

# ***New Ice Centre and Ottawa Weather Office Colocated and Operational***

Two major AES operational units are now located at the historic Lasalle Academy in downtown Ottawa, opposite the architecturally impressive National Gallery.

The Environment Canada Ice Centre located on three floors behind the original College, contains some of the world's most technically advanced ice reconnaissance and ice analysis equipment. This ranges all the way from an impressive new system for tracking the course of potentially destructive icebergs, known as the Berg Analysis Prediction System (BAPS), to a new flight planner for aircraft (both government and private) preparing to set out on ice patrol missions in the Arctic or off Canada's East Coast.

Don Champ, director of AES Ice Branch says that this state-of-the art Ice Centre is now fully operational and open for business. "We can provide complete background support to the field ice service specialists of AES who deliver front line decisions and information to Canadian Coast Guard icebreaker captains and to ice operations officers".

The Weather Office used to be located at Ottawa International Airport, but in late fall it moved to its present downtown location next door to the Ice Centre. A completely bilingual W04, it supplies broadcast weather reports in French to locations as far away as Windsor in southwestern Ontario and Hearst in the north. In all, the Ottawa office now receives close to a quarter million public telephone (ATAD) enquiries per month and due to its new downtown location, tends to receive an increasing number of public visits. **(For more information on the Weather Office, please see page 5.)**

Identifying the AES name with the Lasalle Academy address is completed by the fact that the same building now houses ADMA Elizabeth Dowdeswell's office as well as that of the Policy, Planning and Assessment Directorate.

The Ice Centre, now operating 24 hours a day, 365 days a year, has many other state-of-the-art features, from a wide-ranging satellite communications network to a multi-terminal

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***Ice forecaster Hugh McRuher is on the cutting edge of high technology at the new Ice Centre, as he tracks the course of potentially dangerous icebergs on the Berg Analysis Prediction System (BAPS).***

## Ice Centre cont'd.

computer with superb on-screen map producing capabilities, known as the Ice Data Integration and Analysis System (IDIAS). Together they help ensure safety from ice hazards for commercial shipping, offshore drill rigs and shore installations. Equally important, the new technology ensures rapid turn around of data produced at the centre — from a couple of days in the mid-eighties to around six hours currently.

More than two dozen AES forecasters, administrators, ice archivists and support staff work in the building and these are backed up by over a dozen service consultants mainly concerned with maintaining the eight or nine computer systems essential to running the Centre. It should be noted that some AES ice observers who used to fly regularly on ice reconnaissance missions and prepare their data aboard cramped, vibrating aircraft, now work comfortably at the Centre where they have access to fast and efficient cartographic and display equipment.

One of the advantages of the new Ice Centre is to allow greater collaboration between the public and private sectors, both in communications and in actual ice observation. For example, a multi-million dollar contract signed in 1988 with Intera Technologies, enables precision radar imagery to be provided by company aircraft and by Environment Canada's DASH-7. The data is first beamed down to shore-based receiving stations in the field then relayed up to the ANIK satellite by a TELESAT transmitter. The signal is next picked up by the big communications dish on the Ice Centre roof and the incoming data is then analyzed, processed and transmitted to users (The Canadian Coast Guard Service is the biggest customer). This communications link is called the Ice Reconnaissance Data Network (IRDNET) and allows data from all reconnaissance aircraft to be received at the Centre accurately and in real time.

Go into the somewhat crowded computer room and you will see up to a dozen, specially cooled, box-like machines controlling the Centre's computing nerve centre. Out of these, two systems play star roles in the Centre's need to

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April 4, 1989: For the first time in the team's history, the Montreal Expos were able to open their season at home, thanks to the new roof on the Olympic Stadium. It was passable baseball weather: cloudy with sunny breaks and intermittent showers and a high of 17.3°. Final score: Mets 10, Expos 6.

April 10, 1989: Above-normal temperatures and below-normal precipitation over the Great Lakes Basin brought about a substantial drop in water levels since the fall of 1986. By April 1989, Lake Huron had fallen 1.2 m below its October 1986 level.



**This winter picture of the historic Lasalle Academy helps identify AES's big new Ottawa address. Major Service offices are in the "tower" behind the former seminary/hotel/barracks.**

provide fast, accurate ice information to a variety of users on both the national and international level.

Like most other computerized systems, BAPS consists of two work stations having two screens, a couple of keyboards and a mouse or "puck". This fairly standard configuration allows iceberg data supplied by reconnaissance aircraft, Coast Guard icebreakers, private company helicopters or satellites to be sorted, counted and traced from the source (probably located in the Greenland-Ellesmere Island area) to "melt-down", as far south as Bermuda. One thing is certain: modern iceberg technology almost guarantees there will never be another Titanic disaster.

The other Ice Centre ace is IDIAS, essentially a multiwork station computer system with major graphics, editing and image analysis capabilities. Cost effective and flexible, it can process a great variety of data from airborne radar images to Canadian Coast Guard ice charts. By means of overlays it reduces everything to one standard, workable scale.

The system, built by MacDonald, Detwiler and Associates of Richmond, B.C. is composed of 10 minicomputers, half used as data processors and half in the work stations. Two minicomputers are equipped to allow IDIAS to process large quantities of digital imagery, which can then automatically be reduced to a single, uniform scale. With all data integrated on-screen at the work stations, a wealth of meaningful ice information can be provided.

IDIAS is an uncomplicated system, easy for operators to learn, that does away with the need for pencils, paper or light tables. (All imagery analysis is done on-screen which in fact becomes the location for all major ice data

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**The historic ties of the building can be read on this wall plaque.**

## Ice Centre cont'd.

decisions). Obviating such mundane tasks as plotting, hatching or scale reductions, IDIAS allows operators to perform more professionally. Overall, the system allows all sources of ice data to be integrated with much greater accuracy and timeliness, and definitely improves the quality of information supplied.

Finally, the new Ice Centre offers Canada a major opportunity to provide greater world leadership in operational ice programs. Originally supplying ice data to the World Meteorological Organization in Geneva, this country now offers direct advice to several countries in the development of their own ice programs. In addition to longstanding free exchanges of ice information between Canada, the United States and Greenland, there is now close cooperation with Norway, Sweden and the USSR. In addition, the Canadian Ice Service helps to make the products of high tech producers of ice monitoring and communications equipment like MacDonald Dettwiler and Telesat Canada better known around the world.

There has been an Ice Centre in Canada (either in Halifax or Ottawa) for about 30 years,



**Shift supervisor Ed Becker demonstrates one of the Ice Centre's latest additions — a flight planner for coastal ice reconnaissance.**

but the new Centre in downtown Ottawa is more "central" than ever. There is less pre-processing of data and most information sent in directly from the International Ice Patrol, from land observation stations and ice reconnaissance aircraft,



**Jacques Colin keys in vital information at an Ice Data Integration and Analysis System (IDIAS) work station. The multi-computer system obtains ice data from many sources and creates sophisticated, accurate, on-screen maps.**

receives quality processing at the Centre.

Ice Centre officials work only a few blocks from their colleagues at the Canadian Coast Guard Service, so frequent, high level meetings with their number-one client are possible.

## Ottawa Weather Office Cont'd. from page 1

Besides serving around three quarters of a million people in the National Capital Region, the Ottawa weather office supplies French language weather reports by WATTS line to all French media in Ontario as well as French ATAD (recorded telephone reports) to Metropolitan Toronto.

The Ottawa office carries out 33 broadcasts a day on commercial media in both languages as well as a full Weatheradio Canada program.

Presenting the weather in clear, concise form and dealing with the general public keeps

the W04's 11 employees fully occupied much of the time. The office is open 24 hours a day, 365 days a year.

The Ottawa office's OIC Rai King says the move last fall has meant changes in the work patterns of the staff. For example, the W04 now has much less involvement with aviation, has dropped observation work completely and sees considerably more of the general public.

Being located among downtown high-rises gives the station less of a clear view of the weather and discourages "nowcasting" out of the window. On the other hand, the new office

occupies more spacious quarters with up to 20 percent more room for public reception and for bulky apparatus like the MPDS weather map enhancing equipment.

Mr. King says the move to an all-AES building is sensible and cost-effective and allows some sharing of facilities with the Ice Centre. He adds that the move is in keeping with the current tendency of AES weather offices to expand meteorological services in all economic sectors, rather than concentrating on aviation. This amounts to notable increases in public, agricultural and marine weather services.



**Meteorological technician Camil Laprise gives one of his many Weatheradio Canada broadcasts from a small studio in the Ottawa Weather Office.**



**Enquiring members of the public feel at ease in the spacious quarters of the new Ottawa Weather Office.**