



Canadian Meteorological  
and Oceanographic  
Society

La Société Canadienne  
de Météorologie et  
d'Océanographie

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

FEBRUARY/FEVRIER 1989 VOL. 17 NO. 1

## CMOS BY-LAWS

The following amendments to the CMOS By-Laws are proposed by the CMOS Council. They are intended as amendments to the Constitution and By-Laws as approved by the 22nd Annual General Meeting (Hamilton, June 7, 1988) and re-published in the 1988 Annual Review.

### By-Law 6

- Special Interest Groups

In sub-paragraph a) amend the last sentence to read: "Non-members as well as members of the Society may affiliate with a Special Interest Group."

### By-Law 16

- Committees, Editorial Boards and Working Groups

In sub-paragraph a) insert after "The Accreditation Committee,": "the Committee for Endorsement of Media Weather Broadcasters,"

## BC SCIENCE AND TECHNOLOGY POLICY

In May, 1987, 14 business and academic leaders were appointed to the British Columbia Premier's Advisory Council for Science and Technology. One of the Council's tasks was to develop a science and technology policy for British Columbia to guide public and private sectors over the next 10 to 20 years. This recommended policy, which has been adopted by the Government, provides the framework for a prosperous future for the Province, where science and technology play a vital role.

A booklet "Strategies for Innovation" published by the Ministry of Advance Education and Job Training, and the Ministry Responsible for Science and Technology states a vision of British Columbia in 20 years time and details the policy. Copies can be obtained from the Science and Technology Policy Branch by phoning (604) 356-8278.

## RÈGLEMENTS SCMO

Les modifications suivantes sont suggérées par le conseil de SCMO. Il est proposé qu'elles soient considérées comme modifications à la constitution et règlements en vigueur depuis la 22<sup>e</sup> réunion annuelle générale (Hamilton, 7 juin 1988) et publié de nouveau dans la revue annuelle de 1988.

### Règlement #6

- Groupes d'intérêts spéciaux

Au paragraphe a) changez la dernière phrase afin qu'elle se lise comme suit: "Tout individu, membre ou non de la Société, peut s'affilier à un groupe d'intérêts spéciaux."

### Règlement #16

- Comités, conseils de rédaction et groupes de travail

Au paragraphe a) inserez après "le comité d'accréditation,": "le comité pour l'approbation des chroniqueurs des médias de la météo,"

## WEATHER CENTRE QUIZ

Many CMOS members work at AES major Weather Centres across Canada. Some of these Weather Centres are located at airports and, at one time, all were at airports. In the early years, these airports had local names which were used unofficially, and some times officially, by AES employees and others. Can you match the local names with the cities the airports serve (see page 6 for answers)?

Local Names: Dorval, Lakeburn, Stevenson Field, Sea Island, Blatchford Field, Kenyon Field, Newfoundland Airport, Malton, St. Hubert

Cities: Vancouver, Edmonton, Lethbridge, Winnipeg, Toronto, Montreal, Moncton, Gander

Morley Thomas

## **1987 PATTERSON MEDAL**

by Ev Wilson, Chairman, Toronto Centre, CMOS

On Thursday, October 27, 1988, the Atmospheric Environment Service (AES) and the Toronto Centre of the Canadian Meteorological and Oceanographic Society (CMOS) had the privilege of co-hosting the Patterson Medal Award presentations for 1987. The Award is given each year for distinguished service to meteorology in Canada. It was established in 1946 in honour of Dr John Patterson, Controller from 1929 to 1946 of the Meteorological Service of Canada, AES's predecessor. The 1987 medal was awarded to AES atmospheric scientists and Toronto Centre CMOS members, Gordon A. McKay and Douglas M. Whelpdale, for their outstanding contributions to meteorology in the areas of climatology and climate change and the long-range transport of air pollutants, respectively.

Active in meteorology and the atmospheric sciences since he began as a forecaster for the RCAF in 1943, Gordon McKay contributed extensively to national and international meteorology and climatology throughout his career both as a representative of the government of Canada and as an individual. His valuable contributions to the WMO, UNESCO, the Canada/US IJC, and other international organizations, and to the planning for the 1988 Conference on the Changing Atmosphere, have secured him lasting recognition for his distinguished service.

Since 1976, Dr. Douglas Whelpdale has been atmospheric science leader for Environment Canada's Long-Range Transport of Atmospheric Pollutants (LRTAP) Program. Largely responsible for raising the acid rain issue in Canada and for leading its atmospheric component, his efforts have made the scientific community, public and government aware of the its extent, severity and implications. With his guidance, atmospheric research has led to the creation of a sound scientific knowledge base for use in the development of government policy, in federal/provincial and bilateral discussions, and in control strategy development.

Banquet speaker, Dr. Kenneth Hare (professor emeritus, University of Toronto, and 1973 Patterson medal recipient), gave a topical and compelling presentation on global pollution and climate change. Following this presentation, Howard L. Ferguson, the Assistant Deputy Minister of AES (ADMA), presented the awards and thanked the recipients for their services and continuing advancement of the science and application of meteorology.

While in previous years the award had been presented at the annual CMOS Congress, this year's presentation was delivered at an evening banquet amid the formal decor of the Paradise Banquet and Convention Centre in Concord, north of Toronto. Arrangements for the evenings events were made by B. Grogan and J. Degaut of ADMA's office, Downsview and E. Wilson, Chairman, Toronto Centre CMOS.

## **FSLM NEWS**

In October 1986, the Latin-American Federation of Meteorological Societies (FSLM) was created with the following founding members: Brazilian Meteorological Society; Argentinian Centre of Meteorologists; Organization of Mexican Meteorologists; Colombian Society of Meteorology. The Peruvian Meteorological Society and the Spanish Association of Meteorology have indicated an interest in joining the Federation. The Federation is a non-profit society with the objectives:

- a) to maintain and foster the spirit of unity among the constituent societies;
- b) to promote the holding of congresses, conferences and courses on subjects related to meteorology;
- c) to promote scientific links with similar entities from other countries;
- d) to undertake and support initiatives contributing to the technical and intellectual improvement of professionals in meteorology;
- e) to watch over the freedom of research and teaching in meteorology;
- f) to promote use of meteorological knowledge and research for the benefit of mankind;
- g) to give advice in the field of meteorology to governments and/or international organizations;
- h) to publish a bulletin on the Federation's activities and on matters related to meteorology; and
- i) to encourage the spreading of meteorological knowledge through the publication of textbooks, reports and other printed matter.

Since 1986, the Federation has held three General Assemblies, the last being in Mexico City, November, 1988, supported two Inter-American Congresses of Meteorology which were held in conjunction with the General Assemblies, and prepared a draft Statute for consideration by members. The Federation's activities are presently being reported in the Bulletin of the Argentinian Centre of Meteorologists.

## **LOST MEMBERS**

We have lost a few members! Anyone knowing of their whereabouts, please tell them that we have lost them or inform the office so that we can send them news on CMOS.

Mr. Kenneth H. Jones  
76 Dolphin Bay  
Regina, Sask. S4S 4Z8

S. Ahmad  
134 Frontenac Crescent  
Deep River, Ont. K0J 1P0

Nikolaos Balaskas  
79 Fallingdale Crescent  
Downsview, Ont. M3J 104

Miss Sehra H. Van Balen  
22 Deniverville Drive  
Gloucester, Ont. K1V 7N8

Mr. Patrick McCarthy  
Box 31  
Gibbons, Alberta. T0A 1N0



## SCIENTISTS IN THE SCHOOLS

by Bruce Campbell, Scientific Consultant

Ministry of Advanced Education and Job Training (MAEJT)

We all see from time to time humorous examples of people not really understanding science and technology. One of my favourites was a cartoon by Len Norris in the Vancouver Sun several years ago. A car owner is looking worried while listening to the gas station attendant who is filling the gas tank with a mysterious substance. Signs in the background extol the virtues of the station's products - "Super Gas!", "Contains Extra Zip!", "More Additives!". The station attendant, to impress the car owner, declares that what is being added to the engine "Contains H<sub>2</sub>O".

Not quite so funny are the results of surveys which show that many people do not have even a basic scientific literacy. The proliferation of the "pseudosciences" is equally galling. How can we expect the public to have informed opinions on serious scientific and technological issues? Even more important, how can we expect to fulfill the need for trained workers as industries evolve towards ever greater reliance on technology?

To help promote general science and technology awareness, and to encourage students to pursue careers in related fields, MAEJT has initiated a new program "Scientists in the School" to send scientists into classrooms throughout British Columbia. This program will operate initially at two grade levels - four to seven and ten to twelve.

A scientist visiting a classroom has a positive effect on students both by providing a true life role model, and by imparting enthusiasm for science. Such visits are particularly effective at the elementary level, as research shows that many students, especially girls, become indifferent to science and mathematics by about Grade 8. At the secondary level exposure to a visiting scientist further encourages those students potentially interested in science and technology related careers. As well, such visits help make high school students aware of the important role that science and technology play in the economy and in society.

Scientists and technologists from universities, industry and government agencies around the province are being asked to participate in the program. Scientists are encouraged to provide hands-on activities or demonstrations. Visitors will be provided with follow-up materials to leave with teachers and counsellors on the importance of science and technology in society, as well as on career paths and options. Volunteers will be matched with requests and a district coordinator will facilitate the visit.

Interested scientists and technologists should contact the Program Officer at (604) 387-5028 or write to: "Scientists in the Schools", Ministry of Advanced Education and Job Training, 838 Fort Street, Victoria, B.C. V8V 1X4.

## NEW CMOS MEMBERS

The following new members were approved 18 November, 1988:

<u>NAME</u>	<u>CENTRE</u>
Ms. Catherine L. Pettigas (Student)	Halifax
Mr. Chungchin Chang (Student)	United States
M. Bernard Miville (Regular)	Montreal
M. Yves Corbel (Regular)	Montreal
Mr. James McLean (Student)	Halifax
Mr. John MacPhee (Student)	Alberta
Ms. Virginia Wittrock (Regular)	Saskatchewan
Mr. Mark Cote (Regular)	Saskatchewan
Mr. Charles G. Hannah (Student)	BC Mainland
Mr. Blair Morrow (Student)	Saskatchewan
Mr. W.J. Rapatz (Regular)	Vancouver Island
Dr. C.S. Wong (Regular)	Vancouver Island
Mr. Robin Brown (Regular)	Vancouver Island

The following new members were approved 13 January, 1989:

Mr. Serge Mainville (Student)	Montreal
Dr. William G. Harrison (Regular)	Halifax
Mr. Blair Greenan (Student)	Toronto
Dr. Bernard P. Boudreau (Regular)	Halifax
Ms. Karen E. Burns (Student)	Victoria
Mr. Greg McFarquhar (Student)	Toronto
Dr. Don Deibel (Regular)	Newfoundland
Dr. G.W. Reuter (Regular)	Montreal
Dr. Suzanne Roy (Regular)	Rimouski
Dr. Kim Juniper (Regular)	Rimouski
Dr. Peta J. Mudie (Regular)	Halifax
Mr. Mario Couture (Student)	Rimouski
Dr. Augustus Gast (Regular)	Victoria
Mr. Kevin Malinowski (Student)	Edmonton
Mr. Spencer T. Silver (Regular)	Saskatchewan
Mr. Robert Michaud (Student)	Montreal
Dr. Walter J. Cretney (Regular)	Victoria
Dr. David L. Mackas (Regular)	Victoria

The following new members were approved 10 February, 1989:

Dr. Raymond J. Dewey (Regular)	Toronto
Miss Glenda Wright (Student)	Halifax
Mr. Craig Schneider (Regular)	Alberta
M. Pierre Tourigny (Regular)	Toronto
M. Gaetan Soucy (Regular)	Quebec
Dr. Jacob Padro (Regular)	Toronto
Dr. Francis J. Socey (Regular)	United States

## EDITOR'S COLUMN

If you wish to submit items for the CMOS Newsletter, please send to Malcolm Still, Atmospheric Environment Service, 4905 Dufferin Street, Downsview, Ontario. M3H 5T4. The deadline for the April issue is April 7, 1989, and for the June issue is June 1, 1989.

## **OPERATIONAL METEOROLOGY** **NEWS AND INFORMATION**

### **WEATHER SERVICES OFFICE TEST BED**

Many CMOS members may not be aware of the Strategic Plan of the Atmospheric Environment Service (AES) that sets its direction for the next 20 years, with the intention of steering the organization toward more efficiency with increased responsiveness to public demands and better adjustment to current and anticipated constraints and opportunities. This will be achieved through some key thrusts: by making use of automation, mass dissemination and technological advances in atmospheric science, and by supporting growth of private sector meteorology in Canada. One of the concepts of the Plan is the Weather Service Office (WSO). The present structure of Weather Centres and Weather Offices will evolve into a dual-purpose WSO responsible for both the production and dissemination of weather forecasts. The forecaster will deal more closely with the user by delivering the product directly.

In order to test some of the concepts, AES plans on operating two WSO Test Beds for one year: Ontario Region will start one in Toronto on April 1, 1989, and Atlantic Region in Halifax beginning August 1, 1989. The Atlantic WSO Test Bed will be located adjacent to the present Maritimes Weather Centre in Bedford and will be responsible for the production and dissemination of forecasts (public forecasts, public warnings and advisories, aviation terminal forecasts, Halifax Harbour marine forecasts, hourly radar reports, weatherradio, regular and automatic telephones, and radio broadcasts) for Nova Scotia.

Meteorologists and Weather Service Specialists participating in the Test Bed are undergoing a cross-training program developed by AES Training Branch. The meteorologists are developing their dissemination techniques, while the Weather Service Specialist are being trained to produce forecasts. The following have agreed to participate at the Atlantic WSO Test Bed: from Bedford (Jim Abraham, Al Blom, Murray Forbes, Dave Forbes, Dave Hunter, Lorne Ketch, Don Layton, Keith Keddy, Vern LeBlanc, Dave Wartman and Dave Mason); from Gander (Don Cameron, Ken Kirkwood, Ted McIlldoon and George Parkes); from Halifax (Keith Freeman); from Saint John (Mike Howe); and from Moncton (Nicole Landry). The Test Bed will be running a 24-hour/7-day operation with each shift having two forecaster-disseminator positions: one a meteorologist and the other a Weather Service Specialist. Each position will be responsible for some forecasting and some disseminating duties, with the meteorologist supervising the shift. To the extent possible, service will be available in both official languages. It is the intent that at least one of the positions be occupied by a bilingual staff member.

The evaluation of the WSO Test Bed is a very important aspect of the test. Before prototypes are implemented,

lessons learned from this one-year test will be used in future planning. Atlantic Region have developed evaluation criteria whereby the aspects of the Test Bed (e.g., staff, products and equipment) will be assessed using verification techniques, operational logs, surveys and questionnaires. It is essential that this evaluation be performed with the overall Strategic Plan objectives in mind. Atlantic Regional staff and managers are very excited about the implementation of the Test Bed. There are obviously some concerns and many unanswered questions in reference to the exact road taken to achieve the goals set out in the Plan. Opmet SIG or other CMOS members are invited to comment or input questions about the Plan to the undersigned.

Jim Abraham

### **PRAIRIE DROUGHT WORKSHOP**

Eighty-seven scientists and managers from Canada and the United States participated in a Prairie Drought Workshop held at the National Hydrology Research Centre in Saskatoon (October, 1988). The Workshop was sponsored jointly by the Prairie Farm Rehabilitation Administration of Agriculture Canada and the National Hydrology Research Institute and the Canadian Climate Centre, both of Environment Canada. The workshop objectives were to transfer knowledge and technologies arising from drought research to users, to review new knowledge and research needs, and to provide a forum for identifying research needs, reviewing research methodologies, and identifying opportunities for collaboration in research efforts.

One of the conclusions of the workshop was that at present it is difficult to predict the occurrence and severity of prairie droughts. However, often good water resources management can do much to mitigate or avoid the cost of drought to utilities and institutions. Some of the recommendations that came out of the workshop were:

1. Interdisciplinary research should be conducted into the physical linkages between sea surface temperatures (SSTs) in the Pacific, the internal dynamics of the atmosphere, and the onset, severity and termination of meteorological droughts.
2. Paleoclimatological data and ocean sediment cores should be used to extend the record available for studying SSTs and prairie drought.
3. More effort should be devoted to developing statistical/empirical approaches to long-range forecasting and to relating weather parameter forecasts to specific drought concerns.

A complete list of recommendations will be available in the workshop proceedings which should be available in April, 1989. Copies may be obtained from D.J. Bauer, Hydrometeorological Research Division, Canadian Climate Centre, National Hydrology Research Centre, 11 Innovation Blvd., Saskatoon, Saskatchewan, S7N 3H5.

## LETTERS TO THE EDITOR

This section is an addition to the CMOS Newsletter that will give an opportunity for readers to express their views through their own publication. The Editor will attempt to print letters in their entirety but reserves the right to edit.

Editor:

I am concerned about the implications of a "positions vacant" submission from the Centre for Earth and Ocean Research (CEOR) [CMOS Newsletter, June, 1989]. It singles out an oceanographer with a Ph.D., one to two years postdoctoral experience, and a willingness to collaborate with diverse agencies besides CEOR and the University of Victoria. The applicant is expected to conduct research, supervise graduate students, and teach undergraduate courses in unrelated fields and graduate courses in oceanography. All of this looks like a typical professor's plight to me.

However, such an appointment is not to be. The successful applicant, having received the NSERC "Seal of Approval" will toil under the auspices of that far-away agency for five years. After a review, he may be given a further five-year warm-up with the University of Victoria. Following this decade, the peculiarly-worded article suggests that he will be considered for a term appointment. To the optimist looking westward, this means tenure.

Is it unrealistic to ask for approximately twenty years of post high school experience to be considered for promotion to Associate Professor in Lotus Land? I think so.

Robert Charlton  
Associate Professor  
Department of Geography  
University of Alberta

(Editor: Professor Charlton gave me permission to publish this letter. For the benefit of CMOS Newsletter readers, I asked the Director of the Centre for Earth and Ocean Research to reply to Professor Charlton's letter.)

Editor:

The advertised position was with respect to an NSERC University Research Fellowship (URF). The terms of the fellowship are not different from those of other URF's, except that within CEOR a successful applicant would be expected to work closely with at least some of the various government laboratories in the Greater Victoria area. NSERC put the URF system in place because it was recognized that the combination of government spending restraint and demographics meant that, in the ordinary course of events, there would be very few appointments possible for some considerable time, until retirements produce some vacancies in departments which were not able to expand.

The situation at the University of Victoria is a classic example of this unfortunate state of affairs. It is only because of outside funding, for example using the NSERC URF scheme, that it is possible to bring new faculty members into the Physics Department or adjacent areas. The University, and the Department, are unable to expand because of funding restraints and no retirements are expected for several years.

This situation was very widespread a few years ago. NSERC's initiative in establishing the URF scheme was an extremely welcome one. For the University of Victoria it is ending too soon, for this university is not likely to escape that dilemma until the mid 90's. Unlike some other institutions, the University of Victoria has been honourable about trying to find full-time positions for fellowship holders at the end of the fellowship period.

I am struck by the discouraging tone of Professor Charlton's letter. In fact, we have had no shortage of excellent applicants for the position. I am also struck by the sentence "All of this looks like a typical professor's plight (Editor: Dr. Stewart's emphasis) to me." I have spent about half of my working life as a professor, doing just the things listed by Professor Charlton and by the advertisement. To my mind it is a pretty good life. Many people would be glad to share it.

Dr. Robert W. Stewart  
Director, Centre for Earth and Ocean Research

## SEMINARS/SÉMINAIRES

The 16th Stanstead Seminar is being hosted by the Department of Meteorology, McGill University at Bishops University, Lennoxville, Québec, from July 10-14, 1989. The theme of the seminar is: High-latitude climate processes, with special emphasis on large-scale air/ice/sea interactions. The daily program will consist of two comprehensive papers in the morning and two in the

afternoon, thus providing ample time for discussion and interaction. Invited speakers include Dr. F. Bryan, Dr. H. Cattle, Dr. E. LeDrew, Dr. P. Lemke and Dr. J. Walsh. For more information, please contact Dr. Lawrence A. Mysak, Climate Research Group, Department of Meteorology, McGill University, 805 Sherbrooke St. W, Montreal, Québec. H3A 2K6 Tel: (514) 398-3759.



## WEATHER CENTRE QUIZ

The answers to the quiz from page 1 are:

Local Names	Cities
St. Hubert	Montreal (up to September, 1941)
Dorval	Montreal (from September, 1941)
Lakeburn	Moncton
Stevenson Field	Winnipeg
Sea Island	Vancouver
Blatchford Field	Edmonton
Kenyon Field	Lethbridge
Newfoundland Airport	Gander
Malton	Toronto

## ADVERTISING RATES

Rates based on black and white camera-ready copy. Sizes (inches) are full page (7.5x9.5), 1/2 page (3.5x9.5) and 1/4 page (3.5x4.5). Other charges apply where typesetting or artwork are required. Distribution per issue is 1000.

### Advertisement Type

	Full Page	1/2 Page	1/4 Page
Commercial **	\$150.00	\$80.00	\$50.00
Position Vacancy	\$100.00	\$60.00	\$40.00
Employment Wanted	---(Free to Members only)---		

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**SPECIAL ISSUE OF ATMOSPHERE-OCEAN**

Copies of Volume 27 No. 1 of ATMOSPHERE-OCEAN may be obtained from CMOS. All the articles in this issue pertain to the Canadian Atlantic Storms Program (CASP). The cost of each copy is:

Members	\$10.00
Non-Members	\$12.50
Libraries/Institutions	\$15.00

**CONFERENCE ANNOUNCEMENTS**

Announcements of conferences are welcomed to be placed in this newsletter free of charge. To facilitate their publication, the editor would appreciate if those that submit prepared copy could follow these guidelines:

- o copy should be camera-ready black and white as colours do not necessarily duplicate well
- o sizes (inches) are full page (7.5x9.5), 1/2 page (3.5x9.5) and 1/4 page (3.5x4.5)



## CONFERENCES / CONFÉRENCES

CMOS XXIII ANNUAL CONGRESS

### ATMOSPHERIC AND OCEANIC HAZARDS: MODELING AND OBSERVATION

Université du Québec à Rimouski  
June 6-9, 1989

January 1st, 1990 will see the beginning of the Hazard Reduction Decade. The United Nations General Assembly has designated the 1990's a decade in which the international community will pay special attention to natural disaster reduction. The Scientific Program Committee is organizing the details of the program according to two main objectives: attract participants from fields other than atmospheric and oceanic physics, and promote multidisciplinary studies, especially Canadian participation in international programs. Besides the usual sessions in meteorology and oceanography, there will be special sessions on atmospheric and oceanic chemistry, biological oceanography, marine geology, the Hazard Reduction decade, JGOFS, and WOCE.

For additional information: Contact Dr. Vladimir G. Koutitonsky (tel.: (418) 724-1763) or Dr. Yves Gratton (tel.: (418) 724-1761).

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Canadian Institute of Forestry  
Canadian Meteorological and Oceanographic Society  
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### Fire and Forest Meteorology in a Changing Environment: New Technologies and Concerns

Ottawa, Ontario  
April 17-21, 1989

This international conference will be held at the Skyline Hotel. The purpose of the 10th Conference is to exchange research and management information relevant to fire and forest meteorology with particular emphasis on the evolution of science and management in a rapidly changing technological environment. Paper and interactive presentations will concentrate on the theme in terms of lightning and forest meteorology, prescribed burning and fire effects, fire behaviour/danger, fire management, fire weather, climate change, smoke management and air quality, and forest health and productivity. Displays by relevant fire or meteorological equipment manufacturers and distributors as well as computer manufacturers will also be present during the conference. For a brochure or further information, contact one of the Co-chairpersons, Mike D. Flannigan (Canadian Forestry Service) at (613) 589-2880 or Dr. Paul Woodard (University of Alberta) at (403) 432-4413.

SCMO XXIII CONGRES ANNUEL

### LES CATASTROPHES ATMOSPHERIQUES ET OCEANIQUES: MODELISATION ET OBSERVATIONS

Université du Québec à Rimouski  
juin 6-9, 1989

La décennie débutant le 1<sup>er</sup> janvier 1990 sera celle de la réduction des catastrophes. L'Assemblée Générale des Nations Unies a désigné les années 90 comme la décennie où la communauté internationale devra se pencher en priorité sur la prévention des catastrophes naturelles. Les deux objectifs du comité scientifique sont d'attirer des participants de spécialités autres que la physique atmosphérique ou océanique, ainsi que de promouvoir les études multidisciplinaires, en particulier la participation canadienne dans les programmes internationaux. Nous aurons donc des sessions en chimie atmosphérique et océanique, en océanographie biologique, en géologie marine, sur la Décennie de Réduction des Catastrophes et les programmes JGOFS et WOCE.

Pour de plus amples informations: Contactez M. Vladimir G. Koutitonsky (tel.: (418) 724-1763) ou M. Yves Gratton (tel.: (418) 724-1761).

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Pollution Control Association of Ontario  
Air & Waste Management Association (Ontario Region)  
\*\*\*\*\*

### Environmental Challenges: Thinking Globally & Acting Locally

Hamilton, Ontario  
April 23-25, 1989

Once again, two of Ontario's associations whose main purpose is the protection of the environment, will meet for an annual joint conference. The joint opening session of the air, hazardous waste and wastewater treatment disciplines will be addressed by invited speakers who will discuss the environment in general, and the Hamilton area in particular. The Hon. Jim Bradley, Ontario's Minister of the Environment, has been invited to speak at this session. There will be sessions on PCBs - Current Actions, Odour Management and Regulation, MISA - II, and Hazardous Waste Management, and concurrent sessions on Integrated Waste Management Practices and on Urban Air Quality. There will also be a poster session and an exhibition by suppliers of equipment for air pollution control, hazardous waste management and wastewater treatment. For more information, please contact Al Kruzins, Phillips Barratt Kaiser Engineering Ltd. at (416) 335-3385.



## CONFERENCES/CONFÉRENCES

Federal Panel on Energy Research and Development (PERD)  
Canadian Meteorological and Oceanography Society (CMOS)  
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### 2nd International Workshop on Wave Hindcasting and Forecasting

Vancouver, British Columbia  
April 25-28, 1989

The objectives of the workshop are to provide a forum for the exchange of ideas and information related to practical applications of wave hindcasting and forecasting, and to discuss priorities for future research and development. Sessions will include operational forecasting, user requirements, hindcasting procedures, data collection, incorporation of satellite wind/wave data, wave/current and wave/ice interactions, and shallow water and nearshore effects.

For more information, please contact:

V.R. Swail  
Atmospheric Environment Service  
4905 Dufferin Street  
Downsview, Ontario M3H 5T4.  
Telephone: (416) 739-4347

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Government of Manitoba  
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### Environment and Economy Partners for the Future

Winnipeg, Manitoba  
May 17-19, 1989

Environment will be a major influence in business and government decisions over the next decade. We live in a time of constant change, but we are also the first generation to be in a position to control our own future. The effects of environment and economy on one another become increasingly significant. Environmentally sustainable economic development is the blueprint necessary to build a strong future. Decision-makers in business, government and special interest groups will want to attend this conference. This conference provides an excellent opportunity for decision-makers to examine the process required to create a new partnership - between environment and economy - and the challenges in making that partnership a productive one.

For more information, please contact Frank Cosway (Program Coordinator), Government of Manitoba, Suite 960, St. Mary Ave., Winnipeg, Manitoba, R3C 3Z5 (Tel: (204) 949-1653.

Georgia Institute of Technology  
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### International Conference on Global and Regional Environmental Atmospheric Chemistry

Beijing, China  
May 3-10, 1989

The conference aims to bring together the diverse elements of the international atmospheric sciences community to discuss the growing matrix of environmental problems and new advances related to the chemistry of the global and regional atmospheres. Major topic areas are: Chemical Transformations; Global Atmospheric Chemistry; Atmospheric Chemistry and Biochemical Cycle; Biological and Atmospheric Sources; Wet/Dry Removal Processes; Global Distributions and Transport; History & Evolution of the Earth's Atmosphere; Climate; Regional Atmospheric Chemistry. The conference will be held at the Friendship Hotel (Beijing). The official language of the conference is English.

For more information, contact Ms. Rita Bryan (Conference Co-ordinator) at: The School of Geophysical Sciences  
Georgia Institute Of Technology  
Atlanta, Georgia 30332  
Tel: (404) 894-3893

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The Commission of the European Communities  
\*\*\*\*\*

### Riso International Conference Environmental Models: Emissions and Consequences

Riso National Laboratory, Denmark  
May 22-25, 1989

The development of a comprehensive computer model able to predict in detail the full consequences of emissions from energy production and other industrial activities is not yet possible. Nevertheless it is important to link the calculations of emissions and emission reduction measures with the environmental consequences. The conference will focus on advanced models for the calculation of: emissions from energy production and conversion, and other industrial activities; environmental consequences, physical, biological and economic; implications of emission reduction measures. For further information please contact the Conference Organizing Committee at:

Systems Analysis Department  
Riso National Laboratory, Postbox 49  
DK-4000 Roskilde, Denmark  
Tel: 45 2 37 12 12 (from late May 45 42 37 12 12)  
Fax: 45 2 75 71 01 (from late May 45 46 75 71 01)

## CONFERENCES/CONFÉRENCES

American Meteorological Society  
Challenger Society of the United Kingdom  
Estuarine Research Society  
International Assoc. for the Physical Sciences of the Ocean  
Marine Technology Society  
Scientific Committee on Oceanic Research  
Canadian Meteorological and Oceanographic Society  
The Oceanography Society  
\*\*\*\*\*

The Oceanography Society: Inaugural Meeting

Monterey, California  
August 27-30, 1989

The year 1988 saw the formation of a new scientific society for oceanographers, The Oceanography Society (TOS). The goals of TOS are to strengthen communication among oceanographers, to develop and disseminate knowledge of oceanography, and to provide recognition of the achievements of oceanographers. TOS membership was at 1,800 by the end of 1988.

TOS announces its inaugural meeting to be held at the Monterey Convention Center. This meeting will give you the unique opportunity to meet with professionals in oceanography and related fields. This is the first in a series of planned annual meetings. Each day will be organized around a central theme of importance to the future of oceanography, featuring invited speakers in a plenary session and contributed papers in a poster session. The themes of the three days will be:

What Limits Productivity in the Ocean?  
What Determines the Basic Thermohaline and Chemical Stratification of the Ocean?  
What is the Prognosis for Observing and Describing the Ocean?

There will also be two talks addressing technological trends in oceanography: Trends in Graphics and Visualization in Oceanography (Dr. James O'Brien, Florida State University); Biotechnology in the Ocean Sciences (Dr. Richard Cassin, Ocean Sciences Research Institute).

The deadline for abstracts of not more than 300 words is May 1, 1989. Exhibit booths will be available at a fee of \$800.00 and, in addition, each exhibitor must pay the registration fee. To reserve space, contact Mr. Yale Schiffman at (703) 642-1120. As CMOS is co-sponsoring this meeting, CMOS members may register at TOS member rates of \$130.00 for a regular member and \$65.00 for a student member (\$150.00 and \$75.00 at the meeting). For more information, please contact TOS headquarters at (202) 232-3900.

Second International Conference on Acid Rain

Amsterdam, Netherlands  
September 5-7, 1989

This conference follows directly from the highly successful meeting held in Lisbon in September, 1987. Acid rain encompasses a wide range of air pollution phenomena including gaseous and particulate pollutants, mists and precipitation, as well as their effects upon aquatic and terrestrial biota, surface and groundwaters, soils and inert materials. The conference will draw together these diverse themes and encourage a vigorous exchange of information between scientists and engineers.

Notification of acceptance of papers will be given in April and completed manuscripts will be required by 30 May, 1989. The conference proceedings will be published in advance and will be made available to delegates at the conference.

For further information contact Professor R. Perry at:

Public Health & Water Resource Engineering  
Department of Civil Engineering, Imperial College  
London SW7 2BU United Kingdom  
Fax: (0)1 584 7596  
Telex: 918351

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Canadian Continental Shelf Seabed Symposium (C2S3)

Dartmouth, Nova Scotia  
October 2-6, 1989

The purpose of this symposium is the interchange of knowledge, the development of new thrusts, and the documentation of current research on the nature and stability of the Canadian Continental Shelf Seabed, in terms of the physical and chemical environment and the associated biological communities. The symposium will be held at the Bedford Institute of Oceanography and will comprise of 4 plenary sessions of oral presentations and 3 poster sessions. The 6 keynote papers will be:

Chemical Interaction at the Seabed  
Biological Interactions with the Seabed  
Physical Oceanographic Processes Impacting the Seabed  
Surficial Geology  
Sediment Stability  
Engineering Concerns of Continental Shelf Development

Abstracts will be bound and distributed at the symposium. For information, please contact Dr. Carl L. Amos at the Geological Survey of Canada, Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, Nova Scotia B2Y 4A2 (Tel: (902) 426-7739).





## METEOROLOGICAL INSTRUMENTS

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- Temperature, Delta T
- Dew Point, Relative Humidity
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### CONSULTANTS' PAGES

Entries on the following pages are restricted to CMOS Accredited Consultants. The accreditation process commenced in December, 1986, and to date there are 24 Accreditees. 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:
  - (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.

- (3) Upon completion of the above educational and training requirements, the applicant must have spent at least two years of satisfactory performance, at the working level, in the field of specialization included in this document. This should include at least some consulting experience.

Individuals interested in applying for accreditation may contact the CMOS Executive Director at the Society's Ottawa address for a copy of the Guidelines and an application form. Consultants who wish to obtain accreditation should note that applications received before April 1, 1989, are expected to be processed by July 1, 1989, if all the necessary information has been included with the applications. A complete list of CMOS accredited consultants can be obtained from the Executive Director.

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Oceanroutes Canada Inc.  
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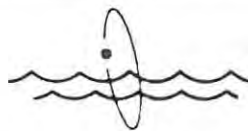
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## La Société Canadienne de Météorologie et d'Océanographie The Canadian Meteorological and Oceanographic Society

La Société Canadienne de Météorologie et d'Océanographie (SCMO) a pour but de stimuler tous les aspects de la météorologie et de l'océanographie au Canada. Sa constitution date de juin 1977, alors que la Société Canadienne de Météorologie, établie en janvier 1967, a reconnu la croissance et les contributions dues à l'activité de sa section d'océanographie et a changé son nom. Toute personne ou organisation intéressée à la météorologie et/ou à l'océanographie peut en devenir membre.

Les treize centres locaux et sections de la Société fournissent aux membres autant de lieux pour discuter et recevoir des conférenciers invités. Les membres qui ont des intérêts particuliers à l'hydrologie, à la pollution de l'air, à l'agriculture, à la météorologie d'exploitation ou à la glace dérivante sont encouragés à joindre des groupes d'intérêts spéciaux au sein de la Société.

La Société organise un Congrès annuel au printemps d'une durée de trois jours où l'on présente et discute des exposés, où l'on distribue des récompenses et où l'on tient la réunion générale annuelle. L'emplacement choisit pour le congrès varie selon le centre qui en est l'hôte.

La Société publie quatre périodiques, comprenant le Bulletin de nouvelles de la SCMO. Le Bulletin publie des lettres, des avis, des revues de livres et d'autres communications d'intérêt pour les membres. ATMOSPHERE-OCEAN est le journal scientifique trimestriel qui renferme des articles sur tous les aspects de la météorologie et de l'océanographie, de même que des notes, lettres et revues de livres appropriées. Le Bulletin climatologique est un journal qui renferme des articles et des notes d'intérêt sur la climatologie. Il est publié trois fois par année. Chinook est un périodique trimestriel qui publie des articles plus généraux sur les thèmes météorologiques et océanographiques. Le Bulletin de nouvelles de la SCMO est distribué sans frais additionnels à tous les membres. Les membres peuvent souscrire aux autres périodiques par abonnement à taux favorables.

Les demandes d'adhésion sont approuvées par le bureau d'administration à ses réunions mensuelles. Les demandes d'adhésion et d'abonnement reçues après le 1<sup>er</sup> octobre sont pour l'année suivante à moins qu'elle soit requise pour l'année en cours.

The Canadian Meteorological and Oceanographic Society (CMOS) exists to advance all aspects of meteorology and oceanography in Canada. It assumed its present constitution in June 1977. This development recognized the growth and contributions of an active Oceanographic section within the parent Canadian Meteorological Society established in 1967. Membership in the Society is open to individuals and organizations with interests in the fields of meteorology and/or oceanography.

Through its thirteen local Centres and Chapters, the Society provides a forum for members to participate in discussions and hear guest speakers. Members with special interests in the fields of hydrology, air pollution, agriculture, operational meteorology or floating ice are encouraged to join Special Interest Groups within the Society.

The Society sponsors an annual Congress each spring, usually lasting three days, where papers are presented and discussed, various awards are given, and the yearly business meeting is held. The location of the Congress varies, with the local Centres serving as hosts.

The Society publishes four periodicals, including the CMOS Newsletter. The Newsletter carries correspondence, notices, book reviews and other items of general interest to members. ATMOSPHERE-OCEAN is a quarterly scientific journal containing articles on all aspects of meteorology and oceanography as well as relevant notes, correspondence, and book reviews. The Climatological Bulletin contains articles and notes of particular interest to the field of climatology. The Bulletin is published three times a year. Chinook is a quarterly magazine giving a more general treatment to meteorological and oceanographic themes. The Newsletter is distributed to all members free of charge while the other publications are available at favourable subscription rates.

New members are accepted into the Society by the National Executive at their monthly meetings. Applications and subscriptions received after October 1 are for the following year unless requested for current year.



# 1989 MEMBERSHIP APPLICATION FORM - DEMANDE D'ADHÉSION 1989

(Please print in block letters - Lettres moulées s.v.p.)

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M ☐ Mme ☐ Mlle ☐

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\$10.00	\$12.00	\$15.00	Chinook <input type="checkbox"/>	Chinook	\$10.00	\$12.00	\$15.00
\$ 0.00	\$15.00	\$15.00	Annual Congress Program & Abstracts <input type="checkbox"/>	Congrès Annuel Programme et Résumés	\$ 0.00	\$15.00	\$15.00

Note: Students receive one Society publication in their Annual Fee and must indicate free publication desired. All regular Society publications are sent to Corporate and Sustaining Members.

Note: Les membres étudiants reçoivent une des publications SCMO et doivent indiquer la publication gratuite désirée. Tous les périodiques sont envoyés aux membres corporatifs et soutiens.

## PRIMARY FIELD OF INTEREST - SPHERE D'INTÉRÊT PRINCIPAL

Meteorology ☐  
Météorologie

Oceanography ☐  
Océanographie

## SPECIAL INTEREST GROUP - GROUPE D'INTÉRÊT SPÉCIAL

(Indicate group if interested - Indiquez si vous avez des intérêts dans une groupe)

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Hydrologie

Air Pollution ☐  
Pollution de l'air

Agriculture & Forest ☐  
Agricole et Forêt

Operational Meteorology ☐  
Météorologie d'exploitation

Floating Ice ☐  
Glace dérivante

Other (specify) \_\_\_\_\_ ☐  
Autre (stipulez) \_\_\_\_\_

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Canada



Please enroll me as a member of the Society. I attach a cheque for \$ \_\_\_\_\_ payable to the Canadian Meteorological and Oceanographic Society for the membership fee and/or publication subscriptions. I also include a tax-deductible donation of \$ \_\_\_\_\_ for (check one):

The Society's Development Fund ☐

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\_\_\_\_\_  
Date

Mail completed form to CMOS at the address above.

Je désire devenir membre de la Société. J'inclus un chèque au montant de \$ \_\_\_\_\_ payable à la Société Canadienne de Météorologie et d'Océanographie pour la cotisation de membre et/ou des abonnements aux périodiques. J'inclus aussi un don déductible d'impôts de \$ \_\_\_\_\_ pour (indiquez):

Le fonds de développement de la Société ☐

Autre (stipulez) \_\_\_\_\_ ☐

\_\_\_\_\_  
Signature

Faire parvenir au SCMO la demande d'adhésion complétée à l'adresse au dessus.