

Title page

Table of Contents

Executive Summary (not really long enough for this)

Introduction

In February 2002, the ERLT charged the ER Geography Executive to champion a region-wide team to investigate information resources and to make recommendations on the most efficient methods to integrate and coordinate these resources as the Bureau continues its transition to a regional management model. This charge included recommendations on an organizational structure for the ER Geographic Information Office (GIO) that would most effectively manage and coordinate these resources. The ER Information Team was formed in April and included one representative from each discipline region in ER ~~(two from water)~~, one representative from EORS, and the acting ERGIO. (Team members are listed at the end of this report.) The team's first action was to review the Director's decision memo of April, 11, 2002, to define the extent of the region's Information Technology, Information Management, and Information Services (IT/IM/IS) activities. The team then gathered information from each team member on discipline-based information activities and talked to various information professionals at the ER and HQ levels. A team "health check" was presented to the ERLT on June 12, 2002. This presentation provided a statement of the team charge as defined by the team:

Create a plan to manage information activities (IT/IM/IS) in the ER that will be nested within the GIO strategic direction and that will serve all 26 States, Puerto Rico, and the Virgin Islands.

The June presentation was well received by the ERLT, and the team regrouped to gather more information through a series of interviews, demonstrations, and research. All members of the ERLT and ER focus area coordinators (for Chesapeake Bay, Great Lakes, South Florida, and Appalachia) were interviewed. The team viewed demonstrations by experts in the USGS Office of Communication, contacted BLM regarding their Data Warehouse initiative, and reviewed all available reports on Bureau and regional information activities.

This report provides the results of the team's investigations, starting with a brief review of the establishment of the USGS GIO. An overview of information problems and the current state of information activities in the region is included. These introductory sections are followed by ~~a~~ regional information vision statements, and ~~and~~ lists of issues and recommendations in four categories: Information Management (IM), Information Technology (IT), Information Services (IS), and ERGIO Organization. Many of the recommendations in the IM, IT, and IS sections are contingent on recommendations offered in the ERGIO Organization section.

Establishment of USGS GIO

The USGS established the executive-level Geographic Information Officer (GIO) in 1999, and, in 2000, Karen Siderelis became the USGS GIO. The Director's memo of July 20, 2001, provides the vision and guiding principles for this new office:

The establishment of the GIO office and the realignment of our IT/IM/IS capabilities are aimed at supporting more integrated and bureau-wide management of our information assets and capabilities. . . and reflect our overall strategic change and are responsive to the recommendations of the NRC report *Future Roles and Opportunities for the U.S. Geological Survey*.

The new GIO established a Leadership Team for her office and quickly formed an "Umbrella" Team to define IT/IM/IS for the USGS. The Umbrella Team subsequently formed a subteam to investigate USGS Information Functions and Skills. In addition, the GIO commissioned seven thematic "Tiger Teams" to investigate USGS information resources. These teams are: Information Strategy, Information Architecture, Enterprise GIO, Publishing, Help Desk Services, IT Capital Planning and Investment, and Information Services (ESIC/Library services). Several members of ~~this~~ the ER IT team also participated in some of ~~served on~~ these tiger teams.

Information Problems to Solve

The team identified seven problems in the current management of regional information activities. These problems have regional, national, and discipline implications.

[**Action:** Cross check these problems against all IT/IM/IS issues. Perhaps reference appropriate recommendations here?]

- Inconsistent information assistance and services (support) within the region.
- Transition from a discipline-centric information organization to a region-centric information organization.
- Inefficient, inconsistent, unclear communication processes.
- Inconsistent information policies and procedures across disciplines within ER and across regions.
- Inconsistent or non-existent data management practices.
- Lack of coordination within and among ER focus areas in managing information and data.
- No clear definition of areas of responsibilities between ERGIO and the ER Office of Communications (particularly in information content, processes, internal communications, Web, publishing, etc).

State of Information Activities in FY02

Although the new GIO regional structure has been announced, information activities in the region are still basically managed by the individual disciplines. This approach does not allow individual discipline strengths to be shared across the region. For example, Water has a strong and formal national IT structure; Biology has a virtual structure with a good “special collections” library structure; Geography is a leader in data management and product information and sales; Geology is a leader in developing Web interfaces to data base products. Because of this unequal distribution of information resources, and the unequal emphasis placed on these activities across the disciplines, many employees have varying views on the value of these information activities to the Bureau mission. In addition, information employees have little knowledge about information experts outside of individual disciplines.

Because transition to a regional operational model has not yet been fully implemented in the information arena, the ER has to rely on HQ GIO for enterprise operational needs (for example, DNS requests, wide area connectivity, software distribution, Lotus and help desk support). As the regional management model becomes more firmly established, these operational activities need to migrate to the ER.

Regional data management practices, across focus areas, offices, administrative units, etc., are unclear and inconsistently applied. Of particular importance are focus area data management practices. These practices need to be defined and applied from both regional and national perspectives—they have a serious effect on the Bureau’s and region’s Federal and private partnership opportunities.

Currently, regional information employees, including managers, are unclear about the new Bureau and regional information structure and how that structure will affect their responsibilities and authority. In some cases important work is not being performed efficiently because of this confusion. Some A significant number of employees are even worried about their jobs based on new organizational placement of their current job duties.

Information Vision

The team compiled seven vision statements for the region. In compiling this vision, the team was mindful of the critical role of information to the future of the USGS and the ER and of the strategic goals defined by the GIO Information Strategy Tiger Team (Stewardship, Delivery, Application and Use, Technology, and Partnerships)

1. All science centers are provided full support in implementing ER and Bureau information policies and procedures.
2. Information funding is fairly and equitably allotted across the region for required activities.
3. Data management practices are well coordinated regionally so that information and data are easily integrated and accessible.

4. ER information managers are partners with GIO HQ in establishing Bureau information policies and procedures.
5. Regional information experts are identified and are available to all employees.
6. Communication is timely, uses established channels (bulletin boards for information, chain of command for project requirements, etc.), and flows in all directions—~~redundant~~, - incomplete or confusing communications are eliminated.
7. ERGIO is responsive to all customers, from science center employees to partners to the general public.

Information Management

Issues

1. There is no complete inventory of information (data) assets in the region to provide a foundation for ER science studies and to avoid duplication of effort.
2. It is difficult to integrate data when needed (because of a lack of consistent data base standards, access, design, software), especially among focus areas, to promote integrated science studies.
3. No uniform policies and procedures exist to document and retain data to save data for future use.
4. Duplication of effort among offices in building systems for information delivery has created inefficiencies. (Sample systems include National Atlas, mineral resources data, GEODE, stream stats, etc. All these systems serve similar types of maps using different technology.)
5. Regional managers have a concern about the interface between BASIS+ and other administrative DB's. [**Actions:** Mark will check validity of statement; Tammy will check with Tim on his concern]
6. The support structure is inadequate for the use of Bureau-licensed enterprise software (Oracle, Access, SQL) to ensure best practices are employed when selecting which software to use for what application.

Recommendations

1. ERGIO creates a regional data manager position (in the Branch of IS/IM Services) that is knowledgeable in data base design and management. Responsibilities include
 - Establish and chair a Data Managers Working Group to coordinate regional focus area data management requirements. (Adresse ~~Solves~~ issues 2, 3, 4, 6)
 - Develop and maintain an inventory of information assets (~~Solves~~ issues 1, 3)
 - Ensure that information delivery systems are compliant with Bureau policy and architecture (Solves issues 3, 4)
 - Promote the sharing of DB resources across the region (~~Solves~~ issues 4, 6)
 - Establish regional policy for DB design and access to promote data integration and to ensure information quality and reliability (~~Solves~~ issues 2, 3)
2. [**Action:** Need a recommendation to I.5 if it stays in the report?, but IM issue 5 is referenced in IT recommendation 7.]

Information Technology

Issues

1. Inconsistent information on Bureau security policies has resulted in inconsistent implementation of these policies across the region.
2. Bureau and region security organization, policy, and operations are unclear.
3. The new Bureau Help Desk structure is still underdevelopment, so it is unknown how effective this new structure will be for the ER. It is unclear what software and hardware platforms will be supported at what level of the organization, and how distribution will occur for enterprise software.
4. Individual discipline requirements are not known and are not coordinated across disciplines in the region. Who will do compatibility testing for discipline-specific applications when new hardware and software configurations are proposed? (For example, SUNTAC, NTTAC, IRMC will no longer be supported because they are discipline based.)
5. Experts groups are undefined and not known to most local support employees.
6. Cost savings from using collaborative communication mechanisms (in a distributed work environment) are not realized; employees do not understand the value of available collaborative communication mechanisms.
7. Wide Area Network design and directory services decisions are being made at the Bureau level without an understanding of regional needs; this situation may prevent employees from taking full advantage of the communication and system administration tools.
8. HR and administrative initiatives (flexiplace, etc.) are creating a support problem for local organizations (eg, supporting Bureau software on personal home computers).

Recommendations

1. ERGIO security officer establishes and chairs a regional security team with representatives from all science centers or districts. Responsibilities include
 - Plan the transition from a discipline approach to a region approach (Solves issues 1, 2, 4)
 - Disseminate regional, Bureau, and DOI security requirements to team members, as well as other effected employees (Solves issues 1, 2)
 - Build a mechanism to fund collateral duty security personnel within the region (Solves issue 2)
 - Write an operational plan for region IT security that implements Bureau policy (Solves issues 1, 2)
2. ER management maintains current Help Desk support mechanisms until new funding processes are identified to implement the new Help Desk design; maintain funding for current structure in FY03 (new funding for the new structure should be available by FY04). In addition, ERGIO reviews the *GIO Help Desk Tiger Team Report* and plans a regional implementation. (Solves issue 3)
3. ERGIO Branch of IT Services identifies experts, by topic, at each science center and establishes a consistent communication mechanism with the group. Topics include: WAN, UNIX administration, Windows administration, Web services, MS Office

applications, DB administration and design, security, administrative systems, GIS. (Solves issue 5)

4. ERGIO Collaborative Communicator Coordinators educate employees in capabilities and use of available collaborative communication mechanisms; encourage to use these mechanism as a way to save money and improve program efficiency; fill regional collaborative communication position (Solves issue 6)
5. ER management and ERGIO fund and fill Wide Area Network and Directory Services Coordinator positions (see organizational chart below) in ERGIO organization and solicit comments from all regional offices on WAN/directory services requirements for local applications. (Solves issue 7)
6. ERGIO coordinates with EORS on information requirements for regional HR and administrative initiatives (Solves issue 8)
7. ERGIO assists EORS in building information requirements for Bureau initiatives and in implementing Bureau systems at the regional level. (Solves issue 8, IM issue 5)

Information Services

Issues

1. How will ESIC and Library evolution to enterprise information offices effect the region (new standards of service, internal and external customer requirements)
2. Areas of responsibility between ER Office of Communication and ERGIO are unclear, especially in ER Web site development, content, and coordination.
3. How will science center libraries be coordinated to reduce costs and how will this network interface with the new enterprise information offices.
4. Regional implementation of publishing requirements is not known, including new regional routing and approval processes and publishing standards.
5. Too many public and internal Web servers in the region have created inefficiencies in performance, maintenance, and funding and security vulnerabilities.
6. ER lacks an efficient internal communication mechanism for regional, Bureau, and DOI reporting requirements.

Recommendations

1. ERGIO Information Services Coordinator plans for new regional enterprise information office, created from current ESIC/Library facilities. This recommendation is supported by in the *ESIC Library Reengineering Team Report*. (Solves issue 1) [**Action:** fill in when report released]
2. ERGIO Branch of IS/IM Services and ER Communications Office establish a coordination mechanism for information activities that cross organization boundaries. (Solves issue 2)
3. ERGIO Information Services Coordinator establishes a regional science center library coordination groups that interfaces with the USGS Library system in the new enterprise information offices. (Solves issue 3)
4. ERGIO Branch of IS/IM Services reviews GIO *Publishing Tiger Team Report* (when available) and makes recommendations for a regional implementation. The regional plan should include a proposed regional routing and approval process,

communication mechanisms to disseminate information on new USGS publications series, and ideas on how to encourage publishing in general by employees in the region. (Solves issue 4)

5. ERGIO Branches of IS/IM and IT Services encourage the migration of existing Web sites to be virtually hosted on enterprise servers. (Solves issue 5)
6. ERGIO, ER Communication Office, and EORS work together to identify reporting requirements and design a regional system that minimizes redundant reporting requests at the science centers (Solves issue 6)
7. ERGIO Publishing Coordinator works with ER Communications Office to establish an ER internal Web site to improve communications within the region (Solves issue 6)

ERGIO Organization

Issues

1. There is no permanent ERGIO to lead regional changes in information activities and no clear understanding of ERGIO responsibilities.
2. ERGIO organization is understaffed and underfunded. (ERGIO is now a ghost organization.)
3. No clear position priority has been established in staffing ERGIO (eg, WAN skills are a high priority).
4. There is no established organizational structure or plan for ERGIO to replace discipline responsibilities that are scheduled to stop by Oct 1.
5. The region's ability to effect GIO direction is limited by acting and vacant positions in ERGIO organization.

Recommendations

1. ER management staffs and funds ERGIO organization (administrative support is assumed to come from ERD). This recommendation is supported by recommendation 6 (Establish regional GIO's) and recommendation 7 (Use minimum FTE and organizational structure for the regions) of the GIO's *Information Technology Functions and Skills Sub-Team Report*. (Solves issues 1, 2, 5)
2. ER management staffs and funds ERGIO positions based on priority shown in the following organizational chart. (Solves issue 3)
3. New ERGIO considers assigning areas of responsibilities for ERGIO positions as shown organizational chart. (Solves issue 4)

[**Action:** Insert Org chart, include job title, grade and functional examples under each position—more info needed in duties list in boxes; Tony to do formal org chart]

ERGIO, GS-15

To be advertised priority 1

Duties: Manage and coordinate ER information needs; serve on GIOLT; Propose and implement ER information strategy

Chief, Branch of IT Services and
ER CTO, GS-14
To be advertised priority 1
Duties: Oversee security & ER IT
infrastructure; coordinate across
regions and with HQ;

Regional Web Coordinator
Mark Kutsko, GS-14
Duties:

Regional Security Officer
Brian Schachte, GS-13
Duties:

Collaborative Communications
Coordinator, GS-13
(1 of 2)
To be advertised priority 1
Duties:

Collaborative Communications
Coordinator, GS-13
(2 of 2)
To be advertised priority 2
Duties:

Wide Area Network Coordinator,
GS-12/13
To be advertised priority 1
Duties: Coordinates list of experts

Directory Services Coordinator,
GS-12/13
To be advertised priority 2
Duties:

Chief, Branch of IS/IM Services,
GS-14
To be advertised priority 1
Duties: Manage IS/IM activities;
establish new ER Info Office;
initiate ER Library coordination
group;

ER Data Manager, GS-14
To be advertised priority 1
Duties: Create ER Data Managers
team; build DB design and access
procedures;

Information Services Coordinator,
GS-13
To be advertised priority 1
Duties: Create new ER Info
office; coordinate ER science
libraries; coordinate visitor
services

Publishing Coordinator, GS-12/13
To be advertised, priority 2
Duties: Establish ER practices for
routing and approval; manage ER
information products including
Web; interface with DO
educational coordinator

Conclusion

Many of the recommendations listed in this report require that the priority positions (priority 1 on the organizational chart) in the new ERGIO be staffed as soon as possible. These permanent staffers need to move quickly to establish a role for the ERGIO in both the region and the Bureau because discipline support organizations are fast disappearing. The Bureau reorganization is effecting funding and assignment of responsibilities, and without someone in the region taking the lead for information activities, there will be a void in important areas.

Within the global information community, there is recognition of the importance of data and information management practices. One view of IT/IM/IS is that IM is the real key to a successful information program; IT can be viewed as the infrastructure support for IM, and IS as the delivery mechanisms and communication. This scenario shows the growing need for experienced data managers in the region (and in the Bureau). These data managers will need to plan for all levels of data and information management, including the growing practice of data base access (and query) via the Web.

Other high-priority concerns of the team are adequate and consistent security practices, the establishment of an effective help desk, and the creation of the new regional enterprise information office. These issues, as well as the other issues presented in this report, are contingent on establishing good communication paths and fostering a spirit of cooperation across all regional science centers.

This report referenced GIO Tiger Team reports when those reports were available, however, several of these tiger teams have not yet completed their investigations. Some of our recommendations may be subject to change when additional information from these teams is available.

Team members

Jessica Alvarez, NE Water
Jim Bettendorff, SE Water
Joye DuRant, Geography
Tony Frank, Biology
Joe Gambogi, Geology
Mark Kutsko, Acting ER GIO
Tammy Mitchell, EORS

