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Climate signal in *Pericopsis elata* tree rings $\delta^{18}\text{O}$ series and potential for precipitation reconstructions in the eastern Congo Basin

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it is unclear whether pronounced droughts reaching the most remote regions of the Congo Basin are within a historical norm or have occurred only in the last decades. There is a growing evidence that a number of species with anatomically distinct rings can be used for dendroclimatological studies in the Congo Basin, such as *Afrormosia* (*Pericopsis elata*) (PEEL). Annual growth increments, i.e. Tree-Ring Width (TRW), are often co-determined by many environmental factors and yield low potential for reconstructions. Earlier work has shown that $\delta^{18}\text{O}$ measured in PEEL tree rings holds a precipitation amount effect. Here we focus on new *P. elata* isotope series to estimate the isotope-precipitation relationship at the annual-scale and discuss its potential for reconstructing precipitation variability back to 1850 AD. $\delta^{18}\text{O}$ values yielded better sensitivity as well as coherence between trees compared to TRW. Lower $\delta^{18}\text{O}$ values (28-29‰) after 1960 reflect the anomalously wetter conditions between 1950 and 1970 recorded in the Congo Basin and neighbouring areas. Higher $\delta^{18}\text{O}$ values after 1970 are in agreement with the reduction in precipitation reflected in gauges and satellite data. Further comparisons with instrumental data and other proxies can refine a precipitation reconstruction currently extending to 1850 AD.