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Abstract

Differential trends in tropical sea surface and atmospheric temperatures since 1979

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A variety of measurements indicate that the rate of atmospheric warming in the tropics since 1979 is less than the observed warming of the sea surface. This result is further examined using the high quality buoys monitored by the Pacific Marine Environmental Laboratory in the Tropical Pacific Ocean. These buoys show cooling (most cases being statistically significant) of the air at 3 m height relative to the sea at 1 m depth over 8 to 20-year periods in the eastern region. A global surface temperature dataset which uses only near-surface air temperature over both land and ocean, indicates less warming since 1979 than those using SSTs over the oceans, though large uncertainties remain with marine air temperatures.

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Cited By

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