



A new high resolution glacial flood history from Japan based on the Lake Suigetsu sediment record

Gordon Schlolaut (1), Achim Brauer (2), Henry F. Lamb (3), Michael H. Marshall (3), Richard A. Staff (4), Christopher Bronk Ramsey (4), and Takeshi Nakagawa (5)

(1) Centre for Ocean Drilling Science (ODS), Japan Agency for Marine-Earth Science and Technology (JAMSTEC), Yokohama, Japan (gosch@jamstec.go.jp), (2) Section 5.2: Climate Dynamics and Landscape Evolution, GFZ German Research Centre for Geosciences, Potsdam, Germany, (3) Department of Geography and Earth Sciences, Aberystwyth University, Aberystwyth, UK, (4) Research Laboratory for Archaeology and the History of Art (RLAHA), University of Oxford, Oxford, UK, (5) Research Centre for Palaeoclimatology, Ritsumeikan University, Kusatsu, Japan

High precipitation events leading to natural disasters such as floods and landslides are a rather common occurrence in Japan since the country receives heavy rains as a result of the summer monsoon rainy season and of typhoons frequently making landfall on Japan. In order to study the natural variability of such precipitation events, Lake Suigetsu provides an ideal and currently unique archive. The lake is situated in central western Japan in Fukui prefecture and its sediment record spans over ≈ 150 ka, from which the last ≈ 50 ka contain seasonal laminations. Runoff events due to heavy rains are readily distinguishable as distinct detrital layers.

Here we will present data from a 14 ka time slice between 52 and 38 ka BP. The varve quality in this interval is particularly good, allowing a seasonal discrimination of flood events and the construction of a high resolution flood history using thin section microscopy. Our initial results show pronounced centennial-scale variations of the flood frequency, with variable periodicities which we hypothesise to be driven by solar variations.