



C.M.O.S. NEWSLETTER

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PRESIDENT'S COMMENTS

The announcements in October by Mr. Andras and Mr. Marchand, that operations at Weather Station "Papa" will continue at least until March 1981, or until replacement operations are in effect, will have come as welcome news to many members. The Society's efforts surely had some contributing effect towards this end and we might well consider it as further evidence of the value of our society. We were, however only one of several groups, for example in Government Departments and in the Fisheries Industry including a powerful union, and also several individuals including politicians, who rallied to "Papa's" cause. If the recommendations presented to Cabinet early in the year (see June and October Newsletters) by the Government's own experts in A.E.S., OAS and DOT had been heeded before Mr. Andras's announcement in August to terminate "Papa" within seven months, none of the ensuing frantic action would have been necessary. It is to be hoped that the AES-OAS-DOT recommendations, which included the substance of all matters arising later in the "Save Papa Campaign" were those carrying the most weight (even if belatedly) in the final decision.

The "Papa affair" was a consequence of extreme hastiness of action at the Cabinet level. Decisions at that level have precipitated equal haste at departmental levels and one must commiserate with those on whom the onus of making hasty decisions has been thrust. Of concern to our Society are proposals for immediate cut-backs of several kinds in OAS and AES. Those for AES to the present time (early November) include proposals for termination of the Alberta oil sands environmental research project and for reductions in ice reconnaissance, in the stratospheric research programme, in instrumentation development, in professional training and in forecasting operations.

The first three cut-backs referred to concern aspects which directly relate to the oil and transportation industries and to environmental issues; at this point I do not understand their implications nor do I know whether the industries and/or other agencies will be able or willing to take over these functions should the need be sufficient. Reductions in instrumentation development and professional training seem to imply reductions in future operational efficiency in AES. Again the same questions arise, but here the universities are also involved; if they are called upon to take up some slack, where will or should additional financial support come from? However, the greatest uncertainties about potential impacts arise from the proposal to cut 'public and marine forecasts ... from four to two per day, effective 1 April, 1979', while the 'weather watch at forecast centres will be stepped up to ensure that weather warnings and amendments to the forecast are issued as soon

as the need is identified'. Two immediate questions are: how can an efficient weather watch be maintained without the operational level being appropriate to four forecasts per day?, and, if four regular forecasts are necessary now, why are only two per day sufficient next year? Clearly, doubts and questions arise because the rationale on which each proposal is based is not evident; thus neither are the implications of each proposal nor of the merits of each proposal relative to another.

My impression is that while we all undoubtedly recognize the need for re-trenchment in public spending and that whatever cut is made it will be criticized, we also need reassurance that 'optimum' cuts are made; this requires that any proposal for a cut be seen to arise from a well-considered rationale emanating from the broad field of expertise available within the government services. Clearly moderate but not excessive haste should be the goal. Then the reasons for and the possible effects of each cut could at least be considered and hopefully understood not only by those directly affected but also by all concerned with the welfare of the services and with the quality of their present and future service to the public.

EDITOR'S COMMENTS

The recent flurry of activity regarding the government reductions has been a morale sapping period for government employees and for those whose industries make use of government contracts. Motivations behind the choice of reductions have appeared to be based on a "hodge-podge" of political, economical and practical reasoning. Understandable motivations based on one primary reason would give credence to management by some basic principle however when examples appear day by day of hasty "cut-backs" then partial reprieve or reinstatement due to an ulterior motive, many anomalies occur. Examples of these are the reduction of the public forecasts by half, however the once deemed redundancy and thus the proposed closure of Gander Weather Office becomes reinstated but at full production. Ship Papa is another example, when AES meteorologists and management recommended its gradual phase out with the development of other data capturing methods, a proposed closure by April 1979 was the reply and now a reprieve.

Through all of this, CMOS has acted quickly in trying to slow down the hasty decisions which result in anomalies and fluctuations as exemplified above. Numerous letters have been written to the Prime Minister, the Cabinet Members, the Opposition and senior AES management. (some of these letters have appeared in the recent Newsletters and another appears in this issue.)

The stand CMOS is taking is that this is a difficult period when criticism should not be levelled at reduction of Government expenditures. However since budget reductions are required perhaps a slower more methodical decision process should take place due to the complexity and enormous impact government has on all the people of Canada. Dr. Burling in one of his letters to Dr. Collin (see News and Notes) reiterates the feeling that perhaps a little bit of panic has been created and this perhaps is making decisions very difficult for all levels of management.

On another matter, the Meteorological Consulting Standards in Canada, Randy Angle and his committee have prepared a report and list of questions which should be "mulled-over" by all our members (see News and Notes). As expressed in an earlier issue this Newsletter is available to you to air your views on this matter.

The past months have been active ones for CMOS and I am sure for each of its members. Since this is the last Newsletter of the year and also the December issue, I, on behalf of the CMOS Executive, hope that all of you are able to take a "breather" and have a very Merry Christmas and a Happy New Year.

LETTERS TO THE EDITOR

Deadline for letters to the editor for the February issue is January 5, 1979.

NEWS FROM YOUR NATIONAL EXECUTIVE (as of November 8, 1978)

President	Ron Burling
Vice President	John Powell
Treasurer	Peter Sagert
Recording Secretary	Tad Murty
Corresponding Secretary	Brian Sagar
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- I. Executive Meeting Number 2 of the CMOS was held September 13, 1978 in Vancouver.
1. A preliminary list of candidates for the AES/CMOS Tour Speaker was proposed.
 2. John Powell prepared a letter asking Universities and Institutions to forward a list of M.S. and Ph.D. thesis titles and authors for inclusion in the C.M.O.S. Newsletter.
 3. Discussion was held on the anomaly in the Saskatchewan Centre/Chapter relationship. This is due to the Saskatoon Chapter having more members than the parent Regina Centre.
 4. T.R. Oke Editor, Atmosphere-Ocean reported that the first publication of 1979, Volume 17, Number 1 will be the G.A.T.E. issue.
 5. Subvention grants were computed. (see News and Notes section.)
- II. Council Meeting Number 1 of the CMOS was held October 12, 1978 in Vancouver.
1. Alistair Fraser has agreed to be the Tour Speaker. The tour is to take place during January/February, 1978 over a three week period.
 2. Brian Sagar has prepared CMOS certificates for meritorious Project Awards in Science Fairs, and also for the various other prizes.
 3. Advertisements in Newsletter. We will charge \$25. per half-page for 'employment-type' advertisements, and \$45. per half-page for 'commercial-type' advertisements. For 'employment-seeking' advertisements, there will be no charge.

4. A possible budget deficit of about \$3,000.00 for the current year (to December 31, 1978) is in line with the projection early in the year taking into account the non-materialization of a Grant from OAS anticipated earlier.
5. CMOS Booklet: Burling has requested Alan McQuarrie to look into the possibility that he take over production of Meteorological aspects and Dr. G. L. Pickard the Oceanographic aspects.
6. The letter by R. P. Angle, Chairman, Review and Evaluation Committee to the Centres on Meteorological Consulting Standards in Canada was tabled. Due to relative importance of this matter and the conciseness of the letter to cover such a large topic; the letter is reprinted in its entirety in the News and Notes section.

NEWS FROM YOUR CENTRES (as of November 8, 1978)

Vancouver	President	John Knox
	Vice President	Pat Crean
	Secretary Treasurer	Vello Puss
	Program Director	Noel Boston
	Project Director	Pat Morin
	Past President	Paul LeBlond

At the September 28th meeting a new slate of executives was elected (as above). Also at the meeting the B.C. Centre video-tape "A Forecasters Day" was viewed, and a discussion of the report "Meteorological Consulting in Canada" was held.

The November 1st meeting featured the speaker Dr. Blair Fitzharris, University of Otago, New Zealand. His talk was entitled "Climatic Questions arising from Hydroelectric Developments in New Zealand.

Alberta	President	Lub Wojtiw
	Vice President	Randy Angle
	Secretary Treasurer	Av. Mann
	Past President	Bob Humphries

The first meeting of the season was held 19 October. The chairman Lub Wojtiw introduced the new executive and Dr. J.M. Powell noted news items from the National Committee. The guest speaker was Mr. Geoff Strong who presented an interesting review of techniques he has developed and adapted for forecasting hail occurrence and hail size on an operational basis for the Alberta Hail Project.

The next meeting is scheduled for 16 November and will feature a panel discussion on Meteorological Consulting Standards in Canada.

Regina	President	Don Bernachi
	Secretary Treasurer	Clarence Spelchak

No report received.

Winnipeg	President	Jay Anderson
	Vice President	George Moody
	Secretary Treasurer	Pat Murray
	Past President	Doris Siemieniuk

No report received.

Toronto	President	Mike Hewson
	Treasurer	Dave Phillips
	Secretary	Fred Conway
	Pro. Director	Oscar Koren
	Past President	Nancy Waller

An executive meeting was held October 17th. Plans to bring in a speaker from outside Canada were discussed.

At the October 18 meeting, M. Newark from the Ontario Weather Centre spoke on Tornadoes, Water Spouts and Funnel Clouds in Canada.

The next meeting is scheduled for November 15. At this meeting the speaker will be Dave Devawl, TV Weatherman CFTO-TV Channel 9. His talk will be entitled "TV Weatherman - a link between AES and the Public".

Ottawa	President	Neil Campbell
	Vice President	E.J.A. Hamilton
	Secretary Treasurer	R.B. Saunders
	Past President	Don Boyd

At the October 26th meeting, Dr. J. B. Harrington, from the Forest Fire Research Institute, DOE, gave a talk entitled "International Forest Meteorology". Approximately 20 people were in attendance.

The scheduled meeting for November 11 will feature Mr. Glen Yungblutt from the Resource Management and Conservation Branch, DEMR. His talk will be "The Weather and Offshore Drilling".

Montreal	President	Hubert Allard
	Secretary	Gilles Desantels
	Treasurer	Jean-Guy Cantin
	Past President	Conrad East

No report received.

Quebec	President	Ghislain Jacques
	Vice President	Jean Pierre Fortin
	Secretary	Guy Bergeron
	Treasurer	Gaetan Soucy
	Past President	Gaston Paulin

The October 20th meeting was held at the Salle du Conseil Hotel de Ville de Ste-Foy. Approximately 30 people took in the talk "Qui n'a pas Vu les Pays-Bas n'a pas Vu L'Europe" by Dr. Camille Rousseau.

At the scheduled November 15 meeting Dr. Rene Verreault will present a talk on "Nouveaux Capteurs pour Stations Meteorologiques Nordiques". A description of new instrumentation developed at the Universite du Quebec in Chicoutimi.

Halifax President
 Secretary
 Treasurer
 Past President

Stu Smith
Jean Thieboux
Ed Guimond
Rod Shaw

No report received.

NEWS AND NOTES

Re: AES decisions on cut-backs

Ron Burling's
October 25th letter to Dr. A.E. Collin
Assistant Deputy Minister
A.E.S.

Dear Art;

The enclosed letter from Council of CMOS is intended as ammunition for your use, and not as criticism aimed at you.

We recognize indeed, the necessity for retrenchment in public spending and that whatever cut is made it will be criticized. However, we see the need for assurance that 'optimum' cuts are made. We believe that each proposed cutback could evidently and conspicuously be seen to arise from a well considered rationale emanating from the broad field of expertise within the service. Then the reasons for and probable effects of each cut would be perceived throughout the professional field and a more uniform appreciation and viewpoint would be possible.

Certainly the greatest discomfort about the present proposals arises from the extreme haste which has precipitated them and to which all Departments have been forced. It is clear that less detriment to the public interest would be achieved if the haste were only moderate. Is there any chance of persuading the highest ministerial levels to that end?

CONGRESS NOTES

Preparation for the 13th Congress in Victoria, May 30 to June 1, 1979 has been underway since October, 1977 and has proceeded smoothly.

The 13th Congress will have a few new wrinkles. As in past years the Congress has a theme - 'Dynamic Similarities of Oceans and Atmospheres' - to which as many as one third of the sessions will be devoted. Each day will be started with a theme session addressed by one of the three invited speakers. The invited papers will be presented by Francis Bretherton, Director of the National Centre for Atmospheric Research; Chris Garrett, Department of Oceanography, Dalhousie University; and Reid Bryson, Institute for Environmental Studies, University of Wisconsin. There will be two modes of presentation for contributed papers. As in past Congresses some paper will be delivered in 15 minute oral presentations in one of two or three concurrent sessions. The other papers will be presented in poster sessions. For the poster sessions each author will be provided with a 4' x 8' bulletin board on which a summary of the paper can be posted along with sample results, details of procedures or other material pertinent to the topic. During the period set aside for the poster sessions delegates will

be able to wander amongst the posters and engage in informal discussions with the authors. Papers accepted for the poster sessions will have the same status as those accepted for oral presentations. The abstracts of all the papers will be printed in the Congress edition of ATMOSPHERE-OCEAN. The organizing committee is also trying to mount a commercial display of meteorological and oceanographic instruments and services.

In addition to the Congress, three other meetings of interest will be occurring at approximately the same time at the University of Victoria. The Canadian Association of Geographers are holding their annual conference May 28 to May 31; the local chapter of the Chemical Institute of Canada is sponsoring a symposium entitled 'Marine Chemistry into the 80's' from May 31 to June 1; and the Institute of Ocean Sciences has organized an international workshop on fjords for the week following the Congress.

When submitting papers authors are requested to include the title of the proposed paper, author's name, affiliation, address and phone, and a definitive abstract of less than 300 words. Authors are asked to indicate the desired mode of presentation - regular session or poster session - and if they would be prepared to present their paper in a poster session if requested to do so by the organizing committee.

Accommodations will be available in University residences or in the hotels downtown (10 to 15 minutes away by car). It is probably not too early to mention that Victoria is on an island with transportation services of finite capacity and is invaded by tourists each summer, not to mention the 1,000 or so delegates who will be attending conferences at the University during the last week of May. As such you would be well advised to make your travel arrangements now. Registration forms and further information will be available in January.

MEMBERSHIP OF NOMINATING, AWARDS AND CITATION COMMITTEES

Nominating Committee:

D. Leahy, (Chair-person),
R. Longley,
D. J. Bauer,
G. McKay,
C.J.R. Garrett and
R.B. Sagar (representing the Executive).

Awards Committee:

H. Fraser, (Chair-person),
A. Robert,
P. LeBlond,
A. Reinelt and
T.S. Murty (representing the Executive).

Citations Committee:

K. Denman, (Chair-person),
Nancy Waller,
Gaston Paulin,
H. Sandstrom, and
P. Sagert (representing the Executive).

SUBVENTIONS FOR CENTRES

Following the same formula outlined in the December, 1977 Newsletter, and using a Membership List for July, the following Table lists Subventions for each Centre.

Column 3 shows the subventions when one projects a possible slight increase in Membership. For comparison, last year's subventions are listed in Column 4.

Centre	Membership July/78	Subvention for adjusted Membership (dollars)	Last year's Subvention (dollars)
B. C.	88	336.00	306.00
Alberta	69	307.50	304.00
Saskatchewan	15	163.00	212.00
Winnipeg	41	262.50	255.00
Toronto	205	431.25	419.25
Ottawa	60	285.00	277.50
Montreal	84	331.50	348.75
Quebec	22	205.00	156.00
Halifax	79	325.50	309.00
TOTAL:	663	\$2,647.25	\$2,587.50

It was decided that the subventions will be rounded to the nearest dollar and cheques will be mailed around 20 September.

The question of reducing subventions to Centres that have accumulated large reserves but have no obvious plans for their use in Centre projects will be discussed at the next Council Meeting.

METEOROLOGICAL CONSULTING STANDARDS IN CANADA

REVIEW AND EVALUATION COMMITTEE'S LETTER TO THE CENTRES

Executive Summary

In our task we have had in mind three very basic questions, (1) should the meteorological profession as whole be concerned about the meteorological consulting profession in particular? (2) should the meteorological profession be concerned about the standard of the products in the meteorological consulting field? (3) should the meteorological profession, through the CMOS, be doing something about it?

For a status-quo answer to these questions the Committee sent out a questionnaire to CMOS members early in the study. The response was good and the essence of the replies was a "Yes" to all three questions. The purpose of this report is then to provide an in-depth examination of the problem and the position from a more complete information base.

Meteorology is not a service like the others. Its history is different. Like other services from other disciplines, engineering, chemistry and so on, it developed as the need for cost-effective answers to support the economy emerged. Unlike the others the cost was too high for the private sector because of the expensive data-base needed. Unlike the others it has grown more heavily as a government service, mainly in response to the demands of aviation and wars in the middle of this century. Being a monopoly the question of standards was more easily dealt with and fortunately, in the case of Canada, was dealt with using the highest tenets of professionalism.

Other physical sciences have long ago become integrated into the planning development and operational phases in the economy. The life sciences and environmental sciences, including meteorology, are rapidly following suit because of social and legal pressures. Consultants are an essential part of these information processes. Meteorological consulting began first in the leading developed countries, particularly the United States, over thirty years ago. It is their well established but even now has yet to reach its full development as a profession although the momentum is there. In Canada the active field is small, although larger than most people realize. As a result the necessary decisions based on meteorology are often made by people with little knowledge of the field: business men, engineers, technicians, chemists, biologists, and this leads to a worry over standards and possible reflections on the profession as a whole.

A rough estimate of the current potential annual dollar value of the Canadian field at the moment is \$23,000,000, and growing faster than the economy. In the United States the growth was slow for a time but accelerating steadily till now it has strong momentum. With some 77 firms advertising in the Bulletin of the AMS the field is certainly substantial. Some of those firms employ more meteorologists on their own staff than Canada has in the entire field of consulting meteorology. The existence, importance and knowledge the field has impacted on the courts and regulatory agencies to the point where evidence of AMS certification is more and more being demanded of practitioners.

In Canada too, while government monopoly and a past willingness to use government services in support of private goals has slowed the growth of the private meteorological consulting field, the mood is changing. The federal government is retrenching in the services it will supply. It aims at "core services" and contracting out where feasible and encouragement of development of this service area in the private sector. This is in line with the policy of "proponent pays". Conflict of interest due to the growing government role of licencer and reviewer has also forced its withdrawal from some service areas while at the same time placing additional demand for a high degree of professional meteorological skill on project proponents. Following the US lead our courts and legal professions also may soon be demanding accredited professionals. One worries about the ability of the Canadian meteorological consulting field to meet these expanding pressures. Who does it if they can't? Would it be professional foreigners or unqualified Canadians? What would this do to the standards of meteorological consulting in Canada? Can we wait to find out?

Professional meteorologists in Canada have not been used to thinking about standards. Heretofore, it has not been necessary. The government employed the meteorologists. The government did the hiring. To a considerable extent the government was involved in the education and training of meteorologists. The standards of education and of professional deportment were implicitly set by the federal government. More and more meteorologists are being employed by

provincial governments, more and more by industry and as we have seen, more and more in consulting. While these new populations have been formed from ex-federal employees the old standards remained. The withdrawal of the federal government from its monopolistic role means the loss of uniform standards and no body has control of them, a situation which cannot but become more chaotic to the detriment of meteorological consulting in Canada as well as the profession as a whole.

We are proposing that the CMOS take action in three areas, (1) provide definitions of the professional fields and practitioners, (2) ensure accreditation of consultants, meteorologists who provide professional services to any sector of the public, (3) ensure that major areas of Canadian society are aware of these programs. These basic approaches inspired our first three recommendations, and from these we deduced a long series of more specific programs and recommendations in order to outline the line of attack which we see as appropriate for the Society at this time. We trust that the membership perceives, as the committee does, the need for formalizing consulting standards and agrees with the solutions proposed.

CONDENSATION OF RECOMMENDATIONS

GROUP I - Professional Standards

That the CMOS accept as official the following definitions:

METEOROLOGICAL CONSULTING FIELD - The Meteorological Consulting Field consists of the practical use of meteorological science in providing information pertinent to the specific decision-making process of a client.

PROFESSIONAL METEOROLOGIST - A Professional Meteorologist is a person who is qualified to provide meteorological services by virtue of experience and who has achieved the equivalent of a university degree majoring in meteorology as a physical and mathematical science.

CONSULTING METEOROLOGIST - A Consulting Meteorologist is a Professional Meteorologist capable of providing services in the Meteorological Consulting Field. These services may take many forms including total project control and responsibility for the quality of the advice provided, project management, or professional staff within the project.

PARAMETEOROLOGICAL CONSULTANT - A Parameteorological Consultant is a professional with a primary discipline other than meteorology, with meteorology as a secondary discipline, and who is employed in the provision of services in the meteorological consulting field.

That the CMOS establish a procedure for the accreditation of the practitioners and provide copyrighted symbolic titles for those so accredited.

GROUP II - Ethics

That the CMOS adopt a Code of Ethics: (a) to uphold the dignity, honor and credibility of the meteorological profession (b) to protect the public interest (c) to strive for continuing improvements in the benefits to society from the science of meteorology.

GROUP III - Motivational

That accreditation be made meaningful to consulting firms, to employers and potential employers of meteorological practitioners, to licensing agencies, to reviewers and to potential clients by means of information packages and continuing contact.

That the CMOS encourage Canadian Universities to review their course structure in the light of private sector growth.

That the CMOS request AES to accredit its own consulting staff and to ensure that all federal agencies use accredited practitioners.

GROUP IV - Administration

That the CMOS study the available options for implementation and financing.

That the institutions for consideration in the order of choice are: (1) the CMOS (2) a wholly-owned subsidiary of the CMOS (3) a new meteorological professional organization.

That an Accreditation Board be established to develop certification standards and procedures.

That a committee on Professionalism be established to develop a Code of Ethics.

SOME QUESTIONS FOR DISCUSSION

Professional Standards - Are formal standards necessary? What would they achieve? Who would they help?

What qualifications should a consulting meteorologist have? (The U.S. program looks for knowledge, character and experience.)

Will standards result in the exclusion of the quasi or self-appointed meteorological consultant?

Are you personally aware of any poorly qualified meteorological consultant? Would the proposed standards alter his operation in any way?

What will official definitions achieve?

In engineering the designation "professional" is necessary to distinguish between the university trained engineer and various trades such as steam engineer, operating engineer etc. - is there similar confusion in the field of meteorology?

Does the prefix "para" have a negative connotation?

Is there a need for definitions of technologists who operate instruments or assist in data analysis?

How many different types of meteorologists ought to be recognized? Is a specialist in cloud physics competent to consult on climatic change? How can formal standards address the wide range of specializations that exist in the field of meteorology?

Is not university graduation a sufficient standard by itself?

Is the trend toward better or poorer meteorological consulting? How would the existence of formal standards affect this trend?

Is the meteorological consulting business sufficiently large to warrant a formal standards program? (Only 6% of CMOS members responding to the questionnaire were employed in the private sector.)

What are other sciences (e.g. biology, geology, pedology) doing about formal standards for consultants?

Is a U.S. style certification program appropriate to the Canadian situation?

ETHICS

What would a Code of Ethics accomplish?

Should it apply to all meteorologists or just to consultants?

Should it be enforceable in some manner or left as simply a guide?

What, generally speaking, should be embodied in such a Code?

MOTIVATIONAL

Are university courses and programs adequate for meteorological practitioners? How would courses and programs be modified to improve their relevance to the private sector?

Should government meteorologists be certified? Should certification be mandatory for advancement? Should university instructors be certified?

ADMINISTRATION

Who should actually set the standards?

If an "Accreditation Board" were to be established, how should its members be selected?

Is it fair for government and university meteorologists to set the standards for consultants? Would not a true "peer group" consist only of consultants?

On what basis should standards be developed? - Education? Character? Experience? Managerial Skill? Some combination of foregoing? Others? Should the standards be stated in specific measureable terms (e.g. M. Sc. + 3 years experience + 3 character references) or left general (e.g. comprehensive knowledge + suitable experience + demonstrated integrity) with the attainment judged by the Board?

Should fees be charged? How Much? Should there be written and oral examinations?

How much time and money would you personally be willing to invest for certifications? For how long should certification be valid?

What disciplinary action should take place in the event of failure to maintain the standards?

Is it necessary to have some legal backing or should the program operate solely on peer group pressure?

What cost is reasonable for the operation of such a program?

What are the advantages and disadvantages of a Certification Program like the American Meteorological Society has? Is it desirable to copy the U.S. program?

What alternative implementations are there?

Would an operation like the Better Business Bureau accomplish just as much?

Would an organization patterned after the Canadian Standards Association be more effective?

Would legal contracts, such as those used by various Departments of Consumer Affairs, be appropriate for maintaining the standard of meteorological consulting?

REPORT ON CLIMATIC INFORMATION AND DECISION MAKING SEMINAR BY JOHN M. POWELL

This one day seminar was held in Ottawa on September 22 hosted by the Ministry of State for Science and Technology (MOSST) and the Atmospheric Environment Service (AES) of Fisheries and Environment Canada (DFE). The specific objectives of the seminar were to inform managers of the services available from the AES and to provide the AES with the information necessary to make their services more responsible to client needs, thereby making possible better management of weather sensitive activities. The attendees consisted of 65 invited participants from federal and provincial governments, industry and private groups; 12 organizers and speakers; and 21 resource working group leaders largely from AES.

After introductions, including one by Dr. A.E. Collin, Assistant Deputy Minister, AES, the lead off presentation was given by Dr. F.K. Hare, Director, Institute of Environmental Studies, University of Toronto who outlined the World Climate Program (WCP). The program arose in the wake of the 1972 climate anomalies which brought about worldwide economic effects. The World Meteorological Organization (WMO), as the designated lead agency in consultation with the International Council of Scientific Unions and other specialized UN groups are sponsoring a WCP meeting in Geneva in February 1979 with 130 invitees, only 30 of whom are atmospheric scientists. Canada will be well represented in this group. The WCP to date have identified three main areas of responsibility, 1) Examination of the climate data available and the uses of this data, 2) Measurement of the climate impact on society, 3) Research in the climatic system. Dr. B.W. Boville, Director, Canadian Climate Program (CCP), AES, then outlined how the AES has been set up to tackle Canada's input into the WCP. The AES input to the CCP includes 6 divisions with a total of 115 man years. The question now facing the CCP is how to get the user community geared up to provide their input and this seminar was an attempt to initiate discussion in this area. In the next presentation Mr. G.A. McKay, Director, Climatological Applications, AES, spoke on "Canadian Problems and Capabilities", giving examples of climatic anomalies that have occurred in Canada and elsewhere in the world and their socioeconomic effects. The final presentation was given by Mr. J.D. Collinson, Assistant Deputy Minister, Western Region, Department of Regional Economic Expansion, who gave a case history of the 1976-77

drought on the prairies and how the governments involved organized to reduce the socioeconomic effects of the drought.

For the afternoon session the participants selected one of three working groups:

- A. Planning for Capital Investment. Chairman: Dr. F. Roots, Science Advisor, DFE
- B. Renewable Resources. Chairman: Mr. J.P. Bruce, Assistant Deputy Minister, Environmental Management Service, DFE
- C. Socio-Economic: National and International. Co-Chairman: Dr. F.K. Hare, Director, Inst. of Environmental Studies, University of Toronto, and Dr. K. Beltzner, National Sciences and Engineering Council

These groups obviously each covered a wide range of topics and concerns, and as there is to be a seminar proceedings I will not try and give the highlights of each working group's discussion. However, I will mention two information items. The probable thrust areas for the CCP were identified as a) effect of the CO₂ cycle, b) droughts and floods, c) 'cold climate' anomalies, and d) snow and ice problems. A weekly bulletin of climatic events and anomalies has been developed within AES Downsview and hopefully a regular climatic monitoring bulletin along these lines will shortly be available for distribution.

Mr. McKay in summing up the meeting stressed that the objective had been to provide an avenue for two-way communication, and to identify the needs of a large cross section of users. The CCP Climate Advisory Committee will not endeavour to identify and involve the users of climatic information in the government, university and private sector in an ongoing dialogue, possibly through some regional meetings.

REPORT BY J.P. BRUCE ON THE AMS COUNCIL MEETING

I attended my first meeting as a Councilor of the American Meteorological Society in Boston, September 28-29. A few items may be of particular interest to AES and to the Canadian Meteorological and Oceanographic Society.

Fellows

Ten fellows were elected, including Barney Boville. Dr. Boville should be proud of his excellent reputation, since over 100 nominees had been made for "fellows" and he was one of 10 who was sustained through several screenings.

New Journal on Climate?

The Commission on publications is considering a suggestion for a new AMS journal on climate and climatic change, in part because the existing AMS journals are growing in size very rapidly. The Commission will be seeking views of the AMS Scientific Committee on Climate (Gord McKay is a member) on need and scope. This will be reviewed again at the next AMS Council meeting, and I'd welcome views of AES.

LRTAP

In discussions with Dr. Earl Droessler, Chairman of the Commission on Scientific and Technical Activities, and informally with other Council members, AMS would

be very interested in sponsoring a conference or workshop 1 to 2 years from now, on continental transport of air pollutants and effects on water, forest, soils, etc. I promised to explore with the Canadian Meteorological and Oceanographic Society whether a joint meeting would be welcome, and write back to Dr. Droessler.

Annual Meeting

The 59th annual meeting of AMS will be held in Reno, Nevada, January 15-18, 1979, with the next meeting of the Council preceding on Sunday, January 14. Special technical sessions at the meeting are planned on: (a) National (U.S.) Policy Issues in Atmospheric and Hydrospheric Sciences; (b) Management of Weather Resources; (c) Expectations of a National (U.S.) Climate Program; (d) Aerobiology (study of launching, aerial travel and deposition of biological particles - e.g. insects, bacteria, etc.), as well as "Scientific Review" papers by leading authorities on a number of topics including "Climate and Energy", "Forest Meteorology" and "Flash Floods". A simultaneous technical conference on turbulence and air pollution will also be held.

Ocean Station "Papa"

As the only Canadian at the Council meeting, I was asked informally by several U.S. members to explain the reasons for the planned closing of the weather station "Papa". I explained the magnitude of and problems imposed by the budget cut and was able to say, because of earlier discussions with George Cressman, Director of U.S. National Weather Service (and President of AMS) that the matter had been discussed thoroughly with U.S. officials.

ADDITIONS TO THE CMOS DICTIONARY OF TERMS

In the last issue of the Newsletter I reported the Montreal Gazette's definitions of terms commonly used by weather forecasters. Below are listed some more meteorological definitions as given in L.L. Levinson's (1967) Webster's Unafraid Dictionary, Collier Books, New York. Beware oceanographers, your turn comes next!

Air - A nutritious substance supplied by a bountiful Providence for the fattening of the poor. Ambrose Bierce

Barometer - An ingenious instrument which indicates what kind of weather we are having. Ambrose Bierce

Climate - Something caused by the emotion of the earth around the sun.
- Permanent weather Anon. Jr.

Dew - Air that looks wet

Fog - Rain that is barely mist

Hail - The abode of integrationists, some damyankees and other evil spirits. Charlestonese

Heat - One of the more useful by-products of fire.
Anon. Jr. (Art Linkletter Dept.)

Ice - One of the most useful by-products of cold. Anon Jr.

Light - Something which travels at incredible speed until it enters the brain. Anon.

Lightening - Free electricity

- Rain - Huddled and snuggled vapor. Anon. Jr. (Art Linkletter Dept.)
- What raineth on the just
And also on the unjust fella;
But chiefly on the just, because
The unjust steals the just's umbrella. Charles Bowen
- Sky - A wall-to-wall ceiling. Anon. Jr.
- Sleet - Rain or snow that cannot make up its mind which. Anon. Jr.
- Slush - Snow with all the fun melted out Art Linkletter
- Summer Rain - Rather like catsup out of a bottle; you're becoming exasperated because you don't get any, then suddenly you get too much. Brook Bell
- Sun - It is all the sunshine that makes a desert. Arabian Proverb
- A very slow-burning hydrogen bomb. Dr. Herbert Friedman
- Thunder - The noise that air makes when lightning jumps through it. So would anybody.
- Thunder does all the barking but it's lightning that bites Anon. Jr.
- Weather - Today's climate.
- Weather Forecaster - Someone with whom the weather doesn't always agree. Illinois Educational Press Bulletin

P.S. Would any members who know of definitions or of sources of information which would add to the CMOS Unabashed Dictionary of Meteorological and Oceanographic terms please send correspondence to:

Simon M. Kevan
Department of Sociology, Anthropology
and Geography
John Abbott College
Box 2000
Ste. Anne de Bellevue
Quebec H9X 3L9

I would also appreciate references to or copies of any cartoons which pertain to meteorologists or oceanographers.

FOLLOWING A PILOT BALLOON THROUGH A THEODOLITE BY NORMAN THYER

Did you ever go through the experience of learning to follow a pilot balloon through a theodolite? There it was, a few seconds after launch, bobbing around in the boundary-layer turbulence. You'd try to line up the sights on it, and when you looked through the telescope, it wasn't there. Try again. Got it in the telescope at last! ... it's gone again! Two minutes gone already. I can still see it with the naked eye. Got it in the telescope again. Turbulence isn't so bad now - I can keep it there. Coming up to minute no. 3. Get it in the cross-hairs quick! Now to read the scales. Quick! Is it still in the telescope? No. ...! Write down the angles anyway. ...! - I've forgotten what the azimuth was. Now where's the balloon? Can't see it anywhere. I'm

sure it's somewhere in that direction. Keep looking.

But no luck. You got just half a reading on that run. So you tried again - and again. By the time you had made a dozen attempts, your greatest achievement might have been a run with two good readings, and every time the balloon would be lost forever after five minutes. You were about to despair of ever becoming a competent observer - and then, suddenly, you got the knack of it, and in no time you found yourself rapidly becoming an expert, and getting a good reading every minute for twenty minutes or longer.

Considering the initial frustrations, it is amazing how proficient one can soon become. In one project on which I was once working, two observers were following a no-lift balloon, launched from a ridge where there was a strong updraught, with two separate theodolites. After synchronizing their observations at launch, each one worked alone and independently, reading the scales and writing down the angles on a pad without the aid of devices such as telephones or tape recorders, and for several minutes they managed to make one observation every 15 seconds. Analysis of the results showed their readings to be in good agreement.

I am wondering what the record might be for frequency or unaided pilot-balloon observations. If any reader knows of a case where a higher rate of observation has been achieved, I should be interested to hear of it. Maybe Mr. Guinness would too!

DIRECTORY FOR SCOR

The Scientific Committee on Oceanic Research (SCOR) Working Group 56, Equatorial Upwelling Processes, is assembling a directory of scientists and engineers interested in the physical and biological processes of upwelling occurring within the upper ocean in the region between 15°N and 15°S. If your interests are primarily related to biological aspects of equatorial upwelling, please send your name, affiliation and address to Dr. Richard T. Barber, Chairman SCOR WG 56 Biological Panel, Duke University Marine Laboratory, Beaufort, North Carolina 28516, U.S.A. If your interests are primarily related to the physical aspects of equatorial upwelling, please send your name to Dr. David Halpern, Chairman SCOR WG 56 Physical Panel, NOAA Pacific Marine Environmental Laboratory, 3711 - 15th Avenue N.E., Seattle, Washington 98105, U.S.A.

OUR NEW MEMBERS

Gary C. McNally	Toronto, Ontario
James D. Abraham	Greenwood, N. S.
William J. Emery	Vancouver, B. C.
William Hsieh	Vancouver, B. C.
Jacques Dionne	Rimouski, Quebec
Charles Coombes	Calgary, Alberta
Michele Cote	Montreal, Quebec
Viateur Turcotte	Quebec, Quebec
Rene Servrancky	Roxboro, Quebec
Patrick B. Crean	Vancouver, B. C.

ANNOUNCEMENTS

Call for Papers - CMOS Congress 1979

The Thirteenth Annual Congress and Annual General Meeting of the Canadian Meteorological and Oceanographic Society will be held at the University of Victoria, May 30 to June 1, 1979. The theme sessions will be entitled "Dynamic Similarities of Oceans and Atmospheres" and will consist of invited and contributed papers. Subsequent sessions will deal with contributed papers on meteorology and oceanography, including sessions of common interest according to the papers submitted.

Poster sessions may be held depending upon response. Please indicate if you are willing to present your paper in a poster session when submitting your abstract.

Titles and definitive abstracts (less than 300 words) should reach the program committee by February 1, 1979. Abstracts should be sent to:

Dr. Richard C. Bennett
Resource Analysis Branch
Ministry of the Environment
Parliament Buildings
Victoria, B. C. V8V 1X4

INTERNATIONAL ASSOCIATION OF METEOROLOGY AND ATMOSPHERIC PHYSICS OF THE
INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS

Preliminary announcement for 17th General Assembly IUGG, Canberra, Australia, December 3 - 8, 1979.

Relevant sessions to CMOS members are:

- Medium and Extended Range Numerical Weather Prediction
- Role of Atmospheric Electricity in Solar-Weather Relationships
- Progress in Antarctic Meteorology
- Climate Commission
- Atmospheric Composition and Climate
- Stratosphere and Mesosphere Topics
- Radiation Processes

NOMINATIONS FOR CMOS AWARDS AND CITATIONS

All members and centres are asked to aid the hard-working members of the Awards Committee and of the Citations Committee by submitting nominations!. Names submitted for the President's Prize, the Prize in Applied Meteorology, the Graduate Students Prize and the Rube Hornstein Prize in Operational Meteorology will be welcomed by Dr. Brian Sagar, corresponding secretary of CMOS, Department of Geography, Simon Fraser University, Burnaby, B. C. V5A 1S6.

Nominations of individuals and groups who have made outstanding contributions towards the alleviation of pollution or to the development of an environmental ethic will also be gladly received by Dr. Brian Sagar.

EMPLOYMENT OPPORTUNITIES COMMERCIAL ADVERTISEMENTS

The CMOS Newsletter makes available space for two types of advertisements, these are employment opportunity advertisements and commercial advertisements. For details about rates and advertisement preparation contact the Editor of CMOS Newsletter.



CANADIAN
METEOROLOGICAL AND OCEANOGRAPHIC
SOCIETY

LA SOCIÉTÉ CANADIENNE
DE
MÉTÉOROLOGIE ET D'OCÉANOGRAPHIE

XIII CONGRESS

CONGRÈS XIII

University of Victoria - Victoria, B.C.

May 30 to June 1, 1979

**THEME: Dynamic Similarities of
Oceans and Atmospheres**

For Information :

Dr. Richard Bennett, Chairman, Organizing Committee

Resource Analysis Branch, Ministry of the Environment, Parliament Buildings, Victoria, B.C., V8V 1X4

(604) 387-5281