

# SPACE APPLICATIONS IN NORTH EASTERN REGION

The North Eastern Space Applications Centre (NESAC) set up on September 5, 2000 is a joint initiative of Department of Space (DOS) and the North Eastern Council (NEC) and is registered as a society under the Meghalaya Societies Registration Act, 1983. The scientific programme of the centre is guided by a Governing Council Chaired by Secretary, DOS and Policies are framed by a Society Chaired by Hon'ble Minister for the Ministry of Development of North Eastern Region (DONER). The centre has the mandate to provide developmental support to the North Eastern Region (NER) of India using Space Science and Technology.

## Mapping & Monitoring of Natural Resources

- Forest Working Plans
- Sericulture Development
- Annual LULC mapping
- Ground Water Prospect
- Watershed Management
- Soil Resource Mapping

## Providing inputs for Development Planning

- NE District Resource Plan
- SBIK
- SILKS
- SIS-DP
- Site Suitability Mapping
- Road Alignment

## Effective Disaster Risk Reduction Support

- Database Preparation
- Flood Early Warning
- Landslide Hazard Zonation
- Forest Fire Assessment
- Thunderstorm & Drought
- HRVA

## Emergency Communication and Satellite Communication

- Telemedicine
- Tele-education
- Village Resource Centre
- Emergency Communication
- Developmental Comm.
- Network Maintenance

## Space and Atmospheric Science Research

- Aerosol Radiative Forcing
- GHG Chemistry
- Boundary Layer Dynamics
- Climate Change Impact
- Numerical Weather Forecast
- Surface Observation Network

## Academic Interface & Capacity Building

- Training for Govt. Dept.
- Student Projects
- School Student Visits
- Exhibitions
- Workshops / Seminars
- Invited Talks



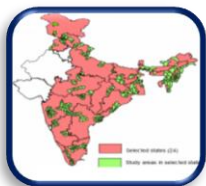
## MAJOR HIGHLIGHTS

- To provide natural resource mapping and monitoring support to various state government line departments and other central government departments in NER.
- To provide Remote Sensing and Geographic Information System based data information, and knowledge support to state govts for developmental planning.
- To provide single window delivery of all possible space technology support for disaster management and risk reduction.
- Set up satellite communication network to promote tele-medicine, tele-education and e-governance in NER and set up emergency communication network.
- Set up a Space and Atmospheric Science research hub to understand processes leading to regional climate change and its impact, improve weather forecast and set up linkages with academic institutions.



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**93** Completed Projects    **33** Ongoing Projects    **31** No. of Employees



Completed a national project (including 41 districts in NER of India) on Applications of Remote Sensing and Geographic Information System in Sericulture development and developed geo-portal called Sericulture Information Linkages and Knowledge System (SILKS).

Providing Remote Sensing and GIS based inputs for forest working plan preparation for Reserve Forest areas and forest working schemes for district council areas in all NE states.



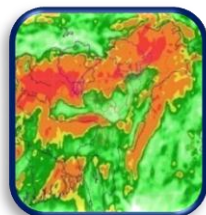
Focus on dissemination of information, data, and knowledge by means of web-based and stand-alone systems through North Eastern District Resource Plan (NEDRP), Space Based Information Kiosk (SBIK), SILKS, etc

Developed and demonstrated early warning system for flood for Brahmaputra and Barak valley in Assam by integrating Hydro and Meteorological data in a geospatial platform.



North Eastern Regional Node for Disaster Risk Reduction set up for single window delivery of space based disaster management services to all states in NER. Support to all major disasters shall be provided including early warning for some disasters

Set up and maintaining 7 HUBs and 321 Satellite Interactive Terminals (SIT) under the EDUSAT network covering all states in NER. Telemedicine network has been set up separately for civilian and defense personnel with 39 telemedicine centres.



Set up and maintaining a network of 118 Automatic Weather Station covering NER. Two land aerosol campaigns conducted. Research conducted on characterization of major drivers of regional climate change and their impact. Focus on improving Numerical Weather Forecast. A Doppler Weather Radar being set up at Cherrapunjee.

More than 200 B. Tech/M. Sc./M. Tech students have done their dissertation project. More than 5000 students from different parts of NE have visited NESAC facilities during last 14 years. NESAC has participated in more than 100 exhibitions in NE region.

