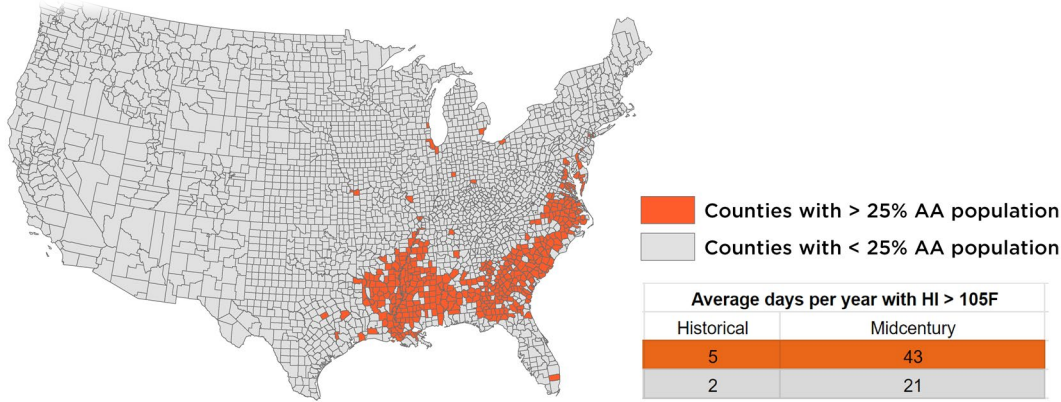
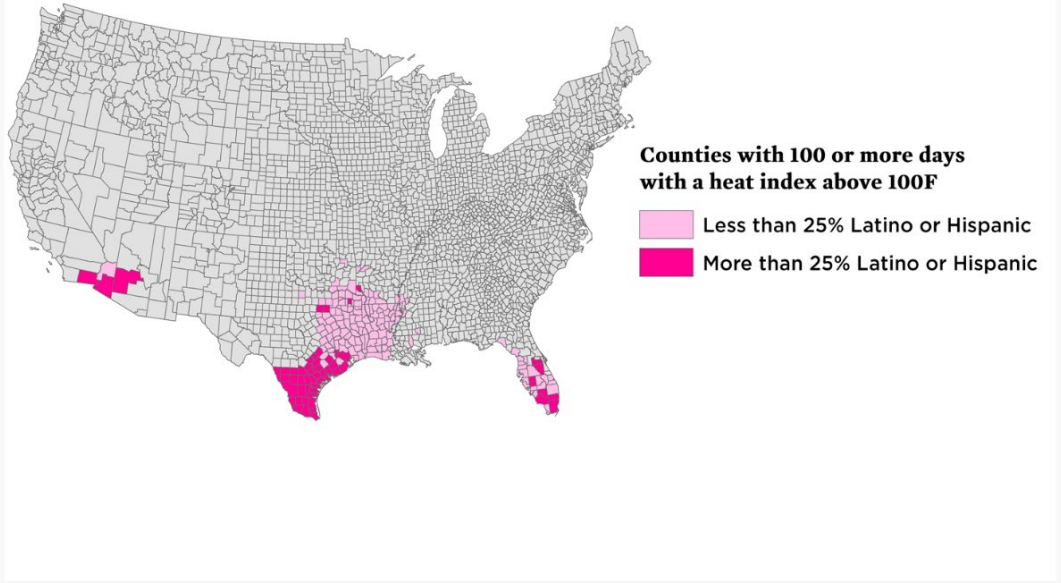


Figure 8. Average days per year with a Heat Index greater than 105 degrees Fahrenheit in counties with greater than 25% African American population.

Figure 9. Average days per year with a Heat Index above 100 degrees Fahrenheit for counties with 100 or more days with a heat index above 100F.



The second example of the impact of climate change on communities relates to flooding and exposure to toxics during Hurricane Harvey. Hurricane Harvey’s unprecedented levels of rainfall—which scientists have linked to warmer air and oceans caused by climate change — exacted a huge toll on the residents of Texas and Louisiana. In the wake of this storm, UCS analysis showed that more than 650 energy and industrial facilities may have been exposed to Hurricane Harvey’s floodwaters. To highlight these facilities, the Union of Concerned Scientists developed an interactive tool showing affected sites. The tool relies on satellite data analyzed by the Dartmouth Flood Observatory to map the extent of Harvey’s floodwaters, and facility-level data from the US Energy Information Administration and the Environmental Protection Agency.

The tool includes several types of energy infrastructure (refineries, LNG import/export and petroleum product terminals, power plants, and natural gas processing plants), as well as wastewater treatment plants and three types of chemical facilities identified by the EPA (Toxic Release Inventory sites, Risk Management Plan sites, and Superfund sites). Hurricane Harvey may have exposed to flooding more than 160 of EPA’s Toxic Release Inventory sites, 7 Superfund sites, and 30 facilities registered with EPA’s Risk Management Program. The Gulf Coast is home to a vast chemical industry. The EPA’s Toxic Release Inventory (TRI) program lists over 4,500 facilities in Texas and Louisiana alone that are required to report chemical releases to the environment. Before the storm hit, many facilities shut down preemptively, releasing toxic chemicals in the process. In the wake of the storm, explosions at Arkema’s Crosby facility highlighted the risks that flooding and power failures pose to the region’s chemical facilities and, by extension, the health of the surrounding population.

In the Houston area, low-income communities and communities of color are disproportionately exposed to toxic chemicals. Our analysis shows that over 160 TRI facilities, at least seven Superfund sites, and over 30 facilities registered with EPA’s Risk Management Program were potentially exposed to floodwaters. The number of flooded Superfund sites may be even higher than the map in Figure 19 shows, as indicated by preliminary reports from the EPA and other sources. Though most of the impacts from this exposure remain unknown, the risks include compromised facilities and the release of toxins into the air and receding floodwaters.

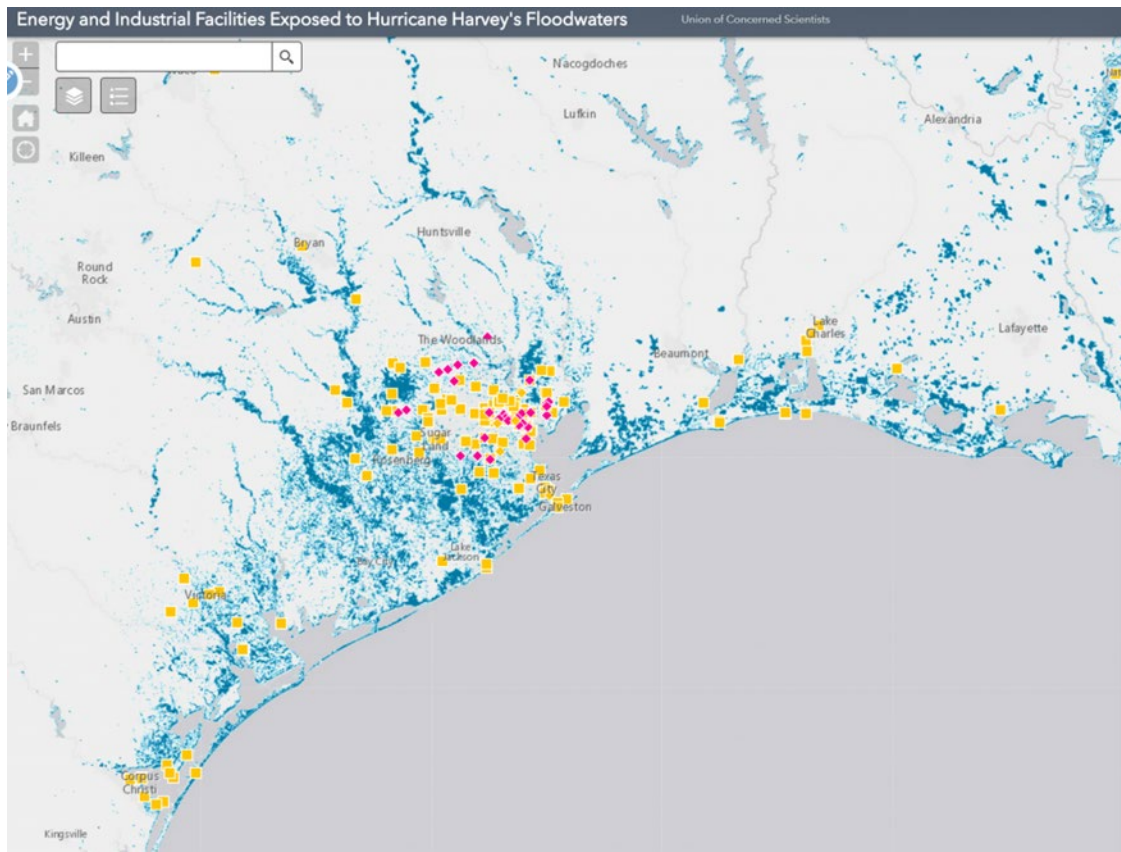


Figure 10: Chemical facilities potentially exposed to flooding from Hurricane Harvey

Energy Infrastructure

In the week after Hurricane Harvey reached the Texas coast, disruptions to the region's energy infrastructure caused gas prices to rise nationally by more than 20 percent. Our analysis found that more than 40 energy facilities may have been exposed to flooding, potentially contributing to disruptions in operations. More than 40 energy facilities—including power plants and refineries—may have been exposed to Hurricane Harvey's floodwaters.

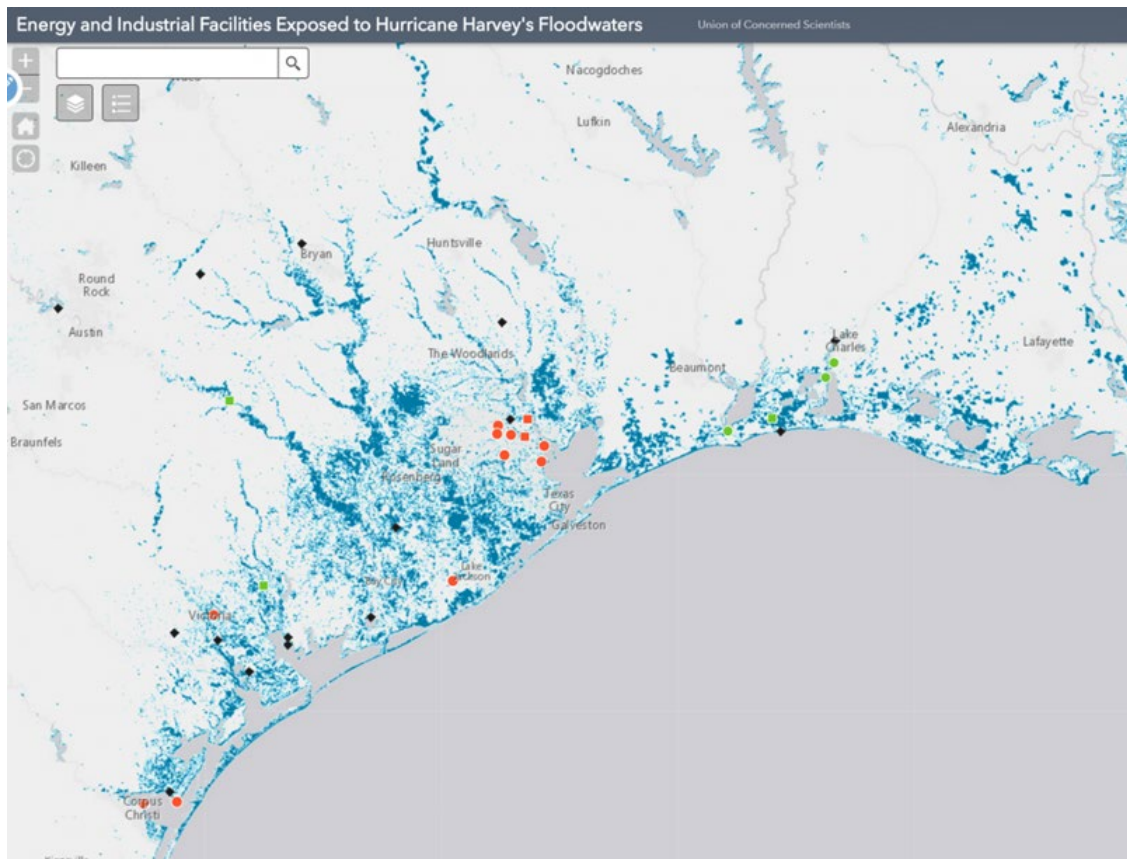


Figure 11: Energy Facilities Exposed to flooding from Hurricane Harvey

Climate change is also shifting rainfall patterns, making heavy rain heavier and more frequent in many areas of the country. With human alteration of the land—like the engineering of rivers, the destruction of natural protective systems, increased construction on floodplains, and increased area of impermeable surface—many parts of the United States are at greater risk of experiencing destructive and costly floods.

Impact of COVID-19 on Environmental Justice Communities

Indigenous, Latinx and Black people are disproportionately exposed to a greater number of environmental hazards compared with White people, making them more likely to be infected by COVID-19. Dr. Lisa Cooper, internist and social epidemiologist at the Johns Hopkins Bloomberg School of Public Health, stated in 2020 that she believed that COVID-19 would

impact African Americans “to a greater extent than other more socially advantaged groups, because as a group, African Americans in the US have higher rates of poverty, housing and food insecurity, unemployment or underemployment, and chronic medical conditions and disabilities.” According to the Center for Disease Control and Prevention’s (CDC) own guidelines, environmental justice communities could be specifically vulnerable to COVID-19 and would probably endure more health challenges from EPA’s guidance change. As these CDC guidelines indicate, environmental justice communities could be specifically vulnerable to COVID-19 and are going to endure more health challenges.

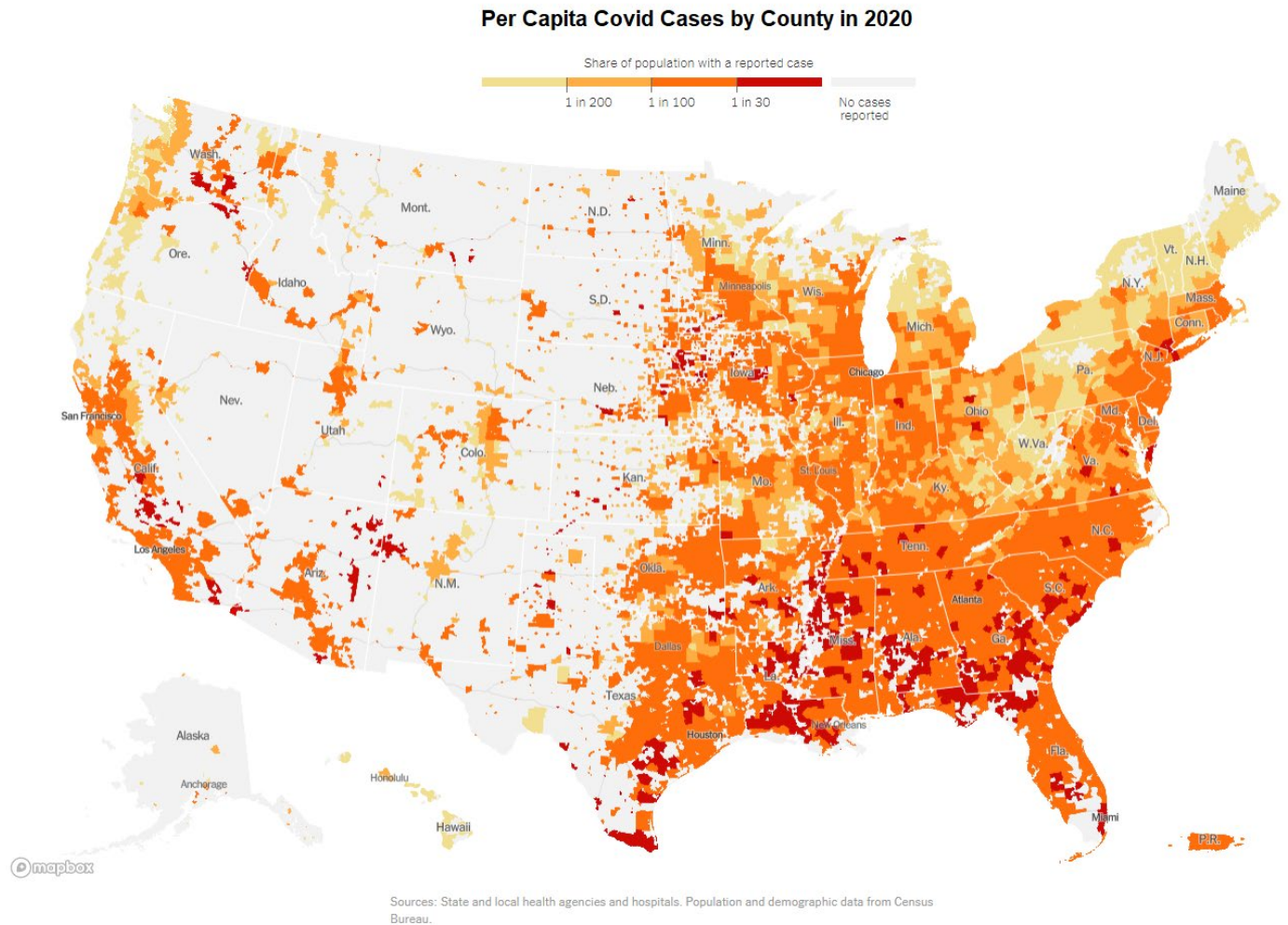


Figure 12. Share of the Population with reported COVID-19 cases.

These exposures are partially why COVID-19 is having such a hugely negative impact on these minority communities. As the report states “...while Black, Latinx and Indigenous communities have been disproportionately impacted by COVID-19, those that live in high environmental risk areas are experiencing even more significant impacts.” The deeper red areas denoted in Figure 12 are indicative of higher infections (1 in 30 people). Please note that the pattern here is also similar to that seen in previous maps. These are the factors that make up the syndemic – each issue affects the same group of people at the same time.

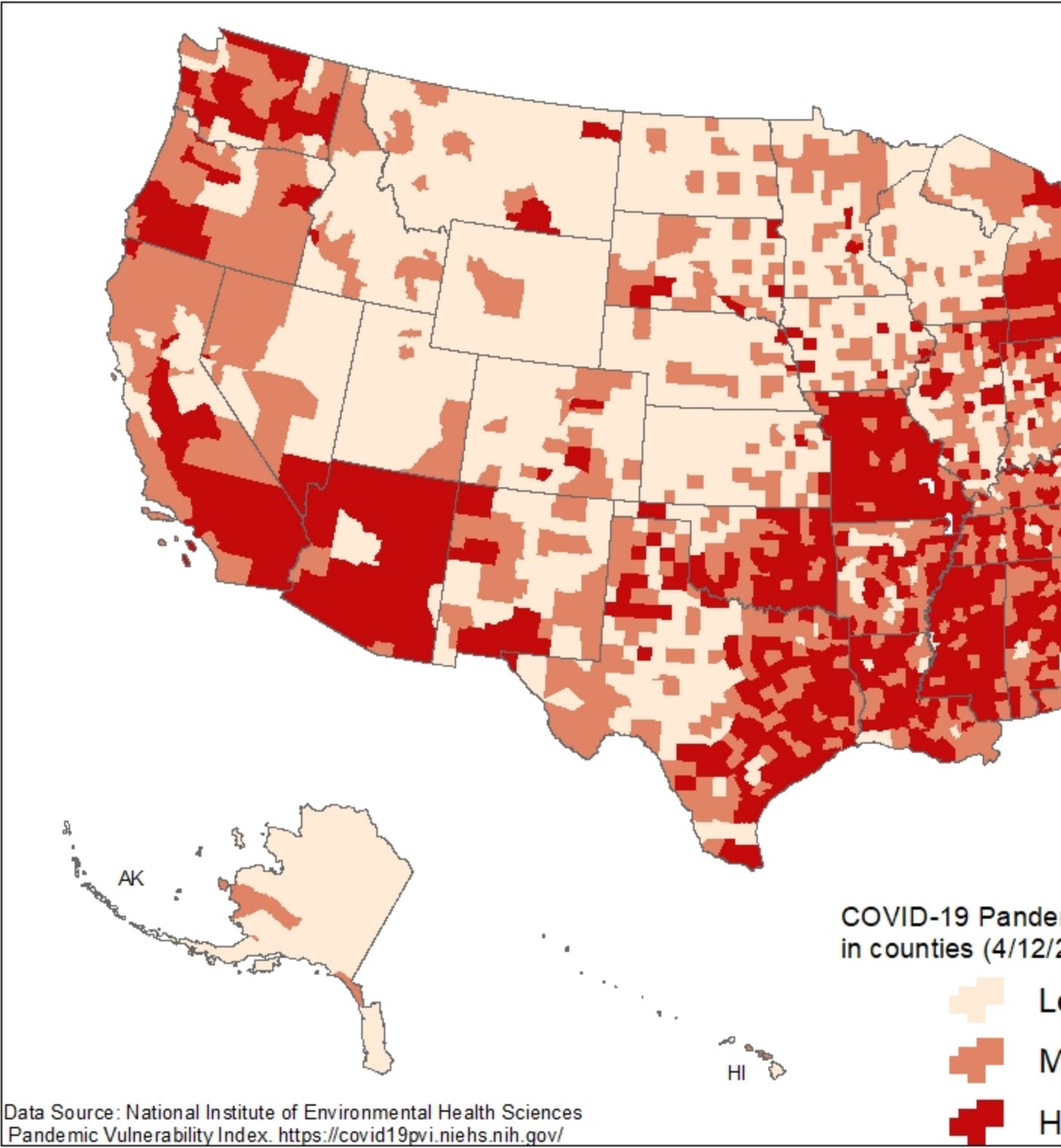


Figure 13. Pandemic Vulnerability Index

Figure 13 is the NIH's Pandemic Vulnerability Index. The NIH's Pandemic Vulnerability Index combines data on infection rates, population mobility, social distancing, COVID testing, percent Black and Native population, the prevalence of co-morbidities, health disparities, hospital beds, and advanced age, to name a few. Higher values indicate higher vulnerability of the population to pandemic impacts. As with the previous data, counties with a high Black and Latinx population also had the highest pandemic vulnerability index – the highest risk from COVID-19.

Finally, I would like to demonstrate the Syndemic in action.

The Syndemic and the Perfect Storm: Environmental Justice, Climate Change, COVID-19 and Hurricane Laura in Lake Charles, Louisiana

On March 26, the Environmental Protection Agency (EPA) issued an order—retroactive to March 13—giving polluters the power to “self-regulate,” suspending environmental enforcement and giving industry a free pass to pollute. This is the latest and most brazen act by an administration determined to remove any semblance of federal environmental oversight or protections for the public. The EPA’s order does not mention industries or facilities by name. It describes their activities, such as facilities engaged in animal feeding operations, facilities which suffer from failure of air emission control or wastewater or waste treatment systems or other facility equipment or generators of hazardous waste under the Resource Conservation and Recovery Act (RCRA). That veritable free-for-all allowed polluters potentially unfettered discretion in determining themselves whether they have violated any environmental safety guidelines. Further, when these facilities DO violate certain guidelines for air, water, and hazardous waste reporting requirements, the EPA stated that it would not fine them. And as is often the case, communities of color will be disproportionately affected. The EPA’s order stated that the EPA did not expect to penalize these facilities for violations of routine compliance monitoring, integrity testing, sampling, laboratory analysis, training, and reporting or certification obligations in situations where the EPA agreed that COVID-19 was the cause of the noncompliance and the entity provides supporting documentation upon request. Given the CDC guidelines and some facilities’ past history and performance when it comes to emissions, like the ExxonMobil Baton Rouge petrochemical complex, it would not be unreasonable to assume that those facilities would not conduct routine compliance monitoring or any of the actions listed. After all, under this new order, they would not be fined if they do not.

This is reminiscent of the mass exodus of polluting companies from the North to the South, beginning in the 1970s and early 1980s, or to areas with communities of color and/or those with low socioeconomic status, like Richmond, California, which can trace the practice of environmental racism back 100 years. Enforcement actions in these and other areas are lax. In some states like Alabama, these environmental injustices continue. This has inexorably led to more pollution in communities of color, where these companies are invariably located.

Notably, the EPA did not provide a public comment opportunity on this order but said instead that it would post a notification on its website at least seven days prior to terminating the new policy. In this way, the EPA was continuing business as usual, denying the public an opportunity

to have input in decisions that place their lives in extreme jeopardy. And the short window before the policy's termination did not give the public much time to comment on the harm it caused and why the order was a bad idea. When decisions like this are made by a federal agency, they should be based on sound scientific facts and scientific opinion focused on protecting the public, not on efforts to protect polluters. They should also allow for public input before the decision is finalized. Actions directed at assisting communities suffering adverse health effects before, during and after this pandemic are needed

This administration is focused on fast-tracking environmental regulations, in the midst of COVID-19, that offer no protection to the public and without opportunity for public comment. As such, the EPA should consider providing opportunities for input on environmental regulations and, whenever possible, give the public the ability to comment on decisions that have the potential to adversely affect them.

Then, on August 27, 2020, a chemical fire over western Lake Charles, a Biolab chemical manufacturing plant fire, increased the public health threat environmental justice communities are already facing. The fire released chlorine gas into the air, leading to a 'stay at home' order for residents who had not evacuated in anticipation of Hurricane Laura. Because of that order, and directions to keep windows and doors closed and not use air conditioners, depending on their situations, people may have been at an increased risk of COVID-19 infection and adverse health effects from the chlorine gas, on top of the danger from Hurricane Laura. That fire burned for more than 50 hours, over three days, near Lake Charles, Louisiana, which is close to Cancer Alley. The concern was the potential release of chlorine gas into neighboring communities—almost all environmental justice communities, like Mossville, a community founded by formerly enslaved people at the end of the Civil War. As a result of the fire—during and probably after—there were very real concerns about the possibility of toxic runoff from the site as well as potential exposures to toxic chlorine gas, as the chemicals manufactured at the site could create the gas when they come into contact with water. Although the facility had shut down in advance of the storm, for most facilities, chemical releases can be a part of the shutdown process, which can lead to inhalation exposures. Most residents evacuated the surrounding areas in anticipation of Hurricane Laura, but not everyone has that option. In the communities near the Biolab fire, those remaining were under a shelter-in-place advisory by Gov. John Bel Edwards. They were told to turn off air conditioning and close their windows and doors to avoid exposure to the deadly gas and other contaminants. In the face of COVID-19, these types of measures—while warranted—were untenable.

There is no standardized federal guidance for keeping people safe from COVID-19 transmission during evacuations. If Black evacuees did contract COVID-19, they face steep odds to an uncomplicated recovery. Black people in the US are more likely to be hospitalized and to die from this disease than white people are. So folks in harm's way have to hope that their local leadership has a plan. This is rarely the case. Evacuating to a safer location during an extreme weather event is not an option for everyone. For example, Black and Latinx employment in the US fell by 16 and 18 percent between February and May of 2020, respectively, and hasn't bounced back. So, a lot of folks aren't earning income. Evacuating is expensive: you have to buy gas, pay for hotels, and eat your meals on the road.

The chemical plant fire put residents at risk of breathing in toxic air—which contributes to the underlying health conditions that make COVID-19 more likely to kill. Research shows that Black and Latinx communities in high environmental risk areas have higher death rates. And all this is on top of the danger and trauma from a climate-change-fueled storm. Hurricane Laura killed 32 people in Louisiana, and was predicted to cause, quote-unquote, “unsurvivable,” storm surges. Finally, for evacuees returning home, flood damage to their homes that they can’t afford to fix could cause even more respiratory issues as mold and mildew accumulate.

This is a perfect example of the confluence of conditions that make up a syndemic. Communities should have been made aware of the presence of dangerous, toxic chemicals and should have been part of any plan to address releases of toxic substances. This is the purpose of SARA Title III, also known as the Emergency Planning and Community Right to Know Act, (EPCRA). Under EPCRA, facilities that have accidental releases of extremely hazardous substances are required to hold public meetings to inform the public about the release and any subsequent mitigation plan. Unfortunately, EPA did not meet with community groups to discuss their plan to remove oversight. I would like to direct your attention to an April 6 letter EPA released titled “UPDATED: What They Are Saying: Public Officials and Stakeholders Voice Support for EPA’s Discretion Policy for COVID-19 Pandemic.” Based on the title, one would assume that EPA spoke with community groups (also stakeholders – which is defined as “one who is involved in or affected by a course of action”). Communities were affected by the temporary order, and yet they are not listed in the letter of support.

It is also a glaring example of the need for legislation like the Alert Act of 2020. The ALERT Act, introduced by Rep. Lisa Blunt Rochester, would require industries producing hazardous and toxic chemical, much like the Biolab plant, to engage directly with the community to ensure that residents have knowledge of any toxic release and ensure that those communities are engaged in remediation plans. This would hopefully decrease the chances of another situation like that in Lake Charles.

Closing:

In closing, I am here today both as an environmental justice and public health expert who has worked to address these issues for a long time, and as a Black person who grew up in an environmental justice community. I have seen first-hand the effects of these public health issues: systemic racism, environmental contamination and climate change, on people of color, and now with the added factor of COVID-19. I am keenly aware of the opportunities we have through this administration to address systemic racism and environmental injustice and all the multipliers that go along with those issues – and I realize that events like this important hearing today provide opportunity for education, engagement and action. Thank you for this opportunity to testify and for your leadership on environmental justice and climate action.