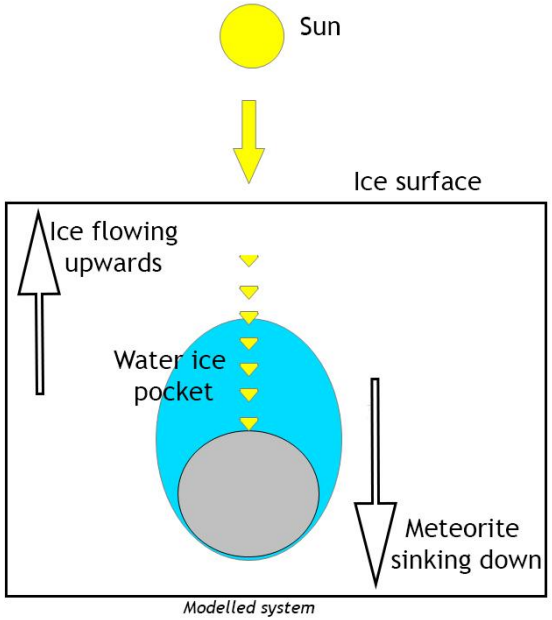
Where are all the irons? The Antarctic Meteorite Mystery



- Iron meteorites provide key knowledge about planet formation processes in the earliest part of Solar System history.
- Fewer iron-rich meteorites have been found in Antarctica compared to anywhere else on Earth. This statistically significant discrepancy requires explanation.
- Using a combination of mathematical modelling and a series of icy lab experiments, Evatt et al. (2016) propose that this under-representation of iron-based meteorites might be the result of the Sun's rays penetrating the clear ice in meteorite stranding zones during the summer months - warming the iron-rich meteorites more than other stony types of meteorites. The higher thermal conductivity of iron-rich meteorites causes melting of the ice underneath the meteorite, inhibiting their emergence at the ice surface.
- There may be a sparse layer of iron-rich meteorites trapped buried at depths of ~30 cm in the Antarctic ice. Future meteorite search teams should develop new techniques to identify and recover the lost meteorites of Antarctica.

Citation: G.W. Evatt, M.J. Coughlan, K.H.Joy, A.R.D. Smedley, P.J. Connolly, I.D. Abrahams (2016) A potential hidden layer of meteorites below the ice surface of Antarctica Nature Communications 7, Article number:10679 doi:10.1038/ncomms10679

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