



Reconstruction of the Interdecadal Pacific Oscillation (IPO) to CE 860 using tree-rings from Indonesia, Australia and New Zealand.

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The southwestern Pacific region is known to be significantly influenced by the Interdecadal Pacific Oscillation index (IPO). Here we explore the use of a network of tree-rings and wood properties from Indonesia, Australia and New Zealand to determine the strength and spatial expression of their relationship to the tripole index of the IPO (t-IPO). From the available pool of proxies, 65 were selectively screened and used in regressions to calibrate/verify to the t-IPO over the period CE 1871-1975. The positive results then enabled the reconstruction austral “summer” t-IPO values extending back to CE 860. One concern was a potential geographic (i.e. local) bias of the proxies but an examination of the correlations to each of the three contributing t-IPO regions were similar. The spectral pattern showed the presence of strong ENSO and longer periodicities as well as coherency with some other published reconstructions. A pronounced negative IPO phase occurred in the 1580s with an associated step change to both more frequent but shorter duration phases.