NEW ISLAND SPOTTED IN WEST ANTARCTICA

An uncharted land mass could reveal how climate change is altering the continent.

By Giuliana Viglione

A scientific expedition off the coast of Antarctica earlier this month spotted an island that appears on no maps — a finding that demonstrates how quickly the continent is being altered as a result of climate change.

"I think I see rocks," shouted an officer aboard the RV *Nathaniel B. Palmer* as the ship passed through Pine Island Bay, Antarctica. After consulting their charts, the crew realized they were looking at a brand-new island. There was a commotion as everyone on-board rushed to see the rocky, ice-covered outcrop. But the hubbub quickly gave way to excitement about the scientific implications of the find, says Julia Wellner, a marine geologist at the University of Houston in Texas.

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The outcrop in Pine Island Bay.

Wellner is one of the principal investigators of the international Thwaites Glacier Offshore Research project to study the massive glacier in West Antarctica (see page 500).

Although the island is big enough to be visible by satellite, its icy cap helped it escape previous detection. And because very few ships travel that far south, Wellner's team is probably the first to set eyes on it. Researchers don't yet know how long it has been above sea level, but it is likely that the land was exposed thanks to climate change.

As glaciers have retreated in West Antarctica, they have released pressure on Earth's crust, allowing it to rebound and rise, explains Lindsay Prothro, a glacial geologist at Texas A&M University–Corpus Christi. Collecting samples from the new island could help researchers determine how fast the continent is lifting, which should improve how researchers model the behaviour of nearby glaciers.

Rapid rebound could increase stress on the remaining ice sheet, causing it to break apart more quickly, says Lauren Simkins, a glacial geologist at the University of Virginia in Charlottesville. But a rising continental shelf could also anchor glaciers, slowing their march to the sea. The island, Simkins says, could provide a nice real-world case study.

It will be more than a month before even preliminary results emerge: the *Palmer* is not due back in port until 25 March. But glacier scientists are excited about the possibilities that the discovery raises for their field. "This one island could hold a lot of clues," Simkins says.