



**Data Summary  
Florida GIS Coordination Strategic Plan  
NSGIC CAP Grant 2007**

**January 2008**

Prepared for

Richard Butgereit  
GIS Administrator  
Florida Division of Emergency Management

Prepared by

Fugro EarthData, Inc.  
900 S. Goldenrod Rd  
Suite D  
Orlando, FL 32822  
[www.earthdata.com](http://www.earthdata.com)



## TABLE OF CONTENTS

1	Introduction .....	1
2	Stakeholder participants .....	1
2.1	On-Line Survey .....	1
2.2	Regional Workshop Participants .....	2
2.3	Individual Interviews .....	3
3	Strengths—Current Structure Successes.....	3
3.1	Current/Existing Cooperative Efforts .....	4
3.2	Benefits from Participation in Coordination Efforts .....	4
4	Weaknesses—Current Structure Failures .....	4
5	Pitfalls—Things to be Avoided for Successful Coordination .....	5
6	Functions of A Coordinating Entity .....	6
7	Thoughts on a Structure for a Coordinating Entity .....	8



## 1 INTRODUCTION

During the past several weeks the Fugro EarthData team worked with the Florida CAP Grant Steering Committee to collect information from GIS stakeholders throughout the state of Florida. These efforts have included a three step approach: an on-line survey available to all interested parties, three regional meetings for direct interaction with stakeholders, and individual interviews with representative stakeholders identified by the Steering Committee.

Collecting impressions from stakeholders on the need for GIS coordination in Florida is an important element to developing a strategic plan that can effectively provide the desired coordination, as well as meet the sustainability desired by the Steering Committee and the project funding source, the USGS.

The goals for information collection were twofold; to determine the level of consensus surrounding the functions and operation of a coordination effort and, to expand an understanding of the strategic planning process among key stakeholders in an effort to build trust and good will in the GIS community. The on-line survey provided a good mechanism for collecting quantifiable statistics for analysis. The regional stakeholder meetings and the interviews with selected stakeholders provided an opportunity to collect anecdotal information related to support for the coordination effort, as well as build trust among community members through demonstrating an open process.

## 2 STAKEHOLDER PARTICIPANTS

### 2.1 On-Line Survey

#### Response Statistics

An on-line survey was made available to receive input without limits from the broadest possible group. Ultimately the survey was viewed by 455 people, started by 309, and 158 respondents completed each of the survey questions.

While the 151 individuals that did not complete the entire survey missed an opportunity to provide full input into the process, most did complete many of the questions.

- 158 stakeholders completed the on-line interview
- 37.5% from local government
- 41% GIS/IT Managers
- 150+ stakeholders attended one of the three regional workshops

#### Respondent Diversity

A diverse stakeholder population responded to the survey with approximately equal percentages of from State and County Governments. City and Regional entities may be slightly under-represented but this is likely due to the overall level of activity in GIS in Cities relative to state and county agencies.

Strong interest from private firms is a positive sign that the private sector has an interest in GIS coordination activities and will ultimately be supportive of the process.

Utilities are somewhat under-represented in the response pool which is most likely due to the method used to inform stakeholders of the project and survey—via existing organizations and e-mail servers that are traditionally used for communication between public sector GIS professionals.

**Table 1. On-line survey respondent organization distribution**

Organization	Number	Percent
Local Government	<b>91</b>	<b>37.45%</b>
City government	35	14.40%
County government	56	23.05%
State government	<b>60</b>	<b>24.69%</b>
Private firm	<b>44</b>	<b>18.11%</b>
Sub-state / Regional agency [e.g. Water Management District, Regional Planning Council, Metropolitan Planning District ]	<b>20</b>	<b>8.23%</b>
University	<b>11</b>	<b>4.53%</b>
Federal government	<b>5</b>	<b>2.06%</b>
Utility	<b>4</b>	<b>1.65%</b>
Other	<b>8</b>	<b>3.29%</b>
	<b>243</b>	

**Table 2. Title of individual respondents.**

Your position within this organization:	Number	Percentage
GIS / IT Manager [influences decisions, oversees GIS staff, manages GIS projects]	<b>98</b>	<b>41.18%</b>
GIS Analyst [senior technical GIS person]	69	28.99%
GIS Technician [junior technical GIS person]	9	3.78%
Director [makes decisions in terms of budget related to GIS]	8	3.36%
CIO [principal decision-maker in terms of technologies and direction]	7	2.94%
Other	47	19.75%
<b>Total</b>	<b>238</b>	

The majority of those completing the on-line survey are either GIS managers (with influence over budget decisions and management of staff and projects) or GIS analysts (the senior technical GIS person in the organization).

Appendix A of this document is a complete report of the survey results.

## 2.2 Regional Workshop Participants

A total of three half-day regional workshops were offered for direct interaction with GIS stakeholders:

- North Florida                      Tallahassee                      December 4, 2007
- South Florida                        Sunrise                                December 10, 2007
- Central Florida                      Orlando                                December 11, 2007

In total, 143 pre-registered for attendance at one of the three sessions. However, actual attendance exceeded 150 since several late arrivals at each workshop failed to register.



Of the workshop attendees the distribution of organization type closely approximates the on-line survey respondents.

**Table 3. Organizations Participating in Regional Workshops**

Organization	Number	Percentage
State government	29	26.61%
County government	24	22.02%
Private firm	20	18.35%
City government	14	12.84%
Sub-state / Regional agency	6	5.50%
Federal government	6	5.50%
University	4	3.67%
Utility	0	0.00%
Other	6	5.50%
<b>Total</b>	<b>109</b>	

Appendix B of this document is the list of persons that signed a registration sheet at any of the three regional workshops.

### 2.3 Individual Interviews

A list of 30 individuals or groups was created by the Steering Committee for in depth in-person interviews with the Fugro EarthData team. These interviews have not been completed as of the drafting of this document. Version two of this document will include a listing of the individuals that participated in interviews as Appendix C.

## 3 STRENGTHS—CURRENT STRUCTURE SUCCESSES

During this information gathering phase of the project GIS stakeholders were asked to identify current strengths in GIS coordination within Florida as well as to identify any success stories they might be willing to share.

Over 81% of the survey respondents (169 of 207) reported successful coordination experiences. Based on comments from the regional workshops it appears as if a majority of those efforts have been based on informal contacts between GIS professionals.

- 81% of survey respondents have had successful coordination experiences
- Regional workshops were identified as a significant coordination enabler
- Florida Open Records laws have contributed to successful coordination efforts

A frequently cited strength in the current structure is informal networking between professionals at all levels of government. This informal networking was almost universally mentioned during workshop sessions and interviews.

Specific groups mentioned included the Water Management Districts and their ongoing coordination between themselves and their active projects with county governments.

The three annual regional GIS workshops (SHRUG, Central Florida, and South Florida Expo) were identified as very positive activities. In addition to facilitating the exchange of new technologies and techniques during formal sessions, the building of informal networks during these events was mentioned as a significant benefit. To the extent that these events provide formal training they were also noted as being important activities.



The current Florida Open Records law is identified almost universally as a major positive influence on GIS coordination in the state. The requirement to provide data at a minimal cost has benefited a variety of jurisdictions by allowing for data uses beyond that which they were originally intended.

### 3.1 Current/Existing Cooperative Efforts

Several on-going cooperative efforts were identified as being successful including the water management districts regular coordination meetings. Other efforts identified as success include FREAC at Florida State University and GeoPlan at the University of Florida.

Robust coordination mapping programs including the Dept. of Revenue orthographic photo program and coastal LIDAR project were cited as current successes.

Multiple on-going cooperative projects and efforts at regional planning councils and at the local level between cities and counties throughout the state were frequently cited as successes.

### 3.2 Benefits from Participation in Coordination Efforts

The on-line survey included a question on the motivation and benefits for past participation in coordination efforts.

The motivations most often cited by survey respondents were to reduce costs of data, improve their internal data, eliminate redundancy, improve speed of project, reduce staff time spent on processing requests for data, and be a wise steward of taxpayer money.

Benefits from coordination included joint funding between agencies, improved decision making resulting from having up to date data from a custodian organization, and the ability to refresh data more regularly (most notably ortho photos). Additional benefits include faster access to data, better data consistency from better QA/QC, and improved public relations.

## 4 WEAKNESSES—CURRENT STRUCTURE FAILURES

There were several consistently identified weaknesses with the current status of GIS coordination in Florida.

Adequate funding continues to be a challenge for most GIS organizations and was identified as a weakness of the current structure since large data projects and coordination are not funded.

While the extent of in-place informal coordination was cited as a success, it was also identified as a weakness since it is so dependent on individual relationships that may not be sustained due to staff transition as a result of promotion, retirement, or job changes.

Since much of the data generated at the county level is created by officials with constitutional authority, mandates or requirements to cooperate are often ignored even when they might be in the best interest of the taxpayer.

Overall a lack of communication between jurisdictions both horizontally and vertically was identified as a weakness. This lack of communication results in a duplication of effort and an inability to see the value in cooperation.

- There is significant confusion on the availability of data clearinghouses in FL
- There is little formal coordination that is documented and fully institutionalized
- Data, metadata, and projection standards are lacking and create undue work for many organizations



Other frequently cited weaknesses with the current structure included:

- Data and project standards
- A statewide clearinghouse that is a comprehensive location to find metadata that meets standards
- Assignment of data custodians for framework data layers
- Established relationships with major vendors to negotiate bulk purchases
- A program to educate leadership about issues with GIS.

## 5 PITFALLS—THINGS TO BE AVOIDED FOR SUCCESSFUL COORDINATION

Although there was a consensus that some formal coordination is necessary to achieve the maximum possible return from past, current and future investments in geospatial data, hardware, and software, there were a number of concerns voiced by stakeholders that must be considered.

Stakeholders generally expressed a concern that any coordinating entity not be overly bureaucratic, overbearing, or unnecessarily become involved in the day to day operating decisions of agencies. Survey respondents expressed concerns that the coordination efforts not constrain organizations from pursuing GIS applications, data, and systems necessary to help them carry out their mission.

- Any coordination effort must avoid:
  - Over centralization
  - Becoming an enforcer rather than an enabler
  - Over-involvement of GIS technicians
  - Failure to involve local government
  - Diverting funds from agency GIS efforts

Another potential pitfall in any coordination effort identified was an over reliance on GIS technical staff without having involvement by policy makers and those that control budgets.

Generally, if the coordination entity strays from a mission of communication and collaboration it will be less than successful.

Specific pitfalls identified in on-line surveys, interviews, and regional workshops that would damage the potential successful coordination effort included:

- Over centralization
- Too much management
- Centralized coordinating entity being a top cop rather than a business enabler
- Establishing standards rather than building consensus “guidelines”
- Becoming a standards enforcer rather than a coordinating and support organization
- Not providing sufficient resources to complete the job
- Creating extra work for GIS professionals
- Overly focusing on data when it is already generally available on the internet
- Failure to involved local government
- Organization policing purchases, data creation, and application development
- Involvement in project management
- Over involvement of “GIS Gurus”
- The lack of a legislative or executive mandate
- Diverting funds from ongoing organizational GIS activities to fund the effort



## 6 FUNCTIONS OF A COORDINATING ENTITY

A general consensus voiced during the regional workshops was that a key function of any GIS coordinating entity should be leadership that is coupled with sufficient authority to facilitate effective coordination.

Functions universally identified during the workshops were the development of a unified metadata clearinghouse and a GIS contact directory. Development of seamless statewide data sets from individual data acquired from local sources was also frequently mentioned.

- Approximately 90% of on-line survey respondent support the following coordination activities:
  - Facilitation of data exchange
  - Data aggregation
  - Coordination between agencies on policy and technical issues

The on-line survey requested feedback on a long list of possible functions of a coordinating entity. The results of those questions are summarized below and for ease of analysis consolidated within each topical area by strongly agree/agree and disagree/strongly disagree.

**Table 4. Support for activities of a coordinating entity**

Activity	Positive	Percent	Neutral	Negative
Facilitate data exchange and providing documentation	146	93.59%	10	0
Coordinate interaction between agencies for policy/technical issues	140	89.74%	15	1
Provide or assist with project management of multi-agency projects	120	76.92%	33	3
Identify grant and support opportunities	117	75.48%	34	4
<b>Central GIS (GIS functions not assigned)</b>	<b>117</b>	<b>74.05%</b>	<b>26</b>	<b>15</b>
Central GIS Data Store	129	82.17%	21	7
Public and intranet web sites	129	81.65%	18	11
Hosting/outsourcing services for small jurisdictions	107	68.15%	38	12
Systems design and maintenance	93	59.24%	43	21
<b>Data Services</b>				
Data aggregation (transform and make seamless, statewide layers)	144	92.90%	5	6
Quality Control	132	85.16%	14	9
Data acquisition (e.g. orthophotography)	127	81.94%	20	8
Certification of standards compliance	126	81.29%	20	9
<b>Direct Support of agencies with projects of multi-agency importance</b>				
Funding	119	79.33%	25	6
Project Support	117	78.52%	24	8
Contract vehicle for service procurement	107	71.33%	35	8
On-call support	91	60.67%	45	14
<b>Procurements/Project Management</b>				
Multi-agency buys (data, software, services)	111	73.03%	34	7
Contracting offices technical representative	98	64.47%	47	7
Provide project management or assistance to project management	95	62.09%	45	13
Technical review and approval of agency procurements	88	57.89%	38	26
<b>Training</b>				
Bulk purchase of GIS training at a discount	128	83.12%	18	8
Training on specific GIS applications and services	123	79.35%	22	10
Iterant training program	112	73.20%	28	13





Since the on-line survey community was very diverse, including all levels of government and the private sector, the potential for variability in the support or resistance to any particular function may vary by stakeholder group. In order to determine this potential variability, cross tabulations for those coordination activities with high neutral or negative responses were explored by stakeholder group to see if any particular group's strong desire for that activity was lost in the aggregation.

The table below identifies the coordination activity and percentage of responses that were positive. Overall while there is some variability in the result, it appears that only for cities and for private firms was there strong variation from the rest of the stakeholder communities.

For the provision of project management on multi-agency projects 92% of cities felt this was a task that should be performed by the coordination entity, more than 20% greater than for state or regional entities. Similarly the task of providing a centralized GIS data store was supported by over 92% of cities and 100% of private entities but only 74% of all respondents.

**Table 5. Coordination Activity Support by Respondent Type**

Activity	State	Regional	County	City	Private	Overall
Provide or assist with project management of multi-agency projects	71.79	66.67	76.19	92	80	76.92
Central GIS Data Store	77.27	66.67	85.37	92.31	100	74.05
Systems design and maintenance	56.41	50	50	65.39	80	59.24
Data acquisition	79.49	83.33	80.49	88.47	95	81.94
Certification of standards compliance	79.49	58.34	78.05	84.61	90	81.29
Provide a contract vehicle for service procurement	72.98	72.72	68.29	69.24	73.68	71.33
On call support	67.56	45.45	56.1	65.39	57.89	60.67
Contracting officer technical representative	60.53	58.33	65.86	64	70	64.47
Multi-agency buys (data, software, hardware)	73.69	75	70	80	80	73.03
Technical review and approval of procurements	55.27	50	56.1	56	70	57.79
Provide project management or assistance to project management	60.52	66.67	60.98	68	60	62.09

Note: Percentage cited either "strongly agree" or "agree" that the activity should be part of any coordination effort.

## **7 THOUGHTS ON A STRUCTURE FOR A COORDINATING ENTITY**

During regional workshops there was general support for a coordinating structure that was open to participation from all levels of government and the private sector.

A key element identified for a successful coordination structure is involvement of non-GIS professionals, particularly those involved in policy and budget setting for organizations. Involvement from Federal agencies and the private sector were also identified as important.

According to feedback from the regional workshops, sustainability of a coordinating entity must be a key focus moving forward. In addition, sustainability will require that the coordinating entity be housed in an organization not subject to political changes with administrative philosophies.

The qualifications of an identified coordinator are also important to most stakeholders. Stakeholders are seeking leadership from a qualified professional with broad experience in GIS implementation and with a mature understanding of policy issues at all levels of government.

A governance committee has been identified as important to the structure, with the role of providing guidance, direction and support for a GIS coordinator and staff.

Several comments were made that the ultimate structure of the coordination entity should not be based on a single individual located within a single department since this limits the potential effectiveness and could lead to perceived conflict between agency goals and broader GIS community goals.

At regional workshops and during interviews with key stakeholders, there has been alternatively voice support and opposition to location of the coordination entity within a state IT organization, the Division of Emergency Management, a university, the governor's office, or a newly created non-profit group. While there is a consensus on the need for a coordinating entity and the role the coordinating entity should perform, at this point there is no consensus on where a coordinating entity should exist or how it should be structured.