

First evidence of under-ice volcanic eruption in Antarctica

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The first evidence of a volcanic eruption from beneath Antarctica's most rapidly changing ice sheet is reported this week in the journal *Nature Geosciences*. The volcano on the West Antarctic Ice Sheet erupted 2000 years ago (325BC) and remains active.

Using airborne ice-sounding radar, scientists from British Antarctic Survey (BAS) discovered a layer of ash produced by a 'subglacial' volcano. It extends across an area larger than Wales.

Lead author, Hugh Corr of the BAS says, "The discovery of a 'subglacial' volcanic eruption from beneath the Antarctic ice sheet is unique in itself. But our techniques also allow us to put a date on the eruption, determine how powerful it was and map out the area where ash fell. We believe this was the biggest eruption in Antarctica during the last 10,000 years. It blew a substantial hole in the ice sheet, and generated a plume of ash and gas that rose around 12 km into air."

The discovery is another vital piece of evidence that will help determine the future of the West Antarctic Ice Sheet and refine predictions of future sea-level rise. Co-author Professor David Vaughan (BAS) says,

"This eruption occurred close to Pine Island Glacier on the West Antarctic Ice Sheet. The flow of this glacier towards the coast has speeded up in recent decades and it may be possible that heat from the volcano has caused some of that acceleration. However, it cannot explain the more widespread thinning of West Antarctic glaciers that together

are contributing nearly 0.2mm per year to sea-level rise. This wider change most probably has its origin in warming ocean waters.”

Source: British Antarctic Survey

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