

New open-access data on paleofloods

November 24 2015



Brotherswater, a small waterbody in the eastern English Lake District, drains a catchment deforested over recent centuries for hillsheep farming. The steep, glaciated terrain has created a fluvial system sensitive to intense precipitation and a lake that preserves a long and rich sedimentary record of historical floods. See Schillereff et al., 'Hydrological thresholds and basin control over paleoflood records in lakes.' Credit: *Geology* by Daniel N. Schillereff.

Whether extreme river floods are becoming more frequent and/or severe in a warming world remains under debate, partly because instrumental measurements of river discharge are too restricted in length to detect shifts from natural variability.

In this open access article for *Geology*, Daniel Schillereff and colleagues demonstrate for the first time the recovery in a systematic manner of flood frequency and magnitude data from temperate lakes that accumulate homogeneous (visually similar) sediments.

Characterizing contemporary sediment dynamics and material accumulated during recent floods of known-magnitude has established a relationship to [river discharge](#) and quantified a threshold of deposit preservation. Lakes of this type are widely distributed globally but largely unexploited for the purposes of paleoflood research; implementation of our approach will yield new sources of paleohydrological information to help model and mitigate future flood risk.

More information: Hydrological thresholds and basin control over paleoflood records in lakes, Daniel N. Schillereff et al., School of Environmental Sciences, Roxby Building, University of Liverpool, L69 7ZT Liverpool, UK. This paper is OPEN ACCESS online at <http://geology.gsapubs.org/content/early/2015/11/20/G37261.1>.

Provided by Geological Society of America

Citation: New open-access data on paleofloods (2015, November 24) retrieved 25 April 2024 from <https://phys.org/news/2015-11-open-access-paleofloods.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.