

August 2025: Earth's 3rd-hottest August on record

Four nations/territories set or tied their all-time heat record in August: Japan, Brunei, the UAE, and Martinique.



by **JEFF MASTERS** September 11, 2025



Aid workers from KhalsaAid International respond to floods in Pakistan in August 2025., According to insurance broker Aon, since late June, over 883 deaths, 1,200 injuries, and 1.3 million displaced people have been reported in Pakistan due to monsoon-induced floods, causing billions in damage. Flooding in neighboring parts of India have been blamed for 30 deaths. (Image credit: Used by permission from: khalsaaaid.org/)

August 2025 was Earth's third-warmest August in analyses of global weather data going back to 1850, NOAA's National Centers for Environmental Information, or NCEI, reported September 11. NASA and the

European Copernicus Climate Change Service also rated August 2025 as the third-warmest August on record, behind only 2024 and 2023. Data from the [Japan Meteorological Agency](#) and Berkeley Earth were not available at the time of this writing.

Land & Ocean Temperature Percentiles Aug 2025

NOAA's National Centers for Environmental Information

Data Source: NOAAGlobalTemp v6.0.0-20250909

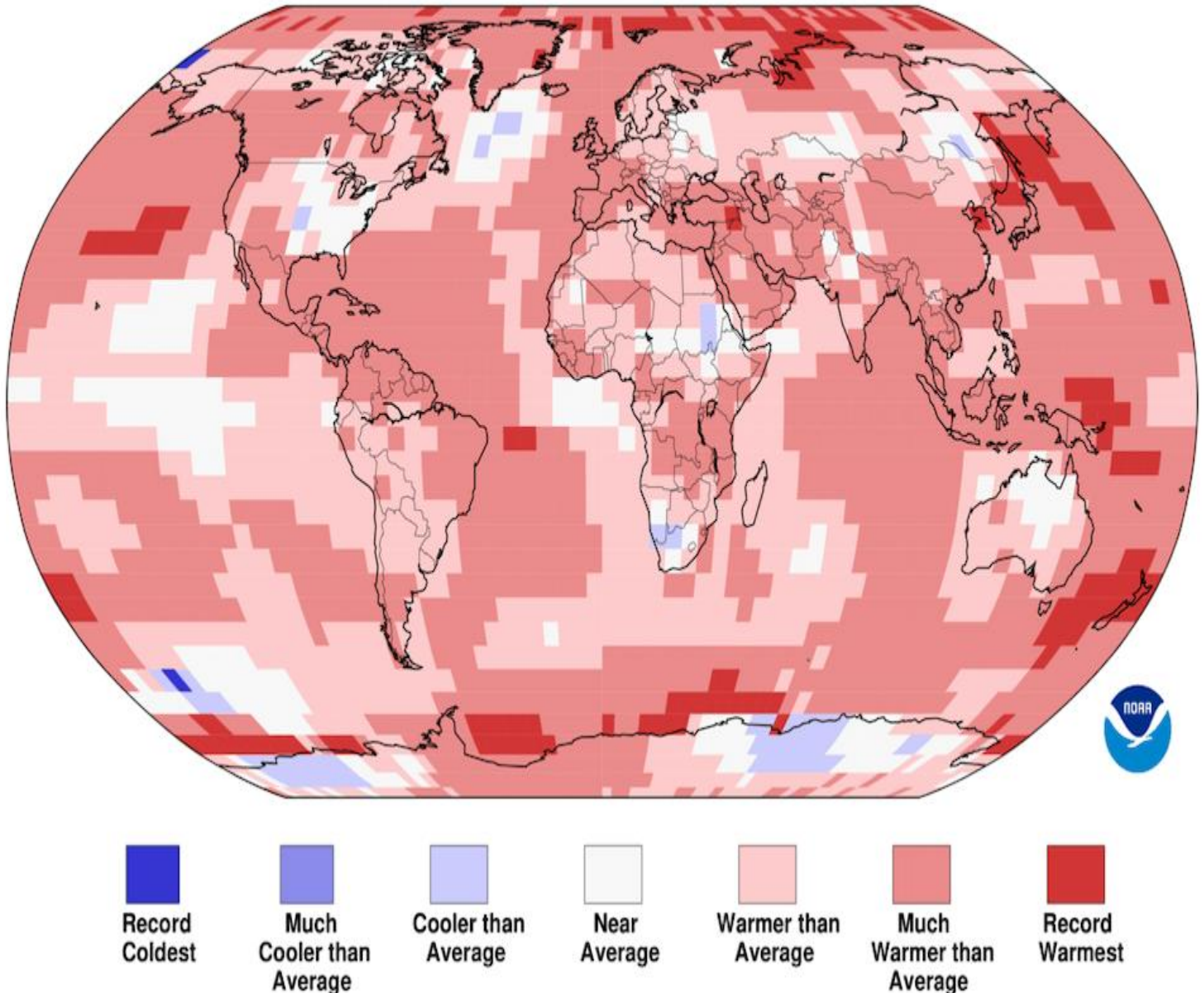


Figure 1. Departure of temperature from average for August 2025, the world's third-warmest August since record-keeping began in 1850. Record-high August temperatures covered 6.3% of the world's surface, while a record-cold August temperature was observed in a small area of the southern Pacific Ocean, encompassing less than 1.0% of the Earth's surface. (Image credit: [NOAA/NCEI](#))

Global land areas had their 4th-warmest August on record in 2025, and global oceans had their 3rd-warmest August, according to NOAA. It was the 3rd-warmest on record for the Caribbean region and Asia, the 4th-warmest in North America, the 7th-warmest in Europe, and the 10th-warmest in South America.

According to NOAA, the year-to-date period (January-August) has been the 2nd-warmest on record for the globe, running just 0.11°C (0.20°F) shy of tying the record set last year (January–August 2024). Based on statistical patterns drawn from prior monthly and annual data, NOAA is giving this year a less-than-1% chance of winding up as the warmest year on record, but a greater-than-99% chance of being among the top-five warmest years. The European Copernicus Climate Change Service also finds that 2024 is the 2nd-warmest year in its database, which goes back to 1979.

The period June-August (Northern Hemisphere summer, Southern Hemisphere winter) was the 3rd-hottest such period on record, according to NOAA, NASA, and Copernicus.

28th-warmest August and 12-warmest summer for the contiguous U.S.

During August, the average temperature in the contiguous U.S. was the 28th-warmest in national data going back to 1895, said NOAA. It placed among the ten hottest on record for six states: Arizona, Washington, Oregon, California, New Mexico, Utah, and Florida. The year-to-date is the 10th-warmest for the contiguous U.S. across 131 years of recordkeeping. Summer 2025 (June-August) was the 12th-warmest on record for the contiguous U.S., with 10 states recording a top-10 hottest summer on record. The hottest was Arizona, which had its third-hottest summer.

August ranked as the 23rd-driest August on record. The states of Vermont, Ohio, and Kentucky had their driest August on record, and 10 other states in a swath from Missouri to Maine had top-ten-driest Augusts. The year-to-date has had near-average precipitation for the contiguous U.S. across 131 years of recordkeeping.

U.S. tornadoes in August numbered 42, with zero being EF2 or stronger. The preliminary total of 1,443 U.S. tornadoes observed from January 1 to September 8 ranks as the fourth-highest year-to-date total since 2010, behind 2011 (2,240), 2024 (1,910), and 2017 (1,522). There were no tornado deaths in August. The U.S. tornado death toll for the year so far is 68.

A transition to La Niña is now likely before the end of 2025

The El Niño/Southern Oscillation, or ENSO, has been in a neutral phase since April, NOAA reported in its September monthly discussion of ENSO. ENSO is a recurring ocean-and-atmosphere pattern that warms and cools the eastern tropical Pacific through El Niño and La Niña events that last from one to three years. Sea surface temperatures have cooled slightly across much of the central and eastern tropical Pacific over the last month.

According to NOAA's September forecast, a transition from ENSO-neutral to La Niña is likely in the next couple of months, during the tail end of hurricane season, with a 71% chance of La Niña during October –

December 2025. Thereafter, La Niña is still favored but chances decrease to 54% in December 2025 – February 2026. This forecast reflects signals now appearing in all available models and supported by recent observations. The new NOAA forecast is more bullish for La Niña than the [August 19 forecast](#) from the Columbia University International Research Institute for Climate and Society, which had called for the odds of La Niña to remain below 50% throughout the rest of 2025 and into 2026. El Niño conditions tend to suppress Atlantic hurricane activity through an increase in wind shear, but La Niña conditions tend to have the opposite effect.

While El Niño events typically last only one year (usually from northern fall to northern spring, as in 2023-24), La Niña events often restrengthen or recur across two or even three years in a row, as was the case from mid-2020 to early 2023. [Over the last two decades](#) (2005-2024), the peak three months of hurricane season have included five El Niño periods, seven La Niña periods, and eight neutral periods.

Arctic sea ice: 6th-lowest August extent on record

Arctic sea ice in August 2025 had the sixth-lowest August extent in the 47-year satellite record, according to the [National Snow and Ice Data Center](#), or NSIDC. The Arctic had its second-warmest August on record in 2025, just behind August 2023. The Northeast Passage along the coast of Russia is currently open for ice-free navigation, and the southern route of the Northwest Passage through Canadian waters is very nearly ice-free, according to ice maps from the [U.S. National Ice Center](#).

[Antarctic sea ice extent](#) in August was the third-lowest in the 47-year satellite record. Only 2023 and 2024 had lower August extents.

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A moderately intense 2025 melt season in Greenland

A strong and persistent melt event occurred in southern Greenland in mid-August 2025, preceded by extensive rain in the same area, said the [National Snow and Ice Data Center](#), and overall, Greenland's 2025 melt season appears to have been moderately intense. As of August 20, the 2025 Greenland melt season was 19th in the 47-year satellite record in overall cumulative daily melt area extent, although gaps in our satellite data likely caused an underestimation of the value.

Notable global heat and cold marks for August 2025

Weather records expert Maximiliano Herrera documents world temperature extremes in remarkable detail and has provided us with the following info for August. Follow him on Bluesky: [@extremetemps.bsky.social](#)

- Hottest temperature in the Northern Hemisphere: 52.6°C (126.7°F) at Basra, Iraq, August 9
- Coldest temperature in the Northern Hemisphere: -29.8°C (-21.6°F) at East Griip, Greenland, August 14
- Hottest temperature in the Southern Hemisphere: 41.5°C (102.4°F) at Base Jara, Paraguay, August 31
- Coldest temperature in the Southern Hemisphere: -78.2°C (-108.8°F) at Concordia, Antarctica, August 4

Major weather stations in August: 146 all-time heat records, no all-time cold records

Among global stations with a record of at least 40 years, 146 set, not just tied, an all-time heat record in August; no stations set an all-time cold record:

Fuji (Japan) max. 38.4°C, August 1
 Mishima (Japan) max. 37.7°C, August 1
 Hachimantai (Japan) max. 32.9°C, August 2
 Kouma (Japan) max. 36.6°C, August 2
 Shiwa (Japan) max. 36.8°C, August 2
 Nanbu (Japan) max. 39.1°C, August 2
 Gotemba (Japan) max. 36.7°C, August 2
 Kake (Japan) max. 40.0°C, August 2
 Higashihiroshima (Japan) max. 37.3°C, August 2
 Imabari (Japan) max. 37.8°C, August 2
 Wakinosawa (Japan) max. 34.7°C, August 3
 Sasunabe (Japan) max. 36.5°C, August 3
 Kaneyama (Japan) max. 37.0°C, August 3
 Tsujido (Japan) max. 37.1°C, August 3
 Ueda (Japan) max. 39.0°C, August 3
 Tatsuno (Japan) max. 36.6°C, August 3
 Haramura (Japan) max. 34.3°C, August 3
 Chaya (Japan) max. 35.0°C, August 3
 Ziyang (China) max. 42.4°C, August 3
 Shiquan (China) max. 42.2°C, August 3
 Yajiang (China) max. 38.2°C, August 3
 Daofu (China) max. 35.1°C, August 3
 Karumai (Japan) max. 37.0°C, August 4
 Oisawa (Japan) max. 35.7°C, August 4
 Aterazawa (Japan) max. 37.3°C, August 4
 Nishiaizu (Japan) max. 37.6°C, August 4
 Himi (Japan) max. 37.7°C, August 4
 Toyama (Japan) max. 39.8°C, August 4
 Komatsu (Japan) max. 40.3°C, August 4
 Hakusan Kawachi (Japan) max. 37.5°C, August 4
 Kaganakatsuhara (Japan) max. 39.1°C, August 4
 Tsuruga (Japan) max. 37.8°C, August 4
 Mihama (Japan) max. 38.5°C, August 4
 Imazu (Japan) max. 37.4°C, August 4
 Takinomiya (Japan) max. 38.8°C, August 4
 Hiketa (Japan) max. 37.9°C, August 4
 Wuxi (China) max. 44.2°C, August 4

Cangxi (China) max. 41.0°C, August 4
Xiaogan (China) max. 39.5°C, August 4
Liuba (China) max. 37.8°C, August 4
Horta (Azores, Portugal) max. 31.1°C, August 5
Koga (Japan) max. 40.6°C, August 5
Anchor (Japan) max. 35.3°C, August 5
Oyama (Japan) max. 39.2°C, August 5
Nakanojo (Japan) max. 38.1°C, August 5
Maebashi (Japan) max. 41.0°C, August 5
Kiryu (Japan) max. 41.2°C, August 5
Kamisatomi (Japan) max. 40.5°C, August 5
Isesaki (Japan) max. 41.8°C, August 5: **New national record high for Japan**
Kuki (Japan) max. 39.9°C, August 5
Chichibu (Japan) max. 40.0°C, August 5
Hatoyama (Japan) max. 41.4°C, August 5
Saitama (Japan) max. 39.7°C, August 5
Tokorozawa (Japan) max. 40.0°C, August 5
Ogouchi (Japan) max. 37.1°C, August 5
Hachioji (Japan) max. 40.3°C, August 5
Fuchu (Japan) max. 40.0°C, August 5
Ebina (Japan) max. 39.9°C, August 5
Okayama (Japan) max. 39.5°C, August 5
Nagahama (Japan) max. 36.4°C, August 5
Saiki (Japan) max. 37.1°C, August 5
Kaseda (Japan) max. 36.5°C, August 5
Agri (Turkey) max 40.2°C, August 5
Bitlis (Turkey) max 36.1°C, August 6
Kamogawa (Japan) max. 38.1°C, August 6
Yokohama (Japan) max. 38.1°C, August 6
Odewara (Japan) max. 39.2°C, August 6
Miura (Japan) max. 36.8°C, August 6
Ajiro (Japan) max. 37.9°C, August 6
Shizuoka (Japan) max. 41.4°C, August 6
Inatori (Japan) max. 38.0°C, August 6
Kameyama (Japan) max. 38.4°C, August 6
Gunge (Japan) max. 38.6°C, August 6
Sumoto (Japan) max. 38.2°C, August 6
Saijo (Japan) max. 38.1°C, August 6
Kitsuki (Japan) max. 38.0°C, August 6
Adana (Turkey) max. 47.5°C, August 9
Silifke (Turkey) 44.4°C, August 9
Al Ayun (Western Sahara) max. 49.2°C, August 9
Argeliers (France) max. 43.4°C, August 10
Alula (Saudi Arabia) max. 47.6°C, August 10
Sibenik (Croatia) max. 39.5°C, August 11
Dubrovnik (Croatia) max. 38.9°C, August 11
Tirana (Albania) max. 43.6°C, August 11
Durrës (Albania) max. 42.4°C, August 11
Sarzana (Italy) max. 38.3°C, August 11
Captieux (France) max. 43.1°C, August 11
Beaucaire (France) max. 42.5°C, August 11
Sauternes (France) max. 42.5°C, August 11

Le Couronne (France) max. 42.3°C, August 11
Bergerac (France) max. 42.1°C, August 11
Bordeaux (France) max. 41.6°C, August 11
Rioux Martin (France) max. 41.7°C, August 11
St Martial (France) max. 41.7°C, August 11
Passirac (France) max. 41.5°C, August 11
Segonzac (France) max. 41.5°C, August 11
Cognac (France) max. 41.4°C, August 11
Montlieu (France) max. 41.4°C, August 11
St Martin Curton (France) max. 41.3°C, August 11
Cerizols (France) max. 41.2°C, August 11
St Germain (France) max. 41.1°C, August 11
Voutezac (France) max. 41.1°C, August 11
Matha (France) max. 41.0°C, August 11
Peyrusse (France) max. 41.0°C, August 11
Le Vieux Cerier (France) max. 40.8°C, August 11
NUaille (France) max. 40.8°C, August 11
Belves (France) max. 40.7°C, August 11
Montemboeuf (France) max. 40.1°C, August 11
Nexon (France) max. 39.8°C, August 11
Saint Girons (France) max. 39.8°C, August 11
Meymac (France) max. 38.9°C, August 11
Lannemezan (France) max. 38.2°C, August 11
Lus La Croix (France) max. 35.9°C, August 11
St Laurent du Pape (France) max. 42.9°C, August 12
Romans (France) max. 42.6°C, August 12
Mouthoumet (France) max. 39.°C, August 12
Annecy (France) max. 38.7°C, August 12
Marcillac (France) max. 38.1 °C, August 12
Vernoux (France) max. 37.6°C, August 12
Colombier Jeune (France) max. 37.5°C, August 12
Groisy (France) max. 37.3°C, August 12
La Courtine (France) max. 36.7°C, August 12
Marcenat (France) max. 35.3°C, August 12
Andravida (Greece) max. 41.8°C, August 12
Bric della Croce (Italy) max. 35.1°C, August 12
Badger (Canada) max. 36.7°C, August 12
Kouchibouguac (Canada) max. 38.0°C, August 12
St Stephen (Canada) max. 37.2°C, August 12
Kejimikujik (Canada) max. 36.5°C, August 12
Gaspé (Canada) max. 36.1°C, August 12
Havre St Pierre (Canada) max. 30.3°C, August 13
Chateaufort (France) max. 41.7°C, August 13
Montbeugny (France) max. 41.1°C, August 13
Nevers (France) max. 39.8°C, August 13
Aqaba (Jordan) max. 49.6°C, August 13
Portoroz (Slovenia) max. 38.8°C, August 14
Oviedo (Spain) max. 41.2°C, August 15
Torreilles (France) max. 40.1°C, August 16
Egilsstadir (Iceland) max. 29.8°C, August 16
Jerez de la Frontera (Spain) max. 45.8°C, August 17
Rota (Spain) max. 43.0°C, August 17

Vize Island (Russia) max. 11.6°C, August 20

Le Lamentin (Martinique, France) max. 37.0°C, August 22: **New territorial record high for Martinique**

Kuwana (Japan) max. 40.5°C, August 30

Tsuchiyama (Japan) max. 37.4°C, August 31

Hari (Japan) max. 36.1°C, August 31

Eight all-time national/territorial heat records beaten or tied as of the end of August

- **Maldives:** 35.8°C (96.4°F) at Hanimadhoo, Feb. 27 (previous record: 35.1°C (95.2°F) at Hanimadhoo, Mar. 24, 2024)
- **Togo:** 44.0°C (111.2°F) at Mango, Mar. 16 and Apr. 5 (tie)
- **Turkey:** 50.5°C (122.9°F) at Silopi, Jul. 25
- **Kosovo:** 42.5°C (108.5°F) at Kline, Jul. 25
- **Brunei:** 39.2°C (102.6°F) at Sukang, Jul. 29; tied again on Aug. 1 at the same location
- **Japan:** 41.2°C (106.2°F) at Kaibara, Jul. 30; broken again on Aug. 5 with 41.8°C (107.2°F) at Isesaki
- **United Arab Emirates:** 51.8°C (125.2°F) at Swiehan, Aug. 1 (tie)
- **Martinique:** 37.0°C (98.6°F) at Le Lamentin, Aug. 22

Fifty-five additional monthly national/territorial heat records beaten or tied as of the end of August

In addition to the eight all-time national/territorial records set so far in 2025 (plus three nations that beat or tied their record in two separate months), 55 nations or territories have set or tied monthly all-time heat records as of the end of August 2025, for a total of 66 monthly heat records:

- January (6): Cocos Islands, French Southern Territories, Faroe Islands, Maldives, Northern Marianas, Martinique
- February (3): Northern Marianas, Argentina, Togo
- March (8): French Southern Territories, Algeria, Saba, South Korea, Kyrgyzstan, Georgia, Mauritius, Cocos Islands
- April (11): French Southern Territories, British Indian Ocean Territory, Latvia, Estonia, Kuwait, Saudi Arabia, Iraq, Iran, Turkmenistan, Kyrgyzstan, Ireland
- May (5): French Southern Territories, Iceland, Kyrgyzstan, China, Qatar
- June (7): Cocos Islands, Hong Kong, Slovenia, Spain, Portugal, Jersey, French Southern Territories
- July (6): Maldives, Ukraine, Honduras, French Southern Territories, US Virgin Islands, Malaysia
- August (9): Honduras, Cocos Islands, Lebanon, Albania, French Southern Territories, Israel, Iceland, Grenada, St. Vincent and the Grenadines

One nation set an all-time monthly cold record in 2025: Qatar in January.

Hemispherical and continental temperature records in 2025

- Highest temperature ever recorded in South America in February: 46.5°C (115.7°F) at Rivadavia, Argentina, February 4
- Highest minimum temperature ever recorded in South America in February: 30.8°C (87.4°F) at Catamarca, Argentina, February 10.

Bob Henson contributed to this post.

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[Tropical Depression 9 plowing through the Bahamas](#)

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[JEFF MASTERS](#)

Jeff Masters, Ph.D., worked as a hurricane scientist with the NOAA Hurricane Hunters from 1986-1990. After a near-fatal flight into category 5 Hurricane Hugo, he left the Hurricane Hunters to pursue a... [More by Jeff Masters](#)