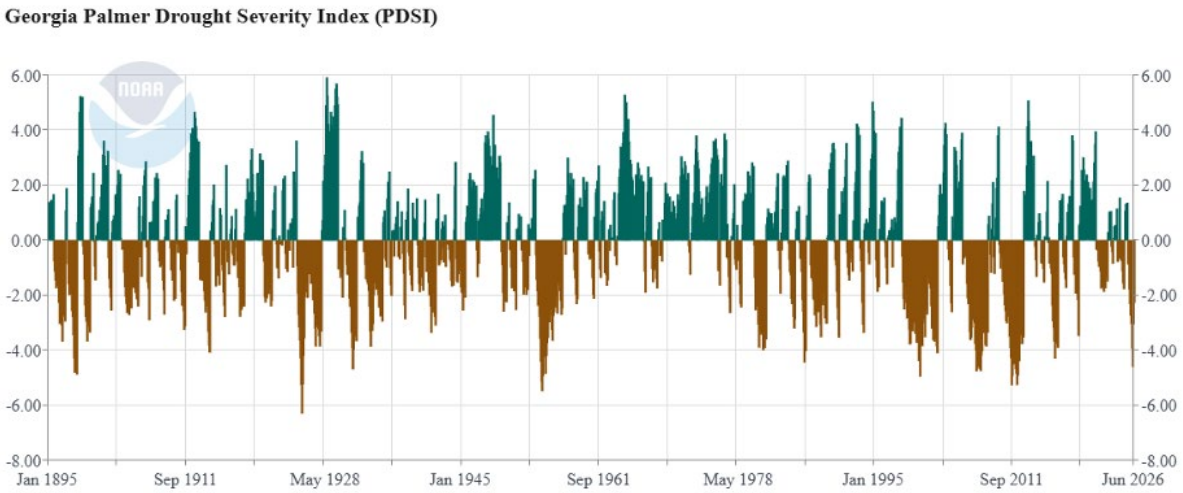
CLIMATE FACT CHECK: JULY 2026 EDITION

'Climate change' is NOT causing droughts, heatwaves, shrinking squid brains, wildfires, snow droughts & more tornadoes

June 23rd: PBS News is wrong; climate change is not causing Georgia's drought

Claim: A recent *PBS News* report asserts that droughts are becoming more frequent and extreme in the southeastern U.S. thanks to climate change. Farmers interviewed by *PBS* claim this year's drought is unprecedented in their lifetimes. Rachel Cleetus, a "climate scientist" at the Union of Concerned Scientists, claimed that "Climate change is making these more frequent, both the short-duration kinds of droughts that we're seeing in some places, but also the longer megadroughts like the Southwest is experiencing."

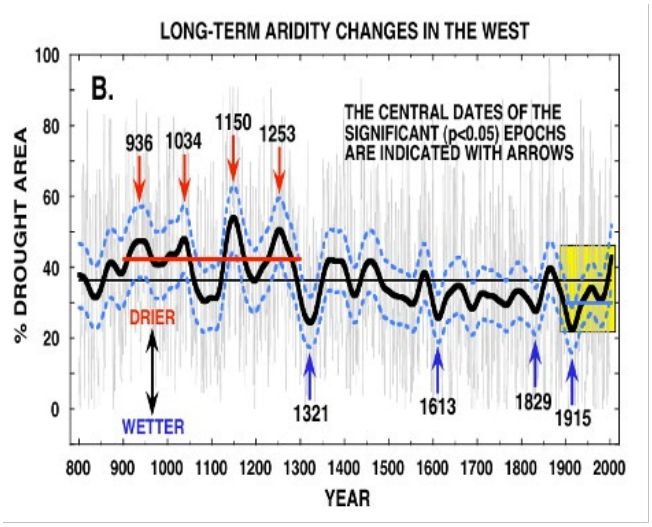
Fact-Check: Observational data debunk these claims. First, drought data from NOAA's National Centers for Environmental Information (NCEI) reveal that not only is the current drought in Georgia not unprecedented, but major prolonged droughts have occurred several times in just the past few decades, as well as much longer ago. Drought conditions in 2011–12 and the mid-1950s, for instance, eclipse today's. Georgia's most severe drought, however, occurred in 1925 when atmospheric carbon dioxide (CO_2) levels were under 310 parts per million by volume (ppmv).

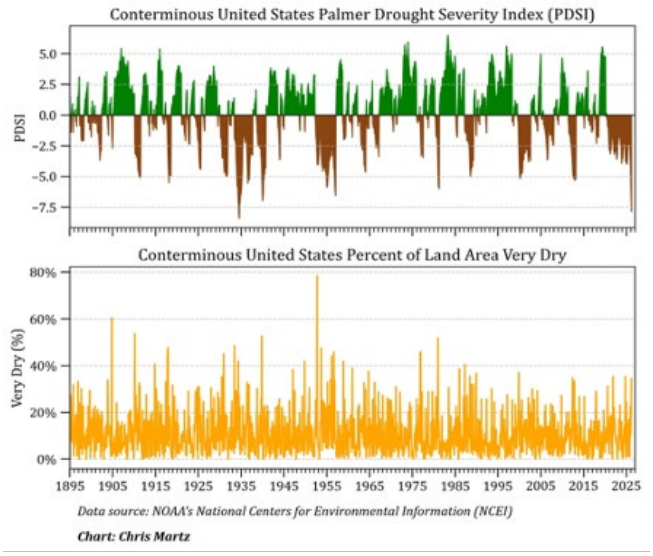


July 7th: Droughts are not becoming more intense and unpredictable, National Academies

Claim: The National Academies published a 221-page report titled "Improving Future U.S. Drought Assessment 2026." The report urges federal agencies to develop a framework distinguishing short-term operational needs (e.g., drought monitoring and emergency response) from long-term planning (e.g., water management and adaptation). In the press release, they state, "Since the beginning of the twenty-first century, the U.S. Southwest has been weathering the nation's first multidecadal megadrought, the most severe of many such droughts over the past 1,200 years." They continue, claiming "Droughts are becoming more frequent and longer-lasting, occurring against a backdrop of long-term regional drying trends in many areas."

Fact-Check: While it is true that the Southwest has been experiencing a severe drought for much of the last 25 years, the drought itself is not unprecedented. The Southwest has a long and documented history of megadroughts dating back thousands of years, several of which have exceeded the current drought. The most recent, the Medieval Megadrought, lasted for more than 400 years from 900–1300 AD, according to a 2004 study authored by researchers from the Lamont-Doherty Earth Observatory and the University of Arkansas (left figure). A 2012 paper published in the *Journal of Paleolimnology* further supports the existence of the Medieval Megadrought. They concluded that water levels in Cliff Lake (located in the Sierra Nevada) were ~5 meters lower than today for a period of ~50 years over 600 years ago. Although much of the nation has been in drought this year, there has been no discernible change in either drought frequency (bottom right) or severity (top right) since 1895 according to data from NCEI.

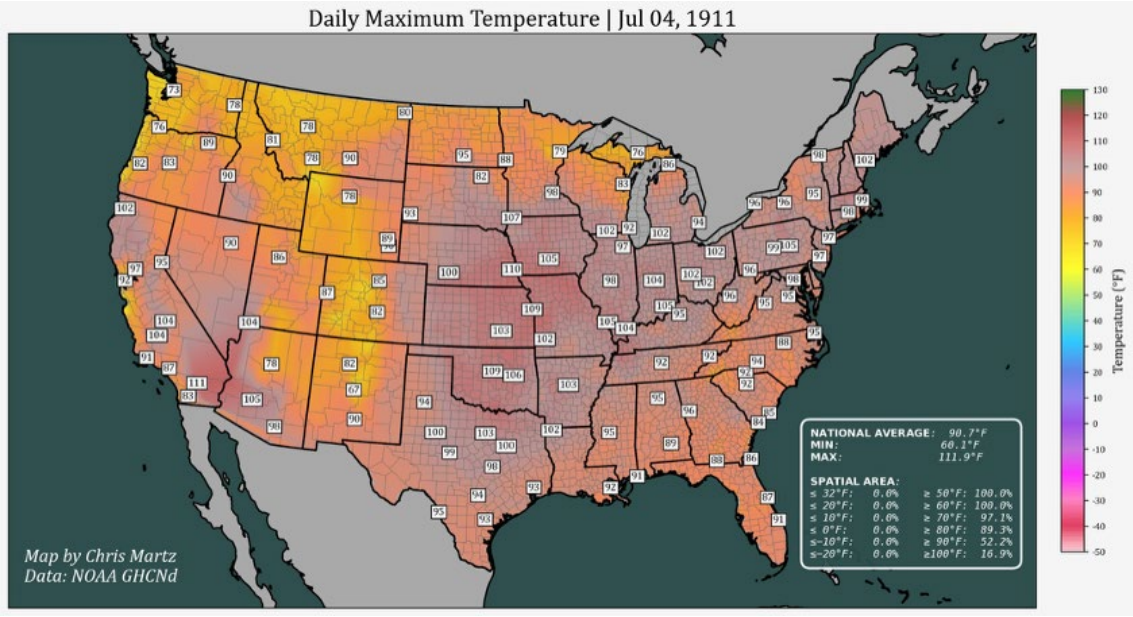


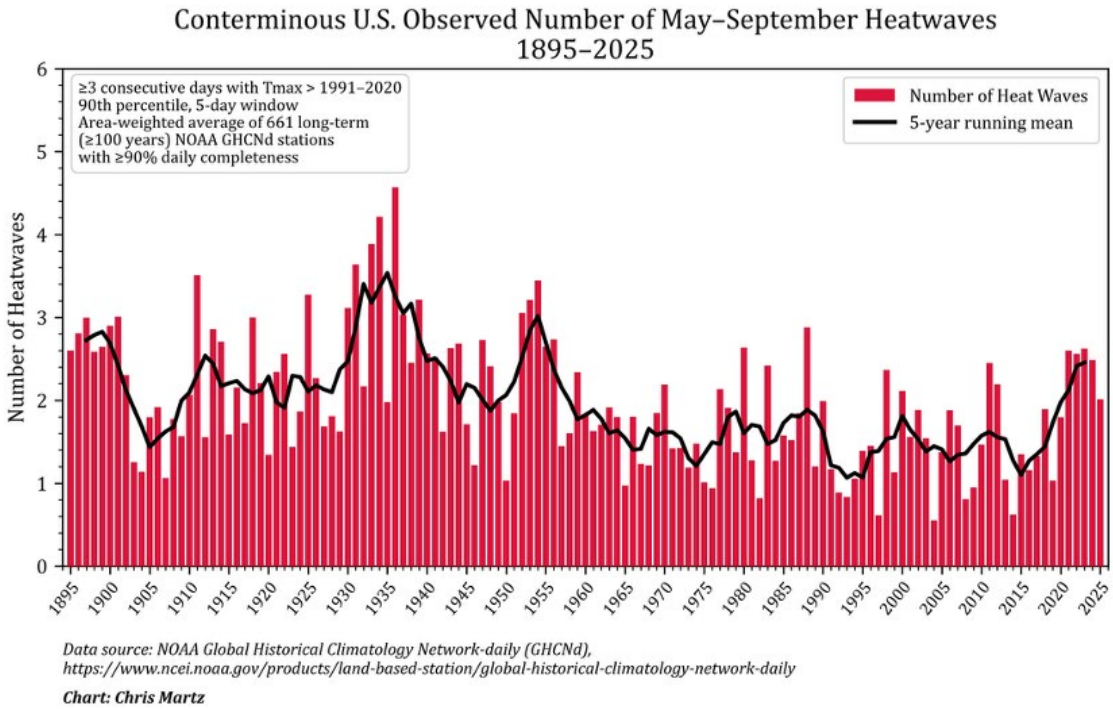


July 8th: No, the 4th of July heatwave was not “climate change”

Claim: *The New York Times (NYT)* ran a story claiming that the heatwave in the northeastern U.S. over July 4th weekend was driven by climate change. Raymond Zhong writes, “Heat and humidity as severe, prolonged and far-reaching as this week’s would have been virtually impossible’ in the Northeast and eastern Canada before humans began warming the planet, a team of scientists [at the World Weather Attribution (WWA)] said on Friday.” Zhong continued, “

Fact-Check: This is misleading, at best. First, WWA’s “analysis” is largely a modeling effort, not one based on observations. They employed weather forecast data to arrive at their conclusions because the heatwave was ongoing at the time they published their paper. Model output is not evidence, especially given forecast models such as NOAA’s Global Forecast System (GFS) and the European Centre for Medium-Range Weather Forecasts (ECMWF) have documented warm biases. It is known that many of the present temperatures across the region are biased by compromised urban temperature stations resulting in temperatures biased upwards by the urban heat island effect. In terms of daily maximum temperatures (Tmax), which is how heatwaves have historically been evaluated, 1911 was the hottest on record in the northeast with many stations climbing well north of 100°F (32.2°C). The number of heatwaves have also decreased by ~20% nationwide since the start of the 20th century, according to NOAA station data. As the graph below clearly demonstrates, heatwaves as severe and sustained occurred in the 1890s through the early 1900’s, and more severe heatwaves occurred in the 1930s and 1950s, when atmospheric carbon dioxide levels were significantly lower.





July 9th: No, *TIME Magazine*, squid brains aren't getting smaller because of climate change

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TIME

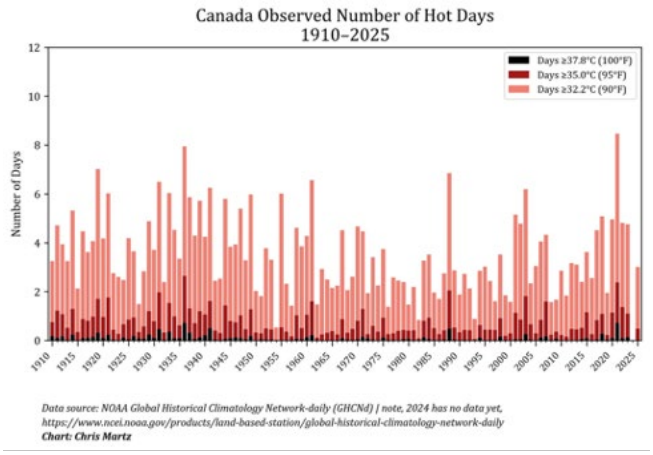
Claim: A recent *TIME* article claims that climate change-driven increases in oceanic CO_2 levels could dramatically shrink squid brains. The author cites a new study published in *Nature Communications Biology* in which bigfin reef squid raised for 90 days in seawater containing CO_2 concentrations projected for the year 2100 (pH = 7.7) developed brains that were 49% smaller than those of squid raised under present-day conditions. The study authors suggest that this finding demonstrates how climate change may impair squid intelligence, hunting ability, communication, and reproduction, potentially threatening squid populations worldwide.

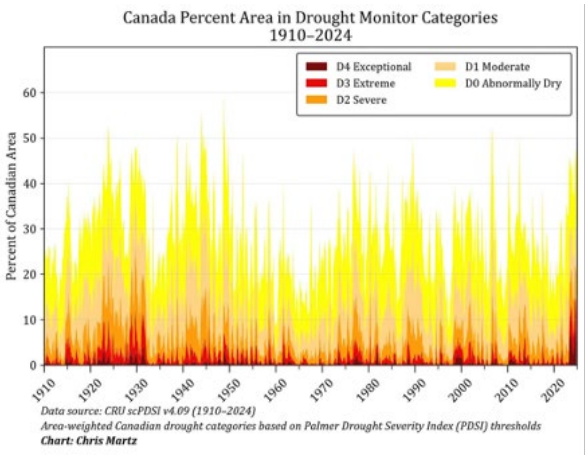
Fact-Check: This research is highly speculative. First, the *TIME* article overstates the significance of a single preliminary laboratory study and presents speculation about future climate states as an established fact. Second, the experimental design exposed squid to constant, elevated CO_2 levels in laboratory tanks that do not reflect the naturally fluctuating conditions found in most marine environments, limiting how well the results apply to wild populations. The study's authors also explicitly acknowledged that they do not know the underlying cause and were unable to determine whether the changes. Because the squid were euthanized before behavioral testing, the study provides no direct evidence that the observed anatomical differences impaired intelligence, learning, communication, or reproduction. The study also overlooks evidence that many squid populations have remained resilient, or even increased, in recent decades, likely owing to their rapid growth, short life spans, and adaptability to changing ocean conditions.

July 18th: Wrong, CBC, stopping burning fossil fuels will not stop Canada's wildfire problem

Claim: *CBC News* published an article stressing that human-caused climate change is making Canada's wildfires more intense and that reducing fossil fuel use is the only solution. Dr. Jonathan Overpeck, a "climate scientist" at the University of Michigan, told *CBC*, "Because of global climate change and the warming of the planet, we're drying out vegetation much more than we did in the past, and that makes it more susceptible to fire." Overpeck concluded, "And the best way to solve it is to just stop burning fossil fuels."

Fact-Check: This is false. Wildfires are a natural and essential part of boreal forest ecosystems. Fires not only clear out underbrush on the forest floor, allowing for new plant growth, but the heat they produce melts the resin coating the cones of jack and lodgepole pines, allowing for the dispersal of their seeds. Large and destructive forest fires that sent plumes of smoke southward occurred long before greenhouse gas (GHG) emissions became significant. Examples include the May 1780 fires in eastern Ontario and the Great Miramichi Fire in October 1825. While *CBC News* argues that climate change has made weather conditions more conducive for fires, the long-term record indicates that neither extreme heat nor drought have increased in Canada since 1910. Peer-reviewed research also shows that forest fire burn rates in Canada were higher prior to the 20th century. This is significant because most of Canada's forests are remote, rendering fire suppression policies and forest management largely irrelevant to long-term trends.





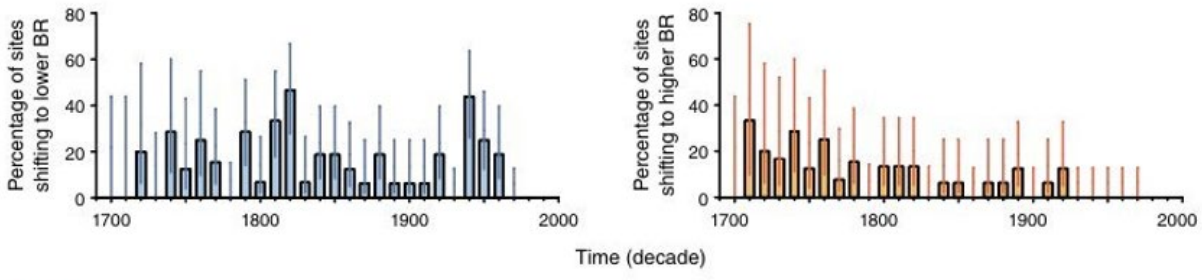
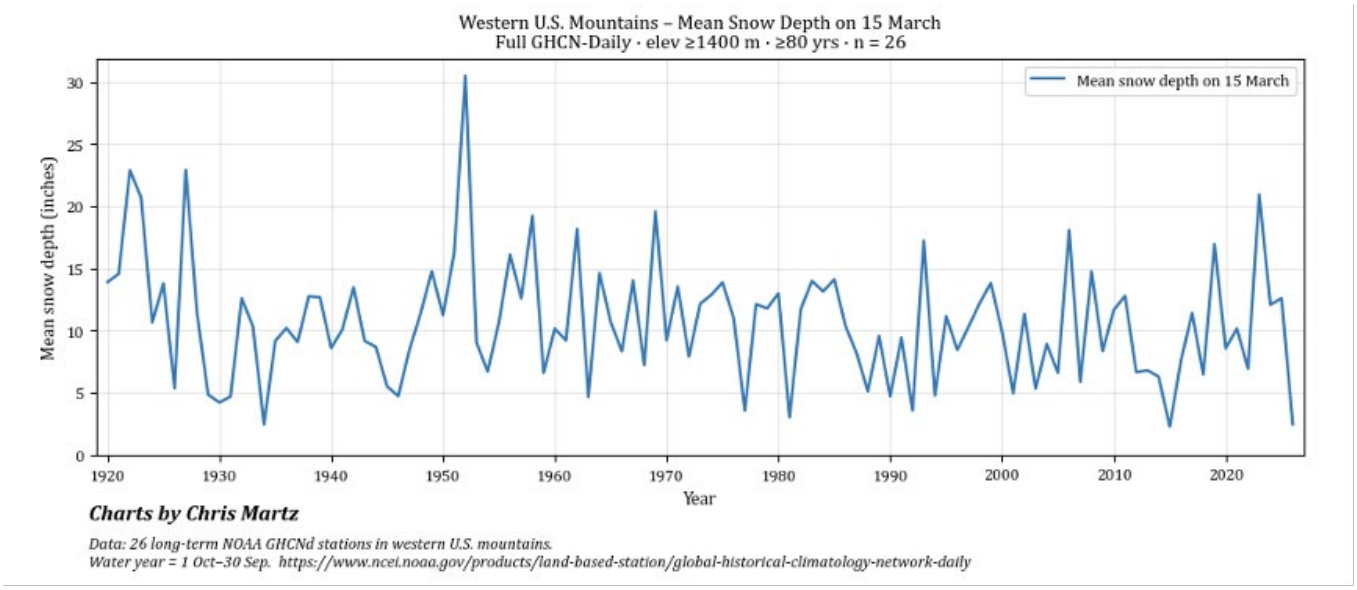


Fig. 3. Percentage of sites shifting to lower or higher burn rates (BR) over the historical period (1700–1990). Columns represent percentages whereas bars 90% confidence intervals.

July 22nd: No, *The Denver Post*, snow droughts in Colorado are not a sign of climate change

Claim: Senator John Hickenlooper (D-CO) shared a recent article from *The Denver Post* claiming that western U.S. snow droughts like the one last winter "will become more frequent—and eventually the norm—across much of the region as climate change fuels warmer temperatures." This claim is based on a new peer-reviewed study published in the *Proceedings of the National Academy of Sciences (PNAS)*. The authors of the paper argue that climate change made last winter's low snowfall four times more likely, and that by the end of the century, it can be expected that this will occur approximately every nine out of ten winters.

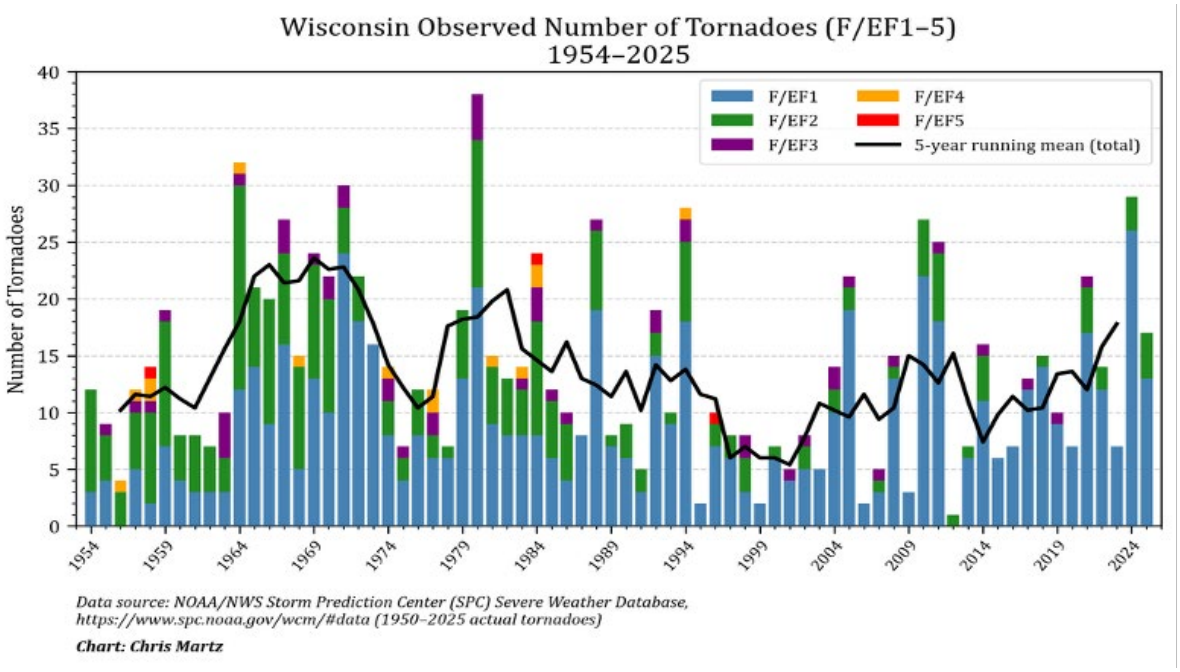
Fact-Check: The western U.S. indeed had a significant snow drought last winter, and the lack of snow (and now rain) has exacerbated drought conditions and fueled the wildfires searing the landscape. Based on an analysis of 26 western U.S. long-term NOAA GHCNd stations that have at least 80 years of data located at elevations ≥1,400 meters (≥4,500 feet), last winter featured the third lowest snowpack on record since 1920, with an average of 2.4 inches of snow depth per station by March 15th (the date used in the paper). However, 2023 ranked third highest, with each station averaging 20.9 inches by March 15th. A long-term statistical analysis reveals a statistically insignificant slight decline in mean snow depth; as a result, the observed decline cannot be distinguished from natural variability. Therefore, the claim that the western U.S. will observe an increasing number of snow droughts due to global warming throughout the rest of the 21st century is unsupported by historical data trends.



July 28th: Wrong, *Wisconsin Examiner*, climate change is not causing more frequent tornadoes in Wisconsin

Claim: On Monday, July 27th, an EF3 tornado plowed through the Fox Valley in northeastern Wisconsin. The *Wisconsin Examiner*'s Henry Redman wrote, "Wisconsin has also seen an above-average number of tornadoes and severe storms this summer as climate change shifts the country's weather patterns." Rep. Lee Snodgrass (D-Appleton) told the *Examiner*, "This is part of the reason why Democrats so desperately want a trifecta. The time to do something about this [climate change] was 20 years ago."

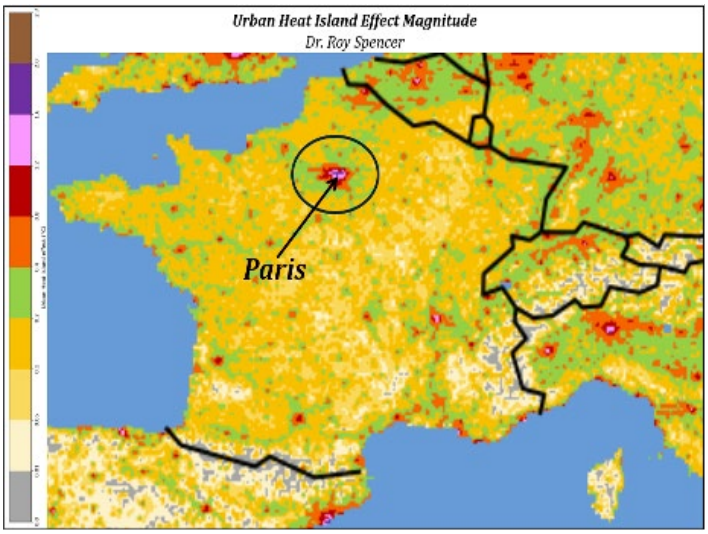
Fact-Check: Tornadoes are not unusual in Wisconsin. They average 23 per year (including the weak F/EF0s, which Doppler radar has made easier to detect and count since the early 1990s), and July is climatologically Wisconsin's second most active month. Since real-time data collection began in 1954, there has been no increase in the number of F/EF1+ tornadoes in Wisconsin. In fact, as the chart below shows, they have decreased by 31.6% since the 1960s. As for the July 27th tornado, that is an example of weather, not climate. The atmosphere was primed for tornadoes. Based on the 7:00 a.m. sounding from Green Bay, the 0–3 km storm-relative helicity (SRH)—a measure of how much "spin" a storm can ingest—was 350 $m^2 s^{-2}$ (favorable for rotating supercells). The 0–6 km shear (change in wind speed and/or direction with height) was 52 knots (strong rotation). CAPE values were ~4,800 J/kg, indicating strong updraft potential. Legislation will not prevent tornadoes because they have no measurable dependence on CO_2.

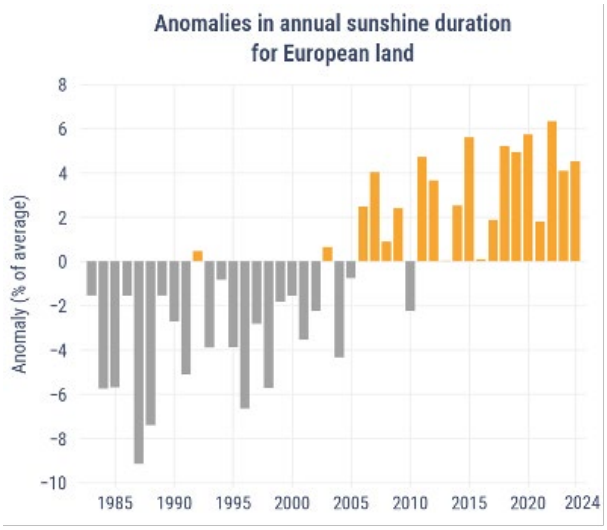


July 29th: No, it did not reach 112°F (44.4°C) in Paris, *New York Times*

Claim: Madeleine Schwartz wrote an opinion piece in *The New York Times (NYT)* titled "112 Degrees in Paris, Flames Near Bordeaux. France Can't Go On Like This." The author goes on, claiming that "Until recently, France had rather clement weather. But climate change has hit France and the rest of Europe very quickly. The continent is warming more than twice as fast as the global average, and scientists believe that there will be 10 times as many extremely hot days by the end of the century as there are now."

Fact-Check: This is mostly false. Paris, France did not reach 112°F (44.4°C) this summer. Rather, it only got to 105.1°F (40.6°C) on June 24th. While that was an "all-time" June monthly record high temperature for the city, it ranks second overall behind the 107.4°F (41.9°C) benchmark set on July 25, 2019. Some of this is due to the urban heat island effect (UHIE), as Paris runs over 1.5–2°C (3–4°F) warmer than its suburban surroundings (see the map below on the left). While there has been a significant increase in the number of hot days in Europe, even in comparatively rural settings, this trend only emerged after 2015, which is when Europe suddenly became sunnier. Satellite data reveal a marked increase in sunshine duration throughout the continent since the mid-1980s. Fewer clouds mean more solar radiation is absorbed, which means greater heating potential. The cause of the reduced cloud cover is under active investigation, but remains unknown at present.





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