The Canada Forum on Geospatial Standards

Gordon Plunkett, Esri Canada
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What this presentation is not...
Why do we need Standards?

- Safety and reliability
- Support of government policies and legislation
- Interoperability
- Business benefits
  - Open up market access
  - Provide economies of scale
  - Encourage innovation
  - Increase awareness
- Consumer choice
So why do we need digital standards?

Digital Transformation has begun. . .

Web GIS is already playing a fundamental role in integrating geography into everything we do.
Data-Driven Digital Government

- Pervasive digitization of government work and data
- From islands-of-automation to fully digital environment
- Public records define the truth for government business
- Non-governmental records will play a role
- Internet of Things (IoT) data
- SmartCity (SmartEverything) data
- Need to embrace digital transformation (you can’t stop it)
User Capability Pyramid

Geospatial Practitioners

Knowledge Workers

Consumers / General Public

Traditional Users

Non-traditional Users

Characteristics of the Maturity levels:

- **Initial**: Processes unpredictable, poorly controlled and reactive.
- **Managed**: Processes characterized for projects and is often reactive.
- **Defined**: Processes characterized for the organization and is proactive. (Projects tailor their processes from organization’s standards)
- **Quantitatively Managed**: Processes measured and controlled
- **Optimizing**: Focus on process improvement

(Source: Wikipedia)
What is the OGC (Canada) Forum?

• Member led and managed, approved by the global OGC community
• Open to non-members
• Provides OGC infrastructure and staff support to support regional/country based activities, and OGC’s open, neutral, consensus based process
• The goals and objectives of regional organizations vary based on regional requirements. Example Activities;
  – Assist in capacity building in the region/country
  – Promote policies, cooperative business development initiatives and public/private partnerships that support the use of OGC standards.
  – Coordinate participation in the OGC,
  – Provide a platform for all stakeholders
Global Forums

- Asia
- Australia and New Zealand
- **Canada**
- Europe
- France
- Iberian and Latin-American
- India
- Korea
- Middle East and North Africa
- Nordic
- **North American**
- UK & Ireland
Example Activities – European Forum

Agenda

- Short reports from other active fora in Europe
  - French Forum (Stephane Garcia, IGN)
  - UK & Ireland Forum (Andrew Hughes, BGS)
  - ILAF (Joan Maso, UAB)

- Overview of some EU funded projects
  - ESPRESSO - Smart Cities (Bart de Lathouwer, OGC)
  - DATABASE - Big Data (Ingo Simonis, OGC)
  - NextGEOSS – Disaster CDS (Marie-Françoise Voidrot, OGC)
  - H2020 Project LandSense (Andreas Matheus, secure dimensions)

- Input on statistics activities in the OGC
  - Statistic Ad hoc (Ian Coady, ONS) & Table Joining Service (Jari Reini, NLS)

- Update on INSPIRE (Michael Lutz, JRC)

- Update from ESA (Cristiano Lopes, ESA tbc)
What OGC Resources are Available?

OGC Portal Project

OGC Making location count...

Welcome to the CanadaForum web

Introduction

The goal of the Canada Forum is to better serve Canadian needs for geospatial data and services. The Forum is an informal organization open to all Canadian organizations (including non-OGC members) and international OGC members conducting business or research in Canada. Example organizations include, but are not limited to, Federal, Provincial, Territorial and Municipal governments, Indigenous Organizations, Academia, and Industry.

The Canada Forum will provide a platform for all stakeholders to increase collaboration with a focus on Canada’s requirements to improve the level of Canadian influence in the OGC geospatial standards process and related standards partners (e.g. ISO, MDA).

Background

The Canada Forum was created based on extensive consultation with Canadian Organizations, beginning with a summit held in St. John’s, Newfoundland and Labrador, in June of 2017. The Canadian community identified a series of needs and agreed to move forward with the creation of a Charter, which was formally approved by the wider OGC Community in April of 2018. See this link for a copy of the approved Charter for the Canada Forum on Geospatial Standards, which provides more details on the purpose and structure of the Canada Forum.
Canada Forum - Background

- Created based on consultation with the Canadian community, beginning with a summit held in St. John's, Newfoundland and Labrador, in June of 2017.
- The community identified a series of high level requirements, agreed to create a Charter, which was formally approved by the global OGC membership in April of 2018.
- See this link for a copy of the approved Charter for the Canada Forum on Geospatial Standards, which provides more details on the purpose and structure of the Canada Forum.
- Informally Launched, June 2018, during OGC Meetings in Colorado.

[Image: Graphic Summarizing the St. John’s, 2017, Summit]
Canada Forum - Purpose

- **Collaboration and Consensus**: Inclusive - All stakeholders - people, technologies, policies, governance, market development
- **Issues**: Refine priority issues to guide innovative development in Canada through collective action.
- **Awareness**: Increase awareness of the benefits of using geospatial standards and technologies for all sectors, especially new and emerging sectors and markets.
- **Value Chains**: Define value chains in various thematic domains (e.g., Survey and Mapping, Environmental Monitoring, Agriculture, Maritime, Energy and Utilities) and explore means to better connect multiple communities of practice to reduce duplications, increase efficiency and improve the return on investment.
- **Capacity**: Increase Canadian geomatics expertise and contribute to Canada’s future geospatial capacities and market presence, globally.
- **Remote Communities**: Empower remote Canadian communities through online collaborations.
- **Work Plan (in process)**: Create a consensus based workplan intended to ensure activities are attainable, do not require excessive new resources and are reflective of important issues to all sectors.
Charter Members

- AE Inc.
- CAE
- Computer Research Institute of Montreal (CRIM)
- Compusult Ltd.
- Cubewerx Inc.
- Ecere Corp.
- Environment and Climate Change Canada (ECCC)
- Esri Canada Ltd.
- Fisheries and Marine Institute (Memorial University of Newfoundland)
- Mohawk Council Kahnawake
- Mount Royal University
- Natural Resources Canada (NRCan)
- Internal Services Department - Geographic Information Services (Province of Nova Scotia)
- NewfoundView
- the PYXIS innovation
- SensorUP
- Teledyne CARIS
- Tesera Systems Inc.
- University of Calgary
Structure

Co-chairs and Sector Focus

• Government/Indigenous
  – Cameron Wilson, NRCan, ON
  – Bradford Dean, Mohawk Council of Kahnawake, PQ

• Commercial
  – Aurelian Constantinescu, CAE Inc, PQ
  – Andy Hoggarth, Teledyne – CARIS, NB

• Research/Academic
  – Tom Landry, CRIM, PQ

• Facilitator
  – Trevor Taylor, OGC, ON

Meets a minimum of Monthly (First Wednesday of Every month)

Looking to expand the group to better represent regional requirements and the Academic Community
Next Steps

• **Formal Launch of the Forum**
  – Indigenous Mapping Workshop, Montreal
  – CCOG /SDI Summit
  – GeoAlberta
  – Geomatics Atlantic
  – Réseau Québec maritime

• **Work Plan Development – Needs Your Input!**
  – Looking to identify common issues, potential activities that cross cut sectors
Spatial Data Infrastructures (SDI) and standards

- Canadian Geospatial Data Infrastructure (CGDI)
- Standards facilitate the development, sharing, and use of *geospatial data*.
- Data and metadata standards
- Standards
  - Semantics
  - Syntax
  - Services
SDI Drivers

Improved Technology –
  • Faster internet
  • Expanded access
  • Improved reliability
  • Big data and big (cloud) computing

New Applications –
  • Digital government
  • Improved GUI (ease of use)
  • Growing user base
  • Increased use in traditional industry sectors
  • Increased uptake in non-traditional industry sectors
SDI Progression
## SDI Components

<table>
<thead>
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<th>Desktop</th>
<th>Network</th>
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<th>Enterprise</th>
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<td>Patterns of Use</td>
<td>Mapping &amp; Visualization</td>
<td>Data Management</td>
<td>Field Mobility</td>
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<td><strong>Description</strong></td>
<td>Understand locations and relationships with maps and visual representations</td>
<td>Collect, organize, and maintain accurate locations and details about assets and resources</td>
<td>Manage and enable a mobile workforce to collect and access information in the field</td>
<td>Track, manage, and monitor assets and resources in real-time</td>
<td>Discover, quantify, and predict trends and patterns to improve outcomes</td>
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<td><strong>Features</strong></td>
<td>Design &amp; Planning</td>
<td>Decision Support</td>
<td>Constituent Engagement</td>
<td>Sharing &amp; Collaboration</td>
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<tr>
<td><strong>Description</strong></td>
<td>Evaluate alternative solutions and create optimal designs</td>
<td>Gain situational awareness, and enable information-driven decision making</td>
<td>Communicate and collaborate with citizens and external communities of interest</td>
<td>Empower everyone to easily discover, use, make, and share geographic information</td>
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GFX Data Providers, Aggregators, End Users

GFX Data Providers

GeoFoundation Exchange

Federal

Provincial

Municipal

Aggregators

Federal

Provincial

End Users
Open and Interoperable

Open Standards and Formats

XLSForm, GML, SQL, SLD, SOAP, WMTS, KML, LAS, Shapefiles, REST

Open APIs & SDKs

Direct Product Integration

MS Office, Adobe Creative Cloud, SQL Server, SharePoint, Jupyter Notebook, Azure, AutoCAD, Revit, SAP HANA, PostgreSQL

Open Software Architecture

Open Data Access, Open-Source Contributions, Open-Source Integration

. . . Successfully Integrated Into Thousands of Systems
Why is Canada Forum Relevant to GeoAlberta?

- Increase collaboration
- Canadian requirements
- Sharing geospatial data
- Capacity building
- Innovation
- Outreach
- Business development
- Canadian influence on standards
How Do I get Involved?

- Contact the Chairs/Facilitator Sign up for the Forum Mailing list https://lists.opengeospatial.org/mailman/listinfo/canada.forum
- Comment and edit on the on-going Plan
- Volunteer to join the chairs
- Plan to attend a Forum Event in 2019 (Date, location, TBD)
- Contribute ideas
Thank you!

- Gordon Plunkett (gplunkett@esri.ca)
- Trevor Taylor (ttaylor@opengeospatial.org)

*This is a Mosaic of Canada which is made from 121 images captured by Canadian satellite RADARSAT-2. These images were acquired from May 1, 2013 to June 1, 2013. The color variation represents the changes in soil texture, roughness and the level of soil moisture.” (Credit: RADARSAT-2 Data and Products © MacDonald, Dettwiler and Associates Ltd., 2014. In collaboration with the Canadian Ice Service. All Rights Reserved. RADARSAT is an official mark of the Canadian Space Agency.)