



Canadian Meteorological  
and Oceanographic  
Society

La Société canadienne  
de météorologie et  
d'océanographie

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

DECEMBER/DÉCEMBRE 1993 VOL. 21 NO. 6



*Season's Greetings from CMOS Council*  
*Joyeuses Fêtes du Conseil SCMO*



The CMOS Executive met on the 21st October 1993 at the Institute of Ocean Sciences in Sidney, B.C. From left to right are: Doug Bancroft (Corresponding Secretary), Sus Tabata (Treasurer), Humfrey Melling (Recording Secretary), Gordon McBean (President) and Dave Krauel (Past President). Supported is Jacques Derome (Vice President) and overseeing the proceedings is the official Executive Guardian Angel, Uri Schwarz.

## EDITOR'S COLUMN

The next number will be the first issue of the CMOS Bulletin SCMO and will continue the numbering sequence established by the Newsletter, i.e. it will be 22(1), February 1994. It will go to press on January 20th, 1994. Contributions are welcome and should be sent to me at:-

Institute of Ocean Sciences  
P. O. Box 6000  
Sidney, B.C. V8L 4B2  
Tel. (604)-363-6590  
FAX (604)-363-6746

I will be responsible for only the February and April issues and so I have no intention to make any changes in the structure of this publication. The new editor and his or her editorial board will have the job of deciding what the new publication should look like, and making it happen.

I prefer receiving contributions submitted on floppy disk in any DOS format (i.e. Word Perfect, flat ASCII, MS Word etc). DFO contributors can send ASCII files to me over DFOnet to IOSCCS::HJFREE. Anyone with access to Omnet can send ASCII files to me at IOS.BC, attention Howard Freeland. ASCII files can also be sent to me via Internet to HJFREE@IOS.BC.CA. If you want to send graphics, then binary attachments can be sent over the networks, in most cases, any other format will have to be sent on paper or on a floppy disc or you can give me an FTP address and I will take the graphics. DFO people should note that I operate on Pathworks mail, and any attachments sent over A1Mail will be removed automatically before I receive the mail. I prefer common DOS graphics formats, e.g. HPGL, WPG, CDR, PCX, BMP, TIF, GIF etc. It is recommended that whatever software prepares an HPGL file be configured for the HP7550 printer. If you have the option of selecting pen colours, please don't. If you send a file over the network, send a copy to yourself and examine the transmitted copy to check that it is all there.

Do you have an interesting photograph, say, an interesting meteorological or oceanographic phenomenon? If so, write a caption and send me a high contrast black and white version for publication in the CMOS Newsletter. Savonius Rotor is also looking for assistance from anyone who has an unusual point to make.

Howard J. Freeland, CMOS Newsletter Editor

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## WHAT'S GOING AROUND?

by Savonius Rotor

Recently while listening to the weather forecast on one of the (not-to-be-named) local Victoria-area weather stations I heard the following gem:

*"There is a slight chance of a 30% chance of precipitation tomorrow."*

I pondered on the numerical value of the cumulative probability defined as 0.3 times "slight" for about 1 milli second. There must be other similar or even better gems being broadcast daily all across Canada. So, I hereby announce the first Savonius Rotor sponsored competition for the BBG (Best

Broadcast Gem) submitted by my readers in time for the February 1994 Newsletter. The prize will be the glory of having your name printed here as the first prize winner. If I can come up with a better prize than an appropriate announcement will be made. An impartial panel (with at least one member) will be appointed to judge the entries.

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## WANTED

Dear CMOS Members:

I am studying major hailstorms which struck Alberta cities. Data pertaining to "The Edmonton Hailstorm of 4th August 1969" were at one time extensive, but now are lost.

I am offering a reward to the first person who can come up with a handout circulated at the 1971 Congress at Macdonald College. This handout would be authored by L.N. Rogers and P.W. Summers and bear the title quoted above.

Short articles already discovered include those by L.N. Rogers in the Proceedings of the 1970 Cloud Physics Conference at Ft. Collins, pp 89-90, correspondence in BAMS, Oct 1971, p. 994, and correspondence in JAM, June 1972, pp. 745-746. I suspect that the handout in question gives the spatial distribution of maximum hail size based on 300 urban hailstone samples collected in Edmonton.

The Reward is a velvet snowflake collector to be sewn on the sleeve of your winter coat. The current prototypes have the CMOS crest embroidered into the velvet.

Yours sincerely,

R. B. Charlton  
Dept. of Geography  
University of Alberta  
Edmonton, Alberta T6G 2H4  
Tel. (403)-492-5672  
FAX. (403)-492-7598

*Editor's Note: See the article on page 4 about Calgary's record hailstorm of Sept. 7th 1991.*

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## InterNet Addresses

Last April I published a list of CMOS members. Among the comments that I received was a suggestion that I print a list of members and their EMail addresses. I propose publishing a list in the February Bulletin. If you wish to have your address included please send a message to my InterNet address, HJFREE@IOS.BC.CA. In the "Subject" field please enter "InterNet Address" and then as a message please send, on one line only, your name (last name first), affiliation and the InterNet address, for example,

Rotor, Savonius Inst. Ocean Sci. rotors@ios.bc.ca

Please do not send restricted use addresses, such as DFOnet, stick to addresses that all members can use. Make use of abbreviations wherever possible so that the list can be a series of one line entries in alphabetical order. Only addresses sent to me in this manner will be included.

Howard Freeland

# News from the Council

## CMOS Bulletin

At the 21 October meeting of the CMOS Council, the results of the mail ballot concerning the amendments to the CMOS by-laws in respect to *Climatological Bulletin* and the *CMOS Newsletter*, were announced by the Recording Secretary. The results were:

Ballots received:	48
Ballots not traceable:	1
Ballots in Favour:	38
Ballots Opposed	9

The proposed amendments to the CMOS by-laws were approved. The Council appreciates the support of the membership in this decision. It is planned that the Newsletter will be renamed the *CMOS Bulletin SCMO* with the first issue of 1994 and that the last issue of the *Climatological Bulletin* will be the one to complete the 1993 volume. Dr. Howard Freeland has agreed to be Editor of the *CMOS Bulletin* for the first two issues and the Executive is recruiting other members to make up the new bulletin's Editorial Board. The *CMOS Bulletin* will be a publication of interest to all CMOS members, including a wide range of articles on operational meteorology and oceanography, news on research programs, short descriptive articles and news and notes on CMOS activities and other items of interest. *Atmosphere-Ocean* will remain the CMOS publication for refereed research articles. It is expected that the content and appearance of the *CMOS Bulletin* will evolve over the next few years and the input of all CMOS members is encouraged to make it a success.

The Council wishes particularly to thank the Editors and Members of the Editorial Board of the *Climatological Bulletin* for their contributions over the years.

## New Business Office for the CMOS

The CMOS Council has been reviewing the Society's Business Office arrangements. For almost six years the CMOS Business Office has been run capably by Carol MacLeod through MLMS in Newmarket. However, Council decided that it is appropriate to have an office that can provide convenient bilingual services to all members of the Society. It was also considered to be important to have a presence in Ottawa and a closer working arrangement between the Business Office and the Executive Director, who is located in Ottawa. Therefore, after reviewing several options, Council has negotiated a new contract with the Canadian Association of Physicists to operate the CMOS Business Office through their office in Ottawa. This arrangement will take place effective 1 January, 1994. The new CMOS Business Office will then be Suite 903, 151 Slater Street, Ottawa, Ontario, K1P 5H3. At present the CAP number (613-237-3392; fax: 613-238-1677) can be used until the CMOS telephone number is assigned. The CMOS Office will also be accessible via internet at [WCSCAP@CARLETON.CA](mailto:WCSCAP@CARLETON.CA). The CMOS Office will be open normal business hours (8:30-4:30) Monday to Friday. Steps are being taken to minimize the transition difficulties. Manager of the CMOS Business Office will be Francine Ford.

The Council wishes particularly to thank Carol MacLeod for her able running of the Business Office for these past years.

## Bulletin SCMO

Lors de la réunion tenue par le Conseil SCMO le 21 octobre dernier, les résultats du vote par courrier concernant les amendements aux règlements de la SCMO portant sur le Bulletin Climatologique et les Nouvelles SCMO ont été dévoilés par le secrétaire d'assemblée.

Les résultats sont les suivants:

Bulletins reçus :	48
Bulletins non identifiés :	1
Bulletins pour :	38
Bulletins contre :	9

Les amendements proposés aux règlements SCMO ont été approuvés. Le Conseil apprécie le support apporté par les membres dans cette prise de décision. Il est décidé que les Nouvelles vont être rebaptisées le CMOS Bulletin SCMO à la première parution de 1994, et que la dernière parution du Bulletin Climatologique complétera le volume de 1993. Dr Howard Freeland a accepté d'être l'éditeur du Bulletin SCMO pour les deux premières parutions et l'exécutif recrute d'autres membres pour former l'équipe de rédaction du nouveau Bulletin. Le Bulletin SCMO sera une publication intéressante pour tous les membres de la SCMO. Il comprendra une grande variété d'articles sur la météorologie et l'océanographie opérationnelles, des nouvelles sur les programmes de recherche, de courts articles descriptifs, ainsi que des nouvelles et des notes sur les activités de la SCMO et autres points d'intérêt. *Atmosphère-Océan* demeurera la publication de la SCMO pour les articles de référence en recherche. Il est prévu que le contenu et l'apparence du Bulletin SCMO évolueront au cours des prochaines années, et la participation de tous les membres de la Société pour en faire un grand succès est fort attendue.

Le Conseil tient à remercier particulièrement les éditeurs ainsi que les membres de l'équipe de rédaction du Bulletin Climatologique pour leur contribution au cours des ans.

## Nouveau bureau d'affaires pour la SCMO

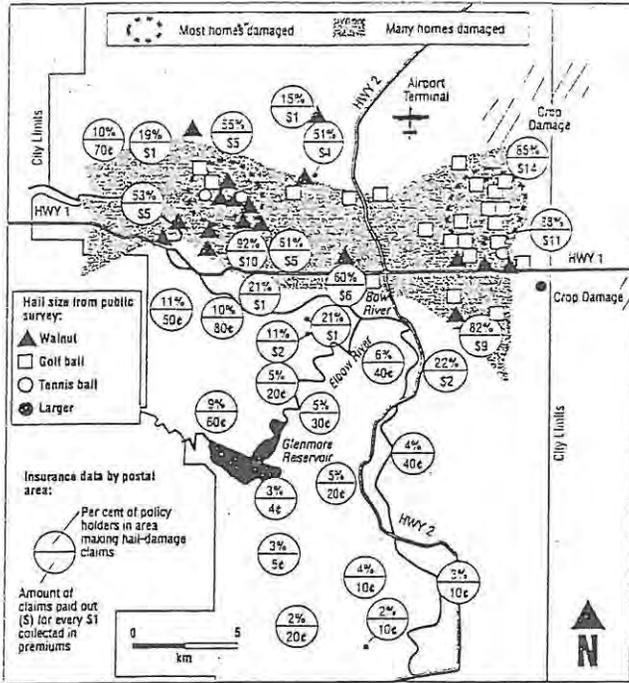
Le Conseil de la SCMO a révisé les arrangements du bureau d'affaires de la Société. Pendant presque six ans, le bureau d'affaires de la SCMO a été dirigé avec compétence par Carol MacLeod au bureau de Newmarket. Cependant, le Conseil a décidé qu'il serait plus approprié d'avoir un bureau pouvant fournir des services bilingues à tous les membres de la Société. Il a aussi été jugé important d'avoir une présence à Ottawa ainsi que des dispositions de travail plus étroites entre le bureau d'affaires et le Directeur exécutif, situé à Ottawa. Par conséquent, après révision de plusieurs options, le Conseil a négocié un nouveau contrat avec l'Association Canadienne des Physiciens pour gérer le bureau d'affaires de la SCMO par leur bureau d'Ottawa. Cet arrangement sera effectif à partir du 1 Janvier 1994. Le nouveau bureau d'affaires de la SCMO sera donc situé à : Suite 903, 151 rue Slater, Ottawa, Ontario, K1P 5H3. Pour l'instant le numéro de téléphone de l'ACP (613.237.3392; télécopieur: 613..238.1677) peut être utilisé jusqu'à ce que la SCMO ait son propre numéro de téléphone. Le bureau de la SCMO sera aussi accessible via internet à [WCSCAP@CARLETON.CA](mailto:WCSCAP@CARLETON.CA). Le bureau de la SCMO sera ouvert aux heures normales d'affaires (8:30-4:30) de lundi au vendredi. Les changements sont effectués successivement pour minimiser les difficultés de transition. L'administrateur du bureau d'affaires de la SCMO sera Francine Ford.

Le Conseil tient à remercier particulièrement Carol MacLeod pour sa capacité de gérer le bureau d'affaires au cours des ans.

# Hail Storm Unmatched

The following article was originally printed in the Calgary Herald on Tuesday Sept. 7th 1993.

What a hail of a storm! It literally raised the roof of north Calgary. Hailstones huge as tennis balls pounded the city two years ago today. Now a new study reveals how remarkably rare and destructive the great hailstorm of Sept. 7, 1991 really was.



Nearly half the homes in the city's north received new roofs in the aftermath of the 30 minute storm, the University of Alberta study found. "There really hasn't been a storm like that since," says U of A meteorology professor Bob Charlton, who headed the research. He, and research associate Brad Kachman, found that most homeowners with insurance in a 100 square kilometre area of north Calgary cashed in on claims. In three particularly hail-pummeled areas - one in northwest Calgary and two in the northeast - between 82 to 92 percent of homeowners filed claims with Co-operators Insurance. "You can see why the insurance companies had to raise their premiums," Charlton says. "They handed out 10 to 14 times as much money (in those three areas) as they took in" from annual premium charges. Alberta premiums have risen an average of 30% in each of the past two years, mainly due to hail damage claims.

Charlton's study is based on computerized insurance data kept by Co-operators. It shows, for 30 postal code areas in Calgary, how much was paid out in weather-related claims (almost always hail) versus how much was collected in premiums. Charlton says the numbers are statistically significant and would hold true for each area no matter which other insurance companies were included. Co-operators is a leading home insurer in the city. Other major players include Wawanesa Insurance, Canadian Home Insurance, Zurich Insurance and State Farm Insurance. Roger Townsend, a

claims supervisor for Co-operators, says for the Sept. 7 hailstorm, the insurer paid out about \$15.6 million for a total of 4,536 homeowners, claims in Calgary. The vast majority of the claims were in the north. Co-operators also paid out about \$4.7 million for a total 3,145 claims for hail damaged automobiles - also in the north - as a result of the storm.

In the northwest area with postal code prefix T2L, 92 percent of policy holders made claims; payouts were 10 times greater than premiums. This area, just north of University of Calgary, includes Varsity heights, Charleswood, Brentwood, Charleswood Heights and Foothills Estate. "The University was essentially just missed by the large hail," Charlton notes.

In the northeast, 88 percent of policy holders in the T1Y postal code area made claims with payouts 11 times greater than premiums. This area encompasses Whitehorn, Temple, Rundle and Pineridge. Also in the northeast, 85 percent of policy holders in the T3J area made claims with payouts 14 times greater than premiums. This area takes in Falconridge, Taradale, Martindale and Castleridge.

Charlton's study, which included a public survey of hailstone size, shows all three areas which had the most claims also were barraged by the biggest hailstones. They ranged from the size of walnuts through golf balls to tennis balls.

Tennis-ball-sized hail in September in Alberta is so rare, it's almost a miracle, Charlton found. There were only six reports of golf-ball-sized hail for any September between 1957 and 1985, in more than 85,000 volunteer hail reports by farmers to the Alberta Hail Suppression Project.

The Sept. 7 storm in Calgary still holds the record for the most expensive natural disaster in Canadian history. More than 80,000 home, business and automobile damage claims, totalling about \$400 million, were made. Charlton says the world's most expensive hailstorm slammed into Munich, Germany, in July 1984. Insurance claims amounted to a staggering \$1 billion.

## In Memorium André Robert

It is with great regret that we note the death of André Robert on 18 November, 1993. Andre was an outstanding meteorologist who made great contributions to our science and to the CMOS. André was President of the Canadian Meteorological Society (the forerunner of CMOS) in 1974. He has the unique distinction of being the only person to receive the President's Prize twice. The first was in 1967 and was the first President's prize awarded by our new independent Society; the second was shared with his close colleague Michael Kwizak and awarded in 1971. He made great contributions to numerical weather prediction and atmospheric modelling. On behalf of the CMOS, I wish to convey to his family and all his friends, our sincere condolences. A fuller biography will appear in the next Newsletter.

## CMOS CONGRESS IN OTTAWA

### Special Session: Measurements and Modelling of the Middle Atmosphere

Long neglected as the poor cousin within the meteorological family, the middle atmosphere (stratosphere and mesosphere) has recently become a subject of rapidly growing interest. This development is due in large part to the concern over the measured depletion of the ozone layer, and the realization that the ozone will play a role in possible climate change. At the same time, the growth of the subject has been facilitated by the considerable recent advances in our ability to measure and to model the atmosphere.

The atmospheric science community in Canada is actively involved in both aspects of this development. On the measurement side, there are Canadian instruments on both the current UARS (Upper Atmosphere Research Satellite) and the future EOS (Earth Observation System) satellites, as well as extensive ground-based programmes. On the modelling side, there is a new initiative to develop a 3-D middle atmosphere General Circulation Model, including a full representation of radiation, chemistry and dynamics.

The time is therefore ripe for the measurement and modelling communities to begin interacting in a decisive manner. The purpose of this special session is to bring together the wide variety of scientists within Canada working on different aspects of the middle atmosphere, in order to engender such interaction and to stimulate future collaboration. It is hoped that a broad cross-section of the Canadian research community, including those not usually associated with CMOS, will choose to participate in the special session.

Papers are solicited in all areas of middle atmosphere science, and should be sent to the Chair of the Congress Scientific Program Committee:

Mr. Geof Holland  
Physical and Chemical Sciences  
Dept. of Fisheries and Oceans  
1280-200 Kent Street  
Ottawa, Ontario  
K1A 0E6

#### CONFIRMED INVITED SPEAKERS ARE:

- 1) John Gille (NCAR): Impact of UARS measurements on our understanding of the middle atmosphere;
- 2) Jim Holton (Univ. Washington): Current challenges in middle atmosphere modelling.

For further information, contact one of:

Jack McConnell phone: (416) 736-2100 x77709  
fax: (416) 736-5817  
email: jack@nimbus.yorku.ca

or

Ted Shepherd: phone: (416) 978-6824  
fax: (416) 978-8905  
email: tgs@rainbow.physics.utoronto.ca

## CONGRÈS DE LA SCMO À OTTAWA

### Session spéciale: Observations et modèle de l'atmosphère moyen

Longtemps négligé comme parent pauvre de la famille météorologique, l'atmosphère moyen (stratosphère et mésosphère) est devenu tout récemment un sujet d'intérêt grandissant. Cet intérêt soudain est dû en grande partie au problème de l'amincissement de la couche d'ozone ainsi que sur la réalisation du fait que l'ozone jouera un rôle sur un possible changement du climat. L'intérêt du sujet a été en même temps facilité par les progrès considérables dans notre habilité à observer et à modéliser l'atmosphère.

La communauté scientifique atmosphérique canadienne est impliquée activement dans les deux aspects de ce progrès. Côté observation: il existe des instruments canadiens présentement sur le "UARS" (Satellite de recherche sur la haute atmosphère) et sur le satellite "EOS" (Système d'observation de la terre) à être lancé ainsi qu'un programme très actif de mesure sur le terrain. Côté modélisation: il y a cette nouvelle initiative de développement d'un modèle tridimensionnel portant sur la circulation générale de l'atmosphère incluant une représentation complète des radiations, de la chimie et de la dynamique.

Le temps est donc propice pour les communautés d'observations et de modélisations d'interagir entre elles d'une façon significative. Le but de cette session spéciale est de rassembler au Canada une brochette variée de scientifiques travaillant sur des aspects différents de l'atmosphère moyen dans le but de créer une telle interaction et de stimuler si possible une collaboration ultérieure. On espère grandement que plusieurs membres représentatifs de la communauté scientifique canadienne, incluant ceux qui ne sont pas habituellement associés à la SCMO, choisiront de participer à cette session spéciale.

Des contributions scientifiques portant sur l'atmosphère moyen sont présentement sollicitées et doivent parvenir au Président du Comité du programme scientifique du Congrès:

M. Geof Holland  
Sciences Physiques et Chimiques  
Ministère des Pêches et Océans  
1280-200, rue Kent  
Ottawa, Ontario  
K1A 0E6

#### Les conférenciers suivants ont déjà confirmé leur participation:

- 1) John Gille (NCAR): "Impact of UARS measurements on our understanding of the middle atmosphere";
- 2) Jim Holton (Univ. Washington): "Current challenges in middle atmosphere modelling".

Pour plus de renseignements, prière de contacter une des personnes suivantes:

Jack McConnell: téléphone: (416) 736-2100 x77709  
facsimilé: (416) 736-5817  
email: jack@nimbus.yorku.ca

ou

Ted Shepherd: téléphone: (416) 978-6824  
facsimilé: (416) 978-8905  
email: tgs@rainbow.physics.utoronto.ca

**CMOS CONGRESS IN OTTAWA  
FORUM ON GLOBAL CHANGE  
MONDAY, 30 MAY 1994**

For our 1994 Congress, the theme Science: Addressing the Issues was selected to allow the Society to demonstrate the importance of meteorological and oceanographical sciences in today's public policy issues. However, it begs the question "What are the Issues?"

The Scientific Program Committee believes the venue, the Nation's Capital, and the timing, early in the mandate in the new federal government, make it appropriate for the Society and its members to take a look at the broad issues and challenges that face us.

In a departure from the past, the 1994 Congress is scheduling an extra day, the first day, to address this question, so extending the Congress to a full five days.

### **Why Global Change?**

It is becoming trite to state that 70 per cent of the earth's surface is covered by ocean, and certainly one hundred percent by the atmosphere. But the familiarity of the statistics does not diminish the significance of the oceans and atmosphere to human society, and increasingly the impact of human society of these components of the natural environment upon which we all depend.

Global change is the name given to the broad issue that encompasses these concerns. It has many aspects, climate change, ozone layer depletion, exploitation of natural resources beyond sustainability, extended impacts of natural disasters, and what may be seen as the root causes: overpopulation and overconsumption.

As members of CMOS, predominantly natural scientists, we play an indispensable role in meeting the challenge through an improved scientific understanding of the these issues and by contributing to mitigation of, or adaptation to, their impacts.

To explore the nature of these changes and challenges, CMOS will bring together leading thinkers from the public and private sectors to debate the trends which will dominate our environment and our work.

**No matter if you are working in University, Government or Industry, you will be affected by Global Change!**

The Forum will be held in the Hall of the Provinces at the National Conference Centre, 2 Rideau Street, Ottawa.

### **Participants:**

Gordon McBean, CMOS President and Forum General Chairman;  
Jim Bruce, Chair, Canadian Climate Program Board;  
Jon Grant: Chairman and CEO, Quaker Oats of Canada Ltd;  
Stephen Lewis: Former Canadian Ambassador to the UN;  
Brian Morissey: Assistant Deputy Minister, Agriculture Canada;  
William Rees: Professor, University of British Columbia;  
Maurice Strong: Chairman, Ontario Hydro;  
Kathy Sullivan: Science Advisor NOAA and former astronaut (tentative).

**Plan your participation in the CMOS Congress and Global Change Forum now:  
be part of this Seminal Event!**

# CONGRÈS de la SCMO à OTTAWA

## COLLOQUE SUR LE CHANGEMENT GLOBAL

### LUNDI le 30 MAI 1994

Le choix du thème pour le Congrès de 1994 (Les Sciences: des solutions aux problèmes) a été fait pour permettre à la SCMO de démontrer l'importance des sciences météorologiques et océanographiques dans les débats politiques publics d'aujourd'hui. Par contre, il demeure encore une question sans réponse: "Quels sont les problèmes"?

Le Comité du programme scientifique croit qu'à l'occasion du congrès dans la capitale du pays et également à cause du temps propice, tôt dans le mandat d'un nouveau gouvernement fédéral, il est opportun pour la Société et ses membres d'examiner en profondeur les problèmes et les défis auxquels nous devons nous faire face.

Faisant fi des traditions, la période du Congrès de 1994 sera accrue d'une journée supplémentaire, le premier jour, pour nous donner le temps d'analyser en profondeur ces questions. Le Congrès se tiendra donc sur une période de cinq jours complets.

#### **Pourquoi le changement global?**

C'est maintenant banal de dire que 70 pour-cent de la surface de la terre est couverte par les océans et que, assurément, 100 pour-cent soit couvert par l'atmosphère. Mais la connaissance de ces deux nombres ne diminue en rien l'importance des océans et de l'atmosphère sur la société humaine, et l'impact de plus en plus considérable de cette même société sur ces deux composantes de notre environnement duquel nous dépendons tous.

Le changement global est le nom donné à cette question qui embrasse ces préoccupations. Il comprend plusieurs aspects, le changement du climat, l'amincissement de la couche d'ozone, l'exploitation des ressources naturelles au delà du possible, les impacts prolongés des désastres naturels, et enfin ce qui peuvent en être les causes originelles, la surpopulation et la surconsommation.

Comme membres de la SCMO, en grande partie des scientifiques des sciences naturelles, nous jouons un rôle primordial à relever ce défi en augmentant notre compréhension des bases scientifiques de ces questions et en contribuant soit à l'adoucissement de leurs impacts ou à notre adaptation à ces mêmes impacts.

Pour explorer la nature de ces changements et de ces défis, la SCMO rassemblera des penseurs de premier ordre des secteurs public et privé. Ils auront pour tâche de débattre devant nous des tendances qui domineront notre environnement et notre travail.

Indépendamment que vous oeuvriez soit au sein d'une université, soit au sein du gouvernement ou soit au sein de l'industrie, vous serez touchés par le changement global!

Le forum se tiendra dans la salle des Provinces du Centre National des Conférences, 2, rue Rideau, Ottawa.

#### **Conférenciers participants:**

Gordon McBean, Président de la SCMO et Président général du forum;  
Jim Bruce, Chaire, Comité du programme canadien sur le climat;  
Jon Grant: Président et chef exécutif, Quaker Oats du Canada Limitée;  
Stephen Lewis: ancien ambassadeur du Canada aux Nations-Unies;  
Brian Morissey: Sous-ministre adjoint, Agriculture Canada;  
William Rees: Professeur, Université de la Colombie-Britannique;  
Maurice Strong: Président, Hydro Ontario;  
Kathy Sullivan: Conseiller scientifique de la NOAA et ancienne astronaute (non confirmée).

Inscrivez immédiatement le 30 mai à votre agenda pour ne pas manquer le congrès annuel de la SCMO et le colloque sur le changement global. Soyez présent pour cet événement très prometteur!

# THE FIRST SOCIETY AWARDS

*Editor's Note: Morley Thomas and Ced Mann are cooperating in the compilation of a history of the Canadian Meteorological and Oceanographic Society. Already completed are several short items and a long chapter on the early days of the Canadian Branch of the RMS. This short item concerns the early days of the Society Awards. In the first issue of the CMOS Bulletin in February 1994 I will carry the first chapter of the larger history. The following item has been contributed by Morley Thomas.*

It may be interesting to some Canadian Meteorological and Oceanographic Society members to learn that the awarding of prizes to Canadian meteorologists began more than forty years ago in the era of the CMOS's predecessor, the Canadian Branch of the Royal Meteorological Society.

The first Canadian award was the **President's Prize**. This award, for the best scientific paper presented to the Branch in each calendar year, was proposed to other Executive Committee members early in 1949 by the in-coming president, P.D. McTaggart-Cowan. The matter was referred to the Convenor of the Scientific Papers Committee, T.G. How, who submitted draft terms of reference for the prize to a meeting of the Executive Committee on September 27, 1949. The draft was adopted. In short, the terms called for the president and three members to be appointed by the Executive Committee each year to judge the nominations while the prize was to be chosen and paid for by the president. Within a few years the Branch assumed financial responsibility for the President's Prize and a very general Awards By-law was adopted. A President's prize has been awarded for each year since 1949<sup>1</sup>.

As members of the Royal Meteorological Society, Canadian Branch members were also eligible for RMS awards and prizes. The awards included the **Symons Memorial Gold Medal** "for distinguished work done in connection with Meteorological Science" awarded biennially and the **Buchan Prize Award** which was awarded in alternate years with the Symons Medal. The Buchan Award is for the most important meteorological contribution in meteorology presented in the RMS Quarterly Journal. The **Hugh Robert Mill Award** is awarded for original research into the distribution of rainfall in Great Britain. In 1951, a Canadian **Darton Prize** was inaugurated by the RMS "for the most meritorious paper by a Canadian member published during the year in the Society's publications." The President's Prize committee proposed the name(s) of the winners to London each year. There were two Darton Prizes until 1959. This prize was no longer awarded after the Canadian Branch was dissolved. However, Canadian members of the Royal Meteorological Society are still eligible for all RMS awards.

<sup>1</sup> CMOS Archives, File 1-5, Memorandum from F.W. Benum to P.D. McTaggart-Cowan, 14 January 1949; letter from F.W. Benum to T.G. How, Convenor of Scientific Papers Committee, 14 February 1949 and minutes of a meeting of the Executive Committee [of the] Royal Meteorological Society, Canadian Branch held in Toronto, September 27, 1949.

During the last years of the Canadian Branch consideration was given to establishing other awards. In 1961, the Executive Committee proposed that the Prize Committee should "recommend an additional award in the case where a meritorious paper by an operational or administrative personnel failed to receive an award due to competition from papers by research personnel." Accordingly, the first **Prize in Applied Meteorology** was awarded for 1962. Although the Executive Committee decided to establish a prize for the best M.Sc. thesis in 1964 no awards were made until the new Canadian Meteorological Society began to make awards for undergraduate studies as well as graduates in 1967-68<sup>2</sup>.

A list of the Canadian Branch award winners for each year from 1949 to 1966 is given below. The titles of the papers which won awards will give the reader an idea of the topics which meteorologists of the 1950s and 1960s considered to be worthy of prime attention. Early awards reflected the attention then given to improving observations and forecast methods, both aviation and public. Papers made possible by the development of radar and stratospheric observations and through increased interest in the Arctic began to appear in the mid-1950s. Winning papers dealing with ozone began to appear in the 1960s while papers on agro-meteorology and topoclimatology were occasional winners. From the titles, readers will note the change over the two decades from graphical methods and techniques to numerical modelling using computer methods.

Attention must be drawn to the Canadian winners of the Royal Meteorological Society awards. Professor Colin Hines of the University of Toronto was awarded the Napier Shaw Memorial Prize in 1961. The same year, Professor Stewart Marshall of McGill University was awarded the Hugh Robert Mill Medal. Later, in 1963, Dr. Warren Godson, of the Meteorological Branch (today's AES), was awarded the Buchan Prize.

It is also interesting to note that, even before the Canadian Branch was launched, a Canadian was awarded the Buchan Prize. A graduate of the University of Toronto MA course in Physics (Meteorology), E. Wendell Hewson, studied for his Ph.D. at the University of London's Imperial College and while there published two papers in the Quarterly Journal on the application of wet-bulb potential temperature to air mass analysis for which he was awarded the Buchan Prize for 1939. Hewson joined the Meteorological Division that year and was the Division's chief research meteorologist for a decade before moving to the United States.

<sup>2</sup> CMOS Archives, Minutes of the Executive Committee meeting, Royal Meteorological Society, Canadian Branch, March 2, 1961 and a note "For insertion into the Minutes of the Executive Committee meeting 15th April, 1964."

## THE CANADIAN BRANCH AWARD WINNERS

1949 President's	W.L. Godson, "A study of the deviations of wind speed and directions from geostrophic values"	Darton..1st	T.W.R. East, "An inherent precipitation mechanism in cumulus clouds"
1950 President's	F/L K.R. Greenaway, "Experiences with Arctic flying weather"	Darton..2nd	J. Clodman, "Anisotropic high-level turbulence"
1951 President's	G.W. Robertson, "Low temperature fog at Edmonton Airport as influenced by gas combustion"	1958 President's	L.B. MacHattie, "Topoclimatology and the representativeness of observations"
Darton..1st	F.E. Burbidge, "The modification of continental polar air over Hudson Bay"	Darton..1st	J.L. Galloway, "The three-front model: Its philosophy, nature, construction and use" and "The three-front model, the tropopause and the jet stream"
Darton..2nd	W.L. Godson, "The synoptic properties of frontal surfaces"	Darton..2nd	R.W. Longley, "Temperature variations at Resolute, Northwest Territories"
1952 President's	W.E.K. Middleton, "Estimation and measurement of the visual range"	1959 President's	G.A. McKay and A.B. Lowe, "The tornado in Western Canada"
Darton..1st	D.P. McIntyre, "A technique for wind analysis and forecasting as applied to Victoria, B.C."	Darton..1st...R.H. Douglas and W. Hitschfeld,	"Patterns of hail-storms in Alberta"
Darton..2nd	F.W. Benum, "Meteorology and aviation in Canada"	Darton..2nd	D.K.A. Gillies, "Winds and water levels on Lake Erie"
1953 President's	H.H. Bindon, W.R. Smith and A.W. Hooper, "The Canadian radiosonde"	1960 President's	F.K. Hare, "The disturbed circulation of the Arctic stratosphere"
Darton..1st	W.L. Godson, "The evaluation of infrared radiative fluxes due to atmospheric water vapour"	Darton	W.L. Godson, "Total ozone and the middle stratosphere over the Arctic and sub-Arctic areas in winter and spring"
Darton..2nd	G. W. Robertson, "Some agro-meteorological problems in Canada"	1961 President's	B.W. Boville and F.K. Hare, "Total ozone and perturbations in the middle stratosphere"
1954 President's	R.E. Munn, "A graphical method of forecasting ceiling and visibility as applied to Torbay, Newfoundland"	Darton	W. Hitschfeld, "Radiative transfer in the lower stratosphere due to the 9.6u band of ozone"
Darton..1st	D.P. McIntyre and R. Lee, "Jet streams in middle and high latitudes"	Napier Shaw Memorial Prize...C. O. Hines,	"The upper atmosphere in motion"
Darton..2nd	J.S. Marshall and T.W.R. East, "Turbulence in clouds as a factor in precipitation"	Hugh Robert Mill Medal and Prize...J.S. Marshall,	(original research into rainfall as a natural phenomena)
1955 President's	B.W. Boville, W.S. Creswick and J.J. Gillis, "A frontal jet stream cross section"	1962 President's	George Gilbert, "An approach to the quantitative prediction of the anomalous blast effects"
Darton..1st	R. Lee, "Synoptic evidence for a direct circulation about a jet stream"	Applied Meteorology...W.L. Gutzman,	"An investigation of broad-scale vertical motion in an eastern North American storm"
Darton..2nd	R. Anderson, B.W. Boville and D.E. McClellan, "An operational frontal contour analysis model"	Darton	K. Hardy, "The description of rain by means of sequential raindrop-size distributions"
1956 President's	W.L. Godson and R. Lee, "The Arctic stratospheric jet stream during the winter of 1955-56"	1963 President's	R.E. Munn, "A reappraisal of Sutton's parameter"
Darton..1st	B.W. Boville and M. Kwizak, "500 mb prediction by graphical techniques"	Applied Meteorology...W.T.R. Allen,	"Precipitation measurements at Ocean Weather Station "P"
Darton..2nd	G.A. McKay, "A method of minimum temperature prediction"	Darton	C.V. Wilson (joint author), "The structure of the Arctic winter stratosphere over a 10-year period"
1957 President's	R.H. Douglas, K.L.S. Gunn and J.S. Marshall, "Pattern in the vertical of snow generation"	Buchan Prize	"in respect of the period 1959-1963"

W.L. Godson, "for outstanding contributions to the study of the stratosphere"

1964 President's S. Orvig (joint author), "Energy balance of the Arctic"

Applied Meteorology...W.K. Sly, "A corrective index as a forecast parameter"

Darton J. Clarke (joint author), "Heating rates due to ozone computed by the Curtis-Godson approximation"

1965 President's W.S. Harley, "An operational method for quantitative precipitation forecasting"

Applied Meteorology...E.C. Jarvis, "A grid method for predicting the displacement and central pressure of East Coast cyclones"

Darton A.W. Brewer (joint author), "Measurements of solar ultraviolet radiation in the stratosphere"

1966 President's M.B. Danard, "On the contribution of released latent heat to changes in available potential energy," and "A quasi-geostrophic numerical model incorporating effects of release of latent heat," and "Further studies with a quasi-geostrophic numerical model incorporating effects of released latent heat"

Applied Meteorology...G.W. Robertson, "A new versatile soil moisture budget"

## WOCE Expedition to the Sea of Okhotsk

Aug. 21 - Sept. 22, 1993

It was my privilege to be a small part of the recent WOCE expedition to Vladivostok and the Sea of Okhotsk. The following is a brief description of the voyage.

The travel day began at Vancouver International Airport at 7 a.m. Aug 21; it ended 22 hours later at Vladivostok where we were met by chief scientist Dr. Alex Bychkov and many others. We were taken to the ship Akademik Vinogradov where we stayed for several days before transferring to the expedition vessel, Akademik Nesmeyanov. In total, nine days were spent in Vladivostok while we waited for shipping containers to be unloaded and transferred to our ship. The time was spent visiting, shopping, touring and reading. Finally, the containers were placed on deck and the unpacking began. We sailed on Aug. 31st.

As was forewarned, the food served aboard the Nesmeyanov was short on spices and variety. However, there was a good sweltering sauna and an active table tennis pit that added some zest to the daily routine. Or one could play the national game of Russia: Tetris.

It was 2+ days to the first hydrological station and during that time the laboratories were organised. It was a time for introductions as well: the 5 Canadian scientists (Chief Scientist Frank Whitney, Bernard Minkley, Wendy Richardson, Hugh Maclean and myself) as well as the three American scientists were introduced to our numerous Russian counterparts. After doing a test station to check the CTD unit we proceeded to Hydro Station #1 at the southeast end of line P1W. The CTD/Rosette probe was lowered to a maximum depth of 3500m. This same depth was repeated for stations 1 through 5 across the Kuril Trench. Passing through the Bussol' Strait and across the Kuril Basin stations 6 to 19 were completed with the probe being lowered to within 50m of the bottom. At this time we ran into some bad weather so we steamed north to station 24 and completed the line to station 30. In addition, eight more stations were completed in the area of Sakhalin Island before returning to the main line to finish all the casts. Our hard drives now heavy with data we headed for port; we spent a day on the Island of Iturup<sup>1</sup> before returning to Vladivostok Sept. 21.

The containers were packed with our equipment on the steam back to port; all that was left to say were the goodbyes. The return flight began in the evening of Sept. 22 and the Canadian Scientists got home before they left; all except myself. I was privileged to spend a few extra days in Vlad with visa problems<sup>2</sup>. All in all, it was an absorbing month made more enjoyable by the other scientists of all nationalities.

Colin Taylor  
M.Sc. student, U.B.C.

### Editor's notes:

<sup>1</sup> The group visited "Good Beginnings Bay" on Iturup where a Japanese fleet assembled prior to an attack on a little place called Pearl Harbor.

<sup>2</sup> This leaves a little unsaid. Imagine the feelings of a young graduate student. His bags are on the plane; his compatriots are heading for the plane; he is wearing shorts and a tee shirt; has no money in his pockets; then, Russian officials discover a problem with his visa and won't let him leave Russia.

## Atmospheric Science Programme

Department of Geography  
The University of British Columbia

The University of British Columbia invites applications for a tenure track position at the Assistant Professor level in the Atmospheric Science Programme. The position is in the Department of Geography, and is to be filled by July 1, 1994. The Atmospheric Science Programme at UBC is offered jointly by the Departments of Geography and Oceanography, and fosters research and teaching collaboration across the Faculties of Science, Arts, Applied Science and Agriculture. Information on current research and teaching interests of the Atmospheric Science Programme is available from Dr. D.G. Steyn (address below).

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- 2) Ground-based or satellite remote sensing of the atmosphere (with an emphasis on boundary-layer, meso- or synoptic scale phenomena).

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Dr. D.G. Steyn, Chair, Atmospheric Science Programme  
Department of Geography  
The University of British Columbia  
1984 West Mall, Vancouver, B.C. V6T 1Z2  
Tel: (604) 822-6407 Fax: (604) 822-6150  
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## ATMOSPHERE-OCEAN

Prairie agroclimate boundary layer model: A simulation of the atmosphere/crop-soil boundary layer. R.L. Raddatz

Atmospheric data assimilation on the equatorial beta plane. Roger Daley.

Effects of variable wind shear on the mesoscale circulation forced by slab-symmetric diabatic heating.

Gerhard W. Reuter and Ole Jacobsen

Atmospheric modulation of surface heat fluxes at ocean weather station P on a decadal time-scale. Kaz Hough

Observations and numerical modelling of Lake Ontario breezes. Neil T. Comer and Ian G. McKendry

Wind-induced micro-seisms from Lake Ontario.

Bryan R. Kerman and Robert F Mereu.

Bubbles and the air-sea transfer of gases. David K. Woolf

Current variability and upwelling along the north shore of baie des Chaleurs.

John C. Bonardelli, Ken Drinkwater and John H. Himmelman

Mesoscale variabilities and gulf stream bifurcation in the Newfoundland Basin observed by the Geosat altimeter data. M. Ikeda

Annual variation of sea-surface slopes over the Scotian Shelf and Grand Banks from Geosat altimetry.

G. Han, M. Ikeda and P.C. Smith

## 13th International Congress of Biometeorology Meeting Report

The 13th International Congress of Biometeorology was held in Calgary during September 13-17, 1993 under the auspices of CMOS and several other agencies. The theme of the Congress was *Adaptations to Global Atmospheric Change and Variability*. Some 250 scientists from around the world participated in sessions that included: Climate and Agriculture, Climate and Health, Energy and Climate, Basic Adaptation Mechanisms, and Climate and Animals,

James P. Bruce of the Canadian Climate Program Board was the keynote speaker. His address, "Some Challenges for Biometeorology in the Post Earth Summit Era" summarized the main elements of the climate change issue. Mr. Bruce summarized the scientific facts, examined the impacts and uncertainties and speculated on winners and losers related to this major global issue. international response strategies and government actions were highlighted.

Other invited speakers covered topics on a wide range of issues related to Global Change, including the response capabilities of ecosystems and potential catastrophic impacts of significant shifts in climate zones. Many of the presentations and the scientific sessions generated lively discussion.

Oleh Mycyk

### New CMOS Members

The following new members were approved at the CMOS Executive meetings 12th Sept. and 21st Oct., 1993:

John Hanesiuk	North York, ON	student
Brian Paruk	Edmonton, AB	regular
Julius Ruechel	Lumby, B.C.	regular

Note to Centres and Chapters: It is important that you make contact as soon as possible with new members in your area to verify the mailing address and begin distribution of local CMOS material. National mailings begin once approved new members are entered in the office computer. This follows the date of the Executive meeting shown in this notice.

### Mathematical Ecology A Report

A mathematician and an ecologist were sharing a cell the night before their execution (for crimes unimaginable). The executioner came in to ask their last wishes.

The mathematician looked over at the ecologist and said, "I've been doing some work in mathematical ecology. I have some interesting results. Before I die, I would like to give a seminar on my work to an ecologist."

"Certainly", said the executioner, "we'll arrange it tomorrow morning." He then turned to the ecologist. "And what would you like?"

The ecologist said, "I would like to be executed before the seminar."

*The above was abstracted from "Untangling 'An Entangled Bank': Recent facts and theories about community food webs" by Joel Cohen, which was published in, Lecture Notes in Biomathematics, edited by S. Levin and published by Springer Verlag, 1986.*



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# HYSIG COLUMN

At its annual meeting on June 10, 1993, HYSIG decided to support a HYSIG column in the CMOS Newsletter for 1993/94. HYSIG will not produce a separate Newsletter but will solicit hydrological submissions for the CMOS Newsletter. These submissions should be sent to the HYSIG Editor as follows:

Ron Hopkinson  
Atmospheric Environment Service  
Environment Canada  
P.O. Box 4800  
Regina, Saskatchewan, S4P 3Y4  
  
Tel (306)780-5739  
Fax (306)780-7588

The first submission is a copy of the minutes from the HYSIG annual meeting which appear below.

## ANNUAL MEETING OF CMOS HYDROLOGY SPECIAL INTEREST GROUP

HYSIG held its annual general meeting at 4:30 p.m., Thursday, June 10, 1993 in Room 303, Tilley Hall, University of New Brunswick.

The meeting was chaired by Rick Lawford.

Rick Lawford provided a brief report on the chairperson's activities this past year. He had circulated a questionnaire regarding the creation of a Hydrological Sciences section within the CGU. Also, he had organized hydrology sessions at this CMOS congress (4 sessions). Finally, Rick contributed to the Newsletter and prepared the report for the Annual Review.

Ron Hopkinson reported that one newsletter had been assembled and distributed to 125 HYSIG members. Mailing labels were supplied by the CMOS business office but a database of these names and addresses was maintained by HYSIG to produce labels quickly for additional mailings to HYSIG members.

A discussion over the merits of the HYSIG newsletter followed. It was agreed that HYSIG should not produce its own newsletter this year, but rather it should support a HYSIG column in the CMOS Newsletter as an experiment. By supporting a column in the CMOS newsletter, HYSIG could make its activities and information available to the entire society. The HYSIG members who were present saw a need to support the proposed expanded role for the CMOS Newsletter (i.e. CMOS Bulletin SCMO). Ron Hopkinson agreed to canvass members to obtain commitments for preparing material for the CMOS Newsletter.

**ACTION:** Hopkinson

Rick Lawford advised the members that CMOS is reviewing the role of its special interest groups (SIG's). Terry Krauss expressed the concern that CMOS has not been successful in recruiting hydrologists and asked how HYSIG might interact with the bulk of hydrologists who are not CMOS members. What can be done to integrate CMOS hydrometeorologists with other hydrological organizations? Bill Stolte indicated that most hydrologists belong to CWRA, CGU or ASCE. Eric Wood noted that the American Meteorological Society has been successful in building alliances with hydrologists by

holding special hydrology sessions or jointly sponsored conferences. It was recommended that HYSIG do likewise and that HYSIG work to develop a co-operative relationship with hydrological organizations in Canada. It was suggested that HYSIG could organize a special session on BOREAS at the 1995 CMOS Congress. HYSIG should investigate whether a future CMOS Congress could be held jointly with one of the hydrological organizations/societies to foster better links with CMOS.

**ACTION:** Lawford

Rick Lawford briefed the meeting regarding the future of the Climatological Bulletin (CB) based on the CMOS Annual General Meeting. The proposal to combine the Newsletter and CB into a single publication, CMOS Bulletin SCMO, will be subject to a ballot of the general membership (see August 1993 CMOS Newsletter). News, announcements and short articles of a hydrologic nature will be appropriate for the new CMOS Bulletin SCMO as they were for the Newsletter or CB in the past. Atmosphere Ocean remains open to high quality papers in the field of hydrological sciences.

Lawford informed the members that the 1994 CMOS Congress would be held in Ottawa and Kelowna would host the 1995 Congress. For the Ottawa congress, it was suggested HYSIG investigate "Global Change and Water Resources" as one of the issues. Jim Bruce will approach John Reid and Geoff Holland to see if this proposal is feasible. CCRS could be invited to participate in a hydrometeorological session and/or a visit to CCRS might be arranged in conjunction with the Congress. Also there may be opportunities to co-operate with CGU in 1995 - they are meeting in Banff so some cross over may be possible.

**ACTION:** Lawford, Bruce

There still is no satisfactory replacement for the Associate Committee on Hydrology (ACH) with respect to Canada's representation on international hydrologic committees/bodies. John Maybank recommended that CMOS (HYSIG) and the Hydrological Sciences (HS) section of CGU approach NRC together with a joint proposal for nominating representatives to international scientific bodies. It was agreed that HYSIG would send a letter to the CMOS President to pursue co-operation between CMOS and CGU as part of on-going discussions regarding the selection of representatives to international committees.

**ACTION:** Lawford

Election of officers was by acclamation as follows:

Rick Lawford	Chairperson
Terry Krauss	Vice-Chairperson
Ron Hopkinson	Newsletter
Jim Bruce	Councillor-at-large (Ottawa)

The meeting adjourned before 6:00 p.m.

In attendance were Rick Lawford, Ron Hopkinson, Les Welsh, Terry Krauss, John Maybank, Brian Paruk, Gordon McBean, Bill Stolte, Ewa Milewska, Paul Arp, Joyce Kwan, Ya Guo, Jim Bruce, Colin Banfield and Eric Wood.

Minutes prepared by Ron Hopkinson.



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Les entrées sur les pages suivantes sont réservées aux experts-conseil accrédités de la SCMO. Le processus d'accréditation a débuté en décembre 1986. Une liste complète des experts-conseil accrédités de la SCMO peut être obtenue du bureau d'affaires. Les personnes désirant l'accréditation doivent entrer en contact avec la Société afin de recevoir une copie de règlements et un formulaire d'application.

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Hydrology Hydrologie <input type="checkbox"/>	Air pollution Pollution de l'air <input type="checkbox"/>	Agriculture and Forest Agriculture et foresterie <input type="checkbox"/>
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