ECONOMIC AND SOCIAL COUNCIL

**Ninth United Nations Regional Cartographic
Conference for the Americas
New York, 10-14 August 2009
Item 7(c) of the provisional agenda
Geospatial data collection, management and dissemination**

GeoConnections Program:
Public Health and Public Safety/Security Community–Based Focus[*]

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Resources Canada**

Presentation Title: GeoConnections Program: Public Health and Public Safety/Security Community–Based Focus

GeoConnections is a national partnership and funding initiative led by Natural Resources Canada. This program provides Canadians with location-based data, tools and services over the Internet. First launched in 1999, GeoConnections was formed as a national collaboration to develop an online resource called the Canadian Geospatial Data Infrastructure (CGDI). In Canada's 2005 federal budget, GeoConnections was renewed for an additional five years to maintain, operate and expand the CGDI in four key areas:

- public safety and security
- public health
- environment and sustainable development
- matters of importance to Aboriginal peoples

GeoConnections meets its objectives largely by co-funding projects. The projects encourage the program's four key audiences to collaborate with the Canadian geomatics community in developing solutions for decision-makers based on the principles of the CGDI.

In the Public Safety/Security and Public Health communities GeoConnections is focused on helping make location-based data and technologies accessible and useful to decision-makers. To support the public safety and security community, GeoConnections is focusing on the following two emergency management priorities:

- critical infrastructure identification
- situational awareness and assisting with consequence management

In the Public Health Community the GeoConnections program is focusing its efforts on supporting decision makers in two priority areas:

- population health surveillance
- health emergency response and inter-emergency planning.

The government's investment to date has created many of the collaborations that have successfully developed new applications of geospatial information in the Public Safety/Security and Public Health user communities. GeoConnections has successfully supported projects through the project lifecycle (strategic/business plans, user need assessments, implementations). The program focus on the Public Health and Public Safety/Security user communities has showcased the benefits of applying Spatial Data Infrastructures principles to address priority community issues.

The presentation will focus on discussing the evolution of the GeoConnections program to a user community-based focus and outline the priorities, challenges and projects in the Public Safety/Security and Public Health Communities.

GeoConnections
MAPPING THE FUTURE TOGETHER ONLINE

CARTOGRAPHIONS L'AVENIR EN LIGNE
Géo Connexions

GeoConnections Program:
Public Health and Public Safety/Security
Community–Based Focus

August, 2009

Canadä

Outline

- GeoConnections Program
- Public Health Community
- Public Safety/Security Community
- Closing thoughts

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GeoConnections Canadian Geospatial Data Infrastructure (CGDI) Continuum

CGDI 3.0?

CGDI 2.0
Community Based 2005-2010

Next? 2010-Beyond
Several views related to technology, data and policy

CGDI 1.0
Product Based 1999-2005

User driven geospatial project investments

Evolution of product based model

Pre-CGDI Pre-Readiness 1994-1999

GeoBase Framework data

GIS databases Internet connectivity

Standards and technology solutions

eg. Discovery Portal, Policy instruments

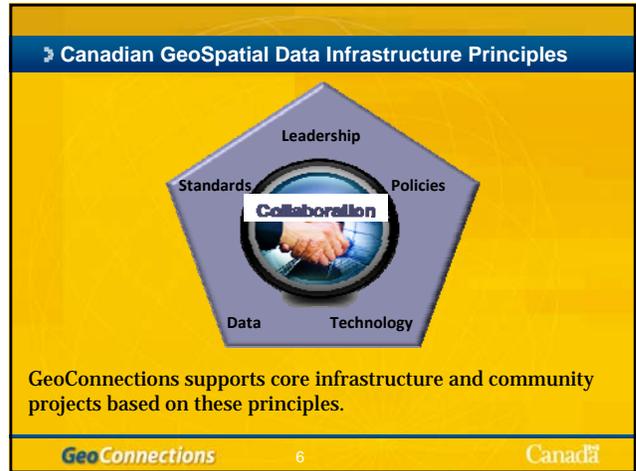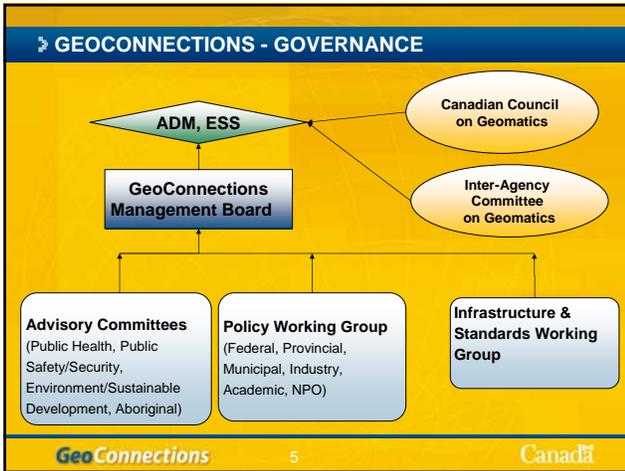eg. Google intergration, additional framework data

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GeoConnections Program

$60M Government of Canada Program to run from (2005-2011 that the program delivers (partnerships, information sharing, interoperability and other qualitative enhancements) has lent a sense of purpose and cohesion to the interaction among program stakeholders

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GEOCONNECTIONS - GOVERNANCE

ADM, ESS

Canadian Council on Geomatics

GeoConnections Management Board

Inter-Agency Committee on Geomatics

Advisory Committees
(Public Health, Public Safety/Security, Environment/Sustainable Development, Aboriginal)

Policy Working Group
(Federal, Provincial, Municipal, Industry, Academic, NPO)

Infrastructure & Standards Working Group

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Canadian GeoSpatial Data Infrastructure Principles

Leadership

Standards   Policies

Collaboration

Data   Technology

GeoConnections supports core infrastructure and community projects based on these principles.

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Program Principle: Inter-agency Interoperability

The need for standards

STANDARDS

Endorsed standards

GeoConnections endorses International standards for visualizing, accessing and describing geospatial data to facilitate information sharing between agencies.

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Core Infrastructure Project: Expansion of National Data through Collaboration

GeoBase

Home   About   Partners   GeoBase in Action   News   Events

Data

Home

GeoBase is your portal for **no fee** access to quality geospatial data

What is GeoBase?

Who are the partners?

Most of Geobase data are produced under partnership between federal

FREE

New& Planed

Data
Digital Elevation Data
Geodetic Network
Geographical Names
Geopolitical Boundaries
National Hydro Network
National Road Network
Satellite Imagery

Aboriginal Reserves
Municipal Boundaries
Land Cover
Power Lines
Railways

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CGDI/GeoConnections

1999-2005

THE CHASM

Innovators

Early Adopters

Early Majority

Late Majority

Laggards

(Rodgers 1968, Moore, 1991; Horler and Teillet, 1996)

- Innovators and early adopters need vision
- Majorities need business plan (value proposition) to effect adoption/culture change
- Laggards need guarantees

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USERS AND DECISION-MAKERS / UTILISATEURS ET PRENEURS DE DÉCISIONS

POLICY and COORDINATION / POLITIQUES et COORDINATION

CONTENT (data and information) / CONTENU (donnée et information)

EMERGING TECHNOLOGIES / TECHNOLOGIES ÉMERGENTES DATA SPECIFIC NEED /

INFRASTRUCTURE (technology, tools, applications) / INFRASTRUCTURE (technologie, outils, applications)

- Data, technology and policy requirements driven by user business requirements

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- **Public Health** is a priority for GeoConnections due to:
- The significance of health and well being in the everyday lives of Canadians.
- The potential to improve the efficiency of interaction between different health jurisdictions and levels of government across the country.
- The location-based (or geospatial) component to the majority of health data, and the appreciation of associating health data with other types of data (e.g. environmental data, socio-economic data).

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Community Challenges

- Varying levels of knowledge and expertise in geospatial analysis, including its utility in public health practice;
- The abundance of data needed to address public health issues, and the lack of awareness in addressing basic data issues.
- Lack of a consistent and sustainable communication strategy, in particular for the sharing and development of statistical techniques and methodologies.

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Public Health Community Priority Areas

1. **Population Health Surveillance**
2. **Health Emergency Response and Inter-Emergency Planning**

With emphasis on projects that:

- Develop awareness and understanding of geospatial analysis within the public health community
- Increase training and build capacity – in both human and financial resources – for geospatial analysis
- Build tools that allow for the secure sharing of geospatial information between organizations and across multiple jurisdictions

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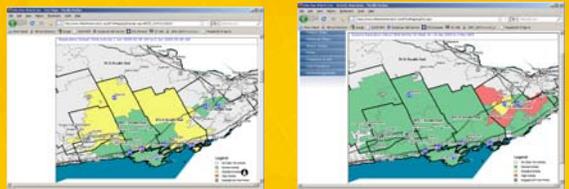## Community Project: Advancing Health Geomatics Analysis Capacity

Project, developed and delivered education and resource material to all researchers and analysts in British Columbia on the application of geomatics to questions concerning population health, including the determinants of health and small area variations in health.

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Community Project: Infection Watch Live

Prompt detection of respiratory and gastrointestinal related diseases are of particular importance due to the rapid transmission and potential burden such illnesses have on the community. Threat of a pandemic raises significant concern which necessitates the early spatial detection of an outbreak for appropriate public health action

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Community Project: GeoSpatial Foundation for Public Health

- **Components: User Readiness Guide, Analytic Framework, Data Study**
- **Purpose:** To identify, examine, and provide baseline information on the use of geomatics and geomatics practices and methodologies in the public health community.
- To develop a governance framework that highlights the roles and responsibilities within the federal government related to the public health community and its use of common geomatics practices.
- To provide a geospatial data reference framework for public health.

Public Safety/Security in GeoConnections

Public Safety/Security is a priority for GeoConnections due to:

- Threats and hazards have the potential to undermine the security and safety of Canadians.

- The potential to improve the efficiency of interaction between different emergency management jurisdictions and levels of government across the country.

- Location-based (or geospatial) information is a key resource for coordinating and helping agencies make crucial decisions that are related to public safety and security

Community Challenges

- <u>Security Policies and Systems:</u> Critical Infrastructure policy challenges related to information exchange; and trust that information will be used only for its intended purpose.
- <u>Risk Assessment:</u> For Critical Infrastructure, awareness is lacking in the role that geospatial information and systems can play in risk identification and mitigation.
- <u>Capacity:</u> Several provinces lack the human, financial or technical capacity to integrate location-based information into their operations.
- <u>Collaboration:</u> Although geospatial information has a long history in the Public Safety, few systems support information exchange across agencies.
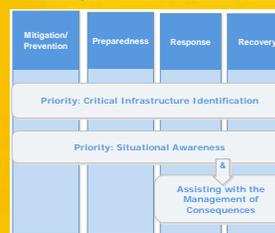
Public Safety Security Program Focus

Priority Focus Areas

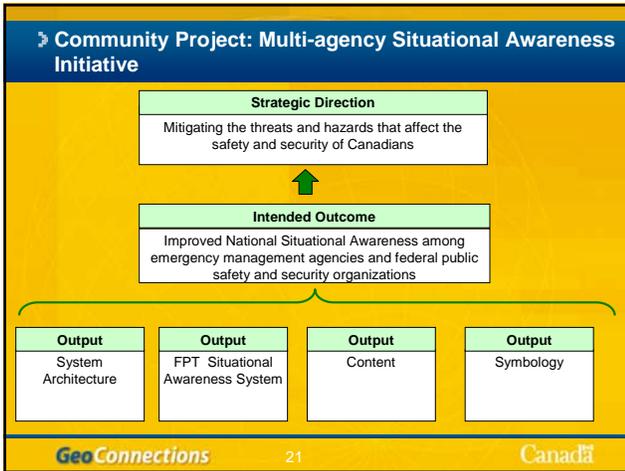## Community Project: Multi-agency Situational Awareness Initiative

Strategic Direction

Mitigating the threats and hazards that affect the safety and security of Canadians

Intended Outcome

Improved National Situational Awareness among emergency management agencies and federal public safety and security organizations

Output	Output	Output	Output
System Architecture	FPT Situational Awareness System	Content	Symbology

Community Project: New Brunswick Multi-Agency Situational Awareness System

New Brunswick experience a major flood in 2008, and it became clear that improvements to situational awareness during large scale events was required to improve decision making within the Emergency Measures Organizations and supporting agencies.

Community Project: National Infrastructure Identification

- Scope: National Strategy and Action Plan for Critical Infrastructure Protection: 10 sectors of CI
- Strategic data – based on what emergency managers require for Situational Awareness and what infrastructure operators (may) be willing to exchange
- Provides common terminologies and attribution, or a common language and understanding of infrastructure in emergency situations
- Use as foundation of project implementations

Energy & Utilities
Communications and Information Technology
Finance
Health care
Food
Water
Transportation
Safety
Government
Manufacturing

Closing Remarks

- The government's investment to date has created many of the collaborations that have developed new applications of geospatial information.
- GeoConnections has successfully supported projects through the project lifecycle (strategic/business plans, user need assessments, implementations).
- Public Health and Public Safety/Security user community focus has showcased the benefits of applying Spatial Data Infrastructures principles to address priority community issues.

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