

Tsunami triggered by melting Greenland ice sheet could hit UK

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Rhys Blakely

The vast Greenland ice sheet has lost so much mass due to climate change that the earth's crust is rising in the region, increasing the risk of severe seismic activity that could affect the UK, an expert has warned.

The sheet, which is almost two miles thick at one point, is one of the world's largest repositories of ice. For thousands of years it has crushed the earth's crust and the liquid mantle below, but as the ice melts this force is being re-

duced. As a result the crust is rebounding upwards, increasing the risk of earthquakes, Bill McGuire, a volcanologist at University College London, told the British Science Festival in Chelmsford.

In the worst case, a quake would trigger an underwater landslide, which could produce a tsunami that would reach Britain. "As the ice melts and Greenland comes up you will have a bigger tsunami risk in the North Atlantic," he said.

Something similar happened about

8,200 years ago, when a loss of ice in Norway appears to have contributed to a piece of continental shelf the size of Scotland collapsing beneath the sea.

This created what is known as the Storegga tsunami; a wall of water that travelled at almost 80mph towards the UK. By the time it reached Scotland, it was about 20ft high. By analysing the debris it left behind in Aberdeenshire, experts have estimated that the water would have travelled up to 20 miles inland.

Farther south, the tsunami devastat-

ed a region known as Doggerland, which was then attached to east England and is now under the sea.

Nasa has estimated that from 2002 to 2020 Greenland shed an average of 279 billion tonnes of ice a year.

McGuire said: "People who have worked on this have speculated about what they call a seismic response in the Greenland area within decades. And if you see big earthquakes, you have the potential to trigger submarine landslides which will generate tsunamis — and Britain is in the line of fire. I'm not

going to say that's going to happen next year or anything like that but the fact that the whole North Atlantic region has come up is a great example of how climate change today is affecting the solid earth."

That immense bodies of ice have an effect on the crust is not a new idea: the north of England is still slowly springing upwards after the retreat of the glaciers of the last ice age. "You had Scandinavia bouncing back by a kilometre, over the course of the last 10,000 years," McGuire said.