

CANADIAN OCEAN SCIENCE NEWSLETTER
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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.

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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.

OBIS Canada IPT - An approved repository for open data

Since April 2015, the Coastal and Ocean Information Network (COINAtlantic - www.coinatlantic.ca) has identified and prepared datasets of marine taxa occurrences in Atlantic Canada for harvesting by the Ocean Biogeographic Information System (OBIS) (www.iobis.org). OBIS is a project of the Intergovernmental Oceanographic Commission (IOC) that was initially established by the Census for Marine Life as an persistent repository for marine biodiversity data. The OBIS mission is to build and maintain a global alliance that collaborates with scientific communities to facilitate free and open access to, and application of, biodiversity and biogeographic data and information on marine life.

The screenshot shows the GBIF Integrated Publishing Toolkit (IPT) interface. At the top, there is a logo for GBIF with the text 'INTEGRATED PUBLISHING TOOLKIT (IPT)' and 'free and open access to biodiversity data'. To the right, there are input fields for 'email' and a password, along with a 'login' button and a language selector set to 'ENGLISH'. Below the header, there are two buttons: 'Home' (highlighted in green) and 'About'. The main content area is titled 'Hosted resources available through this IPT' and features a table with a 'Filter' input field above it. The table has columns for Logo, Name, Organisation, Type, Subtype, Records, Last modified, Last publication, and Next publication. Five rows of data are visible, each representing a different dataset.

Logo	Name	Organisation	Type	Subtype	Records	Last modified	Last publication	Next publication
--	Distribution, composition and abundance of zooplankton in Chignecto Bay during 1978	Not registered	Occurrence	Observation	75	2016-04-28	2016-04-28	--
	ACAP Humber Arm eelgrass monitoring program, 2012-2014	Not registered	Occurrence	Observation	1,086	2016-04-11	2016-04-11	--
	Cape Breton University - Bras d'Or Collection: DEVCO marine farming research data, 1972 to 1977	Not registered	Occurrence	Observation	0	2016-04-10	2016-04-10	--
--	Abundance of intertidal algae and invertebrates on the Atlantic coast of Nova Scotia	Not registered	Occurrence	Observation	100,620	2016-04-06	2016-04-06	--
--	Systematic list of the epibiotic taxa associated with scallop shells from the Digby area of the Bay of Fundy	Not registered	Occurrence	Observation	1,920	2016-04-04	2016-04-04	--

Figure 1: The OBIS Canada Integrated Publishing Toolkit showing recently added data resources available for upload to OBIS.

The COINAtlantic project, 'Atlantic Canada's Biological Data for Ecosystem Planning and Decision-making: Opening Access and Increasing Reuse', focuses on working with partners to improve the public accessibility to ocean biogeographic data in Atlantic Canada through depositing biological data with OBIS in a standard format and with standard documentation. In 2015-2016 four partner organizations contributed data, the Nova Scotia Museum of Natural History, Halifax, Nova Scotia (NSM), the Bras d'Or Institute at Cape Breton University, Sydney, Nova Scotia, the Huntsman Marine Science Centre's Atlantic Reference Centre in St. Andrews, New Brunswick (ARC), and the Southern Gulf of St. Lawrence Coalition on Sustainability with its administrative office in Charlottetown, Prince Edward Island. The project was funded in part by Environment and Climate Change Canada's Atlantic Ecosystem Initiative (AEI). Two objectives of the project were to establish an ongoing partnership of organizations interested in improving accessibility to the

biological data they hold and to publish a State of Biological Data Accessibility Report for Atlantic Canada (Sherin et al. in press).

The vehicle for making the data available to OBIS is the OBIS Canada Integrated Publishing Toolkit (IPT) (<http://ipt.iobis.org/obiscanada>). The IPT is an interactive web based tool that facilitates publishing of standardized data and metadata files that are harvested on a regular basis by OBIS. Figure 1 shows the IPT home page with some recently added data resources. COINAtlantic has developed a tool that harvests the public resources accessible on the IPT and generates an Open Geospatial Consortium standard web mapping service (WMS) consisting of one map layer for each resource data set, and a KML (Keyhole Markup Language) file entry for the COINAtlantic GeoContent Generator (CGG). The CGG files are discoverable by a regular internet search and contain links to the WMS and to the data and full metadata on the OBIS Canada IPT website. The CGG files are refreshed daily and updated WMS content is accessible through the COINAtlantic Search Utility at: <http://coinatlantic.tools/csu>.

A custom view of Atlantic Canada's marine species distribution can be accessed at: <http://coinatlantic.tools/csu/?mapset=acmsd2015>. The application will open with selected layers from the IPT relating to Atlantic Canada and the Project partners. Use the search in the CSU function to add additional layers. Figure 2 shows four data sets submitted by the project to the IPT in the custom view within the COINAtlantic Search Utility.

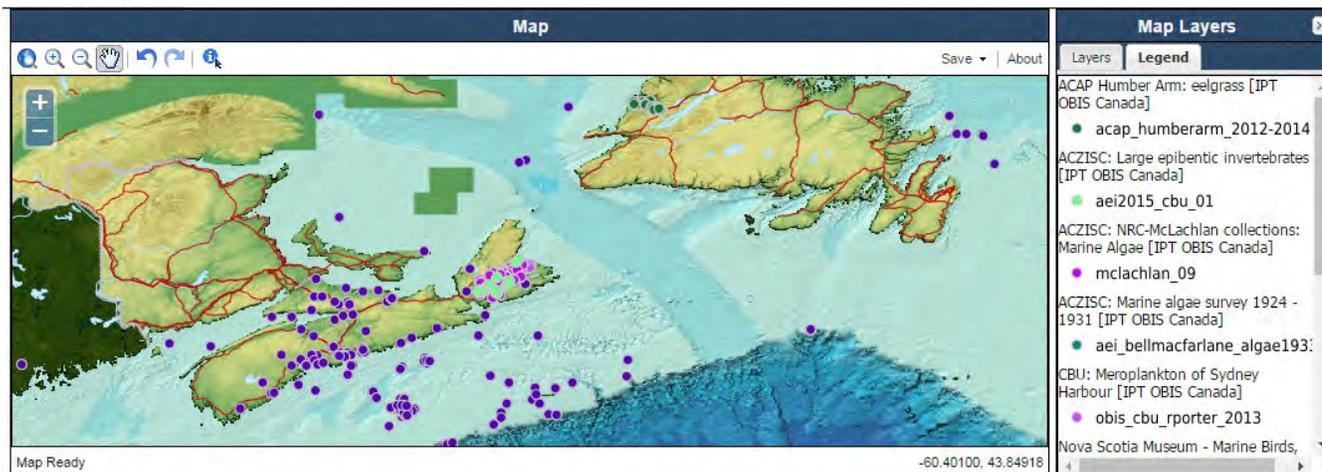


Figure 2: Five datasets displayed in the COINAtlantic Search Utility using the web mapping service dynamically created from the data resources available the OBIS Canada Integrated Publishing Toolkit.

The COINAtlantic AEI data accessibility project had two components: The first involved the refreshing of datasets already contributed to OBIS by the NSM and ARC; The second started with a literature search activity which identified over 100 published and unpublished data sets containing species distribution information appropriate for OBIS. The compiled list of datasets was reviewed and prioritized for immediate data rescue. Thirty of these data sets were selected for digitizing, where necessary, and processing to the standard required by the OBIS Canada IPT and OBIS.

Making data accessible is not just an activity promoted by this AEI project and its core partners but is now a common requirement of publishers. Many journals now include instructions to their authors that encourage making supporting datasets accessible. OBIS is recognized as a suitable

repository for primary biodiversity datasets and species distribution records The Center for Open Science documents 538 journals that are signatories to their Transparency and Openness Promotion (TOP) Guidelines. The TOP standard for data transparency requires authors submitting articles to journals to post the data to a trusted repository to meet the more stringent levels 2 and 3 of the standard (Center for Open Science 2016, Nosek et al. 2015). OBIS would qualify as “trusted repository” in the TOP Guidelines.

This initiative to open access and increase reuse of marine biological data in Atlantic Canada is consistent with the declaration on Access to Research Data from Public Funding signed in 2004, by the member nations of the Organization for Economic Co-operation and Development (OECD) (OECD 2004). The declaration recognizes: that an optimum international exchange of data, information and knowledge contributes decisively to the advancement of scientific research and innovation; that open access to, and unrestricted use of, data promotes scientific progress and facilitates the training of researchers subject to appropriate constraints for national security, the protection of privacy of citizens and the protection of intellectual property rights and trade secrets; that open access will maximise the value derived from public investments in data collection efforts; and that the substantial increase in computing capacity enables vast quantities of digital research data from public funding to be put to use for multiple research purposes by many research institutes of the global science system, thereby substantially increasing the scope and scale of research. The declaration also recognized the substantial benefits that science, the economy and society at large could gain from the opportunities that expanded use of digital data resources have to offer, and recognising the risk that undue restrictions on access to and use of research data from public funding could diminish the quality and efficiency of scientific research and innovation.

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Center for Open Science (COS) (nd) Transparency and Openness Promotion (TOP) Guidelines <https://cos.io/top/> Accessed 03 May 2016.

Nosek, B.A., G. Alter, G. C. Banks, D. Borsboom, S. D. Bowman, S. J. Breckler, S. Buck, C. D. Chambers, G. Chin, G. Christensen, M. Contestabile, A. Dafoe, E. Eich, J. Freese, R. Glennerster, D. Goroff, D. P. Green, B. Hesse, M. Humphreys, J. Ishiyama, D. Karlan, A. Kraut, A. Lupia, P. Mabry, T. Madon, N. Malhotra, E. Mayo-Wilson, M. McNutt, E. Miguel, E. Levy Paluck, U. Simonsohn, C. Soderberg, B. A. Spellman, J. Turitto, G. VandenBos, S. Vazire, E. J. Wagenmakers, R. Wilson, T. Yarkoni (2015) [Promoting an open research culture](#) Science Vol 348 No. 6242 26 June 2015

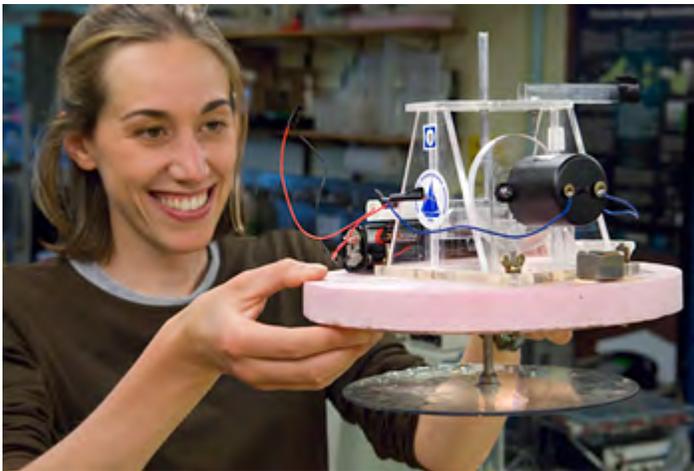
OECD (2004). OECD Declaration on Access to Research Data from Public Funding 30 January 2004 <http://acts.oecd.org/Instruments/ShowInstrumentView.aspx?InstrumentID=157> Accessed 03 May 2016.

Sherin. A.G., A. Baccardax Westcott, M. Kennedy (in press) State of Biological Data Accessibility in Atlantic Canada. Coastal and Ocean Information Network (COINAtlantic) Halifax, Nova Scotia.

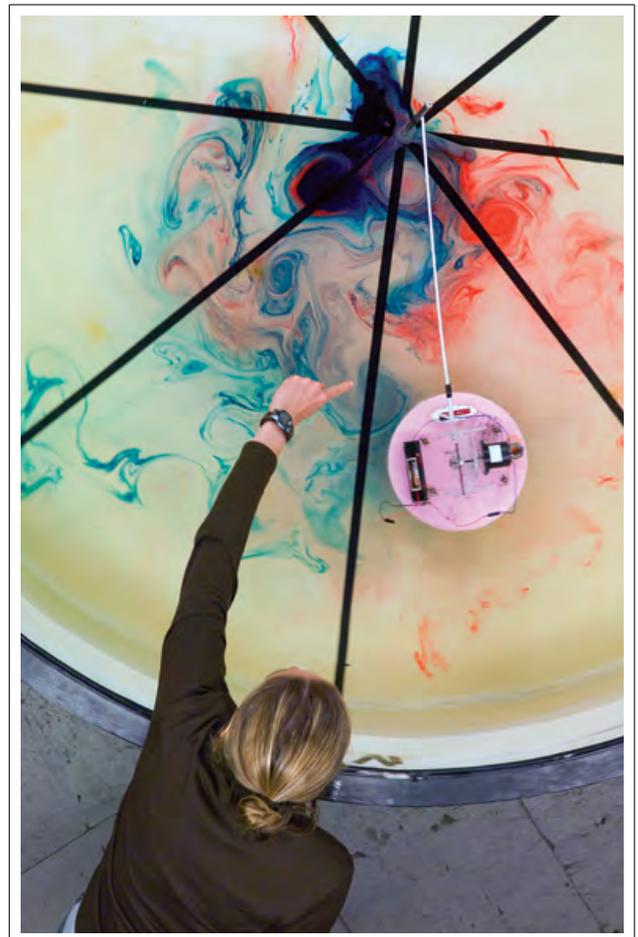
Stephanie Waterman first CNC-SCOR Early Career Ocean Scientist Award winner

[Stephanie Waterman](#) at the University of British Columbia is the inaugural winner of the CNC-SCOR Early Career Scientist award. The award, presented to an early career oceanographer/marine scientist (within 10 years of completion of a Ph.D) for an outstanding contribution to marine sciences within Canada was presented by CNC-SCOR Chair, Paul Myers at the CMOS Congress in Fredericton.

Stephanie was cited for her ability to make strong contributions to both observational and theoretical physical oceanography. Her work at UBC's [Department of Earth, Ocean & Atmospheric Sciences](#) continues to [cover diverse areas and approaches](#).



[Above] Stephanie Waterman holds the [“beta boat,”](#) a unique instrument she built at MIT with John Whitehead and Keith Bradley for experiments on how ocean currents may form. [Right] Studies of the [interactions of waves and large-scale circulations](#) in a laboratory experiment using the GFD lab’s 2m rotating table. (Photos by Tom Kleindinst, Woods Hole Oceanographic Institution)



This section of your newsletter provides an opportunity to highlight your research programs to the Ocean Science Community.

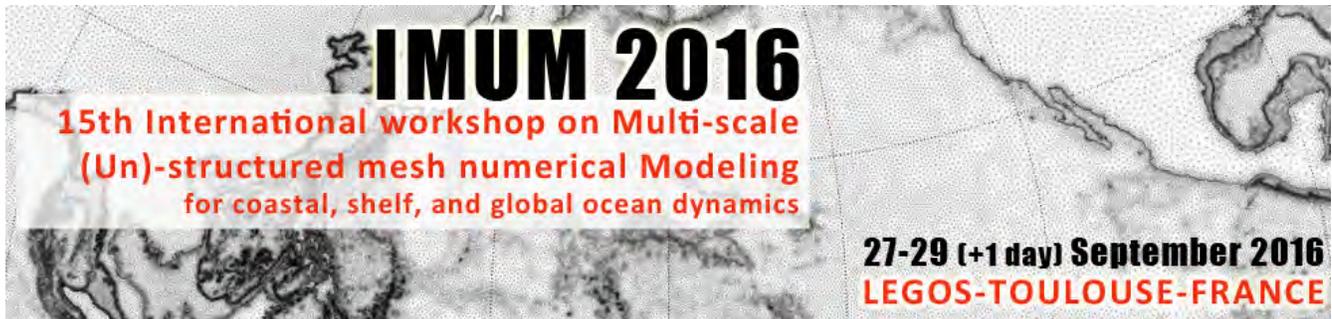
*Your are invited to send contributions to David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

Mettez en valeur vos programmes de recherche en publiant un article dans cette première section de votre bulletin.

*Faites parvenir vos contributions à David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

MEETINGS

IMUM 2016, Sept 27-30, Toulouse, France.



The **15th International Workshop on Multi-scale (Un)-structured mesh numerical Modeling** for coastal, shelf, and global ocean dynamic will be held in Toulouse, France, from September 27th to 30th, 2016. It will be hosted by the Midi-Pyrénées Observatory and LEGOS Ocean Science Laboratory.

The IMUM annual workshops have become a premier forum to report on, and advance, the state-of-the-art of unstructured-mesh modeling of the ocean, at multiple scales and in its interactions with freshwater and/or the atmosphere. The workshops have an informal and interactive style, and seek to balance high quality presentations with discussions on leading edge development, benchmarking and application of models.

In addition to the scientific program, we wish to dedicate the last day of the workshop to provide facilities for software demos and/or numerical tools exchanges between participants. In what could be thought as a software market place, participants will be encouraged to share software and experiences about mesh/grid generation (triangular/quadrangular unstructured grids, non-orthogonal structured grids), database processing (DTMs, initial conditions, ...), graphical user interface, etc..

Dates to remember:

Abstract deadline extended : **July 30, 2016.**

More information can be found at <https://imum2016.sciencesconf.org/>.

3rd ICES/PICES Early Career Scientist Conference
Climate, Oceans and Society: Challenges & Opportunities
30 May - 2 June 2017, Busan, Korea

To encourage the participation of young scientists in international scientific investigations and to promote their involvement in the management and stewardship of the marine environment, the North Pacific Marine Science Organization (PICES) and the International Council for the Exploration of the Sea (ICES) are co-organizing the conference.

Conference Website <http://meetings.pices.int/meetings/international/2017/early-career/scope>

10th International Carbon Dioxide Conference (ICDC10)

21-25 August 2017 Interlaken, Switzerland

The ICDC10 in Interlaken, Switzerland will be held back-to-back with GGMT-2017 in Dübendorf, Switzerland.

19th WMO/IAEA Meeting on Carbon Dioxide, Other Greenhouse Gases, and Related Measurement Techniques (GGMT-2017)

27-31 August 2017, Dübendorf, Switzerland



ICDC10 - the [10th anniversary International Carbon Dioxide Conference](#) will provide participants with an integrated, interdisciplinary view of the global carbon cycle and its perturbation by humans. Conference themes (see Program) include the contemporary carbon cycle, its trends, variability and observations, the paleo perspective and planetary boundaries, biogeochemical processes and their feedbacks and linkages with ecosystems, climate and socio-economic processes, scenarios for the future and steps toward long-term Earth system stability, as well as carbon cycle research in support of the Paris agreement. We invite contributions from natural and social scientists and from all disciplines addressing the global carbon cycle and its anthropogenic perturbation.

[Abstract submission](#) and registration will open in September 2016.

GGMT-2017 - [Greenhouse Gases, and related Measurement Techniques](#) is the 19th meeting in a series, which was initiated by Dr. Dave Keeling at La Jolla, California in 1975. Today, GGMT is the cornerstone meeting for the observation of key greenhouse gases and tracers, their isotopes, assessment of new techniques, standardization, quality assurance, and data products. The scope covers challenges in the field of precise measurements of atmospheric greenhouse gases, data

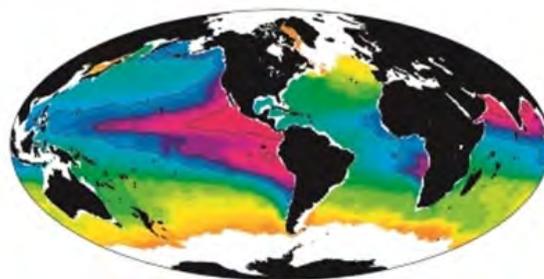
utilization and integrated products and observational network design. It provides an excellent platform for all scientists in this field to exchange the latest scientific findings and serves as the scientific backbone of the Global Atmosphere Watch Programme (GAW) of the World Meteorological Organization (WMO), which has provided the umbrella to all GGMT meetings. Since 1997 the International Atomic Energy Agency (IAEA) in Vienna joined WMO due to the increased use of carbon isotopes in studying the carbon cycle.

[Abstract Submission](#) information will be available in 2017.

Ocean ventilation and deoxygenation in a warming world

12-16 September The Royal Society, 6-9 Carlton House Terrace, London

This meeting will discuss the less obvious but important indirect impacts of climate change on the oceans. Increased stratification will affect ocean circulation and ventilation, and lead to reduced upwelling and deep water formation. This will reduce oxygenation through (still uncertain) interactions with biological production and remineralisation, with potential socio-economic consequences on fisheries and ecosystems.



This event is intended for researchers in relevant fields and is free to attend, but advance registration is essential. An optional lunch can be purchased at the time of registration and is priced at £20. An optional evening poster session and drinks reception will be held following the close of the meeting on Monday 12 September, priced at £10.

See <https://royalsociety.org/events/2016/09/ocean-ventilation/> for current programme and speakers' list.

*Please send meeting announcements to
David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

*SVP faites parvenir vos annonces de réunion à
David Greenberg,
david.greenberg@dfo-mpo.gc.ca*

CANADIAN JOBS and TRAINING

University of Helsinki Faculty Position

The Department of Environmental Sciences, University of Helsinki, invites applications for the position of *professor/associate professor/assistant professor*. The field of the position is aquatic ecotoxicology in the urban environment. The successful applicant may be appointed to a permanent professorship or a fixed-term associate/assistant professorship (tenure track system), depending on his or her qualifications and career stage.

The duties of the professor/associate professor/assistant professor will include scientific research, teaching based on it and participation in international collaboration and community engagement in the field. In addition to teaching lectures and courses, the professor/associate professor/assistant professor will supervise undergraduate and postgraduate students and participate in the development of Bachelor's and Master's programmes.

Deadline: 15 September 2016.

<https://www.helsinki.fi/en/open-positions/professor-associate-professor-assistant-professor-faculty-of-biological-and-environmental-sciences>

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GENERAL

Abdul Majid Bader Graduate Scholarship

The Dalhousie University Faculty of Graduate Studies has announced a scholarship for an international student studying at Dalhousie University. Valued at \$30,000 for one twelve-month academic year of full-time study. The scholarship is renewable, subject to an annual progress review (scholarship-class standing required). The award can be held for a maximum of 24 months of full-time study.

Application and annual renewal request deadline: August 1st.

The application can be found at:

<http://www.dal.ca/faculty/gradstudies/funding/scholarships/bader.html>.

Masters degree in Marine Ecosystem Management and Climate Change

A multidisciplinary Masters degree programme in Marine Ecosystem Management and Climate Change is offered at Nha Trang University. The programme is of high quality, applying current world knowledge in marine ecosystems management and climate change. This programme is a collaboration involving several well-known universities (University of Tromsø and University of Bergen, Norway; University of Ruhuna, Sri Lanka) in addition to affiliated universities (Auburn University, USA; Bogor Agricultural University, Indonesia and others in Asia Pacific). This is a master's degree programme taught in English and the diploma is granted by Nha Trang University (NTU).

Application deadline: December 1st, 2016. Details at: <http://norhed.ntu.edu.vn/news/45>.

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

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