

ZEPHYR



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Atmospheric Environment Service

FEBRUARY/MARCH 1987

Record dry spell at Expo

1986 saw dramatic climate events

by Peter Scholefield



A record 53-day dry, sunny spell at Vancouver boosted attendance at Expo '86 (photo, Canada Pavilion, courtesy of DRIE).

The dramatic climatic anomalies and destructive weather events of 1986 will not be easily forgotten by many Canadians. Those in Atlantic Canada endured a long, stormy winter which started off with back-to-back snowstorms on January 3 and 4 and buried Moncton, New Brunswick with 91 cm of snow and Gaspé, Quebec with 70 cm. A seemingly endless series of five more major, disruptive storms followed as winter progressed. The last one arrived April 9-11 dumping 75 cm of snow on Charlo, New Brunswick.

Western Canada, on the other hand, was blessed with some extensive spells of mild weather. It was the warmest January on record at many locations in British Columbia, Alberta and Saskatchewan. A major, more destructive thaw occurred at the end of February in British Columbia and Alberta where it caused flooding and highway closures due to mud slides and the threat of avalanches. Later in March, four snowmobilers were killed in a snow slide near Valemount, British Columbia.

Spring arrived early out west where Vancouver recorded a monthly record 18°C on February 27. Similar record breaking warm temperatures accompanied the sudden arrival of spring in eastern Canada where monthly

record high temperatures of 27°C and 19°C were set at Windsor, Ontario and Shearwater, Nova Scotia on March 30 and 31 respectively. Extremely warm weather persisted through April and May over all of eastern Canada. This hot, dry spring weather created conditions favourable for forest fires. Thousands of people had to be evacuated and the Trans Canada highway closed because of the severe outbreak of forest fires in Atlantic Canada in mid May. Later in the spring, an immense fire at Red Lake in northern Ontario destroyed more than 150,000 hectares of prime softwood forests.

Violent summer storms affected most of the country with tornadoes being reported in Alberta, Saskatchewan, Manitoba, Ontario and Quebec. One of the most damaging occurred near Minden, Ontario on June 16 where an estimated \$1 million damage was done, mainly to cottage properties. Torrential rains caused extensive river flooding in central Alberta in mid July where 300 homes near the North Saskatchewan river in Edmonton were evacuated. Severe hailstorms on August 1 struck two of Ontario's principal fruit and vegetable growing areas, resulting in an estimated \$20 million worth of damage.

Several areas were surprised by unseasonable returns of winter conditions. The worst spring snowstorm ever recorded in Alberta dumped 50 cm of snow on the southwest from May 13-15. Calgary was again surprised by an early 20 cm snowfall on September 25. A killing frost in early June caused \$3 million damage to blueberry fields in the Lake St. John area of Quebec. In the Yukon, Dawson recorded a monthly record low of -8.4°C on August 23.

Harvesting in most of Canada's agricultural regions suffered from an over abundance of rainfall. A summer wet spell in Ontario intensified in September causing crop damage losses estimated as high as \$100 million. Record September rainfalls in the drybelt areas of southern Alberta and Saskatchewan delayed the harvest and significantly reduced the quality of the record Prairie grain harvest.

While much of central and eastern Canada was being drenched, southern British Columbia and Expo '86 were enjoying a record long dry spell which, after 53 days, ended on September 9 at Victoria and Vancouver. Dry weather returned to Vancouver in October when a monthly record 24 consecutive days elapsed without measurable rainfall.

The abnormally high rainfalls this summer continued the trend in recent years to higher water levels in the Great Lakes. At the end of October, levels were at a record high. Shoreline residents made tremendous efforts to reinforce and protect eroding shorelines.

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A beginner's guide to an AES laboratory

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Canada



Environment minister Tom McMillan paid his first visit to the AES Downsview Headquarters Building on February 5, 1987. He is seen here touring scientific facilities in the building.

Left to right: Dr. Phil Merilees, Dr. David Wardle, Mr. Tom McMillan and Mr. Howard Ferguson

Power and Sail Squadrons sign agreement with AES

Some 24,000 members of the Canadian Power and Sail Squadrons (CPS) across Canada begin the 1987 boating season in much closer touch with the weather. This is partly due to an agreement for a Voluntary Weather Observing Program signed with AES in Toronto last October.

Under the terms of the agreement signed between Mr. John Richards, chief commander, CPS and Dr. Gary Gurbin, M.P., then parliamentary secretary for the Minister of Environment, (representing AES), CPS agreed to provide AES with reports of existing near-shore weather conditions using specified message reporting and radio transmitting procedures. CPS also agreed to provide membership training as well as monitor and promote the program. In turn AES agreed to provide regional guidelines to CPS concerning



John Richards of Canadian Power and Sail Squadrons, left, signing agreement with Dr. Gary Gurbin, MP.

the transmission of weather reports in designated areas and to supply weather reporting log sheets and other stationery.

While signing the agreement, Dr. Gurbin told his audience of CPS executives and some 400 members gathered for the annual general meeting and luncheon at a downtown Toronto hotel, that the new Voluntary Weather Observing program is closely tied to the safety of Canadians. He added, "The reports are as important to boating safety as they are to weather forecasting. This is an excellent occasion to publicize the Department's activities to provide public service to Canadians in a cooperative fashion at minimal cost to the taxpayer."

Dr. Gurbin concluded by paying tribute to the operators of more than 8,000 CPS radio-equipment vessels from coast-to-coast which formed the real basis of the successful new "MAREP" or Marine Reporting program. "Your initiative will bring an important new dimension to something already in place — a system to report weather hazards. We hope that the training and experience you receive in the MAREP programs will encourage you to participate in other voluntary weather observing networks such as the Severe Weather Watch Program".

The MAREP program with CPS participation will be in operation this spring along the Great Lakes in Ontario. It is expected that this program using CPS and perhaps other associations' cooperation will spread shortly to southwestern British Columbia and to the rest of Canada within the next few years.

Ian Rutherford elected AMC councilor

Dr. Ian Rutherford, director general Weather Services Directorate, has been elected a councilor of the American Meteorological Society (AMS). Dr. Rutherford's election to the society serving Atmospheric and related oceanic and Hydrological sciences in the United States since 1919 is for a three year term. The 14-person Council which is open to candidates from all over North America, is the governing body of AMS and has the right to amend the constitution.

Dr. Rutherford has held his present AES position since 1984. Before that he served for several months as director general of AES Research Directorate and for four years previously was director of the Meteorological Services Research Division in Downsview.

Dr. Rutherford joined the Meteorological service of Canada in 1963. From 1969 to 1978 he was a research scientist at the Dynamic Prediction research division in Montreal and from 1978-80 chief of research en Prévision Numérique at the same location.

From 1978-1984 he was a member and editor with the working group on Numerical Experimentation Global Atmospheric Research project (GARP) of the report series "Research Activities in Atmospheric and Oceanic Modelling". Dr. Rutherford has a B.S. and an M.A. from the University of Toronto and a Ph.D. in Meteorology from McGill University.



Dr. Ian Rutherford

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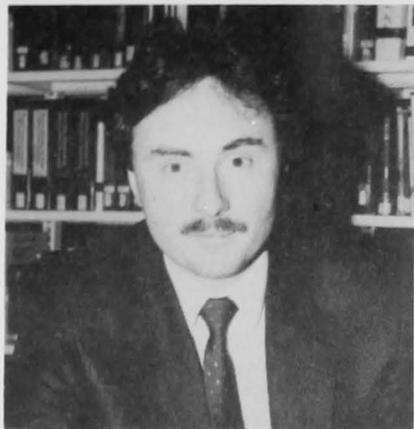
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Doug Russell named advisor Private Meteorology



Doug Russell

Doug Russell has been appointed special advisor, Private Sector Meteorology. Mr. Russell was previously head of the AES Policy and Planning Section of Weather Services Directorate (Downsview). In his new position he will report directly to the assistant deputy minister and will provide advice to senior management on all aspects of AES private sector meteorology relations.

The new post was created as a result of a successful two-day AES-Canadian Private Meteorological Sector Workshop, held in Toronto, December 1 and 2, 1986.

In making the appointment, Howard Ferguson, ADM of AES, said that the growth of meteorology as a science in Canada will be enhanced by a strong, vibrant private sector and that creation of this new post is an important step in AES's overall commitment to foster private meteorology.

The background to the position dates back to May 1986 when ministerial approval was obtained for the AES Policy on Level of Service. When the increased opportunities for private meteorology were spelled out to individuals and interested companies at a July '86 meeting, concern was expressed about the need for AES to have a national focal point for private sector meteorology. The appointment of Mr. Russell was made to meet this need.

Doug Russell started his meteorological career as a forecaster at the Canadian Forces Base, Shearwater in 1974 and served in various operational positions in the Maritimes.

In 1982 Mr. Russell began a three year assignment in Ottawa in the AES Policy Planning and Assessment Directorate, and was involved in a wide variety of staff work on all AES programs.

Joining Weather Services Directorate in 1985, Doug's recent work has been connected with the AES Level of Service, strategic planning, and initiatives for the development of an AES plan to stimulate the growth of private sector meteorology in Canada.

Doug's office will be in Downsview (416) 667-4568. His new AES designator is ASPSP.

New parking lot guard helps nab thieves

Stan Skema thought the most he would be called upon to do during his first hectic week as a security guard on the Downsview AES Headquarters parking lot was to act as wet nurse to a few overwrought motorists unable to locate their brand new, paid, parking spaces. Instead he ended up a hero.

Just a few days into the job, he heard a hue and cry issuing from a leather wear store across the road, then saw two youths with bundles of stolen clothing under their arms being chased across Dufferin street. Sensing something was wrong he called up the commissionaire's desk in the AES building on

his two-way radio and asked for police to be sent. Actually the thieves were making toward the adjacent University of Toronto parking lot where a blue van believed to belong to the store owners had gone to intercept them. The youths were successfully ambushed between Stan, the van, and a nearby ravine.

When Stan heard the siren of the police cruiser he returned to the road and directed it towards the thieves who were soon after arrested on robbery and assault charges. AES administrative personnel also came on the scene to investigate and to thank Stan for his quick thinking.



For forecasting a major storm off the Pacific coast in October 1985 a team of Pacific weather centre forecasters received AES achievement awards. Presenting the awards at a special ceremony was Environment Minister Tom McMillan. The storm which at one time affected 70-100 fishing vessels off Vancouver Island was known as the "Maritime Bomb" (please see article on this by Gary Wells, OIC Pacific Weather Centre in the January-February 1986 issue).

In the picture left to right: Reg Dunkley, Claude Dicaire, Laurie Neil, Tom McMillan (Minister), Bob Brown, Stan Stobbe and Howard Ferguson (ADMA).



Also part of the "Maritime Bomb" team at the Pacific Weather Centre was Dave McCulloch. Following his transfer to Ontario Region he also received an achievement award from ADMA Howard Ferguson

March 2, 1965: Lucien Rivard, convicted drug smuggler, escaped from a Montreal jail after obtaining a garden hose to flood the penitentiary skating rink. The weather was cloudy, with light winds from the southwest, and temperatures 5° above freezing. Allegedly, Rivard used the hose to scale the wall.

March 9, 1970: First Arctic winter games held under normal weather conditions at Yellowknife NWT from 9th to the 14th.

March 10, 1979: The Thames River at Chatham flooded (the worst since 1958) when rapidly melting snow was held back by ice floes; hundreds were evacuated, 40,000 ha of rich farmland flooded, scores of livestock drowned, and 400 buildings submerged.

A beginner's guide to an AES laboratory

The inorganic chemical analysis laboratory located on the fourth floor of the AES headquarters building, Downsview, is one of the service's major research laboratories both from the point of view of day-to-day analysis of chemical pollutants in the atmosphere and for special research projects. The main work of the 150 square metre laboratory for the past five years or so has been analyzing samples from the Canadian Air and Precipitation Monitoring Network (CAPMoN) with stations stretching all the way from Manitoba to the east coast. Alberta and British Columbia stations will be opened

in 1987. Work on this project is ongoing and a large proportion of the laboratory's equipment is used in some way for analyzing these atmospheric pollutants.

Special research projects involve the study of sulphur dioxide and oxides of nitrogen and how they are converted into sulphuric and nitric acids, the two acids that are primarily responsible for the acid rain problem.

A rapid tour of the laboratory might go like this:



The laboratory is relatively crowded with filters, tubes, computers, screens and other scientific equipment. Above the work bench is a typical cupboard storage area that contains jars filled with approximately 250 varieties of chemical reagents used in analysis programs. Chemical technician David Mactavish surveys the scene.



This is a general view of the main analysis area of the laboratory. The ion chromatograph used in the analysis of atmospheric particles takes up the major area of the centre right. Chemical technician Yen Art Tham sits in the operator's chair.



Co-op student, Peter Chang is seen loading filters obtained from the air portion of the CAPMoN network into an automatic sampler ready for the ion chromatograph.



Here is a more complete view of the ion chromatograph. The apparatus is in constant use carrying out analysis in the laboratory since it is able to determine major inorganic ions like sulphur in a solution.



Less frequently used is the Atomic Absorption spectrophotometer, designed for the measurement of trace metal concentrations in samples collected from the atmosphere. The cylinders supply the fuel for the flame that is used in the analyses of samples.



Peter Chang, takes readings on the frequently used Ph meter, to determine the acidity of solutions.



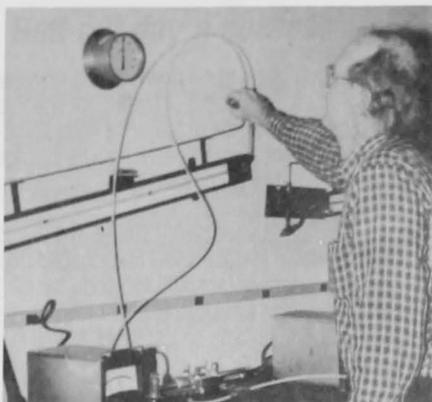
No inorganic chemistry laboratory would be complete without its wide array of glassware, from the lowly test tube to more sophisticated measuring vessels. The ancient pestle and mortar are still in use.



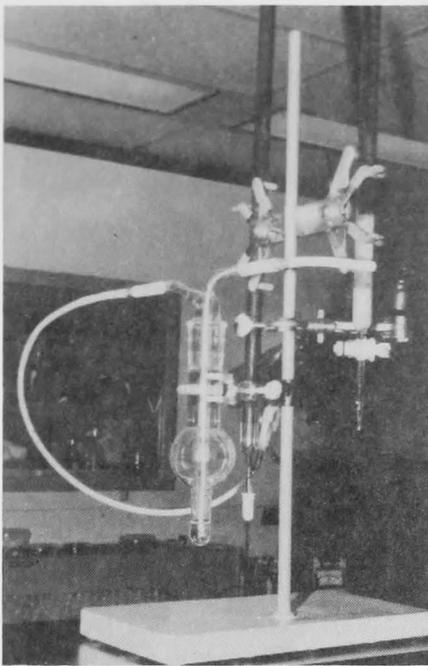
These are standard laboratory balances. The one on the right measures to the nearest ten thousandth of a gram; the one on the left to one tenth of a gram.



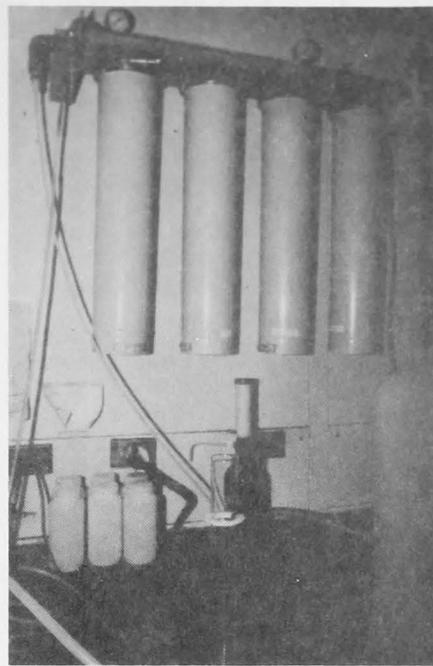
Yen Art Tham stands by the flow injection analysis system used for automatic analysis of pH levels. It is only used for measuring small volume samples.



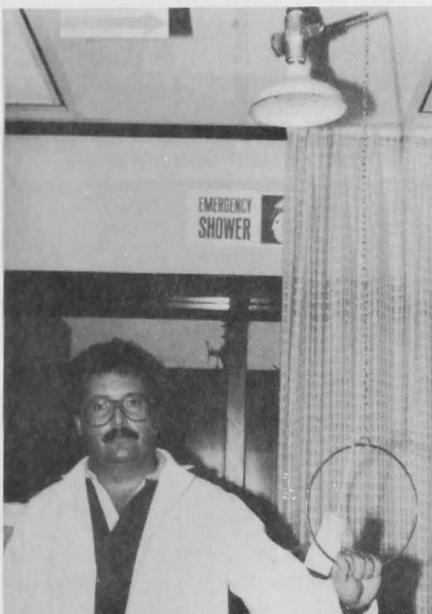
Chemist Dr. Al Wiebe adjusts this inclined manometer, an instrument used to calibrate mass flow meters which record air volumes and air flow rates.



This gangling apparatus may remind you of your high school chemistry laboratory.



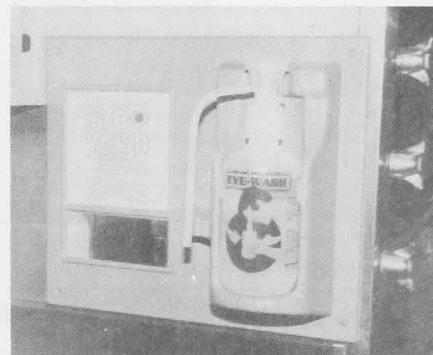
Another useful piece of equipment is the water filtration system, which produces water of high quality.



The AES inorganic laboratory is strong on safety features. This emergency shower is located in a central part of the laboratory. Dave Mactavish is just about to pull the chain that would release a shower of water on the laboratory floor. Its main purpose is to counter acid spills. It has yet to be used in an emergency.



Another more frequently used safety device is the stainless steel fume-hood. The furnace-like shield supplies an airflow to the outside which prevents scientists from breathing in chemical fumes.



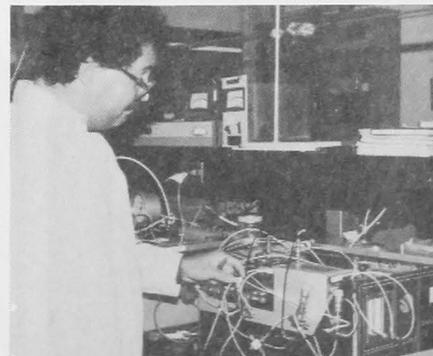
A further safety measure is the provision of eye wash fluid in a specially marked container just in case some corrosive chemicals are accidentally splashed.



This laboratory furnace heats up to temperatures of 1200 degrees Celsius. It is used to remove the filters by charring, leaving only the sample. Any excess heat is controlled by the air conditioning in the room which has controls separate from the rest of the building.



The photo shows a collection of special research instruments used in "real world" field studies and brought to the laboratory for checking, calibrating and repair.



This analyser measures nitrous oxide in the atmosphere. It is an industrial model altered by AES for its own use to improve sensitivity. The alterations are experimental and the analyser is often used in chemical process research studies. Spaghetti anyone?

Winnipeg's blizzard of '86 was a "party"

by Robert Paola

Well, the blizzard of '86 is history — come and gone — forever etched in the memories of Winnipeggers and Manitobans and whoever else was here on that historic November 8, 1986. Environment Canada is calling it the worst blizzard in 20 years. Not since the great blizzard of March 4, 1966 has there been a storm to equal the wrath and fury bestowed upon Winnipeg and area by Mother Nature. Let us reminisce . . .

I was finishing my last regular day shift when the storm hit at 4 p.m. Friday afternoon November 7 (at this point I should put in a plug for the Prairie Weather Centre who had forecast the storm well in advance and had warnings out all day.) By the time I awoke Saturday morning, we had already received 20 cm of snow and the 70-90 km/h winds were producing zero visibilities. So, I put on all my winter gear and embarked on the snowily trek to work, fully expecting to meet Scott or Amundsen along the way. There was virtually no one on the streets — everything was closed (and why not? Nothing could move.) There were a couple of people on the street getting stuck in their cars and, in the true spirit of blizzard comradery, I helped to push them out. Half an hour later I finally managed to get into the Weather Office — a walk that usually takes me 10 minutes.

Saturday I was scheduled to work an ODIT shift — basically a research or project shift, but Saturday was a complete whiteout.

Not surprisingly, the same people who were at the office Friday night were still at their desks. Whether they knew it or not it would be another 24 hours before they finally entered the comfortable surroundings of their homes. (Three cheers and a month's supply of "Atta-Boys" to the storm team — Brad Shannon, Brian Crowe and Heather Routledge.)

Since I wasn't manning a desk, I started to track the storm, get the latest weather, see who was getting the most snow (Red Lake gets top honours with 49 cm) and basically enjoy the now carnival-like atmosphere of the Weather Office.

By noon Winnipeg was completely shut down. Nothing was moving — not even snow plows. It was now just a waiting game — waiting for the blizzard to move out and leave us to clear the mess. By noon hunger was also starting to become a problem. The cafeteria downstairs was closed and no one had planned before hand to bring enough food to feed 10 people over three days. So, one of the technicians volunteered to walk to a local hotel and order some chicken dinners. About an hour later there we were — 10 meteorologists and technicians stuck in a downtown building during a raging blizzard eating chicken dinners. The rest of the day I helped to relieve the aviation forecaster while she tried to get some sleep — which she said was impossible anyways. I walked home at 8 p.m. — the

blizzard beginning to die down. Along the way I passed a surprising number of people walking in the middle of the knee deep snow-covered streets. It was a party! It's a lie to say a blizzard isolates a community — it actually brings it together.

Sunday dawned partly sunny. The winds had died down and the snow had stopped. The blizzard was over (actually too soon for me.) But the city was an absolute ghost town — no one and no thing was on the street. It was like being on earth after a nuclear holocaust (being an avid fan of "the Twilight Zone" my imagination runs wild in these situations.) The only difference was here the fallout was visible — and 35 cm deep. They called me into work for an overtime shift which I gladly accepted. Since getting people was a problem, (most of our staff were stranded in suburbia) I worked a double shift Sunday — 24 straight hours. I guess the excitement of the blizzard was enough to keep me awake that long.

Robert Paola is a meteorologist (MT-2) at the Prairie Weather Centre, Winnipeg.



The usually busy Portage Avenue-Osborne street intersection during the blizzard of November 8, 1986

First Korean meteorologist visits AES

Yoon Hong, the first Korean meteorologist to visit AES has just completed a three-month stay in Canada. Mr. Hong is a research meteorologist with the Research Institute of the Central Meteorological Service in Seoul, Korea. He has also been attending the Graduate School of Yonsei University in order to obtain an M. Sc. in Meteorology. His areas of interest are tropical typhoons and extra-tropical cyclones.



Yoon Hong

Mr. Hong was in Downsview for two and a half weeks with the Training Branch. Jim Alexander and his staff provided him with the necessary orientation. Mireille LeBlanc, Office of the Director General of Weather Services, was the coordinator for Mr. Hong's visit to AES. Mr. Hong then moved to the Pacific Weather Centre, Vancouver, where he could appreciate weather systems moving directly from the Northwestern Pacific and Northeastern Asia. In particular, he could carefully observe the evolution of Aleutian low pressure systems, including cyclones feeding into it from Northeastern Asia and others forming out of it.

Before Mr. Hong left Seoul, H.J. Sonn, Administrator of the Research Institute told him that the Korean service would give full support for Canadian activities within the World Meteorological Organization. Mr. Hong's visit is part of a positive trend in mutual co-operation between Canada and Korea. South Korea with a 41 million population is Canada's fifth largest trading partner, with an annual trading volume of \$2.5 billion.

Continued from page 1

Damages caused by a windstorm on October 5 were estimated into the hundreds of millions of dollars.

Some of the earliest heavy snowstorms on record struck southern Manitoba, most of Ontario, southern Quebec and northern New Brunswick in November. On November 7-9, the worst winter storm since 1966 paralysed Winnipeg, closing the International airport. Snow clearing costs were estimated at \$2.5 million. Halifax received a 24-hour November record snowfall of 28 cm on the 19th. A severe freezing rain storm struck the Ottawa valley on December 24 causing lengthy power outages for more than 20,000 residents.

Abnormally cold temperatures over most of Canada in November extended the cold spell to six consecutive months over the Arctic Islands, northeastern Manitoba, extreme northern Ontario, central and southern Quebec and all three maritime provinces. Most of the country however, had an extremely mild December.

Mr. Scholefield is managing editor of Climatic Perspectives.

Butt-out day a success

National Non Smoking Week, observed across Canada this year from January 15 to 21 reached its climax with "Weedless Wednesday". At AES Downsview headquarters, this day in which thousands of people manage to resist temptation and not light up either in public or in private, was called Butt-out Day.

Organized by nurse Maudrie Crichlow, Butt-out Day encouraged AES employees not to smoke by tiding them over with ongoing snacks — carrots, celery sticks, cauliflower, broccoli, peanuts, pretzels, grapes, tangerines, cheese and sugarless gum. The "munchies" were supplied by a local A & P store and by "Health and Welfare Canada. Ms. Crichlow says the day was a success and that shirts bearing the legend: "I survived weedless Wednesday" are currently being handed out to the participants.

Other Non-Smoking Week activities at AES included the showing of continuous films in the main lobby including a video on second-hand smoke.

Ms. Crichlow praised the people who supported Non Smoking Week at Downsview including Safety and Health Committee Chairperson Wendy Piercey, Audio-Visual specialist William Kiely and Facilities and Accommodation advisor Vidula Patel. She also congratulated the various food preparers and office staff for their efforts. In the picture nurse Maudrie Crichlow (left) is seen handing a snack to Joanne Gagnon Pacini while Wendy Piercey looks on.



In the picture Joanne Gagnon Pacini walks away from the snack table.

March 17, 1976: A Nova Scotia wind storm (148 km/h) overturned trailers, destroyed buildings, tore roofs off and downed hydro lines; freezing rain made driving treacherous, tidal flooding was extensive.

AES employees attend cross cultural seminar

A two-day Cross Cultural Awareness seminar was held December 16 and 17 at AES Downsview Headquarters. Dr. Neil MacDonald, professor of History and Ethnic Studies at the University of Manitoba outlined a history of Canadian bilingualism, multiculturalism and native affairs spanning nearly two centuries. The program covered injustices and prejudices against Indians, Inuit, French Canadians, and almost all immigrants except those in privileged classes. The audience consisted of AES employees, particularly in Weather Services Directorate and in Personnel, whose work brought them into frequent contact with less privileged groups. They were especially concerned about native employment with AES, particularly in northern areas.

Dr. MacDonald said there had been a complete turn around in 20 years in official Canadian attitudes towards multiculturalism and the rights of native peoples... so much so that Canada's role of being multicultural within a bilingual framework was unique in the world. In addition, the new special status for native peoples heralded the dawn of a new era for Indians and other native peoples, where the current watchwords were government consultation and eventually self-government.

In contrast, Dr. MacDonald cited the oppressive Indian Acts (1871-1960) which subjected Indians to a Pass System; suppressed their native religion or "spirit" and sent their children away to residential schools,

designed to make them lose their language and culture. He also outlined the history of Canadian immigration, from the all-white immigration policy in force until the mid-sixties, through to the current open quota system, that allows entry regardless of race, color or religion.

The major stumbling block to the new official Canadian tolerance towards immigration, language and native rights is that it is not widely accepted by the Canadian public.

Dr. MacDonald proposed that more Canadians, especially those in government offices where native peoples are being employed in larger numbers, be taught to avoid prejudice and adopt new roles towards underprivileged people who until now have been deprived of their rightful share of the Canadian resource pie — consisting of Wealth, Power and Status. In order to help them achieve these goals, Dr. MacDonald mentioned the necessity for Affirmative Action. "This is one way of helping people who have been discriminated against in the past."

The seminar was organized by Brian Kahler, chairman of the AES Native Employment National Committee, and superintendent, Station Operations for AES Central Region. Mr. Kahler said he had attended a similar course given by Dr. MacDonald last year and thought the issues so important, he decided to invite the Winnipeg professor to Downsview, Ontario for a repeat of his seminar before a wider AES audience.

Stony Plain, unique Canadian research centre

Stony Plain upper air station, Alberta, has become one of only three ozone research centres in the Western Hemisphere.

In August 1985 AES entered into a cooperative ozone research program with the National Oceanic and Atmospheric Administration (NOAA). The program is now well into the second year of successful operation and all indications are for it to continue. The ozone program is unique by virtue of the select, few stations undertaking such studies. Besides Stony Plain, the other two research centres are in Boulder Colorado, and Hawaii.

The research is carried out by a helium filled balloon carrying a two kilogram instrument package to heights of 40 kilometres and more. The instrument sends back data giving the atmospheric vertical profile of temperature, relative humidity, winds and pressure, in addition to the ozone distribution.

The balloons used to carry the instrument package aloft are made of a special very thin plastic called stratofilm; about 27 metres long when partially inflated, and about eight kilograms in weight. The cost of each balloon is approximately \$500.00.

The data derived from this vertical sounding is being used to validate ozone measurements taken by NOAA polar orbiting satellites.

John Panas — Superintendent, Inspection Services, Western Region



F. Karpenic, OIC Stony Plain, Alta. inflates balloon.

FUTURE FORUM

Are you in favor of Office Automation?

AES Central Region covers a vast area of Canada, from the sweeping Prairies to the High Arctic "land of tomorrow". Over this vast extent it's obvious that communication problems are enormous. First there is the need to transmit weather data quickly and meaningfully, but there is also a major requirement to convey administrative information in many key areas. To carry out this latter need, Central Region has been a pioneer in the field of office automation. A wide

selection of data bases have been accessed for this purpose and many regional staff are now familiar with the Electronic Office System (EOS), now renamed DIALCOM and with personal computers (PCs) capable of performing intricate office tasks. As this survey shows, most AES staff have a positive attitude towards office automation and only a very small minority see the sophisticated new equipment as a threat.

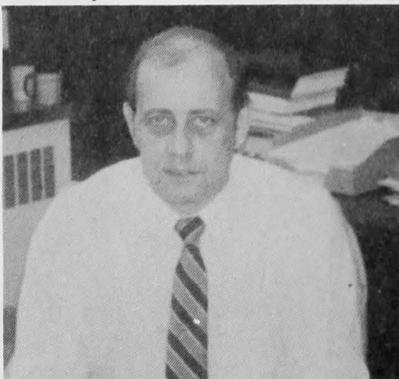
Bernie Aftanas



Head Computer Communications

Until now it has required 23 separate steps to send a simple message from management to a field office. This has been now reduced to three easy steps. A vast amount of information is needed every day to help achieve intelligent decision making. Electronic communications can certainly supply us with easier means to speed this data along and have it analysed automatically. What we have to do is avoid information overload, and build our automated systems around the people using them. A proper implementation of office automation will ensure staff acceptance, resulting in increased productivity.

Dale Henry



Acting Regional Director

Modern equipment like EOS (DIALCOM) enables us to maintain rapid office communication both with the Arctic and with national headquarters. We can now access data bases providing such vital information as overtime hours or data for monthly reports. Our communications with head office have improved considerably and we can respond to a parliamentary enquiry in minutes rather than days. We also have ultra-fast links to our High Arctic weather stations — a modern and efficient electronic mail service — a big change from having to wait three weeks for delivery by plane. Office technology in our region is keeping pace with weather technology — both require the very latest in modern communications. Nobody need feel threatened by the new techniques and all staff in our regions will feel buoyed up by being able to do a more efficient job — thanks to EOS, state of the art PCs or other innovations in the vanguard of the new office automation.

Marv Pierce



**Officer-in-Charge
Winnipeg Weather Office**

The first interactive computer terminal was installed in the Winnipeg Weather Office in 1978 inaugurating the era of office automation.

Today six interactive terminals in the operational unit comprising the Weather Office provide retrieval and display of all alpha numeric weather data. This network doubles as an administrative messaging system which allows the OIC to communicate with the separate operational units. This automation trend will continue. The Multi Purpose Display Station (MPDS) will revolutionize the way radar, satellite and weather map data is manipulated and displayed. Voice synthesis technology will have powerful impacts on weather data dissemination. The administration function of the office will also be largely automated. Functions related to pay, leave and to some degree staffing, will be administered in a Local Area Network with Regional Personnel's computer system. This should free our staff to meet increasing demand for basic weather services in a more efficient and effective way.

Jackie Bird



Secretary

The major change for me has been the replacement of the typewriter by the word processor. There have also been definite improvements in the telephone: speed call capability and quick access to conference calls to name two. In addition there will be input into financial and administrative programs. On the practical side, I like the word processor because it allows instant correction of all texts. I am very pleased that managers feel at ease operating the new equipment. Some, indeed, show a great deal of interest. But to me as a secretary it's no kind of threat. And to say that sitting in front of a word processor screen is a health hazard is simply groping in the dark.

Tom Dame



Superintendent Financial Planning

The office has an IBM PC with a 20 megabyte hard disk. It has many relevant uses; for example, providing historical data on pay, stores and capital, supplying detailed inventory on all employee training, together with outstanding appraisals and classifications. The PC is linked to both EO's and the ENVOY electronic mail system. The former is an excellent messaging machine but a possible disadvantage is that the vast majority of messages do not currently go on file in the Central Registry. On the other hand we're looking to optical character readers to computerize the Central Registry in the future.

Jack Carpick



Superintendent Standards and Requirements

Frankly, I prefer the telephone. I like to discuss issues with all Weather Offices and obtain rapid information. To my mind the very nature of weather services is oral communication. EOS slows me down, makes me feel I am simply exchanging formal memos with other AES staff. We use conference calls when communicating between Weather Offices and the Weather Centre and I'm all for this. When a pilot enters a weather office there's nothing to beat direct, verbal communication with the

briefed. I may be bucking the trend, but somehow I feel that EOS is like operating in an impersonal vacuum and in slow motion. . . although it does have its place in certain applications.

David Roberts



**Office-In-Charge
Resolute Weather Office**

At Resolute we use MIDS* and METSIS** for efficient transmission of weather data, and now we have EOS for all other forms of communication. I tell you it's a boom. It's like going to your front door once a day and picking up the mail. Despite our great isolation, it takes only minutes to communicate with the Regional AES office in Winnipeg. (It would take around 10 days by plane and long distance truck). We can also correspond instantly with another High Arctic Station like Mould Bay, instead of waiting up to three weeks for an air mail flight. I like EOS because it is fast, confidential and very economical. It beats cluttering up expensive telephone lines any day. Thanks to EOS or other state-of-the-art desktop equipment, we can now underline the word **office** every time we say "weather office".

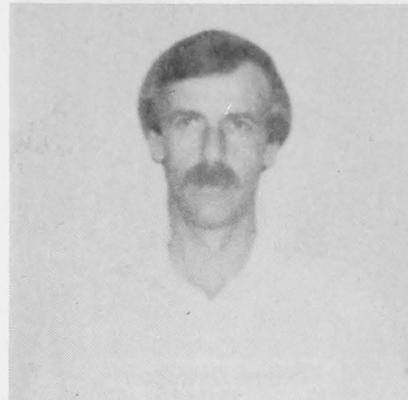
Gail Pivniuk



Purchasing Officer

As a purchasing officer I definitely feel that office automation can help in the work place. Eventually computers will eliminate the enormous amount of paper work. Hopefully all this automation will make for a more efficient Purchasing Department. My daily work-load is evolving to meet technological changes and I am looking forward to even greater efficiencies due to office automation.

Gerard Shauf



**Officer-In-Charge
Broadview Weather Radar Station
Saskatchewan**

Broadview is the only manned 24-hour weather radar station in AES. This affects the way shifts are divided up and who is in the office to receive messages from headquarters. For this type of communication, an EOS terminal is far superior to a telephone. Messages can be left for the next duty person at any time around the clock. I only type with two fingers myself, but this is sufficient for sending and replying to administrative memos. Not to be able to transmit at all makes AES personnel illiterate. The new messaging system creates a sort of communicating equality between the field station and head office (in Winnipeg).

* MIDS Meteorological Information Display System

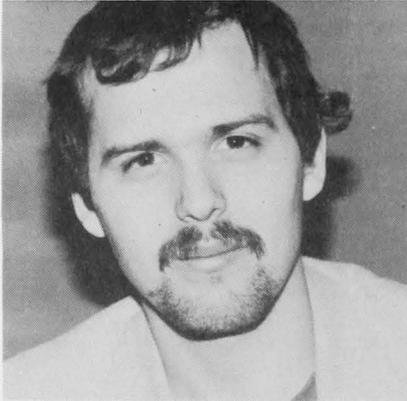
** METSIS Meteorological Satellite Information System

Text and photos by Gordon Black

March 28, 1986: The Easter weekend across most of southern Canada was near perfect with warm sunny dry weather. In southern Ontario it was the mildest March spell since 1946. Several stations in Nova Scotia set new record high temperatures, e.g., 23.9° at Greenwood.

March 29, 1986: An avalanche roared down on a group of snowmobilers killing four under 10 m of snow near Valemount, B.C.

ZEPHYR BREEZES



Wayne Davidson

Starting January 1 the town of Frobisher Bay, N.W.T. was renamed Iqaluit and this has now been adopted as the official name of the weather office.

Actually, says Wayne Davidson, former OIC at Resolute with a total of three years AES service in the High Arctic, the name Iqaluit is very old. It is an Inuit word meaning "many fishes" — so designated because this part of Baffin Island has been a native fishing ground for possibly a thousand years.

Wayne who recently completed six weeks as an instructor for the AES native Careers Program at Iqaluit, speaks Inuktitut, the Inuit language passably well. He says he learnt it in Montreal from older Inuit patients in a hospital. "The old people have more patience and speak more slowly", says Wayne who is fluently bilingual and has a smattering of Slavic languages. Wayne, 28, says he may go back to university in a year or two for some environmental studies. At the same time he hopes to cram in some courses in Manadarin Chinese. "I just can't resist the temptation of being able to speak to a billion Chinese", he says.

As another spare-time project Wayne will shortly install an 8-kilowatt wind tower beside his rented home in Cambridge Bay N.W.T. If it works, his will be one of the first private residences in the Arctic to be heated by wind power.

When AES Climatological research scientists Krishna Vupputuri visited Japan for a conference earlier this year, part of his presentation involved a brief description of nuclear winter as we understand the term in North America. Not wishing to alarm his audience who may have had unpleasant past experiences of the effects of atomic explosions, Dr. Vupputuri gently introduced the subject as "nuclear fall".

As sweeping new federal government travel arrangements swung into action at the turn of the year, AES began issuing traveller's cheques and special En Route travel cards to employees who travel frequently on the job.

Other newly introduced arrangements include the handling of all travel details across Canada by Marlin Travel. The travel agency will offer 24 hour assistance to government travellers anywhere in the country and provide a similar service for those who must change their travel plans while travelling outside Canada.

Providing one leg of the journey is by air, Marlin will arrange for \$100,000 insurance per employee plus \$2,000 on luggage.

In addition to En Route Cards for frequent travellers, those AES employees who travel less frequently will be able to make use of Departmental Travel Accounts which cover only air travel and not hotels or meals.



In the picture Terry Forget of Human Resources Planning, Downsview is first to sign for Cooks travellers' cheques prior to making a trip to Ottawa as Lesa Springer of AES Finance looks on. Says Terry, "It's good to know I can get instant replacements if I lose my cheques".

Sending a copy of the all-new 1987 color-photo edition of the Canadian Weather Trivia Calendar to Prime Minister Brian Mulroney, Environment Minister Tom McMillan informed the PM that "The release of the new edition has itself become a media event and Dave Phillips, the Environment Canada employee who devised the project, is fast becoming a media star appearing on a host of interview shows to promote the calendar". A note attached to a copy of the letter, sent to Communications Directorate, Downsview quotes ADMA Howard Ferguson as saying "It's not very often a member of our staff gets a mention in dispatches to the PM."

Ground Hog Day has come and gone; but Phil Aber, now director AES Ontario region, points out that the first forecaster at AES Headquarters Building, Downsview, Ontario, back in 1971, was not a professional training person as previously believed but a two-year-old, brown-coated ground hog called Kim, living in the surrounding park.

Apparently this extremely intelligent rodent had learned to communicate with curious AES observers. "It's quite true we've been limiting ourselves to one long-range forecast a year," he told them, "but this is about to change. As a result of a wide program of observations which we were able to integrate into an energy budget study for the whole earth, we are now able to correlate instantaneous insolation at any point with future departures from climatic means for that same location. I myself am experimenting with the effect that different silhouettes have on the regression coefficient of our equations."

Kim concluded by telling AES people that he won his appointment to the ground hog prediction Division in an open competition, that many other ground hogs were equally qualified in the new forecasting techniques and that he was prepared to perform as a member of a selection board.

Some details about "Canada Fit Week" being held at AES Downsview between May 22 and 31 have been released. Would-be participants are being given a choice of activities: running, outdoor, stair walking, cycling, wheel chairing or free dance movements.

A fit week questionnaire asks potential fitness enthusiasts whether they wish to take a pre-fitness test. Interested parties can also indicate whether they would like to be a group leader, a participant or an observer. For further details, please contact Maudrie Crichlow of AES Health and Safety committee, (416) 667-4884.

Freelance contributor, Jack Gubbins sends us this short item: "One November day, when I got up in the morning and looked out the picture window, I saw a thin layer of snow covering the roofs of the houses in the street below. Then, the same day about noon, a high wind blew in from the west and blew high and hard all day long and blew all the tattered leaves off the trees. The next morning, there wasn't one leaf left — not one left, not even on one tree. Under a sullen sky, the trees down the long crescent road were nothing more than a bunch of creaking sticks — the skeletons of dead summer."



Alex Beaton receives certificate from Gordon Shimizu

On January 20, 1987, 55 friends and associates of Alex Beaton gathered for lunch in Ottawa on the occasion of his retirement as chief of Ice Forecasting at Ice Centre, Environment Canada. Many messages of congratulation were read, and included those of the U.S. coast guard International Ice Patrol, Danish Meteorological and German Hydrographic Institutes, U.S. Joint Ice Centre, U.S. Great Lakes Environmental Research Laboratory, and the Canadian coast guard.

Alex commenced his career with AES in 1954. To commemorate his many years of dedicated service to the public, Gordon Shimizu, director general, Central Services Directorate, presented him with a framed certificate signed by the prime minister. A travel bag was given to Alex by John Falkingham on behalf of his colleagues in the Ice Branch and AES. Don Champ, director of Ice Branch, presented him with an engraved barometer plaque and an Ice Patrol cap and crests from his associates in the Ice Branch in Downsview.

Those in attendance enjoyed the excellent luncheon, and extended sincere, warm wishes to Alex for a retirement filled with good health and happiness.

We are pleased to note that Environment Canada raised \$40,000 for the Metropolitan Toronto United Way campaign last fall. This is significant because for the first time AES was the lead agency on the government side of the campaign and the chairman was Canadian Climate Centre scientist, Dr. Don McKay.

Some weeks ago a preliminary breakdown of AES contributions to the campaign was distributed. We were glad to observe that Central Services Directorate (Downsview) raised more than \$10,000, (or 108 percent of their pledge). Participation by GSD staff was 42 percent.

The item that we at Communications Directorate are proudest of is the announcement that CD took first place in the participation stakes with 100 percent involvement of its six-member Downsview staff. It achieved this goal for the second year in a row.

March 22, 1968: Calgary recorded an extremely low relative humidity of 6% at 1500 hr when the air temperature was 17.8° and the dew point -20.0°.

At an Ottawa luncheon, hosting two MPs — Pauline Browes, parliamentary secretary to the minister of Environment and Gary Gurbin her immediate predecessor in this post, ADMA Howard Ferguson presented two, "politically spiced", severe weather watcher certificates to the guests of honor. The citation reads: "The holder of this certificate has agreed to participate in Environment Canada's volunteer severe weather watch program by keeping a wary eye on Canada's stormy political horizons and reporting any and all of the following occurrences: **hail** and heckles of our programs; **damaging wind** and hot air from any political adversary; **thunder** and roars from the other side of the floor; **lightning** striking from above or tossed from the opposition; **flooding** boo-hoos from disgruntled opponents; and, **storm clouds** forming on the right, left or centre."

March 30, 1964: A severe earthquake centred near Anchorage, Alaska produced a tidal wave that damaged several communities on Vancouver Island.

This is just a short note to let you know we enjoyed your cover cartoon on your Christmas issue.

We used this as our "lead in" to our annual TV "tongue in cheek" plotting of Santa's travels from the North Pole to Sault Ste. Marie. Since the addition two years ago of weather radar to our office, we have supplied the local TV station with weather conditions for Santa's travels. This information is taped for use on Christmas Eve and is shown on the 6 pm and 11 pm news cast. This report includes wind, cloud, weather and snow cover for his annual trek.

Your cover was filmed and shown as this year's lead-in to our report and it received many favourable comments from some of the 100,000 + citizens of Sault Ste. Marie and area. 1985's report was produced by weather service specialist Don Simard. 1986's was produced by Ms. Andrea Sale.

Ron Houghton, Officer-In-Charge, Sault Ste. Marie Weather Office.



Canada

Dr. Fouad Fanaki's Zephyr Christmas cartoon that made it on Sault Ste. Marie TV.

STAFF CHANGES / CHANGEMENT DE PERSONNEL

Promotions / Appointments Avancements / Nominations

L.M. Stirling (SM) Chief/Chef, ACPC, Downsview, Ont.

G. Burke (MT-5) OIC/Responsable, W03/BM3, Yellowknife, N.W.T./T.N.-0.

A. Pankratz (MT-2) Meteorologist/Météorologiste, ARWC, Edmonton, Alta./Alb.

D. Munson (EG-5) Pres. Tech./Techn. en prés., W04/BM4, Inuvik, N.W.T./T.N.-0.

T. Goos (MT-7) OIC/Responsable, W01/BM1, Whitehorse, Y.T./Yuk.

G. Croteau (MT-6) Meteorologist/Météorologiste, CMCFS, Dorval, P.Q./Qc

A. Gagné (EG-5) Met. Tech./Techn. en mét., CMCFT, Dorval, P.Q./Qc

L. Racine (SCY-3) Secretary/Secrétaire, AABD/S, Downsview, Ont.

G. Jacob (AS-7) Special Policy Advisor/Conseilles des programmes spéciaux, Ottawa, Ont.

P. Richardson (EL-5) Electrical Tech./Électronicien d'entretien, PAED, Vancouver, B.C./C.-B.

A.M. Paul (CR-4) Clerk/Commis, PAED, Vancouver, B.C./C.-B.

C. Krupat (CS-1) Programmer/Programmeur, CIDO, Dorval, P.Q./Qc

P. Kurchina (CS-2) Programmer/Programmeur, AWAC, Downsview, Ont.

P. Gillard (SCY-2) Secretary/Secrétaire, AWAC, Downsview, Ont.

S. Guzylak (AS-2) Admin. Officer/Agent d'admin., AWAC, Downsview, Ont.

L. Birmann (ST-OCE-3) Word Processor Operator/Oper. trait. de textes, ARMD, Downsview, Ont.

L. Lefavre (MT-6) Chief Prognostician/Météorologiste surveillant, CMCF, Dorval, P.Q./Qc

D. Leroux (CR-4) Clerk/Commis, QAFA, St-Laurent, P.Q./Qc

H. Black (PG-3) Head, Procurement Services/Chef, services d'économat, ACSI, Downsview, Ont.

M. Yan (PG-2) Jr. Procurement Officer/Agent d'économat, ACSI, Downsview, Ont.

A. Pohl (MT-6) Meteorologist/Météorologiste, NWC, Gander, Nfld./T.-N.

W. Miller (EG-5) Pres. Tech./Techn. en prés., W03/BM3, Yellowknife, N.W.T./T.N.-0.

C. Paquin (EG-3) U/A Tech./Techn. en aér., WS2/SM2, Kuujuaq, P.Q./Qc

E. Gola (EG-3) U/A Tech./Techn. en aér., WS1/SM1, La Grande IV, P.Q./Qc

L. Waithe (CR-4) Clerk/Commis, AAFA, AES, Downsview, Ont.

P. Campbell (CR-4) Clerk/Commis, AAFA, AES, Downsview, Ont.

T. Colavecchia (CR-4) Clerk/Commis, AAFA, AES, Downsview, Ont.

C. Butara (SCY-2) Secretary/Secrétaire, ACSI, Downsview, Ont.

Transfers / Mutations

J. MacDuff (EG-6) Wea. Serv. Climatologist/Climatologiste, serv. météo., W04/BM4, Calgary, Alta./Alb.

S. Knott (MT-2) Meteorologist/Météorologiste, ALWC, Edmonton, Alta./Alb.

M. Lacasse (CR-4) Clerk/Commis, CMCAF, Dorval, P.Q./Qc

L. Reber (CM-6) Communicator/Agent de communication, PWC, Vancouver, B.C./C.-B.

C. Brennan (EG-7) OIC/Responsable, Sable Island, N.S./N.-É.

C. Clarke (EG-3) U/A Tech./Techn. en aér., WS2/SM2, Goose, Nfld./T.-N.

J.D. Lanctin (EG-3) U/A Tech./Techn. en aér., WS2/SM2, Stephenville, Nfld./T.-N.

J.M. Campbell (MT-2) Met. Dev. Level/Mét. niveau perf., Trenton, Ont.

Y. Gervais (EG-4) U/A Tech./Techn. en aér., Maniwaki, P.Q./Qc

G. Croteau (MT-3) Meteorologist/Météorologiste, CMC, Dorval, P.Q./Qc

R.C. Harvey (MT-6) Meteorologist/Météorologiste, PAED, Vancouver, B.C./C.-B.

Y. Pelletier (MT-2) Meteorologist/Météorologiste, Edmonton, Alta./Alb.

J. Couturier (EG-5) Pres. Tech./Techn. en prés., ALWC, Edmonton, Alta./Alb.

B. Marquis (MT-2) Meteorologist/Météorologiste, ARWC, Edmonton, Alta./Alb.

P. Petropoulos (EG-1) Met. Tech./Techn. en mét., WS3/SM3, Fort Reliance, N.W.T./T.N.-0.

G. Carpenter (EG-1) Met. Tech./Techn. en mét., WS3/SM3, Edson, Alta./Alb.

S. Boutot (EG-5) Met. Tech./Techn. en mét., Goose Bay, Nfld./T.-N.

C. Smith (EG-5) Met. Tech./Techn. en mét., Goose Bay, Nfld./T.-N.

R. Gratton (SCY-2) Secretary/Secrétaire, ACPD, Downsview, Ont.

A. Frappier (MT-2) Met. Dev. Level/Mét. niv. perf., PWC, Winnipeg, Man.

J. Ali-Ridha (CR-3) Clerk/Commis, ACSI, Downsview, Ont.

**Temporary or Acting Positions /
Postes temporaires ou intérimaires**

M. Malépart (EG-6) Inspector/Inspecteur, QAEOI, St-Laurent, P.Q./Qc

D.J. Phillips (SM) Chief, Forecast Operations/Chef, prévisionniste, PAEM, Vancouver, B.C./C.-B.

B. Jensen (EG-8) Supt. Station Operations/Surintendant de la station, PAEOO, Vancouver, B.C./C.-B.

J. Lockett (EG-9) Chief, Data Acquisition/Chef, Acq. des données, PAEO, Vancouver, B.C./C.-B.

G.E. Wells (EX-2) Regional Director/Directeur régional, PAED, Vancouver, B.C./C.-B.

A. Baron (FI-1) Financial Officer/Agent financier, AAFF, Downsview, Ont.

T.L. Tripp (CS-4) Chief/Chef, ACPC, Downsview, Ont.

R.E. Kerrivan (CR-4) Clerk/Commis, ACPA, Downsview, Ont.

M. Sheppard (SCY-2) Secretary/Secrétaire, ACPC, Downsview, Ont.

L. Romero (CS-2) Programmer/Programmeur, ACPS, Downsview, Ont.

K. Cudlip (CS-2) Programmer/Programmeur, ACPS, Downsview, Ont.

D. Davies (AS-3) Admin. Officer/Agent d'admin., ACPE, Downsview, Ont.

E. Sheehy (AS-2) Admin. Officer/Agent d'admin., ACPN, Downsview, Ont.

C. Koshyk (CS-1) Programmer/Programmeur, ACPE, Downsview, Ont.

W.A. Verge (EG-7) Data Procedures & Standards Officer/Agent des normes et procédures, AWSC, Downsview, Ont.

C. Midwinter (EL-6) Electrical Tech./Electronicien d'entretien, ARPX, Downsview, Ont.

P. Berthelot (EG-4) U/A Tech./Techn. en aér., Sable Island, N.S./N.-É.

D. Miller (EG-6) OIC/Responsable, WS2/SM2, Stephenville, Nfld./T.-N.

W.J. Hayward (EG-8) OIC/Responsable, PAEWM, Vancouver, B.C./C.-B.

M. Bryant (OCE-2) Word Processor Operator/Opér. trait. de textes, ACPE, Downsview, Ont.

H. Davidovich (FI-1) Financial Officer/Agent financier, AAFF, AES, Downsview, Ont.

P.B. Robinson (EG-5) Pres. Tech./Techn. en prés., Fort Nelson, B.C./C.-B.

G. Lunn (EG-7) Met. Instructor/Instructeur de mét., TCTI, Cornwall, Ont.

Departures / Départs

A. Chiasson, ARMN, Dorval, P.Q./Qc

A. Bouchard, Stephenville, Nfld./T.-N.

S. Burak, ACSO, Downsview, Ont. to DOC/MDC, Toronto, Ont.

N. Vigneault, Cambridge Bay, N.W.T./T.N.-O.

A. Price, Cape Parry, N.W.T./T.N.-O.

J. Atcheson-Groves, PAED, Vancouver, B.C./C.-B.

D. Ng, PAED, Vancouver, B.C./C.-B.

Secondment / Détachements

D. Deyholos, PAED, Vancouver, to/à C.E.I.C., Vancouver, B.C./C.-B.

Retirements / Retraites

B. Bowerbank, Vancouver, B.C./C.-B., Oct./oct. 1986.

J. Larkman, Vancouver, B.C./C.-B., Oct./oct. 1986.

D. Bardeau, ARQA, Downsview, Ont., Nov./nov. 1986.

S. Boyd, ACSI, Downsview, Ont., Nov./nov. 1986.

D.K. Gates, MWC, Bedford, N.S./N.-É., Nov./nov. 1986.

E. Jeffries, Truro, N.S./N.-É., Déc./déc. 1986.

I. Rosens, Edmonton, Alta./Alb., Dec./déc. 1986.

P. Dupré, QAEOI, St-Laurent, P.Q./Qc, Dec./déc. 1986.

M.J. Prim, MWC, Bedford, N.S./N.-É., Jan./janv. 1987.

E.E. Humby, NWC, Gander, Nfld./T.-N., Jan./janv. 1987.