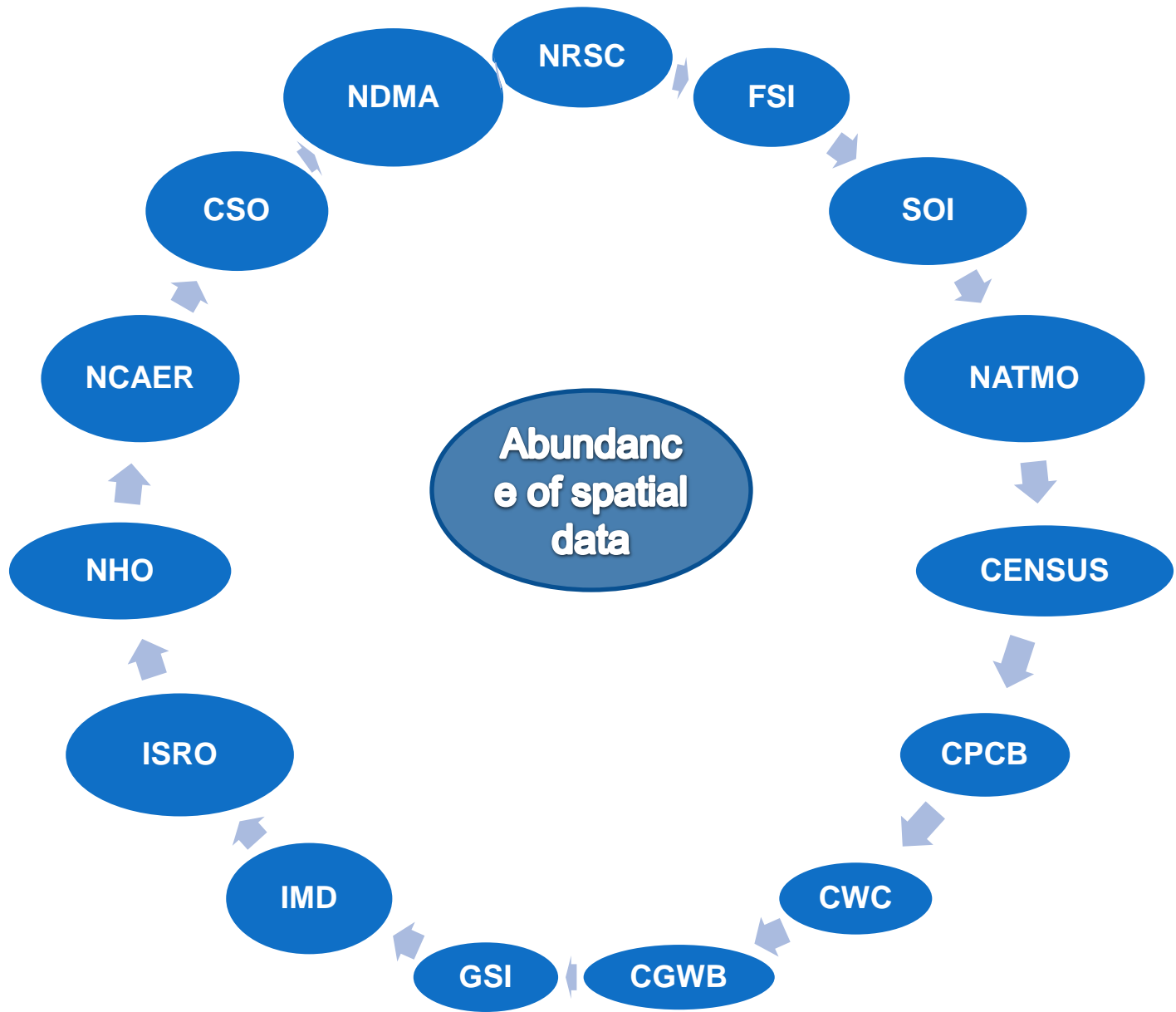




# **Open Geospatial Data**

**Maj Gen Dr R Siva Kumar**  
**CEO NSDI**  
**Department of Science & Technology**



**Why are we not able to use and add value to these assets?**

- **Lack of Metadata**
- **Data in analogue form**
- **Reluctance to share the data**
- **Not interoperable**
- **Policy**

# National Spatial Data Infrastructure (NSDI)

- An information infrastructure
- **Collection of Technologies, Policies and Institutional arrangements**
- For acquiring, processing, storing, distributing and facilitating generation of standardised, interoperable value added spatial data

# NSDI Vision and objective

## Vision

- **National infrastructure for the availability of and access to organized spatial data**
- **Use of the infrastructure at Community, Local, State, Regional and National levels for sustainable development**

## Objective

- **Develop and maintain standard digital collection of data**
- **Develop common solutions for Discovery, Access and Use of spatial data in response to the needs of diverse user groups**
- **Increase the awareness & understanding of the vision, concepts and benefits of the NSDI**

# **NSDI Evolution**

**Nov 2000 - DST constituted task force**

- **Working Groups established by Task Force finalized Metadata Standards, Data Exchange Standards**

**May 2006 – Cabinet approved NSDI**

**June 2006 – Government resolution notified**

- **National Spatial Data Committee (NSDC)**
- **Executive Committee (EC)**

**December 2008 – India Geoportal**

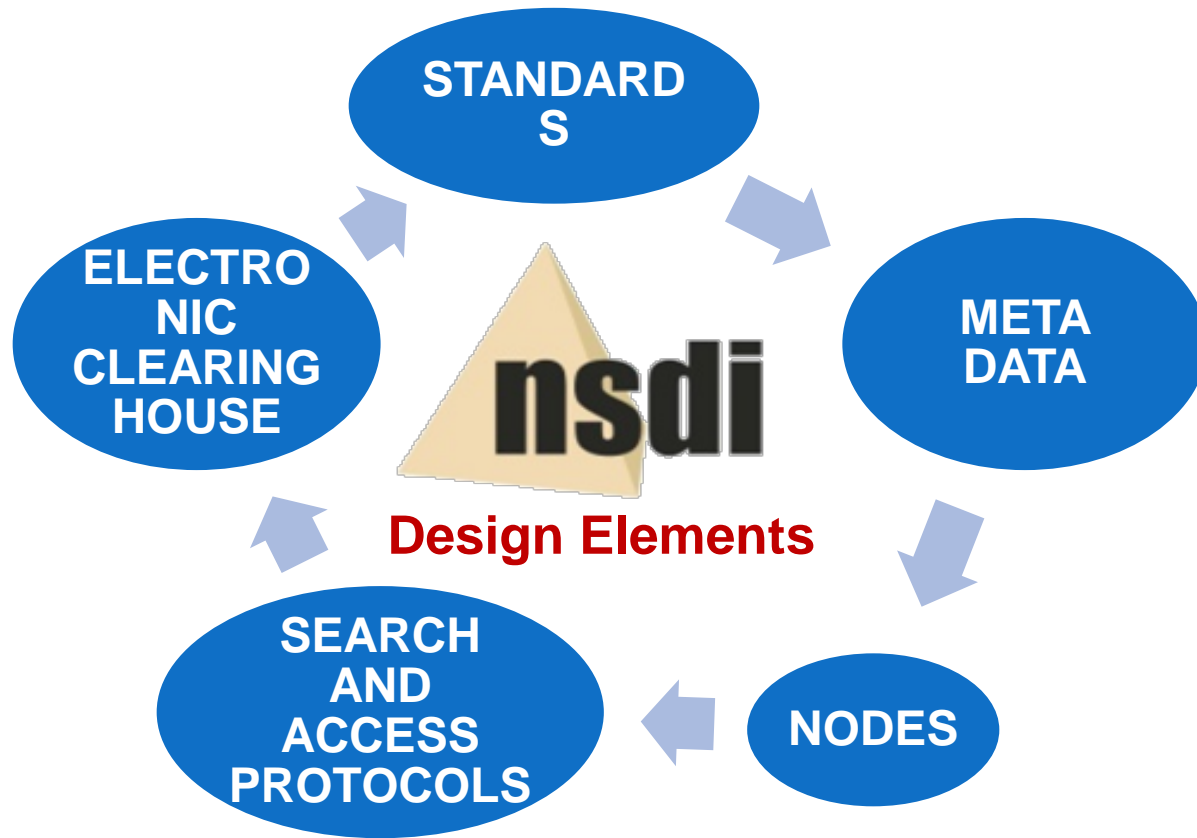
**December 2009 – Karnataka Geoportal**

**December 2010 - Prakasam District Geoportal**

**October 2011 - Pilot Map on 1:10,000, WMS**

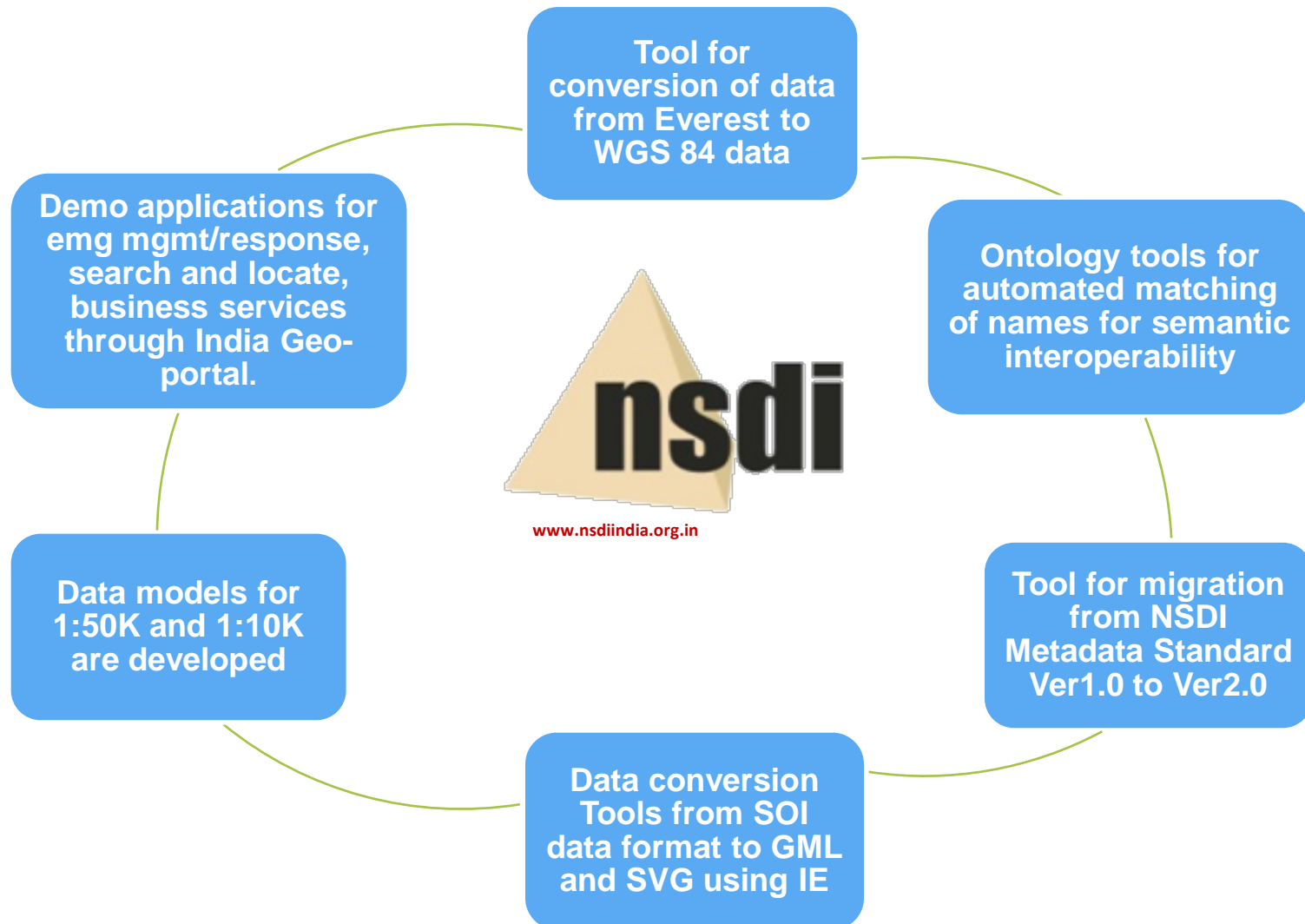
**October 2012 - National Data Portal**

**data.gov.in**





# Tools/Technologies developed





# EST. DEMAND FOR GEOSPATIAL KNOWLEDGE-FORCE.....

<b>Geospatial Activity</b>	<b>Survey/ Mapping/ Trained skill-workforce</b>	<b>Trained workforce for Survey/Mappin, Geo-database and GIS Apps</b>	<b>Educated professionals for Survey/Mappin, Geo-database and GIS Apps</b>	<b>Trained users development who would be users</b>	<b>School-level awareness</b>
Present Availability Estimate	~15000-20,000	~6000-10000	~800-1200	<b>~25000-50000</b>	<b>NA</b>
Estimated Additional need by end of 2015	~20000 @4000-5000 per year	~15000 @~2000-3000 per year	~5000-8000 @ ~1000-1500 per year	<b>~500,000 @ ~50-100K per year</b>	Estimated in phased manner thru NCERT/State School Boards
<b>Knowledge/ Skill-interventions required</b>	<b>Industrial Training in specific Geospatial Operations (2-4 weeks)</b>	<b>In-depth specialised training in operations/ managing (3-12 months)</b>	<b>4-Year Graduate/ 2-Post-Graduate/PhD in Geospatial Technology thru University</b>	<b>User Training on specific GIS apps operations (1-2 week orientation)</b>	<b>Basic chapters in 9-12 science curriculum; Additional GIS Kit knowledge exercises</b>
Min Qual for knowledge/ skill interventions	10 <sup>th</sup> OR 12 <sup>th</sup> Grade school	Graduate in Science/Arts Or Diploma in Comp Apps	12 <sup>th</sup> Grade leading to BTech/ BTech leading to MTech/PhD	Basically a Geospatial technology user in Central/State governments	School at 6-8 AND 9-12 Grade
Knowledge Credits	Professional Certificate	PG Diploma	BTech OR MTech OR PhD	Applied Certificates	Proficiency Certificate

# Capacity Building

- An advance lab in GI, Science & Eng - IIT Bombay – to produce 50 M.Tech and 20 PhDs in five years
- A Centre of GI Science and Tech. at Kerala University, Trivandrum and a centre of excellence at University of Kumaon, Almora & Geospatial Chairs in IISC and UoH, Andhra, Marathwada, Calcutta and Anna Universities. Another Centre at IIT Hyderabad in 2013
- A Task Force on mapping on 1:10K scale under the Chairmanship of Secretary, MoES.
- Annual events since 2001, for exchange of ideas on SDI amongst the professionals, Govt. Org, Research and Academic communities.
- NSDI- 12 being held on 20-21 Jan 2012 at JNU Delhi by Census. The earlier events were organized by DST, DOS, SOI, GSI, FSI, IMD, NIC, AGI and Karnataka State.
- Supported a number of workshops, training programs including Indo-US and Indo-Canada workshops

# **Major Achievement of NSDI**

- **Developing consensus amongst 17 mapping agencies to come together and commit for sharing geospatial data**

# Standards

- **Data Exchange Standard**
- **Metadata Standard – Two versions**
- **Data Content Standard - Soils**
  
- **OGC**
- **ISO TC 211**
- **BIS Mirror Committee for ISO in India**

# Policies

- **National Map Policy 2005**
- **Remote Sensing Data Policy 2011**
- **Amendments to National Map Policy 2005**
- **National Data Sharing Accessibility Policy (NDSAP) 2012**
- **Aerial Photography Policy 2011**
- **Evolving National Geospatial Policy**
- **National Geospatial Data Authority creation**
- **Encouragement Indian Geospatial Industry**

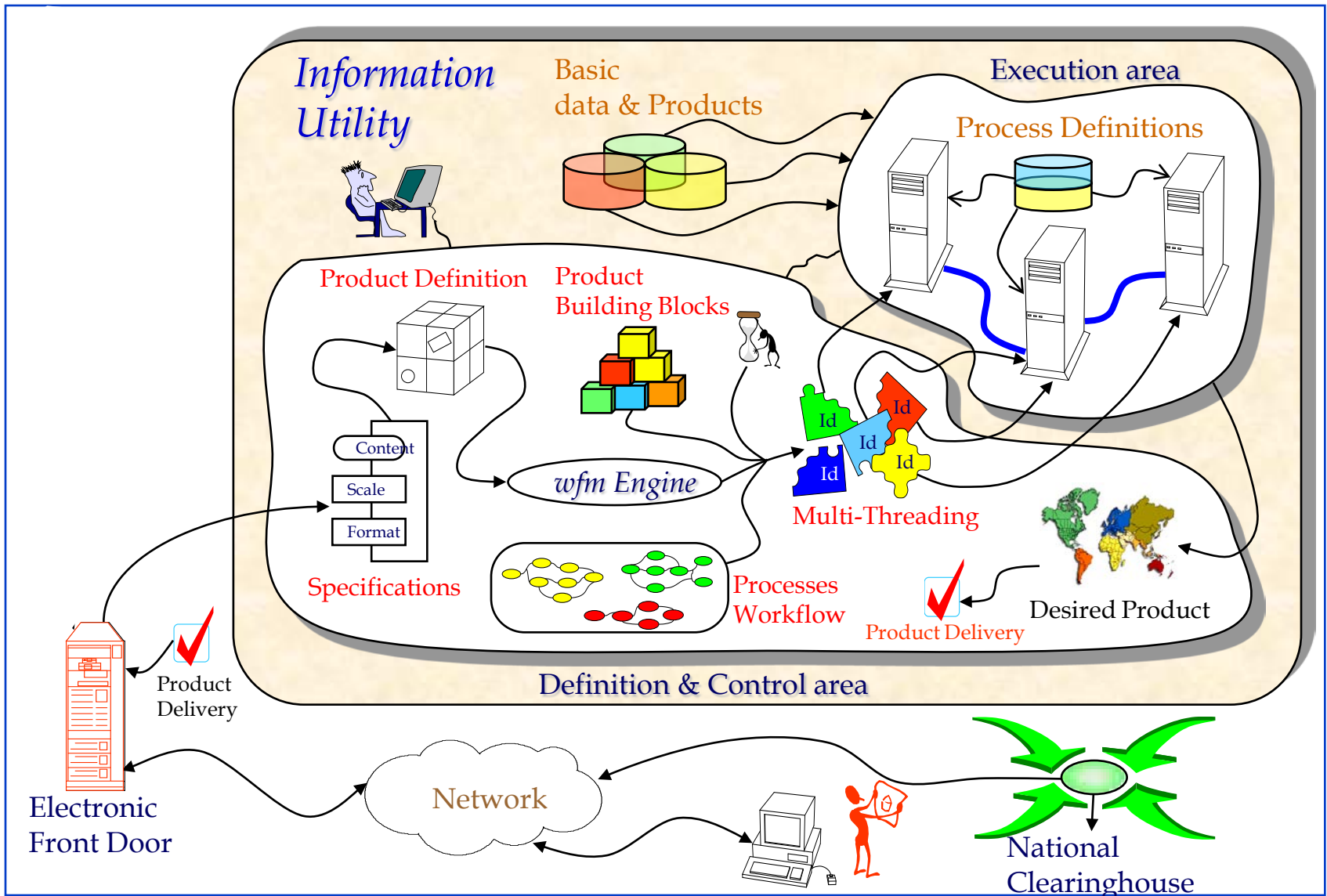
# Research Initiatives

- **Bio Geo Data Bases**
- **Marine GIS**
- **3D GIS**
- **Sensor Web Enablement**
- **ALTM**
- **Geo ICT – Digital Heritage – Hampi**
- **Hyperspectral Remote Sensing**
- **Village Geospatial Information Systems**
- **Geospatial Data for Disaster Management – Urban Flooding, Landslides**
- **Tools Development – Data conversion, Ontology**
- **8 Expert Committees and one steering committee**

# NSDI Vision 2020

- A global leader in geo-spatial Technology based services
- Solutions for real life problems from India geo-portal on cell phone/web
- Facilitate / enable a national LIS/GIS
- Capacity building, bringing the Spatial Literacy at the School/ ITI/ community Level
- Inculcate temperament of SD as strategic capital and public good
- Development of matrix to measure progress towards realizing NSDI vision
- Facilitate SDI at State, District, and Village levels
- Creation of metadata for all the existing geospatial data and a prerequisite of any new geospatial data collection

# Example of use of process models





**Web Map Service**  
**From**  
**SOI OSM Maps**



NSDI-11 Annual Event to be held at Bengahuru from 21st Dec to 23rd Dec 2011 has been postponed.

- NSDI
- Downloads
- Organization
- RTI
- PhotoGallery
- GSDI/State SDIs
- NSDI Annual Events

» **Welcome to NSDI**

India is fast moving into being an information and knowledge society - especially with the emphasis on Information Technology and 'transparent' e-governance. [Know More..](#)

» **NSDI VISION**

1. National Infrastructure for the availability and access to organised spatial data.
2. Use of the infrastructure at Community, Local, State, Regional and National Levels for sustained economic growth.

Username

Password

[New User?](#) [Forgot Passw](#)

((Metadata Search ))



**NDRF**  
(National Disaster Response Force)  
(Click below for NDRF ZONES across India)

**Prakasam District Geoportal**  
(Best Viewed in Mozilla Firefox browser)

**Know Tsunami**

[Nodal Officers' Contact L](#)

[NSDI Aspiration documen](#)

[6th NSDI-EC meeting](#)

[A Report on Agriculture](#)

[Can you innovate NSDI ?](#)

[NSDI A Passionate Saga](#)

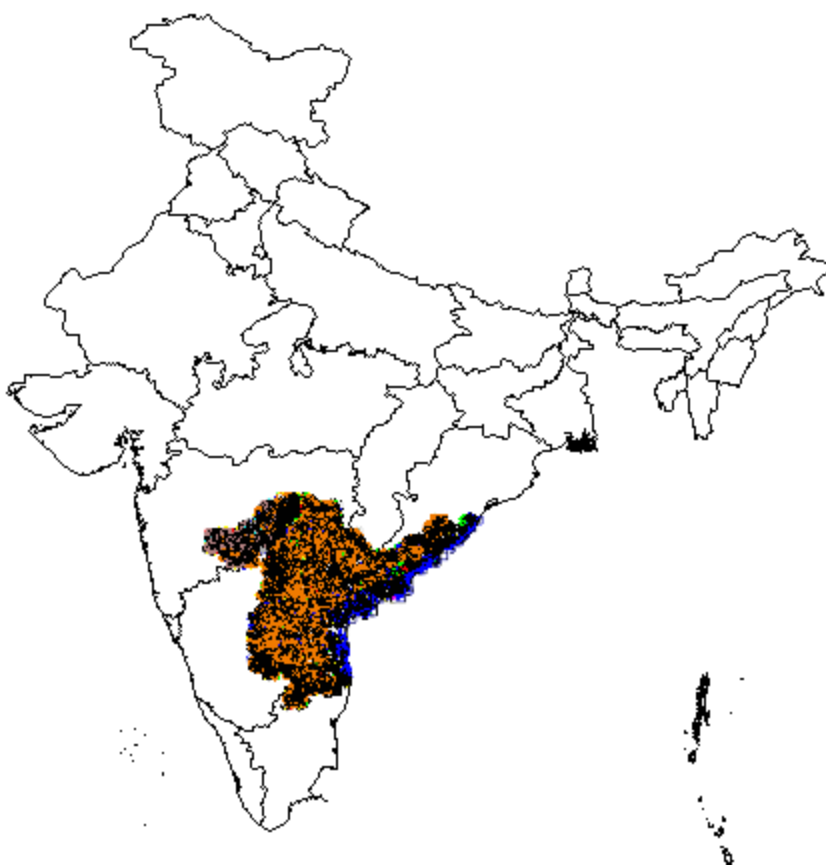
[Open Source GIS](#)

[OGC Delhi Pilot Links](#)

[Kendriya Vidyalaya Locati](#)



X: 93.158 Y: 11.333 Scale: 29,913,495 Disclaimer : Bhuvan imageries and SOI map data may differ due to adoption of different technologies.

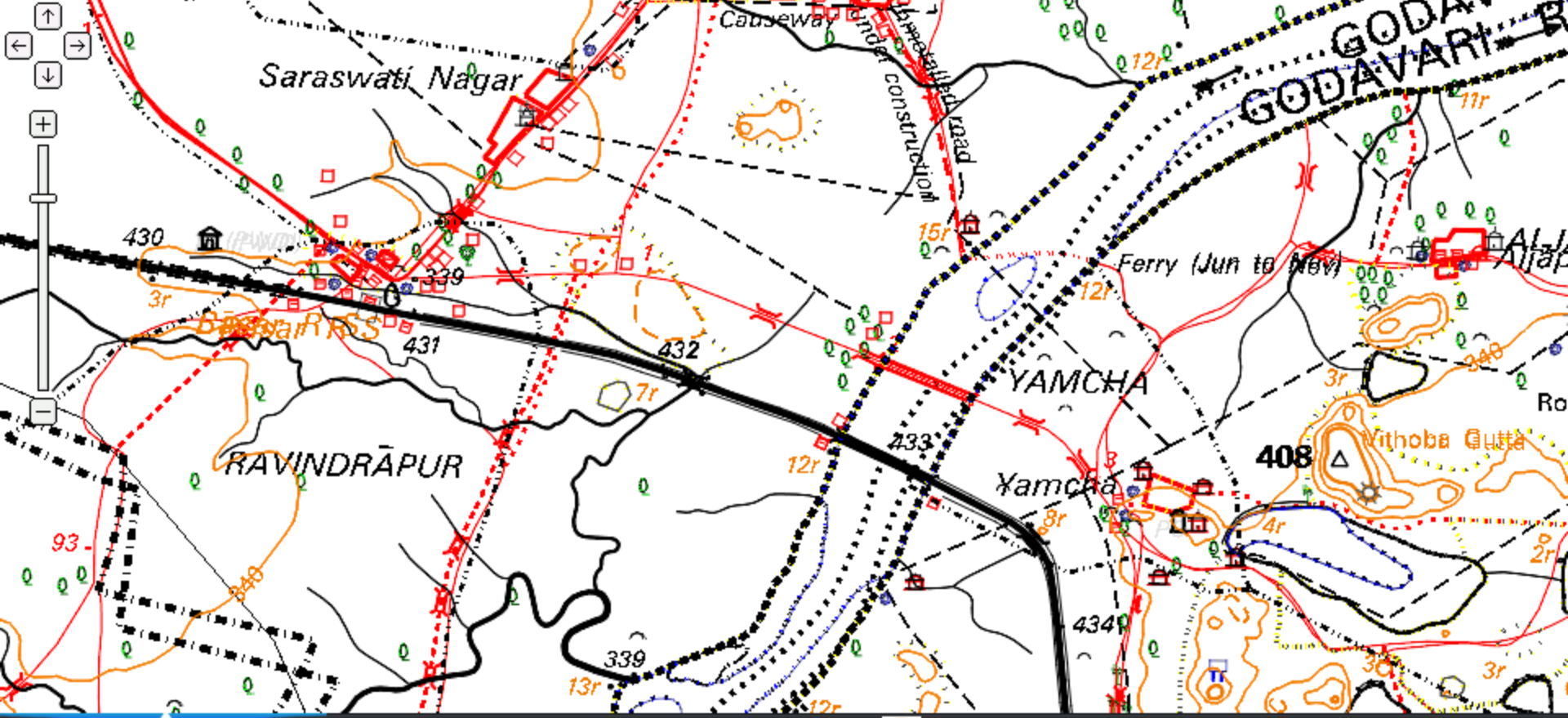




# India GeoPortal

X: 77964 Y: 18867 Scale: 25,536

Disclaimer: Bhuvan imageries and SOI map data may differ due to adoption of different technologies



# nsdi India GeoPortal

X: 77.881 Y: 18.866 Scale: 25.536

Disclaimer: Bhuvan imageries and SOI map data may differ due to adoption of different technologies.





X: 77.957 Y: 18.867 Scale: 25.536

Disclaimer : Bhuvan imageries and SOI map data may differ due to adoption of different technologies.



# nsdi India GeoPortal

X: 77.975 Y: 18.865 Scale: 25,536

Disclaimer : Bhuvan imageries and SOI map data may differ due to adoption of different technologies.





# India GeoPortal

X: 77.967 Y: 18.866 Scale: 25.536

Disclaimer: Bhuvan imageries and SOI map data may differ due to adoption of different technologies.







Find places

(e.g. Delhi or 28 36 0.0 , 77 13 12.0 / 28.67, 77.22)

[+ Add Layer](#)

**My Layers**

- BHUVAN Layers
  - Base Layers
    - Towns
  - Administrative Layers
    - Country
    - State
    - District
    - Taluk
    - None
  - Village
    - Andhra Pradesh
    - Assam
    - Chattisgarh
    - Gujarat
    - Haryana
    - Jharkhand
    - Karnataka
    - kerala
    - Madhya Pradesh
    - Maharastra



Indian Remote Sensing Satellites  
 Indian Space Research Organisation  
 Department of Space, Government of India



DATASETS

APPS

METRICS

COMMUNITIES

WW DATA SITES

SEARCH

### Workshop for Data Controllers



#### DATASETS

35 Datasets  
1 Departments participating

#### APPS

3 Apps  
0 Mobile Apps  
2 Departments participating

#### ANNOUNCEMENTS

- ▶ Glimpses of the Workshop Con... for Data Controllers by NIC
- ▶ 65 Data Controllers Nominated

#### RECENT SUGGESTIONS

Please provide database of all current political leaders at all levels of government - Local, State and Central along with their responsibility in the...  
Data set required manning for district block

**SUGGEST**  
A DATASET OR ENDORSE  
From Received Suggestions Ideas

#### USEFUL LINKS

- ▶ NDSAP Notification
- ▶ Contribute Datasets/Apps
- ▶ NDSAP Implementation Guidelines

#### COMMUNITY

Come explore, discuss, meet others in the same...  
Develop Apps, create visualization on datasets...  
community. We welcome you to the Community...  
and share your passion and views with others.



**data.gov.in** DATA PORTAL INDIA *beta*



काममेव लब्धे

[DATASETS](#)
[APPS](#)
[METRICS](#)
[COMMUNITIES](#)
[WW DATA SITES](#)
[SEARCH](#)

# 12th Five Year Plan Hackathon

Create for Change. Code for Change

Registrations now open till 4<sup>th</sup> April midnight



National Innovation Council



Planning Commission




**DATASETS**

254 Datasets  
19 Departments participating

**APPS** Hackathon

3 Apps  
0 Mobile Apps  
2 Departments participating

**ANNOUNCEMENTS**

- Communication from The Cabinet Secretary to Go Secretaries for early implementation of NDSAP
- 77 Data Controllers Nominated

[More...](#)

> (-)Dataset

> (-)Ministry of Science and Technology

Sort By

- > Title
- > Popularity
- > Rating
- > Last Updated
- > Most Recent

Filter By Resource Format

- > XLS (25)

Filter By Ministry/Department

- Ministry of Science and Technology (25)

### Search for Datasets

Search terms

Retain current filters

### Browse Datasets

Results Per Page: 10

Sr. No.	Name/Title	Popularity	Rating	Format
1	<a href="#">Sector-Wise Plan And Non-Plan Budget Estimates (Revenue Account) For...</a> The Sector-Wise Plan And Non-Plan Budget Estimates (Revenue Account) For Education By Central And State Governments 2007-08 publication - Analysis of Budgeted Expenditure on Education, Department of Education, MHRD.	52 Views	(1 vote)	EXCEL
2	<a href="#">Sector-Wise Expenditure on Education By Central And State Governments (...)</a> The table presents sector-wise expenditure on education by Central and State governments from 1985 -86 to 2005-06. The data are taken from the publication - Analysis of Budgeted Expenditure on Education, Department of Education, MHRD.	106 Views	(2 votes)	EXCEL
3	<a href="#">Expenditure On Research And Development By Central Ministries/ Departments...</a> The table presents data on R&D expenditure by central ministries/ departments other than Major Scientific Agencies in the country from 2002-03 to 2005-06. The data is collected and compiled as a part of National Survey on R&D resources by DST New Delhi	19 Views	(0 votes)	EXCEL

- > Rating
  - > Last Updated
  - > Most Recent
- Filter By Resource Format
- > HTML (2)
  - > WMS (1)
- Filter By Ministry/Department
- Ministry of Earth Sciences (2)
  - Ministry of Science and Technology (1)

### Browse Apps

Results Per Page: 10

Sr. No.	Name/Title	Popularity	Rating	Format
1	<p><b>Indian Ocean Argo data</b></p> <p>Argo is a global array of 3,000 free-drifting profiling floats that will measure the temperature and salinity of the upper 2000 m of the ocean. This will allow continuous monitoring of the climate state of the ocean, with all data being relayed and made publicly available within hours after...</p>	4738 Views	 (103 votes)	
2	<p><b>Ocean Data and Information System</b></p> <p>INCOIS, being the central repository for marine data in the country, receives voluminous oceanographic data in real time, from a variety of in-situ and remote sensing observing systems. The Ocean Information Bank provides information on physical, chemical, biological and geological parameters of...</p>	4485 Views	 (119 votes)	
3	<p><b>Web Map Service (WMS) from Survey of India OS Data for Delhi</b></p> <p>This is a OGC compliant Web Map Service(WMS) created by Survey of India from Open Series Map (OSM) Data on 1:50,000 scale. This rich data sets can be integrated with any other OGC compliant Web Services to make it more meaning ful and solve real life problems. The whole data is organised in 8...</p>	7251 Views	 (112 votes)	

Could not find required Apps? Suggest to the Department





# AMERICAN COMMUNITY SURVEY 2007-2011



## Latest Datasets

- Persons Obtaining Legal Permanent...
- Persons Obtaining Legal Permanent...
- Persons Obtaining Legal Permanent...
- Persons Obtaining Legal Permanent...
- Persons Obtaining Legal Permanent...
- Individuals Granted Asylum...
- Naturalizations by Leading Cored Based...
- Aliens Apprehended by Program and...
- Aliens Found Inadmissible by Region and...
- Aliens Found Inadmissible: Fiscal Years...

## DATA AND TOOLS



- 373,029 [raw](#) and [geospatial](#) datasets
- 1,209 [data tools](#)

## COMMUNITIES



Come explore, discuss, meet others in the same field and develop the data and apps in the

## OPEN GOVERNMENT



View our government at work and find opportunities to participate

# Welcome to Geo.Data.gov!

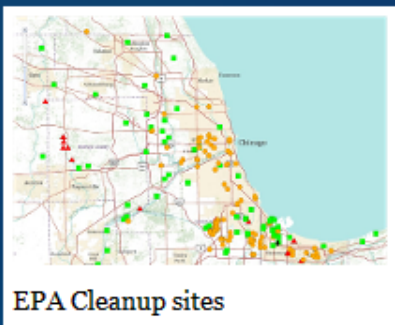
THE EVOLUTION OF GEOSPATIAL ONE-STOP/GEODATA.GOV!



As part of our continuing efforts to increase awareness of and access to geospatial data and services, Data.gov has integrated the Geospatial One-Stop (GOS) portal and catalog, and added some exciting improvements to both the user interface as well as the underlying infrastructure.

Over the next couple of months, we'll be adding more features. Please check back often!

## Featured Map:



EPA Cleanup sites

## What's New?

### YOU'LL NOTICE:

- A simplified user interface
- A common data.gov look and feel
- Featured Maps
- An upgraded site for publishers

### MORE INFORMATION:


For Additional Background Information, Please See: [Geodata.gov/GOS Evolution](#)

## Recent Items

 **Estimates of nitrogen-fertilizer sales for the conterminous United States in 1990**

This coverage contains estimates of nitrogen-fertilizer sales for the conterminous United States in 1990 as reported by the U.S. Environmental Protection Agency (1990) and by Jerald Fletcher (West Virginia University, written commun., 1992). Nitrogen-fert...

[Open](#) [Details](#) [Metadata](#)





# **National Geographic Information System (NGIS)**

# NGIS – An Information Regime



**A NEW INFORMATION REGIME SUPPORTING**

**GOOD GOVERNANCE, SUSTAINABLE  
DEVELOPMENT AND CITIZEN  
EMPOWERMENT**

**THROUGH  
NATIONAL GEOSPATIAL INFORMATION SYSTEM**

**OFFERING**

**GIS DECISION SUPPORT SERVICES FOR  
GOVERNANCE, PRIVATE ENTERPRISE AND  
CITIZENS**

**AND MAINTAINING  
A NATION-WIDE, STANDARDISED,  
SEAMLESS AND MOST-CURRENT GIS ASSET  
FOR THE NATION**

# NGIS

- **National Data Registry**
- **NGIS Platform**
- **NGIS Product Development Mission**



[www.nsd.gov.in](http://www.nsd.gov.in)