2023 likely to be hottest year on record

September 6 2023, by Imran Marashli

The average global temperature in June, July and August was 16.77 degrees Celsius, smashing the previous 2019 record.

2023 is likely to be the hottest year in human history, and global temperatures during the Northern Hemisphere summer were the warmest on record, the EU climate monitor said on Wednesday.

Heat waves, droughts and wildfires struck Asia, Africa, Europe and North America over the last three months, with dramatic impact on economies, ecosystems and human health.

The average global temperature in June, July and August was 16.77 degrees Celsius (62.19 degrees Fahrenheit), surpassing the previous 2019 record of 16.48C by a wide margin, the European Union's Copernicus Climate Change Service (C3S) said in a report.

"The three months that we've just had are the warmest in approximately 120,000 years, so effectively human history," C3S deputy director Samantha Burgess told AFP.

Last month was the hottest August on record and warmer than all other months except July 2023.

"Climate breakdown has begun," said UN Secretary General Antonio Guterres, echoing famous testimony before the US Congress 35 years ago, in which government scientist James Hansen declared that global warming had begun.

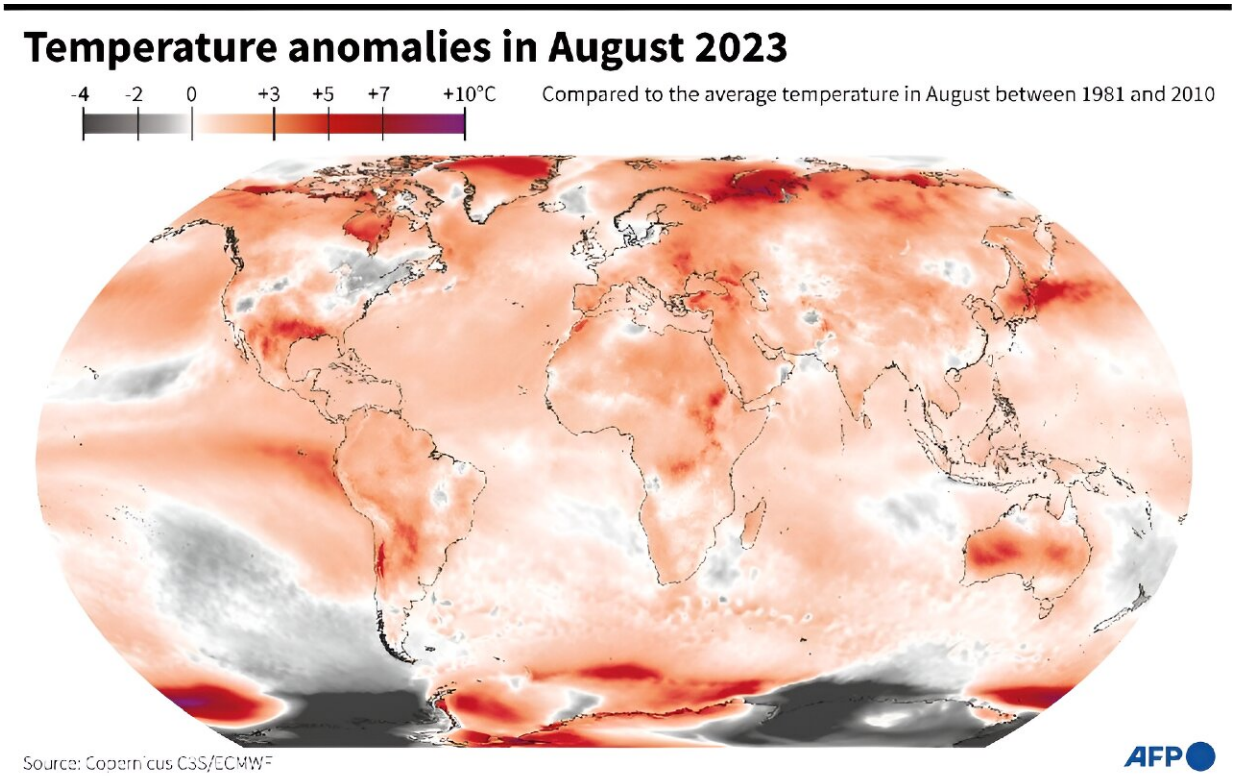
"Our climate is imploding faster than we can cope," Guterres added.

Also on Wednesday, the World Meteorological Organization warned that more frequent and intense heat waves are generating a "witch's brew" of air pollution that shortens human lifespans and damages other life forms.

"Heat waves worsen air quality, with knock-on effects on human health, ecosystems, agriculture and indeed our daily lives," WMO chief Petteri Taalas said in a statement.

Record-high global sea surface temperatures played a major role in stoking heat throughout the summer, with marine heat waves hitting the

North Atlantic and the Mediterranean Sea.



Map showing temperature anomalies recorded worldwide in August 2023.

"Looking at the additional heat we have in the surface ocean, the probability is that 2023 will end up being the warmest year on record," Burgess said.

If the Northern Hemisphere has a "normal" winter, "we can almost virtually say that 2023 will be the warmest year that humanity has experienced," she added.

Warming oceans

Oceans have absorbed 90 percent of the excess heat produced by human activity since the dawn of the industrial age, according to scientists.

This excess heat continues to accumulate as greenhouse gases—mainly from burning oil, gas and coal—build up in the Earth's atmosphere.

Excluding the polar regions, global average sea surface temperatures exceeded the previous March 2016 record every day this summer from July 31 to August 31.

Warmer oceans are also less capable of absorbing carbon dioxide (CO_2), exacerbating the vicious cycle of global warming as well as disrupting fragile ecosystems.

Antarctic sea ice remained at a record low for the time of year with a monthly value 12 percent below average, "by far the largest negative anomaly for August since satellite observations began" in the 1970s, C3S said.

Higher temperatures are likely on the horizon: the El Niño weather phenomenon—which warms waters in the southern Pacific and beyond—has only just begun.

Scientists expect the worst effects of the current El Niño to be felt at the end of 2023 and into next year.

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'Wake up call'

Scientists reacted strongly to the C3S report.

"2023 is the year that climate records were not just broken but smashed," said Mark Maslin, a professor of climatology at University College London.

"Extreme weather events are now common and getting worse every year—this is a wake up call to international leaders."

"Global warming continues because we have not stopped burning fossil fuels—it is that simple," said Friederike Otto, a climate scientist at Imperial College London.

At the 2015 Paris climate summit, countries agreed to keep global temperature increases to "well below" 2C above pre-industrial levels, with an aspirational target of 1.5C.

A "Global Stocktake" by UN experts due this week assessing the world's progress in meeting these goals will confirm that current national carbon-cutting commitments fall far, and would see Earth's surface warm 2.7C.

The C3S findings came from computer-generated analyses using billions of measurements from satellites, ships, aircraft and weather stations around the world.

Proxy data such as tree rings and ice cores allow scientists to compare modern temperatures with figures before records began in the mid-19th century.

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