

# Record heatwave in Siberia and the burning danger of climate change

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The year 2020 is the hottest in Siberia since measurements began 130 years ago. Russian cities across the polar circle recorded record temperatures. In Nizhnyaya Peshya, a temperature of 30 degrees Celsius (86°F) was measured and in Khatanga, which usually has a daytime temperature of around freezing at this time of year, the temperature reached 25°C (77°F) on May 22. The previous record was 12°C (54°F).

In Verkhoyansk, a Russian city in eastern Siberia, the situation is even more extreme. The small city in the state of Sakha was considered the coldest city in the world. But Twitter posts of meteorologist Mika Rantanen have announced that at a hefty 38°C (100°F), Verkhoyansk has set a record high temperature. Records have been kept since 1885. At least 11 other Arctic weather stations recorded temperatures over 30°C.

According to announcement of the Copernicus Climate Change Service (C3S), the May surface temperatures in parts of Siberia were up to 10 degrees Celsius above average. Freja Vamborg, a leading scientist at C3S, said: “It is undoubtedly an alarming sign, but not only May was unusually warm in Siberia. The whole of winter and spring had repeated periods of higher-than-average surface air temperatures.”

Scientists explain that the record heatwave in Siberia is an extreme consequence of global climate change. Martin Stendel of the Danish Meteorological Institute reported that the uncommon temperatures in May would occur once in 100,000 years without anthropogenic contributions to global warming.

According to geomorphologist Anna Irrgang of the Helmholtz Center for Polar and Marine Research in Potsdam, Germany, extreme weather occurrences in this region are not uncommon. What is novel is the frequency of their occurrence. Mika Rantanen likewise warned that the Arctic is warming three-to-four times faster than the global average. Climate scientist Anders Levermann of

the Potsdam Institute for Climate Impact Research stated: “The novel aspect of this ‘phenomenon’ is that the warming of Siberia is not a short-term observation and as such cannot be explained by the wind system of the jetstream, which can last one or two weeks, but not for five months.”

The thawing of the permafrost ground layer is especially critical. Permafrost covers about half of the Russian landmass and has been warming for some time. A comparative study of the Global Terrestrial Network for Permafrost showed in 2019 that across the board, the temperatures at 10 meters depth rose on average 0.3°C from 2007 to 2016.

Siberia comes in at the high end: There the temperature of the frozen ground measured at individual bore holes warmed 0.9°C. In the Antarctic, the researchers measured an average rise of 0.37°C. According to experts, regions with permafrost, especially in Alaska, Canada and Siberia, are more strongly affected by climate change than are other parts of the world. Based on statements by Intergovernmental Panel on Climate Change (IPCC), the temperatures of permafrost have risen to record levels in the last 40 years, and that after millions of years of maintaining freezer-like temperatures.

The consequences for mankind and nature are dramatic. For years, wooden houses in the east Siberian Yakutsk have been sinking into the softening ground or slowly falling over. On the Yamal peninsula, reindeer have begun bogging down in swamps. The herders complain that they no longer know how to move their animals from winter to summer pastures. In Scandinavian Lapland, reindeer have begun starving because ice, instead of snow that they can scrape aside with their hooves, has prevented them from accessing nourishment.

In December, Russian President Vladimir Putin commented on the unusual warmth: “Some of our cities were built north of the Arctic Circle, on the permafrost. If

it begins to thaw, you can imagine what consequences it would have. It's very serious."

This, however, is hypocritical. The fact is that the Russian government is doing almost nothing for climate protection, but rather, like its international rivals, sees the warming of the Arctic as a strategic opportunity to access raw materials and open new trade routes. In August 2019, as part of its new "scramble for the Arctic," the Russian government launched a floating nuclear power plant in the Arctic Sea, raising the danger of a nuclear catastrophe.

The above-average warming in Siberia is also being blamed for the catastrophic oil spill near the city of Norilsk. This is just one more example of how Russia disregards climate protection for the sake of profit. On May 29, an accident at a power plant belonging to the mining company Nor Nickel near the northern Siberian city led to a massive oil slick. Some 21,000 tons of diesel were released into the environment and contaminated the regional water system, prompting the declaration of a state of emergency.

Another concerning result of the warming is that thawing permafrost will release huge quantities of greenhouse gases that would contribute to further warming. As such, these heat waves are catalyzers for climate change. Among other gases, methane, an exceedingly potent greenhouse gas, would be set free. "Viewed over 100 years, methane affects the climate about 34 times more strongly than CO<sub>2</sub>, and 86 times more strongly viewed over 20 years," said Guido Grosse of the Helmholtz Center.

Not only carbon dioxide and methane captured in permafrost will be released, but also the neurotoxin mercury. The polar regions of the Earth harbor huge quantities of heavy metals, transported there on wind currents. Chemical reactions with bromide salts "scrub" the poisons from the atmosphere and deposit them on the surface.

This is how mercury, over thousands of years, has accumulated in the marine food chain, first in aquatic animals and then in seals and polar bears and ultimately to humans who rely on fishing for sustenance.

This is demonstrable in blood samples of seal species that live in the Arctic. How fast this accumulation occurs will depend on how fast the climate warms in the next years. "Predictions range from 30 percent up to 99 percent of permafrost will thaw before the turn of the century. What would take thousands to millions of years in the natural cycle is now happening in a human lifetime," said Paul Schuster of the US Geological

Service.

As a result of the record-setting temperatures, wildfires have consumed hundreds of thousands of hectares of Siberian forest. It is common for farmers to burn their fields in spring to clear vegetation, but a combination of high temperatures and strong winds stoked some fires out of control. Thus, on June 27, an area of 1.4 million hectares, an area larger than Austria, burned. In the previous year, according to estimations of the environmental organization Greenpeace, 150,000 square kilometers burned, an area twice the size of Ireland. For weeks on end the residents of many Siberian cities suffered toxic smoke.

The problem of the subjugation of climate protection to profit interest is not limited to Russia. It is the trademark of all capitalist governments. In order to fast-track construction projects and supposedly to create jobs, President Trump signed an executive order on June 5 to loosen the environmental restriction in the US. Another example are the tragic wildfires in the Ukraine that on April 4 came within 1 kilometer of the infamous Chernobyl nuclear plant, massively raising the levels of radiation near the fires for the first half of April.

Natural catastrophes caused by climate change and reckless destruction of the environment by big business are occurring ever more frequently. The record temperatures and forest fires in Siberia follow just a half-year behind the catastrophic fires in Australia.

At the beginning of the year, the WSWS warned in an important statement: "The last decade was marked by the continued and increasingly rapid destruction of the environment. Scientists have issued ever more dire warnings that without urgent and far-reaching action on a global scale, the effects of global warming will be devastating and irreversible."

The only hope of limiting global warming and putting an end to the reckless exploitation of nature lies in the fight of the international working class against capitalism. Only by means of a socialist planned economy, focused on human need, rather than private profits and national control of resources and raw materials, can the dangers of climate change be surmounted.



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