National GIS Platform for Digital India

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NIC – DEITY - National e-governance Infrastructure

Primary Role is to support e-governance programme through widely setup ICT infrastructure across the Country.

- Nationwide Network (NKN) With 2.5 Gbps Backbone
- GIS & Utility Mapping
- LANs in Government Buildings (around 50,000 Nodes)
- Certifying Authority
- Data Centres - NDC at New Delhi, Hyderabad, Pune etc.
- Video Conferencing
- Cyber Security
- Network Services – Internet and e-mail Webhosting of over 5000 websites.
Meghraj – Cloud Initiative by NIC

Inaugurated by Hon’ble Minister for communications and IT, on 4th February 2014

NGIS platform is one of the potential services proposed for the GIS community from Meghraj.
Platform for asset registry - data.gov.in
Open Government Platform (OGPL)

Data Management
- Data Catalogs
- Workflow
- Standard Metadata
- Validation
- Analytics

Data Portal
- Single Point Access
- Search & Discovery
- Open Formats
- Citizen Engagement
  Rate
  Social Media Connect

Feedback, Discussions, Ideas

Agriculture
Education
Communities
Health
Energy

Discover Possibilities
OpenGov
Digital India

Digital India is a Programme to transform India into a digitally empowered society and knowledge.
Location as “Primary Unit” for Digital India

- “Location” - Important dimension in Network Connected Digital World of Information Highways.

- “Geo-Tagging” of Location of Assets, Infrastructure, Natural and Human Resources - Essential requirement to understand ground reality of development process & services to be made available to citizens.

- “Geographical Information System (GIS)” as “Technology Platform” to facilitate Location-Specific “Governance & Services on Demand”, as key implementation strategy for “Knowledge–Driven-Digital India”.

- GIS to facilitate Planning, Decision-Support, Monitoring & Evaluation for Good Governance as well as Social Auditing of Government Action for Development with participation of citizens.
GIS is a common technology platform and service cutting across key areas covered as Digital India Vision.
Nine Pillars of Digital India

1. Broadband Highways
2. Universal Access to Phones
3. Public Access Internet Programme
4. e-Governance - Reforming Govt. through Technology
5. e-Kranti – Electronic Delivery of Services
6. Information for All
7. Electronics Manufacturing - Target NET ZERO Imports
8. IT for Jobs
9. Early Harvest Programme

National GIS Mission for Digital India:
GIS is a Technology for Planning, Decision-Making & Electronic Delivery of Services (Pillar-5), Geo-enabling e-Governance (Pillar-4) to facilitate location based information for all (Pillar-6):
GIS for Digital India

- Programme with big expectations……
- National GIS Policy Framework
- Unified platform for GIS collaboration
- Public Interface & Crowd Sourcing
- Collation of National GIS Assets
- Applications and Infrastructure
Major Components of NGIS

1) NGIS platform
   It will provide a Single Gateway access and a Service Platform to different line departments in government; target groups in private enterprises and also for citizens.

2) Geospatial data assets
   Seamless GIS digital content layers equivalent to 1:10,000 scale and better including maps and geo-tagged attributes/tabular data on demographics, natural resources, planning and development activities, infrastructure and other sectorial datasets

3) Stakeholders
   - Internal Stakeholder include National Informatics Centre (HQ and State Centers), Survey of India, Ministries – DST, Deity, DOS
   - External Stakeholder include Central Government Department and Ministries, State Government Department and Ministries
   - Common Citizen.

DEITY has been entrusted with the responsibility of development of National GIS platform with the implementation plan by NIC.
Different Ministries provide different sets of information from disparate databases.

There is a need for integration of these disparate databases into a National GIS through standardization.
To avail the advantages of resources / infrastructure available ……

it is critical to have an environment which is tightly integrated yet loosely coupled
National GIS Platform is The Key

Making Maps and Geographic Information Available & Pervasive

A Simple Online System

Multiple Clients

Applications

Communities

Mashups

Sharing

Discovery

Maps, Data and Analysis

ngis.gov.in
Platform – Functional Expectations

• Standardized geospatial datasets, web services, data exchange formats and Metadata
• Promote "Virtual Geographic Information“.
• Allow users to remotely update and add content within GIS datasets.
• On line Geo-Processing: A Platform that allows on-line integration and analysis of GIS information - apart from just serving them on the web.
• Availability of Geo –Apps: A set of DSS applications including processing of Planning and Monitoring functions;
• Collaborative framework for Govt, private enterprise, citizens and developer community.
GIS Scenario in India

- **NIC**: Serving All India seamless maps across the country at 1:18K scale, enabling GIS Systems & Services for e-governance from mission mode projects eg. health, education, etc.

- **DOS**: Satellite/Aerial Imagery (Bhuvan)

- **SOI**: Topographic Data/Base Map

- **NSDI, DST**: Meta-Data/Standards

- **Spatial Data**: FSI, GSI, CGWB/CWC, etc.

- **State Initiatives**: Delhi, Gujarat, Karnataka, MH etc
GIS Portal of various Govt. Organizations

GIS Portal of various Govt. Organizations

Map Scales

- 1:40 M
- 1:20 M
- 1:10 M
- 1:5 M
- 1:2.5 M
- 1:1 M
- 1:500 K
- 1:250 K
- 1:150 K
- 1:72 K
- 1:36 K
- 1:18 K

Layers

- National/State/District
- Village HQs & Boundaries
- Census Town
- Habitations
- Settlements and its footprints
- Roads
- Railway lines and stations
- Airports
- Surface water features
- Historical Places
- National Parks
- Forests

Remote Sensing

GIS Portal of various Govt. Organizations

GIS Portal of various Govt. Organizations

GIS Portal of various Govt. Organizations

GIS Portal of various Govt. Organizations
GIS Portal of various State Govt. Organizations
Contribution of NIC towards National Geo spatial data and GIS
Data Sharing and National GIS implementation by NIC

**SOI**
- Base frame work data
- Surveying

**DOS**
- Satellite Images
- Wasteland Mapping

**Others**
- FSI- Forest Cover
- SLUSI- Soil
- CGWB-Ground Water

**Non-Spatial Data**
- RGI- Census 2001
- Educational Survey
- Health Survey
- NREGA
- Rural Roads

**NIC**
- Facilitator
- Integrator
- Standardization
- Dissemination-Enterprise

**National GIS**

**External GIS Services**

**Internet Cloud**
Salient Features:

- Robust and scalable framework based on service oriented architecture (SOA).
- Incorporated OGC standards based spatial data repository.
- Tiled maps at 12 different scales starting from 1:40 M to 1:18 k.
- Seamless mosaics of IRS satellite images of varying resolutions like AWiFS (56 m), LISS-III (23.5 m) and PAN (5.80 m).
- Mash up with external global services like Bing Maps, Google Maps and ESRI using open API’s.
- Cross platform rich internet application (RIA) based on Flex open API.
- Basic GIS tools for navigation, query, buffer, print and distance measurement.
- Advanced geo processing models for elevation profile, geocoding, swipe and spotlight.
- Linkage to attribute data like census etc.

Map Scales

National GIS Implementation

- Spatial Data Development
  - Vector Data processing
  - Image Processing
  - Maps
  - Data Conversion

- Benchmark GIS Applications
  - Mapping of Demography and Amenities
  - National GIS web Portal
  - Rural Post office mapping
  - Atlas

- Value Add MIS
  - Total Sanitation Campaign
  - Agmarknet
  - CGWB
  - NHWIS
  - Election GIS

- Integration of Raster and Vector Services
  - NSDB
  - Delhi Sports
  - Election GIS
  - NRCP
  - GEPR
  - Telecom GIS

- Mash up / collaborative Setup
  - Telecom Appl.
  - MHA- GIS
  - Spatial Data Update
Snapshots
Telecom GIS Application
Executive Dashboard for GIS
Spatial Data

Non-Spatial Data

Web Based GIS Application

Internet

Browser

Web Services like WMS, WFS

LAN

Thick Client - GIS

Local Data

Spatial Data

Application Server

LAN

Thick Client - open Source/Proprietary
Extending GIS web services to Ministries

GIS for CPSMS Fund Tracking System

Social Audit and Meeting Management
(http://socialaudit.gov.in)

Necessary Service Level Agreements are required
Mobilizing the concept of Platform
through
Test bed deployment
NGIS - Test Bed

• Search & access data, maps, apps, analysis models, and other geo content
• Upload & style geographic data
• Create intelligent web maps
• Interact with these maps on any device
• Embed them in websites, blogs, and custom apps
• Share, store & manage maps and data
• Collaborate using groups
• Access authoritative & ready-to-use content
Platform – Home Page

National GIS
... a collaborative platform for Geo-enabling India

A new information regime supporting good governance, sustainable development and citizen empowerment by offering GIS decision support services & information products.
NGIS – Maps, Apps & Services
Compose Map – Self Service Maps
GIS Experience on a Client…..

- Web browser based client
- Users can begin their online GIS experience
- Includes Map Viewer
NGIS – Ministries & Departments

My Groups

CREATE A GROUP

INVITATIONS (0)

Show

All My Groups
- Owned by Me
- Owned by Others
- With New Membership Requests

You are a member of 4 groups

Featured Maps and Apps
This group contains featured maps and apps, created by admin on January 27, 2014

MoRD
MoRD, created by admin on January 15, 2014

NCRB
NCRB, created by admin on January 27, 2014

NDMA
NDMA, created by admin on January 27, 2014

Find...

List all public groups

Featured Groups

Featured Maps and Apps
NGIS moves Embedding in Min / Deptt. Website
MoRD Portal
Portal – Access as Public, Deptt., Executive
Dash Board - MGNREGA
Thank You