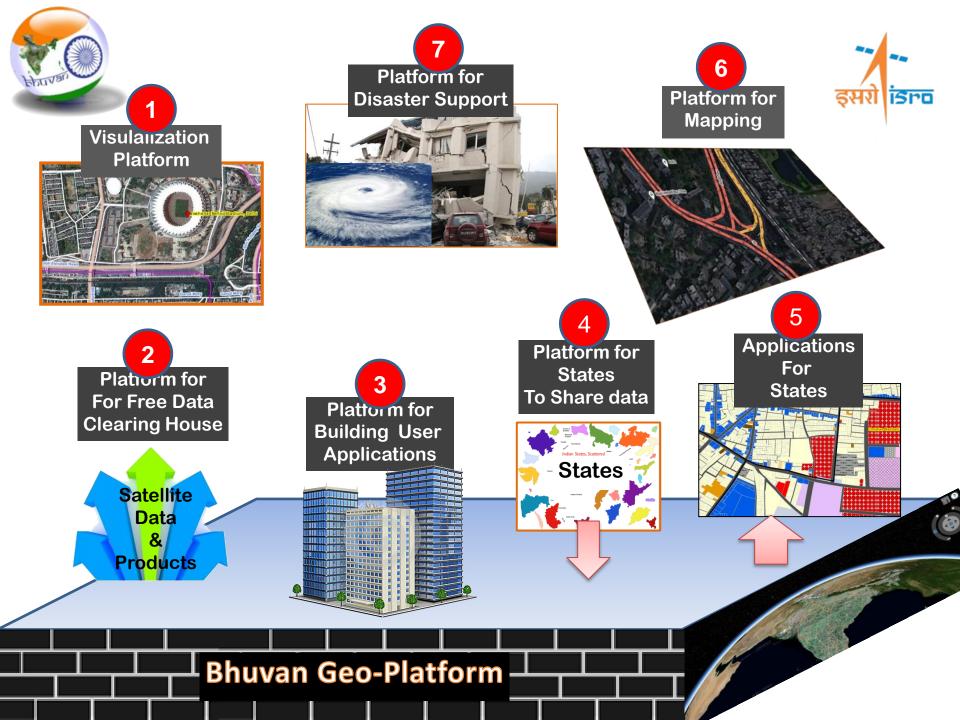


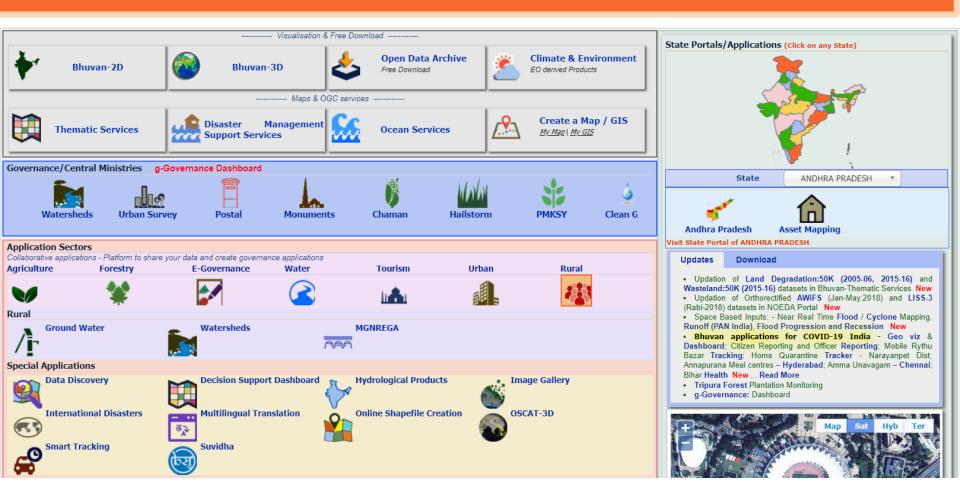


Bhuvan Geo-platform of ISRO





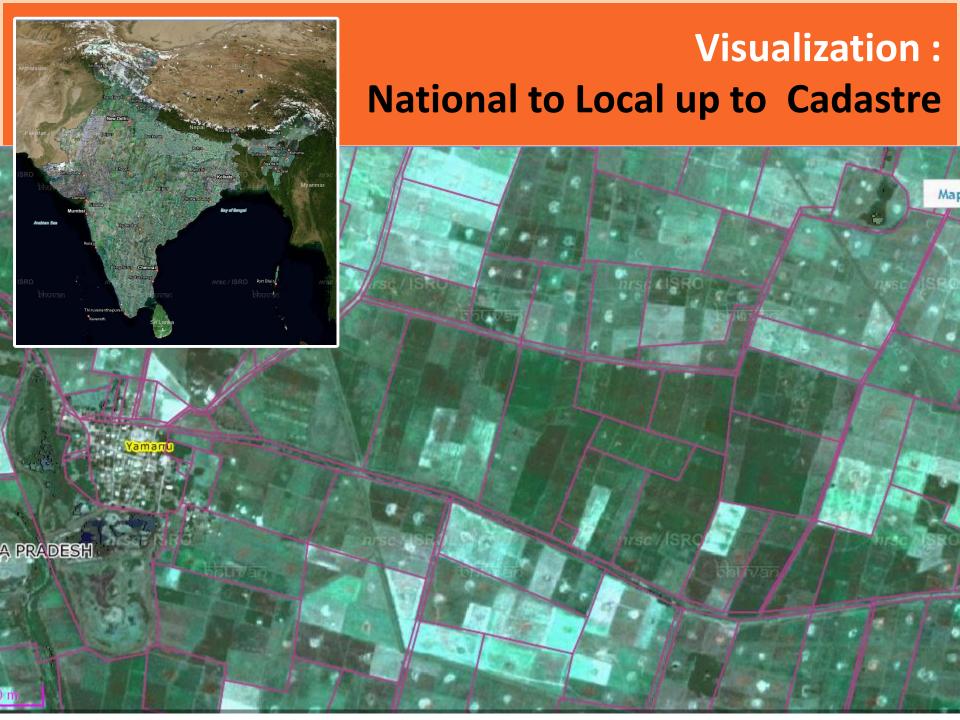
BHUVAN - Homepage







Data Visualisation





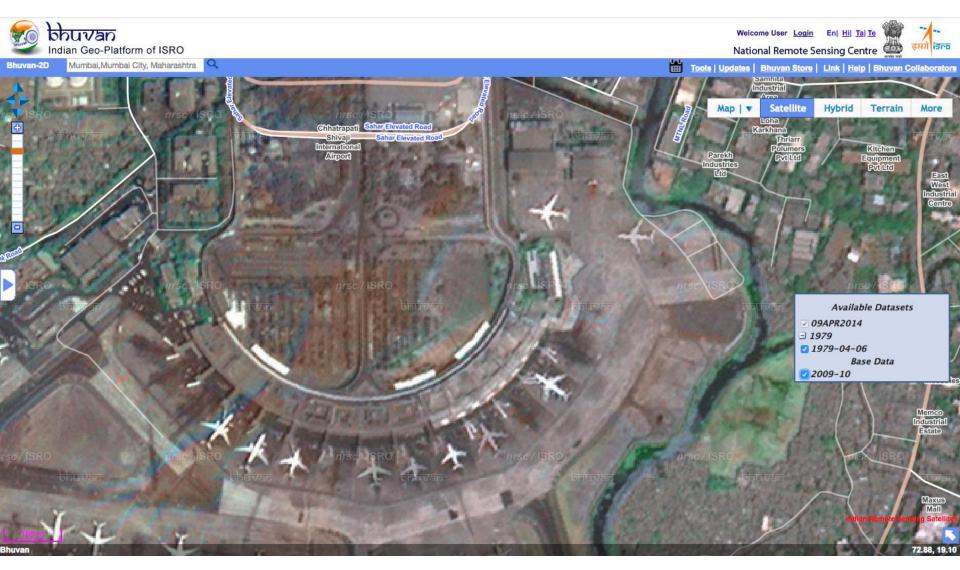




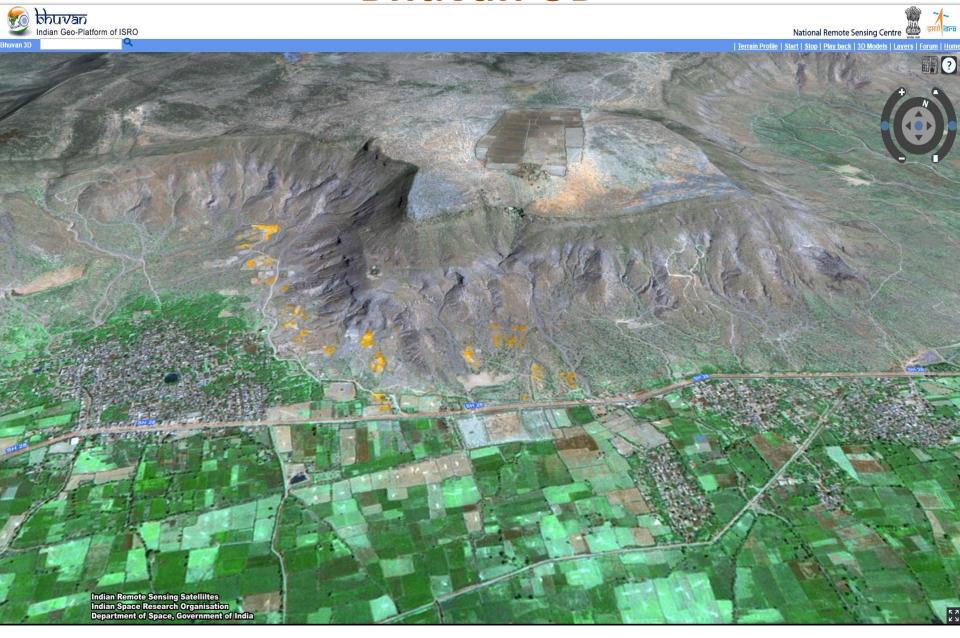


Time-lapse **2010-2015**

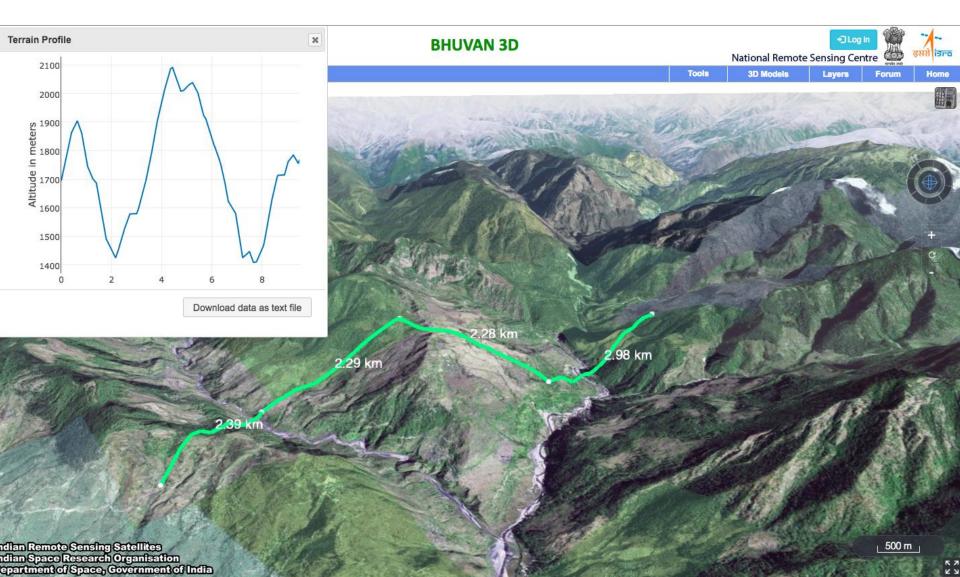
Mumbai T2



Bhuvan-3D

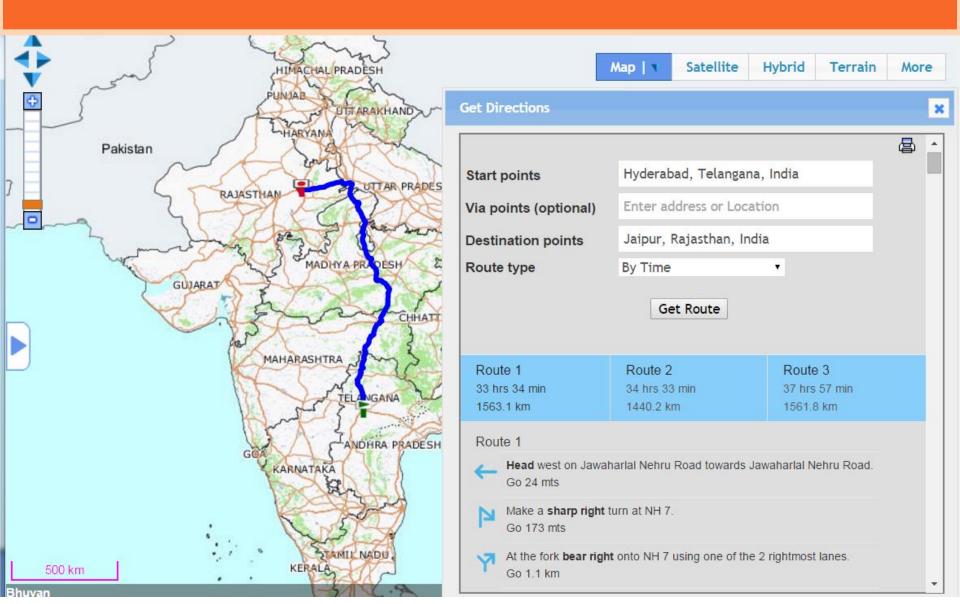


Bhuvan-3D - Terrain Profile

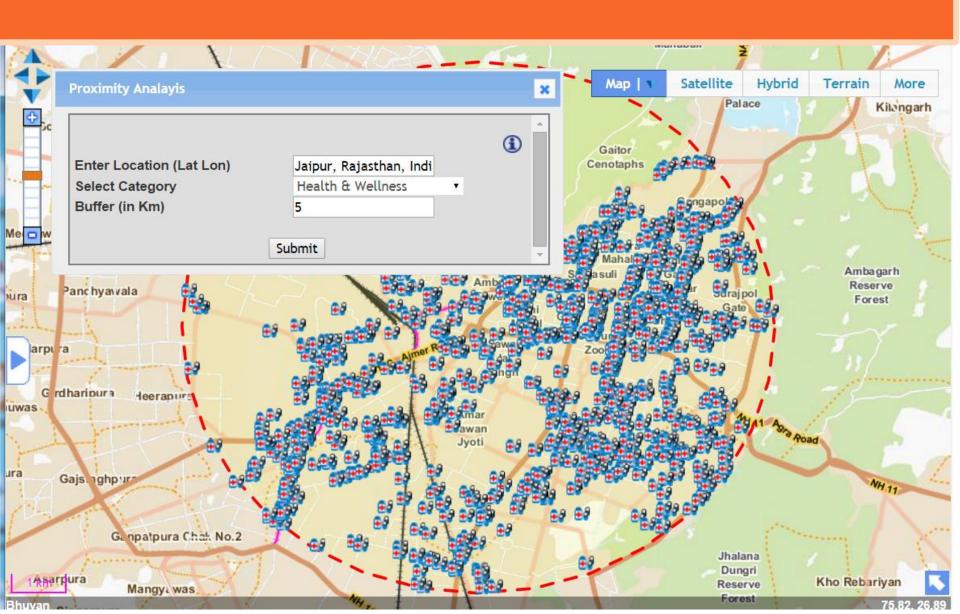




Road Network and Navigation

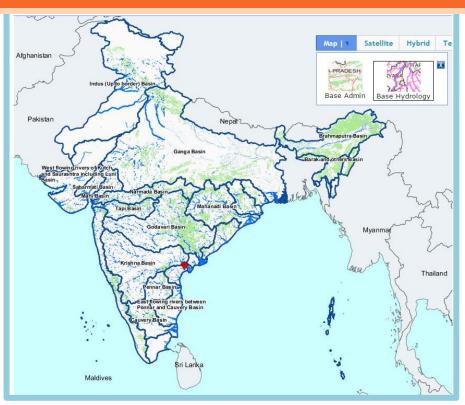


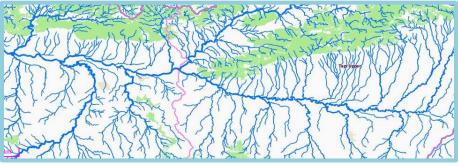
Points of Interest with Neihbourhood

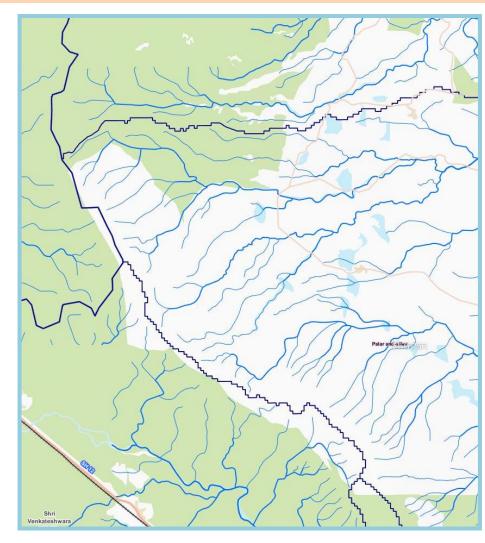


HYDROLOGIC BASE

River Basins to Micro-watersheds





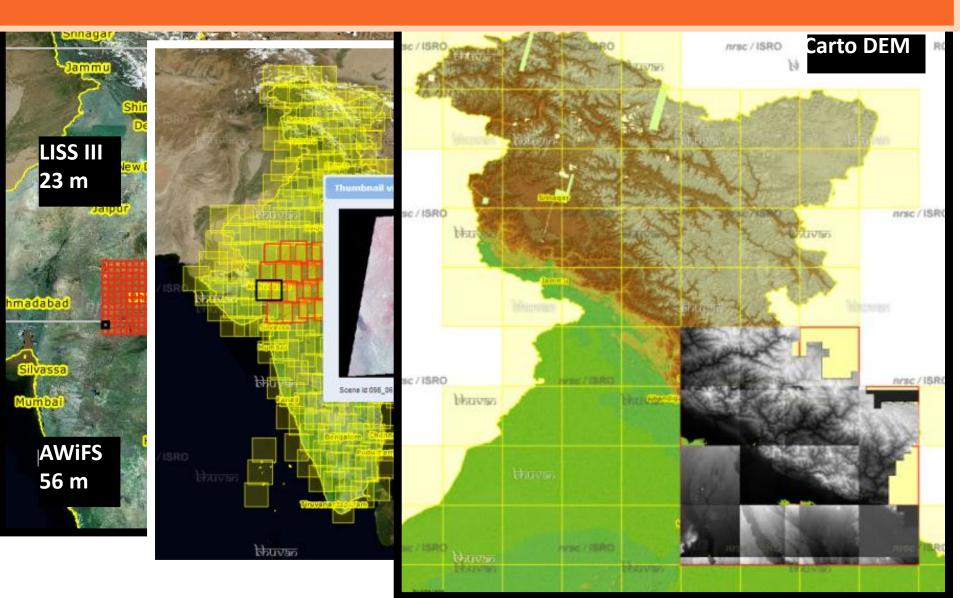


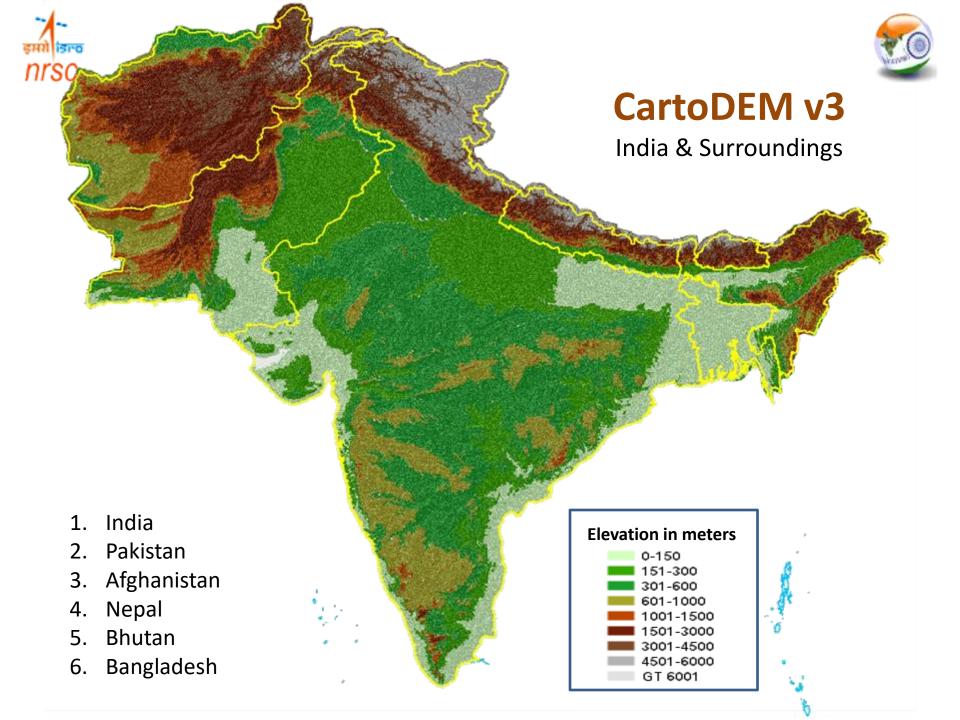


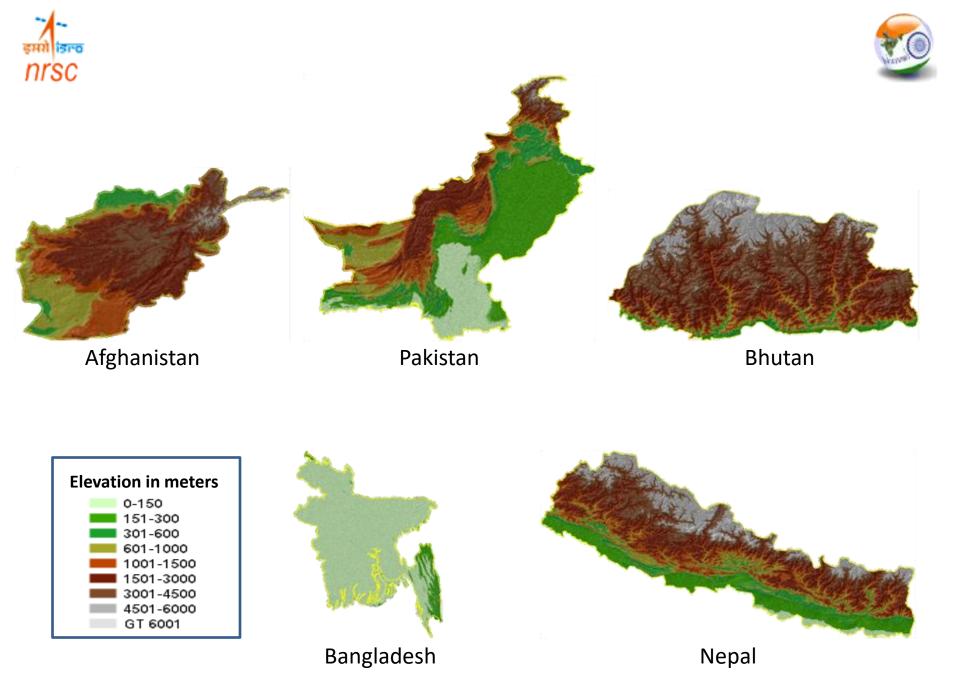


Data Downloads & Thematic Services

Satellite Data & Derived Products

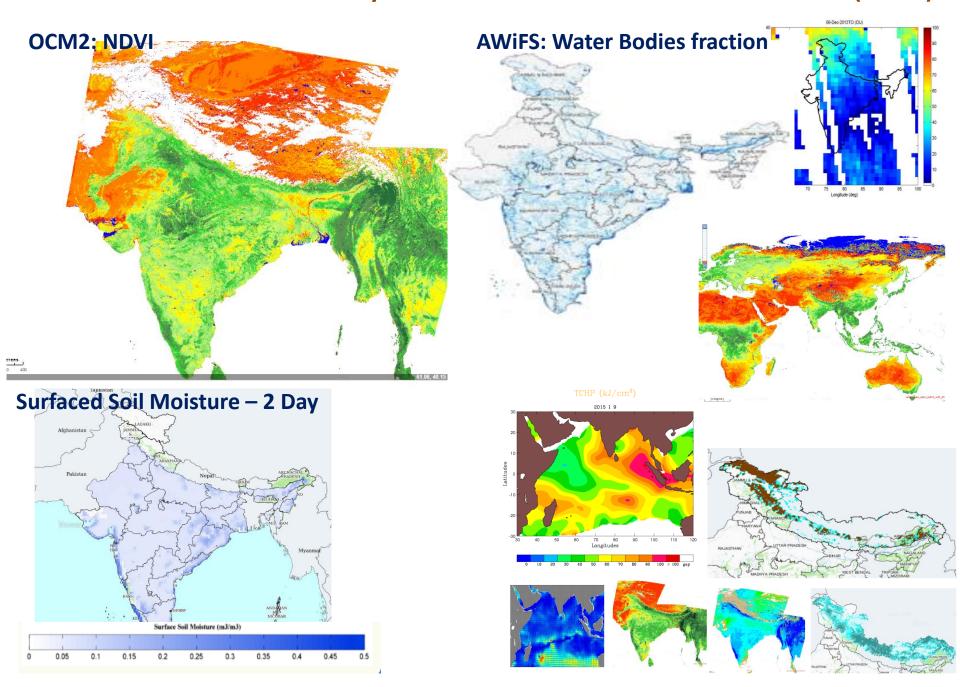






http://bhuvan.nrsc.gov.in/data

NOEDA: National Information System for Climate and Environment Studies (NICES)

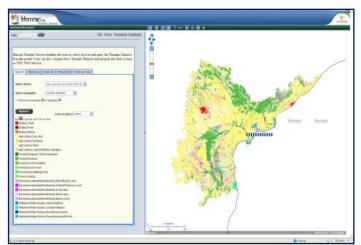


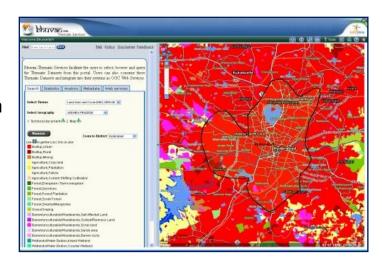
Thematic Services

"OGC Web Services (WMS, WMTS) towards interoperability"

Bhuvan-Thematic Services facilitate the users to select, browse and query the Thematic Datasets from this portal. Users can also consume these Thematic Datasets and integrate into their systems as 'OGC Web Services'.

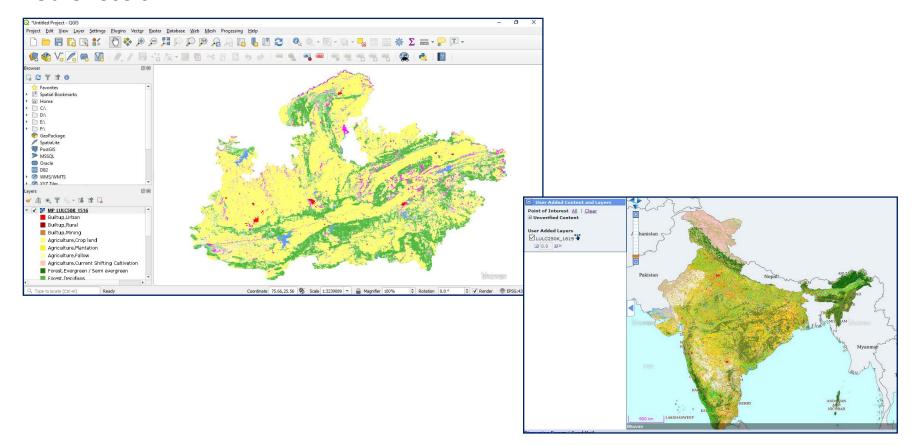
- Land Use Land Cover -50 K (2005-06, 2011-12, 2015-16)
- Land Use Land Cover -250 K (14 Cycles : 2005-06 to 2018-19)
- Land Use Land Cover -10K
- Land Degradation 50K (2005-06, 2015-16)
- Urban Land Use: 10K
- Wasteland: 50K (2008-09, 2015-16)
- Geomorphology:50K (2005-06) & Lineament: 50K
- Urban Sprawl
- Water bodies
- Flood Annual Layers (1998 to 2010) Assam & Bihar
- Flood Hazard Layer (1998-2007) Assam ,Bihar & Orissa
- Metadata NSDI 2.0
- Analysis, Statistics, Web services, View based Print,
 Add WMS Layer, Clip & Ship





Bhuvan services are OGC compliant such as WMS (Web Map Service) and WMTS (Web Map Tile Service) towards Interoperability.

Web Map Tile Service (WMTS) and Web Map Service (WMS) for consumption through OpenLayers, Mapping Libraries and GIS Software's QGIS, uDig, ArcGIS and Other Users.



DISASTERS: Near Real Time Support

Cyclone

Flood

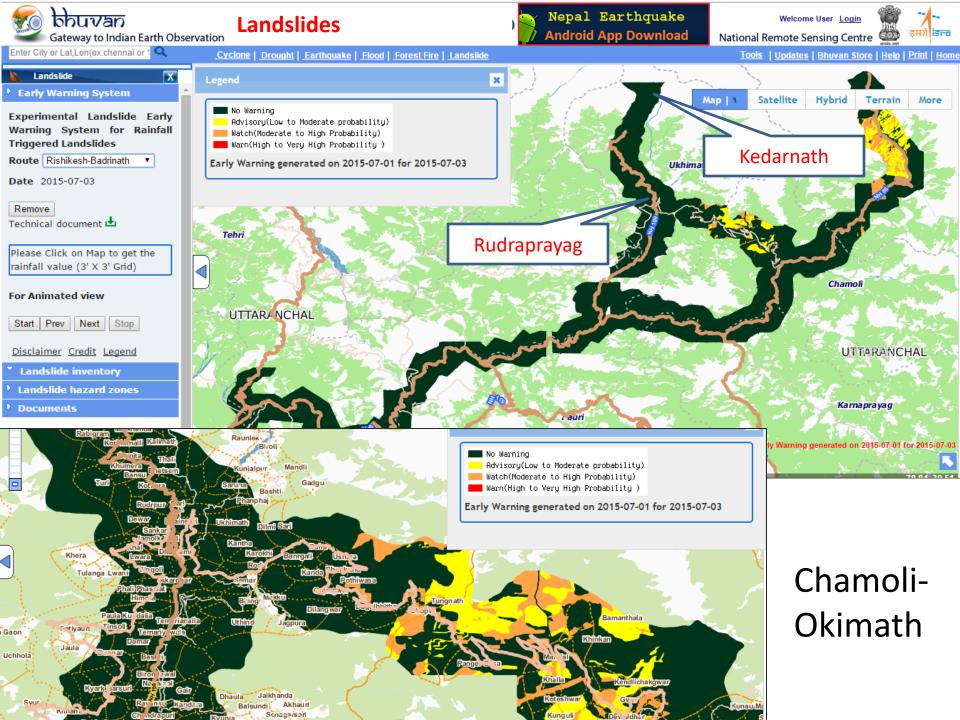
Landslides

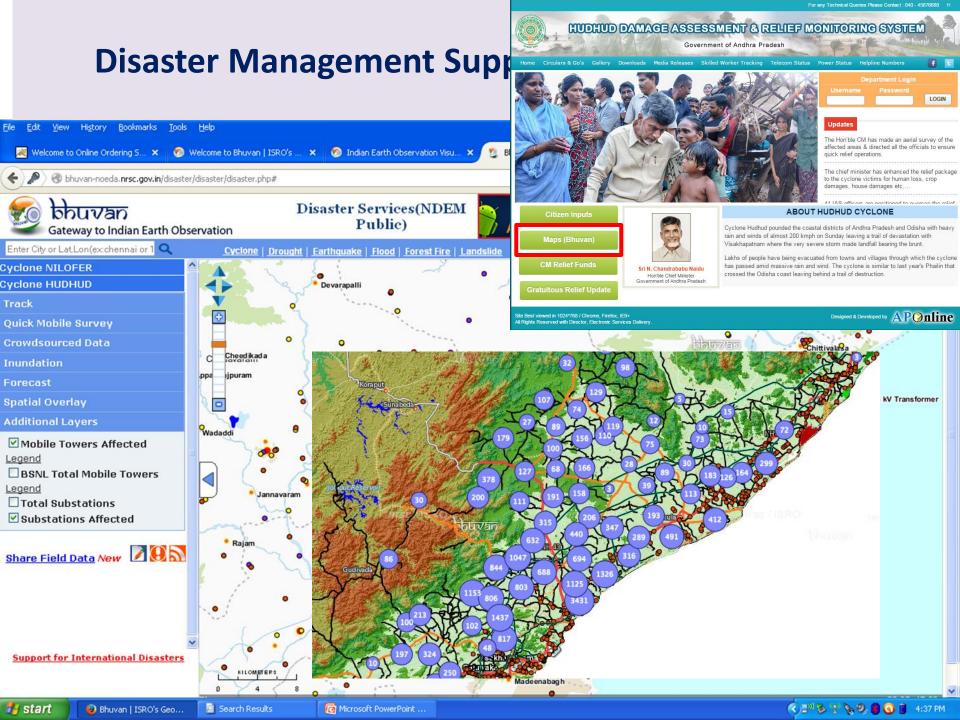
Forest Fires

Earthquake

Droughts

- Historical Floods
- Flood Annual Layers
- Flood Hazard Layers
- Daily Forest Fires
- Drought with Indices
- Landslide Inventory
- Landslide Early Warning
- Hydrologic Processes

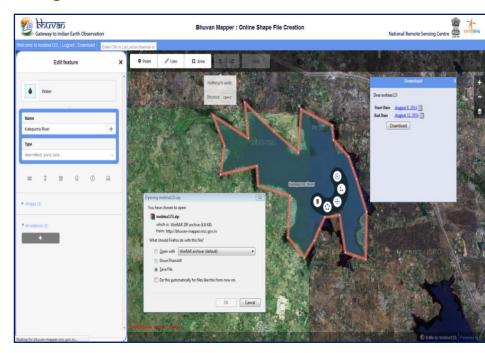




Enhanced Online Shape file Creation

- Facilitates users to download the interpreted/delineated drawings as shape file along with customised attributes.
- Editing capability
- Filtering based on date and extensible to theme





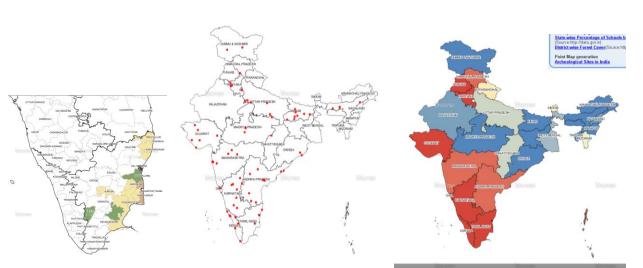


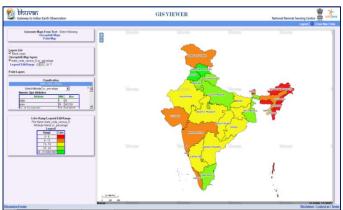
GIS VIEWER

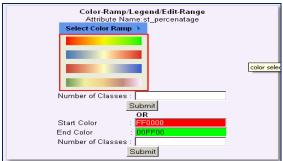
"Creation of Maps from Text Files"

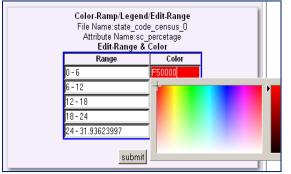
Salient Features

- Maps from State and District Census code or Name (Choropleth Maps) & XY Data (Point Map)
- Classification based on Equal Range, Unique values (color ramp or color parameters, Edit-Range and color values)



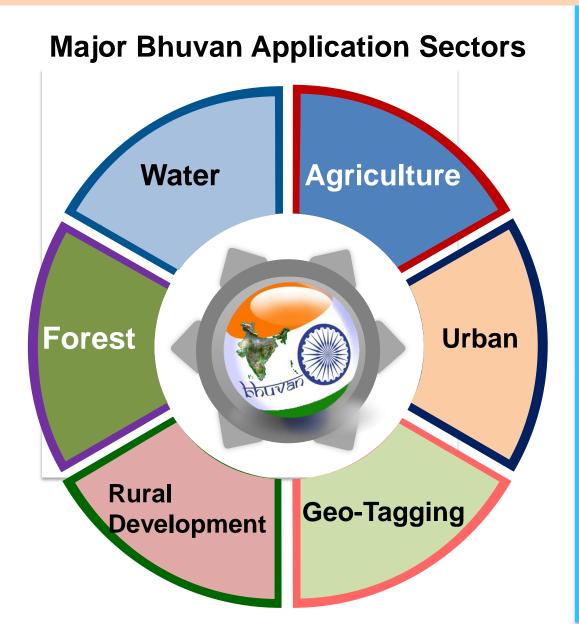






APPLICATIONS ·

- 100+ Apps 75+ Mobile Apps
- I m high resolution satellite data for entire India (2017)



Asset Mapping and Inventory

Creation

Planning & Development

Evaluation of Program Activities

Sustainable Development of Land and Water Resources

Flagship Programs : Multi-Activity Support

Governance Functions

Diversity for Geospatial Governance Dashboard

Building





Geospatial Governance: Dashboard

Applications abode Fight JKLMNOPRSTUWY

30 State Portals

24 Ministry

9 State Dept

Central Ministries

Ministry of Water Resources



Sat-AIBP: Inventory for visualization of Accelerated Irrigation Benefit Program (AIBP) Phase-I & II projects. Tools, Utilities for online monitoring of Phase-III projects

Ministry of Drinking Water supply and sanitation



Water Supply Pipeline Grid Optimization : Evaluation of Water Supply Pipeline grid using Geospatial Techniques

Ministry of Women & Child Development

\nganwadi

State Government

West Bengal

75+ Mobile Apps



State Portals



Administrative Layers
Cadastral Mapping
Infrastructure Layers
Active Agricultural Fire
Agriculture & Soils

Disaster Specific Datasets

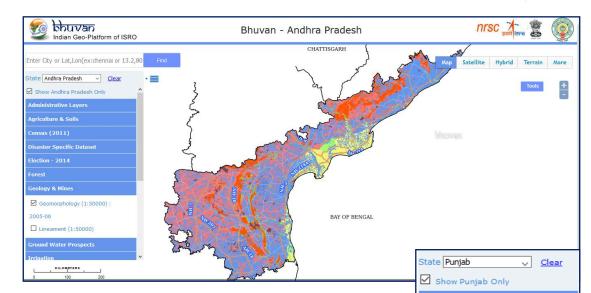
Election - 2014 Forest

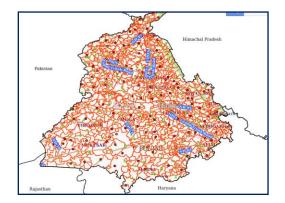
Geology & Mining
Ground Water
Health
Irrigation

Land Use / Land Cover

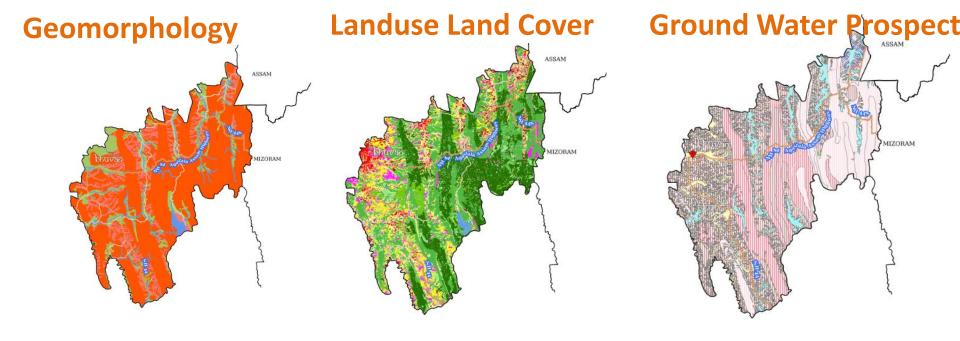
Police GIS

- A customized state viewer for 30
 States having various Natural
 Resources, Admin layers, Socioeconomic details
- Platform for State Remote
 Sensing Centres for sharing data
- Dynamic custom print with active layers and legend





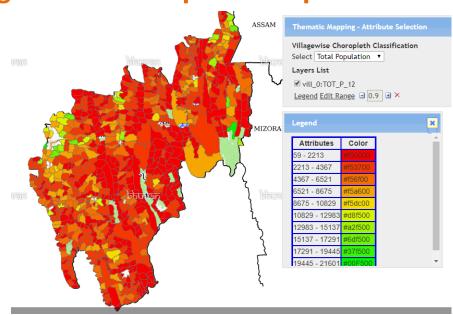




Wasteland

ASSAM MIZORAM

Village wise Choropleth Maps of Census 2011



NEDRP layers on Bhuvan

1. Administrative Data

District Boundary
Circle Boundary

2. Infrastructure

Settlement Extends
Settlement Points
Roads(1:10K)

3. Land Resources

Land use/cover(1:50k)
Land use/cover II Cycle (1:50k)
Land Degradation
Waste Land 03
Waste Land 0506
Waste Land 0809
Soil(1:250k)
Forest Division

4. Water Resources

Forest Cover

Wetland Boundary 2005
Wetland Post monsoon 2005
Wetland Points
Turbidity premonsoon 2008
Watershed
Waterbody
Rivers

Papump apre West Siang Lower Dibang Valley

West Kameng

5. Bio Diversity

Biological Richness
Fragmentation
Disturbance
Vegetation type

6. Terrain

Slope in % rise Contour 30m

7. Action Plan

Aforestation Horticulture

8. Disaster

Flood Zones
Fire Location 1jan-30





Bhuvan Applications



Bhuvan-MGNREGA

- Geo Tagging of MGNREGA assets on BHUVAN
- Support for Phase-1 and Phase-2
- User Registration and Authorization
- Central ,State ,District, Block, Panchayat
- Geoportal
 - 1.Citizen view
 - 2.Administrator View
 - 3. Moderation
 - **4.Report Generation**
 - 5. Dashboard
- 17 Categories
- 153 Sub-categories

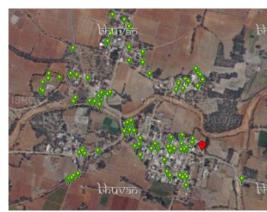
Geo-Tagging Status for the country

Total Assets Geotagged: 6.8 Cr

Daily Avg. Geotagging > 45K Daily Avg. Moderation > 46K





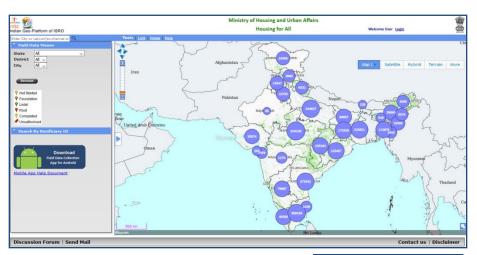


Ministry of Housing and Urban Affairs: Housing for All

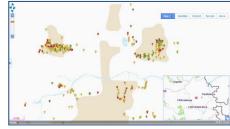
- Monitoring of more than 90 Lakh Houses across the country
- Stage wise Monitoring support
- Helping in release of funds to beneficiaries based on progress

Total Assets Geotagged: 10504558

Moderated: 10405788











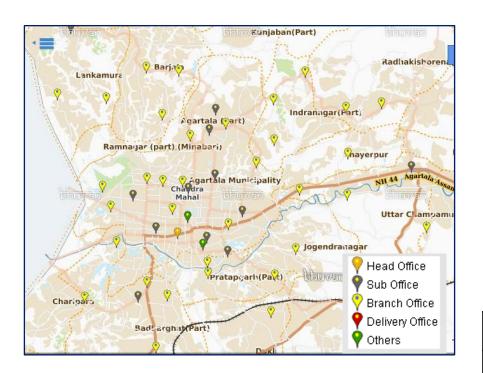
Department of Post

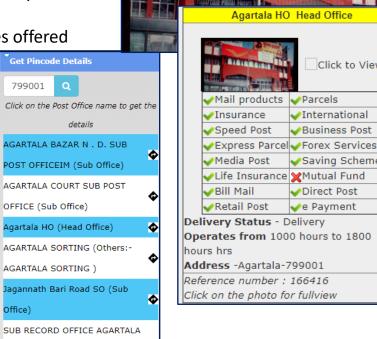
"Administrator view having 36 State level logins and Citizen having option to view, search and Pincode information system"

Salient Features

- **Spatial Visualization** of Geo-tagged post offices based in the filters provided
- **Moderation** by Department of Post officials
- Search Post offices / Proximity by Location name, Filter by Services provided

Pincode – Pincode information system with Details of services offered





No of Offices Geotagged	177496
No of Offices Moderated	168840

Click to View

✓ Parcels

International

Business Post

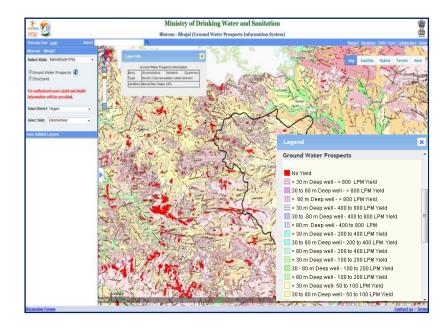
Saving Scheme

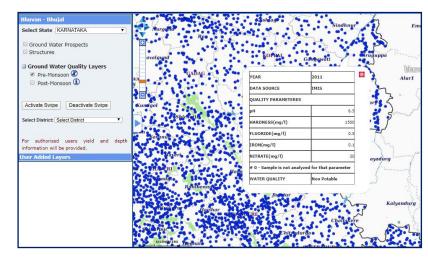
Direct Post

✓e Pavment

Bhuvan-Bhujal: Ground Water Prospects Information System

- Facilitating visualization of State wise Ground Water Prospects and Structures information.
- Geological parameters: Lithology (rock type), Geomorphology (landform), Geological structures (fractures/faults).
- Ground water prospects (Authorized users): Probable Depth and yield range of wells
- Ground Water Quality Information
 - Pre Monsoon
 - Post Monsoon





"Ground Water Prospects for 33 States"

- LITHGEOM 33 States
- Structures 32

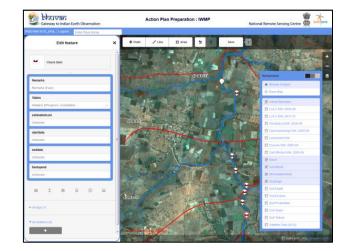
Bhuvan IWMP: Monitoring & Evaluation of Watersheds

Application facilitating the consolidated view of the Watersheds along with all supported datasets aimed at planners and general public.



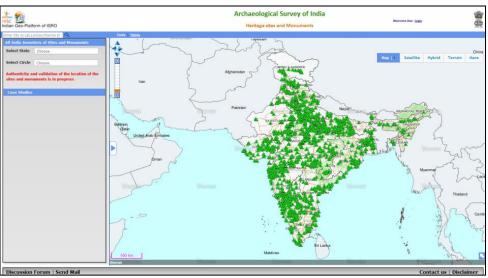
- Hierarchical Watershed Select Mechanism
- Visualization of Watershed datasets Action Plan,
 Cadastral Boundary, Administrative Layers etc.
- Time series satellite data for monitoring the progress.
- Year-wise IWMP Watersheds, Net Plan Visualization.
- Customized Bhuvan Mapper for IWMP Users
- Admin, Data Provider, Guest views.
- Reports of Watersheds State/District/Year-wise.

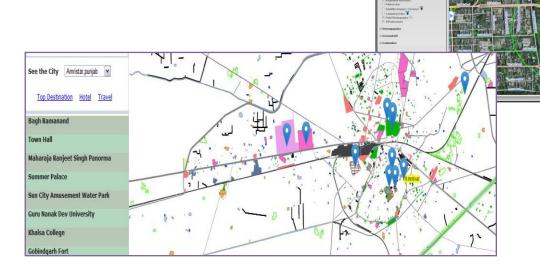




Heritage Sites and Tourism GIS

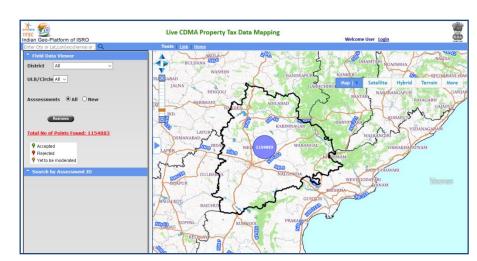
- All India inventory of Heritage sites and Monuments.
- State, Circle wise selection.
- Monuments
- Protected, Prohibited, Regulated boundaries
- Field Photographs
- Web services
 - ✓ Top Destinations
 - ✓ Hotels and Stay
 - √ Food Hubs
 - ✓ Tourist spots
 - ✓ Heritage walk
 - ✓ Services
 - ✓ Travel- Find Route
 - √ Commercial

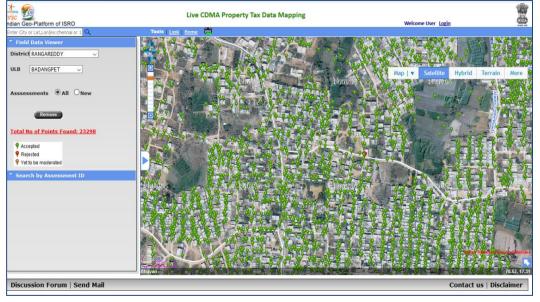




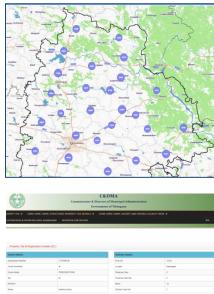
Live CDMA Property Tax Data Mapping

- Geotagging of more than 12 Lakh
 Assessments in Telangana
- Property Tax Mapping for 72 Urban Local Bodies under 31 Districts
- Supported in identifying under assessed and new assessments



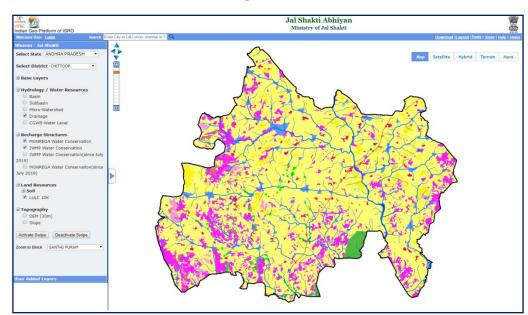


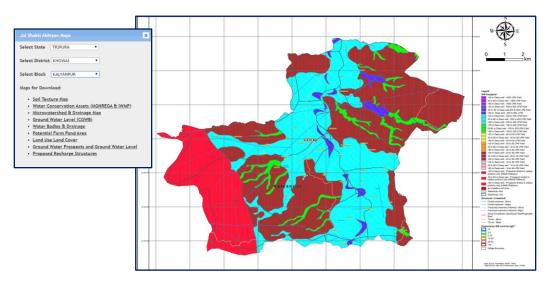




Bhuvan-Jal Shakti Abhiyan

- Bhuvan-JSA Application is envisaged to support Jal Shakti Abhiyan - a campaign for water conservation and water security by Ministry of Jal Shakti, Government of India
- 1242 Blocks of 255 Districts (out of 1592 Blocks) data available
- Provides visualization of rich Thematic and Water Conservations Assets information
 - Base Layers
 - Hydrology/Water Resources
 - Recharge Structures
 - Land Resources
 - Topography
- Provides Block level Maps for 8
 Themes in A0 Size PDFs and Toposheet
 wise Proposed Recharge Structures
 information





Accelerated Irrigation Benefit Program (AIBP)

Inventory: 103 Projects

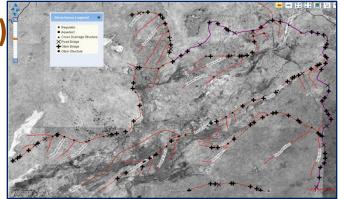
- Bhuvan AIBP Portal: Facilitates Visualization of Irrigation projects carried under 2 Phases
 - Phase-I: 53 Projects
 - Phase-II: 50 Projects
 - Phase-III: Ongoing
- Datasets Available for Visualization:
 - Canal Networks,
 - Canal Boundaries,
 - Hydraulic Structures

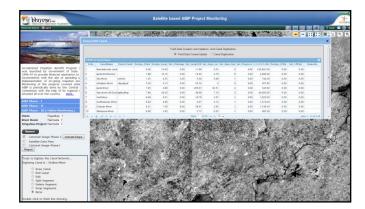
Monitoring the Canal progress on Bhuvan

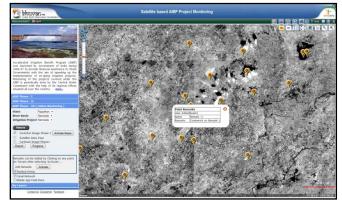
Phase-III: This module is for the Ongoing projects facilitating CWC officials for the Online monitoring through Satellite data and Digitization Tools available.

Salient Features:

- Canal Digitization through help of Cartosat data.
- Add Structures, Project Boundary, Remarks
- 3 levels of Access Control
- Data Editing facility for Field Data.



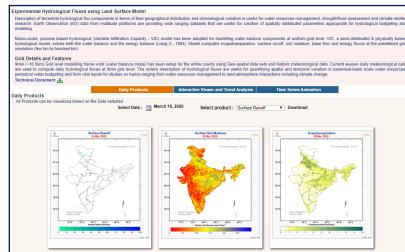


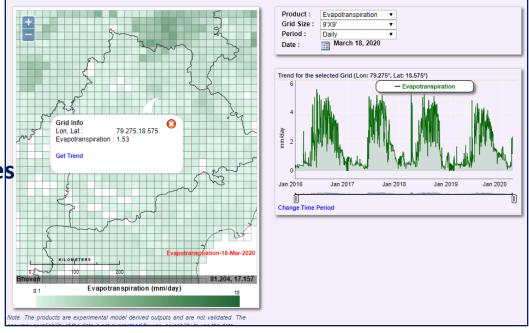


Hydrological Science

Near Real Time Hydrological Modelling - Products & Services

- Hydrological Fluxes
 - 0.15° Spatial Resolution
 - 0.05° Spatial Resolution
- Visualization & Time Series Animation
- Trend Analysis
 - Surface Runoff
 - Evapotranspiration
 - Surface Soil Moisture
- Download of Products
- Basin Scale Fluxes
- Basin Wise Hydrological Fluxes



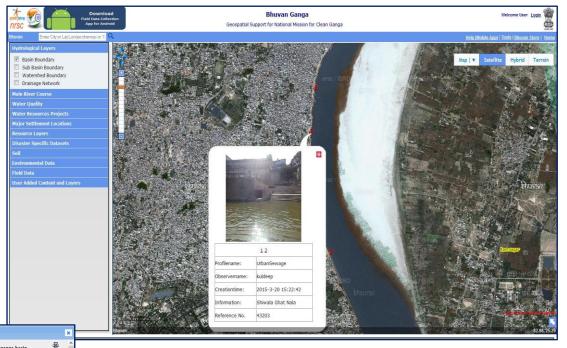




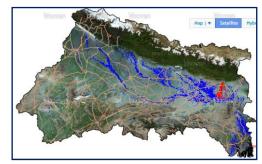
Bhuvan – Ganga Portal



Platform for crowd sourcing to monitor pollution in river Ganga and enable decision makers to prioritize interventions by enabling public to collect and report information on various pollution sources that affects water quality of river Ganga

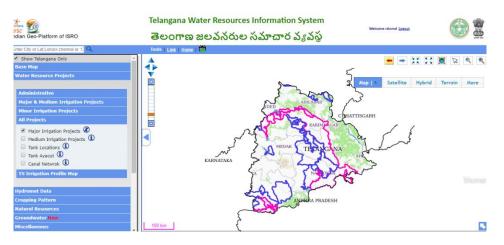


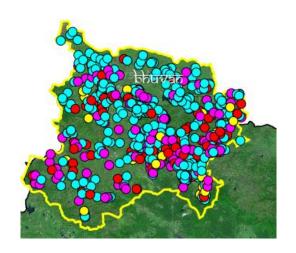
		:1 Tehsil:3 Village C:8 ST:1 Literate			Total F	opulati	on :	: 33	3 Male:	
State	Tehsil	Village	No. of Households	Total Population	Male	Female	sc	ST	Literate	lliterate
UK	Bhikia Sain	Achhron Malla	67	349	171	178	133	0	204	145
UK	Bhikia Sain	Achhron Talla	37	181	81	100	44	0	83	98
UK	Bhikia Sain	Ajdli Malli	85	392	176	216	0	0	232	160
UK	Bhikia Sain	Ajoli Talli	104	478	209	269	95	0	272	206
UK	Bhikia Sain	Amdhar	30	120	46	74	0	0	75	45
UK	Bhikia Sain	Ansutale	35	180	67	113	0	0	112	68
UK	Bhikia Sain	Badaruwa Tila	6	34	17	17	0	0	25	9
UK	Bhikia Sain	Balyuli	12	63	26	37	0	0	35	28
UK	Bhikia Sain	Bandharan Basnal	35	161	77	84	3	0	87	74
UK	Bhikia Sain	Bandharan Bist	4	19	8	11	0	0	12	7
UK	Bhikia Sain	Bangidhar	32	168	70	98	25	0	92	76
UK	Bhikia Sain	Baret	50	214	89	125	0	0	132	82
UK	Bhikia Sain	Barhaliya	32	162	79	83	1	0	90	72
107	OF 212 - C-2-	Phaleus Cangaele	20	164	74	00	10	6	0.7	77

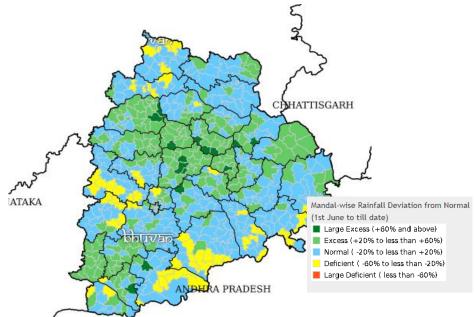


dian Geo-Platform of ISRO	Download right thee Culterible App for Andread	Bhuvan Ganga Geospatial Support for National Mission for Clean Ganga	Measure than judge	180 dd
rear Cey or Eat, London channal or	Help (Mobile A	ngi Toels Norre 🛗		
Administrative Youndary Desirange	1		<u>■</u> = H H H M	3 4
Pullution Sources	V V	Magazine Magazine	Manager	
Water Quality	<u> </u>		Nap ▼ Stellite Hybrid T	errain Hore
CPC W/Y Statebook CEMBERGE STATES CONTROL PORTROL CONTROL STATES CONTROL PORTROL CONTROL STATES CONTROL CONTROL CONTROL STATES CONTROL CONTROL CONTROL CONTROL CEMBERGE STATES CEMBERGE ST				out brosing lateria

Telangana Water Resources Information System





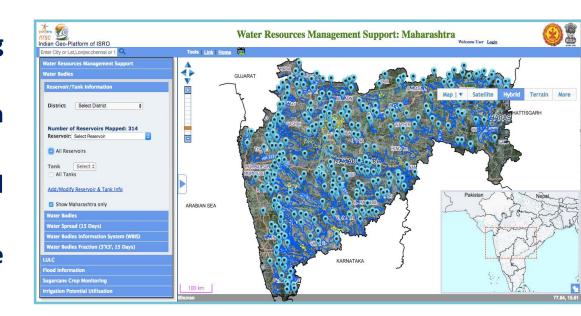


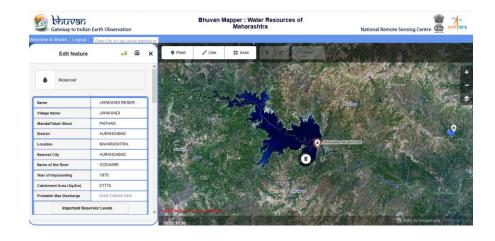


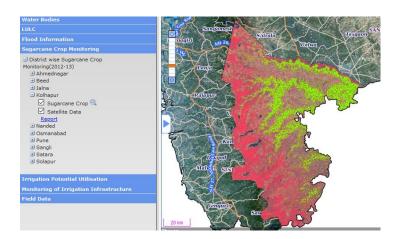
	Ali Sagar L Season-wise C	IS : CCA - 537 rop Area Stati		
Year	Season	Paddy	Non Paddy	Total
2016	Kharif	31085	36664	6774
2017	Rabi	48417	28305	7672
2017	Kharif	43800	5923	4972
2018	Rabi	31707	16357	48064
2018	Kharif	51710	1406	53110
2019	Rabi	35625	8002	4362
Paddy ■Non-paddy	54%	Kharif - 2016		

Water Resources Management Support: Maharashtra

- Platform for Mapping Reservoir and Tanks
- Customized Tool with detailed Attributes
- Tools for Reports and updating Reservoir Capacity
- Visualization of District wise
 Sugarcane Crop Monitoring

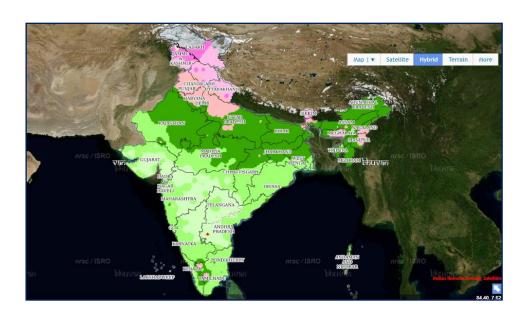


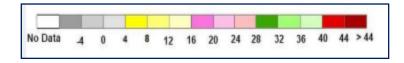


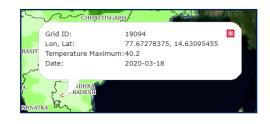


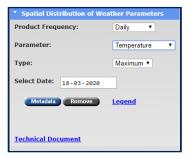
Bhuvan - IMD Weather Products

- Visualization IMD products through Bhuvan spatial platform
- Daily, Weekly, Fortnight, Monthly, Seasonal Weather Products
- Products
 - Temperature
 - Relative Humidity,
 - Wind Speed
 - Cloud
 - Rainfall
- Grid info

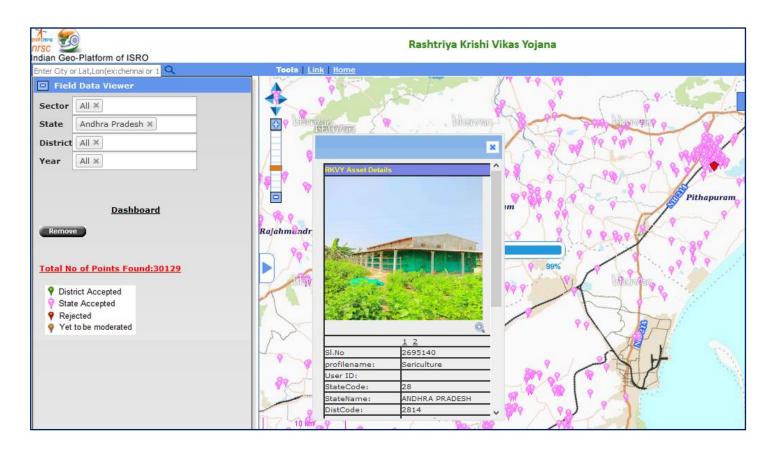








Geo-tagging of Rashtriya Krishi Vikas Yojana (RKVY) Assets



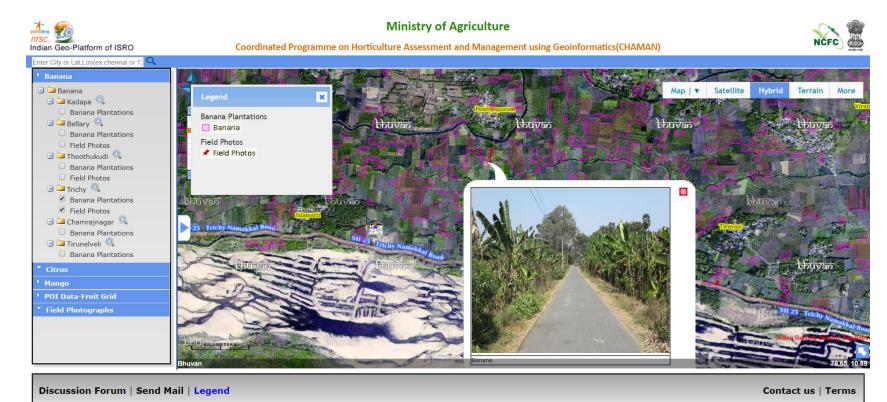
- RKVY has been the flagship scheme of DAC&FW for achieving and sustaining the desired growth rate of agriculture and allied sectors in the country
- Geotagging using android app to locate RKVY assets through Bhuvan
- Total RKVY Assets Geotagged:408223



CHAMAN

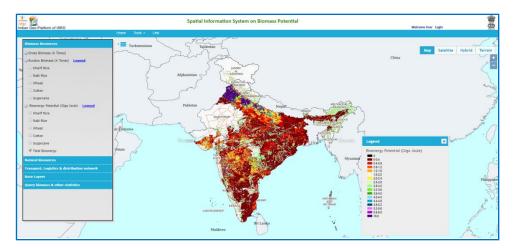


Coordinated Programme on Horticulture Assessment and Management using Geoinformatics

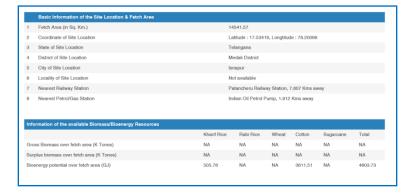


Spatial Information on Biomass Potential

- Spatial Information System on Biomass Potential from crop residues over India using geospatial techniques
- Biomass Resource layers
 - Gross Biomass
 - Surplus Biomass
 - Bio Energy Potential
 - Rice, Wheat, Cotton, Sugarcane Crop information
- Natural Resources
 - LULC, Hydrological Layers
- Transport and Base Layers
- Spatial Query Site suitability analysis for bio-fuel plants
 - Helps in planning, designing and sustaining a biofuel/biogas plants
 - Options to select point of interest (POI) for biofuel plant, fetch area
 - Analyze the data under the fetch area based on the selected layers
- Detailed Report and Statistics with Details on Site Location and Information on Biomass Resources
- Report in PDF format along with LULC Maps

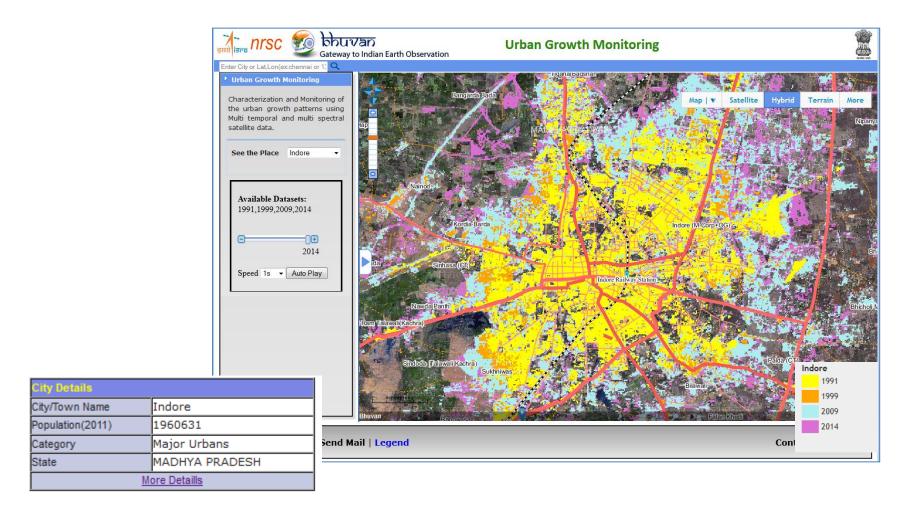






Urban Growth

Characterization and Monitoring of the urban growth patterns using Multi temporal and multi spectral satellite data.





School Bhuvan

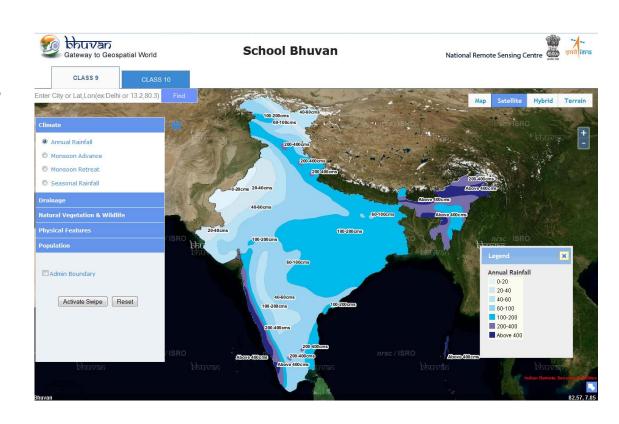
An e-learning portal for the students



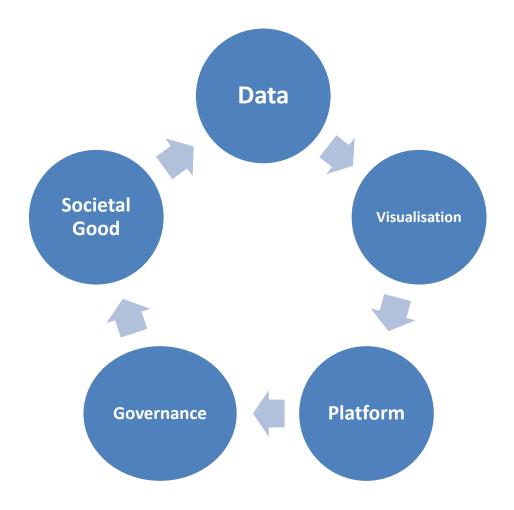
A portal providing map based learning to bring awareness among the students about country's natural resources, environment and their role in sustainable development.

Salient Features

- Visualization of 9th ,10th class maps of various categories (Agriculture, Water, Soil, Mineral etc) based on NCERT syllabus
- Provision to swipe the layers to know the ground reality
- Provision to take print the maps in PDF format



Thank You



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https://bhuvan.nrsc.gov.in