

Antarctica's "doomsday glacier" could collapse in 3 years, raise sea levels by 2 feet

By Yaron Steinbuch | December 15, 2021 10:58am

(source: <https://nypost.com/2021/12/15/antarcticas-doomsday-glacier-could-collapse-in-3-years/>)

A melting massive "doomsday glacier" in Antarctica, which could lead to a rise of more than 2 feet in global sea levels when its ice shelf shatters - could happen as soon as three years from now, according to reports.

The Thwaites Glacier - roughly the size of Florida at a staggering 74,000 square miles - extends to a depth of about 2,600 to 3,900 feet at its grounding line, where it

transitions from a land-attached ice mass to floating-ice-shelf, Live Science reported.

It is dubbed the “doomsday glacier” because its collapse could trigger a surrounding glacial cascade that the latest research suggests could come far sooner than expected.

“There is going to be a dramatic change in the front of the glacier, probably in less than a decade. Both published and unpublished studies point in that direction,” glaciologist Ted Scambos, US lead coordinator for the International Thwaites Glacier Collaboration, told the BBC.

“This will accelerate the pace (of Thwaites) and widen, effectively, the dangerous part of the glacier,” he added.

“If Thwaites breaks up completely and releases all its water into the ocean, sea levels would rise by more than 2 feet”

Scambos said at a virtual press briefing Monday at the annual meeting of the American Geophysical Union.

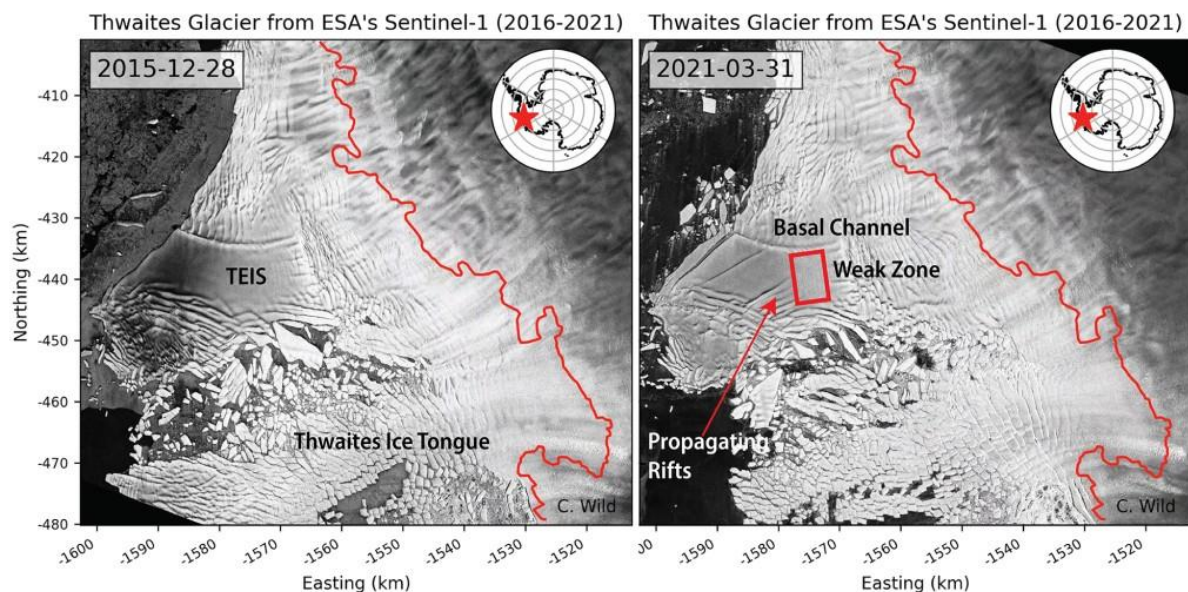


The Thwaites Glacier is roughly the size of Florida at a staggering 74,000 square miles. Alex Mazur / British Antarctic Survey

“And it could lead to even more sea-level rise, up to 10 feet, if it draws the surrounding glaciers with it” Scambos added in a statement.

Erin Pettit, an associate professor of geophysics and glaciology at Oregon State University, said the ice shelf acts

like a “dam” for the colossal glacier - but warm water has seeped underneath it, causing it to melt.



The Thwaites Glacier is dubbed the “doomsday glacier” because its collapse could trigger a surrounding glacial cascade. American Geophysical Union

“I visualize it somewhat similar to that car window where you have a few cracks that are slowly propagating, and then suddenly you go over a bump in your car and the whole thing just starts to shatter in every direction,” Pettit said, according to the BBC.

The eastern shelf - which is about 25 miles wide - moves forward at about 2,000 feet per year. The coming change will probably see the following ice jump in speed to about 1.2 miles per year.

Thwaites has already lost about 1,000 billion (1 lakh crore) tons of ice since 2000 - an annual loss that has doubled in the past 30 years,

Live Science reported. It now loses about 50 billion (5,000 crore) tons more ice than it receives in snowfall per year, according to The International Thwaites Glacier Collaboration.



The Thwaites Glacier extends to a depth of about 2,600 to 3,900 feet at its grounding line. NASA Icebridge / James Yungel

Scientists have dug holes through the ice to examine the ocean below, while other researchers deployed remote-controlled submersibles to study the glacier's grounding zone.

They also took temperature readings and measured salinity in the ocean, confirming that waters were warm enough to cause significant melting.



*The eastern shelf of the glacier moves forward at about 2,000 feet per year.
NASA/ZUMA Wire/ZUMA24.com*

“We’ve got a few more years to go to assemble further results and integrate them, so we have a better understanding of this glacier moving forward,” Scambos said at the briefing held in New Orleans and online.

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