



The changes of equatorial-tropical teleconnection on the Warm Pool during the last century revealed by coral records

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El Niño affected essentially the equatorial eastern Pacific where the canonical event has been defined. Recently, it appeared that a new type of event might occur. This differs by location change of seasurface temperature anomalies and different teleconnections with tropical latitudes. The historical El Niño are essentially documented by spatial patterns of climatic parameters, however, we have no idea of how the newly described events might be locally reflected. Indeed, due to their reconstruction processes, these datasets present weaknesses and the details of regional variability and trend might remain a caveat associated to this new concept.

Unfortunately, prior to 1950, oceanic changes are poorly documented in tropical zone. The coral proxies regarded as the best climatic archives of tropical climatic conditions did not provide, so far, quantified SST and SSS reconstructions as promised.

We applied Neural Networks to improve the accuracy of coral reconstruction. The method efficiency has been tested on three coral cores located at the southern edge of the Warm Pool. We highlighted that SST and SSS separately assessed always covary, each El Niño implying simultaneous anomalies. We confirmed that the second half of the last century shows specificities, a progressive warm pool extension and the occurrence of warm pool-El Niño.