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## A history of storminess and flooding on the west coast of Scotland reconstructed from metamorphic cave-grown speleothems

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Speleothems are not only valuable archives for reconstructing paleoclimate but can also witness climatic events including storms and floods. Two speleothems have been collected from nearshore caves on the islands of Jura and Islay, on the west coast of Scotland. The Jura cave is ~62 km northeast of the one on Islay, yet intriguingly U/Th dating shows that both speleothems began to grow at ~2,400 yr BP. This simultaneous start in calcite deposition could be related to relative sea-level change. Both speleothems have a fine-scale colour banding, and these layers are of a similar age. The dark brown layers in the Islay speleothem correlate well with storm events identified from the island's peat bogs (Kylander et al., 2020). The black layers in the Jura speleothem formed due to the presence of manganese oxides and are thought to be indicative of cave flooding (Belli et al., 2017). We therefore suggest that periodic changes to the chemical composition and oxygenation of dripwaters in the Jura and Islay caves reflect near-synchronous Late Holocene storm events and associated flooding on the west coast of Scotland.

Belli, R., et al. (2017). Investigating the hydrological significance of stalagmite geochemistry (Mg, Sr) using Sr isotope and particulate element records across the Late Glacial-to-Holocene transition. *Geochimica et Cosmochimica Acta*, 199, 247–263.

Kylander, M. E., et al. (2020). It's in your glass: A history of sea level and storminess from the Laphroaig bog, Islay (southwestern Scotland). *Boreas*, 49(1), 152–167.