ENVIRONMENT CANADA

ATMOSPHERIC SERVICE

ENVIRONNEMENT CANADA

SERVICE ATMOSPHERIQUE

ZEPHYR

AUGUST 1971 AOÛT

1871 1971

ZEPHYR*

AUGUST 1971

Published under Authority of the Assistant Deputy Minister
Atmospheric Environment Service

Editor: B.M. Brent

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* ZEPHYR – A Gentle Breeze

NEW AES HEADQUARTERS BUILDING

On Wednesday afternoon, September 1st, the Atmospheric Environment Service opened its doors to the families and friends of its employees.

The occasion was to celebrate the move of the Service to its new quarters in the Borough of North York. It allowed the employees the opportunity to show their guests the new building and some of the many functions carried out by the Atmospheric Environment Service Headquarters unit. The open-house also presented the staff with an opportunity to meet the families and friends of their fellow employees.

The day, complete with balloons and refreshments, turned out to be a most enjoyable one for all concerned.

INTERNATIONAL METEOROLOGICAL SYMPOSIUM
TORONTO OCT. 26-28, 1971

Plans are being finalized for the most prestigious international meteorological symposium ever held in Canada. The symposium will be the major event being held during the official opening week of the new Atmospheric Environment Service Headquarters in Toronto.

The various committees and sub-committees under the overall chairmanship of Dr. D.P. McIntyre have been active in making the arrangements and detailed plans which are necessary for the success of such a large undertaking. The theme for the symposium is "A History of Meteorological Challenges" and will feature as speakers, eminent international scientists such as Dr. B. Bolin, Director of the European Space Research Organization. Dr. Fritz Möller, Director of the Institute of Meteorology, University of Munich, Dr. B.J. Mason, Director-General of the Meteorological Office, (U.K.). The opening speaker on October 26 will be Dr. P.D. McTaggart-Cowan who will speak on "The First Century of the Canadian Meteorological Service."

The new headquarters building at 4905 Dufferin St. will be the site of the symposium; the 290 seat main auditorium, where the sessions are to be held, will be the main centre of activity, with invited guests from Canada and other countries in attendance. Additional space will be available in the ground-floor classrooms, which will be linked to the auditorium by means of closed-circuit T.V. A press-room for the media is to be established and refreshments will be available in the cafeteria.

A banquet is planned for the evening of Wednesday, October 27, at the Arcadian Court Restaurant, Simpson's for those attending the symposium. A ladies' program is also being planned which will feature an informal get-together at the Headquarters on the Monday evening prior to the symposium, a bus tour of Toronto and a visit to the Ontario Science Centre.

The proceedings of the symposium will be published and it is expected that the book will become an important reference source for years to come.

EYE WITNESS ACCOUNT OF THE STORM AT WHITECOURT, ALBERTA
AUG. 7, 1971

The most vicious hailstorm ever seen (according to the oldtime residents) hit Whitecourt on Saturday, August 7/71. It started first at 4:34 p.m. and lasted until 4:50 p.m. then again at 5:28 to 5:54 p.m. and finally once more at 6:05 to 6:14 p.m. During those periods, the storm dumped hailstones the size of golfballs, with quite a few the size of hardballs, down over the entire town. Winds up to 50 miles per hour caused the hailstones to sweep across the town at an angle of approximately 30 to 45 degrees from the ground. The heavy rain accompanying the hail dropped an inch and a quarter of precipitation. This storm in its wake, left not a dwelling nor a building untouched.

After one week the conservative figure of one million dollars property damage will probably be passed. It is estimated that almost 100 percent of the dwellings in town will

have to be re-roofed and thousands of windows replaced. Average cost to repair cars and trucks is running between one thousand to fifteen hundred dollars. Some houses and holiday trailers, were a total write-off and others will cost into the thousands to repair. The hailstones went right through the aluminum roofs and sidings in some of their trailers.

Six out of seven planes at the airstrip are considered a total write-off . . .all neon signs, etc. completely demolished. Basement suites were flooded in the valley area and in this area the hail was still on the ground the next day. Drifts of hail six to eight inches in depth laid against northwest walls. Several people were injured by the hail and flying glass, especially in house trailers and there were some very badly bruised people who were caught out in the storm while playing golf. Trees 59 to 60 feet tall were uprooted and thrown across buildings and streets. The aftermath of this, the worst storm in Whitecourt's history, was indeed a grim sight to behold.

ICE RECONNAISSANCE – REMOTE SENSING

Recent developments in the Ice Unit's remote sensing programs have included the acquisition of a laser profilometer, the testing of a low light level television system, and the leasing of a Daedulus infrared line scan system.

The laser profilometer, which generates a surface profile signal, is being used in conjunction with a low response time chart recorder to provide the visual observer with an immediate readout, to an accuracy of the order of 10^{-1} feet, on surface roughness and ridge height data over ice fields, thus assisting in identification of ice types and recording of very high ridges. The records can also be used for post flight examination and interpretation. The recorder used during this summer's operation was found to provide much too low chart speeds, resulting in crowding of data and loss of resolution of surface roughness detail. Future operations will utilize a recorder with improved chart speeds.

The low light level television system, leased from General Electric for a three month period, functioned well. However, although the systems offered reasonably good imagery of ice in real time during flights under low light level conditions, its operational use was found severely limited by the limited angle of view (maximum 40°) and the limited range of light conditions under which it could be operated. Furthermore, other remote sensors available on the market are capable of providing comparable or better imagery with larger aerial coverage and under all light conditions, including complete darkness. It appears unlikely, therefore, that the system will become a prime tool for ice reconnaissance purposes. The lease has since expired.

Infrared or thermal, imagery has proved to be a most useful tool for providing supplementary data to visual ice observations, particularly during darkness or over evenly snow covered ice fields. The Daedalus IR line scan system tested during the summer appears to be an excellent and very versatile system for providing this infrared imagery. The system records all data on magnetic tape while allowing simultaneously real time monitoring of the imagery on a long persistence, low resolution oscilloscope. This real time capability allows immediate interpretations of the thermal characteristics of the ice surface as it is being traversed. A playback system allows post flight examination and review of ice data on the

display. The data can also be recorded on film by a 70 mm camera mounted on a short persistence high resolution oscilloscope, either while the data is being recorded on tape, or by replay. The system has operated without difficulty during the lease period and, although study of the imagery is incomplete, appears to provide top quality data in both real time and recorded modes.

During June, 1971 a request was received from participants in the Devon Island Project of the International Biological Program, a project for intensive study of the high Arctic ecosystems, for remote sensing data over the Truelove Lowlands of Devon Island. Infrared imagery, a laser profilometer trace of surface profile and accompanying black and white photography were requested. On July 25, during routine reconnaissance activities in the vicinity, reconnaissance aircraft CF-KAE made several passes over the lowlands, recording the requested data on the Daedalus scanner, the laser profilometer and a 70 mm Hycon Panoramic camera. Researchers in the project have agreed to supply ground truth data from their seven micrometeorological stations in the area, as well as any biologically meaningful ground truth data of use, in exchange for the imagery.

NUMERICAL MODELLING STUDIES INVOLVING THE EFFECTS OF SST ON THE DEVELOPMENT

In connection with the SST development both in Europe and North America, the relationship between the SST exhaust products such as water vapour and oxides of nitrogen, and the ozone concentration in the stratosphere has generated considerable interest and controversy among atmospheric scientists concerned about potential inadvertent ecological and climatic changes. It is argued, both water vapour and oxides of nitrogen can, through a chain of photochemical reactions, reduce the stratospheric ozone concentration thereby allowing more biologically harmful solar ultra-violet radiation to reach the ground. Further, from the meteorological point of view, the radiative sources and sinks of energy may be changed and the nature and intensity of the weather systems altered with subsequent climatic modification.

Recently, various complex photochemical systems involving oxygen, hydrogen and nitrogen compounds have been developed and attempts have been made to estimate the effects of SST exhausts on ozone concentration based on photochemical calculations. Regardless of the complexity of the reaction scheme, the changes in the ozone concentration cannot be determined by photochemical calculations alone, without considering the simultaneous effects of the transport processes. Attempts to model the atmosphere containing the SST pollutants have been few.

The principal aim of this project is to study the effects of water vapour on ozone concentration in the stratosphere and for this purpose a seasonal circulation model of the stratosphere which incorporates the important coupling between radiative hearing, ozone photochemistry and the transport processes is used. The ozone photochemistry has been modified to take into account the effects of water vapour and its derivatives.

The results of this particular experiment reveal the fundamental importance of the atmospheric transport processes in determining the changes in the ozone concentration and temperature due to the presence of water vapour in the stratosphere. By specifying the water vapour mixing ratio profile based on observations, it was found that the ozone concentration

was reduced by a factor of 3 to 4 in the lower stratosphere without the transport processes. However, when the transport processes are operating simultaneously with radiation and ozone photochemistry, the reduction in the ozone concentration is only 20 to 25%.

It has been quoted in the literature that there might be a possible increase of 10 to 20% in the water vapour concentration of the lower stratosphere due to large scale operation of SST. The results of the present experiment show that 10 to 20% change in the water vapour concentration has the effect of reducing the ozone concentration by about 2 to 4%

More experiments are required and are planned for reliable assessment of the SST pollutant effects of ozone concentration and the temperature structure of the stratosphere. These experiments should involve also, additional photochemical reactions containing the nitrogen compounds, and the water vapour effects should also be incorporated in the thermo-dynamic energy source term to form an interactive system.

LETTER OF APPRECIATION

The following letter was recieved by:

Mr. A.F. McQuarrie
Meteorological Branch
Ministry of Transport
Victoria Weather Office
Victoria International Airport
Sidney, B.C.

Dear Sir:

Your advice concerning the weather expected during our cable laying operations on the east and west coasts of Vancouver Island turned out to be excellent and the cables were laid within a two week period with only one day lost due to weather.

Your co-operation in providing this information is very greatly appreciated and has saved the Canadian tax payer considerable money.

Yours very truly

I.M. CAMPBELL
District Engineer

LES NUAGES

SYNOPTICALLY-ORDERED HOURLY WEATHER HISTORY TAPE

Edited hourly weather reports have been going on magnetic tape since July 1 of this year at the Central Analysis Office for 144 stations in an area covering central and eastern parts of Canada and the United States. This 'history tape' is being prepared in support of forecast research requirements in the field and in the Forecast Research Section, with the associated programming tasks being carried out at the CAO. This has been done in such a way as to permit expansion of the archiving program to cover all of Canada and the adjacent United States when communications are extended to permit receipt of the necessary teletype traffic at the CAO. The decision to provide this extension has been made by Forecast Division and will likely go into effect along with other changes late this Fall.

The requirement for the tape is due to the inherent expense in merging long single-station data files, and the fact that the matching data from the U.S. are not economically available since its key-punching programme is not nearly as comprehensive as Canada's.

The tapes will be held, along with other CAO history tapes, by the FRS which carried out the computer programming and operations to manipulate and extract data on the tapes for research purposes.

Initial applications of the data will be in such areas as (i) deriving historical fields and point values of important derived variables measuring physical and dynamic effects (geostrophic winds, low level moisture convergence, low level vertical velocities, etc.) (ii) evaluation of the performance characteristics of short range and boundary layer models (iii) development of statistical-physical relationships for the prediction of point values of weather elements (iv) preparation of regional sub-tapes from the original master tapes.

VICTORIA WEATHER OBSERVER BUILDS OWN INSTRUMENTS

by Allan F. McQuarrie,

George Murdoch is an ingenious man. He couldn't get all the weather measuring equipment he wanted so he decided to build it himself. One of hundreds of Cooperative Weather Observers across Canada and a member of a team of some two dozen in the Greater Victoria area, George Murdoch provides official precipitation measurements for the area around "Oak Bay-Willows Park".

The Atmospheric Environment Service (formerly known as the Canadian Meteorological Service) provides equipment, to measure certain weather parameters, to persons who are interested and meet specified standards. In Mr. Murdoch's case, rainfall measuring equipment was installed. This is essentially a standard rain gauge. But Mr. Murdoch wasn't satisfied; he wanted to know when the rain started and when it stopped. So he made and installed a device on a roof-top that, when rain began, would trip a sensitive relay switch. This in turn activates a recorder that he built so that the times can be determined.

The recorder consists of a roll of one inch paper tape moving at the rate of six inches per 24 hours across a scale. An electric clock drives the mechanism and ensures accurate timing at the rate of ¼ inch of tape per hour. When the relay is activated, a stylus makes a mark on the tape thus ensuring a permanent record of all times the rain is falling.

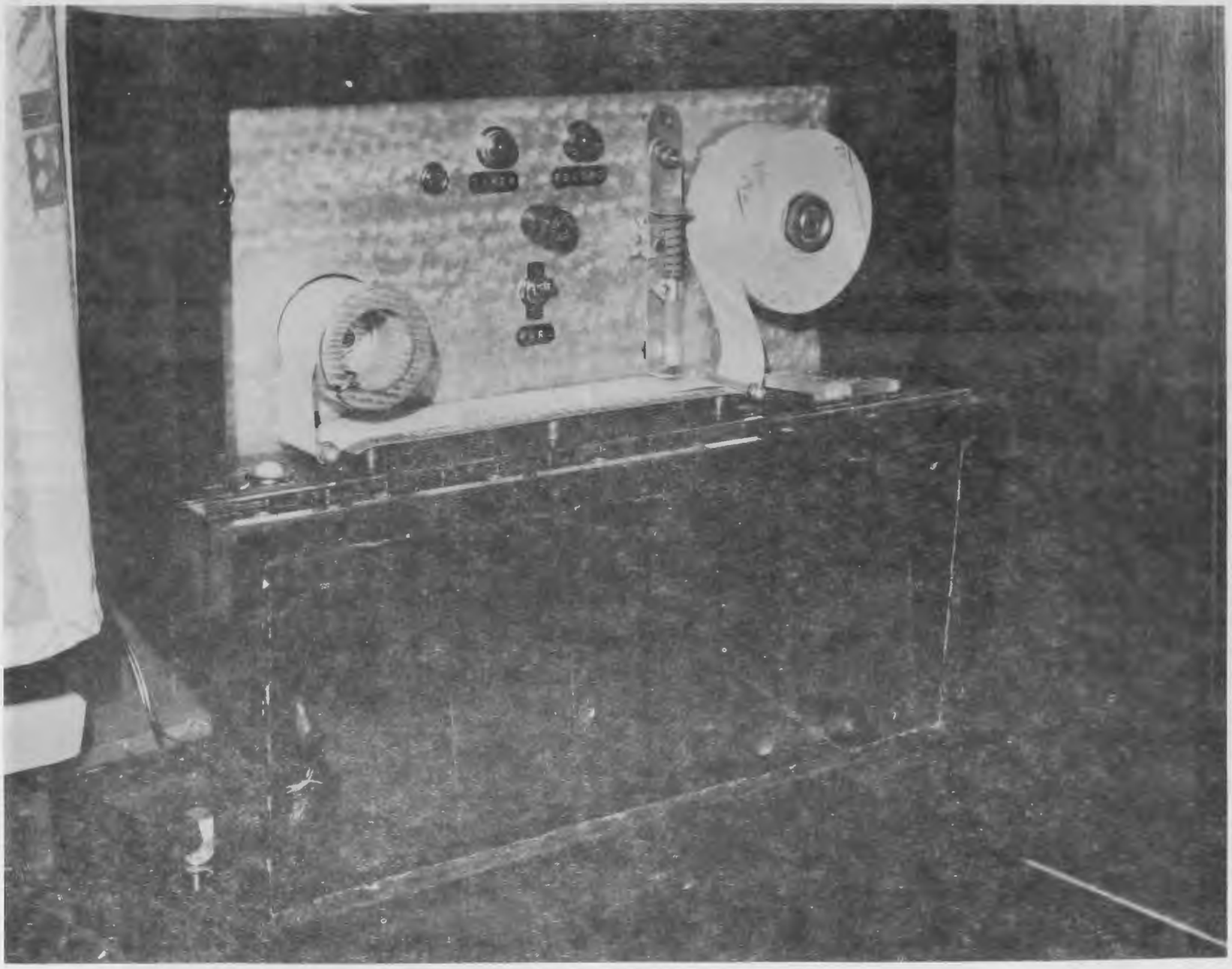
Achieving success in this line, he decided he wanted to measure wind velocity. He began to design his own anemometer but the Meteorological Service provided him with an old style but still usable instrument. This he has mounted over his garage. A cable leads from this measuring device to another of Mr. Murdoch's creations. A small box has a series of lights which indicate wind direction and another set of lights is used to measure the wind speed. This is a fairly standard type of simple installation but in this case, Mr. Murdoch has added a digital counter. This allows him to set the device to measure the wind speed even though he is not around.

He has also obtained a small thermometer screen and a set of thermometers which, though not approved "officially", nevertheless give a good indication of temperatures in his garden. He has a small but accurate aneroid barometer for noting the pressure and a radio tuned to obtain weather at surrounding stations. He estimates he has spent $375 on this equipment. His daily record of the weather includes all this information and other pertinent remarks and is mailed monthly to the Regional Climate Data Centre at Gonzales Observatory in Victoria.

Mr. Murdoch is an expert in electronics. For 40 years he was in the Radio and Electronics business, much of the time working for an old established Victoria firm (Fletcher's Radio) but for the last ten years, he was in business for himself. A native of Victoria, he is now 78 but still active and has his own workshop in which he constructed the meteorological equipment. At one time he was Reeve of Oak Bay, one of the municipalities of Greater Victoria. His family is now grown but he lives with Mrs. Murdoch at their comfortable home at 2240 Beach Drive, overlooking the waters beyond Willows Park. The Atmospheric Environment Service is proud to have men like George Murdoch assisting in its important program of obtaining Climatological Data.

George Murdoch, Co-operative Observer Oak-Bay: Willows Park (Victoria) with his "Home-Made" Wind Indicator Showing Digital Counter, August 1971

Allan McQuarrie Photo



Automatic Rain Timing Recorder – Designed and Built by George Murdoch, August 1971 *Allan McQuarrie Photo*

George Murdoch Explaining "Rain Recorder Relay Switch", August 1971 *Allan McQuarrie Photo*

INTERNATIONAL CLIMATOLOGY

Following attendance at the IUGG 15th General Assembly in Moscow, Mr. C.C. Boughner, Chief of the Climatology Division, attended the Symposium on Physical and Dynamic Climatology in Leningrad, August 16-20, and a meeting of the Advisory Working Group of the WMO Technical Commission on Special Applications of Meteorology and Climatology in Geneva, August 23-27. One hundred and forty-two (142) scientists from 20 countries were present at the Leningrad meetings where sessions were held on the energy balance of the earth, physics of local and microclimate, numerical models of climate, satellite climatology, general circulation of the atmosphere, and climatic fluctuations and modifications. At the CoSMAC meeting, members of the Advisory Committee were primarily concerned with organizing the work of the Commission under the new terms of reference established by the recent WMO Congress. The new Commission faces many challenges resulting from WMO's expanding role in the application of meteorology to environmental studies.

ICE RECONNAISSANCE OPERATIONS

Both AES Chartered DC-4 ice reconnaissance aircraft CF-KAD and CF-KAE supported the transit of CCGS Louis S. St. Laurent to Alert and the "farthest north" by a Canadian Coast Guard icebreaker in August. The three aircraft, CF-KAD, CF-KAE and CF-DOT, completed almost one hundred scheduled and unscheduled tactical airborne facsimile transmissions to Canadian Coast Guard icebreakers during August. On an ice patrol in connection with sealift activities in the Queen Elizabeth Islands, a Hughes 369 Helicopter CF-ZXE owned by Helisolair Limited, Montreal, was located, as requested, and was reported to Eureka Radio for aircraft recovery action.

NEW CLIMATOLOGY PUBLICATIONS

Over the past two or three years, Professor R.W. Longley of the University of Alberta and Miss C.V. Wilson of Laval University, have been preparing regional climatological studies under contract for this Service. The manuscripts have been completed and it is hoped that both the Climate of Quebec and the Climate of the Prairie Provinces will be published later this year.

REPORT ON UNIT I OF METEOROLOGISTS (B.Sc.) COURSE 28

Thirty-four Meteorologists (B.Sc.) commenced Course 28 on June 14, 1971. The first week of training was held at the Davenport Road site and the class was then moved to the new Headquarters site of the AES on Dufferin Street.

Nine of the 34 hold Honours degrees and many of the remainder are graduates with a strong major degree in Physics.

One employee resigned at the end of Unit I and two were released for failure to successfully complete this Unit of training. Of the 31 entering Unit 2, 2 will be required to write supplemental examinations late in September to obtain a clear record on Unit I.

Three employees of the Instrument Division and a graduate student in Oceanography from UBC also attended Unit I lectures and some of the laboratory sessions.

TEST AND EVALUATION OF NEW TYPES OF NAVIGATION SYSTEMS FOR ICE RECONNAISSANCE

In a continuing effort to stay abreast of advances in the aerospace industry as applied to the ice reconnaissance program two new types of navigation systems were acquired for test and evaluation during the Summer Arctic operation.

One of the Douglas DC-4 aircraft CF-KAD operating mainly in the Hudson Bay Route, Davis Strait, Baffin Bay and Foxe Basin areas had a Litton LTN 51 inertial guidance system installed. A conventional installation was not possible in that the inertial navigation system and the auto pilot were not integrated due to time limitations requiring some considerable engineering to interface the two units. During the period, acceptable flight data was obtained from thirty-seven missions, over four-hundred flying hours showing 2.57 nautical miles error in latitude and 4.94 nautical miles error in longitude. The average error per flying hour was 0.24 nautical miles in latitude and 0.46 nautical miles in longitude. The system was not updated in flight as planned and twelve of the thirty-seven flights originated from airports not having a pre-determined exact lat./long. parking position.

A chartered MOT Civil Aviation Branch Douglas DC-3 CF-DOT operating principally in the Western Arctic had a prototype Marconi Computorized Omega Navigation System leased and installed for four months. This is the first commercial application on operations of this system which had previously been shown as a static display at the 1971 Paris Air Show. Results to date have not been as acceptable as expected with certain integration problems of major system components as well as reduction of power of the New York transmitting station under inclement weather conditions reducing the effectiveness of this navigation aid in our area of operations.

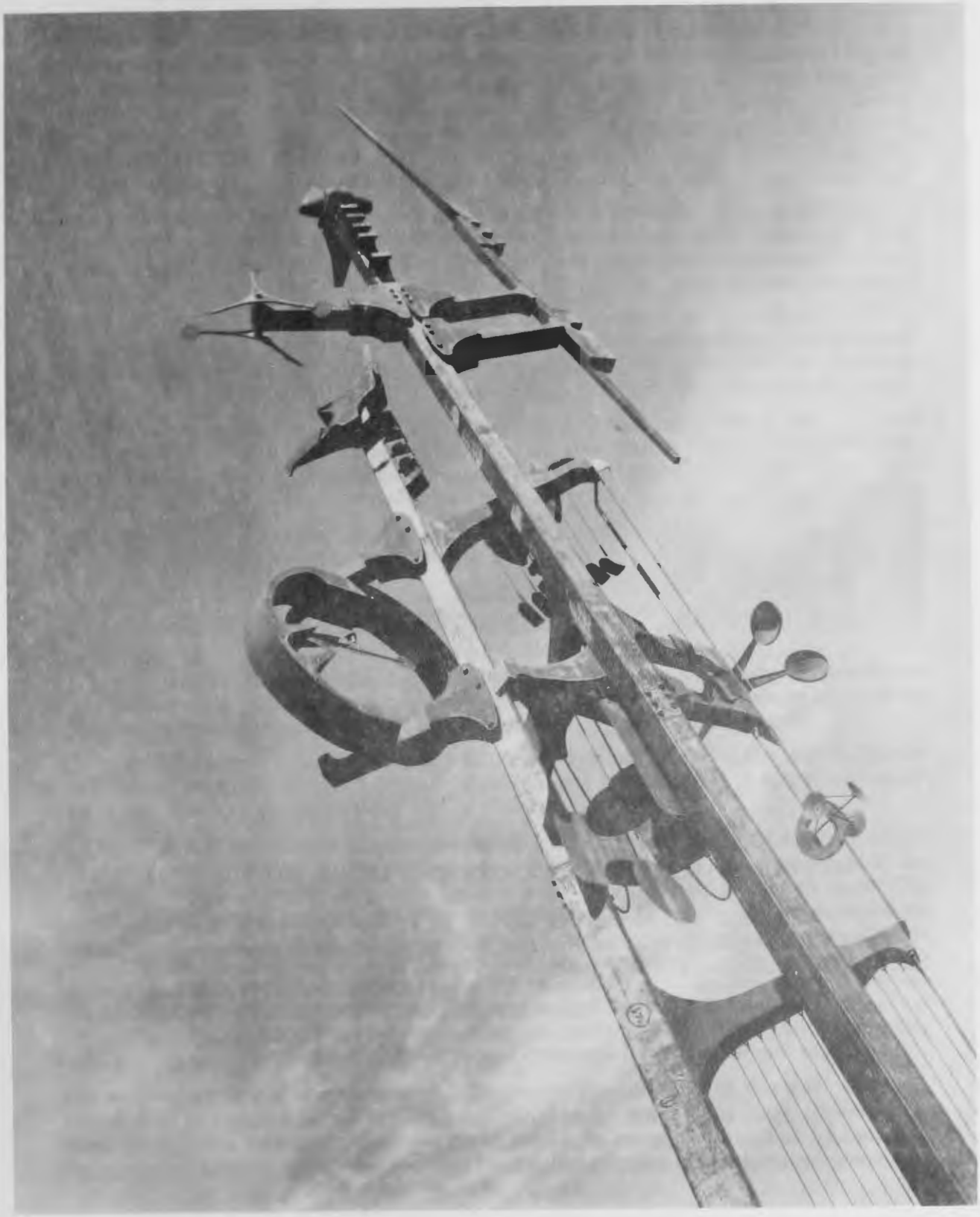
CAN YOU NAME IT?

The front of the new AES Headquarters building is graced by a modern sculpture, by Ron Baird an Ontario sculptor, and has been the subject of a great deal of interest and speculation. Not only are staff members intrigued, but passing motorists slow down or even come into the driveway to inspect it more closely.

The sculptor never gives a name to any of his works, but has no objection to our doing so. Therefore, we are asking you *"Can you name it? "*. All replies to be directed to the Editor.

The following verse is the sculptors own description of his work.

Three Dark Figures
Making the Weather
In Folk, in Myth, in Legend,
A threefold test.
Shiva, Vishnu, Brahmin.
Father, Son, Holy Ghost.
Body, Mind, Spirit.
Triune, Triumvirate, Tribunal.
One is Isolate
Two is divisive
Three is Peace.
Three is Torment.
Three is Potent.
Power, Power, Power.
Air, Fire, Water.
Three Dark Figures,
Making the Weather.



CFWO UPLANDS PARTICIPATION WITH DXD IN PRESENTATION OF WEATHER INFORMATION AT RECENT CANADIAN EXHIBITIONS

For the period 21 August to 12 September 1971, CFWO Uplands was requested by the Directorate of Exhibitions and Displays (DXD) of the Canadian Forces to prepare daily tape recordings of weather conditions. Each day, the duty forecaster prepared two scripts, one dealing with that day's weather across Canada while the other concentrated in greater detail on the weather over the Canadian Arctic. He then prepared tapes which were relayed by Canadian Forces Headquarters to the PNE, CNE and QPE. For the QPE, a translation into French was made by DXD and relayed along with the English version.

Each of the sites was divided into three areas, a movie area, an operations area, and a cool room where special emphasis was given to the role of the Canadian Forces in the Arctic. The weather tapes were broadcast over the PA system of the operations area at intervals through the day.

In the operations area, a status board was kept constantly updated with information posted to show departures and arrivals of ships, temperatures and other weather conditions at localities in the Arctic and through the rest of Canada. This weather information was extracted daily from the tapes prepared by CFWO Uplands.

The Status Board used in these displays consisted of a 6′ x 10′ clear plastic board illuminated from below by ultra violet light which, of course, is not visible to the human eye. The crayon used on the board, however, becomes luminous in ultra violet light so that the hand printed figures glowed from the board with no apparent source of light.

Feedback through DXD indicates that the information was well received by the general public who found it both informative and interesting. Unfortunately, no one from this office attended any of the three exhibitions.

Attendance at each of the Canadian Forces' booths was as follows:

PNE – 143,757

CNE – 137,262

QPE – 101,852

MOVE OF SATELLITE DATA LABORATORY TO NEW H.Q. BUILDING

At the end of September the Satellite Data Laboratory will be located, with the rest of their colleagues in Forecast Research Section, at the new Atmospheric Environment Service Headquarters on Dufferin Street.

The move of this facility has required the construction of a new antenna site adjacent to the new H.Q. This site is on the south edge of the University of Toronto Institute of Aerospace Studies (U.T.I.A.S.) property east of the H.Q. building.

The new antenna site will be controlled from equipment in the new building, and the acquired signal will be used by both the Satellite Data Laboratory and U.T.I.A.S. who are engaged in the development of a lazer beam picture reproduction unit for the earth resources satellite program and who will use our acquired signal in their work.

Underground cabling and power will be taken from the buildings concerned to the new antenna site, which is now being prepared to receive the antenna tower and receiver buildings, previously located on the south side of Toronto Internaitonal Airport.

The move of these components to the new location is somewhat complicated, not only in regards to the problems of interconnection and interfacing of the electronic equipment, etc., but by other restrictions.

It had been hoped to move the building and tower by slinging these from a helicopter. However, due to difficulties in positioning a helicppter of the proper type at the appointed time, the move will have to be carried out by road using a flat-bed truck. The fifteen miles distance between the old and new location will require, due to overhead restrictions en route, a devious route of 35 miles of road travel, through some five different townships, each requiring a police escort and the presence of telephone and hydro representatives in order to raise any overhead lines encountered. The new antenna site has been evaluated for reception conditions etc., during the past year, and it is anticipated that reception at the new location may be even better than that obtained during the five years spent at the aiport.

The Satellite Data Laboratory hopes to be operational at the AES H.Q. by mid-October if at all possible. The move of the electronic equipment and preparations for the new antenna site are being arranged and supervised with the assistance of the Toronto Region, Construction Engineering Section, Telecommunications Branch of D.O.T.

THE GREAT STORM

by L. Veinot

"How the men perished. – The glassy black bottom of the GENII as it now lies beyond the reach of the waves tells too well the story of how she yielded to destruction. From the spot, where all that remains of her, about two hundred yards to the east, is the New River Ledge, a black frowning rock just cropping above an ordinary high water surface. When the blast drove down upon her she dragged and was beaten over this and dashed, broadside on, up the ragged and precipitous cliff. The wind and the inside of the huge wave that landed her there must have listed her in toward the land and when the rocks were bared as the waters rushed back, she rolled with one awful lurch down again into the sea, breaking shrouds, stays and masts like straws, and hurling the men at once into eternity. There was no clinging to the wreck, no praying for assistance against hope, but, with the deck upon which they had stood they were dashed down against the rocks and the returning wave mingled their corpses with the splintered hull and tangled rigging of the noble ship. Not a soul could stand near the scene on that night, and no living saw the doomed vessel drift to her fate, but the bottom unchafed and the top ground away on one side to the tops of the floor timbers as she worked up and down the rocks, point clearly to the fact that with one great effort she was overturned and the work of destruction accomplished".

The above quote is one of a great many that tells of death and destruction caused by one of the most severe storms ever to effect the southern sections of New Brunswick and the State of Maine. This is the storm that has gone down in history by the name of – The Saxby Gale – It slammed into the area on the evening of October 4th, 1869, – a Monday Evening. Reports of the weather during the day on that fateful day tell of "hot, humid conditions – unusual for this time of year" and of "calm winds and hazy, humid weather". From Saint John came the report – "In the afternoon the wind began to rise and by 7 o'clock a fearful storm was raging, for about 2 hours it rained heavily, thereafter only occasional rain. High water 9:43 p.m. Storm still raged at 10:00 p.m." This report was in the N.B. Reporter on October 8th concerning the storm of the 4th. In letters from the Saint John area it tells that "the extreme force of the wind seemed to have been felt in narrow strips, where for perhaps a quarter of a mile or more in width there would be no trees standing".

Inland New Brunswick was effected by the storm, but not with the severity experienced along the Southern shores. However, reports tell "between Fredericton and Hartt's Mills, 40 or 50 houses and barns were more or less demolished; on the Fredericton road between Malcone's and Welsford Station, some 20 buildings were unroofed or blown down, including a Roman Catholic Church". At the Indian Village, 10 miles above Fredericton, there was a lively scene, and a canoe race in the air. An exchange says: "The numerous bark canoes of the Indians were lying on the bank of the river, as their owners supposed perfectly safe. But the wind seized them; they ascended into the air, and were blown entirely across the river, and several hundred feet up an ascent to the top of the hill".

But from the coastal sections came the reports of the greatest destruction. The reporter of the Telegraph says that "for an hour or two it presented a scene that baffled description. The tide not only broke over the sharves and houses, but threw boulders, stones of various sizes and coarse gravel clear over the tops of the houses! The waves rolled over the houses on the side of the street and cast their spray on the sidewalks of the houses opposite. Whole families, young and old, women and children, including young babies, were turned out in the streets, barely escaping with the clothing they had on, and losing every-

thing else; while the noise of wind and waves, the cries of men trying to save their property, and the wailing of women and children, Sand Point about ten o'clock Monday night presented a truly appalling scene. Even the return tide proved, in some cases, as disastrous as the incoming march of its proud waves".

Down the coast, between Saint John and St. Andrews, the Telegraph gleaned the following – "At New River Messers. Percott and Lawrence's Mills and property are damaged to a great extent. Their breakwater, about 300 feet in length, is entirely demolished, and nothing is left to mark where it stood save the ballasting. Just inside of it there was a large two-story warehouse and a wharf, which have been swept away and dashed to pieces amid the general drifting wreck and ruin along the beach. Their mill railway, some 250 feet in length, was torn up and carried down below the dam; and the mill itself, though a little wrecked, is comparatively uninjured. Two of their large barns and one dwelling house are blown completely down, and another dwelling house is unroofed".

Another report from a coastal section tell of "a Nova Scotia vessel, laden with spars, is ashore at Ragged Point, she was upset outside. Her crew of five men were saved by clinging to her. They lost their clothing, which was torn from their bodies by the sea, and were thrown ashore almost naked".

In several sections of Maine the storm was very severe, and the rise of water very great. The rise of water in the Androscoggin River at Lewiston is said to have been unprecedented – millions of logs were swept away over the falls, and much other property destroyed. A dispatch from Montreal, dated the 8th, says that the recent floods have completely stopped navigation on the Champlain Canal.

"The Saxby Gale" will certainly be remembered and talked about for years to come yet, even though it happened more than 100 years ago. It is a legend now on the East Coast of Canada, and will be remembered as one of the worst, if not the worst, storm to ever deal a blow of death and destruction to the area.

PERSONNEL

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

Competition 71-MET-CC-20 – Meteorology (MT) 6
Base Meteorological Officer
CFB Summerside, P.E.I.

– W.J. Sowden

The following transfers took place:

C. Battson	– To	Summerside
	From	CFB Chatham (T.D. Assignment)
J.B. Elliott	– To	Maritime W.O., Halifax
	From	Canadian Forces, Europe
A.M. Gillingham	– To	Ent AFB, Colorado Springs
	From	CFB Chatham
B. Marois	– To	W.O. Goose Bay
	From	Canadian Forces, Europe
W.I. Pugsley	– To	Prairie Provinces Water Study, Calgary (Project)
	From	Central Analysis Office, Montreal
J. Shaykewich	– To	CFB Portage
	From	CFB Winnipeg
G.M. Shimizu	– To	Forecast Division (Management Development Plan Assignment)
	From	Central Analysis Office, Montreal
S.J. Soik	– To	CFB Cold Lake
	From	CFB Winnipeg

M.Sc. Graduates – 1971

G.J. Fuller	– To	Climatology Division (Project)
	From	University of Toronto

TEMPORARY ASSIGNMENT – MR. J.R. MATHIESON

Mr. J.R. Mathieson of the Pacific Weather Central has been appointed as the planning officer on a project concerned with AES participation in developing DOE policies in tourism, outdoor recreation and conservation. He will report for duty at AES Headquarters on September 8, 1971, and a project duration of approximately two months is envisioned. Forecast and Climatology Divisions will jointly provide general direction to the project, and the necessary administrative support will be provided by the Strategic Plans and Policies Section of Forecast Division.

LA REGION DU QUEBEC PERD SON PREMIER AGENT PORTUAIRE

F.K. (Shorty) UPTON prend sa retraite.

Même au risque de nier le fameux proverbe "Plus ça change plus c'est la même chose", le départ de Shorty Upton Agent portuaire région du Québec, est un changement auquel il faudra s'habituer. En effet après 25 années continues dans la "Météo" et à l'âge de 65 ans, Shorty cesse ses activités météorologiques pour prendre un repos bien mérité.

Bien qu'il soit au Service de la météo depuis 1946, sa carrière météorologique retourne à 1940, quand il s'est engagé dans le C.A.R.C. à titre d'observateur météorologique. Sa période de formation terminée, Shorty et un autre observateur, se voient muter immédiatement à Goose Bay, presque au moment où les travaux de construction commencent. Il faut dire que les conditions de vie et de travail pour plusieurs mois étaient dès plus rudimentaires. Quelques années plus tard, toujours durant la période de guerre, il est muté au Contrôle de la circulation aérienne militaire avec un brevet d'officier et un autre stage à Goose Bay, cette fois dans les cadres du RAF Transport Command. En 1946, Shorty accepte un emploi dans le Service météorologique du Canada à titre d'observateur. Après sa période de formation à Dorval, P.Q. il dessert ses fonctions à Ottawa et Kapuskasing en Ontario durant une dizaine d'années. En 1957, il est assigné au Port de St-John, N.B. à titre d'Agent Portuaire. Quatre ans plus tard, il est muté au Port de Montréal pour desservir les mêmes fonctions. Ce sera son dernier poste même si durant les prochains cinq ans, le Port de Montréal étant fermé en hiver, il devra retourner à St-John chaque hiver. En 1966, le rythme d'activités au Port de Montréal en hiver était devenu tel qu'il a dû consacrer tout son temps au Port de Montréal. Cinq ans plus tard Shorty termine sa carrière météorologique à titre d'Agent portuaire dans le Service de l'Environnement atmosphérique. Il peut donc réclamer être le premier Agent portuaire à prendre sa retraite dans le nouveau service.

Zephyr

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The following poem entitled "Pollution" was written by Debbie Tymchuck a Grade VI student at Red Deer Separate School:

Pollution is found in water and land
Pollution is found in soil and sand
The smoke clogs the air
In our country everywhere
It is caused by careless people
That go to church with a steeple
They aren't very good Christians
They act like a bunch of mad egyptions
Soon the earth will be swallowed up
Because the government didn't smarten up.

Farriswheel – (Ottawa Citizen – September 1971)

"You say you're an environmentalist? That's a coincidence . . . I'm a polluter."