



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

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GEOTRACES

The purpose of this message is to introduce GEOTRACES, a new international research program whose primary objectives are:

- To determine global distributions of selected trace elements and isotopes (TEIs) in the ocean; and
- To evaluate the oceanic sources, sinks, and internal cycling of these TEIs and thereby characterize more completely their global biogeochemical cycles.

GEOTRACES aims to build a community of marine scientists who understand the physical and chemical processes that regulate the distribution of trace elements and their isotopes, as well as their biological impacts, well enough to exploit them reliably in future interdisciplinary studies. A detailed draft report prepared by the international planning committee convened in Toulouse, France last year is available for download at: <ftp://ftp.ldeo.columbia.edu/pub/boba>

Canadian GEOTRACES wishes to involve those with expertise in the areas of physical, chemical, biological and paleo-oceanography as well as those modeling physical and biogeochemical processes. The Scientific Committee on Ocean Research is meeting in early June, 2004, to develop a science plan for GEOTRACES. Therefore, to accelerate the Canadian program we wish to plan a workshop to discuss funding strategies for late summer or early fall. If you are interested in participating in such a meeting please contact us by email. Please distribute this email to all those who you think might have an interest in participating in Canadian GEOTRACES.

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International Association for the Physical Sciences of the Oceans (IAPSO) Activities

Report by: Michael Stacey, stacey-m@rmc.ca

The 2003 IUGG General Assembly was held in Sapporo, Japan, 30 June – 11 July. IAPSO sponsored and co-sponsored numerous symposia. Dr Klaus Wyrski received the Prince Albert Medal in Sapporo. (The previous recipient was Dr Walter Munk.) Of particular interest to Canadians, Dr Lawrence Mysak was elected as one of the two Vice Presidents of IAPSO. The other Vice president is Professor S. Krishnaswami of India. The President is Professor Shiro Imawaki of Japan.

The next IUGG General Assembly is in 2007 in Perugia, Italy.

Three other upcoming meetings are:

1. Symposium on Ocean Mixing, 11 – 15 October 2004, in Victoria BC. This meeting is sponsored by IAPSO and SCOR.
2. International Workshop on Forecasting and Data Assimilation in the Benguela and Comparable Systems, 8 – 11 November 2004, in Cape Town, South Africa. This meeting is

sponsored by the Benguela Current Large Marine Ecosystem (BCLME) Programme, IAPSO, IUGG, IOC, GOOS and SCOR.

3. Monitoring and Understanding a Dynamic Planet with Geodetic and Oceanographic Tools, 22 – 26 August 2005, in Cairns, Australia. This meeting is sponsored by IAG, IAPSO and IABO.

More information on IAPSO can be at: <http://www.olympus.net/IAPSO/>

GLOBEC is Dead; Long live GLOBEC

Contributed by: Ian Perry, perryi@pac.dfo-mpo.gc.ca

Canada had a national program on GLOBEC (Global Ocean Ecosystem Dynamics) from 1996 to 1999, co-chaired by Dr. Brad deYoung (Memorial University, St. John's) and Dr. Dave Mackas (DFO, Institute of Ocean Sciences, Sidney) [web site <http://www.globec-canada.mun.ca/globec/>] and funded by NSERC and DFO. The Canadian program sought to understand how living marine resources are affected by variability of the physical environment, and included over 50 scientists on both East and West coasts of Canada in seven university and five government laboratories. Project results have been published in a number of journal articles, including several special collections (e.g. see *Canadian Journal of Fisheries and Aquatic Sciences* 56(12), 1999, and 58(4), 2001). A second proposal was submitted to NSERC and DFO in 1999, but was unsuccessful. Since then, Canadian GLOBEC projects have largely been completed, although some synthesis work continues.

It may come as a surprise to some that, despite the demise of the GLOBEC program in Canada, GLOBEC as an international program continues alive and well. The international activities of GLOBEC, sometimes also called "GLOBEC.int", have been supported by the Scientific Committee on Oceanic Research (SCOR), the International Geosphere – Biosphere Program (IGBP), and the Intergovernmental Oceanographic Commission (IOC). The goal of this international program, defined in its Implementation Plan published in 1999, is "*To advance our understanding of the structure and functioning of the global ocean ecosystem, its major subsystems, and its response to physical forcing so that a capability can be developed to forecast the responses of the marine ecosystem to global change*". The specific objectives of GLOBEC are:

- 1- To better understand how multiscale physical-environmental processes force large-scale changes in marine ecosystems;
- 2- To determine the relationship between structure and dynamics in a variety of oceanic systems which typify significant components of the global ocean ecosystem;
- 3- To determine the impacts of global change on stock dynamics using coupled physical, chemical and biological models linked to appropriate observation systems;
- 4- To determine how changing marine ecosystems will affect the global earth system by identifying and quantifying feedback mechanisms.

To date, there have been over 30 National GLOBEC programs, 4 Regional GLOBEC programs (with two more expected to be approved shortly), plus other affiliated projects. In addition, there are 4 Working Groups under the direct supervision of the International Scientific Steering

Committee, on: Retrospective and Time Series Studies; Process Studies; Modelling; and the Human Dimensions of Marine Ecosystem Changes – see the Figure for the organisational structure. The general web site is www.globec.org. The anticipated conclusion of this international coordination by IGBP/SCOR/IOC is expected to be in 2009. An excellent full-colour 30 page brochure has been published on the international GLOBEC program, and is available as a pdf file from http://www.igbp.kva.se/uploads/IGBP_5_GLOBEC.pdf.

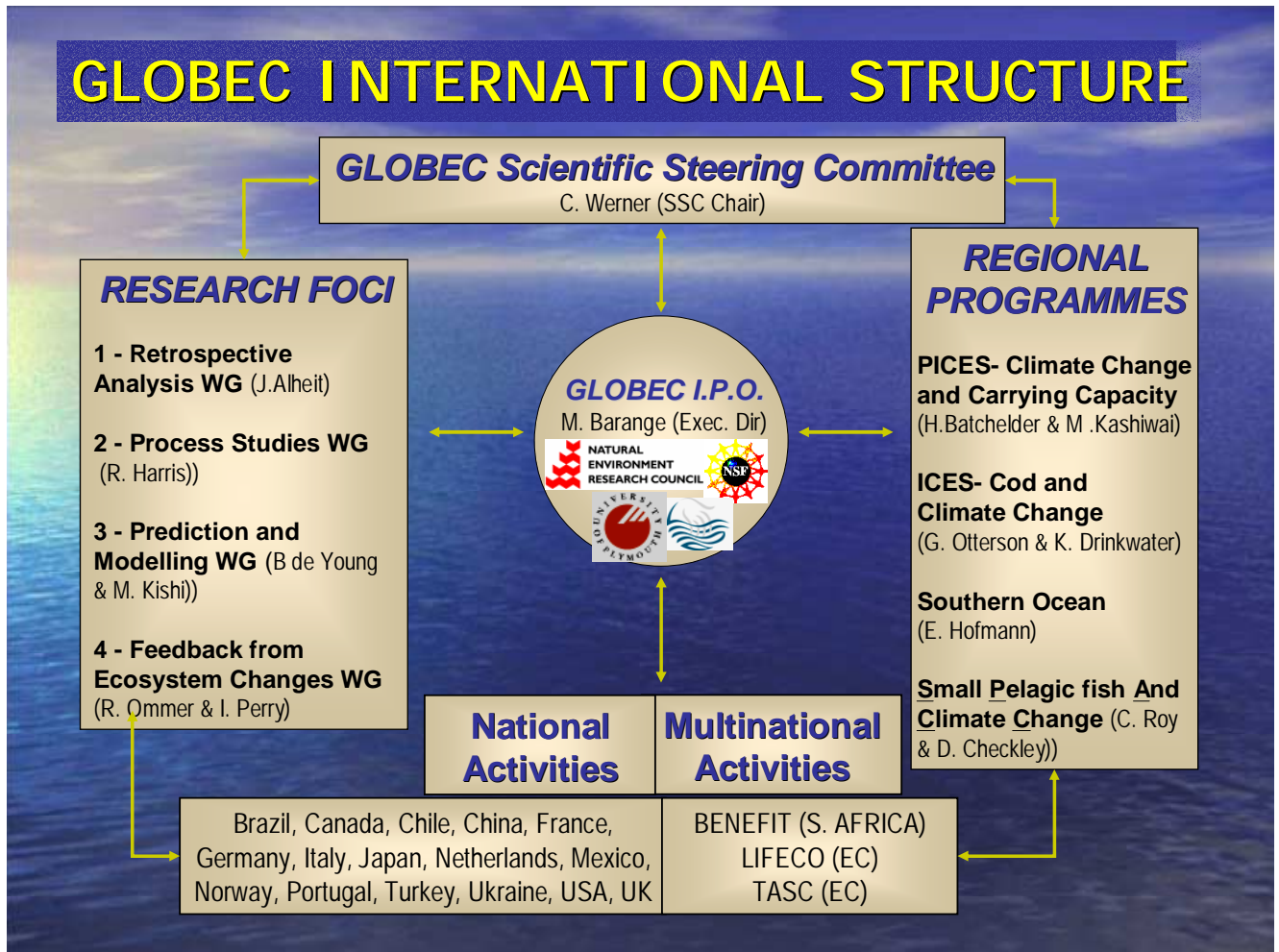
While Canada no longer has an active formal GLOBEC program, Canadians continue to play major roles in the IGBP/SCOR/IOC GLOBEC activities. Two Canadians are members of the Scientific Steering Committee for this international program: Dr. Ian Perry (DFO, Pacific Biological Station, Nanaimo, BC) and Dr. Rosemary Ommer (a social scientist at the University of Victoria). They also co-chair the Focus 4 Working Group of GLOBEC on the Human Dimensions of Marine Ecosystem Changes. Dr. Brad deYoung co-Chairs the Modelling Working Group. Canadian members of GLOBEC working groups include Dr. Dave Mackas (Process Studies) and Dr. Barb Neis (Memorial University, who is a member of GLOBEC's Focus 4 on the human dimensions). Canadians have been instrumental in developing this novel Working Group in GLOBEC on the human aspects of marine ecosystem changes, which includes the active participation of social scientists.

In addition to the GLOBEC Regional programs in the North Pacific (the Climate Change and Carrying Capacity program of PICES), in the North Atlantic (the Cod and Climate Change program of ICES), the Small Pelagics and Climate Change program in upwelling areas, and the Southern Ocean GLOBEC Program, two new Regional Programs are in development. These are a program on large pelagic fishes in tropical and sub-tropical waters called CLIOTOP (Climate Impacts on Oceanic Top Predators), and a program on sub-Arctic seas called ESSAS (Ecosystem Studies of Sub-Arctic Seas). GLOBEC is also beginning to plan for the synthesis of its activities, in expectation of the program concluding in 2009. Such a global synthesis will be the opportunity to compare the results of GLOBEC National and Regional programs, and the activities of the various Working Groups, to provide the “global-added value” that any single National or Regional program cannot accomplish on its own. This Synthesis Phase will summarise the responses of marine ecosystems to global changes, identify new and outstanding research questions, and will leave a legacy of data and capacity building in global collaborative marine ecosystem research. A busy schedule of symposia and workshops is being planned for the next 5 years to involve the international community in this synthesis and to contrast and compare the impacts of global changes on different ocean systems. These include:

- ICES/GLOBEC symposium on The influence of Climate change on North Atlantic fish stocks, Bergen, Norway. May 2004;
- GLOBEC/PICES/ICES symposium on Climate variability and sub-arctic marine ecosystems, Victoria, Canada, May 2005;
- PICES/GLOBEC symposium on Climate Change and Ecosystem impacts in the North Pacific, Honolulu, USA, April 2006;
- PICES/ICES/GLOBEC 4th Zooplankton Production Symposium. Hiroshima, Japan June 2007.

Information on all of these symposia and others that are being developed is available on the GLOBEC website.

Despite not having an active GLOBEC program at present, Canada can and does play an important role in the international activities of GLOBEC. Canadians can continue to play important roles by participating in these symposia and other synthesis activities of GLOBEC. Please visit the GLOBEC web site (www.globec.org) for much more information, newsletters, and other publications.



CMOS Awards at the 2004 Congress

Various CMOS Awards for were presented at the CMOS Edmonton Congress in June 2004. The following summarizes those most closely associated with the oceanographic sciences.

- The Tully Medal in Oceanography was awarded to Richard E. Thomson, Institute of Ocean Sciences, Department of Fisheries and Oceans, Sidney, BC, for his many distinguished contributions to physical oceanography and his highly appreciated books

entitled “Oceanography of the British Columbia Coast” and “Data Analysis Methods in Physical Oceanography”.

- The CMOS Prize in Applied Oceanography was awarded to Richard A. Pawlowicz, Department of Earth and Ocean Sciences, University of British Columbia, for his outstanding contributions to the application of oceanography in Canada and abroad through the development, and free distribution, of state-of-the-art software packages for tidal analysis, spatial mapping, and air-sea flux calculations.
- The Tertia M.C. Hughes Memorial Prize was awarded to Jian Lu, Department of Physics and Oceanography, Dalhousie University for his insightful contributions to our understanding of the dynamics of 20th century climate change and, in particular, his publications and PhD thesis on the recent eastward shift of the North Atlantic Oscillation.
- A CMOS Citation was awarded to Paul-André Bolduc, Editor of the CMOS Bulletin SCMO for his leadership in revitalizing the CMOS Bulletin and making it a well-established and well-regarded publication that is used as the principal means of communication for CMOS members.
- Fellows of the Society were awarded to: Charles A. Lin, Department of Atmospheric and Oceanic Sciences, McGill University, George J. Boer, Canadian Centre for Climate Modelling and Analysis, Meteorological Service of Canada, Susan K. Woodbury, Consultant, and James P. Bruce, Consultant.

Lecture Tour

CNC/SCOR has decided to initiate a once/year lecture tour for a Canadian ocean scientist from one coast to provide lectures at Canadian centres on the other coast over a one week period. A small *ad hoc* group (Susan Allen, Jinyu Sheng, Bjorn Sundby) is presently compiling a short list of prospective speakers. You are encouraged to add your voice in suggesting prospective speakers by contacting one of the *ad hoc* group, or the Secretary of CNC/SCOR, dick.stoddart@sympatico.ca, by June 30, 2004. The objective of the lecture tour is to promote ocean science in Canada, by Canadians. Lecturers:

- must be employed at a Canadian institution; e.g. not looking for opportunities for offshore lecturers.
- should be topical, articulate and able to present ideas clearly to a wide audience.
- should have their scientific contributions documented in the peer reviewed literature.

It is recognized that many *ad hoc* lectures are already arranged on an opportunistic basis. Also, CMOS already has a national lecture tour - on average an oceanographer is the national tour speaker every second year. The CNC/SCOR sponsored lecture tour is intended complement existing efforts to provide a service to the ocean science community to promote Canadian oceanographers to tour sister agencies across Canada on a regular basis. Lectures will be in locations where “oceanographers tend to gather”. Should this venture prove successful it is possible that its frequency will be increased to a twice/year lecture tour.

CMOS Congress 2005: Call for Special Sessions

The CMOS "Sea to Sky" Congress (39th Annual, Vancouver, May 31-June 3 2005) is soliciting suggestions for special sessions which will be advertised in the Call for Papers this fall. Please contact the chair of the Scientific Program Committee, Rich Pawlowicz, Dept. of Earth and Ocean Sciences, University of British Columbia (rpawlowicz@eos.ubc.ca) if you want to see a session in YOUR area of interest.

Reactions to the Canadian Ocean Science Newsletter

By July 2004 the Canadian Ocean Science Newsletter will be one year old. We have distributed eight issues of the Newsletter in this start-up year. We presently have more than 400 subscribers. Reactions to the Newsletters, on the whole, have been positive. Feedback comments include:

- “...the (Canadian) oceans new letter, thanks to the CNC for SCOR. A great idea!”
- “...on-line newsletter for Canadian oceanographers is an excellent idea”
- “...thanks very much for doing this. A newsletter has been needed for some time....”
- “... I don't want to be getting this stuff.... We have enough newsletters....”
- “...our oceanic programs will be able to provide a variety of interesting articles”
- “...glad that you are keeping a Canadian flavour for the SCOR newsletter”
- “... I think your newsletter is such a worthy project”
- “.....EXCELLENT! I am so pleased.... Thank you for making this happen ”
- “... hearty congratulations on the Canadian Ocean Sciences Newsletter”
- “... many thanks. Its nice to stay in touch ...”
- “... thanks for the newsletter, nice job with lots of interesting items”
- “... thanks very much - I enjoyed this one”
- “... merci pour le bulletin du SCOR. Très bienvenu et de très bonne qualité....”
- “... good to see everyone is engaged. It is excellent - I had fun reading....Thanks”
- “... I enjoyed the news and comments in the latest....”
- “.....Thanks again for doing this....”
- “.....thank you very muchthis is certainly something that we should do in France....”
- “.....thank you....these are very informative articles....”
- “.....signoff ocean newsletter.... it is useful, but I read from the web site....”
- “.....thanks for the newsletter - lots of action I see....”
- “...Thanks,....Nice to get this!....”
- “.....thank you very much....Your quick turn-around time....was impressive!....”
- “.....Keep those newsletters coming – they are really helpful....”

MSc and PhD Theses in Oceanography in 2003

The CNC/SCOR web site has been updated with the 2003 MSc and PhD theses in ocean sciences for the University of Victoria, the University of British Columbia, the University of Alberta, and Québec-Océan (Le groupe interinstitutionnel de recherches océanographiques du Québec). Details on these theses may be found at www.cncscor.ca

Marine Technology Reporter News

The demise of Oceansp@ce last December marked an end to an era of global reporting on issues of interest to the worldwide ocean business community. Former Oceansp@ce Editor David M. Graham is now gracing the pages of the online version of Marine Technology Reporter, www.MTRonline.net. MTR online now also hosts a Comprehensive Calendar of Ocean Events.

BIOCAP Launches "In The News"

The BIOCAP Canada Foundation has recently launched a weekly news update service, "In The News". This is a free subscriber-only news service for those wishing to receive weekly synopses of research news in the areas of biosphere solutions to climate change and related climate change policy. To receive In The News visit www.biocap.ca and use the "Subscribe" section. The site also contains past issues of In The News (beginning January 2004). While In the News tends to be terrestrially oriented, and policy based, on occasion it does contain references to ocean issues; examples include:

- Southern Ocean Carbon Sequestration via Iron Fertilization: Global Impact Minimal
- Coastal and Marginal Seas: Key Components of the Global Carbon Cycle
- Shutdown of Atlantic Conveyer Belt and Abrupt Climate Change Near Impossible in Today's Climate: Canadian Researchers
- Ocean Iron Fertilization Potential Overestimated?
- Great Barrier Reef in Serious Danger from Climate Change
- Insulated Ocean Depths found to be Unexpectedly Warming

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

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

Newsletter #9 will be distributed on July 29, 2004. Please send contributions to dick.stoddart@sympatico.ca
Bulletin #9 sera distribué le 29 juillet 2004. Veuillez faire parvenir vos contributions à dick.stoddart@sympatico.ca

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