

European scientists make it official. July was the hottest month on record by far

August 8 2023, by Seth Borenstein



A girl drinks water from a public fountain tap in Madrid, Spain, July 18, 2023. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/Paul White, File

Now that last month's sizzling numbers are all in, the European climate

monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin.

July's global average temperature of 16.95 degrees Celsius (62.51 degrees Fahrenheit) was a third of a degree Celsius (six tenths of a degree Fahrenheit) higher than the previous record set in 2019, [Copernicus Climate Change Service](#) announced Tuesday. Normally global temperature records are broken by hundredths or a tenth of a degree, so this margin is unusual.

The United States is now at a record 15 different weather disasters that caused at least \$1 billion in damage this year, the National Oceanic and Atmospheric Administration [announced Tuesday](#). It's the most mega-disasters through the first seven months of the year since the agency tracked such things starting in 1980, with the agency adjusting figures for inflation.

"These records have dire consequences for both people and the planet exposed to ever more frequent and intense extreme events," said Copernicus deputy director Samantha Burgess. There have been deadly heat waves in the [Southwestern United States](#) and Mexico, Europe and Asia. Scientific quick studies put the [blame on human-caused climate change](#) from the burning of coal, oil and natural gas.



A man pours cold water onto his head to cool off on a sweltering hot day in the Mediterranean Sea in Beirut, Lebanon, July 16, 2023. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/Hassan Ammar, File

The previous single-day heat record was set in 2016 and tied in 2022. From July 3, each day has exceeded that record. It's been so warm that Copernicus and the World Meteorological Organization made [the unusual announcement](#) that it was likely the hottest month days before it ended. Tuesday's calculations made it official.

"We should not care about July because it's a record, but because it won't be a record for long," said Imperial College of London climate scientist Friederike Otto. "It's an indicator of how much we have changed the

climate. We are living in a very different world, one that our societies are not adapted to live in very well."

The global average temperature last month was 1.5 degrees Celsius (2.7 degrees Fahrenheit) warmer than pre-industrial times. In 2015, the nations of the world agreed to try to prevent long-term warming—not individual months or even years, but decades—that is 1.5 degrees warmer than pre-industrial times.



A person drinks a bottle of water in the shade as temperatures are expected to hit 119-degrees (48.3 Celsius) July 20, 2023, in Phoenix. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/Ross D. Franklin, File

Last month was so hot, it was .7 degrees Celsius (1.3 degrees Fahrenheit) hotter than the average July from 1991 to 2020, Copernicus said. The world's oceans were half a degree Celsius (0.9 degrees Fahrenheit) warmer than the previous 30 years and the North Atlantic was 1.05 degrees Celsius (1.9 degrees Fahrenheit) hotter than average. Antarctica set record lows for sea ice, 15% below average for this time of year.

Copernicus, a division of the European Union's space program, has records going back to 1940. July's temperature would be hotter than any month the U.S. National Oceanic and Atmospheric Administration has recorded and their records go back to 1850. But scientists say it's actually the hottest in a far longer time period.

"It's a stunning record and makes it quite likely the warmest month on Earth in 10,000 years," said Stefan Rahmstorf, a climate scientist at the Potsdam Institute for Climate Research in Germany. He wasn't part of the Copernicus team.



Pablo Suarez's shirt is bathed in sweat before seven in the morning as he parks cars and provides security for a downtown cafe, July 20, 2023, in Mexicali, Mexico. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/Gregory Bull, File

Rahmstorf cited [studies](#) that use tree rings and other proxies that show present times are the warmest since the beginning of the Holocene Epoch, about 10,000 years ago. And before the Holocene started there was an ice age, so it would be logical to even say this is the warmest record for 120,000 years, he said.

While much of the world broiled in July, the United States only had its 11th hottest July in its 129-year record, according to NOAA. But

Arizona, Florida, Maine and New Mexico had their warmest Julys on record.



A man stands in a fountain in Bucharest, Romania, on a hot afternoon, July 25, 2023. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/Andreea Alexandru, File



A vendor sells cold drinks before the start of a baseball game between the St. Louis Cardinals and the Chicago Cubs, July 28, 2023, in St. Louis. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/Jeff Roberson, File



Tourists stops in front of the Colosseum in Rome, July 17, 2023. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/Gregorio Borgia, File



People walk along a trail as the sun sets, July 16, 2023, in Death Valley National Park, Calif. European climate monitoring organization made it official: July 2023 was Earth's hottest month on record by a wide margin. Credit: AP Photo/John Locher, File

Arizona broke its record by nearly 2 degrees Fahrenheit (1.1 degrees Celsius) and Phoenix averaged 102.8 degrees for the entire month making it the hottest month for any city in the United States, according to NOAA. Death Valley reported its hottest midnight temperature on record with 120 degrees Fahrenheit (48.9 degrees Celsius) on July 17.

Correction note: This story was first published on August 8, 2023. It was

updated on August 9, 2023 to correct a quote by climate scientist Stefan Rahmstorf. He said July was "quite likely" the warmest month in 10,000 years, not "quite clearly."

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