**Improvement of GK-2B GOCI-II sensor-based Land products**

**to Enhance Usability**

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***ABSTRACT***

Geo-KOMPSAT-2B satellite, launched in February 2020, is a geostationary satellite at an altitude of 3600 km and is takeing images of the Korean Peninsula a total of eight times at hourly intervals. The satellite is equipped with a Geostationary Ocean Color Imager II(GOCI-II) ocean optical sensor, and the National Ocean Satellite Center is currently servicing four types of land products along with various ocean products. In particular, time-series satellite images at hourly intervals in conjunction with the GOCI-I sensor, which has been provided since 2010, are very useful on land. However, the GOCI-II products currently in service are produced with an initial algorithm developed based on GOCI-I images before satellite launch, and require improvement of suit the GOCI-II sensor. In this study, we attempt to estimate the accuracy of early land products in 2023 and present an improved land algorithms. First, a 6SV-based atmospheric correction algorithm was presented to extract top of canopy reflectance on land. In the case of albedo, vegetation index, and land cover products based on improved reflectance, we would like to suggest a method of providing auxiliary data on quality to improve usability. This study will present the quantitative accuracy of the improved land-based algorithm. In the future, improved GOCI-II land products are expected to be input into global climate prediction models or be very useful for time series vegetation monitoring.

**Keywords:** GK-2B, GOCI-II, TOC reflectance, Albedo, VI, Land cover, Quality, Usability