How Anomalous is Late 20th Century Climate Change? A Tropical Pacific Perspective

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Abstract: Living and fossil corals from the central tropical Pacific (CTP) provide multi-century, monthly-resolved records of the El Nino-Southern Oscillation (ENSO) and tropical Pacific climate of the last millennium, an interval for which very few high-resolution tropical climate records exist. In the face of continued anthropogenic climate change, such records provide critical estimates of natural climate variability from a region where sea-surface temperature fluctuations are known to drive global climate patterns. The most intense ENSO activity of the coral reconstruction occurs during the 17th century and implies that late 20th century ENSO activity, including the powerful 1982 and 1997 El Nino events, fall within the range of natural variability. However, the corals also resolve a late 20th century trend towards warmer, wetter conditions in the CTP that is unprecedented in the last millennium.

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