



ZEPHYR

APRIL 1975 AVRIL



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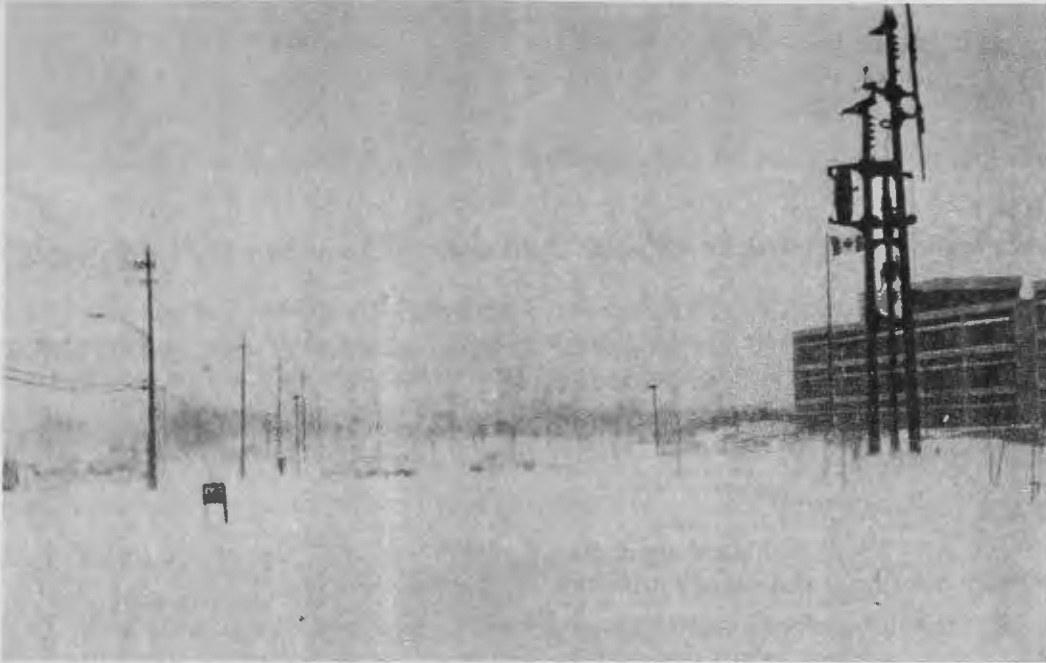
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| | |
|--|----|
| There's a Small Hotel by Jim McCulloch | 1 |
| Il y a un petit hôtel par Jim McCulloch | 6 |
| Raising the Roof by R. V. Colpitts | 8 |
| Heavy Snowfall at Nolalu, Ontario by Paul B. Lemieux | 10 |
| EARP by H. L. Ferguson | 11 |
| Radar Displays and Snowfall Measurements by Morley K. Thomas | 16 |
| Lethbridge TV Weatherman Goes to New York | 19 |
| Les développements de la météorologie par Raymond-M. Gagnon | 20 |
| NATO Weather Group Convenes at Patrick Air Force Base, Florida | 23 |
| Public Handout at Frobisher Bay Open House, April 26 | 24 |
| Personnel | 26 |
| Trivia | 28 |

"THERE'S A SMALL HOTEL . . ."

New words by Jim McCulloch. Unfortunately, there is no music.



1:00 P.M.

"Where is everyone going?"

"Don't you ever look out the window? That's some storm out there. Research has been let out."

"I hear we can leave at 3."

2:15 P.M.

"If anyone feels there is danger to life and limb, he may leave now."

"There is already a line-up at the exits to the parking lot, and Dufferin Street is very slow. Perhaps I'll wait a little until things improve."

2:50 P.M.

"Dear, don't expect me home for dinner. Dufferin is at a complete standstill, and there are cars stuck at both exits to the lot. Perhaps later in the evening I'll be able to make it."

4:00 P.M.

"Dear, don't wait up for me. It looks like I'll be spending the night here. There are so many cars abandoned on Dufferin, even the snow plow couldn't make it."

" "

"Oh, I'll pull some chairs together, or curl up on the floor. There must be over three hundred people in the building, counting those who abandoned their cars and took shelter here."

5:00 P.M.

"Sorry Mrs._____. He's in a bridge game somewhere on the third floor. No, I don't expect any of us will get home unless we walk. Yes, when I see him, I'll ask him to call home."



8:00 P.M.

"He's not home yet, eh? Well, he left about 2:30, and, you know how bad the driving is."

8:30 P.M.

"Hey, did you hear that Fred just phoned in? He got away at ten to three, and has just made it to Dufferin and Finch." (About one mile south.)

"No fooling! Ed and his car pool just walked back in. They left about the same time, and finally abandoned their car near that Drive-In Theatre just a mile north of here."

12:30 A.M.

"Don't you guys know that there are at least 6 people within 30 feet of you trying to sleep. If you really must solve the world's problems, do it somewhere else."

12:35 A.M.

"Hi Loree. They woke you up too, did they?"

5:15 A.M.

"Does it look any better now that it is starting to get light?"

"Not much. But there are some people up at the north exit trying to unblock it. Maybe we'll be able to get home for breakfast."

6:50 A.M.

"I think I'll try it. I hear that Steeles is barely passable to the east. Maybe if two or three of us try it in convoy, we can make it."

6:55 A.M.

"You couldn't make it through eh? Well, I guess I won't bother trying then."

Any relationship between the preceding and conversations overheard at 4905 Dufferin that night are purely intentional. It is only the second time in my 23 years with AES that I have been stuck at work by snow and blowing snow, and the first time was at Goose Bay back in the 50's. Located at the north end of Metropolitan Toronto where the drifting was the most serious, we didn't have a chance. In the time it took for the car ahead to break into traffic on Dufferin, a person was drifted in to the axles.

Happiest person in the building was Dave Pollock. He had a bit of a backlog at the computer. Because some of the Computer Centre staff were among those marooned, he got five-and-one-half hours of CPU time, an amount that he usually gets in a month.

The unhappiest person had to be Warren Godson. He fell in the parking lot and sustained a severe fracture. At 9:30, he had to walk to the closest approach that the ambulance could make to the building, and then spend the night at the hospital.



The variety of ways to pass the time was rivalled only by the ingenuity in finding the least uncomfortable way of sleeping. Card games of all types could be found all over the building, with a high concentration in the cafeteria. The Training Branch was able to pick up CFTO on the closed-circuit TV equipment, so the late movies were piped into the classrooms. Many did the work that they knew they wouldn't get done the next day. Others, such as the trapped portion of the cafeteria staff, laboured diligently to make things a little more pleasant for those who were also imprisoned.

Some decided to play bridge all night. Others finally turned their attention to makeshift sleeping arrangements. Since most of the chairs except the posture chairs of the secretaries, have arms, lining up several of them created certain problems of entry and exit (something like sleeping in an iron lung). One inventive genius turned a padded room divider (open-plan offices, you know) on its side, and the idea spread like wild-fire through the building. Many people dozed off in their desk chairs or in the seats of the auditorium; others just dozed.

In retrospect, it was somewhat of an adventure. We were roasted by the headline writers – “Weathermen Trapped By Snowstorm” – but, we are used to that sort of thing by now. I was able to get out about 7:00 A.M., and make my way home, rather circuitously because the main east-west arteries were drifted in. As I drove south on Dufferin trying to find a way to get west, I passed Frank Benum in his furry coat and hat, striding purposefully northward toward the building and the day's work, and looking as if he were enjoying it. Knowing Frank, he probably was.



The following are excerpts from articles written by other "guests".

S. AUKSI

. . . About noon word gets around "we will be allowed to leave early, at 3:00 p.m.". It turns out to be late already.

Parking lot looks somehow threatening, with gale strength winds and drifting snow. It is a fascinating, if scary, play of nature. There is no way out . . .



*Dufferin and Finch:
Police have blocked all traffic north to AES.*

VELMA MacDONALD

. . . The weather reports weren't promising — #7 was closed — Steeles was closed and people took that chance. While such trifles were going on, on the north road the south entrance to the building was experiencing its own thing. As one of our staff was leaving via the south exit another was returning by the same exit and that is where the two stopped and stayed until morning, with numerous patient souls lining up back of the motorist leaving by the southbound exit. Those members of our staff then vacated their vehicles and returned to the lobby to join the others . . .

MARJORIE FERGUSON

. . . The cafeteria opened and I just had enough cash to buy the roast beef sandwich and a cup of tea. Then I borrowed 40¢ from Susan for some chips. I had my cheque but did not get it cashed at noon.

The nurse saw me as my nerves gave way and she gave me a lovely bed to sleep on for the night . . .

BEATRICE DAWSON

... By now, Debbie was running back and forth from the kitchen to the cash register. Having eaten I said to Jackie, "this is ridiculous, I am going to see if Debbie will let us in the kitchen and at least clear up the dishes". So Debbie did consent to let us help. So I went out and told Jackie I was on K.P. duty, so in she came with me. We kept the conveyer belt free of dishes, and Debbie had turned on the dishwasher and showed us how to stack the dishes, etc.

As time has a way of marching on, after a couple of hours later, the nurse, Chris and a male volunteer were getting tired of standing in the sandwich detail so we offered to relieve them. Jackie and I and Chris continued with the sandwiches, thinking surely by now, everyone must have been fed. Debbie had made an urn of coffee and we were hoping everyone's hunger pangs had been appeased. We asked one of the commissioners who was helping us, about the line up. The line up was up to the second door of our cafeteria. We could not believe it. By this time we had about two or three bus loads of stranded people, plus several car loads of other citizens seeking a port in a storm . . .



The Bad and The Beautiful

Photographs courtesy of
A. Blokhine and A. W. Smith

"IL Y A UN PETIT HÔTEL . . ."

Paroles nouvelles de Jim McCulloch. Sans musique, hélas!

13 h

"Où est-ce que tout le monde s'en va?"

"Tu ne regardes jamais par la fenêtre? C'est la tempête. On a laissé partir les gens de la Recherche."

14 h 15

"Si quelqu'un craint pour sa vie, il peut partir tout de suite."

"Il y a déjà la queue aux deux sorties du terrain de stationnement et la circulation est très lente rue Dufferin. Je vais peut-être attendre un peu que ça s'arrange."

14 h 50

"Chérie, ne compte pas sur moi à la maison pour dîner. La rue Dufferin est totalement embouteillée et il y a des voitures enlisées aux deux sorties du terrain de stationnement. J'arriverai peut-être à passer ce soir un peu plus tard."

16 h

"Ne m'attends plus, chérie. Apparemment, je vais passer la nuit ici. Il y a tellement de voitures abandonnées rue Dufferin que même le chasse-neige n'a pas réussi à passer."

" . . . "

"Eh bien, je vais regrouper quelques chaises ou bien me recroqueviller par terre. Il doit bien y avoir plus de trois cent personnes dans l'immeuble, en comptant ceux qui ont abandonné leur voiture pour se réfugier ici."

17 h

"Je regrette, madame, mais il joue au bridge quelque part au troisième étage. Non, je crois que personne parmi nous ne pourra rentrer chez soi à moins de rentrer à pied. C'est ça, quand je le verrai, je lui dirai d'appeler chez lui."

20 h

"Il n'est toujours pas rentré vous dites? Eh bien, il est parti vers 14 h 30 et vous savez comme ça roule mal."

20 h 30

"Hé, vous avez entendu? Fred vient de téléphoner: il est parti d'ici à 3 heures moins dix et vient juste d'arriver au croisement des rues Dufferin et Finch." (A environ 1 mille au sud d'ici.)

"Assez de bêtises! Ed et ses compagnons de route viennent de revenir. Ils sont partis à peu près à la même heure et ont fini par abandonner leur voiture près du ciné-parc qui se trouve juste à un mille au nord d'ici."

0 h 30

"Dites donc, vous ne savez pas qu'il y a au moins 6 personnes qui essaient de dormir à moins de 30 pieds de vous? Si vous devez vraiment résoudre les problèmes du monde, allez le faire ailleurs."

0 h 35

"Salut, Loree. Ils t'ont réveillée aussi, hein?"

5 h 15

"Est-ce que ça a l'air d'aller mieux maintenant qu'il commence à faire jour?"

"Pas beaucoup. Mais il y a quelques personnes à la sortie nord qui essaient de la dégager. Nous pourrions peut-être rentrer chez nous pour le petit déjeuner."

6 h 50

“Je crois que je vais essayer. J’ai entendu dire qu’on peut à peine passer rue Steeles, en direction de l’est. Peut-être que si nous essayons à deux ou trois, en formant un convoi, nous pourrions passer.”

6 h 55

“Vous n’avez pas pu passer, hein? Eh bien, dans ce cas, je pense que je ne vais même pas essayer.”

Toute ressemblance entre ce qui précède et les conversations entendues au 4905 de la rue Dufferin cette nuit-là, est purement intentionnelle. Depuis 23 ans que je travaille au SEA, c’est la deuxième fois seulement que je reste bloqué à mon lieu de travail par la neige et les congères; la première fois, c’était à Goose Bay dans les années 50. Travaillant à la limite nord du Grand Toronto, là où la formation de congères était la plus importante, nous n’avions aucune chance de nous en tirer. Avant que la voiture devant vous ait le temps de s’introduire dans la circulation de la rue Dufferin, une autre s’était enlisée jusqu’aux essieux.

Le plus heureux de tout l’immeuble fut Dave Pollock. Il avait un peu de travail en retard à faire avec l’ordinateur. Une partie du personnel de l’Informatique étant du nombre des naufragés, il obtint cinq heures et demie de temps d’exploitation de l’unité centrale, total qu’il obtient habituellement en un mois.

Le plus malheureux fut sans doute Warren Godson. Une chute au terrain de stationnement lui valut une fracture compliquée. A 21 h 30, il lui fallut se rendre à pied à la rencontre de l’ambulance, là où celle-ci avait pu venir le plus près de l’immeuble, et ensuite passer la nuit à l’hôpital.

La diversité des manières de passer le temps n’avait d’égale que l’ingéniosité déployée pour trouver la façon la moins inconfortable de dormir. On pouvait trouver des parties de cartes de toutes sortes dans tout l’immeuble, la cafétéria en comprenant une forte concentration. La Direction de la formation ayant pu capter le poste CFTO sur les installations de télévision en circuit fermé, les films de fin de soirée étaient diffusés dans les salles de classe. Beaucoup faisaient le travail qu’ils se savaient incapable de faire le jour suivant. D’autres, tels ceux des membres du personnel de la cafétéria pris au piège, faisaient des efforts diligents pour rendre la vie un peu plus agréable à ceux qui étaient aussi emprisonnés.

Certains décidèrent de jouer au bridge tout la nuit. D’autres finalement se préoccupèrent de trouver des installations de fortune pour dormir. Si l’on exclut les chaises des secrétaires, il n’y avait guère que des fauteuils et quand on en avait alignés plusieurs, on éprouvait certaines difficultés à y entrer ou en sortir (un peu comme s’il s’agissait de dormir dans un poumon d’acier). Ayant un trait de génie, quelqu’un coucha par terre un paravant rembourré (un de ceux qui servent de séparation dans les bureaux ouverts, vous savez bien) et l’idée se répandit comme une traînée de poudre dans tout l’immeuble. Bien des gens s’assoupirent dans leur fauteuil à leur bureau, ou dans les fauteuils de l’auditorium; d’autres somnolèrent simplement.

Rétrospectivement, on peut dire que ce fut une sorte d’aventure. Les journalistes nous raillèrent dans leurs gros titres – “La tempête de neige prend au piège les météorologistes” – mais nous sommes désormais habitués à ce genre de choses. J’ai pu m’en aller vers 7 h et rentrer chez moi par des routes assez détournées parce que des congères encombraient les grandes artères est-ouest. Alors que je roulais vers le sud, rue Dufferin, m’efforçant de trouver un passage vers l’ouest, je croisai Frank Benum portant manteau et toque de fourrure qui, avec une intention bien arrêtée, se dirigeait à grandes enjambées vers le nord, vers l’immeuble, vers une journée de travail, et paraissait avoir du bon temps. Tel que je le connais, il en avait certainement.

RAISING THE ROOF

by R. V. Colpitts

A "building bee" is not necessarily a Maritime tradition. However, a recent building "boom" at CFB Gagetown permitted the opportunity for many elements of the military community to get together to literally "raise the roof" for the Canadian Forces Weather Office (CFWO).



Much construction has been associated with the development of a permanent home for the meteorological staff at CFB Gagetown. Established originally to provide support to the artillery units, the AN/GMD-2 Rawinsonde system is also used to produce 1200 GMT RAOBS from Monday to Friday. As many are aware, limiting angles due to large buildings, etc. should be avoided where possible. Consequently, a 30 foot steel tower was erected by York Structural Steel Co. of Fredericton, on four concrete pads planted in the earth. Part of the overall project was to install the radome and radiotheodolite onto the tower. After much discussion with Mr. Jack Touchie, Superintendent of Base Construction Engineering (CE), WO Jim Edwards, CFWO NCO i/c suggested that the radome be airlifted.

Help came from many corners. Capt. Doug Morris, Operations Officer of 422 Tactical Helicopter Squadron, took on the job accompanied by MCpl Jack Grovesnor. Units of the 2nd Field Engineers Squadron brought the 25 foot crane to lift the radome from its temporary location near the tower where it had been assembled by CFWO staff in the summer of 1972. To arrange the first lift, the top bubble was removed. A cross bar of planks was placed under the radome and the boom lift was anchored at the cross point of the planks. On the cool morning of Feb. 27, 1974 with light (10 mph) winds and brilliant sunshine, Capt. Morris brought the Twin-Huey helicopter over the radome. A similar cross bar was constructed to fit inside the radome near the top. The lifting rope was the standard military 10 foot nylon cord joined to a 20 foot steel cable connected at the centre of the cross bar. Four guy ropes were attached at the bottom to steady the "craft" just after lift-off and at sit-down. A "guide" from 2 Battalion RCR was stationed on a large truck nearby to indicate directions to the pilot. Two human "tows" were on the tower to assemble the radiotheodolite components as they were lifted by the crane. The final assembly was curtailed once the elevation assembly had been secured.

With mouths agape, the lift-off went perfectly. The situation became tricky as the radome settled into position. Downwash from the blades created a veritable "blizzard" at the tower. The two "towers" could not hold on as the downwash, combined with the swinging weight of the radome (500 lbs) became too much for them. Lift-off was ordered and the radome replaced on the ground. While three more CFWO staff went up to help, Capt. Morris returned on foot to discuss and survey the situation. With increasing surface winds, it was decided that only one more attempt would be made. The next lift-off nearly wrote-off one edge of the radome but for the alertness of one ground handler. Once at altitude, the radome was again eased into position then lowered from the hover. It slid "under power" onto the tower bed without mishap. The remaining tasks were easily and gladly completed.

Several amateur photographers caught permanent glimpses of many activities of that day but we will not easily forget the memories of "raising the roof". With that experience behind them, we wonder what method they (CE) will use to comply with our request to paint the radome.

Heavy Snowfall at Nolalu, Ontario

by Paul B. Lemieux

Forty inches of snow in twenty-four hours! There are few non-mountainous places in the world where so heavy a snowfall would not be considered very unusual. This amount was, however, recorded at Nolalu, Ontario, about thirty-five miles Southwest of Thunder Bay during the twenty-four hour period ending at 7:00 a.m. E.S.T. March 25, 1975.



The low pressure system responsible for this heavy precipitation developed over the central United States during the previous weekend and by Monday morning, March 24, was located over southeastern Minnesota with a central pressure of about 990 mb. This system weakened as it moved rapidly eastward but caused extensive rain and snow over and adjacent to the Great Lakes as well as along and North of the St. Lawrence River Valley.

By far the heaviest fall of snow did, however, occur within a radius of less than fifteen miles from Nolalu, as determined by a motor vehicle inspection trip two days after the storm. Other stations within the large area affected by this low pressure system received rather modest amounts of precipitation; generally a few inches of snow from a quite typical late March disturbance.

Mr. Bill Hinrichsen, the observer at Nolalu Climatological Station, undertook on his own initiative to make many measurements of snowfall amounts during this storm so as to determine not only an accurate figure for the total amount, but also to pinpoint as well as possible the periods of maximum rate of fall. A separate note attached to the station report contained considerable detail and indicated that six separate series of snowfall measurements were taken in the general area of the station during twenty-four hours. These measurements from separate locations were substantially in agreement and showed that the rate of fall was greatest during the daytime hours of March 24, when a somewhat gusty surface wind persisted from a northeasterly direction. A total of 29.5 inches of snow was recorded between 7:00 a.m. and 7:00 p.m. that day. Mr. Hinrichsen's figures show that the maximum rate of accumulation occurred from 5:00 p.m. to 7:00 p.m. on March 24. A rather remarkable 9 inches of snow had fallen during this two hour period!

Surface winds shifted to a more northerly direction during the evening and an increase in speed caused considerable blowing snow late that night and on the 25th. Mr. Hinrichsen did, however, comment that prior to this change in wind the effect of drifting was not enough to interfere with reasonably accurate measurements of the snowfall. He also remarked that a major hindrance to the making of these measurements was the difficulty in getting about in waist-deep snow without breaking through the older crust below!

EARP

by H. L. Ferguson

EARP, the Environmental Assessment and Review Process, is envisaged as the mechanism to ensure that projects, activities and programs in which the Government of Canada has an interest are subject to environmental assessment at the planning, implementation and operation stages.

The environmental impact of man's activities is of world-wide concern. At the "Stockholm Conference of the Human Environment" in 1972, 1200 delegates from 113 countries adopted 26 principles and drafted 106 recommendations all with the aim of improving the world we live in. Maurice Strong, who organized the U.N.-sponsored conference, summarized the results as follows: "The conference . . . approved, through its recommendations to the U.N. Assembly, the basic principles, the machinery, the financing and the blueprints for the big job of cleaning up mankind's backyard".

Cleaning up man's current environment, however, is a different problem from assessing the *future* impact of man's activities. A Workshop on Impact Studies on the Environment (WISE), organized by the Scientific Committee on the Problems of the Environment (SCOPE), was held from January 29 to February 8, 1974 at Victoria Harbour, Ontario. This workshop was co-sponsored by the Canadian National Committee for SCOPE, the United Nations Environment Program (UNEP), UNESCO, and Environment Canada. Forty-five specialists from all continents and from many different disciplines and backgrounds assembled to review and synthesize current environmental impact assessment practices. In two weeks they produced a first draft of a book which is intended to be useful to the decision-maker, the assessor, and the informed layman alike. Dr. R. E. Munn is the editor of the book, which is entitled "Environmental Impact Assessment: Principles and Procedures", SCOPE Report 5. The book, to be published this fall, is recommended reading for those interested in the subject.

Federal Activities Leading to EARP

The Government Organization Act 1970 which created the Department of the Environment stated in part that "the duties, powers and functions of the Minister of the Environment extend to and include all matters . . . relating to . . . the protection and enhancement of the quality of the natural environment, including water, air and soil quality". Furthermore "the Minister of Environment, in exercising his powers and carrying out his duties and functions, shall initiate, recommend and undertake programs . . . that are designed to promote the establishment or adoption of objectives or standards relating to environmental quality . . . and promote and encourage the institution of practices and conduct leading to the better protection and enhancement of environmental quality, and cooperate with provincial governments or agencies thereof, or any bodies, organizations or persons, in any program having similar objects".

Part of the relevant machinery was organized in mid-1972, when the federal government decided that all new projects initiated by itself or under its jurisdiction should be assessed as to potential pollution effects on the basis of criteria to be established inter-departmentally. If indicated, the project should be referred to the Department of the Environment for further assessment. In any case, all new projects should be registered with DOE and assessment decisions recorded. The Federal Activities Protection Branch of the Environmental Protection Service was charged with the responsibility of administering this directive.

Late in 1973 the federal government went further and directed all of its departments and agencies: (a) to take environmental matters into account throughout the planning and implementation of projects, programs and activities that are initiated by the department or agency or for which federal funds are solicited or for which federal property is required; (b) to undertake or procure an assessment of potential environmental effects, before commitments or irrevocable decisions are made, for all projects which may have an adverse effect on the environment; (c) to submit the assessments made for all major projects that will have a significant effect on the environment to the Department of the Environment for review; (d) to incorporate the results of implementation and operation of projects, giving environmental problems the same degree of consideration as that given to economic, social, engineering and other concerns.

To carry out this directive, a procedure, called the Environmental Assessment and Review Process, was developed through the Interdepartmental Committee on the Environment (ICE). This procedure, administered by DOE, became operational in June, 1974. It will be reviewed by ICE after one year of operation.

Although EARP is new, the principle behind it is not. One of the six major goals of Environment Canada is "to assess and control the environmental impact of major development."

Main Participants in EARP

The main participants in EARP are: the developer (or initiator), the proponent department or agency, the Screening and Coordinating Committees (one Headquarters and five Regional) and the Environmental Assessment Panel.

The *developer* is usually a profit-motivated private company. In some cases a project or program may be proposed and carried out by a public agency, such as the Department of Public Works.

The *proponent* may be any federal government department or agency contacted by the developer to obtain a license or authority to proceed with a project utilizing federal funds or lands or having international implications. For example, a meat-packing company might contact the Department of Regional and Economic Expansion (DREE) to obtain funding assistance for building a new plant in Saskatchewan. As another example, an oil company might have contacts with numerous federal agencies (DINA, DEMR, DOE, National Energy Board) in connection with a proposal to drill for oil at a specific arctic location; one of these agencies, depending on details of the proposal, would act as the proponent agency with respect to EARP.

Each *Screening and Coordinating Committee* (SCC) is composed of representatives of each of the operational services of DOE. Secretariats for the SCC's are provided by the Environmental Protection Service (EPS). The DOE Headquarters SCC meets weekly in Ottawa and reports to DOE Management Committee. There are five Regional SCC's. Their areas of responsibility conform to AES Regions with the exception that the Departmental Northwest Region combines two AES Regions (Central and Western). Regional SCC's report to Regional Boards, which in turn report to DOE Management Committee.

The *Environmental Assessment Panel* (EAP) will consist of a small nucleus of permanent staff augmented by specialists from within or outside government, as required, for specific projects. Dr. R. R. Logie is the Chairman of EAP, which is responsible to the Deputy Minister of DOE for the quality of its work. This includes the provision of DOE guidelines for environmental impact assessment statements.

How EARP Works

The Environmental Assessment and Review Process consists of a series of steps involving the main participants listed above. For a specific project, some of the steps may take place simultaneously. EARP action may be terminated at various points. The following describes all main steps involved if a project goes through the complete process.

1. *Initial Review and Action by the Proponent.* In the normal course of events, a developer will often make a proposal to a federal department or agency having some regulatory or licensing responsibility pertinent to his project. The proponent department considers the possible environmental impact of the project. If, by applying sound judgement, the proponent (department) concludes that there will be negligible environmental impact, he is not required to take any further action with regard to EARP. He may "register" the project for information purposes. Where the proponent has doubts, or feels that significant environmental impact may result, he should "register" the project.

2. *Registration.* A project is registered in EARP through a Secretariat of a Screening and Coordinating Committee. Standard forms are available for this purpose. While the proponent department will often register a project, other possibilities exist. For example, *registration action may be initiated by any employee of Environment Canada.* Within AES, the information or registration form is passed to the appropriate Headquarters or Regional AES/SCC representative who takes further action for registration with an SCC Secretariat. The purposes of registration are two-fold:

(i) to ensure that development projects involving federal interests are considered from the point of view of environmental impact as early as possible in the planning stage and (ii) to provide a mechanism for intra-departmental (DOE) information exchange.

3. *Pre-Screening.* When a project is registered, a pre-screening appraiser's report is completed by a DOE staff member in co-operation with the SCC Secretariat. This provides the SCC with further information on the project.

4. *Screening.* The project is reviewed by the SCC. If a project has been forecast by the proponent department to have negligible environmental impact, and the SCC concurs, the proponent is so advised and no further EARP action is required. When the SCC concludes that a project *may* have a significant effect on the environment, the proponent is requested to provide the SCC with a *preliminary environmental impact assessment statement.* The SCC appoints one of the DOE Services as a "lead agency" to deal with the proponent department on the project.

5. *Preparation of a Preliminary Environmental Assessment Statement.* Based on EAP guidelines and consultation provided by the "lead agency", the proponent department and the developer prepare a statement, usually several pages in length, describing the environmental "base line" conditions in the project area and predicting the environmental impacts of the project. Inputs to such statements may involve costs for obtaining base-line

information and consultants fees. The "polluter-pays" principle is usually applied, with such costs being borne by the developer. The statement will include:

- (a) A description of the proposed action and its purpose
- (b) An assessment of the existing conditions of the natural environment, the renewable resources and the social and economic conditions in the area surrounding the proposed action
- (c) An estimate of the impact of the proposed action on the natural environment, the renewable resources and the social and economic conditions
- (d) Proposed design, construction and operating procedures for the protection or enhancement of the environment
- (e) An assessment of the long-term secondary impact of the proposed action
- (f) Alternate solutions considered
- (g) An opinion as to whether the project can be classified as "major or having significant impact" on the natural environment, renewable resources and on the human environment, or, on the other hand, as "minor or not having significant impact".

6. *Reviewing Assessments.* Upon receiving the preliminary environmental impact assessment statement from the proponent, the "lead agency" solicits comments from all Services of DOE. This may be done through the SCC representatives. The "lead agency" consolidates the Service inputs and prepares a "deficiency statement" if the information provided appears incorrect or incomplete. Throughout these activities the "lead agency" keeps the SCC informed of progress. When the preliminary environmental impact assessment statement is completed, the SCC carries out a final review and makes recommendations for further action.

7. *Recommending Action.* The SCC recommends one of the following actions to DOE Management Committee:

- (a) Advise the proponent to proceed; no formal assessment needed.
- (b) Recommend alternatives or design changes to the proponent, with provisional approval to proceed.
- (c) Advise the proponent that a formal environmental impact assessment statement should be prepared and submitted to the Environmental Assessment Panel.

In both (a) and (b) above, the SCC may recommend that certain environmental monitoring be carried out during the project.

8. *Preparation of a Formal Environmental Impact Assessment Statement.* This statement is similar in content to the preliminary statement, but is more comprehensive. The Environmental Assessment Panel (EAP) deals with the proponent. The proponent and developer are responsible for preparation of the document with EAP providing guidelines and consultation. Projects reaching this stage will involve significant environmental impacts, possible transboundary effects and/or federal government environmental policy matters.

9. *Review of the Formal Environmental Impact Assessment Statement.* EAP reviews this statement and may conduct additional investigations, consult with other interested federal, provincial or private agencies, hold public hearings, etc.

10. *Recommending Action by the Minister of the Environment.* EAP recommends to the Deputy Minister that one of the following responses be made to the proponent by the Minister:

- (a) approval of the project
- (b) approval subject to certain qualifications, such as: the application of regulations, codes or guidelines; design changes; environmental monitoring; etc.
- (c) recommend that an alternative course of action be taken
- (d) request further studies and resubmission of the project
- (e) recommend rejection.

In general, the developer will be responsible for implementing any provisions for the protection and enhancement of the environment arising from agreement between DOE and the proponent department. This includes surveillance and monitoring to check the effectiveness of these provisions or to provide "case study" information on actual environmental impacts. Such surveillance or monitoring stipulations may require supervision or guidance by DOE services. In some cases the Services may agree to carry out some of the monitoring or subsequent analyses themselves. Many of the larger development projects and programs currently under consideration by EARP are in remote areas of Canada where "base line" information is very sparse and environmental impact expertise is deficient. For this reason the monitoring and analysis of environmental effects are important as a feed-back mechanism to continually improve the Environmental Assessment and Review Process.

**RADAR DISPLAYS & SNOWFALL MEASUREMENTS:
AN UNUSUAL OCCURRENCE IN THE
NIAGARA PENINSULA
NOVEMBER 1974**

by Morley K. Thomas

On a day in mid-November 1974 the SCEPTRE radar display at the Downsview AES Headquarters Building indicated heavy precipitation over the Niagara district of Ontario and adjacent New York State for several hours. The precipitation area did not move across the map but remained fairly stationary for many hours. At the same time press reports indicated that traffic was being hopelessly snarled in that part of Ontario. A subsequent review of reported snowfall amounts indicate that the heavy fall was limited to a narrow band along the north shore of the lake that corresponded directly with the radar pictures.

Snowflurries were general in the lee of the Great Lakes for two or three days prior to November 15. At 7:00 a.m. on November 14 there was a trough extending from James Bay southward to the lower Great Lakes, with a minor low pressure centre over the Muskoka district of Ontario. By 7:00 a.m. on November 15 the trough had weakened and had moved to the longitude of the State of Maine. A ridge of high pressure had moved in behind and was oriented along a line from Quebec City to south-central New York State. The eastern end of Lake Ontario and the Niagara Peninsula were then in a west-southwesterly surface to 500 mb circulation. It was in this situation that a fairly stationary belt of precipitation continued to exist for many hours along the north shore of Lake Erie, extending from Long Point on the west, through New York State, and into Lake Ontario on the east.

Figure 1 shows the Woodbridge radar picture for 11:30 EST on Friday, November 15. The boundary of the echo corresponds to .04 inches snow depth per hour and the boundary of the darker portion of the echo corresponds to .14 inches of snow depth per hour if a standard relationship between radar reflectivity and snowfall rate is assumed. Heavy precipitation was indicated over the southern portion of the Niagara Peninsula and adjoining areas, but the precipitation band was relatively narrow. The precipitation band may not end where indicated by the radar picture. Perhaps the radar beam has risen beyond the tops of the precipitation at the longer ranges. Figure 2 shows the total amount of snowfall over the two climatological-day period of November 14 and 15. No measurable snow fell at the St. Catharines Airport, but twenty miles to the south the climatological station at Port Colborne reported a total of 29.2 inches over the two-day period, fairly evenly divided between the two climatological days. Other heavy totals were 28 inches at Fort Erie, 16.5 inches at Port Colborne Light, 13.3 inches at Dunnville, and 11 inches at Welland. At Buffalo Airport measurable snow fell every hour from 2:00 p.m. on November 14 until 10:00 a.m. on November 15, and again from 2:00 to 5:00 on November 15. The two-day total at Buffalo was 13.7 inches, the most reported from any U.S. station.

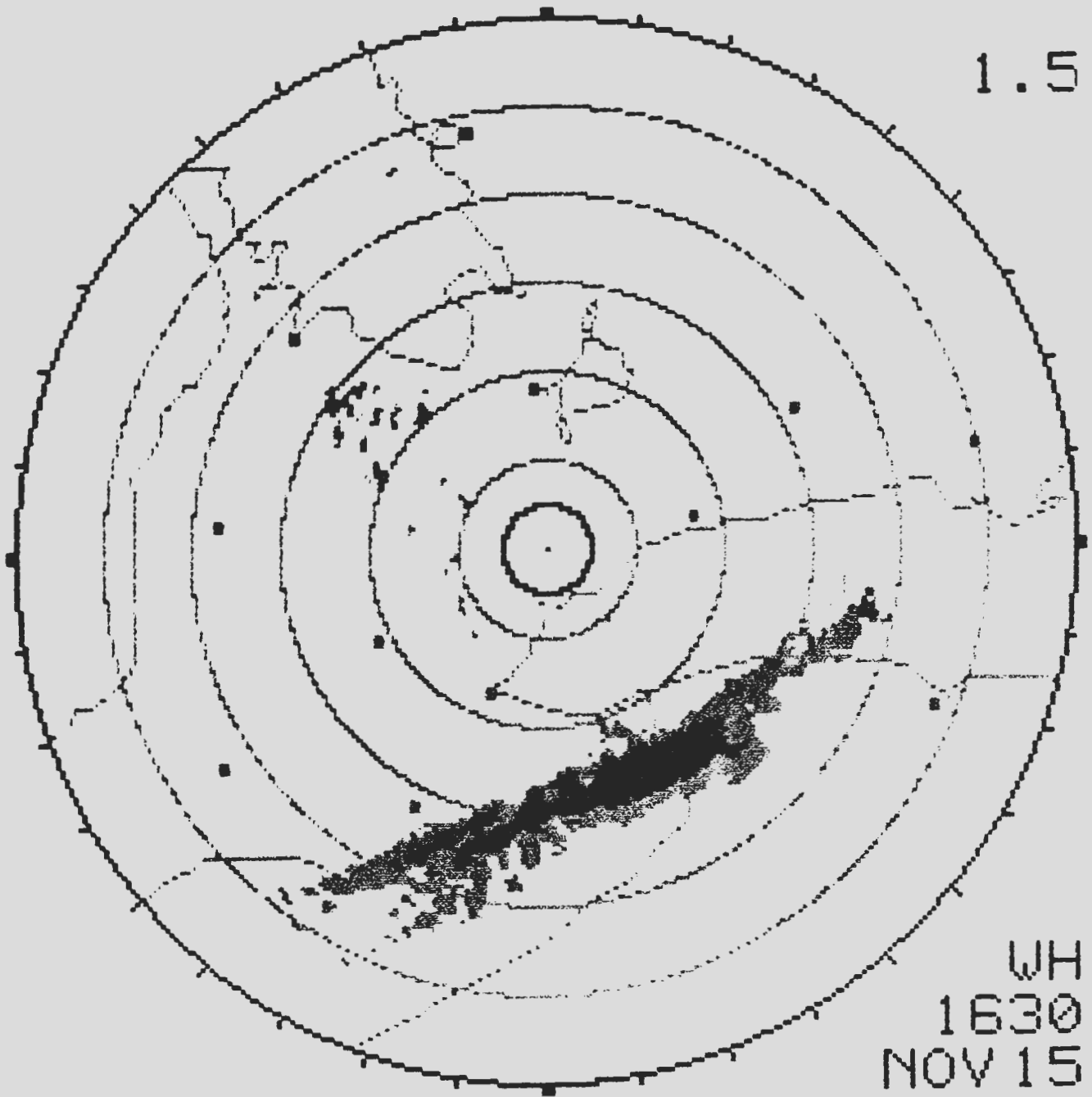


Figure 1 Radar picture received at Woodbridge, Ont. 1130 EST Nov. 15th.

TWO DAY TOTAL SNOWFALL



Figure 2 Total amount of snowfall (inches). Nov. 14-15th.

Lethbridge TV Weatherman Goes to New York



Photograph courtesy Lethbridge Herald.

Bill Matheson has been TV Weatherman in Lethbridge for over 10 years, where his viewing audience included many in Northern Montana. He has been spirited away by WABC TV in New York.

Bill was a meteorological technician with the Canadian Meteorological Service for several years until 1954, returning then to radio and TV with CJOC in his home town. His approach to weather is as breezy as Southern Alberta. Apparently his fame became international, and he did not refuse a significant employment offer to 'do the weather' in New York. His friends and followers wish him well.

LES DÉVELOPPEMENTS DE LA MÉTÉOROLOGIE

Article tiré du bulletin de la Direction générale des eaux intitulé "Ressources", publié par le ministère des Richesses naturelles, gouvernement du Québec.

par Raymond-M. Gagnon, M.Sc.*

Le météorologiste de langue anglaise vient de créer un nouveau mot pour désigner un aspect important de son travail: il s'agit du "nowcasting". Difficilement traduisible, ce néologisme allie les termes "now" et "casting", et il s'oppose en quelque sorte au mot "forecasting" dont la traduction est "prévision". Etymologiquement, mis en juxtaposition, "nowcasting" veut dire "projection dans le présent", et "forecasting" signifie "projection en avant", ce qui peut être rendu en français comme étant d'une part la "mise en évidence" ou (si l'on me permet ce néologisme) la "visualisation" du temps et d'autre part la "divination" ou la "prévision" du temps.

En météorologie, les fonctions décrites par ces deux termes doivent être nettement distinctes de l'observation des phénomènes météorologiques. Elles correspondent à une utilisation de cette observation pour produire des extrants bien différents. Si le but de la prévision (forecasting) est de fournir ce qu'on pense devoir se produire dans l'atmosphère dans un avenir plus ou moins rapproché, la "visualisation" (nowcasting) sera de connaître ce qui se passe actuellement dans l'atmosphère, ou ce qui s'y est passé jusqu'à maintenant en reculant plus ou moins dans le temps. L'observation pour sa part est la connaissance immédiate de ce qui se produit actuellement.

D'aucuns prétendront que la différence entre l'observation et la "visualisation" n'est pas tellement claire parce que l'une comprend en quelque sorte l'autre. Qu'ils pensent cependant que la "visualisation" du temps comporte un traitement de l'observation au même titre que la prévision et ils arriveront à bien discerner les nuances existant entre les deux termes. Ce traitement peut comporter d'une part une analyse des observations telles que reçues, c'est-à-dire des interpolations, des calculs, ou d'autre part une transformation des observations pour en arriver à connaître avec le plus de précision possible les facteurs qui sont dépendants de ce qui s'est passé dans l'atmosphère. Cette transformation peut être soit la simple addition de quantités de précipitations déjà observées, soit l'accumulation de degrés-jours au-dessus de certains seuils, soit la détermination d'un bilan d'eau du sol, soit l'estimation à jour de l'épaisseur du manteau nival ou de l'épaisseur de la lame d'eau de fonte, etc . . .

Longtemps négligé par le météorologiste qui traditionnellement s'attachait à faire des prévisions, ce concept est d'une importance fondamentale en météorologie. Il provient surtout du développement qu'ont connu dernièrement les sciences naturelles dans le domaine des relations qui existent entre les êtres vivants et leur environnement naturel, entre leur cycle de développement physiologique et le climat saisonnier, entre leurs stades de développement et l'évolution climatique annuelle. Ainsi, si le forestier et le biologiste ont réussi à démontrer que le développement de certaines larves est en fonction du nombre accumulé de degrés-jours au-dessus d'un certain seuil depuis le début du printemps, si l'agronome a relié le développement de certaines maladies des plantes aux valeurs d'humidité, de température et de durée de mouillage et s'il a pu établir la relation qui existe entre le rendement des cultures et les phénomènes atmosphériques, si l'hydrologue considère que la gestion d'un barrage au printemps est fonction de la fonte, de la chute de pluie, de l'évaporation et de l'épaisseur du manteau nival présent sur le sol, chacun voudra par la suite mettre en application ses propres découvertes. C'est là qu'intervient la "visualisation" du temps atmosphérique (nowcasting).

Cette partie de la météorologie appliquée n'en est encore qu'à ses premiers balbutiements. Pendant près de cent ans, les scientifiques ont négligé complètement cet aspect. Les météorologistes pour leur part se sont attachés à comprendre la physique de

l'atmosphère et, à partir de cette compréhension, à développer des méthodes de prévisions de plus en plus sophistiquées. Ils ont voulu répondre à cette soif fondamentale de la connaissance de l'avenir. Ils se sont refusés en quelque sorte aux applications directes de la météorologie (à l'environnement biologique.) Ils ont négligé cet aspect de l'atmosphère considérant ainsi la Terre comme une planète morte et ont développé des théories qui peuvent être appliquées à n'importe quelle planète du système solaire.

Cependant, il y a interaction directe entre la biologie d'une part et les phénomènes et les propriétés atmosphériques d'autre part. Il y a des interrelations à mettre en évidence et à quantifier entre certains phénomènes naturels et le comportement de l'atmosphère: il y a des liens mathématiques à établir entre l'intervention humaine contre un fléau naturel et la météorologie. Combien d'argent se perd, combien d'efforts et de travaux sont rendus inutiles simplement parce qu'on a une mauvaise connaissance des liens existant entre la température, l'humidité et l'éclosion d'une larve, entre la physiologie végétale et les conditions atmosphériques.

Ces considérations nous amènent à comprendre l'importance de la "visualisation" du temps. C'est là que se trouve l'avenir de la météorologie, en ce sens que cet aspect des sciences atmosphériques prendra une place beaucoup plus importante que les prévisions, à condition toutefois que le météorologiste regarde vivre son environnement biologique.

Quelques programmes gouvernementaux font actuellement appel à cette "visualisation" du temps. Ils sont poursuivis par différents organismes publics en collaboration avec le service de la Météorologie et ses observateurs.

Ainsi, depuis plusieurs années, existe un programme de lutte contre les incendies forestiers, qui fait appel à la "visualisation" du temps. Longtemps sous la seule responsabilité du Service de la Météorologie et du ministère des Terres et Forêts du Québec, ce programme fonctionne actuellement en collaboration avec les services de l'Environnement canadien. Ce programme est chaque année en opération de mai à novembre et nécessite des observations d'une centaine de stations du Québec pour suivre l'évolution de l'indice de sécheresse de nos forêts.

Depuis environ cinq ou six ans, le ministère de l'Agriculture du Québec fait appel aux données de nos observateurs pour suivre l'évolution ou la possibilité d'apparition du mildiou de la pomme de terre. Des chercheurs ont pu mettre en évidence les facteurs météorologiques qui sont susceptibles de provoquer ou de favoriser l'apparition de cette maladie.

Depuis deux ans, le ministère des Terres et Forêts communique directement avec les observateurs climatologiques du Québec dans son programme de lutte contre la tordeuse des bourgeons de l'épinette. Il a été possible de démontrer, en effet, que les stades de développement de cette larve étaient fonction de l'accumulation du nombre de degrés-jours de chaleur au-dessus de 42 degrés F. depuis le début du printemps.

Depuis près de quatre ans, le Service de la Météorologie tente de suivre, à l'aide des données de ses observateurs, l'évolution printanière du manteau nival et la formation de la lame d'eau de fonte quotidienne, en vue d'en arriver à une meilleure gestion des ouvrages de retenue d'eau des rivières et de mieux protéger la population contre les inondations.

Actuellement, le ministère de l'Agriculture du Québec, conjointement avec le Service de la Météorologie et les services de l'Environnement fédéraux, entreprend un programme de défense des cultures qui fera appel à cette "visualisation" du temps atmosphérique.

Enfin, la ville de Ste-Foy qui expérimente très souvent les déficiences de son réseau d'aqueduc a cru bon, l'été dernier, en collaboration avec l'INRS-Eau et les

observateurs de la région de Québec, de suivre le bilan d'eau du sol pour permettre ou défendre l'arrosage des pelouses.

Toutes ces expériences démontrent l'importance de la "visualisation" du temps atmosphérique (nowcasting). Elles n'ont qu'un but: rationaliser l'intervention humaine. Ainsi, on économise des sommes d'argent et on planifie les efforts. Dans un contexte d'inflation mondiale due à une pénurie de matières premières et de denrées alimentaires, il est essentiel de maximiser les productions locales et il est nécessaire d'intervenir au bon endroit et au bon moment. C'est là la nécessité d'une bonne "visualisation" du temps et c'est là l'assurance de progrès pour cet aspect des sciences atmosphériques.

***Service de la Météorologie, division des Études.**

La protection des forêts contre le feu et la lutte contre les incendies forestiers ne peuvent être efficaces sans la connaissance des conditions atmosphériques. ►



L'agriculture moderne tient compte des sciences de l'atmosphère. ▼



Photos: O.F.Q.

NATO weather group convenes
at Patrick Air Force Base, Florida



Lt. Col. Brandli briefs conferees.

Patrick showed its hospitality recently, as various offices on base cooperated to host a meteorological conference attended by representatives of the United States Army, Navy and Air Force, and civilian authorities from Canada and the United States.

Two meetings took place. One was the semi-annual Canada-U.S. Regional Planning Group Meteorological conference, where a committee met to determine the joint Canada-U.S. position on agenda items scheduled for a subsequent NATO meeting.

The other meeting concerned the Military Cooperation Committee's discussion of bi-national meteorological matters for the North American continent.

In addition, the conference attendees were given a tour of the Kennedy Space Center and the Cape Canaveral Forecast Facility. At the forecast facility, Lt. Col. Henry W. Brandli of Detachment 11, 6 Weather Wing, briefed the group on meteorological satellite programs and imagery.

Conference members included Captain (USN) Buckmaster and Colonel (USAF) Griesbach, both representatives of the Joint Chiefs of Staff; Commander (USN) Lincoln, Major (USA) Carlsen, Major (USAF) Broyles; Dr. Foltz of the National Weather Service; and Messrs. Lewis, Pincock and Stead of the Canadian Meteorological Service.

PUBLIC HANDOUT AT FROBISHER BAY OPEN HOUSE, APRIL 26

FROBISHER BAY WEATHER OFFICE

a responsibility

of

ENVIRONMENT CANADA

HAS THREE MAIN FUNCTIONS:

1. OBSERVATION

To observe, record and transmit weather elements

- a) Sky conditions
- b) Visibility
- c) Weather phenomena. . . snow . . . rain etc.
- d) Atmospheric pressure
- e) Temperature
- f) Humidity
- g) Wind speed and direction

2. FORECASTING

To indicate the most probable occurrence of weather elements in the spoken, written and chart form for use by:

- a) Aviation interests – 12 to 24 hours
- b) Marine interests – 12 to 36 hours
- c) The general public – 2 days (7 a.m., Noon)
 - 2 days + 3rd day outlook (5 p.m.)
 - Up to 5 days (general outlook)

3. PRESENTATION

To make available to a variety of users the OBSERVATIONS and FORECASTS prepared locally as well as those received from a large number of weather stations, not only in the *Arctic*, but throughout *North America* and the northern HEMISPHERE.

PHONE 5854 – For Weather Information.

STAFF: One (1) FORECASTER, Two (2) PRESENTATION technicians, Two (2) OBSERVING technicians.

Upper Air (Radiosonde) station – Four (4) Specialist-technicians.

PERSONNEL

The following have accepted positions as a result of competitions:

| | |
|--------------------|--|
| 74-DOE-TOR-OCC-392 | MT 8 Instructor Training Branch Dr. S. F. Woronko |
| 75-IJC-IV-14 | AES HQ LS 2 Librarian N. Gibson |
| 74-DOE-TOR-CC-446 | MT 7 Observational Systems Field Services Directorate Project Officer R. S. Bourke |
| 74-DOE-TOR-CC-428 | MT 7 SSO Meteorology Plans Requirements and Training H. R. Armstrong |
| 74-DOE-TOR-CC-317 | MT 6 Commandant, School of Meteorology Winnipeg P. R. Kowal |
| 74-DOE-AES-CC-4 | MT 7 Officer-in-Charge Gander WO J. B. Elliott |
| 74-DOE-TOR-CC-289 | MT 7 SSOMET Air Defence HQ D. A. R. Mettam |
| 75-DOE-WPNA-CC-003 | MT 4 Shift Forecaster Whitehorse WO K. J. Clark |
| 75-DOE-WIN-CC-512 | EG-ESS 5 Central Region Observer/Presentation Technician C. D. Johnston |

The following transfers took place:

| | |
|----------------|--|
| G. N. Pellerin | From: LWOP Edmonton To: CFB Edmonton |
| R. I. Black | From: Vancouver WC/WO To: CF METOC Centre Esquimalt |
| F. B. Kerkhoff | From: CFWO Baden To: SOMET 1 Canadian Air Group Lahr |
| J. B. Merrick | From: CFWO Baden To: SOMET CFWO Baden |
| W. J. Laidlaw | From: U/A Tech., The Pas To: Dew Line Inspector |
| D. Bitton | From: U/A Tech., Trout Lake To: ICE |

The following are on temporary duty or special assignment:

| | |
|---------------|--|
| D. M. Gilbert | To: Whitehorse WO Agrometeorological Technician |
| W. Cowan | To: Edmonton WAED Observer Presenter Technician |

The following Graduates from the Meteorologist (B.Sc.) Course No. 31 and are posted to:

| | |
|--------------------|-----------------|
| C. Beaudoin (Miss) | AFSD, HQ |
| P. Chen | Vancouver WO |
| R. K. Cross | CFWO Shearwater |
| B. DeLorinzis | Halifax WO |
| C. DiCenzo | CFWO Esquimalt |
| S. Dupuis | Edmonton WO |
| B. J. Paruk | CFWO Edmonton |
| C. H. Ritchie | Gander WO |
| W. Richards | North Bay |
| R. B. Street | Toronto WO |
| A. F. Wallace | CFWO Comox |
| D. L. Waugh | CFWO Moose Jaw |
| L. Taylor (Miss) | Toronto WO |

Separations

| | |
|--------------|--------------|
| D. G. Couper | CFB Winnipeg |
| M. Decore | WAED |

The following M.Sc. Graduates are posted to:

| | | |
|-----------------|-------------|----------------------------|
| J. D. Alexander | U. of Alta. | Training Branch, AES HQ |
| J. E. Donegani | U. of Tor. | Met. Applications, AES HQ |
| P. Ducharme | McGill U. | Research, ARPD, AES HQ |
| S. Hollett | McGill U. | CMC – Montreal |
| D. Hudak | U. of Tor. | Research, ARMD, AES HQ |
| W. D. Hume | U. of Alta. | Research, ARMD, AES HQ |
| P. S. King | U. of Tor. | Instrument Branch, AES HQ |
| T. Koolwine | U. of Tor. | Training Branch, AES HQ |
| R. Raddatz | U. of Alta. | Central Region – Winnipeg |
| J. Spagnol | McGill U. | Pacific Region – Vancouver |
| H. Stanski | U. of Tor. | Met. Applications, AES HQ |
| V. Swail | U. of Tor. | Met. Applications, AES HQ |
| J. Thomas | McGill U. | Research, ARQD, AES HQ |
| G. Vickers | U. of Alta. | Training Branch, AES HQ |
| L. Winston | McGill U. | Research, ARQD, AES HQ |

The following new recruits from MOTTI, Ottawa are to be posted to:

| | |
|---------------|-------------------------------------|
| G. J. Julseth | EG-ESS1 Lansdowne House, Ontario |
| E. K. McLeod | EG-ESS1 Broadview, Sask. |
| T. J. Rauch | EG-ESS1 Estevan, Sask. |

The following new recruits from AOTC, Toronto are to be posted to:

| | | | |
|----------------------|-----------------------------|------------------|------------------------------|
| | | R. Huibers | EG-ESS3 Isachsen, N.W.T. |
| G. J. Gilbertson | EG-ESS3 Alert, N.W.T. | D. Faust | EG-ESS3 Mould Bay, N.W.T. |
| R. Kiez | EG-ESS3 Alert, N.W.T. | T. Roach | EG-ESS3 Mould Bay, N.W.T. |
| A. Niitsoo | EG-ESS3 Alert, N.W.T. | J. McLean (Miss) | EG-ESS3 Resolute, N.W.T. |
| M. Steffanick (Miss) | EG-ESS3 Eureka, N.W.T. | D. Michalczuk | EG-ESS3 Resolute, N.W.T. |
| N. Rollinson | EG-ESS3 Eureka, N.W.T. | V. Sakellarides | EG-ESS3 Resolute, N.W.T. |
| D. Hill | EG-ESS3 Isachsen, N.W.T. | D. Roberts | EG-ESS3 Churchill, Man. |

TRIVIA

While hitch-hiking to Toronto on April 26, an ex-RCAF pilot by the name of Jack Scott gave me a ride from Belleville to Trenton. We talked about our work. When I mentioned meteorology, he spouted forth the following gem of wisdom which the 'Met Man', our retired friend Harvey Johnston, had planted deep within the grey matter of his students at the School of Meteorology in Trenton *in 1951*:

"There are three things which influence weather — water content, stability of the air, and the heating process operative."

J. H. McBride

April is the month in which spring plants come up and our heat bills go down.

•

The quickest way to discover a woman's faults is to praise her to her friends.

•

One of life's disappointments is discovering that the man who writes the bank's ads isn't the one who makes the loans.

•

When someone tries to keep an item out of the papers, it turns out that it's news.

| Expression | Signification ou équivalent |
|---|--|
| Allez au diable! | Ne me dérangez plus! |
| Faire des sparages | Faire de grands gestes |
| Partir sur une balloune | S'énivrer |
| Un as de pique! | Individu nul ou original |
| Il faut laver son linge sale en famille | Réglons nos problèmes entre nous |
| C'est un drôle de pistolet | Il a un caractère particulier |
| Tirer le diable par la queue | Avoir de la difficulté à joindre les deux bouts (budget) |
| Se débattre comme un diable dans l'eau bénite | Se défendre jusqu'au bout |
| C'est tout un numéro | C'est un cas spécial |
| Il casse son français | Il parle avec un accent |