



C.M.S. NEWSLETTER

1976 *FEBRUARY* NUMBER 1

10th Annual Congress

Arrangements for the 10th Annual Congress, May 26-28 at Université de Laval are well advanced. The keynote speaker will be Verner Suomi on the global observation network. Registration forms for the Congress are being mailed by the Conference of Learned Societies. If you don't receive your form soon write

M. M. Ferland
Service de la Météorologie du Québec
Ministère des Richesses Naturelles
Boulevard de l'Entente
Québec, Qué.

Memorial Lecture

The first Andrew Thomson Memorial Lecture was held 15 January 1976 at the University of Toronto under the joint auspices of the University, A.E.S. and the Canadian Meteorological Society. The lecturer was Dr. J. Houghton, F.R.S., of Oxford University, his topic "Probing Atmospheres from Space". It is planned to hold these lectures at two year intervals.

Canadian Symposium on Fluid Mechanics

The Second Canadian Symposium on Fluid Dynamics will take place at UBC from May 17 to 20, 1976. Focussing on non-traditional aspects of theoretical fluid mechanics, invited keynote speakers will introduce the participants to various current (sic) fields of study in one-hour review papers. Shorter, more research-oriented papers will follow the main reviews. Prospective participants are urged to write to B.R. Seymour (Dept. of Mathematics, U.B.C., Vancouver, V6T 1W5, B.C.) as soon as possible.

Activities of the CMS

The President recently submitted the following report on the activities of the CMS in support of his application to Treasury Board for a continuation of the Society's subvention.

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The Canadian Meteorological Society exists for the advancement of the science of meteorology. Its membership is drawn mainly from the meteorological community, but also draws members from many other disciplines which have an interest in the atmospheric environment. It is financed largely by membership dues and the sale of its periodical, Atmosphere.

Atmosphere is a quarterly journal which publishes the results of original research, survey articles, essays and book reviews in all fields of atmospheric sciences. The editorial policy has recently been modified to include contributions from certain areas of oceanographic research in response to the wishes of a large segment of the oceanographic community in Canada. It is the only journal of its kind published in Canada and it serves to keep the community well informed of ongoing research and development. Most of the articles are contributed by Canadians. It plays a crucial role in maintaining Canadian meteorology at a high professional level, and represents one of the most important activities of the CMS. The cost of this publication is about \$15,000 per annum.

The CMS supports a Scientific Committee whose membership is drawn from the meteorological community across the country. This committee normally meets twice a year to coordinate ongoing research in Canada and to initiate new research into areas of national concern. They also have the responsibility to contribute to the formulation of Canadian participation in international efforts such as the Global Atmospheric Research Programme. The committee provides advice to the National Research Council, the Atmospheric Environment Service and to some agencies of the provincial and municipal governments. It contributes to the environmental legislation process in conjunction with all concerned governments. The cost of operating this committee is about \$3,000 per annum, and could not be supported in the absence of a grant.

The CMS sponsors an annual congress in the late spring of each year. This congress generally involves about 300 participants who meet in a different city each year. About 100 scientific papers are presented and the annual general meeting is held to discuss and approve the action plans of the Society. The congress is generally self-supporting through registration fees; but because of uncertainties of realized registration income, the Society must have certain reserves to cover unexpected deficits.

The CMS began a program of subventions to its local Centres in nine Canadian cities at the time of receipt of the first government grant. These subvention funds have been used to familiarize high school students with meteorological observations and instruments, to set up displays at public fairs, to support local conferences and to promote an awareness of the nature and importance of meteorology especially to the younger members of the general public. The CMS is continually monitoring the use of these funds by the local centres in order that they produce the desired result. It is expected that the general subventions will remain at a level of about \$3,000 per annum. New initiatives and proposals for support of specific programs at the local level will have to be approved by the CMS.

The CMS has plans to set up information services oriented to the general public. It will consist of pamphlets or modest publications to contain a substantial amount of attractive visual material. This material will aim to inform young people about careers in meteorology, to help inform those who wish to know more about meteorological aspects of environmental concerns. These publications will be sold at a low cost and it is expected that the Society will require funds to cover deficits in this operation.

During the period 1973-75 the Society, through the initiative of its Scientific Committee, has formed contacts with the oceanographic community of Canada. These contacts led to the formal establishment of an oceanographic division of the CMS at the annual general meeting in 1975. The oceanographic division held a very successful scientific meeting as an integral part of the 1975 Annual Congress. While it is not clear at the present time whether this association will be permanent, it is clear that the CMS has served as focus and catalyst for the organization of this very important area of national concern.

Since its inception in 1967, the CMS, because of limited funds has drawn its national executive from either the Montreal or Toronto area. This situation has led to an insufficient participation in the direction of the affairs of the Society by people from the other regions of Canada. The CMS moves partially to correct this situation by supporting the travel costs of a small number of its councillors from different regions. In 1974 the CMS decided to move the locale

of the national executive to the Vancouver area, to take effect in 1976. It is anticipated that the offices will remain in the West for a period of about 3-4 years after which it may be moved to other regions. These steps represent a compromise between an executive drawn each year from the entire country and an executive which is drawn from the same group of people each year. The former arrangement is in the long run the most desirable, but is very costly.

The compromise also involves considerable cost associated with the smooth transfer of executive operations and with the generally higher costs associated with executive operations in regions with less concentrations of members. The CMS believes that this step is essential to maintain the national character of the organization.

Activities of CMS Members

An appreciable number of our members are located far from the nearest Centre of the Society and thus lack the opportunity for group activities. From one of these comes the following:

"The Society exists for the advancement of Meteorology". So it is stated on the inside front cover of "Atmosphere".

If one thinks about this phrase, several questions come to mind. What exactly is meant by the advancement of Meteorology? By what means should this advancement take place? Should steps towards such advancement be taken by the Society's Executives, or by individual members? And why is such advancement desirable in the first place?

If we are to follow our supposedly democratic traditions, each member should supposedly play his part. Hopefully, such participation will go beyond payment of dues, attendance at meetings and fulfilling one's minimum duties to one's employer.

To many people, advancement of a science merely means research, the continued growth of our knowledge. But, as has been stated many times already, mankind's stock of knowledge is increasing far faster than it can be absorbed, while man is developing socially far too slowly to live with this knowledge. It is partly for this reason that I have

tended in recent years to spend more time on teaching than on research. Maybe one misses the prestige of the big grants by doing so, but teaching, too, has its challenges and rewards.

Shortly after I came to live in Nelson, I offered a course in basic meteorology under the local Adult Education Programme. Unfortunately, it was advertised under the title "Meteorology", and as you know, there are still many people who think that meteorology is the study of those bits of rock and metal that fall from outer space, or even another name for astronomy. So it happened that only one student turned up the first evening, and of course, that was not a viable enrolment.

A few years later, I succeeded in getting a Basic Meteorology course on the curriculum at Notre Dame University. Originally, it was a one-term lecture course. The first time, it was held in the evening, and it did attract several people from outside as well as inside the university. Later it expanded to two terms with some "laboratory work". It was to be a course which would be appropriate for students who were not necessarily in a science programme; nevertheless I considered that its standard should be appropriate to a first-year university, rather than elementary school, science course. Some students did seem a bit dismayed when they found that there was more to it than just admiring the clouds, and that they were expected to do some calculations and use some simple high-school algebra in solving equations. It was also necessary to teach a bit of basic physics from scratch.

I set the course up so that the first part starts with observations and instruments, and then leads into basic theory. The second part covers a little more theory, but then allows the student to study in depth some topic of his/her choice, such as air pollution, weather modification, avalanches or building an instrument. Sometime I hope to get a student who, as his course project, will do a snow and avalanche study at the new ski area which has just opened south of Nelson.

Enrolment in the course has been rather small, though one cannot really expect very much at a small institution. Biology and the Social Sciences seem to be the fashionable fields nowadays. One would expect meteorology to be of some interest to biologists - but it appears that most students are

more interested in the credit which a course gives them towards gaining their degree than in what they learn from it.

To remedy this, it would seem desirable to stimulate some interest in the weather at an earlier age. I recently got the idea of starting a Weather Observation Project involving the schools in this area. The inhabited parts of this region are in the interconnected valleys of the Columbia, Slocan and Kootenay river systems, and there may be some interesting features to discover in the interaction of the winds in these valleys, and topographic effects on precipitation. I have been trying to contact schools within this 9000-square-mile area, with the suggestion that they make some wind observations, using the Beaufort scale, with rainfall or snow-depth measurements as an additional option. But I have not yet had one reply from an individual who is interested in participating. Evidently the project will be yet another victim of Canada's National disease - Apathy. Or perhaps my approach has been wrong. If there should be any reader of this who does not suffer from the aforementioned disease, and would like to offer any constructive advice or suggestions on getting such a programme started, I should be glad to receive them.

It is unfortunate that I have nothing positive to report on this proposed programme, for I see that the theme of this year's Annual Congress is to be "Observational Networks". It is also unfortunate that, due to Canada's large size and small population, those of us who live in the more remote areas have few opportunities to meet with our professional colleagues. For instance, between the Annual Congresses of 1972 and 1975, I met a total of four other meteorologists: two local AES personnel and two visitors from the U.S.A. It is not always practicable to attend an Annual Congress which is held at the other end of the country, or to take two days off from work just to attend a single lecture at the nearest C.M.S. Centre. I suspect that those members who live in metropolitan areas are unaware of the professional problems encountered by their colleagues who live "off the beaten track".

When a problem exists, the obvious remedy is to find a solution for it. With this in mind, I am proposing to hold an informal gathering here in Nelson, B.C., primarily for those western members who are unable to attend the Annual Congress or take advantage of the benefits which the CMS

offers its members in the main Centres, but would nevertheless like to meet some colleagues. However, anyone else who feels inclined to come along will be welcome. Informal discussion could be mixed with recreation in this environmentally-varied neighbourhood, while time and space could no doubt be found to accommodate anyone who should be ambitious enough to give a talk! I suggest the first half of May as a suitable time, with July or August, or perhaps June, as alternatives, as the facilities of Notre Dame University should be available then, while those are also normally the periods of best weather.

I should be very pleased to hear from anyone who would like to come to such a gathering, and would welcome suggestions regarding the date, discussion topics and activities desired. I should also like to make it clear that I am not expecting any of the Society's Executives to do any of the planning whatsoever, except by helping me to contact other members through notices such as this letter.

Finally, I think it would be interesting to hear of other members' experiences in promoting "the advancement of Meteorology", and their views on the questions I raised in the second paragraph. Are you favourable to such an idea, Mr. Newsletter-Editor? I don't think you need to worry about being snowed under by a deluge of responses!

Norman Thyer
R.R. 2
Nelson, B.C. V1L 5P5.

Report on the Norwich Climate Conference

In August 1975 a WMO/IAMAP symposium discussed long term climatic fluctuations and the future of our climate. The symposium, organized by H.H. Lamb and his Climatic Research Unit was held on their home campus of the U. of East Anglia in Norwich, England. Of the five very full days of discussion the first two were largely given to those who had measured aspects of past climates, the third and fourth days to theory of climate and numerical modelling. The last day was devoted to a summing up. Attendees of many disciplines came from all corners of the globe, but the Americans and British had the largest delegations.

From the very first the paleoclimatic chronologists struck hard, the group involved in the CLIMAP project being particularly prominent. Their material, from cores in deep sea sediments, is revealing cycles in worldwide temperatures at periods of about 20,000 40,000 and 100,000 years which agree quite closely with Milankovitch's cycles. In fact on the first morning one of their speakers, amid some sketicism, claimed almost perfect correspondence, predicted another ice age in about 1000 years and more or less implied we could now all go home, all problems solved. However other speakers had to have their say and the symposium proceeded. It was, in fact, evident that the chronologists are at present ascendant over the theorists and modellers. The latter are caught between the use of simple models whose application to the real world may be doubtful, and more complicated general circulation models, which have still not reconciled atmospheric and oceanic time scales, are terribly expensive to run and insofar as modelling climatic change are concerned, are still in their infancy.

Most of the papers given at the conference are contained in WMO publication No. 421. This volume along with the promised summary of the GARP International Study Conference on the Physical Basis of Climate in Stockholm in 1974 and the U.S. National Academy of Science publication *Understanding climatic change, a program for action* provide a solid review of the present situation and prospects in this field, which is so vital now that the earth's resources, particularly agricultural, are being strained.

E.R. Walker,
FSRG, OAS, DOE
Victoria, B.C.

The Continuing Saga of the Arctic Institute

The Arctic Institute of North America is a non-profit organization incorporated in both Canada and United States. In the immediate post-war years it was the main source of knowledge and expertise in Arctic matters and was the main operating agency in Arctic research and exploration. During these bountiful years the Institute was able to build up the finest library on the Arctic to exist outside Russia. As first the military and then the petroleum interests undertook major Arctic exploration, the Institute found itself

unable to compete for the larger contracts and its income dwindled.

Last year, the University of Calgary offered the Arctic Institute \$350,000 plus the income from a five million dollar trust fund if the Institute library were moved from its rent-free accomodation at McGill University to Calgary. Faced with a continuing operating deficit the directors voted to accept the offer, despite criticism that this would make the Institute the tool of oil companies working to exploit northern energy resources.

On February 1st, Quebec Cultural Affairs Minister Jean-Paul L'Allier announced his intention to classify the Institute's famous library as part of Quebec's protected cultural wealth, thus preventing any removal of library material for at least sixty days, during which time the Commission des biens culturels will prepare a formal recommendation to the government. If, as expected, the commission calls for formal classification of the library and its contents, the government could then order a permanent prohibition on its leaving Quebec.

At the time of this announcement, the library was in transit by truck in Northern Ontario. The move to Calgary costs \$40,000. To return it would presumably cost the same. Quebec has yet to make any financial commitment to the Institute. The trust fund in Alberta is yet to be established. Will the Institute become the possessor of a mobile library, moving from province to province to keep ahead of the bailiffs?

The Canadian Geophysical Bulletin

The Canadian Geophysical Bulletin, published annually by NRC provides its readers with a concise picture of Canadian activities in geophysics, together with a bibliography for the year under review. The chapter on meteorology is of interest to many of our members. To be placed on the mailing list write

Secretary
Associate Committee on Geodesy and Geophysics
National Research Council
Ottawa, Ontario K1A 0R6

While the Bulletin is distributed without charge, the Associate Committee appreciates receiving similar national or institutional reports in exchange.

New Members

The following have been elected to Society membership

2 Sep 75

F. Barber	R. Bloom
J.-R. Brinle	M. Khalil
J. Lebel	C. Marlin
C. Mason	G. Moody
S. Prinsenberg	K. Rodgers
C. Ross	G. Roussel
H. Sandstrom	H. Serson
B. Tryggvason	W. Wickett

27 Oct 75

R. Dempster	P. Hamblin
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28 Nov 75

A. Simard	D. Kousse
J. Thiffeault	G. Vigeant

WSC/lcp
5 February 1976

W.S. Creswick
Editor, C.M.S. Newsletter.

METEOROLOGIST

An opportunity exists for a research oriented meteorologist to participate in the Alberta Hail Project research and hail suppression experiment sponsored by the Alberta Government through the Weather Modification Board.

Duties:

During the summer, to supervise project weather office and two radiosonde stations, prepare weather forecasts for the project with special emphasis on hail and assist in co-ordinating project activities. During the off season, conduct hailstorm forecasting research into synoptic-scale/mesoscale relationships emphasizing regions and conditions for storm development, terrain effects, storm type, severity and persistence. Will also assist with development of predictor variables for evaluation program. Work under general direction of Project Manager will be co-ordinated with other on-going research programs using project radar, computer, radiosonde and hailfall observing facilities.

Qualifications:

Post graduate degree in meteorology and several years weather forecasting experience or equivalent.

Salary:

Commensurate with qualifications and experience. Alberta Public Service benefits included.

Location:

Red Deer, Alberta with offices at the Red Deer Industrial Airport.

Applicants should forward resumes before February 1st, 1976 to:

*Project Manager,
Alberta Hail Project,
Alberta Weather Modification Board,
P.O. Box 240
Mynarski Park, Alberta TOM 1N0*
