MONITORING OF *NOCTILUCA* RED TIDE USING A SATELLITE IMAGE

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Noctiluca scintilans is a large, heterotrophic dinoflagellate which commonly forms red tides in temperate and subtropical coastal region and which is well known for its luminescence. In our study field, Seto Inland Sea, Japan, *Noctiluca* red tide can be often seen in spring to summer period. The color of *Noctiluca* red tide is orange or red like tomato juice, although green color of its bloom was reported due to its symbosis in the tropical area. In this study, we investigated the method of monitoring the *Noctiluca* red tide using satellite image.

Recently, interest in ocean color has increased significantly with the advance of the satellite remote sensing technique. So we conducted the field experiment on the boat to study the optical properties of *Noctiluca* red tide. Actually we measured the upwelling radiance of *Noctiluca* red tide waters, using high speed portable spectroradiometer operating with a resolution of 2 nm. Except for near-infrared spectral region, sea water spectral reflectance decreased with increase of number of *N. scintilans*. The reflectance for near-infrared region was useful to estimate the number of *N. scintilans*. Furthermore we tried to detect the *Noctiluca* red tide and make the *Noctiluca* red tide map from Thematic Mapper sensor (TM sensor) data of LANDSAT by calculating upwelling radiance in the spectral bands of Band 3 (624 – 693 nm) and Band 4 (776 – 905 nm). As a result, a image of May, 1995 in the eastern part of Seto Inland Sea observed the *Noctiluca* red tide event when we observed the *Noctiluca* red tide.