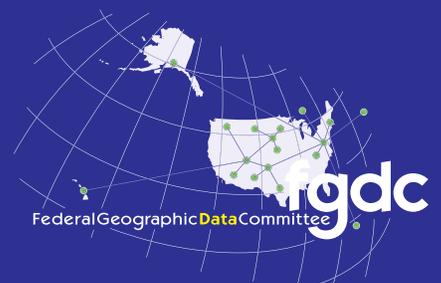




2007 Annual Report

Federal Geographic **Data** Committee

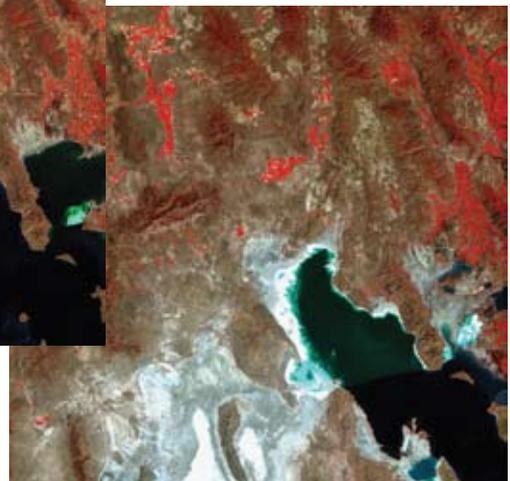
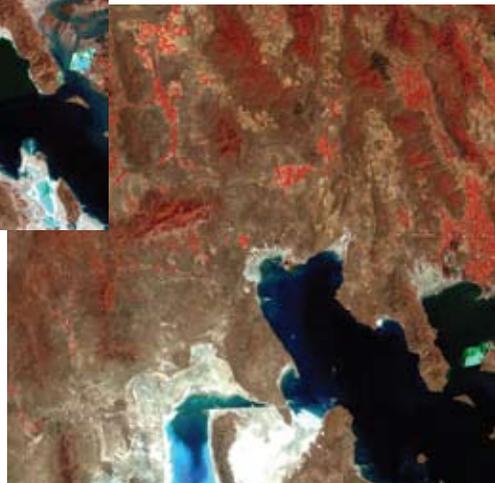


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These images, from 1972, 1988, and 2002, show the extent that the Great Salt Lake can change over a 30-year period. The Great Salt Lake is one of the most saline inland bodies of water in the world and is the largest inland body of salt water in the Western Hemisphere.



Highlights of Fiscal Year 2007

1. Geospatial Line of Business

The Geospatial Line of Business continues to move toward full implementation. Recent activities of the Federal Geographic Data Committee (FGDC) include awarding the Program Management Office a support contract to Grant Thornton and establishing interagency working groups to develop work plans that support the tasks identified in the Joint Business Case. For more information, see page 3.

2. National Geospatial Advisory Committee

The FGDC Steering Committee voted in October 2006 to establish a National Geospatial Advisory Committee (NGAC). The new committee, under the auspices of the Federal Advisory Committee Act, will provide advice and recommendations to the FGDC on management of Federal geospatial programs, development of the National Spatial Data Infrastructure, and implementation of Office of Management and Budget Circular A-16. A call for nominations for appointment to the NGAC was issued in May 2007 and more than 100 nominations were received. An interagency review panel was established to review the nominations and make recommendations on appointments to the Office of the Secretary of the Interior. The

Secretary of the Interior will make the final appointments to the NGAC. The appointments are expected to be issued and the committee formally established in early 2008. For more information, see page 8.

3. Fifty States Initiative

Thus far, 28 States and the District of Columbia have received funding to advance the Fifty States Initiative. These States and the District are working to improve the coordination of geospatial information through the development of statewide strategic plans and business plans. A key partner in the initiative is the National States Geographic Information Council (NSGIC). As of October 2007, about \$1.4 million in grants had been awarded by the FGDC. In fiscal year (FY) 2007, twelve States received grants through the FGDC Cooperative Agreements Program. For more information, see page 5.

4. International Activities

In FY 2007 the FGDC supported the Group on Earth Observations (GEO) effort and the Global Spatial Data Infrastructure (GSDI) Association. Support for the GEO included leadership activities and participation in core tasks relating to the definition and deployment of a standards-based architecture for the exchange of earth observation data. The FGDC worked

closely with the GSDI Association to organize and conduct the 9th GSDI conference in Santiago, Chile, in November 2006. More than 400 attendees participated in an active exchange of ideas regarding the development of GSDI. For more information, see page 7.

5. Geospatial One-Stop

The Geospatial One-Stop (GOS) portal, geodata.gov, continued its steady growth in FY 2007. With more than 150,000 individual metadata records contributed by 376 publishers, the portal had a 20 percent increase in records from FY 2006. Through an Interagency Personnel Agreement, GOS focused on outreach and increasing participation with local governments and related associations; the outreach resulted in registering 150 local government Web mapping services.

Enhancements to the GOS portal implemented in FY 2007 include:

- A spatial search that shows the most geographically relevant (best fit) results first.
- Improved visualization of search results that show footprints of the datasets in a map.
- Exporting search results to an Excel spreadsheet.

- The ability to see live map services in 3-D globe viewers.
- Improved tools for data providers to add and manage their metadata on the portal.

For more information, see page 9.

6. Standards

The FGDC Standards Working Group promotes and coordinates FGDC standards activities. Highlights for FY 2007 include:

- The release by the FGDC of three draft standards for public review: the Shoreline Data Content Standard, the Wetlands Mapping Standard, and the National Vegetation Classification Standard (Version 2.0).
- A systematic review of FGDC standards that had been endorsed for 5 years or more to determine if any technical or editorial updates were needed.
- A Framework Data Standard management review by the International Committee for Information Technology Standards to prepare the standard for endorsement and publication by the American National Standards Institute.

- A community review of the North American Profile on Metadata.

For more information, see page 11.

7. Imagery for the Nation

The Imagery for the Nation (IFTN) proposal met the first two of three major goals it set for itself in 2007:

1. A cost-benefit analysis (CBA) was completed in September 2007 and presented to the Geographic Information Office of the U.S. Geological Survey and to the FGDC Steering Committee.
2. Governance requirements, partnership opportunities, and IFTN contracting options for State

partners were developed (ongoing activities led by the National Digital Orthoimagery Program and the National States Geographic Information Council).

3. Strategies and options for funding an FY 2009 IFTN proposal did not occur primarily because the proposal awaited the formation of the Executive Committee of the FGDC. An initial charge of the FGDC Executive Committee will be to review the IFTN CBA for the proposal and make recommendations on the selected CBA funding strategies.

For more information, see page 12.

Success Stories

Web Mapping of Federal Waters

Challenge: The Minerals Management Service (MMS) needed to provide an online Web-mapping viewer to facilitate the nomination and commenting process for the installation of offshore data collection and technology testing facilities in Federal waters.

Action: Using existing framework data (Circular A-16 themes Offshore Cadastral and Oil and Gas Lands) as a base, MMS began acquiring data layers through its partners to show key facilities, boundaries, and habitats on the Outer Continental Shelf.

Result: Within a very short time, MMS posted a Web-mapping viewer for the contiguous United States, with Alaska and Hawaii to follow. The viewer can be accessed at www.mms.gov/offshore/RenewableEnergy/WebMappingViewer.htm.

Message From the FGDC Chair

I am pleased to present the Federal Geographic Data Committee's (FGDC) 2007 Annual Report. The theme for this year's report, "Spatially Understanding our Changing World," reflects our mission to promote the coordinated development, use, sharing, and dissemination of geospatial data resources through the National Spatial Data Infrastructure (NSDI). This report highlights accomplishments of the 28 interagency members of the FGDC.

During the past 18 years, FGDC member agencies and collaborating partners have worked hand in hand to advance the NSDI. This report is a renewed commitment to the NSDI and a reflection of our successes. I am happy to have the opportunity to highlight how FGDC is helping organizations, communities, and citizens make sound decisions by incorporating geospatial information into their decision making processes and how this information is used in our daily lives to help resolve complex problems.

At the end of fiscal year 2007, a National Geospatial Advisory Committee (NGAC) is moving towards an official charter. The NGAC membership will consist of 14 nongovernment stakeholders (private sector and nonprofit organizations and academia) and 14 government stakeholders (Federal, State, Tribal and local partners). The NGAC will provide advice and recommendations related to the management of Federal and national geospatial programs, the development of the National Spatial Data Infrastructure, the implementation of Office of Management and Budget Circular A-16 and Executive Order 12906. The Committee will review and comment upon geospatial policy and management issues and will provide a forum to convey views representative of the geospatial community.

This year the Geospatial Line of Business (LoB) transitioned the LoB task force and the responsibility for interagency oversight to the FGDC Coordination Group. The establishment of a new Executive Committee will help to provide guidance and expedite decisions that will result in a more coordinated approach to establishing a collaborative model for geospatially related activities and investments.

I challenge you to learn more about the value of incorporating geospatial information in decision making. This report has examples ranging from using online Web mapping services for offshore mineral data to the realignment of roads and water features to make participation easier for the 2010 Census. These applications illustrate how geospatial information can improve our work and service to citizens.

I want to thank all who have contributed to these successes.

Sincerely,

James E. Cason, *U.S. Department of the Interior*
Acting Chair, FGDC Steering Committee



Spatially Understanding Our Changing World

America is changing. The member agencies of the Federal Geographic Data Committee (FGDC) respond to these changes in a variety of ways, including monitoring changes in population and coastal regions, improving the sharing of geospatial data, and developing geocoding services. Here are a few examples of how FGDC agencies are responding to change.

Improving Our Census

U.S. Census data help determine how more than \$300 billion is distributed each year. The census data provide insight for informed decisions on policies, programs, and services for America's communities. The U.S. Census Bureau created the American Community Survey (ACS) to help communities see how they are changing and to fill in the gaps between each 10-year census. The ACS, started in the 1990's, began collecting data nationwide in 2005, providing more information about our changing communities.

As of 2007, improved census data is available annually for communities with a population of over 65,000. In the future, the U.S. Census Bureau will publish nationwide ACS data on a yearly basis, providing a timely view of our changing Nation.

Coordinating the Coastal Change Analysis Program

The Nation's coastal regions provide vast natural and economic benefits to the public. These areas, which are the most developed in the country, contain more than one-half of our country's population and attract large numbers

of visitors each year. The development of coastal regions can increase economic and recreational opportunities, but can also have serious environmental consequences, including loss of habitat for wildlife, the disruption of natural processes, increased pollution, degradation of water quality, use conflicts, and the loss of cultural and

Success Stories

Building on Local Data

Challenge: The U.S. Census Bureau works with State, Tribal, county, and local officials to implement programs designed to review geographic information. The knowledge provided by local partners allows the Census Bureau to meet many statistical and spatial data needs. Unfortunately, the Census Bureau's geospatial database, TIGER, was not in alignment with many partners' databases, making it difficult to participate in geographic programs for Census 2000. The Census Bureau needed to make participation in the 2010 Census geographic programs easier.

Action: The Census Bureau launched a multiyear project to realign the street features in the TIGER database to at least 7.6 meters of horizontal positional accuracy, using State, Tribal, county, and local files wherever possible. More than 2,000 of these local files have been used to date, vastly exceeding expectations. Local hydrography or the National Hydrographic Dataset is used where it is available at high resolution. Imagery gathered by other agencies that met the positional accuracy criteria was used to extract vectors and create the feature base.

Result: Millions of dollars were saved by the Census Bureau through the use of existing data. In addition, program participants are happy that the Census Bureau's geographic database matches theirs, making it easier to participate in programs. Newly created road centerlines match available imagery. All agencies, local governments, and private individuals now have free access to highly accurate road centerline data and geographic boundary data that are in the public domain and are freely downloadable from the Census Bureau's Web site.

historic resources. Land cover change is a direct measure of quantitative habitat loss or gain and an indirect measure of increases or decreases in sources of pollution, sedimentation, and other factors that determine the quality of habitat and water resources.

The National Oceanic and Atmospheric Administration's (NOAA) Coastal Change Analysis Program has the mission of inventorying coastal intertidal areas, wetlands, and adjacent uplands, with the goal of monitoring these habitats on a 1- to 5-year cycle. Inventories of change in land cover for two time periods of change (1996 and 2001) were recently completed for all the coastal regions in the contiguous United States. This is our Nation's first record of land cover change specifically focused on coastal areas.

This inventory is closely coordinated with other Federal programs through the Multi-Resolution Land Characteristics Consortium; the data produced by the NOAA are a coastal expression of the National Land Cover Database. The close coordination of multiple agencies has led to decreased duplication of effort across these agencies and has produced more consistent products than those previously developed independently.

The data on land cover change from 1996 to 2001 show that:

- About 2,274 square miles of land (approximately 7.5 times the area of New York City) was developed.
- The Southeast and Gulf Coast region is the least-developed but fastest-growing area, accounting for more than 50 percent of all new development.

- About one-half of the new development was associated with suburban development at the urban fringes.
- About 20 percent of development was an increase in density in urban areas.

This change information can be used, in part, to determine trend information about the cumulative effects of development, the impacts of land use on water quality, and the indicators that link land use change with ecosystem health. By using standardized regional information, managers are able to coordinate the planning of shared resources, facilitating an ecosystem approach to environmental issues that transcends local and State regulatory boundaries.

Sharing Wetlands Data

The U.S. Department of the Interior's Fish and Wildlife Service (FWS) works to share its National Wetlands Data effectively with other agencies to improve resource management and planning activities. In partnership with the U.S. Geological Survey, the FWS has made wetlands information available via the Internet (wetlandsfws.er.usgs.gov).

All wetlands digital data are provided in a seamless format for the contiguous United States. This data provides resource managers and the general public with data that can be used in geographic information systems as well as in assessment reports that address complex conservation issues.

Using Parcel Data to Support Gulf Coast Recovery

The U.S. Department of Housing and Urban Development (HUD) is charged

with providing long-term housing assistance to communities changed or impacted by Hurricanes Katrina, Rita, and Wilma. Immediately after the disaster, HUD needed a clear picture of where destruction had occurred. Today, HUD must assess the extent to which grants have provided for the repair of that damage and where and whether communities are recovering. To meet these challenges, HUD acquired parcel data for sections of the Gulf Coast from a commercial vendor working with local governments. While it was not possible to collect complete data for the area, the data collected are being standardized and improved.

HUD also developed an innovative methodology to link Federal, State, and local data at the parcel level using address matching capabilities developed for its Geocoding Service Center. This work supports efforts by the FGDC Cadastral Committee and provides a business case to support recommendations in the National Research Council report "National Land Parcel Data: A Vision for the Future." Results from this work also demonstrated that geographically coded property addresses maintained at the local government level for a polygon and/or point feature class would enable greater data sharing, linking, and collaboration possibilities across Federal, State, and local agencies.

Conclusion

These examples give you an idea about the variety of ways that FGDC agencies respond to and anticipate change. The geospatial community knows that change will occur. The FGDC agencies serve our Nation by improving the way the geospatial community handles and reacts to change.

FGDC: Leading the Development of Integrated Geospatial Capabilities

The National Spatial Data Infrastructure (NSDI) advances the interoperability of Federal information systems to enable the use of geospatial resources from multiple Federal agencies and their partners. The Federal Geographic Data Committee (FGDC) enables the NSDI to make the most of integrated geospatial capabilities.

Geospatial Line of Business Moves Toward Implementation

The Geospatial Line of Business (LoB) has set forth ambitious and transformational goals to better serve the Nation's interests. Building on the policy foundation of the Office of Management and Budget (OMB) Circular A-16, "Coordination of Geographic Information and Related Spatial Data Activities," and the President's Management Agenda, the Geospatial LoB will establish a new and more citizen-centric collaborative model for geospatially related activities and investments. This will create a framework for sustainable participation from non-Federal partners, and create a more coordinated and leveraged approach to producing, maintaining, and using geospatial data and services. Future cost savings and meeting customer and business needs more effectively will be realized by optimizing, and where appropriate, consolidating geo-

spatial assets and activities through enhanced performance accountability, compliance mechanisms, coordinated budget planning, and cost avoidance strategies. Providing the Nation with easy-to-use geospatial capabilities will promote more economical and efficient government services and information.

As the LoB initiative moves toward implementation, partnering agencies will realize improved business performance and cost savings. Enhanced governance processes, improved business planning and investment strategies, and optimization and standardization of geospatial business data and services will produce the following:

- Collaborative management of geospatial investments that are more adaptable, proactive, and inclusive.
- Enterprise business needs and agency core mission requirements that are identified, planned, budgeted, and exploited in a geospatial context.
- Reduced long-term costs of geoinformation delivery and access while minimizing the development of duplicative products.
- Less costly commercial off-the-shelf data management systems and contractual business support opera-

tions that replace legacy geospatial applications.

- Business processes that are optimized and enhanced information-management capabilities for locating geospatial data and obtaining services.

The benefits of the Geospatial LoB will be delivered to two broadly defined types of constituents. First, to citizens who benefit from geospatially enabled services through the use of maps and location-aware applications and technologies. Citizens will benefit from a more effective use of taxpayer dollars to receive those services. Second, government users who discover, evaluate, and use geospatial assets in the support of decision making will benefit by more efficiently delivering services for mission needs to citizens through easy to find, high quality, and timely geospatial data and services.

The FY 2009 Joint Business Case (JBC) describes the planned milestones and schedules for the Geospatial LoB. The LoB partner agencies have achieved major consensus on the goals and objectives of the LoB through the development of the JBC. The following tasks have been identified for FY 2008 and FY 2009.

- Review guidance governing the FGDC to determine recommended

changes to the organizational structure and membership, committee roles and responsibilities, stewardship of life cycle operating procedures, development of standards, and related activities.

- Evaluate and define the nine stages of the geospatial data life cycle and identify common capabilities to allow a cost-benefit return on investment for shared services.
- Define and establish geospatial data stewardship life cycle responsibilities and performance measures for the Circular A-16 Framework data themes and other nationally significant data themes.
- Expand Smart Buy and other alternatives for the economical use of geospatial data and technologies. Consider shared licenses for smaller agencies that could be managed by a designated agency.
- Develop outreach programs.
- Develop and implement common language in grants that support the use of geospatial information and services.
- Develop and implement the use of common language to define geospatial requirements in Federal contracts.
- Implement agreements and Memorandums of Understanding to facilitate the rapid access and retrieval of secure geospatial information, when necessary.
- Develop requirements and make recommendations to the Federal Chief Information Officers Council to ensure Federal-wide support for

the technology and telecommunication infrastructure required to deliver geospatial services.

- Provide a broker service for data searching among agencies; the service will build on and improve existing systems.

These tasks are focused on improvements to business processes in order to realize an effective National Spatial Data Infrastructure. With continued commitments from partner organizations, Federal agencies can maintain capabilities that support mission requirements and provide geospatial information to the public.

NSDI Cooperative Agreements Program Continues to Innovate

Since 1994, the National Spatial Data Infrastructure (NSDI) Cooperative Agreements Program (CAP) has promoted and disseminated the tenets of the NSDI to thousands of geospatial data community advocates and practitioners. CAP grants have created collaborations at all levels of government, developed an understanding of geospatial information in organizations and disciplines new to the NSDI, provided seed money to enable geospatial organizations to participate in the national effort to implement the NSDI, promoted the development of

Success Stories

Using National Spatial Data to Monitor Changing Environments

Challenge: To effectively share the National Spatial Data Infrastructure's Wetlands Data Layer among Federal agencies to improve resource management and planning.

Action: LANDFIRE (the Landscape Fire and Resource Management Planning Tools Project) is a shared project between the wildland fire management programs of the U.S. Forest Service and the U.S. Department of the Interior. The Fire Sciences Laboratory at the Forest Service's Rocky Mountain Research Station requested help in securing the geospatial Wetlands Data Layer for large portions of the country for use in strategic wildland fire management activities.

Result: The LANDFIRE Project is using the Forest Service's digital Wetlands Data Layer for the eastern United States as part of a 5-year multipartner project to produce consistent and comprehensive maps and data that describe vegetation, wildland fuel, and fire regimes across the United States. Other data layers include vegetation composition and structure, surface and canopy fuel characteristics, historical fire regimes, and ecosystem status. LANDFIRE national methodologies are based on the latest science, and the extensive field-referenced databases and products are designed to facilitate national and regional level strategic planning and reporting of wildland fire management activities.

standardized metadata in hundreds of organizations, and funded numerous implementations of Open Geospatial Consortium, Inc.® (OGC) Web Mapping Services and Web Feature Services.

In 2007, more than 30 CAP projects were completed. The projects demonstrate great diversity both in geography and in scope. More than two dozen metadata workshops were conducted across the United States in a wide variety of organizations. NSDI Clearinghouses were established, developed, and/or expanded for the States of Oklahoma and Virginia, local agencies in New York City, the Idaho Geographic Information System (GIS) community, the North San Francisco Bay Initiative, Japan's Marine Information Research Center, the National Oceanic and Atmosphere Administration (NOAA), and the National Biological Information Infrastructure. Web Feature Services for national scale hydrography, political boundaries, and transportation framework data were established using the data models from the draft American National Standard for Framework Data. Two projects developed and documented freely accessible map client software that can integrate and display framework map data from Federal, State, and local data sources. Geospatial strategic plans for four States were completed. Multiorganizational collaborations to share geospatial information in a variety of communities were established. Web Mapping Services were established, and the maps included Native American names for Coeur d' Alene Tribe and other Tribes; orthophotography and elevation data for Indiana; orthophotography for the Chicago urban area; roads, structures, bound-

aries, and imagery for Idaho; and GIS data for Benton County, Arkansas, and California's Channel Islands Regional GIS. These services are available via *The National Map* and registered in Geospatial One-Stop.

Under the 2007 CAP, funds were granted to 29 projects that addressed five categories:

1. The FGDC-endorsed Standards Implementation Assistance and Outreach category was designed to enable organizations with NSDI expertise, knowledge, and experience to assist other organizations with training and implementation. CAP awarded assistance to seven projects to advance NSDI training.
2. The Framework Client Development category was designed to advance the development of client software to exploit online Framework data. CAP awarded grants to four projects to support access to American National Standards Institute Framework data vector themes.
3. The Fifty States Initiative category was designed to accelerate state-wide coordination activities through consistent strategic and business plan development. CAP awarded assistance to 12 States to begin developing State plans.
4. The Geo-Enabled Federal Businesses Initiative category was designed to support the effective communication to Federal business managers the value of incorporating geospatial approaches into business processes, especially for those who have had limited experience with geo-enabled decision making. Two projects received CAP awards.

5. The Geographic Information Integration category was designed to develop sustainable partnerships to integrate, maintain, and provide access to current geospatial data. CAP awarded assistance to four projects to support organizations developing and providing access to geospatial information that serves community needs.

The CAP 2008 budget is close to \$1.3 million and will fund up to 26 projects. For more information about CAP, see www.fgdc.gov/grants.

Fifty States Initiative Steps Forward

The Fifty States Initiative is based on a fundamental belief that when all stakeholders are represented and working together to build common solutions, they can accomplish great things. In October 2005, the FGDC Steering Committee endorsed the Fifty States Initiative. Since then, 28 States and the District of Columbia have received funding to advance the initiative by working to improve geospatial coordination through the development of strategic and business plans. A key partner in the initiative is the National States Geographic Information Council (NSGIC).

As of October 2007, about \$1.4 million had been awarded to Fifty States Initiative projects, primarily through the FGDC CAP. The U.S. Environmental Protection Agency has provided support, as well as the Partnership Office of the U.S. Geological Survey. In FY 2008 the intent is to make 10 additional awards.

The map below shows in blue the States that have received funding as of October 2007.

The primary focus of the Fifty States Initiative is to develop strategic and business plans for statewide geospatial coordination. Because initiative projects have different start dates and States approach the projects in slightly different ways, the projects are in varied degrees of completion. The table summarizes

the status of projects within the Fifty States Initiative.

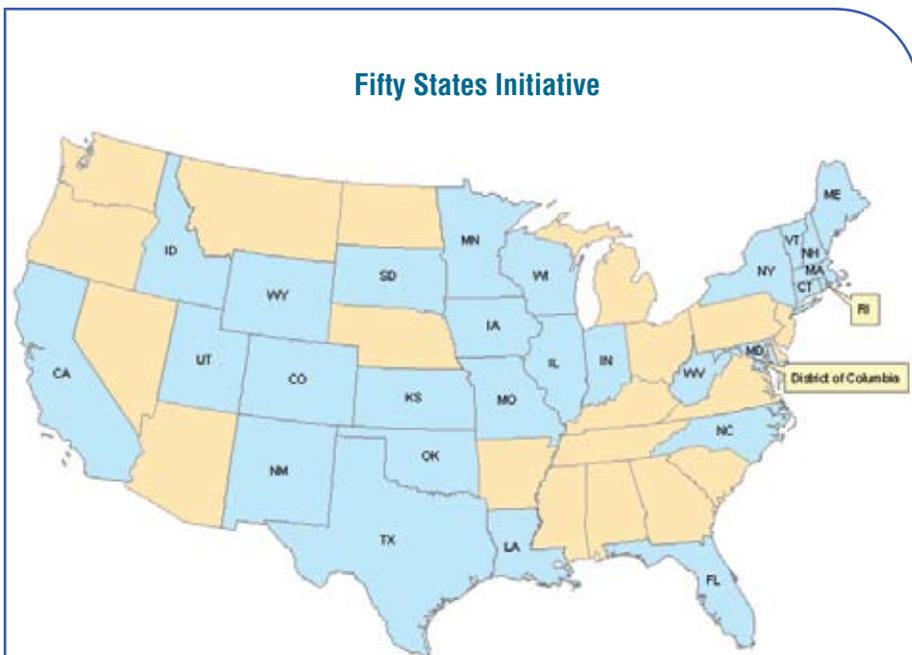
The Initiative has created several key tools for States to use. These include a strategic plan template, a business plan template, a return-on-investment workbook, and new outreach materials. These products are available from the FGDC and NSGIC Web sites. In FY 2008, efforts are under way to improve the outreach materials and to contact other organizations about the initiative.

In 2007, the Fifty States Initiative was featured in two National Academy of Sciences reports. “Successful Response Starts with a Map: Improving Support for Disaster Management” highlights the role of the Initiative to voluntarily improve data sharing. For example, the Florida Division of Emergency Management is leading Florida’s effort to produce a strategic plan that will facilitate the implementation of NSDI in Florida. A project in Louisiana focuses on engaging utility companies in statewide data coordination and data sharing, especially as it relates to disaster response and recovery. In general, statewide councils bring improved consistency to the NSDI, which can smooth access to data across the current patchwork of complex data sources, particularly those needed for emergency management and response.

Another National Academy of Sciences report in 2007, “National Land Parcel Data; A Vision for the Future,” mentions the Fifty States Initiative as a way to achieve the necessary coordination at the State level to realize a national land parcel database. The report recommends that the National Land Parcel Coordinator embrace the Fifty States Initiative and require that every State establish a State Parcel Coordinator position. Currently, Maine and South Dakota have projects with a strong cadastral spotlight.

What do the States that have received funding think of the Initiative? The following is a sample of comments received:

- The process of ... carrying out the strategic planning project has forced us to pull back from urgent daily activities and focus on longer term important partnerships.



Number of States	Status of Project	States
10	Complete	CT, LA, MD, MN, NH, OK, RI, WI, WV, WY
2	Complete pending final report	MA, NC
17	In progress	CA, CO, DC, FL, ID, IA, IL, IN, KS, ME, MO, NM, NY, SD, TX, UT, VT

- By involving over 200 different stakeholders in the needs assessment survey we gave the GIS community ... a chance to participate in the strategic planning process.
- The real challenge to coordination and building of a statewide GIS infrastructure ... is to convince the decision makers... This is why our CAP project has strongly resonated with the return on investment ...
- The funding from the CAP has allowed us to bring in professional assistance to enable us to make our case as cogently as possible.

International Activities Maintain a Global Presence

In FY 2007 the FGDC participated in two significant international activities, supporting the Group on Earth Observations (GEO) effort and the Global Spatial Data Infrastructure (GSDI) Association.

FGDC support for the GEO included leadership activities and participation in several core tasks relating to the definition and deployment of a standards-based architecture for the exchange of earth observation data. The Global Earth Observation System of Systems (GEOSS) is being designed to integrate access to diverse remotely sensed and in situ data and services, including local, national, and international spatial data infrastructures (SDI). FGDC staff, along with nearly 100 other U.S. Government and international participants, conducted a GEOSS Architecture Implementation Pilot Project during FY 2007, which culminated in the

development of demonstrations and documentation of the recommended technical architecture. This project demonstrated the use of registry/catalog and Web portal candidates to locate and then connect to Earth observation Web services in support of six decision-support scenarios. It also tested the application of a number of geospatial and information technology standards in order to validate the proposed GEOSS architecture, an architecture that is harmonized with SDI implementations in the United States and abroad. Participation in the pilot project was performed under the scope of a tri-lateral agreement between the FGDC, the European INSPIRE Initiative, and the Canadian GeoConnections program to collaborate on international geospatial items of common interest.

The FGDC actively supports the building of SDIs globally. Toward this end, the FGDC worked closely with the GSDI Association, helping to organize and conduct the 9th GSDI conference in Santiago, Chile, in November 2006. Over 400 attendees participated in an active exchange of ideas relating to the development of SDI. The creation of common data sets, issues of capacity building and economics, geospatial techniques and standards, and the provision of online access to data were key topics of the conference. Planning has begun for the GSDI-10 conference to be held in 2008 in Port of Spain, Trinidad.

Additionally, the FGDC also helped to fund small grants to developing countries, administered through the GSDI Association, for the purpose of accelerating the adoption and implementation of SDIs in other

nations. Although the funding amounts were small (less than \$2,500 each) the effects of these grants have been significant in expanding awareness and adoption of SDI principles globally. A partial list of grants and targeted outcomes is given below.

- Chad – Organization of spatial data at the Centre National d'Appui à la Recherche and implementation of a Spatial Metadata Base for Researchers
- Kenya – Enhancement of mapping services capacity within the International Livestock Research Institute
- Africa – Integration of metadata in the current MadMappers Web archive
- South Africa – Training of data managers in GIS
- Niger – Niger National SDI Plan
- Kenya – Mau Watershed (subregion) SDI
- Kenya – Metadata training for Kenyan government and nonprofit cooperators
- South Africa – Address a Standards Workshop
- Guinea – Metadata for the Management of the Guinea Current Large Marine Ecosystem Region
- Burkina Faso – Technical Workshop on the Production of Metadata
- Nigeria – SDI Capacity Building for Nigerian Professionals
- Egypt – National SDI: Policies, Regulations, and Standards

- Jamaica – Fostering a culture of metadata production
- Belize – Promotion of the use of metadata standards in Belize
- Americas (regional) – Global Map of the Americas User Application Survey
- Peru – SDI National Workshop
- Nepal – Cadastral Metadata of Nepal
- Pakistan – Environmental Spatial Metadata Archive of Pakistan
- Mongolia – Establishment of Web mapping services and applications
- Moldova – Geospatial Data Standardization

Further in support of building a GSDI, the FGDC was a major player in establishing and managing three region-specific SDI monthly electronic newsletters for Africa, Asia/Pacific, and the Americas. Significant progress was made in 2007 and will continue in 2008 to more fully engage the regions in publication of these communication tools.

The FGDC Metadata Program Committee Continues

Metadata: Training

Since 2005 the FGDC has engaged in a partnership with Texas A&M University's Cooperative Extension in the Recreation, Park & Tourism Sciences Department to support metadata training in the Gulf Coast region. This project achieved great success in training regional councils in Texas, which cover a geographic area

equal to the size of Rhode Island. The partnership provides not only training in metadata creation but extends existing training qualifications to train-the-trainer capacities. This project utilized the metadata training talents from Texas A&M, Radiance Technologies at NOAA's National Coastal Data Development Center (Stennis Space Center, Mississippi), the FGDC contract with GeoMaxim, and coordination from the Texas State GIS Coordinator. The project has been funded for 2008 and will focus on providing training in other areas of the Gulf Coast using coordination capabilities from U.S. Geological Survey (USGS) geospatial liaisons from the region.

North American Profile for Metadata

Work continues with the U.S. National Profile for metadata. Further collaboration with metadata experts from the Canadian Standards Board will result in a North American Profile that will meet the needs of both countries. The North American metadata profile will be a profile of the International Standard (ISO 19115 Geographic Information- Metadata). The North American Profile is expected to become an American National Standard in 2008, after which it is expected to receive endorsement by the FGDC.

Metadata: State of the States

Metadata continues to be an important geospatial data management resource for State agencies and coordinating bodies. Forty-two States maintain active Geospatial Data Clearinghouses and seven are in the process of establishing Clearinghouses. In a 2007 inventory by the National States Geographic Information Council, State Coordinators cited metadata creation when reporting

"It has been estimated that the EPA Metadata Editor will save the agency approximately \$200,000 a year by reducing staff time needed for metadata management."

their accomplishments, challenges, goals, coordinating activities and the endorsement of geospatial standards. State GIS Coordinators emerged this past year as effective leaders in coordinating geospatial training provided by Federal agencies to State and local governments.

Improving Governance: National Geospatial Advisory Committee

The National Geospatial Advisory Committee (NGAC) will provide advice and recommendations on Federal geospatial policy and management issues and provide a forum to convey views representative of partners in the geospatial community. The NGAC is being sponsored by the Department of the Interior on behalf of FGDC member agencies.

Members of the NGAC will report to the Chair of the FGDC Steering Committee (Secretary of the Interior or designee). The NGAC, which is being formed under the Federal Advisory Committee Act, will function solely as an advisory body, providing recommendations on effective management of Federal geospatial programs and the development of the National Spatial Data Infrastructure.

The NGAC is expected to meet three to four times per year. The public will be invited to comment and make suggestions at all NGAC meetings, which will be announced in the Federal Register at least 15 days prior to the meeting

date. The USGS will provide support services for the NGAC.

Additional information about the NGAC is available at www.fgdc.gov/ngac.

Geospatial One-Stop Continues to Grow and Improve

The Geospatial One-Stop (GOS) portal is the official means for accessing metadata resources managed in the National Spatial Data Infrastructure Clearinghouse Network. Metadata held by Federal, State, Tribal, and local entities, as well as by commercial, university, and nonprofit organizations, are published through the Clearinghouse Network at geodata.gov.

In FY 2007, Geospatial One-Stop continued its steady growth with more than 150,000 individual metadata records available. This was an increase of approximately 20 percent over FY 2006. Key Federal metadata holdings are shown in the figure Metadata Records in the Geospatial One-Stop Portal by Federal Agency. Site usage averaged more than 60,000 visits per month, which was an increase of 25 percent over the previous year.

Key enhancements to the portal occurred in FY 2007. The spatial search was improved so that the most geographically relevant results are listed first. In addition, several tools were improved so that data providers can add and manage their metadata on the portal. These include a “Test” button that was added to the harvest configuration procedure so a publisher can receive immediate feedback to verify that a data harvest is set up correctly. A harvesting report now gives publishers clear feedback on

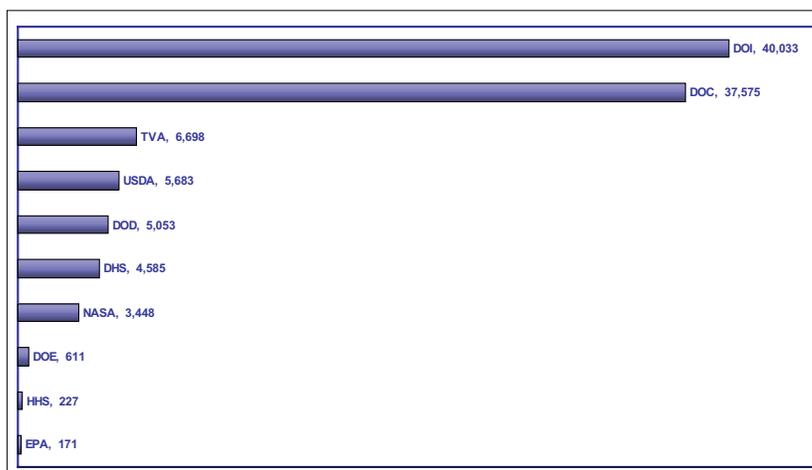
which metadata records succeed and which fail in a harvest, and why. Links were also included to access metadata for live data services displayed in the Map Viewer.

Another key enhancement improved visualization of search results. The list of metadata results is tied to the

footprints of the data sets, shown in the map below. The result highlighted in yellow is tied to its footprint on the map (shown in green hatching) in the figure New Results Showing Linkage Between Metadata Listings and Dataset Footprint.

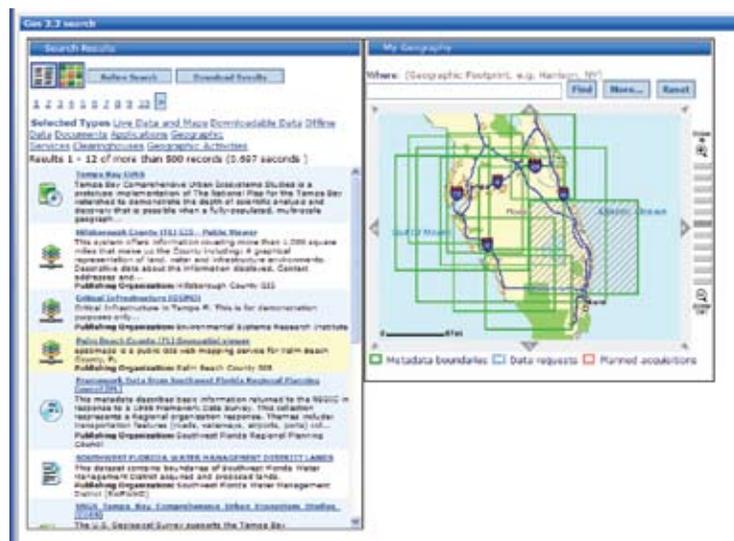
New capabilities from the search results allow the user to zoom in (to

Metadata Records in the Geospatial One-Stop Portal by Federal Agency (as of September 2007)



Note: Abbreviations are defined in the glossary in Appendix D.

New Results showing Linkage Between Metadata Listings and Dataset Footprints



the extent of a specific data set), easily contact a metadata owner, and visualize data in 3-dimensional globe viewers (see figure below). Search results can also be exported to a spreadsheet. An international gazetteer is included, enabling worldwide searches. These new search features also apply to data acquisition partnership Marketplace searches. The Marketplace contains information on potential opportunities to leverage resources and collaborate on planned data acquisitions.

Communities of interest for geospatial data on Geospatial One-Stop continue to grow. Communities are specialized areas for sharing information in specific data categories, such as administrative boundaries, agriculture, and the environment. Some of the dynamic new content on the site features the Earth information exchange gateway, fire mapping,

local governments, oceans and coasts, homeland security, and geological and geophysical communities.

The GOS management team continues to work closely with community stewards and metadata publishers to enhance the portal content. The Interagency Working Group for Ocean and Coastal Mapping (IWG-OCM) has been mandated by the President and the U.S. Ocean Action Plan to devise and implement an inventory of the geospatial resources of the coastal and oceanic environments. The IWG-OCM selected GOS as the tool for developing this data inventory. A cross-border initiative by the FGDC Homeland Security Working Group (HSWG) led to the development of additional content in the Homeland Security community that features geospatial data resources for the U.S. international border regions. These activities exemplify the

intergovernmental cooperation and support that are helping to develop the GOS portal.

In FY 2007, through an Interagency Personnel Agreement, GOS focused on outreach and increasing participation with local governments. Local government outreach resulted in registering 150 local government Web Mapping Services to the GOS portal.

Geospatial One-Stop Partnership Marketplace

The GOS partnership Marketplace provides a site where organizations can advertise their interest in or intent to collect geospatial data, and can seek partners for cost sharing. By the end of FY 2007, the Marketplace included approximately 2,700 planned and requested data acquisition records (see Growth of the Geospatial One-Stop Marketplace figure). From these records, approximately 400 contacts were made regarding possible partnerships for data acquisition.

Adding a Web Mapping Service to a 3-D Globe Viewer



Enhancing the GOS Portal

Goals for FY 2008 include development of further enhancements to the Web portal to make the status and reliability of published Web Mapping Services visible with the results. In addition, new reports will be developed to give publishers better feedback on the use of their data in GOS, along with new tools to manage content. Other efforts will focus on integration with *The National Map*, the Interagency Working Group–Oceans and Coast Inventory, and continuing outreach efforts to grow the holdings in the GOS repository. These efforts are aimed at improving the reliability, completeness, and effectiveness of GOS.

Standards Press Forward

Standards are critical in facilitating the development, sharing, and use of geospatial data. The FGDC develops geospatial data standards for implementing the NSDI, in consultation and cooperation with State, local, and Tribal governments; the private sector; the academic community; and, to the extent feasible, the international community.

The FGDC Standards Working Group promotes and coordinates FGDC standards activities; provides guidance on FGDC standards policy and procedures; facilitates coordination between subcommittees having overlapping standards activities; and reviews and makes recommendations on the approval of standards proposals, draft standards for public review, and draft standards for FGDC endorsement.

FGDC agencies develop standards only when no equivalent voluntary consensus standards exist. OMB Circular A-119 directs Federal agencies to use voluntary consensus standards whenever possible. In addition, OMB Circular A-119 directs Federal agencies to participate in voluntary consensus standards activities. To that end, the FGDC and its member agencies have joined the International Committee for Information Technology Standards (INCITS) Technical Committee L1 on Geographic Information. INCITS Technical Committee L1 is the means by which Federal agencies and non-Federal organizations participate in geospatial standardization activities of the American National Standards Institute (ANSI) and the International Organization for Standardization (ISO).

In FY 2007, the FGDC released three draft standards for public review: the Shoreline Data Content Standard;

the Wetlands Mapping Standard; and the National Vegetation Classification Standard (Version 2.0), which is a complete revision of the National Vegetation Classification Standard that the FGDC endorsed in 1997.

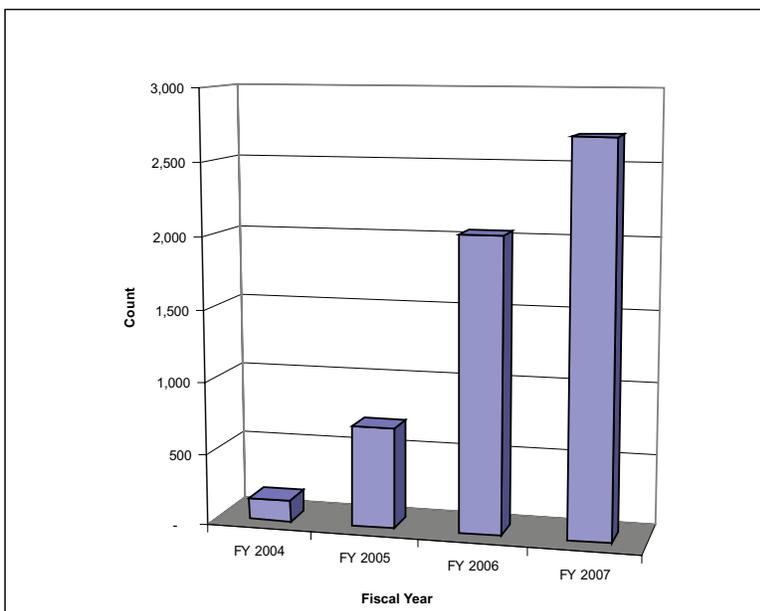
The FGDC standards program manager completed a systematic review of the FGDC standards program of work. FGDC standards that had been endorsed for 5 years or more were reviewed to determine if any updates were needed on the basis of technical or editorial changes. Standards projects in development were reviewed to determine if these projects should remain active or be withdrawn.

The FGDC standards program manager also prepared the narrative and selection criteria for Category 6, Implementation and Outreach of FGDC-Endorsed Standards (excluding Metadata), of the Cooperative Agreements Program 2008 solicitation.

Regarding voluntary consensus standards, the Framework Data Standard created to enable data exchange for the seven NSDI Framework themes (cadastral, digital ortho imagery, elevation, geodetic control, governmental unit boundaries, hydrography, and transportation) entered INCITS management review to prepare the standard for endorsement and publication by ANSI.

Community review of the North American Profile (NAP) of ISO 19115:2003, Geographic Information—Metadata was completed in FY 2007. The draft was revised in response to review comments. The draft was submitted to INCITS Technical Committee L1 for comment and ballot.

Growth of the Geospatial One-Stop Marketplace—Number of Records in the Marketplace by Fiscal Year



NSDI Training Partnerships Progress

The NSDI Training Program, in partnership with the Federal Emergency Management Agency (FEMA), continues to offer GIS and Emergency Management and Operations courses. The courses are offered several times per year at FEMA's Emergency Management Institute and in the field. Additionally, FGDC continues its partnership with the U.S. Fish and Wildlife Service to offer GIS courses at their National Conservation Training Center and in the field. All courses include a metadata and NSDI overview.

Metadata training is offered through partnerships under the Cooperative Agreements Program. In 2007 the partnerships included: Virginia Geospatial Extension Program, University of Rhode Island, University of Indiana—Bloomington, Remote Sensing and Geographic Information Science—Michigan State, and Mid-America Geographic Information Consortium. Under interagency agreements, metadata training was held for NOAA's Alaska Fisheries Science Center and USGS's National Biological Information Infrastructure program. Project reports are available from www.fgdc.gov/grants/2007CAP/2007CAPDescriptions.

The NSDI Training Materials Project has seen accomplishments as well. New modules have been developed for NSDI Overview, Geospatial One-Stop, Geospatial Metadata, Geospatial Web Services, NSDI Infrastructure Standards, NSDI Data Themes, NSDI Cooperative Agreements Program, and Geospatial Business Planning. The 2007 effort brings the total lessons

to 12. All lessons are available on the FGDC Web site for online review or download, and with editing capability. Users of the modules are encouraged to comment on the content and the value of the lessons. The modules are available from www.fgdc.gov/training/nsdi-training-program/online-lessons#nsdi.

An authoring tool and online learning system is in the early stages of implementation and selected modules of the online training suite will become a pilot project. The status of this project will be included in the 2008 FGDC annual report.

Imagery for the Nation Moves Forward

In September 2007 the cost-benefit analysis (CBA) for the Imagery for the Nation (IFTN) initiative was completed and published. This analysis was a requirement placed on the IFTN Initiative by the FGDC Steering Committee as a step in the process of determining its feasibility. The CBA was conducted by Perot Systems and jointly funded by the U.S. Department of Agriculture and the USGS. Financial information was collected and analyzed for the CBA through surveys and interviews with subject matter experts, but no attempt was made to extrapolate the data in order to estimate a comprehensive picture of the Nation's ortho imagery programs. Therefore, the cost estimates and actual benefits from this analysis are considered conservative. The Western Governor's Association deemed the original IFTN concept unacceptable, as Federal funding was predicated by population (the original IFTN proposal had 1-foot and 6-inch federally funded

coverages that were determined by population density). In response, the CBA formulated three additional alternatives to consider in which the population model was dropped in all areas except Alaska and insular areas. The alternatives were assessed across five areas: Business Processes, Non-Quantifiable Benefits, Costs, Business Requirements, and Risk. While the return-on-investment scores are higher in other alternatives, in the final analysis, an alternative that met the thresholds of functional and financial measures and had a lower risk factor was chosen.

That alternative is for nationwide coverage of 1-meter resolution data with Federal funding and an optional 50 percent cost share for a 1-foot program. The IFTN with 1-foot coverage of the lower 48 States and Hawaii would be an optional cost share. The Federal Government would guarantee the availability of 50 percent funding for coverage according to statewide business plans. Statewide councils can increase funding to increase program coverage. The IFTN proposal is undergoing further consideration by an Executive Committee of the FGDC.

FGDC Goals for 2008

1. Implement the Geospatial Line of Business

Consensus by partner agencies has been reached on the goals and objectives of the Geospatial Line of Business through the development process of the Joint Business Case. Plans for 2008 are to:

- Expand Smart Buy and other alternatives for acquisition of geospatial data and technologies.
- Consider shared licenses for smaller agencies; these licenses could be managed by a designated agency.
- Develop outreach programs.
- Develop and implement the use of common language in grants for geospatial information and services.
- Implement Memorandums of Understanding to facilitate the rapid access to and retrieval of secure geospatial information.

2. Establish the National Geospatial Advisory Committee (NGAC)

Goals for the NGAC in 2008 include the following:

- Finalize the establishment of the NGAC and the appointment of members.
- Establish operating procedures and bylaws for the NGAC.

- Determine study areas for NGAC to review and make recommendations for the first year of committee operation.
- Coordinate NGAC activities with the ongoing work of the FGDC Steering Committee.

3. Expand the Fifty States Initiative

It is anticipated that 10 new National Spatial Data Infrastructure Cooperative Agreements Program grants will be issued in 2008. By the end of FY 2008, approximately 35 States are expected to have received funding for strategic and business planning activities.

4. Continue International Collaboration and Leadership

The FGDC will continue programmatic involvement and support for the Global Spatial Data Infrastructure (GSDI) by contributing resources to the GSDI Small Grants Program and regional electronic newsletters, by serving as members of the GSDI board, and by providing support for developing comprehensive Spatial Data Infrastructure technical programs for the GSDI meetings, conferences, and workshops. The Federal Geographic Data Committee (FGDC) will continue to plan for and participate in the GSDI-10 conference to be held in 2008 in Port of Spain, Trinidad.

The Group on Earth Observations (GEO) and its Global Earth Observation System of Systems (GEOSS) embarked on an implementation phase for the FY 2007–09 work plan. The FGDC Secretariat and a number of U.S. Federal agencies are contributing to several of the committees through a coordinated U.S. GEO effort.

5. Enhance the Geospatial One-Stop Portal

A key goal for FY 2008 is to improve the quality and reliability of published linkages to Web Mapping Services to enable easier sharing of live data across governmental offices. In addition to developing more tools for checking the quality of metadata and Web Mapping Services, new reports to publishers will provide better feedback on how their data are being used in the Geospatial One-Stop (GOS) program. Other major efforts will focus on integration with *The National Map*, supporting the Oceans and Coastal Mapping Inventory, and continuing outreach efforts to grow the holdings in the GOS repository. These efforts are aimed at improving the reliability, completeness, and effectiveness of GOS.

6. Advance the Development and Acceptance of Standards

A Standard Practice for Minimum Geospatial Data for a Coal Surface Mining

Permit Boundary will be submitted for FGDC endorsement. The ASTM International has already endorsed this standard, which will be the first standard to be submitted for endorsement through the FGDC policy on recognition of nonfederally developed standards.

Other scheduled activities include:

- Public review of the Federal Trails Data Standard.
- Development of a Cultural Resource Geospatial Data Content Standard. The response for review of the proposal has been unprecedented. Federal, State, and Tribal Historic Preservation Officers have expressed great interest in the proposal and in having their concerns addressed.
- Integration of voluntary consensus standards developed through the International Organization for Standardization (ISO), the American National Standards Institute (ANSI), and the Open Geospatial Consortium.
- Advancing the North American Profile.
- Development of a database and interface to show interrelationships among voluntary consensus standards and their normative references, document pricing, and rights.

7. Advance the Imagery for the National Initiative

Building support for the Imagery for the Nation initiative will continue at the State and regional levels. Plans also include completing the governance, partnership, and contracting activities for National Digital Orthophoto

Program activities begun in FY 2007, and acting on the recommendations of the FGDC Executive Committee with an eye toward a viable FY 2010 program.

Success Stories

Geocoding Services Across Agencies

Challenge: One of the major impediments to enabling a more robust National Spatial Data Infrastructure is the poor quality of existing address information and geocoding services within and across agencies, as well as a lack of understanding within agencies of the critical importance of address information in a geospatial information technology environment. Most Federal agencies require geocoding. Addresses are the primary spatial key for visualizing, querying, and integrating many Federal agency resources and assets. Currently, most geocoding is done in an ad hoc manner using extensive staff resources but with little coordination across program areas or agencies. As a consequence, there are increasing concerns with cost, duplication of effort, data quality, consistency, and data sharing. Within this scenario, the U.S. Department of Health and Human Services (DHHS)/ National Center for Health Statistics (NCHS) needed to geocode its national health survey and was interested in finding the best long-term solution for its needs.

Action: The U.S. Department of Housing and Urban Development (HUD) and DHHS/NCHS signed a Memorandum of Understanding to geocode their National Health and Nutrition Examination Survey using HUD's enterprise Geocoding Service Center (GSC). The GSC supports 17 HUD data systems, processes 130 million addresses annually, and features the highest standards of address validation with quick turnaround times tailored to customer needs—in a secure and confidential environment. HUD and NCHS staff developed and implemented protocols to ensure that the strict NCHS data confidentiality and security requirements were met.

Result: The address data were submitted to HUD's GSC; processed; geo-enabled with latitude/longitude coordinates and requested legal, statistical, and administrative geographies; and returned within minutes along with many additional census, postal, and other attributes. This effort not only served DHHS/NCHS mission needs but may serve as a model for interagency collaboration and a potential cross-agency geo-enabled service. All technical, legal, and administrative issues were resolved effectively and the Memorandum of Understanding was successfully implemented.

Appendix A. Profiles



James E. Cason

Associate Deputy Secretary
U.S. Department of the Interior
Acting Chair, FGDC Steering Committee

Since 2001, James E. Cason has served as Associate Deputy Secretary for the Department of the Interior. In March 2007, he was also tasked with fulfilling the duties and responsibilities of the Assistant Secretary for Policy, Management and Budget. He is from Portland, Oregon, and earned a bachelor's degree in business administration from Pacific University.



Karen S. Evans

Administrator of Electronic Government and Information Technology
Office of Management and Budget
Vice Chair, FGDC Steering Committee

Karen S. Evans previously served as Chief Information Officer for the U.S. Department of Energy. She earned a bachelor's degree in chemistry and a master's degree in business administration from West Virginia University.



Ivan B. DeLoatch

Staff Director
Federal Geographic Data Committee

Ivan B. DeLoatch provides leadership and management for FGDC operations and activities and serves as managing partner for the Geospatial Line of Business. He previously served as chief of the Data Acquisition Branch in the U.S. Environmental Protection Agency's Office of Environmental Information. He earned a bachelor's degree in biology from Bowie State University.

Appendix B.

FGDC Structure and Membership

The explosive growth of technologies that produce and leverage geospatial information has created enormous opportunities as well as considerable challenges for the Federal government.

The effective use of geospatial information requires close coordination among the many agencies involved in its development. Office of Management and Budget (OMB) Circular A-16 was originally issued in 1953, revised in 1967, and revised again in 1990 and 2002. It created the Federal Geographic Data Committee (FGDC) as the interagency coordinating body to promote development, sharing, and dissemination of geospatial data. By Executive Order 12906 in 1994, FGDC was charged to develop the National Spatial Data Infrastructure (NSDI).

The NSDI encompasses the technology, policies, standards, and human resources necessary to acquire, process, store, distribute, and improve utilization of geospatial data for a variety of users nationwide. FGDC is expanding its leadership role as the importance of geospatial capabilities to improve the efficiency and effectiveness of government is recognized.

OMB Circular A-16 (revised August 2002) incorporates Executive Order 12906 and reaffirmed FGDC's role to provide leadership for the NSDI with the coordinated development, use, sharing, and dissemination of the Nation's geospatial data. With the launch of the Geospatial Line of Business, the

development of the Geospatial Profile of the Federal Enterprise Architecture (FEA), and the growth in Federal membership and collaborating partners in 2007, FGDC is seeking a more effective and inclusive governance structure for NSDI.

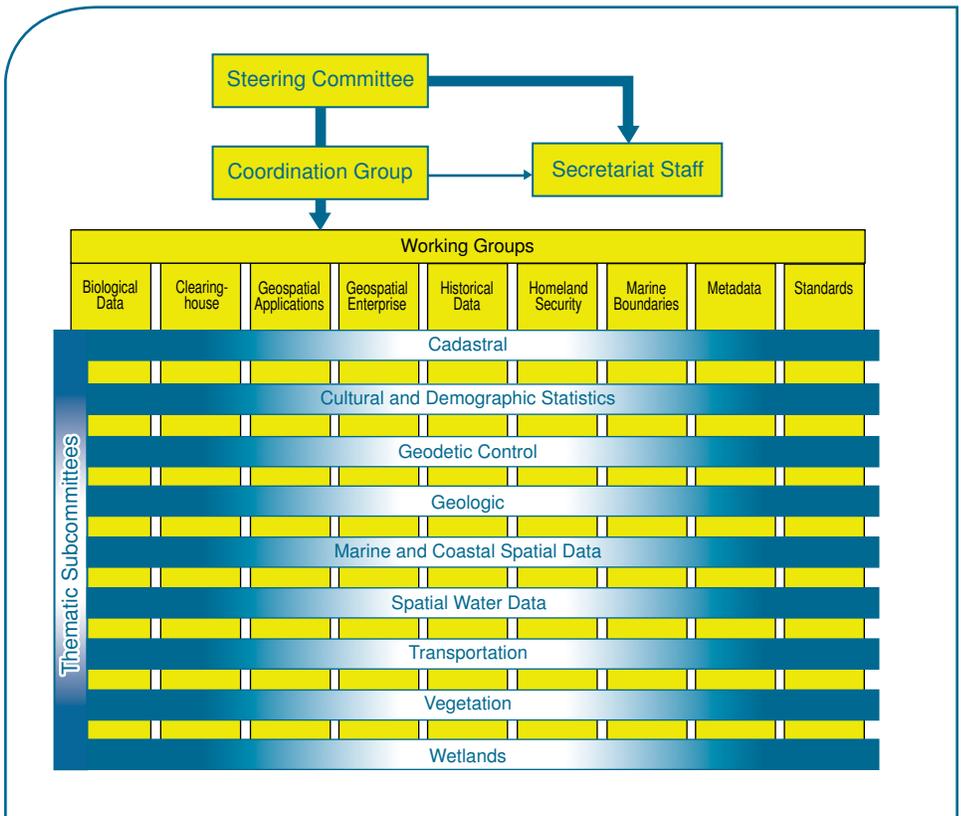
FGDC Structure

The FGDC is governed by a Steering Committee that sets its high-level strategic direction. The Coordination Group advises on the FGDC's day-to-day business, which is carried out by

the FGDC Secretariat located at the U.S. Geological Survey.

The FGDC infrastructure also includes committees, agency-led working groups and subcommittees, and collaborating partners representing organizations from State, Tribal, and local governments, as well as industry and academic and professional groups. All initiate and support the following activities crucial to expanding the NSDI:

- Developing and establishing the National Geospatial Data Clearinghouse on the Internet.



- Developing and implementing standards.
- Creating a national digital geospatial data framework. The framework covers seven basic or fundamental geographic themes: geodetic control, elevation, ortho imagery, transportation, hydrography, governmental units, and cadastral information.
- Promoting collaborative relationships for sharing geospatial data among non-Federal partners.
- Developing policies and processes to better harmonize collective action.

Steering Committee

The Steering Committee is the policy-level interagency group responsible for overseeing OMB Circular A-16-related activities and implementation of the NSDI. It provides executive leadership and establishes policy to coordinate geospatial activities between, among, and within Federal agencies. The Committee meets three to four times per year in Washington, D.C.

The Secretary of the Department of the Interior or designee chairs the FGDC Steering Committee, which is composed of representatives from Federal organizations including the Executive Office of the President and Cabinet-level and independent Federal agencies. The Deputy Director for Management of the Office of Management and Budget or designee serves as Vice-Chair.

2007 Steering Committee Members

Chair, Deputy Secretary of the Department of the Interior	www.doi.gov	James Cason
Vice Chair, Administrator, Electronic Government and Information Technology (IT) in the Office of Management and Budget	www.omb.gov	Karen Evans
Department of Agriculture	www.usda.gov	*vacant
Department of Commerce	www.commerce.gov	*Joseph Klimavicz
Department of Defense	www.defenselink.mil	*Steven Wallach
Department of Education	www.ed.gov	*Mark Schneider
Department of Energy	www.doe.gov	*Tom Pyke
Department of Health and Human Services	www.dhhs.gov	*vacant
Department of Housing and Urban Development	www.hud.gov	*Darlene Williams
Department of Homeland Security	www.dhs.gov	*Scott Charbo
Department of the Interior	www.doi.gov	*Assistant Secretary, Water and Science
Department of Justice	www.usdoj.gov	*Vance Hitch
Department of Labor	www.dol.gov	*Patrick Pizzella
Department of State	www.state.gov	*Susan Swart
Department of Transportation	www.dot.gov	*Dr. Steve Dillingham
Department of the Treasury	www.treasury.gov	*Peter McCarthy
Department of Veterans Affairs	www.va.gov	*Adm. Patrick Dunne
Environmental Protection Agency	www.epa.gov	*Molly A. O'Neill
Federal Communications Commission	www.fcc.gov	Julius Knapp
General Services Administration	www.gsa.gov	*Diane Herdt
Library of Congress	www.loc.gov	*John Hebert
National Aeronautics and Space Administration	www.nasa.gov	*vacant
National Archives and Records Administration	www.archives.gov	*Michael Kurtz
National Science Foundation	www.nsf.gov	*Jarvis Moyers
Nuclear Regulatory Commission	www.nrc.gov	*vacant
Office of Personnel Management	www.opm.gov	*Janet Barnes
Small Business Administration	www.sba.gov	*Michael McHale
Smithsonian Institution	www.si.edu	*vacant
Social Security Administration	www.socialsecurity.gov	*vacant
Tennessee Valley Authority	www.tva.gov	*Roy Teal
U.S. Agency for International Development	www.usaid.gov	*Michael Hess

*Designated Senior Agency official for Geospatial Information

Coordination Group

The FGDC Coordination Group advises on the day-to-day business of the FGDC, carrying out the interagency coordination and implementation of the NSDI at the operational level. It also facilitates and oversees the work of the FGDC subcommittees and working groups. The Coordination Group meets monthly in Washington, D.C., and is composed of representatives from Federal agencies and collaborating partners.

2007 Coordination Group Members

Department of Agriculture	
USDA Geospatial Projects Manager	Dennis Crow
Natural Resources Conservation Service	Marisa Capriotti
U.S. Forest Service	Betsy Kanalley
Farm Service Agency	Shirley Hall
Department of Commerce	
U.S. Census Bureau	Randy Fusaro
National Oceanic and Atmospheric Administration	Tony LaVoi
Department of Defense	
Business Domain	David LaBranche
National Geospatial-Intelligence Agency	Mark DeMulder
U.S. Army Corps of Engineers	Nancy Blyler
Department of Education	vacant
Department of Energy	David Morehouse
Department of Health and Human Services	vacant
Department of Homeland Security	Scott McAfee
Department of Housing and Urban Development	Jon Sperling
Department of the Interior	
Bureau of Land Management	Don Buhler
Minerals Management Service	Jim Fulmer
National Park Service	Joe Gregson
U.S. Fish and Wildlife Service	Doug Vandegraff
U.S. Geological Survey	Bob Pierce
Department of Justice	
National Institute of Justice	Ronald Wilson
Department of Labor	vacant
Department of State	Ray Milefsky
Department of Transportation	Mark Bradford
Department of the Treasury	vacant
Department of Veterans Affairs	David Paschane
Environmental Protection Agency	Wendy Blake-Coleman
Federal Communications Commission	Donald Campbell
Federal Energy Regulatory Commission	Susan Tseng
General Services Administration	John D'Alessandro Alt: Sandra Downie
Library of Congress	Colleen Cahill
National Academy of Sciences	Maria Uhle
National Archives and Records Administration	Brett Abrams
National Aeronautics and Space Administration	Myra Bambacus
National Capital Planning Commission	Shane Dettman
National Science Foundation	vacant
Nuclear Regulatory Commission	vacant
Office of Personnel Management	vacant
Small Business Administration	vacant
Smithsonian Institution	vacant
Social Security Administration	vacant
Tennessee Valley Authority	Charles Smart
U.S. Agency for International Development	vacant

2007 Secretariat Staff

Staff Director	Ivan DeLoatch
Program Assistant	Carol Greenough
Clearinghouse Coordinator	Doug Nebert
FGDC Interagency Liaison	Patricia Phillips
FGDC and GSDI International Program Coordinator	Alan Stevens
Framework and Cooperating States Coordinator	Milo Robinson
Metadata Coordinator	Sharon Shin
Standards Coordinator	Julie Binder-Maitra
Training and Education/Tribal Liaison Coordinator	Bonnie Gallahan
NSDI CAP Coordinator	Brigitta Urban-Mathieux
Webmaster	Vaishal Sheth
Program Analyst	Roxanne Lamb

Note: Abbreviations are defined in the glossary in Appendix D.

Secretariat Staff

The FGDC Secretariat Staff provides support for the FGDC Subcommittees and performs the following tasks:

- Administers the FGDC standards program
- Initiates and participates in FGDC Subcommittees and Working Groups
- Drafts policies and procedures for consideration and approval by the Coordination Group and Steering Committee
- Administers the NSDI Cooperative Agreements Program (CAP) grants
- Administers the FGDC International Spatial Data Infrastructure program
- Manages the NSDI training and outreach program
- Maintains the FGDC Web site
- Manages all administrative requirements associated with scheduling and conducting meetings
- Undertakes staff analysis, technical development, and other activities on behalf of the Coordination Group

The Secretariat staff reside in the U.S. Geological Survey, National Geospatial Program Office.

Thematic Subcommittees

OMB Circular A-16 enumerates 34 data themes of national significance and assigns responsibility for each of the themes to one or more Federal agencies. FGDC thematic subcommittees are established for nine of the data themes.

Federal agencies lead the thematic subcommittees; each subcommittee focuses on a particular NSDI spatial data theme. Lead agency responsibilities and new data themes may be added or altered by FGDC recommendation and OMB concurrence.

Definitions of the nine active thematic subcommittees appear in the chart opposite.

Thematic Subcommittees by Lead Agency and Definition

Thematic Subcommittee	Lead Agency	Definition of Spatial Data Theme
*Cadastral	DOI BLM	The geographic extent of past, current, and future right, title, and interest in real property; the framework to support the description of that geographic extent. Geographic extent includes survey and description frameworks.
Cultural and Demographic Statistics	DOC USCB	Geospatially referenced data that describe characteristics of people: nature of structures in which they live and work; economic and other activities they pursue; facilities they use to support their health, recreational, and other needs; environmental consequences of their presence; boundaries, names, and numeric codes of geographic entities used to report information collected.
*Geodetic Control	DOC NOAA	Common reference system for establishing coordinates for all geographic data. All NSDI framework data and users' applications data require geodetic control to accurately register spatial data. The National Spatial Reference System is the fundamental geodetic control for the United States.
Geologic	DOI USGS	Geologic mapping information and related geoscience spatial data that can contribute to a National Geologic Map Database as pursuant to Public Law 106-148.
Marine and Coastal Spatial Data	DOC NOAA	The subcommittee, through its member agencies and the FGDC, develops strategic partnerships, relevant standards, collaborative tools, and outreach that will enhance access to and utility of coastal and ocean framework data.
*Spatial Water Data (Advisory Committee on Water Information)	Co-leaders: DOI USGS and USDA NRCS	The Advisory Committee on Water Information (ACWI) advises the Federal government, through DOI USGS, on the coordination of Federal water information programs. The purpose of ACWI is to represent the interests of water information users and professionals on activities and plans related to Federal water information programs and the effectiveness of those programs in meeting the Nation's water information needs.
*Transportation	DOT BTS	Used to model geographic locations, interconnectedness, and characteristics of transportation systems in the United States; includes physical and nonphysical components representing all modes of travel that enable movement of goods and people between locations.
Vegetation	USDA Forest Service	Collection of plants or plant communities with distinguishable characteristics that occupy an area of interest. Existing vegetation covers or is visible at or above land or water surface and does not include abiotic factors that tend to describe potential vegetation.
Wetlands	DOI FWS	Provides classification, location, and extent of wetlands and deepwater habitats; no attempt is made to define the proprietary limits or jurisdictional wetland boundaries of any Federal, State, or local agencies.

* Indicates framework theme.
 Note: Abbreviations are defined in the glossary in Appendix D.

Working Groups

Working groups crosscut the subcommittees and focus on infrastructure issues common to many of the NSDI data themes. Descriptions of the active working groups are listed in the chart below.

Working Groups by Lead Agency and Description

Working Group	Lead Agency	Description
Biological Data	DOI USGS BRD	The Biological Data Working Group promotes development and coordination of standards for biological data in order to increase compatibility in the development, use, sharing, and dissemination of biological data among government agencies and other interested institutions. The working group develops means to facilitate the sharing and consistent use of biological data standards and protocols, and encourages interagency partnerships in developing and implementing these standards and protocols. The working group helps integrate biological data standards activities into the National Spatial Data Infrastructure and the National Biological Information Infrastructure.
Clearinghouse	DOI USGS	FGDC is tasked by Executive Order 12906 to develop procedures for and assist in the implementation of a distributed discovery mechanism for digital geospatial data. Using the data elements defined in the FGDC Metadata Standard, governmental, nonprofit, and commercial participants publish their geospatial resources to the Clearinghouse Network.
Geospatial Enterprise Architecture Community of Practice	DOI USGS	The primary objective of the Geospatial Enterprise Architecture Community of Practice (COP) is to improve the understanding and integration of geospatial concepts by mainstream governmental business planners and technical practitioners through a variety of outreach mechanisms. The COP was convened through the request of the Architecture and Infrastructure Committee of the CIO Council and FGDC to develop guidance known as the "Geospatial Profile of the Federal Enterprise Architecture (FEA)."
Historical Data	NARA	The Historical Data Working Group promotes an awareness among Federal agencies of the historical dimension to geospatial data; to facilitate the long-term retention, storage, and accessibility of selected historically valuable geospatial data; and to establish a mechanism for the coordinated development, use, sharing, and dissemination of historically valuable geospatial data that have been financed in whole or part by Federal funds.
Homeland Security	DHS	The Homeland Security Working Group ensures that the NSDI supports the preparation for, prevention of, protection against, response to, and recovery from threats to the Nation's population centers and critical infrastructures that are of terrorist, criminal, accidental, or natural origin and related adverse events.
Marine Boundary	DOC NOAA and DOI MMS	The Marine Boundary Working Group fosters integrated approaches to the legal and geospatial descriptions of marine boundaries and mapping of marine boundary features within the territorial waters of the United States. The goals of the working group are to make maximum use of public resources to avoid duplicating efforts; provide a venue for communicating and coordinating on marine boundary activities; and to use standardized methodologies to produce more complete and usable marine boundary data, metadata, and charts.
Metadata	DOI USGS	The Metadata Working Group promotes and coordinates geospatial metadata activities among FGDC member agencies in support of the NSDI. The Metadata Working Group promotes awareness among FGDC member agencies of the metadata dimension to geospatial data; facilitates the evolution and revision of the Content Standard for Digital Geospatial Metadata; and establishes a mechanism for the coordination, development, use, sharing, and dissemination of geospatial metadata among FGDC member agencies.
Standards	DOI USGS	The FGDC Standards Working Group (SWG) actively promotes and coordinates FGDC standards activities. The SWG provides guidance on FGDC standards policy and procedures, facilitates coordination between subcommittees having overlapping standards activities, and reviews and makes recommendations on the approval of standards proposals, draft standards for public review, and draft standards for FGDC endorsement.

Note: Abbreviations are defined in the glossary in Appendix D.

Collaborating Partners

The FGDC involves public interest groups who participate within the committee structure to ensure their needs are included in developing the NSDI. These collaborating partners include State, local, and Tribal governments; academic institutions; and a broad array of private sector geographic, statistical, demographic, and other business information providers and users. NSDI strives to build upon local data wherever possible.

Collaborating partnerships are open to public, private, and nonprofit organizations with missions complementary to the FGDC. Organizations interested in becoming partners are invited to send a written request to the FGDC Chair. Current non-Federal collaborating partners include the organizations listed to the right.

Collaborating Partners and Descriptions

Partner	Description
American Congress on Surveying and Mapping (ACSM)	A nonprofit educational organization that advances the sciences of surveying and mapping and related fields to further the welfare of those who use and make maps.
Association of American Geographers (AAG)	A scientific and educational society whose members share interests in the theory, methods, and practice of geography and geographic education.
Cartographic Users Advisory Council (CUAC)	An organization of 12 representatives from 6 national and regional library organizations, dedicated to cartographic interests.
Geospatial Information and Technology Association (GITA)	A nonprofit educational association serving the global geospatial community.
International City/County Management Association (ICMA)	A professional and educational organization for chief appointed managers, administrators, and assistants in cities, towns, counties, and regional entities throughout the world.
National Association of Counties (NACo)	Advances issues with a unified voice before the Federal Government, improves the public's understanding of county government, assists counties in finding and sharing innovative solutions through education and research, and provides value-added services to save counties and taxpayers money.
National Association of State Chief Information Officers (NASCIO)	Represents State CIOs and information resource executives and managers from the 50 States, the District of Columbia, and 6 U.S. territories.
National League of Cities (NLC)	Strengthens and promotes cities as centers of opportunity, leadership, and governance.
National States Geographic Information Council (NSGIC)	Provides a unified voice on geographic information and technology issues, advocates State interests, and supports its membership in their statewide initiatives.
Open Geospatial Consortium, Inc.® (OGC)	A nonprofit, international, voluntary consensus standards organization of more than 295 companies, government agencies, research organizations, and universities; leads the development of standards for geospatial and location-based services.
University Consortium for Geographic Information Science (UCGIS)	A nonprofit organization of more than 50 universities and other research institutions.
Urban and Regional Information Systems Association (URISA)	Facilitates the use and integration of information technologies to improve the quality of life in urban and regional environments.
Western Governors' Association (WGA)	Addresses important policy and governance issues in the West, advances the role of the western States in the Federal system, and strengthens the social and economic fabric of the region.

Note: Abbreviations are defined in the glossary in Appendix D.

Appendix C. Status of NSDI Data Themes

The National Spatial Data Infrastructure (NSDI) recognizes that Federal agencies have a stewardship role for certain

themes of data. This year, the themes featured in this report are digital ortho imagery, elevation, hydrography, soils, watershed boundaries, and wetlands.

The status graphics pertaining to these themes are presented.

Data Theme: Digital Ortho Imagery

Responsible agency: U.S. Department of the Interior, U.S. Geological Survey (USGS) and U.S. Department of Agriculture (USDA), Farm Service Agency (FSA)

Description: The USGS is the lead Federal agency for ortho imagery; however, a number of other Federal agencies, including the Bureau of Land Management (BLM); Federal Emergency Management Agency (FEMA); National Oceanic and Atmospheric Administration (NOAA); U.S. Census Bureau; USDA's FSA; Natural Resources Conservation Service (NRCS); the National Geospatial-Intelligence Agency (NGA); and the National States Geographic Information Council cooperate in the National Digital Orthophoto Programs (NDOP) consortium to develop and maintain national ortho imagery coverage in the public domain. The primary Federal programs for NDOP are the USDA National Agriculture Imagery Program (NAIP) and the USGS National Orthoimagery Program.

USGS National Orthoimagery Program

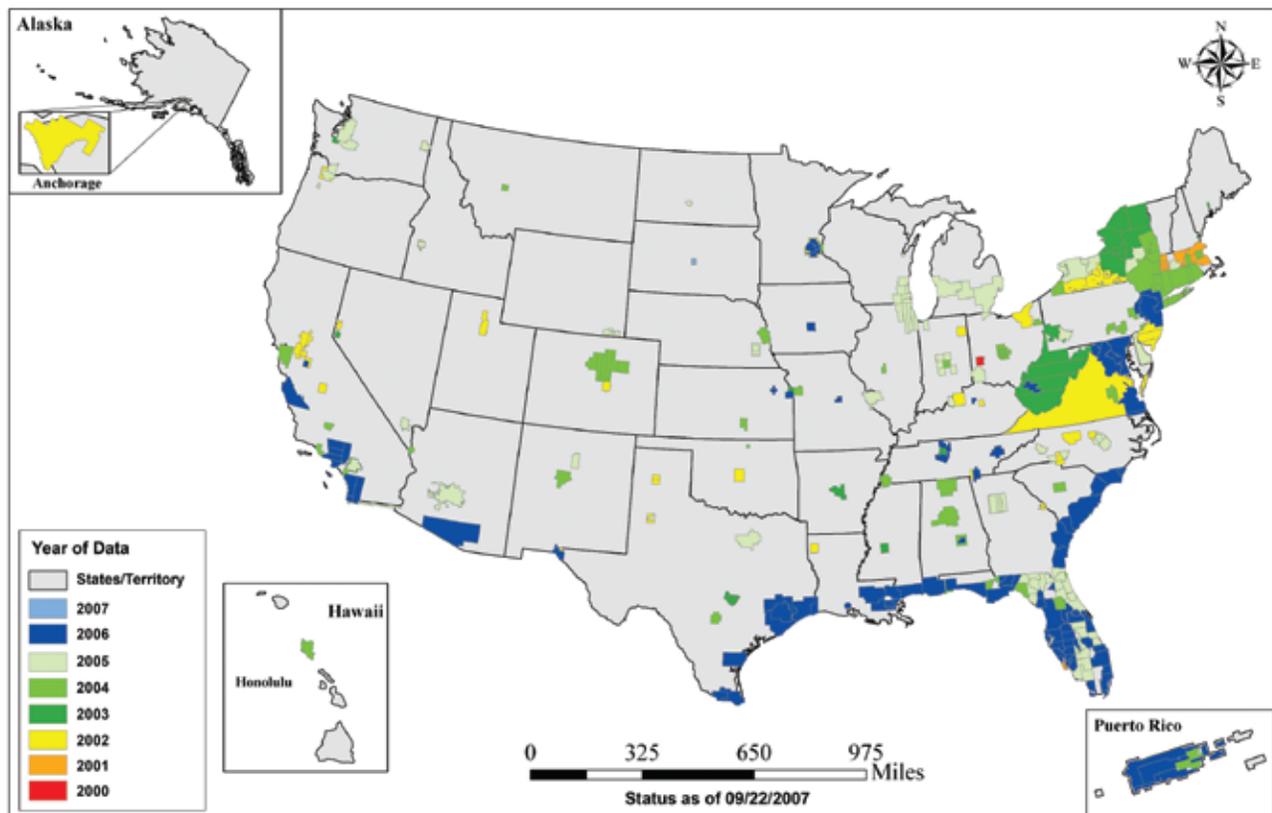
The USGS National Orthoimagery Program concentrates on the following areas:

1. Urban areas in the Homeland Security Infrastructure Program.
2. High-resolution States (better than 1-meter resolution).
3. Medium-resolution States (leaf-on) in the NAIP.

In FY 2007, the ortho imagery acquisition program, together with NGA as its primary Federal partner, saved almost \$10.3M by joining with 23 city, regional, State, and Federal partners through partnership agreements and contracts to acquire ortho imagery with resolutions of 1 foot or finer. Ortho imagery of the Gulf Coast and southeast Atlantic Coast was acquired to assist with emergency response. In response to FGDC Steering Committee recommendations, the NDOP contracted for and completed a cost-benefit analysis for the Imagery for the Nation (IFTN) proposal. That proposal recommends the creation of a national federally financed ortho imagery program that would meet the Nation's imagery needs for the future. That proposal is presently under review with the Federal Geographic Data Committee's (FGDC's) Executive Committee, which will make recommendations on further developments and funding of this proposal.

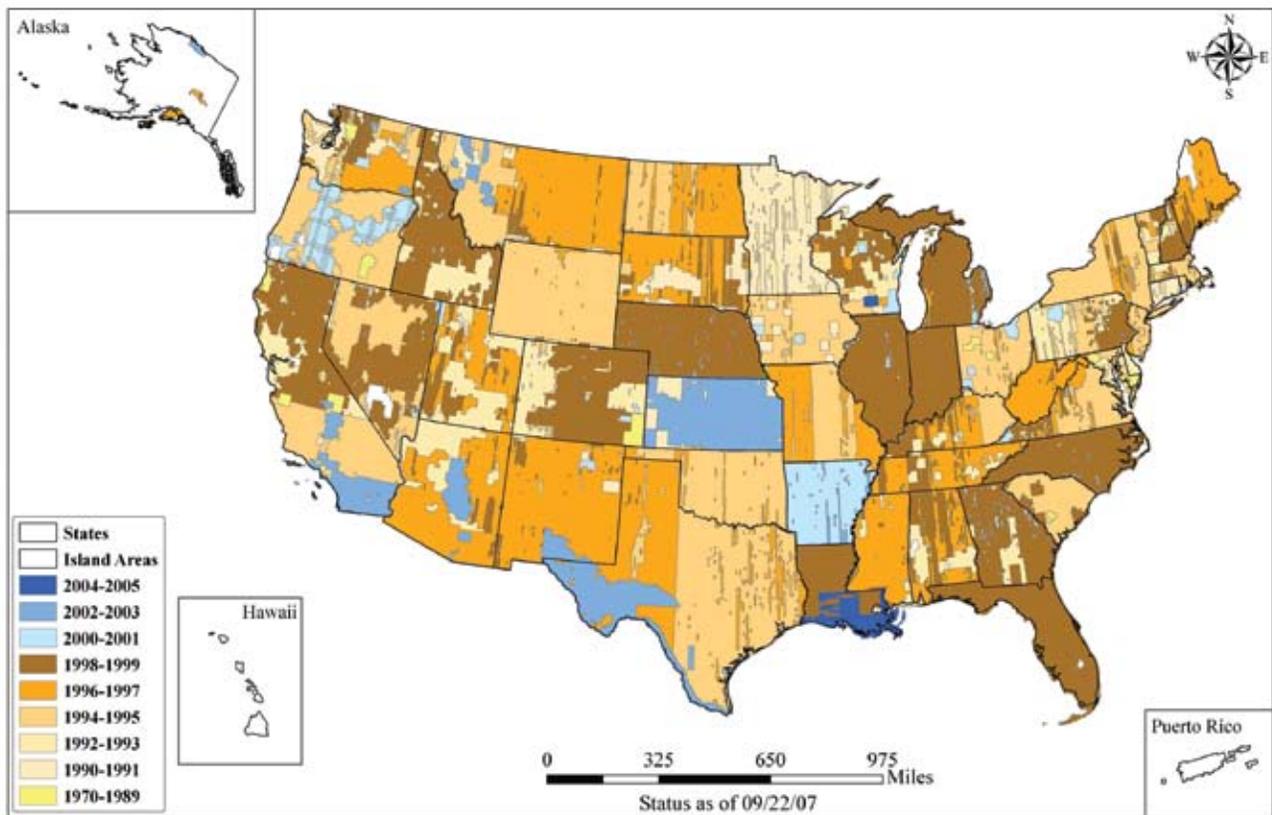
Data Theme: Digital Ortho Imagery (continued)

High Resolution Ortho Imagery Available on *The National Map Seamless Server*



Data Theme: Digital Ortho Imagery (continued)

Digital Orthophoto Quarter Quadrangles (DOQQ)
 1-Meter Resolution on *The National Map Seamless Server*



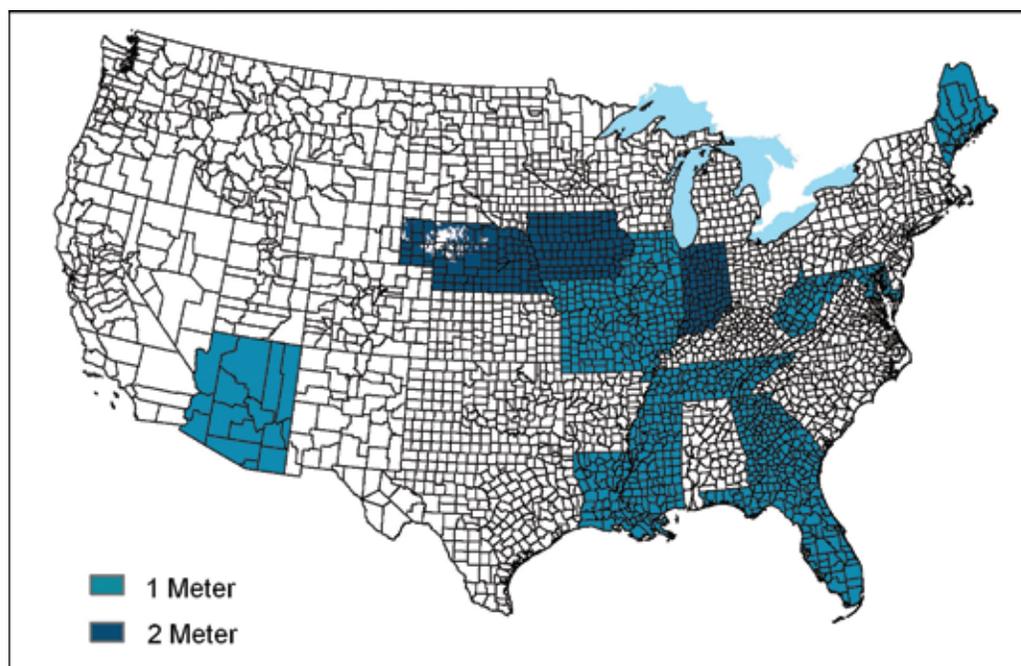
Data Theme: Digital Ortho Imagery (continued)

USDA National Agriculture Imagery Program

The NAIP acquires 1-meter-resolution and 2-meter-resolution natural color imagery during the peak agricultural growing season and delivers this “leaf on” imagery to USDA county service centers. Compressed county mosaics are available within 30 days after the flying season ends, and full resolution quarter quadrangles are available within 1 year. The county service centers use the imagery to help maintain the common land unit (CLU) boundaries and assist with crop compliance and a multitude of other farm programs.

In FY 2007, with partnership contributions that totaled more than \$2.8 million, NAIP acquired 1-meter-resolution imagery in 11 States and 2-meter-resolution imagery in 3 States, as shown in the map below. NAIP has scheduled to collect 1-meter-resolution imagery in 15 States in 2008.

NAIP 2007 Coverage



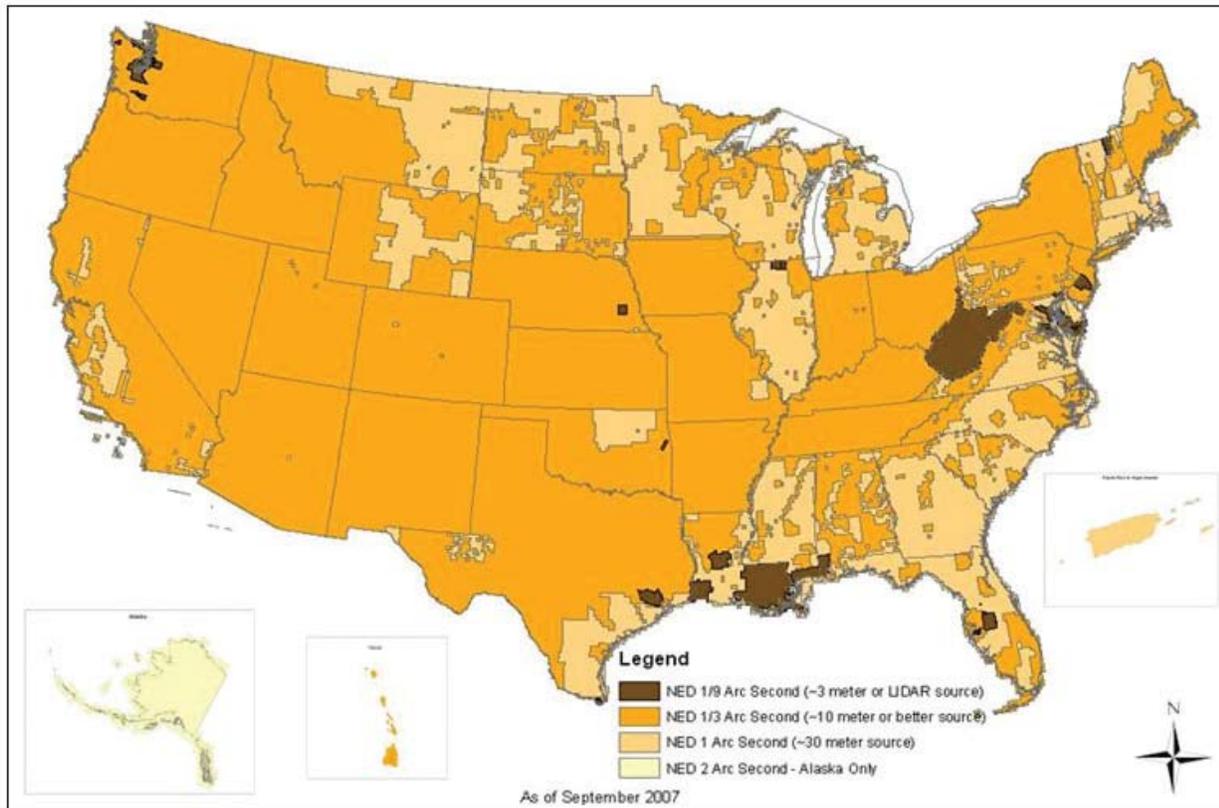
Data Theme: Elevation

Responsible agency: U.S. Department of the Interior, U.S. Geological Survey (USGS)

Description: The National Elevation Dataset (NED) contains elevation data that provide three-dimensional surface models of the Earth's surface. The USGS makes elevation data available both for land areas and, in cooperation with National Oceanic and Atmospheric Administration (NOAA), under coastal waters. The USGS identifies digital elevation data based on the resolution (spacing between the points) of a grid. One arc-second (equivalent to 30-meter) posted elevation data are complete and available for the entire United States. Current USGS efforts concentrate on providing finer resolution of elevation data at 1/3- and 1/9-arc-second (equivalent to 10- and 3-meter, respectively) post spacing. The data are developed from a variety of sources, including State and local governments and the private sector.

The elevation theme includes the best available data from Federal, State, local, and private-sector partners. The USGS plans to continue working with its Federal and State partners in the National Digital Elevation Program on projects to coordinate elevation acquisition. In 2007, the USGS began coordinating very high lidar acquisitions in a new partnership with the elevation component of the National Geospatial-Intelligence Agency (NGA), including 133 urban area lidar and the acquisition of high-resolution lidar along the border between Mexico and the United States. That project is a partnership between the NGA, USGS, and Mexico's National Institute of Statistics, Geography and Informatics (Instituto Nacional de Estadística, Geografía e Informática - INEGI). The USGS anticipates incorporating 1/9-arc-second data acquired from other Federal agencies over urban areas and several statewide collections into the NED. Elevation data are arriving in finer resolutions than the 1/9-arc-second NED layer and would be useful to the elevation user community. The NED database schema is going to be altered to support a special collection data layer. These high-resolution datasets will be migrated into the various NED resolution layers and will also reside in the special collection layer in their original resolution.

The National Map Seamless Server National Elevation Dataset (NED) Source Information



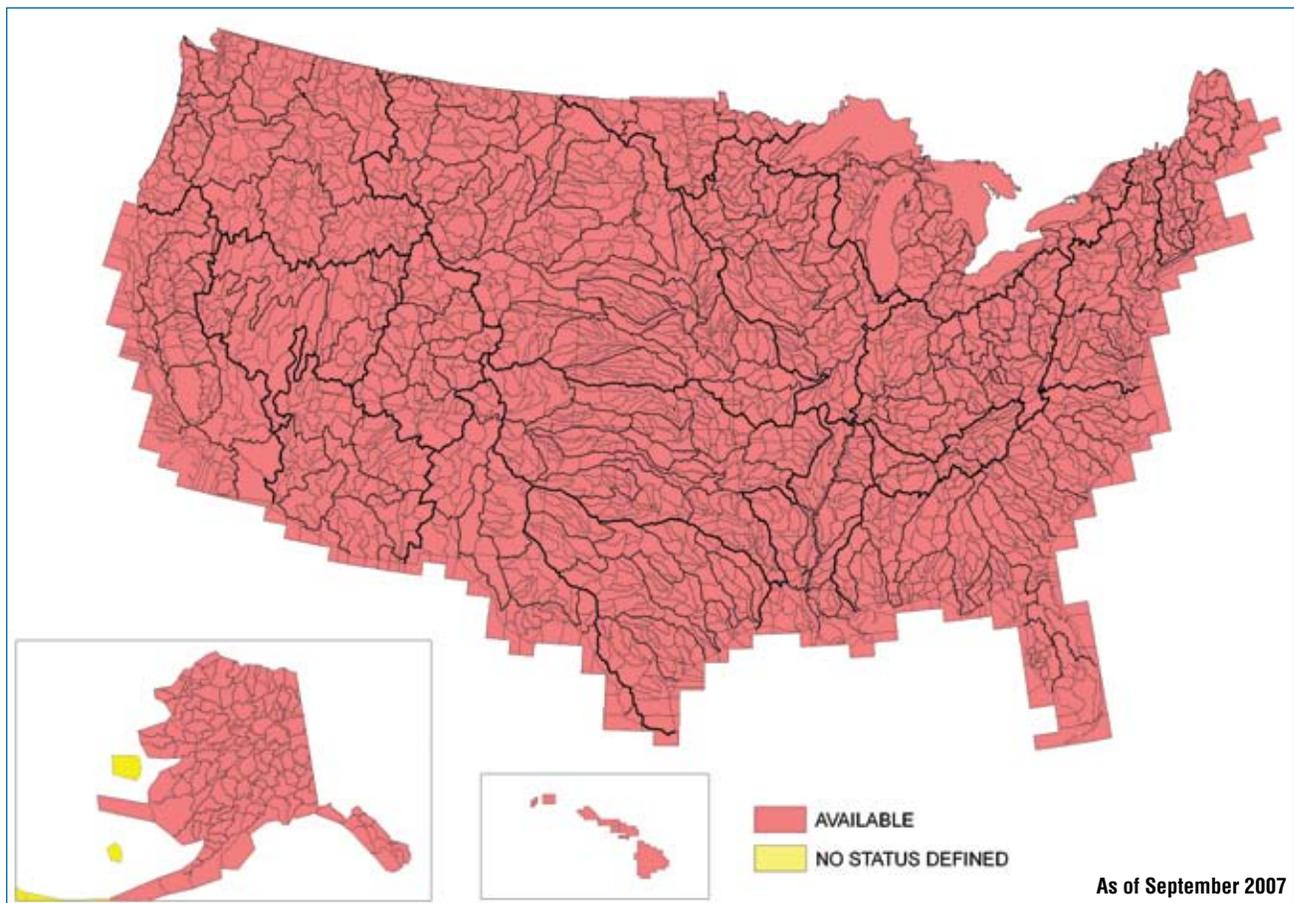
Data Theme: Hydrography

Responsible agency: U.S. Department of the Interior, U.S. Geological Survey (USGS)

Description: These data make up the National Hydrography Dataset (NHD), which is a common data model that contains nationwide coverage of surface water features at 1:100,000 scale and 1:24,000 scale. These data have been produced by a consortium of more than 50 government agencies at the Federal and State levels to provide a universal solution for hydrography across the Nation. The USGS provides the central database, technical development, distribution, data integration, leadership, program management, coordination, and continuous maintenance through stewardship partnerships with the user community.

Fiscal year 2007 saw perhaps the most significant milestone in the history of the over 10-year history of the NHD program. On August 9, 2007, USGS Director Mark Myers announced the completion of nationwide coverage of the high resolution NHD at a ceremony at USGS headquarters in Reston, Virginia. Director Myers expressed an “appreciation for the grassroots effort it took to produce the NHD” and noted the “persistence of scientists, resource managers, and regulators who saw a need for such a dataset at a national scale.”

Status of the High Resolution National Hydrography Dataset

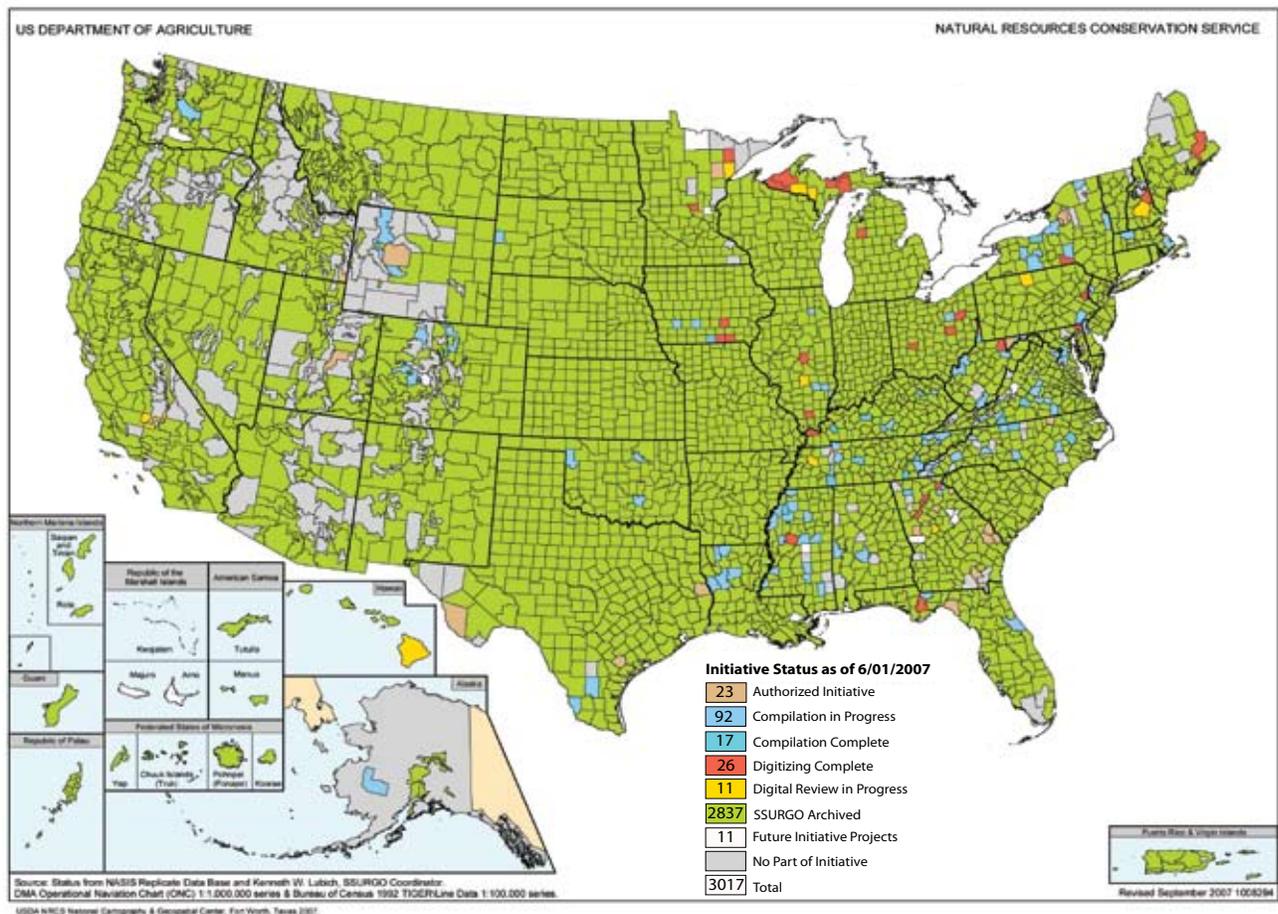


Data Theme: Soils

Responsible agency: U.S. Department of Agriculture (USDA), Natural Resources Conservation Service

Description: The Soil Survey Geographic Database (SSURGO) is available from the USDA's Geospatial Data Gateway. The gateway generates real-time data based upon requests made by customers. Access is provided to the current version of data for a soil survey area. Digitization of the SSURGO data is scheduled to be completed in 2008. For this reason, not all survey areas are available in digital format. This status map shows where digital SSURGO data are available.

Status of Digitizing the Soil Survey



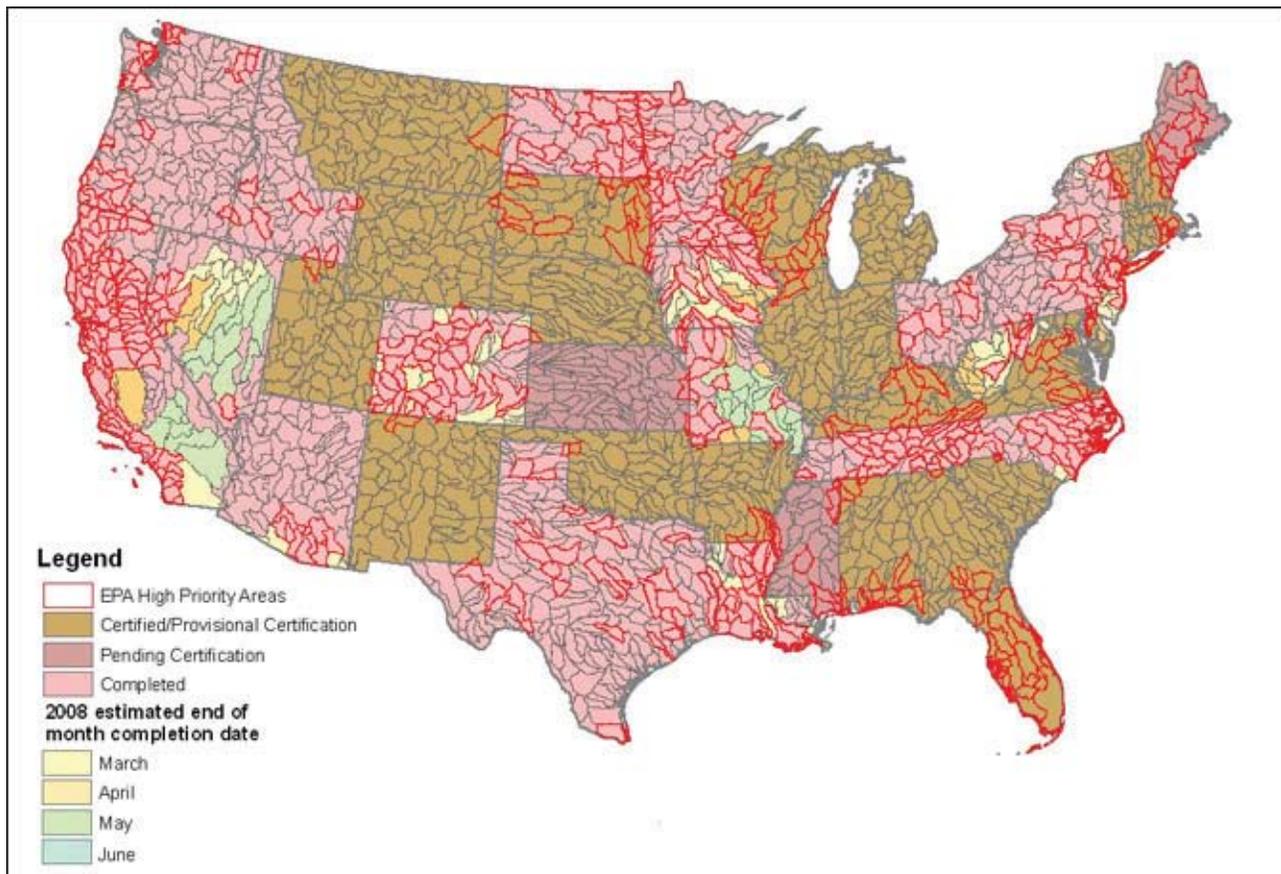
Data Theme: Watershed Boundaries

Responsible agency: U.S. Department of the Interior, U.S. Geological Survey and U.S. Department of Agriculture, Natural Resources Conservation Service

Description: The Watershed Boundary Dataset (WBD) refines the existing 4th level (8 digit, subbasin) to a 1:24,000 scale product based on digital raster graphic county mosaics. In addition, it establishes hierarchical units of proportionate sizes and numbers per nested 5th level (10 digit, watershed) and 6th level (12 digit, subwatershed). The WBD defines the extent of water drainage to a point. The purpose of the WBD is to establish a baseline drainage boundary framework, accounting for all land and surface areas that are impartial to any administrative units, special projects, or particular program or agency.

The following map shows the status of completion by subbasin. Those subbasins categorized as “completed” have finished all line work and attribution as per the Federal Standards for Delineation of Hydrologic Unit Boundaries; Version 2.0, October 1, 2004.

National Status Plan for Completion of the Watershed Boundary Dataset



*Note: Estimated statewide submittal date for national certification review is typically several months past subbasin completion dates shown.

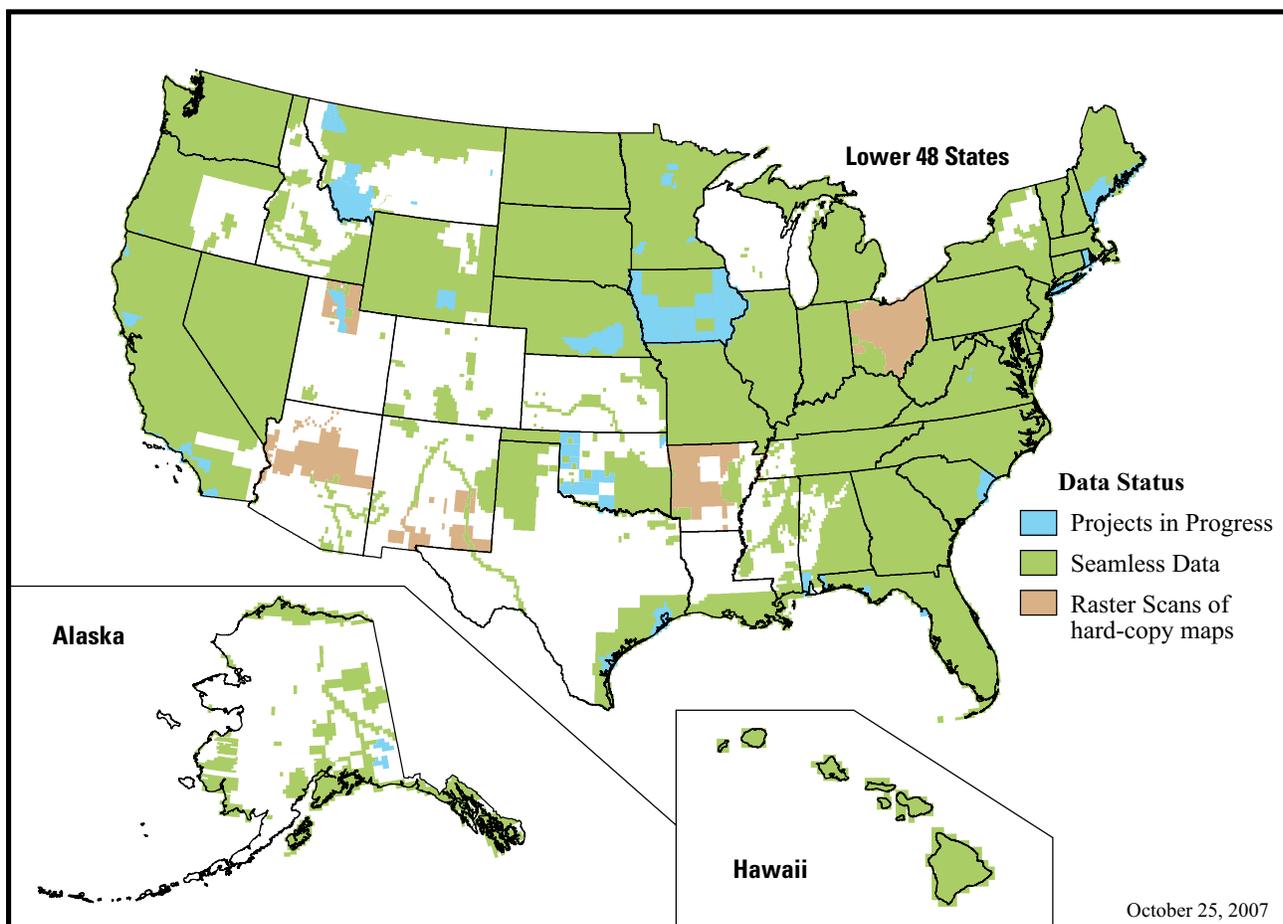
Data Theme: Wetlands

Responsible agency: U.S. Department of the Interior, Fish and Wildlife Service (FWS)

Description: The wetlands data provides classification, location, and extent of wetlands and deepwater habitats. The FWS in partnership with the U.S. Geological Survey, has made these data available via the Internet (wetlandsfws.er.usgs.gov). All digital wetlands data are provided in a seamless format for the conterminous United States and its territories. The FWS wetlands data are also accessible via the Geospatial One-Stop portal.

Currently, the FWS Wetlands database contains over 30,750 7.5-minute map areas in a seamless database. This represents wetlands map data for approximately 60 percent of the conterminous United States: 27 percent of Alaska, 100 percent of the windward islands of Hawaii, 62 percent of Puerto Rico and the U.S. Virgin Islands, and 100 percent of Guam and Saipan in the Pacific Trust Territories.

Wetlands Layer National Spatial Data Infrastructure



Appendix D.

Glossary of Abbreviations and Terms

AAG	Association of American Geographers	IT	Information Technology
ACS	American Community Survey	IWG-OCM	Interagency Working Group for Ocean and Coastal Mapping
ACSM	American Congress on Surveying and Mapping	JBC	Joint Business Case
ACWI	Advisory Committee on Water Management	LoB	Line of Business
ANSI	American National Standards Institute	m	million
BLM	Bureau of Land Management	MMS	Minerals Management Service
CAP	Cooperative Agreements Program	NACo	National Association of Counties
CBA	cost-benefit analysis	NAIP	National Agriculture Imagery Program
CLU	common land unit	NAP	North American Profile
COP	Community of Practice	NASCIO	National Association of State Chief Information Officers
CUAC	Cartographic Users Advisory Council	NDOP	National Digital Orthophoto Programs
DHHS	U.S. Department of Health and Human Services	NED	National Elevation Dataset
FEA	Federal Enterprise Architecture	NGA	National Geospatial-Intelligence Agency
FEMA	Federal Emergency Management Agency	NGAC	National Geospatial Advisory Committee
FGDC	Federal Geographic Data Committee	NHD	National Hydrography Dataset
FSA	Farm Service Agency	NLC	National League of Cities
FWS	U.S. Fish and Wildlife Service	NOAA	National Oceanic and Atmospheric Administration
FY	fiscal year	NSDI	National Spatial Data Infrastructure
GEO	Group on Earth Observations	NSGIC	National States Geographic Information Council
GEOSS	Global Earth Observation System of Systems	OGC	Open Geospatial Consortium, Inc.
GIS	Geographic Information System	OMB	Office of Management and Budget
GITA	Geospatial Information & Technology Association	SDI	spatial data infrastructure
GOS	Geospatial One-Stop	SSURGO	Soil Survey Geographic Database
GSDI	Global Spatial Data Infrastructure	SWG	Standards Working Group
HSWG	Homeland Security Working Group	TIGER	Topologically Integrated Geographic Encoding and Referencing system
HUD	U.S. Department of Housing and Urban Development	UCGIS	University Consortium for Geographic Information Science
ICMA	International City/County Management Association	URISA	Urban and Regional Information Systems Association
IFTN	Imagery for the Nation	USDA	U.S. Department of Agriculture
INCITS	International Committee for Information Technology Standards	USGS	U.S. Geological Survey
INEGI	Instituto Nacional de Estadística, Geografía e Informática	WBD	Watershed Boundary Dataset
ISO	International Organization for Standardization	WGA	Western Governors' Association

