



C.m.o.s.

NEWSLETTER

S.c.m.o.



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<u>CONTENTS</u>	<u>PAGE</u>
From the President's Desk	1
New and Sustaining Members	3
New Executive	4
Office Sharing - CAP/CMOS	7
News about Members	8
CMOS LOGO	9
Educational Opportunities	10
Books	15
Conference	17
Employment	23
CHINOOK	25

FROM THE PRESIDENT'S DESK - J. Maybank

The first meeting of the new executive took place on June 25 in Edmonton. While much of the time was devoted to effecting the transfer from old to new executive and in planning the procedure for the ensuing year, a few specific items of general interest arose. I shall mention a few of them here.

The Financial Development Committee that was recently formed by the executive had not yet become operational, due to the lack of a chairman. The names of several persons were suggested at this meeting, and subsequently, we were able to obtain the acceptance of one nominee. He is Larry Campbell, who recently retired from AES at Downsview, but who will continue to reside in Toronto. The broad purpose of this Committee is to investigate ways to broaden the Society's financial base for maintaining and, hopefully, improving on our solvency. If any member has any bright ideas for new sources of funds or novel ways for us to raise money, I am sure the Chairman of this Committee would be delighted to hear from you!



CMOS NEWSLETTER is a bi-monthly publication of the Canadian Meteorological and Oceanographic Society.

Editor:

Avard S. Mann
Atmospheric Environment Service
Argyll Centre
6325 - 103 Street
Edmonton, Alberta
T5H 5H6

At the last Council Meeting of the 1979-80 year, a few minor word changes were approved in the Terms of Reference for CMOS Prizes (as presently given in our Constitution and Bylaws booklet). These were done merely to more specifically spell out what had been accepted as the intent behind the Prize. At the same time, it was agreed to set up a Prizes and Awards Review Committee to study the whole subject in particular, whether the number of

prizes presently offered was reasonable and appropriate, especially considering the addition of oceanographers to the original CMS. If you have any suggestions or strong feelings on this topic, I would welcome learning of them. We expect to have a Chairman and full committee operational shortly.

Since that meeting, further planning has continued for next year's Congress in Saskatoon. As mentioned in the previous Newsletter, the theme for the Congress will be 'Hydrometeorology', and the Chairman of the Program Committee, Dr. Barry Goodison of AES, Downsview, informs me that he plans to interpret the theme as broadly as possible so as to interest surface and even groundwater hydrologists in the Congress. Calls for papers will be issued early in the fall. Meanwhile, a number of air pollution meteorologists within CMOS have evinced an interest in having sessions on that topic, and are being encouraged to proceed. Should enough papers on air pollution aspects be submitted that would constitute almost a secondary theme for the Congress. Emphasis on these two subject areas should not, however, be construed as implying any lack of interest in submissions on other topics. As in the past, the call for papers will make that very plain, I hope.

We are continuing to negotiate with the Canadian Association of Physicists regarding possible joint sharing of office services. They have agreed to give this a try, and we shall be discussing the matter at our Second Executive Meeting on September 4. Should it prove feasible (and affordable to CMOS!) the Society will, hopefully, have a permanent mailing address by the end of this year. This will permit any of you to write a member of the executive or council, or a committee or centre official by addressing it to this Ottawa office, from which it would be quickly forwarded to the appropriate place. By next year then, we would hope to have arrangements whereby all membership renewal notices and fee payments would be handled by this office rather than by the University of Toronto Press.

Next year's Andrew Thomson Memorial Lecture has been set for Thursday, March 12 at the University of Toronto. The speaker will be Prof. Aksel Wiin-Nielsen, Secretary-General of the World Meteorological Association. As you may be aware, CMOS has contributed towards the costs of this lecture series in the past, and will likely do so again. In return, we are endeavouring to make arrangements for the address to be published in Atmosphere-Ocean, so that it would be available to all members, and not just those fortunate (?) enough to live in Toronto.

Finally, I should remind all members that the Society now has an official archivist, Morley Thomas. If any of you

have any old files, minutes of meetings, Society correspondence, etc. that you would like to get rid of, you should send them to him. This material would be particularly valuable if it concerns Society activities when we were the Canadian Branch of the RMS (i.e. prior to 1966). If you wish to keep the old material and just send copies, that too would be perfectly alright. His complete address is:

Mr. M. K. Thomas
Atmospheric Environment Service
4905 Dufferin Street
Downsview, Ontario
M3H 5T4

NEW AND SUSTAINING MEMBERS

New Members

Ferdinand Baer
College Park, M.D.

Robert L. Haney
Monterey, Calif.

Dr. Alan Manson
Saskatoon, Sask.

Bruce F. Watson
Roseville, Minn.

Peter Scholefield
Kettleby, Ont.

Jordan Alpert
Miami, Fla.

Carolyn J. Jones
Seattle, Wash.

John Campbell
Simcoe, Ont.

Auguste Blanchais
Montreal, P.Q.

William D. Hume
St. Albert, Alberta

Godelieve DeBlonde
La Presentation, P.Q.

Robert J. Morris
Richmond, B.C.

Duncan Finlayson
St. John's, Nfld.

Vernon Plank
Mansfield, Mass.

Sustaining Members

Airflow Development Ltd.
RICHMOND HILL, Ontario

Beak Consultants
Vancouver, B.C.

Bristol Aerospace
Winnipeg, Manitoba

Hermes Electronics Ltd.
Dartmouth, N.S.

Dombrocky Seatech Ltd.
Victoria, B.C.

Nordco Ltd.
St. John's, Nfld.

Young Atmospheric Consulting
Services Ltd.
Calgary, Alberta

MacDonald Dettweiler Assoc. Ltd.
Richmond, B.C.

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OFFICE SHARING CAP/CMOS

Office Sharing Agreement Nears Friction

As we have mentioned in previous issues, negotiations have been going on between CMOS and the Canadian Association of Physicists (CAP) that would provide our Society with a permanent address and some office services (for a fee of course). The CAP presently has such facilities in Ottawa, and would be prepared to have us as a tenant.

The arrangement would be all correspondence to CMOS National or Centre Executives could be sent to that Ottawa address (our stationery letter-head would have to be reprinted with it on), from where it would be regularly forwarded to the appropriate office holder. This would apply to manuscripts for Atmosphere-Ocean and to submissions for the Newsletter as well. (No need to try and remember who or where this year's President or Editor is!) New members' application forms would also go to this address, and a bank account established in Ottawa into which their cheques would be deposited. Withdrawal and cheque-writing authority would remain with our executive, of course. Then, within the next six months, we would hope to get our entire membership list onto the CAP computer terminal (physically present in their office). That would permit them to send out the membership renewal notices each year and to deposit the fees sent in return. They would provide the CMOS Executive (and Centres) with regular membership list print-outs (likely 2 or 3 times per year) and would send, as needed, address label sets to the University of Toronto Press. The latter would continue to print A.O. and mail it out, but would no longer handle membership renewals or notices.

The decision of whether or not to engage in this venture will be made at the next Council meeting on October 16. In any case, it is likely that the arrangement would involve a trial period...initially perhaps for two years. Naturally, the service costs would have to be affordable by CMOS (currently we are paying over \$3.00 per member fee to the University of Toronto Press just to handle the renewal notices, collection and the maintenance of our membership list.

If you have any suggestions, comments, or criticisms on this proposal, please feel free to contact your Centre chairman prior to the Council meeting.

NEWS ABOUT MEMBERS

George Robertson, P.Ag., recently spent two months on a consultancy in Tanzania for the World Meteorological Organization and the United National Development Program. This consultancy was a 3-pronged mission dealing with:

- 1) a review of the requirements for, and the strengthening of, agrometeorological inputs to the FAO Crop Monitoring and Early Warning System for the Tanzanian National Food Security Program;
- 2) preparation of proposals for meteorological services and information need for planning and implementing the Regional Integrated Development Program for the impact area around the new national capital at Dodoma;
- 3) the preparation of proposals for developing and strengthening the agrometeorological capabilities of the Tanzanian Directorate of Meteorology.

The climate of Tanzania consists essentially of a dry and a set season, both of about equal length. Both rainfall and temperature vary considerably with elevation and rainfall varies greatly from year to year. In many parts of the country the wet season is just long enough to support one crop. If the rains are late in arriving or are too light, which frequently happens, then droughts occur and food shortages are inevitable. In severe cases famine is the end result. Agrometeorology plays an important role in land use planning, crop selection, adaptation of new farming techniques, and the timely monitoring of crop growth and production in connection with the National Food Security Program.

The past crop year has been unusually dry in many parts of East Africa but fortunately Tanzania escaped the severe droughts which hit parts of the surrounding countries of Mozambique, Uganada, Ethiopia, and Somalia.

CMOS/SCMO LOGO

Despite some substantial changes that have occurred within the Society over the past few years, our LOGO - the 'Snowflake', has remained the same. Perhaps this is as it should be - a symbol of stability in times of change. However, an equally valid point of view is that the LOGO should epitomize the Society as it is now, and that perhaps the Snowflake is no longer an entirely appropriate symbol. The Executive is, therefore, soliciting the thoughts of the membership on this matter. If you prefer to retain the Snowflake, please let us know. On the other hand, if you have an idea for a new LOGO design, which takes into account the bilingual and bi-disciplinary nature of the Society, we would be happy to hear about it. Please address correspondence concerning the LOGO, letters pro or con, suggestions for a new design, etc. to:

Edward Kozowski
Vice-President, CMOS
Division of Meteorology
Department of Geography
University of Alberta
Edmonton, Alberta
T6G 2H4

OCEANOGRAPHY TRAINING PROGRAM AT THE
UNIVERSITÉ DU QUÉBEC À RIMOUSKI

The Department of Oceanography at the Université du Québec à Rimouski (UQAR) offers at the present an undergraduate program in chemistry and a graduate (M.Sc.) program in oceanography. The latter is multidisciplinary and includes physical, geological, chemical and biological oceanography. There are plans to start a Ph.D. program in oceanography in the fall of 1981. The department is also responsible for a part of a graduate program (M.Sc.) in the Atmospheric Sciences in collaboration with two other campuses of Université du Québec, UQAM (Montreal) and UQAC (Chicoutimi).

Research is underway at the present time on: equilibrium and exchange phenomena of major ions at the fresh-water/salt water/sediment interfaces; biogeochemistry of the benthic boundary layer focusing on processes at the sediment-water interface; factors controlling the vertical distribution of chemical species in sediment and sediment pore water; across the sediment-water interface; animal-sediment relations and bioturbation; fatty acids and halogenated organic compounds in sediments; adsorption of Cu, Zn and Cd on clays; freezing and storage essays for the improvement of nutrient preservation; ecology and population dynamics of littoral species; planctonic population dynamics; bionomic studies of the benthic macrofauna; identification of herring

stocks by protein electrophoresis; Hurst phenomenon in oceanography; tides, currents, horizontal and vertical circulations and mixing processes in the St. Lawrence Estuary; spectral model of tides in the Gulf of St. Lawrence.

Biennial reports of the department activities include brief summaries of research projects and are available on request.

Our needs for shiptime are met in part by the Bedford Institute of Oceanography (BIO) which provides time on their own or chartered vessels, and in part by renting local vessels. Close liaison is maintained with INRS-Océanologie, GIROQ, Institute of Oceanography of the University of British Columbia and with several other university departments.

The department is housed in the Laboratoire océanologique de Rimouski which it shares with INRS-Océanologie. The facilities include cold rooms, drafting rooms and a machine shop; a "Boston Whaler" and a Zodiac rubber dingy; a Perkin Elmer NMR model R-12, a Perkin Elmer I.R. spectrophotometer model 597, a fully equipped Perkin Elmer 460 atomic absorption spectrophotometer, a Perkin Elmer 900 gas chromatograph, box and piston corers, a Guidline CSTD, a Beckman RS-5 salinometer, AMF coder, power amplifier and transducer, AMF pingers and several Aanderaa RCM4 current meters. In addition, facilities within and beyond the University are available on a time-sharing arrangement. These include a Coulter Counter model TA, a Perkin Elmer 240 elemental CHN analyser, a Perkin

Elmer spectrophotometer (Coleman 575), a Perkin Elmer fluorescence spectrophotometer MPF-44A, a U.L. pH blood gas analyser 313, a Beckman centrifuge model J-21C, a CDC cyber 171 computer (Montréal), a CDC cyber 172 computer (Québec), a HP-3000 serie 3 computer (Rimouski), and excellent library facilities.

These are some of the graduate courses presently offered by the Department of Oceanography:

Oceanography

OCE-111-73	Océanographie biologique
OCE-122-76	Océanographie chimique
OCE-131-73	Océanographie géologique
OCE-141-73	Océanographie physique
OCE-251-78	Océanographie expérimentale
OCE-312-74	Océanographie biologique avancée
OCE-362-76	Océanographie des estuaires
OCE-422-73	Océanographie chimique avancée

Sciences de l'atmosphère

SCA-7020	Processus d'échange de la couche limite
SCA-7100	Physique de l'atmosphère II (réseau)
SCA-7312	Séminaire I (réseau)
SCA-7313	Séminaire II (réseau)

For more information please contact Jean-Rock Brindle,
Directeur, Département d'Océanographie, Université du Québec à Rimouski,
310 Avenue des Ursulines, Rimouski, Québec, G5L 3A1. Tél.: (418) 724-1760.

ATMOSPHERIC SCIENCE AT THE UNIVERSITY
OF BRITISH COLUMBIA

Training and research in atmospheric science at the University of British Columbia is spread throughout a number of departments. At the undergraduate level there are a wide range of courses available. The following is a list of those whose primary focus is atmospheric (basic or applied):

Geography 212	Introduction to Climatology
214*	Forest and Agricultural Climatology
310	Atmosphere and Environment
311	Micrometeorology
312	Synoptic Meteorology
314	Regional Climatology
316	Weather Seminar
410	Climatological Analysis
411	Urban Meteorology
412	Air Pollution Meteorology
Mechanical Engineering 482	Wind Engineering
Physics 421	Introduction to Meteorology
Plant Science 431	Biological Responses to Weather
Soil Science 214*	Forest and Agricultural Climatology
414	Biometeorology

* Jointly offered

This list can be greatly added to by considering offerings in closely related fields such as heat and mass transfer, physical and dynamic oceanography, hydrology, soil physics, building science, ecology, etc.

Although there is no department of atmospheric science there is a four-year undergraduate programme in Physical Geography leading to a B.Sc. Honours (Focus Climatology/Meteorology) degree. If the student makes appropriate use of elective courses this programme can meet all of the mathematics and physics and many of the meteorology requirements specified by the Atmospheric Environment Service for prospective employees.

At the graduate level the following courses are usually offered:

Chem-Engineering 575	Air Pollution Control
Geography 525	Atmospheric Environments
560	Heat and Water Balance Climatology
Oceanography 517	Turbulence
Physics 541	Dynamic Meteorology

Plant Science 539

Responses of Plants to Air Pollutants

Soil Science 514
524

Biometeorology
Instrumentation for Biometeorology

At the present time research is underway in such fields as satellite meteorology, urban meteorology, forest meteorology, boundary layer modelling, coastal meteorology, agrometeorology, solar and wind energy studies, urban hydrometeorology, anticyclonic blocking patterns, air pollution climatology, biometeorology and atmosphere-ocean coupling.

T. R. Oke.

Oceanography at the Royal Roads Military College

Royal Roads Military College in Victoria, B.C., one of three Canadian Military Colleges which educate young men and women to the degree level in preparation for careers as officers in the Canadian Forces, offers a Bachelor of Science degree in "physics and Oceanography" at the Honours, combined Major and General levels. This unique program provides, not only basic courses in mathematics and physics, but also somewhat more specialized courses in Descriptive Oceanography, Chemical Oceanography, Biological Oceanography, Geological and Geophysical Oceanography, Aeronomy, Acoustics, Dynamic Oceanography, Applied Fluid Dynamics and Practical Oceanography.

As active interdisciplinary research program in "Coastal Marine Science" has been established with current activities in Trace Metal Analysis, Phyto- and Zooplankton Studies, Circulation Studies, Bottom Studies, Numerical Modelling, Magnetic Studies, and applied projects concerning the development of light-weight temporary anchoring systems and the production of potable water by reverse osmosis.

The College has its own teaching and research laboratories and a small research vessel. Equipment includes such items as side-scanning sonar, sub-bottom profiler, magnetometer, AA spectrophotometer, etc.

E. S. Graham
Principal



Books

New Publication

BUILDINGS, CLIMATE AND ENERGY

- T. A. Markus and E. N. Morris.

1980, 556 pp., from Pitman Publishing, Inc.,
1020 Plain Street, Marshfield, Mass., 02050

"provides a comprehensive guide to the most economical and efficient methods in designing a building for optimal thermal comfort and minimal heat loss. The authors examine the structure and fabric of buildings and their thermal services, relating them to design principles and energy economics. And the text also considers the human response to the thermal environment in terms of their performance, health, and psychological, social, and economic well being".

The book includes chapters on Climate; Heat Gains due to Solar Radiation - Steady-state and Cyclic Conditions; Intermittent Heating of a Building - Winter Conditions; Natural Sources, Heat Pumps and Heat Recovery; and Air Infiltration into Buildings by Natural Means.

A HANDBOOK TO ESTIMATE CLIMATOLOGICAL CONCENTRATION DEPOSITION AND HORIZONTAL FLUXES OF POLLUTANTS ON A REGIONAL SCALE - by L. Machta. MARC Report No. 11. London (Monitoring and Assessment Research Centre) 1979, 87 pages; numerous charts and diagrams. Price: US \$10.- or Pounds 5.-

The transport of pollutants by the atmosphere is no longer of importance only to industrial and population centres. Medium- and long-range fluxes have become a matter of extreme concern in some regions having the size of a continent. Meteorologists and physicists in governmental or commercial offices who are responsible for monitoring or managing environmental pollution have to deal more and more frequently with such problems, not only qualitatively but quantitatively as well.

This workbook will be of great use to them for a number of applications. One is assessing the average or typical concentrations, deposition rate or horizontal flux of pollutants carried over distances from 100 up to 1000 kilometres. In principle, the largest linear dimension of the source should not be more than one-tenth the distance over which the calculation is to be made. However, larger source areas can easily be treated by subdividing into smaller ones.

This is a real workbook, providing all the instructions needed to carry out arithmetical calculations step by step. Even seasonal climatological input data are supplied through a large number of charts prepared for the northern hemisphere. Mean directions and vector standard deviations of wind at the 850- and 700-hPa levels are given as well as monthly or average precipitation. No sophisticated calculations are needed since graphs to estimate values of probability functions are also provided.

This handbook should, and certainly will, receive wide distribution to those evaluating air pollution transport and transmission.

A.K.

CALL FOR PAPERS

Conference on Port and Ocean Engineering
under Arctic Conditions

The Sixth International Conference on Port and Ocean Engineering under Arctic Conditions - POAC 81 - will be held in Quebec City, Canada, during 27-31 July 1981. The POAC conference is held every second year alternating between northern countries. The original initiative for the conference was taken by the Norwegian Institute of Technology to improve the knowledge of Arctic problems, and scientists and technologists in the northern countries created a forum for discussion and the exchange of ideas about common tasks. The conference is being sponsored by the Ministère de l'Environnement, Gouvernement du Québec, Université Laval, Québec, Canada. Official conference languages are English and French.

The conference program will include the following topics and will be divided partly into parallel sessions; environmental aspects; oil spill; sea ice conditions in cold regions; icebergs; interaction between ice and shore; oceanography and meteorology; wave mechanics and statistics; marine foundations; remote surveillance and instrumentation technology in cold regions; navigation in cold regions; harbors in cold regions; coastal and offshore structures; and risk analysis. POAC is open to scientific and to scientific and technological papers on all the above topics. Authors are requested to submit a title and an abstract (two-page limit) before 15 November 1980. Notice of papers selected for presentation will be given by the end of December 1980. Final manuscripts must be in the hands of the organizers before 1 May 1981.

For detailed information about the conference, special postconference tours, registration, deadlines, fees, and abstracts and papers, contact:

Prof. Bernard Michel,
Department of Civil Engineering
Université Laval
Cité Universitaire
Québec, Canada
G1K 7P4

Tel: (418) 656-2205
Telex: 051-31-586

Notice of Meeting

Title: Offshore Environment in the 80's. A workshop on Environmental Considerations of East Coast Offshore Hydrocarbon Development.

Date: December 2-4, 1980

Place: Holiday Inn, St. John's, Newfoundland

The meeting will bring together experts to discuss:

- * oil and fish issues
- * environmental concerns
- * onshore impact offshore development

Some of the topics included on the agenda are:

- * offshore development: the state of the art world-wide;
- * physical environment offshore: weather, waves, currents, ice;
- * coastal and transportation systems: an oil producer's perspective;
- * environmental concerns other than oil pollution;
- * social-economic/cultural influences;
- * implications for the fishery;
- * behaviour of oil in the marine environment;
- * restoration of oiled marine habitats;
- * public concerns for the environment.

For information on the program and hotel accommodation enquiries should be directed to:

Mr. J. Clarke, District Director
Environmental Protection Service
P.O. Box 5037
ST. JOHN'S, Newfoundland
A1C 5V3

Technical Council on Cold Regions Engineering

The Technical Council on Cold Regions will co-sponsor a Specialty Conference entitled "The Northern Community: A Search for a Quality Environment." The Conference will be held in Seattle, Washington, April 8-10, 1981. The Specialty Conference will be of interest to practitioners in Alaska, Canada, and the Northern Tier states.

Planning, building operating a livable northern community requires a generous application of imagination. The economic and social aspects of life in cold regions demand good community configurations and reliable operation. Simplicity is of utmost importance. Preservation of the environment, aesthetics, citizen comfort and enjoyment are high on the list of requirements for the modern northern community. Concern must be given to high energy costs, logistical problems, isolation, and availability of labor. The useful range of materials and utilities expected to perform under low temperature conditions must be considered. Given the complexity of the problem the solution requires the expertise of individuals from many areas. The areas included:

Appropriate Technology	Sanitary
Architecture	Social Science
Codes and Standards	Structures
Construction	Surveying and Mapping
Energy	Transportation
Environmental	Urban Planning and Development
Geotechnical	Utilities
Ports and Harbors	Water Resources

Two to five-hundred word typewritten abstracts of papers to be submitted for the Specialty Conference should be sent no later than mid-July to:

Prof. Ted S. Vinson
Dept. of Civil Engineering
Oregon State University
Corvallis, Oregon
97331

Authors will be notified of accepted papers by mid-August, 1980. All papers accepted for the conference will be presented. Questions regarding the Call for Papers should be directed to:

Ted S. Vinson, Chairman,
Specialty Conference Program and
Publications Committee
(503) 754-2931

Announcement and Call for Papers
20th Annual Canadian Hydrographic Conference
Burlington, Ontario
April 7-9, 1981

The Canadian Hydrographic Service and the Canadian Hydrographers' Association invite all persons interested in hydrography, marine cartography, and related fields to participate in the 20th Annual Canadian Hydrographic Conference April 7-9, 1981, Holiday Inn, Burlington, Ontario, Canada.

The program will consist of contributed papers, workshop sessions, technical tours, manufacturers' displays and social events.

Authors wishing to present a paper should submit an abstract, accompanied by a short biographical note, to the Conference Chairman no later than December 15, 1980.

Contact: Conference Chairman
20th Hydrographic Conference
Canadian Hydrographic Service
P.O. Box 5050
867 Lakeshore Road
BURLINGTON, Ontario, Canada
L7R 4A6

* * * * *

Fourth Conference on Atmospheric Radiation
Toronto, Ontario, Canada
June 16-18, 1981

The American Meteorological Society will hold its Fourth Conference on Atmospheric Radiation, 16-18 June 1981 on the campus of York University in Toronto, Ontario, Canada. The conference will be co-sponsored by the Canadian Meteorological and Oceanographic Society and the scientific program will be arranged by a program committee with representatives of the AMS Committee on Radiation Energy, CMOS, and York University.

The scientific program will deal with all aspects of radiation in the atmosphere including:

- 1) Radiation Modelling - radiative transfer, atmospheric and surface properties;
- 2) Radiation Measurements - instrumentation and experiments;
- 3) Radiation Effects - energy budgets, dynamical interactions, and climate.

The above headings are intended to be all-embracing and not restrictive. Some sessions may be organized along application lines such as: satellite results, laser studies, and solar energy applications. In particular, a special session will be organized on the optical and radiation budget effects of the volcanic dust from Mt. St. Helen's eruptions. There will be no parallel sessions. Papers which cannot be accommodated in regular sessions and late papers will be considered for poster sessions. In selecting papers for regular sessions, special emphasis will be placed on those papers presenting new results or ideas. Authors are encouraged to make the new aspects of their work quite clear when preparing their abstracts. Consideration is being given to having a few invited papers.

Titles and abstracts (not more than 100 words, typed double-spaced) are required for review and Bulletin publication and must be submitted by 15 December 1980 to the Program Co-Chairman:

Dr. C. L. Mateer
Atmospheric Environment Service
4905 Dufferin Street
Downsview, Ontario, Canada
M3H 5T4

Tel: (416) 667-4782

CONFERENCES

Dartmouth, N.S.	7-9 October 1980	Fourth Conference on Hydro- meteorology
Edmonton, Alta.	20-21 October 1980 Sponsor: Canadian Soc. for Chem. Engineering & Mechanical Engineering	National Heat Transfer Symposium
St. John's, Nfld.	2-4 December 1980	Offshore Environment in the '80's
Burlington, Ont.	7-9 April 1981 Sponsor: CHA/CHS	20th Annual Canadian Hydrographic Conference
Seattle, Wash.	8-10 April 1981	The Northern Community - A Search for a Quality Env.
Albany, N.Y.	27 April-1 May 1981 Sponsor: AMS-CMOS	Conference on Long-Range Transport of Airborne Pollutants
Guelph, Ont.	28-30 April 1981	Symposium on Multi-Disciplinary Studies on Hudson-James Bay
Montreal, P.Q.	5-8 May 1981 Sponsor: CMOS-AMS	International Conference on the Aviation Weather System
Saskatoon, Sask.	27-29 May 1981	15th Annual CMOS Congress
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Reno, Nev.	6-9 October 1981	Fourth Conference on Hydro- meteorology



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July 21, 1980

Dr. Ronald Burling, President
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Dear Dr. Burling:

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Sincerely,

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Sonia Sheldon
Editor
Science and Technology

SS:ja

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