Experts warn unstable mountain slope in Alaska poses landslide and tsunami risk

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A group of 14 scientists (11 from the U.S., two from Canada and one from Germany) has posted a letter on the DocumentCloud server warning of the imminent danger posed by an Alaskan mountain slope

that has become unstable. It lies beyond the leading edge of the Barry Glacier. The glacier has been retreating for several years, possibly due to global warming. If a landslide occurs, the researchers warn, millions of tons of material will slide into Harriman Fjord, resulting in a very large tsunami.

Harriman Fjord is located approximately 60 miles east of Anchorage, and is situated on the southern edge of Alaska—a tsunami generated in the Fjord would likely start out on the order of 100 feet tall and dwindle down to 30 feet tall as it makes its way into Port Wells, and from there, into the Prince William Sound. The surrounding area is home to approximately 291,000 residents.

The authors suggest such a large tsunami would threaten hundreds of people almost immediately, including tourists, hunters, fishermen and locals living in the area. After studying pictures of the slope over the years 2009 to 2015, the researchers found it had very slowly slid approximately 600 feet so far. But they note an earthquake, a warm summer, significant rainfall or even a lot of snow could likely trigger an avalanche.

The researchers acknowledge that they cannot pinpoint precisely when the slope will give way, noting that it could happen anytime from today to 20 years from now. They also suggest the slope may have begun slipping due to warming temperatures in the area as the climate changes. They point out that some parts of Alaska, mostly in the north, are warming twice as fast as the rest of the planet. They also explain that the reason landslides become a possibility as glaciers retreat is because the walls of the valleys they occupy loosen as they lose support from the ice. They also note that it is likely that landslides will become more common across Alaska as the area warms and glaciers retreat. And when those landslides slip into water, the inevitable result will be tsunamis.

More information: A recently discovered unstable slope in Barry Arm could lead to a landslide-generated tsunami, dggs.alaska.gov/hazards/downlo … Group_2020_05_14.pdf