

Decadal Holocene and late-glacial variability of the oxygen isotopic composition in precipitation over Europe reconstructed from deep-lake sediments (DECLAKES, FP29)

DecLakes will provide six well-dated high-resolution records of the oxygen-isotope composition of past precipitation derived from ostracods in the profundal lake sediments from the Northern, Western and Southern margin of the Alps and from North-eastern Poland. The wide spatial distribution will allow to decipher in particular regional variations of past climate variability. A network of highly experienced research groups of which each will apply their specific knowledge in isotope analyses, sedimentology and palaeoecology to all sediment cores guarantees a high degree of comparability of the individual data sets in terms of dating, analytical standards and data quality. These data sets will be used for data-model-comparison applying a hierarchy of models equipped with the explicit modelling of water stable isotopes. The study concentrates on three time windows: (1) the last 1000 years, (2) the period around the prominent cold phase at 8,200 BP, and, (3) the Lateglacial with a special focus on the rapid high-amplitude changes. The expected outcome of the project will be a spatial view of decadal to centennial climate variability in Europe which will be used to better understand prevailing forcing mechanisms.

Ulrich von Grafenstein*, Laboratoire des Sciences du Climat et de l'Environnement, Gif sur Yvette, FR

Nils Andersen, University of Kiel, Kiel, DE

Angel Baltanás, Universidad Autónoma de Madrid, Madrid, ES

Achim Brauer, Geoforschungszentrum Potsdam, Potsdam, DE

Dan Danielopol, Österreichische Akademie der Wissenschaften, Mondsee, AT

Marc Desmet, Université de Savoie, Le Bourget du Lac, FR

* Project Leader