



Annually resolved stable isotope chronologies from Lateglacial Central European tree rings

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To date ice cores and varved lake sediments possibly provide the best available proxy records for the Lateglacial period. This includes the so-called Younger Dryas interval (ca.12.700 - 11.600 cal BP), representing an abrupt return to glacial-like conditions interrupting the transition to the warmer climate conditions of the Holocene. Lateglacial tree-ring chronologies are rare, however, they are of utmost importance for the calibration of the ^{14}C calibration curve. They may also contain valuable information about past environmental conditions at annual time resolution. As the existing Lateglacial tree-ring material is characterized by rather short segment lengths (mean tree age 140 yrs) in tree-ring width may not be the best parameter for assessing climate anomalies. Carbon and oxygen isotope composition of tree-ring cellulose has proven potential for climate reconstruction. Besides correction of short juvenile trends isotope data can be used with only minor adjustments to their means and sample depths of 4-5 trees are normally enough for a significant expressed population signal.

We are investigating a floating 758-year (13153 – 12395 cal BP) dendrochronological record of Lateglacial chronologies of Scots pine (*Pinus sylvestris* L.) from subfossil tree remnants of Central Europe. Namely, from Barbiers River (Moyenne Durance, Southern French Alps) and three Swiss (Dättnau, Landikon and Gänziloh) sites. We will present and discuss our tree-ring stable isotope records ($\delta^{13}\text{C}$ and $\delta^{18}\text{O}$) in comparison to lake sediment and ice core data records.