



Climatic reconstruction from larch in Slovenia

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Tree-ring stable isotope chronologies are now routinely based upon multiple samples with a high degree of replication. Recent technological advances have enabled climate to be reconstructed with a high degree of statistical veracity. Most of these pioneering studies have focused upon reconstructing the climate of the last 1000 years to enable recent changes to be assessed within the context of naturally changing climatic system.

A new ring-width chronology from living trees and archaeological samples was developed for European larch (*Larix decidua* Mill.) growing at Veža in the southeastern part of the Alps in Slovenia. Carbon, oxygen and non-exchangeable hydrogen isotope chronologies have been developed on these samples. The carbon isotope chronology was corrected for the industrial decline in atmospheric carbon dioxide isotopic values and the response to increasing atmospheric carbon dioxide concentrations. All isotope chronologies were calibrated against climatic data from the nearby Ljubljana meteorological station over the period 1900 to present. The isotope chronologies have a high degree of common forcing demonstrated by a high Expressed Population Signal ($EPS > 0.85$) and correlate well with meteorological data. The predictive skill of reconstructed climatic variables was tested using standard metrics and the calibration dataset split to enable the temporal stability of the climatic response to be investigated.