January/February 1981

ZEPHYR

Canadian Forces Weather Service keeps them flying

Environment Canada
Environnement Canada

CONTENTS

January/February 1981

NEWS

Gas chromatograph – mass spectrometer arrives at AES.....3
Well drillers unearth energy saving aquifer....4
AES strengthens federal presence at emergency conference.....4
Saltzman is TV weatherman again.....5
New Readac contract heralds total weather automation.....6
Thank you for answering our questions 6
Beware weather reports!!.....6

FEATURES

Canadian Forces have their own weather service 7
Help for troubled employees.....10

DEPARTMENTS

Book review 12
Women on the move.....12
How to review a book.....13
AES holds hydrometeorology workshop 13
Staff changes.....13

Cover: The F-18 Hornet, the Canadian Forces' very latest fighter plane, depends on sophisticated back-up weather services. (Photo, courtesy DND, Ottawa).

Zephyr is a periodical publication for employees of the Atmospheric Environment Service, Environment Canada. It is produced for the Atmospheric Environment Service by the Information Directorate of Environment Canada.

Please address all correspondence regarding this publication to: Zephyr, 4905 Dufferin St., Downsview, Ont., M3H 5T4.

Environment Canada / Environnement Canada

Atmospheric Environment Service / Service de l'environnement atmosphérique

Gas chromatograph – mass spectrometer arrives at AES

Carefully pumping a syringe needle, Assistant Deputy Minister Jim Bruce injected a murky liquid containing four typical atmospheric impurities into a large metal box. This novel "ribbon-cutting ceremony", was laid on to inaugurate the spanking new $225,000 Gas Chromatograph Mass Spectrometer (GCMS), housed in the south wing of AES Downsview headquarters. The ceremony took place on December 16 in the GCMS operations room.

Also taking part in the ceremony were Dr. Warren Godson, director general of the Atmospheric Research Directorate, Preston Sanderson, chief of Atmospheric Chemistry and Standards Division and his assistant Dr. Kurt Anlauf. Howard Ferguson, director of Air Quality and Inter-Environmental Research branch acted as MC to the specially invited audience consisting mainly of department heads and atmospheric chemists.

"The GCMS is a major step forward in using chemistry to fight the chemical impurities in the atmosphere and is a landmark acquisition for AES services", commented Dr. Sanderson after the ceremony.

ADMA Jim Bruce (left) plunges in the needle to inaugurate the Gas Chromatograph Mass Spectrometer. Looking on, left to right, are Dr. Kurt Anlauf, Atmospheric Chemistry Criteria and Standards Division (ARQA); Dr. Warren Godson, Director General, Atmospheric Research Directorate; Howard Ferguson, Director, Air Quality and Inter-Environmental Research Branch; Dr. Preston Sanderson, Chief, ARQA, and Dr. Kar Wah Chan, post doctoral Fellow.

The background story to GCMS is that nitrogen and sulphur compounds, which are transported over long distances and deposited as acid rain, interact with other substances in the atmosphere. Similarly, hundreds of other compounds spewed into the atmosphere from thousands of emission sources may be reacting to form traces of various other compounds. Thus, as yet undetected molecules capable of causing unrealized environmental problems may be present in the atmosphere. Realizing this, atmospheric scientists of the AES Air Quality Research Branch in their search for atmospheric contaminants, use the GCMS, capable of detecting molecules at concentrations of one part per billion (ppb). Says Bill Schroeder of the Atmospheric Chemistry Criteria and Standards Divisions "A ppb can be pictured as one pinch of salt in 10 tons of potato chips or a very dry martini with one drop of vermouth in 500 barrels of gin."

A gas chromatograph works by sending an air sample on a stream of inert gas through a long narrow tube lined with an absorbant material. Since the various molecules are moved at different rates of speed by the inert gas, some soon lag behind and thus the various types of molecules separate into lumps or peaks as they are called. The various compounds thus separated are further identified by the use of a mass spectrometer.

The peaks coming from the gas chromatograph are bombarded with ionizing radiation until they are charged and torn apart. The parts are then moved through a magnetic field. However, the paths of charged molecules or parts moving through a magnetic field are bent in relation to the mass of the molecule: the heavier the molecules, the less the bending. Thus, subpeaks of the original peaks are formed. Since different compounds have different spectral characteristics, the molecules from the atmospheric sample can be identified. The simplied mixture used for the ceremony contained Dichloro benzene, Trichloro benzene, Trichloro phenol and Aldrin.

The machine acquired by AES has its own dedicated mini-computer and is capable of being upgraded as the state of the art improves. This instrument can generate in a matter of hours, solutions to problems which would take weeks using classical analytical techniques.

Well drillers unearth energy saving aquifer

Workers from a private drilling company unload pipes from a rig prior to sinking of an aquifer well in the parking lot of AES building Downsview.

A week before Christmas a team of water drillers moved onto the south-east parking lot of the AES Downsview building and started sinking a 150-foot well. Their purpose was to tap the aquifer or large water formation deep beneath the 14 acre site, a former stretch of southern Ontario farmland.

The operation, launched by the Department of Public Works (DPW), managers of the property, is part of an energy saving project which, if successful, could provide both air conditioning and heating for the large Federal Government building.

Basically the system would use the aquifer as a vast underground storage tank, with cold water being pumped up in summer via one well in order to air condition the building, and excess heat being returned to the aquifer via another well. In winter the process would be reversed with stored heat from the aquifer being pumped up to the building in one well and surface cold being pumped down for seasonal storage in the other.

According to Edward Morofsky, manager, Special Energy Projects, Energy Secretariat, DPW, the AES building is the first Federal property selected for an aquifer demonstration, and the first large-scale experiment in Canada. Aquifers have long supplied some heating facilities for private buildings especially in Southern Ontario, rich in this type of resource.

While emphasizing that the demonstration is just a feasibility study, Mr. Morofsky said that if all went well, water from the aquifer could be stored during the winter of 1981 and used to cool the building in the summer of 1982. The heating part of the experiment would come later. He added that the whole project depended on each well having a rate of flow of at least 100 gallons a minute and on tests now being carried out to see that the system did not damage the building. Mr. Morofsky said that the initial experiment would cost DPW around $100,000. He was pleased with the choice of the AES building as "guinea pig" and hoped that it would be the start of a major Federal buildings energy saving scheme.

AES strengthens federal presence at emergency conference

Increased evidence of federal participation in joint government emergency programs was provided last November at a three-day "Emergency preparedness for the Eighties" conference held at the Harbour Castle Hilton. More than a dozen AES personnel participated as speakers, display co-ordinators and observers at an event sponsored by the Ontario government in collaboration with numerous municipalities.

The main aims of the meeting were to review government actions taken during past emergencies, especially during the November 1979 Mississauga train derailment; to persuade all municipalities to draw up contingency plans and coordinate these with other levels of government and industry.

Principal speakers included the Hon. Roy McMurtry, Ontario Attorney General, former U.S. Congressman Mike McCormack, ex-chairman of the sub-

Main AES exhibit at the Emergency Preparedness for the Eighties conference was this specially equipped Emergency Response Vehicle. Right beside it is the minisonde sounding system and theodolite-based distance meter.

committee on Energy Research and Production, Mrs. Hazel McCallion, mayor of Mississauga, and Dennis Amyot, Ontario Regional Director Emergency Planning Canada. Miss Carol Kaplonski of AES Ontario Weather Centre and Mike Newark, Application and Impact Division (CCAI) also gave talks on storm and tornado meteorology.

After attending the conference as an observer, Alistair Christie, deputy director, Air Quality and Inter-Environmental Research Branch (AQRB) said that so far the Federal Government had taken a back seat in efforts to set up joint emergency procedures. "Most contingencies are initially a municipal responsibility; the provincial government becomes involved and may take a lead role when the problem has implications for more than one municipality, and agencies and services of provincial scope such as the OPP, ambulance services and communications; and the federal government's mandate relates to matters of inter-provincial or international concern, and to the provision of advice and consultation as required. AES had traditionally provided information on meteorological and dispersion processes through its weather offices and must be in a position to respond in an accurate and timely fashion to all legitimate inquiries concerning the pathways of hazardous substances through the atmosphere."

He described the conference as a good PR effort by the Ontario government to persuade all municipalities to draw up their own emergency plans. "Until now there's been some lack of inter-government communication" he added, "but I believe our own Ontario Region emergency plan is excellent. My only regret is that the activities of the federal and provincial planners do not appear to have been as well coordinated as might be desired."

Dr. Christie said he was pleased that atomic power station hazards had been discussed because it helped him assess the overall nuclear accident scenario: the involvement of the Atomic Energy Control Board, the licensee on the on-site level, provincial action once the effects had spread beyond the site exclusion boundary and federal participation where the health hazard could extend beyond provincial or national boundaries.

Remember, he added "during any disaster, the public automatically calls AES for information, not the province or municipality."

Main AES attraction at the conference exhibition, held at the Airport International Centre, was a specially equipped Emergency Response Vehicle, similar to the one used at Mississauga.

The modified Titan Motorhome was fitted out to demonstrate use of a plume dispersion model, operating on a small desktop calculator-plotter. Some 150 delegates toured the vehicle in an afternoon and lined up four deep to try the model used to measure gas spills.

Also on display was an AES developed minisonde sounding system and a theodolite-based distance meter. Display coordinator was Al Gallant of the Atmospheric Dispersion Division. He was assisted by Peter Coade, AES Ontario Region coordinator.

Saltzman is TV weatherman again

Back again as a TV forecaster, former AES employee Percy Saltzman now reports the weather twice nightly on Global News. Photo: Global TV

After eight years former AES employee Percy Saltzman, who became Canada's best known TV weatherman, then quit forecasting for general television work, has resumed his old job as on-screen meteorologist, this time for Global Television.

Mr. Saltzman became famous as the CBC's fast-talking, chalk-tossing "weather wizard" on Tabloid and 701. He also claims his was the very first human face to appear on English Canadian television. When service started on September 8, 1952, he shared a spot with some puppets.

"Returning to TV weather brings back memories, not only of the CBC but of AES too" Mr. Saltzman says. He joined the Meteorological Service way back in 1943 and was seconded to the RCAF during the Second World War. He held several jobs at AES but his last 10 years before leaving in 1968 were spent in public affairs. He recalls doing a lot of teaching, lecturing and radio forecasts as well as more conventional PR work such as writing pamphlets and producing a monthly press round-up that was a predecessor to Zephyr. And he claims all this gave him the confidence to approach the CBC and offer to be their TV forecaster. "I guess I was the right guy at the right time" he added.

So far no Canadian has ever done a coast-to-coast weather show – not even Saltzman – though he came pretty close. In his CBC days, his "territory" stretched from Kenora (near the Manitoba border) to Quebec City; and on New Year's Day he used to forecast Canada-wide weather during the nationally televised Rose Bowl Cup. He later became famous as a hard-hitting non-weather interviewer on CTV's national Canada AM show. His current Global weatherspiel is seen mainly in Ontario and continues a meteorological career stretching back some 38 years.

New Readac contract heralds total weather automation

A $1.6 million contract signed in November between AES and Bristol Aerospace Ltd. will see development of a new multi-purpose automatic weather station. Designed to replace its MARS and MAPS^R predecessors, the Remote Environmental Automatic Data Acquisition Concept (READAC) will be equally at home in remote Arctic observing stations and in busy airports.

By means of advanced modular concepts READAC will be able to cover a large selection of parameters and will be equipped to keep pace with technological change without becoming obsolete. Its data acquisition modules fit neatly into a compact mainframe and can be hooked up to various arrays of sensors measuring wind, pressure, temperature, humidity, visibility, precipitation and eventually cloud cover and present weather. By altering its modular configurations, READAC will interface with landlines, radio and satellite telemetry systems, or partially-manned automatic stations, and in remote applications it will obtain its energy from natural power sources.

Roy Bourke, READAC program manager, reports the new system will have much wider capabilities than earlier models. "READAC may cost more than its predecessors but is much more versatile and sophisticated and will pay off in increased efficiency and operational usefulness", he said. READAC will be the first Canadian automatic station development to have major aviation uses.

The current two-year development contract with Bristol will be under the technical guidance of AES scientific authority, Roger Van Cauwenberghe, and will be in two phases. The company will first design an engineering model based on system concepts developed in the AES Atmospheric Instruments Branch over the past several years. Then, seven production prototypes will be produced for the purpose of field evaluation in the AES network. By 1984, AES hopes to be purchasing some 20 production models per year from Bristol Aerospace.

Mr. Bourke added that the ultimate aim of AES is to make all surface real time observation stations automated in varying degrees so as to produce a hybrid network of automatic, part time automatic, and man/machine stations.

AES officials involved in the READAC Automatic Weather Station contract with Bristol Aerospace Ltd. who attended an engineering development program meeting in Winnipeg last November, are left to right: Dave Dockendorff, project officer; Roy Bourke, READAC development Program Manager; Roger Van Cauwenberghe, Instrument Branch Project Leader and Earle Robinson, head, Information Technology Section. Continuing on around the table are: Glen Catlin, Bill Whitehead and Les Dickinson of Bristol; Ed Carey, Department of Supply and Services, and Ian Walkty, Bristol.

Other advantages of READAC are its capabilities for modular servicing and ongoing technical updates, its ability to operate in all climates and operational configurations including manned stations, and its capacity for accommodating additional parameters for research and special project work.

Thank you for answering our questions

Zephyr is pleased to report that it received a good response to the questionnaire sent out in the July/August issue seeking readers' views and some general statistics about the magazine's reception and distribution. Over three hundred people sent in replies, which means we received back about 15 percent of the forms. We are still working on a detailed compilation of the results and promise to publish them in the next issue of Zephyr. Meanwhile we would just like to say two things: the range and depth of the comments and suggestions will certainly help us turn Zephyr into a better publication; and getting responses like this proves that there are many people out there who take more than a passing interest in their internal publication; so many in fact, that we feel encouraged to ask for more readers' contributions – to our news, features and departments sections, to our book reviews, and to Women on the Move. We hope to hear from you again and we would like to say a big thank you.

Beware weather reports!!

Last September Carol Krinks, an employee of Transport Canada, (DOT) Pacific Region was returning to her office carrying a weather observation. It blocked her view of the doorway, and she did not notice a box had been temporarily parked there. She tripped and fell heavily to the floor bruising her hip and shoulder. Her supervisor's accident investigation report solemnly reported DOT employees had now been instructed not to block passageways with objects likely to endanger safe movement in the work area.

Merwyn Tinck, chief administrative services AES Pacific Region, passes this item on to us without comment.

Canadian Forces have their own weather service

by Brian Veale

Weather services in Canada are based on a "Single Service" policy with the Atmospheric Environment Service (AES) of the Department of the Environment responsible for meeting national requirements. Accordingly, AES provides basic weather support for all weather-sensitive activities, including those of the Department of National Defence (DND) which however has additional requirements, and tasks the Canadian Forces Weather Service (CFWS) with satisfying the meteorological and oceanographic needs of the Canadian Forces.

DND and DOE have an ongoing agreement setting a framework for inter-departmental cooperation. Under this agreement, professional meteorologists are seconded to DND, and in some cases commissioned in the Canadian Forces for short terms of service. AES provides climatological services and meteorological equipment, and its national weather communication system delivers basic and processed meteorological information, observations, analyses, and forecasts to the CFWS. DND reimburses AES for the above support, and provides all other logistic, personal and technical support for the CFWS.

The CFWS in turn provides AES with weather and oceanographic observations from its units and from HMC ships and undertakes certain civil commitments, using AES meteorological standards and operating procedures. This happens at locations where CF requirements predominate, but where there are also substantial civil needs. TE CFWS then provides meteorological services to AES and civil users as mutually agreed. For example, AES discharges most of its wave analysis and forecasting commitments through the CF Meteorology and Oceanography (METOC) Centres. On the other hand, where there is a predominant civil requirement for services but only a limited military one, weather offices are run by AES on a scale to meet the combined need.

During the Second World War most graduates of training courses in Meteorology were seconded to Canadian forces bases for the duration. David Parkinson, currently Base Met Officer, CFB Trenton, Ont., (see centre row, fourth from left) sends us this "historic" photograph, and confirms that almost everyone on short course Number 12 in Meteorology, held in Toronto in 1944, was very soon involved in military forecasting. From left to right, home town in brackets, they were: back row, Bob Sharratt (London, Ont.), Gordon Wright (Wallaceburg, Ont.), George Washburn (Saint John, N.B.), Cornelius Warkentin (Winnipeg, Man.), Don Levi (Winnipeg); centre row, Aylmer Sinclair (Vancouver, B.C.), Ross Skinner (Toronto, Ont.), Art Brinacomb (Calgary, Alta.), Dave Parkinson (St. Mary's, Ont.), Reg Jacka (Medicine Hat, Alta.); front row, Paul Denison (Toronto), Gil Clark (Instructor, Meteorological Service of Canada, Vancouver), Tom Hull (Calgary), Forest Rogers (Windsor, Ont.).

Personnel play vital role

Meteorologists posted to the CFWS gain valuable experience through direct contact with users, and the use of modern forecast methods, computer technology and individual ingenuity in satisfying forecast requirements. CFWS meteorologists are free to enter competitions in any AES region. Thus there is a considerable interchange of personnel between CFWS and AES, but many meteorologists have devoted most of their careers to the former.

Some meteorologists serve in the Canadian Forces abroad or at sea, usually for a term of three to five years. Reappointment to AES is guaranteed at the grade and level held immediately before enrolment in the CF, and meteorologists in uniform retain full rights in competitions.

Meteorological Technicians (Met Techs) in the CFWS are serving members of the CF. As they gain experience and training, they progress from weather observing, plotting and communications duties to

briefing, administration and supervisory roles. After recruit training, a new Met Tech takes a 14-week course at the Canadian Forces School of Meteorology (CFSMET). Upon graduation, he is posted to a weather observing unit of the CFWS, and receives formal on-the-job training. Promotion to the ranks of Corporal, Sergeant, and Warrant Officer requires high standards of performance and successful completion of more courses at CFSMET. Advances to Master Warrant Officer and Chief Warrant Officer may ultimately reward the best qualified Met Techs. During his career a Met Tech is given military courses in leadership and supervision, and a wide variety of trade specialties including ballistic meteorology, rawinsonde, weather radar, and meterological inspection.

Weather briefings in the CFWS are normally given by CF Met Techs, who after several years of weather observing experience and high ranking on a merit list, receive an intensive 12-week course at CFSMET to qualify for weather briefing duties. Their understanding of synoptic and physical meteorology and their knowledge of weather-influencing factors enable them to explain meteorological events in terms of the associated physical processes. Although not responsible for issuing or amending forecasts, Met Tech briefers adapt or elaborate them, obtaining guidance from associated forecast centres whenever necessary.

The Met Tech briefer's skills are used to the full when he is employed aboard helicopter-carrying destroyers and fleet replenishment ships, equipped with weather communications gear, both facsimile and radio teletype. Using this guidance, the briefer prepares forecasts for ship and air operations. A further 8-week course giving them a very high level of training is required for this function for which the rank is Warrant Officer.

Serves and trains combined forces

On February 1, 1968 the Royal Canadian Navy, Royal Canadian Air Force and Canadian Army ceased to exist and were replaced by a single service, the Canadian Forces. Their respective meteorological organizations were also combined to form the Canadian Forces Weather Service, now staffed with some 100 meteorologists and 320 Met Techs.

The CWFS consists of a Directorate of Meteorology and Oceanography (D Met Oc) at National Defence Headquarters (NDHQ) Ottawa, meteorological staff components at command headquarters, operational weather centres, offices and facilities at Canadian Forces Bases (CFBs), formations or units, including HMC ships, and the Canadian Forces School of Meteorology (CFSMET).

Within NDHQ, D Met Oc reports to the Chief of the Defence Staff through the chief of Air Doctrine and Operations, reflecting the dominant requirement for meteorological support in air operations. D Met Oc performs a staff function on meteorological matters and on several aspects of military oceanography. D Met Oc also has overall responsibility for the direction of the CFWS in scientific and technical, and oceanography, and has personal authority over all DOE seconded staff.

The CF has three functional commands: Maritime Command, Air Command and Mobile Command, as well as the first Canadian Air Group operating in Europe. In staff officer capacities, meteorologists advise their respective command staffs on meteorological and oceanographic activities.

The CFWS operates 21 military weather facilities in Canada and two in Europe, in three general Weather-support classes:

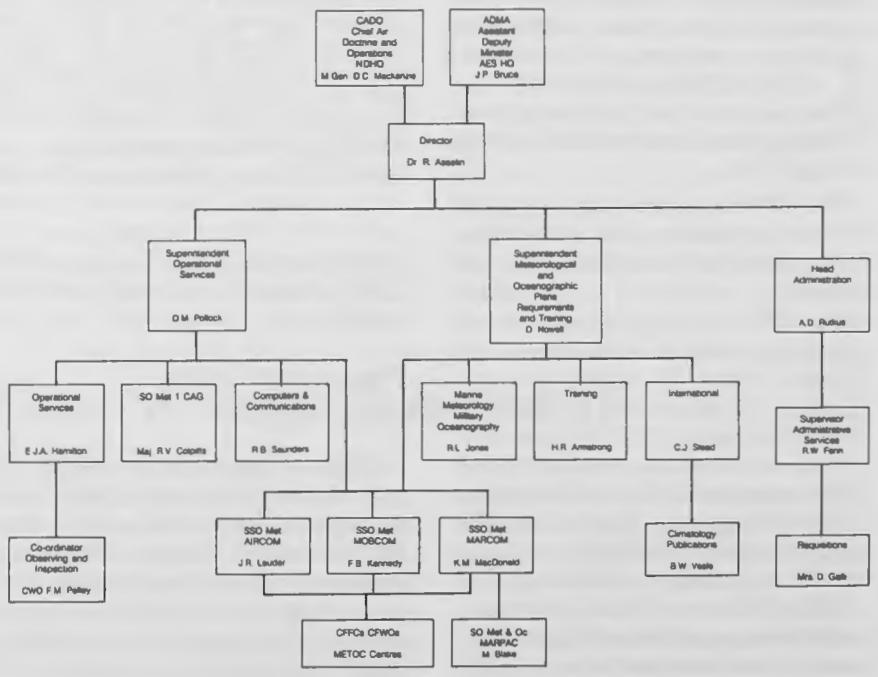
a. *Forecast Centres* – With regional responsibilities for weather watch warnings, aerodrome and special forecasts, plus advice and consultation to weather briefing offices and military commanders. Forecast Centres are located at CFBs Edmonton, Trenton and Halifax.

b. *Forecast Offices* – with local responsibility for weather watch, weather warnings and aerodrome forecasts as well as advice and consultation to military commanders and operators engaged in extensive air operations. Forecast offices are located at CFBs Esquimalt, Comox, Trenton, Greenwood and Baden Soellingen, West Germany.

c. *Briefing Offices* – with local responsibility for weather watch and advice to military commanders and operators engaged in air operations. Briefing offices are located at Bagotville, Chatham, Cold Lake, Gagetown, Moose Jaw, Petawawa, Valcartier, Ottawa, Shearwater, Shilo, Summerside, Winnipeg, Portage la Prairie, Toronto and Lahr, West Germany.

To train the Met Tech personnel employed in the above offices, the CFWS operates the CFSMET at Winnipeg, where basic and advanced courses on weather observing and weather briefing presentation are given. The CFSMET also provide training in first-line management and other specialties to meteorologists serving in either the CFWS or the AES.

CFWS personnel are employed in other



Met Tech briefer in action at a CFWS weather observing unit.

CF training establishments to give special training in a number of areas:

At the Combat Training Centre, CFS Gagetown, N.B., training in ballistic meteorology and in upper air observation is given to those Met Tech personnel who will be serving in artillery units.

At the CF Fleet School Halifax, meteorology and oceanography courses are given to naval operation and navigating officers, and to the Met Techs destined for duty at sea.

In aircrew training schools at CFBs Winnipeg, Portage la Prairie and Moose Jaw, meteorology courses form an important part of the academic program. Meteorologists with an interest in aviation and a flair for teaching could well become instructors in one of these schools.

Communications and computers

The CF weather communications system is an integral part of the AES system. All CF weather facilities in Canada are served by AES meteorological teletype and facsimile networks. Other meteorological communications systems supplement these networks where necessary, such as the United States Air Force (USAF) "COMEDS" network. However, in Europe the CP weather facilities rely on the USAF teletype network for essential weather reports and forecasts, and receive facsimile charts over radio transmissions from selected European weather centres. Meanwhile, the CF extends Canadian weather communication through radio teletype and facsimile broadcasts of meteorological, oceanographic and ice information on each coast serving HMC ships and international shipping on the high seas.

The METOC Centre in Halifax is equipped with a minicomputer system compatible with AES regional minicomputer systems. Plans are well advanced for upgrading it and for acquiring similar systems for the other CFFCs at Edmonton and Trenton. Not only will these be used for standard weather applications (on AES computer program package lines), they will also have meteorological and oceanographic applications to support military operations.

A radiosonde balloon is released.

The present Canadian Forces Weather Service is founded on cooperation between two departments of the Canadian Government to provide effective, economical, meteorological and oceanographic services to the Canadian Forces despite Canada's immense area and small population. It is intended to keep abreast of advances in technology and environmental sciences, because the CFWS must become increasingly efficient and effective to overcome the challenges of the future. □

Mr. Veale is staff officer, Special Services, DND, Ottawa.

Help for troubled employees

Picture this: John Doe is a public servant. Until recently, he did his job well, got along with colleagues and supervisors, was (relatively) satisfied with his job, was punctual, and seldom took sick leave. His present and past managers gave him good evaluations and thought he had "potential for advancement."

Occasionally, John had some personal problems. Though he avoided discussing them at work, his colleagues sensed his unhappiness and coped with its related side effects. They felt it would be short-lived.

Last fall, however, John's work started to deteriorate. He missed deadlines, often called in sick, and no longer got along well with his co-workers.

John had changed. The change could indicate possible health or behavioral problems.

John was called in to see his supervisor. He was told that his work performance had been poor lately, that improvement was expected or more formal action would follow.

Time went by. John's work is still unsatisfactory. He is unable to cope. Whatever it was that troubled him seems to have become a way of life. He now seems under constant stress. He has fallen into a pattern. His problem is, in fact, getting worse.

In another meeting his supervisor is very specific about John's shortcomings. He gives him two months to improve. It is almost the "shape up or ship out" routine. John is free to seek advice and help, of course – from his union, or, as his supervisor encourages him to, from the Employee Assistance Program.

What is the Employee Assistance Program?

The Employee Assistance Program (EAP) aims to identify and assist with any apparent health or behavior problems which interfere with job performance.

Common difficulties encountered are emotional problems of many descriptions (at home or in the work place), usually stress-related and at times serious enough to lead to a nervous breakdown.

Marital problems are frequently encountered by EAP advisors. For this situation, employees often seek help on their own and prevent serious deterioration of their work.

Alcoholism, though a common problem, is seldom revealed by the problem drinker. Although EAP advisors (and supervisors) are trained to recognize the symptoms, they are not equipped to offer treatment, but will only be able to advise where treatment may be obtained.

Drug abuse at times affects job performance, and is not limited to illegal narcotics. When under stress, employees may abuse legitimate medications such as Valium or Librium. While these are prescription drugs and beneficial when used as prescribed, their effects can be harmful when used incorrectly.

Financial problems and the resultant worries can lead to changes in work attitudes or habits. EAP advisors usually refer the employee concerned to local or provincial agencies for help.

Following is a list of resource people who are available to give help and advice under the Employee Assistance Program:

NAME	TITLE	LOCATION	TELEPHONE
Gisèle Thériault	Coordinator, Employee Assistance Program	Ottawa	997-9560
Pat Wilkinson	Chairman, National Capital Regional, EAP	Ottawa	997-2468
Lynne Willoughby	Chairman, Ontario Region EAP	Downsview	667-4752
Susan Pettit	Chairman, Burlington Sub-Committee, EAP	Burlington	637-4591
Wendy Beilhartz	Chairman, Sault Ste. Marie Sub-Committee, EAP	Sault Ste. Marie	949-9461
George McPherson	Advisor, EAP	Toronto	966-5624
Jean Côté	Advisor, EAP	Downsview	667-4925
Steven Peteherych	Advisor, EAP	Downsview	667-4815
Nellie Rochacewich	Advisor, EAP	Downsview	667-4654
Nancy Harper	Advisor, EAP	Burlington	637-4554
Mervin Quast	Advisor, EAP	Guelph	821-0110
Jim Ritchie	Advisor, EAP	Guelph	821-0110
Jean McAlpine	Advisor, EAP	Sault Ste. Marie	949-9461
Paul Webb	Advisor, EAP	Sault Ste. Marie	949-9461
Gary Wilson	Advisor, EAP	Sault Ste. Marie	949-9461
George Lucuik	Advisor, EAP	Sault Ste. Marie	949-9461

Lynne Willoughby

George McPherson

Jean Côté

Steven Peteherych

Nancy Harper

Jean McAlpine

Paul Webb

Gary Wilson

George Lucuik

Work-related problems can often lead to low personal morale and restlessness. Where this applies, the employee may be referred to a Canada Employment Centre or to the department's Personnel Office. A discussion with the employee's manager often rectifies the situation.

Other types of problems find their way to EAP counsellors. But the six mentioned are most likely to come under the umbrella of the program.

The Employee Assistance Program is a formalized tool to help employees with relevant problems in the workplace, and to provide direction and advice to supervisors on how to deal with problem employees. All information is kept strictly confidential, and will not be placed on the departmental file.

EAP advisors are appointed to each region. Where indicated, they arrange referrals to the Assessment and Diagnostic Service of Health and Welfare Canada or to local community services. They liaise with the employee, the supervisor, the treatment agency, and Health and Welfare.

Advisors are the basis of the EAP concept. They are the contact for management, staff and union. Their support continues through treatment and the follow-up phase.

The concept is not new – several countries, including the United States, have similar programs. So do a number of large Canadian private industries.

Several studies on "problem employees" have pointed to the workplace as the most conducive and effective environment for an employee to seek help and rehabilitation.

The rationale is straightforward. Most of us value our jobs. When running the risk of losing it or accepting help from EAP, we will most likely react positively.

Approximately 5-12 per cent of the work population is estimated to have serious problems. The situation is aggravated by the fact that at least four to five additional people are adversely affected by each problem employee. Due to the inter-dependence of job relationships, uneven performance by one employee can reverberate beyond his own desk and, sometimes, disrupt an entire organization.

Employer and employee spend a great deal of time and effort in training and development. Rehabilitating once-valuable and experienced employees seems far preferable, both for humane and economic reasons, to releasing them.

How does the program work?

A referral to the EAP advisor could be either voluntary or mandatory. Having recognized his or her problem, an employee may voluntarily seek help from the advisor who will provide guidance and arrange for professional help, if need be.

Mandatory referrals are made by supervisors seeking help and advice on how to deal with a problem employee. The opening scenario, in which John Doe is asked to seek help from EAP, describes the early steps of mandatory referrals. If the employee accepts the offer of help, his supervisor will be supportive during the rehabilitation period, but will continue to monitor his work to ensure it is improving steadily and progressively.

If there is no improvement, and if the employee refuses to seek help or follow through with the recommended treatment, the supervisor may be obliged to take appropriate disciplinary action. A union representative may become involved in the discussions, if the employee requests support from his union.

Let's talk money

How does the employee survive while off the job and on a program? If a problem employee needs to take some time off to follow a treatment, he will use his leave credits. After exhausting them, he will then be on leave without pay. He will, however, be able to receive financial assistance from several sources; such sources may include advance sick leave from the manager, unemployment insurance benefits, provincial or other health plans. The EAP advisor will discuss the question of benefits and financial assistance with the employee and assist him with his difficulties.

The EAP has a high record of success. Given the right support and guidance, employees have surmounted serious problems.

An employee probably has nothing to lose and much to gain by voluntarily contacting the EAP advisor and getting all the help and assistance he can.

And for the manager who uses it wisely, the program works just as well. He gains an employee, instead of losing one. □

DEPARTMENTS

BOOK REVIEW

How to save the world

by Robert Allen, Prentice-Hall
of Canada Ltd., Scarborough, Ont.
M1O 2J7 144 pages $5.95 paperback

Reviewed by Bruce Findlay

This is the popularized version of *World Conservation Strategy,* an important recent publication of the International Union for Conservation of Nature and Natural Resources (IUCN), the World Wildlife Fund (WWF), and the United Nations Environment Program (UNEF), and based on a rich collection of data obtained from international questionnaires and extensive literature research.

The book successively discusses the effects of accelerated agricultural production, forest harvesting, industrialization, urbanization, exploitation of marine resources and a number of other human activities which are enacting severe damage, at times irreversible, to the soil, watersheds, wildlife areas and aquatic environments. Mention is made of the global carbon cycle, now of particular concern because of increased atmospheric carbon dioxide emanating from the combustion of fuels and massive removal of tropical forests. Acid rain is also discussed, but the pollution of the atmosphere and subsequent damage to the biosphere, while not neglected, is not emphasized to the same extent as the need for conservation practices over drainage basins, estuaries and in the oceans. Lack of data probably explains this bias.

The author cites many good case examples to forward his arguments and to provoke the sensitive reader. One of the more poignant to me was the poisoning of a near-shore breeding ground for an endangered species of whales by raw effluent from a Mediterranean seaside foundry. Another relates the cost of dredging a large estuary to soil erosion caused by excessive grazing and cultivation in the headwaters of the stream system. There are a number of Canadian examples; one noting the loss of prime agricultural land to urbanization is particularly relevant.

Many other books have been published on the need for conservation-based land, watershed and aquatic resource management practices, but this book differs in two regards. As previously alluded to, its data base is broad and deep; but, secondly, it prescribes actions to which average citizens have recourse to help counteract overexploitation and thoughtless destruction of our natural resources.

Consequently it represents a handbook on how to influence governments and the private sector toward serious actions respecting the ethics of ecology and conservation and leaving a few intact natural resources for future generations.

To reach the populace at large the writing style can be "sensational" at times, and the literature cited varies from newspaper articles to accredited research studies, so the reader should adopt a critical viewpoint. Environment Canada employees should find a lot of interesting new and thought-provoking facts in this book.

Mr. Findlay is superintendent, Application and Impact Division, Canadian Climate Centre, Downsview.

WOMEN ON THE MOVE

Doris Siemieniuk appointed Captain

Doris Siemieniuk

Mary Regan

Doris Siemieniuk of Prairie Weather Centre arrived at the Canadian Forces base at Baden Soellingen, West Germany last summer to take up duties as a Met. Officer wih the commissioned rank of Captain. She is the second woman to be posted to the Department of National Defense (DND) under a three-year overseas service plan that guarantees return to AES civilian work without loss of rank or pay. She replaces Mary Regan, first woman to participate in the scheme, who has now relinquished her captain's rank, left West Germany after a 4 1/2 year tour of duty, and returned to her previous work as civilian forecaster at the Canadian Forces Forecast Centre at North Bay, Ont.

Miss Siemieniuk went to Baden after serving 10 years as a duty forecaster with AES in Winnipeg. During this time she achieved another landmark: for a six week period she was the first woman to become Officer-in-Charge of the Resolute Arctic Weather Station. She also performed a similar function at Churchill in northern Manitoba. And even more remarkable: upon taking the rigorous officers' training course at Chilliwack, B.C., she graduated first out of her class of 28.

When interviewed, Miss Regan was able to round out details on the life and work of AES personnel seconded to CF bases overseas. She explained that the work involved supplying weather information for CF 104 fighter planes out of Baden and transport planes out of nearby Lahr. Since the West German meteorological system was less computerized than its North American counterpart, it also meant doing a great deal of "grassroots forecasting".

Miss Regan said she thoroughly enjoyed her European stay, was thrilled at the opportunity to fly in many kinds of military aircraft and tour NATO bases all over Western Europe. She liked the life at Baden, and was amazed at its excellent skiing, tennis and other sporting facilities.

Before serving in West Germany, Miss Regan had spent several years as a civilian forecaster on CF bases in Canada. She began her meteorology career after graduating in science from Saint Francois Xavier University in Nova Scotia. She was originally from New Brunswick.

A DND spokesman said sending Miss Siemieniuk to take over Miss Regan's Baden Soellingen post was "pure coincidence". The two women do have a lot in common however. For example, both are licensed pilots, both are university science graduates (Miss Siemieniuk has a degree from the University of Manitoba), and both have been able to play a very active role in Canadian community activities on and off the base.

How to review a book

AES is highly science-oriented, and has a very comprehensive headquarters library in Downsview. This means many books, both specialist and topical are available to AES personnel.

Zephyr acknowledges this by printing regular book reviews, written by people within the service, all of whom have been most generous with their time and efforts. At the same time we are continuing our search for new contributors. We believe there are many readers with the interest and qualifications to review a book but who may be just a little unsure of how to proceed. For their benefit, here are some hints, partly based on George Sarton's excellent article on the subject which appeared in Science magazine way back in 1960.

Read the book carefully, but don't be afraid to skip. Make copious notes as you go, and begin your review as soon as you have finished without procrastinating. First outline the true subject of the book. Yes, it's meteorology, but which branch? Next tell something about the author: his achievements, studies, nationality, date of birth. Getting into the meat of the book, ask yourself whether it added anything new to the field, or simply drew on known sources. What was the book's purpose, and did the author succeed in carrying it out? If you are really knowledgeable about a subject, expand on it briefly in an informal essay style. Even throw in a pithy anecdote.

If it's a bad book, tell your readers why, but never run an author into the ground. Even a mediocre work requires long hard toil. You could well remember the saying of Roman philosopher Pliny the Elder: "no book is so bad one cannot find something good to glean from it."

Say whether you thought the book well or badly written, an important point. As for your own style, try not to turn the review into a long scientific treatise or a dreary list of contents. Keep it lively and controversial, and end with a strong conclusion. Praise or condemn the book for its graphics too. Be fair and thorough, not picky and pendantic. Never look up your own name or pet subject in the index to the exclusion of all else, or rave on about a few minor technicalities. All the reader really wants to know is whether the book is worth reading.

Start all book reviews with the full title, name (and rank) of author, name and location of publisher, date, number of pages, whether illustrated, and the price. New books for review can be obtained by contacting AES headquarters reference librarian, Lilita Stripnieks. Titles cover many scientific fields with the emphasis, of course, on meteorology.

For further information on how to do a book review, consult "A Short Guide to a Writing Critical Review" by Eliot Allen and Ethel Colbrunn obtainable from the AES library. For general enquiries on book reviewing, deadlines and so on, please contact Zephyr at 4905 Dufferin St. Downsview, Ontario, M3H 5T4. The ideal length for a book review in this publication is 500-600 words. This article runs about 520 words.

AES holds hydrometeorology workshop

More than 60 people representing some 14 organizations in centres as far apart as St. John's, Newfoundland, Vancouver, B.C. and Yellowknife, N.W.T. attended an AES workshop held in the Downsview auditorium on Hydrometeorology November 24-28. Delegates learned how Canada's water resources profoundly affect every citizen in areas such as economics, safety and recreation, plus the country's well-being as a whole.

Presenting the opening lecture on the Role of Meteorology in Canada's Water Resources, Assistant Deputy Minister Jim Bruce led a team of 30 experts from the Federal and Provincial governments, universities and private industry. They gave lectures, laboratory exercises and demonstrations on topics ranging from conventional precipitation measurement and analysis, to new techniques using radar and satellite information.

The workshop sponsored by AES Training Branch, also included panel discussions, demonstration of a sophisticated computer model and an excursion to the Canada Centre for Inland Waters in Burlington, where Dr. Milne Dick, Chief, Hydraulics Research Division, and his staff gave lectures and provided a tour of the facilities.

STAFF CHANGES

Promotions/ Appointments

E.L. Becker (MT-4) Meteorologist, CFFC, North Bay, Ont.

H.P. Biron (MT-3) Meteorologist, Quebec Region, P.Q.

J.W. Bottenheim (RES-2) ARQT, Downsview, Ont.

S.G. Brodie (EG-2) Sfc. Tech. WS4, Cree Lake, Sask.

G. Burke (EG-6) Tech. WC1, Edmonton, Alta.

K.L. Caldwell (EG-3) U/A Tech. WS1, Hall Beach, N.W.T.

K.W. Chan (PDF) ARQA, Downsview, Ont.

L. Chenard (MT-3) Meteorologist, Quebec Region, P.Q.

J. Closter (CR-3) Clerk, WO1, Whitehorse, Y.T.

G. Coulombe (EG-5) CDS, QAEOU, Nitchequon, P.Q.

R. Cross (MT-6) Meteorologist, ACET, Downsview, Ont.

G. Deschênes (EG-1) Tech. QAEOO, Baie Comeau, P.Q.

J. Douville (EG-4) Tech. QAEOO, Dorval, P.Q.

M.R. Eisner (EG-4) OIC, WS, Hope, B.C.

S.A. Gauthier (EG-3) Tech. Qual. Cont. CMC, Dorval, P.Q.

L.E. Gobeil (EL-2) Electronic Tech. Central Region, Winnipeg, Man.

Y. Héroux (EG-1) Tech. QAEOO, Chibougamau, P.Q.

W. Hume (MT-7) OIC, Arctic Weather Centre, Edmonton, Alta.

B. Lamarche (EG-6) Tech. WC1, Edmonton, Alta.

G. Langevin (EG-6) Tech. WC1, Edmonton, Alta.

R. Mailhot (MT-3) Meteorologist, Quebec Region, P.Q.

G. Mainprize (EG-2) Met. Tech. WO4, Calgary, Alta.

DEPARTMENTS

J. Marsh (EG-3) U/A Tech. WS1, Alert, N.W.T.
J. Miron (EG-6) Tech. SSU, Quebec Region, P.Q.
G. Montigny (CS-3) AFFC, Downsview, Ont.
J. Neustadter (PDF) ARQT, Downsview, Ont.
P. Paul (CM-5) Communicator, CMC, Dorval, P.Q.
P. Perreault (EG-3) Tech. QAEOU, Inukjuac, P.Q.
L. Pisegna (CR-4) AAF, Downsview, Ont.
R. Provost (EG-3) Tech. QAEOU, Sept-Iles, P.Q.
M. Regan (MT-4) Meteorologist, CFFC, North Bay, Ont.
D. Robert (EG-6) OIC, WO4, Fort Nelson, B.C.
I.D. Rutherford (SE-REM 3) Director, ARMD, Downsview, Ont.
A. Sale (EG-5) Pres. Tech. WO4, Sault Ste. Marie, Ont.
K.L. Stewart (MT-4) Meteorologist, CFFC, Edmonton, Alta.
E. Sun (CR-4) Admin. Asst. CFWS, Winnipeg, Man.
D. Tolhurst (EG-2) Met. Tech. WO4, Calgary, Alta.
D. Vigneux (MT-2) Meteorologist, CFWO, Trenton, Ont.
J.D. Wilson (PDF) ARQL, Downsview, Ont.
R.E. Woodbridge (CS-3) AFFC, Downsview, Ont.

Transfers

J.P. Bernard (EG-4) Tech. QAEOU, Maniwaki, P.Q.
M. Botten (EG-4) OIC, WS4, Island Lake, Man.
F. Gélinas (EG-4) Tech. QAEOU, Sept-Iles, P.Q.
R.E. Goodson (MT-2) Meteorologist, CFWS, Portage la Prairie, Man.
D.M. Grant (AS-3) Exec. Asst. ACPD, Downsview, Ont.
T. Gurdebeke (EG-4) OIC, WS4, Lansdowne House, Ont.
B. M. Heslip (EG-4) U/A Tech. WS1, Trout Lake, Ont.
H. Humber (AS-4) ADED, Ottawa, Ont.
R. Jones (MT-3) Meteorologist, Quebec Weather Centre, Montreal, P.Q.
G.K. Kehler (EG-4) OIC, WS4, Winnipeg, Man.
L. Langeigne (EG-3) U/A Tech. Atlantic Region, Bedford, N.S.
R. Lebel (EG-4) Tech. QAEOU, Kujjuak, P.Q.
R.J. Nutton (MT-5) Meteorologist, Pacific Weather Centre, Vancouver, B.C.
B.D. Robillard (EG-4) Vancouver, B.C.
J. Stewart (EG-4) Met. Tech. Pacific Weather Ship, Vancouver, B.C.
V. Turcotte (MT-2) Meteorologist, DND, Trenton, Ont.

Temporary or Acting Positions

K.A. Anderson (CR-3) Clerk, AAL, Downsview, Ont.
Y. Baldachin, (IS-5) Senior Communications Adviser ID/AES, Downsview, Ont.
G. Campbell (EG-6) Dewline Inspector, Hall Beach, N.W.T.
H.B. McDonald (EG-8) Chief, Admin. & Finance, Western Region, Edmonton, Alta.
R.D. Paterson (MT-3) Meteorologist, CCRM, Downsview, Ont.
S. Pettibone (AS-3) Exec. Assist. ARQD, Downsview, Ont.
M. Phillips (RES-3) MOP, ADEC Downsview, Ont.
P. Smit (CR-3) Clerk, AAF, Downsview, Ont.
C. Weber (EG-2) Weather Observer, Sault Ste. Marie, Ont.
B. Maxwell, Economist, Canadian Climate Centre, Downsview, Ont. (Secondment, 6 months)
N. Guérin, Western Region, Edmonton. Alta. to Quebec Region (Secondment)

Retirements

R.G. Bedwell, Central Region, Winnipeg, Man. December 1980
H.H. Boughen, WO4, Dauphin, Man. December 1980
V. Chollak, WO4, Calgary, Alta. December 1980
J. Clark, WS2, Stony Plain, Alta. December 1980
J. Gleason, Central Region, Winnipeg, Man. December 1980
F.M. Kerbrat, Upper Air Station, Prince George, B.C. December 1980
H. Kinden, Moncton, N.B. December 1980
M.D. Landry, Ontario Weather Centre, Toronto, Ont. October 1980
M. Littlewood, Western Region, Edmonton, Alta. December 1980
J. MacDonald, CMC, Dorval, P.Q. December 1980
G. Moss, AFOO, Downsview, Ont. January 1981
T.M. Murphy, Ontario Region, Toronto, Ont. December 1980
A. Ouellet, CMC, Dorval, P.Q. December 1980
E.H. Paget, Pacific Region, Vancouver, B.C. December 1980
J. Stuart, WO1, Yukon Weather Office, Whitehorse, Y.T. December 1980
J. Turner, WS3, Banff, Alta. December 1980

Departures from AES

L.M. Burns, ARMD, Downsview, Ont.
J.L. Coffin, WS1, Resolute, N.W.T.
C.A. Fagerild, Vancouver, B.C.
F. Funston, WS3, Cambridge Bay, N.W.T.
A. Greenspan, WO4, Inuvik, N.W.T.
W.A. Hurlburt, WS1, Eureka, N.W.T.
D.F. Jones, WS1, Trout Lake, Ont.
R. Lepine, WS3, Banff, Alta.
K. Maughan, Western Region, Edmonton, Alta.
K. McLeod, WS4, Wynyard, Sask.
A. Moser, EG-6, ARQT/ARQD, Downsview, Ont.
F. Paquette, FI-2, Admin. & Finance, DOE, Ottawa, Ont.
G. Picard, CFWO, Greenwood, N.S.
J.A. Ross, WS1, Hall Beach, N.W.T.
C. Shand, Regional Office, Edmonton, Alta.
D. Stewart, ADED, Hull, P.Q.
D. Ulberg, WS4, Wynyard, Sask.
U. Ventresca (CS-3) CCIW, Burlington, Ont.
P. Wagner, (IS-5) ID, AES Downsview, Ont.
P. Willet, CCAA, Downsview, Ont.
R. Wilson, WS2, Norman Wells, N.W.T.

Deceased

D. MacLean, WO4, Calgary, Alta. September 9, 1980
J.F. McIsaac, Central Region, Winnipeg, Man. October 12, 1980

Promotions, appointments, transfers, temporary or acting positions sections provide information on new postings including location. Only temporary or acting positions which involve a change of location are listed. Retirements and departures indicate the last posting.

Abbreviations used are:

MT –	meteorologist
EG –	engineering & scientific support
SE-RES –	research scientist
PC –	physical scientist
ES –	economist, sociologist, or statistician
SX –	senior executive
DA-PRO –	data processing
EL –	electronics technologist
ENG –	engineer
GL-VHE	general trades
ST –	secretary
FI –	financial officer