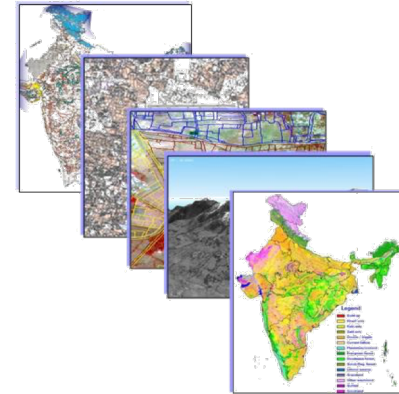
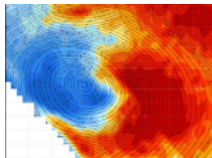


Indian Remote Sensing Programme



Shantanu Bhatawdekar
Indian Space Research Organisation
Department of Space

**The 360-degree view of India's emerging Geospatial Ecosystem & Second UNWGIC
Side Event on the margins of the Eleventh Session of UN-GGIM
16 August 2021**



Indian Remote Sensing Programme: Vision & Dimensions

enabling national development, improving quality of life, building resilient society and better understanding of Earth System

Space Segment

- Natural Resources & Disaster
- Ocean & Meteorology
- Cartography

Ground Segment

- Data Acquisition & Processing
- In-situ Observation Network
- Dissemination Platforms

Institutional Linkages

- Ministries / Departments
- Industry & Academia
- International Cooperation



Space Applications

- National Imperatives & SE develop.
- Enabling Spatial Data Infrastructure
- Earth System Science

- Position space & ground infrastructure aligned with priorities of government
- Build applications & models to enable governance & development
- Periodic inventory of natural resources to enable NSDI
- Information systems with decision tools & citizen centric services.

Indian Remote Sensing Satellite System

Continuous improvement in capabilities since the launch of first RS satellite IRS-1A in 1988

Key Role :

- Natural Resources Inventory, Assessment and Management
- Weather Forecasting and Ocean State Forecasting
- Supports Governmental & Societal programmes, Citizen-centric services
- Near Real Time Disaster Management Support
- Compliance to International Conventions - UNCCD, UNFCCC, SDG
- Contribute to International Charter on Disaster, BRICS, ASEAN, CGMS, CEOS...

Remote Sensing Applications Institutionalized in about 30 Ministries / Departments

**SOCIO ECONOMIC
SECURITY**

**DISASTER RISK
REDUCTION**

**Applications in
tune with SDGs**

**SUSTAINABLE
DEVELOPMENT**

GOVERNANCE

Towards supporting Governmental & Societal programs

SOCIO-ECONOMIC SECURITY

Food, Water, Energy, Health, Shelter, & infrastructure

- Crop Production Estimation and Crop intensification - Horizontal & Vertical
- Potential Fishing Zone Advisories
- Ground Water Prospects & Performance evaluation of Irrigation infrastructure
- Master plan formulation for Sustainable towns

SUSTAINABLE DEVELOPMENT

Resources Conservation, Impact Assessment, Climate Change

- Natural Resources Census - Periodic inventory of natural resources
- Biennial Assessment of Forest Cover. Biodiversity at Landscape & Community level
- Impact Assessment of developmental activities & Plans
- NICES - National Information System for Climate & Environment Studies

DISASTER RISK REDUCTION

Preparedness, Early Warning Response & Recovery

- National Database for Emergency Management
- Hazard zonation & Early warning Systems for better preparedness & mitigation
- NRT monitoring during disaster events - Floods, Cyclone, Forest fire, Landslides
- Emergency Communication Support

GOVERNANCE

Planning , Monitoring Evaluation & Decision

- Timestamping and evaluation of flagship programs
- Monitoring of Public Benefit Schemes
- Citizen-centric advisories & initiatives
- Geo-portals and Information systems

Indian Remote Sensing Programme - International Cooperation

- **Realisation of joint satellite missions** (MT, SARAL, NISAR, TRISHNA)
- **Accommodation of payloads** (OCEANSAT-2, OCEANSAT-3)
- **Data sharing / Exchange & CAL/VAL** (BRAZIL, EUROPE, USA, JAPAN)
- **Applications Development Prototypes** (BIMSTEC, ASEAN, UN-ESCAP)
- **Disaster Management** (INTERNATIONAL CHARTER, SENTINEL ASIA, UNSPIDER)
- **Capacity Building** (CSSTEAP & INDIAN TECHNICAL ECONOMIC COOPERATION)
- **Active participation in forums** (APRSAF, CEOS, GEO, UNCOPUOS, CGMS)

Indian Remote Sensing Programme - Working Towards

- Analysis Ready Data and RS based services/ advisories
- Reactive to Proactive Disaster Risk Reduction
- Multi-resolution Data Stack (Data Cubes) with embedded Analytical Models
- On-board data processing
- Contributions to Remote Sensing based global assessments
- Remote Sensing Policy well aligned with Geospatial Policy of India

Integration with emerging technologies to provide enhanced Remote Sensing based support to Societal Programmes, Governance & Development

THANKS...