

## 温暖化が進行する中での十年規模気候変動のインド洋-太平洋海盆間相互作用

### The Indo-Pacific cross-basin interaction of the decadal climate variability under the progress of the global warming

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We investigate a relationship of the decadal sea surface temperature (SST) variability between over the Indian Ocean and over the tropical Pacific based on the observed data sets and the multi-model climate simulations. In the present study, by subtracting the multi-model ensemble mean rather than the observed linear trend, we attempt to retain the decadal signals without the effect of the radiative forcing, in the observed long-term records of the ocean and atmosphere.

While several observational studies indicated that the simultaneous correlation coefficient of the long-term SST variability over the two basins changed from positive before 1985 into negative after 1985, our analysis always shows the positive correlation regardless of the selected decades, indicating that the internal dynamics of the Indo-Pacific ocean-atmosphere system for this cross-basin interaction. While the decadal variations of the surface winds over the Indian Ocean are influenced by the SST variability over the tropical Pacific, the SST formation processes by those surface winds are different among the regions north and south of 10°S, respectively. The effect of the climatological meridional gradient in the thermocline depth on the different formation processes is discussed.

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