

Global temperature records again broken on Monday and Tuesday

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25 July 2024

Satellite data from the European climate monitoring service Copernicus confirms that Monday and Tuesday were the hottest days on Earth so far recorded by the program. Temperatures Wednesday will likely also be added to the record once the preliminary data are finalized.

The last such record was on July 6, 2023, when the global mean temperature (the temperature measured over the entire surface of the planet over the span of 24 hours) reached 17.08 degrees Celsius (just under 64 degrees Fahrenheit). On Monday, the temperature rose to 17.09 degrees Celsius before spiking to 17.16 degrees Celsius on Tuesday.

Preliminary data, which will be confirmed in the coming days, show that temperatures hit 17.15 degrees Celsius on Wednesday.

The regions experiencing the highest anomalous temperatures, contributing to the new record, are Antarctica, the western and northern parts of North America, and parts of Siberia.

Data from the US National Oceanic and Atmospheric Administration (NOAA) concurs with the trends represented in the Copernicus data. In the past seven days, 1,769 locations monitored by NOAA around the world have tied or broken heat records.

Such record-breaking temperatures have become a regular occurrence in the past two decades. The past 10 years are among the hottest 11 years recorded by Copernicus, with the one outlier being 2010, which was slightly hotter than 2014.

Moreover, there are indications that 2023 was something of a tipping point for global warming. In the 67 years in which Copernicus has collected such data, Earth's temperatures have climbed about 0.02 degrees Celsius each year. In contrast, the average worldwide temperature from January to December last year was

14.98 degrees Celsius, a jump of 0.17 degrees Celsius from the previous hottest years in 2016 and 2020, and a spike of 0.30 degrees Celsius hotter from the average worldwide temperature in 2022.

Data from the first half of this year suggest that 2024 will have a similarly sharp increase in the global temperature.

The direct cause of the record high temperatures is man-made climate change, itself caused by the largely uncontrolled release of greenhouse gases over the past century and a half by capitalist production. In particular, the release of carbon dioxide into the atmosphere via burning fossil fuels (e.g., coal, oil, natural gas) traps more and more of the heat Earth receives from the Sun, steadily increasing the planet's temperature.

And the problem compounds, since carbon dioxide stays and builds up in the atmosphere. The Scripps Institution of Oceanography at UC San Diego has measured atmospheric carbon dioxide at Mauna Loa Observatory in Hawaii since 1958. The first measurements recorded CO2 levels of about 315 parts per million in the atmosphere. Levels now stand at 424 parts per million.

Various atmospheric models suggest that CO2 levels have to be brought sharply down, to as low as 350 parts per million, to reverse global warming.

One of the many complications is the collapse of land "carbon sinks." In the past, carbon dioxide has been removed from the atmosphere by forests and jungles as plants go through their natural growth cycle. From 2010 to 2022, such growth removed about 2 gigatons of carbon dioxide from the atmosphere each year.

A recently published preprint on atmospheric and oceanic physics found that in 2023, these carbon sinks only removed at most 0.65 gigatons of CO2 from

Earth's atmosphere, as a result of extreme heat, drought and wildfire activity last year. If the trend continues, the world's forests will generate a net increase to atmospheric carbon dioxide, yet another tipping point in the climate crisis.

Humanity is already living through the dire consequences of unchecked climate change. This year alone, wildfires and the ongoing global heat wave have killed thousands. At the end of June, Hurricane Beryl developed from a tropical depression to a Category 4 and Category 5 hurricane in the span of a few days, the earliest in a year that such a rapid intensification has happened. Beryl is expected to cost upwards of \$32 billion, once all the damage has been assessed, and caused 52 confirmed deaths.

And the hurricane, heat wave and wildfire season have only barely begun. As Socialist Equality Party presidential candidate Joseph Kishore recently said in a campaign statement:

According to a report published by the World Meteorological Organization last year, a staggering 489,000 people died from heat-related causes *every year* between 2000 and 2019—that is, nearly 10 million total.

Kishore continued:

Scientists have repeatedly warned that the climate crisis produced by global warming is reaching a tipping point. Steadily increasing temperatures are behind a series of disasters, from deadly hurricanes to wildfires. Warming oceans threaten the entire global food chain, and rising ocean levels from melting ice caps will lead to worldwide and permanent flooding in areas where billions of people live.

And there is growing evidence that climate change is pushing thousands of species out of their native habitats, increasing the likelihood of spillover events and future pandemics even deadlier than Covid-19.

The dangers posed by climate change are a scientific fact. But the response to climate change is fundamentally a *class* issue. Whatever promises the world's capitalist governments have made, whether they be the 1998 Kyoto Protocols, the 2015 Paris Accords or various other climate agreements, they are primarily designed not to reverse global warming, but to use climate change as yet another lever in the constant struggle by nation-states and corporations for markets and geopolitical power.

In contrast, the international working class is wholly invested in actually fighting the crisis. It is workers who have suffered and the proletariat is the only social force that is capable of a globally coordinated and scientifically guided response to end climate change. Like all social ills plaguing modern civilization—wars, poverty, pandemics, genocide—the solution to climate change is the socialist transformation of society.



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