

Dynamical study on interannual variation of the summertime upwelling in the South China Sea

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Upwelling off the southern Vietnamese coast is one the most important summertime features in the South China Sea. It remarkably contributes to the abundance of fishery resources and has a great influence on heat distribution. By analyzing the sea surface temperature (SST), sea surface wind, and altimeter-based geostrophic current, the interannual change of the upwelling in summers of 1990-2015 is investigated. Based on the analyses, three upwelling areas are identified in this study. One is in offshore region and two are along the Vietnamese coast. An upwelling index derived from SST at the upwelling center and the background SST is introduced to quantitatively explore the change of upwelling intensity. The possible processes relevant to wind field and eastward-flowing jet for the three upwelling areas are proposed as well.

Keywords: Upwelling, South China Sea, Interannual variability