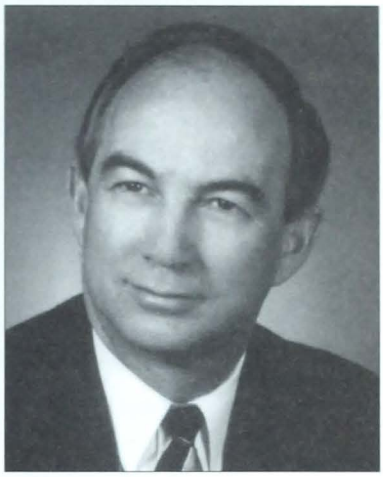
FALL 1998

Zephyr

ATMOSPHERIC ENVIRONMENT PROGRAM

Environment Canada Environnement Canada

Interview with Dr. Gordon McBean



Dr. Gordon McBean

As the winds of change sweep through the AEP, it's an opportune time to speak with the Assistant Deputy Minister of AES about emerging issues facing the organization. ***Zephyr*** *editor, Jennifer McKay, met with Dr. Gordon McBean and found him, as always, eager to talk about the Program.*

JM: With the Alternative Service Delivery study consultations now over, and the decision point fast approaching, it's an opportune time to stop and catch our breath. What did we learn about the AEP during the consultations?

GM: Regardless of the final decision, we have already benefited from the ASD study. The consultations were an extremely valuable learning process. They provided an excellent opportunity for staff to express their views about what is and what is not working for the AEP, for managers to listen, and for everyone to share and discuss critical issues facing our organization. In fact, many useful suggestions were made, including ways to improve our commercial services.

I also know that staff are very interested in having the mandate, roles and responsibilities of the AEP clearly defined so that we can move beyond this extended period of uncertainty and continue with our core business.

JM: Will our goal as an organization change as a result of the ASD study?

GM: No, our goals will remain the same – to provide Canadians with essential science-based weather and related environmental predictions and information to help them safeguard their health, safety and property and enhance their economic and social activities.

JM: What are the main challenges for the AEP over the coming months?

GM: Indeed we have some challenges ahead. Besides our upcoming ASD decision, our organization has been identified as one of the Government's Mission Critical systems for the Year 2000. Since what we do affects the personal safety and security of Canadians as well as

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In this Issue

Canada

Letter from the Editor

It is my pleasure to welcome you to this edition of **Zephyr**. In the spirit of all the recent and upcoming changes to the AEP, we've decided to revitalize **Zephyr** to make it a more dynamic and people-focused newsletter.

Over the years, **Zephyr** has built a loyal and supportive readership, extending beyond the AEP family, to include partners, clients and former employees. **Zephyr** reflects our program and celebrates our progress and achievements. It also plays an important role in unifying and strengthening our organization – as AEP staff are scattered across the country, located in the regional weather centres, universities, and remote research stations.

Zephyr has stood the test of time – and has been produced for over fifty years. The reason is simple: due to the nature of our work, AEP staff develop life-long relationships and appreciate information about their colleagues as well as their program.

To make **Zephyr** a high-quality newsletter, it is crucial that we hear from you. Tell us what you think! Send us your comments, letters, articles, ideas and pictures. We'll be happy to publish them. We hope your enthusiasm for this newsletter continues and we'll work hard to make it deserving of your praise.

I can be contacted via e-mail, jennifer.mckay@ec.gc.ca, or by phone at (416) 739-4762.

Sincerely,

Jennifer McKay
AES Communications

Letters to the Editor

Have something to share with **Zephyr** readers? Here's your chance! There will be a section reserved for your letters and comments.

We're trying something new! Due to demand, **Zephyr** is now available on the Environment Canada's intranet: **wwwib.tor.ec.gc.ca/zephyr**

THE ZEPHYR TEAM

Jennifer McKay, Editor and the AES Communications Team

Published by the Communications Directorate of AES, Environment Canada, **Zephyr** is a newsletter for and about the staff of the Atmospheric Environment Program.

Zephyr is your newsletter. We would like to hear from you. Your submissions, story ideas, graphics and pictures are most welcome. Submissions for the winter issue should be sent to us by October 30th, 1998.

Reach us at:
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Over 1000 attend ASD Consultations

Consultations on the Atmospheric Environment Program's (AEP) Alternative Service Delivery (ASD) study have now ended. Almost a thousand people, including stakeholders, attended the fifty-six sessions that were held at 21 locations across Canada, beginning in mid-April and continued through May.

In total, there were 22 staff meetings attended by 674 Environment Canada employees. The consultation process allowed senior Environment Canada managers the opportunity to hear first-hand the issues and difficulties that staff have faced over the last few years. The consultations also allowed staff the opportunity to express their views on the future direction of the AEP. In general, the majority of staff felt that:

- the AEP should have clearly defined roles and responsibilities with a mandate that will allow for flexibility. While a number of staff indicated that a legislated mandate might be beneficial, this view was not universally held.
- providing an essential service to Canadians (our public good mandate) should remain the core business of the AEP, although there is a role for commercial activities.
- considerable potential exists to develop new partnerships and enhance existing ones.

By the time **Zephyr** is published, it is anticipated that the final consultation report will be available on the ASD website at: **http://wwwib.tor.ec.gc.ca/asd/.**

ASD UPDATE

After a year of study and consultations, the ASD study concluded that the "status quo" is not the future to ensure the viability of the AEP, and that "there will be change". The future lies in emphasizing the public good role in providing an essential federal service to Canadians, within an organizational framework that preserves and enhances science and policy links within Environment Canada – a departmental service agency concept.

A proposal will be presented to the Treasury Board by the end of the calendar year. Over the next few months staff will be kept up to date on developments through such mechanisms as an ASD newsletter and updates on the ASD web site. Staff are encouraged to submit questions and concerns to: Alternative.Service.Delivery@ec.gc.ca.

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Interview with Dr. Gordon McBean

their businesses, the public has reason to be concerned. While we are making this a very high priority issue, many people are not aware that our systems already have many built-in contingencies. These contingencies were created long before Year 2000 concerns, as back-ups for other emergencies such as a power failure. For example, during the Ice Storm that affected a large portion of Eastern Canada, not to mention weather centres, not one single forecast cycle was missed.

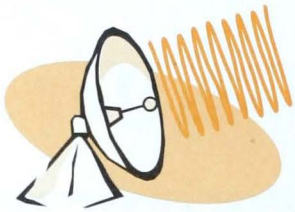
We also have UCS (Universal Classification System) to contend with. On top of their already heavy workload, staff and managers will also write new job descriptions for the UCS system. The new system should be simpler and more flexible.

JM: What impresses you most about the AEP?

GM: Often, when asked to speak at conferences, I talk about our valuable research and highlight some of our technological developments, such as WeatherAlert, the National Radar Plan, and the Canadian Lightning Detection Network. I'm extremely proud of these innovations, but this can overshadow the AEP's biggest asset: our people. We are an extremely fortunate organization to have such highly skilled, dedicated workforce with unique and specialized expertise ranging from researchers in the Arctic to forecasters in the weather centres.

JM: As you know, AES Communications has made some significant changes to Zephyr and would like to include an ADM's message in every issue. How do you feel about the change?

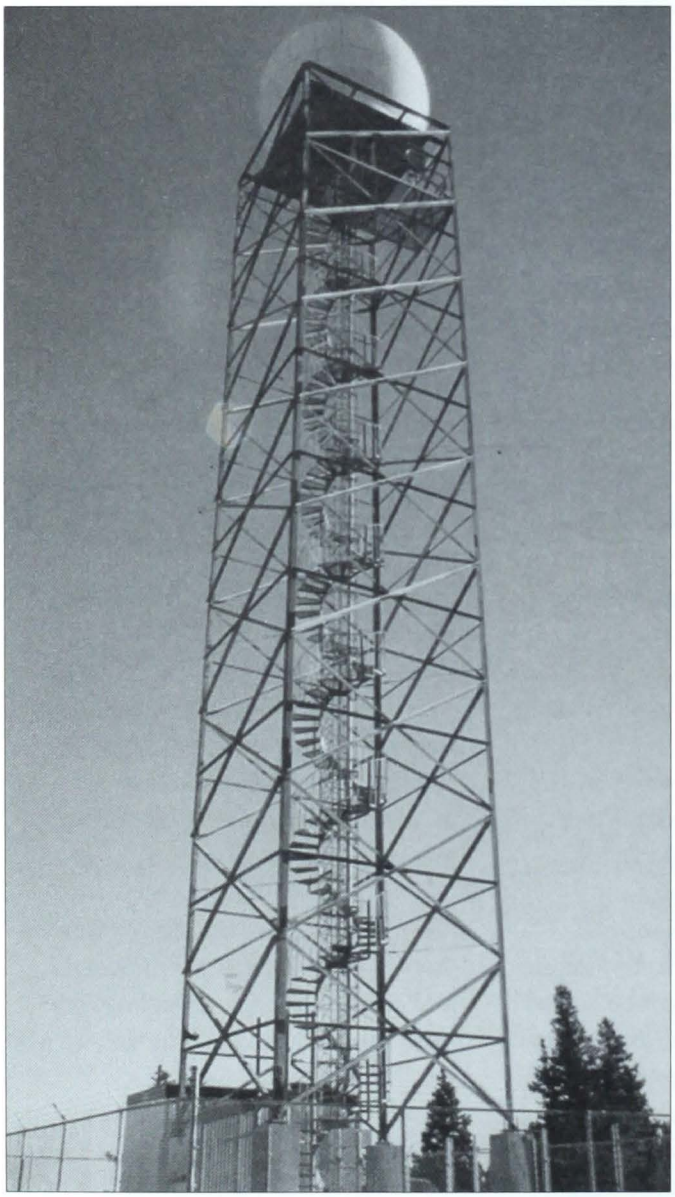
GM: I am delighted that the Zephyr team has decided to breathe new life into the AEP newsletter. Zephyr has always been a good tool for communicating with the AEP family, including our partners, clients and former employees. I'm looking forward to contributing on a regular basis.



Doppler Radar: Moving Ahead

The National Radar Project is a $34.9 million capital project, which will result in a major upgrade of Environment Canada's weather radar network. Over the next six years, AEP will buy 10 new Doppler radars and retrofit 16 existing weather radars with a Doppler capacity. At present, AEP has three Doppler radars, one each in Edmonton, Montreal, and King City, north of Toronto. By 2003, there will be 29 Doppler radars across the country from Vancouver to Holyrood, near St. John's, Newfoundland.

In the past, forecasters usually had to wait until there was an eyewitness account of a tornado before issuing a tornado warning. With the new Doppler radar network, meteorologists can detect those conditions that could lead to a tornado and issue a warning up to 20 minutes before the tornado strikes.



The tower at Spirit River

Using data from Doppler weather radar, meteorologists will also be able to quickly provide accurate information on where a storm will hit and the amount of snow or rain the area is likely to receive. In the event of a storm with heavy rain predicted, information on the amount of precipitation could be invaluable to organizations such as municipalities and conservation authorities in charge of flood control, or the management of combined sewer overflow and storm water run-off in cities and towns. Similarly, in the winter, information on the place, time and amount of snow predicted could help municipal and provincial road crews with their snow-clearing operations.

In addition to earlier detection, the enhanced radar network will address a wider range of needs including those of hydrology, atmospheric model data assimilation, and potentially, applications such as pollution and bird monitoring.

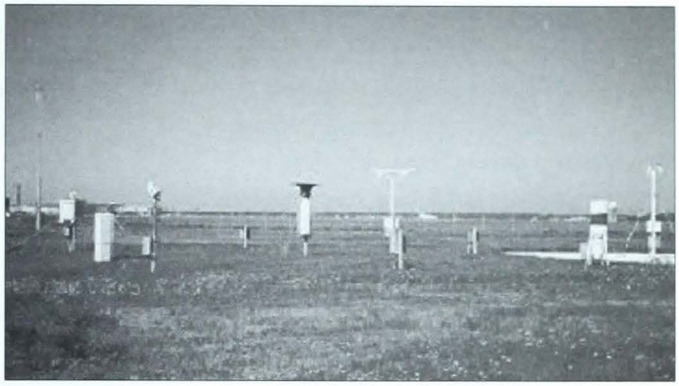
The radars will have an effective range of 250 kilometres radius in reflectivity mode and 120 kilometres in Doppler mode. The full network will cover those areas which are particularly prone to severe weather and protect 90 per cent of the country's population. Also, data from the Canadian Doppler radar network and the U.S. Doppler radar network will be exchanged.

"Interestingly, the new radars and the retrofits are being implemented using in-house engineering and technical resources. This approach provides the AEP with the ability to configure the radar using current commercial modules that have been proven within Environment Canada and elsewhere," says Steve Lapczak, Director of the National Radar Project. "Besides being on schedule and on budget, this project will build up radar expertise in AEP, providing long-term benefits in terms of maintenance and overall life-cycle cost."

New system gives meteorologists a clearer view!

As operational weather forecasters know, there are limitations on the information that can be gleaned from an automated weather observing station (AWOS). Often, the forecaster may know what is happening on the horizon, but not at the AWOS site itself.

With a view to augmenting and validating AWOS data, the Atmospheric Environment Branch combined its efforts with the Informatics Branch in Atlantic Region to develop the Remote Video Acquisition System (RVAS). The RVAS is a tool that delivers up-to-the-minute, full-colour video images from remote weather observing sites directly to the forecaster's desk. By coupling the RVAS "human eye" images with the AWOS data, the forecaster is able to produce a more accurate forecast.



Automated weather observing station

Here's how it works. The RVAS has two components – a remote field system and an office system. The field system is located at the AWOS site and is equipped with a remote video camera that captures, saves and transmits images at defined intervals to the office system. The office system is typically located in a weather centre and allows the forecasters, sitting at their desk, to request images from the field site and download them onto their computer system. The images can also be distributed to other locations. Alternatively, the entire process can be done in a totally automated fashion. The RVAS allows the meteorologist to identify a variety of weather elements and parameters including: fog, snow depth, precipitation type, cloud type, low ceilings and thunderstorm clouds.

The RVAS was implemented in the Atlantic Region in the early 1990s and is currently used in dozens of locations across Canada and the United States, including the Canadian Arctic, Alaska and Puerto Rico. This Canadian approach is leading the way worldwide and is being marketed internationally as a value-added weather forecasting tool.

The system can easily be adapted to a broad spectrum of forecast programs including aviation, public and near shore marine forecasts, as well as media broadcasts and climate programs. For more information about the innovation and adaptability of RVAS, contact Ben Hunter at ben.hunter@ec.gc.ca.

Community Meeting on the Bethune Radar

Steve Lapczak (National Radar Project Manager), Randal Cripps (Prairie and North Region Project Manager), and Bob Cormier (Saskatchewan Warning Preparedness Meteorologist) met with a number of interested individuals from the Bethune area in June to discuss the construction and commissioning of their new radar.

Participants asked a number of questions ranging from the radar construction time-frames, various aspects of severe weather, to the effects of El Niño on local weather patterns. Environment Canada staff used the opportunity to enlist new volunteer severe weather watchers and to heighten severe weather awareness.

Participants left the meeting with a better understanding of Doppler Radar and the complexity of the forecast process. The success of the meeting was largely due to the intimate knowledge the AEP staff had of the local weather patterns and the wide range of topics discussed at the meeting. Similar meetings will be held across the Prairies as the radar network expands. For more information please contact Randal Cripps at (403) 951-8805.

Forecasting "Mission Critical" for the new Millennium

By now, most of you will have heard of the enormous challenge facing our program – the year 2000 date change. For most organizations, the challenge arrives at the turn of the century, when embedded systems read two digit date codes 00 as 1900, and not the year 2000. According to Dr. McBean, ADM of AES, "The challenge for AEP is even greater because we forecast into the future and must correct all our systems long before the year 2000 is upon us".

The year 2000 is one of the largest logistical issues facing AEP, and the seriousness of the task has not been lost on the federal government. Our service has been deemed government-wide mission critical, meaning that it has been recognized as essential for the protection and safety of Canadians. The forecasting system is Environment Canada's only application that has been identified as mission critical for the federal government. While the scope of our year 2000 project includes all informatics-based systems in our program, the primary focus is on those applications and systems contributing to the forecasting system.

Given the high degree of interdependence among AEP applications, our Project Team began by creating a project management framework for facilitating the successful completion of the project. This work included reviewing all AEP services, identifying the interdependencies of these services, developing processes to coordinate overall project management and estimating the resource requirements to achieve compliance. Over 400 Atmospheric Environment individuals are involved in the activities, and more than 320,000 hours of effort appear in the plans. The total cost estimate for implementing year 2000 compliance for our mission-critical applications will be in the order of $25.5 million.

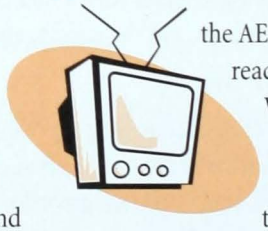
The baseline plan which includes some 147 individual project activities has been created and the team is now focused on mitigation and testing. EDS Canada, a company that specializes in year 2000 activities, has been retained to help us meet our compliance deadline. Over the course of the next 16 months, the project team will be working hard to complete the plan.

"The very nature of what we do every day depends on us becoming year 2000 ready and we cannot fail. Reviewing, testing and certifying all of AEP's mission-critical applications as year 2000 compliant won't be easy. While it may not be overly complex technically, it is enormously comprehensive — touching every system, every computer and every application. Our plans call for the AE system to be year 2000 compliant by next February, and we must now drive forward to meet that target. Despite the magnitude of the project, I have every degree of confidence that with your help, we will continue to provide our services to the public long after the year 2000."

Al Kellie,
Year 2000 Project Director

WeatherAlert
Coming to your TV screen

Building on the success of the Toronto pilot of the WeatherAlert system, four field trials began in Windsor, Regina, the St-Georges/Thetford Mines area of Quebec and Vancouver this spring and summer. *WeatherAlert* is a text message about impending severe weather that scrolls across the bottom of your television screen. This valuable public service, headed by the National Weather Service Directorate and implemented by the regions, is an excellent example of how the AEP can use partnerships to reach even more Canadians. The Weather Network/Météomedia, cable companies and local broadcasters all assisted in the delivery of the field trial.



"Both headquarters and regional staff have been working together for over seven years to make this project a reality," said Barry Greer, Director of Atmospheric and Hydrologic Programs Branch. "Their hard work and dedication have helped us reach

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Canadians Learn About Weather Disasters

Scientific evidence strongly suggests that severe hail, flooding, blizzards and ice storms have become far more common in Canada in recent years, according to media reports following *Understanding and Coping with Weather Disasters: A Public Forum.*

The forum, held during Emergency Preparedness Week in May, drew over 200 people, including invited experts, climatologists, engineers, sociologists, weather forecasters, military personnel, members of the public, and over 20 media representatives. The forum helped to inform the public and policy-makers about the most recent research findings on weather disasters and how we can best to plan and prepare for them.

"While participants were from very diverse backgrounds, many discovered that their goals and objectives were not all that different and could actually complement each other" said Etienne Grégoire, AES Commercial Services.

The event generated numerous media interviews for EC spokespersons Henry Hengeveld, David Phillips and Etienne Grégoire. Newspapers, radio and television stations across the country covered the story.

"The forum illustrated the keen public interest in not only what is happening to the weather, but how to deal with it" stated Henry Hengeveld, Senior Climatologist, AES.

"Judging from the high level of public participation, media coverage, and reaction from those who attended, *Understanding and Coping with Weather Disasters* was a successful event" said David Phillips, Senior Climatologist, AES. The forum was an excellent example of how the AEP can inform the public of critical environmental issues.

Etienne Grégoire speaking to the media about weather disasters

Forum attendees

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WeatherAlert

even more Canadians when severe weather threatens".

As we all know, forecasting the weather is a complex and challenging task. Some weather patterns develop quickly and without much warning, producing short-lived but severe weather events that may threaten lives and property. *WeatherAlert* complements existing Environment Canada weather information dissemination methods. When severe weather threatens, *WeatherAlert* can help to reduce the risk to Canadians by alerting them in time to take action.

If the field trials are successful, *WeatherAlert* will be expanded to other areas across the country.

Mock Tornado Hits Edmonton

Over 350 delegates and speakers representing eighteen countries participated in Disaster Forum '98 held in Edmonton in June. The four-day international conference on disaster management addressed how to prepare for, respond to, recover from and mitigate the effects of a disaster. The highlight of the forum was a re-enactment of the infamous 1987 Edmonton Tornado. The current weather set the tone for the forum with heavy downpours, local flooding, thunderstorms, and high water levels in the North Saskatchewan River.

Re-enactment of 1987 Edmonton Tornado

Photo by: PBERNDT Crisis Communications

Steve Ricketts, Manager of the Prairie Aviation and Arctic Weather Centre in Edmonton, addressed how to incorporate weather in emergency planning. He discussed the capabilities and limitations of present and future forecasting systems, and offered suggestions on how to best utilize them in emergency planning and disaster response efforts.

A mock tornado disaster showcased the response capacity of local and provincial emergency operations. Disasters were staged with fire, first-aid and hazardous materials teams reacting to the scenarios mirroring events of the 1987 Edmonton Tornado. Other areas responding to the disaster included the Media Centre, the Emergency Public Information Centre and the Emergency Operations Centre.

Coincidentally, during the exercise a severe thunderstorm warning was issued for the city, and for the first time, the Emergency Public Warning Service was activated for a possible tornado in the Tofield area, 50 km east of Edmonton.

INFORMATION NUGGETS

The AEP Year 2000 Testing and Certification Kit is now available. It includes reference material, tools and instructions to assist those responsible for testing and certifying AEP applications for Year 2000 compliance. The kit is accessible at the following address **http://aep2000.ec.gc.ca/y2aep/y2aep-testing-TCK.cfm.**

Did you know? Spring 1998 was the warmest on record. The national average temperature for the three months (March, April, May), based on preliminary data, was 3.1° C above normal. This ranks as the warmest spring in the 50 years since comparable nationwide temperature records began in 1948. For more information please see: **http://www.tor.ec.gc.ca/ccrm/bulletin/**

The Canadian Hurricane Centre — watching the east coast

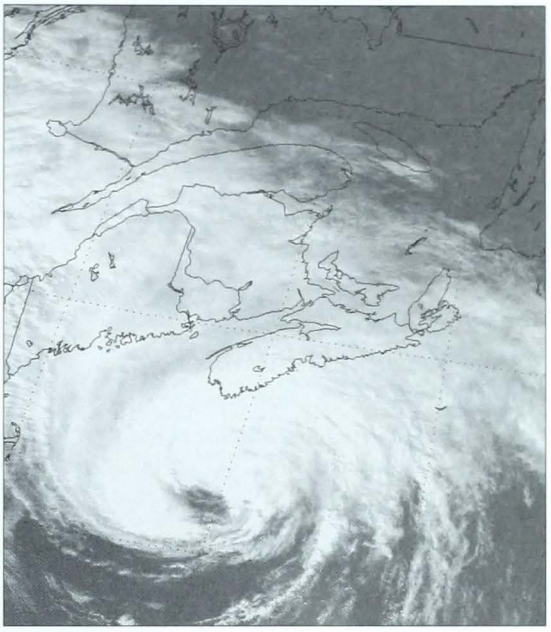
Often thought to be a danger only in the southern latitudes, hurricanes also affect Eastern Canada. The Canadian Hurricane Centre monitors the paths of hurricanes as they approach our offshore waters and threaten land areas. While these storms often weaken in intensity and move from being classified as tropical cyclones to post-tropical cyclones, they still pack an enormous punch. For example, Hurricane Luis (1995) caused significant damage to the Queen Elizabeth II off the coast of Newfoundland.

Several times over the past century, hurricanes have made landfall in Atlantic Canada. Most recently, Hurricane Hortense (1996) hit the coast just east of Halifax at high tide. The combination of high winds, extreme rainfall intensities and the huge surge along the coast caused significant property damage and major changes in the shoreline.

Located in the Maritime Weather Centre in Bedford, the Canadian Hurricane Centre is gaining recognition in the rest of the country as well as abroad. "What we learn about how these storms behave can be applied to marine forecasting, emergency preparedness and storm surge forecasting," says Maritime Weather Centre manager, Martha Danks. "For instance, we know that even in their weakened state, post-tropical cyclones still carry extraordinary energy in the form of damaging winds and flood-causing rainfall that can cause severe problems for Canadians."

The Centre works in collaboration with the American National Hurricane Centre in Miami, Florida. Together they follow a hurricane's track and its subsequent transition to a post-tropical cyclone.

The re-insurance industry has also taken notice of the Centre's work. The Risk Prediction Initiative invited Jim Abraham, the Atlantic region's manager of Atmospheric Science, to speak at an upcoming conference in Bermuda on the topic of Hurricanes, and Extra-tropical Transitions. In the case of preventing catastrophic loss, being forewarned can make all the difference. Thanks to the Canadian Hurricane Centre, being forewarned now comes with a Canadian perspective!



Hurricane Hortense, September 15, 1996

Getting the word out on summer severe weather

Each year, Prairie and Northern Region runs a Summer Severe Weather campaign to raise awareness and to educate the public on how to prepare for and how to stay safe when severe weather occurs. This year, May 11-17 was designated as Summer Severe Weather Awareness Week across the Prairies. The week was an overwhelming success with the Warning Preparedness Meteorologists conducting over 50 media interviews on severe weather phenomena and tips.

A media kit of weather trivia, a weather quiz, and weather story ideas was distributed to all electronic and print media throughout the Prairies. Media outlets were encouraged to broadcast the 30-second Tornado Safety Public Service Announcement that was produced with other partners for the 10th Anniversary of the Edmonton Tornado. As well, T-shirts were made available for those media who chose to run weather quiz contests, and our Warning Preparedness Meteorologists were available to conduct interviews.

The media appreciated the severe weather information. This year's El Niño seems to have raised public interest in severe weather and its effects on our summer.

Storm Surges!

Deep storms act like a vacuum on a carpet, creating a bulge in the water as they pass. When these "bulges" in the water are carried into a bay that is already filling to capacity at a high tide, the results are similar to what you would expect by sitting down in a full bathtub—a deluge for areas surrounding the tub.

AEP meteorologists at the Maritime Weather Centre in Bedford maintain a close vigil at high tide, when storm surges are likely to occur. When a vicious storm and a perigean spring tide are predicted, the components are in place for a disaster, and sobering warnings are disseminated.

Since early last century, Nova Scotia and New Brunswick residents living near the Bay of Fundy have respected "the world's highest tides" by dyking their coastlines. But storms, like the great Saxby Gale of 1869, do not respect our ingenuity. In that one storm, over 300 kilometres of dykes were overtopped, coming perilously close to broaching the Chignecto Isthmus, temporarily joining the Bay of Fundy with the Northumberland Strait—making Nova Scotia an island!

"Increased risks of coastal flooding in a predicted warmer climate are of major concern" said Peter Bowyer, Senior Meteorologist, Maritimes Weather Centre. "Contributing factors include a rise in sea level and the possibility of increased frequency and severity of storms." Assessments have already begun on the present storm surge climatology of the East Coast, including research into some extreme historical events such as the Saxby Gale and the Groundhog Day Storm of 1976.

Storm surges and the implications of a rising sea-level are currently being investigated by the Canadian Hurricane Centre, DFO and NRCan. All three agencies have agreed that it's not a question of if, but when and where!

Ontario students keep an eye on the skies

Ontario region is expanding Sky Watchers, a hands-on program which helps elementary school students learn about weather. "We're starting modestly this fall with up to 150 French and English schools in four test areas – Toronto, Ottawa, Windsor and Thunder Bay," said Julie Turner, the program co-ordinator, from the Thunder Bay Regional Centre. "But, we plan to take Sky Watchers province-wide next year."

Each participating school receives the Sky Watchers kit which includes a barometer, minimum/maximum thermometer, anemometer and rain gauge as well as copies of David Phillips', *The Climates of Canada*, cloud and stormy weather charts and a weather guide for the teacher.

The students record air pressure, precipitation, minimum, maximum and current temperatures as well as wind speed and direction each school day around 2 p.m. Then they send their observations into Environment Canada through an automatic telephone system. From there, their observations are posted to the Sky Watchers' Internet site so students can compare the weather in their part of the province with that of schools elsewhere in Ontario.

At the end of the school year, teachers will evaluate the program and send in their comments. Evaluations will be used to help plan the program for the next school year.

"In setting up the program, we drew heavily on the expertise of staff in Pacific and Yukon Region, who pioneered Sky Watchers in Canada four years ago", Julie said. The first promotional flyers went out the beginning of June, and—for a first mailing—the response was heartening. "We had 20 confirmed registrations in less than three weeks," Julie added, "Of course, it helps that the Sky Watchers program complements Ontario's new science curriculum. That was serendipity."

Summer 1998 Ozone Tour – reaching our youth in their favourite vacation spots!

Getting the message out about the sun's harmful effects is the focus of a a campaign conducted by a non-profit environmental awareness group. Environment Canada has teamed up with the *Fondation québécoise en environnement* for its Summer 1998 Ozone Tour. The project is the brainchild of the foundation, which aims to raise public awareness of environmental problems.

This year, the foundation is presenting the second edition of an information and animation blitz on the need for protection against UV rays for those of us who spend time in the sun. The campaign targets mainly youth. The colourful mascot Mr. Ozone visits numerous summer camps and a scientific entertainer informs the children about the effects of the deteriorating ozone layer. The campaign also informs the kids about how they can protect themselves from too much UV exposure.

The *Fondation québécoise en environnement* financed the campaign in partnership with Environment Canada, Health Canada, Québec's Ministère de l'environnement et de la faune and Ministère de la santé, and the producers of Ombrelle sunscreen. They're hoping that their efforts will result in more children taking the necessary precautions when outdoors.

Weather Guru takes to the radio

It's 7 a.m., and hundreds of thousands of early risers along B.C. coast are listening to meteorologist Mark Madryga give today's weather story on the frontal systems moving into the region. As one of the AEB's media "gurus", three times a week Madryga prepares three broadcasts for CBC radio, and handles another twenty broadcasts with other commercial broadcasters between 5:30 a.m. and 8:30 a.m.

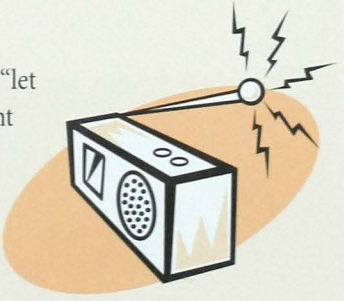
"At 5:30 a.m., I come in and get acquainted with the weather systems for the next few days and try to fine tune when and where things will happen. The location of a thunderstorm, the amount of cloud cover, the odd snowstorm— I try to give people an idea of what the weather will be like in the next little while," says Madryga.

After the early weekday mornings, Madryga also provides several weekend broadcasts on BCTV from all around the Vancouver region. "I've done the weather with the whales from the Vancouver Aquarium, with an All-Star hockey team, and even from the grassy greens of a golf tournament. I love it," says Madryga with an enthusiastic smile.

Madryga remembers when another well-known EC meteorologist used to do the weather. "I used to listen to John Paschold on CBC in the '70s and 80s. Environment Canada has been working with CBC now for over thirty years."

Kelsey Spring of Commercial Services recognizes the benefits of AEB's media partnerships. "We provide a service that is cost-recoverable, and Canadians get the best weather information available," says Spring.

Madryga feels that it is his job to "let the public know that Environment Canada is the source of weather information in this country, and that we are the official Canadian weather forecasters".



1997 Patterson Medal Winners: Nancy Cutler and Lawrence Mysak

The 1997 Patterson Distinguished Service Medals for outstanding service to meteorology in Canada were awarded to Nancy B. Cutler, Director General of National Weather Services and Lawrence A. Mysak, Canada Steamship Lines Professor of Meteorology, Department of Ocean and Atmospheric Sciences, McGill University. Dr. Gordon McBean presented the medals at the annual Canadian Meteorological and Oceanographic Society (CMOS) Congress in Dartmouth, Nova Scotia in June, 1998.

"I am very pleased to award the Patterson Medal to outstanding and very deserving recipients. It's one of the real pleasures of this job" said Dr. McBean, who was himself a former recipient of the medal in 1989.

The Patterson Medal is the Atmospheric Environment Service's most prestigious award and is presented annually to individuals in recognition of their distinguished service to meteorology in Canada. The medal, created in 1946,is named for John Patterson, the eminent meteorologist who was Director and Controller of what is now the Atmospheric Environment Service.

Dr. Lawrence Mysak, Nancy Cutler and Dr. Gordon McBean

In her nearly 30 years of service, Nancy Cutler has demonstrated leadership and innovation in operational meteorology, training and management. Ms. Cutler, the first female recipient of the medal, has always been on the forefront of new opportunities for women in meteorology. She introduced new approaches to monitoring, new service delivery initiatives and negotiated agreements for meteorological services with National Defence and NAVCAN. She also played a major role in advancing plans for the National Radar Network, Project Tornado, WeatherAlert and the Canadian Lightning Detection Network.

"I am very honoured to receive the Patterson medal" said Nancy Cutler. "The list of previous winners would indicate that I am entering a very elite club. I am also humbled as this recognition is due not to my efforts alone. My achievements are there because I have been fortunate to work with and for many talented and dedicated people throughout my years in operations. To all of them I say thank you."

Ms. Cutler's recent accomplishments include a prominent role in assessments of commercialization in National Meteorological and Hydrological Services, and the international exchange of meteorological and hydrological data and products. She is also Chief Hydrological Advisor to the Permanent Representative of Canada for the World Meteorological Organization (WMO), and co-chair of a Commission for Hydrology working group. In addition, she has served as chair for a number of international data exchange meetings.

Professor Mysak is an applied mathematician, oceanographer and climatologist and founder of the McGill Centre for Climate and Global Change Research. The Centre incorporates an

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Donald C. Archibald Receives the Order of Canada

Congratulations are extended to Donald C. Archibald who was awarded the Order of Canada by the Governor-General Romeo LeBlanc for his achievements in meteorology. This honour recognized Mr. Archibald's career with the Meteorological Service of Canada (now AES) which spanned from 1930 to 1971. Mr. Archibald played a significant role in the development of modern Canadian weather forecasting and analysis. He was also instrumental in the creation of a string of weather stations in Canada's Arctic which greatly improved the nation's aerial ice reconnaissance and defence capabilities.

Mr. Archibald shown here with Romeo Leblanc

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1997 Patterson Medal Winners

interdisciplinary approach to the study of atmospheric, biospheric and socio-economic processes important to climate and global change. He has published numerous papers found in leading journals, and books and presented his work at many conferences.

"I am deeply honored to receive this award, since in the past I know it has gone to most distinguished meteorologists and climatologists" said Professor Mysak during his acceptance speech. He also expressed his fortune in having excellent graduate students who contributed to his research.

Professor Mysak's work has brought world-wide recognition to Canadian advancements in climate change research. He is one of a handful of meteorologists to be elected to a fellowship in the Royal Society of Canada and was appointed a Member of the Order of Canada in 1996 for his pioneering work.

Diversity Leadership Award presented to Tsoi Yip

In recognition of her accomplishments supporting and encouraging diversity in the workplace, Tsoi Yip of the National Weather Services Directorate was awarded Environment Canada's Diversity Leadership Award at a ceremony in Downsview. Dr. Don McKay presented the award on behalf of Dr. Gordon McBean.

For several years now, Tsoi has been actively encouraging the recruitment, training, and mentoring of employees from employment equity groups. Among her many activities, Tsoi still finds time to provided numerous interviews and radio phone-in discussions to various Chinese TV and radio stations on severe weather and the Canadian Lightning Detection Network. Thanks for your dedication Tsoi!

Tsoi Yip shown here with her supervisor, Barry Greer.

Calgary's New Commercial Weather Services Division

The Atmospheric Environment Service has restructured its weather warning and forecast production and delivery systems in Prairie and Northern Region. Expertise has been focused into specific centers for the most effective and efficient use of resources.

The Calgary centre has been transformed into the Commercial Weather Services Division (CWSD). The CWSD aims to provide a wide variety of weather information to clients, thus contributing to their economy, efficiency and competitiveness. "The CWSD has taken on this new challenge by offering a value-added, enhanced level of service to those paying customers for whom weather is a critical factor in their business decisions" stated Steve Blackwell, Manager of Commercial Weather Services.

While the CWSD operations and management are located in Calgary, climate services consultants and account representatives in Winnipeg, Saskatoon and Edmonton ensure that clients across the prairies have daily, convenient access to EC commercial services. The Calgary center also provides support to the forecasters in Winnipeg who will be producing the public forecasts and weather warnings for the Prairies.

CWSD offers a high-tech, world class forecast centre, providing specialty service to clients in PNR and access to weather information from around the world. Services are fully funded by non-tax revenues, with fees reflecting the cost of the service provided.

Front Row: *John McIntyre, Monique Lapalme, Brian Fehr, Charlene Bevan, Scott McCormick, Eric Leong, Carolyne Murtha, Dale Marciski, Jacques Laflamme, Brad Shannon and Bill McMurtry.*

Back Row: *Ole Jacobsen, Bill Hartman, Louise Ladouceur, Curt Dixon, Don Ryback, Victor Thomas, Martin VanOlst, Jim Murtha, Larry Flysak, Frank Svistovski, Rob Honch and Steve Blackwell.*

Not present: *Linda Libby, Brian Stifora and Megan Gillespie*

(Photo by John McIntyre)

Just call CWSD – your "one-stop shop" for past, present and future weather conditions!

INFORMATION NUGGETS

Hosting an event on severe weather? AES Communications now has a severe weather display and banners that may be borrowed. Please call **Alexandra Wojtow** at **(416) 739-4763** or **Micheline Gauthier** at **(819) 997-3830** to reserve.

Coming this fall... the Universal Classification System (UCS) will be replacing current job classifications. AEP staff may contact **Rosemary Warren** at **(416) 739-5859** for further information.

Looking for information on smog? Look no further. The new smog website can be accessed on the **Green lane** at **www.ec.gc.ca/smog**

Dave Patrick: Rube Hornstein Medal Winner

Dr. John Reid, President of CMOS and Dave Patrick

In recognition of his contribution to operational meteorology and his dedication in developing, implementing, maintaining and enhancing mission critical software, Dave Patrick of Prairie and Northern Region, was awarded the Rube Hornstein Medal. The Medal was awarded at the annual Canadian Meteorological and Oceanographic Society (CMOS) Congress in Halifax in June, 1998.

Dave's efforts in developing a very specialized program, *BullPrep*, used in the production of forecasts, warnings and other weather products across the country, has greatly facilitated the forecast production process by minimizing the time required to produce bulletins. This allows the forecaster to focus more attention on the weather problem of the day and helps weather centres to maintain operations with far fewer resources.

"I made use of the tools and computers we have to streamline and improve the production and dissemination of forecast bulletins," said Dave Patrick. "I simply filled a gap where there was a crying need".

Over the years, Dave has responded quickly to suggestions and problems brought forward by forecasters, managers and end-users, often delivering a fix within 24 hours. His determination and commitment has earned him the much-deserved respect of his fellow forecasters. Congratulations Dave!

Rube Hornstein Medal

Rube Hornstein's name is well-known in CMOS circles, since it is through his thoughtfulness and generosity that we have a prize in Applied Meteorology.

Rube, a meteorologist with many other talents, has offered his time to many worthy causes over the years including: the Halifax Theatre Arts Guild, the Nova Scotia Institute of Sciences where he is a life member, the Canadian Association of Physicists, CMOS, the John Howard Society and the Vanier Institute of the Family.

With a name so synonymous with Canadian meteorology, CMOS decided to create a medal in his name to be awarded annually to an individual who has made an outstanding contribution to applied meteorology.

Onto future endeavours... recent AEP departures

Geoff Strong,of Saskatoon, recently retired after 32 years of public service. Geoff's work included developing research programs for open-water evaporation, evapotranspiration, and moisture budget studies for the Mackenzie GEWEX Study (MAGS). In his retirement, Geoff is acting as Secretariat/Coordinator for MAGS. He can be reached via e-mail at geoff2.strong@home.com.

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After 30 plus years of public service, **John Walmsley**, of the Air Quality Research Branch has retired. John made significant contributions in the area of air quality modelling and developed models for wind flows in complex terrain used for setting of building codes in Canada. John continues to pursue his research interests as a guest scientist.

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Before joining the Air Quality Research Branch, **Cliff Sobkowicz**, a 20 year veteran of the public service, worked briefly at the Prairie Weather Centre in Winnipeg. In recent years, Cliff's work focused on the implementation of air pollution models.

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Jake Padro was with the Air Quality Research Branch since the mid 1980s. In his nearly 30 years in the public service, Jake worked in several branches including Meteorological Research, Training and Climate Research Branch. Jake is an expert on dry deposition modelling, an important process in dealing with acid rain, smog and other air quality issues.

Chuck Matthias spent a major portion of his career with the Air Quality Research Branch and made his mark in the area of environmental assessments. His most recent research interest was in the development of a PC-based Global Climate Dispersion Model.

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Erika Wallgren supported the Carbon Cycle Research Group in the Air Quality Research Branch. Her contribution to the greenhouse gas measurement programs at Alert, Fraserdale, Estevam Point and Sable Island, as well as in the measurement methods development laboratory, will be missed.

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Over the years, **Neil Trivett** was involved in a number of projects, most recently in the radiatively active gases monitoring program. In recognition of his considerable contributions in this area, he was awarded the first Climate and Atmospheric Research Directorate (CARD) Merit Award for 1998. As a result of his efforts, Canada is recognized as a strong contributor to the international greenhouse gas measurement program.

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As a research scientist in the Air Quality Research Branch, **Fred Hopper's** interests included the biogeochemical cycling of natural and greenhouse atmospheric trace compounds, and the use of stable isotopic analysis to determine the sources of atmospheric gaseous and particulate constituents. Fred's most noteworthy legacy is the Stable Isotope Research Laboratory , which he set up – a laboratory with capabilities for analysis unequaled anywhere else in Canada.

During his career at AES, **Dr Hans Teunissen** undertook many assignments including Scientific Programs Coordinator, Acting Chief of the Boundary Layer Research Division, EC representative to the Canadian Space Program, and as University Programs Advisor in the Office of the Director General of Research. Since July 1997, Hans has been on assignment with the World Meteorological Organization in Geneva working on the World Climate Research Program.

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Dr. John Reid joined the weather service in 1967, and his initial assignment was as a weather forecaster in Halifax. Following graduate studies at McGill and Colorado State, John spent many productive years in research in the Boundary Layer Research Division in Downsview. He came to Ottawa in the mid 1980's as a science policy advisor, playing a significant role in connection with the 1987 Montreal Protocol. At retirement, John was Associate Director, Policy and International Affairs, PPID. He also recently completed a very successful term as President of the Canadian Meteorological and Oceanographic Society.

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After several assignments as a weather forecaster during the 1970's (including a tour with the Canadian Forces in Germany), **Mary Regan** joined Training Branch in Cornwall in 1981 as a technical training instructor. Her assignments included a stint as acting Chief Met Instructor. Mary later took on a variety of assignments in Ottawa, and was ADMA's assistant in Ottawa from 1993-96. Mary also worked in Policy and International Affairs, PPID, from where she retired in April.