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Remote Sensing Data Products

Remote sensing data are supplied to a variety and number of users for various applications and information extraction, in the form of a 'data product'.

- ✓ The data products are made available to users of our country by the National Data Center (NDC) of National Remote Sensing Center (NRSC) of the Indian Space Research Organisation (ISRO) located at Hyderabad.
- ✓ Remote sensing image data, stored in data files/image files on magnetic tapes, compact disks (CDs/DVDs) or other media, consists of only digital numbers. All remote sensing data products carry a specific index number. Remote sensing data products vary depending on the level of processing, output media/scale, and area of coverage.
- ✓ There are certain standards when the data is supplied as softcopy in digital form. Digital products are commonly supplied in the following formats—LGSOWG, Fast Format, GeoTIFF and HDF. NRSC has prepared a unique product code in a short form that fully describes and takes care of all the specifications of a desired product. Image data format can be defined as the sequential arrangement of pixels, representing a digital image in a computer compatible storage medium such as a compact disk (CDs/DVDs).
- ✓ Basically there are three types of data formats – Band Interleaved by Pixel (BIP), Band Interleaved by Line (BIL), and Band Sequential (BSQ). There are two ways to procure remote sensing data- by ordering online or by sending indents through post to NRSC Data Centre.

Satellite Data Products Available in India

Satellite data products are available in the following types of formats:

1. High Density Digital Tape (HDDT)
2. Quick Look Film
3. Computer Compatible Tape(CCT), Digital Audio Tape(DAT), Compact Disc(CD-ROM)
4. 70 mm film
5. 240 mm Black and White film positive/negative in individual band

6. Black and White paper prints & enlargement in individual band

7. 240 mm False Colour Composite (FCC) Film

8. FCC paper print and enlargements

The Earth Station situated at Shadnagar, Hyderabad tracks the Landsat , METSAT , ERS and IRS series of satellites. The data is primarily recorded on HDDT and Quick Look 70 mm format roll films. Standard products listed in (3) to (8) are generated from HDDTs and supplied to the users.

The NRSA Image Processing Laboratory located at NRSA, Balanagar, Hyderabad is the single repository of data supply in India on request to the users. The quality of the products, that leave NDC is checked in respect of computer processing, photographic reproduction, cloud cover and other defects as well. As an aid to the users for the selection of data, Browse Facility provides an array of computerised data listing, satellite coverage map, microfilm films and satellite orbital calendars. All the user's data products requirements and enquiries can be addressed to

Head,

NRSA Data Centre,

National Remote Sensing Agency, Balanagar, Hyderabad - 500 037 (A.P.).

Satellite Data Receiving Station

The Govt. of India authorised NRSA to set up a Satellite Receiving Station to receive digital data from LANDSAT series of Satellites launched by NASA/USA. This LANDSAT Receiving Station started functioning since January, 1980 situated at Shadnagar, 55 km. south of Hyderabad. The LANDSAT Earth Station has a coverage of nearly 2700 km. radius from its location on a repetitive basis and is capable of acquiring, tracking, receiving, recording, monitoring, processing and production of Landsat data. This Satellite Earth Station was augmented to receive data from TIROS-N series, the polar orbiting Meteorological satellites. For reception of SPOT Satellite data in India, a Memorandum of understanding was signed between "SPOTIMAGE" Corporation of France and NRSA, India. NRSA established SPOT data direct reception and processing facility at Shadnagar, Hyderabad and reception of SPOT data commenced in early 1987 and lasted till December, 1990. NRSA has also been given responsibility by the Department of Space, Govt. of India for data reception archival, data

processing and dissemination functions from IRS series of satellites. The IRS Receiving Station at Shadnagar, Hyderabad is now receiving the data from IRS-1B satellite as per routine.