

Title	Surface Reflectance Product from Geostationary Satellite
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Abstract	We have generated provisional Himawari-8 AHI surface reflectance (SR) product for land and vegetation monitoring. The Himawari-8 AHI surface reflectance product is part of our GeoNEX land products, which integrate level 2 and higher remote sensing data from a set of geostationary satellite sensors (i.e. GOES-16, -17 ABI, Himawari-8 AHI, FY4-A AGRI, and MTG-I). Adapted Multiangle Implementation of Atmospheric Correction (MAIAC) algorithm is used to process time series Himawari-8 AHI observations. Himawari-8 AHI SR provides gridded and tiled land SR in 1-km resolution with high frequency (every 10 minutes during daylight time). There are three subdatasets: 1) retrieved atmospheric properties (e.g. column water vapor at 0.86 μm, aerosol optical depth at 0.47μm and 0.51μm); 2) spectral (AHI bands 1-6) surface reflectance, kernels of RTLS BRDF model; 3) spectral BRDF kernel weights, and extensive quality assurance flags. The evaluation results show that Himawari-8 AHI data yield much more valid pixels in a single day in the characterization of land surface, when compare to NASA flagship satellite MODIS Terra/Aqua. This observation frequency and resolution of geostationary data should allow for using continuous ecosystem monitoring in diurnal studies at continental scale. Initial evaluations indicate a stable Himawari-8 AHI land SR product.
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