

Cold surge and sea surface temperature cooling over the north part of the Pacific warm pool

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In this study, cold surge over Philippine Sea is investigated using 10-years satellite, and re-analysis data. It is shown that anomalous cold sea surface air temperature from Asia reaches near 15N in the Philippine Sea. This cold event accompanies north-easterly surface wind centered high sea level pressure south of Japan. At that time, sea surface temperature shows also cooling tendency in this region. In previous studies pointed out that cold surge occurs in the South China Sea. In this study, similar cold surge also appear in the Philippine Sea. It is also shown that cold surge in Philippine Sea appears two days after cold surge in the South China Sea, which is related to eastward propagation of high sea level pressure. The present results newly show that the cold surge in Philippine Sea is related to sea surface temperature cooling in this region.

Keywords: Pacific warm pool, Cold surge, sea surface temperature cooling, air-sea interaction