

Exploring the potential of tree-rings from NE and SE Brazilian tree species for reconstructions of climate and drought.

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With the predicted warming and decrease in precipitation for central South America, drought is expected to become more frequent and severe. Long climate records that would allow for a deeper understanding of these trends are generally lacking in regions whose economies are in great part based on agriculture and cattle production, making them very dependent on rainfall variability. Although many species have been reported to develop clear growth rings and only a handful of ring chronologies have been produced from Brazilian trees. The great potential for the use of dendrochronological proxies from tropical tree species should be further explored. To analyze hydroclimatic variability we intend to reconstruct drought and precipitation in the SE and NE regions of Brazil, by developing ring-width chronologies from three different biomes with strong precipitation seasonality. Samples will be collected from several tree species in a tropical rainforest (*Mata atlantica*), a savanna (*cerrado*) and a dry shrubland (*caatinga*). These ring-width chronologies from drought sensitive trees could provide important information about regional moisture availability. Understanding climate variability and vegetation dynamics in these areas is also essential for their conservation and sustainable management.