



AMERICAN WARMING

The Fastest-Warming Cities and States in the U.S.

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Local temperature data from 1970 to 2018 shows warming trends across the country — and Americans are already feeling the effects.

In April 1970, Americans celebrated the first Earth Day, an event meant to heighten public awareness of environmental protection. Since then, humanity has dumped an enormous amount of heat-trapping gas into the atmosphere. Atmospheric CO₂ concentrations rose [by more than twice as much](#) in the half century after the first Earth Day than they did in the entire century before 1970. There is now more CO₂ in the atmosphere than at any point in at [least the last two million years](#).

Humanity's greenhouse gases have made the world hotter. That warming is at the root of many of climate change's dangers, from droughts and sea level rise to heatwaves and agricultural problems. Warming is increasing the frequency and intensity of extreme weather, damaging public health, stressing food and water supplies, shifting seasons and ecosystems, boosting sea levels, damaging infrastructure and local economies, and threatening ways of life.

Americans across the country are experiencing warming — but it's not happening at the same rate in each place. To understand how America has warmed since 1970, Climate Central looked at temperature trends in 242 cities and 49 states.

Heating Up

Since the late nineteenth century, global temperatures have risen by a little more than 1.8°F (1°C) — a seemingly small number that has big consequences. The United States has warmed by a similar amount (1.3°F to 1.9°F since 1895), and most of the warming has [occurred](#) in years since the first Earth Day. That warming has not been equally distributed across the globe, or within the United States.

First, take cities. America's fastest-warming cities all lie in the Southwest — a hotspot for temperature increases. Las Vegas, El Paso, Tucson, and Phoenix have warmed more than any other cities in the country. Each has gotten at least 4.3°F hotter since the first Earth Day.

These examples may seem extreme, but they are not exceptions. Since 1970, temperatures have risen at nearly 98 percent of the U.S. cities assessed by Climate Central. Ten cities have warmed by at least 4°F. Another 59 cities — including Philadelphia, Atlanta, and Houston — have gotten at least 3°F warmer.

Some southern cities, such as Orlando (0.9°F) and Biloxi (0.5°F) have seen smaller temperature increases, but only six of 242 cities examined have gotten cooler, or seen no change.

As for states, temperatures have risen at least 1.8°F in all U.S. states measured, with a national average increase of 2.5°F. While Alaska and some Western states have led the way, the Southern United States has seen far less temperature change. The Arctic is heating up about [twice as fast](#) as the rest of the world; in Alaska, average temperatures have increased by 4.2°F since 1970. Temperatures in New Mexico, New Jersey, Delaware, Arizona, and Utah have risen by at least 3°F since 1970.

Just as there are differences in warming trends across regions, so is there [variation across seasons](#). In most of the United States — including all of the Northeastern, Southeastern, and Midwestern states — winter is the fastest-warming season. In Vermont, for instance, winters have warmed 5°F since 1970. Winter warming can harm economies centered around cold-weather recreation, such as skiing and snowboarding. In the Southeast, warming can make

America's 20 Fastest-Warming Cities

City	Temperature Change (1970-2018)	City	Temperature Change (1970-2018)
1. Las Vegas, NV	5.76°	11. Ft. Smith, AR	3.92°
2. El Paso, TX	4.74°	12. St. Louis, MO	3.85°
3. Tucson, AZ	4.48°	13. Boise, ID	3.84°
4. Phoenix, AZ	4.35°	14. Minneapolis, MN	3.72°
5. Burlington, VT	4.13°	15. Milwaukee, WI	3.70°
6. Chattanooga, TN	4.11°	16. Duluth, MN	3.67°
7. Helena, MT	4.11°	17. Fresno, CA	3.66°
8. Erie, PA	4.06°	18. Odessa, TX	3.59°
9. McAllen, TX	4.03°	19. Houston, TX	3.58°
10. Las Cruces, NM	4.01°	20. Medford, OR	3.51°

Reno, NV excluded. See methodology.

things tougher for fruit producers, whose trees benefit from periodic chilling time. In California, Nevada, Utah, and Arizona, spring is the fastest-warming season, and temperature changes are stretching out those states' [allergy seasons](#).

Hot and Bothered

Warming matters because it drives most of the hazards associated with climate change. Higher average temperatures can boost evaporation, making dry areas drier and making wet places wetter, and in turn encouraging droughts and heavy downpours. Those can be expensive problems. In 2015, a drought [worsened by climate change](#) cost California some \$2.7 billion, according to some estimates. This spring's flooding in the Midwest will likewise cost [billions of dollars](#).

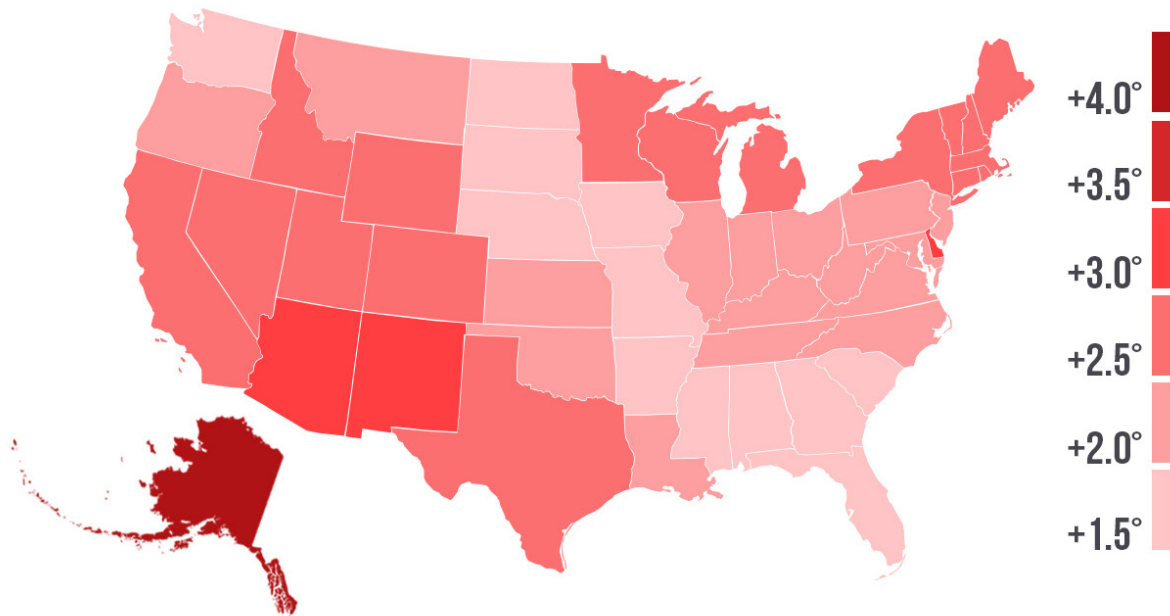
Warming boosts sea levels, increases the height of storm surges, and worsens the downpours accompanying some hurricanes, such as 2017's Hurricane [Harvey](#). Warming is also damaging public health, not just by contributing to dangerous heat waves and expanding the seasonal range of disease-carrying pests such as [mosquitoes](#), but also by exacerbating ground-level ozone [pollution](#). Such pollution, which forms more readily at higher temperatures, is [responsible](#) for thousands of deaths in the United States each year. And in communities on the leading edge

America's 10 Fastest-Warming States

State	Temperature Change (1970-2018)	State	Temperature Change (1970-2018)
1. Alaska	4.22°	6. New Jersey	3.00°
2. New Mexico	3.32°	7. Colorado	2.90°
3. Arizona	3.23°	8. Vermont	2.85°
4. Delaware	3.15°	9. Rhode Island	2.84°
5. Utah	3.02°	10. Connecticut	2.84°

U.S. Warming

Average annual temperature change from 1970 to 2018



Based on linear trends of average annual temperature
Source: NCEI Climate at a Glance.

of America’s climate impacts — such as Miami, where sea level rise is driving frequent tidal flooding— the effects of warming are already shaping everyday life. Warming, in short, is the major link between our greenhouse gas emissions and the dangers of climate change. Without deep cuts to warming emissions, those impacts will worsen.

As with temperature changes, the impacts of climate change vary by region — from droughts and wildfires in the West to flooding and wetter storms in the East. For a comprehensive breakdown of the effects of climate change in your area, see the “Regions” section of the [Fourth National Climate Assessment](#).

Methodology: Temperature change is based on a mathematical linear trend line derived from the annual average temperature. State and national data were compiled from [NCEI Climate at a Glance](#). Individual station data were compiled from the [Applied Climate Information System](#). Trends begin in 1970 for consistency among all stations in the analysis. Reno, Nevada was excluded from ranked tables because of [data inconsistencies](#) unique to that city’s weather station.