

SURFACE REFLECTANCE (SR) PRODUCTS (BETA VERSION)

The fundamental land surface parameter of interest for any remote sensing based application is surface reflectance products. This is because the retrieval of any biophysical parameter demands for the use of precise surface reflectance products as the input. Moreover surface reflectance values are necessary for temporal analysis of RS data. The accurate conversion from the TOA (Top Of Atmosphere) reflectance to the surface reflectance is an indispensable preprocessing step required for quantitative utility of remote sensing data, and this process is usually called the atmospheric correction.

Atmospheric correction is normally performed in two stages. In the first step, the atmospheric properties are determined at the time of satellite overpass. Secondly, a radiative transfer model of the atmosphere is inverted to estimate surface reflectance, accounting for the atmospheric scattering and absorption.

Surface reflectance products are being generated at NRSC in an operational manner for Resourcesat series (2/2A) of medium and coarse resolution sensors. The accuracy of surface reflectance (SR) products was validated with both ground and satellite based measurements and found to be in good agreement .

One complete coverage of full India SR products generated from RESOURCESAT-2A AWiFS sensor are available at <ftp1.nrsc.gov.in>.

Host :: ftp1.nrsc.gov.in

User :: betaproducts

Passwd :: Beta#2021

connection type :: sftp ,port 22

Folder :RS2A Awifs-SR data

Following are the specifications of these sample SR products

- ✓ SR (4 Bands-Green,Red,NIR& SWIR)
- ✓ Spatial resolution @ 56 m,GeoTIFF
- ✓ Projection: LCC, Datum: WGS-84
- ✓ Scale factor : 0.0001
- ✓ Metafile
- ✓ Quality Layer (Description is available in metafile)

Uncertainties in surface reflectance values may exist due to discrepancies in atmospheric data over coastal and Himalayan regions. Feedback from users is highly appreciated to improve the reachability of the products.