

GOES-16 Land Surface Temperature Product Status

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Abstract

Land surface Temperature (LST) is one of the key parameters in the weather and climate system controlling surface heat and water exchange between the land and the atmosphere. Knowledge of the LST provides information on the temporal and spatial variations of the surface equilibrium state and is of fundamental importance to many aspects of the geosciences, *e.g.*, the net radiation budget at the Earth surface and to monitoring the state of crops and vegetation. It is also an indicator of both the greenhouse effect and the energy flux between the atmosphere and the land.

The first Geostationary Operational Environmental Satellite-R Series (GOES-R) satellite, the GOES-16, launched in November 2016 and is observing the Earth from 35,786 km above the equator. The Advanced Baseline Imager (ABI) onboard GOES-R has 16 spectral bands (compared to five from previous GOES satellite imagers), including the two Split-window (SW) channels used for LST retrieval. The baseline LST product is currently being produced and has reached its beta maturity since May 2017. The presentation introduces the most recent validation efforts and updates the current status of the product, including its performance, limitation, and issues. The more recent efforts towards an enterprise algorithm will also be presented. The enterprise algorithm for GOES-16 has been derived and used to calculate the GOES-16 LST locally. The product is currently being internally reviewed and its comparison with the baseline algorithm is included.