

# Meteorologists say Earth sizzled to a global heat record in June and July has been getting hotter

July 13 2023, by Seth Borenstein

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Children cool themselves with electric fans as they take a rest near the Forbidden City on a hot day in Beijing, June 25, 2023. The National Oceanic and Atmospheric Administration said Thursday, July 13, an already warming Earth steamed to its hottest June on record. Credit: AP Photo/Andy Wong, File

An already warming Earth steamed to its hottest June on record, smashing the old global mark by nearly a quarter of a degree (0.13 degrees Celsius), with global oceans setting temperature records for the third straight month, the U.S. National Oceanic and Atmospheric Administration announced Thursday.

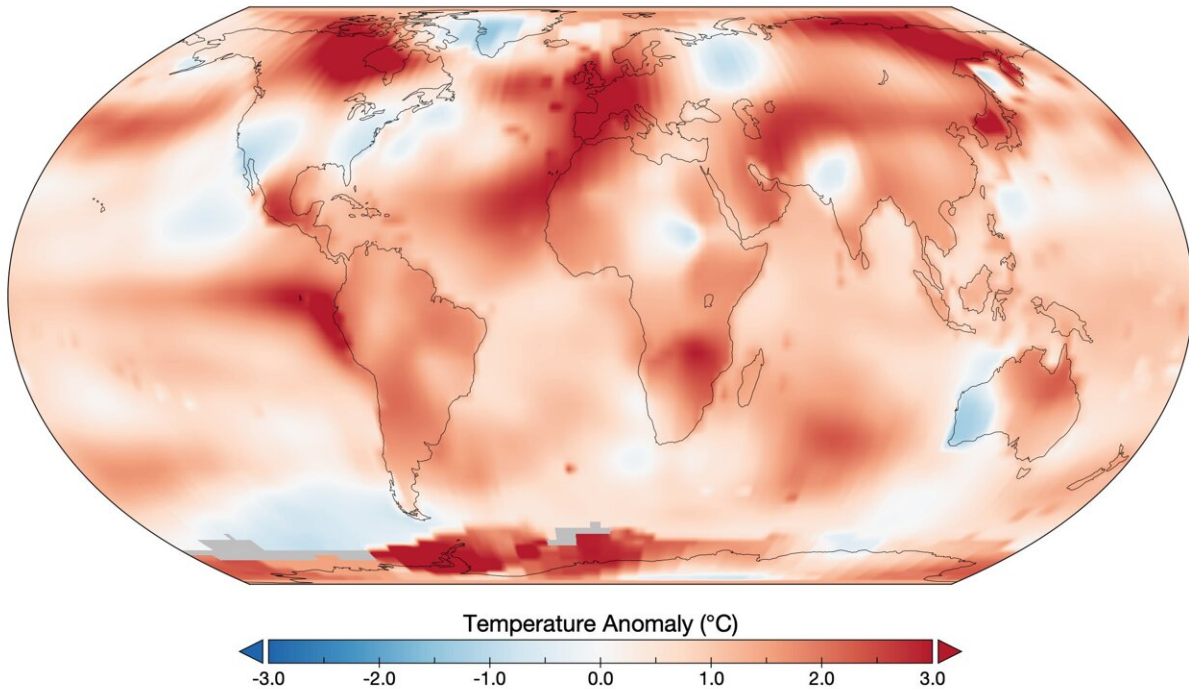
June's [61.79 degrees \(16.55 degrees Celsius\) global average was 1.89 degrees \(1.05 degrees Celsius\)](#) above the 20th Century average, the first time globally a summer month was more than a degree Celsius hotter than normal, according to NOAA. Other weather monitoring systems, such as NASA, Berkeley Earth and Europe's Copernicus, had already called last month the hottest June on [record](#), but NOAA is the gold standard for record-keeping with data going back 174 years to 1850.

The increase over the last June's record is "a considerably big jump" because usually global monthly records are so broad based they often jump by hundredths not quarters of a degree, said NOAA climate scientist Ahira Sanchez-Lugo.

"The recent record temperatures, as well as extreme fires, pollution and flooding we are seeing this year are what we expect to see in a [warmer climate](#)," said Cornell University climate scientist Natalie Mahowald.

"We are just getting a small taste for the types of impacts that we expect to worsen under [climate change](#)."

June 2023 Global Temperature  
 NASA GISTEMP (1951-1980 baseline)



This map shows global temperature anomalies for June 2023 according to the GISTEMP analysis by scientists at NASA's Goddard Institute for Space Studies. Temperature anomalies reflect how June 2023 compared to the average June temperature from 1951-1980. Credit: Credits: NASA's Goddard Institute for Space Studies

Both land and ocean were the hottest a June has seen. But the globe's sea surface—which is 70% of Earth's area—has set monthly high [temperature](#) records in April, May and June and the North Atlantic has been off the charts warm since mid March, scientists say. The Caribbean region smashed previous records as did the United Kingdom.

The first half of 2023 has been the third hottest January through June on record, behind 2016 and 2020, according to NOAA.

NOAA says there's a 20% chance that 2023 will be the hottest year on record, with next year more likely, but the chance of a record is growing and outside scientists such as Brown University's Kim Cobb are predicting a "photo finish" with 2016 and 2020 for the hottest year on record. Berkeley Earth's Robert Rohde said his group figures there's an 80% chance that 2023 will end up the hottest year on record.



Neelam Tamar, 25, suffering from heat stroke, recovers at the Lalitpur district hospital, in Indian state of Uttar Pradesh, June 17, 2023. The National Oceanic and Atmospheric Administration said Thursday, July 13, an already warming Earth steamed to its hottest June on record. Credit: AP Photo/Rajesh Kumar Singh, File

That's because it's likely only to get hotter. July is usually the hottest month of the year, and the record for July and the hottest month of any year is 62.08 degrees (16.71 degrees Celsius) set in both July 2019 and July 2021. Eleven of the first dozen days in July [were hotter than ever on record](#), according to an unofficial and preliminary analysis by University of Maine's Climate Reanalyzer. The Japanese Meteorological Agency and the World Meteorological Organization said the world has just gone through its hottest week on record.

NOAA recorded [water temperatures](#) around Florida of 98 degrees (36.7 degrees Celsius) on Wednesday near the Everglades and 97 degrees (36.1 degrees Celsius) on Tuesday near the Florida Keys, while some forecasters are predicting near world record level temperatures in Death Valley of around 130 degrees (54.4 degrees Celsius) this weekend.

NOAA global analysis chief Russ Vose said the record hot June is because of two main reasons: long-term warming caused by heat-trapping gases spewed by the burning of coal, oil and [natural gas](#) that's then boosted by [a natural El Nino](#), which warms parts of the Pacific and changes weather worldwide adding extra heat to already rising global temperatures. He said it's likely most of June's warming is due to long-term human causes because so far this new El Nino is still considered weak to moderate. It's forecast to peak in the winter, which is why NOAA and other forecasters predict 2024 to be even hotter than this year.



Children cool off at an urban beach at Madrid Rio park in Madrid, Spain, June 26, 2023. The National Oceanic and Atmospheric Administration said Thursday, July 13, an already warming Earth steamed to its hottest June on record. Credit: AP Photo/Manu Fernandez, Fie



People have ice-cream during a hot weather day in the Central London, June 12, 2023. The National Oceanic and Atmospheric Administration said Thursday, July 13, an already warming Earth steamed to its hottest June on record. Credit: AP Photo/Kin Cheung, File



A fisherman reels in his catch as the sun rises over the Atlantic Ocean, June 28, 2023, in Bal Harbour, Fla. An already warming Earth steamed to its hottest June on record, with global oceans setting temperature records for the third straight month, the U.S. National Oceanic and Atmospheric Administration announced Thursday, July 13. Credit: AP Photo/Wilfredo Lee, File

While El Nino and its cooling flip side, La Nina, "have a big impact on year-to-year temperatures, their effects are much smaller over the long run than human-caused warming," said climate scientist Zeke Hausfather of Berkeley Earth and the tech company Stripe. "Back in 1998, the world had a super El Nino event with record global temperatures; today the temperatures of 1998 would be an unusually cool year. Human-driven climate change adds a permanent super El Nino worth of heat to the atmosphere every decade."



Global and Antarctic sea ice levels were at record lows in June, NOAA also said.

"Until we stop burning fossil fuels, this will only get worse," Climate scientist Friederike Otto of the Imperial College of London said in an email. "Heat records will keep getting broken, people and ecosystems are already in many cases beyond what they are able to deal with."

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