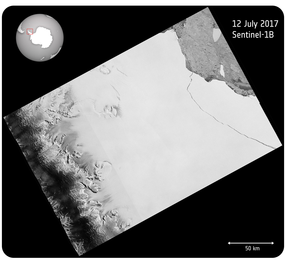
Gigantic iceberg now floating free



Larsen C breaks

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17 July 2017

For the last few months a large crack has been cutting across a vast chunk of ice in Antarctica. ESA's Sentinel-1 satellites have now seen the ice completely break away, making one of the biggest icebergs ever recorded.

Ice crack seen by Sentinel-2A

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The crack actually first appeared several years ago, but it did not grow by much to begin with. Things changed in early 2016, when it began to lengthen. In January 2017 alone it grew by 20km, reaching a total length of 175km. By early July 2017 there were just a few km between the tip of the crack and the ocean. Since then scientists have been waiting for the crack to reach the ocean, thereby separating a huge iceberg from Antarctica.

Unfortunately Antarctica is heading into its dark winter months, when light levels are low and bad weather is common, making it difficult to observe even using satellites. To overcome this problem, scientists from Project MIDAS, an Antarctic research group led by Swansea University in the UK, used the Sentinel satellites' radar imaging equipment to peer through the darkness and clouds.

Trekking out for CryoSat

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In addition, scientists have used another ESA satellite called CryoSat to watch the situation develop. CryoSat has a device called a radar altimeter that can measure the height and thickness of ice. This told us that the crack was tens of metres deep, and not just a shallow crack on the surface.

This new gigantic iceberg is about 6000 sq km, and weighs more than a million million tonnes! It is difficult to predict what will happen to it next. It may stay floating in the area for many years. Or it may split apart into smaller icebergs that could drift north into warmer waters that would melt the ice.

Artist's impression of Sentinel-1B

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Antarctica losing such a large piece of ice could cause problems. When similar things have happened in the past it has sped up the flow of glaciers into oceans, contributing to Earth's sea levels rising.

The good news is that thanks to ESA satellites we can keep up-to-date with how our planet is changing, especially in places that are very difficult to reach, like Antarctica. The more information we have, the better we can protect our planet and the life on it!

Cool fact: The iceberg contains about the same amount of water as Lake Ontario in North America!

More info

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ESA satellites see giant iceberg ready to break free