Smoke and ash blanket San Francisco in September 2020.

A coal plant pollutes the air.

Trouble in the Air

Millions of Americans breathed polluted air in 2020

Every year, millions of Americans are exposed to levels of pollution that American public health groups and international agencies consider unhealthy. Fossil fuel combustion is one of the largest sources of air pollution that comes from human activities.

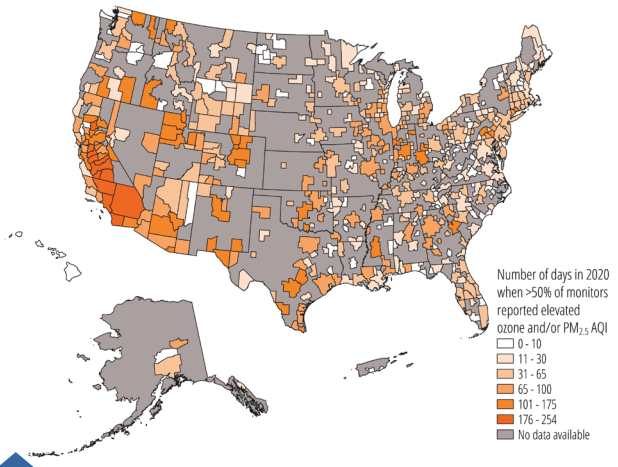
There is no "safe" level of air pollution

- Air pollution in the U.S. causes hundreds of thousands of premature deaths annually and can affect your heart, lungs, brain, and reproductive system, while increasing the risk of cancer and infectious diseases like COVID-19.
- The Environmental Protection Agency's threshold for "good" levels of ozone and fine particulate matter ($PM_{2.5}$) are well above the World Health Organization's safety standards.
- Many studies and international organizations have concluded that no level of air pollution is safe.

Air pollution was widespread in 2020

In 2020, 237.6 million Americans – more than 70% of the population – were exposed to over a month of elevated ozone and/or fine particulate pollution.

206 million Americans were exposed to over a month of elevated $PM_{2.5}$ pollution, and 70.9 million to more than a month of elevated ozone pollution.



Both urban and rural areas experienced frequent elevated air pollution levels in 2020.

Location	Number of days with ozone and/or $PM_{2.5}$ AQI over 50	Population
Los Angeles-Long Beach-Anaheim, CA	209	13,109,903
Phoenix-Mesa-Chandler, AZ	149	5,059,909
Riverside-San Bernardino-Ontario, CA	203	4,678,371
San Diego-Chula Vista-Carlsbad, CA	232	3,332,427
Denver-Aurora-Lakewood, CO	129	2,991,231
San Antonio-New Braunfels, TX	101	2,590,732
Sacramento-Roseville-Folsom, CA	122	2,374,749
Austin-Round Rock-Georgetown, TX	103	2,295,303
Cincinnati, OH-KY-IN	103	2,232,907
Indianapolis-Carmel-Anderson, IN	112	2,091,019

Ten most populous locations that experienced >100 days of elevated ozone and/or $PM_{2.5}$ in 2020.

Global warming and air pollution are linked

Burning fossil fuels produces more than just health-threatening ozone and particulates – it also produces greenhouse gases that are warming our climate. Global warming is likely to make air pollution worse in the years to come.

- Higher temperatures, which global warming will make more frequent, can increase ozone levels.
- Global warming could decrease air circulation, trapping pollution near the ground where it is most unhealthy.
- Global warming will continue to increase the frequency and severity of wildfires. Global warming has already caused wildfires in western states to burn more land, burn for longer and burn during more of the year than they did a few decades ago. Wildfire smoke is a major source of particulate pollution.

Policy recommendations

To protect Americans against health-threatening air pollution, policy-makers need to take swift action to reduce burning of fossil fuels and tighten limits on pollution. Key actions include:

- Electrifying heating and hot water systems, industrial processes and the transportation sector.
- Improving access to and the quality of public transportation and infrastructure for walking, biking and other non-driving forms of transportation.
- Increasing the use of renewable energy and incentivizing improved energy efficiency.
- Strengthening air quality standards to levels fully protective of public health and ensuring strong and consistent enforcement of those standards.

Wildfires caused very unhealthy levels of air pollution

Wildfires in 2020 caused very dangerous spikes in air pollution, especially of particulate matter. For instance, on one day in Mono County, California, breathing the air was analogous to smoking 41 cigarettes in a day, and in Portland, Oregon, a county official said that the area had never seen air quality so bad as it got in mid-September 2020.

Transportation is a big polluter

The transportation sector – including cars, trucks, trains and other vehicles – is responsible for a large share of the air pollutants from human sources that damage our health, including:

- 59% of U.S. nitrogen oxide (NOX) pollution in 2017. NOX is one of the precursors to ozone.
- Nearly one-fifth of U.S. volatile organic compound (VOC) pollution in 2017. VOCs are precursors to both ozone and particulates.
- 20% of both primary and secondary $PM_{2.5}$ pollution, according to an EPA study.
- Dust and heavy metals from roads and braking.

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