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## Cooling and freshening of the eastern equatorial Pacific over the last 2000 years

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Sea surface temperatures in the eastern equatorial Pacific exert powerful influence on the climate beyond the tropics through strong atmosphere-ocean coupling. Records of eastern Pacific sea surface temperatures are of vital importance for identifying the linkages between short-term climate variability and long-term climate trends. Here we reconstruct eastern equatorial Pacific sea surface temperature and salinity from paired trace metal and stable isotope analyses in foraminifera from a sediment core near the Galápagos Islands. Sea surface temperatures are correlated with reconstructed Northern and Southern hemisphere temperature records suggesting a common origin. We propose that this temperature signal originates in the extratropics and is transmitted to the eastern Pacific surface via its source waters. We find exceptions to this cooling during the Little Ice Age and during the last century, where notable sea surface temperature increases are observed. We calculate  $\delta^{18}\text{O}_{\text{sw}}$  from paired stable isotope and trace element analyses and derive salinity, which reveals a significant trend toward fresher surface waters in the eastern equatorial Pacific. The overall trend toward cooler and fresher sea surface conditions is consistent with longer-term trends from both the Eastern and Western Pacific.