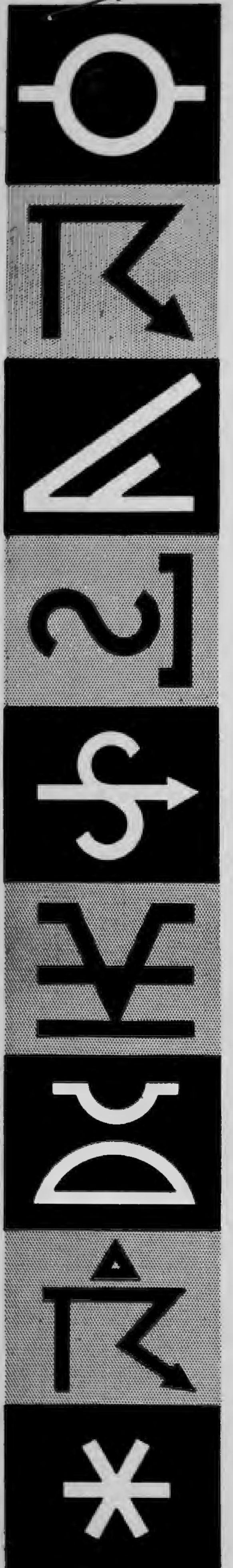


# ZEPHYR

AUGUST 1974 AOÛT


Environment Canada | Environnement Canada

Atmospheric Environment | Environnement atmosphérique

# ZEPHYR

## AUGUST 1974 AOÛT

Published Under Authority of the
Assistant Deputy Minister
Atmospheric Environment Service

Publié avec l'autorité du
Sous-ministre adjoint
Service de l'environnement atmosphérique

editor/la rédactrice: B.M. BRENT

## SUCCÈS CANADIENS DANS LE CADRE DU PROGRAMME DE L'ETGA

La première partie de l'Expérience tropicale du GARP dans l'Atlantique (ETGA) est terminée et le navire météorologique NGCC Quadra a bien rempli sa mission. Le Canada est l'un des onze pays qui ont envoyé des navires météorologiques et océanographiques hautement équipés dans la zone équatoriale de l'Atlantique dans le cadre d'une expérience internationale importante pour la compréhension de la météorologie mondiale. Le 14 juin, le Quadra est arrivé dans la zone où il davait accomplir sa mission dans le cadre de l'ETGA après un voyage d'un mois, à partir d'Esquimalt, son port d'attache en Colombie-Britannique. Depuis lors, à part de courtes périodes dans le port de Dakar au Sénégal, le Quadra est resté sur place pour effectuer des mesures détaillées de l'atmosphère environnante et de l'océan.

L'étude des températures, des vents et de l'humidité de l'atmosphère de la surface à 50,000 pieds constitue une importante partie du programme. Pour cela, on procède au lancement et à la poursuite de ballons gonflés à l'hélium et munis d'instruments. Pendant la première période d'observation, l'équipe du Quadra a réussi tous les 125 lancements de ballons prévus. Pendant 12 jours, il fallait lancer et poursuivre huit ballons par jour, ce qui demande un travail en équipe et des efforts particuliers. Le Centre de contrôle des opérations de l'ETGA, à Dakar, et le Groupe international des questions scientifiques responsable de l'expérience ont remarqué le bon travail du Quadra et l'excellente qualité des données canadiennes. Ces résultats sont dus à un personnel bien formé et expérimenté qui exploite un système parfaitement mis au point. Grâce au radar de poursuite spécial installé à bord du Quadra, l'équipe canadienne fut en mesure de comparer les mesures des vents obtenues par radar à celles que fournit la poursuite de navigation. Les deux méthodes donnent des résultats tout à fait concordants.

Le Quadra est également chargé de fournir des images radar des nuages dans un rayon de 150 milles du navire et de les transmettre à Dakar toutes les deux heures au cours des périodes d'activité des nuages de convection. Les chercheurs et les pilotes à bord des aéronefs de recherche scientifique basés à Dakar, ont trouvé ces images d'un grand intérêt pour préparer leurs plans de vol.

Parmi les autres programmes scientifiques du Quadra, citons les recherches sur la température et la salinité de l'océan à diverses profondeurs, les recherches sur le rayonnement solaire et la couche atmosphérique limite au moyen d'un dirigeable souple captif et d'un dôme muni d'instruments à l'avant du navire. Ces programmes ont également été effectués avec succès.

Lorsqu'il se trouvait au port de Dakar après les phases I et II de l'expérience, le Quadra a reçu de nombreuses visites. C'est ainsi que M. R.M. White, administrateur de la National Oceanographic and Atmospheric Administration des Etats-Unis et M. B.J. Mason, directeur du British Meteorological Office sont venus féliciter l'équipe canadienne pour son bon travail. Pendant leur séjour à Dakar, les chercheurs canadiens ont eu l'occasion de rendre visite et de recevoir des chercheurs d'autres navires, de comparer l'équipement, de discuter de divers problèmes et de se communiquer leurs points de vue. Ces échanges éaient souvent très utiles pour élaborer de nouvelles méthodes de conception d'instruments et d'analyse de données. Nous espérons qu'ils auront été également à l'origine d'une meilleure compréhension internationale.

Le Quadra et son équipe resteront sur place dans le cadre de l'ETGA jusqu'au 25 septembre puis ils entreprendront le voyage du retour. Pendant cette période, ils feront encore de nombreuses mesures, apportant ainsi une importante contribution canadienne à la compréhension et, éventuellement, à la prévision de la météorologie mondiale.

*Officiers et membres de l'équipe scientifique du Quadra.*

*Some of the Quadra's officers and a number of the scientific crew.*

*L'équipe scientifique du Quadra pour la Phase I de l'Etga.*

*The Quadra's scientific crew for Gate Phase 1.*

*Vue de Dakar prise de la poupe du Quadra.*

*View of Dakar from the stern of the Quadra.*


*Le Quadra à quai dans le port de Dakar.*

*The Quadra at Quayside in Dakar*

*Équipement de réception et d'enregistrement des données de radiosondage utilisé pour l'Etga.*

*Radiosonde receiving and recording equipment used during Gate.*

*Préparatifs du lancement d'une radiosonde.*

*Preparing for a radiosonde launch.*

*Lancement d'un ballon captif.*

*Tethersonde balloon being launched.*

Photos aimablement communiquées par M. S. Derco

Photos courtesy S. Derco

## CANADIAN GATE PROGRAM SUCCESSFUL

The first part of the GARP Atlantic Tropical Experiment, GATE has been completed and the Canadian weather ship, CCGS Quadra, has performed very well. Canada is one of eleven nations that have sent highly instrumented meteorological and oceanographic ships to the equatorial Atlantic as part of a major international experiment to understand the world's weather. After a month-long voyage from her home port, Esquimalt, British Columbia the Quadra arrived at her GATE position on June 14. Since, then, with only a few short periods in the port of Dakar, Senegal, the Quadra has been on position making detailed measurements of the atmosphere above her and the ocean below her.

An important part of the program is the investigation of the temperatures, winds, and humidity of the atmosphere from the surface to 50,000 feet. This is accomplished by launching and then tracking helium filled balloons carrying instrument packages. During the first observation period a total of 125 balloon ascents were scheduled and the team on the Quadra were successful in them all. For 12 days it was required to launch and track 8 balloons a day and this was accomplished through team work and special effort. The GATE Operational Central Centre in Dakar, GOCC, the international scientific group running the experiment, have noted the excellent performance of the Quadra and the high quality of the Canadian data. This is the result of a well-tested system operated by well-trained and experienced personnel. Because of the special tracking radar on-board the Quadra, the Canadian team have been able to compare the accuracy of the winds computed from radar with the navigational system tracking of the balloons. The agreement has been excellent.

Another key role of the Quadra is in providing radar pictures of the clouds over a 150 mi radius around the ship. These pictures are transmitted to Dakar every two hours during periods of convective cloud activity. The scientists and pilots flying the scientific aircraft out of Dakar have found these pictures invaluable in planning their flights.

Other scientific programs on the Quadra are investigations of the temperature and salinity at various depths in the ocean, of the sun's radiation and of the atmospheric boundary layer using a tethered "blimp" and an instrumented boom from the bow of the ship. These have also been quite successful.

During the in-port periods at Dakar after Phases I and II of the experiment, the Quadra was host to numerous visitors. Among the visitors were Dr. R.M. White, Administrator of the U.S. National Oceanographic and Atmospheric Administration and Dr. B.J. Mason, Director of the British Meteorological Office. Both congratulated the Canadian team on its excellent performance. While in Dakar the Canadian scientists had the opportunity to informally visit and host scientists from other ships to compare equipment and discuss problems and ideas. These mutual exchanges were often of real use in developing new approaches to instrument design and data analysis as well as hopefully generating a little more international good-will.

The Quadra and her team will remain on position in GATE until the 25 of September before beginning the voyage home. During that period, many more measurements will be made and Canada will have made a very significant contribution to the understanding and eventual prediction of the world's weather.

## SEVENTEENTH CONFERENCE ON GREAT LAKES RESEARCH

The 17th Conference on Great Lakes Research (IAGLR) was held August 12 to 14 in Hamilton, Ontario. The conference was sponsored jointly by Canada Centre for Inland Waters and McMaster University and had been delayed from the usual April – May period in order to coincide with the International Association for Theoretical and Applied Limnology Congress scheduled for Winnipeg later in August.

Over 200 papers were presented during the three day session with topics ranging from General Meteorology, Turbulence/Precipitation, Physical Limnology, Geology, Great Lakes Geochemistry, Energy Balance, Fisheries, Water Quality to Social Sciences to name a few. There were a total of 64 papers presented on the International Field Year for the Great Lakes (IFYGL). As well, AES personnel presented or were involved in a total of ten presentations. T.L. Richards, Chief of Hydrometeorology and Marine Applications

Division and J.A.W. McCulloch, Superintendent of Lakes and Marine Applications Unit chaired sessions on Turbulence/Precipitation and General Meteorology. Those presenting papers were J.A.W. McCulloch, W.D. Hogg, D.W. Phillips, D.R. Kerman, G.A. McBean, and D.M. Whelpdale.

Two volumes of the proceedings are planned, one containing IAGLR papers and the second, a special publication, containing IFYGL presentations.

The Annual Dinner held on Tuesday, August 13 featured a Canadian menu with fresh lake trout, fiddleheads, local grown potatoes, and peace pie with cheddar cheese. Following the dinner Dr. Werner Stumm gave a talk on "The Rhine River, the Urgent Need for Revising our Ideas of Pollution Control." Dr. Stumm is Director of the Federal Institute for Water Resources and Water Pollution Control of the Swiss Federal Institute of Technology, Zurich Switzerland.

At the Annual Meeting of the International Association for Great Lakes Research it was announced that the association would begin publishing a Journal for Great Lakes Research effective the fall of 1975. This will replace the present Proceedings of Conferences. It was also announced that the 18th Conference will be held in May 1975, at State University of New York in Albany, N.Y.

## ICE FOG AT ARCTIC AIRPORTS

R.G. Lawford

Past studies have shown that ice fog is most likely to occur with low temperatures and at or near inhabited areas. Since ice fog frequently limits air traffic in cold climates it is a major inconvenience to northern communities which are predominantly or totally dependent on air traffic. This study was undertaken in order to document the severity of the ice fog problem in the Canadian North and to define the relationships between the occurrence of ice fog and meteorological variables such as temperature and wind speed.

Twenty years of hourly weather observations were obtained from ACPS archives for nine airports in the Northwest Territories. The data were analyzed using resources from ARPP and ACCA as well as the CMC computer.

The analysis showed that the total number of hours per year with ice fog increased during the 'sixties at Inuvik, Norman Wells, and Yellowknife. During this time interval, rapid increases in the number of winter landings and takeoffs were also reported at the three locations. The analysis also indicated that ice fog occurrences were more numerous in years when the mean winter temperatures were colder than average.

The diurnal variation of ice fog in southern locations such as Hay River, Fort Smith, and Yellowknife indicated that ice fog occurred most frequently during January, reaching a maximum between 1000 and 1200 LST. During the mid-afternoon at these stations the number of occurrences of ice fog decreased to 1 occurrence every 10 years. On the other hand, at the two most northern locations studied (Isachsen and Resolute Bay) ice fog was most frequently reported during February and March. During the mid-afternoon in March at Isachsen, ice fogs occur 4 afternoons each year.

Ice fog occurrences were dependent on temperature for fogs forming near urban centres. At most northern airports the probability of ice fog increased as the temperature decreased below -40°C. At Inuvik the probability of ice fog does not increase until the temperature falls below -46°C. The probabilities of ice fog at Hall Beach and Isachsen were found to be independent of temperature.

Ice fog was most frequently reported when the wind was light and blowing from the townsite towards the airport for all stations except Isachsen, Resolute Bay, and Hall Beach. At these three airports the number of ice fog occurrences increased when winds exceeded 8 m $s^{-1}$ and blew from the ice cover towards the airports. This result supports the observations of northern forecasters who have found that open leads in the Arctic Ocean ice cover can serve as a moisture source for ice fog.

A more comprehensive report of these results is available from the Arctic Meteorology Section. Work is continuing on a climatic model designed to estimate the severity of the ice fog problem in regions where future Arctic exploration and development may take place.

## P-ONE POLAR LABORATORY

By Robert Grauman

Oil and natural gas provide about three quarters of Canada's energy, and the demand increases daily. If Canada is to minimize the amount of petroleum imports, then the additional requirements for future years must come from domestic supplies. Reserves and new finds of oil and gas in the provinces are dwindling, so the oil companies, in their continuing search for petroleum, have had to resort to the frontier areas of Canada – in the Offshore and in the Arctic. The oil industry, through the Arctic Petroleum Operators Association have funded a number of environmental studies in the Beaufort Sea, so that it may be determined whether or not an environmentally safe drilling program may be implemented there.

One of the studies given to the Atmospheric Environment Service was the development of an environmental prediction system. Since the output of a prediction system is no better than the input, the Observational System Working Group of the AES Beaufort Sea Committee has specified instrumentation to be installed on the pack ice of the Beaufort Sea and a contract for the development of a prototype ice station has been let.

*Peister's Ice Island.*

*Early prototype CARS installation on Peister's Ice Island.*

To gain operating experience in the Beaufort Sea, R.J. Grauman, the Project Leader of the Atmospheric Instruments Branch Beaufort Sea Project installed an early prototype of a CARS (Climatological Automatic Recording Station) on Peisters Ice Island on the 25 of June. The station measures temperature, wind speed and direction every three hours and records the measurements on a tape recorder developed by the Atmospheric Instruments Branch. The installation consists of a 30 foot tower with a modified type 45 anemometer at the top, and a wooden box about two feet high by three feet square containing the electronics. A non-standard yard arm was attached to the tower, and a Canadian flag was run up before departing.

Peisters Ice Island was calved from the Ward Hunt glacier on Ellesmere Island in 1965. Sometime before it calved, persons unknown left eight fuel drums near the center of the island, and the CARS station was installed near them. The island was about one and one half miles wide by five miles long and about forty to fifty feet thick when first seen, but by the time the CARS station was installed, a piece about one and one half miles in diameter had split off one end. Until the island was caught in the grip of a current in the Beaufort Sea this spring, it had only moved thirty miles in the previous five years. The island was relocated on the 14 of June, at 71°37'N 137°10'W and on the 24 of June a DEMR (Dept. of Energy, Mines & Resources) Twin Otter made a Decca fix on the island, so that the DEMR Bell 205 helicopter flying the CARS station to the island could go directly there without wasting fuel in a search. In the ten days between the 14 and 24 of June the island moved about thirty miles.

Scientists from the University of Washington were aboard the helicopter when the first landing was made, and after surveying the island, and gathering some rock samples (yes, there are rocks on ice islands) made two more flights in the following days to install two data buoys. These data buoys use the Navy Navigation Satellite System to determine their position, so the island can now be tracked very precisely. The island has slowed its rate of travel and, although travelling in a westerly direction, has also travelled north, south and east for various distances this summer.

It is hoped that the island can be visited in September to collect a data tape and prepare the station for the coming winter. Because of the unusual summer in the Beaufort Sea this year, the data collected should be of interest to all concerned.

## SEA PICTURES GO INTERNATIONAL

By Susan Yellin

The Argentine Navy is just one of many groups who have requested copies of the Canadian booklet depicting the affects of various strengths of winds on the seas.

The booklet, *State of Sea Photographs for the Beaufort Wind Scale*, was prepared in 1967 by the then Meteorological Branch of the Department of Transport, and is designed to enable weather observers on ships to make better estimates of the speeds of winds at sea.

W.T.R. Allen, Marine Meteorologist in the Marine Operations Unit of the Systems Management Section (AFOB) at AES Headquarters, was responsible for the selection of the photographs, which, along with appropriate written descriptions, make up the booklet.

Mr. Allen explained that pictures of the state of the sea had been taken in the early 1950's by the United States Navy. "Good" aerial photographs were taken by low-flying aircraft but did not show the same view of the sea as they would appear to an observer on the bridge of a ship. So, in 1960 and 1961, pictures were taken by members of the meteorological staff at Ocean Weather Station Papa in the Pacific Ocean. Around 200 such photographs were taken in the course of a year to obtain the best views of the sea when they are affected by different wind speeds. Twenty-one of these pictures appear in the booklet.

The wind speeds are determined by estimating their Beaufort Force from the appearance of the sea surface. Beaufort Force runs on a scale of Force 0 to Force 12. Force 0 for example, describes the sea "like a mirror" and corresponds to a wind speed of less than 1 knot. Force 6 is characterized by large waves beginning to form, and extensive white foam crests; it corresponds to a mean wind speed of 24 knots. A hurricane is designated by Force 12 and is characterized by white, driving foam and spray.

The photographs are of such high calibre, that five years ago *Scientific American* published half a dozen of these photographs in an issue devoted to the oceans. Since then, the original prints and copies of the booklets have made their way from Canada into the United States and throughout many other parts of the world.

*Force 9 Wind Speed – 5 knots 20 ft. waves.*

*Force 9 Vitesse du vent – 5 noeuds vagues de 20 pieds.*

## SUCCÈS INTERNATIONAL DE PHOTOGRAPHIES DE LA MER

Par Susan Yellin

La marine argentine n'est qu'un groupe parmi tant d'autres qui ont réclamé des exemplaires de la brochure canadienne représentant l'action sur la mer des différentes forces de vent.

La brochure intitulée *State of Sea Photographs for the Beaufort Wind Scale,* préparée en 1967 par ce qui était alors la Direction météorologique du ministère des Transports, est destinée à permettre aux observateurs météorologiques à bord des navires de mieux apprécier la vitesse du vent en mer.

Monsieur W.T.R. Allen, météorologue maritime de la sous-section des opérations maritimes, section des systèmes fondamentaux (AFOB), à l'Administration centrale du S.E.A., avait été chargé du choix des photographies qui, accompagnées des légendes appropriées, constituent la brochure.

M. Allen a expliqué que des photographies de l'état de la mer avaient été prises au début des années 50 par la marine des Etats-Unis. Des avions volant à basse altitude avaient pris de "bonnes" photographies aériennes qui, cependant, ne donnaient pas de la mer la même image que celle qu'en aurait eu un observateur placé sur le pont d'un navire. C'est pourquoi, en 1960 et 1961, des membres du personnel météorologique de la station océanique Papa, située dans l'océan Pacifique, prirent environ 200 photographies dans le courant de l'année, afin d'obtenir les meilleures images possibles de la mer soumise à des vents de vitesses différentes. La brochure contient 21 de ces photographies.

On apprécie la vitesse du vent selon l'échelle de Beaufort, d'après l'aspect de la surface de la mer. L'échelle de Beaufort varie de la force 0 à la force 12. La force 0, par exemple, qui correspond à une "mer d'huile", représente une vitesse de vent inférieure à un noeud. La force 6, caractérisée par de grosses vagues en formation et d'abondantes crêtes d'écume blanche, correspond à une vitesse moyenne de vent de 24 noeuds. La force 12 représente un ouragan; elle est caractérisée par de l'écume et des embruns blancs extrêmement violents.

Les photographies sont d'une qualité si élevée que la revue *Scientific American* en a publié une demi-douzaine il y a cinq ans, dans un numéro consacré aux océans. Depuis lors, le succès de l'édition originale et des rééditions de la brochure a dépassé les frontières du Canada et a atteint les Etats-Unis et bien d'autres points du monde.

## THE SASKATCHEWAN AIR SHOW 1974

by Donna M. Whitehill

For us in the Moose Jaw Weather Office it began Friday, June 14 as the telephone rang.

"Good morning – weather office" announced the duty forecaster. The Base Commander's voice came across the wire optimistically, "Well, how does it look? ". There was no need to ask to what he was referring. Everyone knew that Sunday, June 23 was the day of the Saskatchewan Air Show – the largest one day air show in North America and all efforts were being concentrated on making it a huge success.

The weather, of course, is one very uncontrollable factor and as the big day approached the trickle of calls developed into an inundation. Everyone on the base, it seemed, wanted to know what the outlook was. Fortunately, it looked fine and Air Show Sunday dawned sunny and warm. The only problem which did arise was the wind – not an uncommon problem on the Prairies. The wind was right down the runway but rather strong for some of the aircraft.

Early in the morning large numbers of cars began making their way to the base. There was also a large aircraft fly-in from 7:00 am until 12:00 noon. For each small plane that landed it seemed that there were two or three more appearing on the horizon.


*Meteorological Display – Saskatchewan Air Show 1974.*

As the Canadian Forces Training Command Band played the final notes of "O Canada" a CF-104 made a low level high speed pass which sent tingles down the spine and the Air Show was underway.

Some of the top civilian aerobatic pilots of North America were featured. These included Al Pietsch and Bill Barber, Art Scholl and Cliff Howard, the "Master of inverted flight." Also returning to this year's show were Joe Hughes and wing walker, Gord McCollom. Joe first performed alone in his Super Stearsman and then to really add to the excitement he returned to pick up Gordon who performed gymnastic maneuvers on top of the plane while Joe seemed to be doing his best to shake him off.

There were things to see on the ground as well as in the air. Military and commercial exhibits were featured in three hangars. Among the displays were the NASA exhibit, and a classic aircraft exhibit shared a hangar with our own very successful Meteorology display.

Both the United States Air Force and the Canadian Armed Forces contributed to a flight line military static aircraft display. The Canadian contingent included everything from the swift CF-5 and CF-104 to the sleek CF-101 and the highly versatile Hercules. The Americans displayed their huge C-141 Starlifter and the A-7 Corsair II tactical fighter as well as their T-38 advanced jet trainer which is a two-man version of the Canadian CF-5.

Several of the display aircraft also performed in the show. The Hercules, for instance, displayed its skills by dropping a bulldozer onto the airfield and then performed a jet-assisted take-off and short field landing.

A Twin Otter aircraft and a twin Huey helicopter performed maneuvers to illustrate the techniques used in search and rescue operations. The Skyhawks Para team showed a great deal of skill and accuracy and landed right on target after trailing various colours of smoke behind them from their jump altitude.

A kiowa demonstration team from Portage la Prairie exhibited the great versatility of these little helicopters by performing in formation. Also from Portage came a Musketeer demonstration team. The Musketeer is the primary trainer for pilots of the Canadian Armed Forces and is used to select those who will carry on to more advanced aircraft. Fortunately, the wind did die down and shift slightly as had been forecast so that all of the small, light aircraft were able to perform without much difficulty.

Of course, the highlight of the show was CFB Moose Jaw's own Snowbird demonstration team. The Snowbirds fly the CT-114 Tutor on which Canadian Forces pilots now receive their wings before going on to specialized training.

The team provides a twenty-five minute show routine involving a seven plane formation and two solo aircraft. The team was formed in 1971 and has since appeared in many air shows all across North America.

The Snowbird performance brought to a close as well as a climax the Saskatchewan Air Show for 1974. A lot of time and effort on the part of the personnel at CFB Moose Jaw went into the making of the show. Much of the work had begun almost a year before the show itself and it was all well worth it because the day turned out to be a huge success.

## FILM-MAKERS IN ACTION

A group of anxious-looking people standing in front of the AES HQs building last month were scanning the sky neither for a space visitation nor a sign from the gods. All that was wanted were a few minutes of sunshine to aid a team of NFB film-makers to shoot some footage of the building including the sculpture for the new AES film currently in production. Bright sunlight aids architectural photography by creating the shadows which give depth and perception to the visual record. In this case the film crew were at the end of a boom on a "Giraffe" – the name given a large-sized cherry-picker which allowed the camera to move up the face of the building. This vehicle was loaned to us courtesy of the MOT for the afternoon's shooting through the kind offices of Charley Taggart, of the Research Directorate.

The clearing skies which were forecast were delayed somewhat by thunderstorms in the area but in the best film tradition "the cavalry" (read clear skies) arrived just in time to allow the filming to be completed.

*Planning the Shot.*

*Have it your way.*

*Get ready – fellows.*

**Photos Courtesy A. de Blokhine**

## ESTEVAN, SASKATCHEWAN

Every hour of every day for over 25 years the Estevan Surface Weather Observing Station has been reporting the weather conditions at the Airport located almost midway between the city of Estevan, 5 miles to the North and the U.S. Boundary. Very often it has been the first station to report on weather systems moving up into Canada from Montana and North Dakota.

While the terrain is mainly typical flat prairie farm lands, the Souris River valley three miles north and the valley containing the waters of Boundary Dam reservoir just a mile away from the northwest around to the south, provide relief from the flatness.

Growing and progressive, Estevan with 11,000 population calls itself the Energy Capital. With several lignite coal strip mines, two power generating plants, and several oil and gas fields in the area the title is appropriate.

*The Weather Office – new, clean, bright, roomy and air-conditioned. A great improvement over the office we started in.*

With the staff and available services well known in the city, the citizens make full use of the station. Services provided to the flying public consist of present weather conditions enroute, aviation forecasts, upper wind data and flight plan messages. The airport being a Port of Entry a good number of American tourist aircraft are served, but the bulk of traffic is executive type aircraft owned by the many oil companies having interests in the area.

This station may be unique in Canada for the length of service of the staff. OIC Gordon Knight and Bernie Jesse have been here for over twenty-five years while the new boys, Jim McManus and Jim McCall have each been on the station for twenty-two years. They still get along with each other just great, its a happy station.

*Estevan staff in the instrument area. Left to right, Jim McCall, Jim McManus, OIC Gordon Knight and Bernie Jesse.*

*Dragline with 40 cubic yard bucket stripping overburden from coal only a mile from the Weather Office—the power plant that uses the coal to produce steam is seen in the background.*


*Oil pumper in wheat field–a common sight in the Estevan area.*

*Saskatchewan's largest thermal power generating plant is located just over two miles NW of the Weather Office.*

*First the route forecast, then the flight plan – Bernie Jesse spells it out for Bill Nicholson, owner of the local flying service.*

## ANCIENNE ÉLOQUENCE

Voici une version d'un document, dont l'original, selon Jack Lait, se trouve dans les archives de l'Association Historique d'Arizona. C'est le rapport d'une sentence prononcée par un juge en 1874 contre un voleur de chevaux qui avait été jugé par un jury.

"José Gabriel Maria Ferdinandez, un jury de vos pairs vous a impartialement jugé en cette cour durant le mois d'août de l'An de Grâce 1874.

Le mois d'août est une belle époque puisqu'il prend place au milieu de l'été quand la nature entière s'affaire aux travaux que lui impose la continuité de son existence. Les arbres fruitiers sont chargés de fruits, le grain mûrit dans les champs, les collines commencent à prendre la couleur de l'or, les oiseaux chantent tandis qu'ils veillent sur leurs petits. Les hommes quittent la chaleur de la cité pour jouir de l'air pur des montagnes ou de la fraîche brise marine. L'été est véritablement une belle saison.

Ensuite, José Gabriel Maria Ferdinandez, vient l'automne. C'est alors que la nature récolte le lourd fruit de son labeur. Les blés mûrs sont moissonnés, les fruits savoureux sont cueillis dans les vergers, et les feuilles des arbres se répandent en une symphonie de couleurs. S'habillant d'ornements resplendissants mais sobres, la nature commence à se préparer pour le long repos qu'elle a justement gagné. Les oiseaux et leurs chants s'en vont vers de plus chauds climats et sur l'herbe, au matin, brille la rosée d'argent. José Gabriel Maria Ferdinandez, l'automne est réellement une saison magnifique!

Puis, José Gabriel Maria Ferdinandez, vient l'hiver qui est aussi, malgré son austérité, une belle saison. Maintenant la nature entière se repose; les collines, les montagnes, les vallées sont couvertes de neige tandis que la Providence toute puissante travaille mystérieusement à rassembler son énergie. C'est la saison où nous nous asseyons près de la cheminée et rendons grâce à Dieu pour le bonheur d'être en vie.

Vous, José Gabriel Maria Ferdinandez, vous pouvez bien penser que l'hiver est vraiment une saison admirable.

Enfin vient le printemps! Ah, José Gabriel Maria Ferdinandez, entre toutes, le printemps est vraiment la reine, la plus belle des saisons! La nature entière s'éveille de son sommeil et c'est à nouveau le jaillissement et la joie de la vie. Les arbres bourgeonnent, les oiseau chantent, les fleurs s'épanouissent et l'air est rempli de parfum. La nature entière est heureuse de la jeunesse d'une nouvelle année et elle renaît à l'amour de la vie. Nous sommes tous jeunes à nouveau et nos coeurs sont en fête. Qu'il est merveilleux de se sentir en vie et de participer au miracle du printemps! Oui, le printemps est bien la plus belle de toutes les saisons.

Mais vous . . José Gabriel Maria Ferdinandez, vous, brigand à l'âme noire et sale, misérable voleur de chevaux, fils de chienne, vous ne verrez rien de tout cela! Car la sentence ci-devant prononcée est que vous serez pendu le dernier jour de mois prochain, le 30 septembre de l'An de Grâce 1874! "

## WINNIPEG CENTENNIAL AIR SHOW

In celebration of the Winnipeg Centennial, the Manitoba Aviation Council sponsored a Centennial Air Show during the period August 12 – 19, 1974. The show had two components, a static display at the Highlander Curling Club in West Winnipeg and two afternoon air shows on the Saturday and Sunday at St. Andrew's Airport, a few miles North of the city.

The AES input to the static display was to join the Ministry of Transport display of support systems to Aviation. This display was subdivided into "Then" and "Now" to highlight the Centennial theme.

*"Then"*

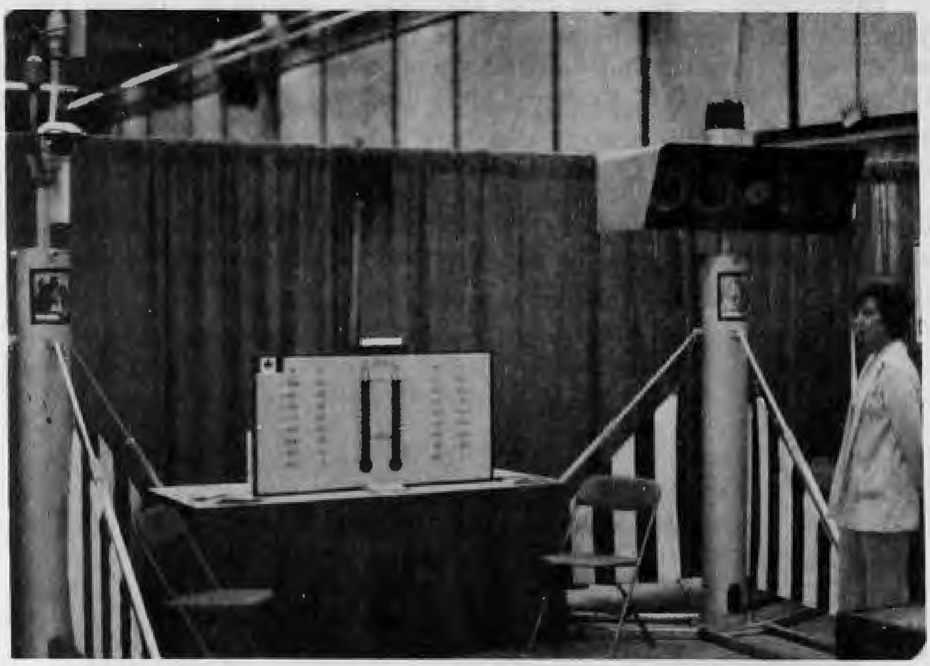
*"Then"*

Photographs 1 and 2 are from the "Then" section in "Hangar One." Charts on display included among other items copies of 1871, 1872 city weather observations, an old barometer, wind recorder and barograph and several charts drawn in the Winnipeg Weather Office in 1938 by D.B. Kennedy. MOT displayed early communication and small ground equipment in this area.

Connecting the "Then" to the "Now" was a simulated runway which progressed from grass and flare plots to the latest runway lighting system. Pictures 3, 4 and 5 are taken in the "Now" section. This included the Modulex, Twin Tower display, climate

*Hon. James Richardson with CRA (MOT) Doug Lane visit display. Bud Mahaffy in background organized show.*

*A general view of "Now."*



*Metric conversion board in centre – Heather Routledge (Meteorologist) on duty.*

board, metric conversion, mirascreen slide show, teletype, map display and other graphics, including radar and satellite photographs. A multi-screen with many colourful weather posters outside "Hangar One" was used to lure viewers to the display.

The Hon. James Richardson officially opened the show and toured the exhibit. He spent some time in the weather section asking questions about the Weather and components of the display. He cheerfully accepted the fact that it would rain on his garden party. (Which it did! )

The MOT display in this area included a slide presentation on Accident Investigation, video-tape play backs on Telecom. and other aids, a board showing locations of Radar, VOR, NDB, etc. throughout the Central Region. There were a number of back-lighted graphics and other pictorial displays along with modern equipment.

The entire display had a great deal of sound, motion and buttons for the public to push and proved to be very popular.

To support the air show, AES supplied an observer and presentation technician for 10 hours each day.

An estimated 200,000 attended the air show. No figures on the attendance at the static display are available, but 3,000 to 4,000 Environment brochures were given away.

The static display, by the way, included the Hall of Fame, vintage aircraft and a host of industrial exhibits.

Mr. F.R. Mahaffy of the Weather Office, organized the display and was assisted by several forecasters and summer students.

## PERSONNEL

**The following transfers took place:**

| | |
|---|---|
| H.R. Armstrong | From: School of Meteorology, Trenton<br>To: DMetOc, NDHQ, Ottawa |
| P. Dillistone | From: School of Meteorology, Trenton<br>To: School of Meteorology, Winnipeg |
| V.W. Dingle | From: CFWO, Ottawa<br>To: Prairie WC, Winnipeg |
| N.C. Meadows | From: WO Gander<br>To: WO Calgary |
| R. Nelis | From: WO Gander<br>To: FSD, AES HQ, Toronto |
| J. Tissot Van Patot | From: WO Toronto<br>To: Arctic WC, Edmonton |

**The following are on temporary duty or project assignment:**

| | |
|---|---|
| W.J. Sowden | From: DMetOc, NDHQ, Ottawa<br>To: OIC, Ice Central, Ottawa |

**The following have accepted Management Development Program assignments:**

| | |
|---|---|
| R.J. Mills | From: MWO, Halifax<br>To: DMetOc, NDHQ, Ottawa |

**Graduates of UQAM #2 Course were posted as follows:**

| | |
|---|---|
| P. Belanger | To: Project Assignment<br>ARD, AES HQ, Toronto |
| R. Laprise | To: WO Edmonton |
| M. Leblanc (Mlle.) | To: WO Montreal |
| R. Sauvageau | To: MWO Halifax |

**The following have accepted positions as a result of competitions:**

| | |
|---|---|
| 74-DOE-TOR-CC-107 | Meteorology (MT6)<br>Staff Officer Meteorology<br>Maritime Command HQ<br>Halifax, N.S.<br>J. Craig |
| 74-DOE-AES-CC-4 | Meteorology (MT7)<br>Office-in-Charge<br>Weather Office Gander<br>J.B. Elliott |
| GENOT 138 | Meteorology (MT6)<br>Project Meteorologist<br>Field Meteorological Systems Branch<br>Field Services Directorate<br>AES HQ, Downsview<br>W. Halina |
| 74-DOE-TOR-CC-86 | SE-REM-1<br>Head, Office of the Director General<br>Atmospheric Research Directorate<br>AES HQ, Downsview<br>J.D. Holland |
| 73-DOE-TOR-CC-304 | Meteorology (MT6)<br>Tourism and Recreation Weather Service Meteorologist<br>User Requirements Division<br>Field Services Directorate<br>Downsview, Ontario<br>D.J. Phillips |

**Retirements:**

| | |
|---|---|
| W.W. Allen | Maritimes Weather Office |
| L.C. Rich | Toronto Weather Office |

Dr. R.E. Munn has been awarded a Life Membership in the Public Service Alliance of Canada as a mark of recognition of his service to the membership.

**Appointments – Nomination**

The appointment of two Meteorologists to senior management positions within the Quebec Region has been announced.

Mr. Laurent L. Primeau, has been appointed Superintendent, General Weather Services, and Mr. Jacques Vanier, has been appointed Superintendent, Observational Services.

La nomination de deux météorologues de Montréal à des postes de gestion supérieure a été annoncée.

Monsieur Laurent Primeau est nommé au poste de Surintendant des services météorologiques généraux et Monsieur Jacques Vanier est nommé au poste de Surintendant régional des services d'observations.

Mr. G.H. Legg, Regional Director, Western Region, has announced the appointment of Mr. Neil Meadows to the position of Officer-in-Charge of the Weather Office, Calgary, located at the Calgary International Airport.

Monsieur G.H. Legg, Directeur régional, région de l'Ouest, vient d'annoncer la nomination de Monsieur Neil Meadows au poste de Chef du bureau météorologique de Calgary, situé à l'aéroport internationale de Calgary.

Effective 12 August 1974, Mr. J.D. Holland assumed the duties as Head, Office of the Director General, Atmospheric Research Directorate.

Effective 12 August 1974, Dr. A.J. Chisholm became Acting Chief of Cloud Physics Research Division, Atmospheric Processes Research Branch.

## TRIVIA

**Conversion Anyone? ?**

– to come within 2.54 cm of your life
– give them 2.54 cm and they'll take 1.61 km
– a miss is as good as a 1.61 km
– 28.35 g of prevention is worth 0.45 kg of cure
– you can't put 1.14 litres into a 0.57 litre bottle
– a 2.54 cm worm
– I wouldn't touch that with a 3.048 m pole
– 0.45 kg of flesh (see Shakespeare)
– 1.61 km high
– 0.45 kg cake (yummy)
– a 1.61 km stone
– cover every 2.54 cm of the place
– 2.54 cm by 2.54 cm
– 2.54 centimetreing forward
– 73.12 m down
– 0.914 m stick
– I'd walk 1 610 000 km for one of your smiles
– 0.914 m goods
– I love you a 0.0364 $m^3$ and a 0.0091 $m^3$
– The last 1.61 km

## Of Nature

Georgette Amar

THE SUN RUNNING
SPEED ELEMENTS
ÇLOUDS VANISHING
DROP OF WATER
TENTACLE OF LIFE
GENESIS OF A UNIVERSE
SWOLLEN SKIES
SUNKEN SEAS
WOODEN PILLARS
REFLECTED REFLECTION
OF CHAOS OF CREATION
SNAKE BENEATH THE TREES
THE SUN CREPT
INTO ITS MELTING-POT
IT'S THE END OF A DAY
A NEW MAN MAY BE REBORN. . . . . .
FROM THE WARMTH OF (A) NIGHT
. . . . . . . . . . . . . . . . . . .

## Expressions Diverses

| Expressions | Signification ou Equivalent |
|---|---|
| Virer son capot | Changer d'idée |
| C'est plat à mort | C'est ennuyant à en mourir |
| Fendre un cheveu en quatre | Compliquer les choses |
| Joindre les deux bouts | Boucler un budget |
| C'est pas croyable | C'est incroyable |
| Je me jette à l'eau | Je commence, je risque |
| Arrête de niaiser | Arrête de dire des sottises |
| Cela a du bon sens | C'est correct, acceptable |
| Voir la vie en rose | Etre optimiste |
| Tu rêves en couleur | Tu es idéaliste |
| Faire l'enfant | Se conduire comme un enfant |
| Laisse tomber! | Abandonne! |
| Il voit rouge | Il est en colère |
| Magané | Brisé, fatiqué |

* * * * *

## THINKING BIG! !

Memo misprint referred to TAPS as "Trans-Atlantic Pipeline Study."

## PUBLIC OPINION

Bumper sticker seen in U.S. City
"Help solve the energy crisis – Kill an ecologist."