2009 Georgia Geospatial Strategic Plan

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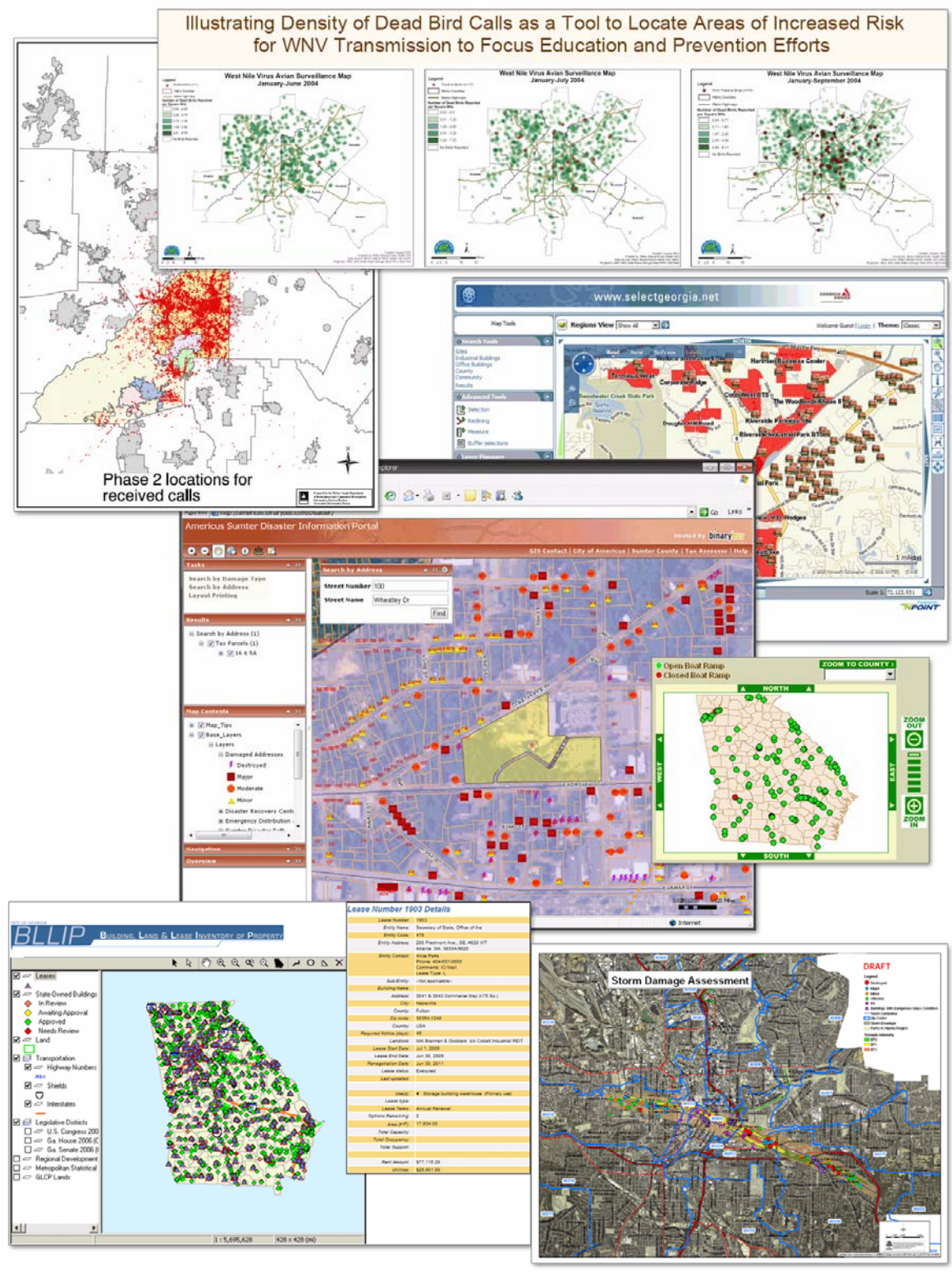
2. REVISION HISTORY

Date	Version	Description	Author
05.29.09	1.0	The 2009 Georgia Fifty States Initiative Project: Statewide Geospatial Strategic Plan, Georgia	D. Ayan

Geospatial information products from various organizations throughout Georgia



3. EXECUTIVE SUMMARY

9,363,941 people live and work on Georgia's 57,906 square miles of land, and all are affected by location and the location of features around them such as property, roads, hospitals, service areas, districts (schools/legislative/voting), boundaries (county/municipal), hazardous material sites, etc.

Successfully developing, managing and publicizing these location assets requires knowledge of geospatial technologies and a statewide framework, i.e. an enterprise Geospatial Program and all of its related components identified herein. **Detailed data about government programs, and geospatial visualization of that data, can provide a clarifying vision for action where action is needed most.**

According to the National Association of State Chief Information Officers (NASCIO), geospatial capabilities represent "a portfolio of capabilities that extends across the enterprise. The investment in this portfolio is growing … in every aspect of government decision making**."**[i] **Georgia has an untapped resource in the 13-year old state, volunteer GIS Geographic Information Systems Coordinating Committee (GISCC)** and the extremely capable grass roots geospatial community spread across the state and throughout all industry sectors. Factors required to elevate Georgia as a leader in government analytics and geospatial expertise (i.e., a Best Managed state) are all in place, save for high-level vision and leadership for a formally coordinated Geospatial Program. NASCIO continues that,

"With proper governance, appropriate partnering, and investment, [geospatial technologies] can assist state government decision makers in making better, more informed decisions. Data and information that is enhanced with a location perspective often brings new insight and understanding."

Examples of geospatial approaches in practice across Georgia's varying regions and industries can be viewed at http://www.georgiaspatial.com and on the GeorgiaGIS channel, http://www.youtube.com/user/GeorgiaGIS.

[i] National Association of State Chief Information Officers (NASCIO), "Governance of Geospatial Resources: 'Where's the Data? Show Me' – Maximizing Investment in State Geospatial Resources." July 2008: http://www.nascio.org/newsroom/pressReleases/080723.cfm

Although there are valuable independent geospatial activities occurring throughout the state, **Georgia is falling behind the nation in centrally harnessing geospatial capabilities for a Educated, Healthy, Safe, Growing and Best Managed state.** Further, Georgia is risking existing investments, as the Georgia Technology Authority (GTA) has recently terminated funding for the State Spatial Data Infrastructure (SSDI) which houses over 30,000 geospatial assets pertinent to Georgia, utilized by 28,000 active subscribers and feeding the National Spatial Data Infrastructure (NSDI).

States that have a Statewide Geospatial Coordinator in position through Executive Order, legislation or Agency Administrative Decision and those with an established SSDI include the following[ii]:

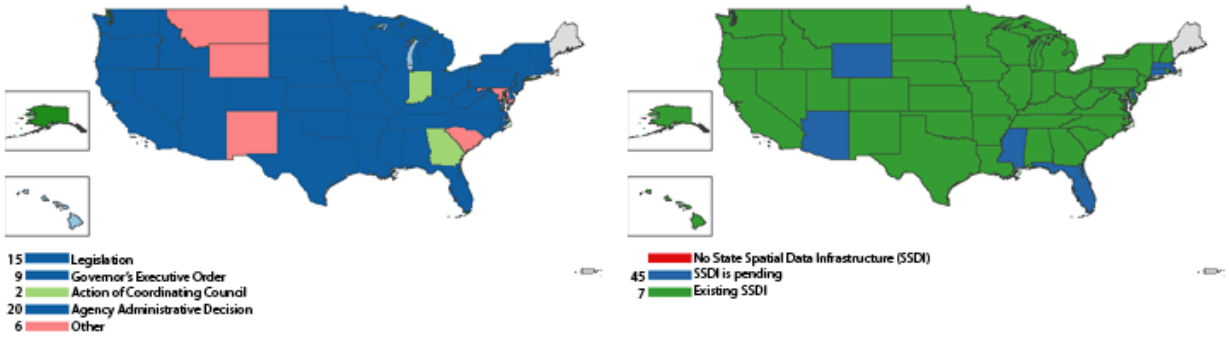


Figure 1: (Left) States that have a full-time Geographic Information Officer, or equivalent and (Right) States that have a State Spatial Data Infrastructure (SSDI). Note that Georgia's SSDI will no longer be funded by GTA after June 30, 2009.

Individual members of the GISCC, and the GISCC itself, have leveraged federal partnership funding opportunities through programs such as this Statewide Geospatial Strategic Planning effort, the Coastal Georgia Regional Development Center's (CGRDC) Coastal Georgia Elevation Program (CGEP) and the South Georgia RDC's Census review, among many other examples. However, **there is no authoritative, centralized person or Program in Georgia wearing "geospatial goggles" that is tasked with, and adept at, seeing geospatial opportunities across independent state, regional and local activities and/or in support of the American Reinvestment and Recovery Act (ARRA).** For example, Oregon's Statewide GIS Coordinator has developed a project tracking tool that will correlate stimulus-related project locations with unemployment data across the state in order to put qualified unemployed people to work. Spatial technology in Michigan is an underpinning institutionalized Information Technology (IT) utility, led by a GIO. Maryland's GIO and Governor have established a map-based website that tracks individual recovery grant projects for each of the specific ARRA categories (http://www.statestat.maryland.gov/recovery.asp). Massachusetts and California, among others, have statewide Broadband infrastructure maps that have served as the catalyst for millions of federal dollars funneled to those states in support of statewide economic development and telemedicine.

[ii] National States Geographic Information Council (NSGIC), 2008 State Summary Information, http://www.gisinventory.net/summaries

Although much is needed to transform Georgia's geospatial "put-put" golf cart into a racecar engine, consensus-based opinion reveals that **with the following five strategic elements in place, many other essential components will follow**:

1. **Find a mechanism for collaboratively maintaining existing statewide investments/resources that support interagency data discovery and access (i.e., the Georgia GIS Clearinghouse) and to meet future interagency/stakeholder needs for geospatial resources.**

   Aligns with Best Managed state goals[iii]: *"Deliver state services, faster, friendlier and easier," "Strategically manage the state's infrastructure and be stewards of its assets," and "Improve decision makers access to quality enterprise data through integrated enterprise systems."*

2. **Establish clearly defined authority and responsibility for Geospatial coordination in Georgia, with a lead coordinator or GIO (Geospatial Information Officer), so that a Program exists to secure and equitably manage federal dollars across geography and geospatially-related projects, streamline multi-agency efforts/needs, and realize savings for Georgia government.**

   Aligns with Safe, Growing and Best Managed state goals: *"Increase quality jobs and promote innovation and investment in Georgia," "Promote homeland security and emergency preparedness for natural and man-made disasters or acts of terrorism," "Strategically manage the state's infrastructure and be stewards of its assets."*

3. **Develop a mechanism for assessing the Geospatial Health of Georgia, to outline statewide geospatial components, to evaluate each component's maturity, to establish a baseline of understanding, to track progress over time and to create a framework from which to build score cards and the current and future strategic/business plans for the GISCC and the state of Georgia.**

   Aligns with Educated and Growing Georgia state goals: *"Improve workforce readiness skills," "Increase quality jobs and promote innovation and investment in Georgia."*

4. **Execute an Enterprise License Agreement (ELA) for geospatial software acquisition throughout Georgia state agencies (#37, Appendix A) to reduce replicate administrative procurement burden and to expand software access, currently limited by budget.**

   Aligns with Best Managed goals: *"Employ an enterprise approach and best practices in Georgia's financial management."*

5. **Endorse the use of appropriate national geospatial standards.**

   Aligns with state Best Managed goals[iii]: *"Strategically manage the state's infrastructure and be stewards of its assets."*

4. INTRODUCTION

As detailed in the Office of Management and Budget (OMB) Circular A-16, the National Spatial Data Infrastructure (NSDI) "assures that spatial data from multiple sources (federal, state, local, and tribal governments, academia, and the private sector) are available and easily integrated to enhance the understanding of our physical and cultural world."[iii]

Geospatial data are the core of the NSDI and Georgia's State Spatial Data Infrastructure (GaSDI); these assets, developed and contributed from state, regional and local governments, academia and the private sector, are a digital representation, in graphic and database form, of the world around us. **Geospatial technologies are the driving force behind Location-Based Intelligence and Services (LBS)** which enable the visualization, analyses and modeling of geospatial data/assets and answer questions such as "Where?," "What?," "When?," "What are the patterns?," "How have things changed?," "Are policies appropriate and reasonable?." To harness geospatial data and technologies for maximum effectiveness, formal **Geospatial coordination is essential, as all people at all levels in all industries are either directly or indirectly impacted by the results of quality Geospatial information availability and output**.

SAVINGS

"We use GIS for economic development through the mapping of water, sewer, and gas lines. We coordinate the reading of water and gas meters. We use it for dispatch at e-911. Emergency operations for the county. Land use, conservation use, and parcel maintenance, etc." (#21, Appendix A)

The GISCC, while committed to success, does not have the capacity in its current form to create the operational framework necessary to enable an enterprise Geospatial Program. Governance is needed to leverage existing investments, create interoperable geospatial data, properly manage the data life cycles, coordinate geospatially-related activities and enhance Georgia government business and resulting delivery of services to the public through geospatial approaches.

The Fifty States Initiative and NASCIO reveal Geospatial Governance as necessary for state management. This sentiment is echoed by stakeholders throughout Georgia via results of the recent Strategic Planning effort. From March 2008 – February 2009, the Georgia GIS Coordinating Committee (GISCC) launched a thorough, statewide Geospatial strategic planning effort, funded by a grant from the United States Geological Survey (USGS), Federal Geographic Data Committee (FGDC), Cooperative Assistance Program (CAP) with a 50% match by the Georgia Institute of Technology (Georgia Tech) College of Architecture Center for GIS. Guidance was provided by the Governor's Office of Planning and Budget (OPB) and former Chief Technology Officer turned Deputy Executive Director of the Georgia Technology Authority (GTA). **Over 700 people participated in the statewide Geospatial Strategic Planning effort** (see Appendix B). Results are contained herein.

A February 2008 letter to Agency leaders from the Governor's Office of Planning & Budget (OPB), issued with the new cycle of State Strategic Planning Guidelines, stated that

[iii] Office of Management and Budget (OMB), Circular No. A-16, 2002: http://www.whitehouse.gov/omb/circulars/a016/a016_rev.html

"Governor Sonny Perdue is committed to achieving results for Georgians and changing the culture of state government to be value-driven, customer focused, and results-oriented … to transform how the state manages its business requires focus on specific goals, new ways of addressing long-standing issues, and strengthening partnerships. In short, **we must change the way we do business"** (see Appendix C).

The GISCC purports, and stakeholder consensus confirms, that **by embracing geospatial capabilities and formalizing a Geospatial Program, Georgia can best obtain and manage manage forthcoming ARRA funds, track funding allocation and effectiveness and provide solutions for common challenges across government organizations**. Such a Program could enable Georgia to far exceed surrounding states and the nation in cutting edge governance.

5. VISION

The Georgia GISCC's vision is that all levels of government become highly effective and efficient through the coordination and use of geospatially-related data, standards and technologies. The GISCC's mission is to be a valued advisor on sustainable geospatial governance, investments, policies and data-driven decisions influencing Georgia.

6. THE CURRENT SITUATION

Background

A very passionate and active group of geospatial practitioners comprising the GISCC has 1.) been meeting voluntarily on a monthly basis for the past 13+ years, 2.) maintained strong connections with national geospatial organizations and efforts, 3.) developed the state's Spatial Data Infrastructure (GaSDI) and 4.) facilitated the development of Georgia's statewide framework datasets served through the Georgia GIS Clearinghouse. **Georgia maintains the first 5 of the following 7 National framework data layers**[iv]:

Orthoimagery, Elevation, Hydrography, Administrative Units, Transportation, Geodetic Control, Cadastral

The total cost of these statewide framework layers, each developed prior to 2002, equates to over $7.5 million dollars, greater than 50% of which was funneled to the state via federal partnership dollars facilitated in conjunction with the GISCC[v]. **Since 1999**, however, when the GISCC lost the policy and oversight previously provided by the Information Technology Policy Council (ITPC), **little to no statewide data development has occurred and data decay is a current challenge** (see Table 1. Georgia's Geospatial S.W.O.T. Analysis).

SAVINGS

The GISCC-facilitated joint funding agreement with USGS in 1999 saved Georgia over $2.2 million dollars for statewide aerial photography.

[iv] National Spatial Data Infrastructure (NSDI) Program: http://www.fgdc.gov/framework

[v] Georgia GIS Coordinating Committee (GISCC) "Business Case for Coordinated GIS," 2002

Key Findings of Georgia's Geospatial Capacity

Geospatial approaches to business are disparately in practice throughout Georgia agencies and organizations in support of the following activities: land surveying, visualization/situational awareness, information distribution, research, marketing, planning, administrative decision-making, resource allocation, project management, asset management, conservation/environmental purposes, customer service and other activities (see #21 of Appendix A).

According to anecdotal evidence and the Geospatial Information & Technology Association (GITA), "The justification for investments comes from business applications." **There is no better case study for Georgia on how geospatial capabilities can better manage our state than the Georgia Buildings, Lands and Lease Inventory of Properties (BLLIP) project** (http://www.realpropertiesgeorgia.org).

CASE STUDY | SUCCESS IN MANAGING STATE BUILDINGS

BLLIP, a collaborative online Geographic Information System (GIS) application, was the result of a multi-agency requirement for a seamless spatial database of state-owned properties, resulting in $22 million dollars in savings through the sale of surplus property. Also as a result of BLLIP, the State saved $1.1 million in 2006 through the renegotiation and consolidation of leases which will project into a total savings of $20.5 million until 2012.

Georgia's 2007-2008 Geospatial Maturity Assessment, identified as a strategic need herein and developed as a complimentary component of this Strategic Planning initiative, shows that **Georgia is not meeting current demands for data availability and access, data quality, geospatial standards, partnership programs, location-based enterprise services, workforce training, educational articulation (i.e., pathways) throughout the learning levels, capturing federal funds, and cross-agency collaboration and general support for enterprise business applications, among other things.** These findings are validated by the results of a 2008 Online Geospatial Survey, completed by 293 stakeholders throughout Georgia (Appendix A).

Georgia's geospatial health is qualitatively assessed as sub-par in Appendix E and categorized by Strengths, Weaknesses, Opportunities and Threats (S.W.O.T.) in the Table below.

Table 1. Georgia's Geospatial S.W.O.T. Analysis

Strengths	Weaknesses	Opportunities	Threats
Established geospatial infrastructure, framework and knowledge base	Need for coordinated response and an authoritative geospatial information source(s)	Increased desire to use maps and spatial data by state decision makers	Existing investment at risk. Funding for GIS Clearinghouse not certain for FY 2010 (GTA said it will not pay)
GIS Clearinghouse known as state/national resource,	Need current, accurate geospatial INVENTORY (data, stewards, human resources)	GIS can provide Common Operating Picture (COP), quality and services like no other technology	Inaction – not designating a lead entity for GIS standards and policy

Strengths	Weaknesses	Opportunities	Threats
established, easy to use, secure			limits future data sharing and integrity
GISCC – state user community coordinates monthly since 1996	Need definition of roles/responsibilities	Interface (Point-Of-Contact) for Federal Grant funding and interagency cost sharing agreements	Lacking sustainable funding for GIS data maintenance
Collaborative attitude of agencies (GA Utility permitting system, TREX reduce document costs)	Need requirements, standards, policies for processes/businesses to function more seamlessly	Georgia has what it needs to far exceed other states' geospatial health and effectiveness	Data decay/limited effectiveness - lack of sustained geospatial data maintenance
Can build on success (BLIPP, NAHRGIS, 511)	Need clear, statewide geospatial blueprint to guide investments	Formalizing/improving data feed from local levels to regional and state levels	Limited archiving of GIS data (Impact on analyses over time)
Strong and mature geospatial operations at several state agencies, RDCs, counties and municipalities	Need geospatial educational tracks for current/future market demand	Ability to spatially-enable existing state databases (Address geofile is needed for Georgia)	Perceived barriers to applying geospatial technologies
	Need performance measures, tied to State Strategic Plans, for statewide impact of geospatial activities (see Appendix E for 2008 baseline)	GIS and surveyor communities recognize need for improved coordination and standards	Uncoordinated state, county and city activities (ie. e911)
	Not all geospatial assets in state are on GIS Clearinghouse; therefore, redundant data get created due to lacking awareness/access to existing data	Enhance existing knowledge base via educational and private partnerships	Technological discrepancies between counties; challenges for those that want to capitalize on this technology
	Need statewide software licensing agreements and access to professional services; significant administrative burden to obtain the GIS suite by ESRI which is equivalent to Microsoft for the business world; investment limited to each agency's budget	Standardized, statewide Geospatial job descriptions/classifications	Grave discrepancies regarding the cost for geospatial data which, when unaffordable, inhibits Economic Development and private sector cooperation with counties (see Appendix A)
	70% of Georgia stakeholders need access to data beyond their jurisdictions, but ~30% can't find it and 11% can't access it (see Appendix A)	Significant and increasing geospatial activity at all levels of government	The Georgia state legislature does not fully recognize and understand the state's assets, programs and supported

Strengths	Weaknesses	Opportunities	Threats
			investments in geospatial technologies
	Significant data gaps (see Appendices A and D)	76 organizations, responding to an Online Survey, have field agents collecting data in various formats (see Appendix A)	Highly variable and discrepant data distribution and fee policies exist between Georgia Government organizations (could lead to lawsuits)
		Clearinghouse can serve as BC/DR (Business Continuity/Disaster Recovery) resource with more comprehensive data contributions	

7. PROGRAMMATIC GOALS

This statewide Geospatial Strategic Planning project started in 2008 at a time when all Georgia state agencies were compiling their 3-year strategic plans and the state itself was writing a 5-year strategic plan. Therefore, **this document is written in alignment and support of both the Fifty States Initiative and Georgia agency strategic plans**. It took shape through an iterative process of facilitated group discussions, consulting, online surveying, research, drafting, and review.

SAVINGS

"GIS shows us our city utilities by Location, Types, etc. It also lets us see where repairs are needed and determine project cost. Project locations, cost, etc. Zoning of properties, Rezoning, and Annexation. Schedule zones for Debris pick-up. Parcels, parcel owners, property size, and information on property." (#21, Appendix A)

The completion of the report itself, coincides with a new Presidential administration and the American Recovery and Reinvestment Act of 2009 (ARRA)[vi]. **A Geospatial Program in Georgia would greatly increase the state's effectiveness in tracking/evaluating stimulus projects and, further, providing cost-saving solutions to existing and arising challenges**.

The statewide Geospatial Strategic Planning goals and supporting programmatic objectives, in support of an Educated, Healthy, Safe, Growing and Best Managed Georgia, are as follows:

7.1. Goal: Find a mechanism for collaboratively maintaining existing statewide investments/resources that support interagency data discovery and access (i.e., the Georgia GIS Clearinghouse) and to meet future interagency/stakeholder needs for

[vi] American Recovery and Reinvestment Act of 2009: http://en.wikipedia.org/wiki/American_Recovery_and_Reinvestment_Act

geospatial resources.

Aligns with state Best Managed goals[vii]: *"Deliver state services, faster, friendlier and easier," "Strategically manage the state's infrastructure and be stewards of its assets," and "Improve decision makers access to quality enterprise data through integrated enterprise systems."*

Objectives:

7.1.1. Top priority is to keep the Georgia GIS Clearinghouse operational.

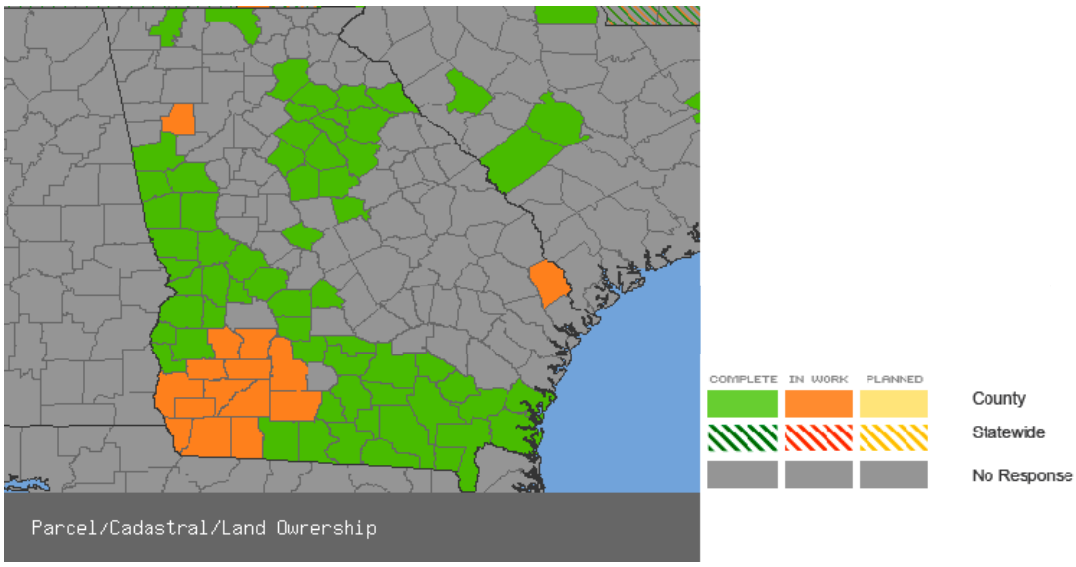
- The Georgia GIS Clearinghouse hosts over 30,000 geospatial datasets. These are strategic, enterprise assets, readily available to the public, private and academic sectors for their mapping/analysis needs so that cost and effort are never replicated. These valuable spatial assets are in the public domain with supporting documentation (i.e., metadata) describing their accuracy and completeness. Over 28,000 active subscribers visit the Clearinghouse with approximately 375 new users signing on every month. Over 2 GB of data are downloaded per day by all industries. **It is critical that Georgia not lose this institutional resource**. With funding for persistence and improvement, it would be prudent to expand the Georgia GIS Clearinghouse capabilities as follows:
    - Streamline access to Georgia GIS Clearinghouse data files via web services that can be digested by a variety of applications.
    - Increase clearinghouse inventory to include a minimum of 5-counties' base datasets per year.

7.1.2. Identify a solid funding source for Georgia that will collectively accomplish common goals while saving each agency the cost, time and effort of undertaking geospatially-related projects independently. Funding sources leveraged to support Coordination Office operations in other states include the following:

- State Bonds (2), State General Funds (26), State Special Funds (14), State Capital Budget Funds (7), Agency contributions as required (18), Membership fees (2), Federal funds appropriated in State Budget (3), Federal Grants (26).
- Monies budgeted but saved through collaborative geospatial solutions such as BLLIP, could be repurposed for supporting the Georgia GIS Clearinghouse.
- Georgia DOT could complete a Return on Investment (ROI) Study or Cost Benefit Analysis (CBA) to justify a shared Road Centerline File program, using Idaho, Indiana, Ohio, Florida, Vermont or Connecticut as models (http://gisinventory.net/summaries/?view=summary_map_results&question_id=30390729).
- Cost-savings from other Georgia geospatial activities could be applied to supplement the Georgia GIS Clearinghouse (see BLLIP and DHR million-dollar savings herein).

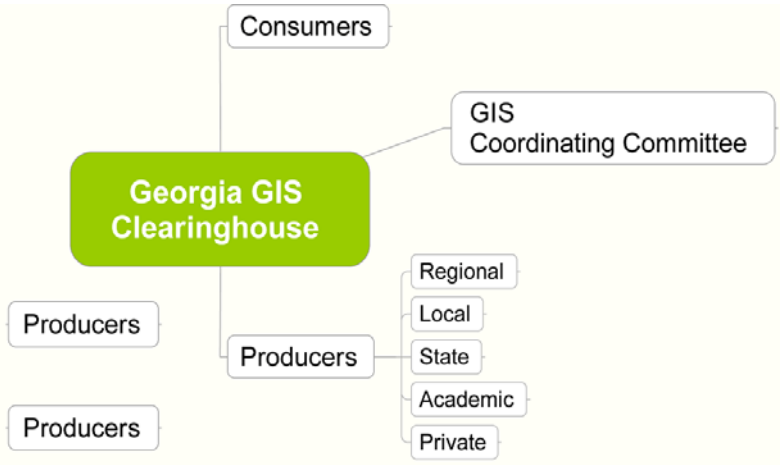
7.1.3. Use existing tools, such as the Georgia GIS Clearinghouse and/or National GIS Inventory (http://ga.gisinventory.net), for capturing Georgia's geospatial inventory.

- To effectively leverage the GIS Inventory tool/approach, a directive will need to be issued and monitored. An effort to input inventory via the RDCs' use of the National GIS Inventory tool was attempted in 2008, as part of this Strategic Planning process. And, many regions rose to the request, namely South Georgia, Middle Georgia, Northeast Georgia, Southwest Georgia, Chattahoochee-Flint, Lower Chattahoochee and Coastal Georgia RDCs. However, **due to lacking authority and pervasive support/understanding of this effort, a complete geospatial data inventory is still unavailable**. For example, parcel data appear in fewer than half of the Georgia counties, although the large majority of counties have their parcels in a geographic format (http://ga.gisinventory.net):



- Establish a requirement or incentive for data contributions to the Georgia GIS Clearinghouse.

- Georgia is a data-rich state, but there is currently no requirement for Georgia agencies/organizations to submit geospatial data and/or metadata to the Clearinghouse. Therefore, although the Clearinghouse remains the most comprehensive source of geospatial data throughout Georgia (>30,000 geo-assets), it is not all-inclusive. See below graphic for an illustration regarding the loose link between data producers and the Clearinghouse.



- Establish a reporting structure for geospatial licenses and hardware.
- Establish a reporting structure for human assets serving as critical data stewards.

7.2. Goal: Establish <u>clearly defined authority and responsibility for Geospatial coordination</u> in Georgia, with a lead coordinator or GIO (Geospatial Information Officer), so that a Program exists to secure and equitably manage federal dollars across geography and geospatially-related projects, streamline multi-agency efforts/needs, and realize savings for Georgia government.

Aligns with Safe, Growing and Best Managed state goals: *"Increase quality jobs and promote innovation and investment in Georgia," "Promote homeland security and emergency preparedness for natural and man-made disasters or acts of terrorism," "Strategically manage the state's infrastructure and be stewards of its assets."*

Objectives:

7.2.1. Accomplish successful models for data partnerships (ex., Coastal Georgia Elevation Project) that can scale statewide.

7.2.2. Continue to build momentum for geospatial awareness such that Decision makers at all levels understand the value of maintaining the Georgia Geospatial Infrastructure and the benefit of utilizing it to respond to needs and opportunities

7.2.3. Work with the Governor's Office of Planning and Budget (OPB) and the Governor's Policy Advisors and/or the state legislature to establish formal Geospatial coordination for Georgia by 2011.

- Develop a cross-agency GIS Steering Committee
- Require Steering Committee annual report of activities to Governor, Legislature and GTA, including the development and/or updating of GIS Strategic and Business plans.
- Work with the Technology Association of Georgia (TAG) to brief the Gubernatorial candidates on GIS as part of the state's future IT Platform
- Identify Geography and geospatially-related efforts as pertinent to the "fairness" equation of stimulus funding which need to be equitably distributed across Georgia.
- Place the right person in the position of leading the geospatial charge for Georgia and in the right location within the organizational framework:

	Please rank the importance of these characteristics/skills to the effective performance of your job.				
	Not Important	Not Very Important	Important	Very Important	Critical
GIS Evangelist/Cheerleader		1	5	22	13
GIS Architect		8	16	12	5
Political Savvy			9	14	18
Technological Savvy		4	17	15	4
General Management Skills			13	19	8
Procurement/Contracting Skills		5	23	10	3
People Skills			3	12	26
Understanding the Business Needs of Your Customers		1	2	17	21

Note: According to the nation's GIOs and equivalents, the following are necessary requirements of a successful GIO. The values represent the number of state responses to each particular item, 2008.

- Representatives of the GISCC have had many meetings with the Governor, his Policy Advisor(s) and OPB regarding the status of GIS in Georgia and potential Geospatial governance. First, an inventory of geospatial assets was requested and compiled (see Appendix A). However, because there is no reporting requirement for geospatial assets, the inventory is ad-hoc and represents the major statewide datasets only (see Section 7.1).

7.2.4. Empower and refine the GISCC

- Formalize the GISCC reporting structure. There must to be a bi-directional tie between GISCC activities and statewide decisions/needs.

- Define the GISCC membership to include agency heads as voting members. Having the Commissioner of OPB as the GISCC Chair would be a very strategic and fruitful measure.

- Ramp up the educational outreach component of GISCC. Work with Geospatial Technology Center (Southeastern hub located at Gainesville State College), to the extent practicable, in promoting geospatial curriculum/training throughout all educational levels in Georgia.

7.2.5. Encourage professional, non-profit organizations to address interdisciplinary challenges and common ground, in support of a Geospatial Program and/or in lieu of one.

- Georgia URISA and SAMSOG are currently exploring the idea of defining common digital submittal requirements for survey submittals throughout Georgia. Currently, several counties have developed their own requirements, forced them on the surveying and development communities (an unfunded mandate) with varying parameters between jurisdictions. Benefits would be easily realized by all if there were an agreeable digital submittal standard/guideline that would enable interoperability.

    - Work collaboratively toward implementing standards (see Section 7.5).

7.2.6. Elevate Georgia to meet, and even exceed, the National trend toward data-driven decision making and situational/location awareness through an enterprise Geospatial Program, as currently Georgia is lagging behind without this valuable enterprise asset:

	Which of the following NSGIC Coordination Criteria are in effect in your state? 1 = We previously had this function and lost it over the past year 2 = No plans at this time for implementing this criteria 3 = We currently are planning to implement this within the next 12 to 18 months 4 = Progress has been made and we reasonably expect this to be fully implemented within the next 12 months 5 = Implemented at this time					
	Not Applicable	1	2	3	4	5
1. A full-time, paid coordinator position is designated and has the authority to implement the state's business and strategic plans.	1		5	9	6	29
2. A clearly defined authority exists for statewide coordination of geospatial information technologies and data production.			1	6	6	37
3. The statewide coordination office has a formal relationship with the state's Chief Information Officer (or similar office).		1	3	3	10	33
4. A champion (politician or executive decision-maker) is aware and involved in the process of coordination.			4	9	9	28
5. Responsibilities for developing the National Spatial Data Infrastructure and a State Clearinghouse are assigned.			2	6	13	29
6. The ability exists to work and coordinate with local governments, academia, and the private sector.				2	2	46
7. Sustainable funding sources exist to meet projected needs.		2	8	18	10	12
8. Coordinators have the authority to enter into contracts and become capable of receiving and expending funds.		1	4	7	2	36
9. The Federal government works through the statewide coordinating authority.			1	6	14	29

Note: The above graphic identifies that Georgia is meeting 3 of the 9 Fifty States criteria. Although 6, 8 and 9 have been tagged for Georgia as "Implemented at this time" and the ability exists to coordinate and attract federal funding, the coordination is completely voluntary and inefficient. Further, federal funding has only come once through the GISCC in the past 8-years and it had to be funneled through a member organization as GISCC is not a legal entity.

7.3. Develop a mechanism for assessing the Geospatial Maturity of Georgia, to outline statewide geospatial components, to evaluate each component's development, to establish a baseline of understanding, to track progress over time and to create a framework from which to build score cards and the current and future strategic/business plans for the GISCC and the state of Georgia.

Aligns with Educated and Growing Georgia state goals: *"Improve workforce readiness skills," "Increase quality jobs and promote innovation and investment in Georgia."*

Objectives:

7.3.1. Work collaboratively with NSGIC, the Georgia GISCC, and other Georgia stakeholders to develop a Geospatial Maturity Assessment which categorizes and assesses geospatial program and project components throughout Georgia state government.

- This goal was accomplished by the GISCC in concert with this Strategic Planning effort, resulting in "The 2007-2008 Georgia Geospatial Maturity Assessment" (Appendix E).

- Continuously refine the Assessment and complete it annually with the intention of incorporating key factors from the Assessment into Georgia's Strategic Plan and/or associated score cards. This Assessment will also serve to identify/prioritize needed geospatial activities at any given time and for planning purposes.

- Work with the National Coalition of Geospatial Organizations (COGO) to create a national Geospatial Maturity Assessment, Score Card or other title, based off the Georgia Geospatial Maturity Assessment, to produce something similar to the national ASCE Infrastructure Report Card. The intention is also to have key components of this National Geospatial Report Card (or other future title) integrated with the PEW Center on the States "Grading The States" Report Card[vii] and the Center for Digital Government's "Digital States Survey" (as well as the Digital Counties Survey and Digital Cities Survey). The former Report Card categorizes state's effectiveness with regard to Money, People, Information and Infrastructure, all highly affected by the maturity of a state's Geospatial Program.

- Guide Regional Development Centers and/or counties in adopting a similar Assessment that can feed the state's Geospatial Maturity Assessment. The GISCC shall work with the Georgia RDCs, the Association of County Commissioners (ACCG) and the Georgia Municipal Association (GMA) on this effort.

CASE STUDY | DUPLICATE EFFORT

Mistrust between larger governmental agencies and local governments is a common occurrence, often based on lacking standards, metadata, guidelines, coordination, etc. For example, FEMA contracted with PBJ&S to convert the Flood Insurance Rate Maps (FIRMS) to digital format. Glynn County FIRMS were digitized 6-years prior and rectified to high-accuracy County GPS data. FEMA refused to use the County's digital FIRMS, without examination of the datasets, and proceeded to develop their own for Glynn County. The perception from FEMA was that the County datasets would not meet their standards. The irony is that the County can't use the FEMA FIRMS for their purposes because the FEMA error rate is greater than 2-feet and is

[vii] The PEW Center on the States, "Grading the States 2008"
http://www.pewcenteronthestates.org/gpp_report_card.aspx

7.4. Execute an Enterprise License Agreement (ELA) for geospatial software acquisition throughout Georgia state agencies (#37, Appendix A) to reduce procurement inefficiencies and to expand access to software at a competitive price.

Aligns with Educated and Growing Georgia state goals: *"Employ an enterprise approach and best practices in Georgia's financial management."*

Objectives:

7.4.1. Dedicate key GISCC representatives to strategize with the Georgia Department of Administrative Services (DOAS) on developing and executing an ELA with ESRI by 2010.

- This goal is currently underway.
- **Increase access to geospatial software** at the current or competitive price.
- **Decrease agency spending on current products**.
- **Satisfy and exceed state agency demand for geospatial software**. 56% of the survey respondents agree that establishing an ESRI ELA is very important action toward improving geospatial coordination in Georgia (see Appendix A).
- Reduce procurement inefficiencies and burden across state agencies and Regional Development Centers (RDCs).

SAVINGS

"GIS provides Range Control with safety parameters for live fire training exercises. GIS has been used to site ranges and other military complexes, provide environmental support for our projects. GIS is also used to create customized military training scenarios for use by soldiers, sailors and Marines." (#21, Appendix A)

- An internal, impromptu audit of ESRI licenses throughout state agencies, save for the Board of Regents, revealed that an average of approximately $570K was spent in FY07 and FY08.
- Meet DOAS' IT strategic goals of "being the model of operational efficiency and effectiveness," "maximizing customer satisfaction" and "Implementing enterprise-wide maintenance contracts" to the mutual benefit of state agencies using having to procure ESRI software.
- Use the Board of Regents ESRI Site License as a solid case-study. Over 2,000 licenses of the flagship product in use (1 of over 30 products), saving the BOR over $400K real money annually and over $2 million in the equivalent cost of retail software.
    - Keep other geospatial products on the radar for future ELAs, but establish a win with ESRI first, the most pervasively used geospatial software throughout Georgia government.

7.5. Endorse the use of appropriate national geospatial standards.

Aligns with Educated and Growing Georgia state goals: *"Strategically manage the state's infrastructure and be stewards of its assets."*

Objectives:

- The GISCC will adopt appropriate national, ISO, FGDC and OGC geospatial standards for Georgia by 2011.

8. GEORGIA STATE POLICY GOALS AND PROPOSED GEOSPATIAL SOLUTIONS

The previous section of this report (Section 7) provides Geospatial Strategic Planning programmatic goals for the GISCC to pursue. This section is intended to emphasize geospatial capabilities that could be leveraged to address Georgia's 5 state policy objectives. While there is overlap, some geospatial strategic and tactical approaches identified herein can be independent of each other.

Educated Georgia

GeoTech

Gainesville State College was announced in 2008 as the Southeastern hub of the Geospatial Technology Center to:

Create a national clearinghouse of exemplary geospatial curriculum materials, resources and national services.

Increase the capacity to educate geospatial technicians through new partnerships and collaborations.

Increase the quantity, quality and diversity of geospatial technicians to meet U.S. workforce needs.

Provide a unifying voice for geospatial technology education interests in organizations, industry and government.

Increase the number of community and technical college geospatial faculty and secondary school teachers participating in geospatial professional development.

- Goal: Improve student achievement.
- Goal: Enhance the quality of education workforce.
- Goal: Improve workforce readiness skills.

According to the U.S. Department of Labor, **geospatial technology is among the top three fastest growing career fields in the U.S**. with a 15 percent growth rate in new jobs projected over the next decade. And, although Georgia ranked 13th in the Center for Digital Government's "Digital States Survey[viii]," **Georgia faces barriers in the supply of adequately trained geospatial professionals**.[ix]

Thirty-eight percent (38%) of respondents to the Online Survey, acknowledge that a geospatial workforce shortage is a small, but growing issue in Georgia that should be addressed and 58% calculate that the educational institutions of Georgia are not producing enough geospatially literate graduates (#41 and 42, respectively, Appendix A). In addition, an overwhelming majority of people identify that there are insufficient professional development opportunities for

[viii] Center for Digital Government "Digital States Survey" 2008, http://www.centerdigitalgov.com/survey/61

[ix] "A Profile of the Geospatial Industry and Training in Georgia" Frank Howell, Office of Research and Policy Analysis, Board of Regents of the University System of Georgia, publication pending, 2009

geospatial education/training throughout Georgia (#44, Appendix A).

Gainesville State College has just become the Southeastern hub of the National Geospatial Technology Center (GeoTech)[x] with the goals identified in the adjacent call-out box.

GSC is engaging with the Technical College System of Georgia (TCSG) and teachers throughout the Department of Education. Higher-level encouragement and leadership to promote geospatial pathways, however, would certainly help streamline the process.

Healthy Georgia

- Goal: Efficiently and effectively deliver health care programs.

Georgia's Department of Human Resources, Division of Public Health, Office of Health Information and Technology manages an Online Analytical Statistical Information System (OASIS: http://oasis.state.ga.us). Below are verifiable stats on the financial and labor savings provided by the GIS-driven component of OASIS (stats from March 09, annualized):

- 22 work days in an average month.
- 36,623 OASIS uses.
- Average of 1,665 uses per day, or 208 uses per hour (based on 8-hr work day), or 4 uses per minute.
- 858 uses of the mapping tool, or 39 maps per day, or 5 maps per hour.

This means that for one human to cover the requests of OASIS for one hour they would have to:

- Complete 208 data requests or 1 data request every 15 seconds
- Complete 5 maps or 1 map every 12 minutes

An entry level statistician/epidemiologist or entry level GIS analyst's conservative salary is $32,000. Experts predict it takes an average of one hour for a completed request. Therefore, Public Health would need the total of 230 people working per year at 8-hour days to cover the work of OASIS.

SAVINGS

OASIS saves the state and estimated $7,369,000 in salary costs per year while providing improved, full-time customer service.

[x] National Geospatial Technology Center, 2008: http://www.geotechcenter.org

Safe Georgia

- Goal: Promote homeland security and emergency preparedness for natural and man-made disasters or acts of terrorism.
- Goal: Reduce loss of life and injury on Georgia's roads.

Georgia has the need to integrate and analyze information that is useful in planning for, mitigating, responding to, and recovering from manmade and natural disasters. A centralized, interactive map display of field assets, critical infrastructure and required tactical data, on a standardized and accurate Georgia basemap, would be an extremely valuable enterprise decision support tool. The majority of needed data exists, and is accessible through the Georgia GIS Clearinghouse and other sources, but **a GIS-database driven common operating picture (COP) is yet to be implemented for Georgia**.

SAVINGS

[GIS is] "Extremely valuable for keeping track of resources and locations (logistics), especially during emergency situations such as floods, wildfires, hurricanes, etc. Extremely useful in analyzing results of land management and planning, or making adjustments to current management techniques. Extremely useful as visual aids while conveying to the public who we are and what we do with their tax dollars." (#21, Appendix A)

The State of Louisiana, City of New Orleans and several Katrina-affected Gulf states also had no common basemap or system to assist response efforts at the time of the disaster. The results were catastrophic. **During or after an event happens, it is too late to construct the complex data systems needed to provide timely displays for emergency response**. Alabama has since implemented the statewide GIS-driven application, VirtualAlabama.

One of the most important primary spatial data layers for preparation, mitigation, response and recovery from any natural disaster is high-resolution elevation data (LiDAR), one of the nation's 7 framework layers. These data and aerial photography are also highly valuable for economic planning and infrastructure development and improvements, including transportation, power, water and sewer distribution, land-use planning, and environmental monitoring.

The Coastal Georgia Regional Development Commission (CGRDC) is currently organizing the Coastal Georgia Elevation Project (CGEP) which will yield 1-foot contours from LiDAR for a 5,703 mi^2 region, as compared to the current elevation data available at 30-meters' resolution. Through a regionally coordinated approach, the CGRDC has secured $330, 000 from the USGS, $650,000 from the Federal Emergency Management Agency (FEMA) and $200,000 from Georgia's Department of Natural Resources (DNR) in addition to several local government monetary and data contributions. It is important to note that while Georgia's coast significantly needs this dataset, all regions of the state would benefit tremendously from access to highly accurate elevation data.

CASE STUDY | SUCCESS IN REGIONAL COORDINATION

Emergency services / First responders (i.e., police, fire, etc.) all need accurate location information with the quickest turn-around possible. The Atlanta Regional Commission (ARC) has, through public outreach and coordination, outfitted the majority of metro Atlanta counties with modern oblique aerial photography and 1-foot true-color digital orhophotography. The imagery is used as a base map within GIS to make first-responder decisions quickly, such as what length of hose is needed for a particular fire, how many stories in a building, etc. Public safety personnel can ascertain detailed characteristics of a building (signage, height, number of floors and windows, for example) and can plan their response accordingly. By overlaying Geographic Information System (GIS) data on top of the imagery, the applications become almost limitless.

The Atlanta Regional Commission (ARC) has a 20% funding opportunity from the USGS to capture aerial photography and LiDAR (elevation) data for 20-counties. However, the ARC is facing a roadblock on reaching equitable cost-share with the necessary parties.

Growing Georgia

- Goal: Increase quality jobs and promote innovation and investment in Georgia.
- Goal: Expand the economic impact of tourism and recreation throughout the state.
- Goal: Improve mobility of people and goods within and through the state and metro Atlanta area.

Georgia Power's Georgia Resource Center (GRC) uses GIS to track and map all industrial sites across the state to target and attract millions of dollars in Economic Development activities. With a statewide parcel dataset and a statewide Broadband infrastructure map, among other datasets, Economic Development data would be more accurate and greatly streamlined, making Georgia an even more attractive location for industry than it already is.

Mapping Broadband infrastructure across the state to identify served, underserved and unserved areas for planning and Broadband implementation would be extremely beneficial to Georgia. **Broadband stimulates economic development, telemedicine and remote learning, among many other things. A coordinated geospatial effort is not currently setup to support this effort**.

State and local policy makers can address transportation problems and opportunities to improve the quality of life in Georgia in the following way, among others: focus on the geospatial representation of the state's transportation network, primarily the street network since it is the single most used, attributed GIS data set across the nation. **Usefulness of transportation data is no longer limited to transportation applications**. Every segment of road in the street centerline database should be address-ranged. To-date, only the metro Atlanta area data offers this attribution. The

GDOT transportation network represents the most authoritative source of street data for Georgia; however, many state agencies are currently paying for various 3rd party streets data in order to spatially-enable their spreadsheets and databases. With address ranges, this state infrastructure asset could be leveraged by all state agencies for geocoding (mapping addresses to latitude/longitude), automated routing, address matching and verification and integration of relational datasets. In addition, address-ranging could enable the Georgia transportation network to be properly synched with first responder databases, schools, shopping centers, hospitals, cemeteries, lakes, streams, railroads and various other areas and points of interest.

SAVINGS

"Approximately 25% of our administrative, planning, information distribution, and research needs are supported by GIS. Approximately 50% of our visualization/situational awareness is supported by GIS." (#21, Appendix A)

Best Managed Georgia

- Goal: Employ an enterprise approach and best practices in Georgia's financial management.
- Goal: Deliver state services faster, friendlier, and easier.
- Goal: Strategically manage the state's infrastructure and be stewards of its assets.
- Goal: Improve decision-maker access to quality enterprise data through integrated enterprise systems.

According to the Georgia Department of Revenue, there are currently a **guesstimated** 4,271,684 parcels across Georgia. This number reflects a compilation based on annual county submittals and is **likely inflated from multiple counts of the same parcel(s)** due to improvements and other activities recorded in the county databases (i.e., independent records for each activity, relating back to one parcel, get counted). Per the 2004 document: "Parcel Data and Hurricane Isabel: A Case Study,"[xi] parcel data provides intelligence to maps and imagery offering information about land ownership, property values, structures and land use. **Parcel data can be integrated with other datasets and land characteristics to provide a rich and stable source of statewide information to use in response to natural disasters and to meet homeland security requirements**. A statewide parcel dataset also enables an accurate inventory (the Non-Government version of BLLIP), an address dataset for geocoding, flood modeling, a planning base for agriculture and aerial spraying, farm animal management, criminal patterns/tracking, and many other government business applications. **In Georgia, however, not only do we lack a seamless geospatial parcel database, yielding our inability to accurately inventory and/or visualize parcels across**

SAVINGS

"A single GIS web application eliminated $400,000/year annual photocopying and distribution cost of construction project plans."

[xi] David Stage and Nancy von Meyer, "Parcel Data and Hurrican Isabel: A Case Study", 2004: http://www.ncgicc.org/Portals/3/documents/AppenD2_ParcelData&HurricaneIsabel.pdf

the state, but we are also spending duplicative money and effort to capture associated Land Use attribution. Specifically, County Tax Assessors capture Land Use information to the best of their abilities, but Land Use assessments are subjective and variable between counties. Therefore, the Department of Community Affairs (DCA) additionally evaluates properties across the state to identify existing and future land use. It is being proposed now by the University System of Georgia Carl Vinson Institute of Government Information Technology Outreach Services to train Assessors to capture consistent Land Use data for each parcel within their jurisdiction. The GISCC strongly supports this strategy.

9. REFERENCES NOT FOOTNOTED

NSDI Cooperative Agreements Program, Administrative Guidance v. 3.21.07

Strategic Plan Template: Advancing Statewide Spatial Data Infrastructures in Support of the National Spatial Data Infrastructure (NSDI), NSGIC, March 2006

FGDC Fifty States Initiative: http://www.fgdc.gov/policyandplanning/50states

10. ACKNOWLEDGEMENTS

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APPENDIX A: ONLINE SURVEY

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survey title:
GEORGIA GEOSPATIAL STRATEGIC PLANNING 2008 Edit Title

design survey | collect responses | analyze results

View Summary
Browse Responses
Filter Responses
Crosstab Responses
Download Responses
Share Responses

current report: Default Report Add Report

Response Summary

Total Started Survey: 293
Total Completed Survey: 129 (44%)

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Page: START SURVEY

1. Please tell us about yourself. (While this area is optional, please provide an e-mail address if you wish to be notified when survey results are available.)

		Response Percent	Response Count
view	Name (Optional)	87.3%	185
view	**Organization (Company/Org Name) (Optional)**	**90.1%**	**191**
view	Phone (Optional)	58.0%	123
view	E-Mail Address (Optional)	89.6%	190
	answered question		**212**
	skipped question		**81**

2. What is your level of knowledge/skill regarding geospatial technologies?

	Response Percent	Response Count
No knowledge	0.4%	1
Little knowledge (Use geospatial services such as a GPS, Google Maps, Yahoo Maps)	13.9%	39
Working knowledge	**47.3%**	**133**
Advanced knowledge (Geographic Information Systems (GIS)/Remote Sensing(RS) Guru!)	38.8%	109
answered question		**281**
skipped question		**12**

3. Select the option(s) that best represent your occupation.

	Response Percent	Response Count
Education	7.9%	21
Resource Conservation/Management	10.1%	27

Marketing	1.9%	5
Recreation Management	3.4%	9
Environmental Science	14.2%	38
Agriculture	7.1%	19
Architecture, Engineering & Construction	16.5%	44
Asset/Facility Management	7.9%	21
Banking & Financial Services	1.1%	3
Business Solutions	3.0%	8
Conservation	11.2%	30
Defense & Intelligence	4.1%	11
Development	12.7%	34
Economic Development	11.6%	31
Elections	3.0%	8
Emergency/Disaster Management	9.4%	25
Emergency Medical Services	3.0%	8
Environmental Management	14.2%	38
Fire Service	4.9%	13
Forestry	8.2%	22
Health & Human Services	2.6%	7
Historic Preservation/Archeology	4.9%	13
Homeland Security	3.7%	10
Insurance	0.7%	2
Land Records and Cadastral	15.4%	41
Law Enforcement	4.5%	12
Media & Press	0.4%	1
Mining	1.5%	4
Photogrammetry/Remote Sensing	9.7%	26
Planning (Urban & Regional)	**27.7%**	**74**
Public Safety	7.5%	20
Public Works	8.6%	23
Real Estate	7.1%	19
Retail	0.7%	2
Transportation	15.0%	40
Trucking & Delivery	0.4%	1
Utilities - Energy (Electric and Gas)	7.1%	19
Utilities - Location-Based Services	3.7%	10
Utilities - Pipeline	3.7%	10

Utilities - Telecommunications	3.7%	10
Utilities - Water/Wastewater	13.5%	36
Water Resources	13.1%	35
Land Surveying	23.2%	62
Wildlife Management	6.7%	18
Other (please specify) view		33
	answered question	**267**
	skipped question	**26**

4. Which business sector do you represent?

	Response Percent	Response Count
Government	41.0%	114
Private Sector (For Profit)	**45.7%**	**127**
Not-For-Profit	5.4%	15
Academia	8.3%	23
Other (please specify) view		4
answered question		**278**
skipped question		**15**

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Page: GOVERNMENT

5. What level of government do you represent?

	Response Percent	Response Count
Federal	18.6%	21
State	28.3%	32
Regional	8.0%	9
Local	**36.3%**	**41**
Municipal	8.8%	10
answered question		**113**
skipped question		**180**

6. Do you need access to data beyond your jurisdictional boundaries?

	Response Percent	Response Count
Yes	**70.3%**	**78**
No	29.7%	33
For what purposes? view		63

answered question	**111**
skipped question	**182**

7. Are you able to find and access data needed beyond your jurisdictional boundaries? (Multiple answers allowed)

	Response Percent	Response Count
Can find needed data	**66.3%**	**65**
Can access needed data	56.1%	55
Cannot find needed data	29.6%	29
Cannot access needed data	11.2%	11
What data are sought and for what purposes? view		58
answered question		**98**
skipped question		**195**

8. If your organization produces geospatial data, does your organization charge for such data? (see O.C.G.A. 50-29-2)

	We Charge the Private Sector	We Charge the Public Sector	Response Count
Yes	**90.7% (39)**	62.8% (27)	43
No	82.0% (50)	**88.5% (54)**	61
Other (please specify) view			21
answered question			**92**
skipped question			**201**

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Page: PRIVATE INDUSTRY

9. If your private firm utilizes geospatial products/services (via 3rd party arrangement, partnership or other), please identify the products/services below.

	Response Count
view	40
answered question	**40**
skipped question	**253**

10. If your private firm provides geospatial products/services, does your organization experience competition from state government agencies regarding such products/services?

	Yes	No	Response Count
State Department of Transportation (GDOT)	16.3% (8)	**83.7% (41)**	49
State GIS Coordinating Committee (GISCC)	2.1% (1)	**97.9% (46)**	47
Department of Community Affairs			

(DCA)	4.3% (2)	**95.7% (44)**	46
Department of Natural Resources (DNR)	10.4% (5)	**89.6% (43)**	48
State Chief Information Officer (CIO)	0.0% (0)	**100.0% (46)**	46
State Homeland Security Office (GEMA)	0.0% (0)	**100.0% (46)**	46
State University(ies)	30.0% (15)	**70.0% (35)**	50
State Coastal Zone Management	0.0% (0)	**100.0% (46)**	46
State Military Affairs/National Guard	2.2% (1)	**97.8% (44)**	45
State Department of Agriculture	6.5% (3)	**93.5% (43)**	46
Other	11.1% (4)	**88.9% (32)**	36
None	34.9% (15)	**72.1% (31)**	43
If Yes, in what areas/business lines do you feel competition? Or, if you selected 'Other,' please identify.	view		13
		answered question	**67**
		skipped question	**226**

11. If applicable, which of the following Federal government agencies do you believe duplicate your firm's geospatial products/services? (Check all that apply)

	No competition	Fed competition has been reduced and opportunities for my firm exist	Fed competition has been reduced in some agencies, but is a problem in others	Response Count
NGA	**88.6% (31)**	8.6% (3)	2.9% (1)	35
NOAA	**86.5% (32)**	5.4% (2)	8.1% (3)	37
Department of Agriculture (NRCS, FAS, Forest Service)	**86.1% (31)**	5.6% (2)	8.3% (3)	36
USGS	**83.8% (31)**	10.8% (4)	5.4% (2)	37
NASA	**97.1% (33)**	0.0% (0)	2.9% (1)	34
Corps of Engineers	**78.9% (30)**	10.5% (4)	10.5% (4)	38
Forest Service	0.0% (0)	0.0% (0)	0.0% (0)	0
BLM	**88.9% (32)**	8.3% (3)	2.8% (1)	36
Department of Homeland Security (FEMA)	**91.2% (31)**	2.9% (1)	5.9% (2)	34
None	**97.9% (47)**	4.2% (2)	6.3% (3)	48
		Other (List any/all other federal agencies) view		5
			answered question	**63**
			skipped question	**230**

12. Which ONE of the following statements best describes your view of the more recent trend toward licensed geospatial data versus the more traditional fee for service business model?

	Response Percent	Response Count

My firm solely follows a fee for service model and does not foresee changing that model	**61.0%**	**36**
My firm has traditionally followed a fee for service model, but has begun selling licensed data products and will continue to consider increasing such products	13.6%	8
My firm has traditionally followed a fee for service model and has not yet marketed licensed data products, but is examining the data product model and attempting to learn more about it	20.3%	12
My firm is generally in the business of marketing geospatial data products through a licensing agreement	5.1%	3
Other (please specify) view		14
	answered question	**59**
	skipped question	**234**

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Page: NOT-FOR-PROFIT

13. Please describe the focus of your organization's work:

	Response Percent	Response Count
Environment	**35.7%**	**5**
Conservation	28.6%	4
Education	14.3%	2
Health Care	0.0%	0
Research	28.6%	4
Social Issues	7.1%	1
The Arts	14.3%	2
Animal Protection	7.1%	1
Political Issues	28.6%	4
Religion	7.1%	1
Public Safety	7.1%	1
Utility Infrastructure & Services	21.4%	3
Government Services/Operations	28.6%	4
Other (please specify) view		6
	answered question	**14**
	skipped question	**279**

14. Do you have ideas on geospatially-enabling your organization? If so, please comment.

		Response Count
	view	6
	answered question	**6**
	skipped question	**287**

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Page: ACADEMIA

15. Academia: Please indicate which best describes your role. (Check one)

	Response Percent	Response Count
Administrator (Decision-maker)	12.0%	3
Teacher/Instructor (University)	16.0%	4
Teacher/Instructor (Technical College)	0.0%	0
Teacher/Instructor (K-12)	0.0%	0
Researcher	**40.0%**	**10**
Staff	8.0%	2
Student (University)	24.0%	6
Student (Technical College)	0.0%	0
Student (K-12)	0.0%	0
Other (please specify) view		4
answered question		**25**
skipped question		**268**

16. Please identify any GIS-related coursework available through your institution. (Multiple answers allowed)

	Response Percent	Response Count
GIS Coursework	**90.5%**	**19**
GIS Certificate	42.9%	9
GIS Degree (B.S.)	33.3%	7
GIS Degree (M.S.)	19.0%	4
GIS Degree (Ph.D.)	9.5%	2
Please identify the College and/or Academic Unit which supports the above offerings: view		11
answered question		**21**
skipped question		**272**

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17. In your role, how do you interact with geospatial information (geospatial information could include charts, graphs, databases, spreadsheets, maps, etc.)?

	Response Percent	Response Count
Manager of Geospatial Information	**33.6%**	**48**
Geospatial Application Developer	7.7%	11
Geospatial Technician/Analyst/Photogrammetrist/Surveyor	23.1%	33
Cartographer	6.3%	9
User	27.3%	39
I do not interact with geospatial information	2.8%	4
Other (please specify) view		18
answered question		**143**
skipped question		**150**

18. How frequently does your organization search online repositories for data to support its projects/mission?

	Frequently	Occasionally	Not Often	Unaware of Resource	Response Count
Geographic Names Information System (GNIS) (http://geonames.usgs.gov/domestic/index.html)	11.6% (15)	27.1% (35)	31.0% (40)	**32.6% (42)**	129
USDA Geospatial Data Gateway (http://datagateway.nrcs.usda.gov)	13.2% (17)	28.7% (37)	**31.8% (41)**	27.1% (35)	129
The National Map Seamless Server (http://seamless.usgs.gov)	14.7% (19)	20.9% (27)	31.8% (41)	**34.1% (44)**	129
Georgia Environmental Resources Digital Data Atlas (http://csat.er.usgs.gov/statewide/downloads.html)	8.5% (11)	**31.8% (41)**	**31.8% (41)**	29.5% (38)	129
National Atlas (http://nationalatlas.gov)	5.5% (7)	25.0% (32)	**37.5% (48)**	32.8% (42)	128
Geospatial OneStop (http://www.geodata.gov)	10.1% (13)	**35.7% (46)**	29.5% (38)	26.4% (34)	129
US Census Bureau Geography (http://www.census.gov/geo/www/index.html)	14.8% (19)	31.3% (40)	**37.5% (48)**	17.2% (22)	128
Georgia GIS Clearinghouse (http://gis1.state.ga.us)	40.3% (56)	**41.0% (57)**	16.5% (23)	3.6% (5)	139
Georgia Planning (http://www.georgiaplanning.com)	4.7% (6)	19.4% (25)	36.4% (47)	**40.3% (52)**	129
Georgia 2000 (http://www.georgia2000.com)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	0
If you/your organization obtains geospatial from other sources, please identify those source(s): view					41
answered question					**141**
skipped question					**152**

19. How acquainted are you with the following online geospatial applications serving Georgia?

	Access frequently	Access infrequently; didn't serve my purpose	Access infrequently; couldn't figure it out	Heard of it, never used it	Never heard of this	Response Count

Georgia Real Property Database (BLLIP) (https://www.realpropertiesgeorgia.org	9.4% (13)	10.1% (14)	2.2% (3)	24.6% (34)	**55.1% (76)**	138
Georgia 2000 (http://www.georgia2000.org)	3.7% (5)	10.3% (14)	2.2% (3)	23.5% (32)	**61.0% (83)**	136
Georgia Historic Resources (NAHRGIS) (https://www.itos.uga.edu/nahrgis)	11.0% (15)	10.3% (14)	5.1% (7)	27.2% (37)	**47.1% (64)**	136
Georgia DOT Transportation Explorer (http://app5-trex-web.dot.state.ga.us/trex_external/index.htm)	15.1% (21)	20.1% (28)	5.0% (7)	20.9% (29)	**41.0% (57)**	139
Georgia Health Statistics (http://oasis.state.ga.us)	4.4% (6)	10.3% (14)	1.5% (2)	24.3% (33)	**61.0% (83)**	136
Georgia Emergency Management Agency/Homeland Security (https://www.itos.uga.edu/gema)	3.6% (5)	10.9% (15)	0.7% (1)	36.5% (50)	**49.6% (68)**	137
Georgia Dept of Corrections (https://www.itos.uga.edu/gdc)	1.4% (2)	6.5% (9)	0.7% (1)	28.3% (39)	**64.5% (89)**	138
Georgia Department of Labor (http://explorer.dol.state.ga.us/gsipub/index.asp?docid=372)	6.8% (9)	11.3% (15)	0.8% (1)	29.3% (39)	**53.4% (71)**	133
Department of Natural Resources sites (http://psdnt1.dnr.state.ga.us/website/arcims.htm)	16.7% (23)	18.8% (26)	4.3% (6)	29.0% (40)	**31.9% (44)**	138
Georgia Power's Economic Development Resource (http://www.selectgeorgia.net)	3.7% (5)	10.3% (14)	0.0% (0)	24.3% (33)	**62.5% (85)**	136
Georgia Tax Assessor/Property applications (http://www.gaassessors.com)	29.2% (40)	10.2% (14)	2.9% (4)	25.5% (35)	**32.8% (45)**	137

If you are aware of other statewide, online geospatial applications, please identify [view] 8

answered question **141**

skipped question **152**

20. What statewide online geospatial application(s) that don't currently exist would be useful to your organization and mission?

	Response Percent	Response Count
Web services for geospatial data (consumption ability for statewide imagery, transportation network, elevation and other datasets)	**82.7%**	**105**
Geocoding service (ex., mapping spreadsheet data, etc.)	53.5%	68
Map viewer for geospatial assets related to Georgia	52.8%	67
Common geospatial application development services	46.5%	59
Other (please specify) [view]		15
answered question		**127**
skipped question		**166**

21. If applicable, how do you and/or your organization use geospatial technologies? (Check all that apply)

	Response	Response

	Percent	Count
Land Surveying	30.8%	44
Visualization/Situational Awareness	42.7%	61
Information Distribution	47.6%	68
Research	56.6%	81
Marketing	19.6%	28
Planning	**68.5%**	**98**
Admininistrative/Decision-making	51.7%	74
Resource allocation	17.5%	25
Project Management (capital improvement projects locations/status)	39.9%	57
Asset Management (inventory, surveying, logistics, facilities)	51.0%	73
Conservation/Environmental	52.4%	75
Coursework	10.5%	15
Teaching Aid	9.1%	13
Providing service(s) to customers or business partners	43.4%	62
The Organization Doesn't use GIS/geospatial technologies	0.7%	1
Other	7.0%	10
Please quantify how GIS impacts your organization's efficiency(ies) in the above areas	view	60
	answered question	**143**
	skipped question	**150**

22. Please describe current geospatial tools/techniques used by your org, if applicable, or desired geospatial tools/techniques (start by identifying "Current -" or "Desired -").

	Response Count
view	80
answered question	**80**
skipped question	**213**

23. Please identify any instance(s) where geospatial technologies were applied to analyze existing legislation or guide planned policy in Georgia (state, regional or local). (ex., Gwinnett County ordinance regarding adult entertainment facilities was modified after spatial analyses identified that no areas were suitable for establishments thereby rendering the ordinance too restrictive)

	Response Count
view	10
answered question	**10**
skipped question	**283**

24. Describe your organization's top three geospatial accomplishments during the past year.

		Response Percent	Response Count
view	**Accomplishment 1:**	**101.6%**	**62**
view	Accomplishment 2:	86.9%	53
view	Accomplishment 3:	60.7%	37
	answered question		**61**
	skipped question		**232**

25. Describe your state's top three geospatial goals for the coming year.

		Response Percent	Response Count
view	**Goal 1:**	**100.0%**	**45**
view	Goal 2:	64.4%	29
view	Goal 3:	46.7%	21
	answered question		**45**
	skipped question		**248**

26. Describe the three most significant geospatial challenges for your organization.

		Response Percent	Response Count
view	**Challenge 1:**	**101.6%**	**62**
view	Challenge 2:	80.3%	49
view	Challenge 3:	55.7%	34
	answered question		**61**
	skipped question		**232**

27. Do you feel that your industry is adequately involved, represented and engaged in the state's geospatially-related coordination and development activities?

	Response Percent	Response Count
Yes	29.3%	36
No	**56.1%**	**69**
Other	15.4%	19
Please explain your answer view		55
answered question		**123**
skipped question		**170**

28. Do you support charging for and paying for geospatial data? (See "Licensing Geographic Data & Services" 2004, http://www.nap.edu, search on "Data License")

	Private Sector	Public Sector	Response Count
Yes	**94.4% (67)**	25.4% (18)	71
No	47.6% (50)	**98.1% (103)**	105
		answered question	**123**
		skipped question	**170**

29. Do you support licensing for geospatial software? (See Gartner "U.S. Public Sector GIS Survey" 2002, http://ontogeo.ntua.gr/nagii/US_Public-Sector_GIS_Survey.pdf)

		Response Percent	Response Count
Yes		**69.3%**	**70**
No		31.7%	32
	Comments (please specify) view		26
		answered question	**101**
		skipped question	**192**

30. Below are components, identified via the Fifty States Initiative, that comprise an effective enterprise/statewide Geospatial Program, none of which are fully implemented in Georgia. Please identify each item's importance for Georgia.

	Very Important	Important	Not Important	Response Count
Strategic and business plans	**51.8% (58)**	46.4% (52)	2.7% (3)	112
Full-time, paid state GIS Coordinator or Geographic Information Officer (GIO)	**63.8% (74)**	31.9% (37)	5.2% (6)	116
Clearly defined authority and responsibility for coordination	**69.3% (79)**	28.1% (32)	3.5% (4)	114
A relationship with the Chief Information Officer	45.5% (51)	**46.4% (52)**	8.9% (10)	112
A political or executive champion involved in coordination	**44.5% (49)**	38.2% (42)	18.2% (20)	110
A tie into national programs	**61.4% (70)**	36.8% (42)	2.6% (3)	114
An intergovernmental working environment free of "turf wars"	**74.1% (86)**	23.3% (27)	3.4% (4)	116
Sustainable funding mechanisms	**79.8% (91)**	18.4% (21)	2.6% (3)	114
Contracting authority and cost sharing mechanisms (ex., Enterprise License Agreement [ELA] for Geospatial Software)	45.0% (50)	**45.9% (51)**	9.9% (11)	111
Statewide coordination efforts that can be a conduit for federal initiatives	**56.8% (63)**	41.4% (46)	2.7% (3)	111
		Feel free to provide any additional input: view		24
			answered question	**123**
			skipped question	**170**

31. Our state CIO has identified the need for an enterprise solution regarding the state's IT infrastructure. He and the Georgia Technology Authority want to be an "advocate" versus a "traffic cop" in this area. We need to communicate the following (please provide succinct and quantifiable answers, if possible):

		Response Percent	Response Count
view	**This is where Georgia is re: infrastructure:**	**93.9%**	**31**
view	This is where we want to be:	81.8%	27
view	This is what it will cost to get there:	72.7%	24
view	Please identify what is needed to get there (x, y and z):	78.8%	26
view	Please identify why we need x, y and z:	66.7%	22
view	Risks if we don't accomplish x, y and z:	69.7%	23
		answered question	**33**
		skipped question	**260**

32. Which ONE of the following most accurately reflects your view on the issue of outsourcing geospatial work?

	Response Percent	Response Count
Sending work outside the state is good business and necessary due to the realities of a global economy.	11.3%	13
Sending work outside the state that involves mapping of infrastructure (roads water lines, underground gas and other utilities, building locations, etc.) poses a real or potential professional, security and/or economic risk for Georgia.	29.6%	34
No commercial company can be more intimate with data than a local source/steward.	**51.3%**	**59**
The issue is moot with organizations that follow ISO 17799 (http://en.wikipedia.org/wiki/ISO_17799).	8.7%	10
	answered question	**115**
	skipped question	**178**

33. Do you/your organization and/or department perform tasks that require the same spatial information over and over again? If so, what tasks? (Examples include maps, environmental impact statements, field measurements, inspections, adhoc reports, public briefing maps, etc.)

	Response Count
view	67
answered question	**67**

skipped question	**226**

34. Does your organization have web-based geospatial applications to assist in meeting (internal/external) customer/public/stakeholder needs and distributing information? If so, please provide URLs.

	Response Percent	Response Count
Yes	43.1%	50
No	**57.8%**	**67**
URL of online application(s) view		34
answered question		**116**
skipped question		**177**

35. What are the reason(s) that your organization doesn't have web-based geospatial applications to assist in meeting (internal/external) customer/public/stakeholder needs ?

	Response Percent	Response Count
Don't see the value	14.3%	10
See the value, but not a priority	24.3%	17
See the value, but fearful of increased workload	2.9%	2
Don't have the technology	4.3%	3
Don't have the technical expertise	15.7%	11
Don't have the data	2.9%	2
Don't have the funding	**25.7%**	**18**
Don't have the time	10.0%	7
Other (please specify) view		33
answered question		**70**
skipped question		**223**

36. Other than funding, what is the biggest hurdle your organization faces in implementing or improving its GIS capabilities? (Please select the one that best answers the question.)

	Response Percent	Response Count
Gaining or maintaining technical knowledge	**34.4%**	**33**
Internet access	0.0%	0
IT/Policy restrictions	5.2%	5
Lack of hardware or software	13.5%	13
Little or no upper management support	20.8%	20
Inability to train staff to use GIS	9.4%	9
Difficulty discovering appropriate data	9.4%	9

Difficulty accessing needed data	7.3%	7
Other (please specify) view		20
	answered question	**96**
	skipped question	**197**

37. Below are actions that could be taken to improve geospatial coordination in Georgia. Please identify each item's importance.

	Very Important	Important	Not Important	Response Count
Formally legitimize the Georgia GIS Coordinating Committee (GISCC)	**51.9% (55)**	42.5% (45)	6.6% (7)	106
Expand the GISCC to include regional/local SubCommittees that feed up to the state organization	35.0% (36)	**55.3% (57)**	10.7% (11)	103
Establish Steering Committee or Governing Board for GISCC, composed of a representative selection of member stakeholders and interest groups	31.7% (32)	**53.5% (54)**	15.8% (16)	101
Establish a statewide Enterprise License Agreement (ELA) for unlimited access to geospatial software (ex., ESRI).	**56.2% (59)**	35.2% (37)	9.5% (10)	105
Address and measure geospatial technology in Georgia's Information Technology (IT) Strategic Plan	45.2% (47)	**51.0% (53)**	4.8% (5)	104
Improve communications (enable stakeholders the ability to stay in touch with GIS-related issues, activities and opportunities around the state .. develop outreach programs to demonstrate the value of "place-based" approaches).	**50.0% (51)**	48.0% (49)	2.9% (3)	102
Expand smart-procurement and alternatives for geospatial data, technologies and/or services (ex., Term Service Contracts for GIS Services).	28.3% (28)	**52.5% (52)**	20.2% (20)	99
Develop and implement common grant language for geospatial information and services.	29.3% (29)	**55.6% (55)**	16.2% (16)	99
Develop and implement common geospatial requirements language for federal, state, regional and local contracts (ex., digital submittal requirements)	36.3% (37)	**54.9% (56)**	9.8% (10)	102
Support (i.e. Help Desk) for geospatial operations.	25.5% (25)	**54.1% (53)**	21.4% (21)	98
Provide shared GIS services.	**50.0% (52)**	44.2% (46)	6.7% (7)	104
Provide web mapping services for state, regional and local data.	**53.9% (55)**	33.3% (34)	13.7% (14)	102
Feel free to suggest any additional actions and/or expand on your expectations of the above: view				14
			answered question	**113**

skipped question	**180**

38. Can you think of any specific geospatial function that would make your job easier? (i.e., What would be your "GIS" button?)

	Response Count
view	34
answered question	**34**
skipped question	**259**

39. What statewide geospatial assets that don't currently exist for Georgia could you use and on what basis?

	Great Need	Occasional Need	No Need	Response Count
Inventory of all agency/regional/local GIS managers	28.6% (32)	**59.8% (67)**	12.5% (14)	112
Inventory of all agency/regional/local geospatial datasets	**66.4% (75)**	31.9% (36)	3.5% (4)	113
Address-ranged transportation network (public, not commercial)	**45.5% (50)**	42.7% (47)	12.7% (14)	110
Integrated land records (i.e., parcel or cadastral)	**62.6% (72)**	29.6% (34)	8.7% (10)	115
Geodetic control monuments	36.4% (40)	**47.3% (52)**	18.2% (20)	110
Greater than 30-meter Digital Elevation Model	**54.5% (60)**	36.4% (40)	10.9% (12)	110
Critical infrastructure (energy | telecom | chemical | defense)	**43.2% (48)**	37.8% (42)	19.8% (22)	111
Onshore bathymetry	13.5% (14)	**49.0% (51)**	38.5% (40)	104
Groundwater (recharge areas | river basins | watersheds)	**49.6% (56)**	40.7% (46)	10.6% (12)	113
Current statewide aerial photography (leaf-off | <1-meter)	**71.3% (82)**	22.6% (26)	7.0% (8)	115
Current statewide aerial photography (Infrared | <1-meter)	**51.4% (57)**	33.3% (37)	17.1% (19)	111
Historical statewide aerial photography (leaf-off | <1-meter)	43.6% (48)	**46.4% (51)**	10.9% (12)	110
Historical statewide aerial photography (Infrared | <1-meter)	37.7% (40)	**42.5% (45)**	20.8% (22)	106
Geospatial Data Models	30.2% (32)	**57.5% (61)**	13.2% (14)	106
Geospatial Standards	**49.5% (54)**	42.2% (46)	10.1% (11)	109
If "Great Need" was selected above, please expand on how and why the resource(s) is important to you/your organization:	view			40
			answered question	**121**
			skipped question	**172**

40. What geospatial human assets do/would you leverage and on what basis?

	Great Need	Occasional Need	No Need	Response

				Count
U.S. Census Liaison, Donna Bulloch	3.2% (3)	47.9% (45)	**50.0% (47)**	94
U.S. Geological Survey Geospatial Liaison, Keith McFadden	22.7% (22)	**48.5% (47)**	29.9% (29)	97
National Geodetic Advisor (Does not exist, but identify need)	14.3% (13)	**45.1% (41)**	41.8% (38)	91
State Climatologist, David Emory Stooksbury	5.3% (5)	**48.4% (46)**	47.4% (45)	95
State Archivist, Amelia Winstead	9.7% (9)	**48.4% (45)**	43.0% (40)	93
State 211 Program Director	3.6% (3)	27.7% (23)	**69.9% (58)**	83
State 311 Program Director	3.6% (3)	28.9% (24)	**68.7% (57)**	83
State 511 Program Director	4.8% (4)	33.3% (28)	**63.1% (53)**	84
State 911 Program Director	12.0% (10)	32.5% (27)	**57.8% (48)**	83
State Demographer (Does not exist, but identify need)	23.6% (21)	36.0% (32)	**42.7% (38)**	89
State Cartographer (Does not exist, but identify need)	28.3% (26)	**43.5% (40)**	30.4% (28)	92
			Any other comments welcome view	17
			answered question	**102**
			skipped question	**191**

41. Which ONE of the following statements best describes your view on the availability of workers to meet your organization's workforce needs?

		Response Percent	Response Count
My organization has not yet needed a geospatial workforce.		20.4%	22
There seems to be no geospatial workforce shortage for my organization's needs.		31.5%	34
There is a severe geospatial workforce shortage and the issue should be addressed.		10.2%	11
A geospatial workforce shortage is a small, but growing issue that should begin to be addressed before it becomes a major issue.		**38.9%**	**42**
	Other (please specify) view		13
	answered question		**108**
	skipped question		**185**

42. In your opinion, are the educational institutions of Georgia producing enough geospatially literate graduates to meet workforce demand?

		Response Percent	Response Count
Yes		42.7%	38

No		**58.4%**	**52**
	Other (please specify)	view	30
		answered question	**89**
		skipped question	**204**

43. If yes to the above, who should address the geospatial workforce issue?

	Response Percent	Response Count
Educational institutions	50.0%	38
Trade and professional associations	21.1%	16
Regional government	11.8%	9
Local government	7.9%	6
State government	22.4%	17
Federal government	6.6%	5
Partnership of all these sectors	**65.8%**	**50**
Other (please specify) view		5
answered question		**76**
skipped question		**217**

44. Please assess the availability of geospatial professional development opportunities in Georgia (workshops, seminars, etc.).

	Adequate	Need more	Response Count
Professional Education through Colleges/Universities	34.5% (30)	**66.7% (58)**	87
Workshops	29.8% (25)	**71.4% (60)**	84
Seminars	37.9% (33)	**63.2% (55)**	87
Training	30.8% (28)	**70.3% (64)**	91
Conferences	48.3% (43)	**52.8% (47)**	89
Other (please specify) view			13
answered question			**93**
skipped question			**200**

45. Does your organization have field agents collecting data?

	Response Percent	Response Count
Yes	**64.4%**	**76**
No	36.4%	43
Other (please specify) view		13
answered question		**118**
skipped question		**175**

46. How are field data captured/stored (printed documents, spreadsheets, databases, maps, filing cabinet, field book, GPS-enabled forms, other)? If any of your field forms are online, please provide a URL(s).

	Response Count
view	64
answered question	**64**
skipped question	**229**

47. How does one department get information of assets relevant to other departments in the present system?

	Response Count
view	52
answered question	**52**
skipped question	**241**

48. Which, if any, of the following geospatial technologies/services does your organization use, and are they used locally or across the enterprise? Also, are the data served through these technologies accessible by all people across the organization, or is access limited to various users?

	Departmental assets/analyses	Enterprise assets/analyses	Full access to data	Tiered access to data	Response Count
GIS	**46.6% (48)**	28.2% (29)	44.7% (46)	29.1% (30)	103
CAD	**57.1% (40)**	20.0% (14)	38.6% (27)	27.1% (19)	70
ERDAS	**55.9% (19)**	23.5% (8)	29.4% (10)	23.5% (8)	34
Google Earth	40.7% (35)	12.8% (11)	**66.3% (57)**	3.5% (3)	86
Yahoo Maps	38.4% (28)	13.7% (10)	**68.5% (50)**	2.7% (2)	73
Microsoft Virtual Earth	37.9% (22)	15.5% (9)	**63.8% (37)**	1.7% (1)	58
ArcGlobe	**43.5% (10)**	17.4% (4)	**43.5% (10)**	21.7% (5)	23
Leica Titan	**41.7% (5)**	16.7% (2)	16.7% (2)	25.0% (3)	12
Other*	**50.0% (4)**	37.5% (3)	37.5% (3)	37.5% (3)	8
* Please identify Other technologies and/or business cases driving the above				view	11
				answered question	**115**
				skipped question	**178**

49. Please identify your affiliation, if applicable, with the following geospatial organizations?

	Friend	Member	Past member	Board member	Past Board member	Never heard of this org	Response Count
Georgia GIS Coordinating Committee (GISCC) (http://gis.state.ga.us/Coordination)	23.8% (15)	14.3% (9)	6.3% (4)	4.8% (3)	4.8% (3)	**52.4% (33)**	63
Georgia URISA (http://www.gaurisa.org	10.8% (8)	35.1% (26)	12.2% (9)	2.7% (2)	4.1% (3)	**37.8% (28)**	74
	18.0%	14.8%	18.0%			**47.5%**	

URISA International (http://www.urisa.org)	(11)	(9)	(11)	1.6% (1)	0.0% (0)	**(29)**	61
United States Geospatial Intelligence Foundation (USGIF) (http://www.usgif.org)	13.6% (8)	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	**86.4% (51)**	59
American Society for Photogrammetry and Remote Sensing (ASPRS) (http://www.asprs.org)	23.6% (13)	1.8% (1)	20.0% (11)	0.0% (0)	1.8% (1)	**54.5% (30)**	55
Geospatial Information & Technology Association (GITA) (http://www.gita.org)	30.8% (16)	1.9% (1)	3.8% (2)	1.9% (1)	0.0% (0)	**61.5% (32)**	52
Survey and Mapping Society of Georgia (http://www.samsog.org)	20.6% (13)	11.1% (7)	7.9% (5)	7.9% (5)	0.0% (0)	**54.0% (34)**	63
American Association of Geographers (http://www.aag.org)	26.4% (14)	9.4% (5)	15.1% (8)	0.0% (0)	0.0% (0)	**50.9% (27)**	53
ESRI User Group(s) (http://gis.esri.com/usersupport/usergroups/usergroups.cfm)	21.4% (15)	**52.9% (37)**	8.6% (6)	0.0% (0)	1.4% (1)	15.7% (11)	70
University Consortium of GIS (UCGIS) (http://www.ucgis.org)	21.1% (12)	3.5% (2)	1.8% (1)	0.0% (0)	0.0% (0)	**73.7% (42)**	57
National States Geographic Information Council (NSGIC) (http://www.nsgic.org)	23.1% (12)	3.8% (2)	0.0% (0)	1.9% (1)	0.0% (0)	**71.2% (37)**	52
Society for Conservation GIS (SCGIS) (http://www.scgis.org)	20.0% (11)	1.8% (1)	3.6% (2)	0.0% (0)	0.0% (0)	**74.5% (41)**	55
					Other (please specify) view		10
						answered question	**91**
						skipped question	**202**

50. Does your organization have an enterprise GIS established?

	Response Percent	Response Count
Yes	37.1%	43
No	**53.4%**	**62**
In the Planning Phase	10.3%	12
answered question		**116**
skipped question		**177**

Show this Page Only

Page: FOR ORGANIZATIONS WITH AN ENTERPRISE GIS

51. When was your enterprise geospatial program/system established?

	Response Percent	Response Count
view **If no known MM/DD, just type 11/11/YYYY:**	**100.0%**	**30**
answered question		**30**
skipped question		**263**

52. What is the organizational hierarchy for managing the enterprise GIS? (ex., Who oversees the enterprise GIS, which department centralizes the enterprise GIS, etc.)

	Response Count
view	28
answered question	**28**
skipped question	**265**

53. Which department(s) participate in the geospatial enterprise data collection/mapping?

	Response Percent	Response Count
Land Surveying	26.8%	11
Planning	43.9%	18
Engineering	**53.7%**	**22**
Utilities	36.6%	15
First Responders (Fire, Police)	19.5%	8
Transportation	29.3%	12
Transit	7.3%	3
Water Resources	26.8%	11
Parks	22.0%	9
Marketing/Media	7.3%	3
Field offices/staff	39.0%	16
County offices (ex., Public Health)	31.7%	13
College campus departments	7.3%	3
Local administrators (ex., County/City Boards)	12.2%	5
view Other (please specify)	19.5%	8
answered question		**41**
skipped question		**252**

54. How are data shared with the public?

	Response Percent	Response Count
Printed maps	**70.7%**	**29**
ArcIMS/Interactive website (identify URL below)	46.3%	19
Other website (identify format and URL below)	19.5%	8
GeoPDFs	24.4%	10
view Other (please specify)	43.9%	18
answered question		**41**
skipped question		**252**

55. What is the annual budget/funding available for GIS data creation, maintenance, management and training (not including staff salaries)?

	Response Count
view	21
answered question	**21**
skipped question	**272**

56. How has funding for the enterprise GIS changed annually over time?

		Response Percent	Response Count
	Funding has increased	**62.9%**	**22**
	Funding has decreased	11.4%	4
view	Other (please specify)	25.7%	9
	answered question		**35**
	skipped question		**258**

57. How long has it taken to realize a Return on the Investment (ROI), and has the ROI been effectively documented? (If so, please provide a reference to the document title, URL, or other means of access)

	Response Count
view	16
answered question	**16**
skipped question	**277**

58. If known, please identify the amount of time allocated for implementing/centralizing the GIS?

	Response Count
view	12
answered question	**12**
skipped question	**281**

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Page: GEOSPATIAL DATA OWNERSHIP

59. Does your organization create/maintain any statewide datasets?

	Response Percent	Response Count
Yes	27.2%	34
No	**72.8%**	**91**
answered question		**125**
skipped question		**168**

Show this Page Only

Page: FOR ORGANIZATION'S OWNING GEOSPATIAL DATA

60. Please identify the statewide geospatial assets owned/maintained by your organization (ex. Hospitals, gas stations, etc. Keep in mind these assets can be in the form of spreadsheets, databases, maps, etc.):

		Response Percent	Response Count
view	**a.**	**100.0%**	**21**
view	b.	66.7%	14
view	c.	33.3%	7
view	d.	23.8%	5
view	e.	19.0%	4
	answered question		**21**
	skipped question		**272**

61. Does your organization have a geospatial data distribution policy?

		Response Percent	Response Count
Yes		**44.4%**	**12**
No		**44.4%**	**12**
In progress		11.1%	3
	Please provide link, if policy is online: view		4
	answered question		**27**
	skipped question		**266**

62. Does your organization regularly submit its geospatial data to the Georgia GIS Clearinghouse?

		Response Percent	Response Count
Yes		42.9%	9
No		**57.1%**	**12**
Occasionally		0.0%	0
	If not, why? view		12
	answered question		**21**
	skipped question		**272**

63. Do you have access to ALL of the geospatial software that you need (ESRI, ERDAS, other)? If not please explain what you need and why (we need business cases to promote current Enterprise License Agreement negotiations).

	Response Count
view	21
answered question	**21**

skipped question	272

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Page: SURVEY CLOSE

64. If you know of any geospatial surveys, business plans, Return on Investment reports and/or use cases that any organization in your region has performed, please note below the project title, publication date, point-of-contact and URL, if applicable.

	Response Count
view	10
answered question	10
skipped question	283

65. Who do you feel would be good political or executive champions for GIS coordination efforts in the state? (Note: A champion is a visionary who may not be a GIS practitioner, but understands the potential of geospatial technologies and is a valuable ally who can help obtain recognition and funding to support new initiatives. Without a strong political champion, new initiatives often fail.) A specific PERSON(s), TITLE and INTEREST is preferred.

		Response Percent	Response Count
view	a.	**95.5%**	**21**
view	b.	59.1%	13
view	c.	27.3%	6
	answered question		**22**
	skipped question		**271**

66. At the conclusion of this survey, the GIS Coordinating Committee (GISCC) will compile a Statewide Geospatial Strategic Plan. After having digested the survey information above, please leave any remaining remarks that you have (could be implementable items that you'd like to see the GISCC adopt over the upcoming months, could be thoughts/ideas not covered above, etc.)

	Response Count
view	22
answered question	22
skipped question	271

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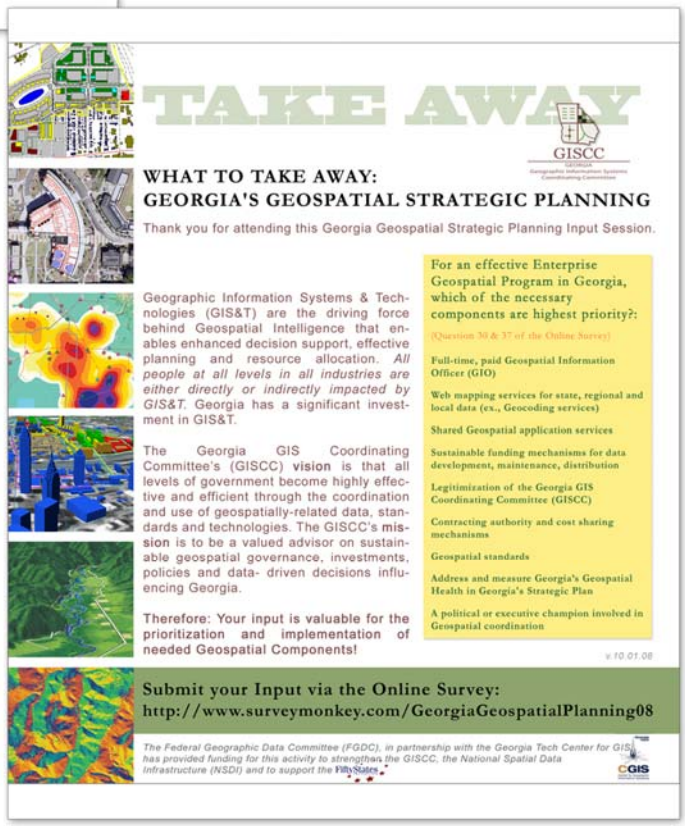
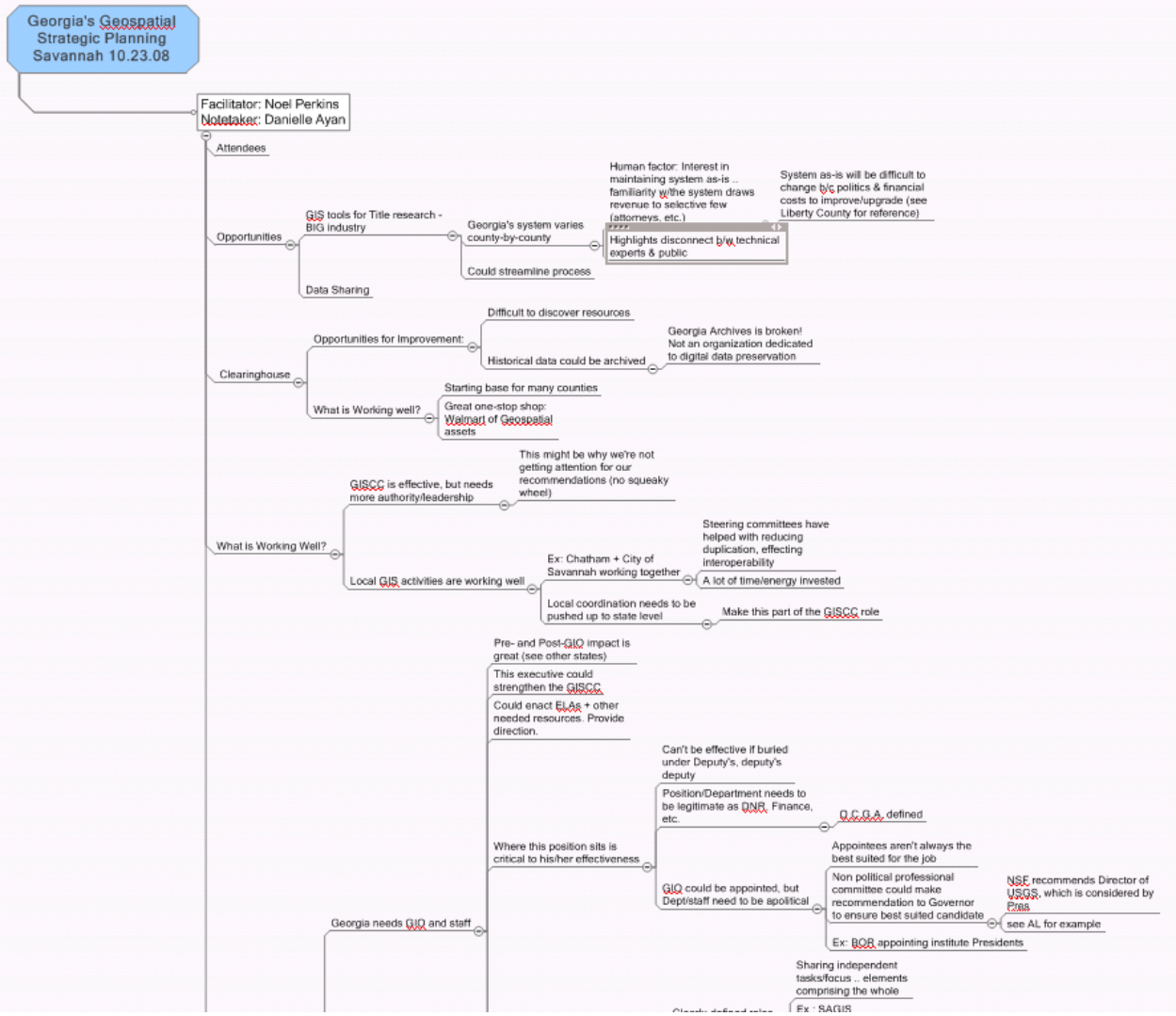
APPENDIX B: PLANNING PROCESS & STAKEHOLDER INPUT



Above: Marketing piece distributed throughout Georgia to attract participants and enable online registration.
Right: Take-away piece provided to all participants.



Example of mind maps used to capture and display input from all discussions related to this effort.

LETTER TO AGENCY LEADERS

February 5, 2008

Dear Colleagues:

Governor Sonny Perdue is committed to achieving results for Georgians and changing the culture of state government to be value-driven, customer-focused, and results-oriented. Continuing our work to transform how the state manages its business requires focus on specific goals, new ways of addressing long-standing issues, and strengthening partnerships. In short, we must change the way we do business.

Georgia's government must have an enterprise approach and be focused on improving the public value of the services we provide. We must plan for the future, and consider the long-term implications of policy and budget decisions. The work from this strategic planning approach will help us in our continued effort to be good stewards of the state resources. It will require coordination among agencies that serve the same customer. And it will require coordination among all the support functions (e.g., Budget, HR, IT, Facilities, Planning) both within an agency and within the state.

With our aspirations for continually better results and greater public value, the state strategic plan sets forth a road map to target areas where state government can improve and where we as a state can rally to bring about better results. As state agencies execute plans and strategies that align to the state strategic goals, we hope to see our collective efforts as even more effective than our individual efforts.

To achieve results for Georgians, we must continually enhance our efforts to innovate, plan, and execute. These state strategic planning guidelines are a tool we will all use to focus our efforts, measure our progress, and hold ourselves accountable. Aligning our resources and taking a strategic approach is the best way to achieve results for Georgians.

Sincerely,

Trey Childress
Governor's Office of Planning and Budget, Director

APPENDIX D: HIGH-LEVEL GEOSPATIAL INVENTORY

Georgia's Geospatial Data Inventory 2008: Key Assets

Geospatial Data Inventory	Critical	NSDI	Source	Steward	Coverage	Currentness	Accuracy	Completeness	Clearinghouse Accessible?	Online Application
SAFE GEORGIA										
Georgia Critical Facilites				GEMA	Statewide	2008	1:24,000	Complete	Restricted	Yes
Georgia Safe Dams	X			Georgia DNR - EPD	Statewide	2008	1:24,000	Complete	Restricted	
Digital Flood Insurance Rate Maps				FEMA	Statewide	Various	1:24,000	Complete	Yes	
Spatial Hazard Events and Losses Database for US				University of SC	Statewide	2007	County Level	Complete	No	Yes
Georgia SLOSH Maps				US Army Corps	Coastal	2004	1:100,000	Complete	Restricted	
Digital Elevation	X				Statewide			Complete	Yes	
HSIP Georgia Hospitals	X			US DHS	Statewide	2008	NAVTEQ street blockface	Complete	No	
HSIP Georgia Public Safety Answer Point Boundaries	X			US DHS	Statewide	2008	NAVTEQ street blockface	Complete	No	
HSIP Georgia Correctional Institutions				US DHS	Statewide	2007	NAVTEQ street blockface	Complete	No	
HSIP Georgia Law Enforcement				US DHS	Statewide	2007	NAVTEQ street blockface	Complete	No	
HISP Georgia Fire Stations	X			US DHS	Statewide	2007	NAVTEQ street blockface	Complete	No	
HSIP Georgia Emergency Medical Services	X			US DHS	Statewide	2007	NAVTEQ street blockface	Complete	No	
HEALTHY GEORGIA										
OASIS - Public Health Web Based Mapping System				Georgia DPH	Statewide	2006	Various	Complete	No	Yes
Georgia Healthcare Facilities	X			Georgia DPH	Statewide	2008	1:100,000	Complete	Yes	
Georgia Healthcare Facilities				Georgia DCH	Statewide	2008	1:100,000	Complete	Yes	
Public Health District Boundaries				Georgia DPH	Statewide	2008	1:100,000	Complete		Yes
Air Quality Data				Georgia DNR	Statewide	2008		?	?	
Stream Gages				USGS	Statewide	2008		Complete	?	
Soils										
Groundwater Recharge Area				Georgia DCA	Statewide	2004	1:500,000	Complete	No	
Protected Mountain Area				Georgia DCA	Statewide	2002	1:100,000	Complete	Yes	
Protected River				Georgia DCA	Statewide	2003	1:100,000	Complete	No	
Water Supply Watersheds		X		Georgia DCA	Statewide	2004	1:24,000	Complete	Yes	
EDUCATED GEORGIA										
HSIP Georgia Colleges and Universities				US DHS	Statewide	2007	NAVTEQ street blockface	Complete	No	
Schools, K-12					Statewide	2002	Address-level		Yes	
Adult Education Population										
School Districts										
TIGER/Line				US Census Bureau	Statewide	2007	1:24,000	Complete	Various	
GROWING GEORGIA										
State Historic Structure Database				Georgia DNR - SHPO	Statewide	2008	1:24,000	Incomplete	Yes	
State Archaeological Database				UGA Anthropology	Statewide	2008	1:24,000	Complete	Restricted	
Cultural Resource Map				Georgia DCA	Statewide	2004	1:100,000	Complete	Restricted	
Historical Markers				Georgia DCA	Statewide	2003	1:12,000	Incomplete	No	
Georgia WRD Boat Ramps				Georgia DNR - WRD	Statewide	2008	1:24,000	Complete	No	Yes
DNR Managed Lands				Georgia DNR	Statewide	2008	1:24,000	Complete	Yes	
DNR Managed Lands				Georgia DNR	Statewide	2008	1:24,000	Incomplete	Yes	Yes
Land Use/LandCover				Various		Various	Various	Incomplete	Not currently	
Traffic Counts				GDOT	Statewide	2008		Complete	Yes	No
Crash Data				GDOT	Statewide	2008		Complete	No	No
Coastal Resource Maps	X			Georgia DCA	Coastal	2002	1:24,000	Complete	No	
BEST MANAGED GEORGIA										
HSIP State Government Buildings	X			US DHS	Statewide	2007	NAVTEQ street blockface	Incomplete	No	
State-Owned Buildings, Land, Lease (BLLIP)	X			State Property Office	Statewide	2008	Address-level	Complete	Yes	Yes
Boundaries (County/Municipal)		X		Georgia DCA	Statewide	2008		Complete	Yes	
Community Facilities	X			Georgia DCA	Statewide	2002	1:24,000	Incomplete	No	
NAPP 1993 DOQQ, 1-m B/W				USGS	Statewide	1992	1:12,000	Complete	Yes	
NAIP 1999 DOQQ, 1-m color	X			USDA-APFO	Statewide	2007	1:12,000	Complete	Yes	
NAIP DOQQ image service, statewide mosaic, 1-m color				USDA-APFO	Statewide	2007	1:12,000	Complete	Yes	
NAIP CCM county mosaics, 1-m color				USDA-APFO	Statewide	2007	1:12,000	Complete	Yes	
Coastal County DOQQ, .5-m color				USGS	Coastal	2006	1:12,000	Complete	Yes	
Coastal County DOQQ, .5-m color, image service				USGS	Coastal	2006	1:12,000	Complete	No	
State Land Conservation				Various	Statewide	2008	1:24,000	Incomplete	Yes	No
Parcels	X	X		Pertinent County		Various	Various	Incomplete	Some	
Transportation Network (GDOT Roads)	X			Georgia DOT	Statewide	Various	1:12,000	Complete	Yes	
Georgia Reapportionment Data				Reapportionment Office	Statewide	Various	1:100,000	Complete	Yes	
GDOT Railroads	X			Georgia DOT	Statewide	Various	1:12,000	Complete	Yes	
GDOT Aviation	X			Georgia DOT	Statewide	Various	1:12,000	Complete	Yes	
National Hydrography Dataset	X	X		Georgia DNR	Statewide	2008	1:24,000	Complete	Yes	
National Wetlands Inventory		X		Georgia DNR	Statewide	2008	1:24,000	Complete	Yes	
Broadband Resources (Peachnet Access Points)				Georgia DOE	Statewide	2008	Unknown	Complete	No	
NEEDED ASSETS FOR EMERGENCY RESPONSE/PLANNING IN GEORGIA										
Geodetic Control Network		X								
Parcels (of uniform quality across state)										
Water Supplies										
Bottling Plants										
Petroleum Storage										
Food Warehouses/Distribution Centers/Stores										
Addresses		X								
Geographic Place Names		X								
Cell Tower & Other Communications										
High-Resolution (>10m) Elevation Data										
LiDAR										
Original site maps & other historical spatial data										
Statewide imagery (<1-meter, leaf-off)										
Utilities										
Flood Hazards										
Vegetation										
Biological Resources										
Human Inventory - Points of Contact for geoassets										

APPENDIX E: THE 2007–2008 GEORGIA GEOSPATIAL MATURITY ASSESSMENT

The 2007-2008 Georgia Geospatial Maturity Assessment

Danielle Ayan, GISP

2007-2008 Chair, Georgia Information Systems Coordinating Committee (GISCC)

Research Scientist II | Georgia GIS Clearinghouse Manager, Services Node

Center for Geographic Information Systems

Georgia Institute of Technology

Atlanta, Georgia

And the

Georgia Geographic Information Systems Coordinating Committee (GISCC)

June 30, 2008

REVISION HISTORY

Date	Version	Description	Author
06.30.08	DRAFT	The 2007-2008 Georgia Geospatial Maturity Assessment	D. Ayan and M. Ouimet (Texas GIS Coordinator)

Georgia and Texas wish to make this document available to anyone who can benefit from its use, with the caveat that changes/modifications are sent back to the original authors: Danielle.ayan@coa.gatech.edu and michael.ouimet@dir.state.tx.us. As written, this document is intended as an overview of geospatial health and maturity across a state. We would like to see this type of assessment adopted for regional and local governments as well. Contributions to content improvement are encouraged.

THE 2008 GEORGIA GEOSPATIAL MATURITY ASSESSMENT

EXECUTIVE SUMMARY

Introduction:

Geography enables the integration of governmental programs, as it is the one common link of interest between dissimilar agencies and/or programs.[xii] The use of geographic information systems (GIS) and technologies empowers administrators to make data-driven decisions, enhances planning and enables the delivery of services to Georgia's citizens at all levels of government.

GIS (Geographic Information Systems) has become one of the core enabling technologies that is available to everyone. For example, relational database management systems (RDBMSs) used to be restricted to numeric and text data types. Now virtually every RDBMS including *Oracle* support spatial data types. This trend also applies to architectural and engineering design, where buildings and infrastructure are being designed in their geographic environment. According to National Association of State CIOs (NASCIO), "GIS is really a portfolio of capabilities that extends across the enterprise."[xiii] Around the country and world, Geospatial technologies are supporting expanded electronic government and common solutions.

GIS ranked as one of the Top Ten Technologies by state CIOs at the NASCIO 2007 Annual Conference. According to NASCIO, "GIS is really a portfolio of capabilities that extends across the enterprise. The investment in this portfolio is growing … in every aspect of government decision making." Further, "With proper governance, appropriate partnering, and investment, this resource can assist state government decision makers in making better, more informed decisions. Data and information that is enhanced with a location perspective often brings new insight and understanding." According to the US Army Research Office, themes that characterize successful data sharing include the following: mutual benefit, incentives, champions, partnerships and data.[xiv]

Add to available location data, per NASCIO, "the layering of multiple dimensions and intersections, and cross line of business collaboration reaches a whole new level that can demonstrate immense value to state government for not only enterprise agility and rapid response but also long term strategy and multi-jurisdiction collaboration."

Mission of this Document:

This document, developed collaboratively through Georgia's GIS Coordinating Committee, categorizes geospatial program and project components necessary for better decisions by

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[xii] National States Geographic Information Council (NSGIC), "Criteria for Federal Coordination of Geographic Information Technology – A State Perspective," May 2008: http://www.nsgic.org/resources/federal_coordination_factors_may2008.pdf

[xiii] National Association of State Chief Information Officers (NASCIO) draft release of "Where's the Data? Show Me - Maximizing the Investment in State Geospatial Resources," June 2008: http://www.nascio.org/publications

[xiv] Report of the National Spatial Data Infrastructure Measures of Progress Workshop, 1998: http://www.fgdc.gov/library/whitepapers-reports/sponsored-reports/nsdi_measures_of_progress_workshop_report.pdf

anyone at any level in the public and private sectors. The status of components within each category reflects Georgia's capability to provide the geospatial services recognized by local, state and federal agencies as essential to a successful service delivery across agencies.[xv]

Results of the 2008 Georgia Geospatial Maturity Assessment:

Georgia has a very strong grass-roots Geospatial community, including but not limited to GIS practitioners/managers, Photogrammetrists, Surveyors, Planners, CAD Operators and Engineers. The leading non-profit networking and educational organization for GIS practitioners, Urban Regional Information Systems Association (URISA) International, awarded its Georgia chapter, Georgia URISA, Chapter of the Year in both 2002 and 2007. This award is not issued twice to any one of 24-chapters within a 3-year period and rarely issued to the same chapter twice within any decade.

In addition, Georgia's GIS Coordinating Committee (GISCC) has accomplished a great deal since 1996, considering the awkward position of operating a statewide community of interest without a political, executive/business champion or state funding for geospatial initiatives. Namely, the GISCC has facilitated the development of several significant statewide basemap layers such as the following: Boundaries, Transportation, Hydrography, Wetlands and Aerial Photography. As a result of these coordinated basemap efforts alone, the GISCC has saved the state of Georgia over $1.2 million dollars.[xvi]

There are well-documented legal, technical and business drivers behind the need for an enterprise Geospatial Program in Georgia, including Federal initiatives and priorities such as Homeland Security, the E-Government Act of 2002, the Office of Management and Budget, the Census Bureau, and Intelligence Reform.[xvii] In addition, the Fifty States Initiative identifies essential components for an effective enterprise (statewide) GIS Program, incorporated into this Assessment.

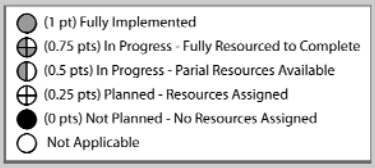
This said, Georgia is falling behind the Southeast and the Nation in lacking vision, support and governance structure for an enterprise Geospatial Program. Georgia's Geospatial Maturity Assessment Summary is provided below; supporting details can be found throughout the remainder of the text.

[xv] Federal Geographic Data Committee (FGDC) Future Directions "Fifty States and Equivalent Involved and Contributing to the National Spatial Data Infrastructure (NSDI)," February 2005: http://www.fgdc.gov/policyandplanning/future-directions/action-plans/FD_PART_Fifty_States_Contributing_NSDI_Final_Action_Plan_v9.pdf

[xvi] Georgia Geographic Information Systems Coordinating Committee (GISCC) "Georgia Geographic Information Systems Coordinating Committee (GISCC) and the Georgia GIS Clearinghouse," 2005: http://www.coa.gatech.edu/cgis/reports/ayan-GISCIarticle.pdf

[xvii] Fifty States Initiative in support of the Office of Management and Budget's (OMB) Circular A-16, Federal Geographic Data Committee: http://www.fgdc.gov/policyandplanning/future-directions/action-plans/FD_PART_Fifty_States_Contributing_NSDI_Final_Action_Plan_v9.pdf

2008 GEORGIA GEOSPATIAL MATURITY ASSESSMENT SUMMARY



Success in Satisfying Needs	Sufficient Geospatial Progress	Category
27%	○	Geospatial Coordination and Collaboration
25%	○	Geospatial Data Development
29%	○	GIS Resource Discovery and Access
38%	○	Statewide Partnership Programs
48%	○	Participation in Pertinent National Partnership Programs and Initiatives
57%	○	Geospatial Policies, Standards, Guidelines and Best Practices
38%	○	Training, Education, and Professional Networking Activities

In these times of economic leanness, it is critical that agency's share costs and resources to accomplish common goals. The above summary of Georgia's geospatial maturity and health indicates that not enough planning, investment, governance, coordination, optimization and standardization of common geospatial functions, service and processes are occurring. However, relatively easier barriers can be broached to make Georgia a better managed state through the coordinated development of geographic information and technologies.[xviii]

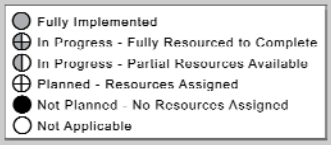
Intentions for the Georgia Geospatial Maturity Assessment:

Annual updates of this Assessment, based on Georgia's fiscal cycle (July 1 – June 30), are intended to provide a snapshot of Georgia's overall yearly status and to measure geospatial progress over time. While this initial report focuses on state agency status, succeeding reports are intended to include all stakeholders and providers at all levels, both public and private. This Assessment can also provide the foundation for geospatial Strategic Planning in Georgia, to be synchronized with the State Strategic Plan. Next steps would be to prioritize the items, associate costs where appropriate, complete the rankings

[xviii] Georgia Geographic Information Systems Coordinating Committee (GISCC) "Case for a Geospatial Information Officer (GIO) in Georgia," 2005: http://gis.state.ga.us/Coordination/GISCC/Meetings/GIOinGA_v5.pdf

and/or geospatial progress for each of the items identified throughout the Assessment, thereby creating score cards and actionable items for each category. The author of this document is also interested in representing Georgia nationally, through the National States Geographic Information Council, by leading an effort to create a template that all states can use for such assessment and to integrate key items from the national assessment that might feed the PEW Grading the States Report Card and the Digital Government Survey.

2008 GEORGIA GEOSPATIAL MATURITY ASSESSMENT



Geospatial Coordination and Collaboration

5.1 FiftyStates A full-time, paid State GIS coordinator or state geographic information officer (GIO), endorsed via legislation or executive order, exists and has been assigned a clear, written mandate with defined duties and responsibilities and is a member of a State GIS Council.

Comment: A "Case for a GIO in Georgia" was submitted by the Georgia GIS Coordinating Committee (GISCC) in 2005; however, no GIO or equivalent – paid or unpaid – exists in Georgia to date.

Note: Per NASCIO, "State GIS Coordinators have become a valued advisor across the enterprise."

5.1 FiftyStates A state geospatial coordination council (Council), operating under an inter-governmental working environment, exists from legislation or executive order that has assigned a clear, written mandate with defined duties and responsibilities.

Comment: The GISCC was established by ITPC Policy No 1, 1995, Revised 1999. However, the Georgia Technology Authority (GTA) did not adopt an equivalent policy when absorbing ITPC and the Georgia GIS Clearinghouse in 1999. Therefore, neither the GISCC nor the Georgia GIS Clearinghouse is grounded in state statute. However, the GISCC currently operates as an inter-governmental work group of "the willing" and the Clearinghouse operates at the will of the Georgia Technology Authority (GTA), although funding for the latter is critically at risk beyond FY09.

http://www.gis.state.ga.us

5.1 FiftyStates The Council has a mission to support and partner in the development of national, state and local spatial data infrastructures via a charter and by-laws adopted by its members. Toward this end, the Council produces strategic and business implementation plans and updates them on a periodic cycle.

Comment: The Georgia GIS Clearinghouse, the implementation arm of the GISCC and Georgia node of the Spatial Data Infrastructure (NSDI), does feed its 5 framework datasets to the NSDI (transportation, imagery, wetlands, boundaries and hydrography).

There is a GISCC business plan and Leadership document, but they are current as of 1999 and in much need of updating.

http://gis.state.ga.us/Coordination/Documents/documents.shtml

However, the 2007-08 GISCC Chair received a federal Cooperative Agreement Program (CAP) grant from USGS/FGDC in support of statewide GIS Strategic Planning for 2008. Therefore, a new Strategic Plan is pending. Pertinent business plans, in support of the Strategic Plan, can result if someone takes the lead in drafting them.

5.1 The Council membership is inclusive and represents all major stakeholders and interest groups via standing committees and/or workgroups within the council's geographic or administrative area.

Comment: The membership of GISCC is primarily composed of state, regional and local government representatives, some federal representatives, academia, and private enterprise interests, but does not encompass all of the major stakeholder groups in Georgia. As a "body of the

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	willing," there is no exclusionary rule for participation. http://gis.state.ga.us/Coordination/GISCC/Members/members.shtml
●	**5.1 The Council is guided by a steering committee or governing board composed of a representative selection of member stakeholders and interest groups.**
●	**5.1 The Council has paid staff assigned to it to provide administrative support and maintain continuity through changes in committees and workgroups.**
●	**5.1 The Council has a review and coordination role for GIS projects within its geographic or administrative area to help ensure projects meet the goals established in the council's strategic and business plans.** Comment: Although encouraged by friends and members of the GISCC, there is no requirement for any agency to coordinate activities with the GISCC.
●	**5.1 FiftyStates The State GIS Coordinator and the State Council have a formal relationship with the Chief Information Officer (or equivalent office).** Comment: There is no GIO or equivalent in Georgia, nor is there is an executive, political or business sponsor(s) for the GISCC (e.g., GIS is not being promoted/supported at any administrative level). The GISCC did, however, secure a non-voting seat on the CIO Council (May 2008). No one from the CIO Council attends the GISCC meetings, nor do any other agency administrators.
●	**5.1 FiftyStates The Council has involvement and a channel of communication to executive and elected leadership on its progress and recommendations for improvements (i.e., a political and/or executive champion).** Comment: No report, verbal or written, on the use of geographic information systems technology by state government is required or encouraged. The GISCC recommends that a statutory mandate be implemented requiring a biennial report to accomplish the following: • Inventory state agency GIS projects and applications, • Recommend initiatives to improve state agency GIS programs and collaboration/coordination opportunities, and • Provide the report to the Governor, the Legislature, Office of Planning & Budget (OPB), the CIO and GTA
●	**5.1 Geospatial technology is addressed and measured in the state's Information Technology Strategic Plan.** Comment: This Maturity Assessment has voluntarily been drafted as a measure of geospatial health in Georgia and is intended to provide insight in the IT area. However, there is no mention of GIS in Georgia's IT Strategic Plan as of 2008 or earlier.
●	**5.1 The State is represented on the National States Geographic Information Council (NSGIC).** Comment: Eric McRae, Director, UGA CVIOG ITOS, co-Manager of Georgia's GIS Clearinghouse, is Georgia's 2007-2008 (and previous years) NSGIC voting delegate and has attended the mid-year and annual NSGIC conferences for the past several years. Danielle Ayan, co-Manager of the Georgia GIS Clearinghouse and 2007-08 GISCC Chair, attends the meetings as a non-voting member. She has been nominated to the NSGIC Board and will be advised of the results in September 2008. If accepted, she will have voting rights at NSGIC as well, on

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	behalf of Georgia.
◐	**5.1 Key federal geospatial liaisons exist and are members of the State Council including: National Geodetic State Advisor, U.S. Census Bureau State Liaison, USGS State Mapping Liaison** Comment: Georgia does not have a National Geodetic Survey (NGS) Advisor and is not participating in the National Height Modernization Program. See item 36 below. U.S. Census Bureau State Liaison: Donna Bulloch, US Census U.S. Geological Survey State Mapping Liaison: Keith McFadden, USGS
◐	**5.1 Key state geospatial leads exist and are members of the State Council including: State Demographer, State Climatologist, State Archivist, State *11 Programs Directors.** Comment: Georgia does not have a Geographic Information Officer (GIO). Georgia does not have a state cartographer. Georgia does not have a state demographer. State Climatologist: David Emory Stooksbury, UGA Biological & Agricultural Engineering Department | State Climatology Office State Archivist: Amelia Winstead, Georgia Archives State 211 Program Director (community services): State 311 Program Director (non-emergency services): State 511 Program Director (transit and travel links): GDOT http://www.511ga.org State 911 Coordinator (emergency services): Elaine Sexton, GEMA
	Geospatial Data Development
◐	**5.1 A strategic plan and supporting business plan(s) exists for NSDI framework layers and other statewide digital basemap layer development. In each, Program custodian(s)/steward(s) exist for each basemap layer.** Comment : Georgia has 5 of 7 state basemap layers (Imagery, Boundaries, Elevation, Inland Waters, Transportation, Location, Parcels). However, each asset is lacking an officially identified and funded steward/custodian to maintain the asset. This leads to maintenance issues which interrupts the data life cycle and results in data decay. http ://gis.state.ga.us/Framework/framework.shtml
⊕	**5.1 Data development standards are adopted and implemented for each state basemap layer.** Comment: Federal standards exist for each NSDI basemap layer; however, Georgia has not formally adopted any of these standards to date. The GISCC plans to adopt all existing NSDI basemap standards by the end of this fiscal year; resources will be applied, although no funding is necessary for this effort. Aerial Imagery standards for Georgia existed for the last state-facilitated flyover in 1999.
●	**5.1 Geospatial Data Models are adopted and implemented for each state base-map layer.**

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◐	**5.1 A formal project lifecycle plan has been developed for each basemap layer with procedures for improving and enhancing the data based upon an independent and rigorous QA/QC review process and user feedback.** Comment: Where a basemap layer is mandated in the Official Code of Georgia, a QA/QC process exists (see Appendix A). These datasets, however, don't align exactly with the NSDI.
●	**5.1 A coalition of executive sponsors, business, elected leadership, and other key stakeholders exist that value basemap data for a wide array of applications vital to the citizenry (please explain the coalition's authority and quantify the basemap data value below).**
	Metadata, Discovery and Access, and Geospatial Web Services
◐	**5.1 A funded State Geospatial clearinghouse(s) exists with activities tied to clear budget amounts.** Comment: The Georgia GIS Clearinghouse had sufficient funding to operate prior to 2002. Funding is provided via GTA's internal budget. Since 2002, GTA has cut Clearinghouse funds more than 3 times to the current reduction of 50% of the annual contract amount which is insufficient for maximum operations. In addition, no funding is promised by GTA beyond FY09. In FY08, GTA did tie funds to specific new activities/ deliverables, although prior to that funding was in support of staff and general operations.
◐	**5.1 The geospatial clearinghouse(s) maintain a current and easily searchable on-line catalog of local, regional, state, and federal geospatial data holdings that provide metadata records for all downloadable data and data are provided in formats useable for the majority of professional users.** Comment: Although the Georgia GIS Clearinghouse is the most comprehensive source of Georgia's geofiles (over 30,000 datasets), it is not all-inclusive as there is no requirement for agencies/others to provide their geospatial data to the Clearinghouse. For example, a current Clearinghouse search for county Parcel data yields approximately 30+ records, where actually more than 100 of Georgia's 159 counties have parcels in a GIS format.
●	**5.1 The state's collection of geospatial web services and downloadable maps are available or linked through the State Web Portal. (For public access)**
●	**5.1 A registry exists of published geospatial Web services** *(Universal Description, Discovery & Integration –UDDI)***. (For development purposes)**
●	**5.1 The state has a data sharing agreement program to facilitate and encourage the appropriate sharing of geospatial data between all levels of government.**
◐	**5.1 The GIS Coordination Council maintains a directory of membership and a list of stakeholder contacts (example, a current list of all GIS Coordinators at state, regional and local government organizations is publicly accessible).** Comment: A GISCC list serve is maintained by Georgia Tech and contains over 200 names. And, the

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	GISCC member list is updated annually with core participants. However, there is no personnel inventory of GIS Coordinators at state, regional and local governments. giscc@lists.gatech.edu | http://gis.state.ga.us
◐	**5.1 Digital data backup and archiving of geospatial data are routinely performed per state and national archive specifications.** Comment: Geospatial data Backups occur via the Clearinghouse, although not necessarily to national specifications (http://www.nara.gov). The Georgia Archives is currently initiating a Digital Archives Initiative: http://sos.ga.gov/archives/who_are_we/rims/digital_History/default.htm
Statewide Partnership Programs (Possible conduits for Federal Initiatives)	
●	**5.1 State partnership programs exist that are authorized to enter into state contractual and financial cost-sharing agreements with multiple parties to develop geospatial data.** Comment: The Coastal Georgia Regional Development Center has been working with USGS/NGA for coastal LiDAR. The GISCC coordinated with USDA/DCA on behalf of Georgia to obtain statewide imagery for 2005, 2006 and 2007 via the National Agriculture Imagery Program (NAIP). From the state level, however, these activities are generally underfunded. Example: 1999 CIR imagery took until 2004 to process via a piecemeal funding approach. Also, legislation exists for the authorization for state agencies to establish pilot projects to serve as models for application of technology: O.C.G.A. § 50-29-12
⊕	**5.1 The state has established master purchase agreements (MPA) and enterprise license agreements (ELA) for geospatial data development, licensing and software.** Comment: The Office of Planning & Budget is considering championing a MPA and ELA with ESRI for Georgia. The GISCC compiled a "Business Rationale for an ELA," the foundation for this effort. Results are pending.
◐	**5.1 The GIS Coordination Council has a program to develop program alliances and reciprocal agreements with other organizations that have a common mission or business interest (i.e., an optional partnership).** Comment: The GISCC has been effective in the past at facilitating basemap development for the state of Georgia via program alliances and joint funding agreements.
●	**5.1 The GIS Coordination Council has the ability to manage grants and partnership programs either directly or indirectly through an administrative agency (i.e., a fiscal partnership).**
◐	**5.1 The coordination council maintains an active and funded GIS outreach program to encourage NSDI, state, regional, and local government partnerships and alliances.** Comment: The GISCC receives no funds for any of its activities. The Clearinghouse staff, who are funded, accomplish outreach as opportunities arise, but Outreach is not funded directly.

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●	**5.1 The GIS Coordination Council maintains a current inventory of major projects and programs being conducted by stakeholders.**

The State Participates in the Following National Partnership Programs, or Provides a Clear and Logical Reason why Participation is not in the State's Best Interests

◐	**5.1 The state is participating in the Federal Geographic Data Committee's (FGDC) National Spatial Data Infrastructure (NSDI) Program.** Comment: Presidential Executive Order 12906 defines the NSDI as "the technology, policies, standards, and human resources necessary to acquire, process, store, distribute, and improve utilization of geospatial data (see also Office of Management and Budget (OMB) Circular A-16). See Item 3 for reference. The Georgia Spatial Data Infrastructure and Georgia GIS Clearinghouse are set up for NSDI harvesting, but no content is currently available via the proper protocol.
◐	**5.1 The state is participating in the Fifty States Initiative.** Comment: Georgia has received a 2008 federal grant from the Federal Geographic Data Committee (FGDC)/USGS under the Cooperative Agreement Program (CAP) to develop and implement statewide strategic and business plans that will facilitate the coordination of programs, policies, technologies, and resources that enable the coordination, collection, documentation, discovery, distribution, exchange and maintenance of geospatial information in support of the NSDI. This document, the 2008 GIS Maturity Assessment, is an output of this effort; a matrix/measure was needed to assess Georgia's geospatial health, considering the core components of the Fifty States Initiative.
●	**5.1 The state participates in the National Map Program.** Comment: No cascading WMS connection to National map via the Clearinghouse or other Georgia source.
●	**5.1 The state participates in the Geospatial One Stop Program.** Comment: The Georgia Spatial Data Infrastructure and Georgia GIS Clearinghouse are set up for NSDI harvesting, but no content is currently available via the proper protocol.
●	**5.1 The state participates in the National Height Modernization Program.** Comment: NOAA's National Geodetic Survey (NGS) defines and manages a national coordinate system. This network, the National Spatial Reference System (NSRS), provides the foundation for transportation and communication; mapping and charting; and a multitude of scientific and engineering applications. Georgia does not have a National Geodetic Survey (NGS) Advisor and is not participating in the National Height Modernization Program. See item 12 above. http://www.ngs.noaa.gov/INFO/WhatWeDo.shtml

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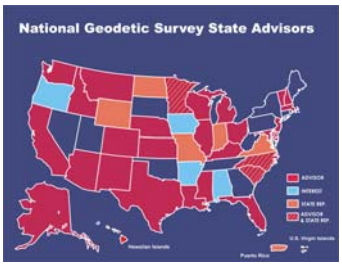

5.1 The state participates in the National Digital Elevation Program (NDEP).

Comment: NDEP promotes the exchange of accurate digital land elevation data among government, private, and non-profit sectors and the academic community and to establish standards and guidance that will benefit all users. Georgia is not participating in NDEP. http://www.ndep.gov

5.1 The state participates in the USGS/NGA Homeland Security (133 Urban Areas Program).

Comment : Localized/metro areas in Georgia are participating in the 133-Urban Areas Program (ATL, Augusta, Columbus). http ://gisdata.usgs.net/IADD/factsheets/fact.html

5.1 The state participates in the USDA/FSA National Aerial Information Program (NAIP) and the USGS National Orthoimagery Program.

Comment: The GISCC worked with the USGS via the orthoimagery program in 1993 and 1999, but not since. Georgia has been the recipient of free 2-meter NAIP photography for 2005 and 2006 and has coordinated $300K Department of Community Affairs' funds for 1-m 2007 imagery. See item 26.

http://165.221.201.14/NAIP.html http://online.wr.usgs.gov/ngpo/doq

5.1 The state participates in the Federal Emergency Management Agency (FEMA) Flood Map Modernization Program.

Comment : Map Modernization is a cornerstone for helping communities be better prepared for flood disasters.Georgia is participating in the Flood Map Modernization Program.

http://www.georgiadfirm.com/ppt/RDC_Scoping.ppt

5.1 The state participates in the Census Bureau MAP/TIGER Modernization / Local Update of Census Addresses (LUCA), and Boundary and Annexation Survey (BAS) Programs.

5.1 The State participates in the Homeland Security Infrastructure Program (HSIP).

Comment: HSIP Freedom is conducted by the National Geospatial–Intelligence Agency (NGA) and Department of Homeland Security (DHS). HSIP features two-way data sharing between the state and federal government. The federal government is collecting and validating geospatial information from each state on 100 data themes; such as highways, hospitals, correctional facilities, urgent care clinics, EMS locations, police and fire stations. In all cases, the data collected from state and local governments is being checked for correct addresses, facility names, and other attributes before it is added to the HSIP database. The verified databases will be returned to the states with no restrictions on redistribution. Participation in this program does not require funding. Georgia has complied with all HSIP data requests. Contributed data are fed back to the states with added value. Georgia's datasets are intended for distribution via Georgiaplannning.com and the Georgia GIS Clearinghouse.

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	http://www.nsgic.org/events/2007midyear/nga.ppt
◐	**5.1 The State participates in the National GIS Inventory Program.** Comment: The GIS Inventory's primary purpose is to track the status of GIS in US, state and local government to aid the planning and building of Spatial Data Infrastructures. Georgia's 5 basemap layers have been published to the national GIS Inventory. A GIS Inventory Training session is scheduled for July 2008, and the Regional Development Center (RDC) Executive Directors have agreed to have all GIS Leads participate. Currently, state, regional and local orgs in Georgia are not fully participating in the GIS Inventory Program and leveraging this tool to the state's advantage. http://www.gisinventory.net and http://ga.gisinventory.net
⊕	**5.1 The State participates in the Presidential High Growth Training Initiative (Geospatial Technologies).** Comment: Presidential Executive Order 12906 defines the NSDI as "the technology, policies, standards, and human resources necessary to acquire, process, store, distribute, and improve utilization of geospatial data (see also Office of Management and Budget (OMB) Circular A-16) Geospatial Technologies is one of 14 sectors that fit within the following criteria: 1) They are projected to add substantial numbers of new jobs to the economy or affect the growth of other industries; or 2) They are existing or emerging businesses being transformed by technology and innovation requiring new skills sets for workers. Georgia is not currently participating in the geospatial High Growth Training Initiative. However, Gainesville State College (GSC) has just been announced as 1 of 8 GeoTech Centers across the country established to increase the number and quality of educated geospatial technicians for rapidly expanding fields among geospatial technology industries, which include Geographical Information Systems (GIS), Global Positioning Systems (GPS), remote sensing, mobile- and location-based services. GSC is already discussing the roll-out of geospatial training with the Technical College System of Georgia. http://www.doleta.gov/BRG/JobtrainInitiative
●	**5.1 The State participates in the U.S. National Grid.** Comment: The U.S. National Grid, actively promoted by the U.S. Department of Homeland Security, is a means to present existing state and local government GIS data in a specific format to help in disaster response across the nation. The National Grid, already adopted by the U.S Army, should allow diverse emergency responders with GPS equipment to coordinate recovery efforts, especially when street signage and other landmarks are missing
	Geospatial Policies, Standards, Specifications and Best Practices
◐	**5.1 A state organization has the responsibility and authority to recommend, adopt, promulgate and implement geospatial policies, standards, specifications and best practices.** Comment: As an arm of GTA, although not formally recognized via legislation/executive commitment, the GISCC is promulgating geospatial standards (example: comprehensive planning, legislative redistricting, etc.). As stated, however, the GISCC has no given responsibility or authority to execute these activities.
◐	**5.1 The state has adopted and implemented as appropriate FGDC, OGC, ANSI and ISO or more detailed state and local geospatial standards and specifications.**

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	Comment: Geospatial datasets submitted to the Clearinghouse must meet minimum, current FGDC standards.
	**5.1 A data sharing standard or policy has been adopted to promote the open and free exchange and sharing of non-sensitive geospatial data with appropriate metadata to all NSDI stakeholders.** Comment: A de-facto data sharing standard exists via the Clearinghouse; however, no policy exists or could be enforced via the current framework which is lacking authority.
	**5.1 The state has addressed homeland security and privacy issues for public access to GIS data through laws and administrative rules.** Comment: Georgia legislation allows for the sale of geospatial data. See O.C.G.A. GORA exception to FOIA: O.C.G.A. § 50-29-2
	**5.1 If the state has an exception to the Freedom of Information Act (FOIA) regarding the sale of GIS data, a business model(s) and/or guidelines regarding uniform and equitable fees for GIS data reproduction and distribution have been provided.** Comment: The above code identifies "Any fees or license fees .. shall be based upon the recovery of the actual development cost of creating or providing the geographic information system and upon the recovery of a reasonable portion of the costs associated with building and maintaining the geographic information system." However, parcel data between metro Atlanta counties, for example, ranges anywhere from free (Fulton County) to $22,000 (Cobb County).
	**5.1 Open Geospatial Consortium** *(OGC)* **specifications have been adopted to promote interoperable geospatial Web services, a Web Services Definition Language** *(WSDL)* **standard has been adopted and a standard for information content display requirements has been adopted** *(e.g. disclaimers, contact info, parent links)***.** Comment: The Georgia GIS community, on balance, understands and implements OGC specifications. Non-participation in the National Map, however, yields a lack of promotion of these specifications.
	**5.1 Best practices for contracts containing geospatial requirements for state agencies have been adopted.**
	Training, Education, and Professional Networking Activities
	**5.1 The state maintains an internal user helpdesk for GIS users that provides guidance, helps solve technical problems, and answers questions.** Comment: Resources can be leveraged via informal networking and the Georgia GIS Clearinghouse.
	**5.1 The state has a program to provide GIS technical training and professional development opportunities for staff and other stakeholders.** Comment: No formal state training program currently exists. However, Georgia Regional Commissions, the DCA, Georgia URISA, several USG institutions, a couple Technical Colleges (Ogeechee Tech and Central Georgia Tech), and some cities offer training programs that fulfill this need. Educational articulation is completely non-existent, however. See item 44 for a recently federally-funded, more formalized training approach forthcoming in Georgia.

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⊕	**5.1 A program exists to connect universities, community colleges and professional and trade schools that are seeking partnerships and opportunities for students to gain experience solving real-world problems with state geographic information science and technologies programs (i.e., educational articulation across institutions).** Comment: See item 44 for a recently federally-funded, formalized training approach forthcoming in Georgia. Also, the Board of Regents is currently compiling a "Geospatial Industry Profile" for Georgia which will help assess connectivity between students and educational institutes.
◐	**5.1 A program exists to train GIS stakeholders on NSDI concepts and principles** *(e.g. metadata, standards, clearinghouse operations, NSDI roles and responsibilities, et cetera).* Comment: The GISCC and Clearinghouse members inform GIS stakeholders on NSDI and GaSDI concepts and principles on an as-needed basis. An FGDC-sponsored metadata "Train-the-Trainer" session was held in Georgia, 2007, to assist agency and regional GIS leads on training their staff.
◐	**5.1 The GIS Coordination Council has formed affiliations with geospatial professional organizations operating in the state such as URISA, GITA, AAG, ASPRS, professional surveyors and software user groups.** Comment: Georgia URISA, Chapter of the year 2002 and 2007, has a representative participate in GISCC meetings. Also, ESRI representatives are involved as GISCC members, and they host regional User Groups across the state(s). The American Society of Photogrammetry and Remote Sensing (ASPRS) and the Surveying and Mapping Society of Georgia (SAMSOG) have not affiliated with the GISCC but are targeted for 2008-2009 inclusion.
●	**5.1 A state classification or job description system exists for GIS professionals.** Comment: The State Personnel Administration (SPC) maintains very few statewide definitions for GIS practitioners/professionals in Georgia. However, some agencies have standard descriptions that are leveraged by other agencies to "cross-walk" existing job classifications with typical descriptions of GIS jobs. Often a GIS practitioner gets hired as a "Statistical Analyst" or other title, due to the lack of a more appropriate statewide GIS-related description. http://www.spa.ga.gov/jobdescriptionsapp/jobsalaryinfo.asp

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