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COINAtlantic User Needs Workshop Report

**24 September 2008, Fredericton, New
Brunswick**

*Submitted to GeoConnections
by the ACZISC Secretariat*



*Atlantic Coastal Zone
Information Steering Committee*

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COINAtlantic User Needs Workshop Report

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ACZISC

The Atlantic Coastal Zone Information Steering Committee (ACZISC) was established in January 1992 to foster cooperation in Atlantic Canada with regards to integrated coastal and ocean management (ICOM), coastal mapping and geomatics (see <http://aczisc.dal.ca>).

GeoConnections

GeoConnections, a national program initiative led by Natural Resources Canada, helps decision-makers use online location-based (or "geospatial") information, such as maps and satellite images, to tackle some of Canada's most pressing challenges (see <http://www.geoconnections.ca>).

COINAtlantic

COINAtlantic – the **Coastal and Ocean Information Network for Atlantic Canada** (see <http://COINAtlantic.ca>) is an initiative of the ACZISC. COINAtlantic will develop, implement and sustain a network of data providers and users that will support secure access to data, information and applications, for decision-making by coastal and ocean managers and users of coastal and ocean space and resources. Phase 1 of COINAtlantic is being built with financial support from GeoConnections and in collaboration with many partners.

User-Centred Design Principles

User-centered design (UCD) is a design philosophy and a process in which the needs, wants, and limitations of the end user of an interface or document are given extensive attention at each stage of the design process. User-centered design can be characterized as a multi-stage problem solving process that not only requires designers to analyze and foresee how users are likely to use an interface, but to test the validity of their assumptions with regards to user behaviour in real world tests with actual users. Such testing is necessary as it is often very difficult for the designers of an interface to understand intuitively what a first-time user of their design experiences, and what each user's learning curve may look like.

The chief difference from other interface design philosophies is that user-centered design tries to optimize the user interface around how people can, want, or need to work, rather than forcing the users to change how they work to

accommodate the system or function (see http://en.wikipedia.org/wiki/User-centered_design).

Developers should decide who the users will be and to involve them at the earliest possible opportunity. A number of ways of becoming familiar with users, their tasks and requirements are suggested:

- Talk with users
- Observe users working
- Learn about work organization
- Get users to think aloud while working
- Include expert users on the design team
- Make use of surveys and questionnaires
- Visit customer locations
- Videotape users working
- Try it yourself
- Participative design
- Perform task analysis
- Develop testable goals

(http://www.ts.mah.se/RUP/RationalUnifiedProcess/process/workflow/requirem/co_ucd.htm)

A list of recent user needs studies of relevance to COINAtlantic and integrated coastal and ocean management (ICOM) was compiled by the ACZISC Secretariat in 2005 and is included in Appendix 1.

A **COINAtlantic User Needs Workshop**, organized by the ACZISC Secretariat, was held at the Maritime College of Forestry Technology, Hugh John Flemming Forestry Centre, 1350 Regent Street, Fredericton, New Brunswick on Wednesday, 24 September 2008 – refer to Appendix 2 for the agenda.

This document summarizes the proceedings of the Workshop, the third in the on-going series to determine user needs under the COINAtlantic/GeoConnections development and implementation plan. Data providers, application developers and users were brought together to review the Implementation Plan. Additional interaction is planned at subsequent meetings to ensure the continued application of user-centred design in the development and implementation of COINAtlantic – see <http://COINAtlantic.ca>.

The Workshop commenced with an introduction to COINAtlantic. Michael Butler, Director, ACZISC Secretariat, welcomed participants; this was followed by a roundtable introduction of the participants. See Section 4 below for a complete list of participants. He continued with a brief overview of the ACZISC, the 20-year history of ICOIN/COIN and the purpose of COINAtlantic.

Paul Boudreau, COINAtlantic Project Manager, introduced the COINAtlantic conceptual model and briefed participants on the COINAtlantic collaborators and contributors, and the challenges facing coastal and ocean managers in accessing and using the numerous available geospatial databases. He also outlined the deliverables for the COINAtlantic project:

-  The results of the User Needs - Applications Workshop in Halifax, Nova Scotia, March 28, 2008
-  The results of the User Needs Workshops in St. John's, Newfoundland and Labrador, May 14, 2008
-  Online beta version of the data/web utility by October 1, 2008
-  This User Needs Workshop in Fredericton, New Brunswick, September 24, 2008
-  Next Steps Workshop, February 2009.

This overview also highlighted the work being done to a limited number of datasets as identified for the COINAtlantic/ GeoConnections project – see Appendix 3.

There was a presentation of the COINAtlantic wireframe to show in more detail the anticipated search tools. This was followed by a brief demonstration of the pre-beta version of the on-line COINAtlantic utility to show the search results that COINAtlantic will be able to accomplish through the linkages with the GeoConnections Discovery Portal (GDP). The URL for the beta version will be provided to participants as soon as the next version of the utility is posted to an appropriate site.

Michael Sutherland, University of West Indies/University of New Brunswick made a presentation entitled "Managing and Administering Coastal and Marine Spaces - COINAtlantic Marine Cadastre Prototype (see <http://aczisc.dal.ca/docs-ACZISC.htm>). This was followed by discussion of marine cadastres.

The Workshop concluded with an invitation to participants to review the COINAtlantic beta version and submit suggestions to the COINAtlantic Project Office – COINAtlantic@dal.ca.

Further information on the COINAtlantic initiative and follow-up materials from the Workshop are posted on the COINAtlantic website at <http://COINAtlantic.ca>.

To stay in touch with COINAtlantic developments, the Workshop participants were invited to subscribe to the COINAtlantic Listserv by sending an email to 'LISTSERV@LISTSERV.DAL.CA' with the following text in the body of the email: Subscribe TalkCOINAtlantic.

Acknowledgements

The ACZISC Secretariat would like to acknowledge the GeoConnections Program for its contribution to Phase 1 of COINAtlantic's development and implementation.

OUTCOMES

Participants supported the conclusions of the previous workshops in Halifax and St. John's and identified access to data, in support of decision making, as a key challenge and priority for COINAtlantic. The participants recommended that the use case selected for COINAtlantic should have broad appeal, *i.e.* to communities and across all levels of government. This will help to build long-term support for COINAtlantic.

For a detailed set of recommendations from this workshop please refer to Appendix 4 on page 11.

- 🌐 Paul Boudreau, ACZISC Secretariat
- 🌐 Michael Butler, ACZISC Secretariat
- 🌐 Harry Collins, Miramichi River Environmental Assessment Committee (MREAC)
- 🌐 Bernie Connors, Service New Brunswick
- 🌐 Geoff Coughlan, DFO NL Region
- 🌐 Faye Cowie, Canadian Rivers Institute
- 🌐 Nadine Gauvin, Southern Gulf of St. Lawrence Coalition on Sustainability (SGSLCS)
- 🌐 Russ Henry, New Brunswick Departments of Agriculture and Aquaculture, and Fisheries
- 🌐 Terry Johnston, University of New Brunswick
- 🌐 Claudette LeBlanc, CZISC Secretariat
- 🌐 John Legault, Department of Fisheries and Oceans, Gulf Region
- 🌐 Ed Light, Service Nova Scotia and Municipal Relations
- 🌐 Sean Weseloh McKeane, Nova Scotia Department of Fisheries and Aquaculture
- 🌐 Charlie O'Reilly, Canadian Hydrographic Service/Department of Fisheries and Oceans
- 🌐 Anthony Pouw, Environment Canada
- 🌐 Rasmussen Flemming, Department of National Defence
- 🌐 Michael Sutherland, University of West Indies and University of New Brunswick
- 🌐 Rob Thompson, Parks Canada
- 🌐 Turner, Tony, Natural Resources Canada, GeoConnections

Appendix 1

SELECTED REFERENCES RE USER NEEDS STUDIES OF RELEVANCE TO ICOM

Prepared in 2005

2005 ACAP Data Sharing Survey – prepared by Southeast Environmental Association (to obtain a copy, email Sarah-Jane Bell - sea@pei.aibn.com)

2005 CGDI Vision – Better Knowledge for Better Decisions
http://www.geoconnections.org/publications/tvip/Vision_E/CGDI_Vision_final_E.html

2005 COINAtlantic – From Concept to Implementation (includes summaries of the COINAtlantic User Needs sessions held in September 2004, Fredericton, NB and in January 2005, Halifax, NS) <http://aczisc.dal.ca/COINAtlantic.doc>

2004 SmartBay / Placentia Bay -
<http://www.smartbay.ca/download/downloadFrame.html>

2004 Gulf of Maine Mapping Initiative (GOMMI) User Needs Study
<http://www.gulfofmaine.org/gommi/docs/gommiusersurvey.pdf>

2004 A Geospatial Framework for the Coastal Zone: US National Needs for Coastal Mapping and Charting http://books.nap.edu/catalog.php?record_id=10947
Executive Summary - http://books.nap.edu/execsumm_pdf/10947.pdf

2003 COINPacific Benefit Analysis – to obtain a copy, email Bill Anderson - bill.k.anderson@gov.bc.ca and **How Sharing Information Can Preserve Our Oceans**
<http://www.geoconnections.org/CGDI.cfm/fuseaction/articles.see/id/812/gcs.cfm>

2002 GeoNOVA User Evaluation Report
http://gov.ns.ca/GeoNova/about/five_year_strategy/user_evaluation_report.asp

2001 Marine Geospatial Data Infrastructure (MGDI) – Marine User Requirements for Spatial Data
http://www.geoconnections.org/programsCommittees/proCom_marine/keyDocs/Marine_User_Requirements_E.pdf

1996 Parameters Required for Coastal Maps/Databases - ACZISC Workshop on Coastal Mapping - <http://aczisc.dal.ca/MapWkspRpt1996.pdf>

1994 ECNASAP: Towards International Collaboration in Strategic Environmental Assessment. In Coastal Zone Canada 94 conference proceedings – to obtain a copy, email Michael Butler – michael.butler@dal.ca

1989 “Ocean Information Centre: Results of a Survey on User Needs” by E. Wedler in Proceedings of a Forum on the Inland waters, Coastal and Ocean Information Network – to obtain a copy, email Michael Butler – michael.butler@dal.ca



Agenda for the User Needs Workshop

24 September 2008, 1300 to 1700 hrs

**Maritime College of Forestry Technology,
Hugh John Flemming Forestry Centre, 1350 Regent Street,
Fredericton, New Brunswick**

Objectives:

 To present the status of COINAtlantic including a demonstration of the on-line search tool.

 To get input from potential clients on their needs and uses of COINAtlantic data sources.

Agenda:

- 1300 Welcome: Mike Butler, ACZISC Secretariat
- 13:05 COINAtlantic Concept, Update and Report on Activities:
Paul Boudreau, COINAtlantic Project Manager
- 13:45 COINAtlantic Demonstration and Discussion
- 15:00 Health Break
- 15:20 COINAtlantic Demonstration and Discussion (cont'd)
- 16:45 Conclusions, Wrap up and Next Steps

COINATLANTIC AVAILABLE DATA / TOOLS circa 2008

These data will form the core of the development and implementation of applications for COINAtlantic within the 15-month GeoConnections/COINAtlantic project. Collaborators have committed to provide access to a limited number of specific datasets as Web Mapping Services (WMS) and/or Web Feature Services (WFS).

Agency	Data Name	Example data/layers
Department of Fisheries and Oceans	Maritimes Region Human Activities/Ocean Use Atlas	Fishing locations, pipelines
Ocean Biogeographic Information System (OBISCanada) Regional Node	Biodiversity Data Sets	Marine mammal sightings, marine Invertebrates
Department of Fisheries and Oceans	Research Trawl Survey Results	Groundfish species, catch locations
NRCan Earth Sciences Services	Geosciences for Ocean Management, Coastal Data	Shoreline characteristics, marine surficial geology
Province of Nova Scotia	Coastal Series	Roads, topography, infrastructure
Department of Fisheries and Oceans	Salmon Presence Assessment Atlas (SPAAtlas)	Blockages to fish passage, critical habitat
Department of Fisheries and Oceans	Oceanographic Modelling	Sea surface temperature, currents, tides
Department of Fisheries and Oceans	Bathymetric Grid	Water depth
University of New Brunswick	Marine Cadastre/Boundary	Areas of responsibility, boundary lines

Appendix 4

DETAILED COMMENTS ON PRE-BETA COINATLANTIC UTILITY

- ④ Add the phrase “Coastal and Ocean Information Network” below the logo at the top of the page.
- ④ Show the expected format for the latitude and longitude filed in the advance search box. One suggestion was to present the corner coordinates of the map window in these fields in the correct format.
- ④ The resolution of the base map should adjust as the user zooms in.
- ④ Ensure that there is a “Get the Data” function where the identified data source has raw data that is accessible by the user.
- ④ Ensure that any constraints on the use of the individual data sources is available to the users. This can be accomplished by accessing the appropriate fields in the GDP.
- ④ Ensure that bathymetry is presented in the map window.
- ④ Implement a directed search for COINAtlantic data sources.
- ④ Start the utility with a limited number of key data sources already presented in the left hand column. This could be a way of highlighting the “Holy Dozen” COINAtlantic data sources. This will give the first-time user an example of what the utility does.
- ④ There should be a way for the utility to track and report on searches that return zero data sources. This information would be very useful in understanding the use of the utility and to take steps to ensure responses are given to users. Normally such searches are not tracked and typically such a response will result in the users leaving the system without providing any feedback.
- ④ Build in a credit and feedback function that would support work by scientists to participate and present the best available information.
- ④ Implement a reward system for excellence and/or a demerit system to highlight unsatisfactory contributions to COINAtlantic.
- ④ ACZISC can play a strong role in promoting good information management in support of COINAtlantic.

Appendix 5

Glossary of Terms

ACZISC	Atlantic Coastal Zone Information Steering Committee
Application	A program that performs a specific function directly for a user. (http://cgdi.gc.ca/en/resourcetool/glossary)
COINAtlantic	Coastal and Ocean Information Network for Atlantic Canada
ICOM	Integrated Coastal and Ocean Management
Use case or Usage case	A description of a system's behaviour as it responds to a request that originates from outside of that system (http://en.wikipedia.org/wiki/Use case) A use case expresses the behavioural portion of a contract between stakeholders of a system. It describes the system's behaviour and interactions under various conditions as it responds to a request on behalf of one of the stakeholders - the primary actor, showing how the primary actors goal gets delivered or fails. The use case gathers the scenarios related to the primary actor's goal (http://dublincore.org/educationwiki/Use_20Cases)
WFS	Web Feature Service - A specification that defines data manipulation operations on geographic features, allowing for querying, retrieval and transactional (<i>i.e.</i> add, update or delete) operations. (http://cgdi.gc.ca/en/resourcetool/glossary)
WMS	Web Map Service - An Internet-based service that allows clients to display maps and/or images with a geographic component and whose raw spatial data files reside on one or more remote WMS servers. The WMS conforms to the OpenGIS Web Map Server Interface specification. (http://cgdi.gc.ca/en/resourcetool/glossary)