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Exploring tree age-related trends in δ^{13}C and δ^{18}O data from North Scandinavia over the last millennium

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Stable isotope chronologies from tree-rings are increasingly used as estimators for past environmental changes. It is, however, still not fully understood whether trend biases in dendroisotope data are restricted to "juvenile effects" or additional long-term trends associated with tree age are inherent to long carbon (δ^{13}C) and oxygen (δ^{18}O) chronologies. We here develop a new millennium-long chronology from decadally resolved δ^{13}C and δ^{18}O measurements from 70 living and subfossil pine (*Pinus sylvestris* L.) trees from northern Scandinavia. Our dataset benefits from a consistently high replication of more than five series since 941 AD until present for both δ^{13}C and δ^{18}O. Preliminary results reveal a positive trend in δ^{13}C over the first 150 years of cambial tree age, while a comparable trend is absent in δ^{18}O. Further analyses will focus on time dependent trends, i.e. environmentally induced changes, over the last millennium. The additional availability of tree-ring width and maximum latewood density measurements from the same trees allows a comprehensive evaluation of parameter specific trends, biases and environmental signals.