

## **Tree-ring growth patterns and climatic signals along a vertical transect of larch sites in the Simplon and Rhône Valleys (Switzerland)**

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State-of-the-art millennial long temperature reconstructions from the European Alps integrate wood samples of *Larix decidua* Mill. from the Lötschental and Simplon regions in Switzerland (Büntgen et al., 2005; 2006). Some of the oldest samples that enable the extension of the time-series back into the first millennium AD are obtained from old buildings in Simplon Village, through the precise location of these samples and the elevation of sampling sites remain unknown. We here evaluate the growth characteristics of larch tree-ring width data along a vertical transect in the Simplon and Rhône valleys. 330 trees from nine sites in 985, 1100, 1400, 1575, 1710, 1712, 1900, 2020, and 2150 m asl have been sampled and analysed for their climate signals. The results indicate a stronger temperature signal in the tree-ring width with increasing elevation. The lower the sites the more a drought signal is imprinted in the ring width data. The intermediate site at 1400 m asl does not show any pronounced climate signal. A comparison of growth patterns of living-tree sites with samples from the historical buildings in Simplon Village (Riechelmann et al., 2013) indicates the construction timber to origin from intermediate to higher elevations. We therefore do not expect strong temperature signal from these timbers.

### References:

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