GIS PROGRAM REPORT

July 1, 2017 – June 30, 2018

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Executive Order 2001-06: "The committee shall issue a report to the Governor's office at the end of each fiscal year, detailing progress, and problems encountered with GIS development in the state."

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MANAGING AGENCIES

The GIS Program's coordination efforts are managed by the GIS Technical Committee (GISTC), as established by Executive Order 1995-05 and reaffirmed by Executive Order 2001-06.

GIS PROGRAM HISTORY

1995 - GISTC Established

- Executive Order 1995-05 established GISTC
- Executive Order 2001-06 reaffirmed GISTC

2000 – Agencies Lead the Way

- GISTC asked CIO to study the need for a centralized GIS repository
- Consultant completed comprehensive review of GIS in state government

2001 – Funding & GIS Hub Development

- Legislature funding added to ITD budget to develop the GIS Hub
- Consultant worked with three GISTC pilot agencies

2002 – GIS Hub Standards

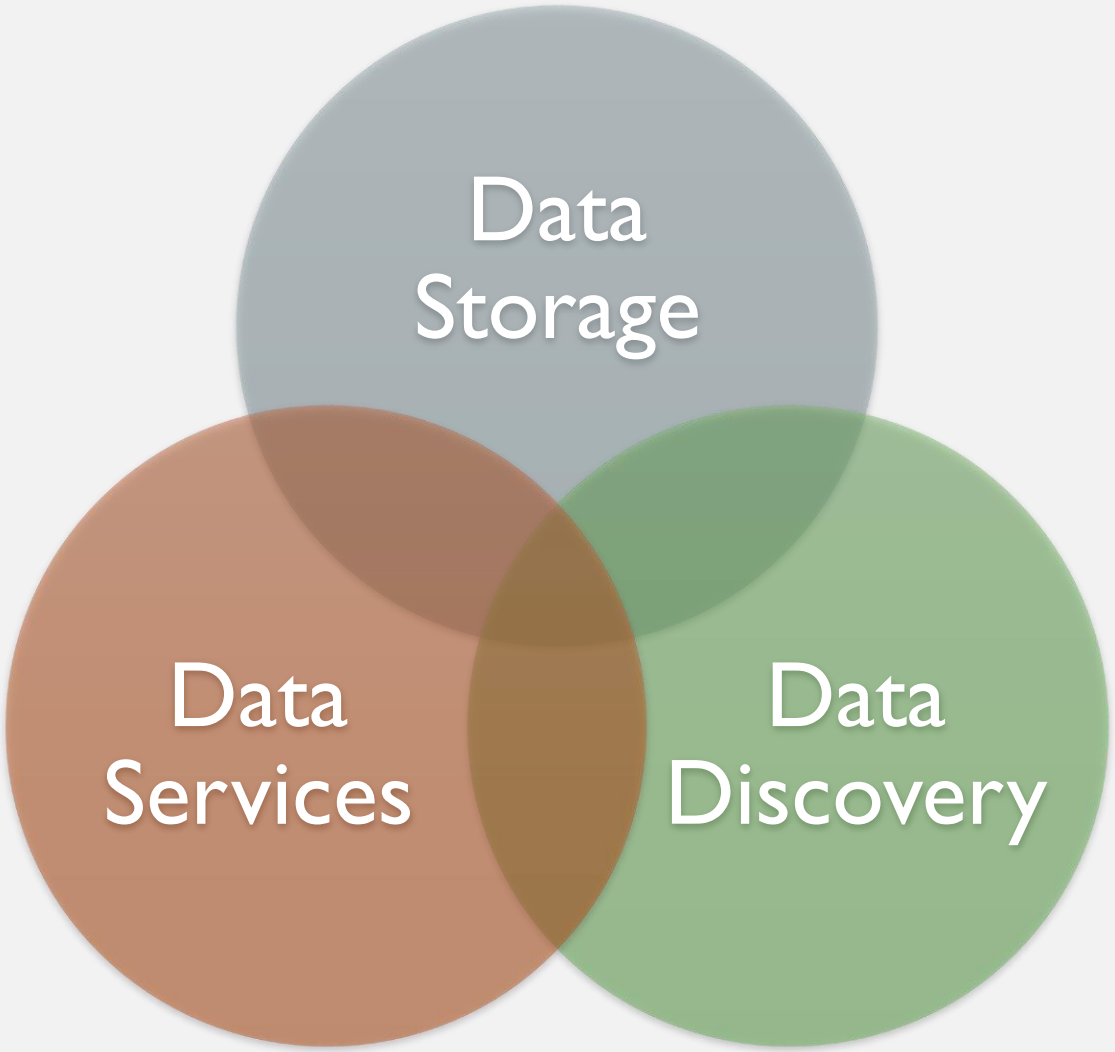
- GISTC defined authoritative data sources, naming conventions, data organization, metadata standards

2002 - GIS Hub in Production

- GISTC data stewards provide their geospatial data to the GIS Hub
- Geospatial data is accessible via the database and web services

GIS HUB

The core of the GIS Program is the GIS Hub. The GIS Hub is a database of shared agency data and is a web infrastructure that supports state agency GIS and is used to disseminate geospatial data to other levels of government and to the public.



REINVENTING GOVERNMENT: THE GIS PROGRAM

Open Data

- The GIS Hub Data Portal - the state's first open data application

Platform

- State agencies leverage and re-use the existing GIS Hub infrastructure to build new applications and share geospatial data
- The GISTC agencies coordinate and collaborate on activities including data development and the management of the GIS Hub

Cloud

- GIS Hub data has been available via a cloud service since 2011
- The GIS Hub Data Portal has been on the cloud since 2017
- GIS Hub infrastructure has begun to be migrated to the cloud

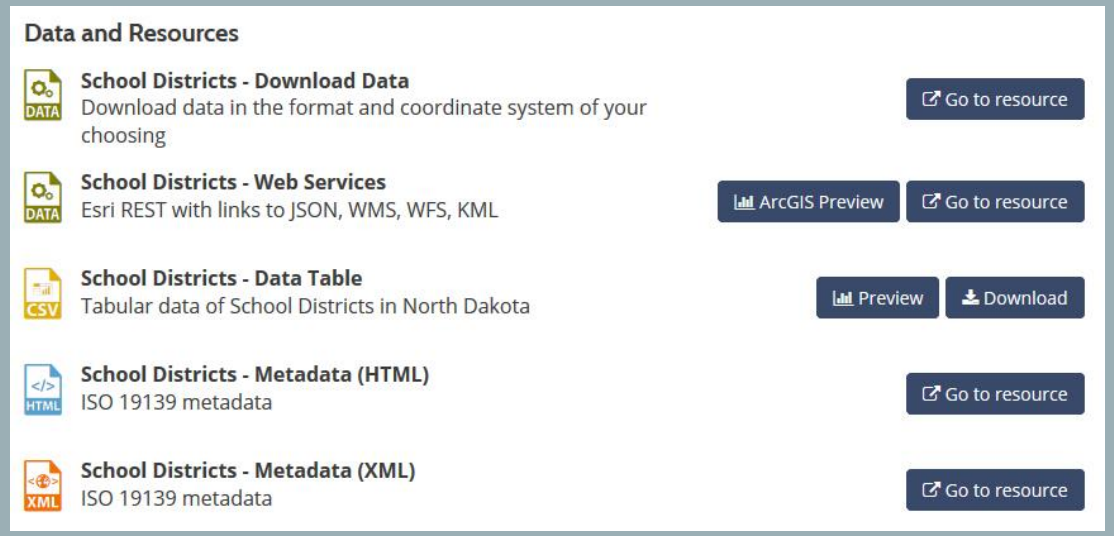
COLLABORATION

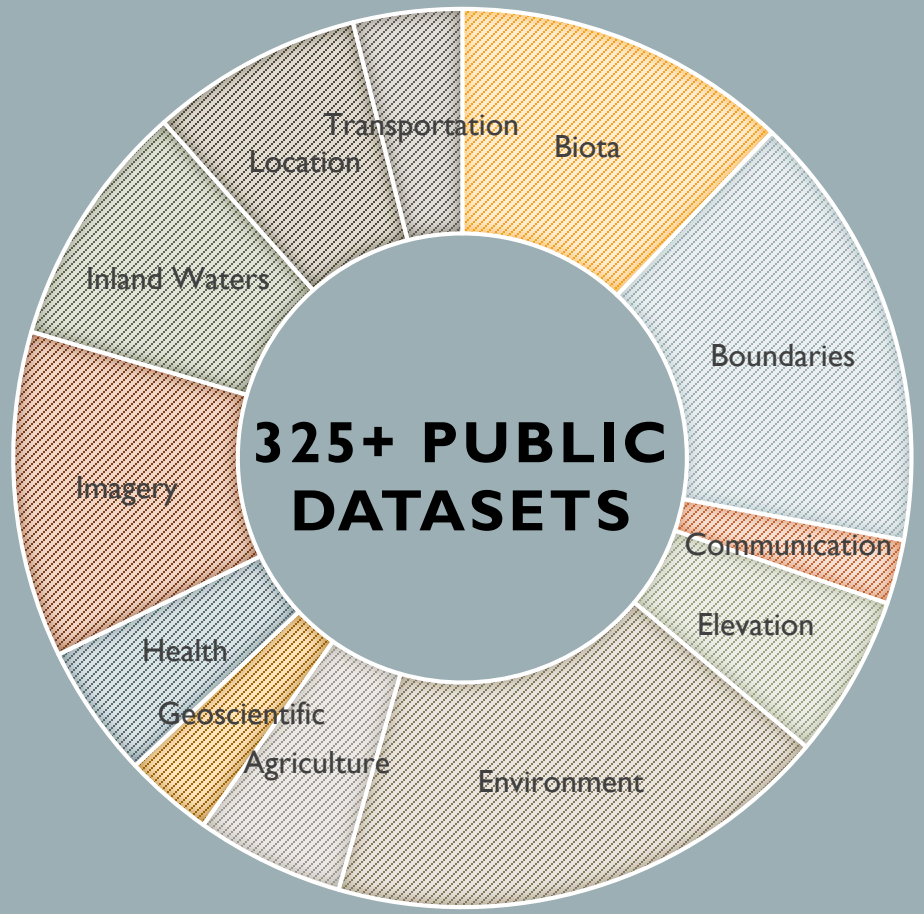
In addition to sharing geospatial data and managing the GIS Hub, the agencies of the GIS Technical Committee work together to provide networking and education opportunities.

13	Managing Agencies
17	Years in Operation
12	State GIS Conferences
12	Meetings per Year
$102,480	Saved in Training Costs

GIS HUB DATA PORTAL

The GIS Hub Data Portal is built upon an open data platform containing geospatial data and information maintained by state agency data stewards. Datasets and related information are available in a variety of formats:





DATA STEWARDS

Only 13 GIS professionals within state agencies maintain 100's of publicly-available AND agency-specific geospatial datasets. The State of North Dakota, its agencies, other levels of government, the private sector, and the public through the GIS Program, rely on these subject matter experts to provide data and their experience.

Database Storage

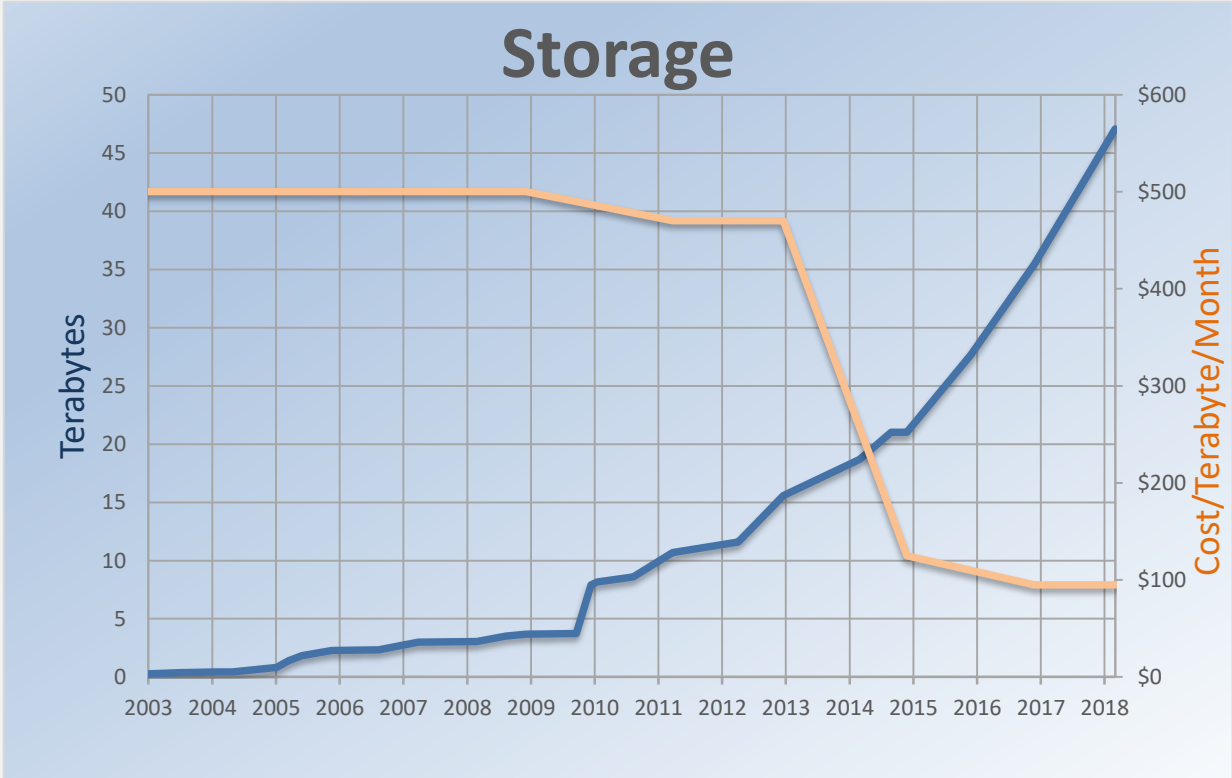
- Each dataset contains up to 1,600,000 features
- Each feature contains up to 150+ fields

File Storage

- A single aerial photo dataset contains up to 750,000+ photos
- A single elevation dataset contains up to 64,000+ tiles

STORAGE

The greatest consumption of storage is attributed to aerial photography. As an example, the 2017 statewide imagery that was obtained from the U.S. Department of Agriculture requires nearly 2.5 terabytes of storage. Storage accounts for almost 26% of the GIS Program budget.



GEOSPATIAL DATA SERVICES

1,332	Average Downloads / Month
309,452	Average Web Service Transactions / Day
142	Web Services

Examples

Imagery

Roads

Water

Lands

Data services power web and desktop applications

CHALLENGES

Imagery

- In anticipation of the end of the existing USDA NAIP imagery program, the Department of Emergency Services needs continued funding for its imagery which is shared statewide. Aerial photography is used for critical decision-making and for developing and maintaining geospatial data.

Parcels

- Develop a statewide property parcels dataset using existing and new parcel data. Parcels are needed for agency business processes and economic development.

City Boundaries

- Streamline the workflow for maintaining the statewide municipal boundaries dataset. These boundaries are needed for Next Generation 9-1-1, accurate distribution of state sales tax, accurate collection of city sales tax, and accurate housing counts for the 2020 Census.

THE IMPORTANCE OF GEOSPATIAL DATA

"The power of a map to put time and place and phenomena together, to give it to our brains through the most potent input sensor human beings have - our eyes - is a remarkable accelerator for the comprehension and engagement and use of the data that tell us what's on Earth, where are things happening on our planet, what is happening on our planet, how is that changing through time and space, and how is any and all of that intersecting my life, my business, my country, my community?"

-Kathryn Sullivan, former NASA astronaut, quoted by Dr. Joseph Kerski, Esri, in "Key statements about the importance of spatial data" in https://spatialreserves.wordpress.com/2018/08/06/key-statements-about-the-importance-of-spatial-data/

NEED MORE INFORMATION?

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