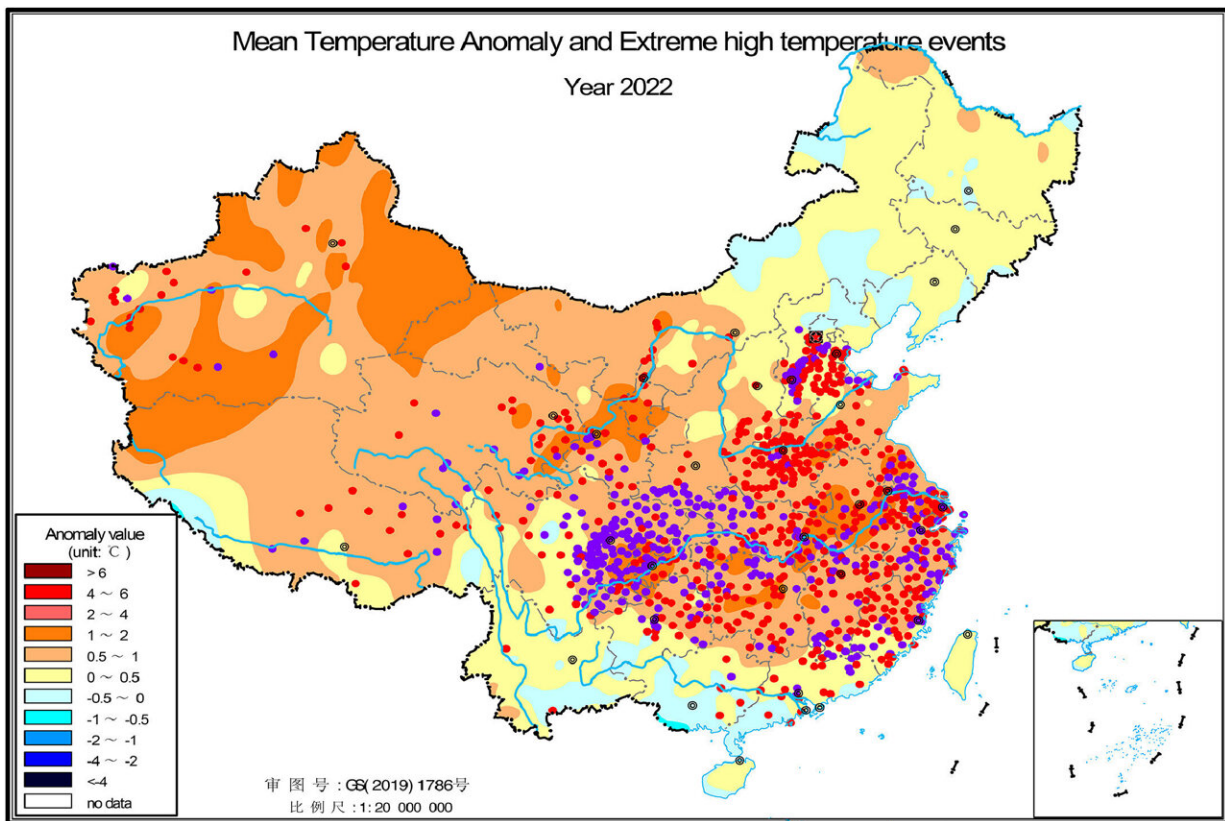


Warm and dry climate over China in 2022 with extreme heatwaves and droughts

May 26 2023



Distribution of annual SAT anomalies and extreme high temperature events in China in 2022 (red points mark where the daily maximum temperature reached the extreme threshold; purple points denote where the historical record was broken). Credit: Wang Ling

Weather and climate are important factors affecting economic and social

development. In China, the country's National Climate Center releases an annual climate report that comprehensively covers China's achievements and progress that year in climate system monitoring, climate impact assessment, and other aspects. This series of reports has been published in *Atmospheric and Oceanic Science Letters* for five consecutive years since 2019, and the "State of China's climate in 2022" is now available.

This year's report provides a comprehensive summary of the main climate characteristics and high-impact weather and climate events in China in 2022. As introduced by Director Li Wei of the Climate Service Office of the National Climate Center, in 2022, the overall climate condition in China was worse than normal, presenting a warm–dry climate with the second highest annual mean temperature in history. The [annual precipitation](#) was the lowest recorded since 2012.

The number of hot days and extreme high temperature events were both the highest in history, while the national average number of rainy days was the lowest. The precipitation in summer and autumn was less than normal. The average precipitation in summer was the second lowest since 1961. In summer, Northeast and North China had more rainfall during the flood season, while the Yangtze River Basin had less, resulting in extreme heatwaves and [severe droughts](#).

In 2022, there was an apparent stepwise feature of drought regionally, with southern China heavily affected by long droughts in summer and autumn. Rainstorm processes occurred frequently, especially over the Pearl River Basin and the Songliao River Basin, causing severe flooding disasters in South China and Northeast China.

In summer, the strongest heatwave since 1961 occurred in central and eastern China. Persistent cold, rainy, snowy, and sunless weather was observed in southern China in February, and a strong cold wave from

late November to early December caused severe cooling over a large area. Sandstorm weather appeared less frequently and later than normal, and landfalling typhoons were extremely less frequent.

More information: Ling Wang et al, State of China's climate in 2022, *Atmospheric and Oceanic Science Letters* (2023). [DOI: 10.1016/j.aosl.2023.100356](https://doi.org/10.1016/j.aosl.2023.100356)

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