

Geplante Zusammenführung von Paläoklimadaten Österreichs (PALDAT)

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CLIMATE CHANGE IN AUSTRIA DURING THE PAST 20,000 YEARS

linking climatic and environmental data from different archives, proxies and time scales

(PALDAT)

Workshop

10.-11th March 2008

Institute of Limnology, Mondsee, Austria

Aims

The workshop aims to bring together scientists working on climatic and environmental reconstructions in Austria from different archives (lakes, terrestrial sediments, glaciers, trees, speleothems), on different proxies (calibrated bio-indicators, stable isotopes, geochemistry/mineralogy, trees, pollen), on different time-windows, and on different time-scales (varves, decadal to centennial) of the past 20,000 years.

a) Klimaindikatoren (climate proxies)

- Gletscher
- Multidisziplinäre Auswertung von Seesedimenten (quantitative Bio-Indikatoren, Sedimentparameter, Palynologie)
- Moore (Palynologie)
- Stabile Isotopen in See- und Höhlenablagerungen
- Baumringe und Hölzer
- Archäologie
- Böden

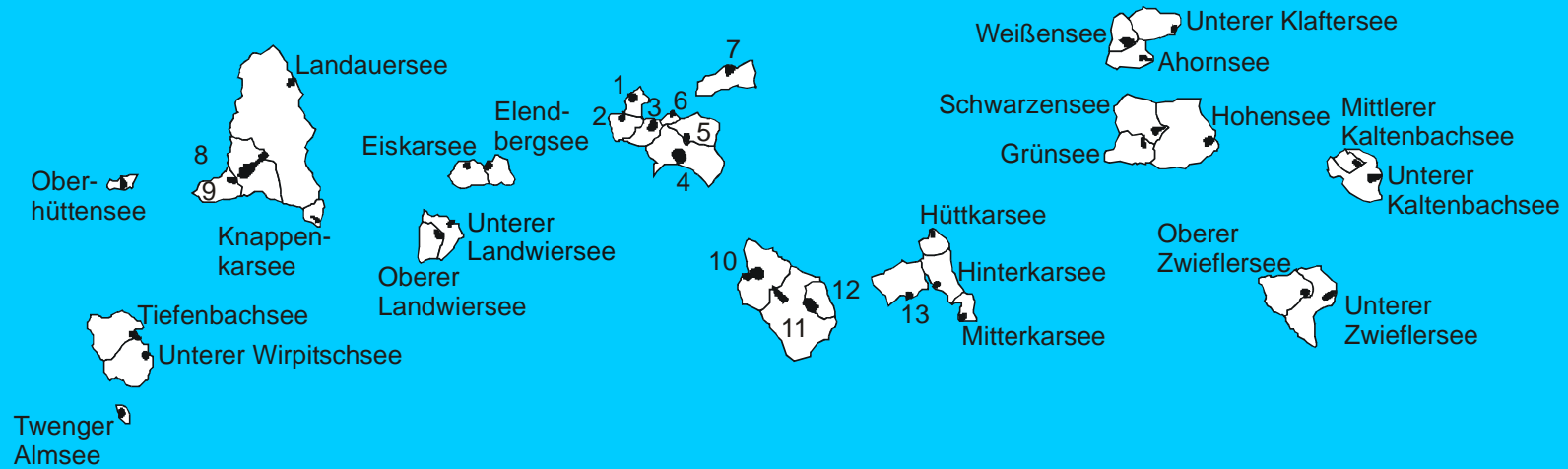
b) Verknüpfung mit instrumentellen Daten

c) Basis für Klimamodelle

- 1 Unterer Klaffersee
- 2 Rauhenbergsee
- 3 Oberer Klaffersee
- 4 Zwerfenbergsee
- 5 Angersee
- 6 Kapuzinersee
- 7 Unterer Sonntagkarsee
- 8 Unterer Giglachsee
- 9 Oberer Giglachsee

- 10 Unterer Landschitzsee
- 11 Mittlerer Landschitzsee
- 12 Oberer Landschitzsee
- 13 Rantensee

Austria



0 5 10 kilometers

Water temperature measurements:

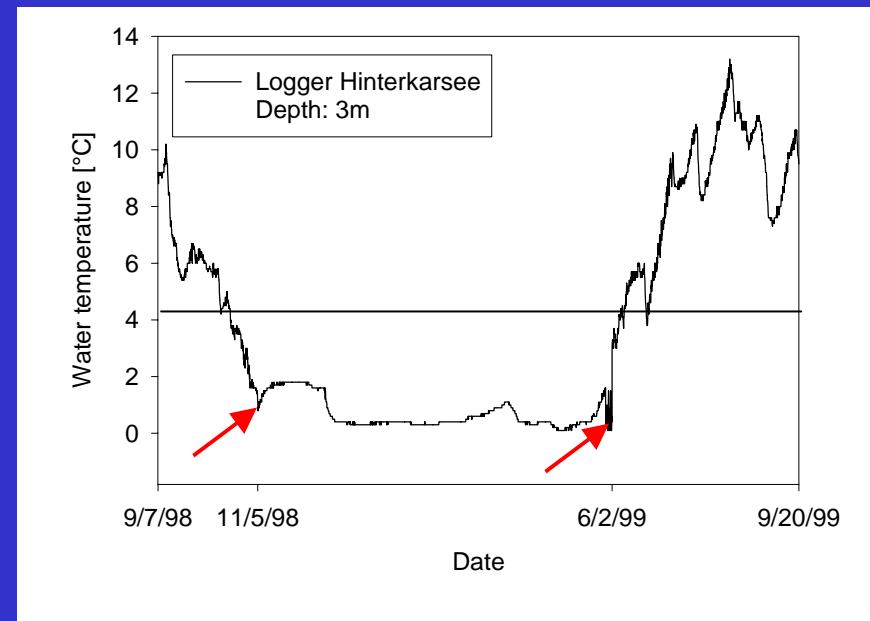
Bi-hourly thermistor measurements (two thermistors per lake) during 1998/99 interpolated to a standard depth of 2.3 m (MINILOG, Vemco Ltd.)

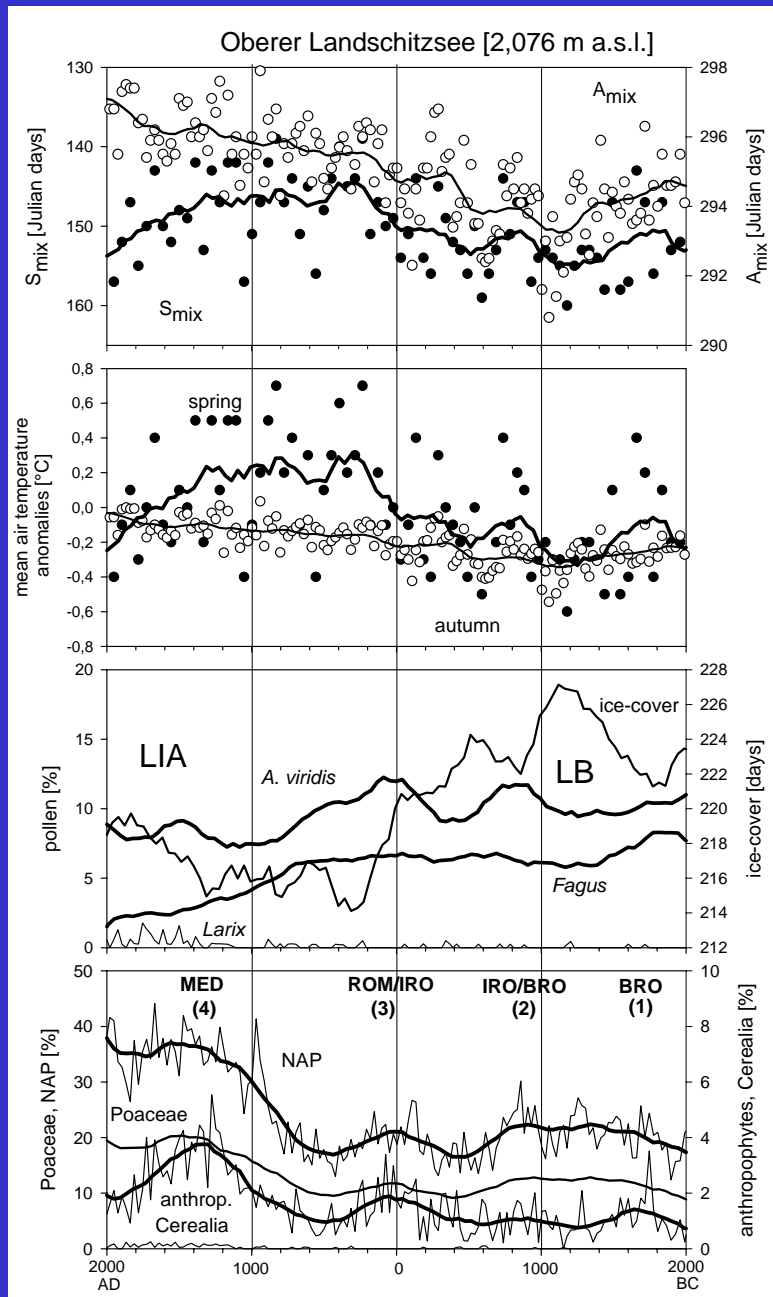
Definitions:

A_{mix} = Date of autumn mixing (Julian days, mean daily water temperature = 4°C)

S_{mix} = Date of spring mixing (Julian days, mean daily water temperature = 4°C)

Dates of freezing/break up (arrows)





Reconstruction of the dates of spring (S_{mix}) and autumn (A_{mix}) lake mixing from the calibrated diatoms and chrysophyte cysts of the Niedere Tauern (NT) training set

Conversion of A_{mix} and S_{mix} into corresponding altitudes derived from the NT45 lake survey and altitudes into air temperature anomalies (lapse-rates: Agustí-Panareda & Thompson 2002)

Ice-cover duration ($365 - A_{mix} + S_{mix}$) and selected pollen markers, LB= Löbden; LIA= Little Ice Age

Pollen of anthropophytes indicating four waves of land-use

(Schmidt et al. 2007)