# Scientists uncover Greenland mega-tsunami behind unexplained nine-day seismic tremors



In September 2023, the world was gripped by a peculiar seismic phenomenon—repeating vibrations that echoed for an impressive nine days. Now, scientists have pinpointed the source of this enigmatic event to a colossal 650-foot mega-tsunami generated by the dramatic collapse of a mountain into Greenland's Dickson Fjord. This unprecedented finding has emerged from research conducted by experts at the University of Oxford, who employed cutting-edge satellite technology to track the event.

The landslide, involving approximately 25 million cubic meters of rock and ice tumbling from a mountain standing 3,937 feet tall, set in motion a tsunami that began as an overwhelming wall of water. Thomas Monahan, Lead Author and Schmidt AI in Science Fellow at Oxford, remarked on the tsunami's staggering size, estimating that it initially reached heights of 7.9 meters. The force exerted by this wave was estimated to be equivalent to the combined thrust of 14 Saturn V rocket launches. The seismic signals generated by this monumental event rippled through the Earth's crust, causing the ground to shake and confounding scientists for days.

Adding to the mystery, observations immediately following the tsunami revealed no visible signs of its presence. Even a Danish military vessel dispatched to the fjord was unable to confirm the wave's existence. The tsunami quickly diminished, reducing to mere centimetres in height while still producing seismic activity. This elusive behaviour made it difficult for observers to connect the seismic signals with the tsunami until now.

The breakthrough came with the use of the newly launched Surface Water Ocean Topography (SWOT) satellite, a joint venture between NASA and France's CNES, which has significantly advanced our understanding of such events. This satellite employs sophisticated radar technology, allowing it to deliver highly precise measurements of water surfaces, which was instrumental in capturing the dynamic nature of the tsunami. Monahan explained that the satellite's capability to take centimetre-level measurements offers unparalleled insights, especially in hard-to-reach areas like fjords.

Not only did the SWOT satellite provide critical data on the tsunami’s characteristics, but it also facilitated the reconstruction of local weather conditions at the time. The researchers confirmed that the seismic activity could only be attributed to this massive landslide, a phenomenon exacerbated by climate change. The weakening of glaciers due to rising temperatures has sparked a worrying trend of similar events, as evidenced by the recent partial collapse of the Birch glacier in Switzerland, which devastated the village of Blatten.

Professor Thomas Adcock from the University of Oxford noted the implications of this research, stating, "This study exemplifies how next-generation satellite data can clarify previously unexplained phenomena." The findings underscore the urgent need to monitor extreme events as climate change continues to pose risks in vulnerable regions like the Arctic.

The insights gained extend beyond merely academic curiosity; they raise alarm bells for regions that could be affected by similarly catastrophic events in the future. The implications for tourism and local communities are significant, particularly in popular routes such as Dickson Fjord, where the consequences could be disastrous had a cruise ship been present during the tsunami. With climate change accelerating environmental shifts, the potential for freak disasters looms larger than ever, necessitating innovative monitoring tools to safeguard lives and property.

The research has not only solved a curious global seismic mystery but also emphasizes the pressing reality of adapting to a changing climate. Scientists are now calling for enhanced vigilance and preparedness as we navigate an evolving landscape fraught with unpredictable natural occurrences.

### 📌 Reference Map:

* Paragraph 1 – [[1]](https://www.dailymail.co.uk/sciencetech/article-14773055/Earth-vibrated-DAYS-mega-tsunami.html?ns_mchannel=rss&ns_campaign=1490&ito=1490), [[2]](https://www.nasa.gov/missions/swot/international-swot-satellite-spots-planet-rumbling-greenland-tsunami/)
* Paragraph 2 – [[1]](https://www.dailymail.co.uk/sciencetech/article-14773055/Earth-vibrated-DAYS-mega-tsunami.html?ns_mchannel=rss&ns_campaign=1490&ito=1490), [[3]](https://www.sciencedaily.com/releases/2024/08/240809135909.htm), [[4]](https://www.sciencedaily.com/releases/2024/09/240912142355.htm)
* Paragraph 3 – [[1]](https://www.dailymail.co.uk/sciencetech/article-14773055/Earth-vibrated-DAYS-mega-tsunami.html?ns_mchannel=rss&ns_campaign=1490&ito=1490), [[2]](https://www.nasa.gov/missions/swot/international-swot-satellite-spots-planet-rumbling-greenland-tsunami/), [[6]](https://www.sciencedaily.com/releases/2024/09/240912142355.htm)
* Paragraph 4 – [[1]](https://www.dailymail.co.uk/sciencetech/article-14773055/Earth-vibrated-DAYS-mega-tsunami.html?ns_mchannel=rss&ns_campaign=1490&ito=1490), [[5]](https://www.sciencedaily.com/releases/2024/09/240912142355.htm), [[6]](https://www.sciencedaily.com/releases/2024/09/240912142355.htm)
* Paragraph 5 – [[1]](https://www.dailymail.co.uk/sciencetech/article-14773055/Earth-vibrated-DAYS-mega-tsunami.html?ns_mchannel=rss&ns_campaign=1490&ito=1490), [[2]](https://www.nasa.gov/missions/swot/international-swot-satellite-spots-planet-rumbling-greenland-tsunami/), [[3]](https://www.sciencedaily.com/releases/2024/08/240809135909.htm)

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## Bibliography

1. <https://www.dailymail.co.uk/sciencetech/article-14773055/Earth-vibrated-DAYS-mega-tsunami.html?ns_mchannel=rss&ns_campaign=1490&ito=1490> - Please view link - unable to able to access data
2. <https://www.nasa.gov/missions/swot/international-swot-satellite-spots-planet-rumbling-greenland-tsunami/> - In September 2023, the Surface Water and Ocean Topography (SWOT) satellite, a collaboration between NASA and France's CNES, detected a unique tsunami within Greenland's Dickson Fjord. Triggered by a massive rockslide, the tsunami generated seismic rumblings that reverberated globally for nine days. The SWOT satellite's high-resolution measurements provided unprecedented insights into the fjord's water elevation changes, revealing the tsunami's shape and movement. This event underscores the potential of satellite missions in monitoring natural disasters and their global impacts. The study highlights the importance of advanced satellite technology in understanding and mitigating the effects of such phenomena.
3. <https://www.sciencedaily.com/releases/2024/08/240809135909.htm> - A study published in August 2024 detailed the September 2023 mega-tsunami in Greenland's Dickson Fjord. Triggered by a massive landslide, the tsunami generated seismic signals detectable worldwide for nine days. Researchers analysed seismic data and satellite imagery to reconstruct the event, revealing that the fjord's unique topography caused the tsunami to oscillate back and forth, producing the prolonged seismic hum. The study also highlighted the role of climate change in accelerating such events, emphasizing the need for monitoring and preparedness in Arctic regions.
4. <https://www.sciencedaily.com/releases/2024/09/240912142355.htm> - A study published in September 2024 investigated a mysterious global seismic signal that lasted nine days in September 2023. Researchers concluded that the signal was caused by a mega-tsunami in Greenland's Dickson Fjord, triggered by a landslide. The tsunami's movement generated vibrations throughout the Earth, leading to the prolonged seismic signal. The study highlights the impact of climate change on such events and the importance of monitoring and understanding their global implications.
5. <https://www.sciencedaily.com/releases/2024/09/240912142355.htm> - A study published in September 2024 investigated a mysterious global seismic signal that lasted nine days in September 2023. Researchers concluded that the signal was caused by a mega-tsunami in Greenland's Dickson Fjord, triggered by a landslide. The tsunami's movement generated vibrations throughout the Earth, leading to the prolonged seismic signal. The study highlights the impact of climate change on such events and the importance of monitoring and understanding their global implications.
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7. <https://www.sciencedaily.com/releases/2024/09/240912142355.htm> - A study published in September 2024 investigated a mysterious global seismic signal that lasted nine days in September 2023. Researchers concluded that the signal was caused by a mega-tsunami in Greenland's Dickson Fjord, triggered by a landslide. The tsunami's movement generated vibrations throughout the Earth, leading to the prolonged seismic signal. The study highlights the impact of climate change on such events and the importance of monitoring and understanding their global implications.