

Understanding the Disparities in Climate Change

Many people recognize the widespread impacts of climate change, however, few fully grasp the unequal burden it places on different groups. Climate change does not affect all communities equally. In reality, it disproportionately impacts many marginalized groups worldwide. These vulnerable populations often lack the resources to adapt to climate shifts, which worsens the negative effects they face. To best comprehend the impacts of climate change on these marginalized populations, let's take a closer look at some of the categories of disparities in climate change impacts. Here are a few categories that we will explore:

1. Generational Disparity
2. Economic Disparity
3. Racial Disparity
4. Geographical Disparity
5. Health Disparity

Generational Disparity

Generational disparities reflect a significant difference in both the emotional responses to and the perceived urgency of climate action between younger and older generations. Younger generations, particularly Millennials and Gen-Z, are increasingly experiencing climate anxiety, with feelings of fear, guilt, and outrage about the escalating impacts of climate change. They express stronger emotional engagement with climate issues and are often more active in climate advocacy, likely driven by the knowledge that they will directly face the long-term consequences of today's environmental decisions. In contrast, older generations, such as Gen-X and baby boomers, may share similar beliefs about the causes and realities of climate change but generally feel less emotionally affected and less directly threatened by its future impacts ([Millennials and Gen-Z Have Higher Rates of Climate Worry, n.d.](#)).

This generational divide is fueled by the stark reality that, if no substantial action is taken, it is the younger generations who will inherit a world with more severe climate repercussions. Older generations, who contributed significantly to the current climate crisis through industrial and economic activities, are less likely to face the worst outcomes within their lifetimes. Research shows that while older adults are aware of climate change, their level of concern and engagement is often lower, potentially due to their shorter remaining lifespan or a perception that climate issues are future problems ([Hk, 2024](#)).



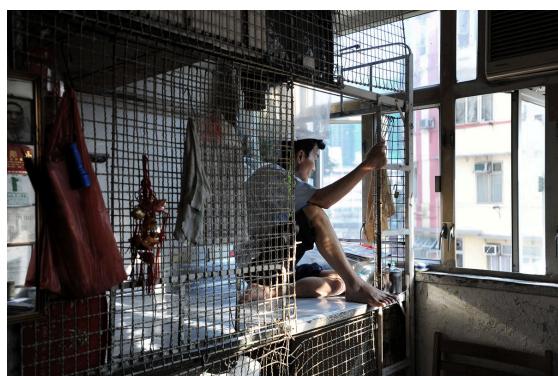
For the younger population, the mental toll of climate anxiety is already manifesting in increased stress, fear of future natural disasters, and feelings of helplessness. This emotional burden is not only linked to climate-related mental health concerns but also to tangible economic and environmental challenges, particularly for youth in agriculturally dependent regions where climate impacts like droughts, floods, and declining crop yields could devastate livelihoods. Consequently, Millennials and Gen-Z see climate change as a personal and urgent issue, while older generations may view it through a less immediate lens ([Hk, 2024](#)).



These generational differences underscore the need for urgent climate action from today's leaders, who hold the responsibility to address climate change now to prevent future generations from bearing an even greater burden. If older generations delay or avoid necessary action, it is the youth who will inherit the responsibility of managing an increasingly unstable climate, facing the compounded challenges of environmental degradation, economic instability, and societal disruptions.

Economic Disparity

Climate change disproportionately affects low-income individuals who often lack the financial means to adapt to environmental changes. A notable example of this can be seen in Hong Kong's subdivided flats, also known as "cage homes." These cramped, subdivided apartments house many of Hong Kong's lower-income residents. As temperatures rise due to climate change, residents of these units face serious health risks because they lack proper ventilation or air conditioning. Most cannot afford these amenities, and even those who have them avoid using them to save on electricity costs. Studies show that the temperatures in these small units often exceed 30°C, creating dangerously uncomfortable and unhealthy living conditions. Vulnerable residents, especially the elderly, face increased risks of dehydration and even death during heat waves. With rising global temperatures, the health risks for those living in such conditions are expected to worsen ([Hk, 2024](#)).



[Japan's caged homes](#)



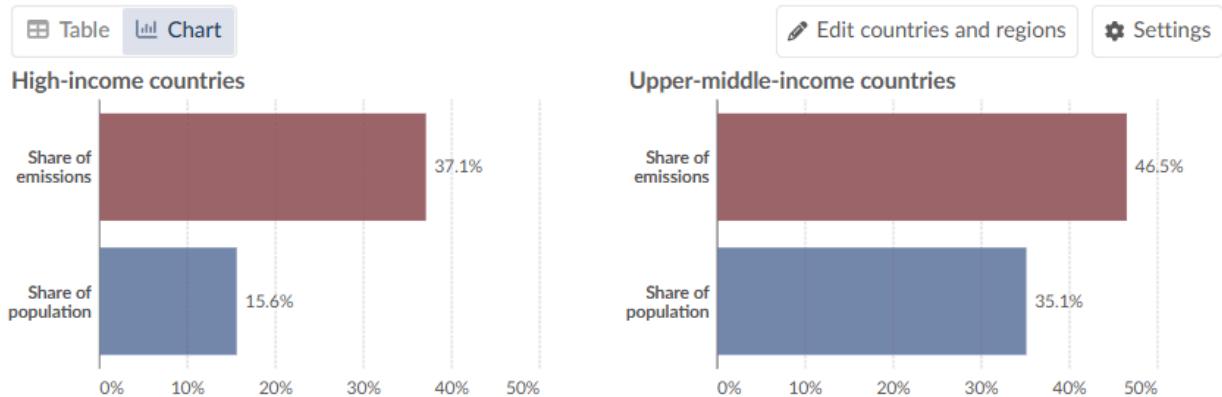
Geographical Disparity

Geographical disparities in climate change refer to the unequal distribution of climate impacts across different regions worldwide. These impacts, such as extreme weather, rising sea levels, and temperature fluctuations, are primarily driven by greenhouse gasses emitted from activities like burning fossil fuels. High-emission sources, such as power plants, factories, and vehicles, are largely concentrated in wealthier nations. Consequently, greenhouse gas emissions are closely linked to a nation's level of wealth and industrialization ([Linking Climate and Inequality, 2021](#)).

Share of global CO₂ emissions and population, 2023

Carbon dioxide (CO₂) emissions from fossil fuels and industry. Land-use change is not included.

Our World in Data





Data source: Global Carbon Budget (2024); HYDE (2023); Gapminder (2022); UN WPP (2024) – [Learn more about this data](#)

OurWorldinData.org/co2-and-greenhouse-gas-emissions | CC BY

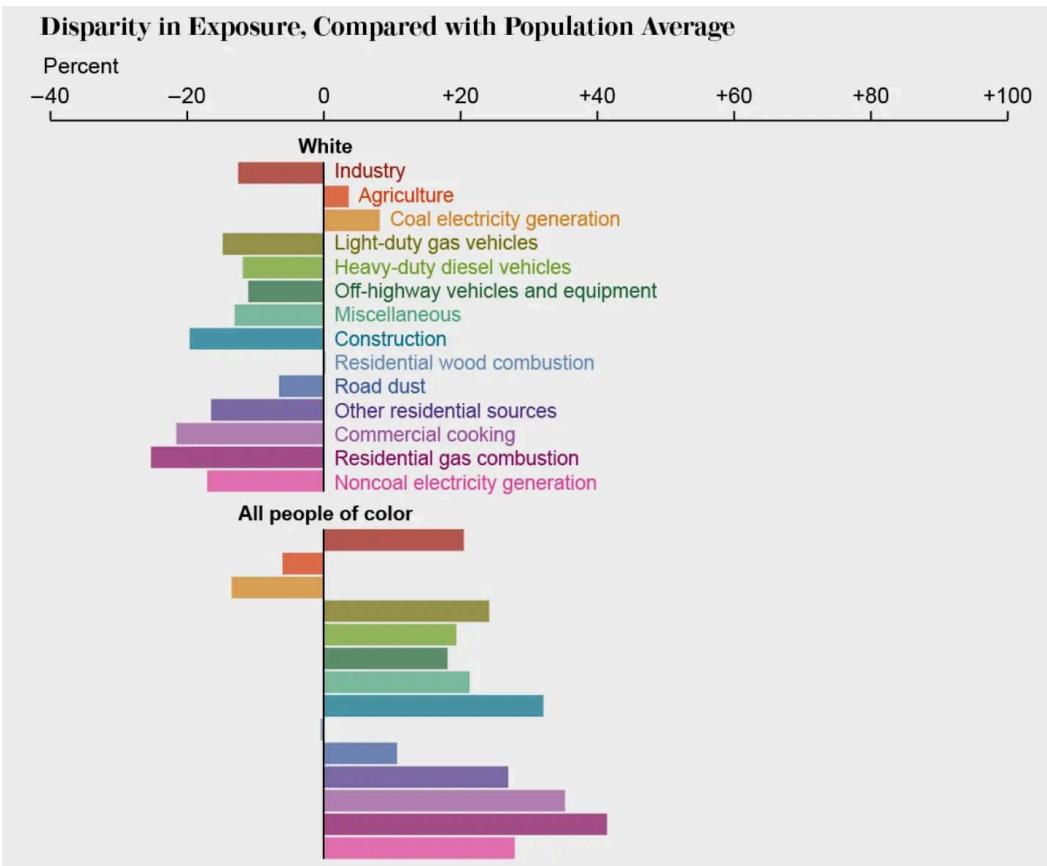


Explore the data →

The burden of climate change does not fall equally, however. Wealthy countries, which account for the largest share of historical and current emissions, experience fewer immediate consequences compared to poorer, lower-emission nations. For example, North America, with only 5% of the world's population, is responsible for 18% of global CO₂ emissions, while Africa, with 16% of the world's population, contributes just 4%. Moreover, developing countries like the Philippines, which produces only 0.35% of total world's emissions of CO₂, suffer disproportionately from climate-related hazards due to their geographic vulnerability and limited resources for adaptation. This imbalance highlights a troubling reality: countries least responsible for climate change face the most severe consequences, while those most responsible remain relatively insulated from its direct impacts ([Linking Climate and Inequality, 2021](#)).

Racial Disparity

Racial disparities in climate-related impacts highlight how marginalized communities, especially people of color, face a disproportionate share of environmental hazards. In the United States, Black, Latinx, Native American, Pacific Islander, and Asian communities are at a higher risk of adverse health outcomes from extreme weather events, pollution, and other climate stressors ([Berberian et al., 2022](#)). Research shows that these groups often live in areas with greater exposure to pollutants, regardless of their contribution to pollution. For example, studies indicate that Hispanic and African American individuals experience significantly higher pollution exposure than they generate, while White populations generally encounter less pollution than they produce ([Linking Climate and Inequality, 2021](#)). This imbalance contributes to an increased risk of respiratory illnesses, cardiovascular disease, and mental health issues among communities of color, as they face greater exposure to environmental toxins and climate-induced events.



Disparity in emission exposure graph. Graph: Science Advances (2021)

- **White People** (top section): Most bars are on the left side, indicating they experience *less exposure* than average to various pollution sources. For instance, White individuals have significantly lower exposure to pollution from "Residential gas combustion," "Commercial cooking," and "Heavy-duty diesel vehicles."
- **People of Color** (bottom section): The bars generally extend to the right, meaning they experience *higher exposure* than average to these pollution sources. Notably, people of color face disproportionately high exposure to pollution from sources such as "Residential gas combustion," "Commercial cooking," and "Construction."

Health Disparity

Racial and health disparities intersect in climate change impacts, as marginalized communities, especially communities of color, face heightened exposure to climate-related hazards and their health consequences. As illustrated from the figure above, it highlights that non-White American populations are exposed to higher levels of pollution relative to their contributions, while White populations experience lower pollution levels compared to what they produce ([Berberian et al., 2022](#)). Further compounding these disparities, extreme weather events, like hurricanes and heatwaves, disproportionately impact under-resourced communities,

leading to increased hospitalizations, mental health issues, and long-term health deterioration. For example, Black communities face higher risks of heat-related deaths and childhood asthma linked to air quality, while Hispanic communities, who make up a large portion of outdoor laborers, have elevated risks for heat-related illnesses ([Ndugga & Artiga, 2023](#)).

Historical policies, such as redlining, have contributed to these health disparities by segregating people of color into urban areas with fewer resources and higher exposure to environmental hazards. As climate change intensifies, these communities face increased challenges in coping with health risks, with limited access to health care, social resources, and infrastructure for disaster response ([Ndugga & Artiga, 2023](#)).

Summary

The disparities in climate change impacts reveal a pressing need for equitable climate action that considers the unique vulnerabilities of different populations. Marginalized groups, including younger generations, low-income individuals, communities of color, and residents of high-risk geographical regions, bear a disproportionate share of climate-related burdens despite contributing the least to the root causes. The intersection of factors such as generational divides, economic status, racial and geographic vulnerabilities, and health inequities amplifies these challenges, demonstrating that climate change is not only an environmental issue but also a social justice crisis.

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