

Vandal Explorer Series: Glacier Surge in Alaska

Vandal Explorers | Alaska



Alaska Explorers | Turner Glacier

After a decade of relative stability, Turner Glacier in southern Alaska shifted from a tortoise to a hare in 2020. It now scoots along at 65 feet a day instead of 3 feet a day. An abrupt, 10-fold increase in a glacier's speed is referred to as glacial surge. Doctoral student Chris Miele, glaciologist [Tim Bartholomaus](#) in the [Department of Geography and Geological Sciences](#) and a team from Boise State University (BSU) visited Turner to learn how water flow under a glacier affects its movement. The team thinks a change in the movement of water under the ice caused Turner's change in behavior. Water under a glacier could act as a lubricant, allowing the glacier to slide forward easily. Using seismic equipment placed in and around the glacier, the team is effectively "listening" for changes in water flow under the ice. With the world experiencing drastic changes to its frozen ecosystems, understanding glacier dynamics, including how flowing water affects glaciers, will be crucial for estimating the effects of climate change on glaciers, Miele said.

Chris Miele traveled to Turner Glacier in Alaska to study why the glacier started moving quickly.

The team took a small plane to their base camp and a helicopter to move among sampling locations.

Miele placed seismic sensors in holes drilled into the glacier or dug in the ground.

BSU's Jukes Liu adjusts a camera that will record the movement and calving of Turner Glacier.

Article by [Leigh Cooper](#), University Communications and Marketing.

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Video editing by Kara Billington, University Communications and Marketing.

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