Environmental Defense Fund

Dangers of Planet-Heating Pollution: The Science and Evidence Are Clear

The Environmental Protection Agency's Endangerment Finding, issued in 2009, is the science-based determination that greenhouse gas pollution harms public health and welfare. It supports EPA standards that cut harmful pollution and protect communities. But this year, EPA Administrator Lee Zeldin is reconsidering that finding and reportedly intends to reverse it, despite mountains of scientific evidence and Americans' firsthand experiences confirming that climate pollution is driving extreme weather events and causing significant harm.

Here are some things you should know:

- **Temperatures are rising.** Observational data show that global average temperatures have already risen 1.3°C (2.3°F) since the pre-industrial era – and since 1970 the continental U.S. is warming 60% faster than the global average.
- **That is because of the burning of fossil fuels.** Scientific evidence that humans are causing climate change is "unequivocal" and clearly shows that most of the rise in temperatures is due to the burning of fossil fuels. Burning fossil fuels releases carbon dioxide, which, along with other greenhouse gases like methane and nitrous oxide, traps heat in the atmosphere. Levels of these gases are now higher than they have been in over 800,000 years. Since the pre-industrial era, the U.S. has contributed more climate pollution to the atmosphere than any other country.
- **Increased heat changes the climate, resulting in more frequent and intense extreme weather events.** These include extreme temperatures on land and in the ocean, heavy precipitation events, and droughts as well as enhanced conditions for wildfires. Even more than in 2009, scientists can determine how climate change affected the likelihood or severity of many extreme weather events – like making the 2021 Pacific Northwest heat wave eight times more likely.
- **Climate change endangers our lives and health.** Extreme heat exposure now causes thousands of deaths, over 100,000 emergency room visits, and approximately $100 billion in lost labor productivity a year across America. Higher temperatures worsen air quality and increase spread of diseases like Lyme and West Nile. Wildfire smoke exposes millions to unhealthy air, resulting in heart and lung disease and deaths.
- **Climate change endangers the ecosystems we depend on.** Warmer winters reduce snow pack, posing an unprecedented threat to the water supply for millions throughout the Western United States. That means less water to drink, grow crops, create electricity, and provide recreation. Higher temperatures also kill coral reefs and trees, and threaten water quality by enhancing the growth of pathogens and harmful algal blooms. Shifts in weather patterns can lead to lower crop yields, increasing prices and reducing quality of household staples like rice, coffee and wheat.
- **Climate change endangers our infrastructure and economy.** Almost 150 million Americans were living in coastal areas as of 2020, where sea level rise is worsening flooding; some communities have already had to relocate, and others are spending billions of dollars to remain in place. Climate change is also contributing to more intense rainfall events, leading to flooding, infrastructure damage, and contamination of drinking water. Increased disaster costs are disrupting insurance markets, raising costs for Americans and, in some areas, making it difficult to obtain coverage.

Climate harm indicators by the numbers, 2009 vs. now:

The scientific evidence was clear that climate pollution endangers public health and welfare when EPA issued the Endangerment Finding in 2009 – but it is even clearer now.

Indicator	Circa 2009	Circa 2024	Change
Atmospheric CO_2[1]	390 ppm	431 ppm	▲ +41 ppm, or a 10.5% increase
Global sea level rise (compared to 1993-2008 average)[2]	+1.26 inches	+3.39 inches	▲ +2.13 inches
U.S. billion-dollar disasters (inflation-adjusted)[3]	9 events 43 Americans killed $19.8B economic cost	27 events 568 Americans killed $182.7B economic cost	▲ 200% increase in events; exponential increase in deaths, cost
U.S. average temperature[4]	8 of the top 10 hottest years on record have occurred since 2009		
U.S heatwave frequency[5]	4.7 events per year	6.3 events per year	▲ 34% increase
U.S. heatwave duration[6]	3.7 days	4.3 days	▲ 17% increase

Clean solutions cut pollution and save Americans money:

Cost-effective clean transportation and clean energy solutions exist that save consumers money and support a high quality of life for all Americans. Carbon-free energy sources such as wind, geothermal, and solar photovoltaic are the least expensive sources of electricity per megawatt-hour in the United States. Wind and solar generation have been growing steadily. Sales of electric vehicles have also increased substantially in the U.S. – reflecting improvements in technology and reductions in cost – and consumers who choose EVs can save thousands of dollars in avoided fuel and maintenance costs.

***

Administrator Zeldin's attack on the Endangerment Finding is cynical and deeply damaging given the mountain of scientific evidence supporting the Finding, the devastating climate harms Americans are experiencing right now, and EPA's clear obligation to protect Americans' health and welfare.

[1] May 2009 vs. May 2025; NOAA
[2] June-August 2009 average vs. June-August 2024 average compared to 1993-2008 average; NOAA
[3] 2009 vs. 2024 CPI-adjusted; NOAA. The 2005-2009 annual average is 8 events (CPI-adjusted); the annual average for the most recent 5 years (2020-2024) is 23 events (CPI-adjusted).
[4] Contiguous U.S. Average Temperature, January-December, 1895-2024; NOAA. The hottest 10 years are: 2024, 2012, 2016, 2017, 2021, 2015, 2020, 2023, 2006, 1998.
[5] 2000s average vs. 2020s average; EPA
[6] 2000s average vs. 2020s average; EPA

For more information, please contact Sharyn Stein, 202 905 5718, sstein@edf.org

Environmental Defense Fund
257 Park Avenue South
New York, NY 10010

A vital Earth. For everyone.
EDF.org
T 212 505 2100