Connecting Our World

U.S. National Spatial Data Infrastructure (NSDI)
Advancing the Geospatial Capabilities for the Nation

The National Spatial Data Infrastructure leverages investments in people, technology, data, and procedures to create and provide the geospatial knowledge required to understand, protect, and promote our national and global interests.

Our Connection

NSDI – A Place-Based National Framework

Our world is increasingly complex and interconnected. Humanity is challenged with understanding and adjusting to ever-changing economic, environmental, and social factors. Sustainable and innovative solutions depend on reliable information, understanding, and informed decision making.

Geographic information is a universal language that helps us intuitively understand and interpret conditions, events, relationships, and patterns. It provides key information and context that helps define, influence, and guide our decisions and actions.

Whether it is understanding unfamiliar environments, determining the best route to a destination, or performing long-term planning to enhance community resilience, the components of the NSDI are behind the scenes with the infrastructure to deliver data, tools, and information to people.

What is the NSDI?

The NSDI provides a place-based framework for connecting public and private data for understanding and decision making.

A national framework for sharing place-based information.

The evolution of the NSDI framework pioneers place-based innovation for:

- **Collaborative Partnerships**
- **Spatial Data Assets**
- **Shared Spatial Services and Tools**
- **Interoperable Infrastructure**

The NSDI's Connected Vision

Place-Based Services for an Evolving World

Using spatial data, tools, and models to understand our ever-evolving world provides a worldwide recognized value. Place-based information is stimulating a local to global trillion dollar industry, bringing new jobs, transforming organizations, and spurring market competition. Our Nation is a global leader in the creation and dissemination of place-based assets and information.

How will the NSDI shape our future?

Our Nation's economic, social, and environmental future depends on the sound use of resources. The NSDI's connective framework, provided by the NDSI Strategic Plan, implements a collaborative, community-based model for sharing knowledge, data, technologies, and standards that benefit our Nation. This aligns investments, coordinates acquisitions, shares tools, and drives innovation to support decision making. In turn, this increases opportunities to fuel economic growth and advantages for the United States.

The NSDI advances a future driven by place-based information services.

Public and private sectors, academia, non-profit organizations, and communities are working together to create and share data, knowledge and technologies.

Connecting People and Communities

Place-Based Information Links Communities

Society is interconnected and interdependent. Local to global activities, events, and decisions affect us all, and bring new opportunities and challenges. The NSDI leverages investments in people, technology, data, standards, and procedures to promote and enable geospatial information sharing with government, private, non-profit, and academia. The NSDI's value provides a common ground to enable the geospatial knowledge required to understand, protect, and promote national and global interests and a growing economy. The components of the NSDI enable people to work together as communities, sharing place-based information and tools to understand, prepare for and respond to challenges, and seize opportunities. This is how the U.S. National Spatial Data Infrastructure advances the geospatial capabilities for the Nation.

How do people and communities use the NSDI to leverage place-based information and tools?

The NSDI provides a rich set of spatial data, tools, and a supporting framework to facilitate and enable people to work together and collaborate as a community. The NSDI is based on the concept of interoperability. This helps users easily leverage resources being made available by others, and enables them to provide their own information and tools for others to use. It is a national cooperative framework.

An effective NSDI requires developing and utilizing partnerships that promote collaboration, cost-effectiveness, and interoperable solutions. These components are the key underpinnings of the NSDI.

The Federal Geographic Data Committee (FGDC) works collaboratively with non-Federal partners, communities, constituents, and professional bodies providing the enabling foundation of standards, data catalogs, partnerships, and tools that make up the NSDI.

The NSDI ensures that place-based data from multiple sources (Federal, state, local, and tribal governments, academia, and the private sector) are available and easily integrated to enhance the understanding of our physical and cultural world.

Successful implementation of the NSDI depends on a well-coordinated effort among:

- **Federal, state, tribal, and local governments**
- **Academic institutions**
- **Private sector businesses**
- **Non-profit organizations**
- **Information and technology providers and users**

NSDI components will enable individuals and communities to connect to and leverage place-based information through:

- **Engagement**
- **Awareness**
- **Education**
- **Crowdsourcing**
- **Citizen Science**
- **Virtual and in-person community mapping efforts**

Communities are made up of people brought together by common factors. These include:

- A physical community with a common place, such as a town
- A virtual community addressing a common issue, such as drought in the western states
- A service- or business-focused community with a common purpose such as emergency management or real estate parcel discovery that relies on addresses

Where does my community fit in?

NSDI stakeholders throughout the U.S., from government to academia and the private sector, can be both contributors and consumers of NSDI place-based data and information. A wealth of knowledge and data can be shared across these diverse user communities to solve complex issues and strengthen decision making. Individuals and organizations can access these shared resources through the Geospatial Platform by joining an online community, adopting standards, and by participating in data and information exchange.

Communities and organizations are engaging in collaboration and use of shared NSDI resources.

Stakeholders representing these diverse user communities and organizations collaborate to advance the NSDI. The National Geospatial Advisory Committee (NGAC) provides advice and recommendations to the Federal government on national geospatial policy and management issues, and provides a forum to convey views representative of non-Federal stakeholders in the geospatial community. The NGAC includes representatives from all levels of government, the private sector, nonprofit organizations, and academia. Information about the NGAC is available at: www.fgdc.gov/ngac

Stakeholders from multiple levels of government, academia, and the private sector collaborate on the NSDI.

Implementing at the National Level

Place-Based Data – Local to Global

Our Nation and the global community are generating and integrating a variety of place-based information at a phenomenal rate. Place-based data and information is growing as a national asset with unlimited potential for societal use.

How do we harness this valuable asset?

The NSDI public and private partnerships are building, managing, and sharing a topical place-based information catalog of national assets ready for use. This robust collection of geospatial datasets, called National Geospatial Data Assets (NGDAs), need to be complete, current, and accessible to support the critical business and mission requirements of the Federal government, its partners and stakeholders.

The NSDI framework continues to advance the discovery and accessibility of NGDAs and other place-based information by providing data services that connect data with the people who need it. The NSDI data services link past, present, and future place-based information providing local to global context.

NSDI enables and supports use of place-based information by:

- Identifying, publishing, and discovering metadata for data discovery
- Connecting users to a network of partner-provided data
- Encouraging publication and sharing of data
- Providing access to a rich and diverse catalog of place-based information
- Integrating and harmonizing data

Share trusted, accessible place-based data.

The NSDI is a global leader in linking and providing place-based information. The NSDI catalog of public and private data provides a rich and diverse repository of local to global datasets.

Connecting Capabilities

Our ability to harness the power of placed-based information relies on having access to a reliable, sustainable infrastructure to connect, share, and use data with local to global participants.

How will we connect and share place-based information?

To efficiently share and deliver this diverse information, the NSDI has developed the Geospatial Platform portal (www.geoplatform.gov). It allows online co-creation of place-based resources for discovery, access, and use in response to the needs of diverse communities. The Geospatial Platform delivers new services and tools to participants with a need for place-based information.

The NSDI enables integration of emerging technologies that connects people, data, and technology through the Geospatial Platform to provide:

- Place-based education
- Audience-based products and services
- Place-based community collaboration forums
- Visual solutions for understanding and decision making
- Applications, tools, and services

The Geospatial Platform – shared access to tools, applications, services and communities of interest.

Federal, state, and local response to a hurricane requires timely coordinated action. The NSDI infrastructure ensures non-redundant data sharing among organizations with a common requirement. Time sensitive data can be collected and shared without recreating foundational information.

Place-Based Services

NSDI Connecting US to the World

The economic, social and environmental well-being of our Nation and the world depends on the sound use of all our resources. The NSDI plays a vital role in helping us organize and deliver place-based information services.

To advance place-based understanding, we need to connect people, data, technology, and services. This transforms the way all organizations and nations address complex issues facing us now and in the future.

The NSDI continues to advance and accelerate the use of emerging place-based solutions that connect people, data, and technology.

Together we will:

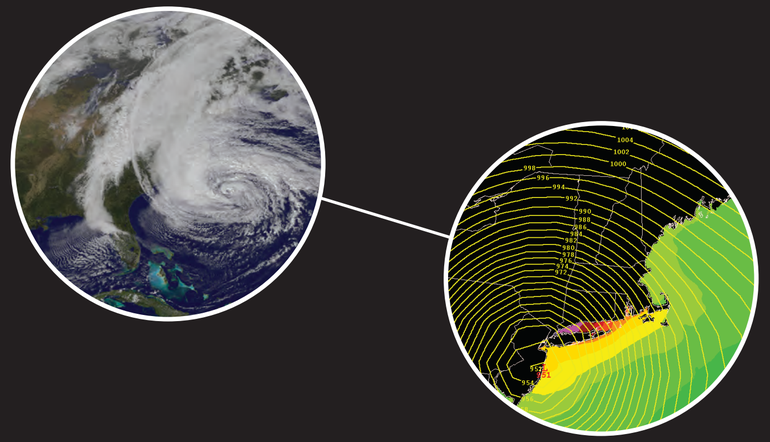
- Build local to global partnerships
- Expand access to place-based data
- Provide a platform to deliver products and services
- Encourage collaboration and innovation

The U.S. NSDI and its connections span and influence the world including:

- GSDI – Global Spatial Data Infrastructure
- ASDI – Arctic Spatial Data Infrastructure
- GEO – Group on Earth Observations
- OGC – The Open Geospatial Consortium
- SDI Standards – Spatial Data Infrastructure Standards

The Geospatial Platform links people and communities of interest, and provides applications, tools, products and services. These services are accessed by local, national, and global users every day.

Place-Based Understanding



Help shape the future.

Be a part of the community that's advancing the National Spatial Data Infrastructure.

The Federal Geographic Data Committee (FGDC) is the U.S. interagency coordinating body for NSDI-related activities. Led by the Department of Interior and Office of Management and Budget, the FGDC is composed of representatives from the Executive Office of the President, Cabinet-level departments, and independent Federal agencies. The FGDC develops policies and partnerships to advance the development of the NSDI and promote Federal and national geospatial initiatives.

For more information on how you can participate, please visit **fgdc.gov** and **geoplatform.gov**

Images in this document were provided courtesy of DOI, USDA, DOE, USACE, FEMA, DOC, and NOAA.