

The Washington Post

# Why the Dust Bowl was hotter than this heat wave, despite global warming

Numerous records in the Plains date back to the U.S. Dust Bowl in the 1930s

By [Matthew Cappucci](#)

July 22, 2022 at 1:43 p.m. EDT

A record-shattering heat wave in Europe brought readings topping 40 degrees Celsius (104 degrees Fahrenheit). Hundreds of deaths have been attributed to the event, and five countries — Wales, England, Ireland, Scotland and Germany — set national heat records. In the United States, an even hotter bout of heat has been baking the Great Plains, with temperatures reaching 115 degrees in Oklahoma and Texas.

But while cities like Dallas, Fort Worth, Oklahoma City, Tulsa and Wichita are anticipated to have triple-digit highs essentially until further notice — with heat advisories blanketing the nation's heartland — there's a standout difference in the U.S. event: In the Plains, where much of the heat was concentrated, no state records have been broken so far, while the European heat waves set all-time records. In fact, even the hottest U.S. locations stayed 5 degrees shy of state record temperatures largely set during a multiyear drought more than eight decades ago.

The recent events, mostly unrelated, are tied together by one thing: Neither heat wave was *caused* by climate change, but both were pushed into extreme, record territory by the effects of human influence on the atmosphere.

It's well-known that greenhouse gases are warming the atmosphere, helping tip the scales toward exceptional heat events. Climate change is also contributing to an uptick in flooding, stronger hurricanes and more prolonged droughts.

But even in an era marked by the effects of climate change, it's been so far seemingly difficult to set new records across the U.S. Plains.

# When the U.S. set the most temperature records

If you glance at long-standing records across the Plains, something becomes apparent pretty quickly. A lot of the extant records date back to the 1930s — and, despite decades of warming, they haven't been surpassed since.

**Oklahoma:** Altus, Okla., hit 120 degrees on Aug. 12, 1936.

**Kansas:** Alton, Kan., hit 121 degrees on July 24, 1936.

**Nebraska:** Minden, Neb., spiked to 118 degrees on July 24, 1936.

**South Dakota:** Fort Pierre, S.D., made it to 120 degrees on July 15, 2006.

**North Dakota:** Steele, N.D., jumped to 121 degrees on July 6, 1936.

**Minnesota:** Beardsley, Minn., got to 115 degrees on July 29, 1917.

**Wisconsin:** Wisconsin Dells, Wis., logged a 114 degree reading on July 13, 1936.

**Iowa:** Keokuk, Iowa, climbed to 118 degrees on July 20, 1934.

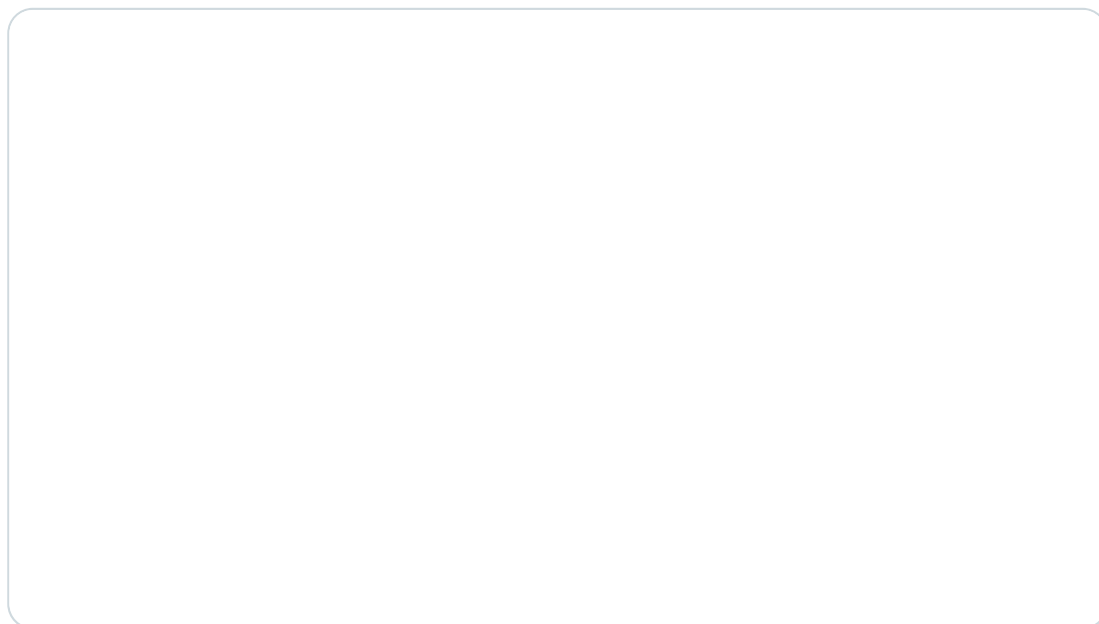
In fact, 23 states and the District of Columbia are still holding onto their records set back in the 1930s.

**Amy Freeze** 

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I guess not everything is bigger in TX! Surprise - the all time high of 120 degrees for the state of WA is the SAME as the Lone Star State! What's the hottest temperature your state has ever reached? [@foxweather](#)



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## What was the Dust Bowl?

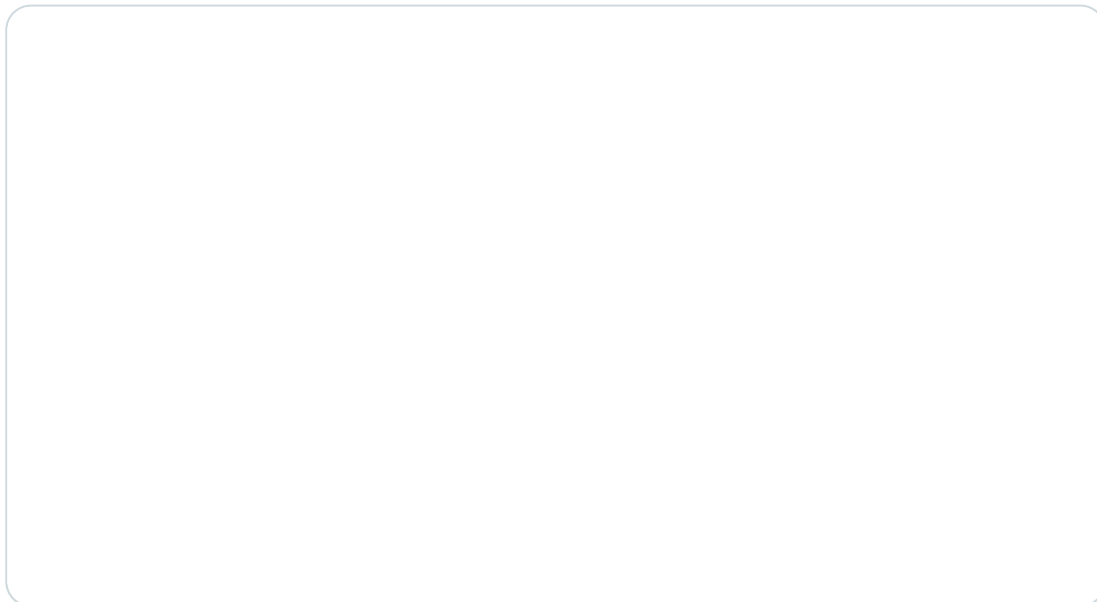
So what was going on in the 1930s? The Dust Bowl, a years-long drought punctuated by sprawling dust storms, transformed parts of the Plains into a wasteland.

**Bill Karins** 

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A few Oklahoma locations flirted with 115° this afternoon. The all-time OK record high temperature goes all the way back to the Dust Bowl era (1930s) when it hit 120° twice



6:00 PM · Jul 19, 2022



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Years of land mismanagement and unsustainable farming techniques degraded topsoil, which killed native species of grass that trapped soil moisture. The result? Unshakable drought and rolling dust storms that could travel hundreds of miles and turn day into night.

Ryan Maue 

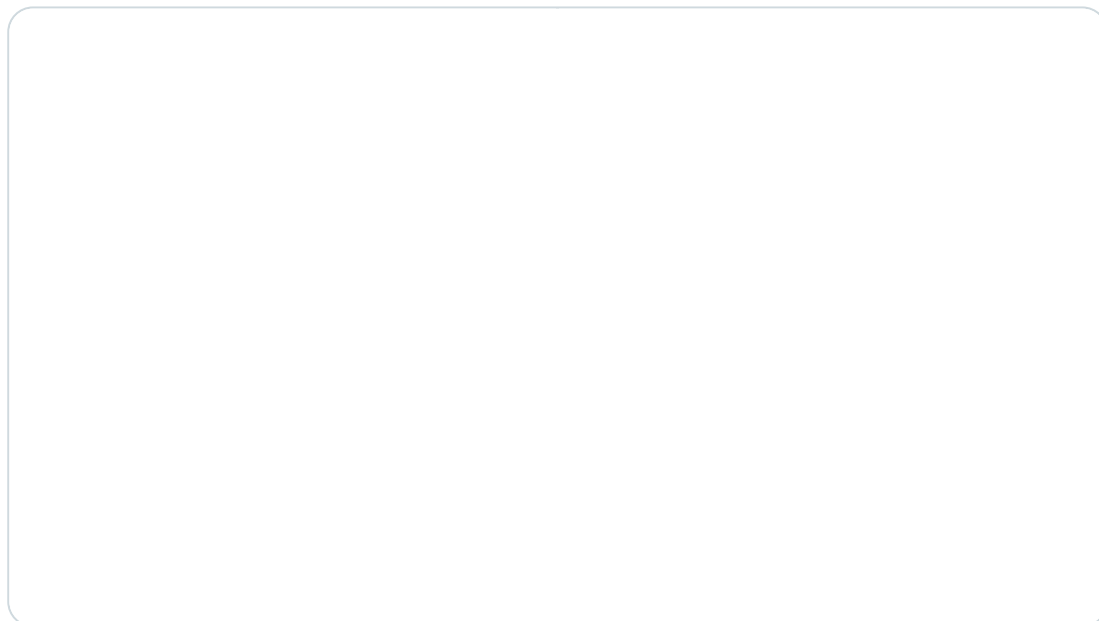
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Hottest day is Tuesday for Oklahoma City at 108°F  and that's not even a record. Ouch.

The daily record is 109°F from Dust Bowl in 1936.

111°F to 113°F maximum in KS/OK/TX 



1:23 AM · Jul 17, 2022



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The lack of moisture meant that the air had a low specific heat capacity; in other words, it didn't require much thermal energy to heat up, and could cool down quickly at night. That allowed temperatures to soar to inconceivable levels — hence the numerous states that made it to 120 degrees during the Dust Bowl.

Officially, the Dust Bowl spanned from 1930 to 1939, but it peaked in 1936 — the year 13 states recorded their record highs. (The hot temperatures more efficiently evaporated what little moisture remained in the soil, desiccating the landscape even more and reinforcing the process).

# Why the Dust Bowl doesn't disprove climate change

Modern farming and irrigation techniques, combined with oversight from the U.S. Department of Agriculture, have limited the odds of another Dust Bowl.

Since the event, the United States has warmed about a degree-and-a-half due to human-induced climate change — but the Dust Bowl remains a favorite anecdote for some who deny climate science.

Steve Milloy, an outspoken opponent of climate scientists and a former member of President Donald Trump's Environmental Protection Agency transition team, frequently cites Dust Bowl-era observations in efforts to undermine recent climate warming.

"July 20, 2022 was hot in the US for sure. But not nearly as hot as July 20, 1934," he tweeted on Tuesday, the day that both Mangum, Okla., and Wichita Falls, Tex., hit 115 degrees.

Atmospheric scientists, including many PhD researchers who have published peer-reviewed studies, assert that comparing the events is like comparing apples to oranges.

"For me, the main issue with the '1930s were hot' meme is that a global perspective shows that the very hot part of the planet was quite small," wrote Andrew Dessler, a professor of atmospheric sciences at Texas A&M, in an email. He shared a plot of temperature anomalies during 1936, noting the greatest departure from average was localized only to the Plains and the Canadian Prairie.

"I think the warmth of the very small region in the middle of the U.S. in the 1930s (mainly 1936) is mainly just random climate variability, but enhanced by farming practices that aridified the region," he wrote.

There are other studies that attempt to link Dust Bowl-era heat to ocean temperature anomalies.

The Earth's atmosphere is irrefutably warming; all seven of the top-seven hottest years on record have occurred since 2015, though reliable global records date back to the 1880s. Last year was the warmest on record for a fifth of Earth's land surface.

The United Kingdom Met Office noted that the recently-concluded historic heat wave in Europe may have been made 10 times more likely thanks to the effects of climate change. The intensity, duration and impact of heat waves is growing due to the effects of human-induced climate change — and a spate of hot, dry weather that occurred back in the 1930s doesn't change that.