

Dust may settle unanswered questions on Antarctica

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Dust trapped deep in Antarctic ice sheets is helping scientists unravel details of past climate change.

Researchers have found that [dust](#) blown south to Antarctica from the windy plains of Patagonia - and deposited in the [ice](#) periodically over 80,000 years - provides vital information about glacier activity.

Scientists hope the findings will help them to better understand how the global climate has changed during the past [ice age](#), and so help predict environmental changes in the future.

The study indicates that the ebb and flow of [glaciers](#) in the Chilean and Argentinian region is a rich source of information about past climates - which had not until now been fully appreciated by scientists.

The study, carried out by the Universities of Edinburgh, Stirling and Lille, shows that the very coldest periods of the last ice age correspond with the dustiest periods in Antarctica's past.

During these times, glaciers in Patagonia were at their biggest and released their meltwater, containing [dust particles](#), on to barren windy plains, from where dust was blown to Antarctica. When the glaciers retreated even slightly, their meltwater ran into lakes at the edge of the ice, which trapped the dust, so that fewer particles were blown across the ocean to Antarctica.

Dust from the ice cores was analysed and found to be a close match with mud of the same age in the Magellan Straits, showing that most of the dust originated in this region.

The study was supported by the Natural Environment Research Council. The findings were published in *Nature Geoscience*.

Professor David Sugden, of the University of Edinburgh, said: "Ice cores from the [Antarctic ice sheet](#) act as a record of global environment. However, the dust levels showed some sudden changes which had us puzzled - until we realised that the Patagonian glaciers were acting as an on/off switch for releasing dust into the atmosphere."

Source: University of Edinburgh

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