

Oregon Geospatial Coordination Model

INTRODUCTION

There is a great need in Oregon for a Framework, or foundation, of easily and economically shareable information concerning the physical, biological, sociological, and economic features of our State. This kind of information is commonly called geographic information, which means that the information can be linked to specific geographic locations by such geographic locators as an address, a tax lot number, a mile post, a watershed unit, etc. It is widely acknowledged that 85% to 90% of all information collected and used by government agencies and utilities is geographically related. The use of guidelines and standards will make the collection, sharing and use of a geographic information Framework more efficient and less expensive.

The geographic data Framework in Oregon is a consistent, standardized set of digital geospatial data and supporting services that:

- provides a geospatial foundation to which an organization can add detail and attach attribute information
- provides a base on which an organization can accurately register and compile other themes of data, such as zoning, permits, floodplains, assessment data, accident data, hazardous waste site data, etc.
- orients and links the results of an application to the landscape.

The Oregon geographic data Framework helps data producers locate their information in its correct position and provides a means of integrating this information with other geospatial data. Benefits from the development of a statewide geographic data Framework include reduced expenditures for data, increased ease of obtaining and using data collected by others, accelerated development of critical applications, increased number of customers for data products linked to the Framework, and improved recognition of programs.

One of the most important tasks in developing a geographic data Framework for Oregon is to develop data standards for the various data themes that are most commonly needed and shared by users. When data standards are clearly defined, useful data is developed and shared by multiple data producers and users all across the state.

Oregon's vision for a statewide geodata Framework closely parallels Framework development throughout the rest of the country. The Federal Geographic Data Committee and the President's Office of Management and Budget guide the national effort.

A critical component of the Oregon geospatial coordination model is collaborative development. Framework data developed collaboratively, in partnership with local and regional governments, state agencies, federal agencies, academic institutions, and the private sector, present the opportunity to form agreements that result in ongoing data maintenance by the appropriate data steward(s) for each Framework data set.

COORDINATION MODEL

Vision Statement

In the fall of 2000, a diverse group of individuals and organizations from the Oregon Geographic Information System (GIS) Community participated in a forum on GIS issues in Salem, Oregon. As a result of this forum, the Oregon GIS Community developed, and the Oregon Geographic Information Council adopted, the following vision statement to guide future activities.

The Oregon Geographic Information Council (OGIC) envisions an environment for developing and managing Oregon's geospatial assets that:

- a. Encourages and supports the contributions of everyone in the Geographic Information Community;*
- b. Leverages the human, technical, and information resources of the Geographic Information Community to accomplish measurable statewide and local objectives and to solve real problems;*
- c. Provides an organized Framework to enable data integration and sharing of both spatial and non-spatial applications and information;*

- d. *Raises the awareness and knowledge of all citizens and businesses in the state about the uses and benefits of all geospatial technologies;*
- e. *Serves as a facilitator between geospatial technology and the broader realm of information technology;*
- f. *Prevents or discourages misuse or abuse of public data;*
- g. *Spreads the benefits of geographic information and geospatial technology broadly and equitably to improve the quality of life and the environment for Oregon's citizens.*

The **objectives** to be achieved as a result of that vision were identified as follows:

- **Coordinate Geographic Information Management Statewide**
- **Promote the View of Geographic Information as a Critical Information Asset**
- **Promote Partnerships and Collaboration to Develop and Use Geographic Information**
- **Enable Access to Geographic Data**
- **Address Legal and Policy Issues Related to Geographic Data Distribution**
- **Improve Geographic Information Framework Management**
- **Enable Integration of Non-Framework Geographic Data**
- **Improve Data Quality**
- **Support Data Sharing**
- **Support Provision of Services for Geographic Information Development and Use**
- **Promote Broader Use and Benefit of Geographic Information Systems**

Coordination Process

The *State Geospatial Information Officer* manages the Geospatial Enterprise Office, located within the Oregon Department of Administrative Services, coordinates the GIS activities of all state agencies, local governments, and academic institutions in Oregon, and brokers enterprise partnerships for spatial data production and stewardship.

The Geospatial Enterprise Office (GEO) works with and staffs the *Oregon Geographic Information Council*, created by Executive Order and composed of representatives from 23 state agencies, 4 local governments, 2 federal agencies and the Oregon Tribes. The Council debates and approves resources and standards for development of shared information and tools that prevent duplication of data and save millions of tax dollars every year.

The Council developed the 'Oregon Strategic Plan for Geographic Information Management', adopted in June 2001 and updated twice since. The Strategic Plan calls for the establishment of a Framework Implementation Team (FIT) and the design of an inclusive data standards development process. The Framework Implementation Team is composed of representatives from all levels of government, utilities, academia, and the private sector. The Oregon Geographic Information Council's Framework Implementation Team has identified and prioritized 15 primary Framework data themes, containing over 250 individual data elements. There are Framework Working Groups working concurrently on 13 of these themes, with over 450 people in the various groups. Each Group has two items on its agenda:

- Develop or revise the implementation plan for the Framework theme
- Propose an existing or revised data content standard for the Framework theme

The individual Framework Work Groups conduct research to determine if a national standard or other state standard exists that will meet the needs of the GIS community in Oregon, perhaps with slight modification. A key element of the process is the presentation of each standard for endorsement by the GIS community at a semiannual Standards Forum.

The standards process is very inclusive and is driven by the needs of the GIS community. When the community has determined the appropriate standards, those standards are endorsed at the executive level in state government,

mandated for state agencies and academic institutions, and strongly recommended for adoption and use by other levels of government and the private sector.

The Council's standards development process has resulted in the development and adoption of 26 data content standards over a 14-year period. The process was initiated in December 2002 and is ongoing.

The standards are enforced through two mechanisms: *Enlightened self-interest* AND *financial assistance*. Government agencies come together to agree upon a shared data model so they don't have to spend all their limited resources developing data, but can instead expend more resources on solving problems.

The State Geospatial Information Officer identifies funding mechanisms that pass state and federal funds through local governments and state agencies to develop standardized data and to establish ongoing maintenance agreements that ensure a steady stream of updated data. Collaboration among the entire enterprise of government in Oregon makes this possible. The appropriate data steward(s) is identified as part of the collaborative process of data development. Many organizations at all levels of government and the private sector may be Framework data contributors, adhering to agreed upon standards in exchange for financial and other incentives. The data steward is most often an identified state or federal agency that has agreed to modify internal business processes to produce an integrated Framework data set by incorporating contributions from data producers into a centralized data model. Constant integration by the data steward of updated Framework data from local, state, and federal data contributors is an essential component of the Framework process.

The Council is an enterprise governance structure. It oversees the ongoing coordinated development of all the data sets indicated above. At the current funding levels, the initial data development for all Framework data sets is projected to take more than 30 years, although much of this data is useable in an incomplete form now. Ongoing maintenance of these data sets, as coordinated by OGIC, to ensure their continued availability for all agencies and organizations is critical to prevent the waste of the initial investment.

The Council, and its administrative structure of subcommittees and staff, also assist with and coordinate the use of the Framework data with the vast amount of other government data needed to make decisions and solve problems. The Council develops consensus among all levels of government regarding data use issues, such as privacy, liability, security, cost recovery, public access, etc., and technical data exchange issues, such as edgematching, datums, projections, etc., as these issues arise. The Council also addresses other issues that affect the GIS Community, such as professional certification, training, procurement, software licensing, etc. The Council represents a microcosm of the broader IT Community and reports many of its recommendations to the State Chief Information Officer. The OGIC and GEO also coordinate Oregon's GIS efforts with more than a dozen national initiatives.

One of the key components of GEO is the *Oregon Spatial Data Library (SDL)*, a curated Internet collection of locational information that receives approximately **300,000** visitors and **200,000** data downloads each month. The SDL includes many functions designed to support the Oregon GIS Community:

- Communication mechanisms that help to develop and build a sense of community among the users of GIS technology and geospatial data.
- Metadata repository to ensure that all Framework data sets shared by multiple agencies are properly documented according to accepted standards.
- Geospatial data access and distribution to ensure the easiest possible access to Framework data needed for decision-making.
- Geospatial data archival, coordinated through the Oregon University library system.
- Internet mapping services to enable all users to view and manipulate data holdings without specialized GIS software or knowledge.
- Data integration, coordinated through identified data stewards for each Framework dataset.