

Florida, Texas, Central US could see biggest increase in hot days, new modeling shows

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A new report examines how dangerously high temperatures could increase over the next 30 years and reveals a grim outlook for much of the nation, especially a vast swath of the central U.S. where residents

aren't accustomed to extreme heat.

South Florida is forecast to see the biggest increases in the number of very hottest days, according to a new heat model and assessment by the First Street Foundation. But the report suggests even some of the nation's northernmost counties won't escape the effects of the warming world.

"Extreme heat exposure is increasing across the country," said Jeremy Porter, chief research officer for First Street, a Brooklyn, New York, research and technology group.

The foundation looked at average heat index temperatures—what it feels like outside based on temperature and humidity—on the seven hottest days of the year.

Considering how [climate change](#) could increase the frequency, duration and intensity of dangerously hot days over 30 years, the report found that 94% of the nation's counties could see those days double.

Next year, more than 8.1 million residents in 50 counties could experience at least one day with a heat index above 125 degrees. By 2053, that could grow to more than 105 million residents spanning a third of the country.

The findings build on earlier heat studies; raise questions about how people will handle heat; and offer further proof that communities already should be preparing, experts said.

The new report arrives just as the nation is experiencing a succession of heat waves and broken records.

July was the third-warmest on record in the U.S., and the 76.4-degree average temperature was nearly 3 degrees above normal, the National

Oceanographic and Atmospheric Administration said last week. Texas sweltered under its warmest July on record, while Oregon just saw its fourth-warmest July.

First Street's 2053 projections look different depending where you are.

- Today, temperatures feel like 103° or warmer on the seven hottest days of the year in Florida's Miami-Dade County. That could rise to 34 days by 2053.
- On Martha's Vineyard in Massachusetts, only three days a year feel like 90 degrees, but that number could quadruple to a dozen.
- High in the Rocky Mountains in northern Montana, Glacier National Park could see three days a year when the temperature feels like 90 degrees or more.

Learning the days with a heat index of 100 or more could more than quadruple in Miami didn't much surprise Miami Beach native Steve Keats.

"Nature is after us—heat and sea level rise," Keats said.

What is First Street's report and where can you find it?

A peer-reviewed assessment and [extreme heat](#) model, it's the latest in a series by First Street and its partners looking at warming-related risks in communities across the contiguous United States, including flooding, sea level rise and wildfire. The foundation and its partners put together federal weather records, property records, satellite information and other data for their model, using intermediate global climate projections. It also considered tree cover, paved surfaces and proximity to water.

The public can find the tool, Heat Factor, at RiskFactor.com and look at future property projections and trends over the past 30 years.

Showing past trends should help build trust in the projections, Porter said, because people will see there are more hot days today and a higher probability of heat waves and dangerously hot days.

A heat belt emerges

By 2053, residents in 430 counties in 16 states could see the number of days with their current hottest temperatures more than triple, according to First Street's modeling.

Outside Florida and the Southwest, the counties and states forecast to see the biggest increases are concentrated in an arc northward from Texas and Louisiana on the Gulf of Mexico, north to Missouri and Illinois, and include western Kentucky and Tennessee.

First Street has dubbed that region "an emerging heat belt," because of its risk of exposure to extreme heat index temperatures of more than 125 degrees, Porter said. The low-lying region between the Rocky Mountains and the Appalachian Mountains is "almost a bowl where high humidity sits, and it's interacting with the increased temperatures."

Unlike [coastal areas](#), the region doesn't have sea breezes to cool the air.

A 2021 investigation by U.S. TODAY found the region also has experienced an increase in intense rainfall events from the warming Gulf of Mexico.

The five metropolitan areas with the most neighborhoods that could experience extremely dangerous heat days are St. Louis and Kansas City, Missouri; Memphis, Tennessee; Tulsa, Oklahoma; and Chicago,

according to First Street's report.

Unlike residents in Southern states, people in states such as Missouri and Illinois may be less prepared, less likely to have air conditioners and more likely to experience extreme heat.

Where are other hot spots?

When looking at percent increases, two counties in the top of the Texas Panhandle—Hartley and Oldham— could see the largest increase in days above a 100 degree index, a 600% increase. Counties in North Carolina, West Virginia and Colorado also made that top 20 list.

Colder counties show up more often when looking at the percent increase in days that feel warmer than 90 degrees. Instead of seeing one day a year with a feels-like temperature of 90 degrees, Snohomish County, Washington, north of Seattle, could see five such days a year, a 400% increase.

The country's West Coast has the highest probability of consecutive locally hot days, but feels the greatest cooling effect from the ocean.

What do the projections mean?

The increase in potential heat waves and warmer nights is "really concerning," said Gabriel Filippelli, executive director of Indiana University's Environmental Resilience Institute.

People tend to be able to handle one or two days of hot weather, Filippelli said, but when that stretches to three or four days, human body systems start to break down, especially in children, the elderly and those in lower-income communities.

Filippelli said that when heat concentrates in urban areas, temperatures don't drop at night and people get little, if any, relief.

That can create significant health problems, said Ashley Ward, a climate health scientist at Duke University: "When overnight temperatures remain high, what we're seeing is the body doesn't have a chance to recover from any heat exposure during the day."

Structural changes are needed now to prepare, she said.

Meanwhile, in South Florida, Keats, a shipping-industry executive, has made his own adjustments to avoid heat stress.

"I don't go out much until after 4 p.m. unless I'm in or on the water," he said. "I take siestas, too, on the weekends... because that's what you have to do to adapt to the heat."

More information: RiskFactor: riskfactor.com/

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