National Geospatial Advisory Committee Overview

February 2013

National Geospatial Advisory Committee

Dr. Robert Austin, NGAC Chair
City of Tampa, FL

Jerry Johnston, NGAC Vice-Chair
Department of the Interior

Mr. Talbot J. Brooks
Delta State University, MS

Richard Clark
State of Montana

Dr. Keith Clarke
University of California, Santa Barbara

Mr. Steve Coast
Microsoft Corporation

Mr. Jack Dangermond
ESRI

Mr. David DiSera
EMA, Inc.

Prof. Joanne Irene Gabrynowicz
University of Mississippi Law School

Mr. Matthew Gentile
Deloitte Financial Advisory Services, LLP

Mr. Bert Granberg
State of Utah

Mr. Frank Harjo
Muscogee (Creek) Nation

Mr. Michael Jones
Google, Inc.

Mr. Jack H. Maguire
County of Lexington, SC

Dr. E. Donald McKay
Illinois State Geological Survey

Dr. Carolyn J. Merry
The Ohio State University

Ms. Anne Hale Miglarese
PlanetiQ, Inc.

Mr. Roger Mitchell
MDA Information Systems, Inc.

Dr. Michele Motsko
National Geospatial-Intelligence Agency

Dr. Timothy Nyerges
University of Washington

Mr. Matthew O'Connell
GeoEye

Mr. Patrick Olson
Aero-Metric, Inc.

Mr. Mark Reichardt
Open Geospatial Consortium, Inc.

Dr. Douglas Richardson
Association of American Geographers

Anthony Spicci
State of Missouri

Gary Thompson
State of North Carolina

Gene Trobia
State of Arizona

Molly Vogt
Oregon Metro

David Wyatt
Eastern Band of Cherokee Indians

Ivan DeLoatch
NGAC Designated Federal Officer (DFO)
Federal Geographic Data Committee

NGAC Purpose

- The Committee will provide advice and recommendations related to management of Federal and national geospatial programs, development of the NSDI, and implementation of OMB Circular A-16 and Executive Order 12906. The Committee will review and comment on geospatial policy and management issues and provide a forum to convey views representative of non-Federal stakeholders in the geospatial community.
- Under Federal Advisory Committee Act rules, the duties of the Committee are solely advisory. The Committee provides counsel and advice to the Secretary of the Interior through the Designated Federal Officer (DFO).

*NGAC Charter

NGAC Mission

To provide strategies regarding the creation, management and dissemination of cohesive geospatial data, information and knowledge to enable commercial, academic, and nonprofit organizations and all levels of government to more effectively:

- ***empower and serve the public***
- ***protect our homeland***
- ***foster economic growth***
- ***advance science***
- ***manage our resources***
- ***prepare for and respond to emergencies***
- ***govern our nation***

* Adopted by NGAC, June 2008

NGAC Operations

- Sponsored by Interior Department – administrative support provided by FGDC
- Meets 3-4 times per year
- Public meetings – including opportunities for public comment/input
- Subcommittees meet between committee meetings – develop materials for consideration by full committee
- More information, including all meeting minutes and materials, posted at:

www.fgdc.gov/ngac

Key NGAC Activities – 2008/2009

2008:

- Approval of Mission Statement, Bylaws, Plan of Action
- Endorsement & Recommendations on Imagery for the Nation
- Recommendations on Geospatial Line of Business
- “Changing Landscape” White Paper
- Administration Transition Recommendations
- Endorsement & Recommendations on National Land Parcel Data Study
- Review of OMB Circular A-16 Draft Supplemental Guidance

2009:

- Recommendations to FGDC on Economic Stimulus
- Approval of NGAC Strategic Vision
- Dialogue on National Geospatial Policy and Strategy
- Endorsement of Imagery for the Nation (IFTN) Record of Decision
- NSDI Metrics Paper
- Economic Recovery “Lessons Learned” paper
- Geospatial Policy Benefits Paper

Key NGAC Activities – 2010/2011

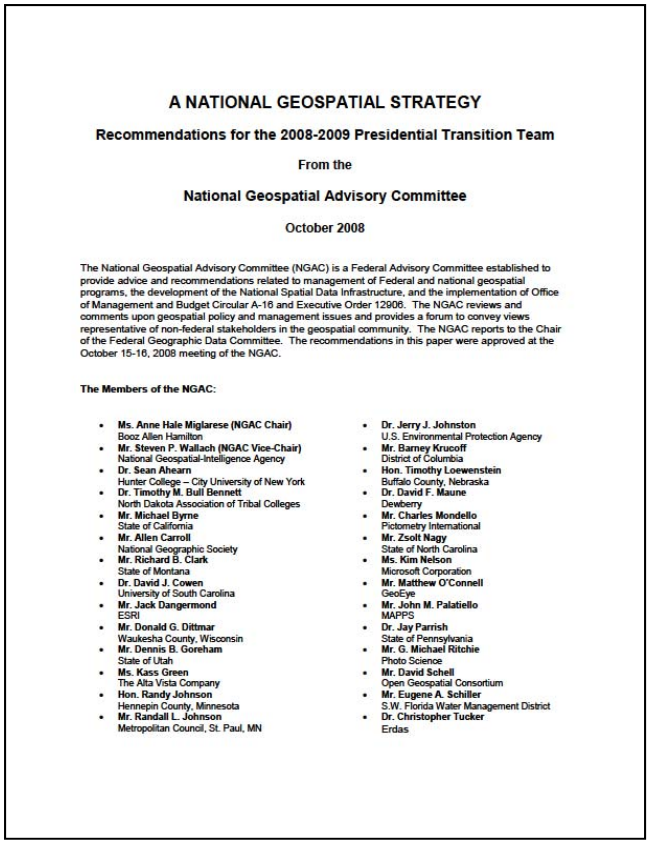
2010:

- Adopted resolution endorsing Geospatial Platform initiative
- Reviewed and provided comments on Geospatial Platform Modernization Roadmap initiative
- Provided feedback on National Broadband Map
- Adopted recommendations related to The National Map
- Adopted Local Government GIS Best Practices Paper
- Provided recommendations to FGDC on Federal Trade Commission report, “Protecting Consumer Privacy in an Era of Rapid Change”

2011:

- Developed recommendations on the Geospatial Platform initiative, the National Land Imaging Program, Transportation for the Nation, and the Lidar/laser pointer issue.
- Adopted a paper on best practices for interagency data sharing
- Held “spotlight sessions” on the topics of interagency data sharing, geospatial workforce development, and National land parcel data.
- Developed draft papers on Geospatial Workforce Development and Innovative Strategies for Geospatial Programs and Partnerships

Key NGAC Products



A NATIONAL GEOSPATIAL STRATEGY

Recommendations for the 2008-2009 Presidential Transition Team

From the

National Geospatial Advisory Committee

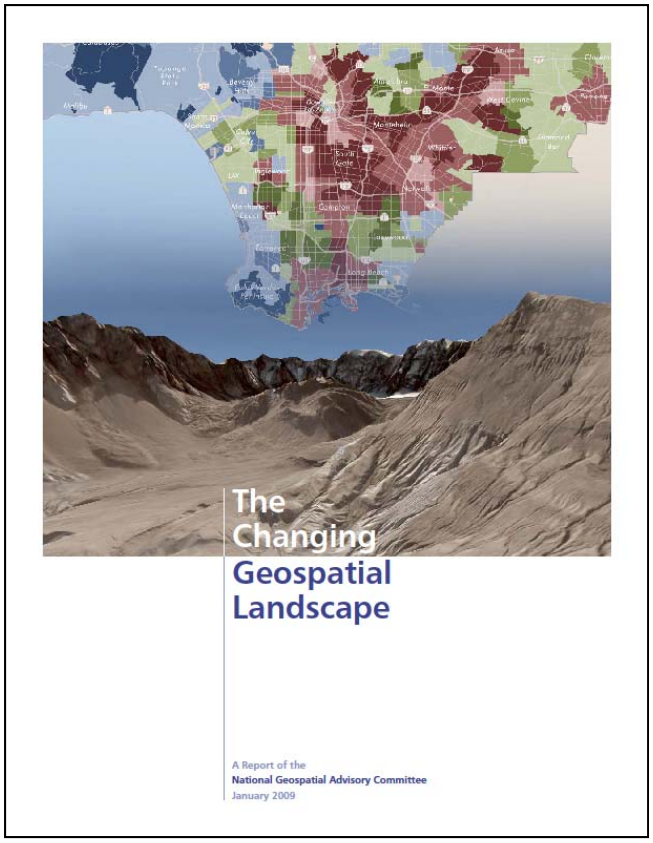
October 2008

The National Geospatial Advisory Committee (NGAC) is a Federal Advisory Committee established to provide advice and recommendations related to management of Federal and national geospatial programs, the development of the National Spatial Data Infrastructure, and the implementation of Office of Management and Budget Circular A-16 and Executive Order 12906. The NGAC reviews and comments upon geospatial policy and management issues and provides a forum to convey views representative of non-federal stakeholders in the geospatial community. The NGAC reports to the Chair of the Federal Geographic Data Committee. The recommendations in this paper were approved at the October 15-16, 2008 meeting of the NGAC.

The Members of the NGAC:

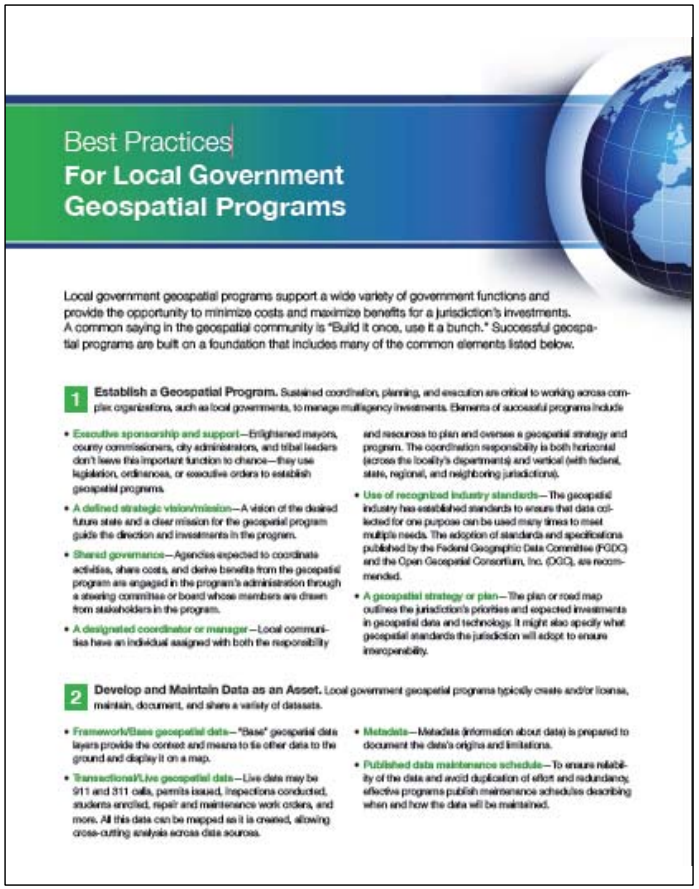
- **Ms. Anne Hale Miglarese (NGAC Chair)** Booz Allen Hamilton
- **Mr. Steven P. Wallach (NGAC Vice-Chair)** National Geospatial-Intelligence Agency
- **Dr. Sean Ahearn** Hunter College – City University of New York
- **Dr. Timothy M. Bull Bennett** North Dakota Association of Tribal Colleges
- **Mr. Michael Byrne** State of California
- **Mr. Allen Carroll** National Geographic Society
- **Mr. Richard B. Clark** State of Montana
- **Dr. David J. Cowen** University of South Carolina
- **Mr. Jack Dangermond** ESRI
- **Mr. Donald G. Dittmar** Waukesha County, Wisconsin
- **Mr. Dennis B. Goreham** State of Utah
- **Ms. Kass Green** The Alta Vista Company
- **Hon. Randy Johnson** Hennepin County, Minnesota
- **Mr. Randall L. Johnson** Metropolitan Council, St. Paul, MN
- **Dr. Jerry J. Johnston** U.S. Environmental Protection Agency
- **Mr. Barney Krucoff** District of Columbia
- **Hon. Timothy Loewenstein** Buffalo County, Nebraska
- **Dr. David F. Maune** Dewberry
- **Mr. Charles Mondello** Pictometry International
- **Mr. Zsolt Nagy** State of North Carolina
- **Ms. Kim Nelson** Microsoft Corporation
- **Mr. Matthew O'Connell** GeoEye
- **Mr. John M. Palatiello** MAPPS
- **Dr. Jay Parrish** State of Pennsylvania
- **Mr. G. Michael Ritchie** Photo Science
- **Mr. David Schell** Open Geospatial Consortium
- **Mr. Eugene A. Schiller** S.W. Florida Water Management District
- **Dr. Christopher Tucker** Erdas

NGAC Transition Recommendations



Changing Geospatial Landscape White Paper

Key NGAC Products



Best Practices
For Local Government
Geospatial Programs

Local government geospatial programs support a wide variety of government functions and provide the opportunity to minimize costs and maximize benefits for a jurisdiction's investments. A common saying in the geospatial community is "Build it once, use it a bunch." Successful geospatial programs are built on a foundation that includes many of the common elements listed below.

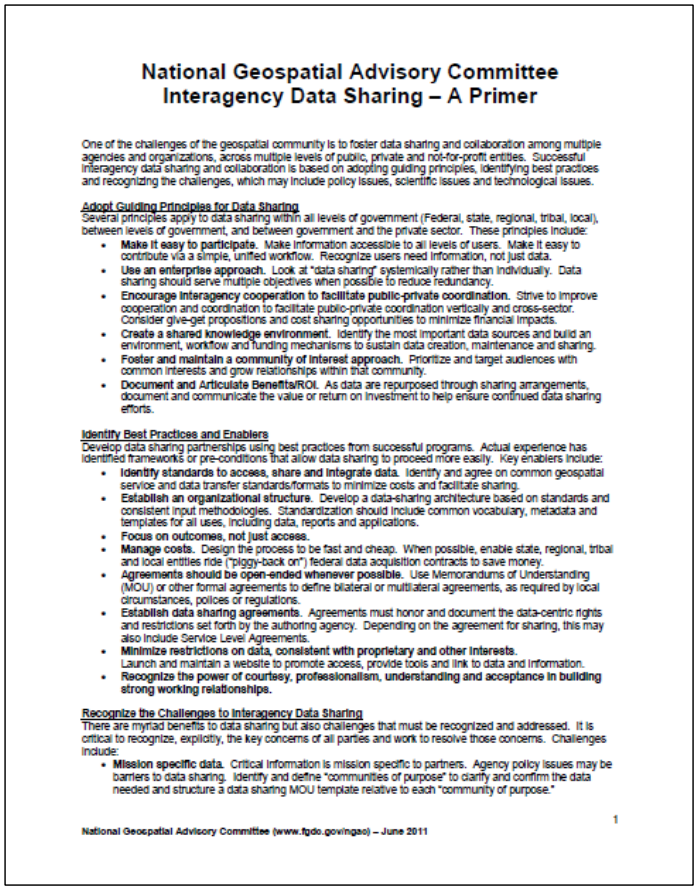
1 Establish a Geospatial Program. Sustained coordination, planning, and execution are critical to working across complex organizations, such as local governments, to manage multiagency investments. Elements of successful programs include:

- **Executive sponsorship and support**—Enlightened mayors, county commissioners, city administrators, and tribal leaders don't leave this important function to chance—they use legislation, ordinances, or executive orders to establish geospatial programs.
- **A defined strategic vision/mission**—A vision of the desired future state and a clear mission for the geospatial program guide the direction and investments in the program.
- **Shared governance**—Agencies expected to coordinate activities, share costs, and derive benefits from the geospatial program are engaged in the program's administration through a steering committee or board whose members are drawn from stakeholders in the program.
- **A designated coordinator or manager**—Local communities have an individual assigned with both the responsibility and resources to plan and oversee a geospatial strategy and program. The coordination responsibility is both horizontal (across the locality's departments) and vertical (with federal, state, regional, and neighboring jurisdictions).
- **Use of recognized industry standards**—The geospatial industry has established standards to ensure that data collected for one purpose can be used many times to meet multiple needs. The adoption of standards and specifications published by the Federal Geographic Data Committee (FGDC) and the Open Geospatial Consortium, Inc. (OGC), are recommended.
- **A geospatial strategy or plan**—The plan or road map outlines the jurisdiction's priorities and expected investments in geospatial data and technology. It might also specify what geospatial standards the jurisdiction will adopt to ensure interoperability.

2 Develop and Maintain Data as an Asset. Local government geospatial programs typically create and/or license, maintain, document, and share a variety of datasets.

- **Framework/Base geospatial data**—"Base" geospatial data layers provide the context and means to tie other data to the ground and display it on a map.
- **Transactional/Live geospatial data**—Live data may be 911 and 311 calls, permits issued, inspections conducted, students enrolled, repair and maintenance work orders, and more. All this data can be mapped as it is created, allowing cross-cutting analysis across data sources.
- **Metadata**—Metadata (information about data) is prepared to document the data's origins and limitations.
- **Published data maintenance schedule**—To ensure reliability of the data and avoid duplication of effort and redundancy, effective programs publish maintenance schedules describing when and how the data will be maintained.

GIS Best Practices for Local Government



National Geospatial Advisory Committee
Interagency Data Sharing – A Primer

One of the challenges of the geospatial community is to foster data sharing and collaboration among multiple agencies and organizations, across multiple levels of public, private and not-for-profit entities. Successful interagency data sharing and collaboration is based on adopting guiding principles, identifying best practices and recognizing the challenges, which may include policy issues, scientific issues and technological issues.

Adopt Guiding Principles for Data Sharing
Several principles apply to data sharing within all levels of government (Federal, state, regional, tribal, local), between levels of government, and between government and the private sector. These principles include:

- **Make it easy to participate.** Make information accessible to all levels of users. Make it easy to contribute via a simple, unified workflow. Recognize users need information, not just data.
- **Use an enterprise approach.** Look at "data sharing" systemically rather than individually. Data sharing should serve multiple objectives when possible to reduce redundancy.
- **Encourage interagency cooperation to facilitate public-private coordination.** Strive to improve cooperation and coordination to facilitate public-private coordination vertically and cross-sector. Consider give-get propositions and cost sharing opportunities to minimize financial impacts.
- **Create a shared knowledge environment.** Identify the most important data sources and build an environment, workflow and funding mechanisms to sustain data creation, maintenance and sharing.
- **Foster and maintain a community of interest approach.** Prioritize and target audiences with common interests and grow relationships within that community.
- **Document and Articulate Benefits/ROI.** As data are repurposed through sharing arrangements, document and communicate the value or return on investment to help ensure continued data sharing efforts.

Identify Best Practices and Enablers
Develop data sharing partnerships using best practices from successful programs. Actual experience has identified frameworks or pre-conditions that allow data sharing to proceed more easily. Key enablers include:

- **Identify standards to access, share and integrate data.** Identify and agree on common geospatial service and data transfer standards/formats to minimize costs and facilitate sharing.
- **Establish an organizational structure.** Develop a data-sharing architecture based on standards and consistent input methodologies. Standardization should include common vocabulary, metadata and templates for all uses, including data, reports and applications.
- **Focus on outcomes, not just access.**
- **Manage costs.** Design the process to be fast and cheap. When possible, enable state, regional, tribal and local entities ride ("piggy-back on") federal data acquisition contracts to save money.
- **Agreements should be open-ended whenever possible.** Use Memorandums of Understanding (MOU) or other formal agreements to define bilateral or multilateral agreements, as required by local circumstances, policies or regulations.
- **Establish data sharing agreements.** Agreements must honor and document the data-centric rights and restrictions set forth by the authoring agency. Depending on the agreement for sharing, this may also include Service Level Agreements.
- **Minimize restrictions on data, consistent with proprietary and other interests.** Launch and maintain a website to promote access, provide tools and link to data and information.
- **Recognize the power of courtesy, professionalism, understanding and acceptance in building strong working relationships.**

Recognize the Challenges to Interagency Data Sharing
There are myriad benefits to data sharing but also challenges that must be recognized and addressed. It is critical to recognize, explicitly, the key concerns of all parties and work to resolve those concerns. Challenges include:

- **Mission specific data.** Critical information is mission specific to partners. Agency policy issues may be barriers to data sharing. Identify and define "communities of purpose" to clarify and confirm the data needed and structure a data sharing MOU template relative to each "community of purpose."

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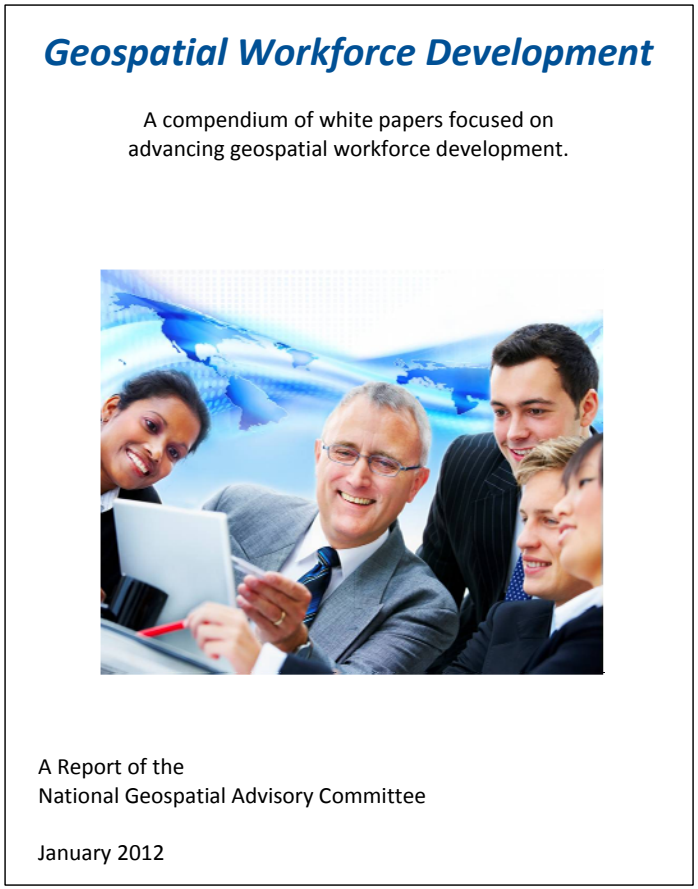
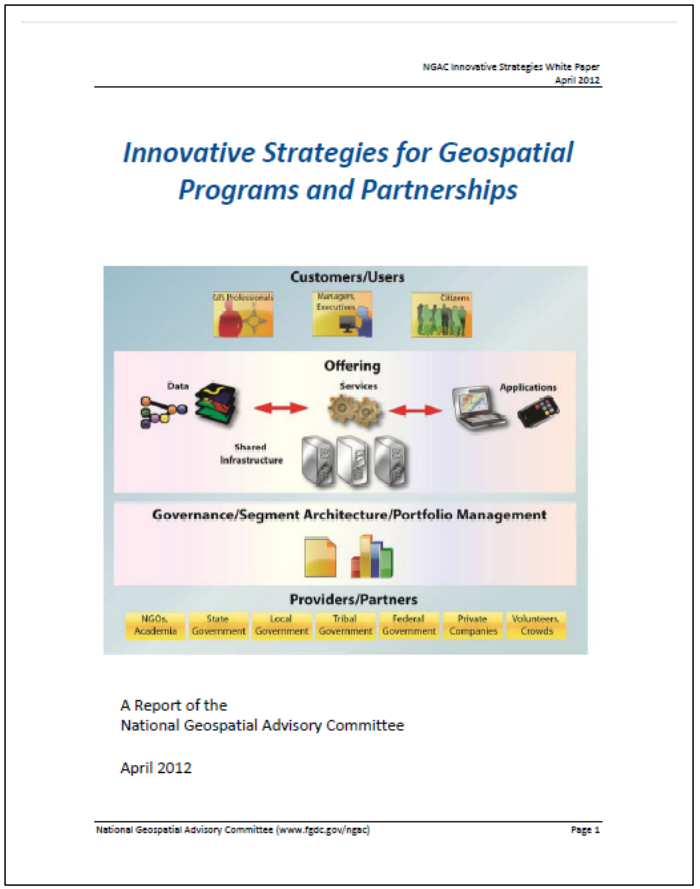
National Geospatial Advisory Committee (www.fgdc.gov/ngac) – June 2011

Interagency Data Sharing Paper

Key NGAC Products

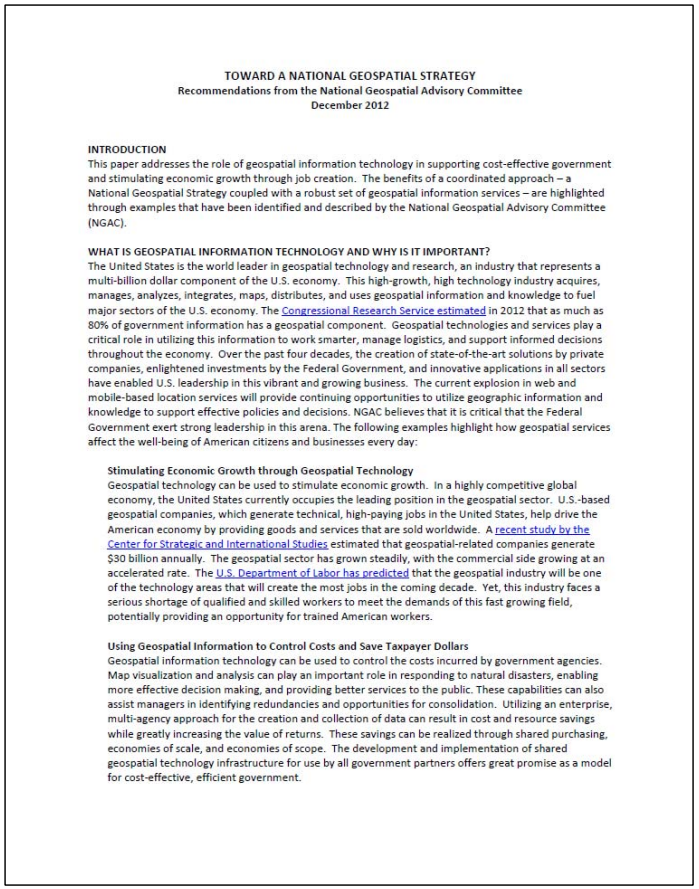


Geospatial Workforce Paper



Innovative Strategies Paper

Key NGAC Products



TOWARD A NATIONAL GEOSPATIAL STRATEGY
Recommendations from the National Geospatial Advisory Committee
December 2012

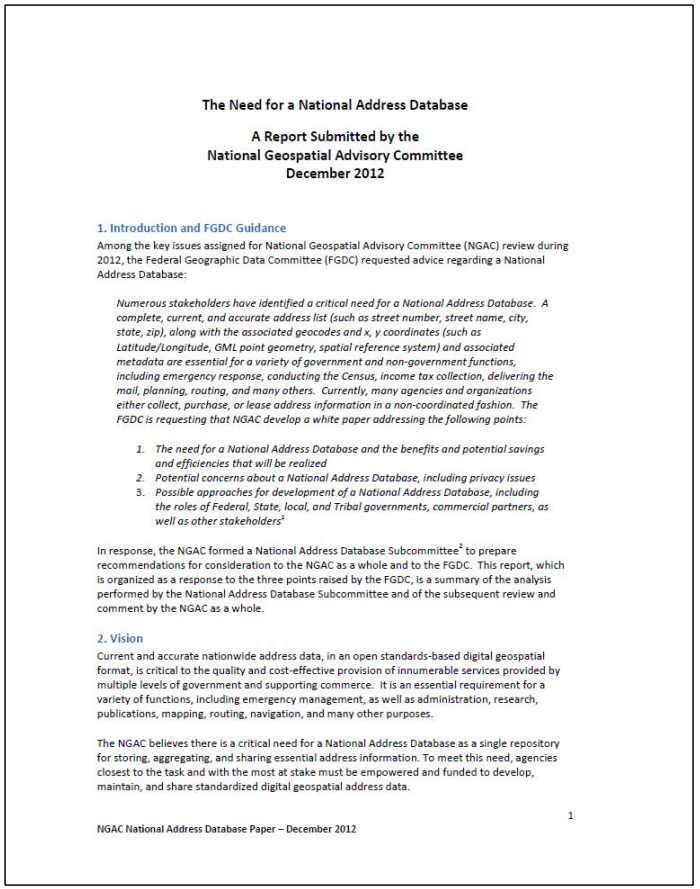
INTRODUCTION
This paper addresses the role of geospatial information technology in supporting cost-effective government and stimulating economic growth through job creation. The benefits of a coordinated approach – a National Geospatial Strategy coupled with a robust set of geospatial information services – are highlighted through examples that have been identified and described by the National Geospatial Advisory Committee (NGAC).

WHAT IS GEOSPATIAL INFORMATION TECHNOLOGY AND WHY IS IT IMPORTANT?
The United States is the world leader in geospatial technology and research, an industry that represents a multi-billion dollar component of the U.S. economy. This high-growth, high technology industry acquires, manages, analyzes, integrates, maps, distributes, and uses geospatial information and knowledge to fuel major sectors of the U.S. economy. The Congressional Research Service estimated in 2012 that as much as 80% of government information has a geospatial component. Geospatial technologies and services play a critical role in utilizing this information to work smarter, manage logistics, and support informed decisions throughout the economy. Over the past four decades, the creation of state-of-the-art solutions by private companies, enlightened investments by the Federal Government, and innovative applications in all sectors have enabled U.S. leadership in this vibrant and growing business. The current explosion in web and mobile-based location services will provide continuing opportunities to utilize geographic information and knowledge to support effective policies and decisions. NGAC believes that it is critical that the Federal Government exert strong leadership in this arena. The following examples highlight how geospatial services affect the well-being of American citizens and businesses every day:

Stimulating Economic Growth through Geospatial Technology
Geospatial technology can be used to stimulate economic growth. In a highly competitive global economy, the United States currently occupies the leading position in the geospatial sector. U.S.-based geospatial companies, which generate technical, high-paying jobs in the United States, help drive the American economy by providing goods and services that are sold worldwide. A recent study by the Center for Strategic and International Studies estimated that geospatial-related companies generate $30 billion annually. The geospatial sector has grown steadily, with the commercial side growing at an accelerated rate. The U.S. Department of Labor has predicted that the geospatial industry will be one of the technology areas that will create the most jobs in the coming decade. Yet, this industry faces a serious shortage of qualified and skilled workers to meet the demands of this fast growing field, potentially providing an opportunity for trained American workers.

Using Geospatial Information to Control Costs and Save Taxpayer Dollars
Geospatial information technology can be used to control the costs incurred by government agencies. Map visualization and analysis can play an important role in responding to natural disasters, enabling more effective decision making, and providing better services to the public. These capabilities can also assist managers in identifying redundancies and opportunities for consolidation. Utilizing an enterprise, multi-agency approach for the creation and collection of data can result in cost and resource savings while greatly increasing the value of returns. These savings can be realized through shared purchasing, economies of scale, and economies of scope. The development and implementation of shared geospatial technology infrastructure for use by all government partners offers great promise as a model for cost-effective, efficient government.

Geospatial Strategy Paper



The Need for a National Address Database

A Report Submitted by the
National Geospatial Advisory Committee
December 2012

1. Introduction and FGDC Guidance

Among the key issues assigned for National Geospatial Advisory Committee (NGAC) review during 2012, the Federal Geographic Data Committee (FGDC) requested advice regarding a National Address Database:

> *Numerous stakeholders have identified a critical need for a National Address Database. A complete, current, and accurate address list (such as street number, street name, city, state, zip), along with the associated geocodes and x, y coordinates (such as Latitude/Longitude, GML point geometry, spatial reference system) and associated metadata are essential for a variety of government and non-government functions, including emergency response, conducting the Census, income tax collection, delivering the mail, planning, routing, and many others. Currently, many agencies and organizations either collect, purchase, or lease address information in a non-coordinated fashion. The FGDC is requesting that NGAC develop a white paper addressing the following points:*
>
> 1. *The need for a National Address Database and the benefits and potential savings and efficiencies that will be realized*
> 2. *Potential concerns about a National Address Database, including privacy issues*
> 3. *Possible approaches for development of a National Address Database, including the roles of Federal, State, local, and Tribal governments, commercial partners, as well as other stakeholders*[1]

In response, the NGAC formed a National Address Database Subcommittee[2] to prepare recommendations for consideration to the NGAC as a whole and to the FGDC. This report, which is organized as a response to the three points raised by the FGDC, is a summary of the analysis performed by the National Address Database Subcommittee and of the subsequent review and comment by the NGAC as a whole.

2. Vision

Current and accurate nationwide address data, in an open standards-based digital geospatial format, is critical to the quality and cost-effective provision of innumerable services provided by multiple levels of government and supporting commerce. It is an essential requirement for a variety of functions, including emergency management, as well as administration, research, publications, mapping, routing, navigation, and many other purposes.

The NGAC believes there is a critical need for a National Address Database as a single repository for storing, aggregating, and sharing essential address information. To meet this need, agencies closest to the task and with the most at stake must be empowered and funded to develop, maintain, and share standardized digital geospatial address data.

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NGAC National Address Database Paper – December 2012

National Address Database Paper

2012 FGDC Guidance to NGAC

- Developed based on input and suggestions from FGDC Steering Committee and Coordination Group, and input from NGAC members
- Primary Topic Areas:
  - Geospatial Platform
  - Landsat
  - OMB Circular A-16 Data Themes
  - National Enhanced Elevation Assessment
  - National Address Database
  - National Hydrology Database
- NGAC Points of Contact (POCs) for key programs
- Guidance posted at:

  http://www.fgdc.gov/ngac/meetings/april-2012/2012-fgdc-guidance-to-ngac.pdf

NGAC – Key 2012 Activities

- Approval of white paper on *Geospatial Workforce Development*
- Approval of white paper on *Innovative Strategies for Geospatial Programs and Partnerships*
- Establishment of NGAC Landsat subcommittee; approval of two Landsat papers
- Recommendations on National Enhanced Elevation Program
- Feedback on Geospatial Platform Business Plan
- Approval of *National Geospatial Strategy* paper
- Approval of *National Address Database* paper

Upcoming Activities

Next NGAC Meetings:

- April 2-3, 2013 (NCTC, Shepherdstown, WV)
- June 11-12, 2013 (AIA Building, Washington, DC)
- Sept 10-11, 2013 (AIA Building, Washington, DC)

2013 Call for Nominations

- FGDC will issue Call for Nominations for next round of appointments in Spring 2013

www.fgdc.gov/ngac