Current Trends in the GSDI: Evolution from National To Global
CODATA Meeting, Montreal
3 October2002

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Current Trends in the GSDI: Evolution from National To Global
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- What/how does geography contribute?
- What is the FGDC?
- CAP Grants
- Who are we?
- What have we done?
- Where are we going from here?

What is it that Geography brings to the Information Technology Community???

It contributes:

The Power of "Place" to Support Decision Making

How do we make decisions on *critical issues such as these*?

- Reducing crime
- Enhancing public safety
- Containing costs
- Public health
- Managing growth
- Improving accountability
- Protecting the environment

Improving Business & Government Through…

- Improved Decision Making
- Providing Better Services
- Communicating with Citizens

What if there was a tool that could integrate data from diverse sources — and visually analyze data to support decision making — many times faster than any other tool?

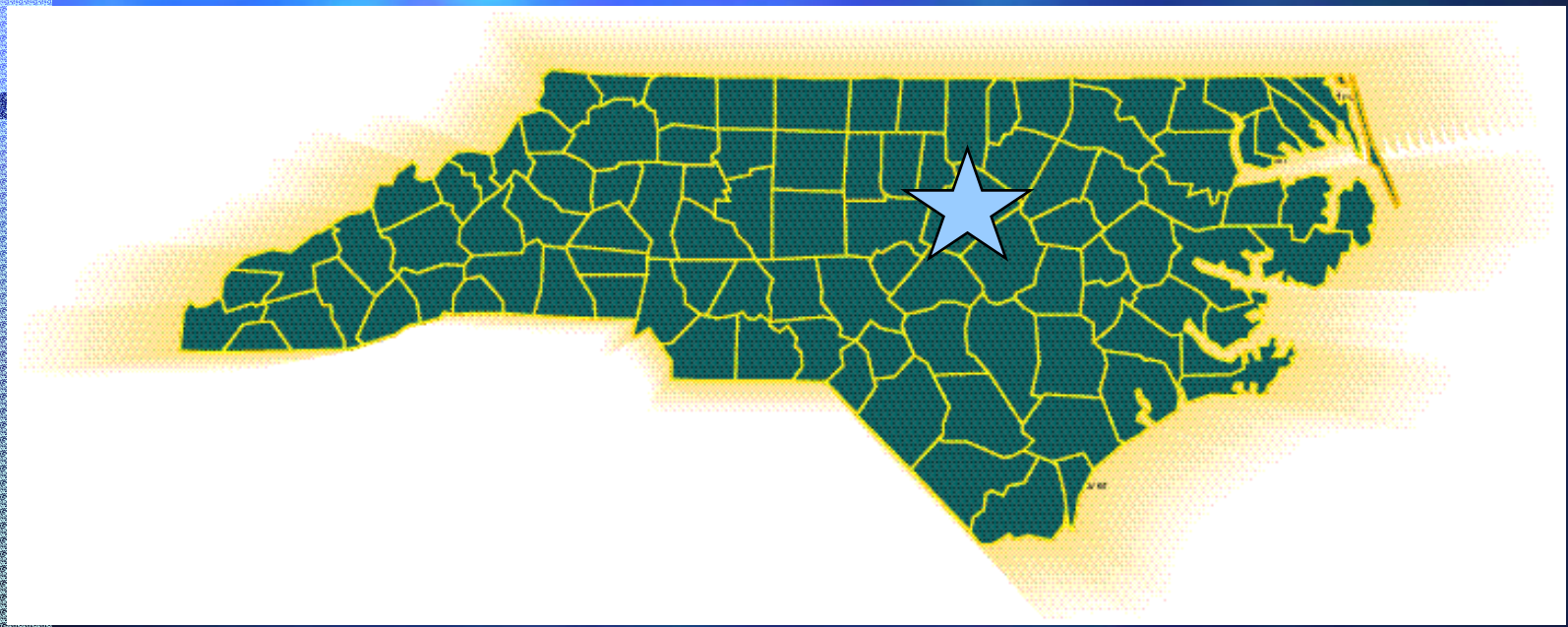
A tool that could:

- Expand the information base
- Enhance the analysis of available options
- Streamline the decision-making process
- Dramatically improve your ability to select the best course of action

Geographic Information Systems (GIS)

Giving decision-makers the power to make more informed decisions.

N.C. Department of Public Instruction wanted to manage school buses more efficiently.



To make *informed decisions*, we have to gather the right information. ...using the best data available.

New Jersey Fire Departments

Shape	Fire_deps_	Fire_depar	Fire_mun	Road
Point	1	FD11	Frenchtown	Second Street
Point	2	FD92.1	Milford	Route 519
Point	3	FD15.1	Holland	Route 519
Point	4	FD15.2	Holland	Route 627
Point	5	FD92.2	Alexandria	Route 631
Point	6	FD25	Union	Route 614
Point	7	FD43	Bloomsbury	Brunswick Avenue
Point	8	FD13	Hampton	Main Street
Point	9	FD12	Glen Gardner	Main Street
Point	10	FD19.1	Lebanon	Anthony Road
Point	11	FD19.2	Lebanon	Route 628
Point	12	FD44	Califon	Main Street
Point	13	FD24	Tewksbury	James Street
Point	14	FD31	Readington	Old Route 28
Point	15	FD22	Readington	Route 523
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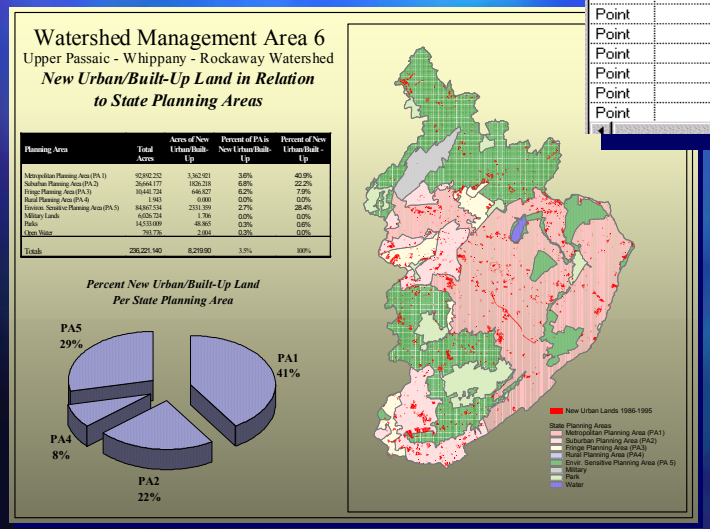
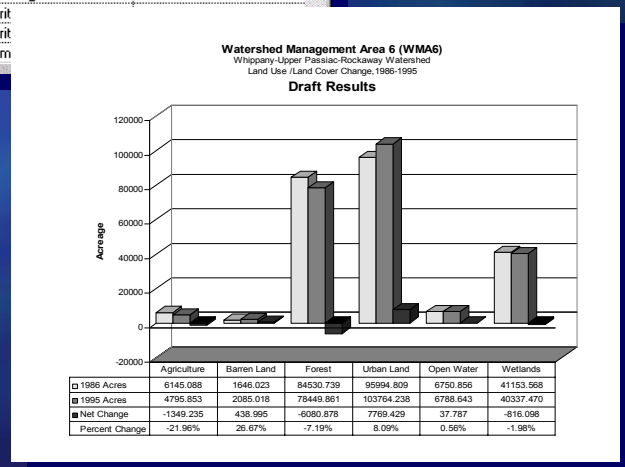




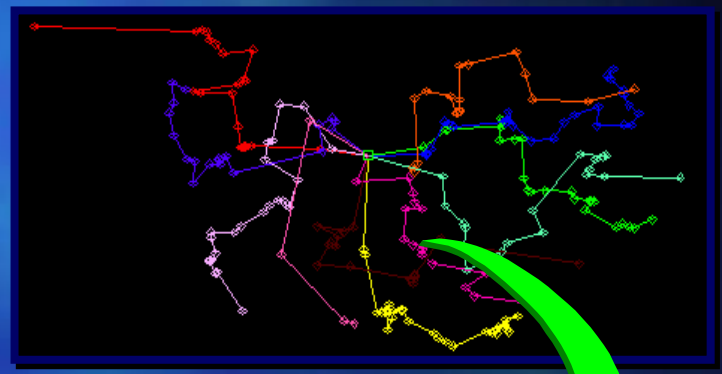
	Agriculture	Barren Land	Forest	Urban Land	Open Water	Wetlands
1986 Acres	6145.088	1646.023	84530.739	95994.809	6750.856	41153.568
1995 Acres	4795.853	2085.018	78449.861	103764.238	6788.643	40337.470
Net Change	-1349.235	438.995	-6080.878	7769.429	37.787	-816.098
Percent Change	-21.96%	26.67%	-7.19%	8.09%	0.56%	-1.98%

North Carolina Department of Public Instruction

Without GIS:

- Hit-or-miss route mapping in 107 school districts
- Huge inefficiencies
- Inability to contain costs efficiently

North Carolina Department of Public Instruction



With GIS:

- Developed pilot program more than 15 years ago
- Mandated use of GIS by all districts statewide in 1992
- State funding incentives reward efficiency: fewer buses, better routes

North Carolina Department of Public Instruction

Results:

- In the 1994-95 school year:
  - more than 500 fewer buses were needed statewide than originally estimated
  - 15,000,000 fewer miles were driven than originally estimated
- Between 1990 & 1996:
  - the state saved over 2,000,000 gallons of fuel

So how does the FGDC, the NSDI and the GSDI fit into the picture???

- Federal Geographic Data Committee (FGDC)
- National Spatial Data Infrastructure (NSDI)
- Global Spatial Data Infrastructure (GSDI)

To make *informed decisions*, we have to gather the right information. ...using the best data available.

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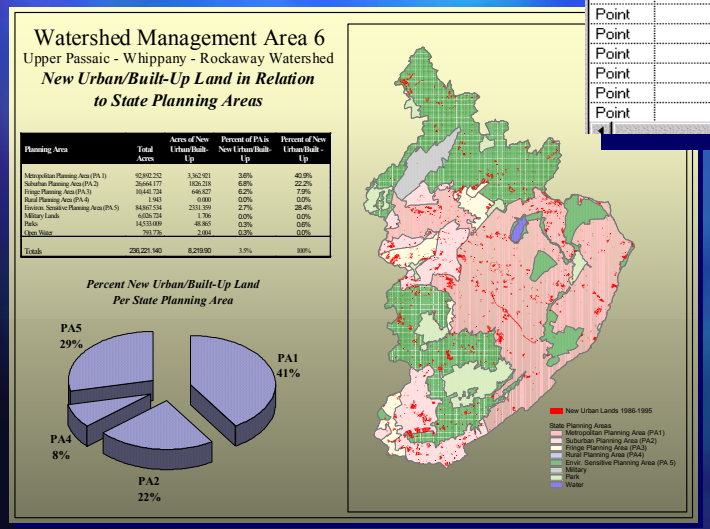

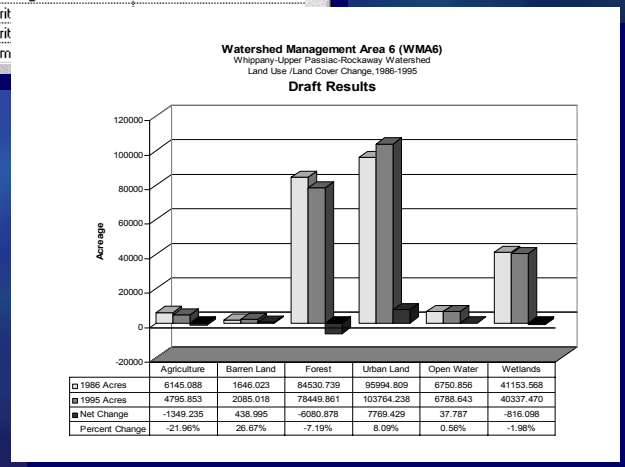

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Realities Among Data

- Relevant data is often hard to find and in incompatible forms.
- Information describing data is often non-existent.
- Framework data does not exist for broad geographic areas.
- Data sharing across organizations is inconsistent.

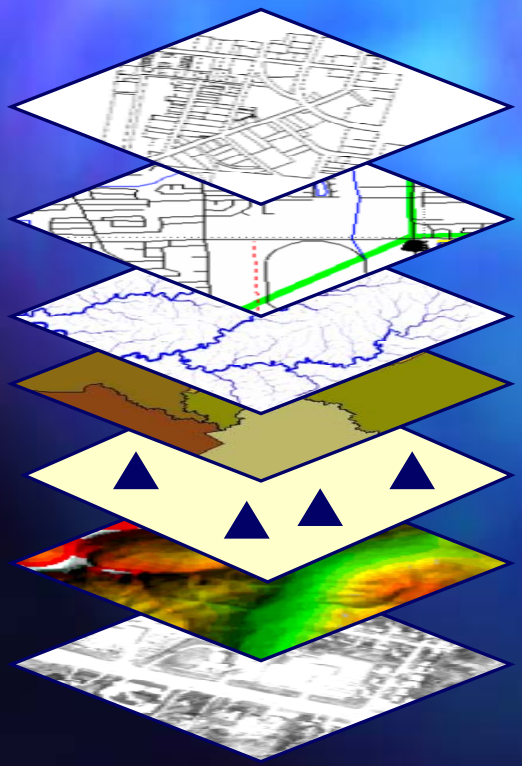
Create a National Spatial Data Infrastructure (NSDI) .....

To encourage the collection, processing, archiving, integrating, and sharing of geospatial data and information using common standards and interoperable systems and techniques

..... and accessible via the web

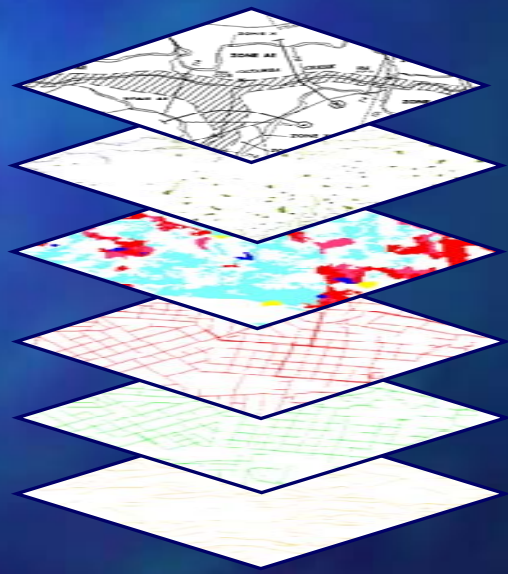
Relationships Among Data
Build Once, Use Many Times

Framework Data



- Land Ownership
- Transportation
- Surface Waters
- Boundaries
- Geodetic Control
- Elevation
- Aerial Imagery

Other Thematic Data

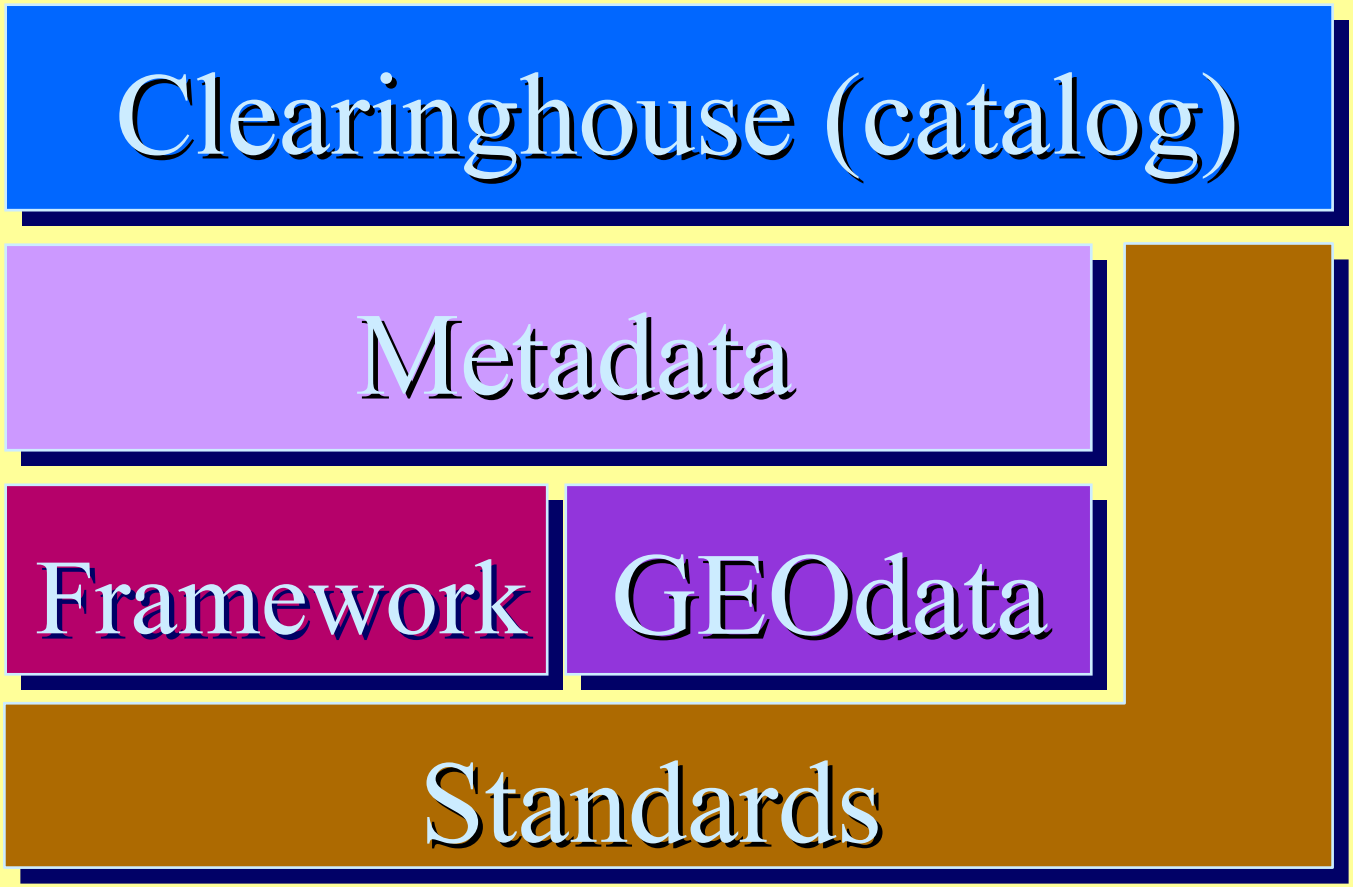


- Flood Zones
- Demographics
- Landcover
- Water Lines
- Sewer Lines
- Soils

The Federal Geographic Data Committee

- Chartered in the early 1990s
- Federal – 19 cabinet level agencies & offices
- Most states, regional, & local governments
- Private sector
- NGOs
- Theme coordination committees - 13
- Working groups - 8

Core Components of the NSDI



Partnerships

Federal Geographic Data Committee (FGDC)

Organisation and Operation

- Staff support to the Secretary of the Interior
- 20 Staff Positions
- 19 Cabinet Departments
- States, Regional Organisations

FGDC Working Groups (8)

- Metadata
- Clearinghouse
- Standards
- Historical Data

FGDC Working Groups (8)

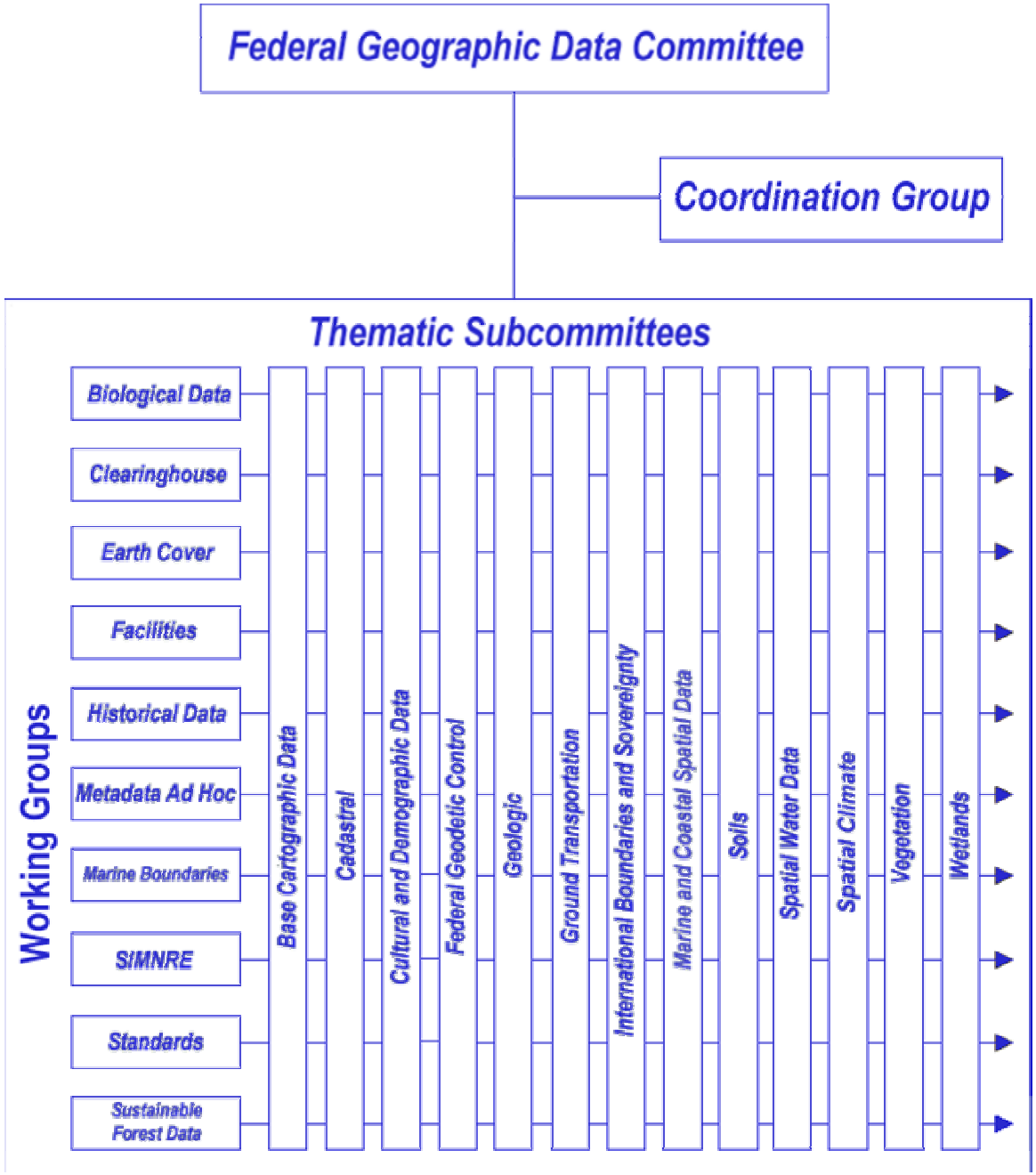
- Biological Data
- Facilities
- Sustainable Forest Data
- Earth Cover

FGDC Thematic Subcommittees(13)

- Base Cartographic Data
- Cadastral
- Cultural and Demographic Data
- Federal Geodetic Control
- Geologic
- Ground Transportation
- Marine Coastal Spatial Data

FGDC Thematic Subcommittees(13)

- International Boundaries & Sovereignty
- Soils
- Spatial Climate
- Spatial Water Data
- Vegetation
- Wetlands


Federal Geographic Data Committee
Coordination Group
Thematic Subcommittees
Working Groups
Biological Data
Clearinghouse
Earth Cover
Facilities
Historical Data
Metadata Ad Hoc
Marine Boundaries
SIMNRE
Standards
Sustainable Forest Data
Base Cartographic Data
Cadastral
Cultural and Demographic Data
Federal Geodetic Control
Geologic
Ground Transportation
International Boundaries and Sovereignty
Marine and Coastal Spatial Data
Soils
Spatial Water Data
Spatial Climate
Vegetation
Wetlands

Federal Geographic Data Committee (FGDC)

- Initiatives
  - Framework, Clearinghouse, Metadata, Standards, ……..
  - CAP Grants
  - Geospatial One-Stop
  - Homeland Security
  - I-Teams
  - Etc……..

FGDC CAP Grants

- Small projects at the state/local level
- $300 - $600K/year
- To encourage:
  - metadata development
  - Metadata training
  - US/Canada X-boarder projects

Collaboration:

- GeoConnections, Canada
  - The FGDC of Canada
- Three years of projects

The Global Spatial Data Infrastructure (GSDI)

- The mid 1990s
- The same benefits that are realized inside national boundaries translate across international boarders
  - Common Standards
  - Interoperable Systems and Techniques
  - Open Sharing
  - Web Access

The Global Spatial Data Infrastructure (GSDI)

- First GSDI meeting in Bonn Germany with a handful of invited professionals (1995)
- GSDI-6 Meeting, Budapest, Sept 02
  - Jointly with International Steering Committee for Global Map
  - 250 attendees
  - 52 Countries

GSDI Achievements

- Certificate of Incorporation
  - 6 August 2002
  - Seeking charitable organisation status
- Stage set to formalise the GSDI as an organisation
- Permanent Committees for Asia/Pacific, Americas, Europe
  - Creation of Permanent Comm. Africa

GSDI Achievements

- GSDI Cookbook publication and adoption
- Capacity building –
  - CODI, Addis Ababa
  - Africa GIS, Nairobi
  - KISM Survey of Kenya, Nairobi
  - Denver
  - Sioux Falls
  - Workshops, FIG

GSDI Achievements

- Capacity building (continued) –
  - Map Serving Workshops Ghana & South Africa Bamako, Mali
  - Asmara, Eritrea for GISD
  - World Summit on Sustainable Development, South Africa
  - Harare, GISD funded
  - CEISIN Training in China (FGDC CAP Grant)

GSDI Achievements

Capacity building (continued) –

- Global Map/GSDI/ESRI $9M (USD) Grant Program
  - Goal 150 countries at $60,000 each
  - Requirements
    - Contribute 1:1M or 1:250K data to GM
    - Use common standards and interoperable techniques and systems
  - 140 applications/98+ awarded

Introducing the GSDI as an organisation … what's next???

The Mission -- to serve as the focal point for the community involved in advancing SDI at the global level to support sustainable social, economic and environmental development.

Introducing the GSDI as an organisation … what's next???

- The Goal –
  - To support the establishment and expansion of globally compatible spatial data infrastructures.
  - To promote better public policy and scientific decision-making.

The GSDI … what's next???

- Interim Executive Board to migrate from Steering Committee to new rules, representing the main GSDI stakeholders
  - Reach Consensus on the stategic plan
  - Finalise the organizational structure
  - Develop funding stategies
    - Dues, contributions, grants

The GSDI …. what's next?

- Complete the incorporation process
  - Non-profit
  - Educational/charatable organisation
- Cookbook – a living document
  - Update through OGC
  - Expand with business case examples oriented toward emerging nations
- Seek and pursue granting opportunities

The GSDI …. what's next?

- Global capacity building!!!!!!
  - Country/region training
  - Cookbook expansion
  - Building awareness
  - ESRI $9M grant
  - Partner with other global and donor organisations
    - Leverage limited resources
    - Jointly seek outside funding

The GSDI …. what's next?

- Closer collaboration with global organizations:
  - GSDI Permanent committees –
    - Asia/Pacific -- PCGIAP
    - Americas -- PCIDEA
    - Europe -- EUROGI
    - Africa -- soon
  - ISCGM, DE, UNGIWG, USAID, UNEP, FAO, CODATA, FIG, ICA, CODI, JICA, IADB, EIS Africa, EUROGEOGRAPHICS, RAVI, ADB, EC, EU …….
  - Leverage limited funds
  - Combine our meetings

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- What have we done?
- Where are we going from here?

Additional Information

www.gsdi.org	Global Spatial Data Infrastructure
www.fgdc.gov	Federal Geographic Data Committee
www.opengis.org	Open GIS Consortium
www.eurogi.org	European Umbrella Org. for Geog. Info.
www.cpidea.org.co	Permanent Comm. For the Americas
www.permcom.apgis.gov.au/	PCGIAP