

Improving Geo-spatial Data Management For Urban Hazard Risk Assessment

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Chengdu Forum, UNGGIM
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Outline

- NRDMS Programme
- Geo-information in Decision-making
- Concept of Spatial Data Infrastructure
- NSDI implementation
- State SDIs



NRDMS Objectives

- Demonstrate and promote use of Spatial Data Management Technologies (SDMT)
- Provide S & T inputs for framing policies in SDMT
- Develop and demonstrate pilot scale SDIs and Provide research support to NSDI
- Documentation and dissemination



Bottlenecks in the spatial data system

- No data discovery/ access mechanism
- Even if accessible, data mostly out of date
- Non-availability of data of right resolution/
Currency
- Lack of standards/ shareability
- Inadequate capacity amongst end users



Who are producing these data sets ?

- National Mapping Organisations
 - SoI, GSI, FSI, NBSSLUP, AISLUS, CGWB
NRSA etc.
- Survey Organisations
 - Census of India, NSSO, CWC, CPCB, State
Pollution Control Boards
- State Government Line Departments/ Agencies
 - Revenue, PWD, PHED, Health, SGWB etc.



National level Stakeholder Agencies (Indicative)

Survey of India

National Remote Sensing Centre

Geological Survey of India

Forest Survey of India

Central Ground Water Board

Central Water Commission

Census of India

Ministry of Statistics & Programme Implementation

National Informatics Centre

National Hydrographic Office

Military Survey

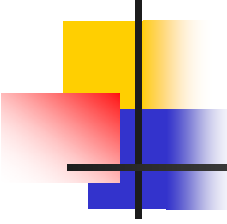
Central Pollution Control Board

Ministry of Urban Development

Ministry of Rural Development

Ministry of Environment & Forests

Ministry of Water Resources



State level Stakeholder Agencies (Indicative) – Karnataka Example

Survey Settlement and Land records
Karnataka Public works Department
Dept. of Mines & Geology
Bruhat Bangalore Mahanagar palike
Bangalore Metropolitan Regional Development Authority
Water Resources Department
Zilla/ Taluka/ Gram Panchayath
Karnataka Biodiversity Board
Bangalore Water Supply & Sewerage Board
Rural Development & Panchayath Raj Department
Karnataka Urban Infrastructure & Finance Corporation
Karnataka Industrial Area Development Board
Karnataka Urban Water Supply & Drainage Board
Department of Economics & Statistics
Karnataka State Remote Sensing & Environment Centre
District Industry Centres



What is a Spatial Data Infrastructure (GDI)?

Combination of technologies, policies and people necessary to promote sharing of spatial data through all levels of government, private and non-profit sectors, and the academic community

- GSDI Cookbook



Policies/ Important Decisions

- National Map Policy, 2005
- NSDI Resolution, 2006
- State Chief Secretaries Conference, Feb 2011
- National Mirror Committee on 'Geo-spatial Information' for ISO TC 211 by Bureau of Indian Standards
- National Data Sharing & Accessibility Policy, 2012



NDSAP - Highlights

- 'Proactive' instead of 'reactive' sharing
 - Mandatory sharing of all data generated through public funds except on national security considerations
 - Publication of 'Exclusion or Negative List'
 - Four Types of Accesses (open, automatic registered, authorised registered, restricted e.g. G2G)
 - Prepared through consultation with major stakeholders



Elements of SDI

- Core data sets
- Metadata
- Clearinghouse
- Standards
- Institutional arrangements

NSDI Client - Mozilla Firefox

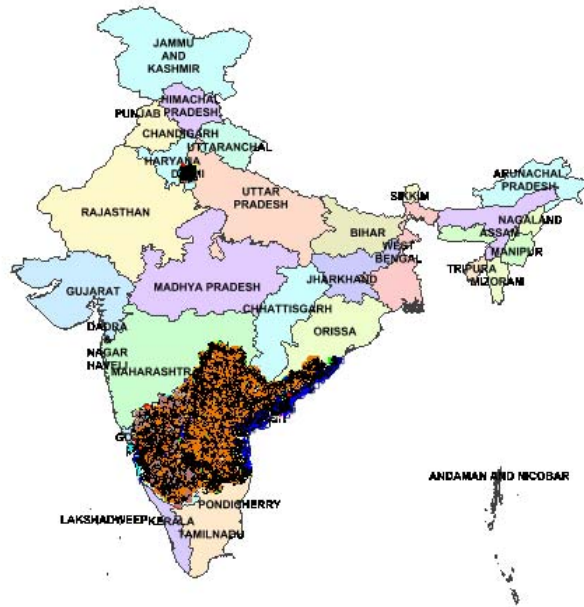
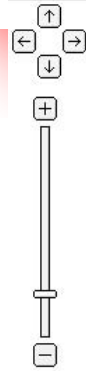
File Edit View History Bookmarks Tools Help

NSDI Client +

https://nsdiindia.gov.in/nsdi-portal/index.jsp

☆ Yahoo

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X: 126.219 Y: 24.309 Scale: 29,913,495

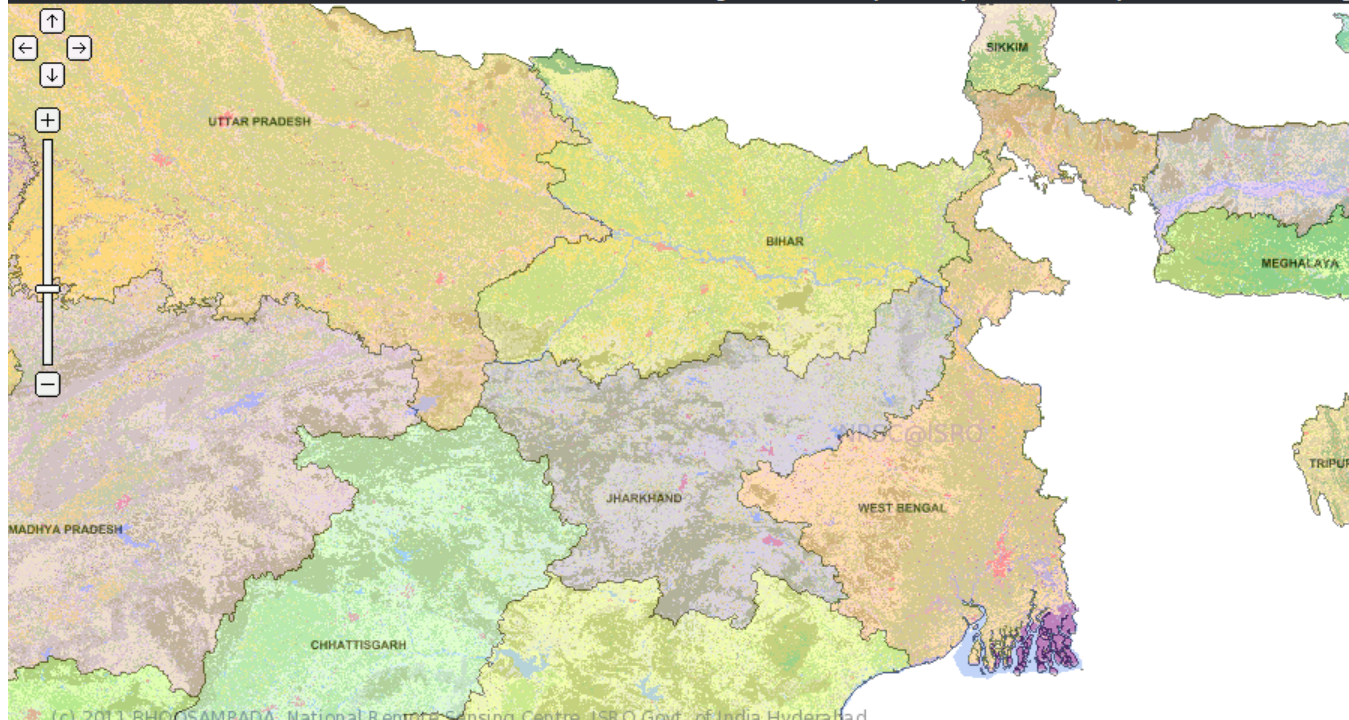
start

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nsdi India GeoPortal

X: 97.096 Y: 24.803 Scale: 60,43,681 Disclaimer : Bhuvan imageries and SOI map data may differ due to adoption of different technology



(c) 2011, BHUCSAMPADA, National Remote Sensing Centre, ISRO Govt. of India Hyderabad

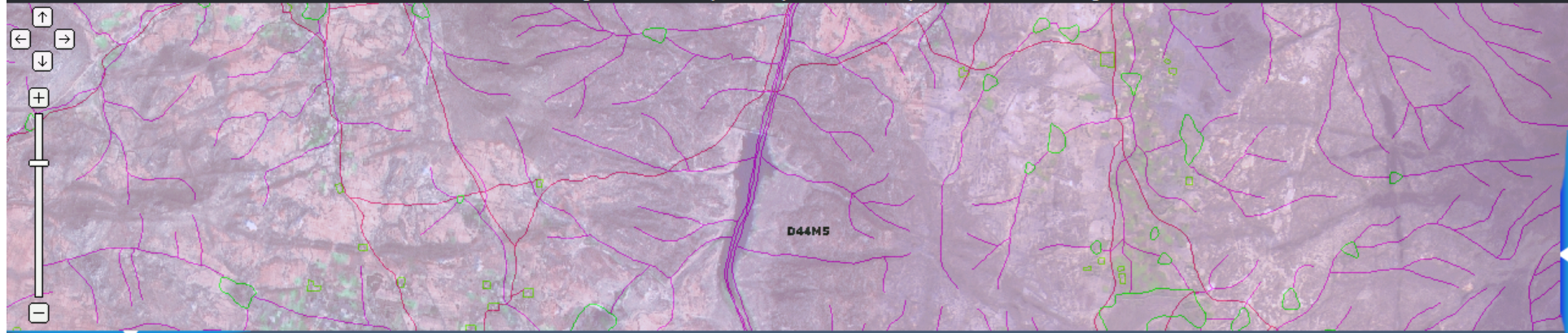
Layers Metadata Discover Data Tools

Search

- LULC Map of India
- BoundariesDelhi
- ContourDelhi
- HabitationDelhi
- HydrolgraphyDelhi
- LandcoverDelhi
- RailwayDelhi
- RoadsDelhi
- UtilitiesDelhi
- MAPSHEET
- State



X: 78.402 Y: 13.873 Scale: 46,902 Disclaimer : Bhuvan imageries and SOI map data may differ due to adoption of different technologies.



ROADS

ID	description	name	boundedBy	LINE_ELEME	STARTING_X	STARTING_Y	LINE_LEVEL	LINE_STYLE	LINE_WEIGH	LINE_COLOR	FEATURE_CO
				557	78.38874857	13.88759200	25	0	1	3	78.388748574256 [ol
				750	78.33761029	13.86162574	27	0	1	3	78.337610292434 [ol
				722	78.34783945	13.86885001	27	0	1	3	78.347839450836 [ol
				723	78.34783945	13.86885001	27	0	1	3	78.347839450836 [ol
				718	78.34820628	13.87345056	27	0	1	3	78.348206281662 [ol

Windows taskbar with icons for power, network, volume, and application windows.

Karnataka GeoPortal's – Login Page

Dec 14, 2009 6:18:4 pm [Home](#) [Contact Us](#) | [Sitemap](#)

Karnataka GeoPortal ಕರ್ನಾಟಕ ಜಿಯೋಪೋರ್ಟಲ್

Joint programme of Department of Science and Technology, Government of India and Government of Karnataka.

Karnataka GeoPortal !

Main Menu

- ▶ Karnataka GeoPortal
- ▶ Karnataka GeoPortal Background
- ▶ KSCST
- ▶ NRDMS
- ▶ Services
- ▶ Other Links
- ▶ Photo Gallery
- ▶ FAQS
- ▶ RTI

Welcome to Karnataka GeoPortal

KSSDI is an Internet based Geo Spatial Data Directory for the state that allow the users of the system to share and explore the information related to political and administrative boundaries, state geography, demography, agro and socio economy, resources, infrastructure facilities with attributes. In the future the site can also be extended to cater to sale and purchase of data online.

Spatial datasets generated, maintained and provided by various concerned Departments of the State Government, academia, private or civil society organizations of Karnataka are proposed to be made accessible through the project data clearinghouse mechanism.

The Portal will essentially be used for the following objectives:

- ▶ Bringing together geo spatial knowledge and information under a common platform, which till date has existed as a disparate system and unknown to quite a wider section of the society, institutions, scientific community and government departments.
- ▶ Gateway for various data generating agencies to share the information across various government departments, NGOs, academies, industries and scientific organisation.
- ▶ Provides spatial data dictionary and map directory for the state
- ▶ Analysing the needs of various government programmes
- ▶ Facilitate decision support system and helps in local level planning
- ▶ Eventually can be used for the data sale and purchase, which can be part of the state revenue generation

Portal Login

Username :

Password :

[Login](#)

[Sign Up](#) | [Forgot password?](#)

News and Events

- » Karnataka GeoPortal(Beta) Version has been released.
- » Karnataka GeoPortal's Photo Gallery has been updated.

DOWNLOAD

[KSCST Brochure](#)

Best Viewed in Firefox 3.5 and IE 7: 1024 X 768 Resolution.

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Powered by Navayuga Spatial Technologies Pvt. Ltd.

- The Geo Portal provides the site overview and secure access through login to the geospatial content and features of the SDI.

Karnataka GeoPortal's – Catalog

Home Map Viewer Product Catalogue Service Request My Account Help Logout

Search Harvest

» Search by Spatial Extent

MinX :
MinY :
MaxX :
MaxY :
[Reset](#) ?

» Search By Keyword

Keyword ?
Service Type ? [Search](#) ?
Department ?

Shopping Cart

Catalogue Search Results

Title: : GEOLOGY
Keywords: : keyword
Abstract: :
Service Type : *OGC:WMS*

[View on Map](#)
[Metadata](#)

Title: : AGRO_CLIMATIC_ZONES
Keywords: : keyword
Abstract: :
Service Type : *OGC:WMS*

[View on Map](#)
[Metadata](#)

Title: : BASIN_BOUNDARY
Keywords: : keyword
Abstract: :
Service Type : *OGC:WMS*

[View on Map](#)
[Metadata](#)

Title: : SUB_WATERSHED_BOUNDARY
Keywords: : keyword
Abstract: :
Service Type : *OGC:WMS*

[View on Map](#)
[Metadata](#)

1. Product Catalogue allows user to search the Published Web Services (WMS/WFS/WCS) in the KSSDI Data Repository.
2. It presents the Metadata of the selected Layer (NSDI Metadata Standard 2.0).
3. Also allows a user to all the layers to cart.

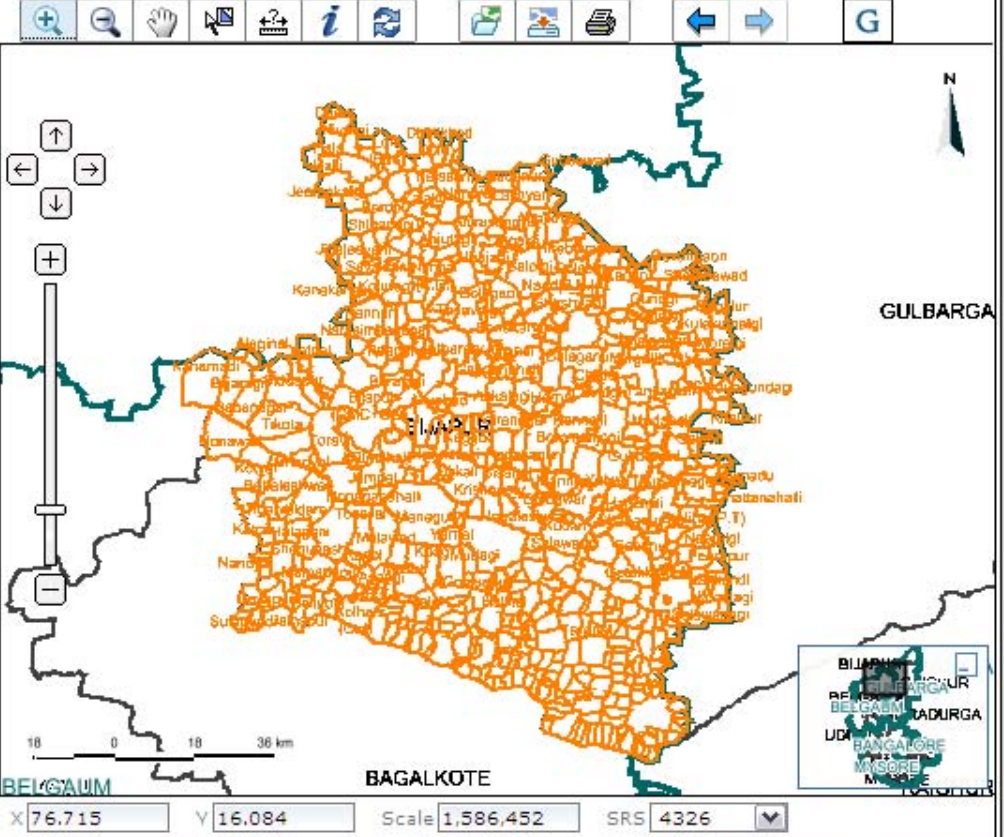


Home Map Viewer Product Catalogue

Administration Service Request Data Manager My Account Shopping Cart Help Logout

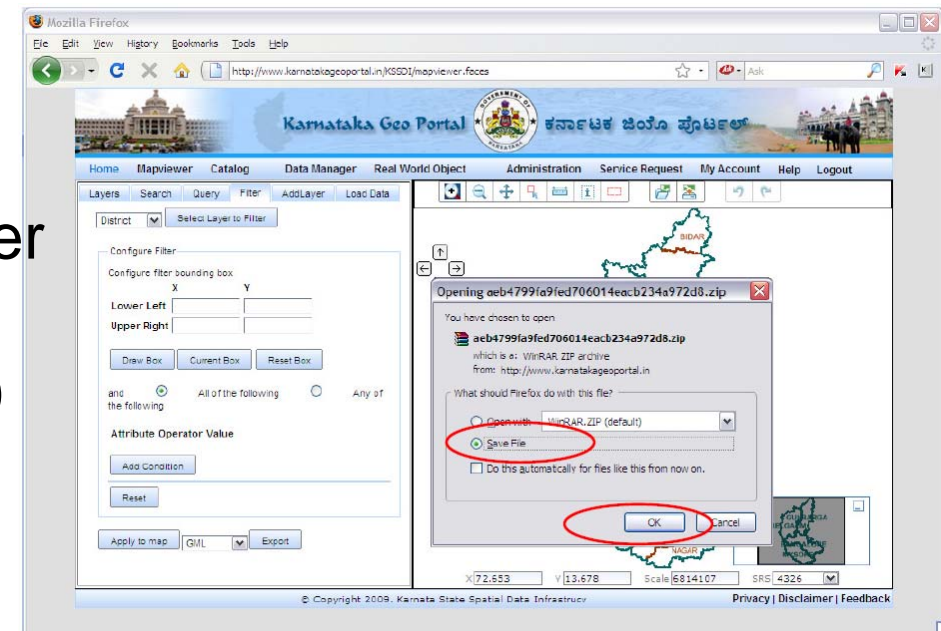
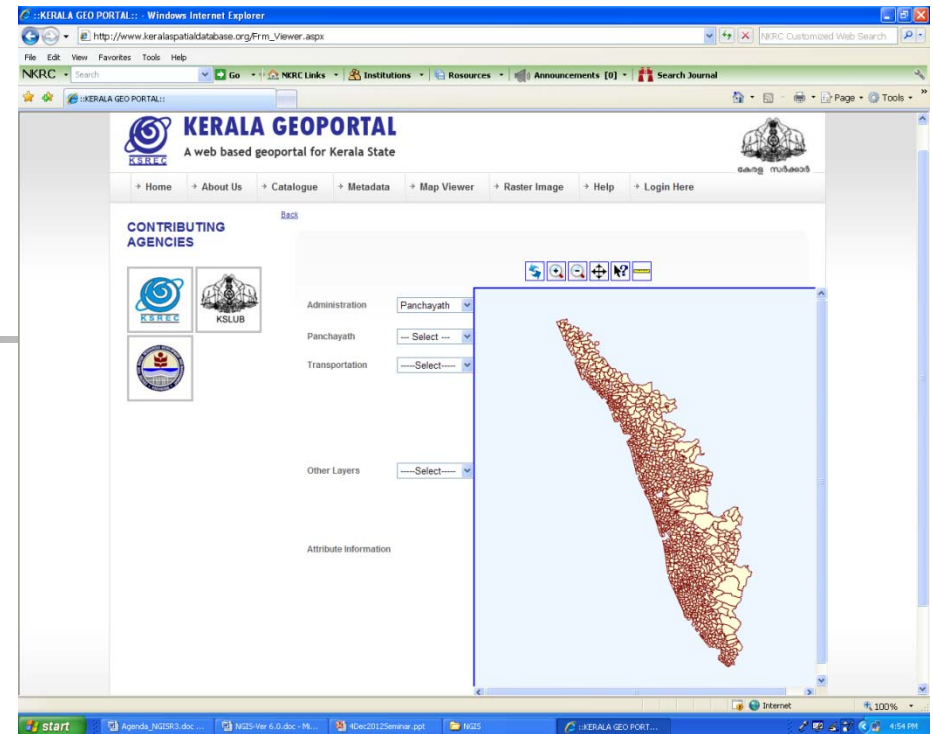
Layers Add Layer Query Export Search Discover

- ▣ BIDAPUR_DISTRICT_ZP_BND
- ▣ BIDAPUR_DISTRICT_VILLAGE
- ▣ BIDAPUR_DISTRICT_TP_BND
- ▣ BIDAPUR_DISTRICT_HOBLI_BND
- ▣ BIDAPUR_DISTRICT_GP_BND
- ▣ Division
- ▣ District
- ▣ Subdivision
- ▣ Taluk
- ▣ Parliamentary Constituency
- ▣ Legislative Assembly Constituency
- ▣ Zilla Panchayath Boundary
- ▣ Taluk Panchayath Boundary



State SDI Initiative

- Kerala Geo portal
- Karnataka State Geo Portal
- North East SDI Geo Portal
- Other State SDI projects under implementation (West Bengal, Haryana, Uttarakhand, J & K)



NSDI Client - Mozilla Firefox

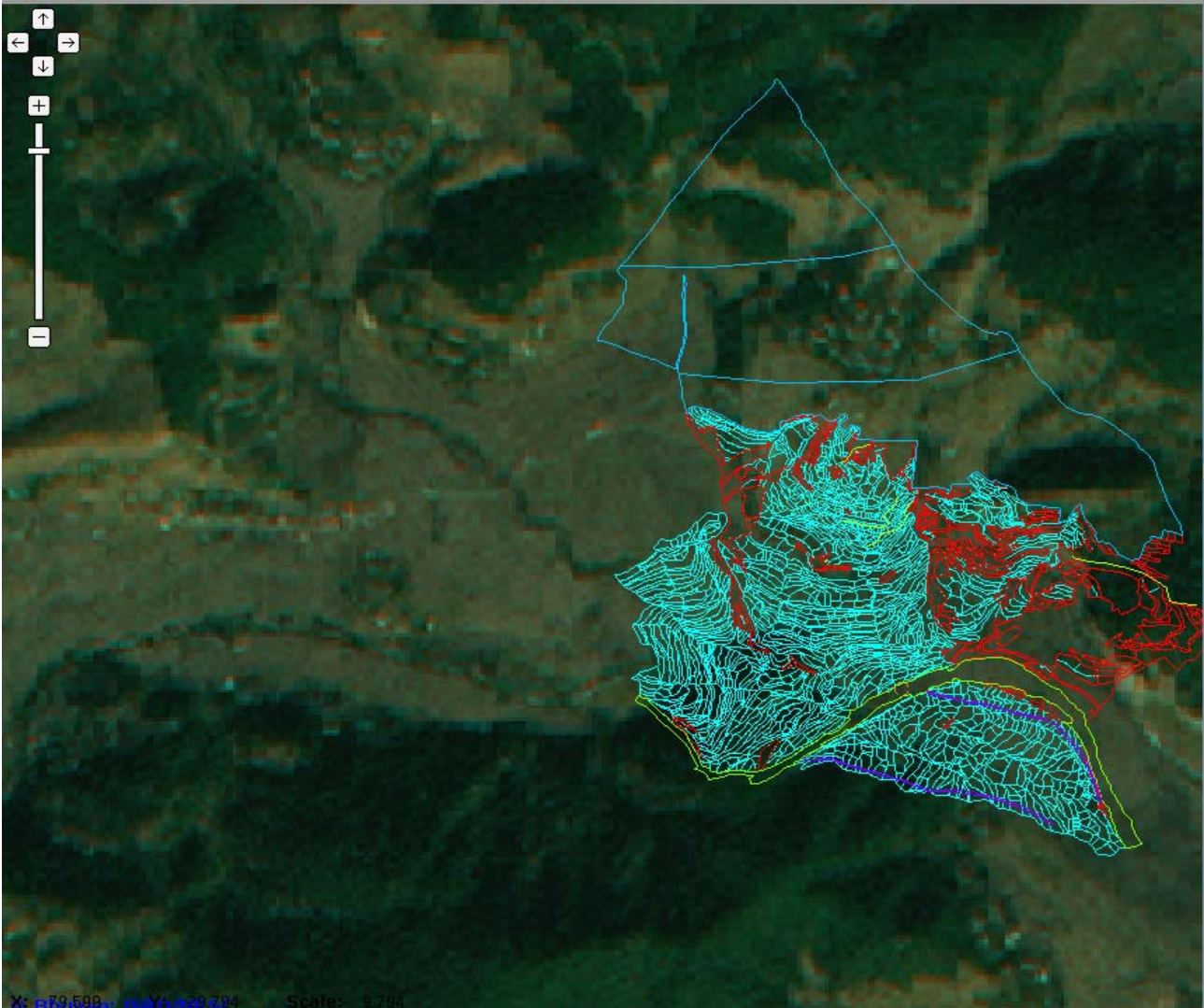
File Edit View History Bookmarks Tools Help

NSDI Client

https://nsdiindia.gov.in/nsdi-portal/index.jsp

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nsdi India GeoPortal



Layers

- Rait_F_Gul
- Rait_F_Forest
- Rait_F_Boundary_Wall
- Rait_Dharamshala
- Rait_Bridge
- Rait_Birdele_Path
- Rait_BarrenLand
- Rait_AgriculturLand
- Bhuvan
- BoundariesMH
- ContourMH
- HabitationMH
- HydrographyMH

X: 679.598 Y: 498.784 Scale: 8.784

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NSDI-India Aspiration Document (July 2011)

aspiration.pdf - Adobe Reader

File Edit View Document Tools Window Help



NATIONAL SPATIAL DATA INFRASTRUCTURE – INDIA

ASPIRATION

Collaborative Partnerships

 Survey of India	 National Remote Sensing Center	 National Informatics Center
 Forest Survey of India	 Census of India	 Central Water Commission
 National Bureau of Soil Survey & Land Use Policy	 National Atlas & Thematic Mapping Organisation	 National Council for Applied Economic Research
 National Hydrographic Office	 Geological Survey of India	 Central Ground Water Board
 India Meteorological Department	 Central Pollution Control Board	 National Disaster Management Authority



NSDI-India
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF SCIENCE & TECHNOLOGY
GOVERNMENT OF INDIA
NEW DELHI

July, 2011

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Presentations Microsoft PowerPoint aspiration.pdf - Ado...

09:32



Registry

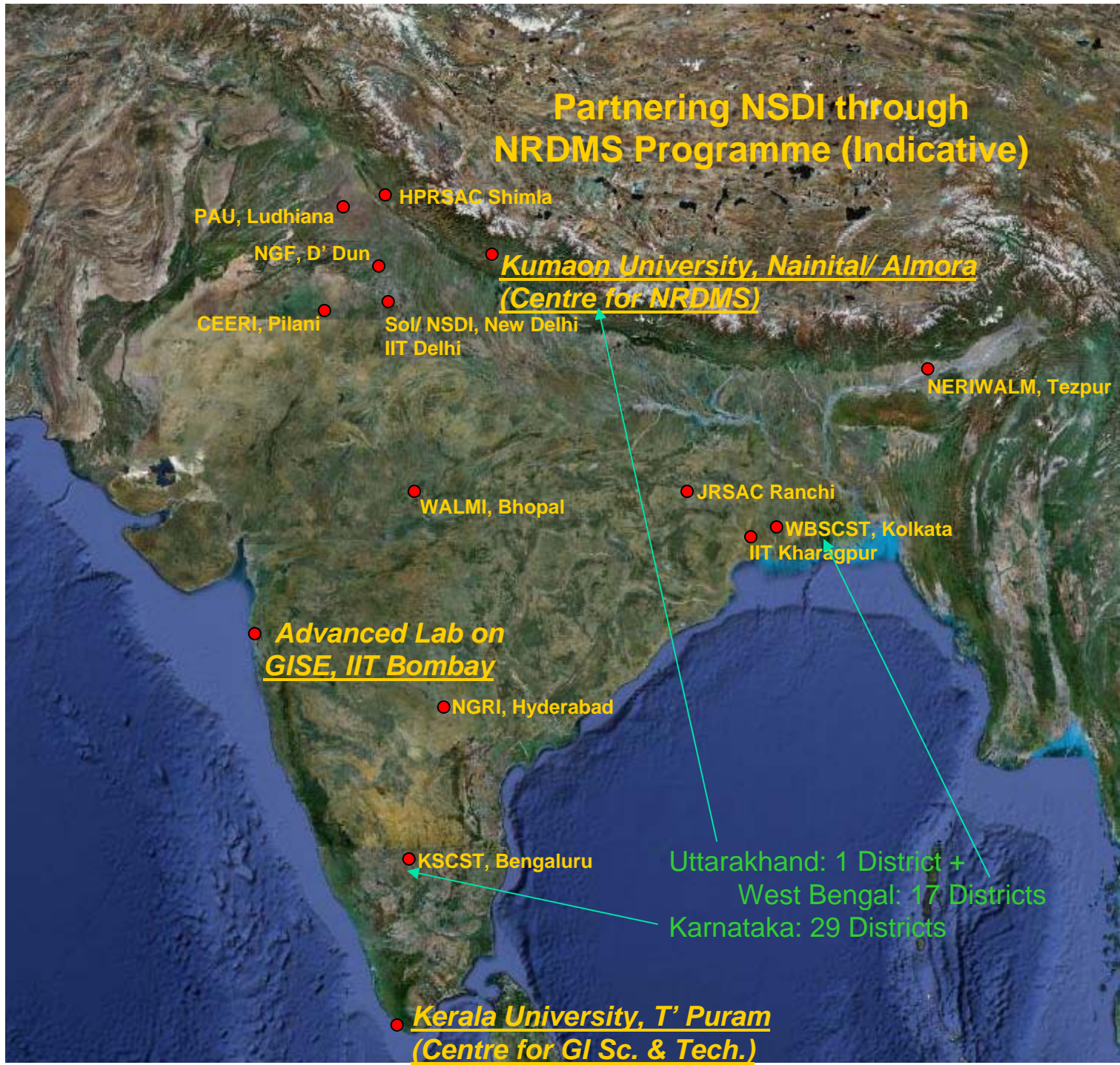
- Effective use or application dependent on quick find and utilisation of GI
- Two aspects: discovery and metadata
- Registry contains information on resource (service, GI, symbology, metadata etc.) and how to access
- Data/ services distributed over portals should be available in a single (possibly virtual) registry to facilitate use



NDR Portal Features/ India Geo portal upgradation

- Summary/ data dictionary
- Metadata/ Catalogue service
- Data
- History
- Services
- Applications (Internet and mobile)
- Infrastructure (platform)

Partnering NSDI through NRDMS Programme (Indicative)



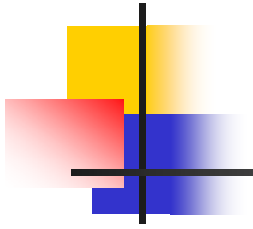
State Geo Portal prototypes

- Karnataka
- West Bengal
- Uttarakhand
- Kerala
- The North East
- Kerala
- Haryana
- J & K
- NCT of Delhi

R & D Centers

- Kumaon Univ.
- Kerala Univ.
- Advanced Lab on GISE, IITB

Uttarakhand: 1 District +
West Bengal: 17 Districts
Karnataka: 29 Districts



Thank you very much!!!!