Variations of Sea Surface Temperature off Northeast Taiwan

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摘要

Remote sensing data are used to study variations of sea surface temperature (SST) off northeast Taiwan from 1985 to 2008. The SST data derived from Advanced Very High Resolution Radiometer (AVHRR) onboard the NOAA series satellites are used for this study. Using the empirical mode decomposition (EMD) method, the temporal variations and trend of SST in the study area are examined. The trend of SST in the study area is 0.33 ℃/decade and is different in seasons with higher in spring (0.49℃/decade) and winter (0.45℃/decade) and the lowest in summer (0.18℃/decade). This implies that the seasonal variation of SST is getting vague in the study area. From EMD analysis, the variations of SST in the study area are found to be affected by seasonal variation, quasi-biennial oscillation (QBO), El Niño events, and sunspot activity. In the spatial aspects, the SST increased roughly from northwest side to southeast side. A cold patch around 25.6°N, 122.4°E off the northeastern Taiwan is obvious in spring and summer, and it moves with the migration of Kuroshio.