



Changes in the maximum SST and its relation to warm pool and cold tongue temperature

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Using the observation and IPCC AR4 coupled model output, we analyzed variation of the maximum SST (MSST) over tropical western Pacific and its relation with warm pool and cold tongue temperature. MSST is a good proxy of a radiative-convective equilibrium temperature at the ocean surface as confirmed from the surface energy budget analysis showing very small heat advection. We found that variation of MSST is highly correlated to global mean temperature (GMT), and sensitive to change in the backward longwave radiation. Therefore, MSST can be referred to a good index for the global warming signal. Surface budget analysis of the global warming scenario experiments showed that MSST is mainly controlled by net longwave radiation and latent heat release. We also checked the changes of both warm pool and cold tongue temperature with respect to change of MSST.