

# Five takeaways from a sweeping report on climate change in the US

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A major U.S. government report published today describes how intensifying climate change is disrupting lives and businesses nationwide, even as communities in every state ramp up their response to the crisis.

Over some 2,000 pages, the Fifth National Climate Assessment provides a climate-themed tour of the country, identifying the impacts plaguing every region, how communities are increasingly protecting themselves and how much more action is needed to ensure a safer future. Mandated by Congress and led by the U.S. Global Change Research Program, hundreds of climate experts, from both inside and outside of government, contributed to this assessment. The fifth edition of the report follows the fourth edition, which was published in phases in 2017 and 2018; the first assessment appeared in 2000.

Here are the report's five main takeaways:

1. Climate impacts are here, getting worse and costing a lot of money.

The first sentence of Chapter 1 summarizes the nation's sobering reality: "The effects of human-caused climate change are already far-reaching and worsening across every region of the United States." A small taste of what that means: Warming is happening everywhere, and nighttime temperatures are rising faster than [daytime temperatures](#) in most places, notably reducing crop yields in the Southeast.

Warming isn't just playing out on land. Hot oceans are shifting the distribution of certain marine species, pushing some fisheries to the brink of collapse. Minor and moderate coastal flooding is also on the rise along most Atlantic and Gulf coastlines, a combination of rising seas impacting flooding from [high tides](#) and big storms. Meanwhile, warmer winters are contributing to declining snowpack levels in the Northwest, affecting water supplies and recreation industries.

But the most devastating way people experience climate change is in the form of major disasters, which are not only knocking out power and bringing daily life to a standstill but also destroying homes and claiming lives. Between 2018 and 2022, the country experienced 89 disasters that

each cost at least \$1 billion in damages—a mix of droughts, floods, severe storms, tropical cyclones, wildfires and winter storms. During that time, Texas alone experienced \$375 billion in disaster damages.

## 2. Certain communities are at higher risk.

No one living in the U.S. is safe from climate change, but low-income communities and people of color are disproportionately at risk of experiencing damaging impacts. Such communities have long struggled with pollution; with access to affordable housing, high-quality education, health care and good-paying jobs; and with racism or other discrimination. Layered on top of all that, [climate change](#) becomes one more source of stress and inequality.

In the South, for example, neighborhoods home to racial minorities and low-income people have the highest inland exposure to flooding, concludes the report. Moreover, the report adds, "Black communities nationwide are expected to bear a disproportionate share of future flood damages—both inland and coastal."

## 3. Climate solutions are already being deployed nationwide.

The burning of fossil fuels is the primary driver of greenhouse gas releases into the atmosphere, which are causing the planet to warm. Knowing the source of the problem means we also know how to stop it: by cutting emissions, which can be achieved by transitioning from fossil fuels to cleaner forms of energy, and possibly by using a mix of natural and manmade processes to pull [carbon dioxide](#) and other emissions directly out of the air.

In the U.S., efforts are already well underway to do this. "Annual U.S. greenhouse gas emissions fell 12% between 2005 and 2019," largely due to [natural gas](#) replacing coal for some electricity generation, the report

states. Between roughly 2010 and 2022, cumulative onshore wind capacity, utility-scale solar and EV sales have all gone up nationwide as costs associated with these low-carbon technologies have dropped.

Moreover, since 2018, the number of city- and state-level adaptation plans and related actions around the U.S. increased by nearly a third. There was also a smaller increase in new state-level efforts to rein in emissions during that time.

Take the city of Pittsburgh, which committed in 2021 to be carbon neutral by 2050 and in 2022 started requiring new developments to plan for heavier rainfall. Then there's Phoenix's adoption of a [climate](#) action plan in 2021, committing the city to net zero emissions by 2050.

4. Today's efforts aren't nearly enough to halt global warming.

Back in 2015, the U.S. joined the Paris Agreement, agreeing to limit future global warming to well below 2C, ideally to 1.5C, compared to preindustrial levels. President Joe Biden then set a national target for the U.S. to cut its emissions by at least 50% by 2030 compared to 2005 levels. Now the reality check: The world is on track to warm above 2C, in part because the US, the second biggest current emitter and largest historical emitter, is not on pace to meet its goals.

U.S. net emissions would have to fall by more than 6% each year on average to meet existing targets, according to the report. In contrast, U.S. emissions fell by less than 1% per year, on average, between 2005 and 2019.

5. What now? It depends on us.

The science is clear: The more warming there is, the worse the impacts will be. In a world where the increase in global average temperatures

reaches 2C, compared to the preindustrial era, the average increase in U.S. temperatures will very likely be even higher, between 2.4C and 3.1C. Science can't tell us exactly how hot the planet will get because that depends on what we—society as a whole but especially our political leaders—decide to do. In the U.S., and elsewhere in the world, people have a choice right now to do more to cut their carbon footprint and prevent much worse warming.

"How much more the world warms depends on the choices societies make today," states the report. "The future is in human hands."

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