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PRESIDENT'S COMMENTS

Before following up on issues raised in previous Newsletters I wish to note briefly the philosophy underlying the approach of Council and its Committees to these issues. All actions are, of course, founded on the Society's existence for the advancement of meteorology and oceanography in Canada. Fundamental to this aim is an understanding not only of progress in the science and operations of the two disciplines but also of the rationale underlying changes in the structure and approach of groups in governments, universities and industries involved in these fields. A detailed understanding of all matters can never be achieved by one individual or small group. Nevertheless an optimum broad view of all matters of topical concern could be achieved by a small group such as Council, but only if there is feedback from the entire membership of the Society in order to tap views emanating from the broad range of background and expertise of individual members. The range of representation of regional interests and of experience throughout Council and its Committees (less than 10% of the membership) works only to a limited extent toward providing interaction and feedback across the membership. Newsletter is the primary means by which we are attempting to reach all members of the Society, both to spread information and hopefully to tap all sources of potential feedback. The size of the present issue perhaps reflects partial success in this endeavour (but also some difficulties, mainly of cost and of amount of editorial work).

A second recent approach to reaching deeper understanding is illustrated by the comments by John Knox on the 'AES Proposal to reduce frequency of issue of public forecasts in Canada from four to two per day', and the excellent and valuable response from Don Smith of AES Headquarters. These are both reproduced in this Newsletter. John's commentary is not a CMOS position but a statement. This is followed by a recommendation which reflects CMOS concern. One opinion discussed informally by members of Council is that, whenever financial considerations allow, any cutback in a particular operation is best made when an alternative system is proven and in operation. We are fully aware also that whatever the cut, it is made in the light of much information and expert consideration. But herein lies the rub. The information is scattered throughout various documents and the considerations reside largely within committees. The Society's membership at large is privy to neither of these at short notice, and certainly not in time for CMOS to react otherwise than by expressing concern whenever it seems appropriate; but herein lies the value of Don's letter. While not attempting to discuss each detail of the letter (which was received only two days ago), my immediate reaction is that now we have the information needed for us to find ways to help AES to implement an alternative system. For example, can we help, in informing the public about the existence of Weatheradio Canada (we know of only one privately owned receiver in Vancouver), in persuading a Canadian manufacturer to produce a receiver at a reasonable cost (presently about $50.00), in persuading radio retail outlets to stock them (none do in Vancouver), in influencing the cablevision companies to upgrade their presentation (on the local

cable the forecast is one line usually available only between about midnight and 10 A.M.), and in identifying all potential "multiplying points" and advising them about the existence and use of the new facilities. These matters are on the agenda for the next meeting of the Executive (on March 21).

Following the plan noted in the Comments in February's Newsletter, John Knox and I spent several days at AES Headquarters and in Ottawa. Very informative discussions were held with over a dozen AES members and with Dr. Collin and Mr. Seaborne who is Deputy Minister of Environment Services. Our general interpretation of the situation regarding cutbacks in AES is as follows: While it is clear that cuts in government spending are necessary we believe that the share imposed on AES is disproportionate. The rationale behind this opinion has several aspects. First and foremost, it is clear that Cabinet does not appreciate the special nature of AES, firstly as part of the fabric of the daily life of all Canadians, secondly that the service exists to provide weather information for the safety, economy and convenience of the people of Canada, and finally, leaving aside benefits of safety and convenience for which thers is an inestimable value, that weather services have an unparalleled ongoing benefit-to-cost ratio to national economies. The latter point is well illustrated in a WWW Planning Report (No. 27) presented to WMO in 1968 from which the overall benefit-to-cost ratio of meteorological services in six major nations can be identified as greater than 20:1, and several times this for several weather sensitive industries. Had Cabinet recognized these things, then, we believe, two-thirds of the cut of $60 million, announced in the fall, in the total budget estimated for 1978-79 for the Department of Fisheries and Environment (about $592 million) would not have been allocated to the Environment Division which has the smaller share (44%) of the total budget. Neither would AES alone have been the agency forced to find the $4 million on top of the cuts which are needed to maintain OWS "P" beyond March 31 of this year (see December and February Newsletters). In addition, these reductions in funding are made in the face of the clear need not only that the present level of efficient operations by AES be maintained, but also that the costs must be found to find, prove and implement replacement systems of several kinds in order to take optimum advantage of advancing technology. A letter to the Prime Minister based on these considerations is being drafted; copies will be sent to Members of Cabinet and Treasury, and many MP's and MLA's, etc.

EDITORS COMMENTS

This issue of newsletter features some well thought out commentary on the ramifications of the A.E.S. proposed cutbacks on the number of daily public forecasts to be issued in Canada. The debate should interest all readers and provide valuable information for further thought and discussion.

The recent point and counter point discussions appearing in the last few newsletters have certainly made the newsletter larger if not more interesting.

Another item of interest for society members is the CMOS Congress to be held in Victoria during May 30 - June 1. The last information bulletin and a programme appear in the final pages of this newsletter.

The following words of comment will be by way of the editor's annual report.

The past year has been the first complete year that the CMOS Newsletter has been published in its bi-monthly format. During this period the significant changes

to the newsletter have been the recognition and acceptance of employment advertisements, commercial advertisements and a directory of sustaining members. A nominal fee schedule was passed by the executive and came into effect with the June 1978 issue. To date five employment advertisements have been pladed. A small format change to the CMOS newsletter heading was made at the request of the treasurer to include a reference that the newsletter was published bi-monthly. The change was made to facilitate recognition by the "tax-man" for tax deduction purposes. Another significant change to the newsletter was the addition of Simon Kevan's column entitled the CMOS unabashed dictionary.

Since the present editor took responsibility of the newsletter in 1977, the size of the issues have been steadily increasing from 9 pages in October 1977 to 25 pages in the February 1979 issue.

With the imminent location change of the CMOS executive from the Vancouver area to Edmonton it is the editor's strong recommendation that a new editor be found in Edmonton. It is the editors experience that maintenance of a timely and newsworthy schedule can only be properly expedited with the co-location of the editor and the executive. Action towards this affect should be taken immediately and a transfer of authority occur with the August issue when CMOS activities are at a minimum.

Again, as in the last years report, the editor wishes to acknowledge the support of all those who contributed to the newsletter and especially to the Centre Presidents whose bi-monthly reports kept all of us aware of the activities of our members.

LETTERS TO THE EDITOR

Dear Editor;

In your February 1979 CMOS Newsletter you write of the danger that we may lose much of the Society's history as the older meteorologists retire. The purpose of this letter is to tell you that I have also been so concerned and have managed to keep my eye on a number of boxes of Society correspondence that accummulated during the fifties and sixties when I held several executive posts.

A few years from now, after I have retired, I have definite plans to work on the history of AES and the Society should be covered in at least a chapter of such a project. In the meantime, I would be pleased to provide whatever assistance I could to you or anyone else who is going to undertake something on the Society's history in the immediate future. Incidentally, the Canadian Branch of the RMS was begun during the year following the joint AMS/RMS Conference held in Toronto in August 1939, and I think everyone who participated in those meetings has now retired.

Yours very truly,

M. K. Thomas, Director-General
Central Services Directorate

Thank you Mr. Thomas for your clarification on the month and year the Canadian Branch of the RMS was formed. It is precisely these facts we are sure to lose if they are not recorded now. Perhaps you might consider beginning a historical note column for the newsletter (ed.)

Dear Editor;

I've been curious and a little perturbed at the use of "President" rather than "Chairman" in the Newsletter to denote the senior officer of a Centre. Surely this is in contravention of By-Law 12. There is, of course, one exception. When writing in French "President" must be used since there is not a French equivaletn for "Chairman".

Hope to see you at the Congress in May.

Yours truly,

Ted Hamilton, Vice-Chairman
Ottawa Centre, CMOS

Your comment has been dutifully noted and I stand corrected. Thank you for bringing the matter to my attention Ted. (ed.)

Dear Editor;

I have followed with growing concern the CMOS position on the recent cutbacks in AES operations.

I have recently seen the latest protest to AES, in the form of John Knox's commentary on the reduction in frequency of the public forecasts. (Mr. Knox's comments are presented in the "News and Notes" section:Ed). Personally I believe this to be an example of CMOS fighting for the status quo rather than for a dynamic, responsive weather service. Anticipating that the CMOS position on public forecasts will receive some attention in the next Newsletter, I am writing to you to express some strongly held personal opinions on the design and dissemination of forecasts. I hope it will stimulate some discussion amongst CMOS members about the directions which should be taken, by AES and CMOS, in order to serve Canada better.

I agree with what John says about the historical development and use of forecasts. However, I think he takes a narrow view of the situation when he concludes that we still need 4 FPs per day. I would summarize my position by revising and expanding a sentence which he emphasized, as follows (my revision in the quote is underlined).

"(Commercial radio and TV) was and is <u>still</u> the best way of bringing to the general user (the public) the benefits of a short range (0 to 12 hours) regional and local forecast---". However:

a) The conventional public forecast (FP) no longer provides an adequate vehicle to deliver this weather information to most media outlets;

b) New forms of "instant media" have already begun to decrease the weather service's dependence on commercial radio and TV, and this trend will accelerate; and

c) Aiming services mainly at the general user is often a rather ineffective way of exploiting the capabilities of the national weather service.

<u>Delivery to Commercial Radio Stations</u>

Alternatives to the FP as a means of delivering information to radio stations now

include AES presentation offices (WO4s), special teletype circuits, Weatheradio Canada, and cablevision.

Especially outside the major metropolitan centres, the WO4s can best serve the general public by developing close working relationships with the local and neighbouring radio and TV stations. In terms of the conventional workload statistics (phone calls and visits) offices with many media contacts show up poorly. However, I would wager that they directly affect far more homes, offices and individuals than 'busier' WO4s. Further, the public gets an up-to-date product which reflects local weather conditions and indeed caters to the differing interests of the audiences of the individual stations. Hourly FPs can not do as well, even where the central issuing office has access to more information such as GOES-VISSr and radar imagery.

In and around the large urban centres, WO4s can not use such methods as effectively because the large number of radio stations prohibits the personalized service which provides a strong selling feature to the stations. However, the bigger the city, the greater the number of delivery options. Special weather circuits are one, and one which we have perhaps not pushed as strongly as we might where many stations could share the cost. Two relatively new alternatives are Weatheradio Canada and dedicated cablevision channels. Most stations want as much up-to-the-minute weather as they can get, and a tone-alert Weatheradio Canada receiver can bring the 'voice of the Weather Office' into the station very cheaply. So could cablevision bring the 'picture' from the weather office, once we exploit the possibilities of graphics. FPs can't touch these alternatives. And again, it is the presentation technician who usually takes care of the weatheradio and cablevision feeds.

Non-Commercial Instant-Media Modes

Turning to the matter of new modes of the instant media, I have already mentioned two which are already with us and which are expanding rapidly: Weatheradio Canada and cablevision. In my view, Weatheradio Canada should be designed first for 'multiplier points' such as the media outlets, municipal and city agencies, schoolboards, businesses, police, yacht clubs, etc. In time, of course, more and more private listeners will join. As for cablevision, hundreds of thousands of cable subscribers in Canada now have a dedicated weather channel primarily on the initiative of the cable companies. If we push strongly, we will soon put a direct feed into millions of urban homes and offices. And this even before we can provide the visual message which would be a major selling point for that medium, that is, radar and satellite imagery.

Cablevision and Weatheradio are just the start. Within a decade most homes and offices in Canada should have access to our computer banks, feeding alpha-numerics and graphics into a black box from which the information can be accessed for examination at leisure on a conventional TV set. Many of your readers will have heard of the American plan for Green Thumb, a specialized agricultural weather service feeding the black box from conventional phone lines. I don't know if we can manage such systems in Canada before the advent of the next generation of information-delivery systems such as Telidon, but we should certainly try.

Specialized Users and Products

I have already mentioned the use of multiplier points. Both now and in the future, I believe AES must put more emphasis on these, perhaps at the cost of improvements

in mass-dissemination activities if careful analysis shows we can't do both and the multipliers are more effective.

AES objectives on safety-and-security, support of socio-economic programs, and the quality of the natural environment will be met only if Canadians react appropriately to the real-time information provided. Often, the most effective response will be an organizational one: police, municipal authorities and schools (as well as the media) in the case of severe storms; businesses, industries, and associations in carrying on their day-to-day activities; and federal, provincial and private organizations in avoiding environmental damage in the first place (as in Artic and off-shore oil work) or in cleanup activities.

Take as an example the role of the Weather Centres and WO4s in severe weather situations. Given adequate liaison with the media and municipal/provincial agencies, these offices can disseminate warnings to multiplier points far more effectively than through the news wires. The hub concept, whereby the larger offices take over the key alert responsibilities during silent hours at the smaller ones, can improve significantly over present safety-and-security arrangements if we can provide funding, professional support from the Weather Centres, and the leadership to develop and coordinate the delivery of warnings to multiplier points.

In the same multiplier points vein, we have to look at the kinds of products which are needed for appropriate decision-making in Canadian society. Thirty day or seasonal outlooks of ice conditions, freeze-up or break-up, water supply, forest-fire potential, etc., can show payoffs even at relatively low skill levels. Creation of the Canadian Climate Centre shows a commitment to improving the meteorological input to this type of real-time information service.

The products cited above are not weather forecasts. Similarly, societal response to one to five day forecasts of precipitation, temperature, sunshine, etc., will often be more effective given streamflow forecasts, sea-state forecasts, better heat-balance forecasts than heating-degree-days, a drying index, irrigation index, spray index or whatever. To achieve the maximum rate of return on the taxpayer's investment in the Canadian Weather Service, we must put more effort into developing and producing such multi-disciplinary, decision-oriented outputs, often in close cooperation with other federal and provincial agencies.

Private meteorological firms can also serve as multiplier points by designing and delivering products and by providing alert and consultative services which should not be a charge on the federal taxpayer but which can have significant payoffs in terms of safety and security, socio-economic wellbeing, and environmental quality. The AES policy on private meteorology reflects the need to strengthen this side of the Canadian meteorological community. Implementation, and then the inevitable changes in outputs if AES is to be responsive to the special needs of the private sector, costs something in manpower and money. In my view, these costs can be justified as core and AES must put some priority on finding the resources.

Whither the FP?

John Knox bases most of his argument for 4 FPs on the short range, specifically 0 to 12 hours. Personally, I believe that the forecaster can be more effective with short-term weather by providing backup to the presentation technicians and

by preparing special messages as required than by writing FPS for conventional distribution. For the longer-term forecasts, our products are based largely on the twice-per-day NWP runs; in the great majority of cases very little can be added until the next NWP run. I am convinced that the FP serves poorly for the short term for most Canadians and for most media outlets, that we do not need 4-per-day for the medium and longer terms, and that the reduction makes sense in view of the many things which need to be done to improve the design and dissemination of weather-information packages.

For most Canadians and most media outlets, not necessarily all, I agree with John that we need to look at regional disparities, but the regions I have in mind are those in which we can not serve the media with alternatives to the routine FP, specifically most of the Territories and the northern extremities of some of the provinces. And note that in those areas GOES VISSR loses its power, we do not have radar, conventional observations are sparse, and so far VHRR imagery comes in only twice per day. Do we have enough detailed information on the short-range to warrant 4-per-day? Might we not serve those areas just as well, or even better, by 2-per-day and an effective amendment service?

The wire companies and the broadcasters would probably pay more attention to amendments and other special, as-required messages if the FP cycle time was 12 hours rather than 6. The forecaster would certainly have more time to devote to special bulletins, often the best way of getting an important message across. And the wires would be less crowded. Agricultural forecasts may not be an issue in B.C., but over much of the country Broadcast News does not carry the routine agricultural forecasts because urban-oriented subscribers outnumber those stations catering to a rural audience. Maybe we could squeeze agricultural and other specialized forecasts onto the wires if we cut (by close to 50%) the space now occupied by routine forecasts aimed at the general user.

Somehow, AES has to find the resources to improve the quality, quantity and relevance of our operational outputs and the effectiveness with which they are used. This in addition to maintaining (if not expanding) its activities in other areas of endeavour such as supporting private and university meteorology, participating in the Environmental Assessment Review Program, and research in many areas.

The Role of CMOS

Change is difficult to achieve. The changes introduced by AES in response to the budget cuts were not chosen blindly. They reflect an attempt to balance many conflicting demands and an identification, well before the actual cut, of things which could be done to bring our operations into line with changes in the science, technology, and society. Of course, arguments arise. I know from experience about the self-examination that has gone on within AES over the last few years and the internal differences of opinion which exist. The meteorological community in this country would be in a sad state if CMOS did not have a good deal to say about changes in the Canadian Weather Service.

As a member of CMOS, I expect the Society to pressure all components of the meteorological and oceanographic communities - federal, provincial, university, and private - to obtain a better fundamental knowledge of how the atmosphere and oceans behave, how they interact, and how they affect, and are affected by, human activities. And it should also exert pressure to ensure that this knowledge gets translated into information that Canadian society can use, and do what it can to

make sure that society uses the information effectively.

Over the years the Society has made many contributions in these areas. In its response to the recent budget cuts, however, I see it arguing largely for maintenance of the status quo in operational matters. The fact that AES has lost resources seems to take second place to concerns over what was done to accommodate the cut, concerns based sometimes on narrow grounds and put forward without recognizing that if it succeeds in reversing the AES decisions, the money must be found elsewhere. On balance, I do not believe the Society's response contributes to what should surely be its main concern in these difficult times - a healthy Canadian Weather Service, responsive to changes in the science and society.

D. K. Smith

NEWS FROM YOUR NATIONAL EXECUTIVE (as of March 12, 1979)

President	Ron Burling
Vice President	John Powell
Treasurer	Peter Sagert
Recording Secretary	Tad Murty
Corresponding Secretary	Brian Sagar Dept. of Geography Simon Fraser University Burnaby, B. C. V$A 1S6 (604) 291-3327

I. Council Meeting Number 2 of the CMOS was held February 14, 1979 in Vancouver.

1. Ron Burling will write a letter to the Prime Minister and Cabinet, pointing out, among other things, the special nature of AES as a service to Canadians, that the budget cut-backs are uneven in the Department of Fisheries and the Environment, and that the cut-back to Environment Canada is disproportionately large.

2. The Humanities and Social Science Council of Canada has granted $10,000 to the three Societies involved in Court proceedings re postal rates; this action will thus be at no extra cost to the Society

3. The Council aurhorized the Editor to spend $1,000 to $1,500 on a campaign aimed at increasing the subscriptions to ATMOSPHERE-OCEAN. A brochure will be widely distributed.

4. Formation of a Centre in Victoria. It was agreed that the Centre might serve all Vancouver Island CMOS members, and these members should be contacted by Thomson (and others) to find out if there is enough interest in forming a Centre.

5. Proposal for St. John's Chapter. Council approved a St. John's Chapter and recommend John Bursey as the Correspondent. This Chapter should represent the whole Island of Newfoundland.

Congratulations St. John's! It was quite a struggle but you've done it. (ed.)

6. Rimouski Chapter. Burling will write to Quebec Centre about setting up a Rimouski Chapter.

7. Calgary Chapter. The Council is waiting for their response.

8. Feasibility of a Southwest Ontario Centre was discussed.

NEWS FROM YOUR CENTRES (as of March 9, 1979)

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

The January 24th meeting featured Garry Schaefer and his presentation entitled Global and Climatic Change: Review of Some Recent Findings.

On February 7th Dr. Alistair Fraser, the CMOS-AES tour speaker, gave his talk on "A Halo is an Ice Thing".

Dr. Ron Burling is scheduled to present his talk at the March 23 meeting. Title of the talk is to be announced.

Current projects underway at the CMOS B.C. Centre are -

1. Investigation of possibility of selected film loops being constructed from relevant segments of six month Satellite Cloud Motion films.

2. Preparation of CMOS Membership Roster for display at Annual Congress.

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

Report not received by publication deadline.

Regina	Chairman	Don Bernachi
	Secretary Treasurer	Clarence Spelchak

At the January 31st dinner meeting Dr. Alistair Fraser presented his talk entitled "The Mirage" to approximately 25 members and guests.

Chairman Don Bernachi sadly reports that this was the last and final meeting of the Regina Centre.

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

The January 30 meeting at the Holiday Inn had the CMOS-AES tour speaker Dr. Alistair Fraser as a guest. A good crowd turned out to an animated talk about mirages, the beauty of British Columbia, and the advantages of sitting on the sunward side of the plane.

The next meeting will be held late in March. Upcoming CMOs projects include WMO day and the Winnipeg schools Science Fair.

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

Bi-monthly report not received by publication deadline.

As reported in the last newsletter the Chairman Mike Hewson has transferred to Newfoundland. No confirmation of new chairman has yet been received. (ed.)

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

On November 29, 1978 Glen Yungblut of the Resources Management and Conservation Branch, EMR gave a very interesting talk on offshore drilling and associated weather problems. On 26 January 1979 Dr. Alistair Fraser spoke on "A Halo is an Ice Thing", a fascinating subject as presented by Dr. Fraser. The latter meeting was postponed one day due to a snowstorm. Attendance at meetings has averaged 20-30 so far this season.

A nominating committee of Don Boyd, Blake Watson and Ken Sato has been formed to nominate Centre executive members for the coming year.

Henry Watson and Ken Sato have agreed to act as judges for the determination of the winner(s) of the Ottawa Centre trophy and prize for the best meteorological or oceanographic project at the Ottawa Regional Science Fair to be held 6 - 7 April, 1979.

A small study group was formed to consider the report on meteorological consulting standards in Canada and comments and recommendations have been forwarded to the national executive.

A very successful dinner meeting was held on 7 March 1979 at which Paul Lapointe Director-General, United Nations Directorate, External Affairs spoke on "The Law of the Sea". The final meeting of the season will be held on 18 Paril 1979. The election of the centre exeuctive for the coming year will take place at this meeting and Dr. Vic Solman will speak on the subject of Weather and Bird Migration.

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

The CMOS-AES speaker, Alistair Fraser from Pennsylvania State University, presented two talks to the Montreal Centre on January 23. The first presentation was given at McGill University in the afternoon and was entitled "The Mirage, the green flash and theological optics erroneously described as an optical illusion". The second talk was given at the AES, St. Laurent in the evening

and was entitled "The Halo is an ice thing".

On February 15 U. Schwarz presented a talk on ICAO (International Civil Aviation Organization) and Meteorology.

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

Dr. Alistair Fraser presented his talk on January 24. A poor attendance was on hand to hear his excellent talk on "The Mirage".

The March 7 meeting will present Dr. Barney Boville and his talk is entitled "Le Climat Mondial, Sa Tendance et les plus Recents Developpement de la Recherche dans le Domaine".

The March 21 meeting will present Dr. George Gallagher and his talk is entitled "Culture en Serres a la Baie James".

Halifax	Chairman	Stu Smith
	Secretary	Jean Thiebaux
	Treasurer	Ed Guimond
	Past Chairman	Rod Shaw

The next meeting of the Halifax Center will be April 25 at 2000 hrs. at the Bedford Institute of Oceanography. The speaker will be Dr. C.R. Mann, DG OAS ATLANTIC. The topic is "The Geneva WMO Climate Conference.

NEWS AND NOTES

COMMENTS ON: AES PROPOSAL TO REDUCE FREQUENCY OF ISSUE OF PUBLIC FORECASTS IN CANADA FROM FOUR TO TWO PER DAY (by J.L. Knox)

Introduction

If the Atmosphere were completely predictable a single global forecase of all significant parameters could be made for months, years, decades, in much the same manner as astronomical tables are prepared. The problem would still remain of selecting that information which is pertinent to a given region, or locality, and issuing it at approproate frequencies and within useful time frames. One important question with regard to frequency would be working out a practical way of eliminating the lapsed portion of the forecast. The user wants to know what is going to happen from now on, and not what was expected to happen during the past 12 hours. Therefore, even with perfect predictability a systematic updating of forecasts would be required.

But the atmosphere is far from completely predictable and, in the small time-and-space scales, may never be predictable with precision beyond the first 12 hours of a forecast. By precision we mean in the sense of forecasting a weather event (or episode) due to occur at a specific time at a specific location. Certain of these events (e.g. severe thunderstorms) can be predicted in the precise sense only after they have been located, their future movement being largely determined by extrapolation. Consequential events are not necessarily so simply

dramatic; convective cell processes whether generated by a warm lower boundary (Heated land, warmer water) or by release of potential instability forced by large-scale dynamic mechanisms, have initially and consequentially thereafter comparable predictive limitations. These are the kinds of processes which account for the extraordinary variability of precipitation amount over very small areas in short intervals of time.

History

Between the two World Wars, public forecasts were issued twice daily. Radio was in its infancy and the primary medium for mass communication over most of that period was the press. The a.m. forecast met the afternoon press deadline and the p.m. one met the deadline for the morning press for the following day. We do not need to dwell on the shortcomings of the pre-1946 public forecasts. They were broad-brush, vaguely-worded outlooks which, because of the lag between time of issue and newspaper availability, omitted reference to the first 12-18 hours of weather. These forecasts, issued from the old Toronto Headauarters on Bloor Street, covered an area extending from the Rockies to the Maritimes. Those for British Columbia were issued from Gonzales Observatory in Victoria.

During and after World War II there were remarkable technological advances in 'weather' detection. These made it possible to know what in fact the atmosphere was doing on the local scale, which is always the scale of primary interest to the aviator, mariner, farmer, construction contractor, and indeed to every individual whose activities are influenced by 'weather'. Station reporting networks increased in density, radar was developed into an extraordinarily efficient means of areal detection of precipitation, and satellite imagery partly alleviated the problem of data deficiencies over vast ocean areas of both hemispheres. Note, however, that all of these advances were primarily significant in defining the atmosphere's manifestations of 'weather', i.e. cloud, precipitation, etc. In other words, it became possible to know the current 'weather' and to use forecasting skills to predict over a short range (0 to 12 hours) with reasonable precision how it was going to change.

The instant media, i.e. radio, later to be joined by television, replaced the press as the primary means of mass communication. It was and is the best way of bringing to the general user (the public) the benefits of a short-range regional and local forecast with a precision only made possible since W.W. II by virtue of technological advances described above. This was recognized when the Canadian Public Weather Forecasting System was reorganized in 1946. Regional centres of competence, which already existed to serve aviation requirements, were augmented at very little cost to assume responsibility for public forecasts. Issue times were increased from two to four per day and the Canadian Public were provided with a vastly improved service particularly with regard to the short-range part of the forecast (0 - 12 hours).

The final stage of the decentralization process was the creation of local weather offices in those cities where it was economically justifiable, to respond to demand for meteorological services which would be difficult to accommodate from the regional centres.

Discussion of Needs

When we say 'public', with reference to a category of forecast, we mean a domain

of user recipients who do not receive forecasts tailored to their particular activity in the same sense as the aviation or marine interests. The user might be a farmer, a building contractor or worker. He might be you or I; we want to know what is goint to happen in the next 12 hours around our home or working place or in transit. We cannot spell out the 'public' but we surely can sense the 'need'.

These needs have levels of priority, viz. safety, economy and convenience. The extent to which they can be met will depend on the accuracy of 'weather' prediction and, equally important, on the promptness with which the prediction can be communicated. The accuracy of the zero to 12 hour portion of the forecast is bound to be enhanced by systematic updating. Ocean and continent wide observations are made, chartered and analysed every six hours, and this process should be, and is, the primary reassessment method. On occasion, amendments and indeed warnings should be and are, issued between scheduled forecasts. These are often a response to information received between synoptic, i.e. hourly weather reports, radar, or satellite observations.

The New Proposal

The proposal to reduce the frequency of public forecasts from 4 to 2 per day is, we submit, difficult to reconcile with the concurrent promise that the safety and security of Canadians will continue at its present level or be improved.

The reduced frequency of scheduled forecasts is to be supplemented by increased frequency of amendments and this surely will be necessary. It should be kept in mind that, under the present circumstances, there are occasions when forecast amendments do not reach their destinations with the promptness required for them to be effective. Sometimes, indeed, they are overlooked in the welter of information that flows over the press circuits. This is not the fault of AES but it will remain a fact of life. We cannot rely on the instant media to give prompt announcement of forecast amendments, and when the revision fails to reach the public, the AES and not the media is usually perceived to be at fault. On the other hand, the media do respond effectively to scheduled forecasts. AES should therefore consider the implications of reducing the frequency.

There cannot possibly be a saving of man-years if the AES seriously intends to maintain or improve the present level of service. If the frequency of issue is decreased from 4 to 2 times per day, the increased number of amendments needed to maintain the present standard of service will require the same professional staff complement as at present.

Who will arrange for an appropriate deletion of the lapsed portion of the forecast? This will become a significant problem with a 12 hour interval between issue. It is entirely conceivable that a forecast issued at 5 a.m. will continue to be broadcast in its entirety during the late afternoon! Those who dismiss this as a non-problem should read in the October 1978 Bulletin of the American Meteorological Society an article entitled "What should the National Weather Service be doing to Improve Short-Range Weather Forecasting?" and specifically the remarks of E.W. Pearl on page 1340. The U.S. National Weather Service have presumably reduced their public forecasts to two per day, and the panel discussion suggests something has gone awry.

Summary

In summary, the frequency of issue of public forecasts in Canada should be

based at least on the following considerations:

1. The sensitivity of 'public' needs to short-term changes in weather phenomena (i.e. to the 0-12 hour part of the weather forecast).
2. The fact that, in spite of substantial improvement in the prediction of large-scale motion systems over a 72 hour period, it is still not possible to make site and time specific forecasts of small scale 'weather events' beyond the first 12 hours.
3. A scheduled forecast has a much better chance of prompt dissemination by the media than an amendment.
4. The need to impose a 2-per-day frequency of issue across all of Canada. The question is fundamentally one of regional prerogative, because the regions are where the public needs are best identified and where public response is best measured.

Recommendation

The CMOS urges that the decision to cut back the frequency of issue of public forecasts from 4 per day to 2 per day be seriously reconsidered. At the very least, the implementation deadline of April 1, 1979 should be postponed. This would then provide the time for a judicious appraisal of what public needs really are, and how best they can be met across Canada.

References

Golden, J.H., et al. (1978), 'What should the NWS be doing to improve short-range weather forecasting?" BAMS, vol. 59, no. 10, October 1978.

EDITORIAL COMMITTEE REPORT

by T.R. Oke, Editor Atmosphere-Ocean

1978 was the first year for our journal in its new format. In general it has been a good year. ATMOSPHERE-OCEAN seems to have been well received and we look forward to continued steady development.

The rate of submissions of papers remained commensurate with that of previous years but in our opinion the quality of the average article increased. One departure was the publication of the referenced proceedings of the First International Workshop on Hailfall Measurements. The authors of that issue paid voluntary page charges thereby subsidizing the publication. Given this financial stimulus and the economies of the new journal format it was possible to produce a greatly expanded number of pages in Volume 16. Council authorized expenditures equivalent to a page limit of 80 pages/issue. This limit was later increased to 88 with provision for further review. At the end of 1978 a backlog of papers sufficient to fill two issues existed.

The second class mailing privileges enjoyed by the journal, and worth approximately $1,000 to the Society, were removed by the Post Office. Under the coordination of the University of Toronto Press we, and three other journals similarly affected, have instituted legal action to seek restitution of the privileges. P. Merilees is to be thanked for acting on behalf of the Society in the discussions.

The list of complimentary subscriptions has been reviewed with a view to

rationalizing their distribution and cutting unnecessary costs. Plans are also underway to solicit new subscribers especially from oceanographic institutions and individuals, and to exchange subscriber lists with established journals in the fields of meteorology and oceanography.

Potentially the most important development relates to discussions initiated by the Editor with the Natural Sciences and Engineering Research Council (NSERC). A case was made to support a request for NSERC funds to aid the publication of ATMOSPHERE-OCEAN. NSERC agreed to consider such a request under their Scientific Publication Grant programme and the Editor has submitted a formal application for 1979.

In summary 1978 has been a significant year for our journal. It has seen growth and change in combination with attention to the financial under-pinnings of the operations. We have been helped in these endeavours by many members of the Society and the University of Toronto Press and by the scientific referees who form the essence of any successful journal. To all of these we extend our sincere thanks.

TREASURER'S REPORT

In contrast to the stable financial environment of 1977, the transactions of the Society increased substantially in 1978. Extraordinary items, such as page charges for Volume 16, No. 1 (First International Workshop on Hailfall Measurements) of Atmosphere-Ocean, the development of the new format for Atmosphere-Ocean, reprinting of the Bylaws and Constitution, increased mailing charges and other factors contributed to substantial increases in revenues and expenditures.

Despite a $6,000 decrease in budgeted grant revenue, the net 1978 loss was held to $4,148.53 or within $1,148.53 of the original projection (equivalent to 2% of total expenditures). This loss does not consider the retroactive Federal and Provincial tax rebates on the publication of the Newsletter for previous years (which will be reflected in next year's revenue).

During 1978 and early 1979 the final transactions to convert all assets to the new name of the Society were completed.

As previously indicated, successful applications were made for rebates of Federal and Provincial (Ontario) Sales Taxes on the Newsletter. The rebate will be retroactive for 2 years Federally and 3 years Provincially. In addition, the Editor of Atmosphere-Ocean initiated a request for additional grants to assist in the publication of Atmosphere-Ocean and co-operative legal action to obtain relief from a new postal classification for Atmosphere-Ocean.

During 1978, advertising was introduced as a source of revenue for the Newsletter. If the advertising revenue can be substantially increased, this will allow for and encourage a significantly expanded Newsletter.

The INCOME for 1978 indicates items entered into the accounts during that year. The dues and subscriptions cover the period from October 1, 1977 to September 30, 1978. Charges for Atmosphere-Ocean include four regular issues to Volume 16, No. 3. The 1978 Congress Issue cost is included under other charges (Account 206) and under Atmosphere-Ocean for 1977.

THE STATEMENT OF FINANCIAL POSITION, detailing the Society's assets and liabilities, shows a decrease in the Society's assets equivalent to the 1978 loss of $4,148.53 over the 1977 year-end balance.

Budget for 1979-80

Budget statements for 1979 and 1980 indicate estimates of revenue and expenditures consistent with previous experience and planned CMOS programs. Income from dues and subscriptions reflect the rates approved at the 1977 Annual General Meeting.

The budget under Operations and the Scientific Committee are intended to allow for Executive, Scientific and Editorial Committee travel and communications costs at a time when employees are less able to indirectly subsidize the Society's operations as they often did in the past.

REPORT FROM THE SCIENTIFIC COMMITTEE

The Scientific Committee membership included:

Dr. J.R. Maybank (Chairman) Saskatchewan Research Council
Mr. H.M. Fraser (Secretary) Atmospheric Environment Service (Winnipeg)
Professor R.R. Rogers, McGill University
Dr. W.R. Peltier - University of Toronto
Dr. M. Kwizak - Atmospheric Environment Service (Toronto)
Dr. A. Fraser - Pennsylvania State University
Dr. G.T. Needler - Bedford Institute of Oceanography
Dr. P. Hamblin - Canada Centre for Inland Waters
Dr. T. Oke - University of British Columbia
Dr. C. Gauthier - INRS
Mr. P. Denison - Acres Consulting Services Limited, Niagara Falls

The Committee met in London May 30 and again in Toronto November 9 to consider various problems of concern to the CMOS and to make suitable recommendations to the Executive Committee.

A sub-committee under Dr. Maybank completed its brief "Weather Modification: Policy and Regulations; Considerations for Canada" and after finalization and acceptance by the Committee this was forwarded to the Council at the time of the 1978 Congress.

The Committee were concerned with the availability of funds for Atmospheric Research both because of government restraints and because of the reorganization of the funding mechanisms of the National Research Council. As a result it was recommended to the CMOS Council that the society seek the establishment of a separate Granting Committee on Atmospheric Science within the National Research Council.

The sub-committee previously established under Mr. J. Knox to study Ocean Weather ship P proved valuable as the exigencies of that situation resulted in their reporting directly to the Council as well as to the Committee. The Committee maintained an active consideration of the problem and forwarded recommendations in three areas: continued monitoring of the Weather Ship P situation; development of the public awareness role of the CMOS; and more consideration by the government on the effect of cut-backs on on-going meteorological programs.

The report "Meteorological Consulting Standards Canada" was discussed in depth. To provide further clarification for the Committee and for the CMOS a working group was established under Mr. P. Denison to obtain further information from industry.

The next meeting of the Committee will be held in Victoria, May 29, 1979.

REPORT ON THE STANDING COMMITTEE ON PUBLIC INFORMATION

By J.L. Knox, Chairman

1. The Standing Committee, chaired by John Knox, Department of Geography, UBC comprises the following members:

   Liaison (AES), H.B. Kruger, AES, Downsview
   Toronto Centre, Dr. A.J. Chisholm, AES, Downsview
   Vancouver Centre, G. Schaefer, AES, Vancouver, B.C.
   Quebec Centre, Dr. M.G. Ferland, P.Q.
   Winnipeg Centre, H.M. Fraser, AES, Manitoba
   Halifax Centre, A.D. Gates, AES, Nova Scotia
   Regina Centre, R.J. O'Brien, AES, Regina
   Montreal Centre, A. Oullet, AES, P.Q.
   Ottawa Centre, D.W. Boyd, Ottawa, Ontario
   Alberta Centre, H.P. Wilson, Edmonton, Alberta
   Liaison (NOSA), Dr. G.K. Sato, NOSA, DFE, Ottawa

2. During the Summer of 1978, the Chairman was primarily engaged in the work of a Sub-committee, (Know, J.L., Harry, K.F., Miyake, M., Pond S.) struck by Dr. John Maybank, for the purpose of preparing a CMOS statement concerning Ocean Weather Station P. H.B. Kruger was most helpful in providing background information.

   The sudden announcement in early August 1978 of the Governments decision to withdraw the weather ships by April 1979, (2 years earlier than anticipated), required a quick and vigorous response from CMOS. Consequently the Chairman SCPI, spent a great deal of time working directly with the CMOS President preparing and disseminating statements of the Society's opposition to the premature termination of Station P.

3. The SCPI is presently (February 1979), canvassing reaction of the Public in their respective Regions to the AES proposal to reduce scheduled Public Forecasts from 4 per day to 2 per day.

4. It is hoped that arrangements can be made at the coming Congress in Victoria to meet with members of the Committee or their Centre representatives.

REPORT OF THE AD HOC COMMITTEE FOR THE REVIEW AND EVALUATION OF THE REPORT ON METEOROLOGICAL CONSULTING STANDARDS IN CANADA

by R. P. Angle, Chairman

Due to the large number and far reaching consequences of the recommendations contained in the 112 page Report of the Ad Hoc Committee on Meteorological Consulting Standards in Canada, a second Ad Hoc Committee was formed in August 1978 to coordinate the review and evaluation of the recommendations by the membership. The Review and Evaluation Committee consisted of R.P. Angle (Chairman), CMOS Councillor-at-large; J. Dionne, CMOS Councillor-at-large; A.D.J. O'Neil AES representative; D.P. McIntyre, liaison with Ad Hoc Committee in Meteorological Consulting Standards in Canada. Early in the Autumn, J. Dionne submitted his resignation because his many university commitments did not allow time enough to act

committee. The third Councillor-at-large, G. McBean, then joined the committee.

The Review and Evaluation Committee perceived its task as:

1. Facilitating discussion of the issues at the Centres
2. Obtaining feedback from those most affected by the proposed actions
3. Consolidating all responses in order to arrive at the best course of action for the CMOS

The committee prepared and distributed to the Centres an information package consisting of the executive summary, a condensation of the recommendations and some guidelines for discussion. A request for written responses was placed in the Newsletter and responses were solicited directly from a number of peo- ole in industry, government, and university. Later the entire information package was published in the Newsletter and Committee members became active in promoting discussion at their respective Centres. An interim report was presented at the February Council Meeting and the final report of the Committee's findings will be completed by May 1979.

THE CMOS DEVELOPMENT FUND

by K. F. Harry

No one who has read the recent issues of 'Newsletter' can be unaware of the fact that the Canadian Meteorological and Oceanographic Society can speak effectively on matters of national concern that fall within its aegis nor can readers of Atmosphere-Ocean be unaware of the progress made in establishing it as a journal of international stature. None of this is surprising when the talent resource is considered. As the Society continues to mature, the extent of influence on matters of scientific importance must also surely grow.

As responsibilities are assumed, financial pressures on the Society also mount. The need to have a journal of note, the need to have an effective means of internal communication, the need to relocate the executive and to have regular and well attended meetings of Council, the need to have national representation at important meetings of standing and ad hoc committees and the need to have strong programs in Centres and Chapters all demand adequate funding.

In early response to these demands annual fees were raised and the Atmospheric Environment Service has continued its generous support. The list of sustaining members has been enlarged. Other avenues of support within government are still being explored and additional funding may be forthcoming though financial restraints now in vogue may limit this severely.

A source of funds that might now te tapped in a better organized manner are gifts or bequeaths to the Society. The CMOS Development Fund initially established by the generosity of one member and since then supported by just a few, should now receive the consideration of many. That the purpose is worthwhile is readily apparent when it is realized that a higher level of internal funding will reduce at least relatively the need for governmental support, thereby better ensuring the freedom of the Society to comment on issues of the day.

In future issues of 'Newsletter' you will be encouraged to contribute to the Development Fund and the advantages to members of doing so will be made clear. As you plan your program of giving in 1979 and later years please remember the special needs of our Society. It is believed to be important that there be a strong, well supported, independent body in a position to speak on behalf of the sciences of Meteorology and Oceanography in Canada.

FIRST REPORTED TSUNAMI IN THE AMERICAS

by Paul H. LeBlond

Tsunamis, their occurence and their characteristics are of interest to oceanographers and coastal engineers. These seismic sea waves are not uncommonly seen on the Pacific coast of Canada, but they are rarer in the Atlantic. Recently, I came upon what must surely be the first documented observation of a tsunami in the Americas (in S.E. Morison, 1942 Admiral of the Ocean Sea, Little, Brown and Co., Boston, 680 pp).

On his third trans-atlantic voyage, in 1498, Christopher Columbus sailed with three vessels west from the Cape Verde Islands in the hope of finding lands to the south of the Carribean Isles which he had discovered on his first two voyages. On July 31, he sighted the Trinity Hills, at the southeast corner of Trinidad (reach for your atlas!); following the southern coast of that island, he entered the shallow Gulf of Paria through the Serpent's Mouth. After a couple of days R&R near Icacos Point, the fleet headed north towards the hills of the Paria Peninsula (on the Venezuelan coast), visible on the horizon. On August 4th, the fleet was weighing anchors when (Columbus relates):

> Standing on the ship's deck, I heard a terrible roaring which came from the southward toward the ship. And I stood by to watch and I saw the sea lifting from west to east in the shape of a swell as high as the ship, and yet it came toward me little by little, and it was topped by a crest of white water which came roaring along with a very great noise, ... and which sounded to me like the rote of surf on rocky ledges, so that even today I feel that fear in my body lest the ship be swamped when she came beneath it. (as quoted by Morison).

The wave passed safely under the ships; the only damage was one parted anchor cable.

Some early commentators explained the phenomenon as a tidal bore, such aw was then known to occur at the mount of some European rivers. The tidal amplitudes in that area are simply not large enough to produce a bore in the shallow but rather wide Serpent's Mount. No other bore has been reported there in nearly half a millenium since Columbus' observation, so that some other explanation must be sought! The most likely cause of the observed wave is some seismic or volcanic event on the coast of South America or somewhere in the South Atlantic. A number of tsunamis have been observed in the Carribean (ct. T.W. Murty, 1977, Tsunamis, Fish. Res. Board Bull. 198) and the early observation of Columbis is not difficult to reconcile with the known seismic and volcanic activity of the area.

CMOS UNABASHED DICTIONARY OF METEOROLOGICAL AND OCEANOGRAPHIC TERMS

by Simon M. Kevan

As it appears that the collective wit of the CMOS is capable of producing but one definition for the dictionary (see Letters to the Editor in the most recent issue of the Newsletter) I take no pity on my fellow members as I subject them to the following:

Biosphere - A region of endless processes where anything can go wrong and ususally does.

Canada - A country that is not a land, but a winter. (Adapted from a comment made by Gilles Vigneault about "Mon Pays")

Coriolis Force - An apparent force which isn't; but which is often called upon to explain away difficult situations.

Hydrophobia - Not to be confused with hydrospere, hydrophobia is a condition which develops its most advanced stages in bars and taverns. Often chronic symptoms develop after CMOS meetings. As its severity seems to depend upon the size of the meeting it is thought to be highly contagious.

Hydrosphere - A paranoic fear of blackouts which seldom is felt by hydrophobics.

Ozonosphere - A poetic meteorologists comment upon upper atmospheric conditions now that man appears to be affecting them.

Precipitation - The result of too active weather.

Spring - More the death throes of winter than the dawn of summer. Andre Girous

Stratosphere - The belief that certain types of clouds are out to get you.

Tropopause - Where weather takes a break.

Troposhpere - Where air shows manic-depressive tendencies.

Weather Forecaster - A person who spends a great deal of time trying to decide weather she will or weather she won't.

Surely other members of the CMOS can produce definitions which are as good as, if not better than, the above; et pourquoi nous n'avons pas les definitions francaises?.

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.

OUR NEW MEMBERS

Fraser G. Hunter	Regina, Saskatchewan
Jocelyne Blouin	St. Laurent, Quebec
John D. Miller	Ottawa, Ontario
Pierre Ducharme	Laval, Quebec
Louis Legal	Comox, B. C.
Kiely M. MacDonald	Dartmouth, Nova Scotia
Brian D. Petrie	Dartmouth, Nova Scotia
Douglas Bradford	Aylmer, Quebec
Yves Grattan	Vancouver, B. C.
Alison Stenning	St. John's, Newfoundland
Judity Bobbitt	St. John's, Newfoundland
Hugh W. McRuer	Ottawa, Ontario
Martin J. Batterson	St. John's, Newfoundland
Stanley Siok	Rawdon, Quebec
Gabriel Lord	Dartmouth, Nova Scotia
Roger Basu	London, Ontario
Ron Perla	Canmore, Alberta

DIRECTORY OF SUSTAINING MEMBERS

Air Canada
Montreal International Airport
P.O. Box 9000
Montreal, P.Q. H4Y 1C2

McLaren Atlantic Ltd.
Suite 616, Cogswell Tower
2000 Barrington Street
Halifax, Nova Scotia BeJ 3K1

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4905 Dufferin Street
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Montreal, Quebec H3A 2K6

Bendix-Aviation Electric
P.O. Box 2140
St. Laurent, Montreal, P.Q. H4L 4X8

Dobrocky Seatech Ltd.
130 Kingston Street
Victoria, B. C. V8V 1V4

MacDonald Dettweiler & Assoc. Ltd.
10280 Shellbridge Way
Richmond, B. C. V6X 2Z9

Beak Consultants Ltd.
Suite 603 - 1550 Alberni Street
Vancouver, B. C. V6G 1A5

Hermes Electronics Ltd.
P.O. Box 1005
Dartmouth, Nova Scotia B2Y 4A1

Bristol Aerospace Ltd.
P.O. Box 874
Winnipeg, Manitoba R3C 3S4

Airflow Developments Ltd.
376 Enford Road
Richmond Hill, Ontario L4C 3G1

Alberta Weather Modifications Ltd.
Box 9
Three Hills, Alberta T0M 2A0

ANNOUNCEMENTS

Stanstead Seminar on Large-Scale Atmospheric Flows

The 13th Stanstead Seminar will be held this summer 9-13 July 1979, at Bishop's University, Lennoxville, Quebec, Canada. The theme of the seminar will be "Large-scale atmospheric flows; modeling and observations".

Among the speakers will be Dr. L. Bengtsson, European Centre for Medium Range Weather Forecasts, Reading; Dr. J. A. Brown, National Meteorological Center, Washington; Dr. R. Daley, National Center for Atmospheric Research, Boulder; Dr. C. Girard, Atmospheric Environment Service of Canada, Dorval; Dr. J. D. Mahlman, Geophysical Fluid Dynamics Laboratory, Princeton.

For further information and registration contact Prof. Jacques Derome, Department of Meteorology, McGill University, 805 Sherbrooke Street W., Montreal, Quebec, Canada H3A 2K6 (Telephone (514) 392-4462).

UNITED NATIONS CONFERENCE ON SCIENCE & TECHNOLOGY FOR DEVELOPMENT (UNCSTD), VIENNA, AUGUST 1979

This UN conference has been devised as a mechanism to focus world attention on the special problems of the application of science and technology to the benefit of the developing countries. The conference will not be a scientific conference in the sense of an earlier UN conference held in 1963 entitled a "Conference on the Application of Science & Technology for the Benefit of the Less Developed Areas" which focussed on an interchange of scientific and technical information. UNCSTD will focus on the application of science and technology to social, economic, institutional or political development and will particularly concern itself with the identification and means for removal of the difficulties that impede the application of science and technology in contributing to the development goals and priorities of the developing nations. The conference will be structured around five subject areas, viz: Food and Agriculture; Natural Resources including Energy; Health, Human Settlement and Environment; Transport, Communications and

Industrialization.

It is important that the preparations for UNCSTD receive some attention from the Canadian scientific, technical and social science community and that suggestions and ideas fron individuals, groups and institutions from this community be sought and made available for consideration by the Government of Canada's delegation. It would be most desirable if a series of practical and pragmatic suggestions could be assembled which could comment on possible new initiatives that could stimulate more effective involvement of our Research and Development community. The Royal Society of Canada and SCITEC have been charged with calling for such an input and it is requested that comments and suggestions be sent to SCITEC (UNCSTD), Suite 202, 151 Slater Street, Ottawa, Ontario K1P 5H3.

Further information can also be obtained if required from the above address.

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

ASSOCIATE COMMITTEE FOR RESEARCH ON SHORELINE EROSION AND SEDIMENTATION (ACROSES)

THE FIRST CANADIAN COASTAL CONFERENCE 1980

TIME: 23, 24, 25 April 1980

PLACE: Canada Centre for Inland Waters, Burlington, Ontario

PURPOSE: ACROSES believes that scientific and engineering research underway in Canada related to the processes affecting movement of nearshore coastal sediments needs to be better known and appreciated. We further believe that coastal problems in Canada are unique and that the necessary knowledge to understand and solve them cannot be imported.

This will be a multidisciplinary Conference. Scientists and engineers are warmly invited to attend, to present their ideas and to discuss with others their concerns and goals.

TOPICS: The Conference will consider the following aspects of shoreline erosion and sedimentation:

Waves, Currents and Sediment Transport: including onshore-offshore transport, beach forms and profiles, alongshore transport, sediment concentrations, measuring and estimating littoral drift, modelling.

Nearshore Geology: including shore evolution, geotechnical parameters in nearshore studies, dating sediments, soft shores and bluffs, use of physical models for geological processes.

Ice: including effects of permafrost, ice effects on shore profiles and erosion, northern shores.

Interference by Man: interaction of structures such as groynes, sea walls and jetties with the shore, artificial beach nourishment, nearshore dredging, effects of recreational use on short stability, artificial islands.

Other Related Factors: for example, the collection and analysis of data.

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.

XIII CONGRESS CONGRÈS XIII

University of Victoria - Victoria, B.C.

May 30 to June 1, 1979

The XIII Congress and Annual General Meeting are barely a month away. We look forward to seeing many Society members at the Congress in Victoria, May 30 to June 1.

The technical program promises to be one of the largest ever. Over 120 papers are to be presented including invited papers by F. Bretherton and C. Garrett on the Congress theme - Dynamic Similarities of Oceans and Atmosphere - and by R. Bryson on climate forecasting. The program was distributed, along with pre-registration forms, to all members and approximately 1,000 others during the first week of March. If you have questions about the program please contact Dr. Richard Bennett at 604-387-5281.

To supplement the technical program a commercial display has been arranged with the following companies participating:

Inter Ocean Systems Ltd.
Jon B. Jolly Inc.
Aanderaa Instruments Ltd.
Sonatech Inc.
Navitron Communications Ltd.
Paroscientific Inc.
T. Thompson Ltd.
Frederick Goertz Ltd.
Campbell Scientific Inc.
Dobrocky Seatech Ltd.
Airflow Developments (Canada) Ltd.
Enercorp Instruments Ltd.
International Submarine Engineering Ltd.
Arctic Sciences Ltd.
World Ocean Systems
R.A.E. Industrial Electronics Ltd.

There are several other meetings that may be of interest to those planning to attend the Congress including:

1. 'Marine Chemistry into the Eighties' May 31 - June 1, symposium sponsored by the Chemical Institute of Canada and the National Research Council; at University of Victoria.
2. Annual Conference of Canadian Association of Geographers, May 28-31; at University of Victoria.
3. Fjord Oceanographic Workshop, June 4 - June 8, N.A.T.O. Advanced Research Institute; at Institute of Ocean Sciences, Victoria.

In addition, as a point of interest, the internationally famous Swiftsure yacht race is being held on May 26 and May 27 - the weekend prior to the Congress. The yachts congregate in Victoria's inner harbour on Friday, with the race beginning just off Victoria early Saturday morning.