

Cloud Feedback to SST Change over the Tropical Western Pacific in CMIP6 models

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Tropical cloud feedback remains uncertain because the cloud response to temperature varies among numerous observational studies. The relationship between clouds and sea surface temperature (SST) was compared with observations in the climate models. Clear-sky SST was calculated by using the cloud fraction data in CMIP6. The cloud feedback was calculated as the simultaneous relation of daily SST and cloudiness over the tropical western Pacific (TWP). As a result of grasping the regression relationship between the calculated SST and the cloud, it was confirmed that many models showed a negative relationship. The results can support the cloud response relationship to sea surface temperature that appears when geostationary satellite data are used.

Key words: cloud feedback, warm pool, CMIP6, satellite data