

***OKLAHOMA GEOGRAPHIC
INFORMATION COUNCIL***

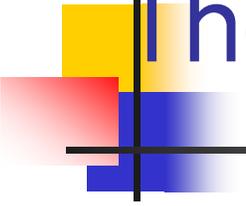
***PAST,
PRESENT
AND FUTURE***



SB 722 - Legislature/Governor 1994

HB 1964 - Legislature/Governor 1995

2002/2003 – What Is The Role Of The GIS Council?



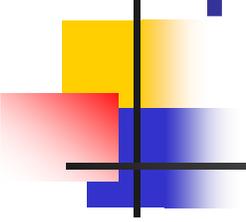
- Growing GIS community
- 9/11 Homeland Security
- Federal/Private Funding Opportunities
- Prevent Overlap and Duplication of GIS Activities in Oklahoma

Oklahoma
Geographic Information Systems
(GIS) Council

Interim Study H2003-105

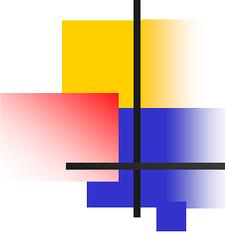
Role of the State Geographic
Information Systems Council

December 4, 2003



House Interim Study H2003-105

- **Issues for Consideration:**
 - Add Public Safety/County/Local Members
 - Designate a State-wide Coordinator
 - Authority to Set Policy & Standards



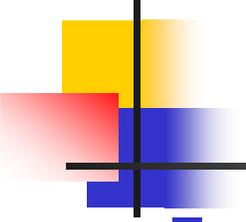
Expanded Membership

- Homeland Security Agencies

- **Public Safety**
- **Civil Emergency Management**
- **Health**

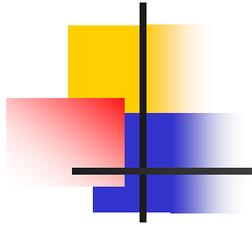
- Council of Governments
- Cities and Counties Government
- Others to be determined

State Geographic Information Coordinator

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-
- Funded, Full Time Position
 - Coordinates GIS projects
 - Federal Grant Applications
 - Advises the Council on Geographic Information Issues

Position is a Coordinator, not a Mapping Czar

State Geographic Information Coordinator



- ***Positives***

- Oklahoma Input in National Standards
- Opportunity for Federal/Private Grants

- ***Negatives***

- Cost of Position
- On-going Funding

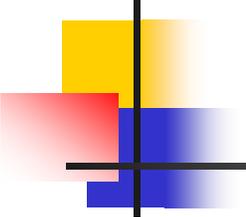
Over 40 States have GIS Coordinators

Funding

- Budget Information
 - Estimate \$180,000*
 - House in Existing Agency
 - Goal to be self-supporting



* One Person, Support, Computer resources, etc.

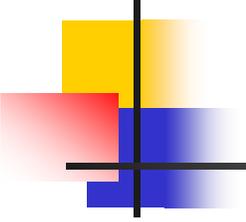


Stronger Role for the Council

- Set GIS Policy & Standards
- Data coordination
- Federal Grants
- Assist Local Governments
- Educational Resource
- Source for Mapping Needs

Agencies Still Apply
for Grants.

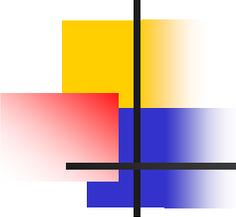
***Council should help private sector
with mapping needs.***



Goals

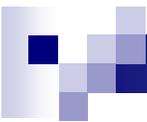
- Reduce Duplication of Efforts
- Enhanced Homeland Security
- Awareness of Available Data
- Data Works Across Jurisdictional Lines
- Data Reliability
- Agency Coordination & Involve More Agencies
- Cost Savings to Taxpayers

HB 2457 - Legislature/Governor 2004



House Bill No. 2457

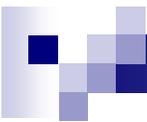
- ◆ Increased the membership of the State Geographic Information Council - removed 'Systems' from name
- ◆ Placed certain prohibitions on members of the Council
- ◆ Specified duties of the Council
- ◆ Re-established a revolving fund
- ◆ Created an Office of Geographic Information
- ◆ Provided for a State Geographic Information Coordinator
- ◆ Specified duties of the Office



State Geographic Information Council

19 Members

- ◆ Oklahoma Conservation Commission
- ◆ Department of Environmental Quality
- ◆ Corporation Commission
- ◆ Oklahoma Department of Commerce
- ◆ Oklahoma Department of Agriculture, Food and Forestry
- ◆ Oklahoma Water Resources Board
- ◆ Department of Transportation
- ◆ State Geographer
- ◆ Oklahoma Geological Survey
- ◆ Center for Spatial Analysis of the University of Oklahoma
- ◆ Division of Agricultural Sciences and Natural Resources of Oklahoma State University
- ◆ [Ad Valorem Division of the Oklahoma Tax Commission](#)
- ◆ Representative of the Oklahoma Regional Universities
- ◆ Information Services of the Office of State Finance
- ◆ Wildlife Conservation



State Geographic Information Council

19 Members – 4 New

- ◆ Director of Homeland Security
- ◆ Three members appointed by the Governor
 - ◆ Representative of the Oklahoma Association of Regional Councils
 - ◆ Representative of County Assessors
 - ◆ Representative of City Government

Providing for Meeting of the Council:

- ❖ Chair of the Council shall be the Director of the Conservation Commission
- ❖ Meetings will be called by the Chair
- ❖ A majority of the membership of the Council constitutes a quorum for the conduct of business
- ❖ The Council will meet at least twice a year and the chair may call a meeting of the Council as often as necessary to transact business.

A member of the Council shall not:

- ❖ Be an officer, employee or paid consultant of a business entity that has substantial interest in the GIS industry
- ❖ Own, control, or have directly or indirectly, more than ten percent interest in a business entity that has a substantial interest in the GIS industry
- ❖ Be an officer, employee, or paid consultant of a business entity that is connected with any contract or bid for furnishing GIS to any governmental body of the state
- ❖ Be a person required to register as a lobbyist on behalf of a business entity or trade association that has substantial interest in the GIS industry.
- ❖ Accept or receive money or another thing of value from an individual, firm, or corporation to whom a contract may be awarded.

The duties of the Council shall include overseeing the Office of Geographic Information concerning the following:

- ❖ Development, adoption, and recommendation of standards and procedures
- ❖ Development of a strategy for the implementation and funding of a statewide GIS
- ❖ Development, delivery, and periodic revision of a statewide GIS plan and annually reporting to the Governor and the Legislature
- ❖ Promotion of collaboration and sharing of data and data development
- ❖ Neither the Council nor its members shall have the power to form or award contracts or to employ staff. Members appointed by the Governor shall serve without compensation.



New Law: Office of Geographic Information

- ◆ There is hereby established an Office of Geographic Information in the Oklahoma Conservation Commission.
- ◆ The Executive Director of the Oklahoma Conservation Commission shall appoint, after consultation with the Council, a person of suitable training, experience and knowledge to manage the Office with the title of State Geographic Information Coordinator.
- ◆ The office may solicit, receive and consider proposals for funding from any state agency, federal agency, local government, university, nonprofit organization or private person or corporation. Additionally, the office may receive a specific legislative appropriation within the appropriation for the Oklahoma Conservation Commission



The Office Shall:

- ◆ Provide staff support and technical assistance to the Council
- ◆ Establish a central statewide geographic information clearinghouse
- ◆ Coordinate any grant programs
- ◆ Coordinate multi agency GIS projects
- ◆ Provide access to consulting and technical assistance
- ◆ Develop, maintain, update and interpret GIS standards



The Office Shall:

- ◆ Provide GIS services
- ◆ Evaluate, participate in pilot studies and make recommendations on GIS hardware and software
- ◆ Prepare proposed legislation and funding proposals for the Legislature
- ◆ Address data sensitivity issues
- ◆ Provide an annual report to the Governor and Legislature

Where do we go from here?

1. FUNDING

2. FUNDING

3. FUNDING



NSGIC



March 6, 2006

Special points of interest:

- The Fifty States Initiative offers a new “foundation” for the National Spatial Data Infrastructure (NSDI)
- A work group of Federal, State and Local government members created the action plan
- The initiative stresses the wise use of existing funding mechanisms
- In the absence of these recommended coordination criteria, government agencies will waste money and duplicate effort

FORMATION COUNCIL

Fifty States* Initiative

Alaska, Hawaii, Puerto Rico, and the Insular Areas

FGDC and NSGIC Begin Implementing the Fifty States Initiative

The Fifty States Initiative outlines a fundamental change in the way all governments should work together to build the National Spatial Data Infrastructure (NSDI). Instead of the current “build it and they will come” philosophy that relies on random grants and partnerships, a new program emphasizing strategic and business planning with specifically targeted implementation grants, performance measures and incentives will be employed.

This initiative is one of twelve planning activities that were begun as part of the Federal Geographic Data Committee’s (FGDC) *Future Directions* strategic planning process. For further details on all of the Future Directions projects, see the FGDC web page at the URL listed below.

The Action Plan for the Fifty States Initiative was approved for implementation by the NSGIC Board of Directors and by the Federal Geographic Data Committee.

tion, it lays out implementation steps that the Federal government and other entities need to undertake to establish more formal statewide coordination councils that will take an active roll in completing the NSDI. In this document, the term “statewide” applies to the states, the District of Columbia, Puerto Rico, and all of the Insular Areas.

Federal Geographic Data Committee (FGDC)

- A US Federal Interagency committee responsible for facilitating geospatial related activities and implementation of the NSDI across the Federal government
 - 19 Federal agencies are members
- Cooperate and coordinate with organizations from state, local and tribal governments, the academic community, and the private sector.

NSDI - What Is It ?

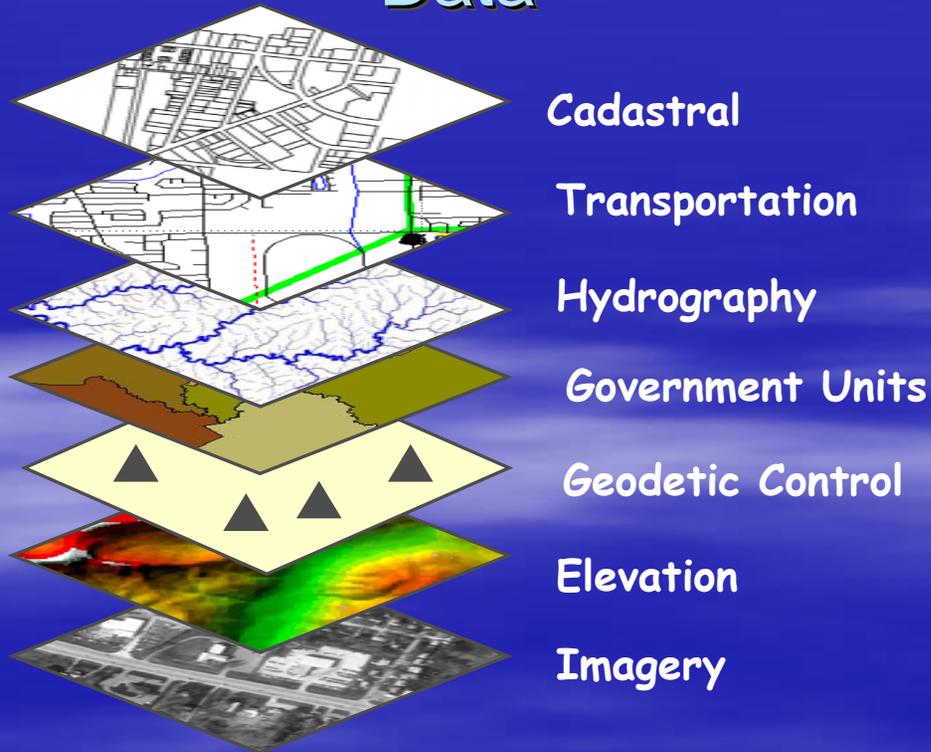
- **Public Policies** - Public Access for Federal Data, Data Sharing, Privacy Protection, Reduce Duplication, Use Effective Business Practices (Unify and Simplify)
- **Technology** - NSDI Clearinghouse, Interoperable Geoprocessing
- **Standards** - Metadata, Data Standards, Framework Data
- **Resources** - Partnerships, Collaboration, Leverage Investments, Grant Program
- **Geospatial Data** – Local, Regional, State, Tribal, Federal, Private, Academia

National Spatial Data Infrastructure (NSDI)

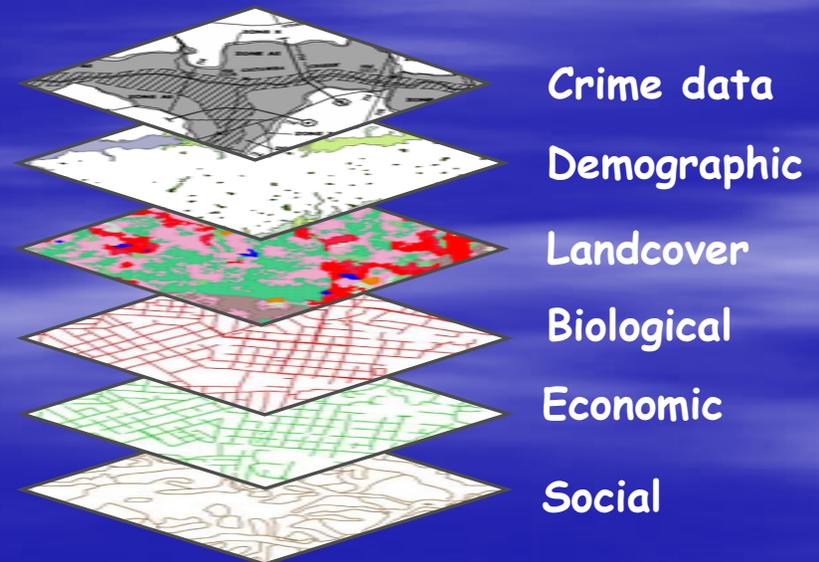
The vision of the NSDI: to assure that spatial data from multiple sources (Federal, State, and local governments, academia, and the private sector) are widely available and easily integrated to enhance knowledge and understanding of our physical and cultural world.

Access, Sharing, Interoperability and Relationships to Build Once, Use Many Times

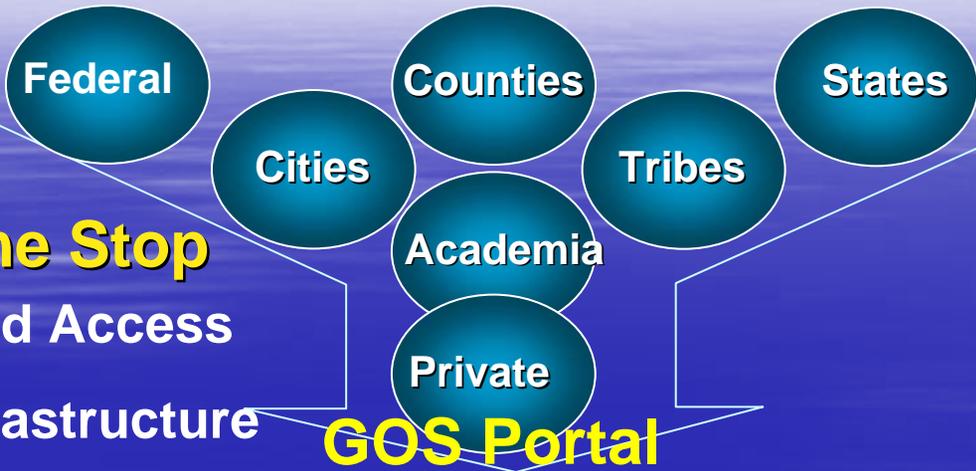
Framework/Core Data



Other Thematic Data



Leading the Development of Partnerships to Build the NSDI



Geospatial One Stop

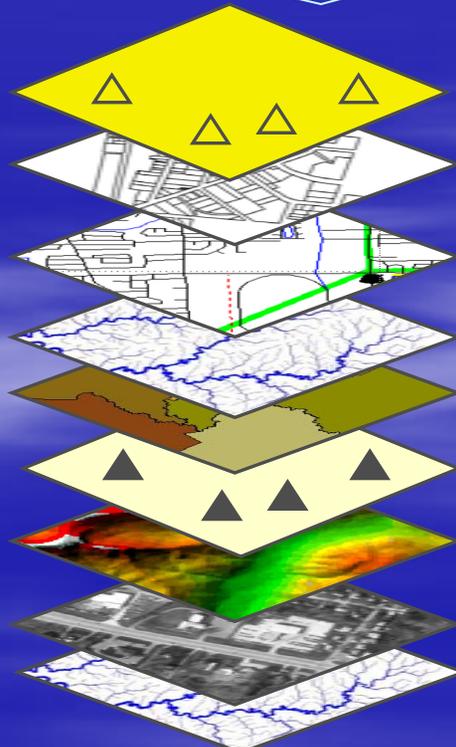
- Discovery and Access
- Common Infrastructure
- Harvesting

FGDC

- Coordination
- Standards/Policy
- Training

The National Map

- Integrated Content
- Seamless Base
- Map Products
- Framework Focus



Toxic Releases

Land Cover

Transportation

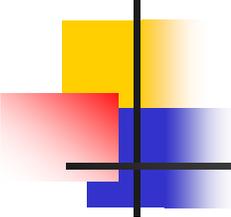
Surface Waters

Boundaries

Structures

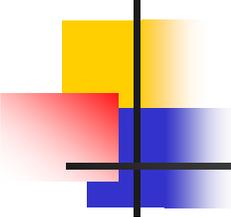
Elevation

Aerial Imagery
Geographic Names



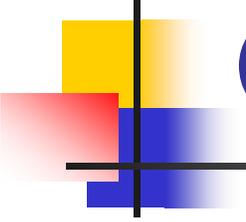
50-State Initiative

- A Partnership between NSGIC and FGDC.
- Utilizes Strategic and Business Planning to implement effective coordination of geospatial information technologies.
- Oklahoma received a 2006 FGDC CAP grant to develop a Strategic and Business Plan for the Council/OGI.



Criteria for Effective Coordination

- Full-time, Paid Coordinator
- Clearly defined authority
- Formal relationship with state CIO
- A Champion
- Framework Data/State Clearinghouse
- Ability to work/coordinate with stakeholders



Criteria for Effective Coordination (con't)

- Sustainable funding
- Coordinators can contract/administer funds
- Federal government uses statewide coordination office as a clearinghouse for grant opportunities

Strategic & Business Plan Development-Council/OGI

- \$ 50,000 CAP Grant/50 % match
- Strategic Planning Facilitator
- Review the 1991/1996 Strategic Plans
- Needs Assessment-Electronic Survey & Focus Groups-Public & Private Sectors
- Conduct a SWOT analysis of current GI climate

Strategic & Business Plan Development-(con't)

- Identify practical vision for 3 year plan
- Develop strategic directions and goals for this 3 year plan
- Develop a one-year implementation plan with measurable objectives
- Construct a business plan including a return on investment to justify funding

OGI Mission

The OK OGI provides geographic information services to governments, academia, industry, and the public. The Office:

- **Supports the GI Council with technical assistance.**
- **Coordinates and promotes geographic information awareness, activities, data, and training.**
- **Develops standards, policies, and operating procedures.**
- **Maintains a centralized statewide clearinghouse of accurate and timely data while protecting data security.**
- **Facilitates data development, sharing and access.**
- **Fosters the values and benefits of GIS technology to ensure good stewardship of the State's resources.**

OGI Organizational Vision

The OGI's statewide spatial data infrastructure is consistent with appropriate national standards and supports the notion of a National Spatial Data Infrastructure or NSDI, thereby promoting OK as a national leader in leveraging Geographic Information Systems to benefit both the State and the Nation.

Strategic Direction and Goals

Building a Sustainable Future

1. **Annually prepare three-year budget.**
2. **Annually complete 3-year strategic plan.**
3. **Develop state coordinator and GI job classifications and descriptions for approval.**
4. **State GI coordinator hired and dedicated solely to OGI initiatives.**
5. **Conduct awareness campaign with agency directors and legislative leaders.**
6. **Establish executive level Council and legislative commitments.**
7. **Establish ongoing OGI strategic review process.**
8. **Conduct annual review and update of OGI Strategic Plan.**
9. **Develop professional Geographic Information Organization for Oklahoma.**

Strategic Direction and Goals

Marketing GI as an Important Decision Making Tool

1. **Create comparative analysis report to project ROI.**
2. **Develop pilot project to increase awareness of GIS need.**
3. **Increase website utility.**
4. **Conduct GIS awareness campaign across Oklahoma.**
5. **Plan and host annual statewide conference featuring best practices recognition.**
6. **Foster training and education.**

Strategic Direction and Goals

Maximize Geographic Information Benefits for the State

1. **Participate in national multi-state GI organizations.**
2. **Participate in regional and national coordination efforts.**
3. **Initiate data sharing/stewardship agreements among specific stakeholders.**
4. **Organize an integrated data development consortium.**
5. **Leverage existing national organization participation.**
6. **Leverage national resources and initiatives to receive maximum benefits.**
7. **Develop partnerships for data sharing and stewardship.**
8. **Establish official statewide information clearinghouse.**

The Vision *The nation will have a sustainable and flexible digital imagery program that meets the needs of local, state, regional, tribal, and federal agencies.*

By Tony Spore, President, NSGIC

The National States Geographic Information Council (NSGIC) is working with the National Digital Orthophoto Program (NDOP) Committee and the Federal Geographic Data Committee (FGDC) to create a new nationwide aerial imagery program that will collect and disseminate standardized multiresolution products on set schedules. Local, state, regional, tribal, and federal partners will be able to exercise buy-up options for enhancements that are needed by their organizations. The imagery acquired through this program will remain in the public domain and authorized to secure its availability for posterity.

The Program

This is a massive undertaking that will require two separate, but well-coordinated, programs.

The existing National Aerial Imagery Program (NAIP) administered by the U.S. Department of Agriculture will be enhanced to provide annual one-meter imagery over all states, except Alaska (see below) and Hawaii, which will be acquired by NAIP every three years. This program will typically collect imagery during the growing season (leaf-on), in natural color.

A companion program will be administered by the U.S. Geological Survey (USGS). Under this program, Alaska will receive one-meter imagery for the entire state once every five years. This program will also produce one-foot resolution imagery once every three years for all states east of the Mississippi River and all counties west of the Mississippi River with population densities greater than 25 people per square mile. This program will typically acquire imagery during winter and spring months (leaf-off), in natural color.

Value of Imagery

Orthoimagery provides the visual context of an aerial photograph while being as accurate as a map for measurements. These qualities allow users to easily:

- Measure distance.
- Calculate areas.
- Determine shapes of features.
- Calculate directions.
- Determine accurate coordinates/locations.
- Determine land cover and use.
- Perform change detection.

Orthoimagery is displayed in E-911 response centers to dispatch first responders to exact locations and for tracking incoming calls from mobile phones. Police, fire, and other emergency workers in fire trucks utilize orthoimagery before responding to emergencies. Digital imagery is used to collect a wide variety of information, including transportation routes, wetlands, streams, shore lines, building outlines, timber stands, land-use patterns, farm fields, and crop types.

Local governments rely on orthoimagery to map land property boundaries and manage their streets and other infrastructure assets. Ortho imagery serves as a seamless basemap layer to which many other layers are registered. It provides visual information for the following partial list of applications:

- Homeland security, homeland defense, and emergency management
- Public safety planning, response, and mitigation
- Tax parcel mapping
- Transportation management, operations, and planning
- Economic development
- Utilities management, operations, and planning
- Land planning and zoning
- Drainage, planning and management
- Code and permit enforcement
- Agriculture
- Forestry
- Surveying and mapping
- Environmental management, planning, and regulation
- Education
- Natural resource inventory and assessments

Program Benefits

This program can be operated and managed using federal contracts with multiple professional firms at a lower cost, 52.9% than the current independent contractors managed by federal, state, and local governments. If cities outstanding as to local governments and smaller states because price breaks are achieved by contracting for larger areas.

The national program cost estimate of \$111 million per year includes imagery acquisition and processing costs, contract management, quality control, quality assurance, data distribution, and archiving. Generally, these costs add approximately 34 percent to orthoimagery production costs.

A national imagery program lacking the suite of coordination mechanisms outlined here (state or state) would cost nearly \$185 million over three years. Cost savings in four areas can reduce this to ~\$333 million. The first cost and the large area and other cost savings cited above. The third (~25%) comes from reducing duplication of effort and program redundancy. The final factor is a 19 percent return on investment (ROI) value that is achieved through adherence to standards. NSGIC and NDOP estimate the following cost savings for each of these factors during each three-year cycle:

Large area	\$57,717,000
Other costs	7,510,000
Duplication	53,644,000
ROI	40,770,000
Total savings	\$159,641,000

Six-inch resolution imagery



Natural color image from STURDEE, Polk County, Florida

Image type	Natural color
Leaf-on or off	Off
Cloud cover	0%
Horizontal accuracy	2.5 feet at 95% NSSDA (National Standard for Spatial Data Accuracy)



Footprints of U.S. Census Bureau census tracts with population greater than 50,000 with a density above 1,000 per square mile.

Frequency	Every three years
Local cost share	50%
Federal program steward	USGS
Buy-up options	100% cost for color-infrared or four-band product 100% cost for increased frequency 100% cost for increased footprint 100% cost for increased horizontal accuracy 100% cost for three-inch resolution 100% cost for better elevation data products 100% cost for removal of building can (see article)

One-foot resolution imagery



EarthData image of tornado damage, Maryland Department of Natural Resources

Image type	Natural color
Leaf-on or off	Off
Cloud cover	0%
Horizontal accuracy	5 feet at 95% NSSDA



All areas west of the Mississippi River and all counties west of the Mississippi River with more than 25 persons per square mile.

Frequency	Every three years
Local cost share	None
Federal program steward	USGS
Buy-up options	00% cost for color-infrared or four-band product 00% cost for increased frequency 00% cost for increased footprint 00% cost for increased horizontal accuracy 00% cost for sampling product to lower resolution 00% cost for six-inch resolution 00% cost for better elevation data products 00% cost for removal of building can (see article)

One-meter resolution imagery



Natural color image of Adams County, Nebraska, USDA NR, IP program

Image type	Natural color
Leaf-on or off	On
Cloud cover	10%
Horizontal accuracy	25 feet at 95% NSSDA



Entire nation, including all insular areas and territories.

Frequency	Every year in the 48 conterminous states; every five years in Alaska; every three years in Hawaii, insular areas, and territories.
Local cost share	None
Federal program steward	U.S. Department of Agriculture, except Alaska; USGS for Alaska
Buy-up options	100% cost for color-infrared or four-band product 00% cost for increased horizontal accuracy

Imagery For The Nation-IFTN

- NSGIC/NDOP/FGDC partnership
- New nationwide imagery program
- Imagery on a set schedule
- Public domain
- Buy-up options

IFTN -Details

- Statewide 1-meter, leaf-on, color, 3-yr cycle
- Every 3 years 50% Statewide, 1-foot, leaf-off, color, buyup option for remaining 50%. Plus 50% matching funds available for 6-inch, leaf-off, color, urbanized areas > 50,000 population & 1,000 people/sq. mi.

National Broadband Mapping Program-ARRA(Stimulus)

Develop and maintain a comprehensive, interactive, and searchable nationwide inventory map of existing broadband service capability and availability in the United States that depicts the geographic extent to which broadband service capability is deployed and available from a commercial or public provider throughout each state.



What is Broadband?

- Internet service with a minimum speed of 768 kb/sec download and 200 kb/sec upload.
- All technologies (cable, DSL, fixed wireless, mobile wireless, etc.) excluding satellite.



State Grants

- Availability of broadband service at the address level
- Advertised and “expected actual” speeds of broadband service
- Technology used to deliver broadband service (e.g., Cable, DSL, Fiber-to-home, WiMax)
- Average Revenue Per User (ARPU)*
- Location and capability of critical broadband-related infrastructure*
- Spectrum used by wireless broadband service providers





Critical Issues

- Confidentiality – NDA's
- FOIA/ORA Exemption
- Timeline
 - Grant deadline 8/14/09
 - Awards announced on 9/15/09
 - Funds available 10/15/09
 - Substantially complete data 2/1/10
 - Data collection complete 3/1/10
 - Funds obligated 9/30/10
 - National map online 2/17/11
 - States provide updates/validation for 5 years
 - Grant ends 10/15/14
- Need for contractor assistance
 - RFP issued, reviewed, contract award 9/16/09



Why is Mapping Important?

- It will define areas that are served with broadband Internet services and those that are underserved or unserved.
- Used in awarding infrastructure grants to providers and communities wanting to expand broadband service.
- USDoC-NTIA \$ 4.7 Billion-urban/rural
- USDA-RUS \$ 2.5 Billion-rural