Headline: This year set to be warmest in 125,000 years, EU scientists say

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A view of sign board warning of extreme heat in Death Valley, California, U.S. July 15, 2023. (REUTERS)

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BRUSSELS – This year is set to be the world's warmest in 125,000 years, European Union scientists said on Wednesday, after data showed last month was the hottest October on record by a massive margin.

Last month exceeded the previous highest October average temperature, from 2019, by 0.4 degrees Celsius, the EU's Copernicus Climate Change Service (C3S) Deputy Director Samantha Burgess said, describing the temperature anomaly as "very extreme".

That has made 2023 as a whole "virtually certain" to be the warmest year recorded, C3S said in a statement.

The heat is a result of continued greenhouse gas emissions from the burning of fossil fuels, combined with the emergence this year of the naturally occurring El Nino climate pattern, which warms the surface waters in the eastern Pacific Ocean.

The current hottest year on record is 2016 — another El Nino year — although 2023 is on course to overtake that.

Copernicus' dataset goes back to 1940. "When we combine our data with the IPCC, then we can say that this is the warmest year for the last 125,000 years," Burgess said.

The longer-term data from U.N. climate science panel IPCC includes readings from sources such as ice cores, tree rings and coral deposits.

Climate change is fueling increasingly destructive extremes. In 2023, that includes floods that killed thousands of people in Libya, severe heatwaves in South America, and Canada's worst wildfire season on record.

Globally, the average surface air temperature in October of 15.3 Celsius (59.5 degrees Fahrenheit), was 1.7 degrees Celsius warmer than the average for October in 1850-1900, which Copernicus defines as the pre-industrial period.

The only other month to breach the temperature record by such a large margin was September 2023.

"September really, really surprised us," Burgess said. "So after last month, it's hard to determine whether we're in a new climate state. But now records keep tumbling and they're surprising me less than they did a month ago."

The combination of human-caused climate change and the naturally occurring El Nino is stoking concerns of more heat-fuelled destruction to come – including in Australia, which is bracing for a severe bushfire season amid hot and dry conditions.

The ongoing El Nino weather pattern is set to last until at least April 2024, the World Meteorological Organization said on Wednesday.

“Most El Nino years are now record-breakers because the extra global warmth of El Nino adds to the steady ramp of human-caused warming,” said Michael Mann, a climate scientist at University of Pennsylvania.

The scientists’ findings come three weeks before governments meet in Dubai for this year’s U.N. climate negotiations, known as COP28. There, nearly 200 countries will negotiate stronger action to fight climate change.

A central issue at COP28 will be whether governments agree — for the first time — to phase out the burning of carbon dioxide-emitting fossil fuels.

Under fossil fuel producers’ current plans to extract coal, oil and gas, by 2030 global fossil fuel production would be more than double the levels that are deemed consistent with meeting globally agreed goals to limit climate change, the United Nations and researchers said in a report on Wednesday.

Despite countries setting increasingly ambitious targets to gradually cut emissions, so far that has not happened. Global CO2 emissions hit a record high in 2022.

“We must not let the devastating floods, wildfires, storms, and heatwaves seen this year become the new normal,” said Piers Forster, climate scientist at University of Leeds.

“By rapidly reducing greenhouse gas emissions over the next decade, we can halve the rate of warming,” he added.