The National Spatial Data Infrastructure (NSDI)

What is it? and why is it important to North Carolina?

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May 8, 2024

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FEDERAL GEOGRAPHIC DATA COMMITTEE

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Topics

- FGDC
- NSDI
- Relationship to NC
- NSDI Strategic Plan
- How you can participate

FGDC and the Geospatial Data Act

1. Federal Geographic Data Committee (FGDC) – a 32-member interagency committee established in the Geospatial Data Act (GDA) of 2018 that "shall act as the **lead entity in the executive branch** for the development, implementation, and review of policies, practices, and standards relating to geospatial data."
2. Secretary of the Interior shall serve as Chairperson of the Committee
3. Director of the Office of Management and Budget shall serve as Vice Chairperson of the Committee
4. Not later than October 5, 2019, and as needed thereafter, the Director of the OMB shall update guidance with respect to **membership of the Committee and the roles of members of the Committee**.

The GDA established FGDC as the lead for federal geospatial policy in 2018.

Who is the FGDC?

FGDC is a 32-member Interagency Committee.

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Summary of FGDC Duties under GDA

1. National
   a. Lead the development and management the National Spatial Data Infrastructure (NSDI) strategic plan and geospatial data policy
   b. Define roles and responsibilities and promote and guide cooperation and coordination among agencies of the Federal Government, State, tribal, and local governments, academia, and the private sector in the collection, production, sharing, and use of geospatial information, and the implementation of the NSDI
   c. Coordinate with international organizations having an interest in the National Spatial Data Infrastructure or global spatial data infrastructures
   d. Advise Federal/non-Federal users of geospatial data on their responsibilities relating to implementation of the NSDI

2. Federal
   a. Oversee the coordinated management of the federal geospatial portfolio (i.e., National Geospatial Data Asset data themes)
   b. Establish and maintain geospatial data standards
   c. Operate a GeoPlatform that provides access to geospatial data and metadata to the general public
   d. Communicate with and foster communication among covered agencies and other entities relating to geospatial data technology development, transfer, and exchange; promote cost-effective data collection, maintenance, distribution, and preservation strategies; and leverage Federal and non-Federal resources
   e. Develop and submit a report to Congress every 2 years

Slide 5

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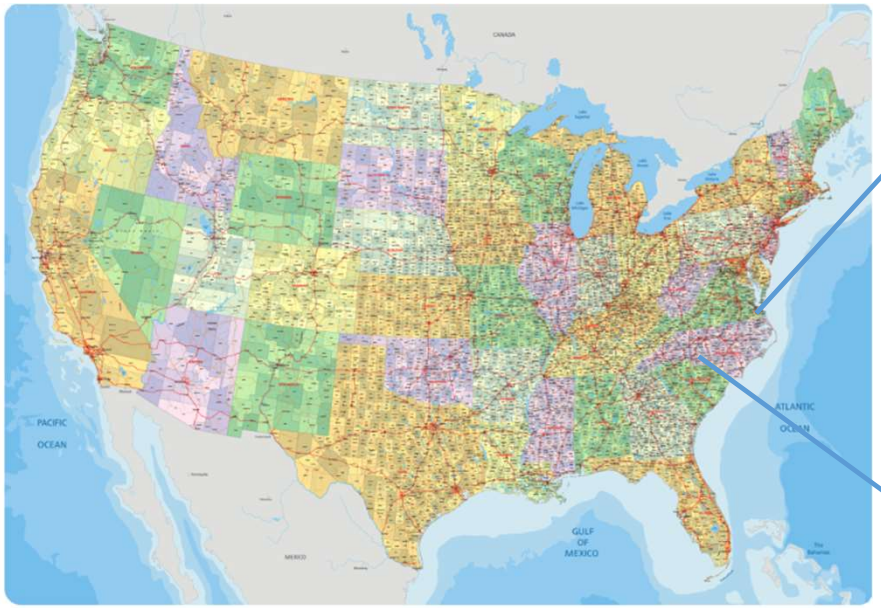
FGDC and NC

1. **NSDI**
2. **Interagency Coordination**
3. **Standards for geospatial data and metadata**
4. **Data Access and sharing**
5. **Advocacy**
6. **Outreach and Strategic Communications**

Federal Geospatial Portfolio

1. 18 themes
2. 172 National Geospatial Data Assets
3. 220,000 geospatial data sets

NSGIC Maturity Assessment



GEOSPATIAL MATURITY ASSESSMENT 2023

North Carolina Report Card | Overall Grade: A

COORDINATION	GRADE: A

STATE-LED THEMES	GRADE
Address	A
Cadastre	A
Elevation	A-
Orthoimagery Leaf-Off	A
Transportation	A
NG9-1-1	A

FEDERAL-LED THEMES	GRADE
Geodetic Control	A
Government Units	A
Orthoimagery Leaf-On	B

METRICS:

A - Superior
B - Above average
C - Average
D - Below average
F - Failure
N/A - Not Applicable

The National States Geographic Information Council Geospatial Maturity Assessment provides NSGIC members and other partners with a summary of geospatial initiatives, capabilities, and issues within and across state governments. The NSGIC GMA now produce report cards for each state on central data themes and coordination topics. The assessment is performed every two years.

NSGIC

www.nsgic.org | info@nsgic.org | #nsgic

The Geospatial Data Act

Unleashing Data for Public Good—
Geospatial Data Act of 2018

The GDA reflects growing recognition of the essential role of geospatial data and technology and highlights the need to support their continuing development as critical infrastructure for the Nation. OMB Circular A-16 a requirement of the GDA provides implementation guidance.

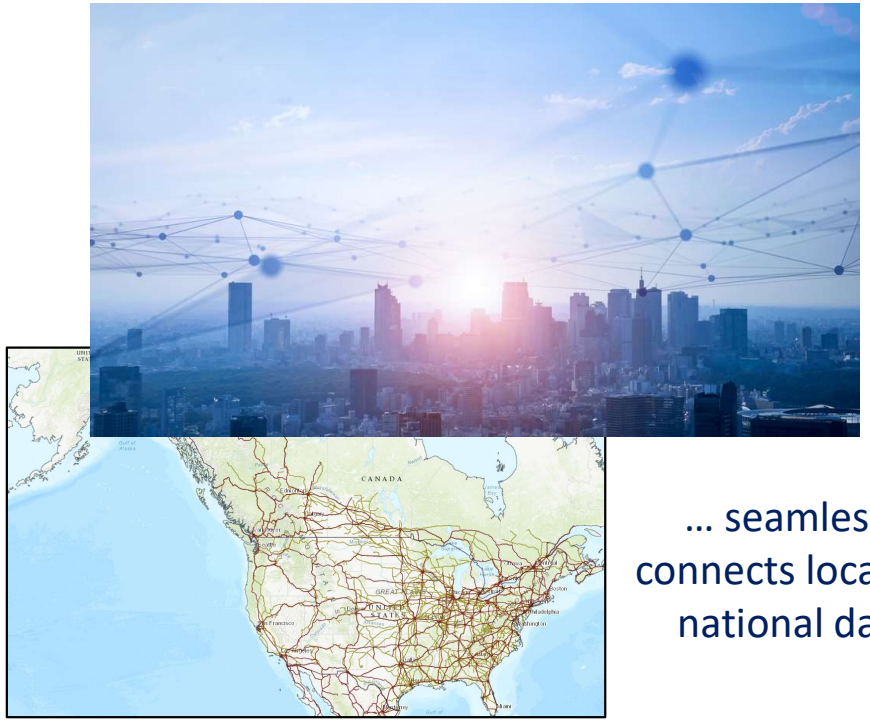
Formalizes governance structures for geospatial data including the Federal Geographic Data Committee (FGDC) and the National Geospatial Advisory Committee (NGAC)

Provides policy and guidance to empower the use of geospatial data and technology for the Nation

Facilitates broad cooperation between the public and private sector in implementing the National Spatial Data Infrastructure

NSDI: A Digital Infrastructure for the Nation

- The NSDI is a digital infrastructure that connects location information from Federal, State, Tribal, and local Governments making that information available for all to use.
- The NSDI connects national and Federal data to State, local, Tribal, and other data sources to deliver data for joint use, reuse, and informing local-to-national solutions.
- Just like the Interstate Highway System (IHS), the NSDI is an infrastructure that enables every facet of our society.



… seamlessly connects local and national data.

The NSDI is the digital infrastructure that connects our Nation's data enabling local to national solutions.

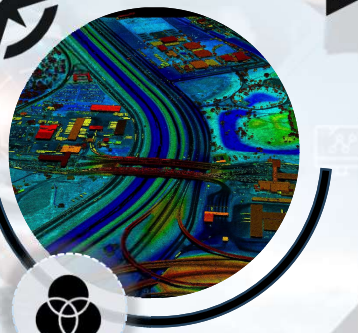
Economic Value of Location

$73 Billion

The U.S. Geospatial Services Industry is a $73 billion business.[2]

$1.6 Trillion

Geospatial Services companies drive $1.6 trillion in revenue and $1.4 trillion in cost savings throughout the U.S. economy.[2]



10% Growth

Economic impact of geospatial services in marketing, logistics, and strategic decision-making will grow by at least 10% over the next five years.[2]

$690 Million

Economic benefit of 3D elevation in the U.S. is conservatively estimated at $690 million per year[1]

649,000 Jobs

The U.S. Geospatial Services Industry Employs a workforce of 649,000 people.[4]

77% Open

The majority of records in the Nation's open data catalog are Geospatial[3]

[1] National Enhanced Elevation Study, Rvsd March 29, 2012, Dewberry, commissioned by USGS, Pg 79; [2] Putting the U.S. Geospatial Services Industry on the Map, December 2012, Boston Consulting Group; [3] Data.gov Data Catalog, https://catalog.data.gov/dataset/, February 13, 2023; Dept of Labor - https://www.careeronestop.org/Toolkit/Careers/Occupations/occupation-profile.aspx?keyword=geospatial.[4]

Geospatial data and location-based services are critical components underpinning the U.S. and global economy.

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Slide 11

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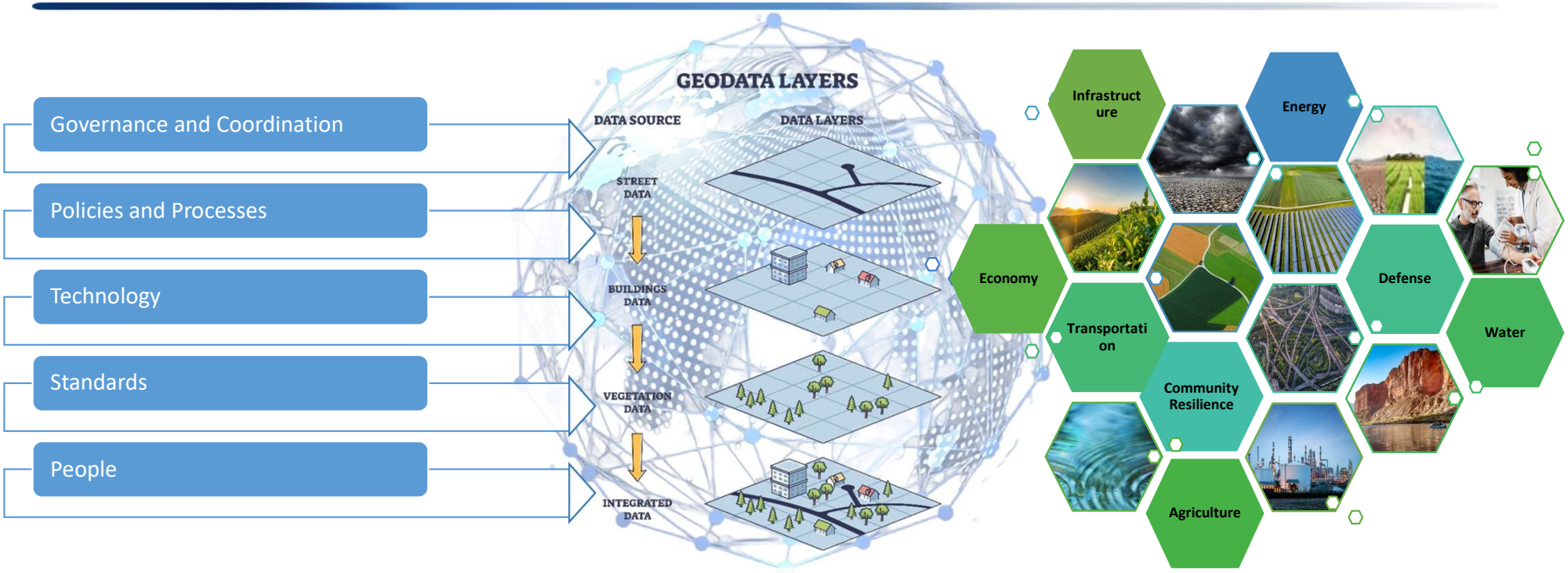
What does the NSDI consist of?



The NSDI is made up of the **technology, policies, criteria, standards**, and **people** necessary to promote geospatial data sharing throughout the Federal Government, State, tribal, and local governments, non-profits, academia and the private sector.

FEL0

How is the NSDI Being Used?

Location data is used across the Nation to address a wide variety of challenges critical to government and business – saving, time, money and lives.

Slide 13

FEL0 [@Delmonico, Joshua J] I took elements from slide 7 and others for this slide. Added some notes to consider.
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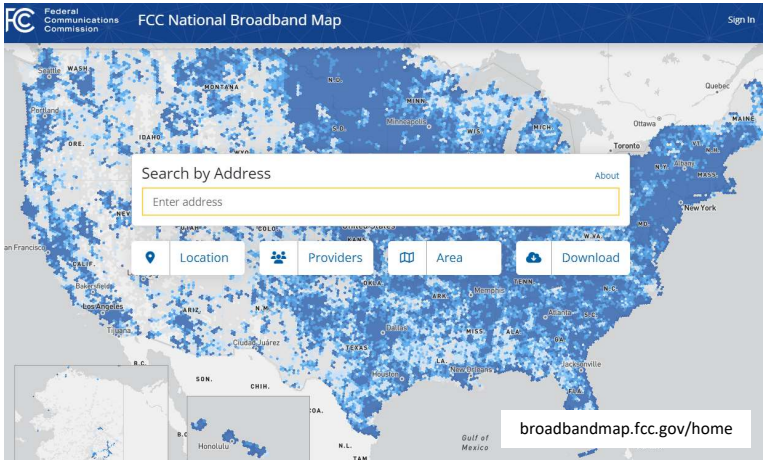
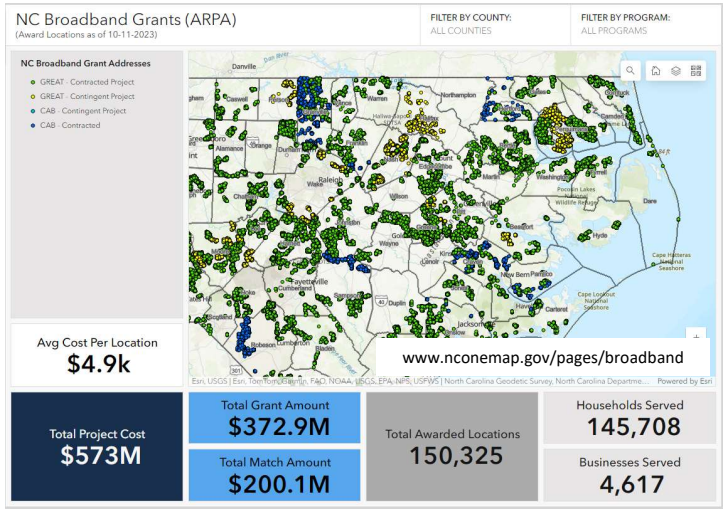
Examples of Local, State and Federal Data

1. Local or State data
    1. Road Data
    2. Address Data
    3. Parcel Data
    4. Hydrography
    5. Ortho-imagery
    6. Local boundaries (e.g., city, county, special service districts, school districts, and zoning designations)
2. Federal Data
    1. Public land parcels
    2. Elevation
    3. Satellite remote sensing - Federal Domain for initial technology investment and continuity of operations, growing commercial space for use cases that can be monetized. No one is holding their breath for a state or local government funded satellite deployment.

NSDI In Action Serving Citizens – North Carolina

- Congress's Bipartisan Infrastructure Law established the National Broadband Map to work with States to improve high-speed internet access to citizens.
- North Carolina (NC) engaged the community through their NC OneMap portal and state SDI, providing integrated State and local geospatial data to test and map actual service levels, identifying 115,000 additional homes and businesses lacking high speed internet.





- The result was increased service delivery that meets both the Federal intent and the actual needs of citizens and businesses.
- The NSDI enables data access and sharing across Federal, State, local, and private sectors.

Why the NSDI?

- Emergencies large and small, including wildfires, floods, hurricanes, tornadoes, and earthquakes don't respect administrative or political boundaries.
- Roads, bridges, dams, electric and gas lines, telecom, sewer, water, and stormwater each have connection points that cross, or at least connect at, artificial administrative boundaries we've set up...cities, counties, states, even national boundaries.
- We need to coordinate and collaborate across those boundaries. The data needs to facilitate that coordination and collaboration.
- Everyday activities like getting an ambulance or fire truck to the right location or delivering packages or pizza to the right address, requires many people to work across our administrative boundaries.
- How do we bring all these data together?
- Our administrative boundaries, funding mechanisms, public policies and governance structures are set up in stovepipes
- The NSDI is a mechanism to bring these data together to enable us to meet challenges of today and tomorrow.
- Rethinking how to work together better.
- Developing a national strategy that we're about to publish and developing several NSDI pilot projects that will help us learn more about how to work together more effectively across administrative boundaries.

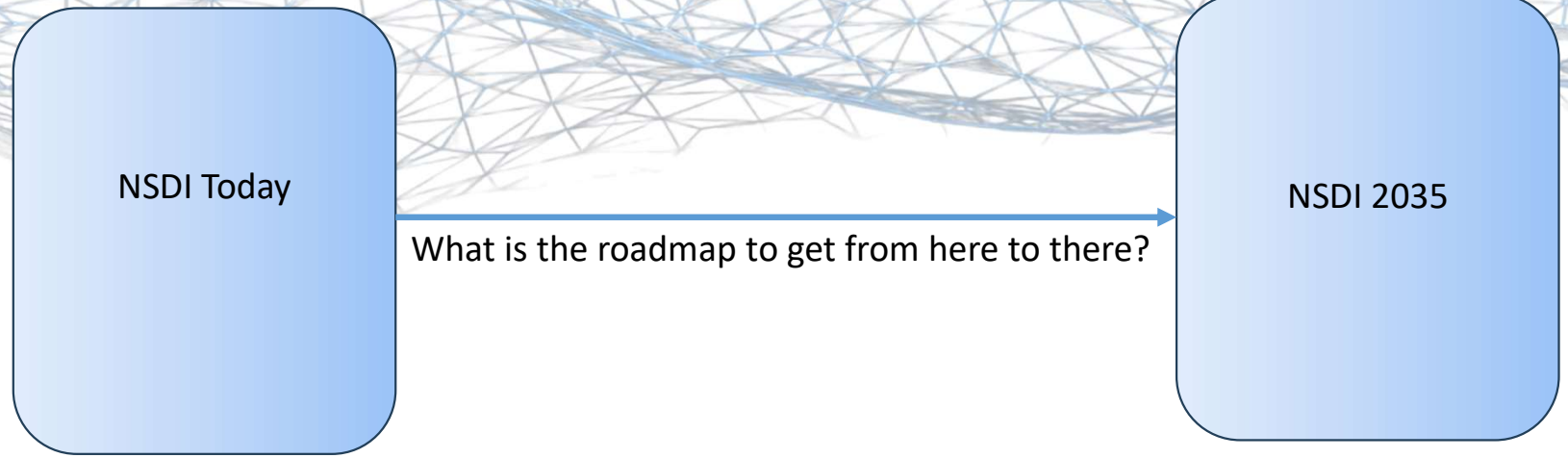
Delivering the NSDI requires us to have complete, consistent and standardized across the administrative boundaries...nationwide.

NC and the NSDI

1. Local and state governments use key national/NSDI data layers and contribute key content into nationwide layers.
2. Mature states like NC have an important role in contributing their experiences to establishing nationwide best practices (e.g., data governance) to help all this work better together.
3. Data Collection and Maintenance
4. Data Sharing and Coordination
5. Standards Compliance
6. Infrastructure Development (including Applications and Tools)
7. Capacity Building and Training

Local/regional/states are all beneficiaries and contributors to the NSDI data (primarily through the state SDI),

National Spatial Data Infrastructure Now and into the Future



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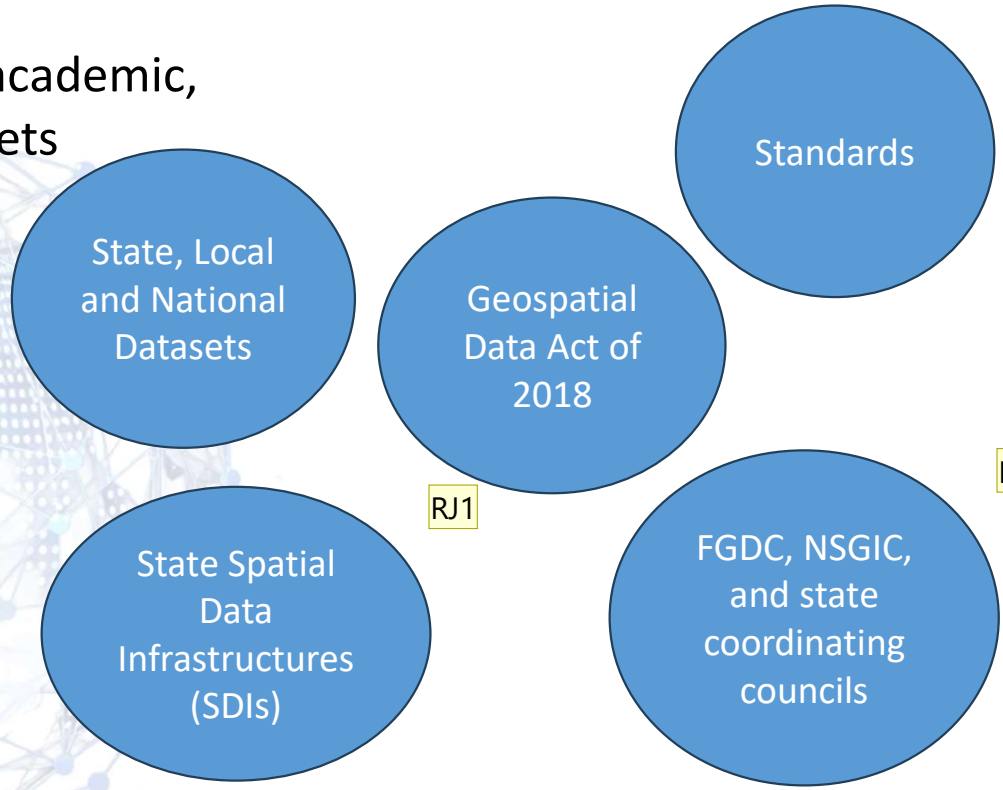
The NSDI Today

1. National, private sector, non-profit, academic, Federal, State, Tribal and Local datasets
2. Global Standards Framework
3. Tools and Applications
4. Policy and Governance



Significant progress has been made on implementing the NSDI however much work remains.

Slide 19

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DuBan, Elizabeth A, 2024-04-03T19:33:37.046

NSDI 2035

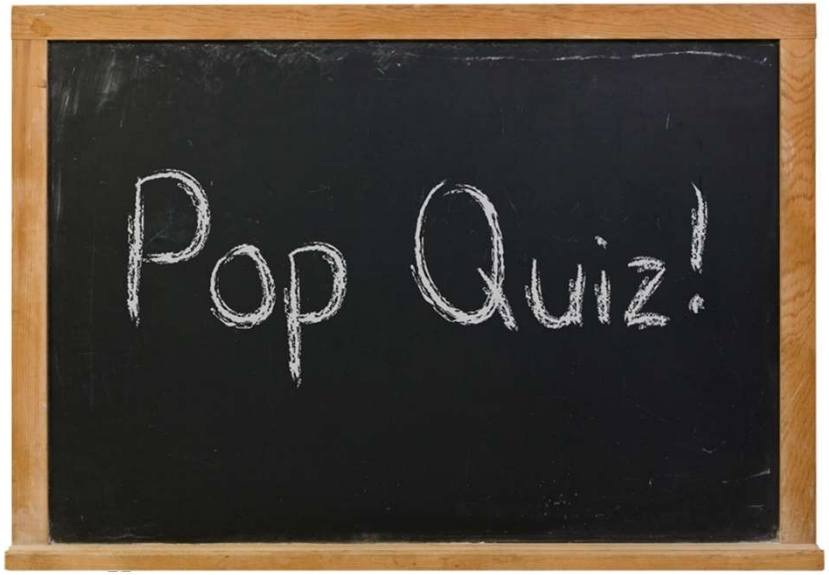
1. AI-driven Action
2. Global Interoperability
3. Self Updating Maps
4. Intelligent Search and Discovery
5. Immersive Visualization
6. Geospatial Knowledge and Insights

"Geospatially informed
NOT geospatial centric"

Geospatial knowledge available to everyone. Location information integrated in A/I and available in everyday applications (e.g., Siri)

How are we going to get there?

A. Together
B. Wait for it to happen
C. Hope
D. Develop a shared vision and plan to get there
E. A and D



Vision 2035: Advancing the US National Spatial Data Infrastructure –

A Strategic Plan for Innovation and Collaboration

2025 - 2035

NSDI Strategic Plan Development Process

- Drafted initial set of goals based on stakeholder engagement
- Solicited feedback from over 800 individuals and organizations (e.g., NGAC) through conferences (e.g., Esri FedUC and UC, URISA, Tribal GIS, NSGIC), webinars, meetings and one on one engagements to include many of you
- Refined the initial draft
- Aligned it with United Nations Group of Experts on Global Geographic Information Management (UN GGIM) Integrated Geospatial information Framework (IGIF)
- Integrated input from stakeholders and GeoGov Summit into actions in draft implementation plan

Draft NSDI Goals and Objectives

Table of Contents

NSDI Vision and Mission Statement

Vision

A seamlessly interconnected national geospatial ecosystem.

Mission

Deliver highly responsive, timely, and dependable public and private geospatial data, applications and services that provide knowledge on-demand and actionable insights to address local, regional, national, and global challenges.

Draft NSDI Goals and Objectives

Goals	Objectives		
Governance: Implement National Governance and Collaboration	**1.1 Governance and Institutions:**	**1.2 Policy and Legal:**	**1.3 Financial:**
Data and Technology: Strengthen/Adapt the Infrastructure and Leverage Advanced Technology	**2.1 Data:**	**2.2 Innovation:**	**2.3 Standards:** **2.4 Infrastructure**
People: Building a Skilled and Inclusive Geospatial Workforce for a Sustainable Future.	**3.1. Partnerships:**	**3.2 Capacity and Education:**	**3.3 Communication and Engagement:**

Priority National Datasets

- Parcels
- Addresses
- Buildings/Structures
- Imagery
- Utilities
- Hydrography
- Land Use
- Roads and trails
- Boundaries

Draft NSDI Goal 1: Governance

Objective 1.1 Governance and Institutions: Establish a dynamic, inclusive, and collaborative governance and coordination structure where all sectors develop, contribute to, and implement a shared vision for the NSDI with a commitment to working together for the benefit of the Nation.

Objective 1.2 Policy and Legal: Refine the policy and legal framework to enable the NSDI.

Objective 1.3 Financial: Identify and meet financial and other resource needs necessary for implementing the NSDI Strategic Plan.

Draft NSDI Goal 2: Data and Technology

Objective 2.1 Data: Evaluate, improve, monitor, and advance the Nation's geospatial data portfolio and supporting infrastructure.

Objective 2.2 Innovation: Prepare for, embrace, and promote rapid adoption of advancements in technology.

Objective 2.3 Standards: Create and maintain national standards that promote global interoperability and data sharing. Policies, strategies, and standards are key to a stable market.

Objective 2.4 Infrastructure: Create an integrated geospatial platform, connecting systems of data with a highly efficient searchable index based on common standards of practice and enabling use of advanced technologies.

Draft NSDI Goal 3: People

Objective 3.1 Partnerships: Foster multi-sectoral partnerships with tribal, federal, state, and local governments, private industry, academia, philanthropic, and non-profit organizations…

Objective 3.2 Capacity and Education: Access to a trained and educated geospatial workforce with the tools they need to deliver high-quality work.

Objective 3.3. Communication and Engagement: Strengthen awareness and understanding of the NSDI and its values.

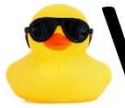
Next Steps

- Finalize draft plan
- Release for public comment (May)
- Adjudicate comments (June)
- Finalize Plan through FGDC (July)
- Develop implementation plan(s) (Today through ~ 2025)
- Implement (now through end of careers☺)!

Opportunities to Work Together

- Input on NSDI Strategic Plan during public comment period
- Call for nominations for National Geospatial Advisory Committee
- Fill data gaps
- Update and maintain data you have
- Make your data available
- Tell your story
- Start thinking about your part in the strategic plan
- How can we achieve the vision of the NSDI in 2035?
- What actions are the responsibility of state and local governments?
- Other ideas?

Questions?

FGDC.G  V