

Nebraska Spatial Data Infrastructure

Objective

To develop and foster an environment and infrastructure that optimizes the efficient use of geospatial technology, data, and services to address a wide variety of business and governmental challenges within the state. Geospatial technologies and data will be delivered in a way that supports policy and decision making at all levels of government to enhance the economy, safety, environment and quality of life for Nebraskans.

Description

Geospatial technologies incorporate geographic information systems (GIS), global positioning systems (GPS), remote sensing such as imagery and Light Detection and Ranging (LiDAR), and other geographic data and information systems. We use GIS as a tool to capture, store, manipulate, analyze, manage, and present all types of geographical data.

Information about people, places and events can be integrated by location (geography) by using these technologies. It represents nearly all spatial information used by government organizations and their partners to manage resources and various services on behalf of Nebraska's citizens. Coordination among and between government organizations and their partners to efficiently collect, use and maintain this information using geospatial technologies has steadily improved decision making over the past several decades. But economic pressures, increased environmental issues, and a rapidly increasing amount and complexity of information required for effective decisions make it necessary to dramatically improve the way geographic information is managed. Because of this, solutions are sought to find statewide data and services that meet our goals while providing quality and accurate data that meets state and federal standards.

The major components of this initiative include:

- Facilitating the creation, maintenance, analysis and publishing of quality Nebraska Spatial Data Infrastructure (NESDI) data and information systems.

The NESDI comprises of geospatial data layers that have multiple applications and are used by a vast majority of stakeholders. These layers meet quality standards and have data stewards to maintain and improve the data on an ongoing basis. They are consistent with the Federal National Spatial Data Infrastructure (NSDI) "7 framework layers" and provide additional layers of particular importance to Nebraska. The current priority layers for the state include: imagery, elevation, street centerlines, point addressing, and land records.

- Survey and Geodetic control
 - Transportation (roads, rail, air, etc.)
 - Cadastre/parcels
 - Elevation
 - Aerial imagery
 - Hydrography
 - Political and administrative boundaries
 - Addresses
 - Soils
 - Groundwater features
 - Watershed boundaries
 - Land use/land cover
- Encourage data sharing and provide widespread access to data and services through NebraskaMAP.gov.

NebraskaMAP is the public's access to geospatial data in Nebraska. It is responsible for being the authoritative clearinghouse for state government data. It started as a metadata portal and currently provides more than 242 geospatial metadata files and access to server web mapping services for use in other state agency base map applications. This initiative will enhance NebraskaMAP into a multi-use enterprise platform by providing and sharing NESDI data either through direct download, API and REST services, or accessing through web and mobile services.

- Develop and implement NESDI layer standards and guidelines.

The GIS Council has led intergovernmental efforts leading to the development and formal adoption of geospatial related guidelines and standards. Metadata standards have been developed specific to Nebraska needs while maintaining compliance with the metadata standards from the Federal Geographic Data Committee (FGDC). As an example, the Land Record Information and Mapping Standards were adopted on January 27, 2006. These standards provide guidelines for public entities responsible for maintaining property parcel maps. Additional standards are currently being developed for street centerlines, addresses, imagery, elevation, and data sharing.

- Facilitate technical assistance and education outreach opportunities for furthering the adoption of the NESDI and geospatial applications.
- Achieve sustainable and efficient allocation of resources to support the implementation and wise governance of GIS services and geospatial data.

Benefits

By encouraging the appropriate utilization of geospatial technology and to assist organizations to make public investments in the technology and geospatial data can provide many investment returns and benefits. The following are just a few anticipated benefits from this initiative:

- Improved access to complete, high-quality geospatial data layers that are authoritative and peer reviewed.
- Meeting public access needs through NebraskaMAP as a one-stop shop to Nebraska SDI data, maps, and GIS web services. Reducing overhead by "*Creating it Once, Sharing it Many.*" Having one authoritative data and web services clearinghouse will reduce redundant data and services across multiple agencies.
- Increased state and local collaboration and formal approach to data stewardship.
- Improved maintenance of regional and local geographic data as a result of common standards, procedures, and stewardship practices.
- Access to data and technology will be more consistent, with less regional disparity.
- Multi-jurisdiction geographic information management will be more efficient and better coordinated, particularly in response to natural disasters, homeland security and other statewide emergencies.
- Improved consistency of public policy implementation across agencies from using consistent and similar data.
- Opportunities for leveraging and sharing resources and funds for future data and technology needs.