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Several species in tropical and subtropical regions present potential characteristics for dendroecological studies, among them *Sebastiania commersoniana* (Baill.) L.B. Sm. & Downs, typical tree of Alluvial Araucaria Forest, pertaining to the Atlantic Forest, with environmental characteristics (hydromorphic soil) and floristic common to southern Brazil, Uruguay and parts of Argentina and Paraguay. Were selected and cut 56 trees of this species in a forest remnant (25°34' 02, 5'S, 49°20'53, 5' W) on the banks of Barigui river, a major tributary of the Alto Rio Iguaçú, Araucaria, PR, in 2001, in a section subjected to rectification of the bed about 30 years ago. With the grinding process of the riverbed, possibly the dynamic growth of these trees have been altered. Thus, the present study aimed to investigate these relationships by: (i) the analysis of time series developed from the analysis of discs (cross-sections of the trunk) taken at breast height (1.30 m), (ii) standardization of these series in order to remove biological growth trends and highlight climate signals, (iii) the construction of a chronology for the study area, and (iv) the correlation with climatic variables of precipitation and temperature (minimum, average and maximum). The results support the potential application of the species in dendroecological studies, considering the timing of data and sensitivity to climatic variables (minimum temperature). It found a reduction of growth presented from the mid-1960s which was concomitant with the period of rectification of the riverbed.

Theme: O01. Tropical dendrochronology

Presentation Type: Poster

δ18O AND δ13C FLOATING CHRONOLOGIES FROM LATE-GLACIAL NEW ZEALAND KAURI (AGATHIS AUSTRALIS)

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Carbon and oxygen isotopes in tree rings have proven high potential for climate reconstructions, with a sample depth of four to five trees considered sufficient for reaching a representative population signal for a site. Here we seek to derive high-resolution palaeoclimate proxy data from relative changes in stable carbon and oxygen isotope content in kauri (*Agathis australis*). Kauri is a long-lived conifer endemic to New Zealand, and previous studies have established a significant relationship between its ring widths and climate. The wood for our study was excavated from a peat bog at Towai in Northland, New Zealand. The resulting isotope chronologies span a period of 1,200 years, from approximately 13,100 to 11,900 cal BP a period generally characterised by asynchronous abrupt climate changes in the Northern (Younger Dryas) and Southern (Antarctic Cold Reversal) Hemisphere. We analysed the cellulose from six trees at a decadal resolution. We found that the similarity between individual δ13C series was low, whereas δ18O series showed stronger coherence. Factor(s) affecting oxygen isotope fractionation (origin of air masses, precipitation amounts and vapour pressure deficit) in the trees may therefore have a more common influence, than those acting on carbon isotope fixation (stomatal conductance and assimilation). We compare our stable isotope records with tree-ring widths and other available proxy archives, and discuss their climatological significance.

Theme: O06. Stable isotopes in dendrochronology

Presentation Type: Oral

TREE RING GROWTH, ICE COVER AND SOLAR IRRADIANCE

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The results of comparison the dendrochronologies of Kola Peninsula, local temperatures records, ice cover of the Barents sea and sea surface temperature records are presented. Tree-ring series over the last 100 years