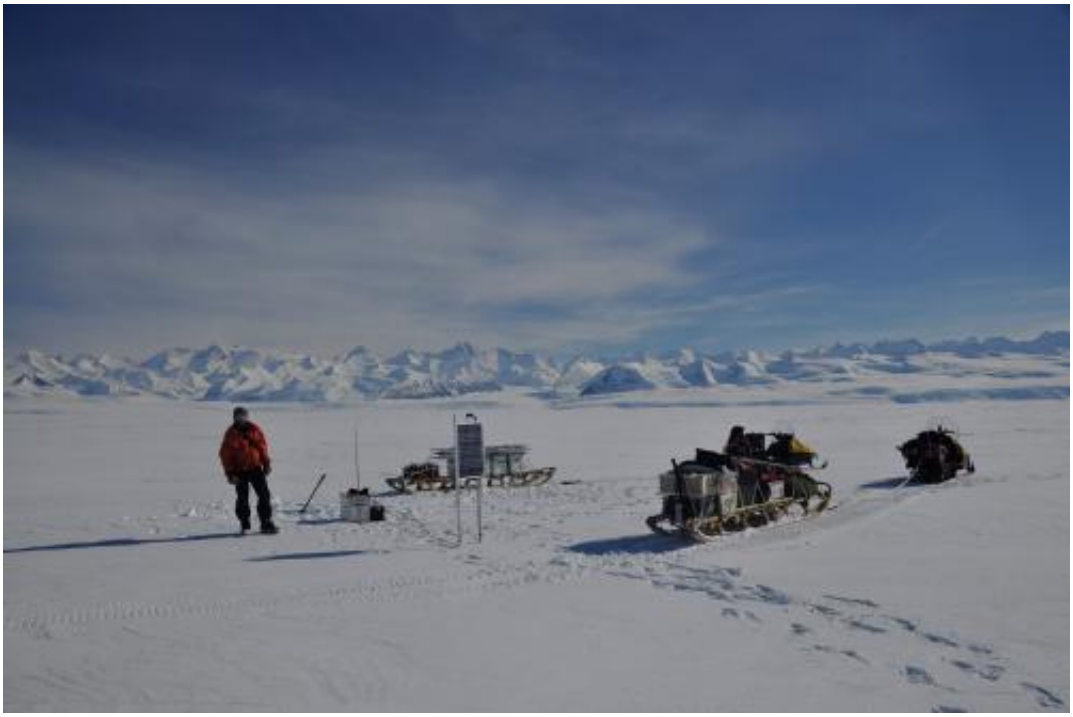
Measuring tiny icequakes

August 29 2013



Recording icequakes at Rutford Icestream. Credit: Andy Smith

Measuring tiny icequakes is helping British Antarctic Survey scientists investigate ice streams despite the challenging environment they have to work in.

The work of Emma Smith, a PhD candidate at BAS, has been highlighted in the latest edition of the European Geosciences Union's quarterly newsletter, *EGU GeoQ*.

The latest newsletter marks a change for the EGU with a stronger focus on young scientists. It also corresponds to a new section on the EGU website for young scientists.

Emma told writer Becky Summers how she is using seismic data obtained at the Rutford Ice Stream in West Antarctica to get a clearer picture of how they flow.

The work is complicated by the fact the streams flow over a bed which is usually buried under kilometres of ice.

For this reason scientists use techniques derived from earthquake monitoring called passive microseismic monitoring.

This process involves placing geophones - which convert ground motion into voltage - on the ice stream surface to record the icequakes produces as it moves over the bed.

Using the data received allows Emma to build up a picture of the mechanisms that cause the icequakes, meaning she can better understand how the stream moves.

Emma started her career in engineering, moved into exploration geophysics and spent several years working for the oil and gas industry before returning to research.

More information: www.egu.eu/newsletter/geoq/07.pdf

Provided by British Antarctic Survey

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