



Comparison of summer chlorophyll a concentration in the South China Sea and the Arabian Sea using remote sensing data

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The South China Sea (SCS) and the Arabian Sea (AS) are both located roughly in the north tropical zone with range of similar latitude (0° – 24° N). Monsoon winds play similar roles in the upper oceanic circulations of the both seas. But the distinct patterns of chlorophyll a (Chl-a) concentration are observed between the SCS and the AS. The Chl-a concentration in the SCS is generally lower than that in the AS in summer (June–August); the summer Chl-a concentration in the AS shows stronger interannual variation, compared with that in the SCS; Moderate resolution imaging spectroradiometer (MODIS)-derived data present higher atmospheric aerosol deposition and stronger wind speed in the AS. And it has also been found that good correlations exist between the index of the dust precipitation indicated by aerosol optical thickness (AOT) and the Chl-a concentration, or between wind and Chl-a concentration. These imply that the wind and the dust precipitation bring more nutrients into the AS from the sky, the sub-layer or coast regions, inducing higher Chl-a concentration. The results indicate that the wind velocity and the dust precipitation can play important roles in the Chl-a concentration for the AS and the SCS in summer. However aerosol impact is weak on the biological productivity in the west SCS and wind-induced upwelling is the main source.