

The September 16th, 2023 tsunamigenic rock and ice avalanche in Northeast Greenland – preliminary findings

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On September 17th, 2023 GEUS received notice from the police in Greenland that a tsunami had been observed in the national park in Northeast Greenland. A seismic signal was identified indicating a rock avalanche had taken place on the 16th and mapping of tsunami runup in satellite images from after the event traced the source of the tsunami to Dickson Fjord. The Arctic Command of the Danish Military sent a surveillance flight and boat to examine the site and their photos in addition to satellite images allowed us to make a preliminary reconstruction of the event: A mountain peak had collapsed into a narrow gully with a glacier in it. The combined mass of bedrock and glacier ice had continued down the gully into the fjord as a rock and ice avalanche producing the tsunami. The work was undertaken in a large and rapidly assembled international multidisciplinary scientific working group. The event raises many questions about this type of threat to Arctic coastal areas.