



Canadian Meteorological
and Oceanographic
Society

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

La Société Canadienne
de Météorologie et
d'Océanographie

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CMOS PRESIDENT

Professor Han-Ru Cho was elected this year's President at the XXIIIrd Annual Congress of CMOS. He was born in Beijing, China, but spent his formative years in Taiwan. He completed his undergraduate education at the National Taiwan University. He entered the University of Illinois in 1968 where he completed his studies and received his M.Sc. and Ph.D. degrees.

He immigrated to Canada in 1974 to join the University of Toronto and has been a Professor of Physics there since 1981. In 1984, Professor Cho was presented

with the University of Toronto Teaching Award for his excellence in teaching skills.

He remains an active researcher, his fields of interest are mesoscale atmospheric dynamics, dynamics of precipitation systems and tropical circulation systems. Professor Cho was awarded the CMOS President's Prize in 1986 for his research contributions.



PRÉSIDENT DE LA SCMO

Le professeur Han-Ru Cho fut élu Président pour cette année au XXIIIe Congrès annuel de la SCMO. Il est né à Beijing (Chine) mais il a passé ses années de formation en Taiwan. Il a reçu son baccalauréat de l'Université Nationale de Taiwan. En 1968, pour finir ses études, il s'est inscrit à l'Université d'Illinois où il a reçu un M.Sc. et un Ph.D.

En 1974, il a immigré au Canada pour se joindre à l'Université de Toronto. Il est professeur de physique depuis 1981. En 1984, le professeur Cho a été accordé

un prix de l'Université de Toronto pour l'excellence d'enseignement.

Il est un chercheur active en dynamique atmosphérique de l'échelle moyenne, en dynamique des systèmes de la précipitation et des systèmes de la circulation tropicale. Le professeur Cho a été décerné en 1986 le prix du Président de la SCMO pour ses contributions en recherche.

CMOS 1989/90 Council

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Le Conseil de la SCMO pour 1989/90

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XXIIIrd CMOS ANNUAL CONGRESS

The XXIIIrd CMOS Annual Congress, held this year at the Université du Québec à Rimouski from June 5-9, 1989, was organized by the Rimouski Centre, under the co-chairmanship of Drs. V.G. Koutitonsky (Local Arrangements Committee) and Y. Gratton (Scientific Program Committee). We thank all our committee members for a job, we think, was well done.

Local Arrangements Committee

The Congress attracted some 275 persons, including CMOS members, new members, students, spouses, and industry representatives. Major sponsors for the Congress were NSERC for invited speakers, oceanographical institutions in Québec (UQAR, INRS-Océanologie, IML-DFO, and GIROQ) for student support, local arrangements and social events, CMOS for the public lecture, and a telecommunication company, Québec-Téléphone, for the delicious wine and cheese reception. To all, we express our sincere gratitude. In addition to the scientific sessions, a commercial exhibition was held in the university gymnasium, where 25 companies displayed their equipment and services in meteorology and oceanography. Some companies also sponsored coffee breaks.

The social program featured an Ice-Breaker on Monday at the university bar, Le Baromètre, a wine and cheese reception in the university gymnasium on Tuesday, a City Hall party offered by the Mayor of Rimouski followed by a public lecture on Wednesday, and the (lobster) Banquet on Thursday. During the Banquet, scientific prizes were presented, and Dr. Paul LeBlond addressed a peculiar oceanic hazard problem: Sea Monsters. Thank you Paul! The spouses' social program was cancelled due to a small number of requests. The City of Rimouski affirms some \$375,000 in revenues due to our Congress, but the Local Arrangements Committee received just enough to cover costs for the Book of Abstracts, and for student financial assistance.

Scientific Program Committee

The theme of the Congress was 'Atmospheric and Oceanic Hazards: Modelling and observation'. A total of 172 papers (including posters) were presented during 32 sessions. A special effort was made this year to include biological and chemical aspects of meteorology and oceanography in the regular and invited speakers sessions. The turnout was excellent, mostly due to the recruiting efforts of T. Platt (JGOFS), S. Calvert (geochemistry), K. Juniper (biology), A. Mauviel and G. Drapeau (geology), and others. J. McConnell organized, single-handed, the atmospheric chemistry sessions. We thank you all!

XXIIIe CONGRÈS ANNUEL DE LA SCMO

Le XXIIIe Congrès de la SCMO, qui avait lieu à l'Université du Québec à Rimouski du 5 au 9 juin, 1989, fut organisé par le Centre de Rimouski, sous la présidence conjointe des Drs. V.G. Koutitonsky (Comité d'Arrangements Locaux) et Y. Gratton (Comité du Programme Scientifique). Nous tenons à remercier tous nos membres de comité pour un travail qui, selon nous, a été très bien accompli.

Le Comité d'Arrangements Locaux

Quelques 275 personnes, incluant des membres de la SCMO, des nouveaux membres, leurs conjoint(e)s, des étudiants, et des représentants de commerces, ont assisté au Congrès. Les principaux commanditaires furent le CRSNG qui a subventionné les conférenciers invités, les institutions océanographiques du Québec (UQAR, INRS-Océanologie, GIROQ, et l'IML-DPO) qui ont subventionné les étudiants, les arrangements locaux, et les événements sociaux, la SCMO qui a subventionné la conférence publique, et une compagnie de télécommunication, Québec-Téléphone, qui a subventionné la soirée des Vins et Fromages. Nous les remercions! En plus des sessions scientifiques, des expositions commerciales furent organisées dans le gymnase de l'université. Quelques 25 compagnies ont exposé leurs produits et services en météorologie et océanographie. Certaines compagnies ont aussi commandité les pause-café.

Le programme social comprenait la soirée Brise-Glace le lundi au bar 'Le Baromètre' de l'université, la réception Vins et Fromages le mardi soir au gymnase de l'université, un cocktail à l'Hôtel de Ville offert par le maire de Rimouski, suivi par la conférence publique le mercredi soir, et le délicieux Banquet aux homards le jeudi soir. Au cours du Banquet, des prix scientifiques furent remis, et le Dr. Paul LeBlond nous entretenait sur une catastrophe marine bien particulière: les monstres marins. Merci Paul! Le programme social des conjoint(e)s ne pu avoir lieu à cause du trop petit nombre de demandes. Le Congrès a rapporté \$375,000 à la ville de Rimouski, mais juste assez au Comité d'Arrangements Locaux pour défrayer les coûts de publication du Programme et Résumé, et pour subventionner les étudiants.

Le Comité du Programme Scientifique

Le thème du XXIIIe Congrès Annuel de la SCMO était: 'Les Catastrophes Atmosphériques et Océaniques: Modélisation et Observation'. Quelques 172 conférences orales ou par affiches (poster) furent présentées au cours de 32 sessions. Nous nous sommes efforcé cette année pour inclure au Programme des conférences régulières et sur invitation dans des disciplines telles que la chimie et la biologie des océans et de l'atmosphère. Le résultat fut excellent, surtout grâce à l'aide de T. Platt (JGOFS), de S. Calvert (géochimie), de K. Juniper (biologie), de A. Mauviel et G. Drapeau (géologie), et bien d'autres. J. McConnell a organisé, tout seul, toutes les sessions sur la chimie atmosphérique. Nous les remercions!

As a result, a third of the papers were in meteorology, a third in physical oceanography, and the rest in biological and chemical oceanography and in atmospheric chemistry. On Tuesday, H. Willoughby, an invited speaker, took us into the eye of a hurricane, while P. Wangersky discussed the nature of biotoxins and other natural hazards. On Wednesday, we moved to the newly built Institut Maurice Lamontagne to hear G. McBean tell us about global changes, and D. Greenberg discuss the sea-level impacting man impacting sea-level dilemma?! A session was also held for interdisciplinary and/or international projects. P. LeBlond told us about Canadian university participation in WOCE, while M. Lewis gave us an overview of JGOFS. M. El-Sabh proposed means to prevent and mitigate natural catastrophes, just before J. McConnell took us to outer space towards Neptune and the Voyager encounter. Finally, S. Calvert brought us back to the late Pleistocene Age to observe oceanographic changes in the Eastern Mediterranean.

A general public conference on the main theme (Summer Violent Winds by J. Lavigne, AES) was included for the first time in the Program. Finally, we thank Ed Truhlar for his editorial work on the Book of Abstracts for the Congress.

This year, both committees also made a special effort to attract and to support students at the Congress. In exchange for supervising the audio-visual equipment, students 'in need' were provided with free accommodation and \$100 towards travelling expenses. In summary, we thank CMOS for giving us the opportunity to host the 1989 Congress in Rimouski, and we wish the same success to the organizing committee for the 1990 Congress to be held at the Royal Roads Military College, Victoria.

CANADIAN MESOSCALE WORKSHOP

At its June 5th meeting in Rimouski, the CMOS Mesoscale Sub-Committee decided to hold a workshop at which its recommendations for mesoscale activities over the next few years will be discussed. The workshop is tentatively scheduled for November 20-21, 1989, in Edmonton.

If you would like to be kept informed of the Sub-Committee's activities, to attend the workshop, or to assist in the planning of mesoscale activities, please contact:

Dr. Ron Stewart (Chairman of the Sub-Committee)
Cloud Physics Research Division
Atmospheric Environment Service
4905 Dufferin Street
Downsview, Ontario M3H 5T4
(Tel: (416) 739-4608; or Fax: (416) 739-4211)

Comme résultat, le tiers des présentations portaient sur la météorologie, le tiers sur l'océanographie physique, et le restant sur l'océanographie biologique et chimique et sur la chimie atmosphérique. Le mardi, le conférencier invité, H. Willoughby, nous entraînait dans l'oeil d'un ouragan, alors que P. Wangersky discutait de la nature des biotoxines et d'autres catastrophes naturelles. Mercredi, nous allions au nouvel Institut Maurice Lamontagne, où G. McBean nous expliquait les changements globaux, et D. Greenberg posait le dilemme des niveaux d'eau agissant sur l'homme agissant sur les niveaux d'eau?! Une session sur les programmes internationaux a aussi permis à P. LeBlond de nous informer de la participation des universités canadiennes au programme WOCE, alors que M. Lewis donnait un aperçu du programme JGOFS. M. El-Sabh a aussi proposé des moyens de défense et de prévention contre les catastrophes naturelles, juste avant que J. McConnell nous emporte vers Neptune et la rencontre du Voyager. S. Calvert nous a finalement ramené dans le Vieux Pleistocène pour constater les changements survenus dans l'est de la Méditerranée.

Une conférence pour le public fut donnée, pour la première fois dans le cadre d'un congrès, sur 'le vent violent estival' par J. Lavigne (SEA). Nous tenons finalement à remercier Ed Truhlar pour avoir si bien édité le livre 'Programme et Résumé' du congrès.

Un effort particulier a aussi été fait cette année par les deux comités pour attirer et financer en partie la participation d'étudiants au Congrès. En retour de leurs services aux équipements audio-visuels, les étudiants (qui en avaient besoin) se sont vu payer leurs frais de logement et \$100 pour leurs frais de transport. En terminant, nous remercions la SCMO pour nous avoir permis d'organiser ce Congrès à Rimouski, et nous souhaitons le même succès au comité organisateur du Congrès de 1990, à l'École militaire (Royal Roads), Victoria.

CMOS LAPEL PIN

In the last CMOS newsletter, we announced the availability of a very handsome CMOS lapel pin which members will want to own and to wear. As stated, the pin is available at the modest cost of \$5.00 from our Business Office in Newmarket (address on back page of this Newsletter). It is also available from the Executive Director in Ottawa should you find it easier to contact him (Tel: (613) 990-0300, Mondays and Thursdays). To make it even easier for members to obtain pins, they will be available from Centres/Chapters when their activities resume this fall.

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 October issue is October 1, 1989, and for the December issue is December 1, 1989.

FAÇONNEZ VOTRE AVENIR



Les personnes qui travaillent à Environnement Canada à Downsview profitent du même avantage : pouvoir se tailler une carrière aux horizons pratiquement illimités. Grâce à plus de 70 ministères et organismes répartis partout au pays, nous vous ouvrons la voie à une carrière nationale et internationale. Afin d'assurer à tous, sur une base égale, les mêmes chances, nous encourageons la participation équitable des femmes, des autochtones, des membres des minorités visibles et des personnes handicapées.

**Votre
choix**

Chercheur(euse)

Mener des études sur le processus physique survenant dans les nuages de précipitation et sur les méthodes de détection et de prévision des phénomènes atmosphériques à l'aide du radar météorologique Doppler. Planifier et entreprendre des études sur les phénomènes de mauvais temps se produisant chaque saison. Fournir des services de consultation et des conseils sur les applications théoriques et pratiques des données du radar météorologique Doppler et interpréter ces dernières aux scientifiques et aux autres utilisateurs. Étudier l'utilité du radar météorologique Doppler pour déceler les phénomènes atmosphériques tels que les orages, les tornades, les vents élevés, les mésocyclones, les zones de cisaillement du vent et les profils du vent par beau et mauvais temps. Améliorer les méthodes d'affichage et les techniques pouvant être utilisées par les météorologues relativement au traitement des données du radar météorologique Doppler.

**Votre
apport**

Un doctorat en physique ou en météorologie d'une université reconnue ou un diplôme de niveau inférieur doublé d'une expérience en recherche et en productivité équivalant à un doctorat. Une expérience récente en recherche dans les domaines de la météorologie avec le radar Doppler et de la physique des précipitations.

La connaissance de l'anglais est essentielle.

Nous offrons un salaire à la mesure de votre expérience et de vos compétences.

Le lieu de travail: Le lieu de travail sera soit au Service de l'environnement atmosphérique, bureau de Downsview, à North York, en Ontario, soit au bureau de radar atmosphérique Doppler à King City, en Ontario.

Acheminez votre demande d'emploi avant le 29 septembre 1989, en indiquant le numéro de référence S-89-31-5792-47JG, à Joan Girling, Commission de la fonction publique du Canada, 171, rue Slater, Ottawa (Ontario) K1A 0M7.

Les renseignements personnels sont protégés par la Loi sur la protection des renseignements personnels. Ils seront conservés dans le fichier de renseignements personnels CFP/P-PU-040.

This information is available in English.

Canada



Commission de la fonction
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SHAPING YOUR FUTURE



**Your
Choice**

The people who work for Environment Canada in Downsview, share the possibility of a career with few boundaries. In fact, by working for one of the 70 departments and agencies that make up the federal public service, they gain experience that enhances their professional development and opens national and international doors. To ensure that all candidates have every chance on an equal basis, we encourage equitable participation by women, aboriginal peoples, members of visible minority groups and persons with disabilities.

Research Scientist

Perform studies on the physical process occurring in precipitating clouds and methods of detection and prediction of weather phenomena using Doppler weather radar. Plan and initiate studies on severe weather phenomena occurring during all seasons. Provide consultation and advice on theoretical and practical applications of Doppler radar data and supply interpretations to scientists and other users. Examine the usefulness of Doppler weather radar to detect weather phenomena such as downbursts, tornadoes, high winds, mesocyclones, wind shear zones and wind profiles in clear air and precipitation. Develop improved Doppler weather radar data processing techniques/displays that can be used by operational forecasters.

**Your
Contribution**

A doctoral degree from a recognized university in physics or meteorology or a less degree with evidence of research experience and productivity equivalent to a doctoral degree. Recent research experience in Doppler radar meteorology and the physics of precipitation.

Knowledge of English is essential.

We offer a salary commensurate with your qualifications and experience.

The Location: The location of work may be at the Atmospheric Environment Service Downsview office in North York, Ontario or at the Doppler-Weather Radar in King City, Ontario

Send your application by September 29, 1989, quoting reference number: S-89-31-5792-47JG to: Joan Girling, Public Service Commission of Canada, 171 Slater Street, Ottawa, Ontario K1A 0M7.

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Canada



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CANADIAN CLIMATE PROGRAM

The third session of the Canadian Climate Program Research Committee, which doubles as the Canadian National Committee on the World Climate Research Program (WCRP), took place at the National Hydrology Research Centre (NHRC) in Saskatoon, May 4th/5th, 1989.

The composition of the Committee comprises of senior climate researchers from the public service and the university community under the chairmanship of the Director-General, Canadian Climate Centre, Atmospheric Environment Service. Its principal purpose is to provide assessments and advice to the National research Council and the Canadian Climate Program Board on the state of Canadian climate research and on Canadian participation in the WCRP.

At the meeting, the Committee noted recent national and international developments with respect to the work of the WMO/UNEP Intergovernmental Panel on Climate Change and to the Global Energy and Water Cycle Experiment (GEWEX). With respect to GEWEX, the Committee was in complete agreement that Canada should contribute to its fullest extent. The results of a successful experiment would significantly improve GCMs and contribute in a meaningful way to both the IGBP and WCRP. To better define a Canadian research strategy for GEWEX, the Committee felt that a workshop should be organized for that purpose. In addition, a similar workshop was proposed to further define Canadian activities related to climate research in the Arctic. Plans are currently underway for both workshops.

The Committee was the beneficiary of several excellent presentations from the Alberta Research Council, the Saskatchewan research Council and the staff of NHRC on various aspects of climate change issues in western Canada.

The next meeting of the Committee is planned for December, 1989, at the Bedford Institute of Oceanography.

HYDROLOGY SPECIAL INTEREST GROUP

A meeting of the Hydrology Special Interest Group (HY SIG) was held June 6, 1989, at the 23rd Annual CMOS Congress in Rimouski, Québec. The agenda discussed was:

(a) Review of HY SIG activities

In October, 1988, a HY SIG newsletter was published and distributed to a small membership known to the editor (Lub Wojtiw). In April 1989 when the CMOS mailing list was obtained, the newsletter was mailed to CMOS members who indicated an interest in this SIG.

(b) Election of officers

The following new SIG executive was elected:

Chairman:

Rick Lawford (CCC, c/o NHRC, Saskatoon)

Vice-Chairman:

Lub Wojtiw (Alberta Research Council, Edmonton)

Editor/Treasurer:

Ron Hopkinson (AES, Regina)

Mr. Lawford accepted the chairmanship under the condition that it be only for a 2-year term. Responsibilities for the newsletter editorship and for the monies was combined to provide flexibility and ease in producing the newsletter.

(c) Future HY SIG activities

Dr. B. Crawford (Atmosphere-Ocean editor) expressed a concern about the lack of hydrologically-related papers being published in Atmosphere-Ocean (A-O). It was agreed that the SIG newsletter could be used to encourage the membership to submit articles to A-O. Another item discussed was whether the HY SIG should conduct sessions at future congresses in order to provide a means to make the SIG more visible to the CMOS membership. The Congress on climatic variability and change on hydrology to be held in 1990 was suggested as a possible candidate to try this experiment. Mr. Lawford agreed to investigate and coordinate this effort with information and a call for papers in the SIG and CMOS newsletters. L. Wojtiw

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CONFERENCES / CONFÉRENCES

La Société canadienne de météorologie et d'océanographie
Le Service de l'environnement atmosphérique

APPEL DE PRÉSENTATIONS

Troisième atelier de travail
sur la météorologie opérationnelle

Le troisième atelier de travail sur la météorologie opérationnelle aura lieu du 2 au 4 mai 1990, à l'Université du Québec à Montréal. L'atelier a pour thème "Les Services Météorologiques de l'Avenir". Cependant, plusieurs autres sujets en météorologie opérationnelle seront inclus.

Le comité responsable du programme est à la recherche d'articles sur les sujets suivants: 1) prévision à courte échéance et méso-météorologie (observations, analyse, diagnostic, techniques de prévision, et diffusion), 2) amélioration du lien entre la recherche et les opérations, 3) besoins des usagers, et 4) bureaux météorologiques de demain. L'atelier sera sous forme de présentations d'articles soumis, de conférenciers invités, de sessions de table-ronde et d'affichages, et de sessions de laboratoires de 1 et de 2 heures. Chaque présentation des sessions d'affichage sera annoncée brièvement dans une session orale appropriée.

Un résumé (incluant le titre) d'une longueur de 400 à 1000 mots devra être envoyé avant le 1er novembre, 1989, à Stan Siok, co-président du Comité de programme, Service de l'environnement atmosphérique, 3e étage, 100 boul. Alexis-Nihon, Ville St-Laurent, Québec, H4M 2N8, Canada. Les auteur(e)s devront indiquer leur préférence pour faire leur présentation lors d'une session orale, d'une session d'affichage, d'un laboratoire court (1 heure), ou d'une session de démonstration. Les préférences seront respectées dans la mesure du possible. Les résumés seront évalués selon leur pertinence avec le thème et leur qualité. Les articles non reliés à la météorologie opérationnelle ne seront pas acceptés. Les auteur(e)s seront avisés le 15 décembre 1989 de l'acceptation de leurs articles et des instructions quant au format requis leur seront communiquées par la même occasion.

Les articles, prêts à être photographiés, ne devront pas excéder 8 pages incluant les diagrammes et devront être reçus par les co-présidents du programme au plus tard le 1er mars 1990. Un recueil des travaux présentés sera préparé et distribué aux participant(e)s. Les articles et les résumés peuvent être en français ou en anglais. Pour obtenir des renseignements supplémentaires, veuillez contacter soit Stan Siok (514-283-1139) ou Peter Zwack (514-282-3304), co-présidents du Comité de programme.

Canadian Meteorological and Oceanographic Society
Atmospheric Environment Service

CALL FOR PAPERS

Third Workshop on
Operational Meteorology

The Third Workshop on Operational Meteorology will be held May 2-4, 1990, at the L'Université du Québec à Montréal. The principal theme of the workshop will be "Weather Services of the Future". A number of other topics in operational meteorology will also be included.

The Program Committee wishes to solicit papers on the following topics: 1) short-term forecasting and meso-meteorology (observations, analysis, diagnostics, forecast techniques, and dissemination); 2) bridging the gap between research and operations; 3) user requirements; and 4) tomorrow's weather offices.

The format will consist of submitted papers, invited papers, panel discussions, and poster and demonstration sessions as well as 1 and 2 hour laboratory sessions. A brief introduction of each poster presentation will be given in an appropriate oral session.

Titles and reviewers' abstracts of 400 to 1000 words should be sent by November 1, 1989, to Stan Siok, Program Committee Co-chairman, Atmospheric Environment Service, 3rd Floor, 100 Alexis Nihon Blvd., Ville St-Laurent, Quebec, H4M 2N8, Canada. Authors should indicate their preference for presenting their paper orally, in a poster session, as a demonstration, or in a short laboratory session (1 hour). Preferences will be considered to the extent possible.

Abstracts will be evaluated on their relevance to the theme as well as on their quality. Papers not related to operational meteorology will not be accepted.

Authors will be notified by the 15th of December, 1989, with respect to both the acceptance of their abstracts and instructions on the format of their papers.

Complete camera-ready papers of no more than 8 pages, including diagrams, must be received by the program co-chairmen no later than March 1, 1990. A preprint volume will be prepared and distributed to workshop registrants. Papers and abstracts may be in either English or French.

For additional information, contact either Stan Siok (514-283-1139) or Peter Zwack (514-282-3304), Program Committee Co-chairmen.

CONFERENCES/CONFÉRENCES

The Climate Institute
The Canadian Meteorological and Oceanographic Society
Environment Canada - AES/CCC, IWD, CWS, AES/Quebec Region
Indian and Northern Affairs Canada
Geological Survey of Canada
U.S. National Science Foundation
U.S. Environmental Protection Agency
U.S. National Climate Program Office

THE ARCTIC AND GLOBAL CHANGE

Ottawa, Ontario
October 25-27, 1989

The issue of global change has emerged as one which may have social and economic consequences almost as serious as nuclear war. The Arctic is an area which is starting to receive attention in this context, not only from a purely scientific view, but also because the environmental impacts of global change could be serious. Through a symposium which brings physical, biological and social scientists together with policy people and those who will be affected, the sponsors of this activity feel that a positive step will have been taken.

All sessions will be plenary. All papers are invited, but there will be discussion periods scheduled. On the 25th, two sessions will outline the environmental issues for the Arctic and outline recent scientific progress in relevant areas. Three sessions on the 26th will treat the impacts of Global Change on the Arctic physical and biological environment and on the Arctic economy. The morning of the 27th will be given to a discussion of the social impacts on Arctic governments and peoples by a panel of "Northerners". For the final afternoon, the Geological Survey of Canada is organizing a Workshop on Permafrost, to which all those interested are invited.

All sessions will be at the Skyline Hotel, which is reserving up to 100 rooms on a first-come, first-served basis at special conference rates of \$79.00 (single) and \$84.00 (double). Registrants may wish to negotiate special weekend rates to take the opportunity to see more of Canada's capital city, including the new National Gallery and the even newer National Museum of Civilization.

For more information, contact the Conference Director:

Mr. J. McCulloch
15 Elmsley Drive
Richmond, Ontario L4C 8N2

Tel: (416) 737-2064

THE ARCTIC AND GLOBAL CHANGE

Symposium Program

Wednesday, October 25, 1989

Session 1 Background - Professor Ken Hare, Chair, Canadian Climate Planning Board

0900-0930: Welcome, introduction and opening remarks - Professor Hare

0930-1030: Scientific Overview of Major Environmental Issues for Northern High Latitudes - Dr. Fred Roots, Senior Science Advisor to the Canadian Minister of the Environment

1100-1130: Scientific and Political Circumpolar Aspects - Dr. Alan Hecht, Director, U.S. Climate Program Office

1130-1200: Recent Arctic Stratospheric Ozone Results - Dr. Alex Chisholm, Director General of Research, Atmospheric Environment Service, Environment Canada

Session 2 Recent Scientific Results from Relevant Areas - Assistant Deputy Minister, Atmospheric Environment Service, Environment Canada

1415-1440: General Circulation Models - Dr. Roger Daley, Director of Research, Canadian Climate Centre, Atmospheric Environment Service, Environment Canada

1440-1505: Satellite-based Information Systems - Dr. G. Weller, University of Alaska

1505-1555: The Northern Chemical Environment - Dr. Len Barrie, Research Scientist, Atmospheric Environment Service, Environment Canada, and Dr. R. Harris, University of New Hampshire

1625-1650: Paleoclimate - Dr. John Matthews, Research Scientist, Geological Survey of Canada, Energy, Mines and Resources Canada

1650-1715: Oceans - Dr. Allyn Clarke, Head, Ocean Circulation Division, Bedford Institute of Oceanography, Fisheries and Oceans Canada

1715-1730: Discussion

Thursday, October 26, 1989

Session 3 Impacts on the Physical Environment - Dr. Denis Davis, Director General, Inland Waters, Conservation and Protection Service, Environment Canada

CONFERENCES/CONFÉRENCES

Symposium Program (continued)

- 0830-0915: The Marine Environment- Dr. L. Mysak, Head,
Climate Research Group, Department of
Meteorology, McGill University
- 0915-1000: The Terrestrial Environment - Professor Hugh
French, University of Ottawa and President of
the International Permafrost Association
- 1000-1015: Discussion

Session 4 Impacts on the Biological Environment - Dr. A.
Martell, Pacific and Yukon Regional Director,
Canadian Wildlife and Lands Service, Environment
Canada

- 1045-1130: Marine Ecosystems - Dr. Vera Alexander,
University of Alaska
- 1130-1215: Terrestrial Ecosystems - Dr. Pat Webber,
University of Colorado
- 1215-1230: Discussion

Session 5 Economic Impacts in the Arctic of Global Change
- Dr. K. Babcock, Assistant Deputy Minister,
Geological Survey of Canada

- 1430-1500: Transportation Industry - Dr. Stephen Lonergan,
University of Victoria
- 1500-1530: Energy Industry - Dr. Ken Croasdale, Head,
Frontier and Environmental Research, Esso
Resources Canada
- 1600-1630: Settlement Planning and Operations - Dr. Peter
Oberlander, University of British Columbia
- 1630-1700: Defence - Lt. Col. Ian Cowan, National Defence
Canada
- 1700-1730: Discussion

Friday, October 27, 1989

Session 6 Social Impacts - Mr. Jim Bourque, Deputy
Minister, Renewable Resources, Government of the
Northwest Territories

0830-1230: A series of scheduled presentations on how the
people who live in the Arctic and their
governments will likely be affected by the
changes that have been discussed earlier in this
symposium. One panelist will be Mr. Bill
Klassen, Deputy Minister, Renewable Resources,
Government of the Yukon Territory. The Inuit,
Dene and Yukon Indians have been approached to
participate.

1430-1730: Workshop on Permafrost - organized by the
Geological Survey of Canada

National Association of Regulatory Utility Commissioners Idaho Public Utilities Commission *****

The 5th Bi-annual WARUC (National Association of Regulatory
Utility Commissioners) Electric R&D Seminar "Electric
Utilities in the Greenhouse" will be held at Lake Coeur
d'Alene, Idaho, September 5-6, 1989. For information,
contact Bob Smith, Idaho Public Utilities Commission,
Statehouse Mail, Boise, Idaho 83720 (Tel: (208) 334-0336).

Air & Waste Management Association (Ontario Section) *****

The Fall meeting on the Atmospheric Impacts of Waste
Management Practices will be held in Waterloo, Ontario,
September 17-19, 1989. In a multi-media environment, waste
managers must ensure practices are compatible with clean
air as well as clean water and soil. For more information,
please contact Robert Dalrymple, Waste Management Branch,
Ontario Ministry of the Environment (Tel: (416) 323-5211).

Geological Survey of Canada *****

The Canadian Continental Shelf Seabed Symposium will be
held in Dartmouth, Nova Scotia, October 2-6, 1989. The
purpose is to transfer knowledge, to develop new thrusts,
and to document current research. For more information,
please contact Dr. Carl L. Amos, Geological Survey of
Canada, Bedford Institute of Oceanography, P.O. Box 1006,
Dartmouth, Nova Scotia B2Y 4A2 (Tel: (902) 426-7739).

Federal Research Advisory Board on Forest Decline/Air Pollutants of the Federal Government and of the Lander *****

The International Congress on Forest Decline Research:
State of Knowledge and Perspectives will be held in
Friedrichshafen on Lake Constance, Federal Republic of
Germany, October 2-6, 1989. For more information, please
contact Prof. Dr. W. Klose at Kernforschungszentrum
Karlsruhe GmbH, P.O. Box 3640, D-7500 Karlsruhe 1.

Air & Waste Management Association (AWMA) *****

The International Specialty Conference on Visibility and
Fine Particles will be held at Estes Park, Colorado,
October 15-18, 1989. A book containing peer-reviewed
conference papers will be published by Air & Water
Management Association in 1990. For more information,
please contact Dr. C.V. Mathai, Arizona Public Service,
Phoenix, Arizona 85072 (Tel: (602) 371-6467).

CONFERENCES/CONFÉRENCES

L'Association pour la prévention
de la contamination atmosphérique (Québec)
Le ministère de l'Environnement du Québec
La commission de la santé
et de la sécurité du travail du Québec
Conservation et Protection, Environnement Canada

Le 4e Colloque sur les Substances toxiques aura lieu du 4 au 5 avril 1990 à Montréal (Québec). Poursuivant les objectifs du 3e Colloque, ce colloque a pour but de favoriser un échange de connaissances et d'information nouvelles. Les thèmes des quatre sessions présentées aborderont les nouveaux enjeux à l'échelle mondiale, les approches de contrôle, les analyses de risque, et NIMBY (pas dans ma cour): comment le gérer. Toutes les présentations de qualité sur les substances toxiques seront acceptées. On demande aux auteurs intéressés de soumettre un résumé (250-500 mots) avant le 3 novembre 1989 à Alain Bernier, Conservation et Protection, Environnement Canada, 1179 rue de Bleury, Montréal H3B 3H9 (Tel: (514) 283-2349).

Canadian Meteorological and Oceanographic Society (CMOS)
Intergovernmental Oceanographic Commission (IOC)
National Oceanic and Atmospheric Administration (NOAA)
Department of Fisheries and Oceans (DFO)
Seaconsult Ltd

The International Symposium on Operational Fisheries Oceanography will be held in St. John's, Newfoundland, October 23-27, 1989. The objective of this forum is to consider how, and to what extent, fishing decisions can be improved by a knowledge of the marine environment by using state-of-the-art in applications of real-time oceanography to fisheries. Operational Fisheries Oceanography has been defined as the provision of services to minimize search time by directing fleets and fishing vessels to areas of optimal availability of desired species based on a knowledge of the environment and of fish behaviour. For more information, contact Mr. L. W. Davidson, Seaconsult Limited, Suite 301, Victoria Hall, 107 Gower Street, St. John's, Newfoundland A1C 1R2 (tel: (709) 722-7023).

University of Guelph

A World Conference on "Ethical Choice in the Age of Pervasive Technology" will be held in Guelph, Ontario, October 25-29, 1989. The conference will examine the historical, contemporary and future impact of technologies on social, economic and political structures and processes. For more information, contact Dr. Henry Wiseman, University of Guelph, Guelph, Ontario (Tel: (519) 824-4120 Ext. 3535).

Air Pollution Control Association,
Quebec Section
Le ministère de l'Environnement du Québec
La commission de la santé
et de la sécurité du travail du Québec
Conservation and Protection, Environment Canada

The 4th Symposium on Toxic Substances will be held in Montreal, Quebec, April 4-5, 1990. Following on from the 3rd Symposium, this Symposium will focus on the exchange of the latest knowledge and information on toxic substances. The themes of the four sessions will focus around global emerging issues, control approaches, risk analysis, and the NIMBY syndrome: how to address it. All papers of quality on the subject of toxic substances will be accepted. Interested authors are requested to submit a summary of their text (250-500 words) before November 3, 1989, to Alain Bernier, Conservation and Protection, Environment Canada, 1170 de Bleury street, Montreal, Quebec, H3B 3H9 (Tel: (514) 283-2349).

Society of Environmental Toxicology and Chemistry (SETAC)

The 10th Annual Meeting (Transboundary Pollution: Movement and Effects) will be held in Toronto, Ontario, October 28 - November 2, 1989. One session will concentrate on the processes of chemical transport and deposition of toxic chemicals. For more information, please contact Dr. Peter Hodson, Canada Centre for Inland Waters, Box 5050, Burlington, Ontario L7R 4A6 (Tel: (416) 336-4864).

University of British Columbia
Ministry of Housing, Physical Planning
and Environment, The Hague
Committee on the Challenges of Modern Society
Royal Netherlands Meteorological Institute

The 18th NATO/CCMS International Technical Meeting on Air Pollution Modelling and its Application will be held in Vancouver, British Columbia, May 13-17, 1990. Papers will be welcomed on model assessment and policy implication, regional-scale modelling, global-scale dispersion, and new developments in dispersion modelling and theory. Each topic will be introduced by an invited keynote speaker. Software and video demonstrations are welcomed. Poster presentations only for topics on accidental releases. Titles and abstracts (150-200 words) are to be sent not later than September 30, 1989, to Han van Dop, Environment Division, World Meteorological Organization, Case Postale No.5, CH-1211, Geneva 20, Switzerland. Accepted papers and posters will be published in conference proceedings.

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CONSULTANTS' PAGES

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 Executive Director. 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.

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

David R. Hudak, Ph.D.

CMOS Accredited Consultant

Cloud Physics, Synoptic Meteorology,
Weather Modification

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ACCREDITED CONSULTANTS

Susan K. Lally

CMOS Accredited Consultant
General Meteorology, Marine Meteorology

Oceanroutes Canada Inc.
Swire House, 271 Brownlow Avenue
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
Tel: (416) 736-0521

Ian J. Miller, M.Sc.

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Marine Meteorology and Climatology, Applied Meteorology
and Climatology, Storms, Waves, Operational Meteorology

MacLaren Plansearch Limited
Suite 701, Purdy's Wharf Tower
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Halifax, Nova Scotia B3J 3N2 Canada
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Andrew H. Gillam, Ph.D.

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CBR International
Suite 101, 9865 W. Saanich Road
Sidney, British Columbia V8L 3S3 Canada
Tel: (604) 655-1944 Fax: (604) 655-7131

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^{er} 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.

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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.

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