

Geographic Information Systems

Interoperability & the CGDI

Capacity Building Workshop
December 7, 2009

Agenda

- Welcome & Introduction
- OAHPP – GIS Workshop Series
- GeoConnections, Interoperability & the CGDI
- Geospatial Foundation for Public Health
- **ROUNDTABLE DISCUSSION**
- Next Steps Discussion

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Interoperability & the CGDI

- **Introduction to GIS interoperability standards**, with specific focus on the Canadian Geospatial Data Infrastructure (CGDI);
- **Benefits CGDI standards**, concrete examples and success stories;
- **Groundwork for the CGDI strategic vision**, *“to enable access to the authoritative and comprehensive sources of Canadian geospatial information to support decision-making”*;
- **Geospatial Foundation for Public Health**, GeoConnections initiative designed to lay the foundation specifically for the public health community to exploit geospatial information in decision making.

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OAHPH GIS Workshop Series

- Developing a Geospatial Decision Support System (GDSS) that enables decision makers to visualize the dynamics of infectious disease outbreaks;
- Collaborators :
 - Peel Public Health
 - KFL&A Public Health
 - Ontario Agency for Health Protection & Promotion
 - Infonaut Inc.
 - University of Waterloo
 - GeoConnections

OAHP Workshos – Building Capacity

- **Build capacity for sustained, increased use of geomatics** and the Canadian Geospatial Data Interchange (**CGDI**) within Peel Public Health and the province's 35 other health units;
- **Build capacity strategically and sustainably** using a 'regional expertise' model;
- **OAHP can coordinate increased geomatics capacity** to benefit the 36 health units and other stakeholders.

OAHP Workshps – Overall Objectives

- **Increasing the GIS knowledge base** across the Ontario public health community;
- **Knowledge sharing** within the Ontario public health community;
- **Enhancing the socialized knowledge network** of the Ontario public health community;
- **Increasing interoperability of applications and data** within the Ontario public health community and across provinces and sectors through improved understanding of the CGDI and its benefits.

Prior Workshops

Workshop 1: GIS Primer

- **Fundamental Concepts** of GIS, benefits and value to public health.
- **Examples** of GIS adding value to the Public health field;
- **Key Challenges**, sources of bias and socio-technical challenges;
- **Connect and Establish a Community GIS** for public health in Ontario;

Workshop 2: Public Health Projects Across Ontario

- **Knowledge-sharing**, featuring a cross section of public health-oriented GIS initiatives;
- **Representatives from the field** presented their projects;
- **Sharing knowledge & techniques**, identifying project synergies and broadening smaller regional projects.

Next Workshop: Advanced Topics in GIS

- **Advanced topics in GIS** for those with an interest in GIS tool development;
- **Technologies and approaches** that can jumpstart and enhance GIS system development.

Who Should Attend?

- More technical in nature than the previous sessions;
- System developers, analysts, project managers, and those who are interested in development of geospatial tools / applications.

About Infonaut

- **Location-based Business Intelligence for Healthcare;**
- Combine GIS, location data and RTLS devices (e.g. RFID) with Business Intelligence to transform healthcare;
- Solution specialist for government agencies, public health, hospitals and regional health authorities;
- Key partnerships with academia, non-profit organizations and the private sector.

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Interoperability

The IEEE defines interoperability as:

“the ability of two or more systems or components to exchange information and to use the information that has been exchanged”

GeoConnections Overview

GeoConnections initiative



Primary mission: making Canada's geo-info accessible on the Internet

GeoConnections is an initiative to develop:

- the Canadian Geospatial Data Infrastructure (CGDI)
- an enabling infrastructure to support the management of national economic and social priorities

Enabling applications such as -- environment, health, sustainable development, disaster management, community, service delivery, transportation, business development and others

GeoConnections Secretariat

Canada

GeoConnections Overview (2005)

GeoConnections initiative



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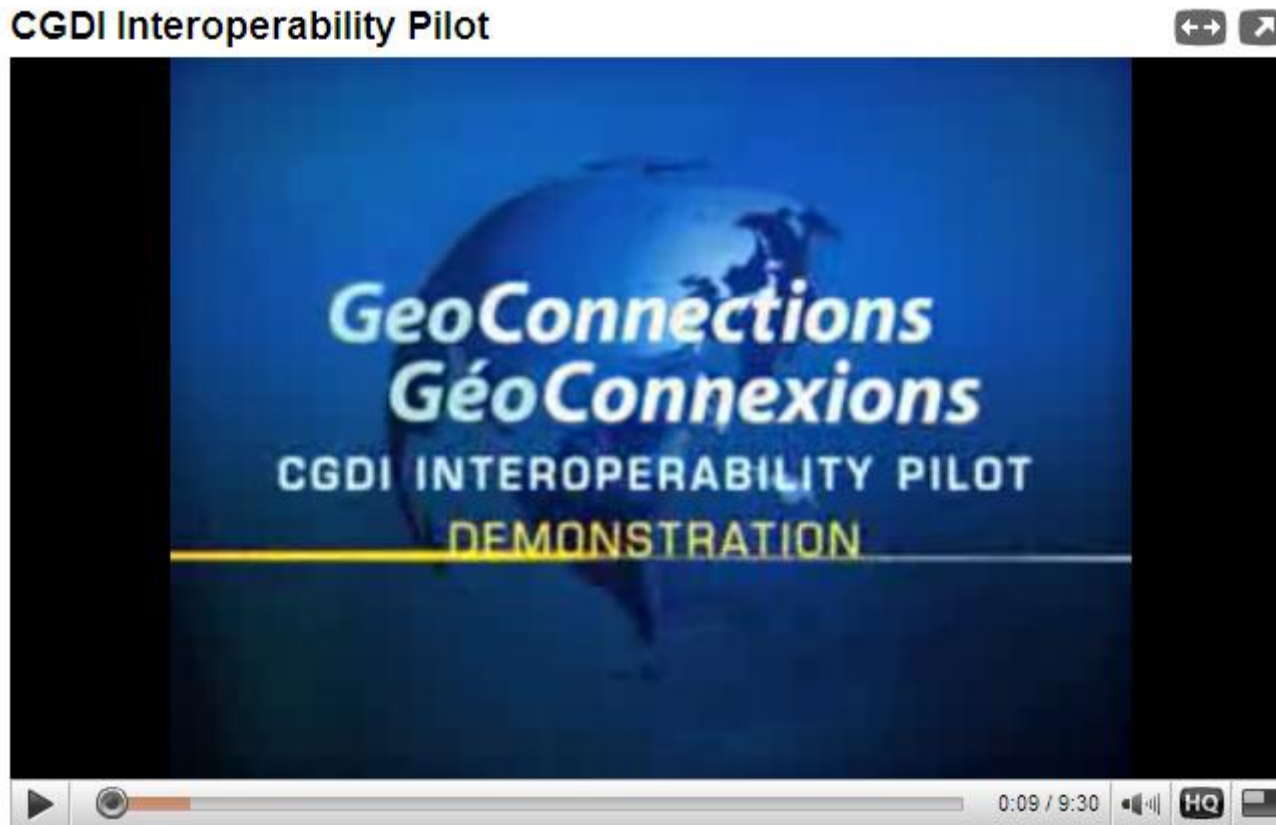
- the Canadian Geospatial Data Infrastructure (CGDI)
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GeoConnections Secretariat

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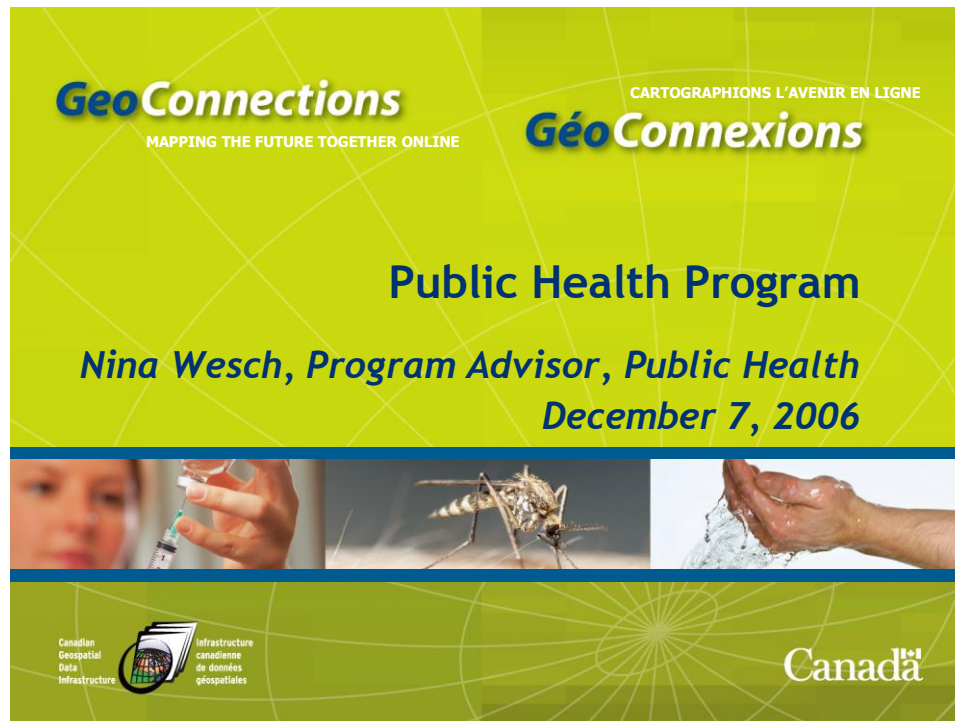
CGDI Interoperability Pilot



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- Welcome & Introduction (:5)
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GeoConnections Public Health Program (2006)



GeoConnections
MAPPING THE FUTURE TOGETHER ONLINE

CARTOGRAPHIONS L'AVENIR EN LIGNE
GéoConnexions

Public Health Program

Nina Wesch, Program Advisor, Public Health
December 7, 2006

Canadian Geospatial Data Infrastructure | infrastructure canadienne de données géospatiales

Canada

The slide features a green background with a white grid pattern. At the top, the 'GeoConnections' logo is on the left and the 'GéoConnexions' logo is on the right, with the tagline 'CARTOGRAPHIONS L'AVENIR EN LIGNE' above it. The main title 'Public Health Program' is centered in bold. Below it, the presenter's name and date are listed in italics. A horizontal strip of three images is positioned below the text: a person receiving a vaccine, a mosquito, and hands being washed with water. At the bottom left, there is a logo for 'Canadian Geospatial Data Infrastructure' and 'infrastructure canadienne de données géospatiales'. The 'Canada' wordmark is at the bottom right.

Geospatial Foundation for Public Health (2009)

- GeoConnections is developing a foundation to help the public health community capitalize on geospatial information.
- This foundation will enable public health practitioners to use geospatial data to improve decision making and work together more effectively.

Geospatial Foundation for Public Health

- Comprises the development of the following three key components:
 - **User readiness guide:** identifies, validates, and confirms the common elements, issues, gaps, and needs of the public health community, both in using geospatial information and in leveraging the CGDI;
 - **Analytical framework:** sets the foundation for the development of standard methodologies for analyzing health information in a geospatial context; and
 - **Geospatial data study:** provides a geospatial data reference framework for public health, including data categorization, an inventory, and information exchange.

User Readiness Guide: *Phase 1: Projects Study*

- **Project methodology:** how projects were undertaken, what collaborators were involved, how users were involved, what data is being used, what standards are being used, what analysis approaches are being undertaken;
- **Project outcomes and results:** what was successful, what lessons were learned, how would proponents do things differently, how has their business changed as a result of the project;
- **Future plans:** will the projects be further enhanced or expanded to cover other needs outside the GeoConnections' funded project, what is needed to expand or enhance the project results – data, analysis, training, other partners, etc. – both generally and from GeoConnections and the CGDI.

User Readiness Guide - *Phase 2: Guide Development*

Results of the Projects Study. Specific areas of focus:

- Determining **how geospatial information and the CGDI meet the business / surveillance needs** and requirements of public health organizations (the value of using geospatial information and the CGDI).
- **Good practices in undertaking projects:** working with partners and stakeholders, getting buy-in from Senior Management, working with vendors and contractors, identifying and building partnerships with data providers, and communicating successes and lessons learned.
- **Identifying different approaches and methodologies** for analysis.
- **Communication strategy** for disseminating the results.
- **Public Health Community** will consist of decision makers, project managers or key project team members from previous, current or potential GeoConnections funded public health projects.

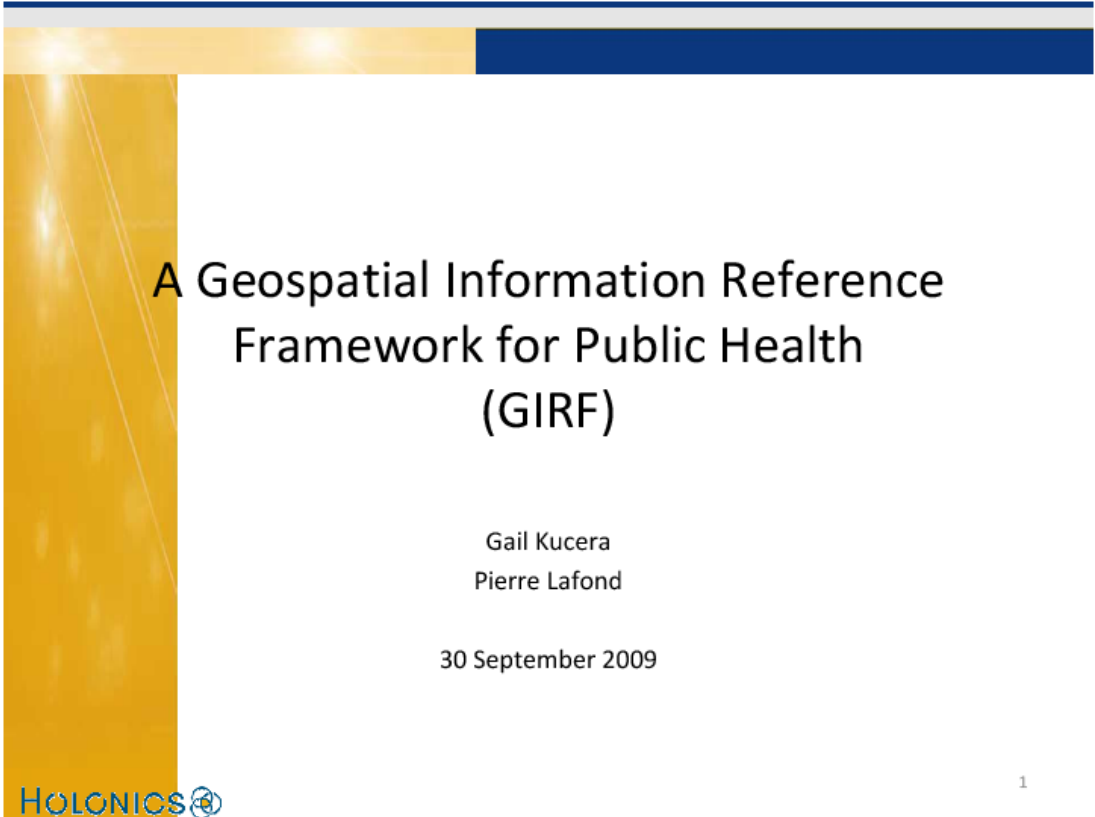
Analytical Framework

- The purpose of this study is to identify, examine, and provide baseline information on the use of geomatics and geomatics practices and methodologies in the public health community through an environmental scan.
- In addition, this project will develop a governance framework that highlights the roles and responsibilities within the federal governmental departments and agencies related to the use of common geomatics practices (geospatial analysis, techniques and methods) within the public health community.

Geospatial Data Study - Objectives

1. **Provide a standard structure for organizing geospatial data and databases** in order to support public health geomatics business processes and decision support;
2. **Provide a foundational public health geospatial information reference framework** with conceptual categories reflecting common geospatial data classification practices in public health;
3. **Populate a comprehensive inventory of authoritative Canadian data suppliers and geospatial data holdings** using the public health geospatial information reference framework;
4. **Provide an identification and analysis of standards** in the broad health informatics domain that may be applied to support interoperability in the geospatial domain;
5. **Provide the initial public health geospatial information reference framework required to develop basic interoperability** in order to promote a shared understanding of geospatial information. This set of activities is not intended to provide the specific information required to develop a detailed ontology or logical data model.
6. **Recommend approaches** to enhance the initial foundational reference framework towards the development of an information exchange architecture for the public health user community based on the CGDI.

Public Health Geospatial Information Reference Framework (GIRF)



A Geospatial Information Reference Framework for Public Health (GIRF)

Gail Kucera
Pierre Lafond

30 September 2009

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Roundtable Discussion

- Current & Future Projects
- Interoperability Priorities
- Opportunities for Interoperability
- Gaps
- Analysis & Validation of the GIRF

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Next Steps

- Plus/Minus/Interesting
- Critical Success Factors
- How to move things forward?

Questions? Comments?



Thank You!

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