



National Spatial Data Infrastructure

# National Spatial Data Infrastructure

## 1997 Framework Demonstration Project Program (FDPP)

*The Framework Demonstration Projects Program (FDPP) was established by the Federal Geographic Data Committee (FGDC) to support cooperative projects that test the means by which the geospatial data community can work together to build and maintain the data framework for the National Spatial Data Infrastructure. The framework consists of commonly needed themes of data (including the themes geodetic control, digital orthoimagery, elevation and bathymetry, transportation, hydrography, governmental units, and cadastral) for national, statewide, regional, and local analyses. Funding is provided for implementations of multi-organization, multi-sector partnerships to coordinate data collection, maintenance, use and access within region areas. Program participants will identify a basic information content for the framework data and will develop technical, operational, and business contexts by which a distributed, collaborative data collection and maintenance effort will operate.*

*For more information about this program contact the FGDC Secretariat, c/o U.S. Geological Survey, 590 National Center, Reston, VA 20192; telephone 703.648.5514; fax 703.648.5755; gdc@usgs.gov. Information is also available via the World Wide Web at <URL:http://www.fgdc.gov/>.*

### The 1997 Program

In August 1997, the FGDC issued awards for the second year of the FDPP program. Eight awards were made, totaling approximately \$470,000. The goals, participants, and contact information of each program are summarized below.



### Washington Cadastral Framework Demonstration Project

The Washington Department of Natural Resources, on behalf of the Washington Geographic Information Council, the Interorganizational Resource Information Coordinating Council, and the Public Land Survey Office will provide leadership to develop a partnership approach to create, manage, maintain, and distribute cadastral data. Partnerships will be developed with many organizations to include state and federal agencies, local government, tribes, private sector land owners, and the GIS vendor community. Locally derived cadastral data will be integrated into a statewide framework. A decision process will be developed to determine what represents the best available data. A data model which supports needs beyond a minimum National Spatial Data Infrastructure framework will be implemented.

Vendor development and support for the model will be sought. The business requirements of all partner organizations will be considered in the final design. Long-term partnership arrangements will be created. Statewide cadastral data and metadata will be available on the Internet and will be compliant with Federal Geographic Data Committee standards. This proposal is part of a well-funded large Cadastral Framework Project to create a new software application that will allow feature-level updating and integration of framework data into the GIS applications environment of the Washington Department of Natural Resources and other organizations across the state. Under the Cadastral Framework Project, all organizations that collect and manage cadastral data will be able to post updates to the state framework.

**Collaborating Organizations:** WA State, Dept of Natural Resources; WA Geographic Information Council; WA Framework Work Group; WA Standards Work Group; WA Local Government Work Group; Public Land Survey Office; Interorganizational Resource Information Coordinating Council

**Principal Contact:** Larry Sugarbaker, GIS Manager, Washington State, Department of Natural Resources, 1111 Washington Street, SE, P.O. Box 47020, Olympia, WA 98504-7020; telephone 360-902-1546; fax 360-902-1790; larry.sugarbaker@wadnr.gov



### GIS Interoperability for Handling Framework Data

The North Carolina Center for Geographic Information and Analysis (CGIA), in cooperation with Johnston County, North Carolina, proposes to lead a project that will test GIS interoperability for handling framework data over a high-speed telecommunications network. The goal of the project is to generate empirical information about framework data handling among users of disparate GIS software packages including CGIA, Johnston County, and one adjacent local government. It will provide an early assessment of the technological foundation necessary for enabling data producers in federal, state, and local government so share data and facilitate the NSDI framework vision.

Recent developments by the OpenGIS Consortium with implementation of the OpenGIS Specification (OGIS) offer much promise in developing and using Framework data. The project team will execute tests of at

least two GIS software packages based on representative uses of framework data including cadastral and digital orthoimagery. Testing will occur in two phases: (1) data translation between existing GIS software tools using common data formats; and (2) new OGIS-based software tools will be used to perform the same queries across systems. The results of each phase will be documented.

**Collaborating Organizations:** NC Office of State Planning, Center for Geographic Information and Analysis; NC Geographic Coordinating Council; Johnston County GIS; NC Information Highway Policy Committee.

**Principal Contact:** Tim Johnson, Services Program Manager, Center for Geographic Information and Analysis, NC Office of State Planning, 115 Hillsborough Street, Raleigh, NC 27603-1721; telephone 919-733-2090; fax 919-715-0725; tim@cgia.state.nc.us



### National and Regional-Level Area Integrator Concepts Using Multi-Scale, Feature-based Digital Transportation Data in West Virginia

This project is a cooperative effort between the West Virginia State GIS Technical Center, Department of Geology and Geography at West Virginia University, Office of the West Virginia State GIS Coordinator, West Virginia Department of Transportation, Division of Research and Planning, US Geological Survey, National Mapping Division, and Laser-Scan. The project seeks to develop technical processes that will integrate the mapping of transportation data from various regional and local data producers in an environment, a structure that will support the framework concepts for multi-resolution data, a feature based-unique identifier tracking, transaction update from contributions, and Internet-based data dissemination of the best available data. The project also addresses the institutional arrangements necessary to coordinate the national/regional area integration and distributed feature maintenance issues. The project will result in coordination of organizations with clear mandates and resources to cooperate for the creation of the "best" available transportation data in West Virginia. This framework demonstration project coordinates the framework research and development of several federal, state, local, and private sector stakeholders for transportation data for the state of West Virginia.

**Collaborating Organizations:** WV State GIS Technical Center; U.S. Geological Survey (USGS), National Mapping Division; USGS, EROS Data Center, USGS, Mid-Continent Mapping Center; USGS, Rocky Mountain Mapping Center; Laser-Scan, Inc.; WV Office of GIS Coordinator; WV Dept of Highways, Planning and Research Division

**Principal Contact:** Dr. Trevor Harris, Dept of Geology and Geography, WV State GIS Technical Center, WV University, 425 White Hall, POB 6300, Morgantown, WV 26506; telephone 304-293-5603 x4304; fax 304-293-6522; tmh@wvugeo.wvnet.edu



#### Upgrading TIGER Files Through Conflation With Local Street Files

This project will focus on upgrading the spatial accuracy of the Census TIGER file so that it is registered with other local data sets and can be used as the primary local street file. The TIGER file will be upgraded by conflating it with spatially accurate local street files that have been registered to digital orthophotos and to local cadastral data. The updates will be tracked using unique record ID's in order to facilitate updating the master TIGER data base. ArcView tools will be developed in the Avenue scripting language to assist local agencies in maintaining both the geographic and the tabular data in the upgraded TIGER file.

**Collaborating Organizations:** Association of Monterey Bay Area Governments and its members; CA State University at Monterey Bay; the Monterey County Water Resources Agency; the County of Santa Cruz; the City of Pacific Grove; the Central Coast Joint Data Committee and its members; Caltrans District 5 offices; Census Bureau Van Nuys office.

**Principal Contact:** Jim Werle, GIS Analyst, Association of Monterey Bay Area Governments, P.O. Box 809, Marina, CA 93933; telephone 408-883-3750; fax 408-883-3755; ambag@mbay.net



#### Arizona Cadastral Integration Project

The objective of this project is to create a framework and a system for the maintenance of a seamless Public Land Survey System (PLSS) and cadastral database for the state of Arizona. The project will determine how to effectively integrate cadastral data and its derivatives from various identifiable sources. The proposed project demonstrates how to inventory, classify, integrate, and disseminate cadastral themes for PLSS and ownership boundaries. The demonstration meets the critical need for 1:24,000 scale, or better, framework-compliant cadastral data of many

users in Arizona. The metadata supporting the cadastral themes will accommodate the consistent descriptive elements necessary for continued integration and use by the various data contributors.

**Collaborating Organizations:** Arizona State Land Dept, State Cartographer's Office; Arizona State Land Department, Arizona Land Resources Information System; Arizona Geographic Information Council; Arizona State Office, GCDB Project; USDA-Forest Service, Southwestern Region; City of Tempe, Public Works Dept; Arizona State University, Information Technology, Center for Environmental Studies; Salt River Project; Mapping Automation Inc.; City of Scottsdale, Development Services; Pima County, Tech Services; Southern AZ GIS Consortia.

**Principal Contact:** Gene Trobia, Arizona State Land Department, State Cartographer's Office, 1616 West Adams Street, Phoenix, AZ 85007; telephone 602-542-4060; fax 602-542-2600; gtrobia@lnd.state.az.us



#### Hawaii Framework Demonstration Project

The goals of this cadastral project are to establish a process and network of participants to collect, document, certify and distribute framework data for large government-managed land holdings. Project tasks include establishing a multi-sector Hawaii Framework Working Group, collecting and integrating existing local data, establishing verification and certification processes, conducting public outreach, developing data distribution mechanisms and framework updating protocols. The Island of Molokai will be the geographic focus of this project and a prototype for future framework activities on other islands.

**Collaborating Organizations:** Department of Business, Economic Development and Tourism, Office of Planning; Department of Planning, County of Maui; Department of Land Utilizations, City and County of Honolulu; University of HI, Geography Dept; US FWS; National Park Service; GeoInsight International; Geographic Decision Systems International; The Nature Conservancy of HI

**Principal Contact:** Craig Tasaka, Department of Business, Economic Development and Tourism, Office of Planning, 235 South Beretania Street, Honolulu, Hawaii 96813; 808-587-2894; fax 808-587-2899; ctasaka@dbedt.hawaii.gov



#### Alaska Land Ownership Mapping Project, Linking State and Federal Program Activities to Build the NSDI

Alaska's public agencies have collaborated to create an NSDI Framework Demonstration

Project Proposal for 1997. The purpose of the proposal is to improve the means to share land ownership information, increase the availability and use of these data, and to provide a strategy for developing a consistent approach for mapping large block parcel information using the recently published cadastral standard as a guidepost. This process will strengthen the working relationships among agencies managing land records, and will provide a foundation for future efforts to integrate native corporation land holdings and local borough land records.

**Collaborating Organizations:** Alaska Department of Natural Resources, Division of Support Services, Land Records Information Section; Bureau of Land Management; National Park Service; Bureau of Indian Affairs; US Forest Service; Fish and Wildlife Service; AK Department of Fish and Game.

**Principal Contact:** Rich McMahon, Alaska Department of Natural Resources, Division of Support Services, Land Records Information Section, 3601 C Street, Suite 916, Anchorage, AK 99503; telephone 907-269-8836; fax 907-563-1497; richard\_mcmahon@dnr.state.ak.us



#### Integrating Idaho Hydrography Data

Existing 1:100,000-scale hydrography data for the Northwest possesses enhanced attribute information on flow direction, network capabilities and includes stream names and reach numbers. This data is the source for the National Hydrography Dataset and is linked to many local applications concerned with sensitive species, water quality, protective river status, and disaster preparedness. The purpose of this project is to incorporate the attributes of this enhanced data through a conflation process linked to the river reach codes, and add missing canal features into higher resolution 1:24,000-scale hydrography data. Public access for this higher resolution data will be provided via the Internet and the State of Idaho's FTP site. By increasing the completeness of the 1:24,000-scale hydrography data, other organizations will be able to use this data as the basis on which to build unique application-specific data sets. This project will focus on the lower Boise River hydrologic area as a preliminary step in addressing hydrography for the entire state of Idaho.

**Collaborating Organizations:** Idaho Department of Water Resources; Idaho Department of Fish and Game

**Principal Contact:** Anthony Morse, Manager, Idaho Geographic Information Center, Idaho Dept of Water Resources, 1301 N. Orchard Street, Boise, ID 83706;

telephone 208-327-7997; fax 208-327-7866;  
tmorse@ idwr.state.id.us