Multi-satellite observation on upwelling after the passage of typhoon Hai-Tang in the southern East China Sea

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The serial remote sensing based imageries clearly revealed large scale of upwelling within large regional enhancement of chlorophyll-a (Chl-a) concentration in the southern East China Sea (ECS) after the passage of super typhoon Hai-Tang in July 2005. After the typhoon on July 22, the upwelling area (< 26°C) expanded rapidly to 9146 km2 on the shelf-break. The large increased upwelling persisted for more than a week. Ocean color images also revealed that high Chl-a concentration of >3.0 mg/m3 appeared in the shelf region, where the high Chl-a pattern matched the upwelling in terms of location and time. On the other hand, a large offshore SST cooling was also observed mainly to the right of typhoon track on July 20, it lasted in a period of 2-3 days. Utilization of AVHRR, MODIS, AMSRE and SeaWIFS, this paper provides clear and high-resolution evidence that typhoon significant increased upwelling and Chl-a concentration in the southern ECS. Key word: Remote sensing, upwelling, chlorophyll-a, southern East China Sea, typhoon Hai-Tang.
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