



Surface Characteristics of Green Island Wakes from Satellite Imagery

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Characteristics of an island wake induced by the Kuroshio Current flows pass by Green Island, a small island 40 km off southeast of Taiwan is investigated by the Moderate Resolution Imaging Spectroradiometer (MODIS) satellite imagery. The MODIS sea surface temperature (SST) and chlorophyll-a (chl-a) imagery is produced at 250-meter resolution from 2014 to 2015 using the SeaDAS software package which is developed by the National Aeronautics and Space Administration. The wake occurrence is 59% observed from SST images during the data span. The average cooling area is 190 km², but the area is significantly changed with wind directions. The wake area is increased during southerly winds and is reduced during northerly winds. Besides, the average cooling SST was about 2.1 °C between the front and rear island. Comparing the temperature difference between the wake and its left side, the difference is 1.96 °C. In addition, the wakes have 1~3 times higher than normal in chlorophyll concentration. The results indicate the island mass effect makes the surface water of Green island wake colder and chl-a higher.