Development and application of land surface products using Himawari-8 AHI

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New generation geostationary satellites provide very high temporal earth observation with multiple visible, near-infrared, and shortwave-infrared wavelength regions. Thus, these datasets can provide us unexpectedly hyper-temporal resolution to monitor land surface. However, since geostationary satellite data are provided with top-of-atmosphere status, complex data pre-processing such as atmospheric correction, cloud masking are required.
Our group is trying to provide a new datasets for surface reflectance and surface temperatures based on Himawari-8 AHI. Our atmospheric corrected reflectance was calculated based on 6S code and we found that estimated reflectance were similar to those of polar orbiting satellites and sensors, such as Terra/MODIS and GCOM-C/SGLI. Cloud masks and land surface temperatures were generated by Yamamoto et al. (2018) algorithm. We will show our current status of data-processing and potential applications to understant land surface and vegetation dynamics.

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