

# ZEPHYR

JANUARY 1973 JANVIER

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## JAMES BAY PROJECT

For many months Canadian newspapers, television and radio programs have carried stories about the James Bay Project - the magnitude and economics of it, the possible consequences on the environment, and more recently, the effect of the development on the native population in that area of Quebec. By late 1972 at least one book had been published on the subject, and there has been considerable public controversy over the desirability of proceeding with the project.

The involvement of the Atmospheric Environment Service in the project is based principally on the signing of an agreement between the federal government and the James Bay Development Corporation in November 1972 "for biophysical investigations and environmental baseline studies in the James Bay area" A news release on November 28 advised that the agreement will be in effect until March 31, 1976. The agreement provides for sharing an estimated \$4 million cost of the program. In addition to the mutually funded investigations and studies covering such general areas as land use, water quality, wildlife, fresh water fishing, ecology, vegetation, geomorphology and archeology, studies of a national interest are to be carried out by the Department of the Environment related to climate, oceanography, ice, migratory birds and marine ecology. Accordingly, the Atmospheric Environment Service is participating in a departmental cross-mission project group which includes representatives of most DOE agencies.

The objectives of the AES James Bay program are to (1) determine the nature of the climatic changes which may result from altered land use; (2) establish procedures which could be used for the prediction of the climatic impact of land modifications around James Bay and elsewhere, and (3) provide support for other departmental programs as well as for the overall project.

Some ten AES activities have been proposed and these fall into two groups - the impact oriented studies and services.

**Impact Studies** - The critical climatic issues involved are related to altered energy and water regimes which may result from water diversions, storage and regulation. These changes may be recognized as altered soil and air temperatures, humidities, precipitation, snow cover and ice cover. These features interact with each other and with the regional ecology in a complex manner.

To gather data for the impact oriented studies areal ice observations were started on October 29. Flights will be made once or twice a month until May 20. An airborne radiation thermometer will be mounted on a special chartered aircraft used to measure surface water temperatures commencing in the spring. Ice thickness measurements are being taken at about a dozen locations. In cooperation with the Quebec Meteorological Service it is hoped to develop an extensive automatic climatological reporting network throughout the area to be affected by the development.

The information and data from these observations will be used in studies on climatic and hydrometeorologic change, climatic modification and simulation modelling, water balance, surface water temperature regime, sea, river and lake ice, and general regional climatology.

**Increased Meteorological Services** – Arrangements were made to provide weather information in support of current operations, and in particular, air operations during the latter part of 1972, and there are plans to further increase the service in 1973. This is necessary because of the number of survey parties in the area, and because of the number of flights for transportation of supplies, material, equipment and workers in the area.

In addition to the augmented operational services, extensive amounts of climatological information and data have been provided to Hydro Quebec for an evaluation of the proposed power transmission routes from James Bay to Montreal. A study of the freezing precipitation hazard as it pertains to transmission lines has been completed and plans have been made to assist in a study of ice pressure on dams.

**Resources Required** – At time of writing, February 2, 1973, arrangements within DOE have not been completed as to the provision of resources – operating funds and man-years, to undertake and complete projects that have been planned for 1973-74. It is anticipated, however, that necessary resources will be provided to enable the department to carry out projects that have been assigned to it. Subsequent reports will tell of our progress in the James Bay Program.

## PROJET DE LA BAIE JAMES

Pendant plusieurs mois, les médias d'information canadiens ont raconté différentes histoires au sujet du projet de la Baie James – la grandeur et l'économique du projet, les répercussions possibles sur l'environnement, et plus récemment, l'effet du développement sur le peuple autochtone de cette région du Québec. Heureusement, vers la fin de 1972, un livre a été publié sur ce sujet, et une controverse publique considérable sur la désirabilité à poursuivre le projet s'est élevée.

La participation du Service de l'environnement atmosphérique dans ce projet est basé principalement sur la signature d'une convention entre le gouvernement fédéral et la Société du développement de la Baie James, au mois de novembre 1972, pour des recherches biophysiques et des études de base sur l'environnement dans la région de la Baie James. Le communiqué d'information du 28 novembre prolonge la convention jusqu'au 31 mars, 1976. La convention fournit approximativement \$4 millions du coût total du programme. En plus des recherches mutuelles et des études dans des domaines générales comme utilisation de la terre, qualité de l'eau, faune, pêche en eau fraîche, écologie, végétation, géomorphologie, archéologie, des études d'un intérêt national traitant du climat, de l'océanographie, de la glace, de l'ornithologie, et de l'écologie marine seront développées par le Département de l'environnement. Par conséquent, le Service de l'environnement atmosphérique participe dans un groupe de projets de buts interdisciplinaires départementales, lequel comprend des représentants dans plupart des agences du Département de l'environnement.

Les objectifs du programme de la Baie James du SEA sont:

- 1) de déterminer la nature des changements climatiques qui pourraient résulter d'une altération de la terre;

- 2) d'établir des procédés qui pourraient être utilisés pour la prédiction de l'impact climatique des modifications de la terre autour de la Baie James et d'ailleurs;
- 3) de fournir un support pour les autres programmes départementaux et pour le projet total.

Les quelques dix activités du SEA, déjà proposées, ont été divisées en deux groupes – les études orientées à l'impact, et les services.

**Les études d'impact** – Les issues climatiques importantes sont reliées aux régimes altérés d'énergie et d'eau lesquels peuvent résulter des diversions, de l'emmagasinement et du règlement des eaux. Ces changements peuvent être reconnus par les températures altérées du sol et de l'air, les humidités, la précipitation, la couverture de neige et la glace. Ces traits réagissent réciproquement les uns avec les autres, et d'une façon complexe avec l'écologie régionale.

Pour amasser des données pour les études d'impacts, des observations sur l'étendue des glaces ont été commencées le 29 octobre. Les vols continueront d'être faits une ou deux fois par mois jusqu'au 20 mai. Commenant au printemps, un thermomètre de rayonnement aéroporté sera monté sur un avion affrété spécial, pour mesurer la température de la surface de l'eau. L'épaisseur de la glace est mesurée à environ une douzaine d'endroits. En co-opération avec le Service de météorologie du Québec, on espère développer un réseau automatique climatologique à travers la région affectée par le développement.

Les informations et les données de ces observations serviront dans l'étude du changement climatique et hydrométéorologique, des modifications climatiques et des réalisations de simulation, du bilan hydrique, du régime de température des eaux de surfaces, des glaces des mers, des rivières et des lacs, et de la climatologie régionale générale.

**Services météorologiques accrus** – Des arrangements ont été faits pour fournir des informations météorologiques pour supporter la dernière partie de 1972; et il y a des plans pour accroître le service en 1973. Ceci est rendu nécessaire à cause du nombre des équipes d'arpentage dans la région, et du nombre de vols affectés au transport des provisions, de l'équipement matériel et des ouvriers dans la région.

En plus des services opérationnels accrus, un grand nombre d'information et de données climatologiques ont été fournis à Hydro-Québec pour évaluer la route des lignes de transmission de la Baie James à Montréal. Une étude du hasard du verglas pertinent aux lignes de transmission a été complétée et des plans ont été faits pour assister dans une étude de la pression de la glace contre les barrages.

**Ressources requises** – Au temps de rédaction, le 2 février 1973, plusieurs dispositions au sein du Département de l'Environnement n'ont pas encore été complétées quant à la provision des ressources – les fonds d'opération et des années-d'hommes pour entreprendre et pour compléter les projets qui ont été planifiés pour 1973-74. Cependant, il est anticipé que des ressources nécessaires seront fournies pour permettre au département de poursuivre les projets qui lui ont été assignés. Les rapports subséquents mesureront nos progrès dans le programme de la Baie James.



*Seated – J.R.H. Noble, Assistant Deputy Minister, AES Left to Right – W. Gary Glover – President, Control Data Canada Ltd., F.W. Benum, Director General Field Services, Dennis Eikkorn Liaison Coordinator, Control Data Canada Ltd.*

JANUARY 15, 1973 SIGNING OF THE CMC COMPUTER CONTRACT

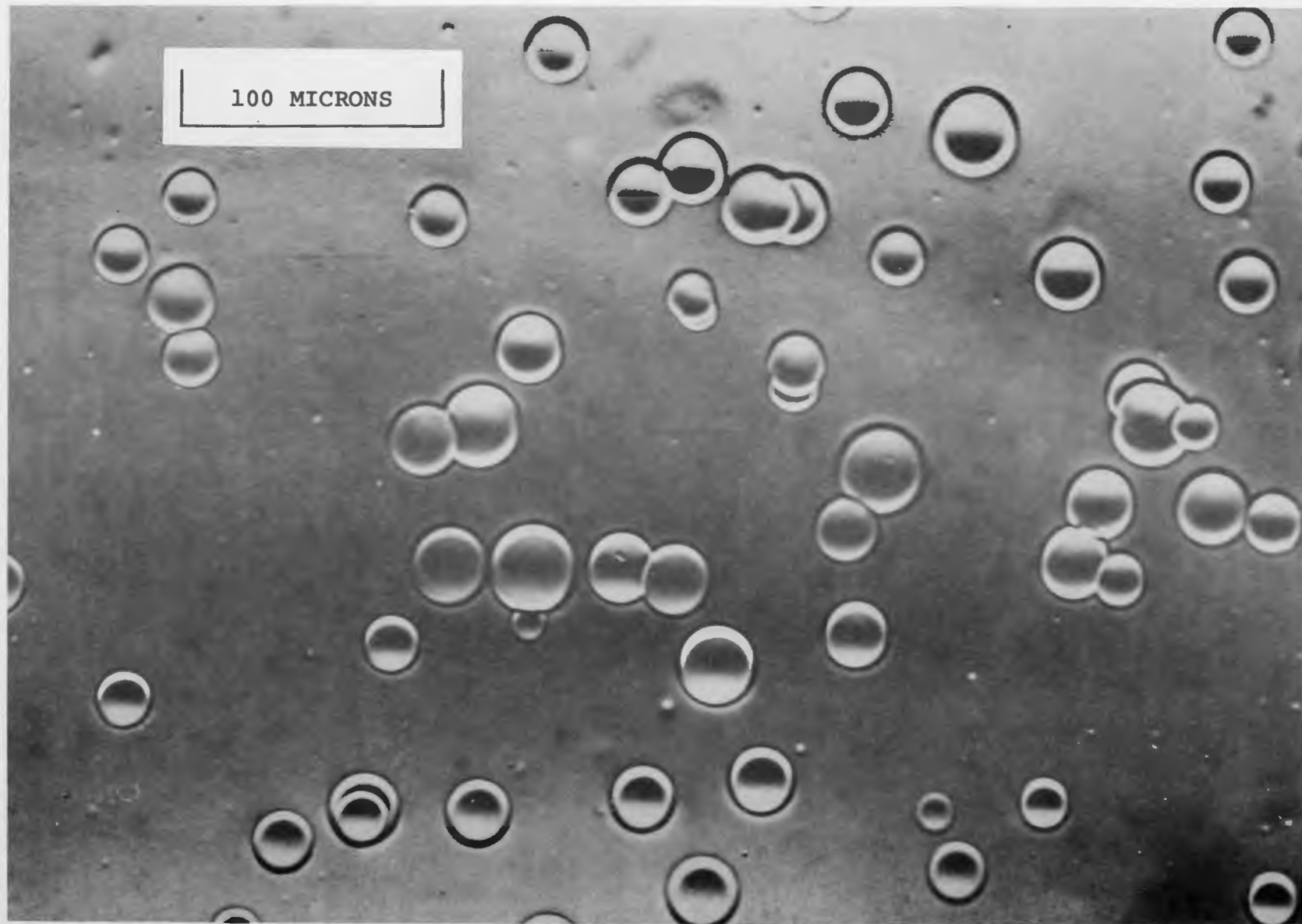
## PROGRAM TO ASSESS THE RESULTS OF FOG DISPERSAL OPERATIONS AT VANCOUVER INTERNATIONAL AIRPORT

The increasing dependence of travellers and industry on aircraft service causes serious inconvenience to the public and financial losses to aircraft operators whenever operation into an airport is disrupted. At Vancouver International Airport, fog has caused major interruption of service, extending on occasion over several days. Techniques of dispersing fogs at temperatures above freezing by seeding chemicals from aircraft have been under study and in use for a number of years, particularly in the United States. Encouraged by claims of successful fog dispersal operations at airports on the western coast of the United States, airlines operating into Vancouver organized a Fog Dispersal Committee in 1970 and have contracted for fog dispersal operations during the fall and winter months since then. Cost of the program is assessed to the participating airlines on a percentage basis. Assistance in the program was requested from the Atmospheric Environment Service through the Pacific Region and the Cloud Physics Division of the Atmospheric Research Directorate agreed to provide instruments and advice to organize an assessment of the results of the seeding by the contracting commercial operator. The scope of the assessment was necessarily to be limited by the resources of the Cloud Physics Division and those that could be made available by the Pacific Region.

Present chemical seeding techniques use polyelectrolytes and/or hygroscopic materials. Exact techniques and particular polyelectrolytes are usually proprietary to the seeding operators and controlled experiments demonstrating successful dispersal of fog are not available. The ability of hygroscopic materials to disperse fog has been demonstrated in cloud chambers and, in limited tests, in the free atmosphere. The use of hygroscopic materials has a firm scientific base although practical limits of the technique, e.g. particle size of the material and amount per seeded volume, the effect of meteorological parameters – liquid water content, droplet size, vertical depth, temperature and temperature distribution, wind velocity and turbulence of the fog – have not been determined. Polyelectrolytes were used at Vancouver during the first season's operations and urea, a non-corrosive, ecologically-acceptable hygroscopic material, since then.

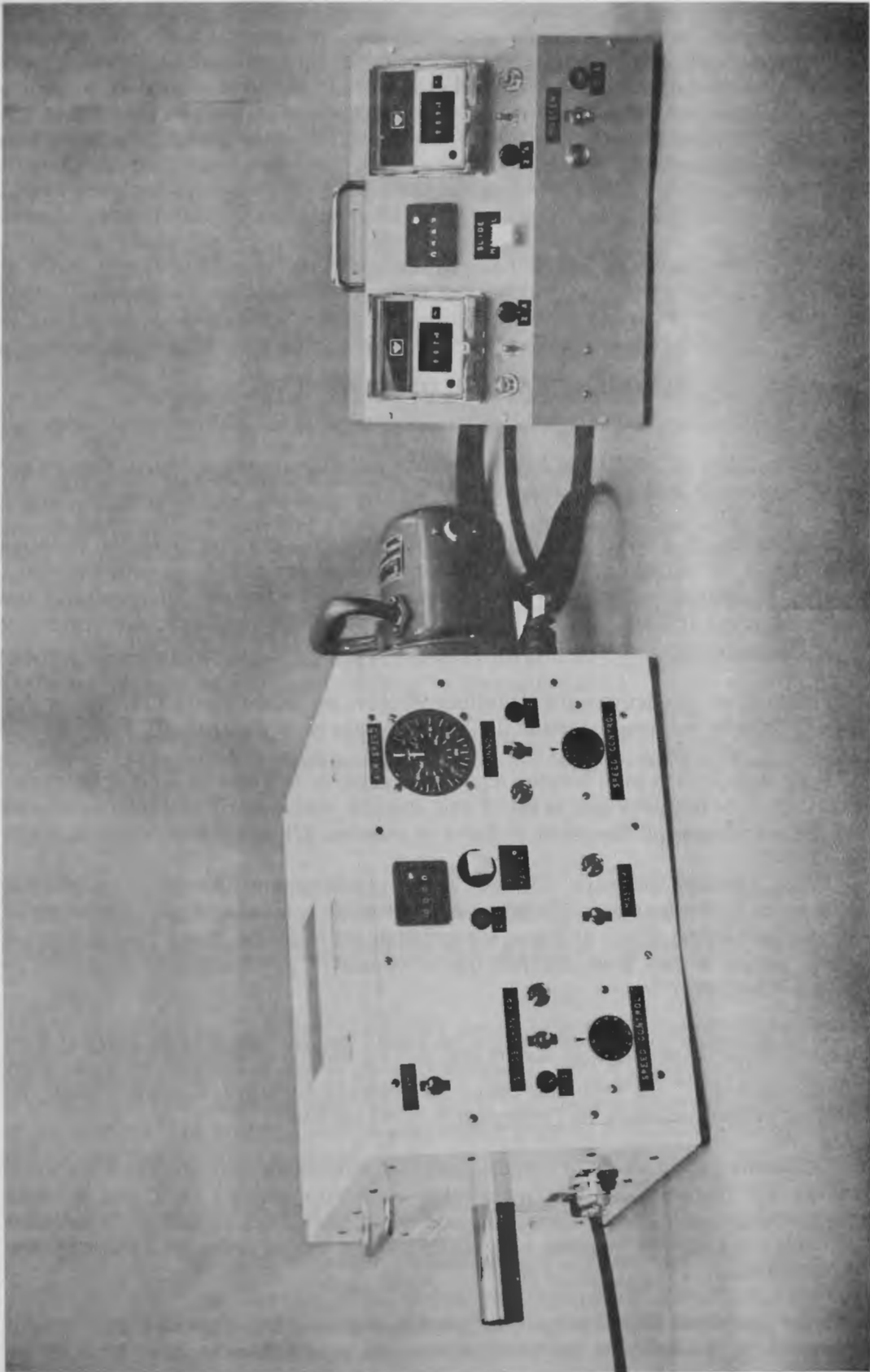
An assessment of the effectiveness of a fog dispersal operation is based primarily on the theoretical and demonstrated changes in the size and distribution of the fog droplets accompanying an induced clearance. Measurable increases in size and decreases in the number of droplets are expected. Measurement of as many other meteorological parameters as possible is highly desirable. Thus, for this initial experiment, instruments to measure droplet size, liquid water content, fog opacity and temperature were provided to the project. These were purchased when possible, otherwise designed in the Cloud Physics Division and built in the Instrument Branch's shops, the latter procedure applying in particular to the droplet sampling instrument. Additional meteorological measurements were obtained from the standard instruments available at the airport.

The cloud physics meteorologist responsible for the instrumentation installed the equipment and remained in Vancouver for a period of four weeks during November, 1972. During this time, measurements were made in fog whenever possible to prove the instrumentation and to provide quantitative background data applicable to Vancouver fogs. A meteorologist, assigned to the fog dispersal project from the Vancouver weather office, was trained in the operation of the instruments so that measurements could continue during the remainder of the winter seeding program.



*Photomicrograph of impressions of fog droplets sampled on a gelatin-coated slide (magnification 150X)*





*Fog droplet sampler (left) and remote control unit*

Measurements were obtained during 5 fogs over a period of 24½ hours, nearly all of which occurred between midnight and 7:00 a.m. Airline operations are, however, scheduled between 7:00 a.m. and midnight at Vancouver International Airport and, since fog dispersal is an operational project carried out only during or immediately preceding these hours, measurements were made during one operation of only three traverses of the seeding aircraft. Data available to date are therefore insufficient to assess the effectiveness of the dispersal program.

## DERNIER CHAPITRE DE LA GENÈSE

*(Texte tiré d'une lettre de la Société Linnéenne de Québec, mais originalement préparé par un réalisateur réaliste de la télévision canadienne)*

A la fin, il y avait la Terre, et la Terre était fertile et belle, et l'homme habitait sur toute sa surface, plus particulièrement dans les vallées et près des eaux. L'homme dit: "Construisons nos demeures dans ces lieux de beauté". Il construisit des villes et couvrit toute la Terre de béton et d'acier. Les vallées perdirent leur verdure et l'homme dit: "Cela est bon".

(L'homme moderne a du strontium 90 dans les os, de l'iode 131 dans la thyroïde, du DDT dans les matières grasses et de l'amianté dans les poumons.)

Le deuxième jour, l'homme regarda les eaux de la Terre et il dit: "Déversons nos déchets dans les eaux pour que la saleté soit charriée vers la mer". Et l'homme déversa ses déchets dans les eaux qui devinrent polluées et puantes. L'homme dit: "Cela est bon".

(La capitale du pays, Ottawa, jette régulièrement chaque jour 300,000 gallons de déchets non traités dans l'Outaouais. A Montréal, le monoxyde de carbone est en voie d'endommager la vue, l'ouïe et même le cerveau de ses résidents. Plus à l'ouest, toute la population se donne le mot pour déverser quotidiennement 1,500,000,000 de gallons de polluants dans le lac Erié.)

Le troisième jour, l'homme jeta un regard sur les forêts de la Terre et il vit qu'elles étaient belles. Alors, il dit: "Coupons tous les arbres et broyons-les pour notre usage et notre agrément". Et l'homme coupa les arbres et les broya. Comme résultat, les terres devinrent pauvres et arides. Et l'homme dit: "Cela est bon".

(Depuis 1951, les cas d'empoisonnement alimentaire ont augmenté de 1,000 pour cent. Le lait maternel contient maintenant deux fois plus de DDT que la limite dangereuse reconnue par l'Organisation mondiale de la Santé. Les pathologistes estiment que 80 pour cent des cancers humains sont causés par des agents polluants à l'oeuvre dans notre environnement.)

Le quatrième jour, l'homme vit que les animaux étaient nombreux, couraient dans les champs et les forêts et agrémentaient le paysage. L'homme dit: "Mettons ces

animaux en cage pour notre plaisir ou tuons-les pour notre sport". Et l'homme emprisonna et tua les animaux. Et les animaux disparurent de la face de la Terre. Et l'homme dit: "Cela est bon".

(A Londres en 1952, la concentration de l'anhydride sulfureux était telle qu'on peut lui attribuer l'excédent des 4,000 décès survenus pendant 18 jours. En juin dernier, 40 millions de poissons ont été empoisonnés par les insecticides déversés dans le Rhin, devenu progressivement le plus grand égoût d'Europe. A Milan, en Italie, la pollution de l'air a provoqué des troubles respiratoires chez 80 pour cent des enfants malades.)

Le cinquième jour, l'homme respirait le bon air de la Terre. Et l'homme dit: "Débarrassons-nous de nos déchets dans l'atmosphère, car les vents les transporteront loin de nous". Et l'homme brûla toutes sortes de déchets au grand air. Et l'air devint lourd de poussières, de fumées et de gaz délétères. Et l'homme dit: "Cela est bon".

(On prévoit qu'en 1975, il y aura une famine mondiale, qu'en 1980, il manquera d'oxygène et qu'en 1985, les eaux terrestres seront complètement polluées.)

Le sixième jour, l'homme se regarda et constata qu'il existait de nombreuses ethnies et qu'on parlait plusieurs langues. Il fut rempli de peur et de haine. Il dit: "Construisons des engins de guerre et détruisons les autres de peur que les autres nous détruisent". Alors, l'homme construisit de gros engins et la Terre fut couverte de feu et de rage. Et l'homme dit: "Cela est bon".

(On prévoit qu'en 1985, l'affaissement des forces vivantes sera générale, qu'en 1990, les grands lacs seront des mers mortes et qu'en l'an 2,000 nous serons tous sourds à cause du bruit sans cesse croissant dans notre environnement.)

Le septième jour, l'homme se reposa de ses labeurs. La Terre était calme et paisible, car l'homme était évidemment disparu pour toujours de sa surface. Et l'homme ne dit plus rien . . .

## LIGHTNING DAMAGE TO STEVENSON SCREEN – ASHTON STATION, ONTARIO

Between 1330 and 1700 EDT on 13 July 1972, the Stevenson Screen at the Ashton Station Sesia Farm Climat Station was struck by lightning. This station is approximately 20 miles SW of Ottawa at 45° 10'N 76° 04'W and an elevation of 440 feet. The point of impact was near the northwest corner of the roof, between the brass screw and the edge of the asbestos. The strike caused an oval shaped burn on the asbestos one inch in diameter at its widest and the strike broke off the corner of the asbestos.

Additional damage to the screen was as follows:

- (a) The front of the screen was damaged and the door blown off.
- (b) The west side of the screen was demolished and both the northwest and southwest corner supports badly splintered, with the northwest support sustaining greater damage.

- (c) All braces, including the cross-brace, were blown loose and splintered.
- (d) The 5th and 6th louvres (from the top) on the south side of the southeast corner were also blown off and hanging loose.
- (e) All four legs of the stand were in splinters with the heaviest damage being sustained to the legs at the northeast and southeast corners.
- (f) There was evidence of arcing and melting on the roof screw mentioned in the first paragraph and also to the door hasp.
- (g) The path of the lightning traced across the front of the door was in the form of fine surface splinters with arcing across the hardware.

The alcohol column in the minimum thermometer, apparently in good condition at the time of the morning reading, had fine breaks when checked by the observer following the lightning strike. Although the maximum thermometer appeared undamaged, a constriction defect was noted. The maximum reading was 87°. Both thermometers were immediately taken out of service by Major Sesia, the observer.

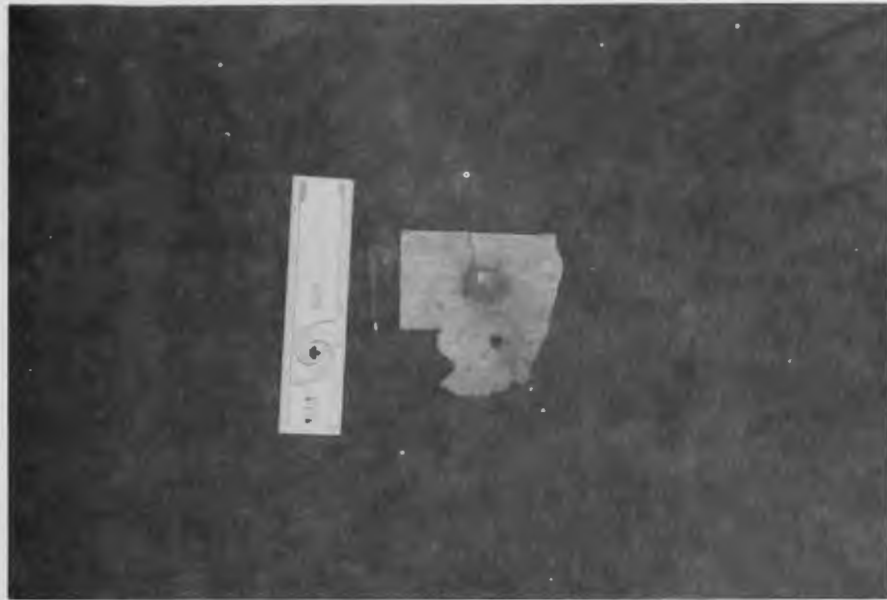
During clean-up, after a new screen had been installed, splinters from the old screen were picked up as far as twenty feet from the screen and one splinter had been driven into the ground to a depth of seven inches.

Except for the scorch mark on the asbestos and the arcing of the screw and hardware previously mentioned, there was no evidence of heating on any other part of the screen or stand.

The station was unattended during the lightning strike and it is not known if precipitation actually occurred at the same time.

It should be noted that the screen is in a sheltered location with higher obstructions in all quadrants. A row of maples, approximately forty feet high, is located 85 feet from the screen in the SE - SW quadrants. In addition, large size elms are located within 300 yards to the west and north. The observer's two storey dwelling, of limestone and wood construction, complete with lightning arrestors, is slightly more than 100 feet south of the screen. Of interest is the fact that the dwelling has been struck by lightning twice since 1962, without structural damage, but with considerable damage to appliances, radios, televisions, etc.

ASHTON STATION SESIA FARM, ONT. LIGHTNING DAMAGE 13 JULY, 1972.



*plate 1 - asbestos roof, point of impact.  
Bright spot on screw caused by arcing.*



*plate 2 - general damage. Dwelling and 40'  
maples in background. Looking S.*



*plate 3 - Looking E. General damage and scattered debris.*



*plate 4 - same as 1.*

## AIR POLLUTION METEOROLOGY COURSE

The Air-Quality Research Branch and the Professional Development Division cooperated in organizing and planning a training course in Air Pollution Meteorology which was held at Headquarters during the period November 20 to December 1. Participants included scientific support officers from all regions, forecasters, and a number of Headquarters personnel.

In the opening session Dr. Kwizak introduced Dr. Tom Ingram of the Environmental Protection Service, Mr. C.J. Macfarlane of the Air Management Branch, Ontario Department of the Environment, and Dr. D.P. McIntyre of the Atmospheric Research Directorate. These speakers explained the roles of their respective agencies in air quality management. The dates of the course coincided with federal-provincial meetings on air quality management and course members were provided with a running account of developments.

The course was broadly based and included lectures on plume rise, WMO monitoring networks, diffusion from point and multiple sources, atmospheric chemistry, modelling techniques of dispersion using wind and water tunnels, pollution sinks, urban meteorology and urban air pollution, regional and global air pollution, instrumentation, air pollution and climate change, long-term large scale consequence of tropospheric and stratospheric pollution, air pollution climatology, and air quality prediction and prediction systems.

Lectures were followed by discussion periods in which each subject received further elucidation. Workshop exercises dealt with calculations of plume rise and dispersion based on actual meteorological and emission data for a proposed smokestack at the smelter at Flin Flon. Tours were conducted of the research laboratories at Headquarters, the Experimental Research Station near Woodbridge, and the Ontario Government Air Management Branch offices in downtown Toronto. Reports on regional problems and activities in the air pollution field were presented by the scientific support officers from each Region.

Participants expressed keen enthusiasm for the course and indicated that it filled a need they had all felt for instruction in air pollution meteorology. Much of the success of the course was due to the authoritative leadership and excellent lectures provided by Dr. Ted Munn. Dr. Steven Hannah from Oak Ridge, Tennessee lectured on plume rise and dispersion models and was able to present a cohesive picture of these difficult subjects. Mr. M. Hirt was responsible for the detailed organization of the course, and as a result of his tireless efforts the program functioned very smoothly.

## RETIREMENT OF G.R. KENDALL

G.R. (Rollie) Kendall retired from the Service on February 2, 1973. Since the reorganization of Headquarters in May 1972, Mr. Kendall had been serving as Chief of the Climatological Services Division in the Meteorological Applications Branch, Central Services Directorate. A veteran meteorologist with twenty years experience in climatological work, Mr. Kendall will be greatly missed by his Toronto colleagues, and by those associates in other offices across the country with whom he was frequently in contact to provide climatological information and advice in statistics.

A native Torontonionian, Mr. Kendall is a graduate of the University of Toronto. He joined the Meteorological Branch in February 1942 after four years of high school teaching in Ontario. His career in the Service included both the intensive and advanced war time training courses and tours of duty with the R.C.A.F. at Summerside and at the Forecast Offices in Gander and Moncton. After returning to Toronto in 1951 he was in charge of the Data Utilization work in the old Climatology Operations Section for many years where he was responsible for supervising the provision of climatological services, the publication of historical and statistical data periodicals and special summaries. Because of his natural ability and keen interest in statistics he was for many years the unofficial mentor of many Headquarters people in applying statistics to meteorological and climatological problems, and assisted in lecturing in climatology for the Meteorologists Training Courses. He represented the Service on the NRC sub-committee on snow and ice for several years, and was the author of a number of publications having to do with the statistical treatment of climatological data. As the editor of the historical data publications, he was responsible for writing the text for the Canadian Weather Review each month since it was begun in 1963.

In their retirement Rollie and Helen Kendall plan to continue to reside on Stavebank Road near Port Credit.

## CLIMATOLOGICAL SERVICES COURSE

Fourteen meteorological technicians from the Regions and Headquarters have successfully completed Climatological Services Course No. 3 which was presented at the Atmospheric Environment Service Headquarters by the Climatological Services Division from November 14 to December 15, 1972.

The course is specifically designed to provide technicians with a sound background and understanding of climatology and to give them a grasp of the complexity of the problems which arise in the provision of climatological services. Meteorological Applications Branch and Training Branch personnel conducted lectures on various topics dealing with the science of climatology and a general introduction to statistics as applied in climatology. A number of sessions were also devoted to policies and procedures, an explanation of the philosophy behind the provision of climatological services throughout the organization and a demonstration of the information, data and technical resources available.



### RETIREMENT – D.H. SMITH

Deane Smith had completed over 36 years of service when he retired on January 12, 1973. He had worked in Toronto, St. Hubert, Winnipeg, Lethbridge and Edmonton and had the distinction of opening the forecast office in Lethbridge in 1940. As Regional Director of Atmospheric Environment Service, Western Region he was often affectionately known as 'the Dean of Meteorology.'



*Jack Labelle and Deane Smith*

He was honoured by 177 colleagues and friends at St. Basils' Hall, Edmonton on January 12. All regional directors, Atmospheric Environment Service were present. A dinner was followed by a program and dance. At the head table with Ruth and Deane Smith were Mr. & Mrs. H.J. Williamson, Mr. & Mrs. C.E. Thompson, Mr. & Mrs. D.J. Dewar, Mr. & Mrs. G.H. Legg, and Mr. F.W. Benum.

Mr. Thompson chaired the proceedings with Jeff Williamson, former Regional Director D.O.T. Moncton and Edmonton injecting good humour as master of ceremonies for the program.

Dozens of congratulatory messages were received. Margaret Thompson presented Ruth Smith with roses, paying tribute to her sincere interest in the welfare of Deane's colleagues over the years.

Don Dewar, Western Regional Administrator CATA, expressed appreciation for Deane's support to M.O.T. and extended best wishes for a happy retirement.



*Ruth and Deane Smith*

Frank Benum, Director General Field Services Directorate, emphasized the warm regard in which Deane is held by his compatriots. He highlighted his initiative, intelligence, integrity and persistence which have made such a unique mark on the Canadian Meteorological Service. In recognition of this, he presented him with a Centennial Plaque, final award of the series.

Jack Labelle, Regional Director, Central Region presented a copy of Deane's first synoptic chart drawn in Winnipeg, January 2, 1938.

The Fort Nelson staff sent a pen set which was presented by Jeff Williamson.

Mr. Julian Kinisky gave his former "Boss" a unique cloud picture.

Jeff had several symbolic 'gifts' recalling Deane's days as a college rugger player, resident of the Chinook country and finally a gas mask and a bottle of 'clean' water presuming that his 'Dept. of the Pollution' wasn't going to control the future environment!

'Tommy' Thompson presented a camera and a purse of money from M.O.T., A.E.S. and friends. Deane responded in his own incomparable style with a fine speech of thanks and reminiscence.

## RETIREMENT – E.C. “TED” BOURDON

On Wednesday, the twenty-fourth of January, some of E.C. (Ted) Bourdon's many friends and acquaintances gathered in the cafeteria at A.E.S. Headquarters to wish him well on his imminent retirement. Ted started his government career in 1939 under J.R.H. Noble at St. Hubert, and quite fittingly it was Mr. Noble who said farewell to him from all of us that night.

From 1939 to 1947, Ted spent his years learning the trade, now called a forecast office technician, and improving his ability at playing bridge at St. Hubert and Dorval, with a brief stint in Halifax. Then, he decided to try life outside the service, but returned in 1950. Upon his return, he was quickly converted to an Upper Air man and did tours as O.I.C. at Fort Chimo, Seven Islands (now Sept-Iles) and Moosonee, a short tour in Climatology, then, in 1957, settled as an instructor at the Radiosonde School at Hanlan's Point on Toronto Island, and, in 1959, moved to Scarborough with the school, now called the Upper Air Training School.

Ted married Thelma back in 1939 and now can look forward to spending some of their retirement time with their two sons, one daughter and six grandchildren. That is, when he is not busy with the Lions Club, a member for 22 years; playing bridge, been playing since he was 13 years old; growing tropical plants, he hopes to build a greenhouse; or getting involved in community work, he recently received official recognition by Markham Town Council for his work on the Markham Museum Board.

At his farewell, Miro Kostiuk, on behalf of his co-workers, presented him with a “gold” Manupp and “gold” radiosonde to occupy him in his “spare” moments. The staff at the Upper Air Training School then presented Ted with a wallet complete with “starter kit” and Thelma a corsage of yellow rose buds. Finally Mr. Noble, on behalf of Ted's many friends in A.E.S. presented him with an inscribed gallery tray and silver wine goblets.

Good Luck Ted and Thelma!

## AES IFYGL STATUS REPORT AS OF JANUARY 31, 1973

### Shoreline Stations

Heaters were installed on the wind component sensors of all six shoreline stations during January.

A first “dump” of data from five of the six shoreline stations has been completed up to December. There are some tape time problems with one of the stations but these should be solved shortly. None of the data from the Bedford Towers has yet been reviewed.

### **ART Program**

As reported elsewhere four ART flights were carried out in January, only partial coverage of the lake was achieved on two of these flights due to poor weather conditions.

### **Other Programs**

The radiation stations and the X-3 evaporation pans continued to provide data throughout January.

The radar/precipitation program continued and data analysis is underway.

## **ADVANCED PRESENTATION SEMINAR**

18 Senior Presentation Technicians, representing all Regions and with a total of 199 years of "briefing" experience, gathered in Toronto at AES Headquarters, from January 15 to 26, 1973 for the first Advanced Presentation Seminar.

The two week session was conducted in an informal atmosphere with talks, discussions and laboratory exercises covering a wide range of topics among which were: Meteorological theory and its application, Weather Services, Air Pollution, Computer Application, Presentation techniques, etc.

Staff of the Professional Development Division, covered the Meteorological subjects of the seminar and provided excellent, illustrated talks on topics such as Thermal Advection, Vorticity, Air Masses, Introductory Frontal Analysis, Vertical Motion, etc., which enthused all participants. The only regret expressed, was that the tight scheduling of the seminar restricted continuing discussion on several of these subjects.

Discussions on Weather Services, pinpointed many of the operational problems presently being experienced by the "briefer" and these sessions provided an opportunity for an exchange of ideas and comment between field office and Headquarters personnel.

Members of the Atmospheric Dispersion Division gave a series of talks on Air Pollution covering Air Pollution Meteorology, Atmospheric Chemistry, Air Quality Criteria and Air Pollution Potential Forecasting.

During the seminar, several hours were given to laboratory exercises on Short Range Forecasting Techniques, Tephigram familiarization and surface chart analysis by the staff of Technical Training Division.

The practical exercises were well received by the participants as well as establishing the practical application of some of the concepts covered in previous discussions. The practical work also offered a variation in activity during the seminar.

All Regional representatives found the seminar interesting, educational and inspiring, and their enthusiasm was illustrated when, during two unscheduled free periods due to the unavailability of a guest speaker, the group asked for Al Davies to return for additional discussion on "Vertical Motion".

The benefits of the seminar were enhanced by the companionable atmosphere and several impromptu "after hour" sessions, when topics of the day were deliberated upon, over a favourite beverage.

It is hoped that the Advanced Presentation Seminar will become a regular feature of the Presentation training program for reviewing, updating, and expanding the knowledge and skills of the Presentation Technician in the provision of weather services.

### ONE HUNDRED AND NINETY-NINE YEARS OF "BRIEFING"



*Austin Hollett Gander  
1961 Presentation Course*



*Fred Luciw Winnipeg  
1964 Presentation Course*



*Earle Bryan Montreal  
1959 Presentation Course*



*Douglas "Doug" Fink, Victoria  
International Airport  
1963 Presentation Course*

ONE HUNDRED AND NINETY-NINE YEARS OF "BRIEFING" (Cont'd)



*John Mornan O.I.C. Windsor  
1964 Presentation Course*



*Jacques Bureau Aéroport Québec  
1962 Presentation Course.*



*Ike Schneiderman Halifax  
1962 Presentation Course*



*Al Teskey Vancouver  
1962 Presentation Course.*



*Jim Dunlop Toronto International  
Airport 1959 Presentation Course.*



*Paul Ladouceur O.I.C. St. Hubert  
1967 Presentation Course.*

ONE HUNDRED AND NINETY-NINE YEARS OF "BRIEFING" (Cont'd)



*Alfred Moakler Goose Bay  
1962 Presentation Course.*



*Gerry Emes Edmonton International  
Airport 1962 Presentation Course.*



*Norman Boddy Toronto International  
Airport 1959 Presentation Course.*



*Earl Zilkie O.I.C. Prince George B.C.  
1962 Presentation Course.*



*Bert "Doc" Hartwell Calgary  
1962 Presentation Course.*



*Michael Poluk O.I.C. Edmonton  
Industrial 1962 Presentation Course.*

ONE HUNDRED AND NINETY-NINE YEARS OF "BRIEFING" (Cont'd)



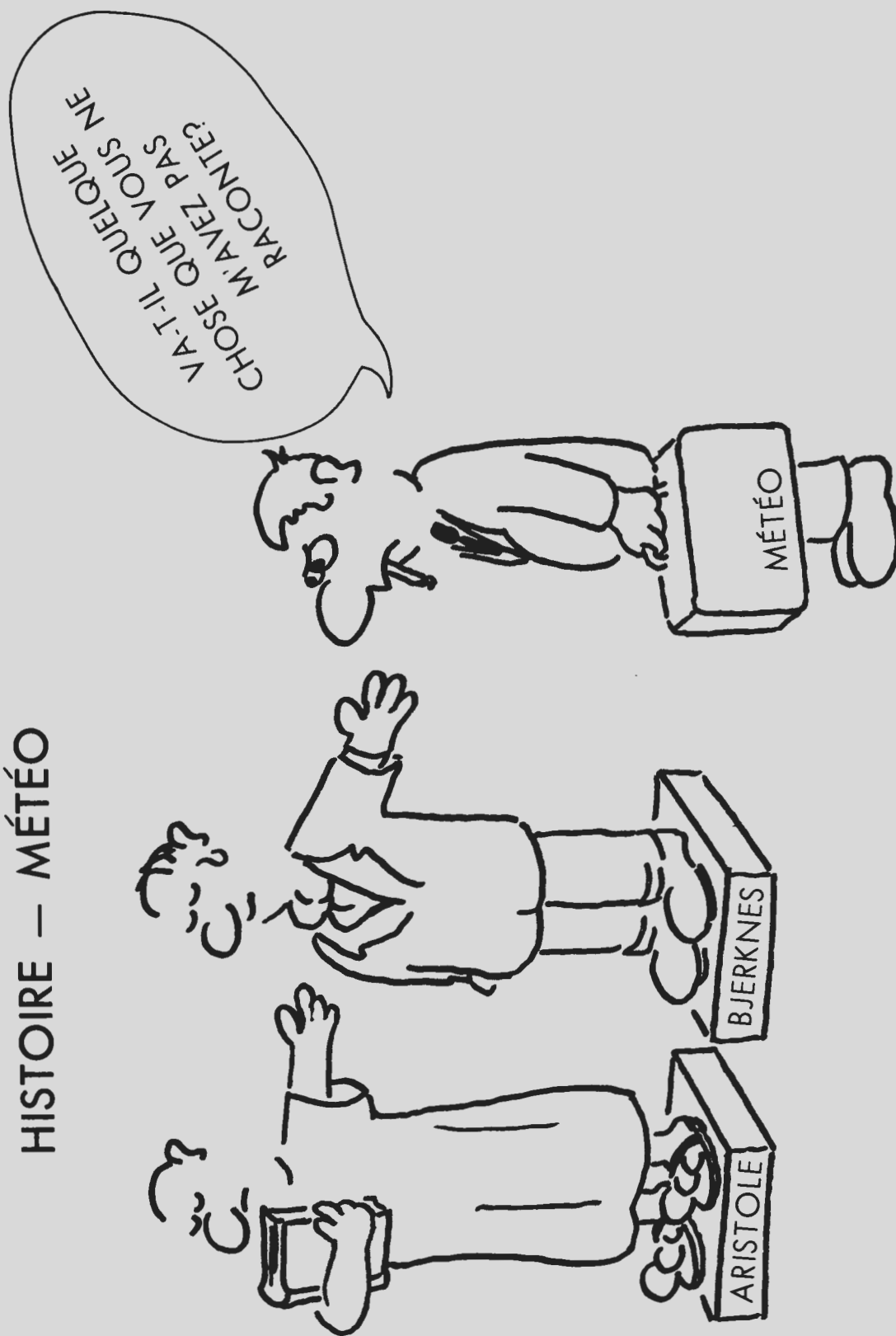
*Al Schmidt O.I.C. Prince Albert  
1962 Presentation Course*



*John Mulvenna Regina  
1963 Presentation Course.*



# HISTOIRE — MÉTÉO



### PERSONNEL

The following transfers took place:

G.E. Wells	From: Arctic Weather Central To: Ice Forecast Central
E.M. Taylor	From: CFB Comox To: CFB Cold Lake
G.W. Hykawy	From: Edmonton Weather Office To: Arctic Weather Central
J.E. Ploc	From: Arctic Weather Central To: Edmonton Weather Office
Miss M.P.C. Regan	From: CFB Cold Lake To: CFB Greenwood
G. Nitka	From: Atlantic Weather Central To: Canadian Meteorological Centre
W.R. Feuerherdt	From: Gander Weather Office To: Frobisher Bay Weather Office
B.J. Burns	From: CFB Comox To: Mobile Command, St. Hubert
J.C. McLeod	From: CFB Moose Jaw To: CFB Cold Lake
J.Y.A. Bernier	From: Canadian Meteorological Centre To: Montreal Weather Office
J.W. Ring	From: Montreal Weather Office To: Canadian Meteorological Centre
Capt. M.J. Hawkes	From: CFOCS Chilliwack To: CFWO Lahr
Capt. A.J. Malinauskas	From: CFB Greenwood To: CFOCS Chilliwack

The following are on temporary duty or project assignment:

S.M. Checkwitch	From: Edmonton Weather Office To: Calgary Weather Office
K.R. Johnstone	From: Regina Weather Office To: Civil Aviation Project, AES Headquarters

The following have accepted positions as a result of recent competitions:

- 72-AES-CC-288            Meteorology MT5  
                              Supervising Forecaster  
                              Maritimes Weather Office  
                              Halifax, N.S.  
                              - R.H.W. Hill
- 72-AES-CC-197           Meteorology MT5  
                              Officer-in-Charge  
                              Saskatoon Weather Office  
                              - D.A. Bernachi
- 72-AES-CC-234           Meteorology MT4  
                              Meteorological Application Division  
                              Agriculture and Forestry Section  
                              Central Services Directorate  
                              AES Headquarters  
                              - E.C. Birch
- 72-AES-CC-196           Meteorology MT8  
                              Head, Special Weather Services  
                              Field Services Directorate  
                              AES Headquarters  
                              - F.J. Mahaffy
- 72-AES-CC-69            Meteorology MT7  
                              Head, Environmental Unit  
                              Arctic Meteorology Section  
                              Central Services Directorate  
                              AES Headquarters  
                              - M.O. Berry
- 72-AES-CC-258           Meteorology MT9  
                              Chief  
                              Integration and Evaluation Division  
                              Program Development and Evaluation Branch  
                              AES Headquarters,  
                              - A.G. MacVicar

**Retirements:**

D.H. Smith  
Regional Director  
Western Region  
Edmonton

## Appointment

### GEORGE H. LEGG HEADS UP WEATHER SERVICES IN WESTERN REGION

George H. Legg has been appointed by the Public Service Commission to the position of Director of the Atmospheric Environment Service's Western Region, Environment Canada. The appointment has been announced by J.R.H. Noble, Assistant Deputy Minister of the Atmospheric Environment Service (AES).

In his new position, Mr. Legg will exercise overall direction of AES programs throughout the Western Region, a vast area which includes Alberta, the Yukon, and the western portion of the Northwest Territories. Transportation and other economic activities in this northern area are extremely weather sensitive. Mr. Legg will be directly involved in improving the weather services and facilities throughout the region.

### GEORGE H. LEGG PREND LA DIRECTION DES SERVICES METEOROLOGIQUES DE LA REGION DE L'OUEST

La Commission de la Fonction publique vient de nommer M. George H. Legg au poste de Directeur des Services de l'environnement atmosphérique, Environnement Canada, pour la région Ouest. La nomination a été annoncée par M. J.R.H. Noble, Sous-ministre adjoint du Service de l'environnement atmosphérique (S.E.A.).

Dans son nouveau poste, M. Legg s'occupera de la direction générale des programmes du S.E.A. dans toute la région de l'Ouest, vaste région qui inclut l'Alberta, le Yukon et la partie Ouest des Territoires du Nord-Ouest. Les transports et les autres activités économiques dans cette région du nord sont très sensibles aux conditions atmosphériques. M. Legg s'occupera directement de l'amélioration des services et des installations météorologiques à travers la région.

### HIGHS AND LOWS OF A WEATHER GIRL

By Susan Pomerantz

So you thought your local forecaster was an old man with his head in the clouds - rubbing his bunions when it rained and aching from arthritis when it snowed?

Well, he is a she in this city.

And she, is Susan Lally, the 5'2" blue-eyed blonde weatherwoman who sits up in Dorval tower filing aviation forecasts and local weather reports.

At 26, Susan is the only female meteorologist in the province and one of 10 weatherwomen in the country.

She works with 24 male colleagues analysing weather reports sent from observation points and interpreting it on a local level.

In general, she says, being a weatherwoman is a thankless job. "You never get a pat on the back. People don't think of the weatherman as a person – it's a big 'they' and 'they,' are always responsible. Even when we predict scattered showers and it happens, we're blamed because there's no sun."

"We're the ones you swear at when your weekend is rained out."

But for Susan, being a forecaster has its bright side.

Aside from the challenge of the job, and the common interest she shares with her meteorologist husband, friends and strangers alike depend on her for their outings.

She has forewarned construction workers on high buildings of winds or bad weather – "we can be reasonably accurate about weather predictions three days in advance," she says.

Friends call to find out if it is safe to travel by plane.

And even in her personal life it can be an advantage.

"When we married two years ago it was a clear sunny day – you just couldn't go wrong when the bride, groom and 12 of the guests were all weathermen," she said.

Among her colleagues, Susan is considered a professional.

But for many public callers or uninformed pilots, she is still a surprise.

"If I'm on the phone with a pilot my calls are two or three times longer than all the other weathermen's calls," she says. "When pilots phone for the first time I have to convince them I'm the forecaster and depending on the weather, sometimes they just like to sit and talk."

She added, "when the public phones it's the same reaction. I had a call once from a man in New York who wanted to find out the weather forecast here. I told him I was the weatherwoman and he kept asking me for a date."

Traditionally, Susan says, women have never been attracted to or involved in meteorology because it involves shift work, a knowledge of math and physics, as well as postings to different parts of the country.

Because of the erratic hours, Susan's first few months of her marriage were like a correspondence by phone – "We saw each other one hour in three days."

Susan's entry into the weather world began when she was in second year McGill, and took a course in meteorology.

Her childhood dream was to be a doctor, but when she failed her zoology exam and found she excelled in math and physics, she changed directions.

After graduation she worked for a year in meteorology at McGill, took a special course and was then employed by the Department of Environment for the Federal Government.

## TRIVIA

### DETERIORATA

Excalibur

The York University Weekly

-- found in Boston harbour speared with a Lambard Harpoon

Go placidly amid the noise and waste,  
And remember what comfort there may  
be in owning a piece thereof.  
Avoid quiet and passive persons unless you are in need of sleep.  
Rotate your tires.

Speak glowingly of those greater than yourself,  
And heed well their advice,  
Even though they be turkeys.  
Know what to kiss, and when.  
Consider that two wrongs never make a right,  
But three -- do.

Wherever possible, put people on hold.  
Be comforted that in the face of all heredity  
and disillusionment,  
And despite the changing fortunes of time,  
There is always a big future in computer maintenance.

Remember the Bonaventure,  
Strive at all times to bend, fold, spindle and mutilate.  
Know yourself. If you need help, call the RCMP.  
Exercise caution in your daily affairs,  
Especially with those persons closest to you --  
That lemon on your left, for instance.

Be assured that a walk through the ocean of most souls  
Would scarcely get your feet wet  
Fall not in love, therefore.  
It will stick to your face.

Gracefully surrender the things of youth:  
Clean air, tuna, Taiwan;  
And let not the sands of time get in your lunch.  
Hire people with hooks.

For a good time, call 928-5377, and ask for Andy.  
Take heart amid the deepening gloom,  
That your dog is finally getting enough cheese.  
And reflect that whatever misfortune may be your lot.

It could be worse in Sudbury.  
Therefore make peace with your God,  
Whatever you conceive him to be: Hairy Thunderer, or Cosmic Muffin.  
With all its hopes, dreams, promises, and urban renewal,  
The world continues to deteriorate.  
Give up.

You are a fluke of the Universe:  
You have no right to be here;  
Whether you can hear it or not,  
The Universe is laughing behind your back.

PIREP BY F/L GILLESPIE, CENTRAL FLYING SCHOOL, RCAF STN SASKATOON

And it came to pass on the 20th June 1962 that Ali Nabob, third son of the Caliph, was guiding his camel through the dunes and dales and dromedary dung in the sanctified area between Damascus (XE) and Babylon (Dief's Place).

Suddenly, a white spot appeareth in the air, and it appeareth to be of inverted saucer shape, and it appeareth to Ali's good right eye (his left had been smitten and bitten by Crazy Abdul, the used harem girl dealer who caught poor Ali sampling the goods) that its elevation was of medium height, yea verily, 'twas 14,000 new world feet. Also in this holy area were large, white, familiar to Ali, new world Cumulus from 11,000 to 16,000 new world feet. It seemeth to Ali as he guided Old Shep through these areas, that the faithful beast would buck and snort in more severe manner than normal. Ali, however, had been guiding two-humped camels for some moons previous to the vision, and ole Shep was a one humper. This could account for the apparent difference.

The vision groweth. Another inverted saucer of somewhat greater magnitude appeareth below the first; and another, and another, and the vision began to assume the appearance of a Christmas tree (which has not yet been invented) made out of inverted saucers.

Ali was overcome with awe, and steered ole Shep to his destiny, even though his supply of gold, frankfurters, and burrs was limited. As he approacheth the vision, the saucers merged, yea verily, just like they would in a dishwasher (which has not yet been invented) and became one large white light similar to those seen at the tops of thunder clouds. Ali arriveth on the vision, which had assumed the proportions of about 100 x 100 new world yards, whereupon he entereth, was bathed in holy white light, and was damn near flung from his beast. Thus expireth the story, the experiencing of which took 11 new world minutes.

*Editor's Note* - A pilot report of a first encounter with Lenticular clouds.

Two humper - T-33 2-seater jet trainer

One humper - Sabre operational jet fighter.

Time changes with time; in youth, time marches on; in middle age, time flies; and in old age, time runs out.

When you are 50 years old, you have slept through 17 of them and spent 6 in eating.