

## National Remote Sensing Centre



### ABOUT

National [Remote Sensing Centre](#) in Hyderabad, Telangana, India and NRSC is an autonomous society managed by the Department of Space, Government of India and in year 2008 it has been converted into a full-fledged Government organisation. The centre was established by Department of [Science & Technology](#) as a registered society in 1974 for encouraging remote sensing activities in the country. NRSC has the approval for foundation of ground stations for collecting satellite data, generation of data products, dissemination to the users, development of techniques for remote sensing inquires including disaster management support, geospatial services for good governance and capacity building for professionals, teachers and scholars. It is providing services such as Bhuvan Services, Data Dissemination, Aerial Services & [Digital Mapping](#), etc.

<b>Research Centre Name</b>	National Remote Sensing Centre
<b>Centre Type</b>	Central
<b>Governed By</b>	Department of Space
<b>Location</b>	Telangana, India
<b>Topic Cover</b>	Bhuvan Services, Data Dissemination, Aerial Services & Digital Mapping, International Ground Station Services, International Disaster Support, EO Calibration Services, Satellite Ground Station Services
<b>Application Mode</b>	Online & Offline
<b>Head</b>	Dr. Raj Kumar
<b>How to Reach</b>	<a href="#">Telangana, India</a>
<b>Founded In</b>	1974
<b>Website Link</b>	<a href="#">Click Here</a>

### MISSION AND VISION

NRSC vision is to deliver quality data products, developing value added services and implementing outreach programmes by excel in promoting enhanced utilisation of [remote sensing](#).

### DIFFERENT PUBLICATIONS FROM CENTRE

Some of the published and ongoing research work of centre. Some of the titles are listed in below table.

### 1) Ongoing Projects

1	Development of image processing method for assessing content of trees Outside Forests (TOP) using IRS high Resolution Satellite images.
2	Shoreline changes and its impact on coastal ecosystem in Chidiatapu and Wandur of South Andaman Islands using Remote Sensing and GIS.
3	Development of a Real-time Image Super-resolution System using Parallel Processing Hardware for Remote Sensing Applications.
4	Multi-Temporal Interferometric SAR (MT-InSAR) studies for near real time landslide monitoring.
5	Development of Web based Tools for online/offline inclusion of value-added services and analysis on BHUVAN for High Resolution Satellite Imagery.
6	Development of evaluation of algorithms for automated tree delineation and tree parameters (height and crown diameter) estimation for forestry applications.
7	Dynamics of Sedimentation and Its Impact of Local Resources in Upper North Bank of Bramhaputra: An Integrated Study using field surveys and Geospatial techniques.

### 2) Completed Projects

1	A Comprehensive Mapping of Flood Risk in Changing Climate: An Application to Jagatsinghpur Dist, Orissa.
2	Transfer Learning Driven Rapid Change Detection for Disaster Management.
3	Development of Invisible Watermarks for Vector GIS Data Layers.
4	Evaluation and mapping of flooding along Mumbai coast due to storms and tides using Numerical Modelling and Geo-Spatial Techniques.

## **DIFFERENT SERVICES OFFERED**

### 1) Bhuvan Services Overview

Geo spatial assistance provided in Bhuvan portal are distribution of tile-wise one-time satellite data of [IRS sensors](#), satellite obtained products covering to various themes and domains. Domains and the related projects/themes separate database information is shortlisted here better visualisation of the summary of statistics available in Bhuvan.

### 2) Data Dissemination

Planning and Programming mention to the scheduling of the satellite's payload resources on daily routine envisages as per [satellite mission](#) intentions. User requirements are hierarchized based on data coverage, archival policies, data requests from end users and availability of capability of satellite missions and ground stations, etc.

Payload programming is essential to seize the satellite data of multiple sensors, steerable cameras with multi-mode functions, capacity of on-board data depository and transmission capabilities, visibility for [International Ground Stations](#) (IGS) and also polar satellite ground segments.

### 3) Aerial Services & Digital Mapping

Aerial Services and Digital Mapping (ASDM) campaigns at NRSC primarily involves generation of large-scale topographic maps and very high-resolution [Digital Terrain Models](#) (DTM) for distinctly flood prone river reaches in India, and for 2D/3D mapping in metropolitan areas, infrastructure planning. It also caters to many specialized applications like volumetric analysis, proposed new alignment corridors, 3D visualization.

NRSC has four decennary of aerial remote sensing experience. This knowledge is evolved in line with the appeal demands and availability of state-of-the-art aerial sensors from time to time, viz. aeronautical film cameras, [multi-spectral scanners](#), aeromagnetic examination in earlier days.

#### ***4) International Ground Station Services***

NRSC has plenty of images from Indian and Foreign [remote sensing satellites](#) in its records. It also has the potentiality to receive data pertaining to any part of the globe on request. NRSC has been instrumental in encouraging IRS data for International users and organizations by providing data and technical services. NRSC also enables [ANTRIX](#), the commercialized and advertising arm of ISRO, to perform various remote sensing services for International customers worldwide.

#### ***5) Calibration Services***

National Remote Sensing Center (NRSC)/ISRO has inaugurated and engaged an unique Cal-Val facility in [IMGEOS Complex](#) at Shadnagar, Hyderabad to validate the calibration needs of Optical and Microwave [sensors](#).

It has built the technical capability to collaborate for the Calibration of foreign remote sensing sensors.

#### ***6) Satellite Ground Station Services***

Indian remote sensing [satellite program](#) has observed rapid technological improvement both on space and ground segments in the last few decennary. With the appearing high-resolution satellite programs with improved data rates from 10 Mbps to 960 Mbps, the part of ground station has become more crucial. Keeping in vision of these challenges, NRSC planned and evolved an S/X band dual polarization 7.5M antenna system to encounter the current and future [Earth observation mission](#) obligations.

NRSC can begin antenna systems for receiving remote sensing satellite input at S and X band for Indian and foreign users subject to acceptance of [Department of Space](#) (DOS).

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