

HOOK CREEK ROAD

Spatial Data Infrastructure

A Collaborative Network



Solving Challenges Takes Collaboration

Social challenges, environmental issues, and economic downturns all take cooperation to solve. Working together to map and document the earth helps create a structure for managing knowledge. Using geographic information system (GIS) solutions from Esri to create a spatial data infrastructure (SDI) ensures that data and resources are available to the organizations and stakeholders that need them. From large countries to small nations, everyone benefits from documented public works and utilities, protected environments and biodiversity, correctly assessed resources, and completed strategic planning.

What Is SDI?

The term *spatial data infrastructure* was coined in 1993 by the U.S. National Research Council to denote a framework of technologies, policies, and institutional arrangements that together facilitate the creation, exchange, and use of geospatial data and related information resources across an information-sharing community. Such a framework can be implemented narrowly to enable the sharing of geospatial information within an organization or more broadly for use at a national, regional, or global level. In all cases, an SDI will provide an institutionally sanctioned, automated means for posting, discovering, evaluating, and exchanging geospatial information by participating information producers and users.

SDI extends a GIS by ensuring geospatial data and standards are used to create authoritative datasets and policies that support it.



Esri Solutions for SDI

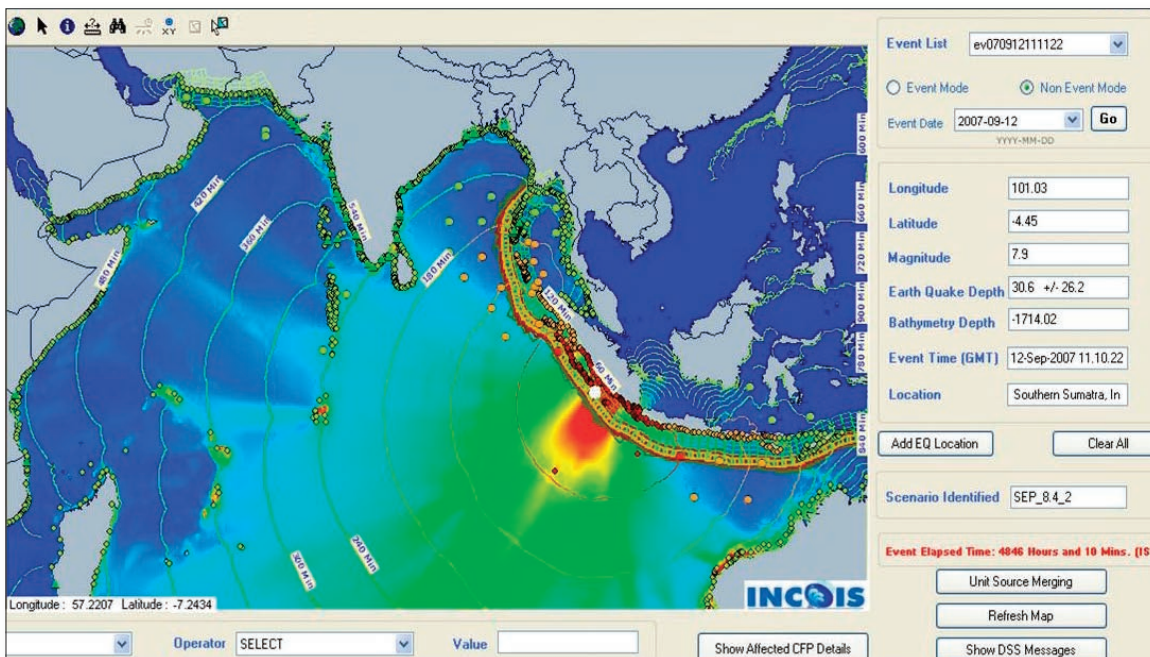
Better Governance, Better Business

Esri's GIS technology, services, and training deliver a fully supported platform that allows organizations to provide access to geospatial data and resources regardless of location or type.

Users can

- **Reduce time and redundancy of data production.** By connecting geospatial data and service producers and consumers, infrastructure and costs can be kept economical. The technology is scalable and can fit into any infrastructure, including existing geospatial technology installations.
- **Enable easy search and discovery of existing geospatial data and services.** Users can create and post metadata records efficiently, which are necessary for inventorying, locating, and assessing the quality of geospatial data.
- **Maintain data integrity and security.** Organizations easily share the authoritative version of data among users and provide mechanisms for the creation of authentic data and metadata.

A team composed of Esri staff and business partners can provide the implementation and training necessary to ensure success. Esri's SDI solutions are used around the world to provide access to geospatial data and help nations solve problems collaboratively.



Many events, challenges, and issues transcend national borders. Esri provides organizations with a mechanism for posting, discovering, evaluating, and exchanging existing geospatial information resources to help find solutions.

Reduce Time and Redundancy of Data Production

SDI has evolved to enable geospatial information sharing at a significant scale. Esri provides a mechanism for posting, discovering, evaluating, and exchanging existing geospatial resources in support of both broadly based SDIs and narrowly framed local and organization-specific data-sharing communities.

INSPIRE Compliant SDI

The European Union is ensuring that member states use a common SDI-building effort, the Infrastructure for Spatial Information in Europe (INSPIRE). Esri's SDI technology and services provide scalable, open interoperable solutions that conform to INSPIRE and member state requirements. Esri provides essential building blocks for authoring and managing content, publishing services, discovering and exchanging geospatial information, networking services, and implementing the SDI that the INSPIRE directive anticipates. Lithuania and Croatia are two countries that are utilizing Esri® SDI technology to build their own INSPIRE compliant, national SDIs.

The screenshot displays the GeoPortal DGU interface. At the top, there is a header with the 'GEOPORTAL' logo and a map background. Below the header, a navigation bar includes tabs for 'pretraga', 'stablo', 'naslovnica', 'pretraga', 'servisi', 'podaci', 'aplikacije', 'kontakt', and 'pomoć'. The main content area is divided into several sections: a search bar with a 'Pretraži' button, a 'Proizvodi' section with four product thumbnails (Digitalni ortofoto crno-bijeli, Digitalni ortofoto u boji, Hrvatska osnovna karta 1:5000, and Skanirani katastarski planovi), and a 'Status sustava' section. A 'Dobro došli na GeoPortal DGU!' message is also visible on the right side.

The Croatia Multipurpose Spatial Information System Geoportals Interface

Case Study—Croatia Launches Spatial Data Infrastructure in Southeast Europe

The Republic of Croatia uses an online geoportal to simplify access to countrywide geographic data. The geoportal is an essential component of the country's Organized Land Project, which streamlines and regulates the real property registration of land in the republic. The average time for processing changes to land titles has dropped from a 400-day average to 37 days.

Case Study—Lithuania Geographic Information Infrastructure

The Lithuanian Geographic Information Infrastructure (LGII) ensures the interoperability of datasets from government institutions and state-owned enterprises. The national geoportal (www.geoportal.lt) provides access to methodological documents such as business models, data specifications and standards, and relevant legal acts.



Enable Easy Search and Discovery

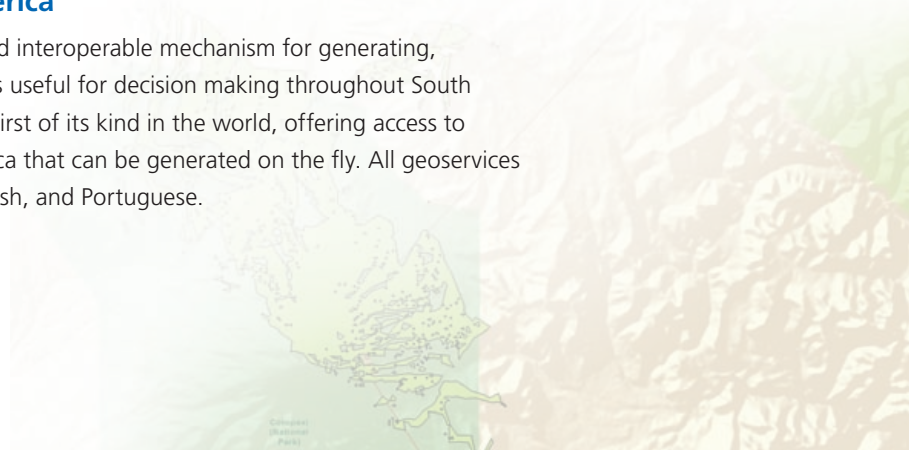
Organizations can improve knowledge sharing, reduce duplication of effort, direct people toward the best available data, and improve the overall quality of geospatial data and information.



The GeoSUR portal is the first regional portal offering access to geographic data and services from all South American countries.

Case Study—GeoSUR Program Provides a Regional Initiative to Integrate and Disseminate Spatial Data in South America

GeoSUR (www.geosur.info) provides an effective and interoperable mechanism for generating, disseminating, and leveraging geospatial data that is useful for decision making throughout South America. The topographic processing service is the first of its kind in the world, offering access to SRTM 30-meter derivative products of South America that can be generated on the fly. All geoservices developed by GeoSUR are available in Spanish, English, and Portuguese.



Maintain Data Integrity and Security

Esri SDI technology integrates with service-oriented architecture (SOA) principles that support existing IT, Web, and geospatial interoperability standards, including the industry specifications of the Open Geospatial Consortium, Inc.® (OGC®). Enhanced security features and policies controlling record-level metadata access ensure the right data is available to the users who need it.



Spatial data such as road lines, cadastral lots, landownership, and utilities can be viewed using a Web browser.

Case Study—Singapore Nets an Integrated Government with Server GIS Technology

In Singapore, the GIS-based Land Information Network (LandNet) acts as an online GIS data warehouse for government agencies. This spatial data-sharing portal, created by the Singapore Land Authority (SLA), propels interagency information sharing to a high level by providing a real-time data exchange platform.

Estimates show that without LandNet, the agencies would have to collectively spend more than \$9 million in development costs and \$2.5 million for annual maintenance to enjoy the same capabilities and benefits that LandNet offers.

Using the data and online sharing capabilities that LandNet supplies, agencies can provide, via the Web, a myriad of information to the public: property data such as whether a plot of land is publicly or privately owned, detailed street maps that show the locations of buildings and parks, and dengue fever cluster maps that pinpoint where the risk of contracting the disease is highest.

The island of Singapore is home to LandNet, a portal that promotes data sharing among 15 government agencies.

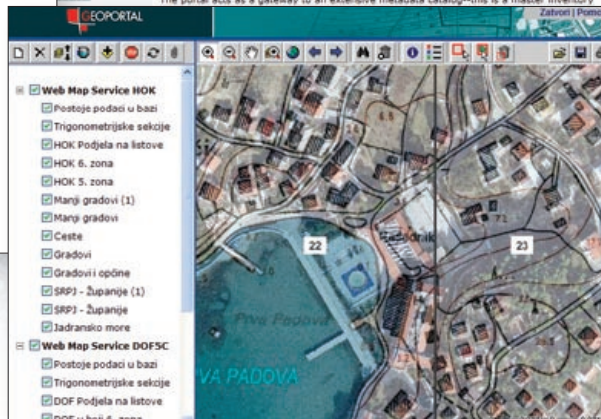
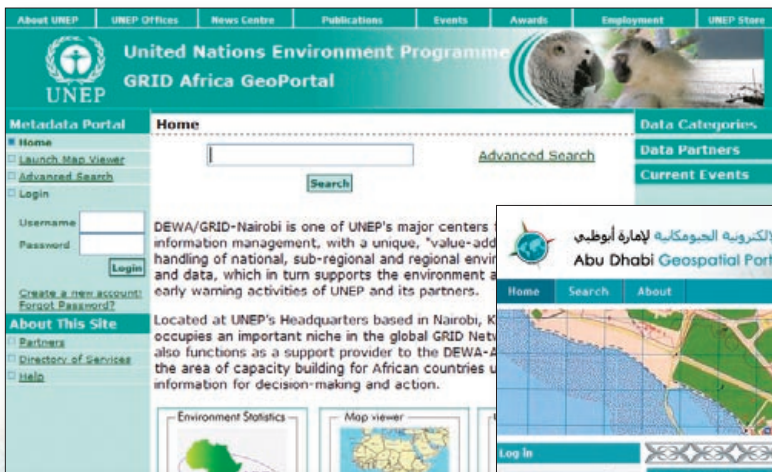


Connect Your World

Esri—A Collaborative Network

Esri has long focused its technology development on the creation of solutions that contribute to building and positioning the world's geospatial information resources for responsible and effective use. Over the past four decades, automated mapping, GIS, and spatial data communication technologies developed by Esri have been implemented throughout the world, contributing significantly to a global reservoir of electronically enabled geospatial information.

Esri's ArcGIS® system of GIS software and solutions provides a fully integrated, open, and interoperable platform for SDI development and operation. This platform can be further extended to meet specific requirements using specialized SDI products and solutions developed by Esri business partners. Esri software and solutions make full-service SDI implementation available for any organization.



For more information, visit www.esri.com/sdi.



About Esri

Since 1969, Esri has been helping organizations map and model our world. Esri's GIS software tools and methodologies enable these organizations to effectively analyze and manage their geographic information and make better decisions. They are supported by our experienced and knowledgeable staff and extensive network of business partners and international distributors.

A full-service GIS company, Esri supports the implementation of GIS technology on desktops, servers, online services, and mobile devices. These GIS solutions are flexible, customizable, and easy to use.

Our Focus

Esri software is used by hundreds of thousands of organizations that apply GIS to solve problems and make our world a better place to live. We pay close attention to our users to ensure they have the best tools possible to accomplish their missions. A comprehensive suite of training options offered worldwide helps our users fully leverage their GIS applications.

Esri is a socially conscious business, actively supporting organizations involved in education, conservation, sustainable development, and humanitarian affairs.

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