

Polar regions

Matthew Taylor in Antarctica

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672

Scientists race to explore Antarctic marine life revealed by giant iceberg

British Antarctic Survey is trying to reach a newly revealed ecosystem that had been hidden for 120,000 years below the Larsen C ice shelf

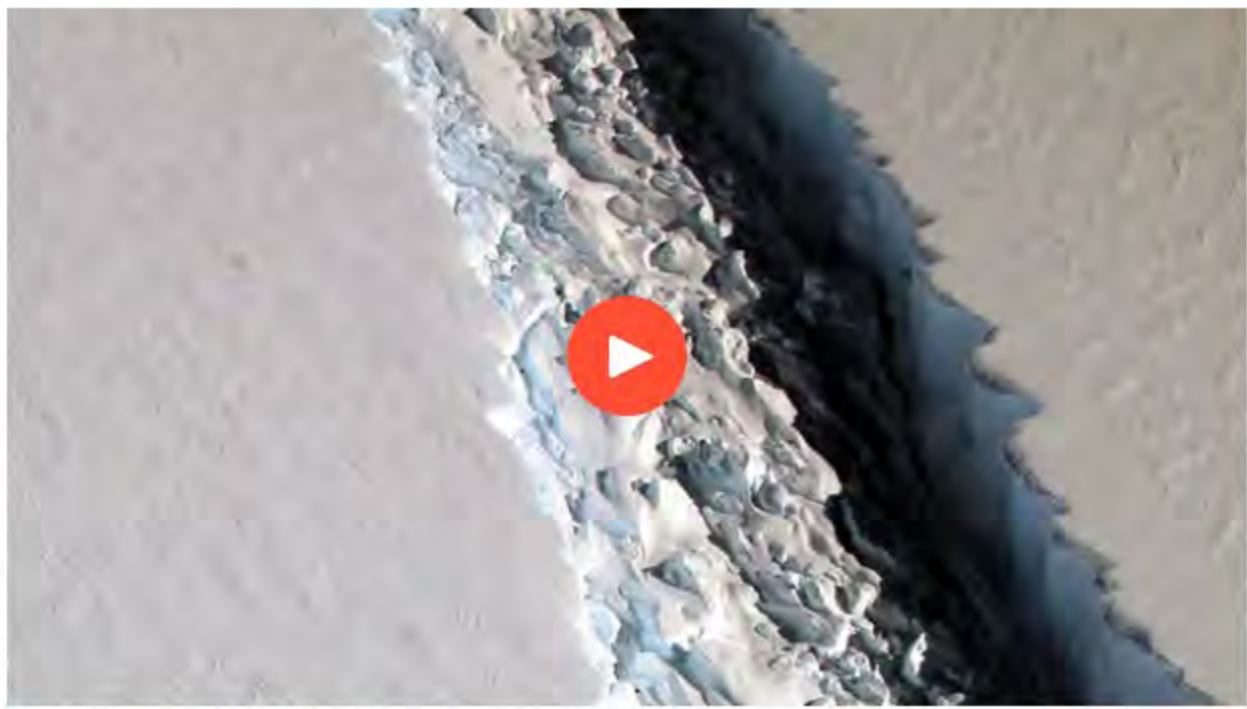


The calving of A68 is a unique opportunity to study marine life as it responds to a dramatic environmental change. Photograph: British Antarctic Survey

A team of international scientists is due to set off for the world's biggest iceberg on Wednesday, fighting huge waves and the encroaching Antarctic winter, in a mission aiming to answer fundamental questions about the impact of climate change in the polar regions.

The scientists, led by the British Antarctic Survey (BAS), are trying to reach a newly revealed ecosystem that had been hidden for 120,000 years below the Larsen C ice shelf on the Antarctic peninsula.

In July last year, part of the Larsen C ice shelf calved away, forming a huge iceberg - A68 - which is four times bigger than London, and revealing life beneath for the first time.



Vast iceberg splits from Antarctic ice shelf



Now scientists say it is a race against time to explore these new ecosystems before they are transformed by exposure to the light.

Marine biologist Dr Katrin Linse from the BAS is leading the mission which sets off on a voyage across the Southern Ocean from the Falklands Islands on Wednesday. They expect to reach the iceberg within a week.

"The calving of A68 provides us with a unique opportunity to study marine life as it responds to a dramatic environmental change," she said. "It's important we get there quickly before the undersea environment changes as sunlight enters the water and new species begin to colonise ... It's very exciting."

Prof David Vaughan, science director at BAS, said: "We need to be bold on this one. Larsen C is a long way south and there's lots of sea ice in the area, but this is important science, so we will try our best to get the team where they need to be."

He said climate change had already affected the seas around Antarctica and is warming some coastal waters.

"Future warming may make some habitats warm. Where these habitats support unique species that are adapted to love the cold and not the warm, those species are going to either move or die. How fast species can disperse, and how fast ecosystems can colonise new areas, is key to understanding where the Antarctic is likely to be resilient, and where it is vulnerable."

Last week the Guardian printed the first images of creatures found in a previously unexplored region of the Antarctic seabed, taken during a Greenpeace research expedition to the Antarctic which is part of a wider campaign to turn a huge section of the region into the world's biggest ocean sanctuary.

Speaking onboard the Greenpeace ship Arctic Sunrise, the group's head of oceans, Will McCallum, said there was "still so much left to learn about ocean life here in the Antarctic".

"From hidden ecosystems revealed by calving icebergs, to our research missions to the seafloor which have found an abundance of rare and vulnerable species - this place is bursting with life and a vast Antarctic Ocean sanctuary would help us protect it in all its forms."

There is growing concern about the possible impact of climate change in the Antarctic.

Earlier this month, a report revealed that melting ice sheets in Greenland and Antarctica are speeding up the already fast pace of sea level rise.

The research published by the National Academies of Sciences said, at the current rate, the world's oceans will be on average at least 60cm (2ft) higher by the end of the century.

However it found that the process is accelerating, and more than three-quarters of the acceleration since 1993 is due to melting ice sheets in Greenland and Antarctica, the study shows.

Experts say the area around the Antarctic peninsula has seen widespread ice shelf decay and collapse in recent decades, leading to "glacier acceleration" and increased discharge of ice from the Antarctic continent into the sea.

However scientists are wary of attributing the calving of the Larsen C iceberg directly to global warming.

Adrian Luckman, professor of glaciology at Swansea University and leader of a project studying the state of the ice shelf, said: "Whilst the Larsen C ice shelf has reduced in area since records began, suggesting that over the long-term the environment of the Antarctic peninsula is becoming less able to support ice shelves, we have no evidence to link this particular calving event to changing conditions. Iceberg calving is a natural part of the ice shelf cycle and, whilst large, the calving of A68 is not unprecedented."

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