

Global Spatial Data Infrastructure (GSDI)

Encouraging SDI Development Internationally

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Global Spatial Data Infrastructure

What do we want to talk about today?

- What is the Global Spatial Data Infrastructure (GSDI) Association?
 - So What?
 - How did it get started?
 - Who is involved?
 - What are some accomplishments?
 - Where to from here?

Why do we use GI Systems and Technologies?

- track changes in the landscape, weather, vegetation, and water resources
- inventory and manage the physical facilities of utilities and city governments
- navigate and track automobiles, truck fleets and emergency vehicles
- crime mapping and analysis
- profile and target consumer preferences
- ...

Reduce Losses From Natural & Human-Induced Disasters

Afflict all regions of the world

- Significant loss of life and property

What if...

- We had access to all our systems?
 - Research and operational
- Results in more precise assessment of current phenomena
- Better models
- More accurate forecasts

Desired Outcome

- Global disaster reduction & warning system

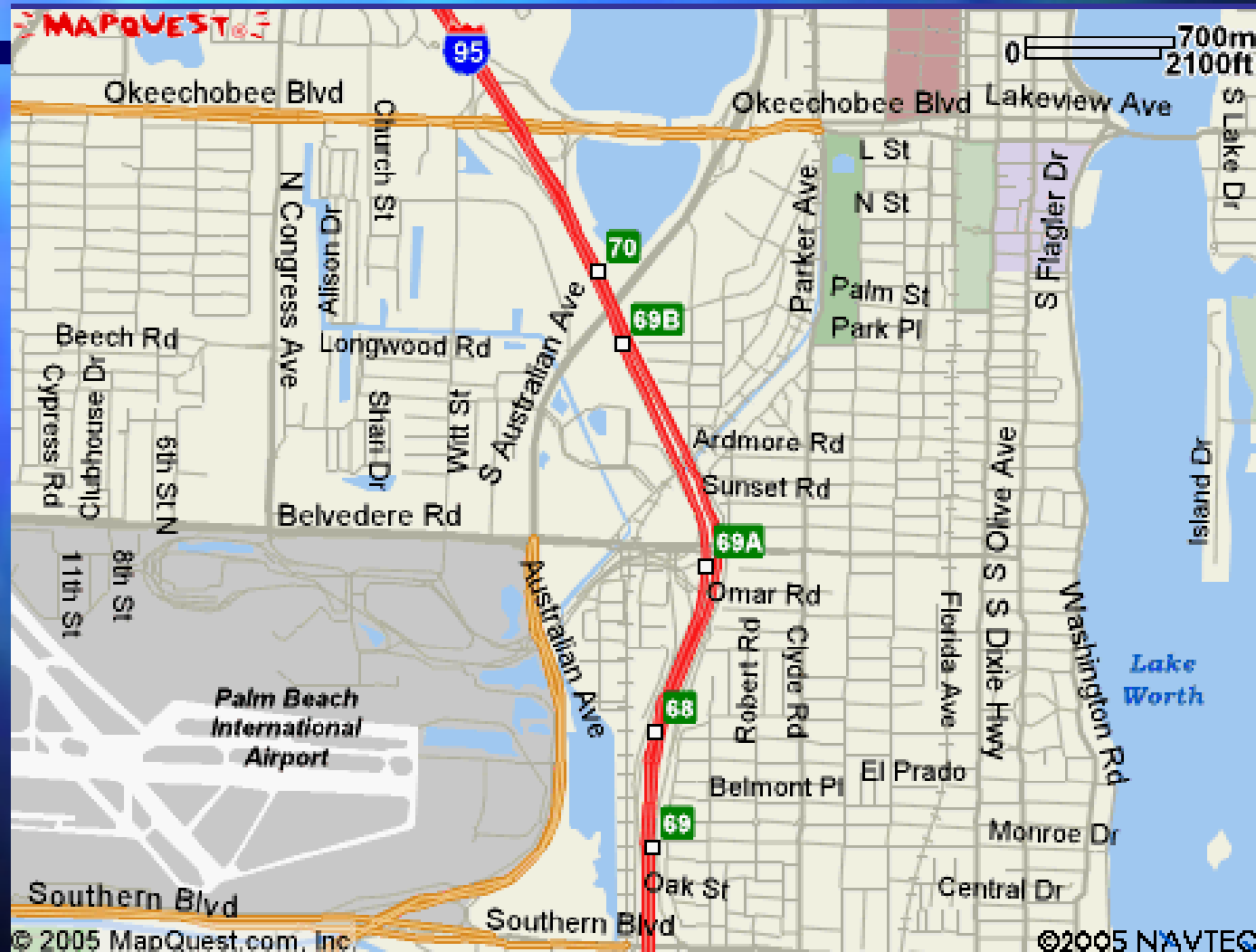


So what's the issue.....???

Having the data to make these decisions is critical, but...

Not being able to integrate it vertically and horizontally is another disaster

So why do we need standards?



Let's change the situation....

- Emergency vehicle going to an accident or health care facility
- Fire hydrants
- Gas main shut off valves
- Electrical substations
- Subway entrances or air vents

Realities among data...

- Relevant data is often hard to find.
- It is frequently 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.

So What do we need???

- Common language
- Common reference system
- Common framework
- Spatial Data Infrastructure (SDI)

... a National Spatial Data Infrastructure

What is a Spatial Data Infrastructure (SDI)?

...supports ready access to geographic data and information. This is achieved through the coordinated actions of nations and organizations that promote awareness and implementation of Complimentary policies, common standards and effective mechanisms for the development and availability of interoperable digital geographic data and technologies to support decision making at all scales for multiple purposes."

What is 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**

What do NSDI advocates do.....?

Builds **alliances** to:

- Identify institutional **barriers**
- Identify and develop **policy changes**
- Identify **most effective ways to collect, maintain and distribute data**
- Designate **data stewards**
- Reach **consensus on framework**

What do NASI advocates do...?

Builds alliances to:

- Encourage **metadata** creation
- **Clearinghouse** development
- Encourage the use **common standards** and participation in national and international standards committees
- Seek **new partners**
- **Develop incentives** for participants
- Etc.....

What is a National Spatial Data Infrastructure (NSDI)

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What is the **Global** Spatial Data Infrastructure (**GSDI**)

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

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GSDI – An idea at the cusp

Vision.....

Foster SDI development locally to globally

- Access data at a variety of scales and from multiple sources
- Common standards and interoperable systems and techniques
- Heavy reliance on partners world-wide

Global Spatial Data Infrastructure

GSDI conferences.....

GSDI 1 Bonn, Germany Sept 1996

GSDI 2 Chapel Hill, NC October 1997

GSDI 3 Canberra, Australia Nov. 1998

GSDI 4 Capetown, So. Africa Mar. 2000

GSDI 5 Cartagena, Colombia May 2001

GSDI 6 Budapest, Hungary Sept. 2002

Global Spatial Data Infrastructure

GSDI conferences.....

GSDI 7 Bangalore, India February 2004

GSDI 8 Cairo, Egypt April 2005

(with FIG)

GSDI 9 Santiago, Chile Nov. 2006

GSDI 10 Asia & Pacific ??? (Feb. 2008)

GSDI 11 Europe???? (May 2009)

GSDI-8 in Cairo, Egypt

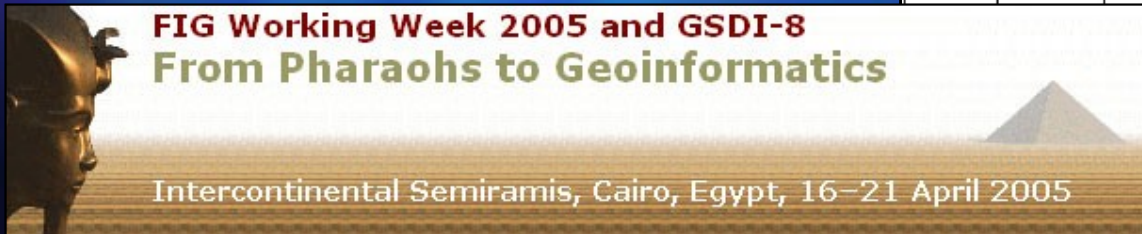
April 16-21

<http://www.fig.net/pub/cairo/techprogramme.htm>

Joint meeting with FIG

- 900+ attendees
- 88 countries

	Fri April 15	Sat April 16	Sun April 17	Mon April 18	Tue April 19	Wed April 20	Thu April 21
08:30- 17:30		Registration	Registration	Registration	Registration	Registration	Registration
09:00-10:30	FIG Council Meeting GSDI Executive Committee	Pre-Conference Workshops (4) FIG ACCO Meeting GSDI Board Meeting	Pre-Conference Workshops (2) (Corporate Members) FIG General Assembly (09:00-13:00) GSDI Committee Meetings (3) (09:00-13:00) ISCGM Annual Meeting (08:00-13:00)	Plenary Session Opening of the Exhibition (10:30)	Plenary Session	Plenary Session	Parallel Sessions (2 + 1 for ISCGM) TS46-TS48 FIG President's Meeting (08:30-10:30)
11:00-12:30	FIG Council Meeting (-13:00) GSDI Executive Committee (-13:00)	Pre-Conference Workshops (4) FIG ACCO Meeting (-13:00) GSDI Board Meeting (-13:00)	Pre-Conference Workshops (2) (Corporate Members) FIG General Assembly (09:00-13:00) GSDI Committee Meetings (3) (09:00-13:00) ISCGM Annual Meeting (08:00-13:00)	Parallel Sessions (5) TS1-TS5 Exhibition	Parallel Sessions (5) TS16-TS20 Exhibition (10:30-) Technical Tours (10:30-)	Parallel Sessions (5) TS 31-TS35 Exhibition (10:30-14:00) Technical Tours (10:30-)	Parallel Sessions (2 + 1 for ISCGM) TS49-TS51 FIG General Assembly (11:00-14:00)
			Pre-Conference Workshops (2) (Corporate Members) FIG Commission Annual Meetings (10) (14:00-16:30) GSDI Council Meeting (13:00-16:30)	Parallel Sessions (5) TS6-TS10 Exhibition	Parallel Sessions (5) TS21-TS25 Exhibition Technical Tours	Parallel Sessions (5) TS36-TS40 Technical Tours	Closing Ceremony (14:30-16:30)
			Pre-Conference Workshops (2) (Corporate Members) (-16:30) FIG Commission Annual Meetings (14:00-16:30) GSDI Council Meeting (13:00-16:30)	Parallel Sessions (5) TS11-TS15 Exhibition	Parallel Sessions (5) TS26-TS30 Exhibition Technical Tours	Parallel Sessions (5) TS46-TS50 Technical Tours	GSDI Board Meeting (17:00-20:00)
			Opening Ceremony (17:00-19:00)				
19:00-	FIG Council Dinner GSDI Executive Committee Dinner	FIG ACCO Dinner	Welcome Reception	Egyptian Evening / FIG Foundation Dinner	Free	Gala Dinner	



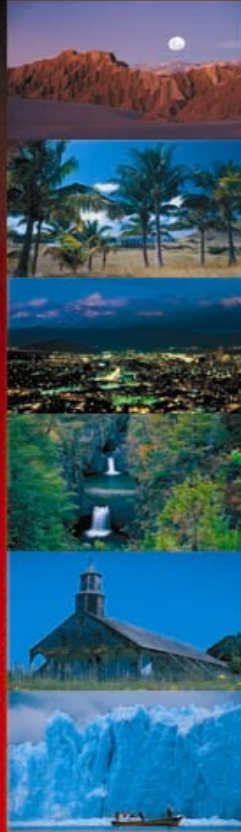
IX International Earth Sciences Congress

Geospatial Information

tool for reducing poverty

GSDI-9

9th INTERNATIONAL CONFERENCE
FOR THE GLOBAL GEOSPATIAL DATA INFRASTRUCTURE



Santiago, Chile

Diego Portales
Convention Center
4th to 11th of
November, 2006

www.igm.cl/gsd9



The GSDI:

Where are we now...?

- A formal organisation with officers
 - President – Harlan Onsrud (USA)
 - President Elect – Jarmo Ratia (Finland)
 - Past President – Mukund Rao (India)
- Council and Board
- Bylaws
- Strategic and Implementation Plans
- Incorporated as a US Non-Profit

Board of Directors

(18 – most elected)

- Officers - President, President-elect, Past President
- Sectors – Industry, Government, Academia, Non-Profit
- Regions – Africa, Asia/Pacific, Europe, N. America, S. America
- Permanent Regional Committees – Europe, Africa, Americas, etc.
- International & Global Organizations - International Geographic Org., GSDI Related Global Initiative, International Industry Org.
- Ex-Officio Members

GSDI – An idea at the cusp

Goals.....

1. Promote and develop **awareness and exchanges**
2. Facilitate data **access/discovery** via clearinghouse, portal web services
3. Stimulate & conduct **capacity building**
4. Conduct and sponsor SDI development **research**
5. Engage **partners** to help

Regional Spatial Data Infrastructures

*European Umbrella Organization for
Geographic Information*

*Permanent Committee on GIS
Information for the Americas*

*Permanent Committee on GIS
Infrastructure for Asia and the Pacific*

*Permanent Committee on GIS
Infrastructure for Africa*

Members

- Addis Ababa University, Ethiopia
- Atlantic Institute, US, Canada
- CIESIN - Columbia University, US
- UN Committee on Development Information (CODI)-
Geo
- Delft University of Technology, Netherlands
- Department of Science and Technology, India
- EIS-AFRICA, South Africa
- ESRI, Commercial
- Eurogeographics, Europe
- European Umbrella Organization for Geographic
Information (EUROGI)
- Federal Geographic Data Committee (FGDC), US
- GISPOL - National Land Information System Users
Association, Poland

Members

- Hungarian Association for Geo-information (HUNAGI)
- Indian Space Research Organisation Headquarters
- Institut Cartografic de Catalunya (Associate), Spain
- Intergraph Mapping and GeoSpatial Solutions, Commercial
- International Society on Digital Earth, China/Int'l
- ITC International Institute for Geo-Information Science and Earth Observation, Netherlands
- IGM (Military Geographic Institute of Chile)
- Leica Geosystems, Commercial
- National Geographic Information Infrastructure Programme, Survey Department, Nepal
- National Geospatial-Intelligence Agency, US
- National Land Survey of Finland
- National Resources Canada
- National Space Research and Development Agency (NASRDA), Nigeria

Members

- National Spatial Data Centre, Malawi
- National University of Lesotho
- Open Geospatial Consortium, Int'l
- Pan American Institute of Geography and History (PAIGH)
- Regional Centre for Training In Aerospace Surveys (RECTAS), Nigeria
- Spatialnetworks Pvt. Ltd. (Associate), India
- State Bureau of Surveying and Mapping of China (SBSM), China
- University College of Lands and Architectural Studies (UCLAS), Tanzania
- University Consortium for Geographic Information Science (UCGIS), US
- University of Zimbabwe

Working Groups

- Technical Working Group
 - Chair: Doug Nebert
- Legal and Economic Working group
 - Chair: Bas Kok, Kate Lance
- Communications Committee
 - Chair: Mark Reichardt
- Membership
 - Chair: Harlan Onsrud
- Special Projects
 - Chair: C.J. Cote
- Conference Planning Committee
 - Chair: Alan Stevens

Some accomplishments.....

- Membership
 - 26 Charter members
 - Commercial, Government, NGOs, etc
 - 26 Individual members
- 8 successful Global Forums
 - 250-400 participants
 - 50+ countries
- Multiple training experiences
- Collaboration with multiple partners

Still more accomplishments?

- GSDI Small Grants --2003 - 05
 - 10 grants per year for \$2.5k USD each
- Newsletters
 - Original traditional
 - Africa 2002-03
 - Americas & Asia and the Pacific (2004-05 with PAIGH)
 - Published electronically on a monthly basis

Stimulate and conduct capacity building...

- GM/GSDI/ESRI \$9M (USD) grant program
 - www.esri.com/sdigrant
 - Over 180 applications
 - 110 grants awarded
- Intergraph \$5.5M interoperability grant program

Developing Spatial Data Infrastructures:
The SDI Cookbook

Version 2.0
2004

Release for Review at the Fourth Global Spatial Data
Infrastructure Conference, Cape Town, South Africa



Editor: Douglas D. Nebert, Technical Working Group Chair, GSDI

Disclaimer: This draft represents a work-in-progress that has been compiled from numerous contributions and available online documents contributing organisations. Full acknowledgement of contributions and citations will be provided in the initial public draft.

Document Available
At:

<http://www.gsdi.org>

FGDC & GSDI Secretariat

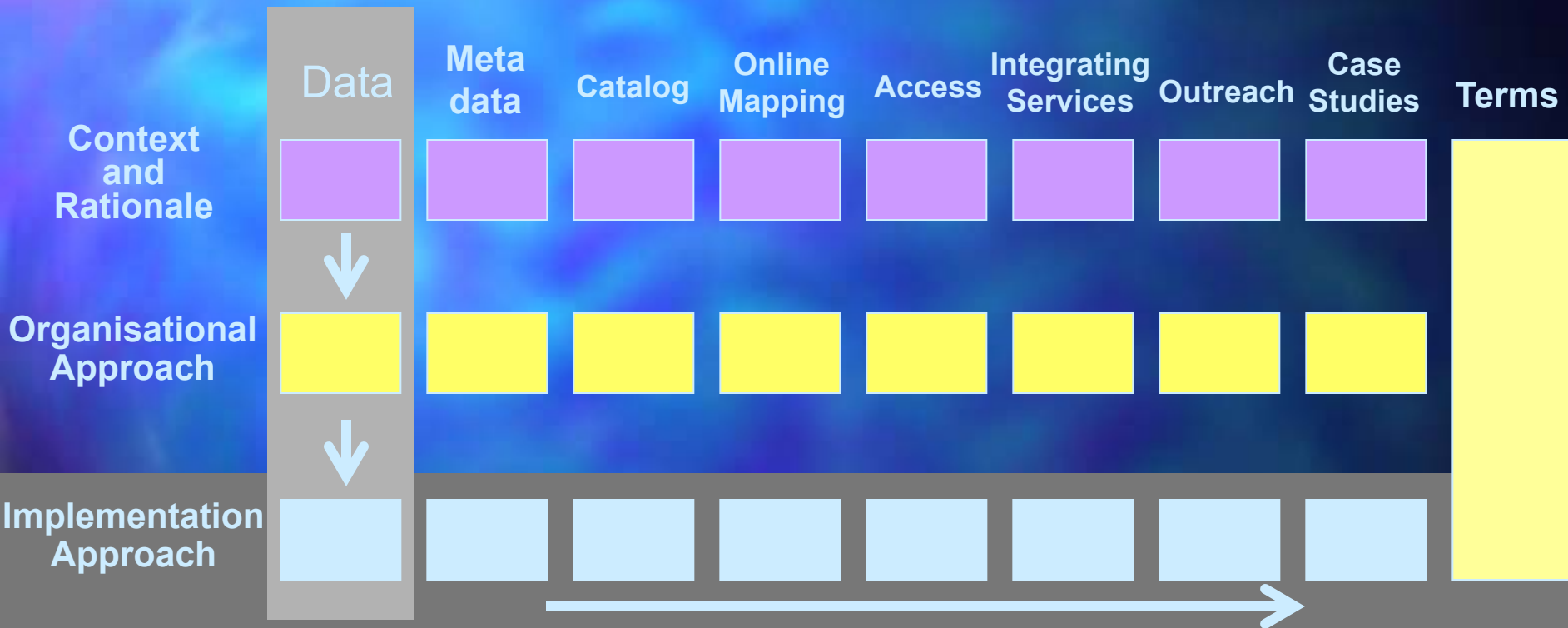
Success stories.....

Cookbook – announcing version 2.0:

- Doug Nebert; Editor in Chief
- It contains contributions from many nations
- FGDC/GSDI will maintain it and make it available on the GSDI website
- It is a living document

Cookbook Design Concept

Chapter



What do we want to keep doing.....?
.... or do better?

- Expand our membership
- Work with current partners to leverage talents, resources, and impact
- Seek new partners to do same
- Spice-up the Newsletter and expand awareness

What do we want to keep doing.....? or do better?

- Improve the Cookbook
 - Enhance the case studies
- Small grants for '05 and beyond
 - Attract partners to leverage resources
 - Broaden impact
- Provide services
 - Geo-Portal
 - Web -- applications

Encourage capacity building

- Conduct SDI awareness training
- Facilitate the sharing of information
- Collect case examples of best practices
- Provide on-site support as requested for hands-on work
- Conduct follow-up activities/incentives
- Establish a knowledge infrastructure

Promote and conduct SDI development research

- Stimulate the academic community to conduct research relating to SDI development
- Maintain an online SDI library of reference material
- Implement a small grant program in support of SDI research
- Facilitate networking of SDI researchers around the world

What do we want to keep doing.....?
.... or do better?

*Be seen as the focal point for
Global Spatial Data
Infrastructure information and
help*

Additional Information

www.gsdi.org

**Global Spatial Data
Infrastructure**

www.erogi.org

European Umbrella Org. for Geog.

www.pcgiap.org

**Permanent Comm. for Geog.
Info. for Asia and the Pacific**

www.cpidea.org.co

Perm. Comm. For the Americas

www.codigeo.org

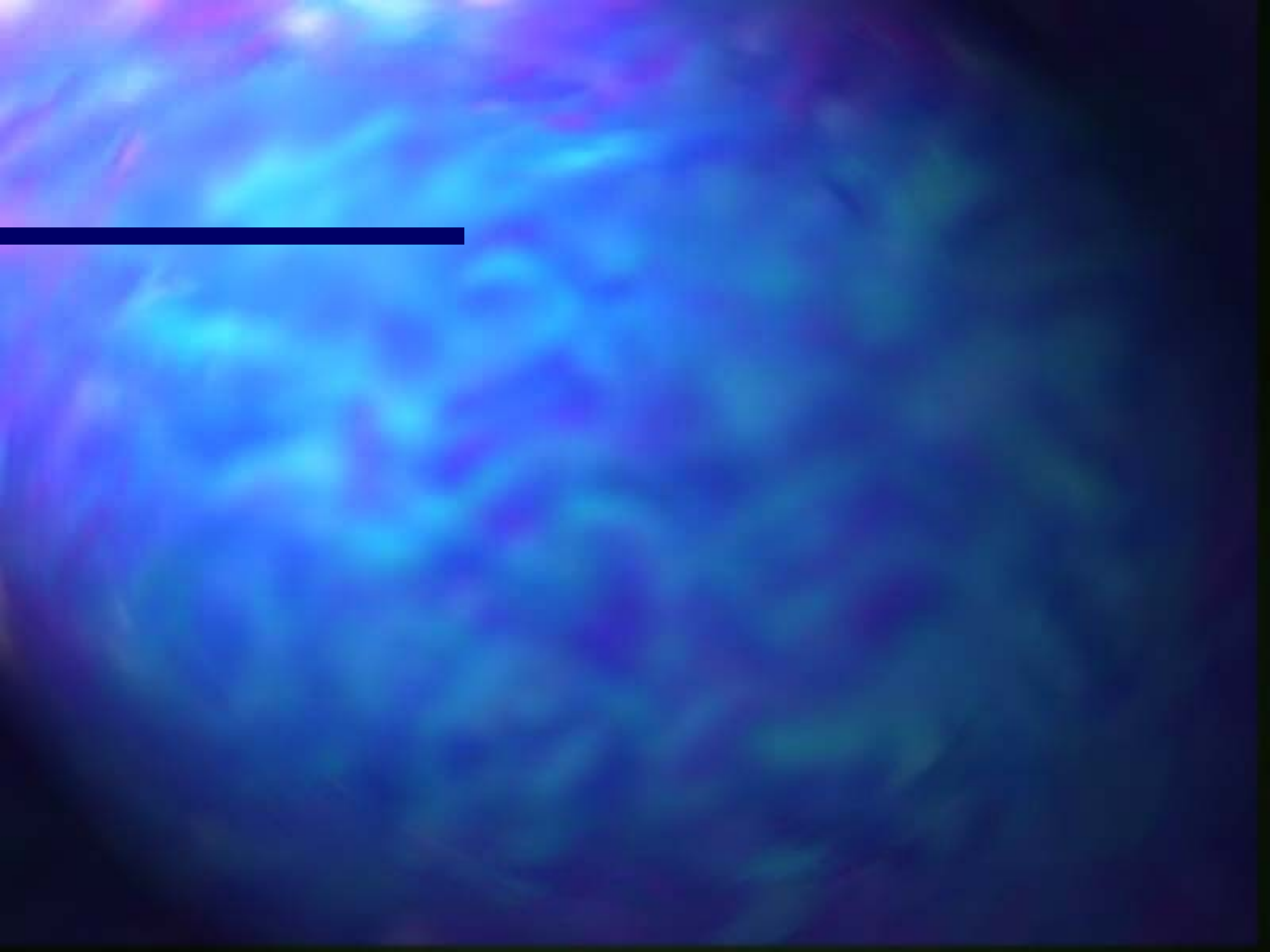
Permanent Committee for Africa

www.opengis.org

Open GIS Consortium

www.fgdc.gov

**Federal Geographic Data
Committee**





Core Components of the NSDI

Clearinghouse/Portal

Metadata

Framework

GEOnata

Standards

Partnerships

What is the Federal Geographic Data Committee?

Really two answers....

- Body of people facilitating the creation of the NSDI within the US
- Committee of many federal, state, academic agencies and the private sector working to actually build the NSDI

The Federal Geographic Data Committee

- Chartered in the early 1990s
- Federal – 20 cabinet level agencies & offices
- Many states, regional, & local governments participate
- Along with the private sector, NGOs, and Academia

FGDC Steering Committee

Cabinet Officers and Agencies:

- Interior (Vice Chair)
- Agriculture
- Defense
- Energy
- HHS
- HUD
- Justice
- State
- Transportation
- FCC
- EPA
- Emergency Mgt
- Library of Congress
- NASA
- Archives
- OMB (Vice Chair)
- Commerce
- NSF
- TVA
- GSA

Federal Geographic Data Steering Committee

- It's not just federal.....
 - States
 - Counties
 - Municipalities
 - Non-Governmental Organisations
 - Industry

NSDI ... so where are we today?

Strong high-level political federal support

- FGDC starts early 1990s
- High level political support
 - OMB Circular A-16
 - NSDI Presidential Executive Order 1994
 - Secretarial involvement in the FGDC
- Extensive partnerships established
- Standards -- nationally, internationally
- Clearinghouse network
- Open policy for federal spatial data

The Federal Geographic Data Committee what's new?

- Major focus within the Federal Government
- An effort to reach into states and communities
- Need a sustained effort to drive the concept and application to the states and local governments

FGDC/NSDI Future Directions

VISION:

Current and accurate geospatial data will be available to contribute locally, nationally, and globally to economic growth, environmental quality, and stability, and social progress

FGDC/NSDI Future Directions

1. Forging partnerships with a purpose

Expand the governance model

FGDC/NSDI Future Directions

2. Making framework real

...generating framework data themes that will include collection, documentation, access, and utilization of data.

FGDC/NSDI Future Directions

3. Communicating the Message

...recognized across the nation as the primary source for the availability and use of reliable spatial data

Additional Information

www.fgdc.gov

**Federal Geographic Data
Committee**

www.gsdi.org

**Global Spatial Data
Infrastructure**

www.opengis.org

Open GIS Consortium