The Use of MERIS Fluorescence Bands for Red Tides Monitoring in the East China Sea: a Case Study

Bangyi. Tao[1] , Zhihua. Mao[1] and Zengzhou Hao[1]

[1] *State Key Laboratory of Satellite Ocean Environment Dynamics, Second Institute of Oceanography, State Oceanic Administration*

The east China sea suffers from the frequent occurrence of a variety of red tides, often resulting in severe negative impacts to local marine ecosystems. Based on in-situ measurements, the fluorescence peak shifts from 681 nm to 705 nm which is well known as “Red Shifts” was observed when red tides occurred. And four spectral bands centred at 665, 681.25, 705nm and 754 nm. were included in the design of MERIS for retrieving the fluorescence signal. This paper derives the Fluorescence Line Height (FLH) and Maximum Chlorophyll Index (MCI) from four MERIS spectral bands. It is found that values of MCI are much higher than values of FLH in red tides water. This paper discusses a method by use MCI/FLH as an indicator index and MERIS surface chlorophyll to monitoring red tides.

Keywords: red tides ; fluorescence; MERIS