OGC Spatial Data Infrastructure (SDI) Modernization Project 2025-2026
Call for Contributions Proposal from Esri Canada (July 7, 2025)

Introduction

Esri Canada is pleased to respond to the OGC's "Call for Contributions for the Spatial Data Infrastructure Modernization Project (2025-2026)." We fully support the FGDC's initiative to modernize the US National Spatial Data Infrastructure (NSDI), by researching the themes of Governance, Data & Technology, and People. By enhancing interoperability and streamlining geospatial data exchange, the NSDI can significantly improve informed decision-making, increase workforce efficiency, and advance collaboration across many diverse applications. A modernized NSDI will also improve data quality, increase workflow efficiency, and create cost savings that will help maximize the value of stakeholder's investments in geospatial and observational data.

National and international SDIs are a collection of publicly available geospatial data, applications, policies, and standards that assist users find, use, and share geospatial information. An SDI is a distributed "system of systems" based on a high level of interoperability, usually implemented, operated and maintained by a particular community to support a specific application. The NSDI is a framework of best practices and guidance for the management of geospatial data, underpinned by key principles such as standards, interoperability, integration, institutional collaboration, and coordination. The NSDI includes the important dimension of a federated model as part of the overarching NSDI framework.

Many governments and organizations have long realized that spatial data, originally collected for a specific application, can also be useful for a multitude of other purposes. Furthermore, the independent collection and utilization of duplicate geospatial data leads to the inefficient use of valuable resources. These issues underscore the necessity for the modernized NSDI to accommodate a diverse array of data, users and services, extending well beyond the traditional geospatial community.

Company Background

Founded in 1984, Esri Canada is a privately held, Canadian-owned company that provides enterprise GIS solutions for Canada that empower people in government, business, and education to make informed and timely decisions by leveraging the power of GIS. The company is headquartered in Toronto and has more than 600 employees in 14 regional offices across the country. Esri Canada has built a highly coordinated team of GIS specialists, information technology specialists and domain professionals serving more than 12,000 customers. Esri Canada has been a longstanding voting level member of the OGC and is actively involved with NRCan in strategizing the modernization of the Canadian Geospatial Data Infrastructure (CGDI).

Esri Canada has established itself as a leader in advancing SDI initiatives both in Canada and internationally. This includes significant contributions to the development of the CGDI, the Federal Geospatial Platform (FGP), Canada's involvement in the international Marine Spatial Data Infrastructure (MSDI) initiative, as well as the establishment of over a hundred provincial and local SDI hubs across the country. Esri Canada actively participates in the OGC and has successfully engaged in several key OGC projects, including the Arctic Spatial Data Pilot in 2017, the Maritime Limits and Boundaries Pilot in 2019, the Federated Marine Spatial Data Infrastructure (FMSDI) Pilot in 2022, and

the FMSDI Pilot in 2023. Furthermore, Esri Canada supports the Esri suite of software, which includes numerous products and standards that are certified as OGC-compliant implementations.

Objectives and Deliverables

For many years, Esri Canada has been delivering data intermediary services through the Community Map of Canada. This data exchange initiative facilitates the exchange, sharing, and utilization of geospatial data between providers and users, ensuring that Canada's geospatial basemap information remains current, accessible, reliable, and secure. SDI technology plays a crucial role in this process by providing the framework and tools essential for the effective management, sharing, and utilization of Canada's spatial data.

Esri Canada has also built several exemplar SDI implementations for customers and for internal use.

1. For the "Governance" theme, these would include contributions such as best practice documents, and innovative projects. These would include realistic governance approaches, public and private data integration, harmonized data models, and pragmatic data aggregation.

2. For the "Data and Technology" theme, these would include contributions such as heterogeneous data integration, unique data hubs, metadata, globally unique IDs, plug and play, and approaches to seamless data integration. Consideration would also be given for future purposes requiring high levels of automation and AI.

3. For the "People" theme, these contributions would include education, training, and credentialing.

Technical information

As the use of geospatial data becomes increasingly ubiquitous, it is essential for organizations and governments to effectively organize, standardize, and collaborate in the implementation and sharing of valuable geographic data. A comprehensive approach to managing all aspects of geospatial data, technology, and processes is highly recommended. The focus should be on enhancing the breadth, depth, and timeliness of the data, improving performance, and adopting better data-sharing principles that promote more open access to information. To remain aligned with modern SDI trends, a thorough review of organizations' geospatial processes, exploration of innovative technologies and methodologies, and learning from the practices of others in the SDI field.

Esri Canada has a number of demonstrators, success stories, best practices, and descriptions of challenges that can be provided. For example, the Community Map of Canada allows communities to contribute their basemap data and provide users with access to the most accurate, complete and up-to-date basemap for Canada. Updates from contributing communities are collected daily and a new version of the basemap is published twice a week.

Contact

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