

Greenland faces ice melt disaster

Tom Parfitt Moscow

A melt of Greenland's ice sheet is pushing up sea levels as glaciers recede in Iceland and fires rage in Alaska and Siberia.

Scientists have said that the melt levels are what they originally predicted for the middle or end of the century.

Europe's heatwave has passed through Scandinavia and is expected to cause a "remarkable warming episode" in Greenland over the next few days, the French national meteorological service said. Temperatures reached 0.4C at an altitude of 3,000 metres on the ice sheet yesterday.

The World Meteorological Organisation said that the heatwave was caused by warm air coming up from Africa and Spain, and "the atmospheric flow will transport the heat towards Greenland, resulting in high temperatures and consequently enhanced melting".

Xavier Fettweis, a climatologist at the University of Liege in Belgium, predicted "one of the largest melt events in the ice sheet history".

"The Greenland ice sheet has already lost more than 180 billion tonnes of water through melting alone in July," Ruth Mottram, a British scientist at the Danish Meteorological Institute, said. "That is equivalent to about 72 million Olympic-size swimming pools."

Scientists would normally expect an average of 60 to 80 billion tonnes loss from the ice sheet over the same period, where one billion tonnes, or a gigatonne, is equivalent to one cubic kilometre of water. The release of water in July this year will cause on average 0.5mm rise of global sea level.

Dr Mottram told *The Times* that a dry winter with low snowfall had exacerbated the melt this year because snow reflects sunlight, but glacier ice underneath it, when exposed, absorbs the sun and melts more quickly. It had also been a warm spring with an early start to the melt season in April.

"Even if we have no more melts for the rest of the summer — and that's not going to happen — we're already in the top ten in highest melt years in Greenland since our records began in 1980," she said. "And we still have a month to go to see if we get close to the record year of 2012."

Researchers are monitoring an "unprecedented" number of wildfires inside the Arctic Circle. Satellite images have shown clouds of smoke above forest and peat fires in Greenland, Alaska and Siberia.

At least 100 "intense and long-lived fires" tore through the Arctic in June and early July, according to the Copernicus Atmosphere Monitoring Service (Cams).

As the ice sheet melts, scientists are



A dry winter with low snowfall and a warm spring with an early start to the melt season in April has increased the pressure on the diminishing Greenland ice sheet

Analysis

Not all ice is equal. When sea ice melts, the water level stays the same — melting ice cubes, after all, do not make your gin and tonic overflow. The same is not true of land-based ice such as that on Greenland (Tom Whipple writes).

So while shrinking Arctic sea ice and the prospect of an ice-free North Pole draw our attention, the ice we should be even more concerned about is 3,000m (10,000ft) higher on the roof of Greenland. Here, all

summer, rivers of meltwater have been rushing down the glacier and into the sea. As these rivers become torrents, depositing billions of tonnes of water into the ocean, they raise the sea level.

In a stable system, that is fine. But this is not a stable system. Greenland's compacted winter snow no longer replenishes the summer melt. Like a peat cutter digging through thousands of years of sediment, climate change is now melting snow that fell many years ago. If the

climate reverted to its pre-industrial state tomorrow, Arctic sea ice would return next year. Greenland ice would take far longer.

It is important not to overstate how apocalyptic this is. Outside Antarctica, Greenland is the world's largest body of fresh water. Climate sceptics point out that relative to its size, the increased melt is barely perceptible. That is true. But whether we should find that comforting — or merely proof of how much more could yet enter our seas — is debateable.

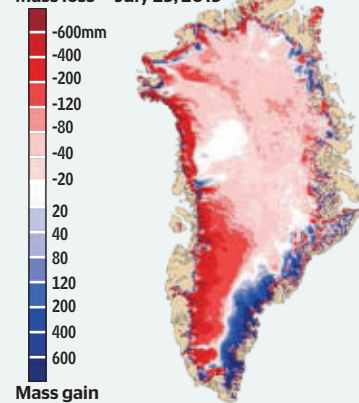
Disappearing fast

Greenland has lost 180bn tonnes of ice through surface melting alone in July, roughly 72m Olympic-size swimming pools

World Meteorological Organisation

Accumulated change since September 1, 2018

Mass loss July 29, 2019



preparing to lay a plaque on the site of a disappeared glacier in Iceland. Researchers from Rice University in Houston, Texas, the author Andri Snaer Magnason and the geologist Oddur Sigurosson will join members of the Icelandic Hiking Society to install the memorial on August 18 at the site of the former Okjokull glacier in Borgarfjörður, Iceland.

The plaque is titled "A letter to the future" and reads: "Ok is the first Icelandic glacier to lose its status as a glacier [in 2014]. In the next 200 years all our glaciers are expected to follow the same path. This monument is to acknowledge that we know what is happening and what needs to be done. Only you will know if we did it."

California's redwood trees are growing faster than ever in a spurt possibly linked to climate change. Fog on the coast has reduced due to rising temperatures and increased carbon dioxide, according to the Redwoods and Climate Change Initiative, which may have increased the trees' growth rate by allowing more sunlight through.

Climate change protesters chain themselves to wrong building

Will Humphries

Climate change activists chained themselves to the wrong building in the City of London after failing to realise that the fossil fuel company they wanted to disrupt had moved last year.

The protesters instead brought chaos to the entrance of a building that houses the offices of a leading renewable energy company.

About 200 members of the group Reclaim the Power, dressed in white boiler suits, targeted the building in Moorgate during rush hour, unfurling a banner that read: "No Borders, No Nations, No Gas Power stations."

They thought they would be

disrupting workers at the energy company Drax, which plans to build a new gas power station in north Yorkshire. However, Drax has moved its London headquarters to Noble Street half a mile away.

Bemused workers at Statkraft, a Norwegian hydropower company that describes itself as "Europe's largest generator of renewable energy", were confronted with the protest. An employee told the *London Evening Standard*: "They're protesting against Drax but they don't live here any more. I understand [the protesters' aims] but it helps if they check the facts."

Drax is owned by the FTSE 250 energy group of the same name. The

company, which reported profits of £14 million last year, employs more than 2,700 people. Its power station near Selby was built in the 1970s and 1980s to burn coal but most of its units have been converted to burn woodchips.

Drax also operates a business energy supply division and recently acquired gas-fired, hydroelectric and pumped

Activists unwittingly targeted the offices of a renewable energy firm

storage plants from Scottish Power.

Meanwhile, 180 miles away in Lincolnshire, Reclaim the Power activists were blocking the correct site of SSE's new Keadby 2 gas power plant. Milo Phillips, from the protest group, said they were protesting Drax's and SSE's "role in driving the climate crisis". "Drax and Keadby are the first in a possible wave of a new generation of dirty mega projects, built to pollute for decades," he said. SSE, which is headquartered

in Perth, Scotland, employs 20,000 people in the UK.

A Drax spokeswoman said: "Everyone has a right to peaceful protest. Climate change is the biggest challenge the world faces."

"Natural gas has an important role to play in supporting the growth of renewables like wind and solar... Building new, more efficient gas power stations will help the UK to meet its climate objectives while ensuring homes and businesses have the power they need at a price they can afford."

An SSE spokesman said: "When completed, we expect Keadby 2 to be the cleanest and most-efficient gas-fired power station in Europe."

