2024 Global Climate Highlights

Copernicus Climate Change Service Report

Overview

- In 2024, global surface temperatures reached unprecedented levels, exceeding 1.5°C above the pre-industrial baseline. The Copernicus Climate Change Service reported that 2024 was not only the warmest year on record but also the first calendar year to surpass the 1.5°C threshold. Human-induced climate change is the primary driver of these extreme temperatures, with phenomena like El Niño adding variability.

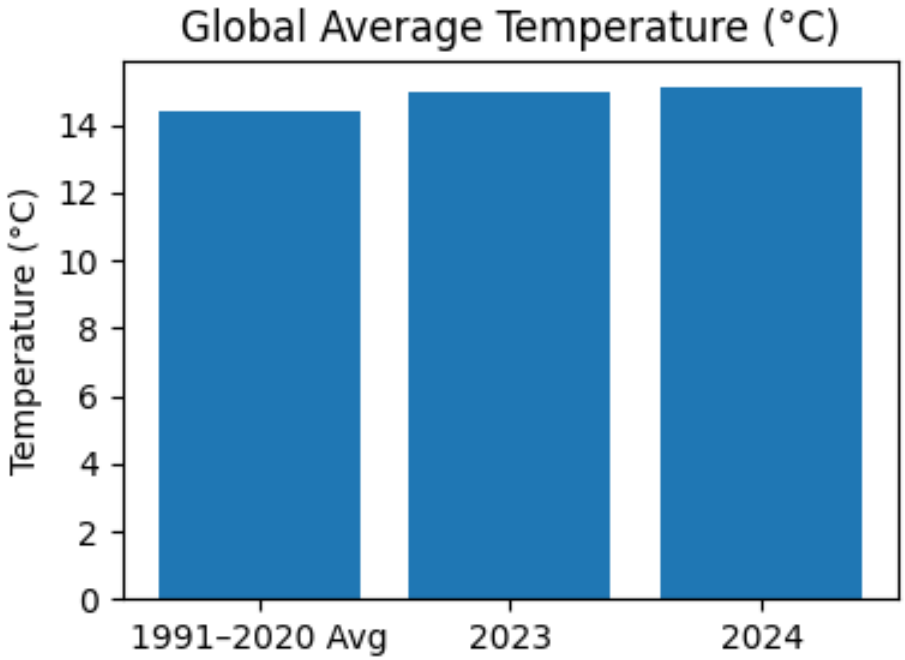
[1]

2024 Climate Highlights

- 2024 recorded a global average temperature of 15.10°C, which is 0.72°C above the 1991–2020 average and 0.12°C warmer than 2023.
- 2024 is the first calendar year to exceed 1.5°C above pre-industrial levels.
- Each year from 2015 to 2024 ranks among the ten warmest years on record.
- Monthly global temperatures exceeded 1.5°C for 11 months, with a record daily high of 17.16°C on July 22, 2024.
- 2024 was the warmest year for almost all continental regions, except Antarctica and Australasia.

[2] [3]

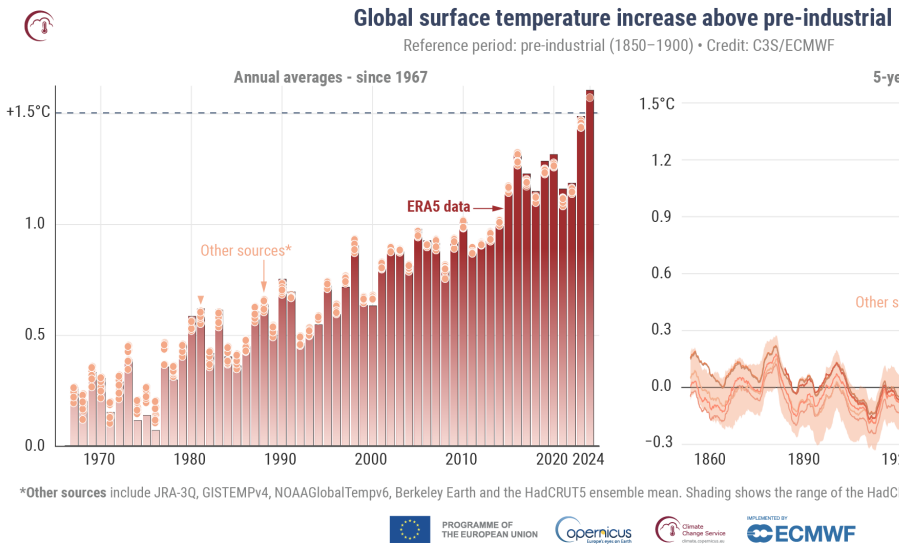
Global Average Temperature Comparison

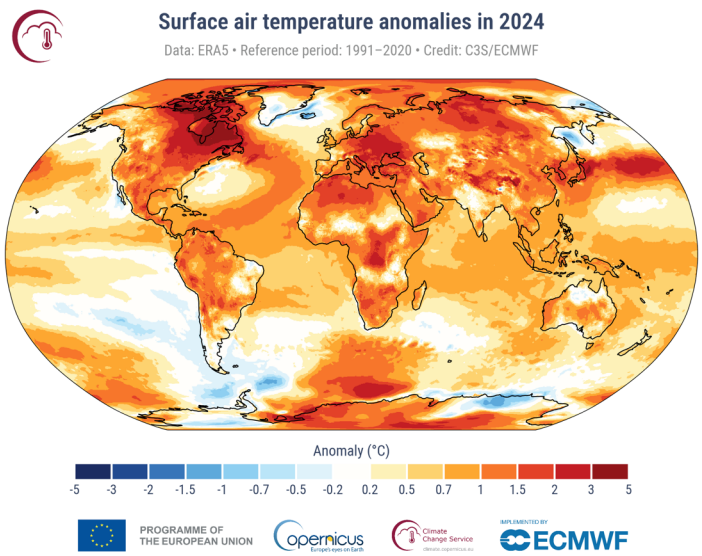


This bar chart compares the 1991–2020 ave

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Temperature Trends & Anomalies





Global surface temperature increase above pre-industrial (ERA5 & other sources). Surface air temperature anomalies in 2024 rela

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Conclusions & Outlook

- Leading climate scientists warn that the unprecedented warmth of 2024 underscores an urgent need for evidence-based responses. According to Carlo Buontempo, the future is in our hands, and decisive action can alter the trajectory of our climate.
- Strategic Lead Samantha Burgess notes that every year in the last decade ranks among the warmest on record, and global temperatures are already above the 1.5°C threshold set by the Paris Agreement.
- High temperatures coupled with record atmospheric water vapour have led to more frequent heatwaves and heavy rainfall, causing adverse impacts on human societies and ecosystems.

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