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**Enhancing Consistency and Long-Term Reliability of Surface Albedo
from COMS/MI and GK2A/AMI**

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Satellite-based surface albedo data are widely used to monitor and analyse the global climate and environmental changes. Korea continuously retrieves surface albedo from the Communication, Ocean and Meteorological Satellite (COMS)/Meteorological Imager sensor (MI) and GEO-KOMPSAT-2A (GK-2A)/Advanced Meteorological Imager sensor (AMI). However, the quality of these surface albedo outputs differs due to differences in the algorithms, input data and resolution, which limits their long-term use as climate data. However, it is possible to produce data for monitoring climate change continuously by analysing the error characteristics of the surface albedo produced by COMS/MI and GK-2A/AMI and expanding the retrieval period using corrections between the two products. To ensure the consistency of the surface albedo data, this study developed a correction model based on machine learning using multiple linear regression (MLR), random forest (RF) and deep neural network (DNN) models to consider the albedo data error characteristics of each satellite. The best performing RF model was used for correction. The errors of the corrected RF COMS/MI data were reduced; when validated with in-situ data, the Root Mean Square Error (RMSE) of the COMS/MI improved from 0.056 to 0.023, similar to the RMSE of 0.019 of GK-2A/AMI. It also appeared stable in the time series validation with GLASS satellite data, and the mean RMSE was 0.036, which was consistent.