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Monitoring chlorophyll-A and sea surface silicate concentrations using MODIS dataYuanzhi Zhang¹ and Zhaojun Huang²¹Nanjing University of Information Science and Technology, China²Chinese University of Hong Kong, Hong Kong

Continually supplied with nutrients, phytoplankton maintained high productivity under ideal illumination and temperature conditions. *In situ* data in the south part of Cheju Island in the East China Sea (ECS), which has experienced spring blooms since the 2000s were acquired during a research cruise in the spring of 2007. Compared with *in situ* measurements the MODIS chlorophyll-A (chl-A) products show a high stability in the area. Removing a few error stations data, the correlation between nutrients and chl-A concentration in the study area is examined. The result shows that there is a high positive correlation between silicate and chl-A concentration using regression analysis. MODIS chl-A products and the sea surface temperature (SST) are used to determine the surface silicate distribution. The silicate concentration retrieved from MODIS data show a good agreement with *in situ* measurements with $R^2=0.1803$, root mean square error (RMSE)=0.326 $\mu\text{mol/L}$ (8.23%) and mean absolute error (MAE)=0.925 $\mu\text{mol/L}$ (23.38%). These results support previous studies in the same area. MODIS chl-A products and the sea surface temperature (SST) are used to determine the surface silicate distribution. The silicate concentration retrieved from MODIS data show a good agreement with *in situ* measurements with $R^2=0.803$, root mean square error (RMSE)=0.326 $\mu\text{mol/L}$ (8.23%) and mean absolute error (MAE)=0.925 $\mu\text{mol/L}$ (23.38%).

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