Addressing environmental injustices as a resilience strategy: Challenges and areas for action in New Orleans 20 years after Hurricane Katrina

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Overview

In their influential work on environmental justice in the wake of Hurricane Katrina and the failure of the federal levees in August 2005, environmental justice doyens Robert Bullard and Beverly Wright documented how many low-income neighborhoods and historic Black neighborhoods across the New Orleans metropolitan area experienced a "second disaster" in the days, weeks, and months after the hurricane.[1] The hurricane revealed, with staggering clarity, how environmental injustices that existed across the New Orleans metropolitan area prior to the hurricane amplified the impact of the storm.[2]

This second disaster generated cascading risks as the violent storm and flooding destroyed industrial sites, spilled oil and other toxic waste into floodwaters, subjected many communities to dangerous pollutants during cleanups, and led to lengthy delays and bureaucratic bungles in disaster relief that, in some cases, dragged on for years. Yet despite these environmental impacts, addressing pollution across the city was not a focus for policymakers after Hurricane Katrina.

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Indeed, the U.S. Government Accountability Office, the non-partisan investigative arm of the U.S. Congress, found that in the immediate aftermath of the storm, federal and state agencies obscured pollution levels across the city and denied relief claims in neighborhoods that had higher rates of soil toxicity prior to the storm.[3] Unfortunately, over the past 20 years, little has changed in terms of federal policy, with few meaningful bipartisan actions that have tightened environmental

regulations.[4,5] State and local agencies were no better. In Louisiana, polluters frequently violate national emissions standards, and yet new legislation has been recently introduced that is preventing communities from challenging big polluters.[6]

The results of this policy inaction are borne out in the data. The analysis in this report, summarizing data from the U.S. Environmental Protection Agency's (EPA) Toxic Release Inventory,[7] active superfund registry,[8] and compliance and enforcement database,[9] show that, if anything, pollutants have become more pervasively distributed across metropolitan New Orleans over the past 20 years. What's more, under-resourced communities have historically been targeted for new developments, and the data in this report show that this practice has not changed since 2005.

The upshot: The high density of polluting industries and toxic sites in the New Orleans metropolitan area remains an environmental disaster in waiting—just as it was prior to Hurricane Katrina. Even more worrisome is the threat of severe weather and a disaster greater than the one 20 years ago. According to *The New Orleans Index at Twenty*, since 2020-2024, every parish in Metro New Orleans has experienced at least 17 FEMA disaster declarations—four times greater than the national average.[10]

Investments in infrastructure such as the levees in and around New Orleans mean that many residents are less exposed to floods than in the past. But the spatial overlap between pollution and a suite of other social and economic challenges that amplify climate risks—including poverty, unemployment, and poor health—mean that some neighborhoods are substantially more vulnerable than others.

New Orleans, like other cities across the United States that are exposed to extreme weather, needs new policies that recognize the complex linkages between pollution, health, and resilience.

This report first examines how environmental injustices and climate risks intersect to undermine resilience in metropolitan New Orleans. It then details how these environmental injustices were mismanaged after Hurricane Katrina and the failures of the federal levees, even though the risks of pollution were readily apparent before the storm lashed the region.

The report closes with a look at how federal, state, and local laws and policymakers continue to leave metropolitan New Orleans exposed to environmental injustices and climate risks, then presents three sets of policy recommendations to:

- Foster greater pollution controls
- Develop a resilience fund through pollution taxes
- Create "Green Zones" for resilience spending

These three steps can clean up and revitalize communities that have, and continue to be, overburdened by pollution, waste, and industrial facilities. The result would be a more resilient New Orleans.

The data in other reports in this series demonstrate that New Orleans is a city where people want to stay. Residents benefit from rich civic and cultural assets and cohesive communities. Alleviating the physical and social harms that pollution creates is a crucial step to recognizing and building on the value of that community cohesion and civic assets as bulwarks of resilience.

Environmental injustices and climate risks intersect to undermine resilience

Climate change risks and pollution share a spatial relationship. They often affect the same communities. This is because the impacts of climate change, such as extreme weather, amplify existing social and economic challenges.[11] Because heavily polluted communities also tend to face other social problems, among them high rates of poverty and poor health, even relatively small climate impacts in these neighborhoods can

Key terms

This report analyses data on toxic sites, defined here as industrial manufacturing companies that are in the toxic release inventory, as well as sites on the national Superfund and National Priority List. These terms are used throughout the report and described below.

Toxic Release Inventory. This is managed by the EPA and collects and tracks information on companies and chemicals that may pose a threat to human and environmental health. The inventory typically includes larger facilities involved in manufacturing, metal mining, electric power generation, chemical manufacturing, and hazardous waste treatment. Not all industries are included in this federal inventory, and not all facilities in covered sectors are required to report their data. Because of this, the Toxic Release Inventory captures most, but not all, sources of industrial pollution.

Superfund sites. These are federally tracked contaminated sites, typically due to hazardous waste being dumped or improperly managed. Superfund sites are managed by the EPA, which is authorized to spend funds to identify and clean up contaminated sites. This report focuses on "active" Superfund sites in the New Orleans metropolitan area, including sites that are currently being investigated for contamination.

The National Priority List. This includes Superfund sites that have been identified by the EPA as posing a substantial public health threat that requires prioritized cleanup. These sites have been identified as the most dangerous by the federal agency.

have consequential outcomes, including pushing families into debt or exacerbating health conditions.

Take heatwaves, the largest climate risk in terms of mortality rates.[12] A confluence of factors means that neighborhoods experiencing extreme heat are often triply exposed—facing higher average temperatures, greater vulnerability to those temperatures because of health risks, and less access to financial resources to manage those risks. Heat waves are more severe in dense, urbanized areas, which trap heat in what's called an "urban heat island effect." Because the legacy of racially biased housing policies such as segregation and redlining continues to influence the processes of urbanization,[13] urban heat islands are correlated with a higher proportion of non-White residents and low average incomes.[14]

These same neighborhoods are, on average, more industrialized, with higher exposure to cancer-causing chemicals and often greater exposure to particulate matter from transportation and freighting.[15] Similarly, there is a strong correlation between industrial corridors and higher rates of poverty, unemployment, lower homeownership,[16] and higher underlying rates of asthma and heart disease (conditions that are worsened by high heat). Thus, residents in these communities also typically have fewer financial resources to invest in reducing the impacts of heatwaves themselves, such as by installing air conditioning or better insulating their homes.

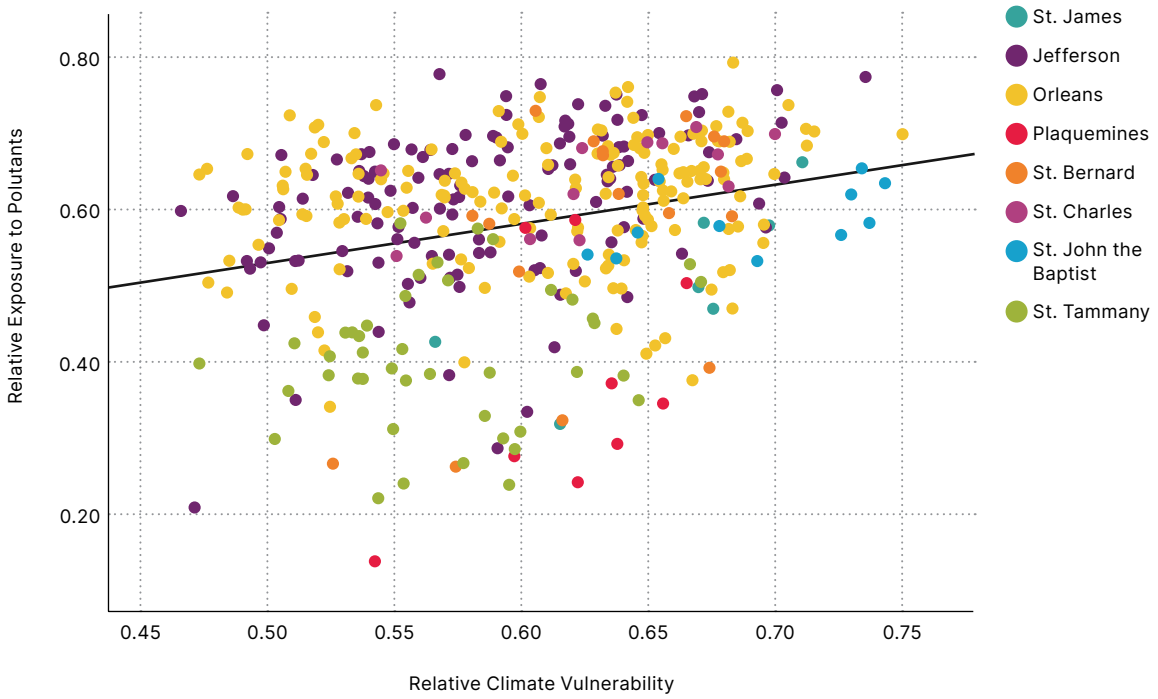
The spatial relationship between climate risks and exposure to pollutants is clear in the New Orleans metropolitan area. Drawing on census-tract-level data from the Environmental Defense Fund, Figure 1 below shows an index of relative exposure to pollutants (compared to a national baseline where 0.5 is an "average" level of exposure) against relative climate vulnerability. For all parishes—but particularly St. John the Baptist Parish to the northwest of the city astride the Mississippi River, Jefferson Parish to the west and south of the city, and Orleans Parish, which includes the city of New Orleans—there is a strong correlation between residents' proximity to sources of pollution and rates of climate vulnerability. Again, this is due to

FIGURE 1

New Orleans and nearby St. John the Baptist and Jefferson parishes face the highest climate and environmental risks

Relationship between climate vulnerability and exposure to pollutants for census tracts in the New Orleans metropolitan area, based on 2017-2019 data

Source: Brookings' analysis of the Environmental Defense Fund and Texas A&M University's Climate Vulnerability Index.



the spatial relationships between multiple sources of climate and environmental risks that are making some communities uniquely vulnerable, and in so doing, undermining overall resilience across the metropolitan area (see Figure 1).

Yet these correlations hold a silver lining: Reducing local pollutants is one clear pathway to bolstering communities' capacity to respond to and recover from extreme events. The clearest connection is via health. Communities with higher rates of cancer, heart disease, and other illnesses are more vulnerable to disasters and other extreme events, as they amplify those conditions or complicate the provision of disaster assistance or health care during emergencies. Thus, reducing the burden of poor health in these neighborhoods by lowering the rates of noxious chemicals is a pathway to bolstering resilience.

But there also are other less obvious connections that have to do with how addressing pollution could unlock virtuous cycles of investment and wealth-building. Homeownership and property values, for example, are often indicators of how likely families are to financially recover after a disaster because they correlate with a stronger financial safety net. Property values are measurably lower in communities that have high pollution industries in their midst, partly due to the ways that industrial activity tends to depress home valuations.

Cleaning up neighborhoods could, literally, help to increase property values and thus wealth, helping to revitalize communities. Moreover, this type of activity can also attract private investment, bringing new businesses that create jobs and lower unemployment and poverty rates. Addressing pollution, however,

is not a panacea. It is part of a wider package of investments into community assets, which together can become a clear pathway to beginning a virtuous cycle that can ultimately make communities more resilient to outside shocks.

Environmental injustices were a major, and poorly managed, issue following Hurricane Katrina

Hurricane Katrina and the failure of the federal levees were an environmental catastrophe, dislodging polluted soils in neighborhoods alongside Superfund sites and causing chemical leaks and oil spills that spread pollutants across the New Orleans metropolitan area. The hurricane damaged an estimated 457 pipelines, resulting in around 750,000 gallons of petroleum products leaking into floodwaters,[17] including the Murphy Oil Spill in the heavily populated St. Bernard Parish, to the southeast of the city, which directly affected up to 10,000 of its residents.[18]

In neighborhoods such as those around the Agricultural Street landfill site in the Desire Neighborhood in northeast New Orleans, which is a Superfund site and on the EPA's National Priorities List, floodwaters moved toxic soil to settle in homes and across public parks. Up to 110,000 homes across New Orleans were flooded, with close to 55,000 remaining for days or weeks in up to 6 feet of toxic water.[19] This has left a legacy of higher rates of lead, arsenic, cadmium, and other toxic chemicals visible in soil samples across the city today, with hotspots in neighborhoods proximate to industrial and waste sites.[20]

The disparate impacts of these pollutants on the area's residents are clear in studies on the recovery from Hurricane Katrina. Despite the EPA stating that New Orleans was safe from toxicity one year after the disaster, research shows that the cleanup was slower in neighborhoods with high soil pollution prior to the hurricane,[21] with federal agencies refusing to provide recovery funding in those cases.[22]

Moreover, poor enforcement of local environmental laws to aid clean-up efforts disproportionately exposed some neighborhoods to new pollutants through new landfills sites and an increased usage of existing toxic waste sites.[23] While the EPA and the Louisiana Department of Environmental Quality were quick to dissuade fears that New Orleans had become a giant national Superfund site, later studies, including by the nonprofit National Resources Defense Council[24] as well as the U.S. Government Accountability Office,[25] demonstrated that many neighborhoods had dangerously unsafe levels of soil contamination.

In 2010, the EPA publicly acknowledged that many neighborhoods were still toxic and issued an apology. In some cases, residents successfully sued for environmental damages, including more than 5,000 Agricultural Street residents.[26] But even in this successful case, the vast majority of residents received only nominal amounts in compensation, and those living on the site were only relocated after years of political advocacy that eventually convinced the city to fund a buyout.

While Hurricane Katrina put a spotlight on social injustices, particularly on issues of race-based divides in the city, environmental pollutants and the role of the petrochemical industry in amplifying the hurricane's impacts were neglected. Despite calls for a transformative policy agenda by academics and advocates such as Robert Bullard,[27] the overall response to pollution was one of denial and inaction. Moreover, the region's role as a petrochemical hub was quickly prioritized over the long-term health of residents. As soon as 2008, then President George W. Bush expanded offshore drilling in the state.

Residents and politicians across the Gulf region were reminded of the threat that the industry poses to the region's health no less than five years after Hurricane Katrina when the Deepwater Horizon oil spill resulted in close to 5 million barrels of oil leaking into the Gulf of Mexico.[28] Yet today, Louisiana ranks in the top 10 states for petroleum processing, accounting for one-sixth of the nation's total petroleum refining capacity.[29]

The landscape of environmental pollutants today is similar to before Hurricane Katrina

Many of the environmental threats that New Orleanians faced in the years following Hurricane Katrina are still a problem today. Indeed, few petrochemical facilities have closed in the 20 years since, residents are still waiting on Superfund site clean-ups, and new risks have emerged, including a burgeoning and controversial carbon capture and underground storage industry,[30] which could be used to justify petrochemical expansion in the state and introduce other environmental pollutants.

Cancer Alley, the 85-mile stretch of Louisiana with the nation's highest concentration of petrochemical facilities, is rightly spotlighted.[31] Residents in the New Orleans metropolitan area are also impacted by industrial manufacturing and remnant pollution left over from frequent flooding. Recent research, for example, estimates that the metro area has some of the highest per capita premature death rates due to air pollution nationally.[32]

Arguably a bigger risk, however, is soil contaminants such as lead and arsenic, which have leached from industrial sites and landfills, including those that were spread by floodwaters. While soil toxicity has decreased overall since Hurricane Katrina,[33] there are still hotspots plagued by contaminated soils well beyond what the EPA considers safe.[34] The impacts from these contaminants are highly localized, and most of them affect neighborhoods with higher rates of poverty and a higher proportion of Black residents than the metro area average.[35]

In 2023 (the most recent year that complete data were available), the New Orleans metro area had a total of 101 toxic sites (68 industrial sites, 30 active Superfund sites, and three of the state's 13 National Priority List sites).[36] This is slightly higher than the number in 2004, with 98 sites in total. According to the EPA's Toxic Release Inventory, in 2023 these sites released a total of 41,014,249 pounds of pollutants, affecting roughly 219,540 residents (close to 25 percent of the metro area) living within a 3-mile radius of those sites (the range that the EPA defines as having an elevated risk of pollution).

For comparison, Jacksonville, Fla., a similarly sized city, had 77 facilities emitting a total of 4,495,214 pounds of pollutants in 2023, while the entire state of Massachusetts had only 3,736,697 pounds of emissions. While the total pounds of tracked emissions in metropolitan New Orleans have decreased over the past 10 years to close to 50 million pounds in 2014, the total number of industrial facilities and emissions is comparable to levels prior to Hurricane Katrina. The residents who live alongside these sites face rates of pollution, including cancer-causing chemicals such as benzene and ethylene oxide, at rates substantially greater than the national average.[37]

Table 1 presents summary statistics for the New Orleans metro area in 2023 by parish, including the average distance from a block group (a census-defined geography typically representing around 1,500 people) to a toxic site. Compared to the state average of 1.2 sites per 10,000 residents, the New Orleans metropolitan area has a slightly lower per-capita average of 0.92 sites per 10,000 residents. These are concentrated in the St. Charles, St. James, Plaquemines, and St. John the Baptist parishes, most of which also have relatively low median household incomes. But in terms of average distance to toxic sites, residents in St. Charles, St. John the Baptist, St. James, and Jefferson parishes are more likely to live within a 3-mile radius of at least one major source of air or soil pollution. (See Table.)

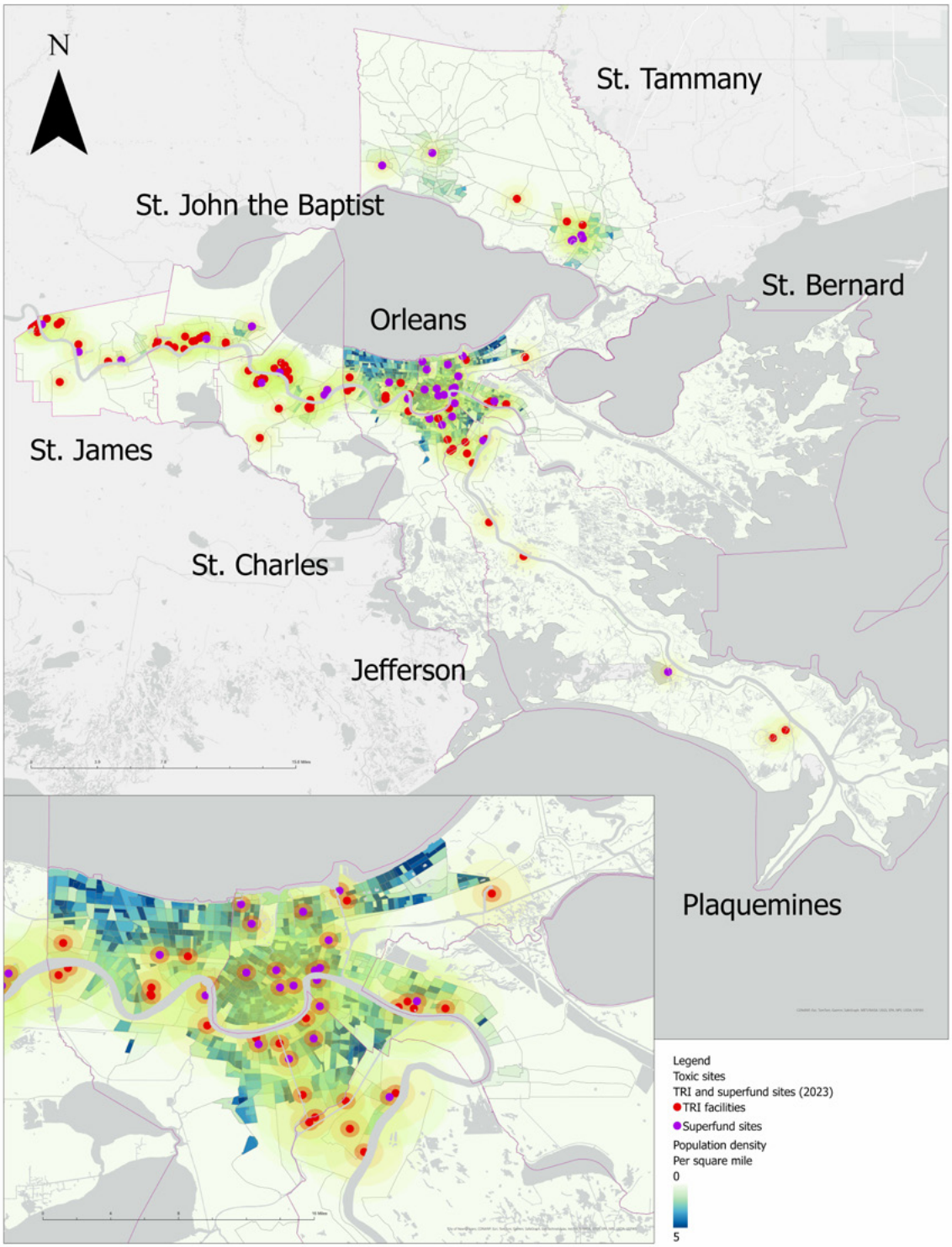
The parish and metropolitan area data, however, contain a high level of aggregation and can obscure important local-level dynamics. To reveal in more detail how these sites are distributed across the metropolitan region, Map 1 shows point locations of toxic sites, including 0.5-, 1-, 2-, and 3-mile buffer radiuses overlaid with population density at the block group level. (See Map.)

MAP

The denser the population, the more polluted sites are close by

Locations of toxic sites and population density in 2023, New Orlean metro area

Source: Brookings analysis of census American Community Survey data, the EPA's Toxic Release Inventory and Superfund Registry.



TABLE

Parishes with more low-income residents also tend to feature closer and more numerous polluted sites

Summary statistics for parishes in New Orleans metro area, 2023

Source: Brookings' analysis of census American Community Survey data, EPA Toxic Release Inventory, and Superfund Registry.

County	Non-White Residents (%)	Median Household Income ($)	People In Poverty (%)	Total Sites (No.)	Total Sites (Per 10,000 Residents)	Average Distance To Sites
St. James	54.52%	$64,536	15.1%	15	7.58	2.71
St. Charles	35.21%	$39,716	12.9%	28	5.40	1.24
Plaquemines	41.49%	$36,570	15.6%	11	4.77	6.80
St. John the Baptist	66.76%	$30,337	16.8%	13	3.14	2.12
St. Bernard	39.61%	$29,478	18%	5	1.13	4.03
Jefferson	44.81%	$65,246	17.1%	20	0.46	2.69
Orleans	64.75%	$55,339	23.1%	14	0.37	3.38
St. Tammany	25.45%	$41,854	11.9%	10	0.37	10.73
New Orleans metro area	50.12%	$55,339	22.6%	116	0.92	4.25

While to some extent most New Orleanians are exposed to pollutants, (75 percent of residents live within a 2-mile radius of these sites), statistical analysis shows that Black residents are more exposed. Roughly 82 percent of New Orleans' Black population lives within a 2-mile radius of at least one toxic site, and 50 percent within a 1-mile radius. These correlations are partially driven by changing demographics within the metropolitan area.

While the number of sites and emissions intensity has changed minimally between 2004 and 2023, the demographics of each parish have changed, with a greater concentration of White residents now living in parishes with a lower number of industrial sites. This finding aligns with prior research showing that in the 10 years following Hurricane Katrina, middle-class White residents were more likely to return to elevated neighborhoods further from river communities that have a higher concentration of industrial sites.[38]

Environmental legislation in the state and nationally still leaves New Orleanians vulnerable

Another important metric of environmental justice is the overall legislative and policy environment. Laws and policies that provide a legal recourse to challenge planning decisions and emissions violations (where an industrial site illegally emits pollution beyond national or state limits) are crucial to ensure communities are protected from unsafe levels of pollutants.

The United States made sweeping reforms in the 1960s and 1970s that gave communities more avenues to hold high emitters responsible, including with the passing of the Clean Air Act in 1963. But in recent decades, addressing environmental pollution has often been framed by both political parties as

detrimental to economic growth. Following Hurricane Katrina, however, and particularly during the Obama administration, the federal government signaled they would use EPA rules and regulations to advance environmental justice initiatives at the local level.

These initiatives were largely based on using the EPA's mandate (enacted under Executive Order 12898, 1994) "to make achieving environmental justice part of its mission," and included prohibiting discriminatory practices regardless of intent or if development decisions appeared "neutral on their face."[39] In contrast, successive Republican administrations have rolled back environmental justice orders.

Most recently, for example, the second Trump administration has looked to remove this EPA mandate and is signaling a rollback on emissions caps across a range of pollutants.[40] Tracking the outcomes of these changes on communities is difficult, but one area where impacts are visible is the extent to which the EPA enforces pollution standards. Figure 2 below illustrates that under Democratic administrations, the total level of inspections was typically higher than under Republican administrations, though enforcements fluctuated (see Figure 2).

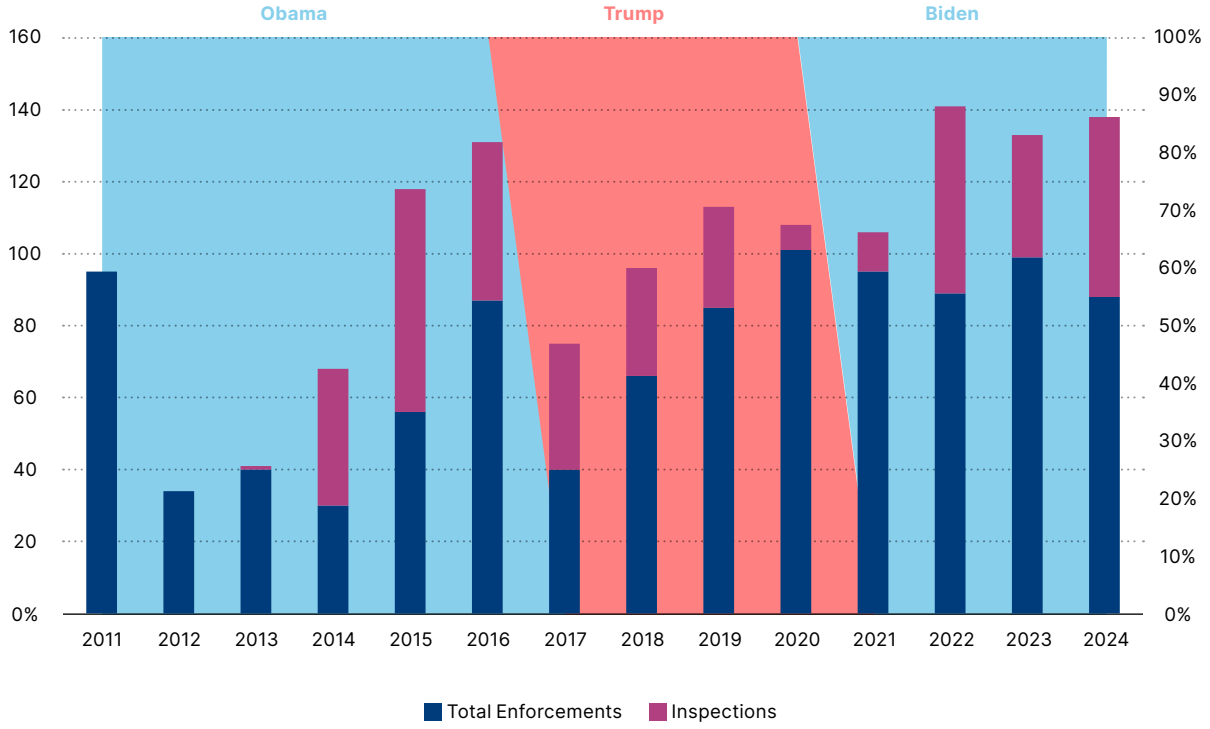
Yet, enforcements and inspections don't necessarily translate into protection for residents. Indeed, state and local policies have undermined overburdened communities' attempts to challenge large polluters. States do have the authority to legislate and enforce standards that go beyond the Clean Air Act, but Louisiana has tended to take a more relaxed approach to compliance and permitting of industrial facilities.[41] While the Louisiana Department of Environmental Quality

FIGURE 2

Pollution standards were more strictly enforced during Democratic administrations

Enforcements and total inspections in New Orleans metro area, 2013–2024

Source: EPA enforcement and compliance database, 2013-2024.



has stated that they are not in violation of the National Ambient Air Quality Standards (NAAQS), compliance is made more difficult because there is no statewide monitoring system to prove this assertion. Many of the high emission parishes, including St. John the Baptist Parish, for example, do not have a NAAQS monitor.

While residents have mobilized to track emissions themselves, the state has never acted on these findings. In fact, recent legislative changes are making it harder for communities to self-report pollution, requiring them to purchase prohibitively expensive monitoring equipment that is recognized by the state.[42]

Yet, Louisiana regulators have consistently claimed that environmental injustices are not occurring in the state, and that "spatial patterns of emissions are driven by access to supporting infrastructure" (pipelines), rather than racial bias.[43] This stance has led to the continued siting of industrial facilities in low-income communities and communities of color despite numerous studies, including by the EPA, showing that these communities are overburdened. These tensions came to a head publicly in 2024 after the federal agency attempted to enforce the Civil Rights Act's disparate impact ruling in Cancer Alley. Ultimately, after pressure from then Attorney General, now Governor Jeff Landry, the agency dropped the case, and no further action has been taken by either the state or federal environmental protection agencies since.

Addressing environmental injustices as a resilience strategy

The spatial overlap of environmental injustices and climate vulnerability means that addressing pollution locally can be a pathway for elevating resilience across the entire New Orleans metropolitan area. This can occur directly by minimizing the effects of pollution on health, but also indirectly by using the history of environmental injustices as a type of guide for determining how to revitalize communities in ways that also advance resilience.

Policy changes should follow three basic principles. First, in regulating pollution and siting new industrial developments, the local government should seek to minimize harm, recognizing that clean air and water are crucial to building thriving and resilient communities. Second, the polluter should pay, meaning that the industries that have contributed directly to local pollution, not taxpayers, should bear most of the fiscal responsibility to alleviate the impacts. And third, social and economic vulnerabilities should guide investment choices around resilience, including which communities are prioritized. The recommendations below follow these principles across three connected policy areas:

- Pollution control
- Developing a resilience fund through pollution taxes
- Creating "Green Zones" for resilience spending

Residents across the New Orleans metropolitan area and other parts of Louisiana have advocated for many of these changes for decades, including garnering international support from organizations such as Human Rights Watch.[44] Yet there has been little legislative progress. The reality is that feasible actions in other metropolitan areas are likely to face substantial pushback in the state too. While Louisiana has tended to see the petrochemical industry as a driver of growth, it is also a health burden that creates new costs for residents and public services—and can hold back economic development by tethering the region to one industry. The policies in this report recommend steps toward transformative change, grounded with more practical intermediary steps (see Figure 3).

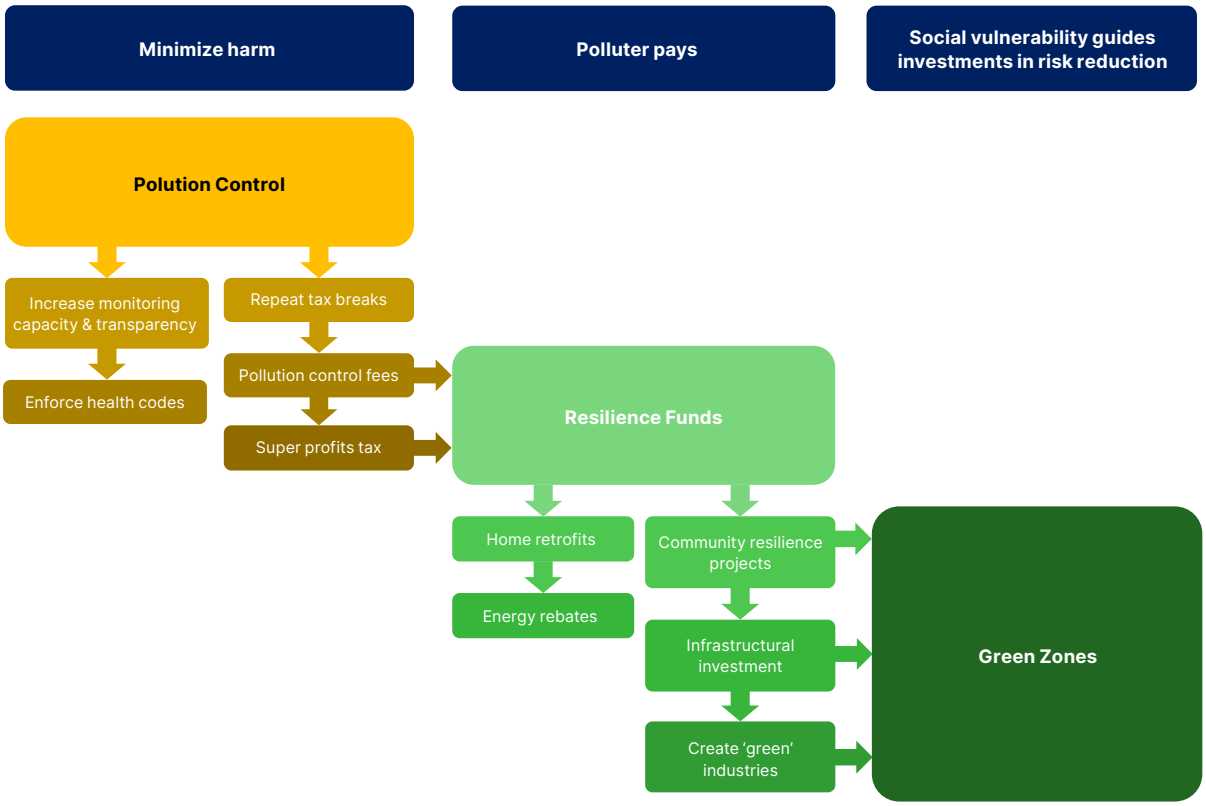
Pollution control

Addressing environmental injustices needs to start with minimizing the harm caused by local pollutants. Without these efforts, investments that flow to deeply polluted communities will treat the symptoms, but not the root causes of disinvestment. To begin

FIGURE 3

How to proceed with environmental justice reforms in New Orleans

Overview of policy recommendations



with, the City of New Orleans and other parish governments within the New Orleans metropolitan area should jointly develop a more comprehensive air quality monitoring system to increase transparency. This action could also be boosted by state policy to subsidize the cost of air monitors and help to coordinate implementation. There is ample evidence that industrial polluters frequently violate the Clean Air Act in the state.

Because of the paucity of air monitoring systems, legislators and community groups have little recourse to hold these violators accountable. Requiring polluters to install fence-line devices to monitor air quality and identify leaks, as well as recognizing the rights of community groups to conduct their own monitoring, would help to hold polluters accountable.

Over the longer term, the City of New Orleans and other parish governments should go beyond enforcement to introduce policies that protect the inherent rights of residents to clean air and water. This could come through public health codes, like those used in San Francisco,[45] which regulate construction and other standards to reduce the impact of pollution on indoor air quality.

Ultimately, the parish governments within the metropolitan area should decrease the number of new facilities by repealing the tax breaks offered to oil and gas manufacturing firms and raising the severance tax on oil and gas extraction. These tax breaks rarely benefit the community where development is located and instead perpetuate a race to the bottom for the region.

Establish a resilience fund

By mandating that polluters purchase emissions licenses and that violators pay fees, the City of New Orleans and other parishes could finance a resilience fund. States including New York and Vermont, for example, have adopted a super-profits' levy on petrochemical refineries and oil and gas extraction, capturing a proportion of profits beyond a threshold to help these states offset the public health costs of the industry. While this may not be immediately viable in the New Orleans metropolitan area because of political opposition, including by fossil fuel lobby groups, an intermediary step could be issuing "pollution control fees," or annual licenses for firms that emit dangerous pollutants, paired with a waiver for businesses that take their own steps to decrease local emissions.

These fees, and eventually a resiliency fund, could be made available to communities to develop and implement infrastructure projects that increase resilience based on the needs and priorities of residents. The fees and eventual fund could also be used to directly benefit residents by subsidizing homeowners to undertake home alterations that reduce exposure to extreme weather. This could include the recommendations of other authors in this series, such as fortifying roofs, elevating properties, and installing flood vents, which help to drain flood waters more quickly. This program would build on the success of Louisiana's FORTIFIED roofs program, which subsidizes homeowners to install wind-resistant roofs, reducing their home casualty insurance premiums in the process.

Establish Green Zones

Resilience investments should be prioritized in communities that are most impacted by pollution and other social and economic challenges. The New Orleans metropolitan area could achieve this by demarcating Green Zones, using a combination of demographic data (income, poverty rates, health access), climate data (damages from disasters), and cumulative pollutant burdens, including proximity to toxic sites. This type of policy has been effective in Michigan, where brownfields—previously developed properties that are abandoned or underused, often due to concerns about contamination—are prioritized for clean energy investments such as solar farms.[46] These projects deliver cost savings to the state and help diversify the energy grid, and by providing residents access to renewable energy, they also directly reduce household energy costs.

Similar programs have been successfully implemented in New York,[47] Chicago,[48] Minneapolis, and Los Angeles. Community organizations, local businesses, and councils could submit tenders to access these funds and utilize them for new projects on an annual basis. In this way, Green Zones would foster the development of new industries and businesses, building on the strong connections that New Orleanians have to their communities, and the drive for local entrepreneurship identified by other authors in this series.

Conclusion

The geography of environmental pollutants is deeply connected to climate resilience. Pollutants, and their overlap with other place-based social and economic factors, amplify the impacts of shocks such as heat waves, flooding, and hurricanes. In public policy, however, addressing environmental injustices has not been considered part of building resilience.

We need new policies to link environmental justice and resilience. Neighborhoods that have been historically marginalized across metropolitan New Orleans, rather than being disproportionately vulnerable could instead drive innovation that helps propel the region toward greater levels of resilience. Removing the pollutants that plague neighborhoods can create positive feedback loops that generate impacts outside of health, including helping to increase property values and attracting investments that can create jobs and support business growth.

In the New Orleans metropolitan area, with some of the most overburdened neighborhoods nationally and at the forefront of climate change impacts, these policies could help to establish a resilient city ready for the next 20 years and beyond. While the policy recommendations in this report are ambitious, they are also necessary. There is tremendous opportunity to be had by taking transformative action. Not only could policies enable a greater number of communities to thrive, but also could cement New Orleans as a national leader in building a modern city that is equipped to respond to and recover from increasingly complex risks.

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About The Data Center

The Data Center, a project of Nonprofit Knowledge Works, is the most trusted resource for data about Southeast Louisiana. Founded in 1997, we provide fully independent research and analysis to offer a comprehensive look at issues that matter most to our region. With a mission of democratizing data, The Data Center has, and continues to be, an objective partner in bringing reliable, thoroughly researched data to conversations about building a more prosperous, inclusive, and sustainable region.

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The New Orleans Index at Twenty collection includes contributions from The Data Center, the Brookings Institution, and a dozen local scholars. The aim of this collection is to advance discussion and action among residents and leaders in greater New Orleans and maximize opportunities provided by the 20-year anniversary of Hurricane Katrina.

The New Orleans Index at Twenty: Measuring Progress toward Resilience analyzes more than 20 indicators to track the region's progress toward metropolitan resiliency, organized by housing and infrastructure, economy and workforce, wealth and people. Essays contributed by leading local scholars and Brookings scholars systematically document major post-Katrina reforms, and hold up new policy opportunities. Together these reports provide New Orleanians with facts to form a common understanding of our progress and future possibilities.

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