

# Icebergs and blue carbon

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When divers laid a grid of 225 markers on the seabed it started one of the longest marine disturbance experiments anywhere in the world.

Surveyed and replaced annually, they show that nearly a third of the shallows are hit every year by icebergs and only 7% were not hit in the 13 years it has been running. The effect on benthic life and especially the ecosystem service of blue [carbon storage](#) is drastic. The study found that life on shallow sea-beds can potentially store an order of magnitude more carbon than was realised, but the frequency and intensity of iceberg hits grind up benthos to put immobilised carbon back into the water column. Whilst it was found that growth was limited by algal bloom duration and temperature, benthic carbon storage was almost

entirely influenced by ice scour rate. For example a five-year recovery time doubled benthic carbon stocks.

The study also found a regime shift since 2006. Reduced fast ice led to a big increase in iceberg scouring, killing half the life on the seabed each year for three years; it is still recovering from that devastation. Scaled-up WAP ice-scouring may be recycling 80,000 tonnes of carbon per year. Without scouring, the shallows could be as productive as all the remaining continental shelf, yet when glaciers reach grounding lines and iceberg production diminishes, the shallows there could become a key global sink of carbon storage.

**More information:** David K. A. Barnes. Iceberg killing fields limit huge potential for benthic blue carbon in Antarctic shallows, *Global Change Biology* (2016). [DOI: 10.1111/gcb.13523](https://doi.org/10.1111/gcb.13523)

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