

## The spatial distribution of sea surface chlorophyll *a* and its response to oceanographic environmental factors in summer season in western South China Sea

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This paper studies spatial distribution of Chlorophyll a (Chl- a) concentrations for South China Sea for summer (from June to August) season by analysis SeaWiFS derived Chl-a data from 1999 to 2003 and survey data obtained in September 2004. The results indicated spatial variation of Chl a concentrations in summer: A high Chl a band (>0.6mg/m<sub>3</sub>) existed along the southeast coast of Vietnamese Sea, while, and another jet-like Chl a band offshore ward (>0.2mg/m<sub>3</sub>) appeared in the east of Phan Ri Bay; for the entire SCS, Chl-a concentrations were rather higher in southwest South China Sea (SCS) than in the east SCS. Results also show that the environmental factors, such as sea surface temperature (SST), wind speed, and sea level anomalies, affected the distribution of Chl-a. The spatial distribution of Chl-a is considerably influenced by the intensity of southwest summer winds, and **a** jetoffshore current induced by high velocity of wind. The high chlorophyll concentration along the coast is sustained by the coastal upwelling derived from Ekman offshore transport of strong wind with lower temperatures. The comparison between survey measurement and SeaWiFS derived Chl a concentrations show good consistency in two data sets.

Key words: Chlorophyll concentration, Upwelling, summer season, South China Sea