



Canadian Meteorological  
and Oceanographic  
Society

# C.M.O.S. NEWSLETTER/NOUVELLES

## S.C.M.O.

La Société canadienne  
de météorologie et  
d'océanographie

DECEMBER/DÉCEMBRE 1990 VOL. 18 NO. 6

### NEWS FROM HEADQUARTERS

As you will see from the list in this Newsletter of the meetings co-sponsored by CMOS, 1991-1993 will be a period of considerable activity. In some of the meetings, CMOS will also help looking after logistics, exhibitions, etc. Further details about these meetings will be provided when they become available.

Concerning the locations of our Congresses, as you know, in 1992, we will be in Québec City, and in respect of 1993 the Executive is studying the possibility of holding a Congress for the first time in the North of the country. A decision in this respect will have to be made at the forthcoming 25th Congress in Winnipeg, Manitoba.

This is the time when the annual membership and subscription renewal notices are being sent out. Please return them early to ensure that you will continue to receive your Newsletter and any publication you subscribe to. As stated in the notices, according to the latest ruling received there is no GST payable on our membership dues.

Please remember to make nominations for CMOS awards by January 25, 1991, as called for in the last issue of our Newsletter. Chairpersons of Centres and SIGs are also reminded that their reports on activities and finances, and for Committees and Editorial Boards in respect of activities and composition (need for new members replacing outgoing ones) are due on February 1.

Best wishes for the holiday season and for the New Year,  
from your Executive Director,

Uri Schwarz

### NOUVELLES DU QUARTIER GÉNÉRAL

Comme vous pouvez le voir sur la liste des réunions co-parrainées par la SCMO, qui est insérée dans la présente édition des "Nouvelles SCMO", les années 1991-1993 sera une période d'activité considérable. À certaines de ces réunions, la SCMO aidera dans les domaines des logistiques, des expositions, etc. Des détails additionnels pour ces réunions vous seront donnés dès qu'ils sont disponible.

Concernant les locations pour notre congrès, comme vous la savez, celui de 1992 aura lieu dans la Ville de Québec, et en ce qui trait à l'année 1993, notre Executif étudie la possibilité de tenir l'évènement pour la première fois dans le nord du pays. Une décision sur cette question devra être prise à notre prochaine réunion du 25ième Congrès qui se tiendra à Winnipeg, Manitoba.

C'est présentement le temps où les avis pour les renouvellements des membres et des cotisations et aux périodiques sont envoyés. Prière de retourner dès que possible afin de vous assurer de la continuité de recevoir votre abonnement "Nouvelles SCMO" et les autre périodique. Comme indiqué dans l'avis, et d'après les dernières directives, la TPS ne s'appliquera pas au cotisations d'adhésion.

Nous vous prions de nous faire parvenir les nommes de vos candidats pour les récompenses de la SCMO par le 25 janvier 1991, comme nous avons demandé dans le dernier édition de notre journal. Les présidents du centres et GISs sont aussi rappélé que leurs rapports sur l'activités et fonds, pour nos comités et conseils de rédaction (besoin des membres nouveaux pour remplacer ce qui partiront) sont dû le 1er du février.

Votre Directeur executif voudrais vous souhaiter une bonne et heureuse Nouvel An.

Uri Schwarz

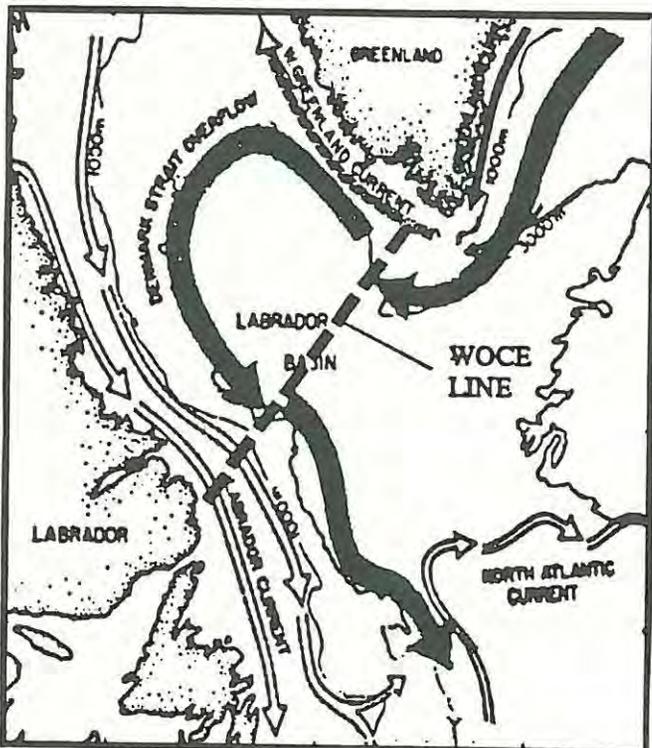
## WOCE NEWS

The World Ocean Circulation Experiment (WOCE) has started. The scientific purpose and implementation plan for WOCE were described in a previous Newsletter (April 1990). News of WOCE's progress will appear regularly in this column.

### FIRST WOCE OBSERVATION IN THE LABRADOR SEA

One of the important aspects of the WOCE Hydrographic Program is the documentation of the variability of ocean properties during the five year observational period. The Labrador Sea is one of the regions chosen for location in an area of deep water formation. Repeated sections of the Labrador Sea from Labrador to Greenland will be one of Canada's contributions to WOCE.

The first WOCE section across the Labrador Sea was completed between June 29 and July 11, 1990, by the staff of the Bedford Institute of Oceanography (BIO). Preliminary analysis indicates that the Denmark Strait overflow water found at the bottom has changed its properties markedly since last year, perhaps in response to meteorological and oceanographic variations upstream in the Greenland Sea.



(Text abstracted from the BIO Weekly Scientific Briefing, 9, No.37, September 21, 1990; Figure from same source).

### NSERC FUNDING TO WOCE PROJECTS

NSERC announced funding of \$575,000 for the first year of University-led WOCE research projects. Investigators from 6 universities and two Department of Fisheries & Oceans laboratories will participate in four major projects. Some of the funds have also been allocated for travel, communications and setting up a secretariat.

A group led by Richard Greatbatch (Memorial University), and including Brad de Young (also of Memorial), Keith Thompson and Dan Kelley (Dalhousie), Andrew Weaver (McGill) and Dan Wright (BIO), will begin a program of numerical modelling, laboratory experiments and data analysis which will address the fundamental mechanisms of deep-water formation in the Labrador Sea. A separate equipment grant was also made to Richard Greatbatch towards acquisition of computing equipment.

On the west coast, William Hsieh (UBC) and Greg Holloway (Institute of Ocean Sciences (IOS)) will also undertake numerical experiments, addressing the fundamental question of Sea Surface Temperature assimilation in oceanic models and developing a simple atmosphere-ocean coupled model. Another numerical approach is that proposed by Charles Lin (McGill) and Richard Greatbatch who will study the sensitivity of models of the North Atlantic to various forms of lateral and vertical diffusivity parameterizations.

The only observational project beginning this year is a Canadian participation in the WOCE Surface Velocity Program, bringing together a group led by Paul LeBlond (UBC) and including Bill Large (NCAR, Boulder), Rick Thomson (IOS), David Krauel (Royal Roads) and Gordon Swaters (University of Alberta). Free-drifting satellite-tracked buoys will be launched in the northeast Pacific to provide coverage of surface drift on a 500 km square basis for WOCE mapping requirements; additional drifters will also be deployed to investigate deeper flows. A first deployment of 9 drifters took place in August 1990 along line P (from the mouth of Juan de Fuca Strait to Station P).

### WOCE NUMERICAL WORKSHOP AT IOS

Contributed by W.W. Hsieh

A workshop on Global Ocean Modelling was sponsored by the WOCE Numerical Experimentation Group at the IOS, Sidney, B.C., September 5-7, 1990. The latest ocean modelling and coupled atmosphere-ocean modelling results were presented. The Germans and the French continue to develop original models, but the North American and British ocean modellers are largely using the ocean model developed at GFDL, Princeton. I counted at least seven talks where the GFDL ocean model was involved. While the widespread use of the GFDL implies standardization, it also implies an alarmingly small "gene pool" for ocean models. Similarly, numerous independent atmospheric models have been coupled to the same GFDL ocean model. This polygamous situation produces coupled models that are not truly independent. Furthermore, the coupled models would all inherit whatever weak "genes" that might be inherent in the GFDL ocean model. The coupling of an atmospheric model to an ocean model has invariably produced a coupled model that drifts far from reality unless artificial flux corrections are applied. This amounts to

## WOCE NEWS (Continued)

adding restoring springs to the coupled model to prevent it from drifting too far off. While some attendees denounced the use of flux corrections as plain cheating, no reasonable alternative could be found.

On a brighter side, the advent of colour workstations has resulted in very pretty presentations of model results, which led one observer to remark that WOCE must stand for Wonderful Ocean Colouring Experiment!

Some of the Canadians stayed behind for a discussion on the prospects of a Canadian coupled climate model. This involved finding a suitable "bride" for the atmospheric model developed at the Canadian Climate Centre (CCC). From the limited resources, time and expertise available, there did not seem to be a better alternative than the GFDL ocean model. The attendees remained hopeful that an "enhanced" version of the GFDL ocean model could be developed within a short time to be coupled to the CCC atmospheric model.

### WOCE SECRETARIAT ESTABLISHED

A secretariat for Canadian WOCE activities has just been established at the University of British Columbia. All correspondence, enquiries, Newsletter contributions and reports should be addressed to:

WOCE CANADA SECRETARIAT (Attn: Elsa Traczynski)  
Department of Oceanography  
University of British Columbia  
Vancouver, British Columbia. V6T 1W5  
Fax: (604) 228-6091

Ms. Traczynski will be responsible to Paul LeBlond, Chairman of Canadian National Committee for WOCE. Calls may be routed through the Department of Oceanography at (604) 228-3278 until a line is allocated to the WOCE office. Electronic mail addresses will also be available soon. Dario Stucchi (IOS) will provide scientific and managerial assistance to WOCE as part of the Department of Fisheries and Oceans' contribution to the program. His first task will be to lead the preparation of a WOCE Canada informational brochure, now at an embryonic stage.

### EDITOR'S COLUMN

The Editor would like to see articles on meetings, global projects, special interest groups or any topic of interest to our membership. Black and white photographs or diagrams are welcomed. Authors who wish to submit by computer disk, please contact the Editor for acceptable wordprocessing formats. Newsletter items should be sent to Malcolm Still, Atmospheric Environment Service, 4905 Dufferin Street, Downsview, Ontario M3H 5T4 (Tel: (416) 739-4127; Fax: (416) 739-4287). The deadline for next issue is February 1, 1991.

## CLIMATE & GLOBAL CHANGE RESEARCH

On March 14, 1990, the McGill University Senate approved the proposal from Dr. Lawrence A. Mysak to form the Centre for Climate and Global Change Research (C<sup>2</sup>GCR) as an outgrowth of the Climate Research Group (CRG), which was established in 1987 in cooperation with the Natural Sciences and Engineering Research Council and the Atmospheric Environment Service of Environment Canada. A major grant was awarded by these agencies to support the climate group at McGill, including two new faculty positions in the Department of Meteorology as Industrial Research Chairs in Climate Research.

The activities of the Centre have expanded from the original CRG focus of atmosphere-ocean climate modelling and data analysis to include studies pertinent to the recently established International Geosphere-Biosphere Program: A Study of Global Change (IGBP).

The two main objectives of the Centre are:

1. To promote the study and research of the physical, biological, chemical and socio-economic processes that regulate our global environment, including the climate; and
2. To provide a stimulating academic structure which helps educate graduate students and postdoctoral fellows in the emerging transdisciplinary field of "earth system science" and on the impacts of climate and global change on the environment and the economy.

To achieve these objectives, thirteen faculty from the Departments of Meteorology, Geography, Renewable Resources and Economics have been brought together in the Centre's formation. The research strengths of the C<sup>2</sup>GCR are wide ranging and include: atmospheric and oceanic circulation; air-sea, air-land, and air-ice-sea interactions; climate cycles; cloud effects on climate; boundary layer meteorology; remote sensing and urban climatology; permafrost, soils and their relation to the environment; hydrology, biophysical interactions in the oceans, marine ecosystems, and fish-climate interactions; polynyas and sea-ice; and economic processes and climate change.

To tackle the fundamental problems of climate and global change in a focussed manner, the Centre's faculty members have been grouped together into four teams as follows: Global climate modelling; Biogeochemical and hydrological cycles; Small scale and surface processes and their parameterization; and Impacts of climate and global change.

There are 38 graduate students and 4 post-doctoral fellows associated with the Centre's faculty. Other activities of the Centre include the publication of a quarterly Newsletter and a technical report series, and the sponsorship of a weekly Colloquium Series on climate and global change.

(This has been extracted from the McGill University Climate Research Group Newsletter, Number 14, April 1990).

## **5TH SESSION OF CANADIAN NATIONAL COMMITTEE/CANADIAN CLIMATE PROGRAM RESEARCH COMMITTEE**

The 5th meeting of the Research Committee took place at the Institute for Ocean Sciences in Sidney, B.C., September 20-21, 1990. The Committee provides advice to the Atmospheric Environment Service, the National Research Council, and the Canadian Climate Program Board on the state of climate research in Canada and on Canadian participation in the World Climate Research Program.

The agenda included discussions on:

- The Second World Climate Conference (SWCC)
- Canada's role in space observing
- Canadian participation in the Global Energy and Water Cycle Experiment (GEWEX)
- Modelling activities

The committee was aware that the SWCC (October 29 - November 7, 1990) would provide a good opportunity for Canada to influence the future research direction of the World Climate Research Program (WCRP). Although it was felt that the WCRP had been successful over the past ten years, in future years emphasis should be directed at:

- improving long-term monitoring, especially ocean processes;
- integrating biospheric and hydrological processes, the ocean and atmospheric chemistry into climate models; and
- improving understanding of Arctic climate processes.

As regards GEWEX, the Committee was strongly supportive of Canadian involvement as well as the establishment of a Canadian GEWEX Project office with strong links to the international Project Office being operated by NASA. The Canadian Scientific Plan for GEWEX, slated for completion in September 1990 following earlier workshops, is now expected in November/December 1990.

The Committee recognized the importance of remote sensing towards meeting the objectives of GEWEX and other large research efforts. One member of the Committee is also a member of the International Scientific Steering Group for GEWEX which maintains close links with the world's major space agencies to ensure that the most appropriate sensors are flown.

The Modelling sub-group of the Research Committee had met in April to identify infrastructure requirements that would allow continuing improvements in the Canadian climate model. The advice of the sub-group was taken under advisement by the federal government and has been used in developing the Green Plan.

A recurrent theme at the IOS meeting was the multi-disciplinary nature of future climate research; concern was expressed that university training in Canada was not structured as to provide graduates with the necessary skills. This matter will be the subject of further discussion by the Committee.

Inquiries concerning the work of the Research Committee should be addressed to the Secretariat, Research Committee, Climate Program Office, Atmospheric Environment Service, 4905 Dufferin Street, Downsview, Ontario M3H 5T4.

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## **CANADIAN GEOPHYSICAL BULLETIN**

The "Canadian Geophysical Bulletin" (CGB) is at a cross-roads. If the National Committee of the IUGG cannot find new sponsors, the publication will cease to exist. CMOS has had a long association with the CGB and for the last few years Ed Truhlar has been our rapporteur.

We are being asked to make a financial contribution but before the Executive makes a decision, it would appreciate hearing from the membership as to whether they find the CGB of value or not. The proposal being considered can be summarized as follows:

- a) a biennial publication, next volume in 1991
- b) a smaller publication, highlighting the research of the 2 preceding years with no bibliography
  - this would give roughly 4 pages for each of the 7 disciplines
- c) each discipline would be encouraged to set-up a computerized data base

To express your opinion on this matter, please call, write or fax to Uri Schwarz, CMOS Executive Director.

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## **ATMOSPHERIC CHEMICAL STUDIES SPECIAL INTEREST GROUP**

The importance of developing a good understanding of the global and regional scale atmospheric chemical processes is crucial in assessing the global environmental changes occurring in the atmosphere-ocean-biosphere system. In light of this, we propose to form an Atmospheric Chemical Studies Special Interest Group within CMOS to create a forum for focused discussion on topics including atmospheric chemical modelling, or chemical data acquisition and interpretation.

Persons interested in participating in this special interest group should contact Dr. Diane Michelangeli, Department of Atmospheric Physics, University of Toronto, 60 St. George Street, Toronto, Ontario M5S 1A7 (Tel: (416) 798-2955; Fax: (416) 978-9805; e-mail: [diane@rainbow.physics.utoronto.ca](mailto:diane@rainbow.physics.utoronto.ca)). Please do not hesitate to send me any suggestions or comments regarding the creation of this group.

## Labrador Ice Margin Experiment

LIMEX (Labrador Ice Margin Experiment) is a study of the southern marginal ice zone of the Labrador ice-pack at the time of its maximum advance. It comprises a series of field experiments designed to collect oceanographic, meteorological and remote sensing data and ice characterization information. The research program was initiated by BIO (Bedford Institute of Oceanography) and CCRS (Canadian Centre for Remote Sensing) in 1986. There are two major components in the program:

- (a) Oceanography of the marginal ice zone - current, temperature and salinity structure; oceanic mixed-layer beneath the ice, mixing at the ice boundary, ice motion, ice-wave interactions, mesoscale eddies. The objective is to study the ice/ocean/atmosphere properties and interactions with the aim of understanding and predicting the ice movement.
- (b) Remote sensing of sea ice - collection of time-sequential ice data, sensor validation and intercomparisons, microwave properties of ice surfaces, simulation of satellite data. The objective is to validate aircraft and satellite remote sensing instruments and to develop application programs in preparation for ERS-1 and RADARSAT satellite programs.

Since its inception, LIMEX has received support from many research laboratories including those of the Atmospheric Environment Service, the Jet Propulsion Laboratory, the Memorial University of Newfoundland, the Scott Institute for Polar Research and the Alfred-Wegener-Institut für Polar- und Meeresforschung. Scientists from these laboratories contributed to the planning of the program and participated in the following LIMEX field studies:

1. March 1987 - A pilot study of the southern Labrador marginal ice zone was conducted. Major facilities for the field program were BIO's CSS Baffin, a helicopter carried on the ship, CCRS's CV-580 and AES's Electra.
2. March 1989 - A full-scale experiment was conducted that involved two ships (CGS Sir John Franklin and MV Terra Nordica), and aircraft from CCRS, AES and the International Ice Patrol. The oceanography component included a wave-ice interaction study during which surface waves propagating into the ice were measured with a shipboard radar and a set of ice-motion packages.
3. March/April 1990 - A 4-week oceanographic cruise was coordinated with two overflights of an AES aircraft from Halifax. An oceanographic station was set up on the floating ice for boundary-layer studies.

The oceanographic data collected during the cruises included currents from mooring stations, CTD sections, surface waves,

ice drift using satellite-tracked beacons, Battfish sections, wind and T/S and current profiles beneath the ice. The major remote sensing instruments carried on board the aircraft were synthetic aperture radar (SAR), side-looking airborne radar (SLAR) and airborne imaging microwave radiometer (AIMR). Snow and ice crystal structure, ice salinity, ice surface roughness and ice strength were measured for surface characterization studies. Results of LIMEX have been reported at several LIMEX workshops and a special session of CMOS Congress (Hamilton 1988). A special issue of IEEE Transactions on Geoscience and Remote Sensing for the 1987 pilot study was published in 1989, which contains mostly remote sensing papers.

It is anticipated that six to twelve manuscripts on LIMEX will be submitted for the special issue of Atmosphere-Ocean in 1991, and the papers will cover such topics as numerical models for ice movement, oceanographic processes in the marginal ice zone, surface waves and remote sensing studies of sea ice.

Charles Tang

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## CONFERENCE SPONSORSHIPS

These requests have been received for CMOS to be co-sponsors:

2nd Scientific Meeting of the Oceanographic Society of USA  
March 24-28, 1991 ..... St. Petersburg, Florida

Canada/China International Mesoscale Workshop  
June 8-11, 1991 ..... Winnipeg, Manitoba

5th International Conference on Precipitation Scavenging and Surface Exchange Processes  
July 15-19, 1991 ..... Richland, Washington

Canada/Japan Workshop on Fisheries Oceanography  
Summer 1991 ..... Vancouver, B.C.

2nd WMO Operational Ice Remote Sensing Workshop  
September 10-13, 1991 .... Ottawa, Ontario

Workshop on Oceanographic and Environmental Research on Howe Sound  
October 1991 ..... Vancouver, B.C.

Oceanography Society of USA  
1991 .....

11th International Conference on Clouds and Precipitation  
August 17-21, 1992 ..... Montreal, Quebec

3rd International Conference on School and Popular Meteorology and Oceanography  
July 1993 ..... Toronto, Ontario

13th International Congress on Biometeorology  
1993 ..... Calgary, Alberta

## NEW CMOS MEMBERS

These new members were approved August 24, 1990:

Dr. Jean-Claude Therriault (regular)	Rimouski
Dr. Stephen J. Colucci (regular)	United States
Dr. Stephen R. Ramsay (regular)	London
Mr. Keith Ayotte (student)	Toronto
Mr. Wayne Flann (regular)	Vancouver
Dr. Keith A. Thomson (regular)	Vancouver
Dr. T.R. Parsons (regular)	Vancouver
Dr. C.D. Levings (regular)	Vancouver
Mr. D.J. Saxby (regular)	Vancouver
Dr. James Stronach (regular)	Vancouver
Mr. Joseph Udo Umoh (student)	Halifax
Dr. Taivo Laevastu (regular)	United States
M. Stephane Belair (student)	Montreal
Mlle. Tertia Hughes (student)	Montreal
Dr. Ismail Gulteppe (regular)	United States

These new members were approved September 21, 1990:

Mr. John G.W. Kelley (student)	United States
Mr. Jeremy Squires (student)	Newfoundland
Dr. Paris W. Vachon (regular)	Ottawa

These new members were approved November 5, 1990:

Senes Consultants Ltd. (Corporate)	Toronto
Mr. Mark Labrecque (Student)	Victoria
Mr. Peter Englefield (Student)	Edmonton
M. Robert Matte (Student)	Montreal
M. Raymond Bornais (Student)	
Mr. Bob E. Robichaud (Student)	
Mr. Eric Champagne (Student)	Montreal
Mr. Thomas Box (Student)	Montreal
Mr. Diep N. Trat (Regular)	Montreal
Mr. Martin A. Rawlings (Regular)	Toronto
Mr. Robert Crawford (Student)	Toronto
M. Jean-Marc Belanger (Student)	Montreal
Mr. Ali Tokay (Student)	United States
Mr. Huang Jinhui (Student)	Montreal
Dr. Scott B. Power (Regular)	Montreal

These new members were approved December 6, 1990:

M. Gilles Boulet (Regular)	Quebec City
Dr. Claude Lelievre (Regular)	Quebec City
Mr. E.D. Mortimer (Regular)	Ottawa
Mr. C. Lam (Student)	Edmonton
Mr. Daniel Wong (Student)	Toronto
Dr. Diane Michelangeli (Regular)	Toronto
Mr. Rabah Hammouche (Regular)	Algeria

## POSITION AVAILABLE



L'Université du Québec à Rimouski is a french-speaking university located near the St. Lawrence estuary in Canada and oriented to the marine sciences and the regional development. We seek applications for a:

### **RESEARCH ASSOCIATE IN PHYSICAL OCEANOGRAPHY**

The Université du Québec à Rimouski invites application for a research associate position in estuarine and nearshore hydrodynamics. The successful candidate will be expected to aid in the coordination, instrument deployment and data analysis phases of a research project dealing with the hydrodynamics of a coastal bay in eastern Canada. Interest could also include the development of numerical models. The successful candidate will work with a multidisciplinary research group investigating coastal and estuarine processes involved in Scallop growth in coastal areas within the Ocean Production Enhancement Network (OPEN).

The position will begin as early as possible during the Fiscal year 1990-91, with initial appointment for 1 year period. Extension of the appointment to 2-3 years is possible, contingent on satisfactory performance, availability of grants and if mutually desirable.

Applicants should have a Ph.D. in oceanography, physics, engineering or applied math., preferably with postdoctoral experience. Interested persons should send their complete curriculum vitae and the names and addresses of three referees to the following address before December 31, 1990.

Professor Mohammed I. El-Sabh, directeur  
Département d'Océanographie  
UNIVERSITÉ DU QUÉBEC À RIMOUSKI  
310, Allée des Ursulines  
Rimouski (Québec) Canada  
G5L 3A1



**Université du Québec à Rimouski**

## ATTENTION OCEANOGRAPHERS

Mr. Jan Croot of Freelance Picture Research is searching for photographs of oceanographers at work, as well as pictures of marine plants and animals, to include in a book called "Secrets of the Sea", which he is preparing for publication. If you have anything of interest, please contact him at:

15 Chichester Close  
Chichester Place, Kemp Town  
Brighton BN2 1FL  
England  
Telephone: 0273 676316

## CONFERENCES/CONFÉRENCES

Atmospheric Environment Service  
Meteorological Administration of Peoples Republic of China  
Canadian Meteorological & Oceanographic Society  
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The Canada-China International Mesoscale Workshop will be held June 8-11, 1991, in Winnipeg, Manitoba. The purpose of the workshop is to continue developing cooperative joint Canada-China activities in mesoscale meteorology. To accomplish this objective, the workshop will invite presentations and open discussion sessions. The sessions will address the nature of mesoscale weather and its prediction in North America and in China, as well as current mesoscale research plans. Proceedings including recommendations for future joint activities will be distributed after the workshop. Further information on the workshop can be obtained from Louis Legal, Workshop Coordinator, Atmospheric Environment Service, Prairie Weather Centre, 9th Floor, 266 Graham Avenue, Winnipeg, Manitoba, Canada, R3C 3V4 (Tel: (204) 983-2079; Fax: (204) 983-0109). Interested participants are asked to inform Louis Legal of their potential attendance by February 1, 1991. Meeting space will be limited.

World Meteorological Organization  
Atmospheric Environment Service  
Institute for Space and Terrestrial Science  
Canadian Meteorological and Oceanography Society  
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The 2nd WMO Operational Ice Remote Sensing Workshop will be held September 10-13, 1991, in Ottawa, Ontario. The theme will be the operational applications of remotely-sensed ice information to ice forecasting with special sessions on SSM/I (Special Sensor Microwave/Imager) remote sensing and WMO panel discussions on problem areas and future directions. Sub Topics will include:

- Ice detection and mapping techniques
- Ice data telecommunication techniques
- Ice data interpretation of active and passive microwave sensors (including algorithms)
- Ice data applications (especially with reference to direct inputs to ice conditions, modelling)
- Inter-comparisons of ice conditions obtained by the use of different methods.

Abstracts are due 28 February, 1991. Please submit your one page single-spaced typewritten abstracts, with English translations if possible, to Dr. R. O. Ramseir, Technical Committee Chairperson at the Institute for Space and Terrestrial Science (ISTS), 4850 Keele Street, North York, Ontario, Canada M3J 3K1 (Tel: (613) 832-0505; Fax (416) 739-4685). Specific inquiries can be directed to Ms. S. Troian at the same address.

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Service de l'environnement atmosphérique  
Agence météorologique de la République populaire de Chine  
La Société canadienne de météorologie et d'océanographie  
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L'atelier internationale mésoéchelle Canada-Chine sera tenue du 8 au 11 juin 1991 à Winnipeg, Manitoba. Le but de l'atelier est de promouvoir le développement des activités conjointes Canada-Chine sur la météorologie à mésoéchelle. Pour cela, on offrira des sessions de présentations et discussions libres. On discutera principalement du climat et des prévisions à mésoéchelle de l'Amérique du Nord et de la Chine. On discutera aussi de la planification actuelle de la recherche. Des comptes rendus et des recommandations pour les prochaines activités conjointes seront disponible après l'atelier. Pour de plus amples renseignements sur l'atelier, veuillez contacter Louis Legal, Coordonnateur de l'atelier, Service de l'environnement atmosphérique, Bureau de prévision des Prairies, 266 Graham Avenue, Winnipeg, Manitoba, Canada, R3C 3V4 (Tel: (204) 983-2079; Fax: (204) 983-0109). Les personnes intéressées sont priées d'informer Louis Legal au plus tard le 1er février 1991. L'assistance est limitée.

Abstracts selected will be included in the pre-workshop documentation package. All papers submitted at the workshop will be published in a suitable international scientific journal after a peer review.

### Sessions:

There will be no concurrent sessions. All sessions will have simultaneous translation available in English, French, Spanish and Russian. Displays and posters are encouraged.

More detail on accommodation and facilities will be provided in a subsequent announcement.

In the interim, if you have any questions regarding local arrangement, or if you wish to tentatively register at this time, please contact D. Mudry, Chairperson of the Local Arrangements Committee at Ice Centre Environment Canada (ICEC), 373 Sussex Drive, La Salle Academy Block E, Ottawa, Ontario, Canada K1A 0H3 (Tel: (613) 996-4214; Fax (613) 563-8480).

A registration fee of approximately \$200 Canadian will be set to cover costs of meals and other workshop expenses.

### Exhibit:

An exhibit is being organized by the Canadian Meteorological and Oceanographic Society. Please contact Bruce R. Ramsay at the ICEC address.

## POSITION AVAILABLE/POSTE DISPONIBLE

### POSTDOCTORAL RESEARCH ASSOCIATE IN THE PHYSICS DEPARTMENT AT THE UNIVERSITÉ DU QUÉBEC À MONTRÉAL

A postdoctoral research position is available to new or recent PhDs in atmospheric or related physical sciences to conduct original and collaborative research involving one of these areas:

- 1) dispersion studies in the boundary layer
- 2) observational studies of the boundary layer
- 3) study of physical processes controlling atmosphere-atmosphere interactions.

The department is composed of 17 faculty members, 8 of which

work in the area of atmospheric sciences. The computational facilities are excellent. The department is part of a large Montreal meteorological community regrouping McGill, RPN (Numerical Weather Prediction), CMC (Canadian Meteorological Centre), Cooperative Centre for Research in Mesometeorology, CMQ (Quebec Meteorological Centre). Please send your application with transcripts and 2 letters of reference to:

Dr. M. Y. Leclerc  
Department of Physics  
Université du Québec à Montréal  
P.O. Box 8888, Station "A"  
Montreal, Quebec CANADA H3C 3P8

## ACCREDITED CONSULTANTS

Entries on the following pages are restricted to CMOS Accredited Consultants. The accreditation process commenced in December, 1986. A complete list of CMOS accredited consultants can be obtained from the CMOS Business Office. Individuals interested in applying for accreditation may contact the CMOS Business Office at the Society's Newmarket address for a copy of the Guidelines and an application form.

As set out in the document "CMOS Guidelines for Accreditation," the criteria are:

- (1) The applicant must possess an appropriate undergraduate degree from a recognized university.
- (2) The applicant must possess at least one of the following types of specialized training:

**Noel Boston, P.Eng., Ph.D.**

CMOS Accredited Consultant

Physical Oceanography, Boundary Layer Meteorology,  
Training

The Environment Centre  
Suite 200 - 1130 West Pender Street  
Vancouver, British Columbia V6E 4A4 Canada  
Tel: (604) 681-8828 Fax: (604) 681-6825

- (i) post-graduate degree from a recognized university in meteorology or oceanography;
  - (ii) post-graduate degree from a recognized university in the natural or applied sciences or mathematics, specializing in one or more branches of meteorology or oceanography; or
  - (iii) three years of on-the-job meteorological or oceanographic experience.
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**David R. Hudak, Ph.D.**

CMOS Accredited Consultant

Cloud Physics, Synoptic Meteorology,  
Weather Modification

KelResearch Corporation  
850-A Alness Street, Suite 9  
Downsview, Ontario M3J 2H5 Canada  
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## ACCREDITED CONSULTANTS

**Susan K. Lally**  
CMOS Accredited Consultant  
General Meteorology, Marine Meteorology

Oceanroutes Canada Inc.  
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Dartmouth, Nova Scotia B3B 1W6 Canada  
Tel: (902) 468-3008 Fax: (902) 468-3009

**Tom B. Low, Ph.D., P.Eng.**  
CMOS Accredited Consultant  
Research and Development Meteorology

KelResearch Corporation  
850-A Alness Street, Suite 9  
Downsview, Ontario M3J 2H5 Canada  
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**Ian J. Miller, M.Sc.**

CMOS Accredited Consultant  
Marine Meteorology and Climatology, Applied Meteorology  
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MacLaren Plansearch Limited  
Suite 701, Purdy's Wharf Tower  
1959 Upper Water Street  
Halifax, Nova Scotia B3J 3N2 Canada  
Tel: (902) 421-3200 Telex: 019-22718

**Prof. T.R. Oke, B.Sc., M.A., Ph.D.**

CMOS Accredited Consultant  
Urban Meteorology & Climatology  
Boundary-Layer, Applied Climatology

3776 West 39th Avenue  
Vancouver, British Columbia V6N 3A7 Canada  
Tel: (604) 228-2900 Res: (604) 263-7394

**Douw G. Steyn, Ph.D.**

CMOS Accredited Consultant  
Air Pollution Meteorology, Boundary Layer Meteorology  
Meso-Scale Meteorology

3650 Carnarvon Street  
Vancouver, British Columbia V6L 3E4 Canada  
Tel: (604) 228-6407 Home: (604) 733-1255

**Brian Wannamaker**

CMOS Accredited Consultant  
Remote Sensing, Instrumentation (oceanography),  
Physical Oceanography, Sea Ice/Icebergs

Sea Scan  
R.R. 3,  
Caledon East, Ontario L0N 1E0 Canada  
Tel: (416) 880-0528

**Bassem M. Eid, P.Eng., Ph.D**

CMOS Accredited Consultant  
Coastal Circulation, Waves/Tides/Surges,  
Air-Sea Interaction, Marine Meteorology

MacLaren Plansearch Limited  
Suite 701, Purdy's Wharf Tower  
1959 Upper Water Street  
Halifax, Nova Scotia B3J 3N2 Canada  
Tel: (902) 421-3200 Telex: 019-22718

**Terry J. Gillespie, Ph.D.**

CMOS Accredited Consultant  
Agricultural Meteorology & Land Planning,  
Agrometeorological Training

51 Applewood Crescent  
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CMOS Accredited Consultant

Applied Meteorology and Climatology  
Hydrometeorology

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CMOS Accredited Consultant

Wind Engineering, Climatic Data Management,  
Air Pollution Meteorology, Climate Research

Rowan Williams Davies & Irwin Inc.  
650 Woodlawn Road West  
Guelph, Ontario N1K 1B8 Canada  
Tel: (519) 823-1311      Fax: (519) 823-1316

### **John E. Letkeman**

CMOS Accredited Consultant

Air Quality Meteorology

Radian Corporation  
8501 MoPac Blvd.  
Austin, Texas, USA 78720-1088  
Tel: (512) 454-4797

### **Warren McCormick, M.A.Sc., P.Eng**

CMOS Accredited Consultant

Waste Management Branch  
Ministry of Environment  
Plaza 400, 1011 Fourth Avenue  
Prince George, British Columbia V2L 3H9 Canada  
Tel: (604) 565-7104

### **Andrew H. Gillam, Ph.D.**

CMOS Accredited Consultant

Marine Chemistry  
Environmental Audit, Assessment and Monitoring

CBR International  
Suite 101, 9865 W. Saanich Road  
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