

## **Decadal variability in the tropical circulation and its extratropical teleconnections**

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Climate records from long-lived corals provide information about variability of the tropical ocean-atmosphere, which can be interpreted in terms of the low-latitude components of the global atmospheric circulation and related surface conditions. In the region of the western Pacific warm pool, the rising limb of the Hadley and Walker circulation is especially strong. Convective rainfall and temperature changes are clearly recorded in coral skeletal  $^{18}\text{O}$  in this region, and coral records can thus delineate the eastward extent of this warm pool. Decadal variability in many of these records is substantial, particularly in the 19<sup>th</sup> century, when a series of well-defined oscillations occurs in coral records that are also sensitive to ENSO. The extratropical impacts of these oscillations mimic interannual ENSO teleconnections but are modulated by decadal changes in the extratropical Pacific. The relationships among decadal variability in the tropical and extratropical Pacific and on adjacent continents cautions against simple interpretations of past decadal variability in terms of the Hadley circulation, as longitudinal gradients and patterns also vary on time scales long enough to be imprinted in recent paleoclimate records.