

Texas suffers under brutal, early heat wave. Experts say climate change is fueling it.

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The brutal, record-smashing heat wave that's scorching northern Mexico and the south-central U.S., especially Texas, has a connection to human-caused climate change, experts said this week.

How brutal has the heat been? All-time record high temperatures were set or tied in Texas cities such as Del Rio (115 degrees), Laredo (115 degrees) and San Angelo (114 degrees). The heat index, which is how hot it feels to the human body when humidity is factored in, reached an unofficial record of 125 degrees in Corpus Christi.

The Tuesday death of a postal worker in Dallas, where the heat index reached 115 degrees, was blamed on the extreme heat.

Climate change made the heat wave five times more likely, study says

An analysis of data from Climate Central, a science communication group in Princeton, N.J., said that climate change is making the heat wave at least five times more likely.

"Human caused climate change made the extreme and extremely unusual temperatures in Mexico and the southern U.S. much more likely. Heat this intense, this early in the year will create stressful conditions for millions of people," said Andrew Pershing, vice president for science at Climate Central, earlier this week.

Climate Central's findings come from its Climate Shift Index, which is "a model-derived analysis of the likelihood of local temperatures with and without the influence of climate change, expressed on a simplified scale to quantify the degree to which carbon pollution affected average temperature," according to Peter Girard, the Vice President of Communications for Climate Central.

Heat wave is 'extremely unusual'

University of Pennsylvania meteorologist Michael Mann told USA TODAY that this intense June heat wave is "extremely unusual. We're seeing record heat indices (which combine the heat and humidity), for example (unofficially) 125 degrees in Corpus Christi."

Mann agrees that climate change is a factor in the heat wave, along with the natural warming from the El Niño climate pattern, but said "it's difficult to parse out the precise roles of these things at present – that will require some additional diagnostic

work.

"Climate change, as our own work shows, is leading to more of these very persistent 'stuck' summer jet stream patterns, where, for example, a big high-pressure system with hot sinking air gets stuck in one particular region of the country," Mann said. "That's what happened during the 2021 Pacific Northwest heat dome and something very similar is playing out right now over the south central U.S. and northern Mexico."

"Sure, El Niño is having an impact right now on the large-scale atmospheric circulation, and could be playing a role in this current jet stream configuration. But El Niño has happened many times before without giving us such unprecedented weather extremes," he said.

What is a heat dome?

A heat dome occurs when a persistent region of high pressure traps heat over an area, according to William Gallus, professor of atmospheric science at Iowa State University.

"The heat dome can stretch over several states and linger for days to weeks, leaving the people, crops and animals below to suffer through stagnant, hot air that can feel like an oven," Gallus said in an article in the Conversation.

Speaking about the current heat dome, WFLA-TV chief meteorologist Jeff Berardelli tweeted this week that "this configuration, likely enhanced by climate heating, is fueling a record heat dome so extreme that even experts are astonished!" He added that this heat dome is "basically impossible" without climate change.

Heat is a killer

Heat waves are less dramatic than other natural disasters such as tornadoes, hurricanes, flooding or even thunderstorms, but they kill more people in the U.S. than all other weather-related disasters combined – causing hundreds of deaths each year, according to the National Weather Service.

How long will this heat wave last?

Short-term, the heat wave that has plagued the south-central U.S. for much of this month will continue through the weekend, the weather service said.

"High temperatures Friday and Saturday across much of southern New Mexico and into portions of western, southern, and central Texas will range between 105 to 110 degrees," according to the weather service. "Highs closer to the Gulf Coast will be in the upper 90s to low 100s, but dew points in the 70s will contribute to heat indices of 105-115, locally as high as 120 degrees."

Long-term, this extreme heat shows no sign of letting up, lasting possibly through at least the Fourth of July, Weather.com meteorologist Jonathan Erdman said.