Image Copyright @greenpeaceru

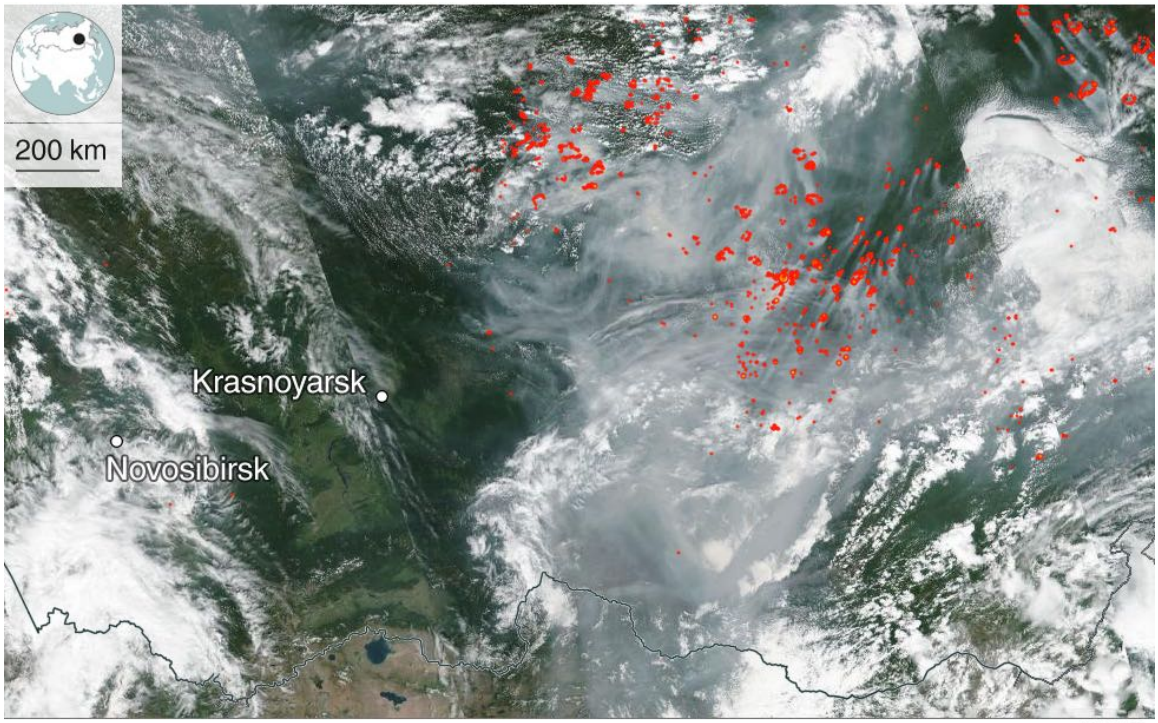
@GREENPEACERU

Report

The acrid smoke has affected not only remote villages and small towns but major cities such as Yekaterinburg and Chelyabinsk. Wildfires in Russia have been raging for weeks, caused by record high temperatures combined with lightning and strong winds.

Satellite images show smoke from fires in Siberia

• Fires and "thermal anomalies" (can include volcanoes and gas flares) on 31 July



Sourse: Greenpeace, Nasa EOSDIS GIBS

BBC

Arctic wildfires: What's caused huge swathes of flames to spread?

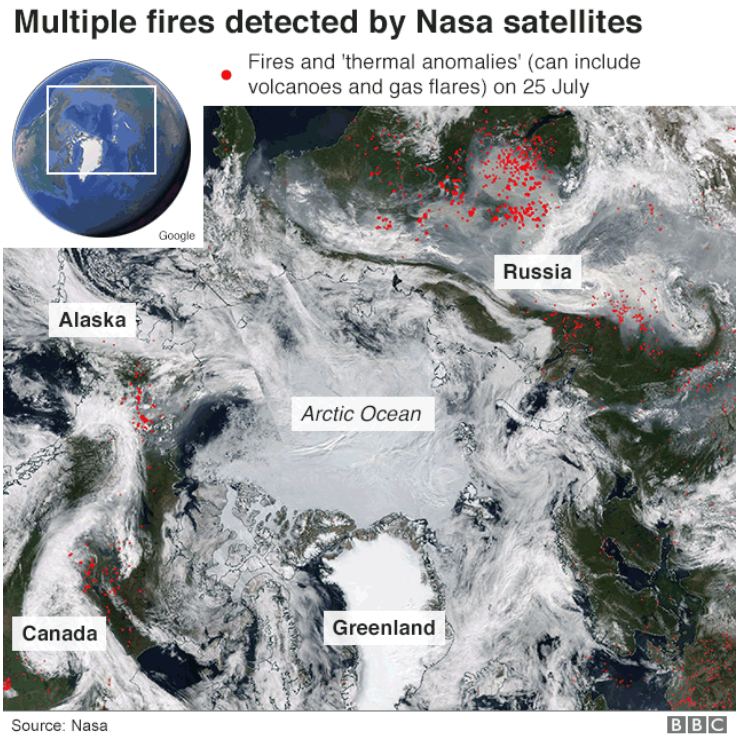
4 hours ago

The fires are very difficult for authorities to put out

Wildfires are ravaging the Arctic, with areas of northern Siberia, northern Scandinavia, Alaska and Greenland engulfed in flames.
Lightning frequently triggers fires in the region but this year they have been worsened by summer temperatures that are higher than average because of climate change.
Plumes of smoke from the fires can be seen from space.
Mark Parrington, a wildfires expert at the Copernicus Atmosphere Monitoring Service (Cams), **described them as "unprecedented".**

How bad is it?

There are hundreds of fires covering mostly uninhabited regions across eastern Russia, northern Scandinavia, Greenland and Alaska.



But smoke is affecting wider surrounding areas, engulfing some places completely.
Cities in eastern Russia have noted a significant decrease in air quality since the fires started.

Image Copyright @katelikekirlia

@KATELIKEKIRLIA

Report

The smoke has reportedly reached Russia's Tyumen region in western Siberia, six time zones away from the fires on the east coast.

How wildfires start and how to stop them
Why wildfires are breaking out in the 'wrong' countries
New tactics in battle against wildfires

In June, the fires released an estimated 50 megatonnes of carbon dioxide - the equivalent of Sweden's annual carbon output, according to Cams.

Fires have hit the famous taiga of Siberia

How unusual is this?

Arctic fires are common between May and October and wildfires are a natural part of an ecosystem, offering some benefits for the environment, according to the Alaska Centers website.

But the intensity of these fires, as well as the large area they have taken up, make these unusual.

Source: Nasa BBC

"It is unusual to see fires of this scale and duration at such high latitudes in June," said Mr Parrington.
"But temperatures in the Arctic have been increasing at a much faster rate than the global average, and warmer conditions encourage fires to grow and persist once they have been ignited."
Extremely dry ground and hotter than average temperatures, combined with heat lightning and strong winds, have caused the fires to spread aggressively.
The burning has been sustained by the forest ground, which consists of exposed, thawed, dried peat - a substance with high carbon content.

Dangerous amplification Jonathan Amos BBC

Global satellites are now tracking a swathe of new and ongoing wildfires within the Arctic Circle. The conditions were laid in June, the hottest June for the planet yet observed in the instrumented era.
The fires are releasing copious volumes of previously stored carbon dioxide and methane - carbon stocks that have in some cases been held in the ground for thousands of years.
Scientists say what we're seeing is evidence of the kind of feedbacks we should expect in a warmer world, where increased concentrations of greenhouse gases drive more warming, which then begets the conditions that release yet more carbon into the atmosphere.
A lot of the particulate matter from these fires will eventually come to settle on ice surfaces further north, darkening them and thus accelerating melting.
It's all part of a process of amplification.

What is being done to tackle the fires?

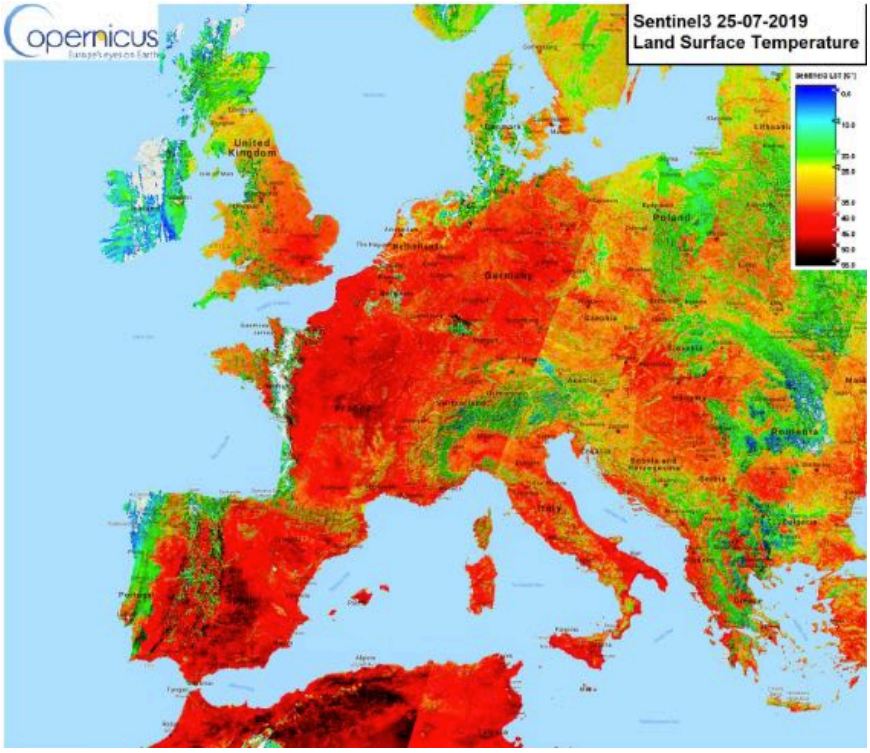
Russian authorities are not tackling the majority of the fires as they argue the cost would be bigger than the damage caused by the flames.
"They do not threaten any settlements or the economy," the press service of the Krasnoyarsk Region forestry ministry told a Siberian news website.


The fires are extremely difficult for authorities to put out

The hashtags #putouttheSiberianfires and #saveSiberianforests are currently trending on Twitter as Russians complain the government is not doing enough to tackle the crisis.
Some argue that **the Notre Dame fire in Paris** received far more media attention than the forest fires.
"Remember how far the news about the Notre Dame fire spread? Now is the time to do the same about the Siberian forest fires," said one tweet.
Another said: "Let's not forget that nature is no less important than history. Numerous animals have lost their homes, and many of them are probably dead. Just thinking about this is painful."
Alaska Centers agree that "fire-suppression efforts sometimes are more damaging than the wildfire".

Europe's heat wave is about to bake the Arctic

Concerns grow regarding sea ice and Greenland's ice sheet.



European land surface temperatures Thursday as sensed via satellite. (European Union, Copernicus Sentinel-3 imagery, processed by Antonio Vecoli)

By Andrew Freedman
July 26 at 12:12 PM

On Friday, more temperature records are falling in Europe as the historic heat wave that brought the hottest weather ever recorded in Paris, London, the United Kingdom, Belgium, the Netherlands and Germany shifts northward. In a few days, the weather system responsible for the heat wave will stretch all the way across the top of the globe.

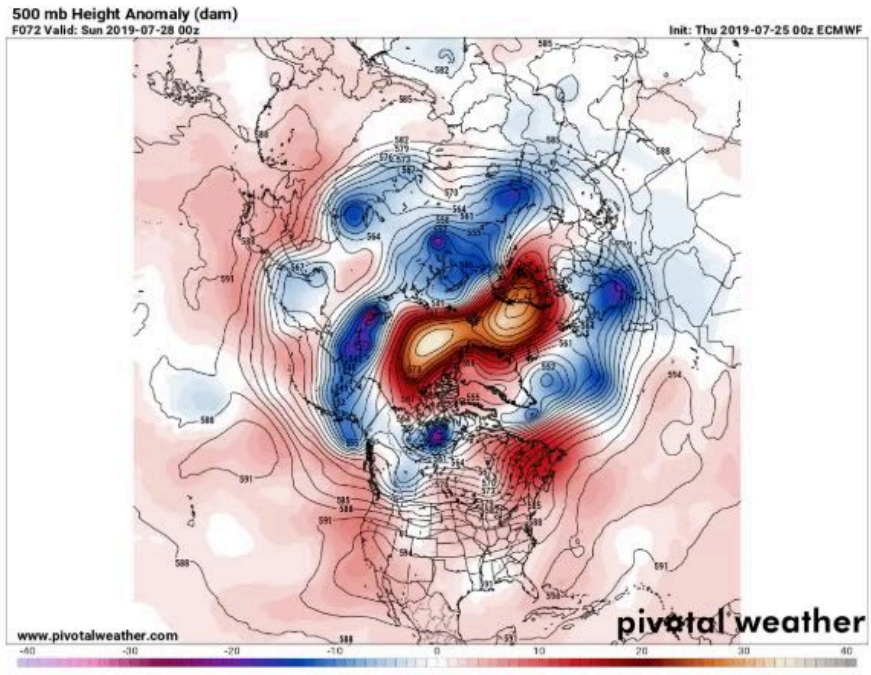
It's what this system, characterized by a strong area of high pressure aloft — often referred to as a heat dome — will do to the Arctic that has some scientists increasingly concerned.

Norway, Sweden and Finland will experience unusually high temperatures through the weekend, as a potentially record strong area of high pressure in the mid-levels of the atmosphere sets up over the region, blocking any cold fronts or other storm systems from moving into the area, like a traffic light in the sky.

Temperatures in parts of Scandinavia will reach into the 90s or higher, on the heels of an intense heat wave in 2018 that led to an outbreak of damaging wildfires.

Bergen, Norway, already set an all-time record high Friday with a temperature of 91 degrees (32.8 Celsius).

Accelerating Arctic ice melt



Computer model projection showing a strong blocking area of high pressure draped across the Arctic Ocean and Greenland on Sunday. (Pivotal Weather)

So far this year, Arctic sea ice extent has hovered at record lows during the melt season. Weather patterns favorable for increased melt have predominated in this region, and an unusually mild summer has also increased melting of the Greenland ice sheet. Unlike with sea ice melt, runoff from the Greenland ice sheet increases sea levels, since it adds new water to the oceans.

If the entire ice sheet were to melt, it would raise global average sea levels by 23 feet.

Ruth Mottram, a researcher with the Danish Meteorological Institute, tells The Washington Post that as the high-pressure area, also referred to as a "blocking ridge," sets up over Greenland, it could promote a widespread and significant melt event like the one in 2012. During that summer, nearly all of the ice sheet experienced melting, including the highest elevations that rarely exceed 32 degrees.

"Assuming this comes off (and it seems likely) we would expect a very large melt event over the ice sheet," Mottram said via email. "This was a very similar situation to 2012 where melt reached all the way up to Summit station. As you have probably seen the Arctic sea ice is already at record low for the time of year so clearly we may be looking at a situation where both Arctic sea ice and Greenland ice sheet have record losses even over and above 2012 — though we won't know for sure until after the event."

What happens next to the extreme #europeheatwave? Actually, the atmospheric flow will transport the heat towards #Greenland, resulting in high temperatures, consequently enhanced melting and a negative #SMB (surface mass balance) next week. Make sure to watch the @PolarPortal! pic.twitter.com/e4kvMVVNIo

— Martin Stendel (@MartinStendel) July 26, 2019

Zack Labe, a climate researcher at the University of California at Irvine who focuses on Arctic climate change, says the upcoming Arctic heat wave could have major ramifications and may push

sea ice to another record low at the end of the melt season.

“This appears to be a very significant event for the Arctic,” he says.

“A massive upper-level ridge will position itself across the North Atlantic and eventually Greenland in the next few days. This negative North Atlantic Oscillation-like pattern will be associated with well above average temperatures in Greenland. In fact, simulations from the MARv3.9 model suggest this may be the largest surface melt event of the summer,” Labe said, referring to a computer model projection of surface ice melt in Greenland.

"Whether or not we set a new record low this year, the timing and extent of open water on the Pacific side of the Arctic has been unprecedented in our satellite record. This is already having significant impacts to coastal communities in Alaska and marine ecosystems,” Labe said.

Elsewhere in the Arctic, this summer has been similarly extreme.

Smoke from Alaskan wildfires🔥 carried north towards Beaufort and Chukchi Sea, #Alaska, #USA🇺🇸 25 July 2019 Enhanced natural colors #Copernicus #Sentinel-3🛰️ Full-size: https://t.co/tPjHRaAxdX#RemoteSensing #wildfire #AirQuality pic.twitter.com/wgTAMviKKC

— Pierre Markuse (@Pierre_Markuse) July 26, 2019

Alaska had its warmest June on record, and more than 2 million acres have gone up in flames across the state as a result of a long stretch of above-average temperatures.

Arctic-wide, an unusual spate of wildfires is burning, affecting vast stretches of Siberia, as well. Smoke from these fires is circling the globe, tracked via satellite imagery.

These fires are also emitting greenhouse gases such as carbon dioxide.

Alaska sees record temperatures in heatwave

1 hour ago

A new record high temperature has been set in the US state of Alaska, part of which lies inside the Arctic Circle.
A temperature of 90F (32C) was reached at Anchorage airport on Thursday, the US Weather Service tweeted.
The previous high was just under 30C, and the average at this time of year is 18C.
Alaska had earlier broken records throughout a hot spring, particularly in the Arctic zone which is especially sensitive to fluctuations in climate.

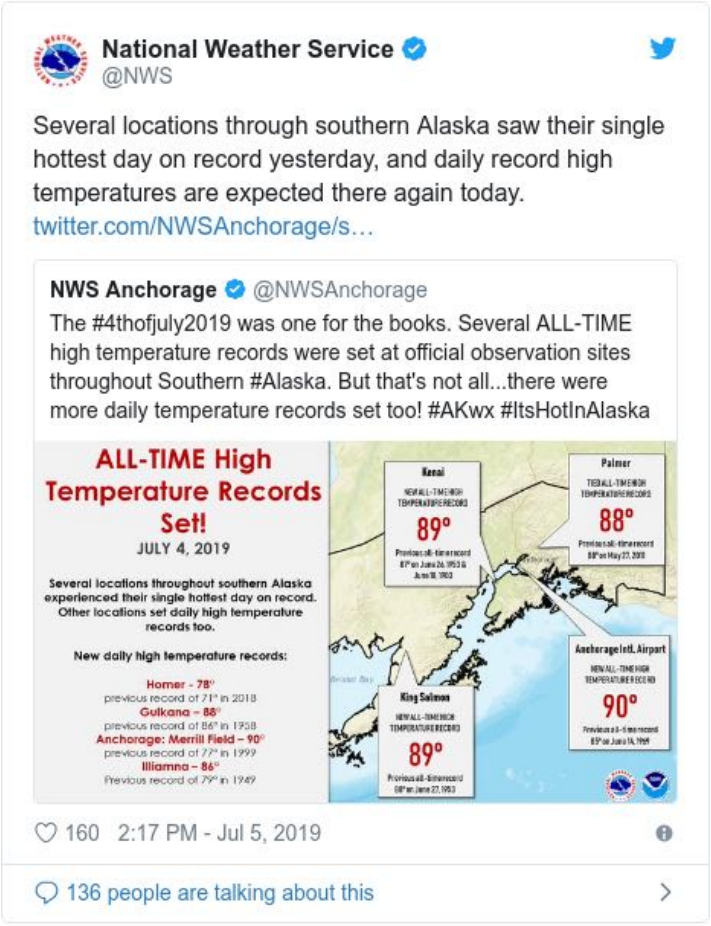


Image Copyright @NWS

@NWS

Report

Local residents, who routinely pack knit caps and fleece jackets in summer, on Friday were swapping them for **sunscreen and parasols**, the Associated Press reports.

A lifeguard watches as people sunbathe at Jewel Lake, Anchorage

Shawn King, a native of Anchorage, said he had never seen a stretch of similar hot weather.
His young daughter Tessa had insisted going barefoot when he offered to go fishing. "It's too hot for shoes," she said.
The dramatic warming Alaska has experienced in recent years is linked partly to a decline in sea ice and Arctic Ocean warming.

This has wreaked havoc on local communities, wildlife and the state's economy.
Climate change played a role in the deaths of thousands of puffins in Alaska, scientists said in May.
They said they believed the birds had starved to death when the fish they eat migrated north with rising sea temperatures.