

A Regional air-sea coupled model adopted over the winter yellow and east china seas

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In regions of strong sea surface temperature (SST) fronts such as Yellow and East China Sea (YES) shelves, surface winds are positively correlated with SST. In the winter YES shelves, SST is also determined by surface winds due to the surface heat flux and wind-driven ocean currents over the shallow shelves. It is therefore anticipated that SST over these areas is determined by an air-sea coupled process, and so we have established a regional air-sea coupled model to examine how SST in the YES is controlled by the coupled process. The coupled model consists of MM5 and POM. The MM5 provides POM with surface heat, freshwater and momentum fluxes, while POM gives SST as a lower boundary condition of MM5. It is interesting that the SST in the couple model is closer to the observed one than that computed in the uncoupled POM.