

Bulletin of Monthly Global Climate Monitoring and Prediction

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In July 2026, the global average surface air temperature was above normal. Marked warming exceeding 4°C was observed across northwestern Russia, parts of southern Europe, southwestern Africa, parts of the central United States, and areas near Marie Byrd Land in Antarctica. By contrast, below-normal temperatures prevailed over eastern Russia, southeastern East Asia, central South Asia, parts of eastern Southeast Asia, central Europe, parts of southern Africa, scattered parts of northeastern North America, southern Greenland, southern South America, southern Australia, and the area east of the Antarctic Peninsula.

Global total precipitation was unevenly distributed and was generally below normal. Precipitation was over 100% more than normal across northeastern North Asia, parts of northwestern East Asia, northwestern West Asia, southwestern Central Asia, parts of Europe, parts of southern Africa, parts of North America, northeastern Greenland, parts

of central South America, central and western Australia, and areas near Marie Byrd Land in Antarctica.

In August 2026, sea surface temperatures (SSTs) across most of the tropical Pacific were anomalously warm, with warm SST cores centered over the central and eastern Pacific. The Niño 3.4 SST index reached 2.59 °C, representing a 0.5 °C rise relative to the preceding month. The three-month (June–August 2026) average Niño 3.4 index stood at 2.09 °C, indicating an El Niño condition across the equatorial central-eastern Pacific.

In August, sea ice concentrations over most Northern Hemisphere oceanic basins ranged from near-normal to below-normal. Over the Antarctic, sea ice concentrations were near-normal to below-normal across nearly all regions, except in some sea area from the Amundsen Sea to the Ross Sea where above-normal sea ice concentrations persisted. Snow cover extents across the Northern Hemisphere, Eurasian continent, North America and China were all close to the climatological normal.

Major global weather and climate hazards in August included heavy rainfall and floods, heatwaves, droughts, wildfires, and tropical cyclones. In August, severe rainstorm

and flood disasters occurred successively in many parts of India. The direct cause was that from August 1 to 4, there was an obvious cyclonic circulation anomaly over northwestern India, while a strong anticyclonic circulation anomaly prevailed over the northeast. At the same time, strong southeasterly wind anomalies persisted over the area from the Bay of Bengal to the Indian Peninsula. This circulation configuration continuously transported abundant warm and moist air from the Bay of Bengal toward the northwest, where it converged strongly over northern India. As northern India lies adjacent to the Himalayas, when the exceptionally strong warm and moist air pushed northward, it was blocked by the Himalayas, producing intense orographic uplift. The air flow was forced to rise, and adiabatic cooling caused the water vapor to condense rapidly, resulting in persistent heavy precipitation.

In October 2026, near-normal to above-normal temperatures are forecasted to prevail over most regions of the globe. Temperature anomalies exceeding 2 °C are likely to occur in northern Russia, northern Central Asia, parts of eastern Europe, parts of northern Africa, northeastern North America, and parts of northeastern South America. Precipitation will be over 20% more than normal across

eastern East Asia, parts of northern Southeast Asia, central North Asia, southern Central Asia, northern West Asia, southwestern Europe, northern and southern Africa as well as parts of eastern Africa, northwestern and southern North America as well as northern Greenland, most of central and southern South America, and southwestern Australia. Among these regions, precipitation will be 50%–200% more than normal across southern East Asia, northwestern Southeast Asia, southern Central Asia, northern West Asia, northern and southern Africa, southwestern North America, and most of central and southern South America, with scattered parts seeing increases exceeding 200%, posing disaster risks caused by concentrated extreme precipitation. Precipitation will be less than normal by more than 20% over central and western Inner Mongolia and southern Xinjiang in China as well as northern parts of Northwest China, most of South Asia, central and southern Southeast Asia, northern Central Asia, southern West Asia, central Africa, northeastern Australia, parts of northern North America, and northern South America. Specifically, precipitation will be 50%–80% less than normal across parts of eastern South Asia, central and southern Southeast Asia, southern West Asia, parts of northeastern

North America, and parts of northern South America, with potential risks of meteorological drought. In October 2026, SSTs over the equatorial central-eastern Pacific will continue to rise, and the El Niño conditions will further intensify.