



## **The first continuous Younger Dryas varve chronology from Northeastern Germany: the Rehwiese palaeolake record (Berlin)**

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Varved lake sediments of the palaeolake Rehwiese, SW-Berlin, provide climatic and environmental information of the last Glacial to Interglacial transition (LGIT) in northeastern Germany on a sub-annual timescale. Rehwiese sediments contain an approximately 3 m thick sequence of continuous biochemical calcite varves, covering the time interval from the early Allerød to the onset of the Holocene. A distinct volcanic ash layer has been correlated with the late Allerød Laacher See Tephra (LST) which has been dated at 12,880 varve years BP in varved lake sediments of Lake Meerfelder Maar, Eifel (Brauer et al., 1999). A 1,400-year varve chronology with the LST forming the basal chronostratigraphic marker horizon has been established through annual layer counting in petrographic thin sections, comprising the late Allerød and the Younger Dryas until the onset of the Holocene. Pollen data provide biostratigraphical background for the Weichselian lateglacial classification. Based on precise varve counting microfacies analyses on large-scale thin sections in combination with  $\mu$ XRF element scanning data (Brauer et al., 2009) allow to discuss even seasonal aspects of climate and environmental change. In addition, stable isotopes on authigenic calcite ( $\delta^{18}\text{O}$ ,  $\delta^{13}\text{C}$ ), TOC and C/N-ratio analyses have been performed with a five-year resolution. These high-precision multi-proxy data provide new insights into the inter-annual and decadal-scale variability during the course of the Younger Dryas.

Brauer, A., Endres, C., Günter, C., Litt, T., Stebich, M. & J.F.W. Negendank (1999): High resolution sediment and vegetation responses to Younger Dryas climate change in varved lake sediments from Meerfelder Maar, Germany. - Quaternary Science Reviews 18, 321-329.

Brauer, A., Dulski, P., Mangili, C., Mingram, J. and J. Liu (2009): The potential of varves in high resolution paleolimnological studies. - PAGES news 17/3, 96-98.