

St. Lawrence Global Observatory – SLGO



Atlantic Coastal Zone Information Steering Committee (ACZISC) Meeting

"Bridging the Geospatial Initiatives in Atlantic Canada: Towards a COINAtlantic"

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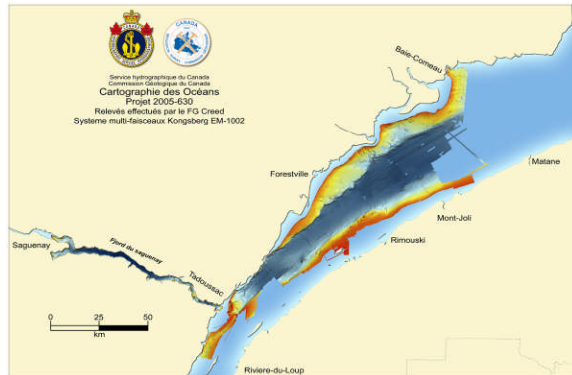
25 January 2006

Hugh John Flemming Forestry Centre, Fredericton, NB



Regional geomatics initiatives

- Projet Saint-Laurent : Seafloor and habitat mapping



- Marine Integrated Information Infrastructure
- Environmental buoy network (over 10 parameters)
- Ocean remote sensing (sea surface temperature and primary production)
- Ocean modelling (water levels, surface currents, sea ice concentration and thickness)
- Ocean / atmospheric coupling (weather forecast)
- Atlas of the St. Lawrence Aquatic Habitat
- Many others

SLGO Mission

To offer integrated access to the most accurate and complete data and information for the St. Lawrence / Great Lakes system by:

- ▶ fostering the **clustering and networking of various organizations** responsible for the collection and diffusion of data and information, while respecting their orientations and obligations;
- ▶ optimizing **access, diffusion and analysis of data and information** for the various client groups using an infrastructure allowing for an efficient use of data, information, products and services offered by the community of member organizations.

integrated access • distributed data • network of collaborators • quality

Major milestones

1998-1999	Definition of a global concept for data accessibility. Development of a pilot project "St. Lawrence Observatory" (OSL). Collaboration: Fisheries & Oceans (DFO), Canada Economic Development (CED), Saint-Laurent Vision 2000
January 2000	Launching of the OSL Internet Portal - www.osl.gc.ca
April 2005	Proposal for the development of the St. Lawrence Global Observatory (SLGO) by Technopole maritime du Québec (TMQ)
June 2005	Agreement regarding the development of the SLGO by a community of prospective member organizations
November 2005	Creation of the SLGO corporation – non profit organization
June 2005- March 2006	Development of the SLGO business plan

Community of prospective members

universities • research & development • governments • community groups

UQAR - ISMER
University of Quebec - Rimouski
Ocean Science Research



Développement durable,
Environnement
et Parcs
Québec
*Sustainable Development,
Environment and Parcs - Quebec*

UQAM - McGill
GEOTOP
University of Quebec - Montreal
Geochemistry & Geodynamics Research



Comité ZIP Sud de l'Estuaire
Coastal Zone Community Group

UQTR - GRÉA
University of Quebec – Trois-Rivières
Aquatic Ecosystem Research



Le groupe interinstitutionnel de
recherches océanographiques du Québec
Interinstitutional Ocean Research



CIDCO
Centre Interdisciplinaire
de Développement
en Cartographie
des Océans
*Ocean Mapping &
Marine Geomatics R&D*

Ressources naturelles
et Faune

Québec
Natural Resources - Quebec

CSA
Canadian
Space
Agency



*Consortium on Regional Climatology
and Adaptation to Climate Change*



DRDC
Valcartier

DRDC
Defence Research and
Development Canada



**MARITIME
INNOVATION**
Institut maritime du Québec
Applied Marine Technologies Research

Objectives - Values

common objectives	common values
<p>▶ To offer an integrated information infrastructure autonomous, not based on organizational structures, but based on common areas of interest and on the respect of the mandates of member organization</p>	<ul style="list-style-type: none"> • neutrality • respect of mandates
<p>▶ To adopt a collaborative governance model allowing members to take an active part in defining the orientations and the development of the corporation</p>	<ul style="list-style-type: none"> • consultation • participation
<p>▶ To offer scientific products and services in an innovative and multidisciplinary approach through sharing expertise, tools, information assets in support of an efficient use of the collective infrastructure</p>	<ul style="list-style-type: none"> • innovation • multidisciplinary • sharing • efficiency
<p>▶ To carry out development to better use information technologies in the areas of data visualization and data exchange in order to offer efficient access to products</p>	<ul style="list-style-type: none"> • optimization • interoperability • recognised standards • accessibility
<p>▶ To foster and support the development of expertise in the areas of data and information handling and diffusion, and in the development of applications, value-added products and services related to SLGO activities</p>	<ul style="list-style-type: none"> • development of expertise • economic development • emphasis on data asset value
<p>▶ To position the SLGO nationally and internationally with other organizations, global initiatives or ocean observation systems</p>	<ul style="list-style-type: none"> • visibility • exchanges • collaborations

Components of a common solution

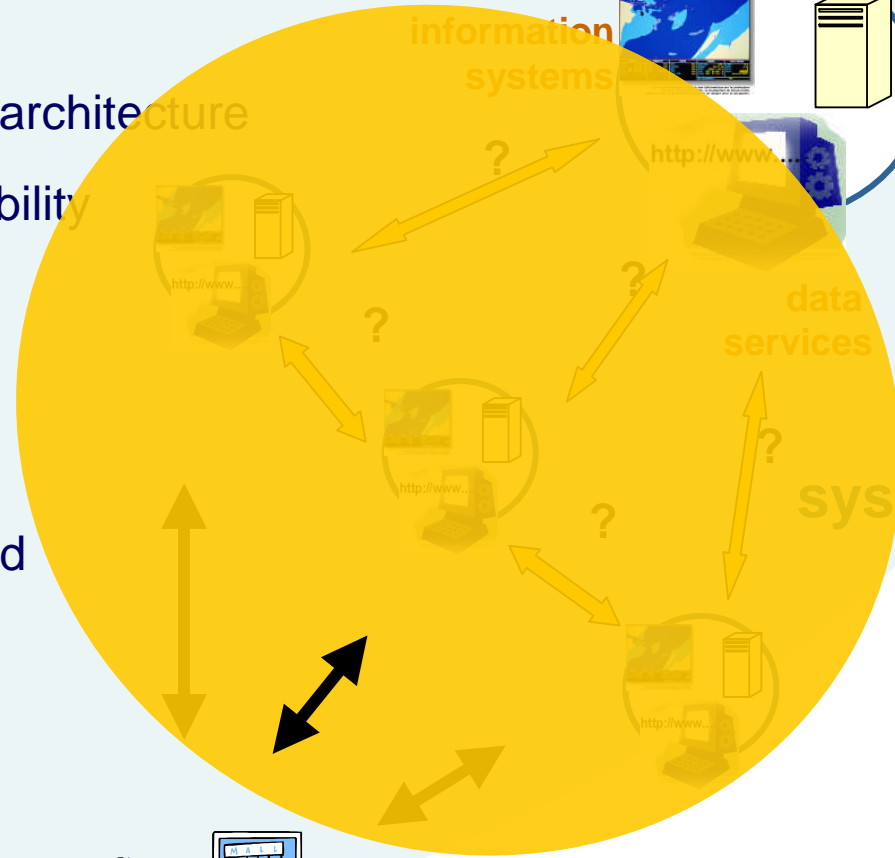
producers ◀ ▶ systems ◀ ▶ users

producers



Governance model

- distributed architecture
- system interoperability
- common standards
- discovery services, directories, catalogues
- increased accessibility to data and information assets
- more efficient access by users
- quality products and services
- secure architecture



data services

systems



user

Service-Oriented Architecture (SOA)

SOA : collection of services that communicate with each other using standard description language and protocols.

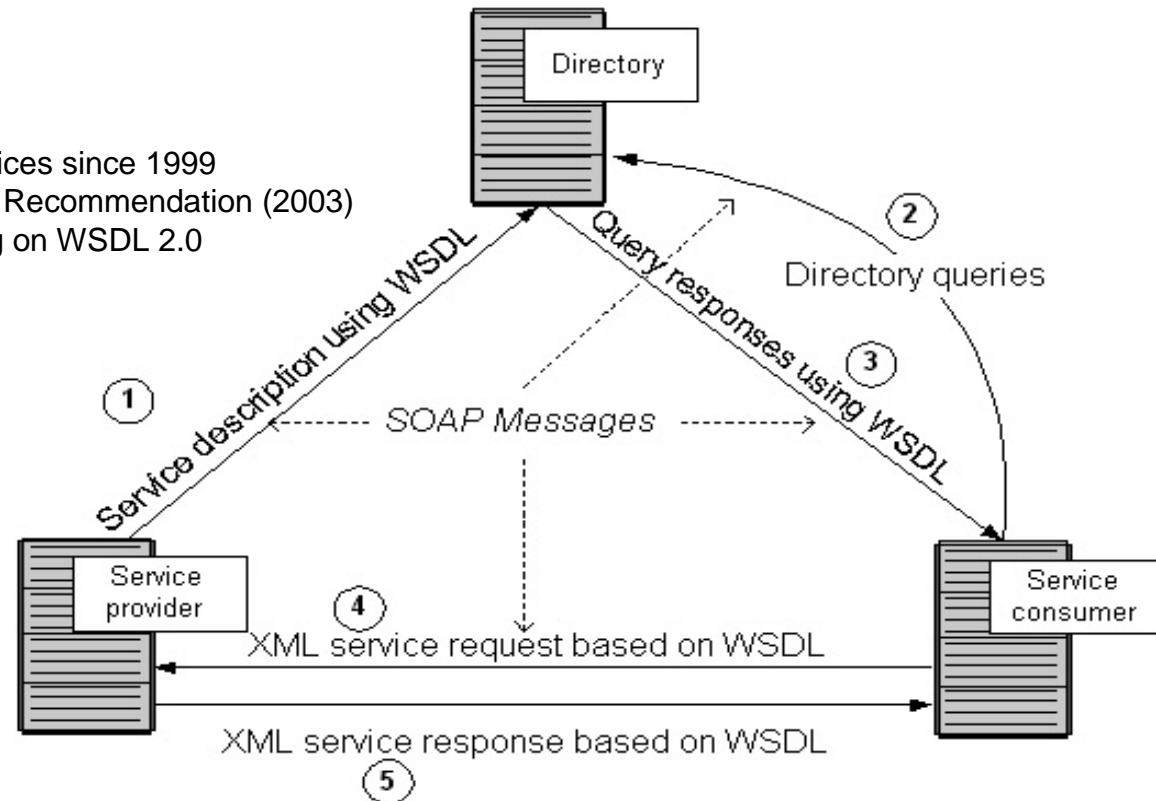
WSDL: Web Services Description Language

SOAP: protocol for exchanging XML-based messages over a network (*initially=Simple Object Access Protocol*)



World Wide Web Consortium (W3C)

- Working on the foundation of Web Services since 1999
- XML Protocol WG: SOAP 1.2 is a W3C Recommendation (2003)
- Web Services Description WG: Working on WSDL 2.0



Source: <http://www.service-architecture.com/index.html>

Planning

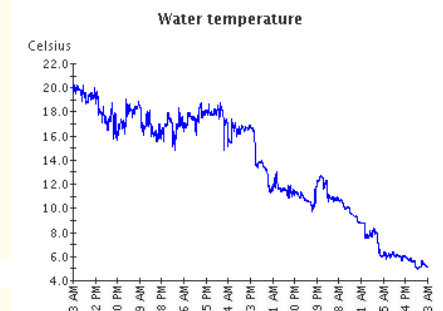
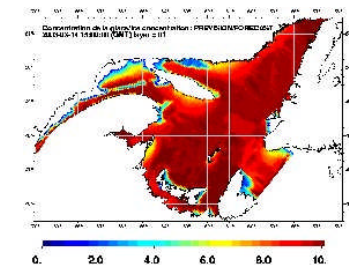
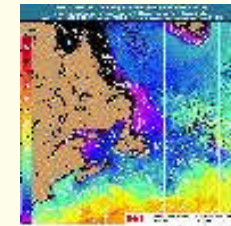
to March 2006: development of the business plan based on the original proposal (SLGO Steering Committee + working groups)

- efforts into bridging regional initiatives (e.g.: Cyber St-Laurent, OSL, SGGE,...)
- developing and defining:
 - governance model
 - start-up financing
 - long-term financing strategy
 - terminology and concepts (e.g., integration, interoperability, common standards, data management, intellectual property, etc)
 - SLGO client groups, products and services
 - operational requirements (equipment, human resources)
 - agreement protocol between SLGO and members
 - timetable (development, implementation, launching)
- liaison with community of prospective member organizations
- communication, raising awareness of potential members

Example - OSL

St. Lawrence Observatory (OSL) Portal

- ▶ Access to: real-time data, databases, information systems
- ▶ Dynamic products: forecasts, modelling, maps, graphs, photographs
- ▶ Development of thematic websites
- ▶ Collaboration: governments, universities, industry
- ▶ Reports, informational resources, glossary, search engine
- ▶ Information service: osl@osl.gc.ca , phone, mail
- ▶ Communication and promotion: newsletter, conferences, events



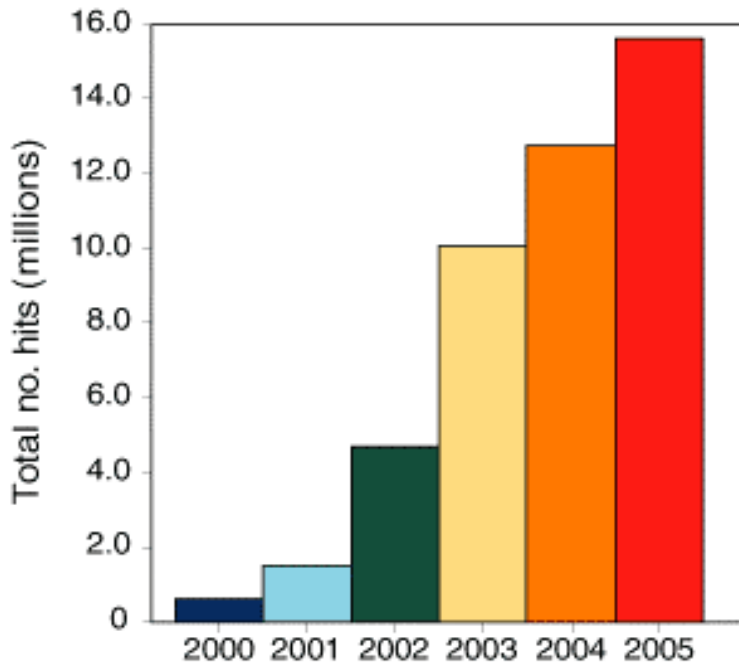
Current projects include:

- National pilot project for the development of a service oriented architecture (SOA) framework for DFO National Scientific Data Management Committee
- Development of data services (OGC, WMS, SOAP)

Example - OSL

clients ♦ visibility ♦ accessibility

Client groups/sectors of activity: governments, research organisations, universities and colleges, industry (navigation, ecotourism, coastal zone management, fisheries, consultants, etc.), interest groups, communities and general public.



Monthly average 2005

- ♦ 1,600,000 hits
- ♦ 10.4 Gb transferred
- ♦ over 5000 organizations and groups of unique visitors

Multi platform to reflect diverse client environments:

- ▶ Netscape, Internet Explorer, Mozilla, Opera, etc.
- ▶ Windows 95, 98, NT, 2000, XP
- ▶ Macintosh
- ▶ Linux
- ▶ SunOS
- ▶ UNIX

Users origin since January 2000:
over 120 countries, all continents represented

