



Comments of the Center for Climate and Energy Solutions

Comments of the Center for Climate and Energy Solutions on Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards (40 CFR Parts 85, 86, 600, 1036, 1037, and 1039 (July 29, 2025)) Docket ID No. EPA-HQ-OAR-2025-0194; FRL- 12715-01-OAR

This document constitutes the comments of the Center for Climate and Energy Solutions (C2ES) on the proposed reconsideration of the 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards published in the Federal Register on July 29, 2025.

C2ES is an independent, nonprofit, nonpartisan organization working to secure a safe and stable climate by accelerating the global transition to net-zero greenhouse gas emissions and a thriving, just, and resilient economy. As such, the views expressed here are those of C2ES alone. In addition, the comments made in this document pertain to sources in the specific industry sector addressed by the Proposal and may not be appropriate for other industry sectors.

Key points

- Scientific analysis and direct observation demonstrate that U.S. Environmental Protection Agency's (EPA) Endangerment Finding is even more valid today than it was in 2009.
- The recently released Department of Energy Climate Working Group report was not prepared in accordance with scientific standards for the federal government and cannot be used to justify a rescission of the Endangerment Finding.
- Growing concentrations of greenhouse gases are directly impacting American's health and welfare by increasing the severity and cost of climate impacts experienced by communities around the United States.
- Reducing emissions from the U.S. transportation sector—the largest domestic emitter of greenhouse gases—is within the EPA's authority to regulate under the Clean Air Act and will deliver hundreds of billions of dollars in net economic benefits by measurably reducing the impacts of climate change.
- Rescission of the Endangerment Finding would be costly for stakeholders—including automakers, technology developers, and state and local governments—who have developed reliance interests around the current greenhouse gas regulatory framework that has been law for over 15 years.
- Based on its historical emissions and its dominant role in the global economy, the United States has both an obligation and a strategic imperative to act conscientiously today by minimizing future greenhouse gas pollution. A safe and stable climate underpins U.S. economic wellbeing and national security.

Introduction

In 2007, the Supreme Court made clear that EPA had the authority to regulate the six well-mixed greenhouse gases (GHGs) because they met the statutory definition of “air pollutants” in section 202(a) of the Clean Air Act (CAA), and directed the EPA to determine a scientific rationale for whether or not they had the responsibility to regulate those gases.¹ In the 2009 Endangerment Finding stemming from that decision, the EPA found unequivocally that they *did* have that responsibility.²

Now, in EPA’s proposed rescission of the Endangerment Finding and the Greenhouse Gas Vehicle Standards, the agency seeks to ignore 15 years of Supreme Court decisions and congressional language affirming the EPA’s authority to regulate GHGs.³ In their effort to renounce responsibility, they provide opaque and inconsistent arguments that contradict the agency’s and the public’s broad understanding of the negative environmental and economic consequences of unregulated and unabated greenhouse gas emissions. In particular, the EPA’s proposed rescission rests on several unsupported or inaccurate claims:

1. The agency questions the overwhelming scientific and observational evidence of human-induced climate change and its negative impacts using a draft Department of Energy report that has not undergone peer review or completed a public comment period, demonstrably misrepresents scientific data, and does not meet federal government-defined standards for scientific information quality, transparency, and reliability.⁴
2. The agency argues the CAA was intended to address only local, instead of global pollution, despite the Supreme Court’s repeated direction that greenhouse gases meet the law’s definition of “air pollutants,” and the historical precedent for the EPA regulating global pollutants in the form of ozone-depleting substances.
3. The agency ignores the CAA’s directive to regulate sources that “contribute to” air pollution, and instead present a flawed and logically indefensible argument that small reductions in greenhouse gas emissions are not materially beneficial.
4. The agency dismisses the realities that cost-effective, commercially available low-emissions vehicle technologies already exist domestically and abroad, and that repealing

¹ Massachusetts v. EPA, 549 U.S. 497 (2007).

² U.S. Environmental Protection Agency, “Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule,” Federal Register, 74:239 (December 15, 2009): 66496-66546.

³ Utility Air Regulatory Group v. EPA, 573 U.S. 302 (2014) held that the EPA may continue to treat greenhouse gases as a “pollutant subject to regulation” (p. 29); West Virginia v. EPA, 597 U.S. 697 (2022) notes that EPA may regulate GHG emissions from existing power plants through emission reduction technologies (p. 5); Title VI of the Inflation Reduction Act of 2022 (Pub. L. No. 117-169 §60101-03;60105) explicitly designates GHGs as air pollutants.

⁴ Climate Working Group (2025) A Critical Review of Impacts of Greenhouse Gas Emissions on the U.S. Climate (Washington DC: Department of Energy, July 23, 2025), https://www.energy.gov/sites/default/files/2025-07/DOE_Critical_Review_of_Impacts_of_GHG_Emissions_on_the_US_Climate_July_2025.pdf; Executive Order no. 14303, “Restoring Gold Standard Science,” Federal Register, 90:102 (May 29, 2025): 22601-22606, <https://www.govinfo.gov/content/pkg/FR-2025-05-29/pdf/2025-09802.pdf>; U.S. Environmental Protection Agency, Scientific Integrity Policy (2012), <https://www.epa.gov/scientific-integrity/epas-scientific-integrity-policy>; Office Of Management And Budget, “Final Information Quality Bulletin for Peer Review,” Federal Register, 70:10 (January 14, 2005): 2664-2677.

the greenhouse gas vehicle standards will cost Americans billions of dollars in climate damage, lost health benefits, and lost vehicle ownership-related savings.

5. The agency disregards the economic risk of repealing these standards in the wake of recently repealed demand-side incentives and reduced enforcement of fuel efficiency standards. Combined, these actions create damaging investment uncertainty that is likely to have far-reaching impacts on the long-term competitiveness of the U.S. auto industry.

We address each of these points in turn, indicating the specific comment solicitation identifier for each issue, as specified in the EPA's request for comment.

Scientific Understanding of Climate Change is Not in Doubt

The science is unequivocal. Anthropogenic emissions of greenhouse gases, including from the combustion of fossil fuels, are increasing the concentration of greenhouse gases in the atmosphere. The accumulation of atmospheric greenhouse gases increases average global temperatures, which contribute to a range of impacts, including more frequent and intense heatwaves, droughts, floods, wildfires, ecosystem disruption, sea level rise, and ocean acidification. These impacts have large and growing effects on human health and welfare, including but not limited to heat-related morbidity and mortality, damage from extreme weather events, reduced labor productivity, reduced agricultural productivity, and impacts on fisheries and marine ecosystems. Though highly dependent on complex variables like geography, global position, built environment, and ecosystem characteristics, impacts of a warmer world on local climate and weather events are dangerous and predictable.

Scientific Underpinnings of Endangerment Finding (C-2) and Integrity of Scientific Reports (C-23)

For over a century, the scientific basis for why anthropogenic greenhouse gases emissions cause climate change has been understood.⁵ That understanding continues to be refined by increasingly sophisticated integrated climate assessment models, and informed by empirical record.⁶ Observations of the rise of atmospheric greenhouse gas concentrations, average global temperatures, and the frequency and impact of extreme weather events over the last century or longer are aligned with projections made by the thousands of peer-reviewed studies synthesized in reports from the Intergovernmental Panel on Climate Change (IPCC) and U.S. Global Change Research Program (USGCRP), and by more than a half century of findings from oil and gas companies themselves.⁷

The EPA chooses to discount the findings of the IPCC and USGCRP—globally recognized bodies of authority on the impacts of climate change—on the unsubstantiated basis that the “projections relied upon in the Endangerment Finding” are flawed. Specifically, the agency states:

⁵ “Climate Change Evidence,” NASA, updated October 23, 2024, <https://science.nasa.gov/climate-change/evidence/>; Henning Rodhe and Robert Charlson, “Arrhenius and the Greenhouse Gases,” *Ambio* 26, no. 1 (February 1997): 1–3, <https://www.jstor.org/stable/4314540>.

⁶ “Changes in the Climate,” Center for Climate and Energy Solutions, no date, <https://www.c2es.org/content/changes-in-climate/>.

⁷ G. Supran, S. Rahmstorf, and N. Oreskes, “Assessing ExxonMobil’s Global Warming Projections,” *Science* 379 (January 13, 2023): EABK0063, <https://doi.org/10.1126/science.abk0063>.

With respect to projected increases in GHG concentrations and global temperatures, the projections relied upon in the Endangerment Finding appear unduly pessimistic in light of empirical observations made after it was finalized in 2009 through 2024. The Endangerment Finding relied primarily on IPCC AR4 to predict global temperature increases between 1.8 and 4 degrees Celsius by 2100, an extremely wide and variable range that necessarily impacts the existence, extent, and severity of anticipated dangers to public health and welfare. 74 FR 66519. However, as previously noted, IPCC scenarios depicting worst-case, “business as usual” assessments have been criticized as misleading (2025 CWG Draft Report at 16), and empirical data suggest that actual GHG emission concentration increase and corresponding warming trends through 2025 have tracked the IPCC’s more optimistic scenarios (2025 CWG Draft Report at 18).

Here, the EPA obfuscates the role of climate studies in the 2009 Endangerment Finding both by conflating different studies, and misinterpreting how those studies are being used. The "extremely wide and variable" temperature range from IPCC's fourth assessment report (AR4) is not a single, highly uncertain temperature forecast. Rather it is a summary of six *different* emissions scenarios that consider possible demographic, economic, and technological conditions over the next century. Further, the "worst-case, business as usual" assessments the EPA characterizes as misleading are not part of the six AR4 scenarios the agency referenced to make its 2009 Endangerment Finding, but rather the *highest emitting* scenario modeled by the IPCC in their sixth assessment report (AR6), the RCP8.5 emission scenario.⁸ That "worst case" (RCP8.5) scenario is not treated by the IPCC assessments as "business as usual," but rather describes “a reversal of current technology and/or mitigation policy trends” that—to note—is meant to account for risks elevated by this proposed rescission, in which established emissions mitigation policies are rolled back.

Beyond these mischaracterizations that should be corrected by EPA, the Notice of Proposed Rulemaking (NPRM) neglects the purpose of such temperature projections, which are to provide a counterfactual projection of what *would occur under different emissions scenarios*.⁹ The purpose of IPCC's reports is to help governments make sound policy choices that will reduce the probability of a “worst case” scenario. Leaders have responded accordingly. Since the publication of AR4 in 2007, 195 countries have made commitments to support the Paris Agreement's goal of keeping global warming well below 2 degrees C, and have implemented substantive policy decisions to reduce their emissions impact.¹⁰

⁸ The IPCC presents its modeling of projected greenhouse gas emission pathways through a series of representative concentration pathways (RCPs), that would result in different amounts of radiative forcing by 2100: 2.6, 4.5, 6.0 and 8.5 Wm⁻². RCP 8.5 represents the highest greenhouse gas emissions scenario the IPCC examined. Intergovernmental Panel on Climate Change, *Climate Change Synthesis Report 2023, Summary for Policymakers* (Geneva, Switzerland: IPCC), https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

⁹ Intergovernmental Panel on Climate Change, “Annex I: Glossary,” ed. J.B.R. Matthews, in *Global Warming of 1.5°C*, ed. V. Masson-Delmotte, et al. (Cambridge, UK and New York, NY: Cambridge University Press, 2018), 541-562, <https://doi.org/10.1017/9781009157940.008>.

¹⁰ UNFCCC Secretariat, *Nationally Determined Contributions Under the Paris Agreement: Synthesis Report by the Secretariat* (United Nations Framework Convention on Climate Change, October 28, 2024), <https://unfccc.int/documents/641792>.

In lieu of the comprehensive reports by the IPCC and the National Climate Assessments reported by the USGCRP, which each encompass the work of thousands of individual studies from the global scientific community, and undergo rigorous expert review by scientists and the U.S. government, the EPA relies on a draft report released by the Department of Energy's Climate Working Group (CWG) in July 2025.¹¹ The report was drafted by handpicked scientists widely known for their dismissal of mainstream climate science, has not undergone peer-review, has not completed a public comment process, and demonstrably defies the recent Executive Order for scientific transparency and rigor that this NPRM champions, not to mention pre-existing policies by the Office of Management and Budget and the EPA itself for objectivity and scientific integrity.¹²

The CWG draft report claims that domestic temperatures peaked in the 1930's and have remained more or less stable since those highs, that extreme weather events have not demonstrably increased relative to historical highs, that aggregate sea level rise has been minimal and has in fact fallen in some localities, and that attributing adverse impacts from climate change to anthropogenic emissions requires additional analysis of the role of natural factors and other anthropogenic factors such as urbanization and localized population growth. The draft report fails to note that climate models *do* assess the relative contributions of other natural and anthropogenic factors, whereas many of the arguments in the draft report refuting the impacts of climate change do not. The draft report frequently neglects important contextual information—like historical human intervention—in explaining the data, and in many cases either omits or misreports references to the data they are attempting to use to support their arguments.

For example, the report authors argue that heatwave frequency peaked in the United States in the 1930's and have remained relatively stable since, but do not mention the well-understood climatic perturbation that occurred in the midwestern and eastern United States to cause that peak.¹³ The 1930's Dust Bowl was a period in which widespread loss of vegetation and soil moisture due to over-plowing in the Great Plains converted the hot, dry land into a furnace—heating the overlying air enough to cause a decade of record-setting heatwaves in the Plains, as well as elevated temperatures as far eastward as northern Europe.¹⁴ Examining the EPA's own 130-year record of heatwaves demonstrates that with the exception of the Dust Bowl anomaly, heatwave intensity in the United States has risen over the last twenty-five years, compared to 20th century norms.¹⁵

Similarly, the CWG draft report attempts to demonstrate that wildfire activity is too naturally variable to be a reliable indicator of climate change, showing a graph of U.S. wildfires and annual acreage burned from 1926 to 2023, in which fires apparently peaked at the turn of the 20th century, and have been declining since.¹⁶ The figure only provides an accessible reference for data after

¹¹ U.S. DOE Climate Working Group Draft Report, 2025.

¹² Executive Order no. 14303, "Restoring Gold Standard Science," Federal Register, 90:102 (May 29, 2025); U.S. Environmental Protection Agency, *Scientific Integrity Policy* (2012); Office Of Management And Budget, "Final Information Quality Bulletin for Peer Review," (2005).

¹³ U.S. DOE Climate Working Group Draft Report, 2025; Figure 6.8.3, p. 57-60.

¹⁴ David Hosansky, "1930's Dust Bowl Affected Extreme Heat Around Northern Hemisphere," University Corporation for Atmospheric Research, November 29, 2022, <https://news.ucar.edu/132872/1930s-dust-bowl-affected-extreme-heat-around-northern-hemisphere>.

¹⁵ See Appendix; "Climate Change Indicators: Heat Waves," U.S. Environmental Protection Agency, updated 2024, <https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves>.

¹⁶ U.S. DOE Climate Working Group Draft Report, 2025.

1983.¹⁷ The data pre-dating 1983 appear to be analogous to a 2005 U.S. Forest Service report on the impacts of industrialization on wildfires in the late 19th and early 20th century.¹⁸ The Forest Service report estimates that from 1938–50, 81 percent of U.S. fires occurred in the southeastern United States, and were “incendiary” (or man-made) in nature, noting that prescribed burning was a significant component of farming, grazing, and logging industries in the late 1800’s and early 1900’s, particularly in the southeastern U.S. The CWG draft report makes no distinction between natural and man-made wildfires.¹⁹

These two examples—among many others—demonstrate the lack of transparency regarding data sources and context in this draft report, the lack of critical rigor applied through peer review of the report’s findings, and the disregard for datasets that are in conflict with the report’s conclusions.²⁰ As such, the CWG draft report does not meet the standards defined by EO 14303: Restoring Gold Standard Science that the EPA points to in their proposal to rescind the Endangerment Finding, of requiring reproducibility, transparency, interdisciplinary collaboration, and unbiased peer review. The CWG draft report should not be used as a reliable scientific resource to justify a reassessment of endangerment for greenhouse gases.

Climate Change Endangers the Health and Welfare of Americans

Scientific Underpinnings of Endangerment Finding (C-2)

Like our understanding of climate change itself, the link between climate change and worsening climate impacts is unambiguous and grounded in scientific knowledge, advanced climate modeling, and direct observation. Climate change is a significant and present danger that is already measurably affecting the health, safety, and welfare of U.S. communities. Over the last five years (2020–24), the annual cost of climate-related disasters in the United States has averaged \$150 billion, a nearly eight-fold increase relative to 1980–84.²¹ In the past 20–25 years, compared with the historical average of the last century, increases have been observed in the following: (1) the occurrence of unusually high summer temperatures, (2) drought severity in the west, (3) annual precipitation in the east, (4) extreme single-day precipitation events nationwide, (5) hurricane severity and frequency in the North Atlantic, and (6) acreage lost to wildfires (see Appendix).

While greenhouse gases are indeed a global pollutant, their impacts are experienced on a local, regional, and national level, both in the United States and around the world. Worsening air quality from uncontrolled wildfires impacts respiratory and cardiovascular conditions; hundreds of thousands of acres of farmland have had to be fallowed in the Southwest due to drought; historic flooding—from Texas to Kentucky to Vermont—and hurricanes and tropical storms along the Gulf Coast and Eastern seaboard have led to lives cut short; millions of dollars of lost wages; and

¹⁷ “Wildfires and Acres,” National Interagency Fire Center, no date, <https://www.nifc.gov/fire-information/statistics/wildfires>.

¹⁸ William M. Ciesla and Andrew C. Mason, *Disturbance Events in America’s Forests* (Fort Collins, CO: U.S. Department of Agriculture, Forest Service, FHTET-05-02, January 2005), https://www.fs.usda.gov/foresthealth/technology/pdfs/DisturbancesBook05_02.pdf.

¹⁹ See Appendix.

²⁰ Ayesha Tandon, et al., “Factcheck: Trump’s Climate Report Includes More Than 100 False or Misleading Claims,” CarbonBrief, updated August 13, 2025, <https://interactive.carbonbrief.org/doe-factcheck/index.html>.

²¹ “Billion-Dollar Weather and Climate Disasters: Time Series,” National Centers for Environmental Information, updated January 10, 2025, <https://www.ncei.noaa.gov/access/billions/time-series>.

trillions of dollars of damage to property and the environment.²² Nationwide, home insurance rates are increasing 8.7 percent faster than the rate of inflation, with homeowners in high climate-risk regions like southern California and Florida seeing much steeper rate hikes, or being unable to acquire home insurance at all.²³ These costs demonstrate that a finding of endangerment for greenhouse gases is warranted, and is even more relevant today than it was when the Finding was made in 2009.

Incremental Reductions in Global GHGs are Materially Significant

Proper interpretation of “requisite technology” (C-12)

In addition to questioning the scientific rationale of the 2009 Endangerment Finding, the EPA presents an ‘Alternative Justification for Repeal’ in Section V.A of this NPRM. Here, the EPA incorrectly reinterprets “requisite technology” under section 202(a) of the CAA by claiming that its deployment must produce a “scientifically measurable” (not defined) impact on observable climate trends. They state “there is no requisite technology for light- and medium-duty vehicles” that is “capable of preventing or controlling” greenhouse gases.²⁴ This argument fails on multiple levels. It is predicated on a logically flawed interpretation, is at odds with regulatory precedent, and is technically inaccurate. Because we have an understanding of the marginal impact of every additional ton of carbon emitted to the atmosphere through assessments of the social cost of greenhouse gases, we can quantify the climate impact that even incremental reductions in greenhouse gas emissions from vehicles would produce.

1. Reductions in U.S. vehicle emissions are “meaningful”

On a global scale, U.S. vehicle emissions are not insignificant. If the U.S. road transportation sector were a country, it would be the fifth largest emitting nation in the world.²⁵ But, it is the contribution of U.S. vehicles to national emissions—not global emissions—that is relevant to the EPA’s authority to regulate them under the CAA, because this law covers the emission of air pollutants *in the United States*. The EPA is effectively proposing that it should ignore the largest source of emissions

²² “Wildfire smoke impacted air quality across the United States from 2018 to 2023,” NOAA Climate Program Office, updated August 16, 2024, <https://cpo.noaa.gov/wildfire-smoke-impacted-air-quality-across-the-united-states-from-2018-to-2023/>; Spencer Cole, Ellen Hanak, and Caitlin Peterson, *Agricultural Land Use in California* (San Francisco, CA: Public Policy Institute of California, June 2024), <https://www.ppic.org/publication/agricultural-land-use-in-california/>; “Billion-Dollar Weather and Climate Disasters: Time Series,” National Centers for Environmental Information; Julie M. Whittaker, *Disaster Unemployment Assistance* (Washington, D.C.: Congressional Research Service, RS22022, April 1, 2025), <https://www.congress.gov/crs-product/RS22022>.

²³ “U.S. Department of the Treasury Report: Homeowners Insurance Costs Rising, Availability Declining as Climate-Related Events Take Their Toll,” U.S. Department of the Treasury, updated January 16, 2025, <https://home.treasury.gov/news/press-releases/jy2791>.

²⁴ EPA, *Notice of Proposed Rulemaking (NPRM): Reconsideration of the 2009 Endangerment Finding and GHG Vehicle Standards*, proposed elimination of GHG credit program and compliance provisions, August 1, 2025.

²⁵ According to the Proposed Rulemaking, emissions from light-, medium-, and heavy-duty vehicles collectively account for 80 percent of U.S. transportation sector emissions, 23 percent of total U.S. emissions, and 2.5 percent of global GHG emissions. Inventory of U.S. Greenhouse Gas Emissions and Sinks,” U.S. Environmental Protection Agency, updated July 1, 2025, <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>; M. Crippa, et al., *GHG Emissions of All World Countries* (Luxembourg: Publications Office of the European Union, JRC138862, 2024), <https://publications.jrc.ec.europa.eu/repository/handle/JRC138862>.

within our own borders because other countries pollute, too. Such an argument cannot be reconciled with the CAA's direction to regulate emissions that “cause, **or contribute to**, air pollution” (emphasis added). Congress understood that pollution of the commons can result from many small sources, and that if none are regulated on the basis of their minimal impact, then effective environmental stewardship is not possible. The statutory language of the CAA reflects that understanding, as does the law's historical use to combat domestic emissions of global air pollutants.

In 1978, in response to scientific analysis identifying the dangers of ozone-depleting substances (ODS)—a suite of gases, including chlorofluorocarbons (CFCs), that collectively acted as a global air pollutant by breaking down the UV-protecting ozone layer of the upper atmosphere—the EPA developed a regulation under the Clean Air Act to phase out ODS.²⁶ Like greenhouse gases, the gases were produced from a variety of diverse sources in the United States (including aerosol sprays, air-conditioning coolants, refrigerants, and foam production). Like greenhouse gases, each source accounted for only a fraction of the United States' contribution to global CFC emissions, which in itself was only about 15 percent (the NPRM cites the United States' contribution to annual global greenhouse gas emissions as 11 percent).²⁷ And, like greenhouse gases, their global distribution in the atmosphere endangered the environment in ways that could cause damage to health and welfare on a local scale. So, the EPA regulated them.

From their leadership on this issue, the United States had the diplomatic leverage to encourage other nations to follow suit. By 2008, the Montreal Protocol—a United Nations treaty to ban CFCs—had been ratified by every country in the world, and as of 2021, emissions of ODS have decreased 99 percent since 1989.²⁸ Greenhouse gas regulations of the U.S. vehicle sector have shown similar impacts beyond the geographical boundaries of the United States. During the 10-year period of 2014 to 2024, nearly 20 million regulated vehicles were exported from the United States. U.S.-led vehicle technologies designed to comply with the EPA's standards have also diffused across the globe, accelerating cost declines for clean vehicles, influencing global supply chains, and encouraging similar standards abroad.²⁹

²⁶ Like the six well-mixed GHGs, ODS is a class of ozone-depleting substances that include chlorofluorocarbons, halons, carbon tetrachloride, methyl chloroform, methyl bromide, hydrobromofluorocarbons, and hydrochlorofluorocarbons. Like the six well-mixed GHGs, not every source of ODS used every type of substance, and yet they were regulated as a group under the Clean Air Act. “Phaseout of ODS Under the Clean Air Act,” U.S. Environmental Protection Agency, updated January 6, 2025, <https://www.epa.gov/ods-phaseout/phaseout-ods-under-clean-air-act>.

²⁷ Sanford S. Singer, “Chlorofluorocarbons Are Banned in the United States,” EBSCO, updated 2023, <https://www.ebsco.com/research-starters/politics-and-government/chlorofluorocarbons-are-banned-united-states>; EPA, “Phaseout of ODS Under the Clean Air Act.”

²⁸ “Rebuilding the Ozone Layer: How the World Came Together for the Ultimate Repair Job,” United Nations Environment Programme, updated September 15, 2021, <https://www.unep.org/news-and-stories/story/rebuilding-ozone-layer-how-world-came-together-ultimate-repair-job>; Esteban Ortiz-Ospina, “Emissions of Substances That Deplete the Ozone Layer Have Fallen by More Than 99% Since 1989,” updated April 28, 2024, <https://ourworldindata.org/data-insights/emissions-of-substances-that-deplete-the-ozone-layer-have-fallen-by-more-than-99-since-1989>.

²⁹ United States Department of Commerce, Bureau of the Census, Foreign Trade Division. *TPIS Database: USHS Exports, Revised Statistics for 1989–2023, Unrevised Statistics for 2024*. <https://www.trade.gov/data-visualization/new-vehicle-trade-data-visualization>.

2. The “requisite technologies” exist to reduce global warming through vehicle standards

If the language of the CAA is interpreted plainly, there are many “requisite technologies” that can reduce vehicles’ contribution to greenhouse gas emissions, which the EPA has accounted for at length in its previous rulemakings:³⁰

Conventional Technologies

- engine, transmission, and drivetrain improvements
- aerodynamic enhancements
- tire rolling resistance reduction
- use of lower-carbon fuels (e.g., compressed natural gas and liquefied natural gas).

Advanced Internal Combustion Engine Technologies

- gasoline direct injection
- downsized turbocharged engines
- cylinder deactivation and Atkinson/Miller engines for improved efficiency.

Hybrid and Electrified Powertrains

- hybrid electric vehicles
- plug-in hybrid electric vehicles
- electrification of accessories (e.g., idle stop-start systems, belt-integrated starter-generators).

Zero-Emission Technologies

- battery electric vehicles
- fuel-cell electric vehicles

Notably, these commercially available technologies are further supported by flexible compliance pathways, which grant manufacturers discretion on the mix of technologies to deploy across their fleets to meet greenhouse gas pollution standards.

In contrast, the EPA argues that “requisite technology” should be reinterpreted to mean the reduction in the outcomes of pollution (e.g., warming trends), rather than the ability to reduce the pollution in the first place. Citing the CWG draft report, they claim that reducing light- and medium-duty vehicle emissions in the United States to zero would result in a 3 percent reduction in predicted warming trends, “well below the scientific threshold for measurability.” This reasoning conflates trend detection with climate impact significance. The IPCC AR6, Working Group I concluded with high confidence that global temperature change is “near-linear” to cumulative carbon dioxide emissions over multi-decadal to centennial timescales, meaning “every ton of carbon dioxide emissions adds to global warming.”³¹

The social cost of greenhouse gases (SC-GHGs)—an estimate of the present value of economic damages resulting from the emission of one additional ton of a greenhouse gas like carbon dioxide

³⁰ U.S. Environmental Protection Agency, Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles, 89 Fed. Reg. 27,842 (Apr. 18, 2024).

³¹ Valérie Masson-Delmotte, et al., eds. *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2021), <https://doi.org/10.1017/9781009157896>.

or methane into the atmosphere—is a useful tool for putting the impacts of emissions reduction into relatable economic context. For example, the tailpipe standards this NPRM proposes to repeal were estimated to prevent over 7.5 billion tons of carbon dioxide equivalent emissions over the next 30 years. Considering only the domestic social cost of carbon dioxide (SCC) as defined in 2019 following OMB Circular A-4 guidance, the climate benefit of this rule is between \$10.2 and \$122.4 billion, adjusted for inflation to 2025.³²

The cost of the Federal Vehicle and Fuels Standards and Certification Program at the EPA that would administer this rule for the years 2027–32 was \$110 million in the 2024 fiscal year, meaning that on the merits of climate alone, the benefit of retaining this program is at a minimum ~2 to 10 times greater than its expense to the taxpayer.³³ Accounting for all the ways in which a domestic-only SCC omits tangible monetary impacts to Americans stemming from global effects of climate change, the true benefit is likely orders of magnitude greater than this estimate.³⁴

EPA’s proposed interpretation of “requisite technology” creates a perverse policy incentive to delay or abandon proven technologies simply because the benefits cannot be isolated in global climate metrics within a timeframe that is not explained or considered in EPA’s proposal. The result would increase the atmospheric stockpile of greenhouse gases and worsen climate impacts for decades to centuries at the expense of public health and economic stability.

Rescission Would be Economically Damaging

Rescission of the greenhouse gas standards for new motor vehicles and engines (light-, medium-, and heavy-duty) would raise fuel costs for households and commercial fleets, impose health costs on Americans, undercut ongoing investment and innovation across the U.S. auto supply chain, erode U.S. competitiveness in global vehicle markets, and upend reliance interests that the EPA recognized when it finalized the 2024 standards with appropriate lead time and predictability. It would also forfeit documented energy security and consumer benefits that flow directly from improved vehicle efficiency.³⁵

1. Rescission would increase costs on Americans and U.S. businesses (C-13)

Climate Costs

The Draft Regulatory Analysis (DRA) does not monetize climate damages from changes in greenhouse gas emissions. EPA states plainly: “The EPA does not attempt to monetize the value, if any, of changes in GHG emissions that result from the proposed action,” and further asserts, without any justification, that “any reliable estimate of that value would be orders of magnitude

³² A domestic-limited SC-GHG was last used by the EPA in their 2019 rulemaking for emissions guidelines for existing electric utility generating units. They estimated an interim social cost of CO₂ (SCC) of \$10-12, \$6-11, and \$1-2 per metric ton in 2016\$ for emissions years 2015-2050, and discount rates of 2.5-, 3-, and 7 percent, respectively. Consumer price inflation adjustment to 2025 is \$1.36. U.S. Environmental Protection Agency, *Regulatory Impact Analysis for the Repeal of the Clean Power Plan, and the Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units*, EPA-452/R-19-003, June 2019, https://www.epa.gov/sites/default/files/2019-06/documents/utilities_ria_final_cpp_repeal_and_ace_2019-06.pdf.

³³ U.S. Environmental Protection Agency, *FY 2026: EPA Budget in Brief*, EPA-190-R-25-001, May 2025, <https://www.epa.gov/system/files/documents/2025-05/fy-2026-epa-bib.pdf>.

³⁴ Recent estimates put the central value of the SCC at \$190/ton of carbon dioxide; Resources for the Future, “Social Cost of Carbon 101,” March 13, 2025, <https://www.rff.org/publications/explainers/social-cost-carbon-101/>.

³⁵ EPA, LD/MD Final Rule, discussion of the 2024 vehicle standard’s energy security benefits and drive value benefits, both estimated to provide annualized values of \$2.1 billion.

less than the benefits of the proposed action.” This casts aside the realities of climate-related costs. By contrast, the 2024 greenhouse gas vehicle rules did monetize climate benefits (\$82 billion between the vehicle standards) using EPA’s updated social cost of greenhouse gases, presenting full tables of undiscounted annual, present-value, and annualized climate benefits for 2027–55. EPA also explained that social cost of greenhouse gases is the appropriate value for benefit-cost analyses of policies that affect greenhouse gas emissions. To ensure methodological consistency and transparency, EPA should monetize the climate impacts of its proposed rescissions. If EPA believes climate benefits would be “orders of magnitude less,” it should show the math. Failing to do so arbitrarily biases EPA’s cost-benefit assessments and obscures the tradeoffs that the public expects EPA to transparently evaluate.

Fuel and Vehicle Repair and Maintenance Costs

EPA’s 2024 light- and medium-duty final rule projected tens of billions of dollars in annual fuel savings due to efficiency improvements and electrification.³⁶ Repealing the greenhouse gas standards eliminates the very mechanism that delivers those savings and assumes a 10-year regression back to 2016 model year performance. EPA also acknowledges that gasoline and diesel prices will increase in response to higher demand under the rescinded standards, at an annualized cost of \$1 to \$2 billion.³⁷ Vehicle repair and maintenance costs are also higher under the proposed rescission by EPA’s own analysis.

Health Costs

The DRA casts aside methodological consistency with the 2024 final rules in its modeling of health-related costs. In doing so, it minimizes the particulate matter (PM)-related health benefits of the 2024 final rules which were estimated to save Americans up to \$10 billion in health-related costs. Despite these methodological changes, EPA still acknowledges that, by choosing to rescind greenhouse gas vehicle standards, the agency will be imposing \$2 to \$4 billion in annual health costs on to the American public.³⁸

2. Policy whiplash undermines capital investment and technology deployment.

EPA’s 2024 final rule intentionally phased in requirements to avoid disrupting product plants and to respect redesign cycles that average about five years. These are reliance interests EPA weighed when finalizing the rule.³⁹ Rescission would unwind those expectations mid-stream, forcing manufacturers and suppliers to reprice investments, shelve plant retooling, and delay or cancel product plans. Commenters in the 2024 docket emphasized that clear, forward-dated standards are the market signal needed for multi-year capital planning. EPA acknowledged and acted on that record.⁴⁰ The rescission proposal would reverse that settled approach without providing a comparably reasoned basis.

³⁶ EPA, LD/MD Final Rule, discussion of fuel savings.

³⁷ U.S. Environmental Protection Agency, Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards: Draft Regulatory Impact Analysis, EPA-420-D-25-003 (July 2025), app. B, page 46.

³⁸ U.S. Environmental Protection Agency, Reconsideration of 2009 Endangerment Finding and Greenhouse Gas Vehicle Standards: Draft Regulatory Impact Analysis, EPA-420-D-25-003 (July 2025), app. B, page 42.

³⁹ EPA, LD/MD Final Rule, discussion of PHEV utility factor timing and redesign cycles (~5 years).

⁴⁰ EPA, LD/MD Final Rule, discussion of market-signal certainty comments and final structure through MY 2032.

3. Rescission would harm U.S. competitiveness and manufacturing leadership (C-4),(C-5)

The U.S. greenhouse gas vehicle standards are not just a regulatory backstop for greenhouse gas emissions; they are also a strategic enabler of U.S. automaker competitiveness. Long-term regulatory certainty permits companies to invest in upfront research and development (R&D) and retooling costs while balancing short-term market pressures. The level playing field provided by the standards support broad investments in domestic technology suppliers (e.g., batteries) which require stable demand signals to scale. Absent these standards, U.S. automakers are more likely to underinvest in the technologies required to remain competitive and maintain access to key export markets.

EPA's 2024 rule rests on a robust record that manufacturers are competing in a global market where emissions targets and plug-in demand are spurring large-scale investment. The EPA concluded those dynamics support feasibility and the necessity of a steady but ambitious trajectory.⁴¹ Retreating now would signal regulatory back-pedaling just as peers and competitors worldwide are consolidating advantages in advanced batteries, electric drivetrains, and high-efficiency internal combustion engine (ICE) components, raising the risk that domestic suppliers miss scale economies, export opportunities, and workforce development gains captured by jurisdictions with clearer standards.

U.S. automakers will face heightened challenges in maintaining competitiveness within key export markets that already enforce greenhouse gas emissions limits. Canada, the largest importer of U.S. vehicles globally to which the United States exported over \$23 billion in vehicles in 2024, requires importers of new vehicles to meet fleet average emission standards for greenhouse gases.⁴² The second largest importer of U.S. vehicles, Germany, under the European Union's emissions limits for cars, vans, and trucks, is subject to carbon dioxide standards that will require 100 percent reductions for new vehicles by 2035 and effectively phase out ICE vehicles.⁴³

By rescinding the greenhouse gas standards in the United States, EPA would be removing the most effective policy enabler to keeping the U.S. relevant in the global automotive market.

4. Rescission would disrupt long-term planning by automakers, suppliers, states, and cities contrary to reliance interests relevant under the APA. (C-4), (C-5), (C-7)

EPA's 2024 rule recognized appropriate lead time, periods of stability, and phased schedules (including for small-volume manufacturers) to align with redesign cycles and compliance strategies.⁴⁴ Those are precisely the kind of reliance interests that agencies must consider when changing course on established regulatory decisions. The NPRM, by contrast, proposes to abolish the greenhouse gas standards, including the credit architecture manufacturers and jurisdictions across the United States have embedded into their compliance and investment planning.⁴⁵ Removing the standard and zeroing-out credits mid-program would scramble existing allocations

⁴¹ EPA, LD/MD Final Rule, global competition and investment trends underlying feasibility.

⁴² Environment and Climate Change Canada. *Greenhouse Gas Emissions Performance for the 2023 Model Year Light-Duty Vehicle Fleet: In Relation to the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations under the Canadian Environmental Protection Act, 1999*. Gatineau, QC: His Majesty the King in Right of Canada, 2024.

⁴³ European Parliament. "EU Ban on Sale of New Petrol and Diesel Cars from 2035 Explained." Last modified June 30, 2023. <https://www.europarl.europa.eu/news/en/headlines/economy/20221019STO44572/eu-ban-on-sale-of-new-petrol-and-diesel-cars-from-2035-explained>.

⁴⁴ EPA, LD/MD Final Rule, lead-time and stability provisions, including for small-volume manufacturers.

⁴⁵ EPA Reconsideration of 2009 Endangerment Finding, August 1, 2025

of risk and capital and strand investments premised on standards that have existed for over 15 years under settled law and judicial precedent.

Under the predictability of the existing greenhouse gas vehicle standard, states and local jurisdictions have offered significant financial incentives to attract investments from manufacturers across the supply chain of more efficient vehicles. As of July 2024, 76 EV manufacturing facilities received state and local incentives in the United States, equivalent to \$24 billion in grants and tax abatements.⁴⁶ The extreme disruption caused by this proposed rescission will be of significant and damaging consequence to the battery plants, vehicle assembly and parts manufacturing facilities, battery recycling, and minerals businesses that have aligned investments, workforce development, and community partnerships around existing rules.

5. Rescission would slow growth in U.S. sectors now creating substantial economic growth.

Downstream industries, from critical mineral processing and battery cell manufacturing to charging, clean fuels, and grid services, are scaling in response to steady transportation standards and complementary state clean fuel markets. The record shows that market-based standards generate durable demand signals and interstate flows of low-carbon energy, with associated supply-chain and workforce benefits. Repealing the greenhouse gas standards undercuts that demand, narrows offtake certainty, and risks idling nascent facilities and local workforces configured around the 2024 federal trajectory.

For these reasons, and in light of the serious reliance interests across industry, states, and consumers, EPA should withdraw the proposed rescission and maintain the 2024 light-, medium-, and heavy-duty greenhouse gas standards.

Conclusion

Our nation's economic well-being and security depend on a safe and stable climate. By ignoring that reality, EPA has abdicated its responsibility to protect the public health and welfare—and taken steps that, if finalized, will lead to a less prosperous America.

C2ES calls on EPA to continue its mandated role in safeguarding the public's wellbeing by upholding the Endangerment Finding and maintaining greenhouse gas vehicle standards under CAA section 202(a). Repeal would be scientifically unfounded, legally unjustified, economically harmful, and ethically indefensible.

⁴⁶ Atlas Public Policy. *Tracking the State of U.S. Electric Vehicle Manufacturing*. Washington, DC: Atlas Public Policy, 2024.

Appendix

Figure 1: CWG Draft Report Heatwave Analysis and Figure 2: EPA U.S. Heat Wave Index by Decade

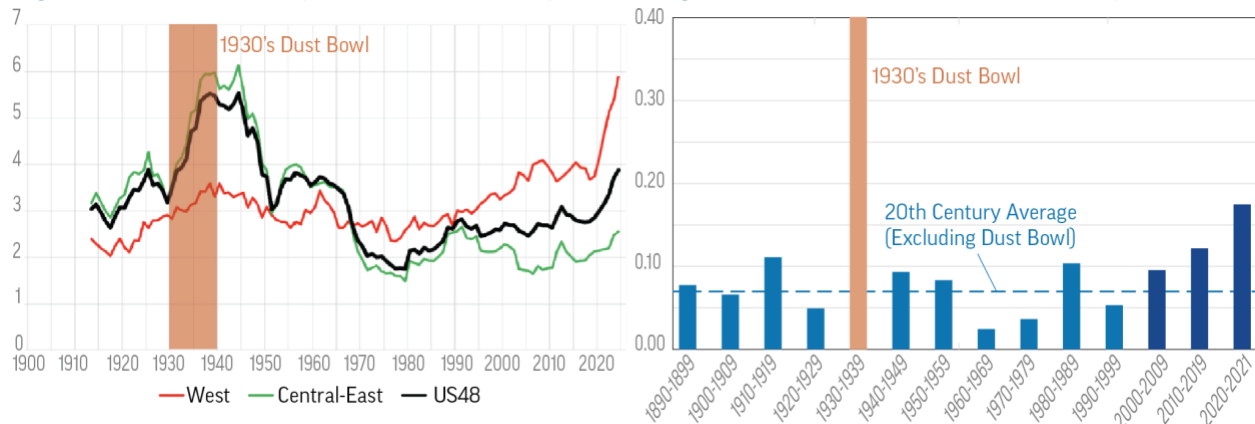


Figure 1: 15-year trailing average of number of heatwave days per year per United States Historical Climate Network (USHCN) station in the Continental U.S. (black line) and two regions: West (red), Central-east (green), reproduced from the CWG Draft Report, figure 6.3.6 (scaled for legibility, and emphasis on the Dust Bowl period added).⁴⁷ Notably, there are significantly more stations in the Central and East U.S. than the West—which was relatively unaffected by the Dust Bowl—weighting the U.S. average disproportionately. Additionally, the limited extent of the Dust Bowl’s impact is obscured by the 15-year trailing average, which lags behind the actual climactic recovery of the 1940’s.

Figure 2: The EPA’s Heat Wave Index (shown here by decadal average) is a measure of how often and how widespread heatwave events are in the contiguous United States. The index defines a “period lasting at least four days with an average temperature that would only be expected to persist over four days once every 10 years, based on the historical record.”⁴⁸ Excluding the 1930’s, the average heatwave index of the 20th century was 0.07. The decadal heat wave index of the 2000’s was 37 percent higher than this average, but within the range observed in earlier decades. For the 2010’s, it was 74 percent higher, and for the first part of the 2020’s, it was 150 percent higher.

⁴⁷ U.S. DOE Climate Working Group Draft Report, 2025, p. 58.

⁴⁸ “Climate Change Indicators: Heat Waves,” U.S. Environmental Protection Agency, updated June 2024, <https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves>.

Figure 3: CWG Draft Report Wildfire Analysis and Figure 4: USFS and NIFC Wildfire Record

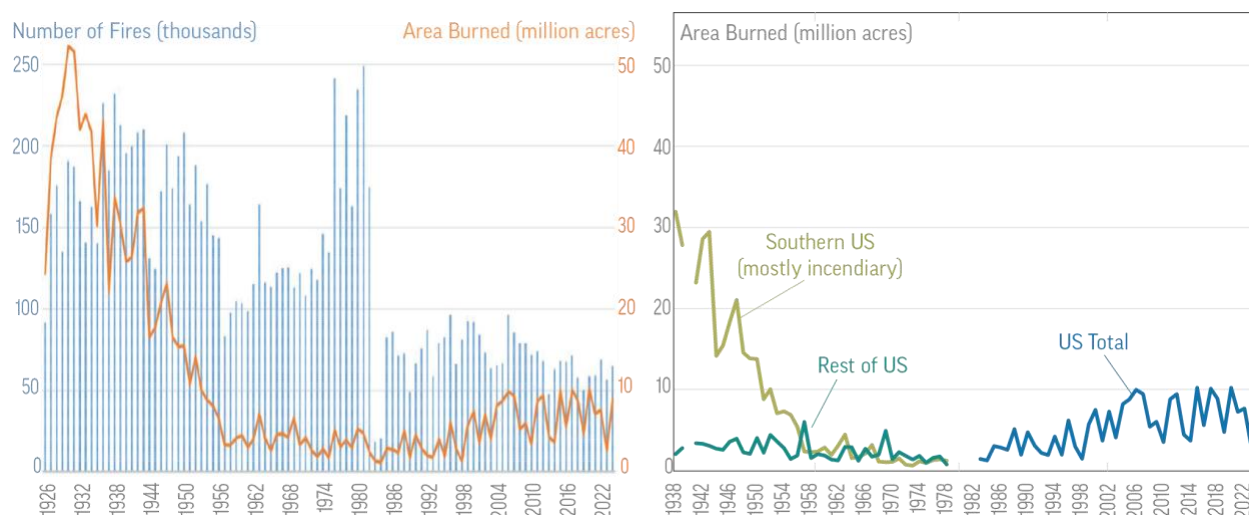


Figure 3: Number of fires and acres burned from total U.S. fires 1926–23, reproduced from the CWG Draft Report, figure 6.8.3 (scaled for legibility).⁴⁹ The report cites the National Interagency Fire Center (NIFC) for the source of data from 2018–23, and does not provide a source for data older than 2018. The report does not distinguish natural from incendiary fires.

Figure 4: Acres burned from U.S. fires 1938–2024, from the U.S. Forest Service (1938–78) and the NIFC (1983–2024).⁵⁰ The U.S. Forest Service data distinguishes fires by region, and notes the anomalously high rate of fires in the Southern United States, where prescribed burning for farming and industry was common until the 1950’s. The average annual acreage burned from 2001–24 was 6.95 million acres, more than double the average annual acreage burned from 1960–2000 (3.32 million acres).

⁴⁹ U.S. DOE Climate Working Group Draft Report, 2025, p. 71.

⁵⁰ “Wildfires and Acres,” National Interagency Fire Center, no date, <https://www.nifc.gov/fire-information/statistics/wildfires>.

Figure 5: Drought Severity in the West and Southwest United States

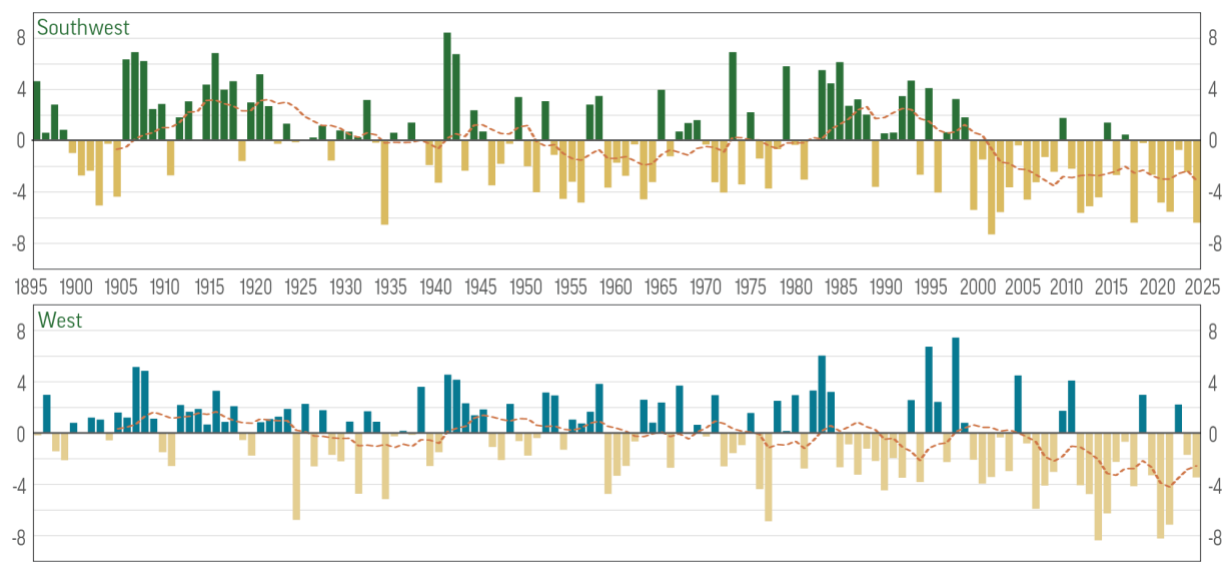


Figure 5: The Palmer Drought Severity Index (PDSI) is a measure that incorporates local temperature and precipitation to quantify long-term drought. The PDSI is shown for the month of July from 1895–2025 for the states Colorado, Utah, Arizona, and Nevada (top panel) and Washington, Oregon, California, Idaho, and Nevada (bottom panel). The orange line is a 10-year rolling average. Adapted from the National Centers for Environmental Information.⁵¹

Figure 6: Change in U.S. Precipitation 1901–2023

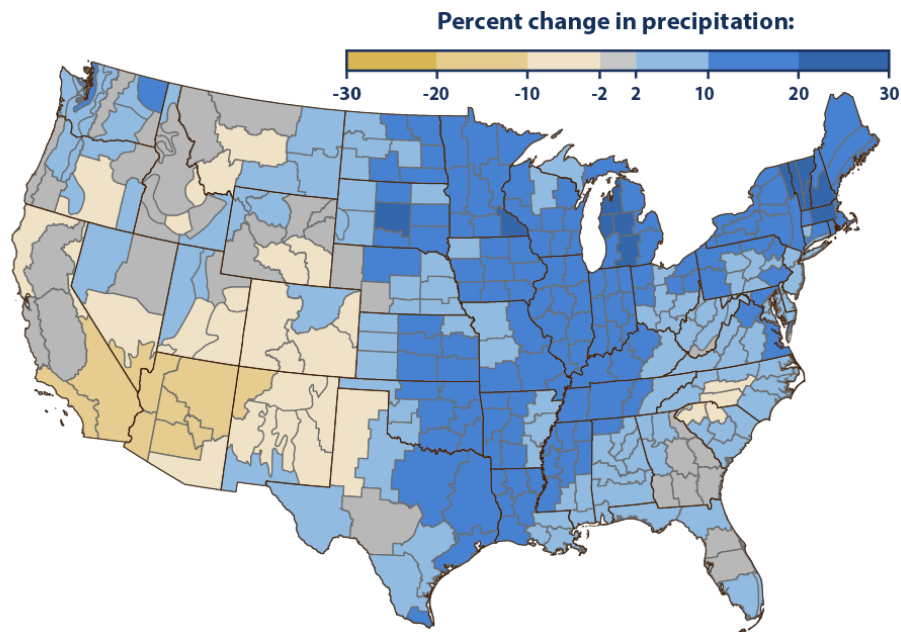


Figure 6: Percent change in total annual precipitation since 1901. From U.S. EPA and NOAA.⁵²

⁵¹ “Climate at a Glance Regional Time Series,” National Centers for Environmental Information, updated August 2025, <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/regional/time-series>.

⁵² “Climate Change Indicators: U.S. and Global Precipitation,” U.S. Environmental Protection Agency, updated June 2024, <https://www.epa.gov/climate-indicators/climate-change-indicators-us-and-global-precipitation>.

Figure 7: Share of U.S. land that experienced an extreme one-day precipitation event

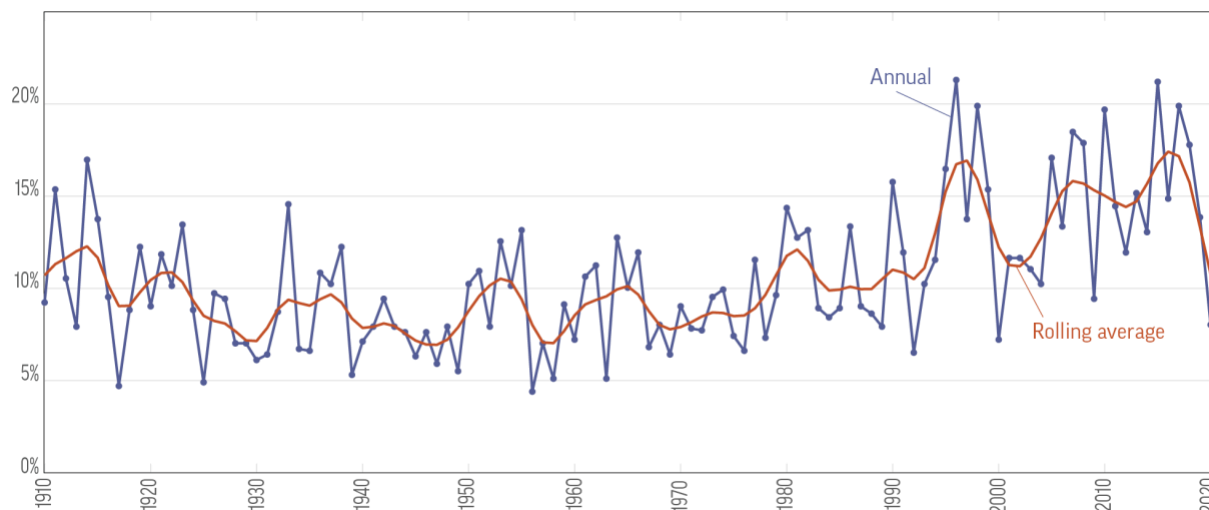


Figure 7: From 2001–2020, the average annual share of land area in the United States that experienced an extreme single-day precipitation event (blue data) was 14.3 percent, 50 percent higher than the 20th century annual average of 9.5 percent. The nine-year rolling average, as published by the EPA, is also shown (red line). Figure adapted from Our World in Data.⁵³ Data source: NOAA via EPA (2024).

Figure 8: Number of North Atlantic Hurricanes by Decade, and Share of Extreme Hurricanes

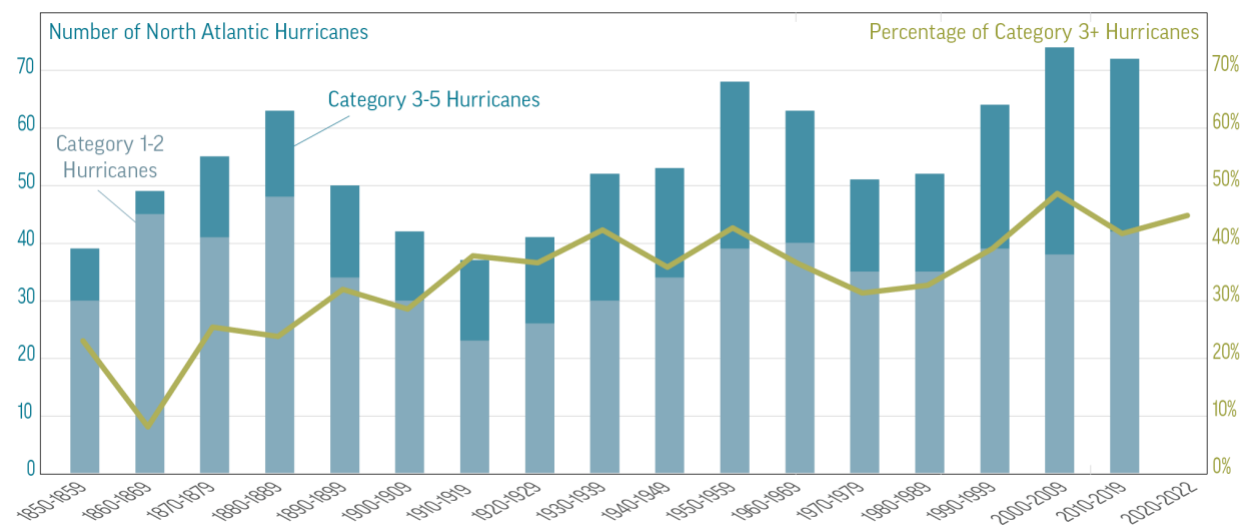


Figure 8: Over the last 50 years, there have been 63 hurricanes per decade, on average. During the first 50 years on record (1850–99), there were only 51 hurricanes per decade, on average. Since 2000, 45 percent of hurricanes were “major,” reaching category 3, 4, or 5 on the Saffir-Simpson hurricane wind scale, which classifies storms based on the intensity of sustained winds. From 1850–1899, 23 percent of hurricanes were “major,” and during the 20th century, 36 percent of hurricanes were “major.” Figure adapted from Our World in Data (same reference as Figure 7). Data source: HURDAT, NOAA (2024).

⁵³ Hannah Ritchie, “How are extreme weather events and the climate evolving in the United States?” Our World in Data, updated May 20, 2024, <https://ourworldindata.org/us-weather-climate>.