



**CANADIAN OCEAN SCIENCE NEWSLETTER**

**LE BULLETIN CANADIEN DES SCIENCES DE L'OCÉAN**

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## OCEAN SCIENCE PROGRAMS

### SOLAS

The SOLAS Office at the University of East Anglia (UEA) has closed.

Planning for SOLAS (Surface Ocean – Lower Atmosphere Study) began more than 10 years ago lead by Professor Peter Liss and a team of international researchers. Sponsors were secured, including SCOR, and SOLAS was officially born with the publication of the SOLAS Science Plan and Implementation Strategy, Liss becoming the project's first chair.

The SOLAS International Project Office (IPO) started out at UEA, in Norwich, UK funded by the National Environmental Research Council (NERC) and UEA. With continued support from NERC, UEA and the EU, the project grew to encompass over 2,000 researchers in more than 75 countries. In April 2010 the IPO moved its centre of operations to Kiel, Germany.

The SOLAS Mid-Term Strategy ([click](#)) was launched in 2009, a set of research topics and issues relevant to air-sea interactions that are both topical and require international coordination to make progress.

SOLAS has seen four successful international conferences including the recent meeting in Washington State, USA, five international Summer Schools and hundreds of workshops, meetings, newsletters and e-bulletins leading to the collaborative community of researchers the programme represents today.

With funding coming to an end, the SOLAS Nodal office in Norwich closed at the end of August but the project is very much a continuing story. Arrangements are being made to transfer the communications responsibilities. The next SOLAS Summer School is set for August 2013 in the new location of Xiamen, China and a new book, Ocean-Atmosphere Interactions of Gases and Particles is due for publication, by Springer, in late 2012, marking the end of EU funding and looking to the future of SOLAS research.

## CNC-SCOR

### Members/ Membres

*Céline Guégen (Trent)*  
*Markus Kienast (Dalhousie)*  
*Rob Macdonald – Past Chair (DFO-IOS)*  
*Alfonso Mucci (McGill)*  
*Paul Myers (Chair, U Alberta)*  
*Ian Perry (DFO-PBS)*  
*Paul Snelgrove (Memorial)*  
*Bjorn Sundby (McGill)*  
*Martin Taillefer (Maritime Way)*  
*Bob Wilson – Secretary*  
*Len Zedel (Memorial)*

### Members Ex-Officio/

### Membres d'office

*Blair Greenan (IAPSO)*  
*Helen Joseph (DFO-HQ)*  
*Peter Bartello (CMOS)*  
*Ian Rutherford (CMOS)*  
*Michael Scarratt (GEOTRACES)*

The Canadian National Committee of the Scientific Committee for Oceanic Research (CNC-SCOR) fosters and facilitates international cooperation. It is a non-governmental body that reflects the multi-disciplinary nature of ocean science and marine technology.

Le Comité national canadien du Comité scientifique de la recherche océanographique (SCOR) favorise et facilite la coopération internationale. Il reflète la nature multidisciplinaire de la science océanique et de la technologie marine.

## MEETINGS – The 2012 CNC-SCOR Lecture Tours

CNC-SCOR annually sponsors two speakers on a tour of oceanographic centres. One speaker is drawn from Eastern Canada to talk to Western centres, and the second goes from the West to the East. The schedule for the 2012 talks is given below. Please try to attend the one nearest you.

### The 2012 Eastern Tour

Dr. Eddy Carmack will make this year's *Eastern Tour*.

**Title:** *Three Oceans Around Canada: Roles of the Interconnected Arctic and Subarctic Oceans in Global Change*

**Abstract:** The Arctic Ocean is changing fast, and to understand why requires that we view its two-way interconnection with its neighbouring Oceans. First, the Arctic and Subarctic oceans surrounding northern North America and Eurasia are fully connected to one another and fulfill an absolutely critical role in global-scale hydrological and thermohaline cycles. Second, while it has long been suspected that the high latitudes will respond fastest and largest to climate forcing, the changes in the physical system actually observed over recent years have far out-paced the most pessimistic of model predictions used in the 4<sup>th</sup> IPCC report of 2007. Third, biogeochemical systems are now responding to changes in the physical system. Finally, humans are inextricably linked to the changes we are observing today, both as drivers of change through our greenhouse gas emissions and as the very populations needing to prepare for the uncertainties that lie ahead. This talk will review the Arctic's place in the global climate system, highlight changes we are seeing in the physical world of ocean currents and sea ice cover, and then explore what such changes – as components of a coupled system – will mean in terms of marine life and ecosystems, invasive species, ocean acidification and challenges to governance. An 'early warning system' grounded in observations carried out by Northern residents is suggested.

### Schedule:

City	Date	Location
Montréal	Mon Nov 19	UQAM, 15:00
Ottawa	Tue Nov 20, 12:00	Rideau Canal Jr. Ranks Mess, 4 Queen Elizabeth Dr. (incl. lunch)
St. John's	Wed Nov 21, 10:30	DFO White Hills
Québec	Thu Nov 22, 14:00	Laval, Pavillion Alexandre Vachon 3840
Halifax	Fri Nov 23, 10:00	BIO VS427
Halifax	Fri Nov 23, 15:30	Dalhousie LSC 3655

Dr. Carmack is a senior scientist at DFO's Institute of Ocean Sciences, in Sidney, BC. His research interests are in the role of continental shelf areas in water mass formation and modification, the mechanisms by which coastal runoff influences regional ocean circulation and climate (especially in the North Pacific and Canadian Arctic), and the formation and behaviour of subsurface water masses in the open ocean and on the continental shelves.

### The 2012 Western Tour

The *Western Tour* takes place during the same week. The speaker is Dr. Ken Frank.

**Title:** *Comparative dynamics of exploited marine ecosystems*

**Abstract:** Why do some marine fisheries persist and others collapse in the face of similar exploitation regimes? Why do many collapsed stocks fail to recover or do so only very slowly? Answers to these questions have been elusive particularly when examining the dynamics of the affected species alone. The need for a mechanistic understanding of the differential resiliency of ocean ecosystems to anthropogenic forcing is an urgent requirement as modern approaches to resource management and conservation increasingly involve spatially-explicit planning and legislation (e.g. MPAs, deepwater coral protection, etc.). The ability to forecast when, where and under what conditions ecosystem functioning and the resultant services they provide become degraded and non-responsive to traditional management measures is of paramount importance to the advancement of ecosystem-based management strategies and restoration planning. The development and accuracy of such forecasts of threshold responses hinges on our understanding of the contextual dependency of such effects. The recent finding that overfishing top predators has initiated trophic cascades in multiple large marine ecosystems overturned the long-held view that large, complex ecosystems were immune to trophic restructuring and further revealed the unintended, ecosystem-wide effects of fishing. Their existence may reflect ecosystems stuck in unwanted or undesirable states involving large changes in ecological functions and/or economic resources. These characteristics and the finding that restorative strategies based on conventional management approaches may not work have led to experimentation and controversy about potential culling, re-stocking, and other interventionist measures to return ecosystems to their former trophic structures. Fortunately, our continued commitment to environmental monitoring provides important insights about how complex interactions in marine ecosystems unfold, interactions we do not fully understand or can model (predict) with much certainty.

**Schedule:**

City	Date	Location
Edmonton	Mon Nov 19 12:00	UAlberta, Tory 3-36
Victoria	Tue Nov 20, 15:00	UVic, Wright Centre A104
Nanaimo	Wed Nov 21	VIU, Bldg 305 Rm 440
Vancouver	Thu Nov 22, 16:00	UBC, EOS-Main 330A
Winnipeg	Fri Nov 23, 14:30	UManitoba, Wallace Bldg

Ken Frank is a senior scientist in the Ocean Sciences Division at DFO's Bedford Institute of Oceanography, in Dartmouth NS. His research interests are fisheries ecology, resource conservation, biogeographic theory, fisheries oceanography and marine ecosystem assessment.

**ArcticNet Science Meeting, 10-14 Dec. 2012, Vancouver**

The 8<sup>th</sup> Annual Scientific Meeting of ArcticNet will be held in Vancouver, BC, 10-14 December at the Westin Bayshore ([click](#)). As the largest annual Arctic research gathering held in Canada, ArcticNet's ASM is the ideal venue to present results from all fields of Arctic research and stimulate networking and partnership activities.

With Canada on the eve of taking over the chairmanship of the Arctic Council and building on the success and momentum of the International IPY 2012 conference, the ArcticNet's Annual Scientific Meeting welcomes the participation of scientists, policy and decision makers, representatives of government and non-governmental

organizations, the private sector, northern stakeholders and media, to address the global challenges and opportunities brought by climate change and modernization in the Arctic.

### **Réunion scientifique annuelle d'ArcticNet, le 10-14 décembre, Vancouver**

Le Réseau de centres d'excellence ArcticNet et ses partenaires invitent la communauté de recherche arctique à participer à la 8e réunion scientifique annuelle d'ArcticNet (ASM2012) qui se tiendra du 10 au 14 décembre 2012 au Westin Bayshore à Vancouver, Colombie-Britannique ([cliquer](#)). Étant la plus importante réunion annuelle sur la science arctique au Canada, l'ASM est le moment idéal pour présenter les résultats de recherche et pour stimuler le réseautage et le partenariat. Pour souligner le fait que la présidence du Conseil de l'Arctique reviendra au Canada en 2013 et pour continuer sur la lancée de la conférence internationale API2012, l'ASM2012 invite les chercheurs, les étudiants, les décideurs, les représentants d'organisations gouvernementales, privées et du Nord ainsi que les médias à participer à l'événement pour aborder les défis et les opportunités apportés par les changements climatiques et la modernisation dans l'Arctique.

## **PERSONNEL**



### **John England**

An emeritus professor in the Department of Earth and Atmospheric Sciences at the University of Alberta, John England has been elected a fellow of the Royal Society of Canada. England is internationally acclaimed for his 45-year survey throughout Arctic Canada reconstructing the behaviour of ancient ice sheets, sea ice and sea level that illuminate our understanding of modern Arctic environments. He is one of Canada's prestigious NSERC Northern Research Chairs, spearheaded the establishment of Canada's northernmost national park, is a leading advocate for a Canadian Polar Policy and is actively engaged in mentoring Inuit and Inuvialuit students.

## **JOBS & TRAINING**

### **Tenure Track Position in Climate Dynamics, McGill**

The Department of Atmospheric and Oceanic Sciences at McGill University is seeking outstanding applicants for a tenure-track Assistant Professor position in the area of Climate Dynamics ([click](#), [pdf](#)). The successful applicant will be expected to develop an active research program, supervise graduate students, and teach a variety of undergraduate and graduate courses. The preferred areas of research should address one or more of a range of topics. These areas include, but are not limited to, climate variability, general circulation dynamics, and atmosphere-ocean general circulation modeling and/or diagnostics.

Review of applications will start on December 1, 2012, with a preferred starting date of September, 2013.

### **Professeur(e) régulier(ière) en océanographie physique - UQAR**

L'Institut des sciences de la mer de Rimouski (ISMER), cherche à combler un poste de professeur en océanographie physique spécialisé en modélisation des interactions physique-biologiques ([cliquer](#)). Les

candidats avec une formation en physique ou en mathématiques qui démontrent une expertise en modélisation biogéochimique ou en assimilation de données biologiques appliquée aux systèmes estuariens et côtiers seront privilégiés lors du processus de sélection.

Le titulaire devra développer son propre secteur de recherche en océanographie physique expérimentale tout en collaborant avec les physiciens, géologues, chimistes et biologistes de l'ISMER et de l'UQAR. Il participera en tant que chercheur principal à la rédaction de demandes de subventions afin de soutenir des programmes de recherche et l'acquisition d'équipements. Le titulaire sera aussi appelé à participer à l'enseignement des cours de maîtrise et de doctorat en océanographie offerts à l'ISMER.

L'examen des candidatures débutera le 22 octobre et se poursuivra jusqu'à ce que la personne appropriée soit trouvée.

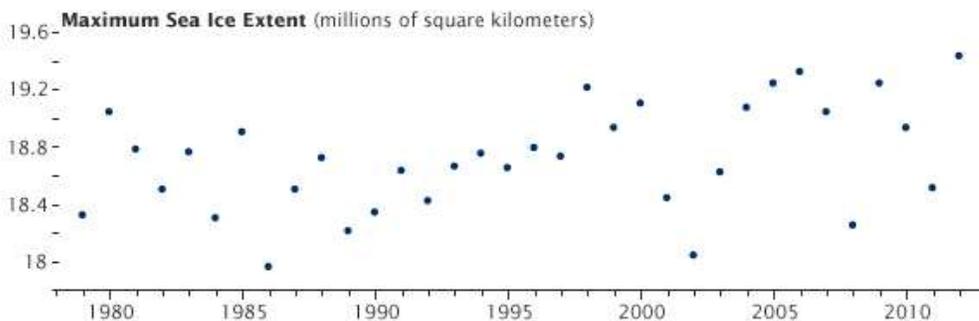
International oceanographic opportunities are posted on the CMOS site ([click](#)).

Looking for work? Try the CMOS site ([click](#))

## GENERAL

### Antarctic Sea Ice Sets Record

Even without reading our August newsletter, you would have been hard pressed to miss news coverage of the record low extent of sea ice in the Arctic, set in mid-September. In an event likely to be less widely reported, the sea ice around Antarctica reached its winter maximum two weeks later, setting a new record high of 19.44 million km<sup>2</sup> in the process. The Ross Sea, Weddell Sea and Indian Ocean account for most of the annual increase, while the Bellingshausen and Amundsen Seas have each lost a small amount. In releasing this year's data, Claire Parkinson, at NASA's Goddard Flight Center, observed that the losses in the North far exceed the small gains in the South.



Satellite record of Antarctic annual sea ice maxima from 1979. Graph credit: NASA ([click](#))

### Assessing Underwater Noise from Shipping

Environmental scientists have been trying to come to grips with the effect of vessel noise on marine life for at least a couple of decades. One barrier to understanding has been how to measure vessel noise levels over time.

In this month's issue of the Journal of the Acoustical Society of America, Nathan Merchant and co-authors assess various averaging techniques and conclude that mean sound pressure levels averaged in linear space, though susceptible to strong bias from outliers, are most relevant to cumulative impact assessment metrics ([click](#)).

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Previous newsletters may be found on the CNC/SCOR web site.  
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Newsletter #68 will be distributed on December 15, 2012. Please send contributions to Bob Wilson, [wilson@telus.net](mailto:wilson@telus.net)  
Bulletin #68 sera distribué le 15 décembre 2012. Veuillez faire parvenir vos contributions à Bob Wilson, [wilson@telus.net](mailto:wilson@telus.net)

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