

東シナ海と黄海における海面高度の季節変動に関する研究

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Abstract

Seasonal variability of the sea surface height (SSH) in the East China Sea and the Yellow Sea was investigated through the study of model simulation and analysis of observed data. The model SSH was compared with the tide-gage data. The simulation results can well reproduce the amplitude and phase of seasonal variability of the tide-gage SSH. The model SSH is also compared with the satellite altimeter data using Harmonic analysis, and they generally showed good agreement in wide area. The sea surface height is high in summer and low in winter. As a factor of this seasonal variability, SSH variability due to the thermal expansion was considered. It was estimated from the surface heat flux data. The SSH fluctuation range is about 15 cm in the East China Sea and 11 cm in the Yellow Sea, respectively. The minimum appears in February and the maximum appears in September. However, the fluctuation range of model and altimeter data is about twice of this thermal expansion effect, and the time when the minimum appears is locally different. The amplitude and phase of seasonal variability hence cannot be explained by this thermal expansion effect only. As another factor, dynamical effect due to the wind stress must be important. Winter monsoon burst extrudes the seawater from the northern marginal sea area. This may enhance the amplitude and advance the phase in this area.