Siberian Arctic records temperature above 100 degrees Fahrenheit

Bryan Dyne
24 June 2020

The temperature in Verkoyansk, Russia, which lies in the eastern part of Siberia just north of the Arctic Circle, was recorded Saturday at 100.4 degrees Fahrenheit (37.3 degrees Celsius), more than 32 degrees above the city's average temperature in June. This is the hottest temperature ever recorded in Siberia as well as the hottest temperature to date recorded in the Arctic itself.

Such records are becoming increasingly common as global warming continues unabated. Data from the US National Oceanic and Atmospheric Administration noted earlier in the year that 2020 began with the hottest January so far recorded, 2.05 degrees Fahrenheit above the 20th century average. The year as a whole is expected to be among the five hottest since measurements began.

Scientists have issued repeated warnings for decades that the current trends in Earth's changing climate are already having devastating consequences for the world's population while at the same time becoming more catastrophic. In Siberia, for example, the increasingly high average temperatures across the region have caused the permafrost to thaw in some areas. People living in the town of Zyryanka have been forced to move away in recent years to escape once solid ground turning into a series of bogs and swamps. The flooding farmland has destroyed livelihoods in the region and threatens to sink buildings and other infrastructure into the deepening layer of mud.

The melting permafrost has another consequence: the release of masses of greenhouse gases into the atmosphere. As the ground thaws, frozen animals from the previous ice age, including woolly mammoths, begin to decay and release carbon dioxide into the atmosphere. At the same time, methane trapped by the slow rot of plant and animal matter over millennia is released. Methane is a greenhouse gas that traps heat 80 times more effectively than carbon dioxide.

Thawing permafrost in the Arctic is one of several "tipping points" described by British climatologist Timothy Lenton in an article from April published in the journal *Nature*. Lenton and his colleagues make clear that the most catastrophic climate scenarios—oceans suddenly rising tens of meters, the loss of the Amazon rainforest—are likely to occur if current greenhouse gas emission trends from human activity continue.

The concept of tipping points was introduced by the United Nations Intergovernmental Panel on Climate Change two decades ago to describe "large-scale discontinuities" in Earth's climate. At the time, they were only considered likely if Earth's climate warms by more than 5 degrees Celsius above pre-industrial levels, but more recent data indicates that such tipping points could occur at only 1 or 2 degrees of warming. Earth's surface has already warmed by 1.1 degrees Celsius compared to pre-industrial levels.

The reason the temperature limits were reduced is that more sophisticated modeling and data collected since the initial report show that certain natural processes, once triggered by human activity, trigger other natural processes over which humans have little to no control. One such datum is the temperature record at Verkoyansk, which was not predicted to happen for another 80 years.

Thawing permafrost, happening now, can lead to a sudden and massive release of greenhouse gases into the atmosphere, which can trigger a sharp spike in warming despite human intervention, leading to more thawing in a continuing loop. At the same time, Antarctic land ice melts into the oceans, causing sea levels to rise more rapidly.

This danger of a "Hothouse Earth" was made explicit by one of Lenton's colleagues, Will Steffen, in a 2018 journal paper published in the Proceedings of the National Academy of Sciences. The work found that even if the nominal target of keeping global warming below 1.5 or 2 degrees Celsius is met, "we cannot exclude the risk that a cascade of feedbacks could push the Earth System irreversibly onto a 'Hothouse Earth' pathway."

The dangers cannot be overstated. Such a world would face sea-level rises of tens of meters, wiping out coastal regions the world over and forcing billions of people to flee or be drowned. Forest fires would rage unchecked around the world and the tropical rain forests in South America, Africa and Southeast Asia would collapse. Hurricanes and typhoons would become more destructive. Coral reefs and oceanic plankton would die off *en masse*, collapsing the world's food chain. At least one million of Earth's species would die, and continent-scale portions of the world's surface would become uninhabitable, as the planet's surface starts to mirror the hellish landscape of Venus.

Current efforts to prevent such an apocalyptic scenario fall far short. Even if the national pledges to reduce greenhouse gas emissions from the much-lauded Paris Accord are achieved, Earth's average surface temperature will likely warm 3 degrees Celsius by the end of the century. This in itself reveals the bankruptcy of supposedly "left" politicians around the world, including former French President Francois Hollande and former US President Barack Obama.

In a contradictory way, the ongoing coronavirus pandemic also revealed the emptiness of calls by the psuedo-lefts and Greens for the world's population to change its "lifestyle" and by the Malthusians to reduce the world's "surplus population." During the peak of the shutdowns caused by the pandemic in March and April, global emissions fell by 17 percent, far less than needed to avert a climate catastrophe. This is a crude but effective demonstration that simply stopping human activity is not enough to halt or reverse the climate crisis.

In fact, what is necessary is internationally coordinated and scientifically guided human activity, implementing a program on a world scale to reorganize energy, transportation and agriculture so that Earth's climate is stabilized and the worst scenarios avoided. Such actions in turn involve a fight by the working class against the shackles of the nation-state system and the private ownership of production—against the entirety of the world capitalist system.