



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

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## **Minor in Ocean Sciences**

School of Earth and Ocean Sciences, University of Victoria

Starting in the summer of 2007, the School of Earth and Ocean Sciences at the University of Victoria is offering a minor in Ocean Sciences, open to all students in BSc programs at UVic. This interdisciplinary program is designed to introduce students to the fundamentals of oceanography as they pursue BSc degrees in their home departments. At the heart of the minor is a four-month summer program built around a core sequence of four courses on biological, chemical, geological, and physical oceanography. These courses, taken by all students in the program, include lecture, lab, field, and ocean-going components. The remaining two courses required for the minor are more specialised, selected from a set of upper-level courses by the student according to their disciplinary interests.



Interdisciplinary  
**Minor in Ocean Sciences**  
Starting summer 2007

More information about the minor in Ocean Sciences can be obtained from the School of Earth and Ocean Sciences website <http://www.seos.uvic.ca> or from the Ocean Sciences Program Coordinator, Adam Monahan ([monahana@uvic.ca](mailto:monahana@uvic.ca)).

## **Opportunities for New Students/Research Associates at the University of Manitoba**

The Centre for Earth Observation Science (CEOS), Faculty of Environment, University of Manitoba is seeking qualified candidates for several positions focusing on research into oceanic and atmospheric forcing of sea ice in the northern hemisphere. These positions will work collaboratively within a Network of Centres of Excellence known as ArcticNet, Storms in the Arctic (STAR; CFCAS funded), and pending Canadian led International Polar Year (IPY) projects. Candidates will be expected to have advanced degrees in the physical and or biological sciences. We seek at least four candidates to fill the following positions:

- Post Doc or Research Associate to examine processes governing physical-biological coupling associated with radiative and freshwater fluxes in the marginal ice zone.
- Post Doctoral or PhD studentship in the area of meteorological forcing of sea ice within polynyas and marginal ice zones.
- PhD/MSc studentships to work on oceanic and atmospheric forcing of sea ice growth and decay at a hemispheric scale (remote sensing and/or modelling).

Further information can be obtained by contacting Prof. David Barber ([dbarber@cc.umanitoba.ca](mailto:dbarber@cc.umanitoba.ca)) or through our web site at [www.umanitoba.ca/environment/ceos](http://www.umanitoba.ca/environment/ceos)

## **Special Session on “Accelerating Changes in Freshwater and Heat Contents of the Oceans: Footprint, Evolution, and Role in Climate and Human Life”**

At the AGU; 11-15 December 2006, San Francisco, C A, USA

<http://www.agu.org/meetings/fm06/?content=search&show=detail&sessid=46>

Conveners, Igor Yashayaev, Bedford Institute of Oceanography, [yashayaevi@mar.dfo-mpo.gc.ca](mailto:yashayaevi@mar.dfo-mpo.gc.ca); Dan Seidov, Pennsylvania State University; Michael Karcher, Alfred Wegener Institute for Polar and Marine Research; Igor Polyakov, University of Alaska; Craig M. Lee, University of Washington

Numerous studies conducted over the past two decades reveal substantial changes of regional and global seawater properties, including climatologically and biologically active substances (gases, nutrients, etc). Many, if not most, of those changes arrive from just a few localized sources (e.g. the Labrador and Nordic seas in the North Atlantic), being formed and shaped by similar physical processes (e.g. deep convection, entrainment). Understanding the links of those processes with the changing freshwater and heat contents is necessary to deepen our comprehension of the Earth's climate system, and ultimately to improve the skills of predicting the climate and potential impacts of its changes on the socio-economic aspects of life.

The scope of this session lies in the origins and consequences of variability of freshwater and heat contents in the oceans and the role such variability plays in climate change and dynamics (circulation, sea level, marine environment, etc.) as seen from observations and models. A vigorous discussion of the appearance, causes and driving mechanisms of the observed and simulated signals, their pathways and dynamics, temporal and spatial evolution, amplification and dissipation is anticipated.

One of the key topics brought to the session deals with a seeming conflict between the sustained freshening of the deep layers of the North Atlantic Ocean and the reported slowdown of the ocean's overturning circulation. If this freshening led to circulation slowdown, would the weaker transport of North Atlantic Deep Water result in an inversion of the freshening trend and rapid salinity increase in the deep and abyssal waters?

The session will help to mediate two different viewpoints - one of which regards ocean change as a distant future challenge, while the other warns that some prominent changes in surface salinity are likely to cause a dangerous climatic shift, altering the global budgets exchanges of freshwater and heat. Papers that address socio-economic aspects of climate change caused by changing freshwater and heat balance and subsequent potential climate change are also invited.

Session invited speakers' names are:

Levitus, Sydney  
Steele, Michael  
Bush, Andrew

World Data Center for Oceanography, Silver Spring  
Polar Science Center, Applied Physics Laboratory  
Dept. of Earth and Atmospheric Sciences, University of Alberta

## **The ArcticNet Student Association**

Dany Dumont, ArcticNet Student Association, Communication Officer,  
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ArcticNet is a Canadian Network of Centers of Excellence (NCE) that aims to translate our increasing understanding of the changes occurring in the Arctic due to climate change into impact assessments, national policies and adaptation strategies. The research done within ArcticNet is multidisciplinary and involves major human and material resources. Hence, a large number of graduate students and post-doctoral fellows are now working with network investigators to study various aspects of these complex problems. These students are becoming the highly qualified personnel (the so-called HQP) that Canada requires to address the multi-faceted issue of climate change adaptation in the future. Among the HQPs, a significant proportion is involved in oceanographic research and operations aboard the Canadian Coast Guard ship *Amundsen*. The *Amundsen* is an icebreaker that has been retrofitted into a mobile research platform – it is presently travelling through the Canadian Archipelago, to investigate various aspects of coastal ocean research (a logbook of the expedition can be found [here](#)).

At the end of 2005, ArcticNet's second year of research activity, the student community founded the ArcticNet Student Association (ASA) with the primary objective of broadening student experience by fostering the links between students, researchers, northerners, government and other network partners. An Executive Committee was elected for the first time at the ArcticNet Annual Scientific Meeting in December 2005. Since the beginning of 2006, the Committee helped organize two regional events in Quebec City, Quebec, and Winnipeg, Manitoba. The focus of these events has been to mobilize students around subjects such as communication with northern communities, integration of multidisciplinary knowledge and scientific writing skills. Recently, the first issue of the ASA [online newsletter](#) has been released that highlights student research and promotes various events related to Arctic research.

Event updates, online discussions and more, can be followed by visiting the [ASA website](#).

## **Polar Continental Shelf Project (PCSP) Applications**

Polar Continental Shelf Project (PCSP) coordinates support for, and offers expert advice to Canadian government and university scientists and independent, private sector and non-Canadian researchers working in isolated areas throughout the Canadian Arctic. Support includes: transportation, communications, accommodation, field equipment and related services. The deadline for submitting applications is Tuesday, 07 November, 2006. Note that all applicants seeking any PCSP logistics services and support for which they are not planning to pay (e.g. aircraft, equipment, room and board, etc) MUST complete and submit the [Strategic Assessment Form](#) by deadline along with all other forms required to demonstrate relevance to government strategic priorities. Please note that only 2007 forms will be accepted. Application details may be found at: [http://polar.nrcan.gc.ca/app/index\\_e.php](http://polar.nrcan.gc.ca/app/index_e.php)

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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 #26 will be distributed on December 7, 2006. Please send contributions to [dick.stoddart@sympatico.ca](mailto:dick.stoddart@sympatico.ca)  
Bulletin #26 sera distribué le 7 decembre 2006. Veuillez faire parvenir vos contributions à [dick.stoddart@sympatico.ca](mailto:dick.stoddart@sympatico.ca)

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