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CONGRATULATIONS!

The election of members for the Executive Committee of the World Meteorological Organization was held at the conclusion of the Seventh Congress of WMO held in Geneva, April 28 to May 23, 1975. Mr. J.R.H. Noble was elected a member of this Committee.

The Executive Committee is composed of the President and three Vice-Presidents of the Organization, the Presidents of the six Regional Associations and fourteen elected members. The twenty-four members are Directors of National Meteorological Services who serve in an individual capacity. The new Committee will serve until next Congress (1979) and will meet at least once a year to supervise the programmes approved by Congress.

Election to membership in this august body indicates the high esteem in which Mr. Noble is held by his international meteorological colleagues.

AES is pleased to have received word that Dr. W.L. Godson has been awarded the IMO Prize for 1975.

The International Meteorological Organization Prize is awarded annually by the WMO Executive Committee for outstanding scientific work and services to international cooperation in meteorology. This award was established by the World Meteorological Organization in 1955 from funds remaining when the IMO was transformed into the present WMO. The prize consists of a gold medal, a citation and a sum of money.

Dr. Godson is the first Canadian to receive the prize. The list of previous recipients includes such internationally known meteorologists as:

Prof. T. Bergeron (Sweden)
Prof. K. Kondratyev (USSR)
Sir Graham Sutton (UK)
Prof. E. Palmén (Finland)
Academ. V.A. Bugaev (USSR)
Dr. C.H. Priestley (Aust.)
Mr. J.S. Sawyer (UK)

I am sure that all AES will wish to congratulate Dr. Godson.

FÉLICITATIONS

À la clôture du Septième Congrès de l'Organisation Météorologique mondiale, qui s'est tenu à Genève du 28 avril au 23 mai 1975, a eu lieu l'élection des membres du Comité exécutif de l'OMM. M. J.R.H. Noble a été élu membre de ce Comité.

Le Comité exécutif se compose du Président et des 3 Vice-Présidents de l'Organisation, du Président de chacune des six associations régionales et de quatorze membres élus.

Les vingt-quatre membres sont des directeurs de services météorologiques nationaux qui participent à ce Comité à titre individuel. Le nouveau Comité, qui restera en place jusqu'au prochain Congrès (1979), se réunira au moins une fois par an pour superviser les programmes approuvés par le Congrès.

L'élection de M. Noble à cette auguste assemblée prouve la haute estime en laquelle le tiennent ses collègues météorologistes du monde entier.

Le SEA est heureux d'apprendre que le Prix de l'OMI 1975 a été décerné à M. W.L. Godson.

Le prix de l'Organisation météorologique internationale, décerné chaque année par le Comité exécutif de l'OMM, récompense des travaux scientifiques remarquables et des activités déployées dans le cadre de la coopération en météorologie. C'est en 1955 que l'Organisation météorologique mondiale créa ce prix grâce au solde des fonds de l'OMI qui faisait place à l'actuelle OMM. Ce prix consiste en une médaille d'or, une citation et une somme d'argent.

M. Godson est le premier Canadien à recevoir ce prix. La liste des lauréats passés comprend des météorologistes de renommée internationale, notamment:

M.T. Bergeron (Suède)
M.K. Kondratyev (URSS)
Sir Graham Sutton (Royaume Uni)
M.E. Palmén (Finlande)
M. J.A. Bugaev (URSS)
M. C.H. Priestley (Australie)
M. J.S. Sawyer (Royaume Uni)

J'ai la conviction que le SEA tout entier voudra féliciter M. Godson.

Opening of the WMO Congress, May 7, 1975
Second row: left to right F.A. Page, A. Robért, D. McPhee (Canadian Mission in Geneva)
First row: left to right M.K. Thomas, J.R.H. Noble, W.H. Barton (Canadian Embassador to U.N. in Geneva)

SEVENTH WORLD METEOROLOGICAL CONGRESS MEETS IN GENEVA

Over 400 participants comprising delegates from among the 140 Member-countries of the World Meteorological Organization and many observers from non-Member countries and numerous international organizations are expected to attend the Seventh World Meteorological Congress which will meet during four weeks at the "Centre International des Conférences de Genève (CIGG)" under the chairmanship of Mr. Mohamed Fathi Taha (Egypt), President of the Organization and Chairman of the Board of Directors of the Egyptian Meteorological Authority. The opening ceremony will commence at 11 a.m. on 28 April 1975.

The Congress which is the supreme body of the World Meteorological Organization (WMO) meets once every four years. Its main task will be to establish the programme and budget of the Organization for the next four-year period (1976-1979) but the extensive agenda also ranges over many administrative and legal questions. It includes as well consideration of applications for Membership of the Organization which have been received from the Democratic People's Republic of Korea and the Democratic Republic of Vietnam.

The proposed programme and budget for 1976-1979 submitted to Congress by the Secretary-General, Dr. David Arthur Davies, provides for a continuation of the activities on the same general lines as at present but with an increase in certain fields in which world problems and needs call for a greater effort on the part of WMO. Thus, as a result of the World Food Conference, a new Agrometeorological Programme in Aid of Food Production and a new Weather Modification Programme are proposed. The up-grading of the present activities in hydrology and water resources development to a separate programme of the Organization is also proposed. The great losses in life and property which tropical cyclones cause in many countries have led to a proposal to strengthen the activities in this field.

As regards existing programmes, the World Weather Watch (WWW) will be considered by Congress. This programme which presents a fully co-ordinated system of weather observing, data processing and international exchanges of raw and processed data, is now well established as the basic operational programme of WMO. The WWW plan will be brought up to date and adjusted to provide maximum support to the research and application fields. The most significant development is likely to be a greatly improved global meteorological satellite system expected to be in operation by 1977-1978.

In the field of research, following the highly successful beginning to the Global Atmospheric Research Programme, Congress will be invited to continue this programme in the next period, under the joint sponsorship of WMO and the International Council of Scientific Unions as at present. Under this programme and in other ways increased attention will be given to possible changes in climate and to climatic fluctuations. Congress will also consider means of increasing the practical applications of meteorology in many other fields of human endeavour, such as aviation, shipping, and in a variety of environmental problems including atmospheric and oceanic pollution.

The Technical Cooperation Programme has enabled WMO to give much valuable assistance to over 100 developing countries and is therefore a much appreciated feature of WMO activities. Congress will consider this programme in the light of the increasing requirements for such assistance. The main components of this activity are the participation of WMO in the United Nations Development Programme and WMO's own

Voluntary Assistance Programme. At the present stage, the assistance given is, in financial terms, already substantially greater than the regular budget of the Organization.

During the last few years, meteorological satellites have opened up immense possibilities for observing and measuring the atmosphere, which have led to far-reaching changes in the work of meteorologists. More recently still, the balance between food production and the world's food needs has become more precarious and there has been clearer realization of the enormous potential significance of meteorological aid for food production. These new facilities and these greater requirements make it both possible and necessary for meteorologists to try to gain a better knowledge and understanding of the behaviour of the atmosphere as a whole. It is therefore not surprising that these three elements constituted the main themes of the lectures read at the Seventh World Meteorological Congress and of the ensuing scientific discussions.

In the first place, Professor R.W. Stewart (Canada) delivered the IMO Lecture which now forms an integral part of the scientific programme of Congress sessions. This lecture, the third of a series delivered by leading experts on the progress of meteorology, dealt with the "boundary layer of the atmosphere", that relatively thin layer at the base of the atmosphere in which we live. Mr. Stewart pointed out that this boundary layer was the scene of vigorous interactions with the free atmosphere, which explains why it is so interesting for a better understanding of the general circulation and why its observation is so complicated. He showed that, however difficult, the study of this layer was of considerable theoretical and practical importance, in particular in solving problems of urban pollution.

Three papers on agrometeorology were read:

- "Meteorology and Hydrology in Aid of Food Production", by Dr. P.M. Austin Bourke (Ireland),
- "Use of Crop-weather Models for Assessing Potential Agricultural Production", by Dr. W. Baier (Canada), and
- "Meteorological Service to Agricultural Production by Chiatin County Weather Station, Shanghai", by Mr. Hsi Hsi-hsien (People's Republic of China).

In Dr. Bourke's view, planners and politicians must be awakened to the importance of climate for agricultural development. Farmers too should be supplied with warnings and advice which are of more direct practical use in farm management. To help reduce the risk of disasters for agriculture and to gain a better understanding of climate and its fluctuations are two important objectives of meteorologists and hydrologists in this field.

Dr. Baier discussed some of the statistical models which can be used in practice, making use of current meteorological data and possibly other factors such as types of soil and topography features. Such models might be used, for example, in evaluating the impact of weather and climatic fluctuations on crop production.

Mr. Hsi described the close collaboration between meteorologists and peasants in preparing forecasts useful for agricultural production. Through such collaboration and by making full utilization of climatic resources, it was possible to switch from two to three crops a year (two of rice and one of wheat) in Chiatin County.

Lastly, there were three lectures dealing with meteorological satellites:

- "Implications of Outer-space Technology on Development in Meteorology and Meteorological Services", by Mr. A.W. Johnson (United States of America),
- "The Influence of Space Techniques on the Development in Meteorology by Dr. I.P. Vetlov (USSR), read by Dr. M. Petrossiants, and
- "Towards a global operational system of meteorological satellites", by Mr. Villevieille (France).

Kurt Waldheim, Secretary-General of the United Nations addressed the delegates attending the Seventh World Meteorological Congress.

In his statement the Secretary-General reviewed briefly the principal questions included in the agenda of the Congress. He stressed that this Congress is of particular significance as there is now a much wider recognition of the Organization's role in resolving many of the major world problems which currently dominate the debates at the United Nations.

As an illustration, he reminded delegates that as a result of decisions taken at the recent World Food Conference an agrometeorological programme in aid of food production had been submitted to the Congress for approval. The recent disaster in the Sudano-Sahelian area of Africa had drawn attention to the need for increased studies on the climate of arid regions. The heavy toll of death and destruction resulting from tropical cyclones, disasters due to flooding and the increasing interest in the protection of the environment particularly as regards pollution of the atmosphere, rivers and oceans, have greatly expanded the calls on WMO in these various fields.

In addition to these tasks, are what might be called the normal or traditional activities of WMO such as establishing an improved meteorological satellite system, assistance given to aviation, merchant shipping, services to the general public and continuing the research programme following the highly successful Atlantic Tropical Experiment.

The Secretary-General drew attention to the full and close collaboration between WMO and the United Nations and the other specialized agencies. He also mentioned that since 1873 the International Meteorological Organization and its successor the World Meteorological Organization had demonstrated that practical international co-operation on matters of concern to all nations was not only desirable but essential.

Kurt Waldheim then reminded delegates that the United Nations were this year celebrating their 30th anniversary. In spite of the difficulties which have been encountered he said that he was becoming increasingly conscious of the fact that the major problems confronting mankind can only be resolved by collective international action. The search for a new, more efficient and, above all, more equitable economic order started in 1974. The world conferences on food, population, the law of the sea and the Sixth Special Session of the United Nations General Assembly must be seen in the context of a much wider and more profound concern about devising global strategies for resolving global problems.

This realization, which is becoming apparent, must be translated into action which alone will make possible "real co-operation and the spirit of shared interest and concern which has always characterized the work and activities of WMO".

The Secretary-General emphasized that the path of compromise, although difficult, should be chosen rather than that of confrontation. It is by applying themselves to tasks such as those mentioned above that the United Nations can demonstrate the action which can be taken, and which only they can take.

During his statement Kurt Waldheim congratulated Dr. David Arthur Davies on being unanimously re-appointed by the Seventh World Meteorological Congress for a further four-year period commencing 1 January 1976.

LE SEPTIÈME CONGRÈS MÉTÉOROLOGIQUE MONDIAL SE REUNIT A GENÈVE

Plus de 400 participants comprenant des délégués de la plupart des 140 pays-Membres de l'Organisation météorologique mondiale (OMM) et plusieurs observateurs envoyés par des pays non-Membres et de nombreuses organisations internationales participeront au Septième Congrès météorologique mondial qui va se réunir pendant quatre semaines au Centre International des Conférences de Genève. Le Congrès sera présidé par M. Mohamed Fathi Taha, Président de l'OMM et Président du Comité des directeurs de l'Administration météorologique égyptienne. La cérémonie d'ouverture débutera à 11 heures le 28 avril 1975.

Le Congrès qui est l'organe suprême de l'Organisation météorologique mondiale se réunit tous les quatre ans. Sa tâche principale consistera à déterminer le programme et le budget de l'organisation pour les quatre années à venir (1976-1979), mais son ordre du jour très étendu comporte aussi de nombreuses questions administratives et juridiques. Le Congrès examinera les demandes d'admission à l'organisation qui ont été présentées par la République populaire démocratique de Corée et la République démocratique du Viet-Nam.

Le programme et le budget pour la période 1976-1979 présentés par le Secrétaire général, M. David Arthur Davies, prévoit que les activités présentes seront maintenues dans leurs grandes lignes mais qu'elles seront renforcées dans certains domaines dans lesquels se sont manifestés des problèmes ou des besoins mondiaux qui appellent un plus grand effort de la part de l'OMM. Ainsi, comme conséquence de la Conférence mondiale sur l'alimentation un programme agrométéorologique d'aide à la production alimentaire et un nouveau programme de modification artificielle du temps sont proposés. Pour renforcer les activités présentes en matière d'hydrologie et de mise en valeur des ressources en eau il est aussi proposé d'établir un programme distinct de l'organisation à ce sujet. Les nombreuses pertes de vies humaines et les immenses dégâts que les cyclones tropicaux occasionnent dans beaucoup de pays ont amené à proposer un accroissement des activités déployées dans ce domaine.

Parmi les programmes en cours qu'examinera le Congrès figure la Veille météorologique mondiale (VMM). La VMM qui est un système parfaitement coordonné d'observation météorologique, de traitment de données et d'échanges internationaux de données brutes et d'informations traitées est maintenant bien établie etelle est considérée comme le programme opérationnel fondamental de l'OMM. Le plan de la VMM sera mis à jour et adapté pour lui permettre d'apporter le meilleur appui possible à la recherche et

aux applications de la météorologie. Le progrès le plus frappant résidera selon toute vraisemblance dans la mise au point d'un système mondial très perfectionné de satellites météorologiques qui devrait fonctionner vers 1977-1978.

Dans le domaine de la recherche, les débuts du GARP (Programme de recherches sur l'atmosphère globale) ont été couronnés de succès et le Congrès sera invité à poursuivre sa mise en oeuvre sous les auspices communs de l'OMM et du Conseil International des Unions Scientifiques, comme cela est actuellement le cas. Dans le cadre de ce programme et également par d'autres moyens une attention plus grande sera accordée aux changements éventuels de climat et aux fluctuations climatiques. Le Congrès se penchera ainsi sur les moyens destinés à accroître les applications pratiques de la météorologie à de nombreuses autres activités humaines telles que l'aviation, la navigation maritime, et à diverses questions d'environnement, notamment à la pollution de l'atmosphère et des océans.

Grâce à son Programme de coopération technique, l'OMM a pu fournir une assistance de grande valeur à plus de 100 pays en voie de développement et ce programme constitue donc une caractéristique très appréciée des activités de l'organisation. En examinant ce programme, le Congrès tiendra compte des besoins croissants pour ce type d'assistance. Les principales composantes en sont la participation de l'OMM au Programme des Nations Unies pour le développement et le Programme d'assistance volontaire propre à l'OMM. En termes financiers, l'assistance actuellement fournie excède largement le budget régulier de l'organisation.

Depuis quelques années les satellites météorologiques ont ouvert des possibilités immenses d'observation et de mesure de l'atmosphère qui modifient profondément le travail des météorologistes. D'autre part, dans un passé plus récent, l'équilibre entre la production alimentaire et les besoins alimentaires du globe est devenu plus précaire et on a mieux pris conscience de l'énorme valeur potentielle que l'assistance météorologique présente pour cette production. Ces nouveaux moyens et ces demandes accrues permettent, mais aussi imposent au météorologiste d'essayer de mieux connaître et comprendre le comportement de l'atmosphère dans son ensemble. Il n'est donc pas étonnant que ces trois éléments aient constitué les thèmes principaux de conférences présentées durant le Septième Congrès météorologique mondial et des discussions scientifiques qui les ont suivies.

En premier lieu, le professor R.W. Stewart (Canada) a prononcé la conférence de l'OMI qui fait désormais partie intégrale du programme scientifique des sessions du Congrès. Cette conférence, la troisième d'une série de communications consacrée aux progrès de la météorologie et présentée par des experts éminents, traitait de la "couche limite de l'atmosphère", cette couche relativement mince située à la partie inférieure de l'atmosphère et au sein de laquelle nous vivons. M. Stewart a rappelé que cette couche limite était le siège d'interactions vigoureuses avec l'atmosphère libre, ce qui explique à la fois l'intérêt qu'elle présente pour une meilleure compréhension de la circulation générale et la complexité de son observation. Il a montré que l'étude de cette couche était certes difficile mais qu'elle était d'une importance considérable sur les plans théorique et pratique, notamment pour résoudre les problémes de pollution urbaine.

Trois exposés ont été présentés dans le domaine de l'agrométéorologie:

- Rôle de la météorologie et de l'hydrologie dans la production alimentaire par M. P.M. Austin Bourke (Irlande)

evaluation de la production agricole potentielle au moyen de modèles reflétant les relations entre les cultures et les conditions météorologiques par M.W. Baier (Canada), et

- Assistance météorologique apportée à la production agricole par la station météorologique du district de Chiatin, Shanghai, par M. Hsi Hsi-hsien (République populaire de Chine).

Selon M. Bourke il faut rendre les planificateurs et les politiciens conscients de la nécessité de mieux tenir compte du climat pour le développement agricole. Il faut aussi fournir au fermier des avis et conseils plus directement utilisables pour l'exploitation agricole. Contribuer à réduire les risques de catastrophes dans l'agriculture et mieux comprendre le climat et ses fluctuations sont deux objectifs importants dans ce domaine pour le météorologiste et l'hydrologiste. M. Baier a examiné quelques uns des modèles statistiques utilisables dans la pratique en se servant de données météorologiques actuellement disponibles et éventuellement d'autres facteurs tels que le type de sol et les caractéristiques topographiques. Ces modéles peuvent servir par exemple pour évaluer l'incidence des fluctuations météorologiques et climatologiques sur les récoltes. M. Hsi a montré comment les météorologistes collaborent étroitement avec les paysans à l'établissement de prévisions adaptées à la production agricole. Grâce à cette collaboration et en tirant pleinement parti des ressources climatiques il a été possible dans le district de Chiatin de passer de deux à trois récoltes par an (deux de riz et une de blé).

Enfin, trois exposés ont été consacrés aux satellites météorologiques:

- Incidences de la technologie spatiale sur le développement de la météorologie et des services météorologiques par M.A.W. Johnson (USA).
- Influence des techniques spatiales sur l'évaluation de la météorologie par M.I.P. Vetlov (URSS), exposé présenté par M.M. Petrossiants
- Vers un système global de satellites météorologiques par M.A. Villevieille (France)

Monsieur Kurt Waldheim, Secrétaire général de l'Organisation des Nations Unies a pris la parole le mardi 6 mai devant les délégués participant au Septième Congrès météorologique mondial.

Dans son allocution, le Secrétaire général a brièvement passé en revue les principales questions inscrites à l'ordere du jour du Congrès. Il a souligné que ce Congrès prend un relief particulier du fait que l'on reconnait beaucoup plus largement aujourd'hui le rôle revenant à l'OMM dans la solution de nombre de grands problèmes qui dominent actuellement les discussions aux Nations Unies.

Pour illustrer ce propos il a rappelé que, comme suite aux décisions de la récente Conférence mondiale sur l'alimentation, un programme agrométéorologique propre à favoriser la production alimentaire était proposé à l'approbation du Congrès. La catastrophe qui a récemment frappé la région soudano-sahélienne a fait ressortir la nécessité d'études plus nombreuses du climat des zones arides. Les pertes en vies humaines et les destructions causées par les cyclones tropicaux, les désastres engendrés par les inondations, l'intérêt renouvelé porté à la protection de l'environnement, notamment pour ce qui est de la pollution de l'atmosphère, des fleuves et des océans ont considérablement accru les tâches incombant à l'OMM dans ces différents domaines.

Ces nouvelles tâches viennent s'ajouter à ce qu'on pourrait appeler les responsabilités normales ou traditionnelles de l'OMM parmi lesquelles on trouve l'établissement d'un système perfectionné de satellites météorologiques, l'assistance à l'aviation et à la navigation maritime, les services pour le grand public et la continuation du programme de recherches après le remarquable succès de l'expérience tropicale dans l'Atlantique.

Le Secrétaire général a fait ressortir la collaboration pleine et étroite qui existe entre l'OMM et l'ONU ainsi qu'avec les autres institutions spécialisées. Il a également fait remarquer que depuis 1873 l'Organisation météorologique internationale et l'OMM qui lui a succédé ont prouvé qu'une coopération internationale de caractère pratique au sujet des questions intéressant toutes les nations était, non seulement souhaitable mais encore indispensable.

Monsieur Waldheim a ensuite rappelé que les Nations Unies commémoraient cette année leur trentième anniversaire. Malgré les difficultés rencontrées, il s'est déclaré de plus en plus conscient que les grands problèmes se posant à l'Humanité ne peuvent être résolus qu'au moyen d'une action internationale collective. La recherche d'un nouvel ordre économique international, plus efficace et surtout plus équitable a commencé en 1974. Les conférences mondiales intéressant l'alimentation, la population, le droit de la mer et la sixième session spéciale de l'Assemblée générale des Nations Unies s'inscrivent dans le contexte de préoccupations beacoup plus vastes et profondes touchant la mise au point de stratégies globales pour résoudre des problèmes mondiaux.

La prise de conscience que l'on constate à ce sujet doit se traduire par des actes que seuls rendront possible "la coopération véritable et la certitude de préoccupations et d'intérêts partagés qui ont toujours caractérisé les travaux et activités de l'OMM".

Le Secrétaire général a fait ressortir que la voie du compromis, bien que difficile doit être choisie au lieu de celle de l'affrontement. C'est en s'attaquant à des tâches semblables à celles évoquées ci-dessus que les organismes des Nations Unies font la preuve des possibilités d'action dont ils sont seuls à disposer.

Au cours de son allocution Monsieur Waldheim a exprimé ses félicitations à Monsieur David Arthur Davies que le Septième Congrès météorologique mondial venait de réelire Secrétaire général de l'OMM à l'unanimité pour une nouvelle période de quatre ans commençant le ler janvier 1976.

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Presentation of GATE film to Secretary-General, D.A. Davies

WORLD METEOROLOGICAL ORGANIZATION
OFFICE OF THE SECRETARY-GENERAL

ВСЕМИРНАЯ МЕТЕОРОЛОГИЧЕСКАЯ ОРГАНИЗАЦИЯ
Бюро Генерального секретаря

ORGANISATION MÉTÉOROLOGIQUE MONDIALE
BUREAU DU SECRÉTAIRE GÉNÉRAL

ORGANIZACION METEOROLOGICA MUNDIAL
OFICINA DEL SECRETARIO GENERAL

Annex: 1

GENÈVE, 29 May 1975

000209

Dear Mr. Noble,

I have much pleasure in enclosing herewith some photographs taken on the occasion of the presentation of the Canadian film "Operation GATE" to WMO. I would ask you to accept these as a souvenir of a very happy occasion.

I avail myself of this opportunity of expressing once again to the Canadian authorities and to you personally, the deep appreciation of WMO of this gift to WMO. It will constitute a valuable addition to our film library and will I feel sure be greatly appreciated by the Member-countries and others who call upon the service of the film library.

The fact that you were able to present both the English and French versions of the film will increase greatly its usefulness.

I would ask you to be kind enough to convey this expression of thanks and appreciation to the appropriate Governmental authorities of your country.

Yours sincerely,

D.A. Davies

(D.A. Davies)
Secretary-General

George Pincock presenting the Patterson Medal to Dr. R.W. Stewart

Photo courtesy A.F. McQuarrie

VICTORIA SCIENTIST WINS PATTERSON MEDAL

TORONTO Dr. R.W. Stewart, Director of the Marine Sciences Directorate, Department of the Environment, has been named the 1974 recipient of the Patterson Medal Award for distinguished service to meteorology in Canada. The award will be presented to Dr. Stewart at a banquet in Vancouver. The banquet is being held in conjunction with the Annual Congress of the Canadian Meteorological Society being held at the University of British Columbia.

The Patterson Medal, struck by the Canadian Mint, features a likeness of Dr. John Patterson, Controller of the Meteorological Service of Canada from 1929 to 1946 the man for whom the award was instituted and its first recipient. The medal is awarded annually.

The decision of the selection committee was enthusiastically endorsed by leading scientists in Canada, the United States and England. Dr. Stewart has established an exceptional international reputation. His work on atmospheric turbulence and transport processes near the earth's surface is recognized by scientists throughout the world. He has authored over 50 scientific papers on turbulence, oceanography and meteorology.

Dr. Stewart has been a visiting professor at the Universities of Dalhousie, Harvard, Pennsylvania State and Cambridge. He is a Fellow of the Royal Society of Canada, the Royal Society (London) and has an honorary doctorate degree from McGill University.

Scientists throughout the world elected Dr. Stewart Chairman of the Joint GARP Organizing Committee of the World Meteorological Organization and the International Council of Scientific Unions. This Committee was responsible for the largest meteorological experiment ever undertaken. The four-month-long experiment which was completed last October involved scientists from seventy countries.

UN CHERCHEUR DE VICTORIA RECOIT LA MÉDAILLE PATTERSON

TORONTO – On vient d'attribuer la médaille Patterson pour l'année 1974 à M. R.W. Stewart, directeur de la Direction générale des sciences de la mer du ministère de l'Environnement, en reconnaissance des éminents services qu'il a rendus à la météorologie canadienne. On remettra la récompense à M. Stewart au cours d'un banquet qui aura lieu à Vancouver. Le banquet est organisé conjointement avec le Congrès annuel de la Société météorologique canadienne qui se tient à l'Université de Colombie-Britannique.

Sur la médaille Patterson, frappée par la Monnaie royale canadienne, est reproduit un portrait de M. John Patterson, directeur du Service météorologique du Canada de 1929 à 1946 et premier récipiendaire de cette récompense instituée pour lui. La médaille est décernée chaque année.

D'éminents savants du Canada, des Etats-Unis et de l'Angleterre ont approuvé dans l'enthousiasme la décision du comité de sélection. M. Stewart s'est fait une réputation internationale exceptionnelle. Les savants du monde entier ont salué ses travaux sur la

turbulence atmosphérique et sur les phénomènes de transport de l'atmosphère à proximité de la surface terrestre. Il est l'auteur de plus de 50 articles scientifiques sur la turbulence, l'océanographie et la météorologie.

M. Stewart a donné des cours en tant que professeur invité dans les universités de Dalhousie, Harvard, Pennsylvanie et Cambridge. Il est membre de la Société royale du Canada, de la Royal Society (London) et a été nommé docteur honoris causa de l'Université McGill.

Des savants du monde entier ont élu M. Stewart président du Comité mixte d'organisation du GARP de l'Organisation météorologique mondiale et du Conseil international des unions scientifiques. Ce comité était chargé de la plus vaste expérience météorologique jamais entreprise. Des savants de soixante-dix pays ont participé à cette expérience de quatre mois qui s'est terminée en octobre dernier.

ENVIRONMENTAL MONITORING SYSTEMS DESIGN, OPERATION AND INTELLECTUAL INPUT FROM SCOPE

International science is organized by disciplines into International Unions (Geodesy and Geophysics, Biological Sciences, Pure and Applied Chemistry, etc.). These Unions are affiliated with one another through the *International Council of Scientific Unions* (ICSU).

Occasionally, several Unions are interested in the same subject area. ICSU may then create a body such as:

COSPAR Committee on Space Research
COWAR Committee on Water Research
SCOPE Scientific Committee on Problems of the Environment

SCOPE was organized by ICSU in 1969, in response to the same environmental concerns as those that led to the UN Stockholm conference. SCOPE is non-governmental, drawing its competence and financial support internationally from the Unions, and nationally from Academies of Science, Royal Societies and National Research Councils.

SCOPE's present program is centred around the preparation of a review of the "state-of-the-environment." This is probably the most ambitious undertaking ever attempted by the international scientific community. Although a "shopping list" of the environmental problems can easily be put together, an assessment and ordering of these problems is very difficult indeed. Because each discipline is becoming more and more specialized, inter-disciplinary dialogue is tending towards platitudes rather than towards meaningful discussions of scientific problems and priorities. An essential role of SCOPE is to open up new lines of communication amongst environmental specialists.

SCOPE has organized its program around seven activities, making use of a number of associated interdisciplinary research centres in various countries. Mention will be made here of two of these activities:

1) **Simulation modelling of the environment,** organized through institutes in Moscow, Indianapolis, Canberra and Caracas, with close liaison with the International Institute of Applied Systems Analysis in Vienna;

2) **Environmental monitoring**

With initial financial support from UNEP and the UK Department of the Environment, and with the intellectual support of the Royal Society and the UK National Committee for SCOPE, a centre for environmental monitoring has been established at Chelsea College, University of London. The Director is Professor Gordon Goodman, an applied biologist and Co-Chairman of the SCOPE Monitoring Commission. The Centre moved into its own building (an historic octagonal landmark in the London Chelsea area) in July 1975 when the staff expanded from 7 to 14. This total is expected to swell even further with the arrival of visiting scientists and post-doctoral fellows, who will join the Centre for periods of from 4 to 12 months, sponsored by a number of SCOPE National Committees.

The Centre is concentrating its attention on the design of interdisciplinary environmental monitoring systems.

Why is there need for a Centre on Environmental Monitoring? By way of introduction to this question, mention could be made of the fact that at one of the Oceanographic World Data Centres, where millions of bits of information are stored, 90% of the data have never been requested whereas 80% of the requests for data cannot be filled. This mismatch is all too common in the environmental field.

On the one hand, some scientists think that a data point should never be discarded. Sometime, somewhere, the information will be baluable to someone. Followers of this school of thought are compulsive collectors, and they can cite cases in which measurements of mercury or CO_2 made many years ago have helped to identify environmental trends.

On the other hand, a school of thought believes that data are useful only in the context of the particular program that generated them. Application of the data to another program or to the solution of a different problem is likely to be misleading. In the case of an environmental impact assessment, for example, should a decision be made on the basis of existing inadequate data, or should the decision be held up until additional measurements can be taken? This is the kind of question that interests the SCOPE Chelsea Centre.

Here it should be mentioned that meteorologists have had more experience with environmental monitoring networks than any other group. The weatherman has been taking observations around the world for more than a hundred years; and through the World Meteorological Organization (WMO), he has been able to standardize procedures for collection, quality control, transmission and storage of data. One may visualize, for example, a barometer being hand-carried to Panama City, Mexico City and Havana for inter-calibration.

It is useful next to list some reasons for monitoring the environment:

1. To understand the behaviour of an environmental process or system, i.e., to test a model of the environment;
2. To make predictions; (This is possible without understanding the environment, through multivariate regression and other analysis techniques, although an understanding of the process or system usually increases the accuracy of the predictions.)
3. To police the environment, i.e., to ensure that environmental standards are not being exceeded.

In the case of (3), pollution samplers would be located at: (a), places where there are large numbers of receptors (people, sensitive gladioli, etc.); and/or (b), places where the concentrations of pollution are likely to be highest. Suppose, however, that the objective is to predict air pollution concentrations in a city. The samplers should then not necessarily be located at the points of expected highest concentrations. If the predictions are required to test alternative strategies for industrial development, there may be a need to place some of the samplers at locations where present air quality is excellent. If the predictions are required to apportion fairly the environmental assimilative capacity amongst several existing emissions, on the other hand, the network design may be quite different, with an emphasis on sampling locations where the pollution plumes tend to intersect or reinforce one another. An important principle illustrated by these examples is that it is usually not sufficient to monitor pollution concentrations alone: the characteristics of the flow must also be observed. Here it should also be emphasized that because models of the environment are imperfect, so too are the associated monitoring networks. By successive approximations, however, an optimum network design gradually emerges.

Next we should mention the vexing problem of defining *environmental quality*. What is meant when it is said that the quality of life is better today than it was yesterday? The answer depends to a certain extent on cultural values, which may vary from country to country and which may change with time. How important is a vanishing species of bird vis-à-vis the quality of drinking water? This question is related to the selection of elements to be monitored.

Industry and government tend to monitor substances or indicators for which there are *standards* (of housing, drinking water, air quality, etc.). These standards have been set in general to minimize the effects of environmental extremes, i.e., they are designed to prevent a building from blowing down, to eliminate the transmission of intestinal diseases, etc. However, the standards almost always ignore long-term cumulative effects and tend to treat symptoms rather than causes. Sometimes in fact, the net result is to replace one problem by another. In Britain in recent years, for example, SO_2 and smoke levels have diminished substantially, resulting in an increase in sunshine, which in turn has caused an increase in photochemical oxidant-type pollution.

There is a need, therefore, to design monitoring systems that monitor the "health" of processes rather than the concentrations of trace elements in substances or living tissue. The long-term "health" of a region or of the world depends on:

a) the carrying capacity of the biosphere, i.e., the preservation of renewable resources;

b) the assimilative capacity of the biosphere, i.e., the ability of the biosphere to absorb waste products without reducing the carrying capacity.

In this context, criteria to be considered in the design of environmental monitoring systems could include the following:

a) Monitoring networks should be inter-disciplinary, bearing in mind the complex cycling of trace substances (both nutrients and wastes) through the biosphere. Existing networks are often sectorally oriented and totally uncoordinated with each other.

b) The time constants of an environmental process are important. For example, if all man-made emissions of air pollution were suddenly turned off, the atmosphere could cleanse itself in a few hours or a few days. In the case of ground-water, however, the recovery time may be 100 years. Justification for a groundwater monitoring program can therefore be found in terms of the potential for almost irreversible impacts.

c) Another factor to be considered in the design of a monitoring system is the possibility of positive feedback, resonance or overshoot, as in a galvanometer. This is a favorite theme in science fiction, and environmentalists often speak of impacts that reverberate and amplify through ecosystems. Whether such phenomena are of any practical concern deserves investigation.

d) Biological systems are remarkably *resilient* to environmental stress. Ecosystems are in fact *adaptive*, which makes it difficult to establish reproducible cause-effect relations. There are, however, breaking points beyond which; (a), the stress becomes too great for life to continue; or (b), the stress causes the impacted system to flip-flop to a new and usually simpler steady-state. For example, the change of rangeland to a desert-type ecosystem through overgrazing occurs suddenly, usually at the time of a relatively rare climatic stress, and is irreversible. What man has been doing in this century is to reduce the *resilience* of ecosystems to extreme stresses (e.g., through the Green Revolution). These ideas are amplified in SCOPE (1975) and in some of the papers of Holling, e.g. (Holling, 1973).

e) Although expert Committees and individual scientists can place a problem into focus, there is still need for field work. Here it should be emphasized that pilot studies should have a finite life, and should include some kind of pause or self-destruct mechanism in the observing program. Pilot studies that continue for years are to be discouraged.

f) Finally, it should be emphasized that our understanding of the environment is usually over-simplified. For example, the decreasing fish populations in the Gulf of St. Lawrence during the last few decades were thought to be due to the increasing pollution loading from the Great Lakes. In fact it seems that the damming of rivers flowing into the St. Lawrence (for hydro-electric purposes), which has reduced the spring run-off, has had a detrimental effect on the spawning habits of the fish. Thus, even permanent monitoring networks require review from time to time.

These are representative of the kinds of problems that the SCOPE Chelsea Centre will examine. In this connection, I should pay credit to the creative programming of UNEP, which has provided initial support to develop the following four themes:

1) **Data characterisation**: There has been a tendency in the past to generate a separate data base for each environmental problem. In this theme, the supportive value of overlapping data bases will be examined.

2) **Regional differences in monitoring requirements**: The National/regional perception of environmental quality influences monitoring requirements. Regional differences will be identified and examined.

3) **Development of a systems approach to monitoring**: In order to optimize cost-efficiency, monitoring networks should be based on appropriate environmental models, which indicate critical pathways for substances of interest. Within this theme, the dose-commitment models used in the field of ionizing radiation will be examined, especially with respect to their relevance to conventional pollutants.

4) **A historical review of environmental norms and ranges:** In order to place current environmental states into perspective, it is useful to examine historical data. The initial work at Chelsea will consist of reviewing the literature on selected biotic, geochemical and pollutant levels and their trends in the recent past.

The concept of (GEMS) The Global Environmental Monitoring System as a data base for Earthwatch (a program designed to provide alternative environmental management strategies) was conceived at the UN Stockholm Conference on the Human Environment. An Inter-Agency Working Group on Monitoring chaired by UNEP has been developing the concept, to which SCOPE provided a consultancy input in 1973 (SCOPE, 1973). Dr. F. Sella was appointed UNEP Director of GEMS in 1974, and he is receiving the support of the Specialized Agencies and of Members States. The WMO with its long history of monitoring has been first off the mark, with a program already in operation to monitor air quality (including the chemical consitutents of precipitation) at rural and baseline locations. An Operations Manual has been published (WMO, 1974), following meetings of a number of expert committees and panels. The other Specialized Agencies are also organizing networks and/or pilot studies (e.g., UNESCO/IOC pilot study on urban air pollution).

SCOPE Chelsea is an exciting concept. The aim of the Centre is to bridge the widening gap between specialists with a common interest in the design of environmental monitoring systems. Although the Centre will be removed from day-to-day operational pressures, it will not be an ivory-tower institution. Rather, the emphasis will be on the search for practical solutions to real environmental problems, with cost-benefit considerations always in the foreground.

GRADUATION OF METEOROLOGIST BSC. COURSE NO. 31

Graduation ceremonies for Meteorologist BSc Course No. 31 took place on April 3, 1975, at A.E.S Headquarters. Mr. F.W. Benum, Director General of Field Services, addressed the graduates and welcomed them into their new profession. He spoke of anticipated developments in meteorology in the coming years, and the promising opportunities ahead for those entering the field. Mr. G.A. McPherson, Chief of the Professional Training Division, congratulated them on the sustained effort that they had maintained throughout the months of training, and assisted Mr. Benum in the presentation of Certificates of Professional Training. The occassion coincided with the arrival of the now-famous late spring snowstorm, which extended the afternoon activities into a memorable overnight stay in the headquarters building for all who attended.

Twelve graduate students from Universities across Canada, successfully completed the three units of training which began last August. Following their graduation as Meteorologists, they received five weeks of field training at Canadian Forces Base Winnipeg before taking up duties across the country. Their assignments truly reflected the national character of the Atmospheric Environment Service, with the new meteorologists filling positions from Victoria, B.C., to Gander, Newfoundland.

Back Row: Left to Right – R.K. Cross, A.F. Wallace, B.J. Paruk, R.B. Street, P. Chen, W.G. Richards, C.H. Ritchie

Front Row: Left to Right – S.A. Dupuis, C.S. Di Cenzo, C. Beaudoin, H.L. Taylor (Guest from Course No. 30), D.L. Waugh, B.Q. De Lorenzis

PORT METEOROLOGICAL OFFICER'S WORKSHOP – 1975

From May 12 to 14 the five Port Meteorological Officers (PMO's) from Vancouver, Toronto, Montreal and Halifax gathered at AES Headquarters for their fourth workshop. Previous meetings were held here in 1959, 1963 and 1967. The PMO's attending were Alex Gibb and John Hebgin from Vancouver, Geoff Meek from Toronto, Denis Blanchard from Montreal and Ray McLeod from Halifax.

The PMO's main activity is making personal visits to ships in ports located in their respective areas of responsibility. They have established voluntary weather observing programs on many of these ships, and visits to them are for the purpose of maintaining the meteorological instruments we have loaned them, instructing the ship's officers, and generally supervising the weather program. There are over 200 ships now reporting for Canada on a permanent basis, with 50 or more reporting at any given time on a temporary, or voyage-to-voyage basis. The routes travelled by our observing ships cover the full gamut from around the world voyages to a thirty-mile ferry shuttle on Lake Huron.

The purpose of the workshop was to provide the PMO's and concerned Headquarters people with the opportunity to discuss many topics related to the Marine Weather Observing Program which are of mutual concern, and to clarify specific problems which have arisen. Topics discussed covered a very wide range, from services provided to ships, to the use of sea temperature buckets.

All participants considered that the meeting was of great benefit, and it was proposed another meeting be held in about two years time.

Back Row: Left to Right: G.H. Moss, J.L. Hebgin, A.P. Gibb, G.T. Meek, R.M. McLeod, J.J.D. Blanchard, H.B. Kruger

Front Row: Left to Right: W.T.R. Allen, S.F. Smith, W.W. Stewart

LA HOLLANDE VEUT CAPTER L'ÉNERGIE DES VENTS DE LA MER DU NORD
LA PRESSE, MONTRÉAL

AMSTERDAM (Reuter) – Des ingénieurs hollandais ont entrepris la réalisation du projet ambitieux de produire de l'électricité en captant l'énergie des vents violents de la mer du Nord.

Le projet envisage l'installation d'une longue chaîne de turbines actionnées par des éoliennes, semblables à de gigantesques moulins à vent, tout le long de la côte néerlandaise ou bien dans des îles artificielles en mer.

Ce projet plairait particulièrement aux écologistes qui s'opposent énergiquement à la construction de centrales nucléaires à cause du risque de pollution de l'atmosphère et des dangers pour la faune et la flore.

Le Conseil industriel gouvernemental d'océanologie, un des organismes qui étudient la possibilité d'utilisation de nouvelles sources d'énergie, indique qu'une centrale composée de 150 turbines actionnées par des éoliennes pourraient produire autant d'électricité qu'une centrale nucléaire de 450 mégawatts, près de Flessingue dans le sud de la Hollande.

Techniquement, il serait possible d'entreprendre la réalisation du projet d'ici six ans. Les experts estiment que produire de l'électricité à l'aide d'éoliennes reviendrait à environ 50 p. 100 de plus que par des moyens ordinaires en raison de la nouvelle technologie à mettre au point. Mais les ingénieurs estiment que la production sur une grande echelle entraînerait en fin de compte un abaissement du coût.

La centrale se composerait probablement de 50 unités, chacune formée de trois turbines éoliennes construites sur des tours d'acier géantes de 325 pieds de haut. Les unités seraient actionnées par trois énormes rotors de près de 170 pieds de long.

Les unités, érigées sur des plates-formes ressemblant à des plates-formes de forage pour le pétrole, seraient disposées à un demi-mille de distance.

Les ingénieurs croient que la production des turbines mues par des éoliennes en mer serait considérablement plus élevée que le long de la côte ou à l'intérieur où la vent serait moins fort. Il suffirait seulement de 50 turbines en mer pour produire 500 mégawatts, mais la même quantité d'électricité nécessiterait l'installation de 85 turbines le long de la côte ou 125 à l'intérieur.

Pour résoudre le problème de l'irrégularité des vents, les moulins situés en mer pourraient être couplés à des centrales normales alimentant le circuit principal.

On étudie également la possibilité d'aménager un système complexe de transformation de l'électricité provenant des turbines en hydrogène par électrolyse de l'eau.

L'hydrogène ainsi obtenu pourrait ensuite être acheminé à terre par un pipeline par des bateaux citernes. Cela aurait l'avantage d'être moins coûteux que d'installer un réseau de câbles de transport d'électricité.

Le gouvernement néerlandais étudie actuellement un rapport préliminaire établi par le Conseil d'océanologie avant de donner le feu vert à d'autres recherches.

Les experts estiment que la réalisation du projet n'aurait probablement aucun inconvénient concernant l'environnement et permettrait de réduire la dépendance de la Hollande pour satisfaire ses besoins en énergie.

Le professeur van Gool croit pour sa part que les tours ne présenteraient aucun risque à la navigation. Selon lui, elles ne seraient pas plus dangereuses que ne le sont à l'heure actuelle les plates-formes de forage pour le pétrole en mer du Nord.

Le seul inconvénient du projet susceptible de soulever des protestations est le fait que les turbines brouilleraient la réception des émissions de télévision dans les régions avoisinantes.

Pendant des siècles on a utilisé en Hollande des moulins à vent pour moudre le blé et actionner les pompes qui drainent les vastes régions du pays se trouvant sous le niveau de la mer.

Plus de mille de ces moulins fonctionnent encore aujourd'hui et la crise pétrolière a suscité un renouveau d'intérêt pour l'utilisation de petits moulins qui fourniraient de l'électricité à bon marché pour usage domestique.

THE 18TH CONFERENCE ON GREAT LAKES RESEARCH

The 18th Conference on Great Lakes Research was held this year in Albany, New York, May 20-23, 1975. The Conference was sponsored by the International Association for Great Lakes Research (IAGLR), and was hosted this year by the New York Sea Grant Institute and the State University of New York at Albany. Four sessions were held concurrently in several theatres of the Performing Arts Center at the State University.

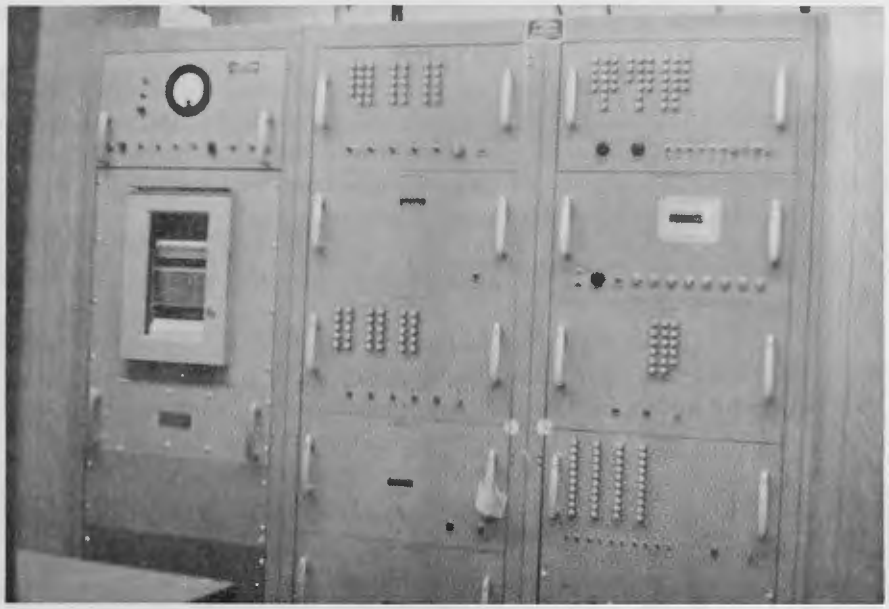
Registration this year for the Conference totalled over 300. Attending from AES were T.L. Richards, J.A.W. McCulloch, and W.L. Ranahan. The 20th Meeting of the IFYGL Joint Management Team and the 37th Meeting of the IFYGL Steering Committee were held on Thursday evening May 22 involving all three AES representatives.

One Hundred and Forty Papers were presented at the Conference under such topics as Lake Ice, Waves, Physical Properties, Chemistry, Limnology, Phytoplankton, Lake Circulation, Biology, Mixing, Dispersion, Lake Levels, Lake Morphology, Benthos, Sediments, Meteorology, and Social Sciences.

THE SWITCH

Does the midnight shift get on your nerves? Is it difficult to sleep during the day while the kids are running around? Does the lack of proper sleep make you snarly and irritable? Does the shift differential put you in a higher income tax bracket? Then, what you need is a Switch.

On May 29, Al Laatch, Bob Dobbs, and Joe Greenly at the Surface Weather Station in Pincher Creek received a Switch. After the evening shift the Switch turns the teletype over to the MARS I which observes the weather during the midnight shift. In the morning the Switch turns the teletype over to the people who observe the weather during the day and evening shifts. – A very sensible and logical arrangement.



MARS I – The Switch

WOMEN IN A MAN'S WORLD

By Cathy Webb

The functions Beth Spira performs in a day change like the weather.

That's because of Ms. Spira's main job studying changes in weather patterns.

Ms. Spira is a meteorologist at the Toronto Weather Office, located in the administration building at Toronto International Airport.

When Ms. Spira tells people she's a meteorologist, people usually ask how that's spelled. But most are under the mistaken impression that being a meteorologist has something to do with meteors, not weather.

MANY HATS

Ms. Spira wears many hats as a meteorologist. This week, it's aviation forecasting, but next week she may be doing marine forecasts, working on the public forecast desk, or just doing routine analysis. For example, next month she'll be stationed down at the office's headquarters on Dufferin St. working on a special project studying the moisture flux over Lake Ontario.

It's all part of the attraction of the job for Ms. Spira, as is the shift work.

"It's a challenging, changing job," she said. "You're not constantly with the same people. I guess the nicest thing about it is the change – every day I come into work, and although I may be doing the same type of work, it's always different. The weather is always changing."

PHYSICS

Since graduating, as the first girl to do so with an honors degree in physics from Guelph University, Ms. Spira has spent a month working in North Bay, one and a half months in Trenton, and a year in the military base weather office in Summerside, P.E.I. She has been stationed at the Toronto office for a year.

She is by no means a feminist, and working and running a household doesn't bother her in the least.

"It's no different than living by yourself and supporting yourself," she said. "After all, if I can come home and get my supper then my husband can get his supper just as easily."

HUSBAND

Come July Ms. Spira will be back on the day shift. But her husband really doesn't mind. "He knew what I was doing before we got married, so he knew what my job involved." she explained.

Ms. Spira is presently involved in aviation forecasting. This entails studying the height and amount of clouds, visibility, wind conditions, and the weather. By looking at the present weather, prognostic charts, stability of air masses, where the systems are coming from, and their dynamics, looking at the actual analysis and the forecasts at different levels, she can produce a reasonably accurate 48-hour forecast.

WINDY?

The walls of the office are covered with charts and maps. Mention to Ms. Spira that it certainly is a windy day, and she'll immediately flip through a stack of computer print-outs and reply that that forecast is an hour-and-a-half old.

But the maps, computer reports, and the technical verbiage seem to come naturally to the 23-year-old meteorologist. She comes from a science-oriented family and science and physics just seemed the natural course to take.

After all, "if you have an aptitude for science you'll pick it up whether you're a boy or a girl."

ONE OF TWO

Although Ms. Sira is one of two females in the weather office, she encounters little resentment, because she is a woman.

"If you want to think like that, you're going to run into resentment wherever you go whether you're a man or a woman," she offered.

Although weather forecasting is predominantly male-oriented, the field is fast opening up to women, and has been since the war. It's a great job, according to Ms. Spira, and offers a tremendous variety. But for most women, the thought of becoming a meteorologist never crosses their minds.

Beth Spira Photograph Courtesy of Etobicoke Gazette

HIGH WATER WARNINGS

During the summer of 1974, Environment Canada, in a co-ordinated effort with the Manitoba Government, Department of Mines, Resources and Environmental Management, issued High Water Warnings for the southern portion of Lake Winnipeg.

The concern for possible environmental damage due to high water levels when strong north winds develop over the lake still persists and the program has again been established for the 1975 open water season on Lake Winnipeg.

With a large expanse of water in Lake Winnipeg, strong north winds pile up the water in the south end of the lake. This is known as a "set-up" and the extra water often adds one to two feet to lake levels and floods beach areas and low-lying farm lands. The same conditions that cause the "set-up" can also cause waves which add severely to erosion problems.

Manitoba Water Resources supply daily water level readings which are included in the Marine Forecasts. Using scientific techniques developed by local meteorologists and hydrologists, the Winnipeg Weather Office of Environment Canada will issue bulletins entitled "High Water Warnings" whenever they are considered applicable to the south end of Lake Winnipeg as far north as Victoria Beach and Camp Morton.

REPORT FOR FIRE WEATHER SUPPORT AT B.C. FOREST SERVICE, NELSON

May 13

08:00 J. Richards on duty

Routine.

09:30 A.M. left with Slash Officer, Paul Holitzki and went to the Salmo district. We went with the assistant Salmo Ranger via 4-wheel vehicle and toured part of the district. Salmo-Remac to Waneta via the Pond d'Oreille River (last wild river in North America). Very rugged country with an abundance of wildlife and many examples of different tree species.

The river is to be dammed and waters are to rise as much as 1700 feet in some locations. Pictures will show the country in part (if the camera is working properly, having trouble getting the exposure light to come on when it should). Frame four shows the river from the construction campsite at 4100 feet ASL 7 miles east of Waneta. Roads in the right side of picture will be the new water level.

Wildlife spotted during the tour:

5 Deer	1 Chipmonk
3 Bear	2 Grouse
1 Squirrel	1 Hippie

May 14

08:00 J. Richards on duty.

Routine.

ACC cloud moved into the Okanagan late in the day and I warned duty officer of possibilities of a few Thunderstorms after a close look at the situation. Since hazards were low no problems anticipated.

Mike Bernard from the Daily News interviewed E. Hlady and myself on the A.E.S. involvement with the B.C.F.S. He took pictures from the roof during the pibal.

May 25

08:00 J. Richards on duty.

Routine.

TRW developed last night. Kettle Valleys radio was knocked out by lightning. This morning TRW developed in the Columbia District while other areas reported light to moderate showers which brought hazards down fairly low except Invermere where they remain Moderate.

May 16

08:00 J. Richards on duty.

Routine except no fax charts. Someone left the Fax machine door partially open last night.

Picture and story a ppeared in the Nelson Daily News. I thought it was a good writeup.

Bought a new battery for the camera.

Unable pibal. Public Works have torn up the entry way to the roof and the and the roof platform to make some changes therefore I am unable to do a pibal.

PERSONNEL

The following have accepted positions as a result of competitions:

74-DOE-WPNA-CC-199	Shift Supervisor MT 7 Arctic Weather Central Edmonton G.E. Wells
75-DOE-TOR-CC-19	Senior Meteorologist MT 5 Toronto Weather Office M.J. Leduc
74-DOE-TOR-CC-436	Officer-in-Charge MT 8 Meteorological & Oceanographic Centre Halifax K.M. MacDonald
75-DOE-TOR-45	Cloud Physics Modelling Scientist PC 1 Cloud Physics Division Atmospheric Processes Research Branch, AES HQ R.A. Stewart Field Experiments Support Technologist EG-ESS-5 Experimental Studies Division Atmospheric Processes Research Branch, AES HQ T. McElroy
75-DOE-WIN-CC-500	Supervising Forecaster MT 5 Central Region T.G. Medlicott

74-DOE-TOR-CC-275	Duty Forecaster MT 4 Canadian Forces Meteorological/ Oceanographic Centre Halifax, N.S. F.S. Porter
74-DOE-TOR-CC-165	Meteorological Instructor, EG-ESS-6 MOTTI, Ottawa L.G. Sharron
74-DOE-TOR-CC-165	Meteorological Instructor EG-ESS-6 MOTTI, Ottawa S. Metcalf
74-DOE-TOR-CC-165	Meteorological Instructor EG-ESS-6 MOTTI, Ottawa R.J. Van Humbeck
74-CC-458	Bilingual Co-ordinator, MT 5 MOTTI, Ottawa R. Gilbert
75-DOE-TOR-CC-48	Head, Planning Unit AS2 Admin. Branch Finance Division, AES HQ Mrs. A.C. Russell

The following transfers took place:

W.D. Cadger	From: Mould Bay, N.W.T. To: Hail Project
K.R. Johnstone	From: Regina, Sask. To: Montreal, P.Q.
A.H. Campbell	From: Toronto Weather Office To: Management Development Program, AES HQ
J. Stutchbury	From: Goose Bay Weather Office To: Atmospheric Processes Research Branch, AES, HQ

The following are on temporary duty or special assignment:

H. Van Meurs	Experimental Studies Division
E.J. Truhlar	W.M.O. In Geneva

Separations:

J.Z. Yan	Successful candidate with Statistics Canada
R. Fowler	Deceased (CAED)
M. Kahn	Admin. Branch – Library

Correction to Competition 74-DOE-TOR-CCID-94, Safety and Health Officer. The name was listed as J. Keith. It should be J. Keefe. Our apologies.

GRADUATES FROM COURSE 31 POSTED TO DND

W. Richards	22 NRWC North Bay
R.K. Cross	CFB Shearwater
A.F. Wallace	CFB Comox
C.S. di Cenzo	METOC Centre Esquimalt
B.J. Paruk	CFB Edmonton
D.L. Waugh	CFB Moose Jaw

TRIVIA

The more a man knows, the more he realizes how little he knows.

. . . . . .

A good feature of an air conditioner is that the neighbours can't borrow it.

. . . . . .

A man should mind his own business – and he should do it well.

. . . . . .

There are many more important things than money. Its just that you need money to buy them.

. . . . . .

The first panacea for a mismanaged nation is inflation of the currency; the second is war. Both bring a temporary prosperity; both bring a permanent ruin ———— Ernest Hemingway.

. . . . . .

Vieux dictons sur la température

Mais, lorsqu'il recommence et finit sa carrière,
S'il brille tout entier d'une pure lumière,
Sois sans crainte; vainqueur des humides autans
L'aquilon va chasser les nuages flottants

Soleil qui luyserne au matin,
Femme qui parle latin
Et enfant nourri de vin
Ne viennent jamais à bonne fin.

La lunaison toute entière se comporte comme le cinquième jour onze fois sur douze, si le temps ne change pas le sixième jour. D'autre part, neuf fois sur douze, le quatrième jour détermine le temps du mois, si le temps du sizième jour ressemble au quatrième.

The following questions form part of an aptitude test for prospective Phd's. Try your luck! ! !

1. I went to bed at eight o'clock in the evening and set the alarm to get up at nine in the morning. How many hours sleep would this allow me?
2. Do they have a fourth of July in England?
3. Some months have thirty days, some have thirty-one, how many months have twenty-eight days?
4. If you had only one match and entered a dark room where there was an oil lamp, oil heater, and some kindling wood, which would you light first?
5. If a doctor gave you three pills and told you to take one every half hour, how long would they last?
6. A man builds a house with four sides to it, each with a southern exposure, a rectangular structure, A big bear comes wandering by. What color was the bear?
7. A farmer had 17 sheep. All but nine died. How many did he have left?
8. Divide 30 by 1/2. Add ten. What is the answer?
9. Take two apples from three apples. What do you have?
10. How many animals of each species did Moses take aboard his ark?

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Une liste d'expressions diverses comprenant des proverbes, des locutions, des dictons, des gallicismes, des canadianismes, des régionalismes, des anglicismes et même des barbarismes.

Expression	Signification ou équivalent
Pile ou face	Jeu de hazard avec une pièce de monnaie
Ta thèse laisse à désirer	Ta thèse a été baclée
Les goûts et les couleurs ne se discutent pas	Chacun a droit à ses opinions
Il a disparu de la circulation	On ne le voit plus
Il se fait du mauvais sang	Il s'inquiète
Tu vas avoir du trouble	Tu vas avoir des problèmes
C'est pas diable!	Ce n'est pas extraordinaire
O.K. mon pot	D'accord, mon ami
Ca va peut-être clicker	Ca va peut-être fonctionner
C'est une grosse patente!	C'est compliqué

. . . . . .

Would you believe it?

The "International Herald Tribune" carries a short weather summary at top left hand corner of front page –– this summary is followed by the information ––– *"Additional weather – comics page."*

Also in its April 30, 1975 edition it carried the following explanation – (Other temperatures and weather conditions were not available for this edition because the French meteorological service that supplies the information was on strike yesterday.

. . . . .

Plante-témoin de pollution – Le Devoir

TOKYO (AFP) – une nouvelle variété de plante réagissant au brouillard photochimique ainsi qu'à d'autres types de pollution a été mise au point par des savants de l'Institut métropolitain de recherche sur les isotopes de Tokyo. Cette plante, baptisée "Reine d'hiver gamma 3", a été élaborée en exposant à la radio-activité de jeunes plants de bégonias. Les autorités de Tokyo comptent l'utiliser comme indicateur du degré de pollution par le brouillard photochimique dans les zones les plus peuplées de la capitale. Cette variété de plante réagit rapidement dans une atmosphère contenant 0.15 particule d'ozone par million, ce qui équivaut à la densité d'ozone d'un air pollué par le brouillard photochimique. Les feuilles de la plante se recouvrent alors de points blancs dans un délai de six heures, indiquent les chercheurs.

. . . . . .

Did you know that ––– "Sudden death is often the first symptom of heart disease."?
–––
––– and the last.
From: "Your Heart and How to Live With It."

By Lawrence E. Lamb, M.D.

Box 2, Site 12, RR. 5
Calgary, Alberta

To Who it may Consern:

I am writing to you for some scientific or technical weather information, I am 11, years old and in grade 6 matter a fact I am so interested that I might be a meterologist when I grow up.

I made my self a, wind vane, Anemometer and a rain gauge. On Tuesday April 29th We are having a science fair and I am doing on weather, but that is not why I would like the information it is because I am very interested on the subject. So if you can spear some time and get me some information on this topic I will be very gratefull.

Yours Truly:

Ricky Krug.

P.S.

I hope you will have success in forecasting the weather in the years ahead and don't get mixed up in the metric system.