

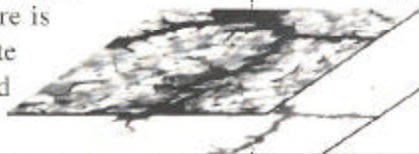


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Building the National Spatial Data Infrastructure

Ask 20 people to define the national spatial data infrastructure (NSDI), and you are likely to get 20 definitions that vary in scope, application, responsibility, and format. The Federal Geographic Data Committee (FGDC) is hoping to build consensus on what the NSDI is and why it is needed. The FGDC envisions that the NSDI consists of organizations and individuals who generate or use spatial data, of the technologies that facilitate use and transfer of spatial data, and of the actual data. The reasons we need the NSDI are to find, retrieve, create partnerships to collect, and make effective use of spatial data.

If you are reading this newsletter, you likely are a node in the NSDI. On a basic level the infrastructure consists of individuals who are interested in geographic or spatial data: data users and producers. A critical first step in developing the infrastructure is establishing the ability to communicate and building links among individuals and organizations within the spatial data



FOR MANY INDIVIDUALS OR AGENCIES, AGREEING TO CREATE AND USE COMMON SPATIAL DATA SETS IS A MAJOR ACHIEVEMENT.

community. The most technically sophisticated can communicate electronically using vehicles such as Internet or proprietary networks within agencies. Others can communicate by telephone or newsletters or conferences. Regardless of the means, the key is that knowledge about data availability is proliferating because communications are improving.

A second step in developing the infrastructure recognizes that data sharing can be facilitated through the use of common procedures and standards. Metadata, or data about data, are critical first to determine that specific data exist, and second to understand the nature and quality of the data to determine whether they are useful in a specific application. Consistency in how, when, and where to document data will assist others



in using the data. A draft metadata standard for consistency in documentation is being reviewed (see accompanying article). If members of the spatial data network can agree to use standards such as this or the Spatial Data Transfer Standard (SDTS) for data transfer, building another tier in the NSDI becomes possible. We can move one step closer to finding and retrieving data.

A third step in infrastructure development is establishing partnerships for transferring data or for developing common data bases. This step builds on previous actions of communication and agreement to use standards. For many individuals or agencies, agreeing to create and use common spatial data sets is a major achievement. Partnerships to exchange (sell, trade, or share) data are common; partnerships to generate data are rare. Will the NSDI ever be one, agreed-upon set of spatial data representations of the Nation (for example, one road network) to which we can all attach our own attributes for analysis?

Could this be a data base for which we know the inherent accuracy of each coordinate and can select resolutions as we see fit? Or is the NSDI really a large collection of multiple representations of spatial reality that we hope to understand sufficiently to choose the representations that meet our needs? Probably the NSDI partly encompasses both these concepts, and this point will be debated in many future forums. But the fact is that we and the data we collect are all components of the NSDI. Many of us have come to realize the benefits of having more cohesiveness within our spatial data community, of building partnerships, making agreements, and communicating what we know. We can all share the success of developing the NSDI.



A Message from the Chairman

I appreciate the opportunity on behalf of the Federal Geographic Data Committee (FGDC) to share with you our recent activities. The pace of action definitely accelerated in 1992 and we see no slackening in 1993. Our initial efforts after the release of the revised Circular A-16, authorizing the FGDC and calling for the development of a national digital spatial information resource, focused on encouraging and establishing Federal agency involvement in the process. We have made progress on that front, but the work has just begun. Geographic data coordination is not a Federal issue, but a national one, involving all levels of government and the private and academic sectors. Because of this, and the fact that we cannot make headway in the development and use of spatial data without partnerships, we have begun a number of important interactions outside the Federal Government. These partnerships begin with communication, grow to understanding, and expand to common solutions to joint problems. During the last several months, FGDC members have conducted numerous presentations at national conferences, State conferences, GIS user meetings, and within agencies at all levels of government, to facilitate the communication process.

The FGDC has a vision that anyone should be able to easily find existing spatial data, to retrieve data, and to create cost-effective partnerships to collect spatial data that do not already exist. This vision sets an agenda of activities for 1993 that includes improving communications (especially electronic communications), establishing better ways to document data through the use of metadata, facilitating systems that provide "clearinghouse" functions to many data producers and inventories, promoting the use of standards for data transfer, and reaching agreements on basic data content. All of these activities will involve Federal and non-Federal partnerships. These activities, both current and future, are the subject of this newsletter.

We have a vision of a national spatial data infrastructure that will help technologists, planners, and policy makers use spatial data more effectively. We are all "nodes" in this network, and only through continued cooperation can we realize the benefits. We seek your participation in this national endeavor and welcome your thoughts and suggestions on how to proceed.

Doyle Frederick

National Geo-Data Policy Forum Scheduled for May 1993

Data Sharing Opportunities

Many spatial data users and providers have already forged partnerships or consortiums for creating geographic data for their programs. The FGDC would like to facilitate and encourage these connections among Federal, State and local governments, and the private and educational sectors by identifying those partnerships already underway and by providing a means to register interest in forming new ones. As a first step, the FGDC Secretariat has established an Internet address at the U.S. Geological Survey to which individuals or organizations can send electronic mail to define their interests and requirements for partnerships.

That address is:
GDC @ USGS.GOV

Those desiring to register their interest in this manner are asked to provide the following information: name of contact, name of organization, geographic area of interest, address, telephone and FAX numbers, and Internet address (if applicable). This information will be posted under the Anonymous FTP account on Internet, described on this page.

In May 1993, the FGDC, the members of GIS/LIS (the Association of American Geographers, the American Congress on Surveying and Mapping, AM/FM International, the American Society for Photogrammetry and Remote Sensing, and the Urban and Regional Information Systems Association), private industry, and the GIS World Education and Training Institute will sponsor the National Geo-Data Policy Forum at the Sheraton Premiere at Tysons Corner, Virginia. This forum is an opportunity to examine policies that govern spatial data and GIS technology and to influence new policies.

Conference attendees will examine the rapid growth and importance of geographic data and technology, and the development of associated policies. Keynotes, presentations, and panel and group discussions will include senior executives in Federal, State, and local governments, members of Congress and the judiciary branch, elected officials such as governors and mayors, private industry executives, and academic representatives. The program is being developed by a board of senior executives in government and industry.

By the end of this decade, most governments and businesses are likely to depend on GIS technology for analyses of complex issues and for improved decision making. Markets and revenues for GIS technology are expanding from the million- to the billion-dollar range. Critical to the technology are data, which often amount to more than 80 percent of the cost of conducting a program or project.

Presentations at the National Geo-Data Policy Forum will address markets, information access and dissemination, ownership of data, copyright and credit, confidentiality and privacy, liability, costs and benefits, data production partnerships, standards, and telecommunications. Policies that affect these issues will be addressed, and requirements for new policies to encourage development of geographic information technologies will be discussed.

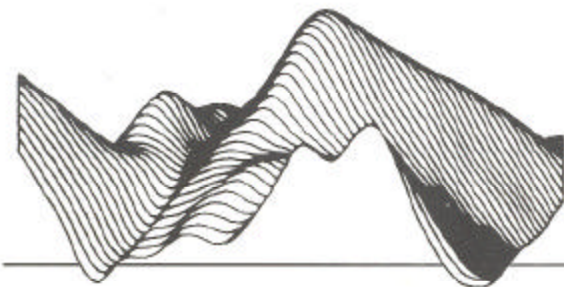
The exhibit floor will be limited to displays by Federal, State, and local organizations using geographic information technologies. Agency representatives will be available to discuss successes, failures, needs, partnerships, and future directions.

This 3-day Geo-Data Forum, May 10-12, 1993, will include lunch each day, a reception in the exhibit area, and opportunities to meet executives involved in the use of spatial data. The registration fee is \$250 before April 12 and \$295 after April 12, 1993. Space may be limited, so early registration is encouraged.

For more information on the forum, please check the appropriate box on the inside back page of this newsletter.

ABOUT THIS NEWSLETTER

We on the FGDC staff find ourselves overwhelmed by the number of players in the GIS field; by the proliferation of meetings, conferences, newsletters, journal articles, and bulletin boards; and by the realization that spatial data in one form or another are of interest to almost everyone. We are trying to sort some of this out, trying to figure out what coordination the FGDC can provide. This newsletter reaches out to more than 7,000 of you. We seek your perspectives, guidance, and involvement. Let us know how we can better meet your needs. You are welcome to use this newsletter to share your ideas on national infrastructures, spatial data, coordination, and technology. We intend to publish at least three newsletters in 1993 in both electronic and hard-copy formats. We'd like your contributions and comments.



To contact FGDC:

In writing:

FGDC Secretariat
590 National Center
Reston, VA 22092

By phone:

703-648-4533

By FAX:

703-648-5755

By email (via Internet):

gdc@usgs.gov

By anonymous FTP via Internet:

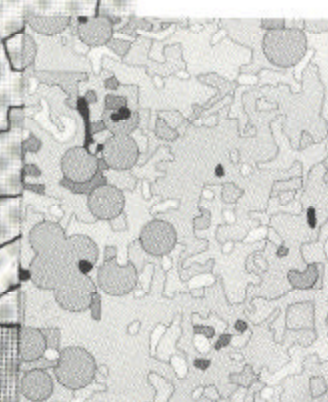
Address: isdres.er.usgs.gov
(130.11.48.2)
User name: anonymous
After connecting: cd gdc
(File README.DOC has current
information on the files contained
in each directory.)

Note: Modem access will be available
by the next newsletter.



Requirements Analysis Under Way for Land Use and Land Cover Data

Spatial data producers and users conducted a requirements analysis of land use and land cover data needs last year. Led by the U.S. Geological Survey (USGS), representatives from the USGS,



the U.S. Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Administration (NOAA), the U.S. Forest Service, and the State of Maryland distributed a questionnaire during the summer and early fall of 1992. All agencies represented on the FGDC, State and local governmental organizations, and academia were included in the survey. Analysis of the responses to the questionnaire is

underway, and will be published as a technical report and in appropriate journals and newsletters this year. Preliminary results show a wide variety of data needs at varying scales of representation. Both aerial photography and geometrically and radiometrically corrected satellite data are in demand, as are digital orthophoto quadrangles. Most respondents are interested in cost-share opportunities.

The requirements analysis followed the FGDC-sponsored forum on land use and land cover data needs in February 1992 at USGS headquarters in Reston, Virginia. This meeting, sponsored by the USGS and the EPA, brought together Federal and State managers of programs that produce or use land use and land cover maps and data for environmental analysis, monitoring, and policy. The goal was to improve opportunities for Federal and State coordination, information exchange, data sharing, and work sharing in land use and land cover mapping. Some 120 representatives from more than 20 Federal agencies and 20 States attended, along with several academics.

A number of significant findings emerged from the forum: (1) all speakers made a clear distinction between land use and land cover; (2) land use and land cover are among the most important and widely used of the environmental data sets and span a variety of levels of detail and support activities such as ecological monitoring, habitat assessment, wildlife management, enforcement, exposure and risk assessment, global change monitoring, impact assessment, State and local planning, hazardous waste remediation, and regulatory policy development; (3) use of these data has grown significantly with the spread of GIS technology; (4) although a single product will not serve all the varied clientele for land use and land cover data, an optimum standard would serve many clients who now generate their own data; (5) the Federal Government must play a stronger role in providing guidance on mapping methods and standards; (6) preliminary indications are that the widest range of users would be satisfied by a national land cover product based on computer classification of multispectral imagery and by a digital land use and land cover product based on manual interpretation of image data at 1:100,000 scale for selected areas; (7) many participants interested in monitoring applications need change information based on a minimum 5-year revision cycle; and (8) both State and Federal participants indicated willingness to cooperate on mapping projects.

Another result of the forum is the formation of a working group of Federal and State agencies chaired by NOAA to develop a standard land cover classification system, based mainly on Anderson and others: "A Land Use and Land Cover Classification System for Use with Remote Sensor Data," and Cowardin and others: "A Classification of Wetlands and Deepwater Habitats of the United States."

Please use the FGDC publications request form on the inside back page of this newsletter if you would like to receive a copy of the Summary Report from the Forum on Land Use and Land Cover.

Non-Federal Liaison Activities are High Priority for FGDC

Coordination efforts in developing and using spatial data fall on all members of the spatial data community, not just Federal agencies. Recognizing that the activities of the FGDC support a national spatial data infrastructure (NSDI) led to the formation of a liaison working group within the FGDC to examine means to improve interaction among Federal and non-Federal entities. This working group transmitted a report to the FGDC steering committee in October 1992 suggesting several actions to foster coordination. These activities are the responsibilities of the steering committee, the thematic subcommittees, the FGDC staff, Federal agencies, and the non-Federal sectors. Several of the suggestions are already being used.

Better notification of FGDC activities to the non-Federal sectors is a primary recommendation. This is being done through vehicles such as this newsletter, through notices in the Federal Register of key events, through open "town meetings" at national conferences, and through articles and papers in GIS journals.

Publication of documents identifying GIS use, data development, and other spatial data activities within Federal agencies is another recommendation. Some of these publications, such as the "Manual of Federal Geographic Data Products," have just reached or are near completion (see newsletter article). Others, such as the "Summary of GIS Use Within the Federal Government," have been completed for some time and updates are being discussed. The evolution of the concept of a spatial data clearinghouse is leading to discussion of how such a clearinghouse might contribute to documenting spatial data activities within agencies. Thoughts or suggestions on this approach would be welcomed.

Another suggestion from the work group was to create an FGDC exhibit for national conferences. This is under development, particularly as the possibility of demonstrating the use of and access to the NSDI becomes reality. Other suggestions include FGDC sponsorship of national conferences and forums on topics of interest to Federal and non-Federal sectors. Both ideas are being pursued. The FGDC is a sponsor of the National Geo-Data Policy Forum (see newsletter article), and did sponsor the Land Use and Land Cover Forum and Spatial

Metadata Forum in 1992. More such forums are planned.

The work group also recommended that the FGDC develop a contract with an independent organization that could establish a formal advisory committee or proceed under the Federal Advisory Committee Act (FACA) to create a formal advisory committee to the FGDC. These two actions are being investigated in a contract that the FGDC has established with the U.S. Advisory Commission on Intergovernmental Relations (ACIR). Under this contract, the ACIR will conduct at least four meetings with nine public-interest groups, including among others the National Governor's Association, the National League of Cities, the Council of State Governments, and the National States Geographic Information Council. Major objectives of the meetings are to determine possible coordination processes, as well as to address common interests in spatial data between Federal and non-Federal participants.

All of these activities are intended to promote communication among the sectors interested in spatial data. There will never be just one way to achieve this communication.

Suggestions for specific activities or ideas on how to build partnerships, or opportunities to form liaisons, should be forwarded to the FGDC Secretariat, U.S. Geological Survey, 590 National Center, Reston, VA 22092; via FAX at 703-648-5755; via email at gdc@usgs.gov; via telephone at 703-648-4533.

FGDC Initiates Public Review of Spatial Metadata Standard

Examples of Metadata

Identification - general data content, spatial extent and use of the data

Projection - horizontal and vertical coordinate systems used for the data

Data Custodian - point-of-contact for the data

Access - details about the means of and conditions for accessing the data

Status - state of, maintenance cycles for, and policies on availability of the data

Data Dictionary and Schema - definitions and characteristics of features portrayed in the data

Source - documents used to compile the data

Processing Steps - procedures and parameters used to convert the source materials to the final data

Data Quality - statement of quality to assist potential users to determine if the data are suitable for an application

Metadata Reference - currentness of and contacts for the metadata

As technology provides faster and more efficient ways to use and process geographic data, many data producers and users have come to realize the value of exchanging and sharing spatial data. The ability to use existing spatial data is important to different organizations that are trying to share data, as well as to members of the same organization who are trying to derive the maximum benefit from their data holdings. Their ability to use data depends on being able to find data and to understand the characteristics and quality of the data. The existence of metadata, or data about data, is the key to using data provided by others. Metadata describe the content, quality, condition, history, and other characteristics of data.

The FGDC is sponsoring a public review and test of a draft spatial metadata standard. The draft standard proposes a set of data elements that identify the data set, thematic content, and area of geographic coverage; describe the projection, status, lineage, processing history, and quality of the data; and identify the custodians and access conditions for the data. Comments are sought on the content, completeness, and usability of the standard and on the identification of elements that should be mandatory for spatial data indexing and exchange. Written comments must be received on or before April 15, 1993. The final draft resulting from the review likely will be submitted to the National Institute of Standards and Technology for adoption as a Federal Information Processing Standard.

The draft standard was developed in response to a June 1992 Information Exchange Forum on Spatial Metadata sponsored by the FGDC. More than 150 people from Federal agencies, State and local governments, and the private sector discussed requirements for and approaches to spatial metadata. (A summary of the meeting can be obtained by checking the appropriate box on the inside back page of this newsletter.) An ad hoc working group subsequently was convened to establish preliminary definitions for metadata elements. The group reviewed definitions and examples from a variety of agencies, including State and Federal spatial data clearinghouses, and compiled the draft standard.

To obtain a copy of the draft standard, please use the FGDC publications request form on the inside back page of this newsletter. You may FAX in your request to 703-648-5755 or contact the FGDC Secretariat via email at: "metadata@usgs.gov".



APPROVAL OF SPATIAL DATA TRANSFER STANDARD SPURS NUMEROUS ACTIVITIES

The Secretary of Commerce approved the Spatial Data Transfer Standard (SDTS) as Federal Information Processing Standard (FIPS) Publication 173 in July 1992. The SDTS facilitates the transfer of digital spatial data between dissimilar computer systems. FIPS 173 becomes effective February 15, 1993; use of the standard is mandatory for all Federal agencies a year from that date.

The USGS, as the FIPS 173 maintenance authority, is committed to promoting acceptance of FIPS 173 and to supporting its use. During 1993, additional approvals will be sought from the American National Standards Institute and the International Standards Organization in an effort to broaden access to FIPS 173 among commercial and international users.

The USGS will coordinate maximum consistency among all FIPS 173 profiles. A profile is a clearly defined and limited subset of the standard that is designed for use with a specific type of data. The first of these profiles, the Topological Vector Profile (TVP), underwent a rigorous testing period in 1992 and will soon be submitted to the National Institute of Standards and Technology

(NIST) for FIPS approval as an amendment to FIPS 173. USGS digital line graph (DLG) data will be available from the National Digital Cartographic Data Base in TVP once the profile is approved as an amendment. The USGS has started a raster profile that will follow a similar sequence of events as those for the TVP — developing a draft profile and test data sets, conducting a test and demonstration period to evaluate completeness, and finalizing the profile for submission to NIST based on test results. The raster profile is likely to be limited to georeferenced data, sampled uniformly and in a geodetic or cartographic coordinate system, rather than including raw sensor data. Additional profiles, such as those for CAD (nontopological vector) and graphics data sets, will also be considered in the future.

Vendors are expected to play a major role in the acceptance of the SDTS by developing software to support FIPS 173. In addition, the USGS is developing a suite of public-domain software tools designed to support the encoding and decoding of logically compliant FIPS 173 data in and out of the required ISO 8211 (FIPS 123) physical file implementation. The USGS also is designing a spatial data transfer processor to support FIPS 173 transfers of formats such as DLG-3, DLG-Enhanced, and Digital Orthophoto Quadrangle.

Part 2 of FIPS 173 presents a standard model for a spatial features data dictionary, as well as a list of terms and definitions for entities and attributes. This model currently contains only a limited set of hydrographic and topographic features. Additional terms and definitions must be included for other themes of data to improve Part 2 and to take full advantage of FIPS 173. The USGS has been authorized by the NIST to establish a FIPS Spatial Features Register, designed to accomplish these goals. A plan to maintain Part 2 by using the FIPS Spatial Features Register is being developed by the SDTS task force at the USGS. Because the register will allow users to update the glossary continuously, Part 2 of FIPS 173 will change frequently. Concurrently, the FGDC subcommittees are addressing consistent classifications and content definitions for their various themes of data, which will likely form the bases for the Spatial Features Register. A Technical Forum on Spatial Features will be sponsored by the FGDC in late spring 1993, to involve all parties interested in these definitions and in development of the register. (For more information about the Forum please check the appropriate box on the inside back page of this newsletter.)

Throughout 1993, the USGS will continue to conduct workshops and other presentations to educate users and to promote the use of FIPS 173. Presentations are planned for conferences of the major professional organizations, such as the Association of American Geographers, the American Congress on Surveying and Mapping, AM/FM International, the American Society for Photogrammetry and Remote Sensing, the Urban and Regional Information Systems Association, and the Institute for Land Information. Additionally, the USGS, the NIST, and the Standards Working Group of the FGDC plan workshops soon.

For additional information on the SDTS, please use the FGDC publications request form on the inside back page of this newsletter, or contact: U.S. Geological Survey, SDTS Task Force, 526 National Center, Reston, VA 22092, FAX 703-648-5542, or email SDTS@USGS.GOV

SpOTLIGHT

on FGDC

SUBCOMMITTEES

Thematic subcommittees are a key component of the FGDC. At the moment these subcommittees are composed primarily of Federal agencies. However, during 1993, each subcommittee will hold at least two open forums to involve the non-Federal sectors, one at GIS/LIS '93 in November in Minneapolis, and another as noted here in the subcommittee notes or to be announced in subsequent newsletters. Please contact the subcommittee chairs identified below, or the FGDC Secretariat, for additional information.

Base Cartographic—Three major initiatives are receiving attention during 1992-93: redefining the U.S. Geological Survey's requirements-gathering process to link information gathered by other FGDC subcommittees; finishing the revision of the U.S. National Cartographic Standards for Spatial Accuracy for both analog and digital data; and obtaining funding for the multiagency proposal to meet high-priority requirements for digital base cartographic data. This proposal encourages the cooperative production by the year 2000 of digital base cartographic data for the Nation.

Open Forum: American Congress on Surveying and Mapping/American Society for Photogrammetry and Remote Sensing Conference, New Orleans, LA, February 16-18, 1993.

ALLEN WATKINS (INTERIOR-USGS)
703-648-5748

Bathymetric—This new subcommittee, recently approved by the FGDC, is seeking members. Activities in 1993 will focus on: proposing the creation of a 1:100,000-scale national digital map base for offshore bathymetric data sets; developing standards for bathymetric modeling and contouring and for gridding and mapping algorithms; and serving as a clearinghouse for bathymetric data requirements and maintaining a directory of bathymetric products and services.

Open Forum: Offshore Technology Conference, Houston, TX, May 3-6, 1993.

MILLINGTON LOCKWOOD
(COMMERCE-NOAA) 301-443-8536
OR (INTERIOR-USGS) 703-648-6525

Cadastral—Continuing activities begun in 1992, the subcommittee will strive in 1993 to finish onshore and offshore land survey spatial data standards. These standards will be submitted to the National Institute of Standards and Technology for public comment and review (and were discussed at an open subcommittee meeting at GIS/LIS '92 in San Jose, California), ultimately to become a Federal Information Processing Standard. During 1993, the subcommittee also will begin developing standards for land tenure records, which relate to land ownership.

JOHN MOELLER
(INTERIOR-BLM) 202-208-3897

Cultural & Demographic—Goals for 1993 include preparing a summary of Federal agency needs for cultural and demographic data and holding two miniconferences on issues related to cultural and demographic data.

ROBERT MARX
(COMMERCE-CENSUS) 301-763-5636

Geodetic Control—In 1992, the subcommittee supported the implementation of the North American Vertical Datum of 1988 (NAVD 88) and of the North American Datum of 1983; tested a variety of geodetic instruments and developed specifications; formed a work group to determine and coordinate planned fixed Global Positioning System (GPS) site activities; and prepared the FY93 Federal Survey Plan (published annually) detailing accomplishments and requirements of the member agencies. In 1993 the subcommittee will continue testing geodetic instruments and accompanying software; continue establishing the use of NAVD 88; revise and publish accuracy standards for classifying the coordinates of geodetic survey stations that are determined by GPS and classical surveying techniques; accelerate efforts to determine fixed GPS site activities; complete the publication "Multipurpose Land Information Systems: The Guidebook"; and add a temporary work group to address high-accuracy reference network activities.

Open Forum: American Congress on Surveying and Mapping/American Society for Photogrammetry and Remote Sensing Conference, New Orleans, LA, February 16-18, 1993.

RADM AUSTIN YEAGER
(COMMERCE-NOAA) 301-443-8204

Geologic—In 1993 the subcommittee will continue the following initiatives begun in 1992: participate in the recently enacted National Cooperative Geologic Mapping Program, help develop standards for the National Geologic Map Data Base and other related geologic data bases and for general geologic map standards, and contribute to developing a new requirements-gathering process for geologic data.

MITCHELL REYNOLDS
(INTERIOR-USGS) 703-648-8960

Ground Transportation—Target areas for the subcommittee during 1993 include defining a national intermodal ground transportation network (roads, railroads, inland waterways, pipelines, and power transmission lines, begun in 1992); defining a minimum set of attributes and features for the intermodal network; establishing a data dictionary of terms provided by member agencies responsible for specific ground transportation areas; exploring data dissemination issues, such as the costs to users, feedback procedures, data quality, and standards; and recommending projects requiring support from the FGDC.

Open Forum: 1993 GIS for Transportation Symposium and Workshop, Albuquerque, NM, March 29-31, 1993.

JAMES GRUVER
(TRANSPORTATION-FHWA) 202-366-0193

International Boundaries & Sovereignty—The 1992-93 goals include expanding the network of Federal agencies receiving international boundary and sovereignty guidance; coordinating boundary data collection between the State Department and other Federal agencies involved in collecting such data; and periodically surveying Federal users of international boundary data to ensure that their data needs are met.

BRADFORD THOMAS
(STATE-OFFICE OF THE GEOGRAPHER)
202-647-2250

Soils—1992-93 work includes developing procedures for an annual solicitation of needs for soils digital spatial data; establishing data structures and definitions for digital soils data; exchanging information at technical conferences and meetings; and beginning a soils metadata system accessible by the public.

DENNIS LYTLE
(AGRICULTURE-SCS) 402-437-5423

Vegetation—During 1992, this subcommittee supported the Forum on Land Use and Land Cover in Reston, Virginia (see related article in this newsletter) and began work on a vegetation classification system for use by all Federal agencies. During 1993 the Subcommittee will continue to identify the appropriate level of classification for vegetation data and needed elements for classification; continue to develop definitions and draft standards for vegetation data elements; devise a plan for using vegetation data; and focus on non-Federal involvement.

FRED KAISER
(AGRICULTURE-FOREST SERVICE)
202-205-1747

Wetlands—In 1992, the subcommittee accomplished several tasks in response to a request from the White House Domestic Policy Council. The subcommittee produced a report, "Application of Satellite Data for Mapping and Monitoring Wetlands." (Please use the FGDC publications request form on the inside back page of this newsletter if you would like to receive a copy of this report.) The group also devised a plan to investigate means of improving Federal agencies' wetlands mapping activities. The subcommittee is conducting a test of wetlands data collected by Federal and State agencies for Wicomico County, Maryland, to identify differences in interpretation and delineation of wetlands. In 1993, if this test is successful, the activity will be expanded to nine other counties. Following this multicounty comparison, the statistical methods used by the agencies to calculate wetlands estimates will be evaluated. Using information from these studies, the subcommittee will develop strategies to integrate agencies' wetlands mapping and monitoring activities.

BILL WILEN
(INTERIOR-FWS) 703-358-2201

Announcements

The Landsat Program Management is seeking advice and comments from individuals regarding the status, effectiveness, and operation of the Landsat system. This request is issued pursuant to Public Law 102-555, the Land Remote Sensing Policy Act of 1992, dated October 28, 1992, Section 101(e). Advice and comments are sought from individuals representing a broad range of public- and private-sector perspectives and a full spectrum of interests in the Landsat program and the data and services it provides. Those wishing to offer such advice and comments can do so through a survey that will be used in preparing a report to Congress. To obtain further information on the Landsat advisory process, contact by March 10, 1993 (extended from February 1, 1993): Stanley R. Schneider, Landsat Advisory Process Coordinator, NASA Code SED, 300 E Street, SW, Washington, DC 20546; FAX: 202/358-3098.

The USGS, NASA, and the EPA are cosponsoring the Pecora 12 Symposium, "Land Information From Space-Based Systems," August 24-26, 1993, in Sioux Falls, South Dakota. It is designed as a forum to determine the extent to which satellite remote sensing data are meeting requirements for land-related resource information. The symposium honors the memory of Dr. William T. Pecora, former Director of USGS and Under Secretary of the Department of the Interior. Dr. Pecora was a pioneer in the development of remote sensing of the earth from space.

Conference objectives include identification of land information requirements for addressing issues in the earth, atmospheric, biological, and hydrological sciences at a variety of spatial and temporal scales; reports on progress in mapping, monitoring, and characterizing the Earth's land-related resources using space-based remote sensing; and identification of opportunities for progress in land-related remote sensing from space. (Also see article on land use and land cover requirements analysis in this newsletter.)

Additional information can be obtained from: Pecora 12 Symposium, EROS Data Center, U.S. Geological Survey, Sioux Falls, SD 57198; telephone 605-594-6007; FAX 605-594-6589.

A comprehensive document, "Geographic Information Activities Compendium," now available from the Council of State Governments, includes results of a year-long survey of GIS practitioners within State governments. Highlights include information about GIS programs in the States; a directory of more than 2,200 State GIS officials; tables to examine statewide goals; intergovernmental relations, policies, standards, and guidelines; and annotated bibliographies of related State documents. The compendium sells for \$79; the directory of GIS officials is available in electronic format for \$300 (including a copy of the book). For more information or to obtain copies of the Compendium, call the Council of State Governments at 1-800-800-1910; EAX 606-231-1858.

Early in 1993, the FGDC began distributing the "Manual of Federal Geographic Data Products." The manual describes more than 150 publicly distributed Federal geographic data products from 21 Federal agencies. The products include maps, digital data, aerial photographs and multispectral images, and other geographically referenced data sets.

The product descriptions include information on the contents of the products, planned and available coverage, delivery form, and contacts for technical and ordering inquiries. A cross-reference helps readers find products by data theme.

To receive a copy of the manual (supplies are limited), please check the appropriate box on the inside back page of this newsletter.

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- FGD Newsletter, Spring 1991 [photocopies only].

Standards

- Draft Content Standard for Spatial Metadata, October 1992 [available for public review and testing, November 1992 through April 15, 1993].
- Information about the Spatial Data Transfer Standard, FIPS 173.

Annual Reports

- 7th Annual Report to the Director, OMB, by the Federal Interagency Coordinating Committee on Digital Cartography, 1989 [limited copies available].
- First Annual Report to the Director, OMB, by the Federal Geographic Data Committee, December 1991.

Technical Reports (limited copies of the following are available)

- A Process for Evaluating Geographic Information Systems by the Federal Interagency Coordinating Committee on Digital Cartography, 1988.
- A Summary of GIS Use in the Federal Government by the Federal Interagency Coordinating Committee on Digital Cartography, Fall 1990.
- Information Exchange Forum on Spatial Metadata, Report of Meeting, June 1992.
- Manual of Federal Geographic Data Products, 1993
- Forum on Land Use & Land Cover, Summary Report, 1992.
- Application of Satellite Data for Mapping and Monitoring Wetlands, September 1992.

FGDC Forums

- Information about the National Geo-Data Policy Forum, May 10-12, 1993, Tysons Corner, VA.
- Information about Technical Forum on Spatial Features, late spring, 1993, Reston, VA.

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