

Contents

2001 National GeoData Forum	1
I-Team Transition Complete	3
GSDI Initiative Moves Forward	5
2001 NSDI CAP Awards Announced	6
CAP 2001 Awardees	7
FGDC Plans State/Tribal Forums	9
The NSDI Communications Toolkit	9
News about NSDI Initiatives	10
Upcoming Conferences	12

This issue of the FGDC News highlights the 2001 National GeoData Forum. The highly interactive conference design will allow the Forum participants to share experiences on “what works — and what doesn’t work!” and to identify action steps for success in collaborative activities.

NSDI

National Spatial Data Infrastructure
*Organizations working together
to find, produce, and share geographic data
to solve community problems.*

2001 National GeoData Forum

Hal Varian, Berkeley Dean and Author, to Keynote National GeoData Forum

A leading author and influential business school leader will keynote the 2001 National GeoData Forum, to be held November 1–3 at the Westin Tabor Center in Denver, Colorado.

Professor Hal R. Varian, identified by *Business Week* as one of the “25 Most Influential People in Electronic Business,” is co-author of the highly acclaimed *Information Rules: A Strategic Guide to the Network Economy*, which he wrote with fellow University of California, Berkeley, Professor Carl Shapiro. Varian also writes a monthly column for *The New York Times*.

Dean of Berkeley’s School of Information Management Systems, Professor Varian is a Fellow of the Guggenheim Foundation, the Econometric Society, and the American Academy of Arts and Sciences.

The Economist in December 1998 advised readers to “look no further” than *Information Rules* for a thorough understanding of “how the network economy really functions and why some companies succeed spectacularly” while others, notwithstanding their outstanding technology, falter.

“In all this stack of books on managing knowledge, intellectual capital, the ecology of information and the like, the single volume most worth reading — and for many



persons having — is *Information Rules*,” critic David Warsh has written in *The Boston Globe*.

“Shapiro and Varian do a great job of explaining how the fundamental principles of economics are still relevant, even in the new network economy,” wrote reviewer Howard

To Contact the FGDC

Subscriptions to the newsletter are free. Correspondence or contributions may be directed to the staff:

Federal Geographic Data Committee
%o U.S. Geological Survey
590 National Center
Reston, VA 20192

Voice: 703-648-5514
Fax: 703-648-5755
E-mail: gdc@fgdc.gov
URL: <http://www.fgdc.gov>

FGDC Staff Directory

FGDC Secretariat Staff Director
John Moeller
703-648-5752 jmoeller@fgdc.gov

FGDC Executive Secretary
Alison Kiernan
703-648-5086 akiernan@fgdc.gov

Clearinghouse
Doug Nebert
703-648-4151 ddnebert@fgdc.gov

Metadata
Rick Pearsall
703-648-4532 rpearsall@fgdc.gov

NSDI Program Coordinator
Bruce McKenzie
703-648-5740 bmckenzi@fgdc.gov

Budget & Outreach
Jennifer Fox
703-648-5514 jafox@fgdc.gov

Framework & Cooperating States Coordinator
Milo Robinson
703-648-5162 mrobinson@fgdc.gov

Cooperative Agreements Program
David Painter
703-648-5513 dpainter@fgdc.gov

GeoData Alliance
Kathy Covert
703-648-4144 klcovert@fgdc.gov

Outreach & Tribal
Bonnie Gallahan
703-648-6084 bgallahan@fgdc.gov

International Activities Coordinator
Alan Stevens
703-648-5119 astevens@gsdi.org

Systems, Network & WWW Support
Robert Johnstone
703-648-5455 rjohnsto@fgdc.gov

Standards
Julie Maitra
703-648-4627 jmaitra@fgdc.gov

I-Team Coordinator
Ron Matzner
703-648-4561 rmatzner@fgdc.gov

continued from page 1

Aldrich in a book review highlighted on Amazon.com, where the Shapiro/Varian book has earned glowing reviews.

"We are very pleased to be able to feature Professor Varian," said Marilyn Otto of MapInfo, chair person of the GeoData Forum Steering Committee. "His address is sure to be insightful and provocative."

The 2001 National GeoData Forum is the fourth in the series of meetings, last held in 1999 in Washington, D.C., when more than 460 participants from around the country

met to explore critical issues on making more effective use of geographic information in America's communities. The meeting this year will include the first business meeting of the GeoData Alliance, the program sponsor and a new and innovative nonprofit organization committed to using geographic information to improve the health and economy of communities and of the Earth generally. For more information on GDA, see the organization's web site at <http://www.GeoAll.net>.

• JUST THE FACTS • on the 2001 National GeoData Forum

NOW, THE REST IS UP TO YOU!

The WHAT: It's Up to You ... Save the Dates!

The WHAT: The Fourth in a series of National GeoData Forums.

The WHO: Best-selling business economics author Hal Varian of the University of California at Berkeley.

The WHO: Dr. Mark Schaefer, formerly Deputy Assistant Secretary of the Interior for Water and Science and formerly Acting Director of the U.S. Geological Survey, now President and Chief Executive Officer of the nonprofit Association for Biodiversity Information.

The WHO: You and hundreds of your well-connected public and private sector professional colleagues from throughout the U.S., all brimming with first-hand insights and expertise on the potential for better using geographic information in the best interests of environmental and economic well being.

The WHERE: The Westin Tabor in Denver, Colorado.

The WHEN: November 1-3, 2001

The HOW: For more information, visit www.geoall.net.

and...

The WHAT ARE YOU WAITING FOR?

SAVE THE DATES.

See you in Denver November 1-3.

I-Team Transition Complete

Progress on All Fronts

In only a few short months, the I-Team Geospatial Information Initiative (I-Team Initiative) has gained the attention of the GIS community all over the country. Fourteen states and regions already have or are in the process of forming I-Teams. Resource teams are organizing in support of I-Teams. The Financing Solutions Team (FST) plans to have its first meeting on August 2. Federal Partners have been named and are already being engaged to focus Federal participation and bring together the resources of Federal programs. The OpenGIS Consortium (OGC) is finalizing arrangements to lead the Technology Advisory Group and give I-Teams Associate membership in OGC. (See Spring 2001 FGDC Newsletter for background information on the I-Team Initiative.)

Management Team Complete

The project management team is now complete with the recent additions of Ronald Matzner as I-Team coordinator and the Council for Excellence in Government (CEG) as convener and facilitator of Initiative activities. The Council is a nonpartisan, nonprofit organization that works to improve the performance of government at all levels and government's place in the lives and esteem of American citizens.

Federal Partners Named

The following senior Federal officials are Federal Partners: Dr. Chip Groat, Director, USGS; Margaret Davidson, Acting Assistant Administrator, NOS; Dr. Ghassam R. Asrar, Associate Administrator, Earth Science Enterprise, NASA; Mack Gray, Acting Deputy Undersecretary, Natural Resources and

Environment, USDA; Dr. Ashish Sen, Director, Bureau of Transportation Statistics, DOT; Pete Culp, Assistant Director, Minerals, Realty, and Resource Protection, BLM; Bob Marx, Chief, Geography Division, Census; and Margaret Schneider, Assistant Administrator, Office of Environmental Information, EPA.

I-Teams

The latest states to join the I-Team effort are Delaware and Arkansas. By the time this newsletter goes to



press, it is expected that the Governor of Delaware will have issued an Executive Order establishing an I-Team as a subcommittee of the state Geographic Data Committee. The Arkansas Land Information Board voted to begin I-Team activities at its Board meeting on June 6.

Delaware and Arkansas join nine other states actively engaged in the I-Team process including Utah, New Jersey, Metro New York, Arizona, Maryland, Montana, Nebraska, Texas and North Carolina. Other states such as Colorado, Louisiana and Washington are poised to do so. Utah was the first state to begin the I-Team process in October 2000.

It completed its I-Plan in April. The plan has become a model for other states, including New Jersey, Montana, and Maryland. Maryland expects to have completed its I-Plan by the time this letter has gone to press, with approval from the full Maryland State Geographic Information Committee on July 25, 2001. See the accompanying insert box for more information about the Utah and Maryland I-Teams.

I-Teams have different organization and implementation strategies, incorporating partnership and planning efforts already underway. Following are I-Team contacts and recent activity highlights.

Arkansas — holding plenary I-Team meeting at Arkansas GIS User Conference; Shelby Johnson, shelby.johnson@mail.state.ar.us

Delaware — establishing a "Collaboratory" for Framework Integration; Mike Mahaffie, mmahaffie@state.de.us

Metro New York — organizing around four broad themes: public safety, health, economic development and emergency management; Al Leidner, aleidner@doitt.nyc.gov

Montana — revising draft plan submitted to FGDC in March 2001; Stu Kirkpatrick, skirkpatrick@state.mt.us

Nebraska — implementing recently developed strategic plan with funding assistance from USGS; Larry Zink, lzink@notes.state.ne.us

New Jersey — establishing task forces to develop I-Plan chapters for framework themes; Hank Garie, hgarie@oit.state.nj.us

North Carolina — developing community data sharing agreements; Zsolt Nagy, zsolt@cgia.state.nc.us

Texas — drafting I-Plan as part of biennial strategic plan required

under recent legislation; Mike Ouimet, mike.ouimet@dir.state.tx.us

Utah and Maryland —
See box below.

Several counties and regions have begun application-oriented I-Teams

focusing on one or more specific framework layers. Miami-Dade, Broward, and Palm Beach counties in Florida have commenced an Environmental Monitoring I-Team. Washington, Oregon and Idaho are cooperating to form an I-Team

focusing on the transportation layer, and eight Mid-Atlantic States are collaborating under the leadership of EPA on a Land Use/Land Cover I-Plan. ●

Utah and Maryland I-Teams

More than 15 states and regions are in various stages of forming and using I-Teams. Each I-Team is pursuing its work at its own pace and with its own priorities. Here is a closer look at two of them.

Utah was the first state to begin the I-Team process and is the first implementing an I-Plan. Utah completed its preliminary I-Plan in April 2001, including budget estimates. The I-Plan whose sections are organized by data theme, will continue to evolve as implementation occurs.

Utah is beginning I-Plan implementation with the hydrography, transportation and boundary themes. The hydrography effort is led by the U.S. Geological Survey, the U.S. Forest Service, and the Bureau of Land Management; the boundary theme by the U.S. Bureau of the Census and the Utah State Tax Commission; and the transportation theme by the Utah Department of Transportation, Utah counties and various Federal agencies.

The I-Team discusses at least two data layers at each monthly GIS Advisory Committee meeting. In May, it considered Water Distribution Systems under the Critical Facilities section and Bridges under the Transportation theme section. In June, it considered elevation and boundaries. As the I-Team revises I-Plan sections, it will put them on its website to provide participants with timely downloads. Utah had over fifty representatives from state, federal, local, and tribal agencies involved in the initial I-Team effort and continues to reach out to include others. For more information, contact Dennis Goreham at dgoreham@gis.state.ut.us or visit the website at agrc.its.state.ut.us/i_team/i-team.htm

Maryland began assembling its sixty-five member Implementation Team in October 2000, as an activity of the Maryland State Geographic Information Committee (MSGIC). The team proposed a statewide large-scale mapping program to meet the needs of government agencies, utilities and businesses. The major goals of the implementation plan are to support interagency coordination, e-government, and Governor Glendening's Smart Growth initiatives.

The I-Team expects to complete its I-Plan by the end of June 2001, with approval from the full MSGIC committee in July 2001. The I-Plan will be used to support future budget requests. In addition, the I-Team is recommending a new office for data coordination and a \$6,000,000 operating budget. The I-Plan documents past practices, existing needs, future requirements, and budget allocations that will help decision makers evaluate and approve the recommendations.

After the I-Plan is approved, a series of presentations will be given to Maryland executives to gain support for implementing the I-Team's recommendations. If approved, the new coordination office will establish partnership opportunities, manage grants and data production contracts, provide for data quality assurance, maintain Internet data access and mapping services, provide other data distribution services, and ensure connectivity with E-Government programs. For more information, contact Bill Burgess at wburgess@dnr.state.md.us.

GSDI Initiative Moves Forward

2001 GSDI-5 Conference

The fifth annual Global Spatial Data Infrastructure (GSDI) conference was held in Cartagena, Columbia, May 2001, and was hosted by Santiago Borrero, Director General of the Instituto Geografico Agustin Codazzi (IGAC). The conference was attended by 290 representatives from 43 countries gathered to share technical and policy related concepts and practices on implementing the GSDI.

The GSDI operates through a multi-nation Steering Committee, a Conference Secretariat, technical, legal and economic working groups, and a Permanent Secretariat — hosted by the FGDC.

This conference was important in that several critical resolutions were identified that are necessary for moving the GSDI forward, these include: expanding the GSDI definition; promoting and disseminating proven implementation practices and standards (see Cookbook article below); establishing GSDI organization as a not-for-profit corporation; building the GSDI on regional infrastructure initiatives; recognizing the importance of engaging countries and vendors in the effort; and building closer relationship with other initiatives that seek to improve the global use of geographic information such as Digital Earth, and the Global Disaster Information Network.

Special note was made of the contributions of the late Professor John E. Estes towards the greater understanding and knowledge about the nature of the relationships of humankind and its surroundings, and his lifelong scholarly and practical influence on geography and geographic information and technologies.



GSDI-6 Conference will be held in Budapest, Hungary, September 2002.

GSDI is a global and open process for coordinating awareness and adoption of globally compatible policies and technologies for organization, management and use of geospatial information and services. For more information on this conference and other developments, see the GSDI website at www.gsd.org.

GSDI and FGDC Secretariat Establish International Program Manager

Dr. Alan R. Stevens has joined the FGDC and GSDI Secretariats as the International Program Manager. The GSDI Secretariat provides support for the international management of its activities including technical outreach, policy development, conferencing, the GSDI Website and other resources. The GSDI Secretariat is hosted by the FGDC Secretariat.

Al has worked for the past 23 years in the U.S. Geological Survey managing mapping and international programs. He has extensive experience and education in the fields of remote sensing, photogrammetry, engineering and GIS. In addition, Al is past president and currently a fellow in the American Society for Photogrammetry

and Remote Sensing (ASPRS) and has received many distinguished awards for his service. He can be reached at (703) 648-5119 or astevens@gsdi.org.

The GSDI “Cookbook”

The *Spatial Data Infrastructure Implementation Guide* was released at the GSDI-5 Conference. Known as the “Cookbook,” this document is a guide to local, regional, national, and multi-national organizations implementing SDI compatible GIS. The “Cookbook” discusses common concepts and issues, policies, standards, and recommendations. The international authorship of the Cookbook reflects a common interest in building compatible SDI activities around the world.

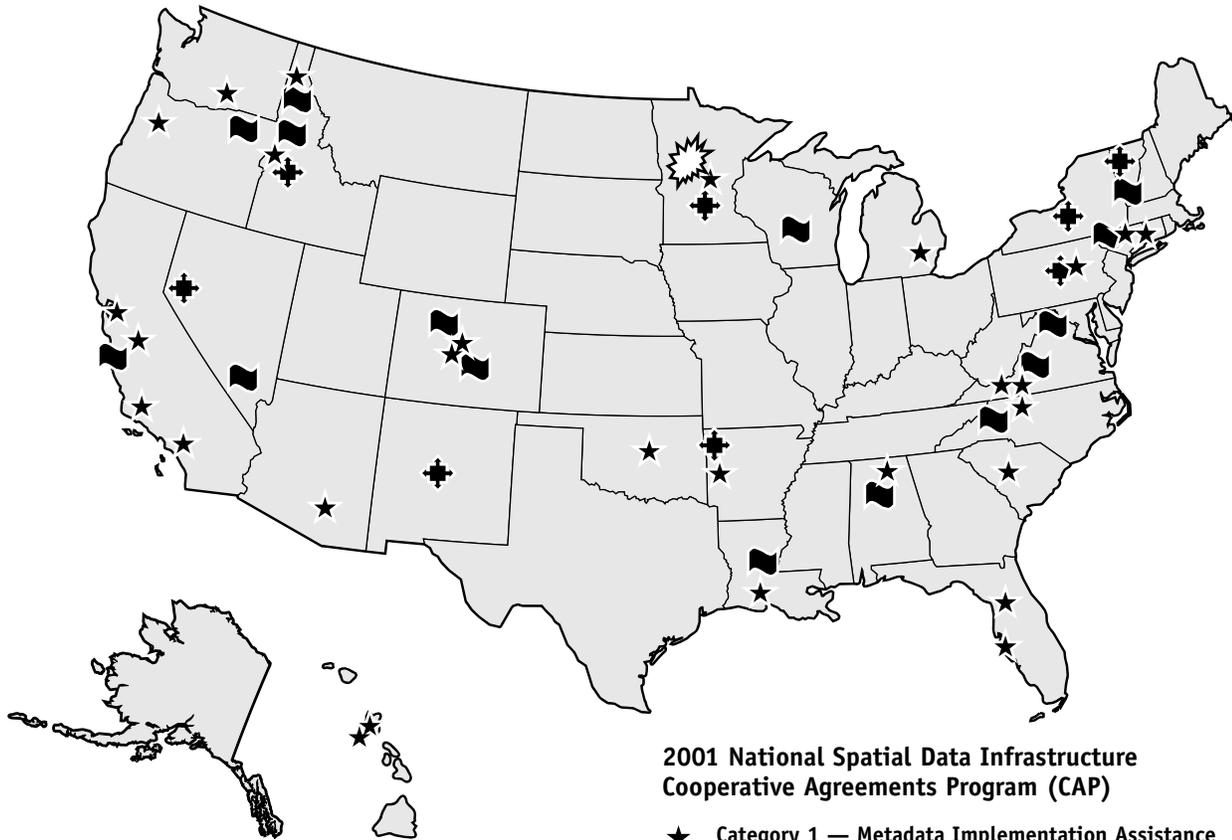
The Cookbook topics include data, metadata, catalog, services (including web mapping), and case studies on how to establish compatible systems within and between organizations to facilitate information discovery, applications support, and exchange.

Standards are a key issue covered in the Cookbook. Where possible the chapters identify, describe, and reference relevant standards and specifications from ISO, OpenGIS Consortium (OGC) and the World Wide Web Consortium (W3C) to assemble a coherent vision for their integration.

This document will grow with periodic updates. Any organization interested in contributing to this document should contact the GSDI Secretariat at gsdisec@gsdi.org.

The Cookbook Version 1.1 is available in English, Spanish, and (soon) Chinese from the GSDI website at www.gsd.org/pubs. ●

2001 NSDI CAP Awards Announced



2001 National Spatial Data Infrastructure Cooperative Agreements Program (CAP)

- ★ Category 1 — Metadata Implementation Assistance
- ▩ Category 2 — Metadata Training Assistance
- ⊕ Category 3 — Clearinghouse Integration with Web Mapping
- ⚡ Category 4 — Canadian/U.S. Framework Project

The FGDC announces 52 projects awarded under the fiscal year 2001 NSDI Cooperative Agreements program (CAP). A total of approximately \$850,000 is being provided for the one-year program with projects beginning in early summer. Annually since 1994 the NSDI CAP funds innovation in the GIS community to build the infrastructure necessary to effectively discover, share, maintain and use digital geographic information.

The 2001 NSDI CAP awards provide funding in four categories:

(1) **Don't Duck Metadata: Metadata Creation and Implementation.** Provides assistance to organizations in acquiring the knowledge and experience in documenting data

for clearinghouse discovery. This is a basic first step in implementing the NSDI.

(2) **Don't Duck Metadata: Metadata Trainer Assistance:** Funds trainers to provide assistance to organizations getting started in metadata implementation. Understanding the metadata standard and how to apply it to an organizations data is the most difficult step in metadata implementation.

(3) **Clearinghouse Integration with Web Mapping:** Funds projects to extend clearinghouse nodes with OpenGIS Consortium compliant web mapping service capabilities.

(4) **Canadian/U.S. Framework Collaborative Project:** This project focuses on cross-border collabora-

tive activities that build and maintain shared Framework data. The FGDC is partnering with GeoConnections (www.geoconnections.org), its Canadian counterpart, in funding support for this effort. ●

Watch for the 2002 CAP Program

Information on the 2002 NSDI CAP funding program will be announced this fall. The CAP program announcement, program description, application information, and materials will be on-line at the FGDC website. Watch the FGDC website and "CAP/Funding" webpage for more information.

CAP 2001 Awardees

Category 1 — Metadata Implementation Assistance Projects

Quality Research, Inc.
Steve Parker
Huntsville, Alabama

University of Arizona
Laboratory of Tree-Ring Research
Merrick Richmond
Tucson, Arizona

Western Arkansas Planning
and Development District, Inc.
Rusty Myers
Fort Smith, Arkansas

Visible Light, Inc.
Timothy Tyndall
Buellton, California

City of San Jose
Department of Public Works
Kevin Briggs
San Jose, California

California State University,
San Bernardino
Joan E. Fryxell
San Bernardino, California

Bay Area Automated
Mapping Association
Bruce Joffe
Oakland, California

National Park Service
Intermountain Support Office
Theresa Ely
Denver, Colorado

Bureau of Indian Affairs
Geographic Data Service Center
William J. Bonner
Lakewood, Colorado

City of Norwalk
Department of Public Works
Michael M. Yeosock
Norwalk, Connecticut

Connecticut Department of
Environmental Protection
Environmental & Geographic
Information Center
Jonathan D. Scull
Hartford, Connecticut

Mote Marine Laboratory
Bradley D. Robbins
Sarasota, Florida

GeoPlan Center
University of Florida
Paul Zwick
Gainesville, Florida

Hawaii Geographic Information
Coordinating Council
Royce Jones
Honolulu, Hawaii

National Marine Fisheries Service
Honolulu Laboratory
Michael Parke
Honolulu, Hawaii

Coeur D'Alene Tribe
Natural Resources GIS
Frank Roberts
Plummer, Idaho

University of Idaho
Remote Sensing and
GIS Laboratory
Eva Strand
Moscow, Idaho

Louisiana Universities
Marine Consortium
Ben Cole
Chauvin, LA 70344

Wayne State University
Center for Urban Studies
Dr. David Martin
Detroit, Michigan

The Nature Conservancy
Midwest Conservation
Science Center
Jennifer Hall
Minneapolis, Minnesota

Duke University
Nicholas School of the Environment
and the Earth Sciences
Patrick N. Halpin
Durham, North Carolina

National Severs Storms Laboratory
Ami Arthur
Norman, Oklahoma

Oregon Department of Land
Conservation & Development
Ocean Coastal
Management Program
Tanya Hadad
Salem, Oregon

County of Carbon
GIS Department
Larry Stawiarski
Jim Thorpe, Pennsylvania

University of South Carolina
Baruch Institute for Marine Biology
& Coastal Research
Dwayne E. Porter
Columbia, South Carolina

Virginia Polytechnic Institute
Department of
Landscape Architecture
Benjamin C. Johnson
Blacksburg, Virginia

Wise County & City of Norton
Circuit Court Clerk's Office
J. Jack Kennedy
Wise, Virginia

Hanford Site Spatial Data Council
Steven Rush
Richland, Washington

Category 2 — Metadata Trainer Assistance

Coeur d'Alene Tribe
Natural Resources GIS
Frank Roberts
Plummer, Idaho

CAP 2001 Awardees (continued)

continued from page 7

Intertribal GIS Council
Robin White
Pendleton, Oregon

Lewis-Clark State College
Dr. Jeffrey M. Mathews
Lewiston, Idaho

Association of
Monterey Bay Area Governments
Jorge Goicochea
Marina, California

Harry Reid Center for
Environmental Studies
University of Nevada
Dr. Craig Palmer
Las Vegas, Nevada

U.S. Geological Survey
Sharon Shin
Denver, Colorado

National Geophysical Data Center
David A. Hastings
Boulder, Colorado

GeoMaxim
Lynda Wayne
Asheville, North Carolina

Geological Survey of Alabama
Berry Tew
Tuscaloosa, Alabama

Virginia Polytechnic Institute
Conservation Management Institute
Lila Borg Wills
Blacksburg, Virginia

Louisiana Geographic
Information Center
Craig Johnson
Baton Rouge, Louisiana

Columbia University
Center for International Earth
Science Information Network
Dr. Robert Chin
Palisades, New York

Bruce Wescott
Montpelier, Vermont

Wisconsin State
Cartographer's Office
Ted Koch
Madison, Wisconsin

Justice Research and
Statistics Association
Jim Zepp
Washington, District of Columbia

**Category 3 —
Clearinghouse Integration
with Web Mapping**

Vermont Center for
Geographic Information, Inc.
David F. Brotzman
Burlington, Vermont

Cornell University
Albert R. Mann Library
Nancy Hyland
Ithaca, New York

Mifflin County Mapping Department
Stewart Bruce
Lewiston, Pennsylvania

University of New Mexico
Earth Data Analysis Center
Amelia M. Budge
Albuquerque, New Mexico

Metropolitan Council
MetroGIS Project
Alison Slatts
St. Paul, Minnesota

University of Idaho Library
Lily Wai
Moscow, Idaho

University of Nevada — Reno
Duncan M. Aldrich
Reno, Nevada

University of Arkansas
Fred Limp
Fayetteville, Arkansas

**Category 4 —
Canadian/U.S. Framework Project**

Project Title: Joint US/Canada
Framework for the Red River Basin
Houston Engineering, Inc.
(U.S. Lead) Mark Deutschman
Maple Grove, Minnesota

Vantage Point International, Inc.
(Canadian Lead) Ron Saper
Ottawa, Ontario

*Additional information and
contact information can be
found at the FGDC website.*

FGDC Plans State/Tribal Forums

The FGDC is collaborating with National States Geographic Information Council, Tribal governments, and Tribal Universities to host a series of regional forums. These forums will begin a dialogue with State and Tribal Geographic Information coordinators to enhance the NSDI. The first meeting will be conducted this summer in partnership with the USGS EROS Data Center and Sinte Gleska University in Sioux Falls, SD. "The FGDC is committed to promoting partnerships," says John Moeller, FGDC

Staff Director, "and we are excited to bring Tribes, States, and Federal entities together in this central region."

The FGDC is building upon a recently-signed agreement with Sinte Gleska University to promote the NSDI. James Rattling Leaf of Sinte Gleska concurs. "This forum will open the door for more cooperative projects and training and education opportunities. We look forward to working with FGDC and the States to identify future projects for planning, natural resource pro-

tection and monitoring." As a result of the agreement, a leadership Council has been established to serve as the governing body for future initiatives of the agreement. The Leadership Council will provide guidance, direction, and coordination to ensure that mutual benefits and interests are served.

For further information regarding ongoing FGDC activities with Tribal governments and Tribal Universities, contact Bonnie Gallahan. (bgallahan@fgdc.gov) ●

The NSDI Communications Toolkit

Using Geography to Advance the Business of Government

This FREE Toolkit can help you with convincing management of the power of GIS. The FGDC and the National States Geographic Information Council (NSGIC) recently completed a set of three interrelated briefing materials (tools) that describe the power of geospatial information and technology, and the value of the National Spatial Data Infrastructure as the spatial foundation for facilitating data creation and sharing. The NSDI Communications Toolkit is intended to assist GIS

practitioners and related professionals in educating managers and policy officials about the widespread potential of spatial data and geospatial technology to assist their decision-making processes. These briefing tools are designed to familiarize officials with a more effective way of addressing real-world problem solving in the day-to-day business of government through the power of geographic information.

The Toolkit comes equipped with three "power" tools: (1) a PowerPoint presentation on CD-ROM with talking points and several

case studies showing practical application of geospatial information to support decisions, (2) a handout brochure for policy makers to read and reflect upon after the briefing, and (3) a videotape highlighting policy makers from several states who are effectively using geospatial data and GIS to support decisions in their daily government business.

To receive a free NSDI Communications Toolkit or download some of briefing materials, visit the FGDC website at:

<http://www.fgdc.gov> ●

► Framework

NSDI Framework Crosses Border: U.S./Canadian Joint Framework Project

The Transboundary Framework Dataset Project is making standardized geographic information — for a region extending from Yellowstone National Park in Wyoming to the Yukon Territory — accessible to scientists, land managers, and the general public in the United States and Canada.

This international project, part of the 2000 NSDI Cooperative Agreements Program, focuses on a collaborative process in creating seamless geospatial datasets across the U.S. and Canadian boundary region of the Rocky Mountains. In June 2000, twenty-two organizations entered into a partnership with the Federal Geographic Data Committee (FGDC) and Canada's GeoConnections (Natural Resources Canada) in a novel cooperative effort to compile framework datasets for the Crown of the Continent area of the Rockies from the best available sources.

Leading the first joint U.S./Canadian framework demonstration project are project leaders Craig Stewart, former executive director of the Miistakis Institute for the Rockies, Inc., Jack Wierzchowski of Geomar Consulting, Ltd. (Grand Forks, British Columbia) and Tony Thatcher of Mountain West GIS Coop (Bozeman, Montana.).

The project vertically integrated nine framework data layers. These data were validated and documented with FGDC compliant metadata. This data is now discoverable over the Internet through

the clearinghouse and available (where licensing allowed) to the public.

The challenges confronting the project team were differences in data models, source scale, and data availability. Compiling across jurisdictional boundaries made creating integrated framework data difficult. Often different branches of the same agency, different agencies, or different countries have adjoining jurisdiction. Access to existing data varied ranging from free and easily downloaded from the Internet, to a fee structure that might carry significant licensing and use restrictions.

The resulting framework data layers are a great improvement in comparison to previous datasets. The systematic compilation and review of each layer provided critical information on the quality of the data and the appropriate use applications. By quantifying the spatial accuracy, attribute quality, and data content, the project greatly improved the value of the data, where previously it had been unknown and undervalued.

This project provided an important stepping-stone for developing strategies for improving spatial data down the line. In the future, the project team plans to maintain and improve the quality of the existing spatial data and to expand the coverage to include the entire Yellowstone-to-Yukon geographic region.

The FGDC and GeoConnections are continuing these collaborative projects and are committed to cooperate in the development of a common spatial data infrastructure. The second Joint US/Canadian Project was recently awarded to a team from the Red River

Basin (see CAP 2001 article for more information). If you are interested in developing a Joint US/Canadian Project, please contact: Milo Robinson, FGDC, mrobinson@fgdc.gov, (703) 648-5162; or Marc LeMaire, GeoConnections, mlemaire@NRCan.gc.ca, (613)974-4244 for more information.

► Standards

Public Review of Remote Sensing Metadata

The Content Standard for Digital Geospatial Metadata: Extensions for Remote Sensing Metadata is open for public review until August 31, 2001. The purpose of this standard is to provide extensions to the Content Standard for Digital Geospatial Metadata for describing data obtained from remote sensing. This extension includes descriptions of the sensor, the platform, the method and process of deriving information from raw telemetry, and the information needed to determine the geographic location of the remotely sensed data. This extension is being designed to be compatible with the ISO metadata standard now under development.

For more information on participating in the public review for this standard contact Julie Binder Maitra at jmaitra@fgdc.gov or see the standards website at www.fgdc.gov/standards/standards.html

► Clearinghouse

National Spatial Data Clearinghouse Status

249 Clearinghouse metadata collections are now registered with the FGDC and are searchable

NEWS ABOUT NSDI INITIATIVES

through a new on-line registry of Z39.50 "GEO" (geospatial metadata) targets. This resource facilitates the selection of appropriate server collections by storing a simplified FGDC-style metadata record for each server that can be interrogated by new search forms such as the FGDC progressive search "Wizard" (<http://130.11.52.184/servlet/FGDCWizard>). Servers can be selected and targeted for query based on theme Category codes from draft ISO metadata standard and a bounding service area footprint.

Because this Registry resource represents an international collection of metadata servers and reflects adoption of common standards for metadata and Clearinghouse/catalog service, the registry is also being operated on behalf of the Global Spatial Data Infrastructure as a community registry resource. As the OpenGIS Consortium defines new service discovery mechanisms within an overall service architecture, this registry will make its content and protocols compliant with the emerging resource discovery standards.

Commercial Server Support Now Available for Clearinghouse

Three commercial products now exist for geospatial data providers as an alternative to the Isite index

and server software that provide integrated metadata services for use in the Clearinghouse. These products are intended to help integrate metadata management and service with native GIS data or legacy database management systems.

BlueAngel Technologies of Valley Forge, Pennsylvania provides a comprehensive metadata solution for geospatial (and other types of) metadata based on XML technologies made searchable through extensions to search engine technology such as AltaVista and Fulcrum. Gateway, harvester, index, and user interface tools are available also.

<http://www.blueangeltech.com>

Compusult, Ltd of Canada offers a commercial solution known as MetaManager that implements a Clearinghouse Z39.50 server in front of a relational database that stores metadata. Versions exist for Access, SQL-Server, and Oracle to provide search for data via metadata stored in the database but presented as FGDC format on-the-fly. <http://www.fgdctoolkit.com>

RTSe in partnership with Intergraph have extended their Spatial Metadata Management System (SMMS) and GeoMedia products, respectively, to include metadata support for a variety of native GIS

file and access formats. The SMMS 3-oh! GeoConnect product includes a Z39.50 server to operate as a Clearinghouse Node, in addition to a form capability for Web-based search. www.rtseusa.com/page.asp?pageid=145

Web Map CAP Initiative.

A special category within the 2000 and 2001 NSDI CAP award program was created to ground-test the integration of the Clearinghouse resource discovery tools with Web Mapping technologies, using ISO and OpenGIS Consortium (OGC) standards and specifications where they exist. The CAP award recipients will receive instruction and assistance in extending their existing Clearinghouse and web mapping server software to support the OGC Web Map Server (WMS) 1.0 specification.

Client viewer software will be provided by OGC vendors to permit the visual overlay of map data from twelve project sites with other regional, national, and global WMS maps, where available. These discovery/viewer interfaces are intended to be integrated into the project access portals over the coming year. This project will serve as a blueprint for others to follow and will help advise the OGC specifications as to their utility in diverse operational settings.

► Upcoming Conferences

2001

July 15 – 16	66th Annual NACO Conference	Philadelphia, PA
July 15 – 19	Coastal Zone 2001	Cleveland, OH
Sept 9 – 12	URISA 2001 Caribbean GIS Conf.	Montego Bay, JA
Sept 18 – 20	GIS 2001	London, UK
Oct 20 – 24	URISA 2001 Annual Conference	Long Beach, CA
Nov 1 – 3	National GeoData Forum	Denver, CO

2002

Mar 17 – 20	GITA 2002 Annual Conference	Tampa, FL
April 22 – 26	ASPRS-ACSM and FIG Congress	Washington, DC
Sept 16	GSDI-6 Conference	Budapest, Hungary
Oct 26 – 30	URISA 2002 Annual Conference	Chicago, IL

Federal Geographic Data Committee

USGS, 590 National Center
Reston, VA 20192