

**CANADIAN OCEAN SCIENCE NEWSLETTER
LE BULLETIN CANADIEN DES SCIENCES DE L'OCÉAN**

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Professeur régulier en géologie marine

L'Institut des sciences de la mer de Rimouski (ISMER), cherche à combler un poste de professeur en géologie marine. L'ISMER est à la recherche d'une personne dynamique qui contribuera aux objectifs de recherche et d'enseignement de l'Institut par sa collaboration avec ses collègues et par le développement d'un programme de recherche subventionné qui implique des étudiants de maîtrise et de doctorat. L'ISMER est une unité autonome de l'Université du Québec à Rimouski qui comporte des professeurs et du personnel de soutien dans toutes les disciplines principales de l'océanographie. En sus des laboratoires bien équipés, l'ISMER est

responsable d'une station de recherche d'eau salée et d'un navire de 50 m. La zone côtière est la préoccupation principale de l'ISMER. La langue de travail est le français.

Ce poste sera comblé par un géologue marin spécialisé dans l'étude des processus sédimentaires en milieux côtiers. Le titulaire devra posséder de bonnes connaissances de la dynamique des particules en suspension dans la zone côtière, incluant les baies, les lagunes et les zones portuaires, ainsi qu'une expérience dans la modélisation du transport sédimentaire. Une formation en mathématique et en physique et une bonne connaissance des techniques modernes de traitement et de visualisation des données seront un atout. La personne retenue devra avoir une bonne expérience de recherche sur le terrain. Elle sera encouragée à développer son propre secteur de recherche et sera amenée à collaborer étroitement avec les hydrodynamiciens, géologues et biologistes de l'ISMER et de l'UQAR.

Détenteur d'un Ph. D. en océanographie géologique, sédimentologie marine, génie côtier ou disciplines connexes, le titulaire devra posséder au moins une année d'études postdoctorales et une importante liste de publications de niveau international dans le secteur pertinent à la description de la fonction. Il devra être en mesure de participer aux programmes de maîtrise et de doctorat en océanographie par l'enseignement et l'encadrement des étudiants aux études supérieures.

Les candidats doivent fournir un curriculum vitae, une description de leurs activités de recherche et d'enseignement ainsi que les coordonnées de trois répondants. L'examen des candidatures commence immédiatement et se poursuivra jus-qu'à ce que la personne appropriée soit trouvée. Toutes les personnes qualifiées sont invitées à poser leur candidature, mais la priorité sera donnée aux candidats et aux résidents permanents

Président de l'Assemblée institutionnelle, Institut des sciences de la mer de Rimouski, 310, allée des Ursulines, Rimouski (Québec) G5L 3A1

Tenure Track Faculty Position in Marine Geology

The Institut des sciences de la mer de Rimouski (ISMER) is looking for a candidate to fill a faculty position in marine geology. ISMER is seeking a dynamic individual who will contribute to the research and teaching objectives of the new institute through collaboration with existing faculties and the development of funded research programs involving students at the master and doctorate levels. ISMER is an autonomous UQAR unit including faculty and support staff in all major disciplines of oceanography. In addition to well-equipped laboratories, the institute is operating a seawater research station and a 50-m research vessel. The main research orientation of the institute is the coastal zone. The Working language is French.

This position is aimed at marine geologists specialised in sedimentary processes in coastal environments. The successful candidate will have a solid knowledge of the dynamics of suspended matter in the coastal zone, including bays, lagoons and port zones and an experience in sediment transport modelling. A good background in mathematics and physics and signal processing and visualisation techniques will be an asset. That candidate will also have a good experience in field experiments. The successful candidate will be encouraged to develop his/her

own research program and to collaborate with geologists, physicists and biologists of ISMER and UQAR in research projects.

The candidate must have a PhD in marine geology, marine sedimentology, coastal engineering or in a closely related field. A minimum of one year post-doctoral experience and a substantial list of publications at an international level in a field related to the position are requested. He or she must be able to contribute to the M.Sc. And PhD programs through teaching and graduate student supervision.

Candidates must provide a curriculum vitae, a description of their research activities and teaching capabilities and the contact information of three referees. Review of applications will begin immediately and continue until the position is filled. All qualified candidates will be considered, however priority will be given to Canadian citizens and permanent residents.

Chairman, Institutional Assembly, Institut des sciences de la mer de Rimouski, 310, allée des Ursulines, Rimouski (Québec), G5L 3A1

ArcticNet Graduate Student Fellowships Available

The Centre for Earth Observation Science, Faculty of Environment, University of Manitoba

Studentships are available for Sept'04 and Sept'05 entry at the masters, PhD and postdoctoral levels in various fields of Arctic System Science at The Centre for Earth Observation Science, Faculty of Environment, University of Manitoba, Canada.

The Centre for Earth Observation Science is seeking highly motivated graduate students to join a team of international collaborators working on various aspects of Arctic System Science. CEOS will lead theme 3 of ArcticNet, which seeks to examine the role of freshwater quality and quantity on marine processes within Hudson Bay. CEOS also contributes to collaborations in theme 1 (High Arctic) and theme 4 (Integration) of the ArcticNet science plan.

<http://www.arcticnet/ulaval.ca>

Graduate studentships are available in the areas of: snow/sea ice geophysics, ocean-sea ice-atmosphere processes, microwave remote sensing, arctic meteorology, gas/mass/energy flux processes, numerical modelling, contaminant processes, freshwater/marine coupling, physical-biological coupling.

Students would join the new Faculty of Environment which offers a wide variety of physical science programs including masters and PhD Degrees in physical geography, geophysics, and environmental science. <http://www.umanitoba.ca/faculties/environment/>

Students would work within a team approach to science, using state of the Art equipment under the supervision of one of the following Network Investigators:

- D. Barber: physical-biological coupling, remote sensing, sea ice geophysics
- J. Hanesiak: Meteorology, modelling
- R. Macdonald: contaminants
- T. Papakyriakou: gas/mass/energy fluxes, snow/sea ice geophysics

- S. Prinsenbergh: oceanography, sea ice processes, remote sensing
- G. Stern: contaminants
- C. Tang: modelling, sea ice processes

Applicants should submit a letter in intent, curriculum vitae, and statement of research interests via email to: David G. Barber, PhD, Canada Research Chair in Arctic System Science, Director, Centre for Earth Observation Science, Faculty of Environment, University of Manitoba, Winnipeg, MB, Canada, R3T 2N2, U of M Office (204) 474-6981, Home Office (204) 736-2670, FAX 474-7699 www.umanitoba.ca/ceos/barber. For further information, please go to: <http://www.umanitoba.ca/faculties/environment/geography/ceos/index.html> or contact: David G. Barber (dbarber@ms.umanitoba.ca)

The Canadian Argo Program in the North-west Atlantic

Report by: Allyn Clarke, ClarkeA@mar.dfo-mpo.gc.ca

The International Argo program is a pilot experiment in support of the Global Ocean Observing System (GOOS). It is striving to maintain a global array of autonomous profiling floats in each three degree square (300 km spacing) of the ocean and reporting back a profile of temperature and salinity over the upper 2000 metres every 10 days. These floats drift at depths of 1500 or 2000 metres between profiles. Their data is being collected to support the development of regional and global ocean models driven by the atmosphere and the assimilation of sea surface height and in situ ocean profile observations. The profile data is also used to test and develop global analysis of anomalies and changes in ocean heat and fresh water content using both statistical analysis and ocean models. These analyses and ocean models will be used to predict climate variability on time scales of weeks to seasons and to assess climate change.

Canada's participation in the North Atlantic component of this program began in October, 2001 when four profiling floats were deployed over the continental slope from St. Pierre Bank in the east to south of Browns Bank in the west. These were followed by thirteen deployments in 2002, seventeen in 2003 and twelve so far in 2004.

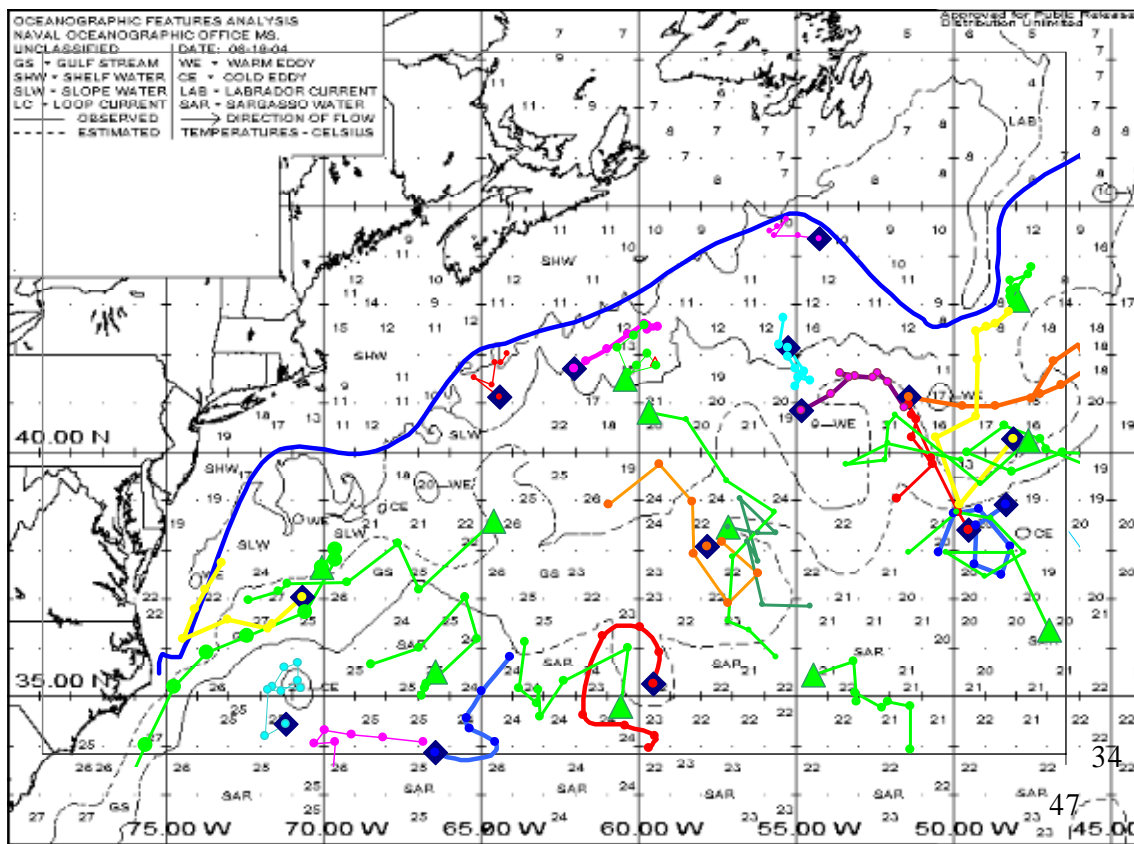
Originally, Canada had agreed to take responsibility for the western North Atlantic between 35 N and 50 N; this area included the Slope Water region, Gulf Stream and North Atlantic Current. By 2002, it was clear that the groups who had asked for responsibility for the Labrador Sea had not received the necessary funding, so a number of the Canadian floats were deployed in these higher latitudes. Presently, fifteen of the twenty-one operating floats in the Labrador Sea are Canadian. International Argo plans call for twenty-one operating floats in this region.

Eleven of the eighteen operating floats in the Slope Water / Gulf Stream region north of 33 N and west of 51W are Canadian. This region should have 24 operating floats; however, the strong current fields associated with the Gulf Stream move floats quickly out of the region. More Canadian floats will be deployed in this region in the fall of 2004.

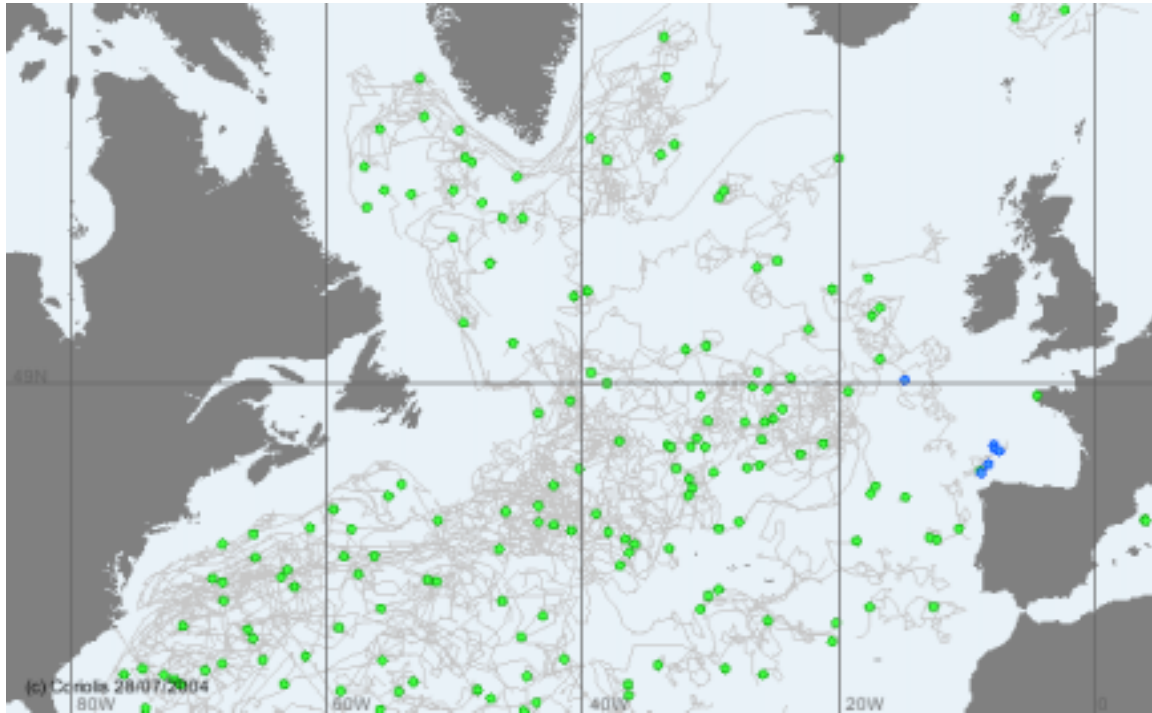
Ten of the twenty-nine operating floats in the North Atlantic Current and Drift region east of 51°W are Canadian. This region should have 33 operating floats. This region is a particular challenge for the Argo program because floats deployed in the western part of the region quickly

move eastward until they reach the mid-Atlantic Ridge where they converge. Over a period of 2-3 years, our floats have drifted from 560 to 1650 km from their original launch sites. In fact, a number of floats have moved more than 1000 km in their first 250 days of deployment. Floats caught in the major currents or eddies can move at their drift depths of 2000 metres at speeds averaged over 10 days of up to 0.33 m/s. The floats remain on the surface for 9 hours to transmit their data ashore. During these periods, they have experienced surface drifts as fast as 2.1 m/s or more than 4 knots.

Canadian profiling floats are presently delivering more than 100 temperature and salinity profiles every month from the North-west Atlantic. Two Canadian floats are also collecting oxygen concentration profiles from the Slope Water and the Labrador Sea. A similar monthly survey of the Northwest North Atlantic would require 48 sea days for a research vessel cruising at 12 knots. Data from all of the Argo floats is available from <http://www.ifremer.fr/coriolis/cdc/default.htm> Most data appears on the international site within 24 hours of collection.



Blue diamonds are the most recent positions of the Canadian floats as of 24 June 2004. Green triangles are floats from other countries (US, Germany) The tracks are marked with small circles marking the positions of the floats as they profile to the surface each 10 days. The Blue curve is the position of the 2000 metre isobath. Most of the floats are drifting at a depth of 2000 metres.



Active profiling floats in the North Atlantic as of 28 July 2004

Fellow of the Royal Society of Canada (FRSC)

The Royal Society of Canada is inducting several distinguished scientists as FRSC members in 2004, the formal ceremonies for which will occur in November 2004. Dr. Rob Macdonald, research scientist at DFO's Institute of Ocean Science, is one of these new inductees. Robie Macdonald is internationally recognized for his work on contaminant pathways in environmental systems. His research includes the role of the ocean in arctic contaminant transport, arctic hydrological and ice interactions and organic carbon cycling. His time-series data for the Beaufort Sea reveals that recent surface freshening of the Canada Basin results largely from diverted runoff pathways and secondarily from ice melt. He was awarded the CMOS (Canadian Meteorological and Oceanographic Society) President's Prize (2000) for leading the synthesis of Canadian arctic contaminant studies and was co-recipient of the Head of the Public Service Award for Excellence in Policy (2002).

International Global Ocean Ecosystem Dynamics (GLOBEC) Symposium

GLOBEC is sponsoring symposium on "Climate Variability and Sub-Arctic Marine Ecosystems" in Victoria, B.C., on May 16-20, 2005. For more information, registration, and abstract submission, see the International GLOBEC website at: <http://www.globec.org>

Monitoring and Understanding a Dynamic Planet with Geodetic and Oceanographic Tools

Cairns, Australia, August 22-26, 2005

The International Association of Geodesy (IAG), the International Association for the Physical Sciences of the Ocean (IAPSO) and the International Association for Biological Oceanography (IABO) invites scientists to this Joint Assembly. The scientific programme will emphasize the interaction of the earth and oceanographic sciences, as well as provide an opportunity to present the latest research in the disciplines of geodesy and oceanography. The programme will be enriched by a focus on the geodetic and oceanographic challenges in the tropics, the Asian region, the Pacific Ocean and its environs, and Antarctica. Additional information may be found at: http://www.olympus.net/IAPSO/scor_ja.pdf

Coastal Management, Request for Letters of Interest, Climate Change Impacts & Adaptation Program

The Climate Change Impacts & Adaptation Program provides funding for targeted research to better understand Canada's vulnerability to climate change and to provide information necessary for the development of adaptation strategies. Funding for this program is provided by the Government of Canada's Action Plan on Climate Change. Topics of research that may be addressed in the latest request for Letters of Interest include: (1) Bay of Fundy, the Arctic, and Quebec marine coasts (2) comparative case studies of coastal management approaches or strategies currently in use in Canada and their capacity to address issues raised by climate change (3) the implications of maladaptation for coastal management. Completed Letters of Interest must be submitted by the close of business **September 17, 2004**. Background and additional information may be found under what's new at: <http://adaptation.nrcan.gc.ca/>

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Previous newsletters may be found on the CNC/SCOR web site.
Les bulletins antérieurs se retrouvent sur le site web du CNC/SCOR.

Newsletter #10 will be distributed on September 16, 2004. Please send contributions to dick.stoddart@sympatico.ca
Bulletin #10 sera distribué le 16 septembre 2004. Veuillez faire parvenir vos contributions à dick.stoddart@sympatico.ca

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