# Environmental controls and patterns of cumulative radial increment of evergreen tree species in montane, temperate rainforests of Chiloé Island, southern Chile

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We investigated the local environmental controls on daily fluctuations of cumulative radial increment and cambial hydration of three dominant, evergreen tree species from montane, Coastal rainforests of Chiloé Island, Chile (42° 22? S). During 2 years (1997-1998 and 1998-1999) we recorded hourly cumulative radial increments using electronic band dendrometers in the long-lived conifer Fitzroya cupressoides (Cupressaceae), the evergreen broad-leaved Nothofagus nitida (Nothofagaceae), and the narrow-leaved conifer Podocarpus nubigena (Podocarpaceae). We also measured soil and cambial tissue hydration using capacitance sensors, together with air and soil temperature and rainfall during the period of the study. In addition, we collected cores of these tree species to evaluate how dendrometer measurements reflect annual tree ring width. One-year long daily time series of cumulative radial increments suggests that radial growth of Fitzroya cupressoides was initiated slowly in early spring, wi