

July was world's hottest month on record, climate scientists confirm

Global average temperature exceeded previous record by substantial margin

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- Firefighter battles blaze in Posada, Sardinia. Wildfires raged across Europe throughout July. Photograph: Emanuele Perrone/Getty Images

July has been confirmed as the hottest month on record globally after several heatwaves in parts of Europe, according to the Copernicus Climate Change Service (C3S).

The global average temperature was 16.95C last month, surpassing the previous record set in 2019 by a substantial 0.33C. Temperatures exceeded 40C last week in several countries across Europe including Greece, France, Italy and Spain.

Wildfires forced the evacuation of thousands of residents and tourists from several Greek islands including Rhodes. There were also high temperatures in South American countries, despite it being winter there.

July is estimated to have been about 1.5C warmer than the average for 1850-1900, according to C3S, and 0.72C warmer than the 1991-2020 average.

Dr Samantha Burgess, deputy director of C3S, said: “We just witnessed global air temperatures and global ocean surface temperatures set new all-time records in July. These records have dire consequences for both people and the planet exposed to ever more frequent and intense extreme events.”

Antarctic sea ice has also been at record lows this July, freezing less than in any other winter since satellites began observations in 1979.

Scientists have said that if greenhouse gas emissions are not controlled, extreme weather will increasingly damage Antarctic ecosystems, which would affect the rest of the world.

Burgess said that 2023 was “the third warmest year to date at 0.43C above the recent average, with the average global temperature in July at 1.5C above pre-industrial levels.

“Even if this is only temporary, it shows the urgency for ambitious efforts to reduce global greenhouse gas emissions, which are the main driver behind these records.”

The UN secretary general, António Guterres, cautioned last month that the era of global warming has ended and the “era of global boiling has arrived”.