

COASTAL ACTIVITIES IN ATLANTIC CANADA

Roundtable and Presentations

ACZISC Meeting #47

Date: Wednesday and Thursday, 25-26 January 2006

Location: Hugh John Flemming Forestry Centre
Fredericton, New Brunswick

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PLEASE NOTE: “Coastal Activities in Atlantic Canada” is a subset of the draft Minutes of ACZISC Meeting #47, held on 25-26 January 2006 in Fredericton, New Brunswick.

To download the Minutes and Coastal Activity reports of ACZISC meetings, access the ACZISC website at <http://aczisc.dal.ca/docs.htm>.

COASTAL ACTIVITIES IN ATLANTIC CANADA

PRESENTATIONS

The following presentations were made:

- **Eastern Scotian Shelf Integrated Management (ESSIM) Initiative: Information and Data Sharing Requirements**
Presenter: Tim Hall - halltj@mar.dfo-mpo.gc.ca, Head, Oceans Management Section, Oceans and Habitat Branch, DFO Maritimes Region, Dartmouth, NS
- **St. Lawrence Global Observatory - SLGO**
Presenter: Paul Bellemare - bellemarep@dfo-mpo.gc.ca, SLGO Steering Committee and Director, CHS QC Region, Mont-Joli, QC
- **Creating a SmartBay in Placentia Bay, Newfoundland**
Presenter: Tim Anderson - anderson.t@dfo-mpo.gc.ca, A/Division Manager, Oceans Program, Oceans and Habitat Management Branch, DFO NL Region, St. John's, NL
- **COINAtlantic - Technical Approaches for a Sustainable Geospatial Infrastructure**
Presenter: David McIlhagga - dmcilhagga@dmsolutions.ca, President, DM Solutions Group, Ottawa, ON
- **Sharing Data in the Gulf of Maine** (attached)
Presenter: Michael Butler, ACZISC Secretariat
- **National Land and Water Information System – NLWIS**
Presenter: Dolores Durant - durantd@agr.gc.ca, Service Manager, National Land and Water Information Service, Agriculture and Agri-Food Canada, Ottawa, ON
- **Quoddy - Protecting an International Treasure**
Presenter: Art MacKay - artmackay@scep.org, Executive Director, St. Croix Estuary Project, St. Stephen, NB
- **Serving GIS Data to non-GIS Users with CARIS OpenCite**
Presenter: Bernie Connors - bernie.connors@gnb.ca, GIS Manager, NB Department of the Environment and Local Government, Fredericton, NB

The presentations are available at <http://aczisc.dal.ca/docs.htm#ACZISC>.

ROUNDTABLE REVIEW OF COASTAL ACTIVITIES and UPDATES ON ACZISC RELATED PROGRAMS

GOVERNMENT OF NEW BRUNSWICK: Marianne Janowicz, NB Department of Environment and Local Government, reported the following:

- **SWNB Marine Resource Initiative:** The intent of this initiative is to establish a planning framework for activities in the lower portion on the New Brunswick Bay of Fundy. Phase 1, which was developing a process for planning, has been completed. The next step is consultation and the engagement of stakeholders. Participants in Phase 1 included the NB Department of Agriculture, Fisheries and Aquaculture (DAFA) and Fisheries and Oceans Canada (DFO) as the leads, the NB Department of the Environment and Local Government (DELG) and stakeholders chosen by the Minister of DAFA. The guiding principle of Phase 1 was:

"The planning process should consider the ecosystem as a whole. It should be action-oriented and financial gain should not be the driving force. Participants must develop a common, balanced vision which respects a healthy ecosystem. This will result in healthy, vibrant coastal communities."

- Submerged Lands Policy: The NB Department of Natural Resources (DNR) is presently working on developing a Submerged Lands Policy.
- Bay by Bay Management of Mollusc Aquaculture: This initiative by DAFA and DFO is aimed at streamlining the environmental assessment regulatory process for off-bottom molluscan lease approval. This was first initiated as a pilot project in 2004 in Tabusintac and Richibucto.
- Beach Users Working Group: Ongoing public concern regarding the illegal occupation of beaches by the aquaculture and the fishing industry in Charlotte County for storage and construction of equipment on beaches led to the creation of the Beach Users Working Group (BUWG) in late 2003. The BUWG is composed of one person from each of the three NB departments: DNR, DAFA, and DELG. The intent is to identify beaches that can withstand use by the aquaculture industry, and conditions of use that would protect the ecological integrity and the aesthetics of the area and satisfy public concerns. The BUWG is presently reviewing several options for controlling and managing usage of the beaches. It is anticipated that a mechanism will be in place later in 2006 to fulfill the objectives of the working group.
- Proposed Musquash MPA: On 9 June 2005, DFO announced the Gazette I of the proposed Musquash Marine Protected Area Regulation under the Oceans Act. The Province is presently finalizing its comments on the Regulation and is anticipating that an agreement on management of the area will be signed soon.
- Protected Natural Areas: The NB Department of Natural Resources has a Protected Natural Areas Act and under it approximately 7 sites have been designated as "fine filter areas". Many of the fine filter areas that have thus far been designated are coastal properties or islands. Recommendations from a Scientific Advisory Committee determine the amount of protection at these sites.
- Oceans Strategy: Under the Oceans Strategy of the Oceans Act, it was determined that there should be coordinators in place in each jurisdiction to help the provinces work with the Federal government and to deliver its agenda on the Oceans Strategy. The NB Department of Agriculture, Fisheries and Aquaculture (DAFA) has signed an agreement with DFO for this coordinator to undertake a number of tasks related to the implementation of the Strategy and to assist the Province in providing input into the second phase of the Oceans Action Plan.

GOVERNMENT OF NOVA SCOTIA: Justin Huston, Agriculture and Fisheries, reported the following:

- Funds have been made available via DFO and EC for a National Programme of Action (NPA) project to identify priority issues related to coastal erosion and salt marsh intrusion and to make the information, aimed at local land use planners, publicly available.
- Efforts are being made to establish a 'coastal hub' for planners. This is still in the planning stage.
- A 'two prong' approach is being used with provincial Directors re coastal zone management in the Province: emphasize the need for better coordination provincially and define goals. A governance structure will be proposed to the DMs. The NS Provincial Ocean Network (PON) has been tasked by the DMs to develop goals.
- Funding is being made available by DFO to hire a coordinator in each province to liaise with the federal government re the Oceans Action Plan.

FISHERIES AND OCEANS CANADA: Richard Eisner, Innovation Office, DFO Maritimes Region, reported the following:

- National Distributed Ocean Data System: The objective is to implement a system based on archives that are distributed in the DFO regions.
- The system will focus on the client 'view':
 - Archive: assemble and preserve data
 - Discovery: find the data and information that are available
 - Exploration: determine if the needed data exists
 - Delivery: acquire the data of interest.

- The International Conference on Ocean Biodiversity Informatics is scheduled for 26-28 November 2007 at BIO in Dartmouth. The Conference will be co-organized by the International Ocean Data and Information Exchange (IODE), the International Council for Exploration of the Sea (ICES) and the Ocean Biogeographic Information System (OBIS). See http://www.iobis.org/Members/brantonb/obi07/OBI07_organization_call.htm.

Dave Duggan, DFO Maritimes Region, Oceans and Habitat Branch, reported the following:

- DFO is working with the NB Government on an implementation agreement for the Musquash MPA area of interest.
- A workshop was held at BIO 2 weeks ago with regard to the Ecosystem Overview and Assessment Report (EOAR) for the Atlantic Coast (from the tip of Cape Breton to Cape Sable).
- DFO, in collaboration with NOAA and the National Marine Fisheries Service, will be producing an EOAR for the Gulf of Maine/Bay of Fundy. Next week a workshop will be held in Moncton with regard to the project. Joe Arbour and Maxine Westhead are the DFO leads for this initiative.
- DFO is continuing its work in the Bras d'Or Lakes with regard to the recently completed EOAR. The First Nations are taking a lead on this project.
- The ESSIM Stakeholder Advisory Council (SAC) is reviewing the draft ESSIM Management Plan and considering the feedback received during the public review. It is anticipated that a revised draft of the Plan will be completed by May 2006. The revised draft will be circulated to stakeholders over the spring and summer with a view to approving a final version of the Plan by the end of the year.
- The Atlas of Human Activities on the Scotian Shelf will be released in March in hard-copy format. It will be made available on the WWW later this year.
- The DFO Oceans group met with the ACZISC on 5 January to discuss potential collaboration between ESSIM and ACZISC/COINAtlantic. A project proposal was subsequently submitted by the ACZISC and CEF Consultants for an Assessment of Data Sharing Requirements for Production of a Dynamic Ocean Use Atlas.

Tim Anderson, DFO NL Region, Oceans and Habitat Management Branch, reported the following:

- Marine Protected Areas: Gilbert Bay in Labrador and Eastport in Bonavista Bay, Newfoundland were designated MPAs in October 2005. Celebrations were held at each site with participation from local residents and stakeholder groups, including fisheries interests, aboriginal groups and federal/provincial officials. Tim handed copies of the "Golden Cod", the official newsletter of the Gilbert Bay MPA.
- NL Regional Implementation Committee for Oceans Management: The 1st meeting of the Committee took place on 5 December. The purpose of this senior federal/provincial committee (co-chaired federally by the RDG, DFO and provincially by the DM Fisheries and Aquaculture) is to oversee the implementation of Phase I of the Oceans Action Plan and plan for Phase II. Stakeholder engagement will be discussed at the next meeting of the Implementation Committee scheduled for 6 February.
- Gulf of St. Lawrence Integrated Management: Consultations will begin on 31 January in Western Newfoundland in relation to GOSLIM. The intent of the consultations is to inform interest groups on ICZM, the Oceans Action Plan and GOSLIM. Meetings will be held in 5 locations followed by a workshop in March. A deliverable of this process should be the establishment of a stakeholder structure for participating in the future governance of GOSLIM.

Gary Rockwell, Canadian Hydrographic Service - Atlantic, reported on the following:

- Mechanical problems with CCGS Matthew prevented the completion of CHS' end of season program in 2005: the survey of Makkovic Bank for NRCan was not carried out and a planned survey of capelin spawning areas around Cape Freels, NL was also cancelled. This work is now tentatively planned for 2006.

- New charts and new editions have been completed for the Voiseys Bay area of Labrador. The mine is now operational and shipments of ore have begun.
- United Nations Convention on the Law of the Sea (UNCLOS):
 - CHS is preparing a new request for proposals for a multibeam survey around the Grand Banks / Flemish Cap continental margin. The 2005 and 2006 budgets were pooled to allow a better return on investment.
 - The preparation for the Joint Canada / Denmark seismic refraction survey of Lomonosov Ridge are well underway. The work will take place in March 2006.
- Atlantic Tsunami Warning System: Work is proceeding and purchase orders for new sensors have been issued. A website showing real-time and predicted tides for all east coast permanent water level sites is near completion.
- Air Gap for Halifax Bridges: The Port of Halifax, the Halifax Dartmouth Bridge Commission, the Atlantic Pilotage Authority and CHS are working to develop a real-time air gap monitoring system for the two harbour suspension bridges. The arrival of post-panamax container vessels has made it critical to understand the precise clearance under the bridges during vessel passage. The 'steel to steel' clearance is close to 2 metres. GPS systems have been installed on both bridges. The information from the GPS is combined with the tidal data and the vessels air draft to work out a clearance that is used by the harbour pilots to plan the vessel passage.
- Nautical Data International (NDI): There is no change in the status at this time
- Goose Bay CHS Office:
 - Just prior to last fall's federal election call, 5-year funding was announced for the establishment of a new hydrographic office with a Coast Guard vessel for Goose Bay. The objective is to improve charting and search and rescue capabilities on the Labrador coast and to support the Goose Bay economy.
 - The plan calls for the hiring of 8-10 new hydrographers and to equip survey launches with multibeam systems.
 - The mothballed CCG icebreaker Bernier will go into refit. It will have a multibeam system installed and be capable of carrying 2 survey launches.
 - CHS staff and the ship's crew will be sourced from Labrador.
- Canadian Hydrographic Conference 2006: The event is scheduled for 5-9 June at the Westin Hotel in Halifax. Everyone is invited. See <http://www.chc2006.ca>.

INDUSTRY CANADA: Geoff Lewis, Energy and Environment Industries Branch, reported the following:

- IC will be participating with other departments and agencies in Oceanology International 2006 on 21-23 March in London, England. See <http://www.canadaoi06.co.uk> for details of Canadian exhibitors, activities etc. Individuals/organizations wishing to be included in activities should contact Geoff – lewis.geoff@ic.gc.ca. Geoff will be presenting a paper on Integrated Ocean Management and Canada's Oceans Action Plan at the conference on 22 March. The paper, co-authored with Scott Coffen-Smout, DFO, is available at <ftp://starfish.mar.dfo-mpo.gc.ca/oaco/pub/ESSIM/>.
- A strong presence by IC is anticipated at MTS/IEEE Oceans 2006 on 18-21 September in Boston (<http://www.oceans06mtsieeboston.org>) and at Ocean Innovation 2006 in St. John's in October (<http://www.oceaninnovation.ca>). The Department also hopes to participate in Oceans'06 Asia Pacific on 16-19 May in Singapore (<http://www.oceans06asiapacific.org>), the Canadian Hydrographic Conference 2006 on 5-9 June in Halifax (<http://www.chc2006.ca>), and the Coastal Zone Canada 2006 Conference on 14-18 August in Tuktoyaktuk, NT (<http://www.czc06.ca>).
- Rick Domokos, Senior Director, Marine with Industry Canada in Ottawa has advised that he will be retiring at the end of March. The Ocean Technologies Sector lead for the Department is Leah Clark, Director General, Aerospace, Defence and Marine Branch. Although Geoff is now in the Energy and Environmental Industries Branch (Bruce Bowie, DG), Geoff will continue to cover the ocean and marine industry sectors as well as the energy sector in the Atlantic region until his retirement next December.

NATURAL RESOURCES CANADA: Jacques Grondin, Geomatics Canada, reported the following:

- Two papers were recently made available to ACZISC members: "White Paper: Marine Cadastre in Canada's Offshore Area" - <http://aczisc.dal.ca/marcad.pdf> (not for public distribution); and "Introducing the Canada Centre for Cadastral Management" - <http://aczisc.dal.ca/cccm.pdf>.
- Awareness is increasing re the fundamental need for cadastral systems in the establishment of property rights.
- Several meetings between DFO and NRCan have been held in Ottawa with regard to the establishment of a marine cadastre. Both departments have agreed in principle to prepare a Memorandum to Cabinet as part of the Ocean Strategy.
- Additional information on the need for a marine cadastre and the Canada Centre for Cadastral Management's Integrated Cadastral Management and Marine Cadastre is attached.

Trevor Rankin, GeoConnections Secretariat, reported the following:

- The GeoConnections program has recently been renewed for another 5 years. A number of staff positions are being filled and the governance model and advisory committees are being established.
- Two announcements of opportunity have been released to date under the renewed program:
 - Joint Canada-USA spatial data infrastructure project
 - Developing CGDI applications for communities of practice.Details of these opportunities and an anticipated schedule of opportunities are available at <http://www.geoconnections.org/CGDI.cfm/fuseaction/opportunities.welcome/gcs.cfm>.
- The GeoConnections mailing list and newsletter provide the latest news on GeoConnections, future opportunities, workshops and training sessions. To register, access <http://www.geoconnections.org/CGDI.cfm/fuseaction/subscribe.welcome/gcs.cfm>.
- GeoTec, scheduled for 18-21 June 2006 in Ottawa, will mark the 100th anniversary of the Atlas of Canada. The event will be co-located with the Association of Canadian Map Libraries, the Canadian Cartographic Association, and the International Cartographic Association - <http://www.geoplace.com/uploads/GeoTecEvent/htm/intro.asp>.

Bob Taylor, Geological Survey of Canada - Atlantic, reported the following:

- Climate Change Program:
 - QuickBird satellite imagery has been acquired for the Bouctouche, NB area (contact: Gavin Manson - gmanson@nrcan.gc.ca). The imagery is applicable to the study on the Impacts of Sea-Level Rise and Climate Change on the Coastal Zone of Southeastern NB and to habitat studies by the Irving Ecocentre in Bouctouche.
 - Scientists are working on completing the Southeastern NB and the Bras d' Or Lakes Sea Level Rise projects.
 - The Arctic was the focus of most coastal monitoring work in 2005.
 - Plans for 2006 include an extension of the nearshore mapping along the Eastern Shore of NS using new interferometric bathymetric techniques.
- Climate Change Impacts and Adaptation Network (C-CIARN) - <http://c-ciarn.bio.ns.ca>:
 - It is anticipated that the program will end on March 31; however, it may be revitalized in a different form in the future.
 - The C-CIARN Coastal Zone office at BIO is completing its activities, including finishing the website and the climate change adaptation posters for the Gulf of St Lawrence. It is also maintaining a connection with the Gulf of St Lawrence Coalition on Sustainability erosion study.
 - The "Living with Climate Change: Sharing Adaptation Experiences" meeting in Montréal on 2 December was very successful. It featured excellent international presentations on adaptation to climate change by coastal communities. The presentations are available at http://www.c-ciarn.ca/index_e.asp?CalD=40&PgID=133. A webcast is available at <http://events.streamlogics.com/EnvCanada/2005/EN/>.

- Geoscience for Ocean Mapping Program (GOM) – <http://www.gom.nrcan.gc.ca>:
 - The GOM Program will be entering its 2nd phase after 31 March 2006. Planning meetings will be held in BC next week.
 - Dick Pickrill, the GOM Program manager, would be interested in presenting an update on the Program at the next ACZISC meeting.
 - John Shaw (john.shaw@nrcan.gc.ca) has completed the analysis of multibeam bathymetry collected in Placentia Bay, Newfoundland over the past few years.
- MITE (Metals in the environment) Program - <http://mite.nrcan.gc.ca>:
 - MITE officially ends in March 2006 but more activity is proposed under phase 2 of GOM (contact: Mike Parsons - miparson@nrcan.gc.ca).
 - A recent meeting was held on gold mining and impacts of tailings in the environment. The group is investigating the legacy of historical gold mining and the distribution of contaminants (mercury and arsenic) in nearshore sediment. Field surveys from 2003 - 2005 included sampling from 15 mine sites. Some results of the research will be presented at the Atlantic Geoscience Meeting in Wolfville in early February - see <http://ace.acadiau.ca/science/geol/ags2006/ags2006.html#program>
 - The results of the study have led to the formation of a federal/provincial Historic Gold Mines Advisory Committee. The Committee is looking at potential ecological and human health risks associated with gold mines throughout NS and how to best manage the tailing sites.
 - The Working Group on marine issues is led by Environment Canada - Debby Wallace (debbie.wallace@ec.gc.ca).
- Saglek, Labrador: There is renewed interest in the area as it is at the south end of the new Torngat National Park. Results from a sediment transport and study of PCB distribution in the nearshore at the Saglek radar site was completed by Steve Solomon - ssolomon@nrcan.gc.ca.

ATLANTIC PROVINCES COUNCIL ON THE SCIENCES / MEMORIAL UNIVERSITY: Grant Gardner, Associate Dean of Science, MUN, reported the following:

- The two Canada Research chairs referenced at ACZISC Meeting #46 – one in Seabed Imaging and Seabed Processes and the other in Marine Biotechnology – have now been approved and will be joining Memorial University this summer.
- Gordon Slade, of One Ocean - <http://www.oneocean.ca>, has developed a proposal for an International Lecture Series on Oceans for Canada. He has support and interest from DFO and others. He hopes to involve the CBC in broadcasting the series based on the model of the very successful Massey Lectures.
- Grant will be briefing the APICS Council on ACZISC activities at the APICS meeting in April. The meeting will be attended by the Deans of Science from all of the universities in Atlantic Canada.

NATIONAL DEFENCE: Paul Earnshaw, Formation Environment, Maritime Forces Atlantic, reported the following:

- The MARLANT Operations Area Management Plan discussed at ACZISC Meeting #46 was completed in March. This Plan will now be transitioned into an Environmental Management Plan by the fall of 2006.
- A series of MOUs will be produced to exchange information with OGDs and NGOs.
- DND's UXO (unexploded ordinance) investigation continues via an active Navy program to assess and clean sites.
- MARCOM has produced a marine mammal mitigation document. A contract will be let this week for a manual to assist in identifying marine mammals and the associated training.

ENVIRONMENT CANADA: Réal Daigle, Meteorological Service of Canada, provided the following update on the New Brunswick Sea Level Rise Project:

- The goal of the 3-year Climate Change and Sea Level Rise research project is to measure the impacts of climate change and sea-level rise in support of sustainable management, community resilience and the development of adaptation strategies for these impacts.

- The research project is made up of ten components: Sea Level Rise; Coastal Erosion; Storm Surge and Meteorological Modelling; Storm Surge and Meteorological Climatologies; LIDAR data and Digital Elevation Modelling; Ecosystems; Kouchibouguac National Park; Socio-economic Impacts; Adaptation Strategies; and Integration.
- The project team is pleased to report that the research objectives have been met, with some significant breakthroughs in physical science with regards to Storm Surge Return Periods for the southern Gulf of St Lawrence. A LIDAR-derived Digital Elevation Model will be used to display storm surge related coastal flooding risks for 2, 5, 10, 40 and 100-year events, for both current sea levels and projected sea levels in 2100.
- The research project is now in the report writing phase, with a target release date of June 2006 for the Final Report.
- For details, access the Project website at <http://atlantic-web1.ns.ec.gc.ca/slr/>.

Larry Hildebrand, Sustainable Communities and Ecosystems Division, reported the following:

- EC is reorganizing. The competitiveness and environmental sustainability framework is guiding the process. EC's activities and those of its partners must 'fit' into the Results-based Management and Accountability Framework (RMAF), a management tool for measuring and reporting outcomes throughout life cycle of policy, program or initiative
- Plans are well underway for an ACAP site in Labrador. A meeting will be held in 2 weeks of interested federal departments. Discussions will also take place with the Province and other stakeholders.
- The Canadian Coastal Science and Engineering Association (CCSEA) 2005 Conference was held on 6-9 November 2005 in Dartmouth. The themes were *The State of the Natural and Engineered Coast* and *Future Directions in Nearshore Dynamics*. The very successful Conference was attended by ~130 people. The future of the CCSEA was discussed. Collaboration with the other 'coastal' organizations will be pursued, including the CZCA and the OMRN. LOAs are being developed.
- There is a need to understand the needs of the ICOM Community of Practice. The OMRN and the CZCA are in the early stage of discussion re building an interactive database of ICM initiatives.

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA: Michel Goguen, Real Property Services, reported the following:

- Progress is being made with the Way Forward, an initiative led by PWGSC to deliver services smarter, faster and at a reduced cost (<http://www.pwgsc.gc.ca/b2k5/text/index-e.html>).
 - Areas of focus include: acquisitions – standing offers; IM/IT; and Real Property.
 - The challenge is to maintain service levels to clients during the transformation period.
 - The Way Forward emphasizes partnering with the private sector.
 - Leverage strengths for government include experience and historical data.
 - It will take 5-8 years to fully implement.
- Current activities at PWGSC include: multibeam trials; an upgrade of harbour management; and the ongoing monitoring for erosion and sedimentation at the Confederation Bridge.

COMMUNITY ORGANIZATIONS: David Boyce, Southeast Environmental Association (SEA), reported the following:

- ACAP Data Sharing Survey: As part of a project under RésEau, SEA surveyed the 14 Atlantic Coastal Action Program (ACAP) groups in early November to: determine the use of electronic data sharing; determine the need for tools to assist electronic data sharing; and to examine the knowledge and use of web-based data sources such as the GeoConnections Discovery Portal. Web-based mapping was identified as the most desirable data access/sharing format. The study is available in PDF format at <http://www.seapei.ca/modules/ACAPDataSharingSurvey/>.
- GeoConnections/PRI Workshops: Last week in Ottawa GeoConnections and the Policy Research Institute (PRI) held two workshops: one on Developing a Community of Practice

for Mapping Water Issues; and the other on Geospatial Information Needs for Integrated Land / Marine Management. Concerns raised include standards and capacity building. Presentations and Workshop reports will be posted on the PRI website in the near future – <http://www.policyresearch.gc.ca>.

- Freshwater for the future - Conference on Freshwater Policy: Hosted by the Policy Research Initiative, the Conference will be held on 8-10 May in Gatineau, QC. The three-day Conference will explore central aspects of freshwater policy, from drinking water to ensuring ecosystem services, and from boundary waters to international development. Details are available at www.policyresearch.gc.ca.
- Northumberland Strait Ecosystem Initiative: The Institute of Island Studies at UPEI has scheduled a series of consultations in PEI from 2-8 February to obtain input for the DFO initiative.
- Coordinating Nearshore Monitoring Workshop: The Workshop is scheduled for 7-9 February at BIO. The Clean Annapolis River Project (CARP), the Miramichi River Environmental Assessment Committee (MREAC) and SEA will provide a community perspective on the topic in the Atlantic region section of the agenda. The Southern Gulf of St. Lawrence Coalition on Sustainability will be presenting its work on indicators.

UPDATES ON ACZISC RELATED PROGRAMS

COASTAL ZONE CANADA ASSOCIATION AND CONFERENCES: Grant Gardner reported that Coastal Zone Canada 2006 was scheduled for 14-18 August 2006 in Tuktoyaktuk, NT. The theme is *Arctic Change and Coastal Communities*. The intent of the Conference is to raise awareness about the unique challenges faced by residents of the Arctic coastal zone in the face of rapid changes occurring in Arctic marine ecosystems. While the focus is on coastal and ocean issues in the north, contributions from coastal areas around the world are encouraged. Details are available at <http://www.czc06.ca>.

Mike Butler reported that Bob Thwaites had suggested that the ACZISC organize an interactive panel for CZC 2006, similar to the panel that was organized for CZC 2004 in St. John's. He asked that members notify him if they wish to participate in an ACZISC Panel.

SOUTHERN GULF OF ST. LAWRENCE COALITION ON SUSTAINABILITY: David Boyce reported the following:

- The SGSLCS is a not-for-profit coalition of partners whose common purpose is to promote the long-term viability of the Southern Gulf of St. Lawrence region. For information on the Coalition, access <http://www.coalition-sgsl.ca>.
- The Coalition AGM will take place in Miramichi, NB on 13 May 2006.
- The AGM is being held in conjunction with a Workshop and Trade Show entitled "Sustainable and Renewable Energy Technologies in Atlantic Canada", scheduled for 11-13 May. The theme is *Finding the Power to Prosper*. For information on the Workshop, access <http://www.coalition-sgsl.ca/energyworkshop/>.

SHARING DATA IN THE GULF OF MAINE

COMMUNITY PROFILE

The Gulf of Maine region encompasses approximately 170,000 square kilometres of ocean between Massachusetts and Nova Scotia. This ocean region supports a highly productive fishery along with many other valuable resources. These critical resources are managed by a large, distributed community of organizations with a wide variety of mandates and associated data management environments.

CHALLENGES FACED

Maps have long been an important means to present information about the Gulf of Maine. Most community members that collect information about the Gulf generate geospatial data sets that are ultimately incorporated into maps. Unfortunately, the data collected by these organizations have typically been maintained in closed environments that make meaningful data interaction between community members cumbersome or impossible.

The ability to integrate geospatial data from various organizations into collective maps and targeted user applications is an essential need of this resource management community and its various stakeholders. How could this be accomplished without expensive software licenses and data conversions disrupting the business practices of its members?

INITIATIVES IN THE GULF OF MAINE

• GOMMI

Mapping the Gulf of Maine seafloor is one of the essential first steps for achieving effective management of the region's marine environments. The **Gulf of Maine Mapping Initiative (GOMMI)** is a U.S.-Canadian partnership of government and non-government organizations to conduct comprehensive seafloor imaging, mapping, and biological and geological surveys. GOMMI grew out of a mapping workshop in October 2001 that was sponsored by the Gulf of Maine Council on the Marine Environment and the National Oceanic and Atmospheric Administration. The Gulf of Maine Council endorses GOMMI, and the GOMMI Steering Committee is a subcommittee of the Council. Currently, GOMMI is working to secure funding and conduct a mapping program of areas in the Gulf of Maine not already covered by multibeam sonar surveys. See <http://www.gulfofmaine.org/gommi/>.

• GoMOOS

The **Gulf of Maine Ocean Observing System (GoMOOS)** is a national pilot program designed to bring hourly oceanographic data from the Gulf of Maine to all those who need it, including:

- Commercial Mariners making everyday decisions that impact their safety and livelihood.
- Coastal Resource Managers seeking to maintain economically and environmentally vital resources.
- Scientists trying to understand complex ecosystems and predict climate change.
- Educators conveying the complexity and urgency of ocean science.
- Search and Rescue Teams trying to find and save lives.
- Emergency Response Teams mitigating damage from environmental disasters.
- Public Health Officials concerned about outbreaks of harmful algal blooms (such as red tide).

All these users can benefit from the up-to-date information GoMOOS provides. See <http://www.gomoos.org>.

GoMOOS is a non-profit membership organization representing all user groups.

- Members include fishermen, scientists, resource managers, educators and business owners with an interest in the Gulf. Membership is available to any legal entity.
- The Board of Directors is drawn from the membership.
- Scientists (from regional research partners)
- GoMOOS staff (coordinating the system)

- **GoMMaP**

DM Solutions, in partnership with GoMOOS, designed and built the **Gulf of Maine Mapping Portal** (<http://www.gommap.org>). GoMMap resulted in a connectivity infrastructure that allowed all community stakeholders to share and leverage their data assets. Through support of accepted standards, real-time and historical data from many providers and in many formats was made available in a seamless, accessible way. The resulting data services were easily integrated into online maps. Once created, maps were included in unique Web-mapping applications hosted (with no additional cost) on various stakeholders' servers. All necessary technologies and services were made available from the GoMMap portal's one, centralized location.

Benefits to the community are numerous. The GoMMaP portal and underlying infrastructure has improved communication amongst members of the Gulf of Maine Ocean Data Partnership, and improved community awareness and excitement about the power of data interactivity. Awareness of the group and its data assets has increased among funding organizations, the media, and the general public.

The enabling aspects of data connectivity and new applications have created value-added knowledge within the community and opened all stakeholders' eyes to exciting new possibilities.

The success of the project led to the formation of the Gulf of Maine Ocean Data Partnership.

- **Gulf of Maine Ocean Data Partnership**

The purpose of the Gulf of Maine Ocean Data Partnership is to promote and coordinate the sharing, linking, electronic dissemination, and use of data on the Gulf of Maine region. The participants have decided that a coordinated effort is needed to enable users throughout the Gulf of Maine region and beyond to discover and put to use the vast and growing quantities of data in their respective databases. Through the coordinated access to the respective databases, the participants wish to advance a truly integrated ocean observing system in the Gulf of Maine, promote an understanding of the diversity and distribution of life in the Gulf of Maine, and contribute to integrated oceans management.

Development of this evolving infrastructure is based on the international standards of the Open GeoSpatial Consortium that have been endorsed by the Canadian Geospatial Data Infrastructure (CGDI) and the US National Spatial Data Infrastructure (NSDI). The result is the premiere model Marine node of the Canadian and U.S. Infrastructure efforts.

The Gulf of Maine Infrastructure solution was developed based on the DM Solutions Group MapTools blueprint - a multi faceted approach to delivering web-based infrastructure solutions.

- **Developing Integrated Geospatial Tools Needed by Coastal and Ocean Managers in the Transboundary Gulf of Maine Region**

Proposal submitted by the Gulf of Maine Council on the Marine Environment to GeoConnections in January 2006 for Land and Water Management Responses to Sustainable Development and the Environment and Public Health Concerns.

MARINE CADASTRE: THE FOUNDATION FOR PROPERTY RIGHTS INFRASTRUCTURE IN SUPPORT OF GOOD GOVERNANCE AND SUSTAINABLE DEVELOPMENT OF CANADA'S OFFSHORE AREA

There is an emerging issue related to the good governance of Canada's Offshore Area (Air Space, Ocean Space, and Continental Shelf). In addition, there is an increased awareness in the world that Cadastral Systems underlying rigorous property rights infrastructures are key in enabling good governance and sustainable development of natural resources.

The Oceans Act and Canada's Ocean Strategy require Integrated Management principles to be used to minimize conflict among ocean users. NRCan can play a key role in balancing competing demands for ocean space between resource development and sustainable management and conservation. Strong partnerships between federal and provincial agencies are required as the divisions between federal and provincial jurisdictions are not always clear.

Studies have demonstrated that an effective property rights infrastructure (allocation of rights, regulation of these rights, monitoring of the regulations, and an adjudication process) is essential for good governance and sustainable development. On land, these infrastructures are in place in all developed countries. Furthermore, the World Bank only funds projects in under-developed countries that incorporate land tenure reforms and ensure that a property rights infrastructure will be put in place.

The functions of ocean governance, from a property rights perspective, can be defined as: allocation of rights of use, ownership and stewardship to marine resources, regulation of these rights, monitoring and enforcement of these regulations, provision of effective means to prevent and adjudicate disputes and management of spatial information on which other processes depend.

A property rights infrastructure is composed of three distinct systems: a legal survey system to define the extent of rights, a registration system to record the rights, and a management regime to regulate the rights.

NRCan, through the Earth Sciences Sector (ESS) and the Canada Lands Surveys Act, contributes towards the provision of a property rights infrastructure in Canada's offshore area. The application of the Act was extended in 1977 to bring the legal surveys, required for the management and control of offshore resources on Canada Lands, under legislative authority and to facilitate the administration, direction and control of surveys of all Canada Lands. The Canada Lands Survey System (CLSS) serves five property rights regimes established in Canada's ocean space. The system supports the management of resources for two government departments and three joint management boards responsible for managing and issuing rights for oil and gas resources: NRCan, Indian and Northern Affairs Canada (INAC), Canada Nova Scotia Offshore Petroleum Board (CNSOPB), Canada Newfoundland and Labrador Offshore Petroleum Board (CNLOPB), Canada-Yukon.

Many other types of rights are allocated but there is no formal public record and no overall rights structure. There is no overarching way of understanding the administrative, jurisdictional, and property rights infrastructure in Canada's marine areas. The Constitution Act and Oceans Act provide starting points but there is no comprehensive legislation addressing the federal and provincial divide as exists in Australia and the United States.

The Earth Science Sector (ESS) and the Department of Fisheries and Oceans (DFO) have started to work collaboratively to advance the issue at the federal level and develop a strategy for inclusion in phase two of the Oceans Action Plan.

The oceans are a primary resource and if Canada is to continue competing in the global marketplace, there is a need for good stewardship of the resources as well as economic development. Part of the governance structures will be the institutions, laws, and information-sharing mechanisms that are part of a marine property rights infrastructure.

ESS can lead in an integrated ocean management framework where the issues relate to property rights infrastructures and the effective management of spatial information. There is a need for a more comprehensive information strategy that includes a property rights infrastructure as an essential element of an eventual Marine Geospatial Data Infrastructure. Such an integrated information strategy, now becoming known internationally as a Marine Cadastre, would provide a mechanism to integrate property rights data with other environmental and economic data for better decision-making.

NRCan has been a key participant in shaping this initiative under Canada's Ocean Action Plan. The initiative is seen as an opportunity to apply NRCan scientific expertise and technology and its outcomes will contribute to Canada's offshore resource-related regulatory and management objectives.

THE CANADA CENTRE FOR CADASTRAL MANAGEMENT (CCCM): INTEGRATED CADASTRAL MANAGEMENT AND MARINE CADASTRE

In March 2003, the CCCM defined the following objectives for the Canada Lands Survey System Knowledge Based Service:

- Establish networks of excellence for integrated cadastral information management
- Develop a strategy for the development of a marine cadastre
- In co-operation with Indian and Northern Affairs Canada (INAC), reform cadastral management processes through the integration of the Indian Lands Registry System (ILR) and the Canada Lands Survey Records (ILR/CLSR).

Networks of Excellence for Integrated Cadastral Management:

- One of the action items resulting from these objectives was to develop a National Delivery Model for Integrated Cadastre Management.
- For its clients to realize the benefits of integrated cadastral management, CCCM must adopt a national standard business process, standard information management technology and a standard data model. This will allow CCCM to deliver the base cadastral information required for integrated cadastral management on Canada Lands.
- CCCM is now in the 2nd year of a three-year project to develop and implement the Integrated Cadastre Management. By the end of March 2006 the following components will be completed:
 - Design and implementation of the common data model; data maintenance processes and tools; and data access facilities
 - Testing and installation of common GIS technology
 - Specialized software training
 - Design of technology and systems for the ILR/CLSR Integration Project.
- In the 3rd year of the project CCCM will be focusing on the development of its E-Environment for land survey projects. This includes: On-line survey instructions; E-Land Survey Standards; E-Plan Submissions - Digital survey returns; E-Plan Check; and E-Plan Recording.
- The E-Environment will be implemented through a web interface allowing land surveyors to conduct the complete land survey project in the digital environment.