Massive Antarctic ice shelf ready to break apart

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Credit: Newcastle University

A chunk of ice half the size of Jamaica which is breaking away from West Antarctica is now attached to its parent ice shelf just by a thread, scientists reported Friday.

Covering 5,000 square kilometres (1,900 square miles) and nearly 100 storeys deep, the formation is poised to snap off from Larsen C ice

shelf, creating "one of the largest icebergs ever recorded," the researchers said in a statement.

A widening rift running the length of the finger-shaped, 350-metre (1150-feet) -thick ice block grew 10 kilometres (six miles) longer some time during the last three weeks, satellite images revealed.

"The rift is likely to break off in the next few months—if it doesn't, I'll be amazed," said Adrian Luckman, a professor at Swansea University in Wales, and leader of Britain's Project Midas, which tracks changes in West Antarctic ice formations.

"It's so close to calving that I think it's inevitable," he told AFP.

In late December, the rupture had already extended by 18 kilometres (11 miles), leaving the future iceberg connected along only a small fraction of its length.

Just by itself, the gargantuan ice cube will not add to sea levels, the consequence of ice sheet disintegration that most worries scientists.

The real danger is from inland glaciers.

Ice shelves float on the sea, extending from the coast, and are slowly fed by glaciers from the ice sheet on land.

They act as giant brakes, preventing the glaciers from sliding directly into the ocean.

The West Antarctic ice sheet, where Larsen C is located, holds enough frozen water to raise global oceans by about six metres (20 feet).

Less stable

If the glaciers held in check by Larsen C spilt into the Antarctic Ocean, it would lift the global water mark by about 10 centimetres (four inches), the researchers said.

The nearby Larsen A ice shelf collapsed in 1995, and Larsen B dramatically broke up seven years later.

Recent studies have suggested that climate change may already have condemned large chunks of West Antarctica to disintegration, though whether on a time scale of centuries or millennia is unknown.

The breaking off, or calving, of ice shelves occurs naturally.

But global warming is thought to have accelerated the process.

Warming ocean water erodes their underbelly, while rising air temperatures weaken them from above.

The ice block currently separating from Larsen C contains about 10 percent of the ice shelf's mass, Luckman said.

"We are convinced—although others are not—that the remaining ice shelf will be less stable than the present one," Luckman said in a statement.

Man-made global warming has lifted average global air temperatures by one degree Celsius (1.8 degrees Fahrenheit).

The world's nations have undertaken in the Paris Agreement, inked in the French capital in December 2015, to cap global warming at "well under" two degrees Celsius (3.5 degrees Fahrenheit) above pre-industrial era levels.