Investigation of the environmental factors associated with the inflow of Sargassum horneri into the Korean Peninsula using GOCI

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- *Sargassum horneri* is one of the major components of the floating sargassum that is distributed widely along the coast, including Korea, China and Japan. *Sargassum horneri* has an air pocket called an ‘air sec’ on its body which leads to a floating life, and drifts by ocean currents and winds. Due to these characteristics, blooms of *Sargassum horneri* have occurred April-June in the East China Sea. If these blooms flow into Jeju Island in South Korea, the blooms can cause enormous damage to fishing activities and the marine tourism industry. In order to minimize the damage caused by these blooms, we have been studied using remote sensing and field measurements.

This study investigates environmental factors associated to the inflow of *Sargassum horneri* into Korean Peninsula. We used floating algae detection algorithm developed by a Geostationary Ocean Color Imager (GOCI). Since GOCI provides data of the seas surrounding the Korea eight times a day (00 to 07 UTC), it is suitable to monitor the blooms. The algorithm was made using the Red-edge effect which has a sharply rising reflectivity at around 700 nm but a low reflectivity in the red area (660-680 nm). And it was considered that the reflectivity of background seawater which varies from place to place is eliminated. Based on the results of the algorithm for detecting floating algae, *Sargassum horneri*’s inflow into the Korean Peninsula was analyzed January to June for six years (2014 to 2019). Also, the environment factors affecting to the inflow path were investigated each months and years.