Mid-America Geographic Information Consortium's (MAGIC)
2007 - NSDI Cooperative Agreement Program (CAP) Proposal –
Category 1: FGDC-Endorsed Standards Implementation Assistance and Outreach

MAGIC Metadata Triage: Enhancing Local Government's Ability to create and maintain Compliant Metadata through a MAGIC Regional Approach

Project Summary

(a) Applicant organization: Mid-America Geographic Information Consortium (MAGIC)

(b) Collaborating organizations
Mid-America Geographic Information Consortium (MAGIC), FGDC Maintenance Authority, U.S. Geological Survey (USGS). Participating states – Arkansas, Iowa, Kansas, Missouri, Nebraska, North Dakota, Oklahoma and South Dakota. Partnering organizations - Missouri Spatial Data Information Service (MSDIS) at the University of Missouri; Missouri GIS Advisory Committee (MGISAC) and Missouri Association of Councils of Government (MACOG). The partners represented above are stakeholders for enhancing metadata activities in these states and the common community of practice across the region.

(c) Name of trainer or trainer's organization, if a training proposal: Mark Duewell (Missouri Spatial Data Information Service). As project lead, Mark will attend approved FGDC metadata training at MSDIS' expense. Other regional POCs/co-trainers currently identified – Learon Dalby (Arkansas), Patrick Brown (Iowa), Eileen Battles (Kansas), Larry Zink (Nebraska), Bob Nutsch (North Dakota), Shellie Willoughby (Oklahoma) and Steve Daw (South Dakota).

(d) Organization Internet address: http://magicweb.kgs.ku.edu/

(e) FGDC-endorsed standard selected for the project:
Content Standard for Digital Geospatial Metadata (version 2.0)

(f) Key project contact:
Mark Duewell
Missouri Spatial Data Information Service (MSDIS) Program Manager
20 Stewart Hall, University of Missouri, Columbia, MO 65211
Phone: (573) 882-6734, Fax: (573) 884-4239, duewellm@missouri.edu

(g) Other contact personnel: (name, telephone, fax, email).

Learon Dalby
GIS Program Manager
Arkansas Geographic Information Office
124 West Capitol Suite 990
Little Rock, AR 72201
W. 501.682.2929
C. 501.920.2446
www.gis.state.ar.us

Patrick Brown
GIS Support and Research
Facility http://www.gis.iastate.edu
Orthophotos http://ortho.gis.iastate.edu
218 Durham
Iowa State University

Ames, IA 50011
515-294-7312

Eileen Battles
785-864-2289
battles@kgs.ku.edu
Data Access & Support Center (DASC)
Kansas Geological Survey
1930 Constant Ave
Lawrence, KS 66047

Shellie Willoughby
Office of Geographic Information
2800 N. Lincoln Blvd, Suite 160
Oklahoma City, OK 73105
405-521-4828
Shellie.Willoughby@conservation.ok.gov

h) Geographic scope or area: The following MAGIC member states are participating – Arkansas, Iowa, Kansas, Missouri, Nebraska, North Dakota, Oklahoma and South Dakota.

(i) Previous CAP participation (awarded or submitted but not awarded).
MAGIC has not previously submitted a proposal. But this proposal's project lead has performed as co-PI for Missouri's two previous Category 5 CAPs in 2004 and 2005 – both provided no-cost geospatial training services to local governments in exchange for local data layers for The National Map.

(j) Detailed budget to demonstrate project planning, extent of expenses, appropriateness of expenses - (See Attachment II – Budget Narrative).

Project Scope:

Issue: Metadata creation and maintenance continues to require regular intervention and training within the region – especially for local governments.

As our common geospatial world expands, the thirst for properly attributed and documented data grows exponentially. Geospatial data creation is occurring at phenomenal rates and those very rates often prove a barrier to proper data documentation. This is particularly the case at the local government level where staff and time resources are often an issue. Staff turnovers are high and many entities are finding that the data they created for themselves is now in high demand from federal, state, private sector utilities and neighboring governments. MAGIC believes that one method of addressing this issue is to generate a re-usable regional curriculum for the Content Standard for Digital Geospatial Metadata (version 2.0) and provide initial training in the standard to promising metadata champions within each state's geospatial community. MAGIC will entertain member state proposals to schedule additional metadata workshops at local levels – utilizing the same curriculum and the universally accepted "train-the-trainer" concept for sustainable instructing and learning.

Each of the States listed as partners in this proposal have agreed to provide:

- A metadata training POC
- A brief evaluation of the status and challenges of metadata training within their state, a training location (many have access to higher education labs) with computer systems (or they can utilize a traveling laptop classroom on loan to MAGIC)
- Software (ArcCatalog and XMLInput)
- Schedule a workshop for 10 and 28 attendees.

The attendees will receive training from a "Metadata Triage Team". "Triage" because the concept behind this proposal is to evaluate, stabilize and sustain metadata training within the region. A fundamental concept of the "Triage" team is that they partially comprise instructors visiting from other MAGIC states to get fresh faces and ideas in front of the attendees. Especially important to the proposal is that the attendees receive fresh ideas, curriculum and regional support to maintain a level of competence in metadata training. This is a direct response to complaints from the user community that metadata training was "worn" and "boring". Eventually this regional framework could be leveraged to train and implement other standards and policies. States will rotate hosting and traveling.

MAGIC has a long history of providing training to local government and will draw upon the resources of the individual states, along with MAGIC's own resources to develop a MAGIC Metadata web presence. This page will consist of curricula, a list of qualified trainers within each state and information about various metadata workshops available in the region. The intent of the MAGIC Metadata Page is to provide the region with the resources to continuously provide metadata training. Local government has become the primary source for much of the geospatial data being used, and as local government typically experiences rapid turnover of personnel, a long term solution for promoting and teaching metadata creation is required.

The project will be conducted in three phases described below.

Technical Approach

Phase One – Preparation

During this initial phase, metadata course materials will be accumulated and adapted by the MAGIC Communications sub-committee into a functional regional curriculum. This proposal's metadata training resources are Leslie Bearden (USGS, NGTOC III), Shelley Silch (USGS, Illinois State Liaison) and the USDA University Extension Service (they have provided a complete curriculum developed under last year's CAP 2006 iteration for the State of Virginia). Although these sources will provide a solid baseline for the curriculum, it is imperative that additional materials be sought from web sources and be combined to offer a fresh view on metadata creation and maintenance. The best elements of each will be amalgamated into the curriculum to be taught as determined by the MAGIC Communications sub-committee and reviewed by FGDC, USGS Liaisons and local government partners (See Attachment III – Workshop Outline and Sources). All curriculum materials will comply with FGDC requirements including compliant metadata and Microsoft PowerPoint formats. The workshop utilizes two metadata tools (see Phase Two, paragraph 3 below). Course materials (workbooks, data CD's etc..) will have to be generated, dates, locations and attendees selected by state POC's or USGS Liaisons, "focus" training elements determined by regional consensus and training "Triage" teams formed and scheduled – all tasks that will be coordinated through the MAGIC Communications standing sub-committee by the project lead.
The Triage team members will comprise each participating states choice for metadata instructors (those recommended by the state or its coordinating council as competent).

Phase Two – Workshops: Train–the-trainer

The target audience will consist of local government GIS Techs/Power users. They will be largely selected by the state's GIS advisory committee or similar interested entity and will be approached as likely champions for metadata creation and maintenance.
MAGIC members have listened to their peers and customers and determined that trainings for local governments – especially rural local governments – must not last longer than one day. Preferably they should also be able to travel to and from the training and not expend scant funds on lodging. This has driven planning for an intense one day workshop designed to create "Metadata Champions" within the MAGIC region. There will be a series of lectures in the morning followed by hands on/practical use (preferably using the attendee's data) in the afternoon. The curriculum will encourage completing <u>all applicable</u> metadata elements – but will <u>focus</u> on those required for common usage and exchange of data (this approach addresses a perceived obstacle voiced in previous trainings and will be determined in Phase One by the MAGIC Communications sub-committee).

To accomplish this phase we propose to utilize MAGIC Metadata "Triage" Teams (see Project Scope). These teams will be composed of at least one competent metadata trainer from the hosting state, one competent trainer from a visiting state, an additional local government team member and – if possible - the hosting state's USGS liaison.

The course will provide an additional metadata tool (XMLInput) to the participants as an alternative to the Environmental Systems Research Institute's (ESRI) ArcCatalog tool. XMLInput was designed by the USGS and is freely available at ftp://ftpext.usgs.gov/pub/cr/mo/rolla/release/xmlinput/.
Potential attendees have identified the need for an additional tool. In addition, web information, handouts, a helpdesk contact email and phone numbers for each state's instructors will be provided. The curriculum will be geared to both tools, that will enable the participants to actually create metadata for the data sets they've bought along or – where needed – provide data sets they can create metadata for in the practical portion of the workshop.

MAGIC will aid in the coordination of one workshop within each participating state utilizing the predetermined Metadata Triage teams. Much of the proposal's funding will be expended on the travel of these Triage teams.

Follow-up or additional trainings will target local government audiences and those unable to attend the earlier trainings.

Phase Three – Wrap up -Curriculum resources are made available at the MAGIC web site.

All pertinent materials – curriculum, metadata tool and workshop exercise data will be made available via the MAGIC web site and linked or duplicated on state clearinghouse sites. In addition, a list of metadata instructor knowledge resources and a short report on the project will also be made available via the site.

As follow-up, MAGIC will entertain member state proposals to schedule additional metadata workshops at local levels – utilizing the same curriculum and the universally accepted "train-the-trainer" concept for sustainable instructing and learning.
Final reporting to FGDC will also be accomplished during this phase.

Objectives:

1). Generate - from collected existing course curricula – and through regional consensus (MAGIC Communications Sub-committee) - a regional one day metadata curriculum with regional data and regional references. MAGIC understands that this concept may be new and that FGDC will need to review the curriculum and materials prior to workshops being conducted.
2). Create and equip a cadre of between 10 and 28 competent metadata champions (who will also be FGDC certified) within each participating state.
3). Generate additional documented data for clearinghouse use and discovery across the region. Workshop attendees will be encouraged to make their newly documented data available through their respective states' clearinghouses.
4). Provide low-cost / free metadata training locally to staff otherwise unable to afford training and travel costs.
5). Generate a re-usable curriculum and workforce - available to all - that would provide a basis for regional metadata training into the foreseeable future.
6). Encourage appropriate data sharing amongst entities with a focus on local government contributions to The National Map via their state clearinghouses.

Project Experience

MAGIC – http://magicweb.kgs.ku.edu/ - and the organizations that work together within its purview – have a proven record in the geospatial workshop arena. Their enthusiasm for this project springs from a simple source – the need to share data knowing that working together makes all tasks easier to accomplish.

Recent MAGIC workshops or outreach activities that have been conducted are:
MAGIC/USGS National Map Technical Workshop Materials *(December 2004)*
MAGIC Sponsored Addressing Workshop Notes (PDF)
MAGIC LIDAR Workshop (August 17-28, 2005 - EROS Data Center, Sioux Falls, SD)
Arkansas County Assessor Mapping Program (CAMP) Report

MAGIC recently hosted their 10th Biennial Symposium in April of 2006. The Symposium lasted 5 days with over 30 workshops and 105 presentations focusing on all facets of the geospatial discipline. The Symposium has experienced up to 800 attendees.

The proposal's project lead - Mark Duewell (MSDIS Program Manager, GIS Specialist, Sr.) - is an ESRI "Authorized" instructor for ArcGIS I and ArcGIS II and has provided metadata instruction throughout the previous two Missouri CAP iterations to over 250 students in multiple classes. Mark has long recognized the need to standardize the training in Missouri while offering focused metadata training instead of the brief overviews that ESRI's training provides under its current format.
Mark's two previous CAT 5 CAP efforts provided – and are still providing – training and help desk services to Missouri's local government geospatial staff. They – in turn – have provided over 35 datasets from their regional planning commissions for serving in The National Map through MSDIS. These outcomes have officially been declared a FGDC/USGS success story (see Attachment IV – Success Stories).

Commitment to Effort

MAGIC is making this proposal to create a sustainable curriculum and training infrastructure for metadata usage and maintenance within the region. MAGIC's funding mechanism provides grant funds to its participating states for proposals judged worthy by its executive committee. The possibility of future funding for local metadata workshops is there but requires a trained cadre of metadata instructors. This proposal would generate that cadre.

The **MidAmerica GIS Consortium, Ltd.** is a nonprofit (501C3) educational organization established to foster the applications of geographic information systems (GIS) and related spatial technologies in the mid-continent region. The Consortium sponsors a biennial MidAmerica GIS Symposium in even numbered years.

MAGIC states include, but are not limited to: Arkansas, Iowa, Kansas, Missouri, Nebraska, North Dakota, Oklahoma and South Dakota.

MAGIC provides a focus for:

- Establishing linkages between GIS users having similar application interests
- Facilitating communication and data sharing across levels of government and between government, industry and academia
- Promoting spatial data standards and land records modernization
- Promoting collaboration and advancement of geospatial technologies in government

Members of MAGIC are important contributors to the National States Geographic Information Council (NSGIC) supplying a significant number of NSGIC's leaders and sub-committee chairs. Since MAGIC is a regional consortium there would be no indirect costs that exhaust sizeable portions of funding.
MAGIC is ideally situated within the region to accomplish a task of this magnitude and maximize the return on the funding provided.