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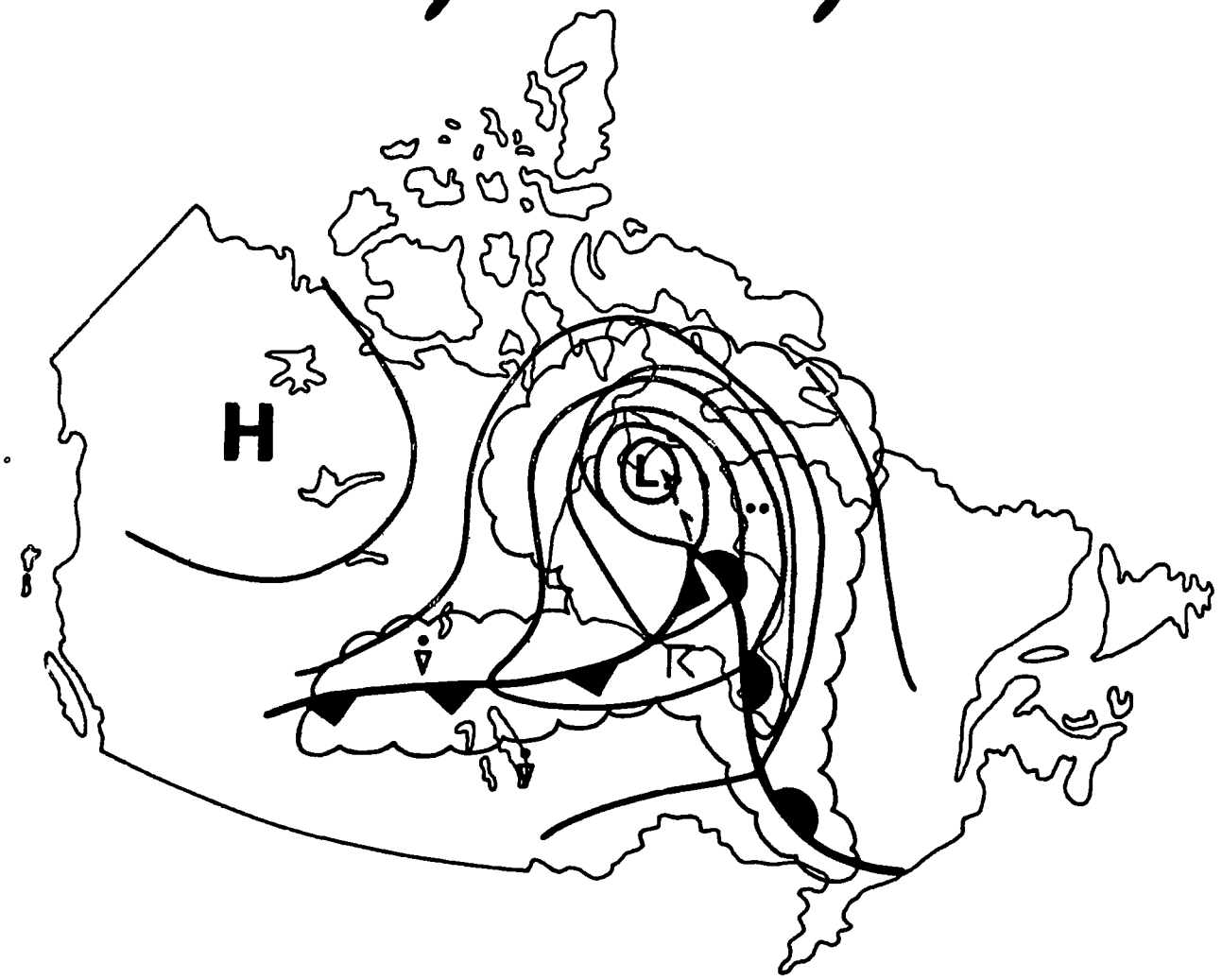
ATMOSPHERIC ENVIRONMENT SERVICE

Program Digest



1991-1992

AES MANAGEMENT SERIES

"ALL INFORMATION CURRENT AS OF APRIL 1, 1991"

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Each year there is a sizeable demand for copies of the Program Digest. There is also a considerable effort required to produce the Program Digest In order that we may serve you better, we would like your feed-back.

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d) Chapter 4 - Budget by Program Activity	1	2	3	4	5	1	2	3	4	5
e) Chapter 5 - Results Model	1	2	3	4	5	1	2	3	4	5
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Corporate Planning and Accountability Branch (APEC)
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AES: ACHIEVING RESULTS

The Atmospheric Environment Service (AES) has adopted a new management framework, Management by Results. The primary purpose of this new management framework is to emphasize how AES serves the Canadian public This new approach emphasizes that AES activities address three broad statements of the needs of Canadians· protection from environmental hazards; a good quality of life, and a clean environment Parallel to this change is the restructuring of AES to provide an improved division of functions between the programs, and a more decentralized approach in its structure, by placing more control in the Regions These changes do not imply that in the past AES was not concerned with providing service to the public AES has an impressive record of achievement in providing quality information and well-respected services to Canadians. In the future, AES will continue to carry out its mission of providing essential information on the atmosphere, sea-state and ice conditions for the personal and economic well-being of Canadians Canadians will continue to able to rely on AES to provide current and accurate forecasts on weather, climate, air quality and ice conditions The new Results framework will further emphasize this commitment to Canadians

AES will be expected to provide results in terms of the implementation of the Green Plan, preparation for the Second Climate Change Convention, as well as improving the quality and accuracy of its forecasts AES will continue to achieve results to best serve the needs of the Canadian public

"ALL INFORMATION CURRENT AS OF APRIL 1, 1991 "

LE SEA : L'OBTENTION DE RÉSULTATS

Le Service de l'environnement atmospherique (SEA) a adopté une nouvelle structure de gestion, la gestion par résultats. L'objet premier de cette structure consiste a insister sur la façon dont le SEA sert le public canadien Cette nouvelle approche souligne le fait que les activites du SEA répondent à trois enonces géneraux de besoins des Canadiens · la protection contre les risques environnementaux, la qualité de vie et la proprete de l'environnement Ce changement s'accompagne d'une restructuration du SEA destinée a mieux repartir les fonctions entre les programmes et d'une approche plus décentralisée de la structure du Service, qui donne plus de pouvoirs aux Regions Ces changements ne sauraient donner a penser que, dans le passé, le SEA ne se souciait pas du service au public Le SEA s'est deja maintes fois distingue pour sa communication de renseignements de qualite et sa prestation de services respectes aupres des Canadıens À l'avenir, le SEA continuera a remplir sa mission, qui consiste a fournir des renseignements essentiels sur l'etat de l'atmosphere, de la mer et des glaces pour le bien-être personnel et economique des Canadiens Ceux-ci pourront continuer de compter sur le SEA pour obtenir des previsions actuelles et exactes sur le temps, le climat, la qualite de l'air et l'état des glaces La nouvelle structure des resultats fera davantage ressortir cet engagement envers les Canadiens

Le SEA sera tenu de fournir des resultats sur le plan de l'application du Plan vert, de la preparation en vue de la Seconde convention sur le changement climatique, ainsi que de l'amélioration de la qualite et de l'exactitude de ses prévisions. Le SEA continuera d'obtenir des resultats pour repondre le mieux possible aux besoins du public canadien

"LES INFORMATIONS DATENT DU 1ier AVRIL, 1991 "

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PREFACE

ATMOSPHERIC ENVIRONMENT SERVICE

The Atmospheric Environment Service

Canada's Weather Service (Much More Than The Weather)

The Atmospheric Environment Service (AES), which is part of the federal Department of the Environment (Environment Canada), is best known for providing Canadians with timely weather information through broadcasts on television and radio, weather reports in newspapers, or through direct inquiries to its offices

A primary goal of AES is to ensure the safety of Canadians and the protection of their property. This is met by providing warnings of approaching severe storms and through regular weather forecasts. In addition, AES monitors sea ice and predicts its motion to protect ships and drill rigs in the Arctic and Atlantic, and determines the movement of atmospheric pollutants to help safeguard environmental quality and health

AES also contributes to the competitiveness of the Canadian economy, both nationally and internationally, by providing weather and climate information to sectors which are particularly weather-sensitive; and by supporting companies in the provision of a variety of services and in the development of specialized technological systems associated with atmospheric sciences

In addition, AES ensures that Canada meets its domestic and international obligations to civil aviation and military alliances by providing weather data and forecasts for Canadian territory and air space Its presence and activities in the north help strengthen Canadian sovereignty

In order to meet its goals, AES carries a solid research program and maintains environmental databases to answer questions on climatic applications Research addresses chemical alterations to the atmosphere including major aspects of acid rain, toxic air pollutants, the high level ozone layer, and anticipated changes in climate associated with increasing "greenhouse" effect

In recent years, AES has been the Departmental lead in the development of a peacetime emergency response policy, including the development and implementation of emergency plans, arrangements and facilities to fulfill the department's mandate when emergency events occur

Over 150 Years of Service

In Canada, official weather observations were introduced when the British government established an observatory in Toronto, Ontario in 1839-40 The observatory was taken over by the Canadian government in 1853, and in 1871, an additional $5,000 was allocated "for meteorological observations with a view to ultimately establishing storm-signals". Over the next decade, professor G T Kingston of the observatory proceeded to establish a national meteorological service serving the original Eastern provinces

The weather observing station network spread West with the telegraph system and weather forecasts were issued daily for all provinces by about 1900 With the development of technology and the increasing population and mobility of Canadians, the network spread into the sub Arctic in the 1920's, and after World War II, into the far Arctic. During these decades, the original public and maritime services were expanded to agriculture and forestry and then to the fast-growing aviation sector. In the mid-1950's, ice observing and forecasting were introduced for the Arctic in summer, and along the Atlantic coast and the Gulf of St Lawrence in winter In the 1970's, air quality services were added to the Service's responsibilities and the Canadian Climate Centre was established to reflect the increasing load of climate data management and the needs of climate research and applications. In 1990, two new branches within AES were established to strengthen AES's ability to develop a Canadian response to the growing challenges of atmospheric change An Environmental Integration Services Branch has been established within Atmospheric Research Directorate to continue the role of coordination of acid rain and associated LRTAP issues, eventually expanding to other air quality problems and the socio-economic consequences of air pollution Within the Canadian Climate Centre, a Response Strategies Branch will work on developing national action plans associated with climate change

Forecasting The Weather

Weather forecasting is beneficial and often extremely important to Canadians Not only does weather forecasting help us to plan our daily activities such as dressing for the outdoors, driving to work, farming and fishing, but it also provides us with warnings about the possibility of severe weather that could threaten our lives and property

The weather forecasting service provided by AES is publicly funded to ensure the safety of all Canadians and the security of their property, to contribute to the efficiency of the economy, and to help safeguard environmental quality The services to Canadians include timely warnings of such events as winter storms, tornadoes, extreme cold, frost in the growing season and strong winds Almost every Canadian is also interested in the more common weather forecasts, predicting such elements as maximum and minimum temperatures, precipitation occurrence and cloudiness, not only for the present day, but for the following four days as well The AES also prepares forecasts and warnings suitable to meet the particular needs of the marine, aviation, agriculture and forestry sectors which are major components of the Canadian economy In total, AES issues forecasts for 436 urban, rural, aviation and marine areas

Weather forecasts and warnings are distributed to users in Canada mainly through mass communications methods such as the commercial media, Weatheradio Canada, and tape-recorded telephone messages The Canadian Coast Guard Marine radio system and the aviation radio system broadcast AES weather information in conjunction with navigation safety information Consultation on current and forecast weather and its impact on various activities is available to the public by telephone or in person at 62 weather offices across Canada

The Basic Components of Weather Forecasting

Providing weather forecasts is a three-step process·

Step one is collecting all the available information about current weather. A large observing network does this job In Canada, some 467 stations take hourly weather observations, 32 additional stations sample the upper atmosphere twice daily using instrumented balloons; 10 satellite centres receive continuous measurements and 14 weather radars cover most of the populated area of southern Canada Selected data, Canadian and international, are then sent on a Canada-wide telecommunications network to all AES forecasting centres These data give the forecaster a "snapshot" of the world's weather at one point in time

Step two is forecast production At the Canadian Meteorological Centre (CMC) in Montreal, weather forecast models are run on a CRAY supercomputer. These models can simulate or project how the atmosphere is most likely to evolve over the next few days, from the information streaming in from Canada and around the globe. These projections of atmospheric conditions are then transformed by highly trained and experienced weather forecasters into predictions of regional conditions. Meteorologists at nine regional Weather Forecast Centres use these computer-produced weather maps along with satellite and radar weather data, and other information, to produce the detailed forecasts and weather warnings for their own regions.

Step three is delivery AES provides these forecasts and warnings through a national communication system and through 62 Weather Offices, to radio, television, and newspapers throughout Canada They are also made available on tape for telephone callers and through continuous broadcasts on Environment Canada's Weatheradio system

Climate Services and Research

Besides observing and forecasting current weather, the AES also pursues an active climatology program it maintains detailed records, analyses patterns and trends, and uses these as a basis for short-term applications and long-term climate predictions.

The Canadian Climate Centre and the regional climate offices respond to inquiries regarding climate data and information These inquiries normally involve the provision of compiled data (digital, microfilm and in printed format), maps, atlases, guides, manuals, bibliographies, climate analyses and/or climate studies These services and the long-term success of climatology in Canada require the maintenance of national, quality-assured climate archives

The AES is also actively involved in climate-related scientific activities such as marine applications, remote sensing of hydrometeorological parameters, and analyzing the impacts of climate and its variability on agriculture, forestry, industry and arctic environments. The research and development activities include research on the water resources of Canada and research related to the production of monthly and seasonal forecasts of temperature and precipitation, as well as the development of a Canadian General Circulation Model for long term climate prediction. In this regard, efforts will begin to include representations of land processes, the oceans and the stratosphere to improve the model's precision

One particularly challenging issue continuing to face the Program is that of global warming At both the national and international levels, the Program will play a leading role in researching climate predictability as well as providing input to the negotiating processes for the National Action Strategy on Climate Change, and the global Climate Convention.

An Army of Volunteers

An army of more than 2,000 volunteer climate observers collect information on weather and climate on land and at sea The land-based network is more than a century old and is operated by a cross-section of Canadians, including farmers, homemakers, pensioners and teachers, all taking temperature and precipitation readings twice a day in their backyards or gardens These observations provide much of the statistics essential to our national climate archives

In addition, 3,500 severe weather watchers serve their fellow citizens by quickly reporting thunderstorms, tornadoes and hailstorms to the regional centres

Furthermore, 420 ships are registered with the AES to take volunteer marine weather observations In a year, more than 120,000 of these observations are transmitted by ship officers and are used for the preparation of marine forecasts These observations, taken mostly over the Great Lakes and along Canada's coastlines, are also archived and used for marine climatology studies Since 1986, with the inception of the volunteer Marine Reporting (MAREP) Program, AES annually receives reports of near-shore weather reports from thousands of small-craft operators.

Keeping Watch on Offshore Ice

AES is also responsible for monitoring and forecasting ice movements along Canada's coastlines and on inland waterways Ice reconnaissance aircraft use

advanced radar equipment to observe sea ice along the Atlantic coast, the Great Lakes/St Lawrence system and in the Arctic. Icebergs in the Newfoundland and Labrador coastal areas are also surveyed. The Ice Centre in Ottawa combines this aircraft information with satellite observations and weather data and forecasts to produce detailed ice charts and ice forecasts so that ships can plot a safe course through ice-infested waters. These are used by fishermen, shipping companies and offshore oil and gas exploration companies to prevent marine accidents that could endanger both lives and the fragile marine environment.

Research and Development

AES is a scientific organization and depends on research and development to improve its services, and to be at the forefront of the environmental sciences

As experts on atmospheric processes, the AES scientists play a vital role in advising the government, industry and the public on such key issues as acid rain, toxic chemicals and climate change This expertise is backed by painstaking research from the ground up to the borders of space and from the chemistry lab to the computer room Monitoring programs are maintained to determine changes and trends in the quality of Canada's air and rain Through cooperation with the United States and the provinces, a national archive of atmospheric pollution data began operation in 1989. The archive is being used to provide information on the acid level of precipitation across the country and will be the main source of data for setting acid rain control standards

AES's Research and Development has had major successes It helped to pioneer the techniques which permit computer forecasting of weather up to 5 and 6 days These are now in use worldwide Processing systems developed in cooperation with Canadian industry deliver weather satellite data across Canada The AES is recognized as a world leader in the science of acid rain and long-range transport of pollution, including arctic haze Its research on climate change is recognized internationally as first-rate. In collaboration with Canadian industry, the AES has developed sophisticated instrumentation to measure the high-altitude ozone layer both from the ground and from space The ground based instrument, the Brewer Spectrophotometer, has been designed in AES laboratories and has been sold in 11 countries to date This modern instrument, with its computer-controlled solar tracker (also of AES design), is capable of more accurate measurements of ozone that the classical instrument used in the world network for over 40 years.

The future looks exciting Satellites and supercomputers present opportunities to provide more accurate and timely weather warnings as our understanding of the atmosphere improves. Very long-range forecasts of general weather conditions up to months in advance seem possible. At the same time, the details of the transport and transformation of acidic and other pollutants are emerging from research efforts

AES can't do it alone It works with Canadian industry, with universities, with provincial agencies, other federal departments and other countries Many atmospheric issues are global in nature and the AES is a leader in contributing to world-wide advances in atmospheric sciences and drawing on the efforts of other countries. In collaboration with AES and the Natural Sciences and Engineering Research Council, Canadian Universities are also strengthening their role in atmospheric research.

Partnerships in Canadian Meteorological Services

The Atmospheric Environment Service is the major player in meteorology in Canada However, an increasing demand for meteorological services has compelled the AES to look to others for the provision of some of these services The growing Canadian private meteorological sector is seen as an important player and, with continuing development, could be relied upon to assist in meeting these demands

The AES, in consultation with representatives from the private sector, has developed a five year plan to encourage private sector firms to take over provision of specialized services where appropriate and to develop new markets and new services. The intent of this plan is not to privatize the provision of basic meteorological services already paid for by the taxpayer The plan recognizes that by providing new services and expanding markets, the private sector will provide greater economic benefits to the country by the judicious application of atmospheric science to a wide range of specific problems

In 1989, AES established a satellite-based facility for relaying information to the private sector, the university community and provincial agencies In addition, the AES supported the establishment of Canada's Cable Television Weather Channel In February 1990, AES, along with Environment Canada and other government departments was among the sponsors of the Globe 90 international conference and trade fair held in Vancouver The purpose of this initiative was, in part, to assist environmental industries to identify and capture domestic and international market opportunities

Partners in Global Weather

Weather knows no frontiers The World Meteorological Organization (WMO), a United Nations agency based in Geneva, coordinates the global distribution and exchange of weather information among 160 countries

Canada both benefits from and contributes to the world meteorological community by sharing its data and participating in joint programs such as the World Climate Program and in WMO training programs

In addition, Canada is an active partner in global research programs that deal with drought, carbon dioxide emissions and climate change, protecting the ozone layer and efforts to improve weather forecasting on a world-wide basis This involvement is exemplified in the contribution of Canada to the development of the Montreal Protocol for the Protection of the Ozone Layer which was signed by 25 countries in September 1987 In 1988, in response to growing public and

political interest in climate warming induced by greenhouse gases and in related atmospheric problems, Canada participated in the formation of the United Nations Intergovernmental Panel on Climate Change (IPCC) The objectives of the IPCC center on three specific tasks: the assessment of the available scientific information on climate change; the assessment of environmental and socio-economic impacts of climate change; and the formulation of response strategies The IPCC, having completed its First Assessment Report at the Second World Climate conference in Geneva of November 1990, has entered the second phase of its work The work plan adopted for this second phase includes both short-term and longer term objectives. With respect to the short-term, the IPCC will be providing scientific and technical support to the Intergovernmental Negotiating Committee (INC) in its pursuit of a framework convention on climate change The IPCC long-term work programme is directed towards increasing the understanding of climate change, its impacts and response options with the goal of a second global assessment in the 1994-95 time frame

The Assistant Deputy minister of AES has been elected to co-chair the working group on implementation mechanisms for the negotiations for a global agreement on climate change The working group on implementation mechanisms is charged with negotiating the fundamental principles of an agreement as well as the legal and institutional mechanisms and scientific cooperation to implement such an agreement The objective of the negotiations is the development of a climate change convention in time for signature at the United Nations Conference on Environment and Development in June 1992

CHAPTER 1

INTRODUCTION

ATMOSPHERIC ENVIRONMENT SERVICE

1. INTRODUCTION

1 1 PURPOSE

"The Program Digest" is an annual publication that describes·

- the Atmospheric Environment Service (AES), as well as its objectives, mandate and responsibilities,
- the AES budget by program sub-activity (SA 1) and program sub-sub-activity (SA 2);
- the AES budget by Result and Sub-Result (A description of the Results Definition Structure is contained in Chapter 5)

"An Addendum to the Program Digest" is also issued
This publication describes

- sub-sub-sub-activity (SA 3) and the program activity element (SA 4) level definitions of the program activities,
- the relationship between responsibility centres and SA 3 program activities; and
- the AES financial and human resource allocations at the SA 3 and SA 4 levels by organizational unit

1 2 MATERIAL PRESENTED IN THE PROGRAM DIGEST

The preface gives the reader an introduction to the Atmospheric Environment Service (AES) and the activities it pursues. Chapter 2 describes AES responsibilities and its mandate within Environment Canada Chapter 3 discusses its most current objectives and priorities Information relating to AES program activities and organizational units is provided in Chapters 4 and 6 respectively

Any comments or suggestions for amendments to this document should be forwarded to Corporate Planning and Accountability Branch, (APEC)
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CHAPTER 2

THE DEPARTMENT OF THE ENVIRONMENT

ATMOSPHERIC ENVIRONMENT SERVICE

2. THE DEPARTMENT OF THE ENVIRONMENT

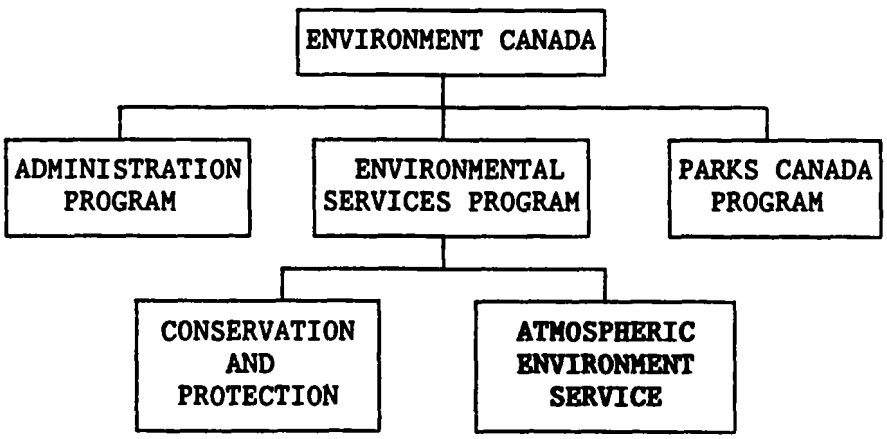
2 1 DEPARTMENTAL PROGRAM STRUCTURE

Environment Canada has grouped its activities into three Programs (as shown below)

- **the Environmental Services Program** which is divided in two activities· **Conservation and Protection (C&P)** and the **Atmospheric Environment Service (AES)** This Program provides information on weather, climate, ice, sea state and air quality **(AES)**. It also promotes the conservation and protection of inland waters, lands and wildlife, and develops preventive or corrective measures for maintaining and improving environmental quality **(C&P)**.

- **the Parks Program** which establishes, develops and manages national parks, national historic parks and sites, heritage canals and co-operative heritage areas

- **the Administration Program**, which provides: corporate management, education programs and communication services; information on the state of the environment, strategies, policy and planning; guidance on priority issues; corporate finance, personnel and administrative support services to the Department It also includes the administration of the Environmental Assessment and Review Process (EARP)



2 2 DEPARTMENT LEGAL MANDATE AND RESPONSIBILITIES

The Department of the Environment came into being in June, 1971 following proclamation of the Government Organization Act, 1970 Known now as Environment Canada, the Department was created from components within the federal structure that related to the natural environment Subsequent

organizational adjustments were effected through the Government Organization Act of 1979 which separated the fisheries and marine component, by Order-in-Council PC-1979-1617 which added Parks Canada to the Department's structure, and by Order-in-Council PC-1984-3200 which transferred the Canadian Forestry Service to Agriculture Canada

The Government Organization Act (GOA), 1979 and the subsequent Miscellaneous Statutes Law Amendment Act (June 1984) and Order-in-Council PC-1984-3200 which modified the effect of the Act, state that the duties, powers and functions of the Minister of the Environment extend to and include·

(i) all matters over which Parliament has jurisdiction not otherwise assigned to other federal departments, boards and agencies relating to.
- the preservation and enhancement of the quality of the natural environment, including water, air and soil quality,
- renewable resources including migratory birds and other non-domestic flora and fauna,
- water;
- meteorology;
- the enforcement of rules and regulations made by the International Joint Commission relating to boundary waters, and questions arising between the United States and Canada insofar as they relate to the preservation and enhancement of the quality of the natural environment,
- the co-ordination of the policies and programs of the Government of Canada respecting the preservation and enhancement of the quality of the natural environment;
- the protection and presentation of national parks, national historic sites and historic canals; and
- the National Battlefields Commission

(ii) such other matters over which Parliament of Canada has jurisdiction relating to the environment as are by law assigned to the Minister

The GOA recognizes that preserving and improving Canada's environmental quality is a responsibility of all federal departments, the provincial governments and the public. The Act gives to the Minister of the Environment broad responsibilities to promote practices that lead to the improvement and preservation of environmental quality. It also enables the Minister to co-operate with provincial governments and their agencies and any other program or organization having similar environmental objectives As well, the GOA empowers the Minister to establish guidelines and advise heads of departments, boards and agencies of the federal government in all matters pertaining to preserving and improving the quality of the natural environment Finally, it allows the Minister to enter into agreements with other governments or agencies for the purpose of carrying out programs for which the Minister is responsible

CHAPTER 3

OBJECTIVES PRIORITIES AND HIGHLIGHTS

ATMOSPHERIC ENVIRONMENT SERVICE

3.1 OBJECTIVE OF ENVIRONMENT CANADA:

- to foster harmony between society and the environment for the economic, social and cultural benefit of present and future generations of Canadians

3 2 OBJECTIVE OF THE ENVIRONMENTAL SERVICES PROGRAM·

- to promote and undertake programs to protect and enhance the quality of the environment, and programs designed to improve the management and sustained economic utilization of the wildlife and inland water resources of Canada

3 3 OBJECTIVE OF THE ATMOSPHERIC ENVIRONMENT SERVICE:

- to ensure that Canadians have adequate information on the atmosphere, ice and sea state for the safety of life, the security of property, the greater efficiency of economic activities and for the maintenance and enhancement of environmental quality

3 4 ATMOSPHERIC ENVIRONMENT SERVICE'S PRIORITIES 1991 - 1995

In recognition of Canadians' growing needs for weather services, the Atmospheric Environment Service developed in 1987 a strategic plan for improving these services over the next twenty years This plan provides the framework to guide AES activities in support of government priorities, (especially the Green Plan), development of services, interdepartmental, federal-provincial, private sector and international agreements, and good management practices. It also recognizes that these changes are desirable, and in some cases inevitable, if the Atmospheric Environment Service is to meet Canadians' needs in the future

Priorities

Over the next four years, AES' efforts will focus on

1 Ensuring that Canada has the knowledge and information required to develop sound domestic and international policies and practices to respond to the changing atmosphere by

- monitoring and researching the composition of the atmosphere and the environmental impacts resulting from changes in its composition to provide information and advise to the public and both Canadian and international decision-makers,

- enhancing the awareness of both the public and decision-makers of the potential socio-economic implications of these environmental impacts and potential response strategies;
- enhancing interdepartmental, intergovernmental and international co-operation in this field, and
- supporting the development of national and international law, regulation and practices to sustain a healthy and secure atmosphere

2 Delivering high quality environmental warnings and to maintain a high state of preparedness to respond to environmental emergencies both natural and man-made by:

- exploiting advances in weather radar science and technology to improve the usefulness, timeliness and accuracy of weather forecasts, watches and warnings;
- improving the detection, prediction and communication of critical weather, sea state, ice, climate and air quality information,
- complementing regional and national capabilities in the area of emergency response by acquiring specialized data acquisition systems, implementing computer models designed for local conditions and maintaining a high level of preparedness through training and exercise of staff;
- taking the departmental lead with organizations involved in emergency planning at all levels of government, to achieve effective and well coordinated plans, and
- supporting increased public awareness and understanding of the full range of natural and man-made environmental hazards and actions to be taken for their mitigation

3 Strengthening the relationships between the environment and the economy for the benefit of both by·

- communicating the importance of environmental considerations including climate, ice, sea-state and air quality, both for short-term economic decisions and for sustainable development over the long term,
- taking advantage of the full spectrum of Canadian and international capabilities in meteorological services and atmospheric science research through partnership initiatives with the Canadian private meteorological sector, universities, other government departments and provincial agencies, and
- researching client needs, monitoring of client satisfaction and delivering AES products and services in an environment-economy context

4. Ensuring the efficiency and effectiveness of AES operations and management by·

   - continuing to take advantage of advances in science and technology to improve productivity and efficiency,
   - actively seeking external partners, and creating opportunities to multiply AES investments through external leverage;
   - increasing the regional capabilities to represent all AES programs;
   - better integrating ice, weather, climate and air quality services;
   - developing a motivated and adaptable work force that is more representative of the Canadian population in composition;
   - providing opportunities for employees to enhance their professional qualifications and redirect their careers to keep pace with new program initiatives; and
   - fostering the efforts of Canadian academic institutions to attract students to careers in the atmospheric and environmental sciences

3 5 HIGHLIGHTS OF 1991-92 PLANS BY PROGRAM AREAS

1. Weather Services

- Implement two radar data processing systems, one to be installed at the Ontario Weather Centre accessing the Exeter radar and the other to be installed at the Prairie Weather Centre accessing the Vivian radar, for improved storm detection and warning,
- Install a Doppler radar facility at Edmonton to improve storm detection and warning in central Alberta and to help identify those storms with tornado producing potential,
- Improve marine weather forecast and warning services through the installation of 17 automatic weather observing stations in sensitive marine areas, and by equipping selected east coast ships with automatic weather observing and reporting equipment,
- Improve weather and marine warning delivery through the installation of weatheradio transmitters in the Gulf of St Lawrence, around Lake Superior, at St Catherines, and in Western Canada;
- Enhance marine and mountain weather awareness by producing publicity and educational materials which emphasize the dangers associated with hazardous weather in B C mountain parks, the Great Lakes, the Gulf of St Lawrence and the Bay of Fundy,
- Undertake research on East Coast winter storms including research on aircraft icing in order to be better able to forecast aircraft icing conditions,
- Improve weather warning and forecast services through the introduction of new forecast products such as AIRMET advisories of moderate flight hazards and an operational trial on hourly issued two hour TREND forecasts for a few selected aviation terminals, and
- Continue implementation of the AES Strategic Plan by progressing towards the implementation of the Southern Interior B C Weather Services Office prototype and planning the establishment of five additional weather services offices

2. Climate Services and Research

- Develop initial strategies and plans to implement National Action Strategy on Climate Change and Plan;
- Continue the development of an improved capability to forecast long-term climate change based on scenarios about the chemical alteration of the atmosphere;
- Continue Canada's membership on the Intergovernmental Panel on Climate Change and provide input to Canada's participation at the UN Conference on Environment in Rio de Janeiro in June 1992,
- Assess the potential socio-economic impacts of climate warming on the agriculture, energy, forestry, recreation and transportation sectors, and publish these assessments in the Climate Change Digest Series; and
- Publish annual report on the state of Canadian Climate

3 Ice Services

- Improve client service through installation of a rapid access system for ice climatological data;
- Begin a limited iceberg surveillance program;
- Complete a Memorandum Of Understanding between AES, National Oceanic and Atmospheric Administration (NOAA) and the US Navy on ice data communication link,
- Conduct an analysis of ice climatology and the implications of potential impacts of ice climatology on design structures and operations,
- Establish a rapid access system for ice climatological data, and
- Commence activities related to ice data archiving, CIDAS, climate change ice support

4 Air Quality Services and Research

- Provide upgraded contaminant dispersion models for use in response to environmental emergencies involving oil spill and heavy gas dispersion events;
- Complete an initial evaluation of concentrations and pathways of organochlorines in the Arctic,
- Assess requirements for a national NOx/VOC monitoring network and data management system, and evaluate selected control scenarios,
- Advance understanding of climate change processes through development of a coupled terrestrial/ocean/atmosphere model of the global carbon cycle,
- Develop a three dimensional diagnostic model to simulate the impact of control programs on the future state of the stratospheric ozone layer,

- Develop methods for measuring NOx, VOCs and meteorology at rural stations and run pilot project at a selection of CAPMoN stations;
- Develop a computer model for analyzing field measurements of Arctic stratosphere composition;
- Assist DOE Toxic Chemicals initiative through Compilation of Maritime Region atmospheric chemistry database;
- Evaluate the importance of the atmosphere as a pathway of toxic chemical loadings to the Great Lakes through trace metal interpretation exercise using the Atmospheric Deposition Network, and
- Develop and implement, in cooperation with the Ontario Provincial Government, an air quality index for Ontario

5 Management and Common Support Services

- Coordinate international agreements with Japan and the Soviet Union,
- Participate in study of the impacts of Greenhouse Gas emission control on Canada's economic competitiveness, in partnership with Finance, EMR, External Affairs, and Industry Science & Technology,
- Provide the lead support to revision of the Montreal Protocol; milestone meeting June 1991, revise protocol depending on outcome of negotiations,
- Update AES Strategies, operational plans, policies, MOUs and bring into conformity with Green Plan and current DOE direction,
- Implement a permanent ministerial correspondence unit;
- Develop and implement an executive management information system,
- Develop policy on liaison with stakeholders considering service to the public, level of service and relations with the private sector,
- Continue to emphasize measurement of client satisfaction and encourage managers to find better ways of achieving client needs and streamlining work processes; and
- Conduct pilot project and implementation of Departmental Records Automated System (DRAMS)

CHAPTER 4

BUDGET BY PROGRAM ACTIVITY

ATMOSPHERIC ENVIRONMENT SERVICE

4.1 AES BUDGET BY SUB-ACTIVITY

4 1.1 PROGRAM ACTIVITY STRUCTURE

Environment Canada has three Main Estimates Programs as described in Section 2 1. Administration, Environmental Services and Parks Canada The Environmental Services Program is divided into two activities, one of which is AES, as indicated below

As a service, AES provides:

i) past, present and future weather, climate, sea state and ice information for all areas of Canada and contiguous waters,
ii) advice on the impact of these elements on human activities and on the application of the atmospheric sciences to weather sensitive operations in such activities as forestry, agriculture, aviation and national defense,
iii) research on chemical and physical processes of the atmosphere to improve the prediction of environmental elements, and co-operation with emergency response organizations in the prediction of the dispersion of substances accidentally released into the atmosphere;
iv) assessments of the impacts of human activity on the atmospheric environment, including the provision of information and policy advice on the atmospheric aspects of greenhouse gases, acid rain, toxic chemicals and the depletion of the stratospheric ozone layer,
v) participation in international programs and negotiations related to the above elements, and
vi) promotion and/or co-ordination of scientific programs in these areas including the scientific leadership of the Canadian Long Range Transport of Airborne Pollutants program

The diagram on the following page, called "A Single Service", demonstrates the distribution of the services and resources of AES

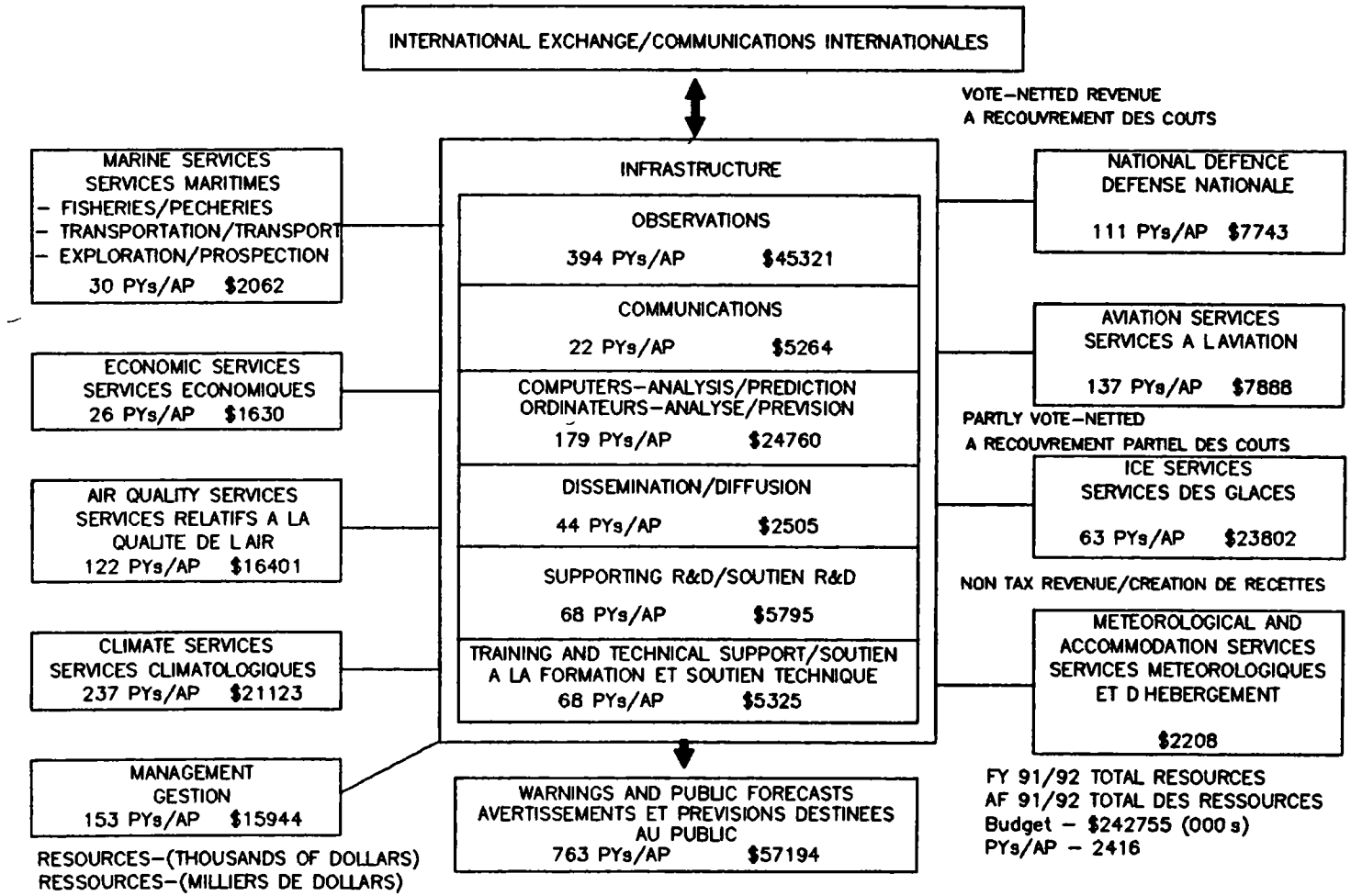
The Atmospheric Environment Service has four different program activity levels to depict and describe budgets and program information in varying degrees of detail with the program activity element providing the most detail They are

Sub-Activity	SA 1 Level
Sub-Sub-Activity	SA 2 Level
Sub-Sub-Sub-Activity	SA 3 Level
Program Activity Element	SA 4 Level

For fiscal year 1991/92 the AES program activity structure will consist of 5 sub-activities, 21 sub-sub-activities, 48 sub-sub-sub-activities, and 160 program activity elements

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
1991-1992

"A SINGLE SERVICE" / "SERVICE POLYVALENT"



The AES budget and programs are given by the following sub-activity (SA 1) and sub-sub-activity (SA 2) later in this chapter.

Sub-Activity (SA 1)	Sub-Sub-Activity (SA 2)
1000 Weather Services	1100 Public Weather Services
	1200 Marine Weather Services
	1300 Aviation Weather Services
	1400 Economic Weather Services
	1500 Canadian Forces Weather Service
	2000 Data Acquisition
	3000 Weather Services Support Systems
4000 Climate Services & Research	4100 Climate Services
	4500 Climate Research and Development
	4600 Climate Services Support Systems
	4700 Canadian Climate Program
5000 Ice Services	5100 Ice Reconnaissance and Data Acquisition
	5200 Ice Analysis and Forecasting
	5300 Ice Climate Services
	5400 Ice Services Support Systems
	5500 Ice Services Research and Development
6000 Air Quality Services and Atmospheric Research	6100 Air Quality Services
	6300 Air Quality Research
	6700 Air Quality and Research Support Services
0800 Management and Common Support Services	0810 Management
	0830 Common Support Services

The Addendum of the Program Digest contains the AES sub-sub-sub-activity (SA 3) and program activity element (SA 4) structures and the corresponding budget information.

(Note On the maps contained in this chapter, some detail on forecast areas may have been omitted due to space limitations)

ATMOSPHERIC ENVIRONMENT SERVICE

4 1 2 1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

($000)

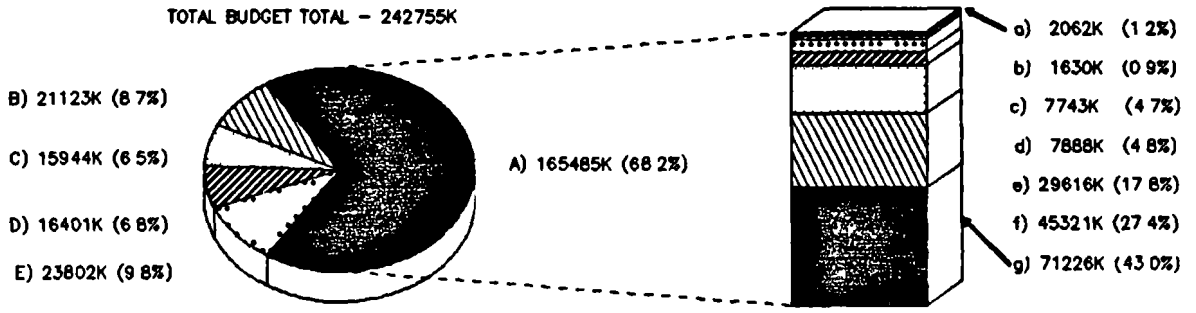
SA1	SA2		PY	SALARY	O&M	CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
	0810	MANAGEMENT	37 6	2271 3	711 2	154.8		3137 3
	0830	COMMON SUPPORT SERVICES	115 3	5902.3	4676.0	2228.5		12806 8
		TOTAL	152.9	8173 6	5387 2	2383 3		15944 1
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES	459 2	25767 1	2034 9	1813 9		29615 9
	1200	MARINE WEATHER SERVICES	30 0	1785 8	229 5	46.2		2061 5
	1300	AVIATION WEATHER SERVICES	136 5	7246 6	640 9	0.7		7888 2
	1400	ECONOMIC WEATHER SERVICES	26.0	1566 5	63 1			1629.6
	1500	CANADIAN FORCES WEATHER SERVICES	111 0	6926 0	817.0			7743 0
	2000	DATA ACQUISITION	394.2	20628.2	15813 4	8879 1	0 0	45320 7
	3000	WEATHER SERVICES SUPPORT SYSTEMS	683 6	35535 1	25594 8	8805.3	1291 0	71226 2
		TOTAL	1840 5	99455 3	45193 6	19545 2	1291 0	165485.1
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	133 3	6401 6	2476 2	2060 0		10937 8
	4500	CLIMATE RESEARCH AND DEVELOPMENT	34 5	1956 7	386 3	523 9		2866 9
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	58 6	2852 6	2546 9	146 0		5545 5
	4700	CLIMATE SERVICES PLANNING	4 0	271 1	750 0	21 2		1042 3
	4800	CLIMATE RESPONSE STRATEGIES	7 0	359 9	318 0	52 9		730 8
		TOTAL	237 4	11841 9	6477 4	2804 0		21123 3
5000		ICE SERVICES						
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION	18 9	1209.3	13052 1	92 6		14354 0
	5200	ICE ANALYSIS AND FORECASTING	28 6	1927 6	2422 6	1129 7		5479 9
	5300	ICE CLIMATE SERVICES	4 0	235 8	163 3	187 2		586 3
	5400	ICE SERVICES SUPPORT SYSTEM	4 0	195 0	47 1	1 3		243 4
	5500	ICE SERV RESEARCH AND DEVELOPMENT	7 5	530 4	736 6	1871.2		3138 2
		TOTAL	63.0	4098 1	16421 7	3282 0		23801 8
6000		AIR QUALITY SERVICES & RESEARCH						
	6100	AIR QUALITY SERVICES & RESEARCH	22 7	1167 2	485 3	30 0		1682 5
	6300	AIR QUALITY RESEARCH	89 6	4724 8	5035 9	1618 8		11379 5
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES	9 9	476.7	1026 7	1041 5	794 0	3338 9
		TOTAL	122 2	6368 7	6547 9	2690 3	794 0	16400 9
GRAND TOTAL			2416 0	129937 6	80027 8	30704 8	2085 0	242755 2

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
1991–1992

4 1 3 TOTAL BUDGET BY SUB–ACTIVITY
BUDGET TOTAL PAR SOUS–ACTIVITE

ALL SERVICES/TOUS LES SERVICES

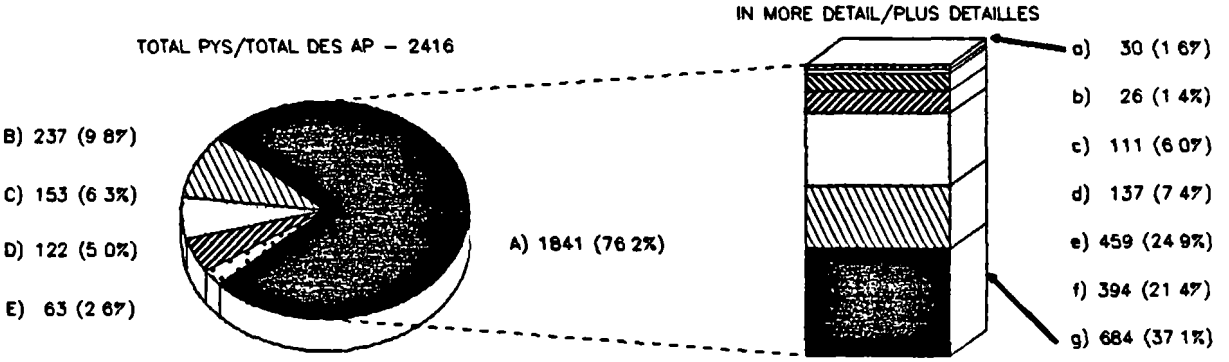
WX SERVICES/SERV METEOROLOGIQUES
IN MORE DETAIL/PLUS DETAILLES



4 1 4 PERSON YEARS BY PROGRAM SUB–ACTIVITY
ANNEES–PERSONNES PAR SOUS–ACTIVITE

ALL SERVICES/TOUS LES SERVICES

WX SERVICES/SERV METEOROLOGIQUES
IN MORE DETAIL/PLUS DETAILLES

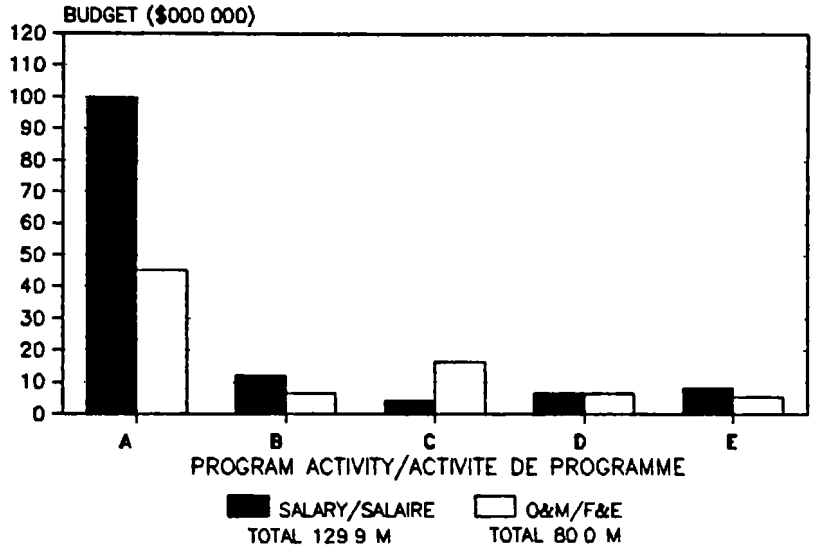


A) WEATHER SERVICES/SERVICES METEOROLOGIQUES
B) CLIMATE SERVICES/SERVICES CLIMATOLOGIQUES
C) MANAGEMENT/GESTION
D) AIR QUALITY SERVICES/SERVICES RELATIFS A LA QUALITE DE L'AIR
E) ICE SERVICES/SERVICES DES GLACES

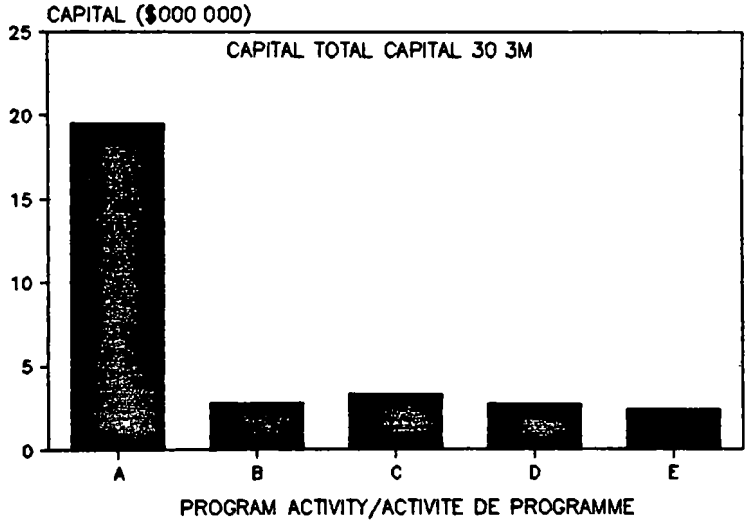
a) MARINE/MARITIMES b) ECONOMIC/ECONOMIQUE
c) CFWS/SMFC d) AVIATION
e) PUBLIC WEATHER SERVICES/SERVICES METEOROLOGIQUES AU PUBLIC
f) DATA/DONNEES
g) WEATHER SERVICES SUPPORT/SOUTIEN DES SERVICES METEOROLOGIQUES

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
1991 - 1992

4 1 5 SALARY AND O&M
SALAIRES ET FRAIS DE F&E

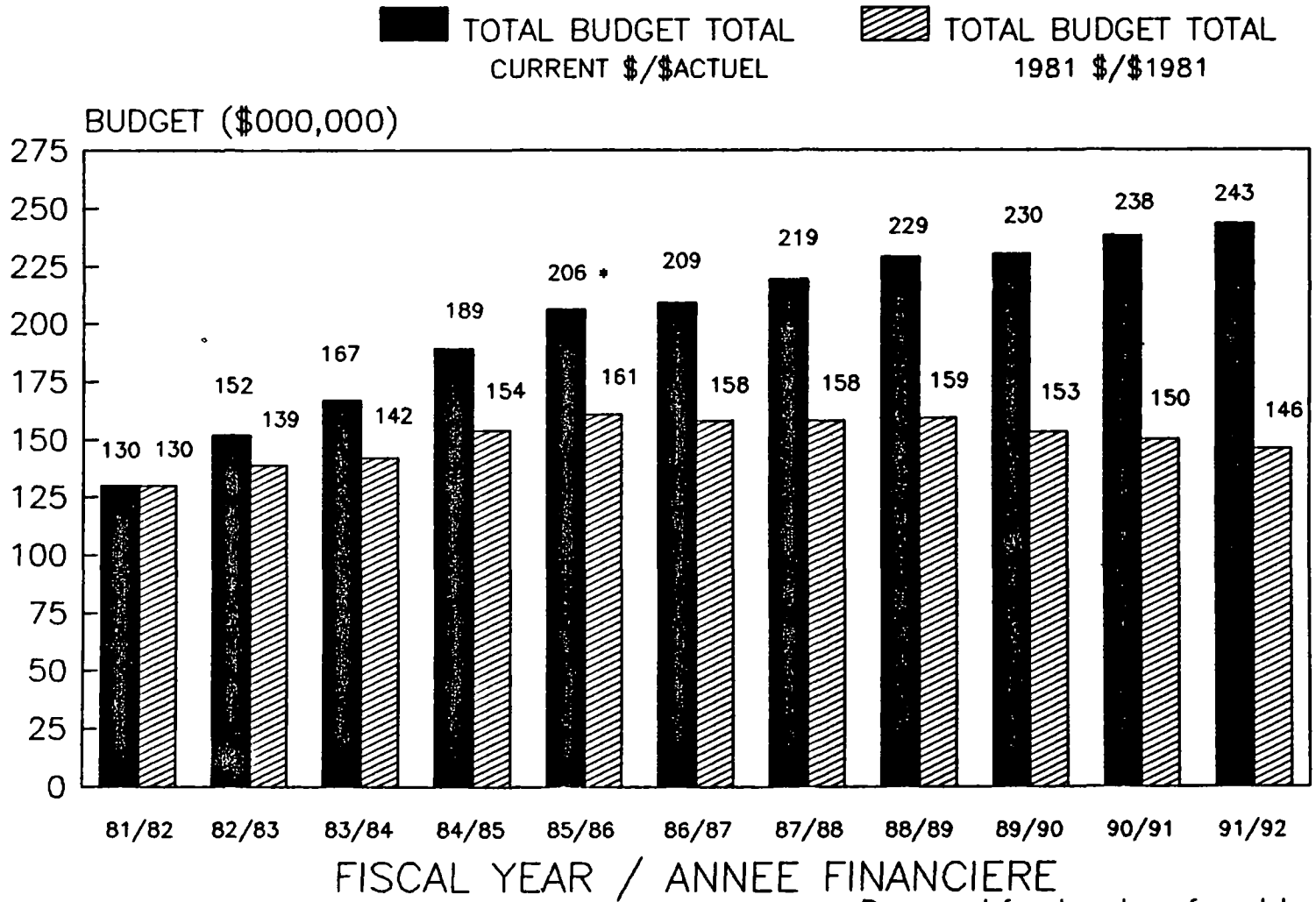


4 1 6 CAPITAL



A) WEATHER SERVICES
SERVICES METEOROLOGIQUES
B) CLIMATE SERVICES AND RESEARCH
SERVICES ET RECHERCHE CLIMATOLOGIQUE
C) ICE SERVICES/SERVICES DES GLACES
D) AIR QUALITY SERVICES & ATMOS RES
SERVICES RELATIFS A LA QUALITE DE L AIR
ET RECHERCHE ATMOSPHERIQUE
E) MANAGEMENT & COMMON SUPPORT
SERVICES/SERVICES DE GESTION ET
DE SOUTIEN GENERAL

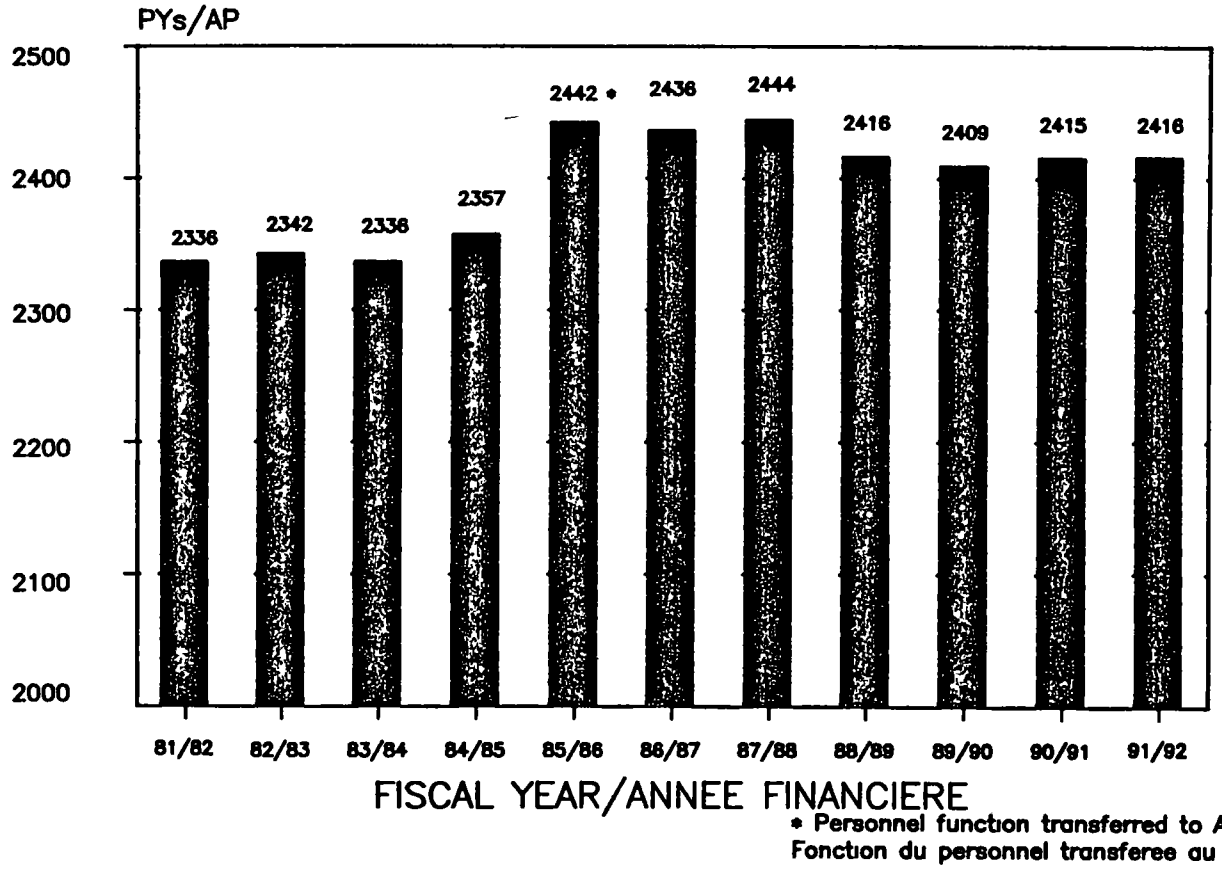
4 1 7 BUDGETS 1981–1991



* Personnel function transferred to AES
Fonction du personnel transferee au SEA

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
1991 - 1992

4.1.8 PERSON YEARS/ANNEES-PERSONNES 1981-1991



* Personnel function transferred to AES
Fonction du personnel transferee au SEA

4.2 WEATHER SERVICES Sub-Activity. (1840.5 PY, $165,485 1 K)

4.2 1 Objectives WEATHER SERVICES

- to provide present and predicted weather and marine data and advice for the safety of Canadians, the security of their property, the support of economic activities and the protection of environmental quality in Canada; and
- to acquire the basic understanding of atmospheric properties and behaviour needed to maintain and enhance such services

4 2 2 Budget WEATHER SERVICES 1991-92 Budget by Sub-Sub-Activity (SA 2)

For further details on the Weather Services 1991-92 Budget by Sub-Sub-Activity refer to p 22, chart 4 1.2

4 2 3 Description WEATHER SERVICES

4.2 3 1 Public, Marine, Aviation, Economic and Canadian Forces Weather Service Sub-Sub-Activities (762 7 PY, $48,938 2 K)

The functions of these sub-sub-activities include the commitment to provide information, on a 24 hour per day basis on current and predicted weather for all land areas of Canada and the adjacent waters The information provided includes weather warnings, forecasts, and sea state conditions for the Atlantic and Pacific Oceans, particularly within the 200 mile economic zone When compiled, the information is offered to the public and to users in marine transportation, aviation, fishing, agriculture and forestry AES, in accordance with a Memorandum of Understanding, also provides support to the Department of National Defense to meet its meteorological and oceanographic service requirements

Across Canada, there are nine Weather Forecast Centres which are supported by the Canadian Meteorological Centre in Montreal These offices carry out analysis and prediction activities and then prepare the warnings, forecasts and other bulletins for users in their respective geographical areas (see map on page 63) There are another 62 smaller Weather Offices located across Canada which serve as distribution and consultation points for the forecasts and warnings issued by the Weather Forecast Centres (see page 43) Weather information can be obtained through telephone, automatic telephone answering devices, Weatheradio Canada, (see pages 44 and 45) broadcasts on local radio and television, Coast Guard marine radio and aviation radio The number of contacts/requests by users is displayed on page 29

The forecast service provided varies according to the needs of the user. The chart "Weather Forecast Centres/Weather Offices" on page 30 identifies each Centre and Office. The forecast service to the public includes emphasis on temperature and precipitation and the provision of warnings of extreme weather events Marine forecast services are concerned with wind, sea-state, visibility and freezing spray Services to aviation include weather conditions at airports, and significant en route icing, turbulence, winds and temperatures at flight levels Services to the agricultural sector and forestry industry are directed toward the provision of guidance on the occurrence of frost, the timing of crop spraying and the severity of forest fire hazard The Weather Centres and Offices and regional Scientific Services Divisions support air quality and climate services, as well as environmental assessment programs of the Department

Maps which present the geographical coverage of forecasts for Canada and adjacent waters are located as follows

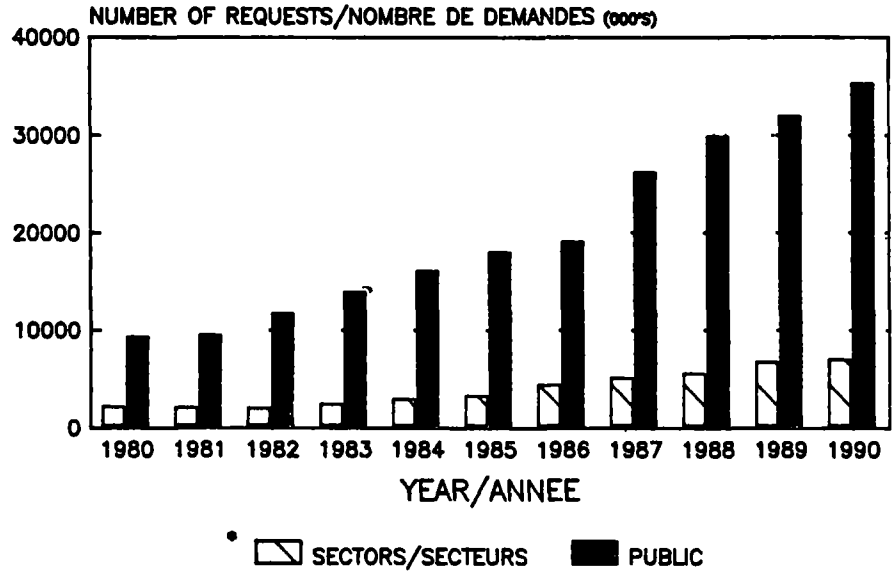
1) Public forecast regions - pages 46 - 47,
2) Airport forecast locations - page 48,
3) Aviation weather forecast regions - pages 49 - 51,
4) Marine forecast regions - pages 52 - 53

In the fourth year of implementation of its long-term strategic plan the Weather Services Program will complete the evaluation of the Toronto Weather Services office test-bed Progress on the implementation of the Southern Interior B C Weather Services Office prototype will continue

In step with these efforts will be the further development of the regional computational and work station technologies Significant attention will be given to the planning for improvements in severe weather detection systems, including Doppler radar technology The efficiency and effectiveness of AES dissemination systems will be improved through the expansion of Canada's weatheradio network The development and distribution of educations materials such as pamphlets and videos in the marine weather area, will enhance the public's understanding of severe weather and how to take mitigative action. All of these efforts will be coordinated and made consistent with the development of the Department's Green Plan

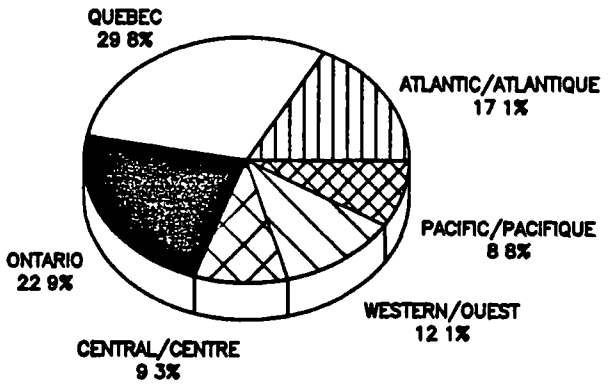
ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
1991 - 1992

WEATHER SERVICES CONTACTS
CONTACTS DES SERVICES METEOROLOGIQUES



• (ECONOMIC TRANSPORTATION ETC)
(ECONOMIQUES TRANSPORTS ETC)

WEATHER SERVICES CONTACTS
CONTACTS DES SERVICES METEOROLOGIQUES
BY REGION FOR 1990 / PAR REGION POUR 1990



WEATHER FORECAST CENTRES/WEATHER OFFICES
1991/92

REGION	PACIFIC	WESTERN	CENTRAL	ONTARIO	QUEBEC	ATLANTIC
TYPE						
AES Weather Forecast Centres 9	Pacific Weather Centre, Vancouver	Alberta Weather Centre, Edmonton Arctic Weather Centre, Edmonton Yukon Weather Centre, Whitehorse	Prairie Weather Centre, Winnipeg	Ontario Weather Centre, Toronto	Quebec Weather Centre, Montreal	Maritimes Weather Centre, Halifax Newfoundland Weather Centre Gander
WO with Prof. Consult. 3	Victoria	Yellowknife	Regina			
Weather Offices 58	Castlegar Kamloops Kelowna Penticton Port Hardy Prince George Terrace Vancouver Fort St John Fort Nelson	Calgary Edmonton Int'l Airport Edmonton Municipal Airport Grande Prairie Inuvik Lethbridge Banff Edmonton Whitehorse	Brandon Dauphin Prince Albert Resolute Thompson Winnipeg Saskatoon Churchill	Hamilton Kingston London St Catherines North Bay Ottawa Peterborough Sarnia Sault Ste Marie Sudbury Thunder Bay Toronto Waterloo-Wellington Windsor	Iqaluit Montreal/ Mirabel Montreal/ Dorval Quebec Sept-Iles Sherbrooke St Hubert Trois Rivieres Val D'Or Jonquiere	Charlottetown Fredericton Halifax Int'l Airport Moncton Saint John St John's Sydney Yarmouth
Canadian Forces Forecast Centres 3		Edmonton		Trenton		Halifax
Canadian Forces Weather Office 17	Comox Exquimalt	Cold Lake	Moose Jaw Portage la Prairie Winnipeg	North Bay Ottawa Petawawa	Bagotville St Hubert	Chatham Gagetown Greenwood Shearwater Summerside Goose Bay
TOTAL 92	14	15	13	19	13	17

4 2.3 2 Data Sub-Sub-Activity (394.2 PY, $45,320 7 K)

Data are gathered in Canada, in Canadian air-space and adjacent waters for weather, climate and research services Outlined below are the various data gathered and the number of stations and locations involved·

1) Surface weather observations are taken at 325 AES and 200 Other Government Department (OGD) weather observation stations (see maps on pages 54 - 56) Included in the above, are 198 AES and 9 OGD automatic stations AES also has 30 buoys strategically located in Canadian waters and on the ice in the Arctic Ocean to provide weather data The above are supplemented by voluntary observation programs undertaken by 420 ships operating on the Great Lakes and in the Atlantic, Pacific and Arctic Oceans,

2) Thirty-three Upper Air Stations measure temperature, pressure, relative humidity and wind velocity in the free atmosphere, from the surface to 35,000 metres (see map on page 57). In addition, AES operates an automated shipboard aerological program (upper air) on 3 volunteer commercial ships operating on the Pacific Ocean,

3) The above observations 1) and 2) are taken at regular intervals, are available in real-time and are used in the production of weather forecasts and weather warnings,

4) The position, and movement of severe storms and precipitation is provided by 15 AES weather radar stations (see map on page 60),

5) Satellite imagery of North American and oceanic weather systems and ice conditions in Canadian waters is provided by 8 weather satellite read-out stations;

6) Climatological data are gathered by a network of 221 AES and 74 OGD synoptic weather stations and 2492 climatological stations run by volunteers;

7) Radioactive fallout is monitored at 20 AES and 3 OGD locations in Canada (see map on page 62);

8) Observations of total ozone and the vertical distribution of ozone are taken at 11 locations in Canada, and

9) Other programs conducted at weather stations include
   i) seasonal freeze-up and break-up of water bodies, sunshine, soil temperatures and evaporation,
   ii) seismic observations of tectonic events at 6 locations for the Department of Energy, Mines and Resources,
   iii) air quality measurements are taken at 24 locations, and
   iv) solar radiation measurements are taken at 50 locations

AES DATA ACQUISITION STATIONS BY TYPE AND LOCATION

1991-92

TYPE	REGION								
	PACIFIC	WESTERN	CENTRAL	ONTARIO	QUEBEC	ATLANTIC	AES TOTAL	OGD+	TOTA
Automatic Stations	41	35	33	42	22	25	198	9	207
Upper Air Stations	6*	6	9	2	6	4	33	1	34
Synoptic Stations	33	46	38	47	27	30	221	74	295
Buoys	19	4***	1	5	0	6	35	0	35
Climate Stations	526	549	422	330	374	276	2477	15	2492
Weather Radar Stations	0	2	3	6	1	3	15	0	15
Satellite Stations	1	2	1	2	1	1	8	0	8
Air Quality Stations	1	2	3	8	5	5	24	0	24
Solar Radiation Program Locations	6	8	12	6	9	6	47	1	48
Seismic Program Locations	0	1	3	0	2	0	6	0	6
Radioactive Fallout Monitoring Program Locations	1	5	6	4	2	2	20	3	23
Ozone Program Locations	1	1	5****	1**	3	0	11	1	12

* Includes automated shipboard aerological program
** AES Headquarters (Downsview, Ontario)
*** Includes ice buoys
**** Brewer maker provides yearly data from rooftop location in Saskatoon
\+ Other Government Departments

Voluntary ships = 420

Weather Reporting Stations· Total = 525 (AES = 325, OGD = 200)

4 2.3 3 Weather Services Support Systems Sub-Sub-Activity
(683 6 PY, $71,226 2 K)

This sub-sub-activity provides support services necessary for the efficient functioning of a modern weather service Some of these services are described below:

1) The Canadian Meteorological Centre (CMC), in Montreal, uses very powerful computers and mathematical models of the atmosphere to create meteorological forecasts for periods of up to five days in advance These forecasts are used as guidance by the Weather Forecast Centres and Weather Offices;

2) Research is conducted in both Downsview and Montreal Its primary objective is to support AES operational weather and ice services, more specifically, to ensure that services and decisions are based on the best available scientific knowledge The research program also provides a large body of knowledge and expertise to support air quality and climate research activities;

   Current priorities are to maintain a world class Numerical Weather Prediction group, to advance knowledge of regional scale weather phenomena, to make better use of available satellite data, to enhance the utility of Doppler radar data for severe weather forecasting and to investigate technology that can increase production efficiency at Weather Services Offices,

3) The AES Communications System is required for the rapid collection and dissemination of national/international weather data and information Text-based, graphical and imagery products are provided from this system. A major 6-year project to modernize the system is nearing completion,

4) The Training Branch provides ab-initio and advanced training programs for meteorologists, meteorological technicians, Transport Canada and National Defense personnel Courses and workshops are delivered at Branch training facilities in Toronto, Cornwall and Montreal and at regional weather centres and offices The Branch also provides liaison with Canadian universities and recruits personnel

5) The Data Acquisition Services Branch of the Central Services Directorate develops, designs and evaluates meteorological data acquisition systems to meet the requirements of the Weather Services sub-activity It is also responsible for the procurement and testing of field systems as well as the standards for their installation and maintenance

4 3 CLIMATE SERVICES AND RESEARCH Sub-Activity (237.4 PY, $21,123 3 K)

4.3 1 Objectives CLIMATE SERVICES AND RESEARCH

- to provide information and enhance our understanding of climate in order to promote economic and social development, protect the environment and advance knowledge of the atmosphere,
- to provide Canadians with information on the chemical composition of the atmosphere to support decision-making, and
- to inform Canadians and advise Canadian policy-makers regarding the impacts of chemical alteration of the atmosphere on various human activities

4 3 2 Budget CLIMATE SERVICES AND RESEARCH 1991-92 AES Budget by Sub-Sub-Activity

For further details on the Climate Services and Research 1991-92 AES Budget by Sub-Sub Activity, refer to p 22, chart 4 1 2

4.3 3 Description CLIMATE SERVICES AND RESEARCH

4 3 3 1 Climate Services Sub-Sub Activity

This activity aims to provide the Canadian Public and climate sensitive agencies and industries with information and advice Functions include climate data acquisition and archiving, provision of basic and special climate information and monitoring climate trends in real time Climate data is collected from about 2,800 observing stations across Canada, quality controlled and placed in the National Climate Archive managed by the Canadian Climate Centre in Downsview This climate network of observing stations is maintained and operated according to established standards to ensure the collection, quality control and accessibility of the data to a variety of users

Over 120 million data entries of meteorological, air quality, sea-state and ice information are maintained in a national archive The archive contains data necessary to describe Canada's climate in accordance with World Meteorological Organization standards It is planned to contain data not only from the federal network but also from provincial and other agencies The archive includes summarized and derived data, including normals, extremes, frequencies and durations for various time scales

Statistical summaries defining the climate of Canada and climatological data, studies and analyses in standard generalized form are constantly being updated and published. Information in the form of storm analyses, national and regional climate maps and statistics and studies of climate relating to various economic sectors is available Guides and handbooks on hydrometeorological and climatological practices are maintained

National and regional climatic trends and anomalies are monitored and predicted.

4 3 3.2 Climate Research and Development sub-sub Activity

Research and development is carried out to support the service portion of the Program. Activities include research into renewable energy resources, hydrometeorological research as applied to climate and climate change, research into prediction techniques for monthly and seasonal forecasting, and the continuing development of global climate models to provide physical descriptions of observed and simulated climate

4 3 3.3 Climate Services Support Systems and Planning sub-sub Activity

This sub-sub activity provides the support and planning services necessary for the efficient functioning of climate services including the support for the operation, development and maintenance of the Downsview mainframe and systems used to house the National Climate Archive and for communications purposes There is also a small planning and liaison unit responsible for coordinating Climate Services and Research Program activities within AES and to provide a focus for Canadian climate activities carried out under the Canadian Climate Program by OGDs, provincial agencies and others

4 3 3 4 Climate Response Strategies sub-sub Activity

This sub-sub activity began in FY 90-91 and aims to provide advice and information to stakeholders and policy makers regarding implementation of the National Action Strategy on climate warming as well as to the Canadian negotiators to the Global Convention on Climate Change

4.4 ICE SERVICES Sub-Activity (63 0 PY, $23,801.8 K)

4.4.1 Objectives· ICE SERVICES

- to provide ice information (analyses, prognoses and warnings) for the safety of Canadians involved in fishing, marine transportation and offshore petroleum exploration, and for the protection of life and property such as ships and drilling platforms; and
- to protect the quality of the maritime environment by supporting the prevention of environmental disasters

4 4 2 Budget· ICE SERVICES 1991-92 Budget by Sub-Sub-Activity (SA 2)

For further details on Ice Services 1991-92 Budget by Sub-Sub-Activity, refer to p. 22, chart 4 1 2

4 4 3 Description ICE SERVICES

This sub-activity

i) operates, develops and maintains acquisition systems for ıce data;

ii) provıdes forecasts of ice formation, growth, deterıoration and movement in Canada's major rivers, lakes and adjacent waters (see map page 61) These activities are in support of the Canadian Coast Guard, and offshore development and fishing industries, Canada Oil and Gas Lands Admınistration, the commercial shıpping transportatıon industries and the public, and

iii) includes ice research to develop remote sensing, ımproved ice forecast capabilities and ice climatology

Ice Observations

Ice observatıon programs are conducted from aircraft and shıp and shore stations to support marine operatıons in the ıce congested waters of Canada during the appropriate seasons Aerial ice reconnaissance is carried out every month of the year in one or more areas of the Eastern Canadian Seaboard, Canadian Arctic Waters, Hudson Bay, Hudson Strait and Inland Waterways Satellıte observations are being integrated into the data acquısition system About 3000 analyses and "nowcasts" are prepared in chart form annually

Ice Forecasts

Ice and iceberg advisory and forecast services are provided from the AES Ice Centre in Ottawa. Approximately 1500 short-range tactical forecasts and bulletins and about 30 longer-range strategic forecasts are provided annually for the following areas·

- Gulf of St. Lawrence;
- Coastal Waters of Newfoundland, and Hudson Bay and its approaches;
- Waters of the Canadian Arctic, including the Beaufort Sea,
- St. Lawrence River Seaway and Great Lakes.

Iceberg Advisories

The latest spatial distribution of icebergs off the East Coast along with information on iceberg drift is available on request

Ice and Iceberg Climatology

In response to about 2000 annual information requests, ice climatological services and information on ice climatology applications is provided to a wide variety of clients, including Canadian Coast Guard and Canada Oil and Gas Lands Administration (COGLA)

4 5 AIR QUALITY SERVICES AND RESEARCH Sub-Activity (122.2 PY, $16,400 9 K)

4 5 1 Objective AIR QUALITY SERVICES AND RESEARCH

- to provide the Canadian government and provincial agencies with adequate information and advice on the chemical and physical state of the atmospheric environment as a basis for informed policy decisions relating to environmental quality

4 5 2 Budget. AIR QUALITY SERVICES AND RESEARCH 1991-92 AES Budget by Sub-Sub-Activity (SA 2)

For further details on Air Quality Services and Atmospheric Research 1991-92 by Sub-Sub-Activity, refer to p 22, chart 4 1 2

4 5 3 Description. AIR QUALITY SERVICES AND RESEARCH

The most important and publicly visible atmospheric change issues which we face today are climate change, stratospheric ozone depletion, long range transport of acidic or toxic substances (including accidental releases), and increasing ground-level ozone Two other issues which are gaining importance are the atmospheric component of Global Change (i e , the changing chemical composition of the atmosphere, not solely the increased concentration of greenhouse gases), and atmospheric interaction with the oceans

This sub-activity provides·

1) air quality services such as advice and support for response to environmental emergencies, and assistance to AES Regions and others in conducting environmental impact assessments,
2) long-term measurement as well as research in support of the Long Range Transport of Air Pollutants Program (LRTAP),
3) research on the atmospheric component of the Toxic Chemicals problem, including support required under Annex 15 of the Canada-U S Great Lakes Water Quality Agreement (GLWQA),
4) long-term measurements and research related to the surveillance, understanding and prediction of stratospheric pollution, the ozone layer and atmospheric radiation,
5) co-ordination of the national scientific program on acid rain, and
6) research and measurements in support of the National Management Plan for nitrogen oxides and volatile organ compounds (NO_x/VOC) and the control of Smog

Long Range Transport of Air Pollutants (LRTAP)

The LRTAP program was established within Environment Canada to co-ordinate and evaluate the federal research and monitoring efforts and to provide the air quality monitoring data and atmospheric processes and transport information required to reduce damaging pollution from the long-range transport of airborne pollutants to environmentally acceptable levels Activities in the Department, underway since 1976, continue to form the basis for the implementation and evaluation of national control strategies and to support the Air Quality Agreement with the United States AES is responsible for the co-ordination and provision of the information on the atmosphere to elected officials, the media and the general public.

AES maintains and is currently upgrading a national sampling network to monitor the atmospheric concentration and deposition of sulphur, nitrogen and other compounds with special emphasis on acidic precipitation This includes the operation of the Canadian Air and Precipitation Monitoring network (CAPMoN) for sampling precipitation on a daily basis This network, displayed on page 59 consists of 24 stations monitoring precipitation. Eleven of these stations also sample air daily. Extensive research is carried out by AES to improve the knowledge of physical and chemical processes involving LRTAP and to develop predictive models of the long-range transport, transformation and deposition of air pollutants in order to develop source-receptor relationships between emitting regions and sensitive receptor regions

Great Lakes Water Quality

The Great Lakes Water Quality Program has been designed to provide the information necessary to restore and maintain the chemical, physical and biological integrity of the waters of the Great Lakes Basin ecosystem in support of the Canada-U S Great Lakes Water Quality Agreement The objectives of the program are to provide environmental data for a better understanding of the Great Lakes Basin ecosystem and to develop measures to reduce the discharge of pollutants into the Great Lakes system

The national program is led by Environment Canada's Ontario Region which chairs an interdepartmental committee The AES component, which addresses Annex 15 of the Great Lakes Water Quality Agreement, is concerned with estimating the atmospheric input of certain organic contaminants and heavy metals into the Great Lakes Basin AES is taking a lead role in the establishment of a Canada-U S Integrated Atmospheric Deposition Network for the measurement of selected chemicals The first research grade Master Station has been established at Point Petre, Ontario The second Master Station will be constructed during 1991-92 on Lake Huron As well, research and modeling are used to examine the role of the atmospheric pathway and to assess the importance of various sources of toxic substances

AES Toxics Program

The AES Toxics program focuses primarily on support to Annex 15 of the Great Lakes Water Quality Agreement as described above Research into the environmentally sound aerial application of pesticides and organochlorine pollution in the Arctic is also being done. AES pesticide research is studying the drift and eventual deposit of pesticides released from aircraft under varying conditions Results will be valuable in assessing the validity of models used to determine off-target pesticide deposits and will assist in setting appropriate buffer zones for aerial applications Research on organochlorines in the Arctic has led to the development of a robust sampler for Arctic applications and a rudimentary modeling capability for that region.

Stratospheric Ozone

After many years of research and systematic ozone monitoring, there is now clear evidence of a thinning of the global ozone layer and that man-made chlorofluorocarbons (CFCs) are the essential cause It is anticipated that this ozone depletion will increase the intensity of biologically damaging solar ultraviolet radiation at the earth's surface

The AES activities include

- Monitoring ozone through the operation of the Canadian ozone measurement network with stations at Toronto, Saskatoon, Goose Bay, Edmonton, Churchill, Resolute, Alert and Saturna Automatic measurements of ozone have been carried out more reliably in the last few years with a new system, called the Brewer ozone spectrophotometer, an instrument designed and developed by AES

- Monitoring ultraviolet irradiance has been initiated in the Canadian Brewer network in order to detect increases in biologically damaging radiation due to ozone depletion

- Managing the World Ozone Data Centre (WODC), a responsibility given to AES by the World Meteorological Organization (WMO) This task consists of carefully compiling, archiving, and publishing a daily summary of measurements from the global network

- Developing a number of computer simulation models for predicting the effects of various changes to the ozone layer

- Conducting intercomparisons of instrumental techniques for WMO

Stratospheric Research

Since 1974, with the start of Project STRATOPROBE, scientists at AES have also studied the altitude profiles of stratospheric gases that directly and indirectly affect the ozone layer. This research is carried out by means of remote-sensing apparatus carried aloft by high-altitude balloons Data obtained on flights at different latitudes and in different seasons are valuable for detecting variability and trends in gases such as CFCs Balloon flights made to coincide with similar flights conducted by other scientific groups, or with satellite overpasses, have led to a better understanding of the results obtained from the different measurement techniques and have facilitated validation of remote sensors on satellites Most recently, in view of the alarming ozone reduction in the Antarctic spring, AES has launched its stratospheric balloon flights from Alert to study possible ozone depletion in Canada's high arctic

High-altitude measurements have also been made by Canadian astronaut Marc Garneau using an AES instrument from a space shuttle by Canadian astronaut Marc Garneau Currently three instruments are being developed for space shuttle flights starting in 1991

NOx/VOC (Smog)

The Canadian Council of Ministers of the Environment in October 1988 decided to develop a Management Plan to control emissions of NOx (nitrogen oxides) and VOCs (volatile organic compounds), with the aim of reducing ground level ozone concentrations to below the national maximum acceptable 1 hour objective of 82 ppb in regions of the country where exceedences are frequent AES is responsible for the scientific leadership in support of this program, including the measurement of ozone and its precursors at rural and remote locations and the development and validation of suitable diagnostic and predictive models

AES is currently monitoring ozone concentrations at seven of the CAPMoN stations It is developing methods to measure NOx and VOC's at rural stations and it is preparing a plan to adapt existing meteorological and air quality models to address the smog issue

Extensive atmospheric process research will be required to develop the models capable of predicting the transformation and deposition required to determine source-receptor relationships Progress beyond the planning and methods development stage is dependent on Green Plan resources becoming available

4 6 MANAGEMENT AND COMMON SUPPORT SERVICES Sub-Activity (152 9 PY, $15,944 1 K)

4 6 1 Objectives· MANAGEMENT AND COMMON SUPPORT SERVICES

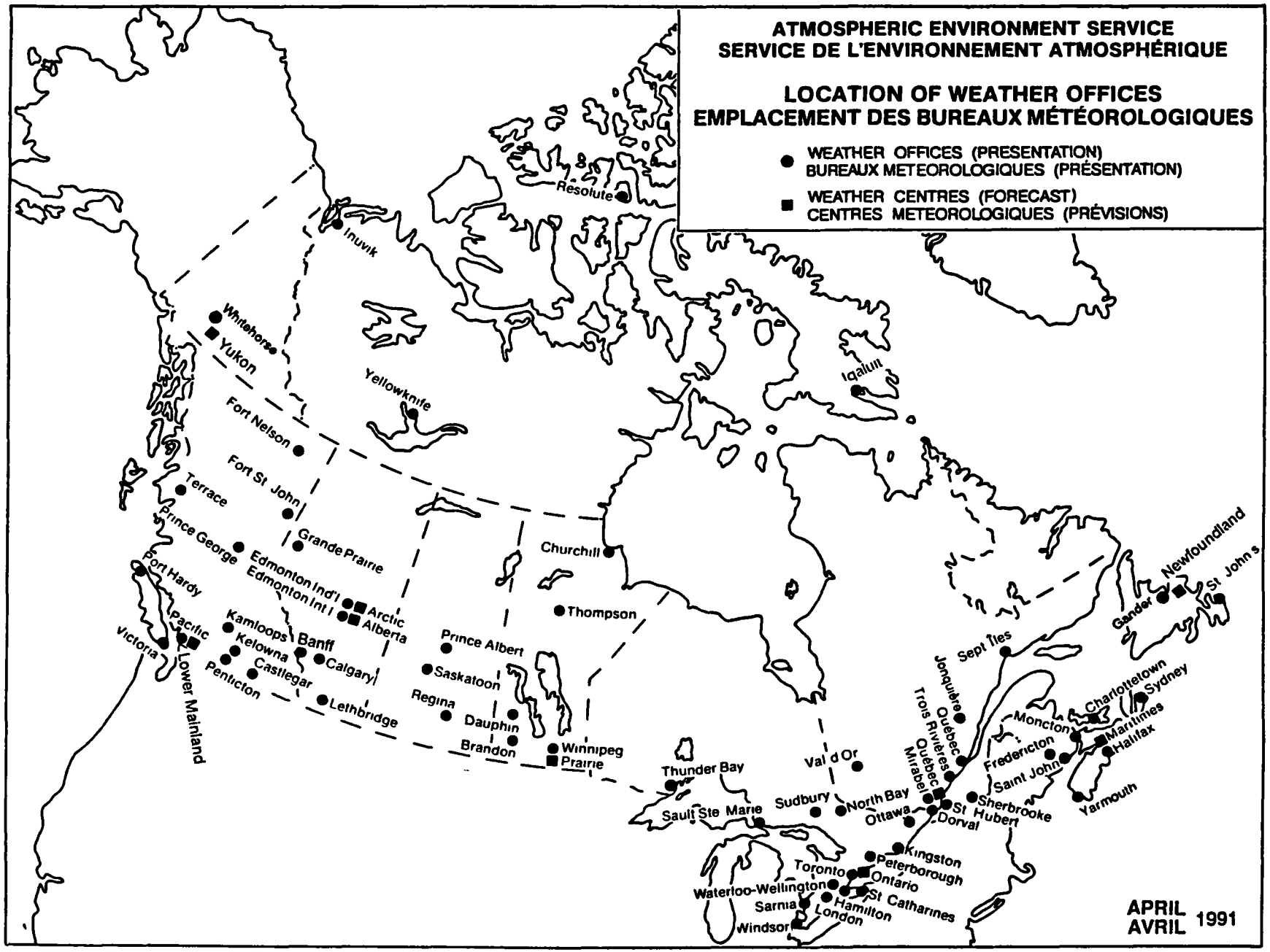
- to provide continuous policy guidance and leadership for the service including the establishment of objectives, goals and priorities,
- to provide management and administrative support to the Atmospheric Environment Service in the area of financial management, human resources management, management information and office technology systems, materiel management, policy and planning, facilities management, office services, health and safety, library services, official languages, and affirmative action;
- to co-ordinate participation in international programs in accordance with Canada's commitment to the World Meteorological Organization, and to contribute to the development of the AES scientific and technological base, and
- to promote the science and public awareness of meteorology and other environmental disciplines in Canada by.
  - i) supporting organizations concerned with the advancement of meteorology and other environmental disciplines,
  - ii) supporting meteorological and other environmental research in Canadian universities; and
  - iii) encouraging the development of meteorological and other environmental services in the private sector within Canada

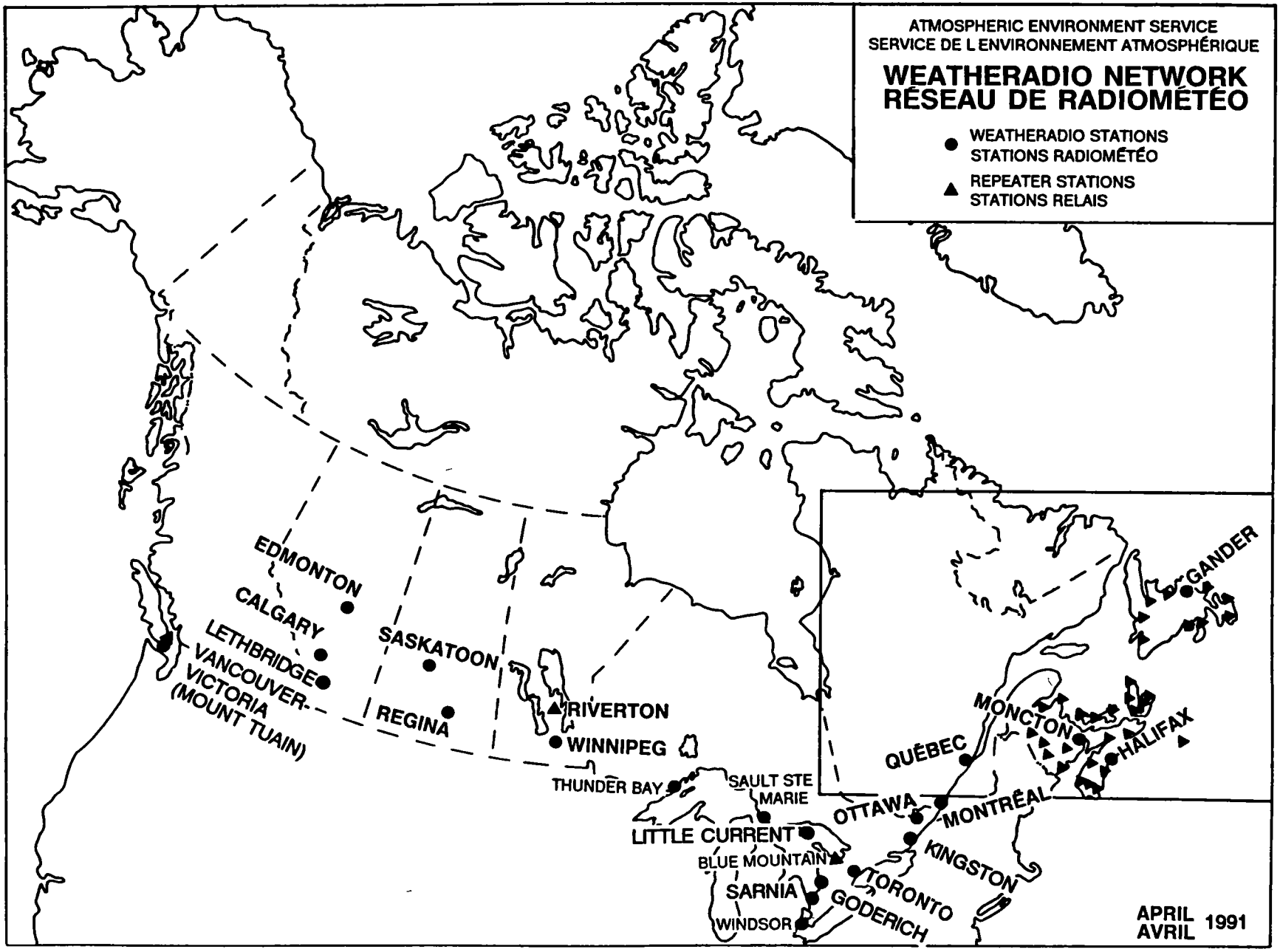
4 6 2 Budget MANAGEMENT AND COMMON SUPPORT SERVICES 1991-92 Budget by Sub-Sub-Activity (SA 2)

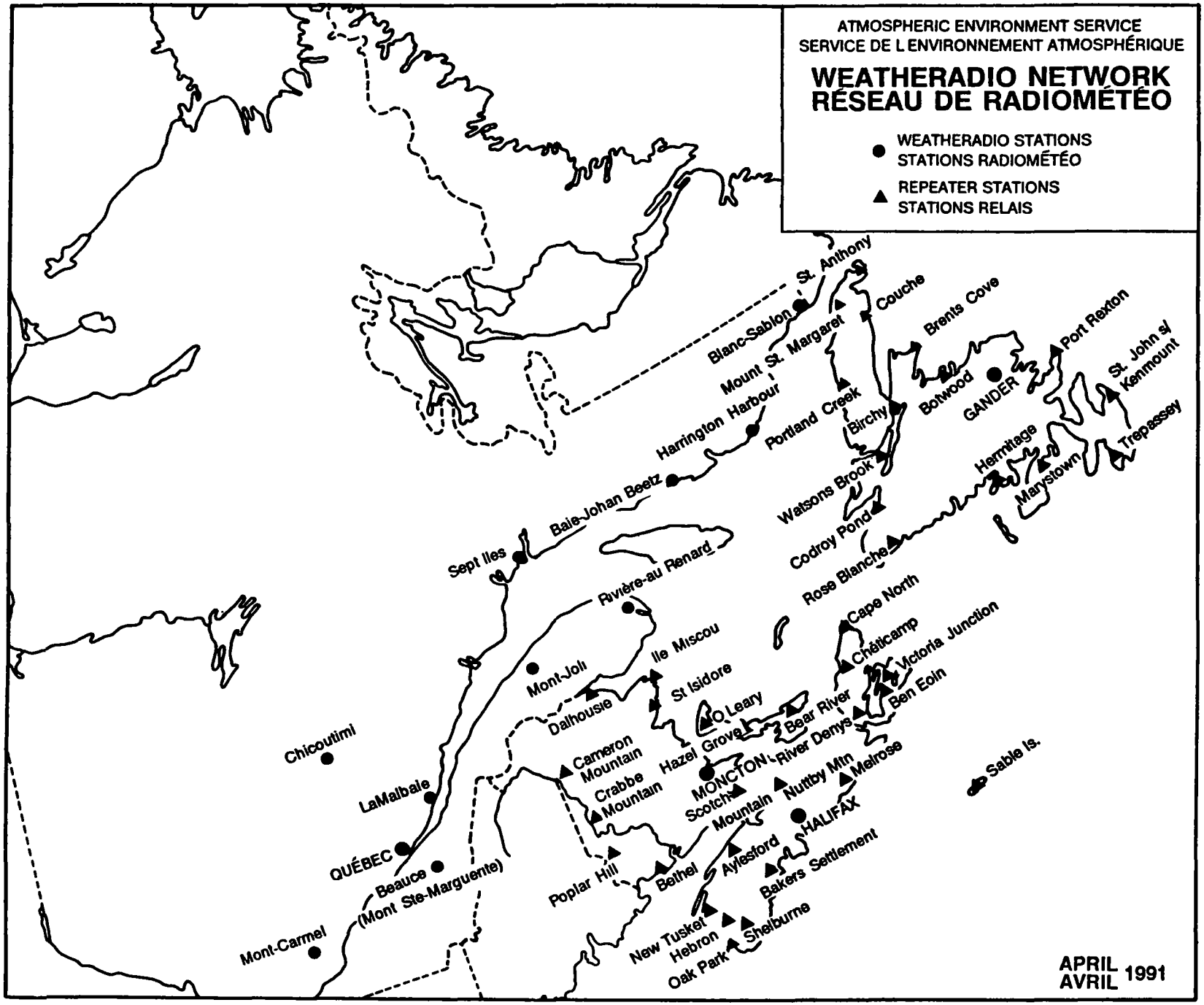
For further details on Management and Common Support Services 1991-92 Budget by Sub-Sub-Activity, refer to p 22, Chart 4 1 2

4 6 3 Description MANAGEMENT AND COMMON SUPPORT SERVICES

This sub-activity includes the executive direction of the AES, the management function related to the development and maintenance of overall goals and objectives for the AES, policies, and program development and evaluation; information services; and participation in international meteorological affairs This also includes those common services which support AES in areas of administration, personnel, facilities, library, materiel, health and safety and financial management


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHÉRIQUE
LOCATION OF WEATHER OFFICES
EMPLACEMENT DES BUREAUX MÉTÉOROLOGIQUES
WEATHER OFFICES (PRESENTATION)
BUREAUX METEOROLOGIQUES (PRÉSENTATION)
WEATHER CENTRES (FORECAST)
CENTRES METEOROLOGIQUES (PRÉVISIONS)
Resolute
Inuvik
Whitehorse
Yukon
Yellowknife
Iqaluit
Fort Nelson
Fort St John
Terrace
Prince George
Grande Prairie
Edmonton Ind'l
Edmonton Int'l
Arctic
Alberta
Churchill
Port Hardy
Pacific
Victoria
Lower Mainland
Kamloops
Kelowna
Banff
Calgary
Castlegar
Penticton
Lethbridge
Thompson
Prince Albert
Saskatoon
Regina
Dauphin
Brandon
Winnipeg
Prairie
Thunder Bay
Val d'Or
Sault Ste Marie
Sudbury
North Bay
Ottawa
Jonquière
Trois Rivières
Québec
Mirabel
St Hubert
Dorval
Sept Îles
Gander
Newfoundland
St John's
Moncton
Charlottetown
Sydney
Maritimes
Halifax
Fredericton
Saint John
Sherbrooke
Yarmouth
Kingston
Peterborough
Toronto
Ontario
Waterloo-Wellington
St Catharines
Hamilton
Sarnia
London
Windsor
APRIL
AVRIL 1991


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L ENVIRONNEMENT ATMOSPHÉRIQUE
WEATHERADIO NETWORK
RÉSEAU DE RADIOMÉTÉO
WEATHERADIO STATIONS
STATIONS RADIOMÉTÉO
REPEATER STATIONS
STATIONS RELAIS
EDMONTON
CALGARY
LETHBRIDGE
VANCOUVER-
VICTORIA
(MOUNT TUAIN)
SASKATOON
REGINA
RIVERTON
WINNIPEG
THUNDER BAY
SAULT STE
MARIE
LITTLE CURRENT
BLUE MOUNTAIN
SARNIA
WINDSOR
GODERICH
TORONTO
KINGSTON
OTTAWA
MONTRÉAL
QUÉBEC
MONCTON
HALIFAX
GANDER
APRIL
AVRIL 1991


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L ENVIRONNEMENT ATMOSPHÉRIQUE
WEATHERADIO NETWORK
RÉSEAU DE RADIOMÉTÉO
WEATHERADIO STATIONS
STATIONS RADIOMÉTÉO
REPEATER STATIONS
STATIONS RELAIS
St. Anthony
Blanc-Sablon
Mount St. Margaret
Couche
Brents Cove
Harrington Harbour
Portland Creek
Birchy
Botwood
GANDER
Port Rexton
St. John s/
Kenmount
Trepassey
Watsons Brook
Hermitage
Marystown
Baie-Johan Beetz
Codroy Pond
Rose Blanche
Sept Iles
Rivière-au Renard
Cape North
Chéticamp
Victoria Junction
Ile Miscou
Mont-Joli
St Isidore
Dalhousie
O Leary
Bear River
Ben Eoin
Chicoutimi
Cameron
Mountain
Hazel Grove
River Denys
Crabbe
Mountain
MONCTON
Scotch
Mountain
Nuttby Mtn
Melrose
Sable Is.
LaMalbaie
QUÉBEC
Beauce
(Mont Ste-Marguerite)
Poplar Hill
Bethel
Aylesford
HALIFAX
Bakers Settlement
Mont-Carmel
New Tusket
Hebron
Oak Park
Shelburne
APRIL
AVRIL 1991

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHÉRIQUE

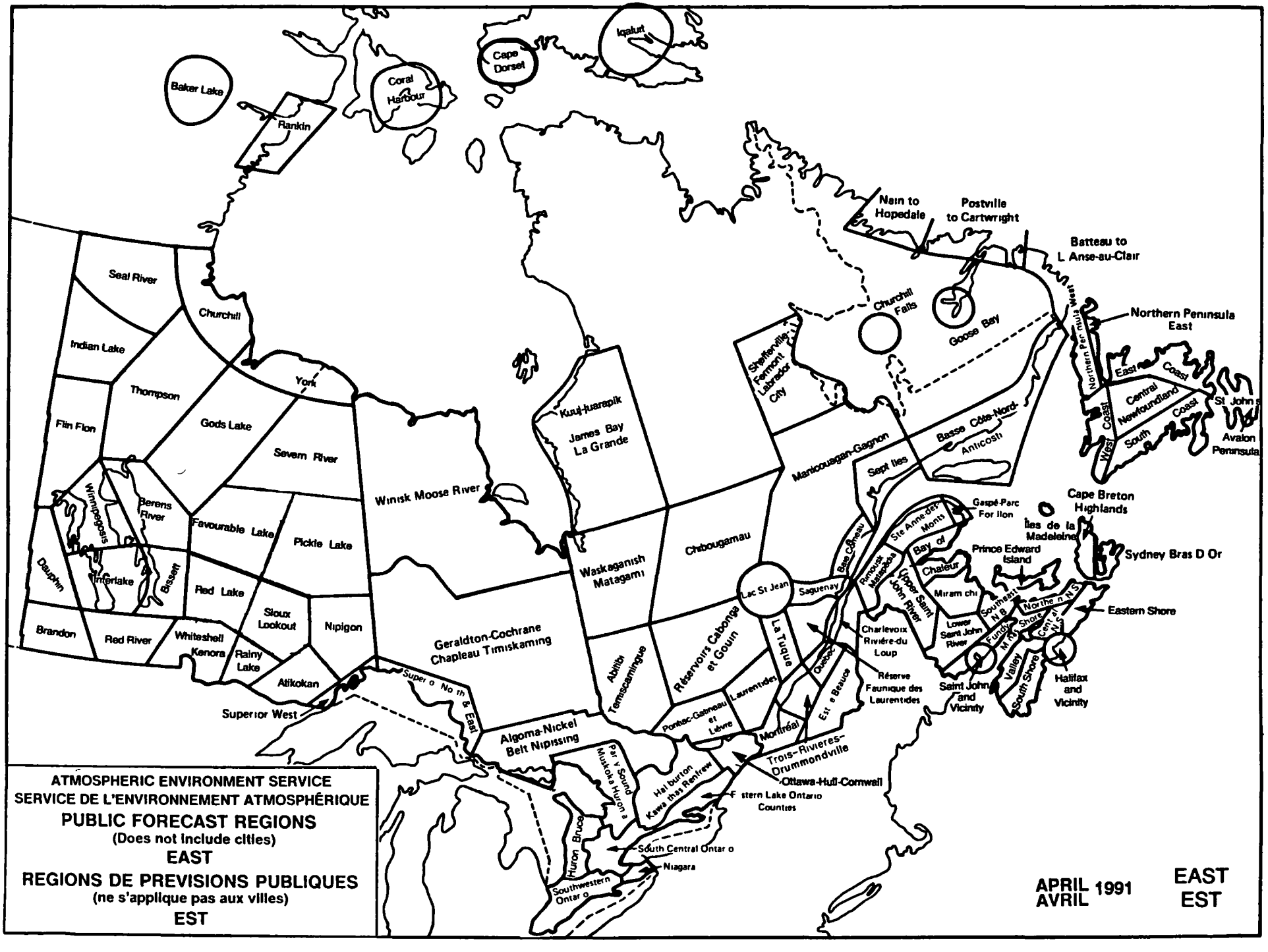
PUBLIC FORECAST REGIONS
(Does not include cities)

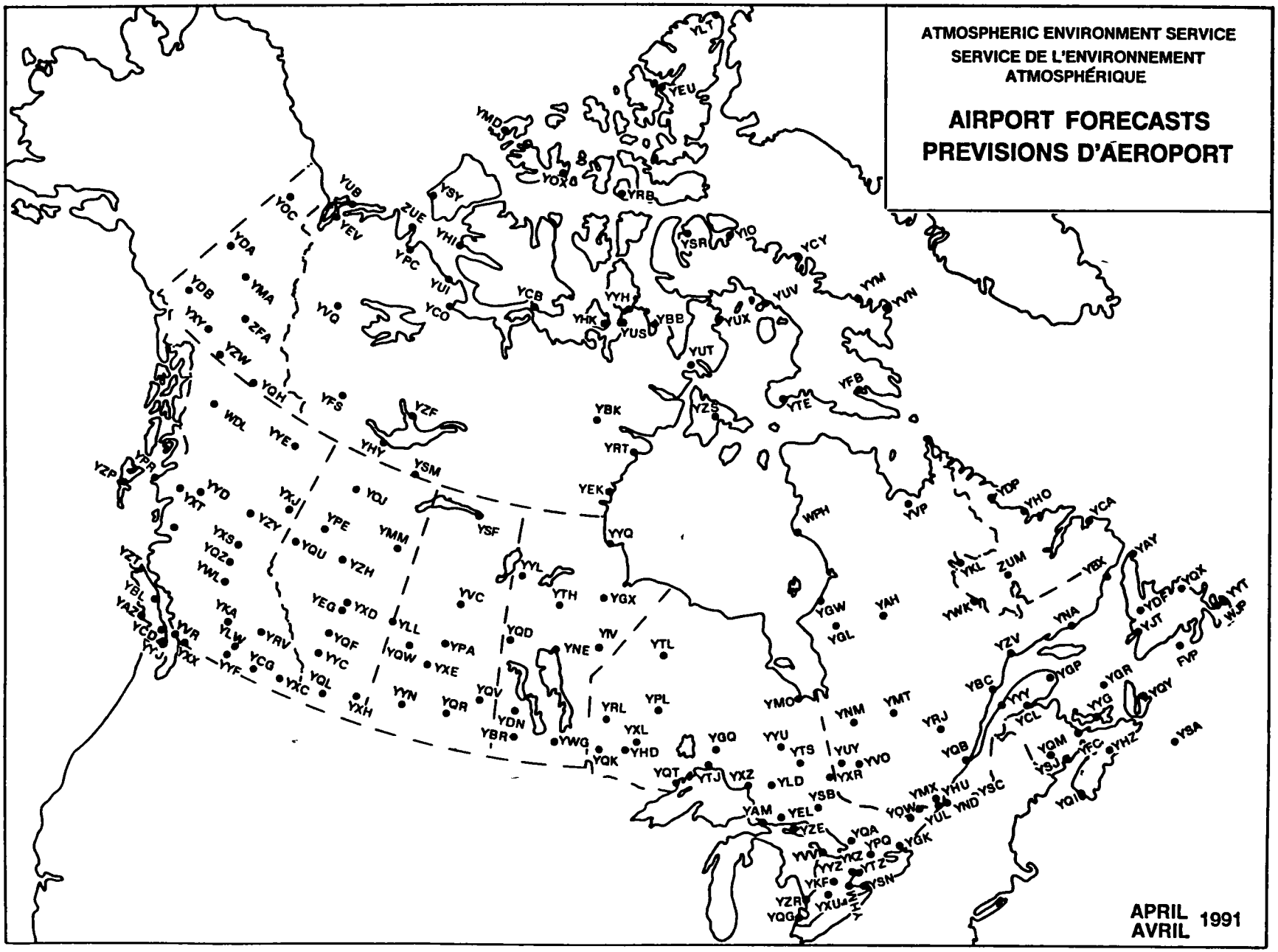
WEST

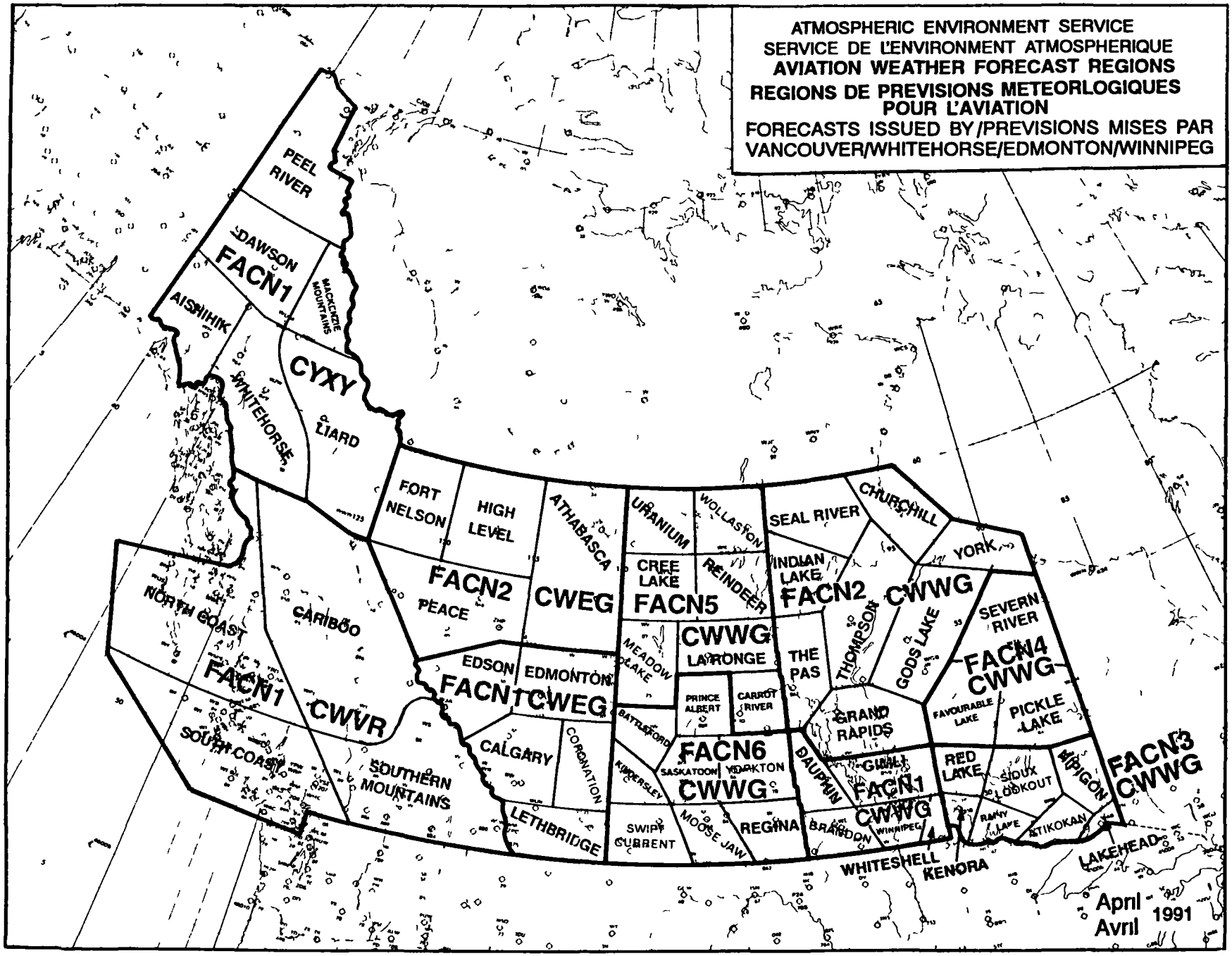
RÉGIONS DE PRÉVISIONS PUBLIQUES
(ne s'applique pas aux villes)

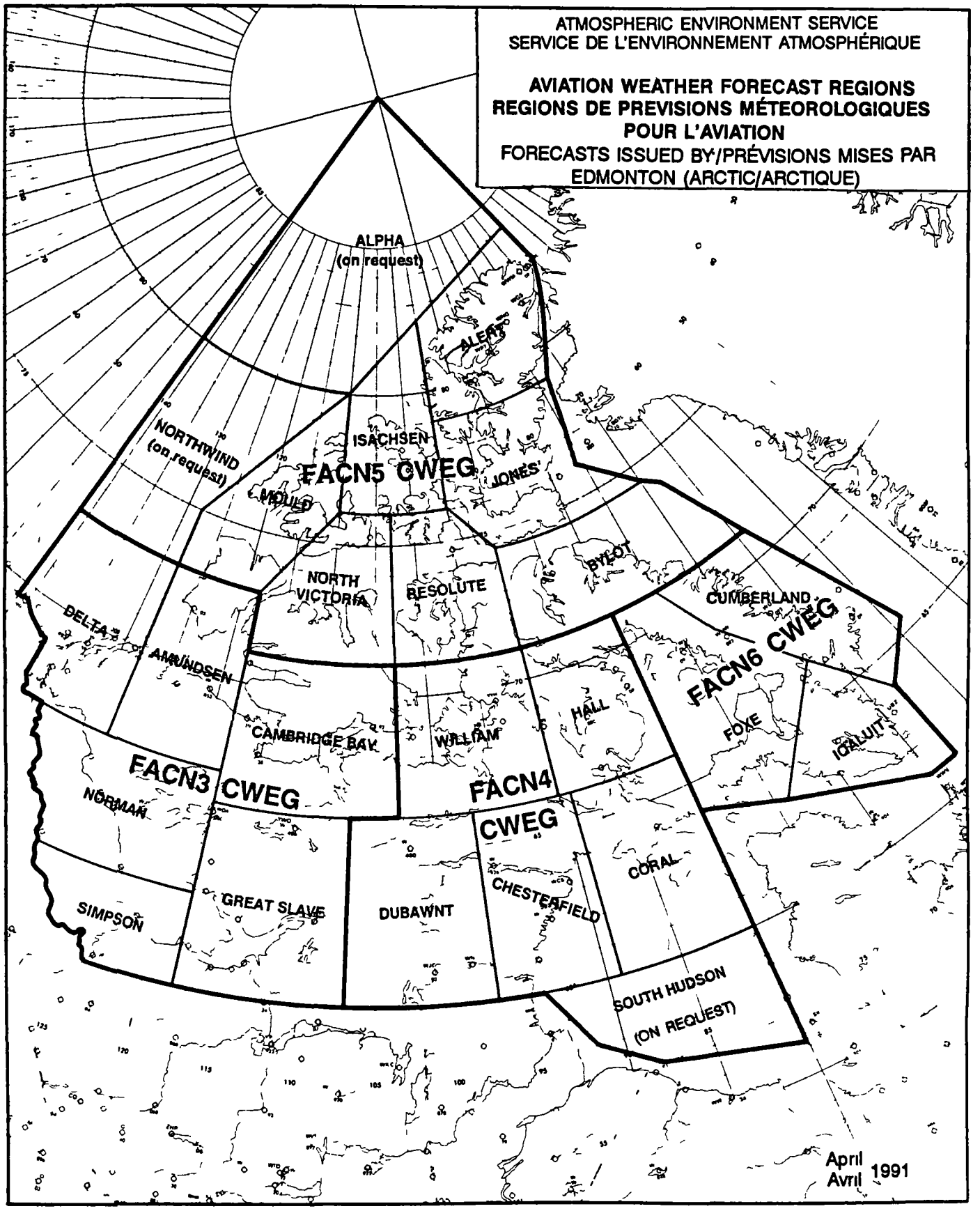
OUEST

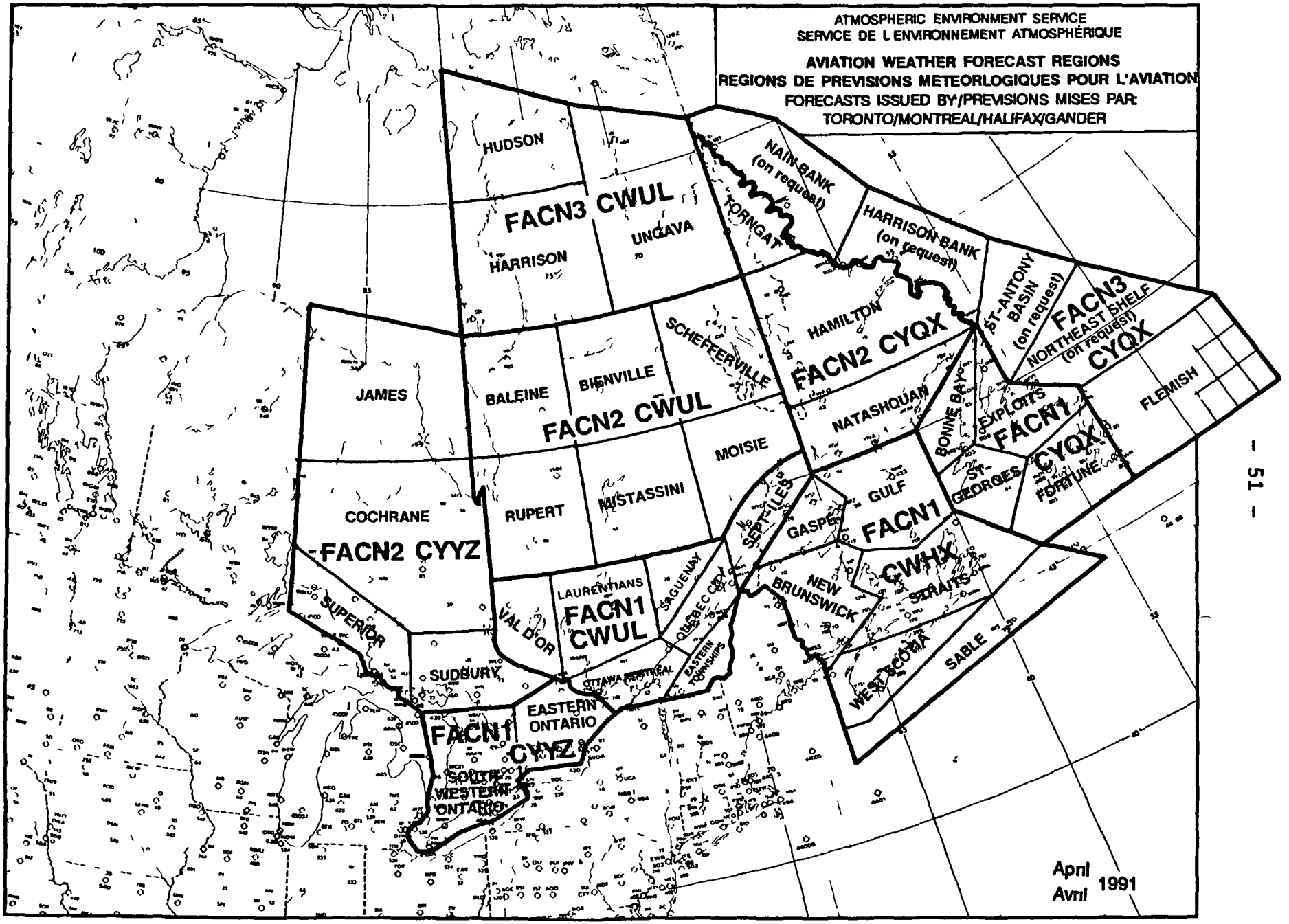
APRIL
AVRIL 1991

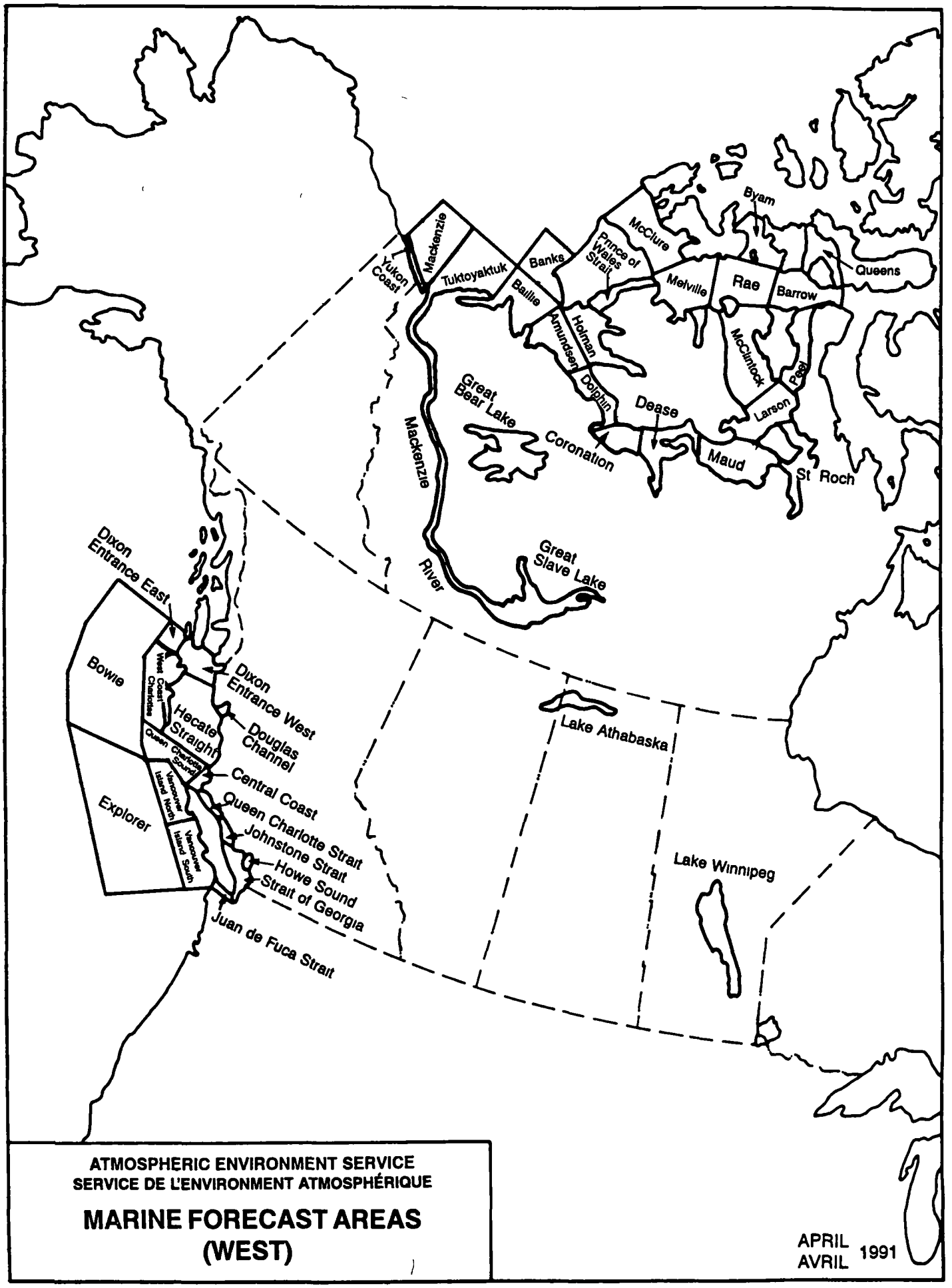

Baker Lake
Rankin
Coral Harbour
Cape Dorset
Iqaluit
Nain to Hopedale
Postville to Cartwright
Batteau to L. Anse-au-Clair
Churchill Falls
Goose Bay
Northern Peninsula East
Northern Peninsula West
East Coast
Central Newfoundland
West Coast
South Coast
St. John's
Avalon Peninsula
Seal River
Churchill
Indian Lake
Thompson
York
Flin Flon
Gods Lake
Severn River
Winisk Moose River
Kuujjuarapik
James Bay La Grande
Shefferville Fermont Labrador City
Manicouagan-Gagnon
Basse Côte-Nord Anticosti
Sept Iles
Wimipegosis
Berens River
Favourable Lake
Pickle Lake
Dauphin
Interlake
Bassett
Red Lake
Waskaganish Matagami
Chibougamau
Lac St Jean
Saguenay
Gaspé-Parc Forillon
Ste Anne des Monts
Bay of Chaleur
Baie Comeau
Ramouski Matapedia
Upper Saint John River
Miramichi
Prince Edward Island
Cape Breton Highlands
Iles de la Madeleine
Sydney Bras D Or
Eastern Shore
Brandon
Red River
Whiteshell
Kenora
Rainy Lake
Sioux Lookout
Nipigon
Atikokan
Geraldton-Cochrane Chapleau Timiskaming
Abitibi Temiscaminque
Réservoirs Cabonga et Gouin
La Tuque
Quebec
Charlevoix Rivière-du Loup
Réserve Faunique des Laurentides
Lower Saint John River
Southeast N.B.
Fundy Shore
Northern N.S.
Central N.S.
Valley
South Shore
Saint John and Vicinity
Halifax and Vicinity
Superior West
Superior North & East
Algoma-Nickel Belt Nipissing
Pontiac-Gatineau et Labvre
Laurentides
Est e Beauce
Montréal
Trois-Rivieres-Drummondville
Ottawa-Hull-Cornwall
Parry Sound Muskoka Huron a
Haliburton Kawartha Renfrew
Eastern Lake Ontario Counties
Huron Bruce
South Central Ontario
Niagara
Southwestern Ontario
ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHÉRIQUE
PUBLIC FORECAST REGIONS
(Does not include cities)
EAST
REGIONS DE PREVISIONS PUBLIQUES
(ne s'applique pas aux villes)
EST
APRIL 1991
AVRIL
EAST
EST


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHÉRIQUE
AIRPORT FORECASTS
PREVISIONS D'AÉROPORT
APRIL 1991
AVRIL


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONMENT ATMOSPHERIQUE
AVIATION WEATHER FORECAST REGIONS
REGIONS DE PREVISIONS METEORLOGIQUES POUR L'AVIATION
FORECASTS ISSUED BY/PREVISIONS MISES PAR
VANCOUVER/WHITEHORSE/EDMONTON/WINNIPEG
PEEL RIVER
DAWSON
FACN1
MACKENZIE MOUNTAINS
AISHIHIK
WHITEHORSE
CYXY
LIARD
FORT NELSON
HIGH LEVEL
ATHABASCA
FACN2
CWEG
PEACE
URANIUM
WOLLASTON
CREE LAKE
REINDEER
FACN5
SEAL RIVER
CHURCHILL
YORK
INDIAN LAKE
FACN2
CWWG
THOMPSON
GODS LAKE
SEVERN RIVER
FACN4
CWWG
NORTH COAST
CARIBOO
FACN1
CWVR
SOUTH COAST
SOUTHERN MOUNTAINS
EDSON
EDMONTON
FACN1
CWEG
MEADOW LAKE
CWWG
LA RONGE
THE PAS
PRINCE ALBERT
CARROT RIVER
BATTLEFORD
GRAND RAPIDS
FAVOURABLE LAKE
PICKLE LAKE
CALGARY
CORONATION
KINDERSLEY
FACN6
SASKATOON
YORKTON
CWWG
DAUPHIN
FACN1
CWWG
RED LAKE
SIOUX LOOKOUT
MB/ON
FACN3
CWWG
SWIFT CURRENT
MOOSE JAW
REGINA
BRANDON
WINNIPEG
RAINY LAKE
ATIKOKAN
LETHBRIDGE
WHITESHELL
KENORA
LAKEHEAD
April - Avril 1991


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHÉRIQUE
AVIATION WEATHER FORECAST REGIONS
REGIONS DE PREVISIONS MÉTEOROLOGIQUES POUR L'AVIATION
FORECASTS ISSUED BY/PRÉVISIONS MISES PAR
EDMONTON (ARCTIC/ARCTIQUE)
ALPHA
(on request)
ALERT
NORTHWIND
(on request)
ISACHSEN
FACN5 CWEG
JONES'
MOULD
BYLOT
NORTH
VICTORIA
RESOLUTE
CUMBERLAND
DELTA
AMUNDSEN
FACN6 CWEG
HALL
CAMBRIDGE BAY
WILLIAM
FOXE
IGALUIT
FACN3 CWEG
FACN4
CWEG
NORMAN
CORAL
CHESTERFIELD
SIMPSON
GREAT SLAVE
DUBAWNT
SOUTH HUDSON
(ON REQUEST)
April
Avril 1991

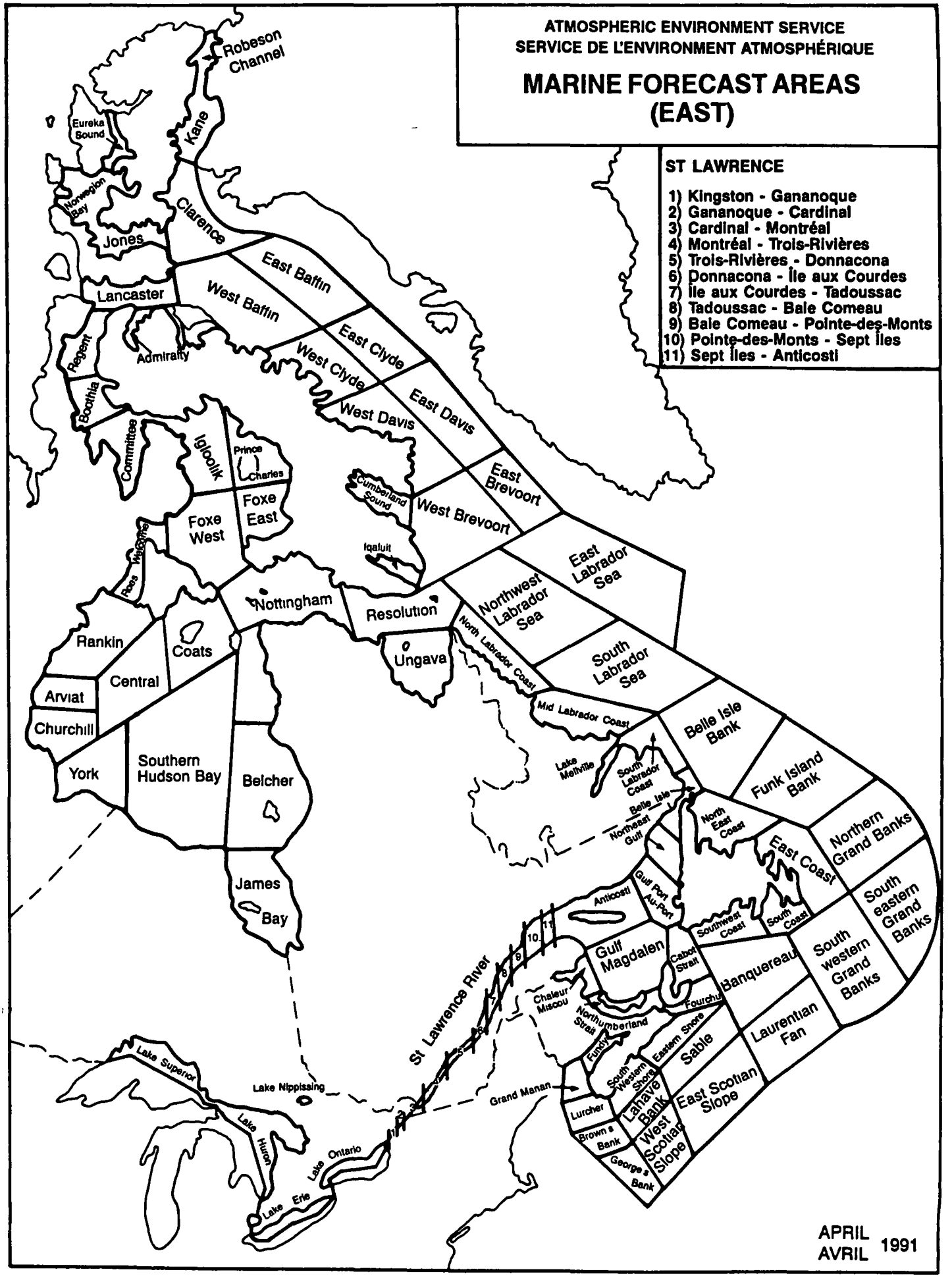

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHÉRIQUE
AVIATION WEATHER FORECAST REGIONS
REGIONS DE PREVISIONS METEORLOGIQUES POUR L'AVIATION
FORECASTS ISSUED BY/PREVISIONS MISES PAR:
TORONTO/MONTREAL/HALIFAX/GANDER
HUDSON
FACN3 CWUL
HARRISON
UNGAVA
NAIN-BANK (on request)
TORNGAT
HARRISON BANK (on request)
ST-ANTONY BASIN (on request)
FACN3 NORTHEAST SHELF (on request) CYQX
FLEMISH
JAMES
BALEINE
BIENVILLE
SCHEFFERVILLE
FACN2 CWUL
HAMILTON
FACN2 CYQX
NATASHQUAN
BONNE BAY
EXPLOITS
FACN1 CYQX
ST-GEORGES
FORTUNE
MOISIE
COCHRANE
FACN2 CYYZ
RUPERT
MISTASSINI
SEPT-ILES
GASPE
GULF
FACN1 CWHX
STRAITS
NEW BRUNSWICK
SUPERIOR
LAURENTIANS
FACN1 CWUL
SAGUENAY
QUEBEC CITY
VAL D'OR
EASTERN TOWNSHIPS
SUDBURY
OTTAWA MONTREAL
EASTERN ONTARIO
FACN1 CYYZ
SOUTH WESTERN ONTARIO
WEST NOVA
SABLE
April 1991
Avril

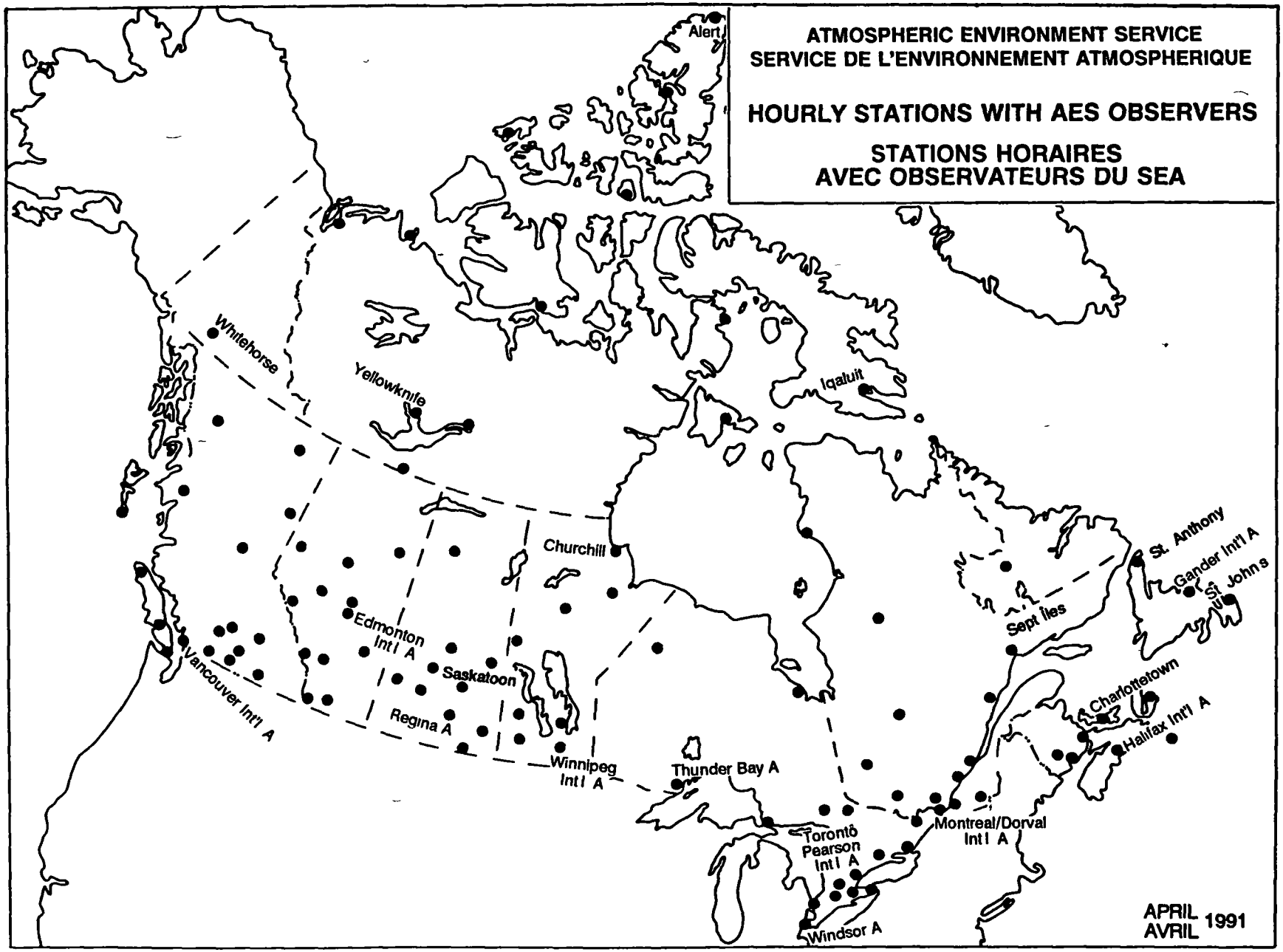


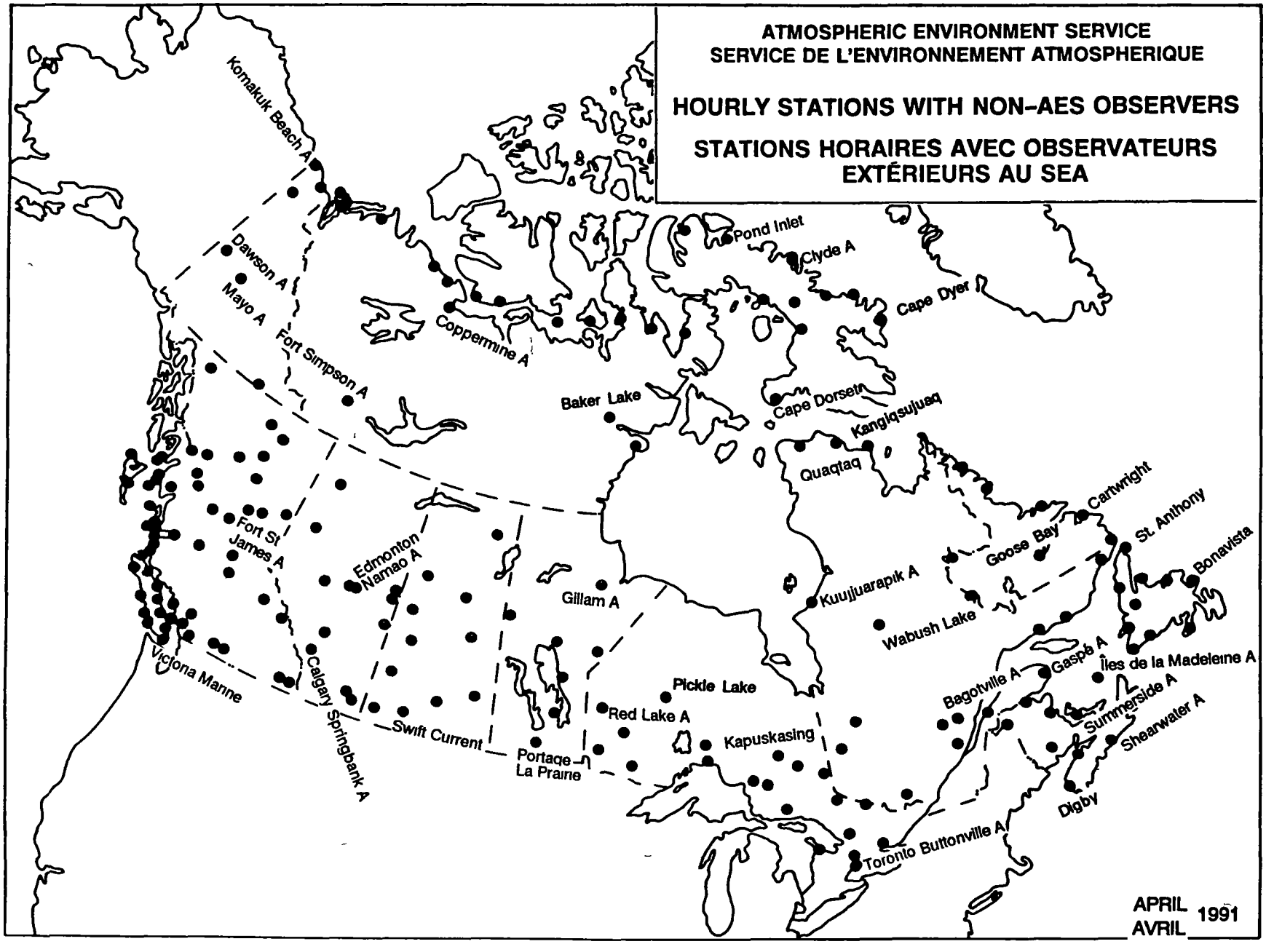
ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONMENT ATMOSPHÉRIQUE

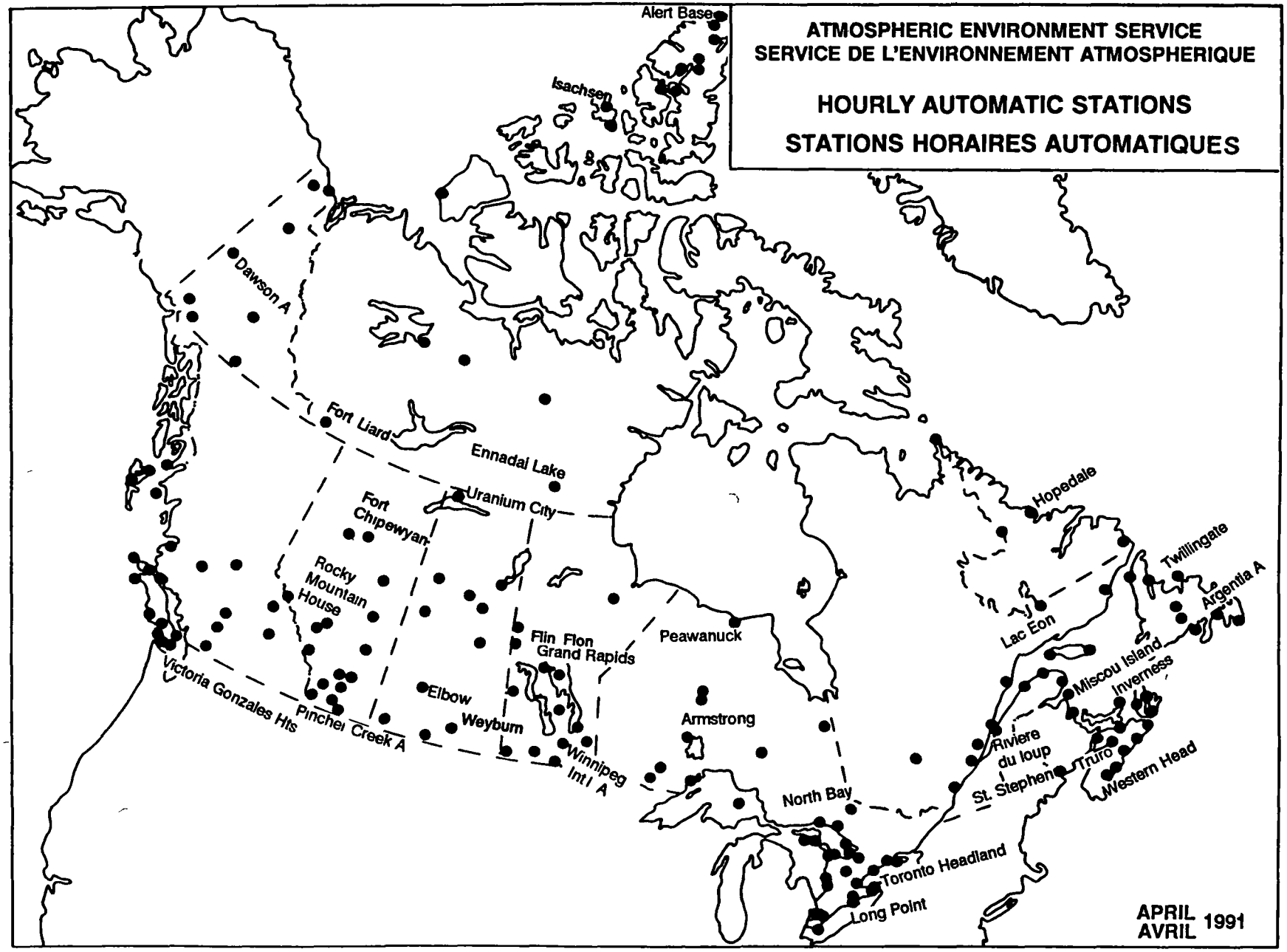
MARINE FORECAST AREAS (WEST)

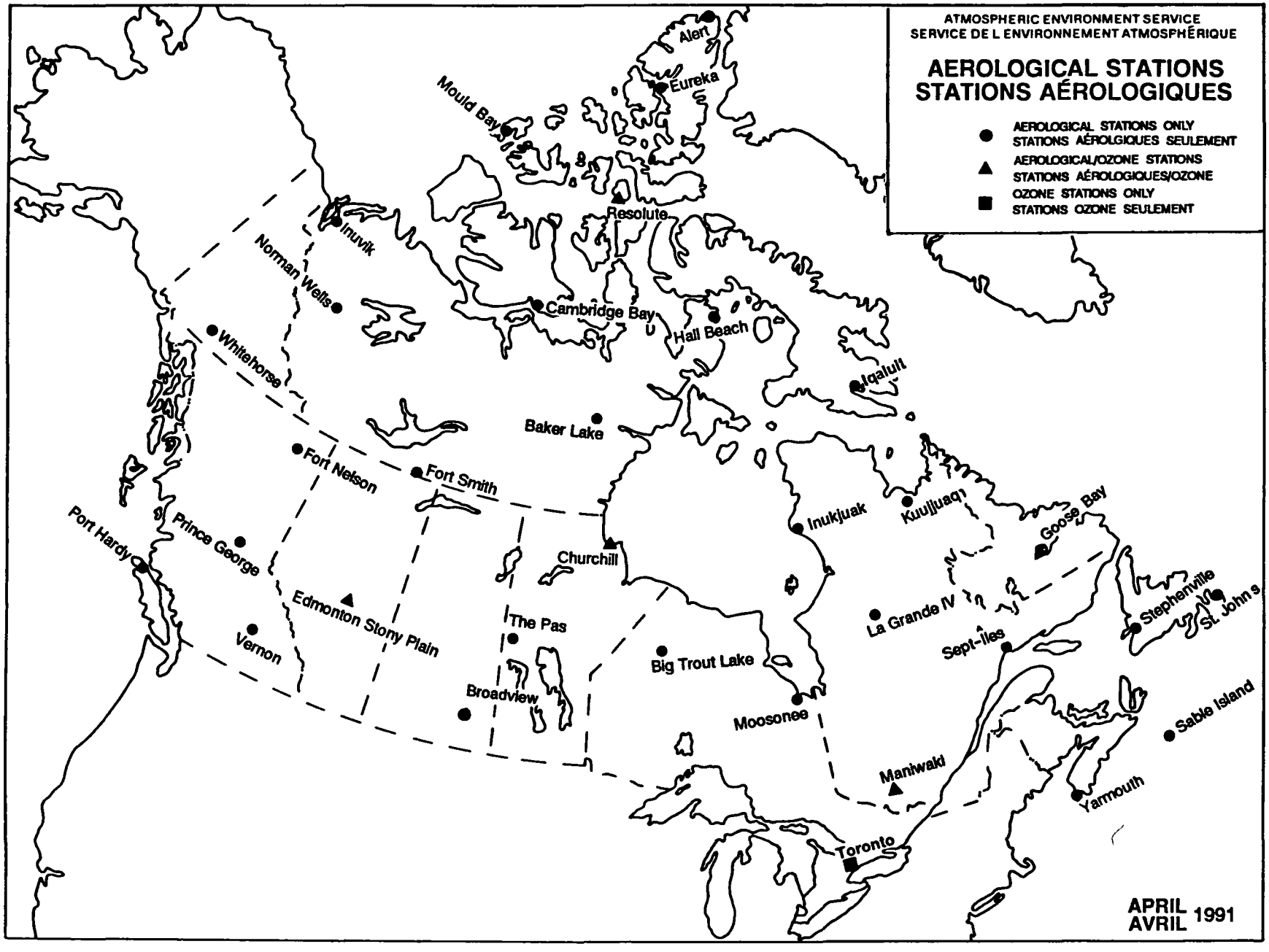
APRIL
AVRIL 1991

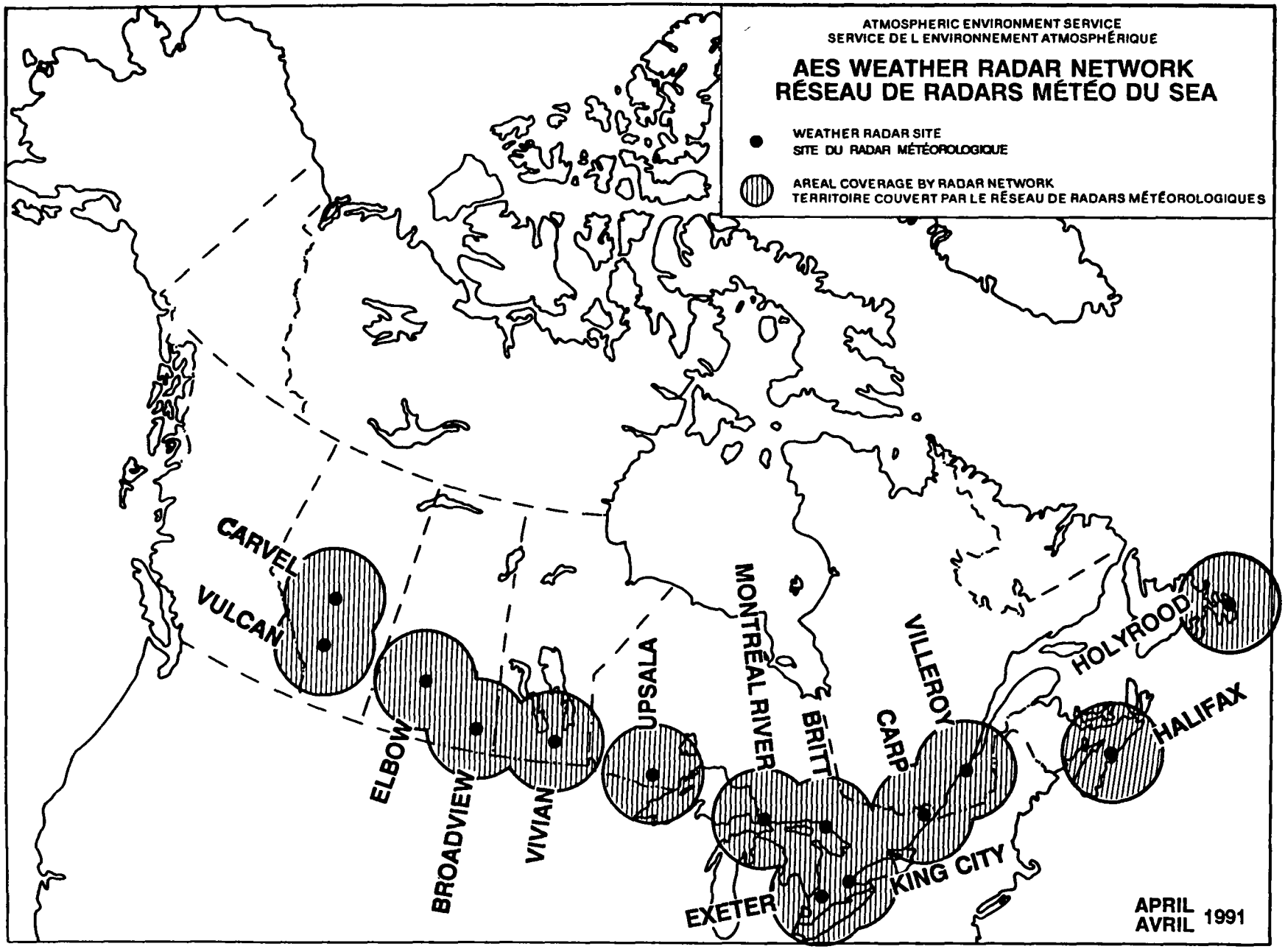

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONMENT ATMOSPHÉRIQUE
MARINE FORECAST AREAS
(EAST)
ST LAWRENCE
1) Kingston - Gananoque
2) Gananoque - Cardinal
3) Cardinal - Montréal
4) Montréal - Trois-Rivières
5) Trois-Rivières - Donnacona
6) Donnacona - Île aux Courdes
7) Île aux Courdes - Tadoussac
8) Tadoussac - Baie Comeau
9) Baie Comeau - Pointe-des-Monts
10) Pointe-des-Monts - Sept Îles
11) Sept Îles - Anticosti
Robeson Channel
Eureka Sound
Kane
Norwegian Bay
Clarence
Jones
Lancaster
East Baffin
West Baffin
East Clyde
West Clyde
East Davis
West Davis
East Brevoort
West Brevoort
Admiralty
Regent
Boothia
Committee
Igloolik
Prince Charles
Foxe West
Foxe East
Cumberland Sound
Iqaluit
Foxe Welcome
Rankin
Coats
Nottingham
Resolution
Ungava
Arviat
Central
Churchill
York
Southern Hudson Bay
Belcher
James Bay
East Labrador Sea
Northwest Labrador Sea
South Labrador Sea
North Labrador Coast
Mid Labrador Coast
Lake Melville
South Labrador Coast
Belle Isle
Northeast Gulf
Belle Isle Bank
Funk Island Bank
North East Coast
East Coast
Northern Grand Banks
South eastern Grand Banks
Anticosti
Gulf Port Au Port
Southwest Coast
South Coast
Gulf Magdalen
Cabot Strait
Banquereau
South western Grand Banks
Laurentian Fan
Chaleur Miscou
Fourchu
Northumberland Strait
Fundy
Eastern Shore
South Western Shore
Sable
Lahave Bank
East Scotian Slope
West Scotian Slope
Lurcher
Brown's Bank
George's Bank
St Lawrence River
Grand Manan
Lake Superior
Lake Nippissing
Lake Huron
Lake Ontario
Lake Erie
APRIL
AVRIL 1991

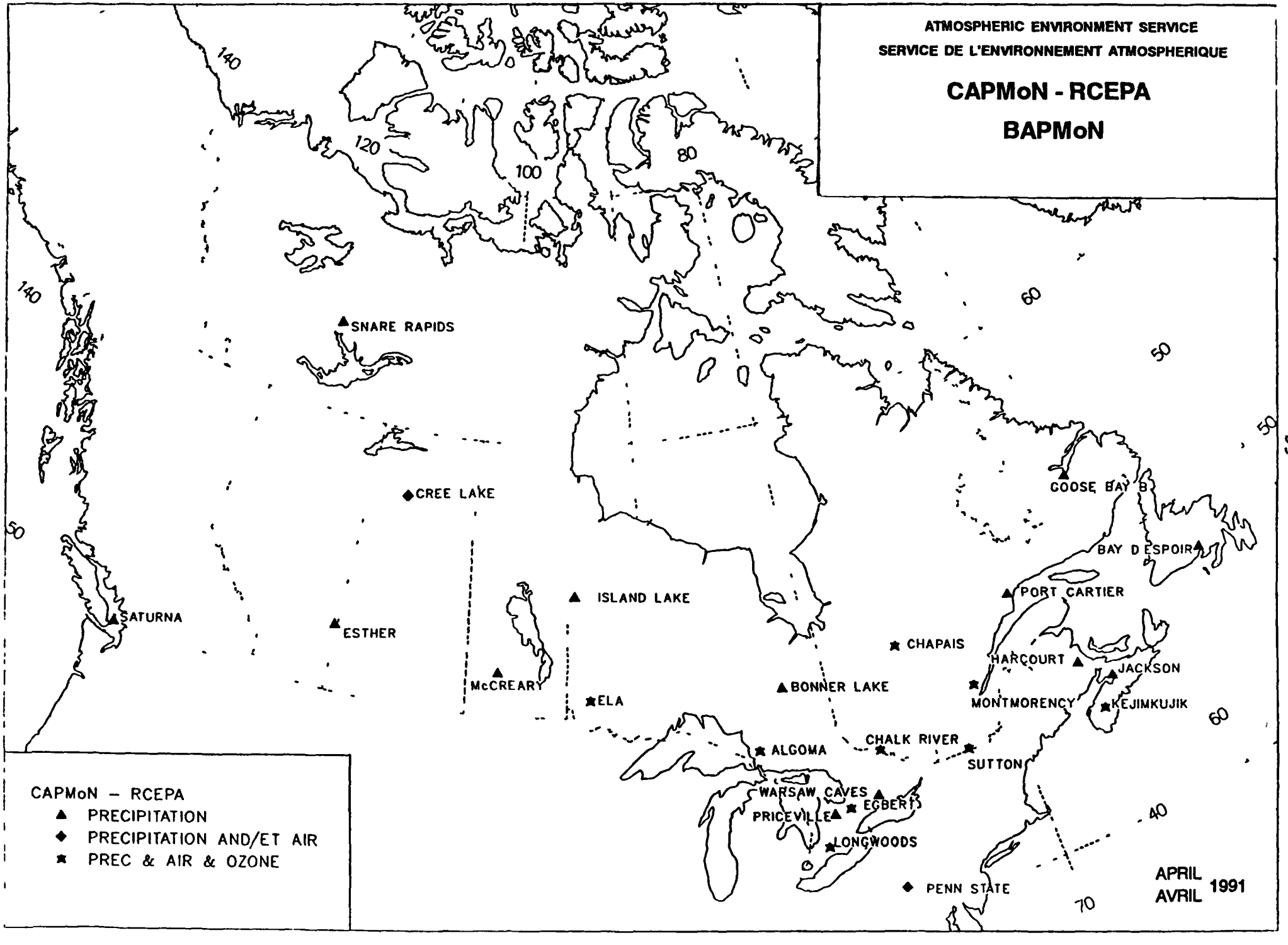

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
HOURLY STATIONS WITH AES OBSERVERS
STATIONS HORAIRES
AVEC OBSERVATEURS DU SEA
Alert
Whitehorse
Yellowknife
Iqaluit
Churchill
Edmonton Int'l A
Saskatoon
Regina A
Vancouver Int'l A
Winnipeg Int'l A
Thunder Bay A
Toronto Pearson Int'l A
Windsor A
Montreal/Dorval Int'l A
Sept Îles
St. Anthony
Gander Int'l A
St. John's
Charlottetown
Halifax Int'l A
APRIL
AVRIL 1991

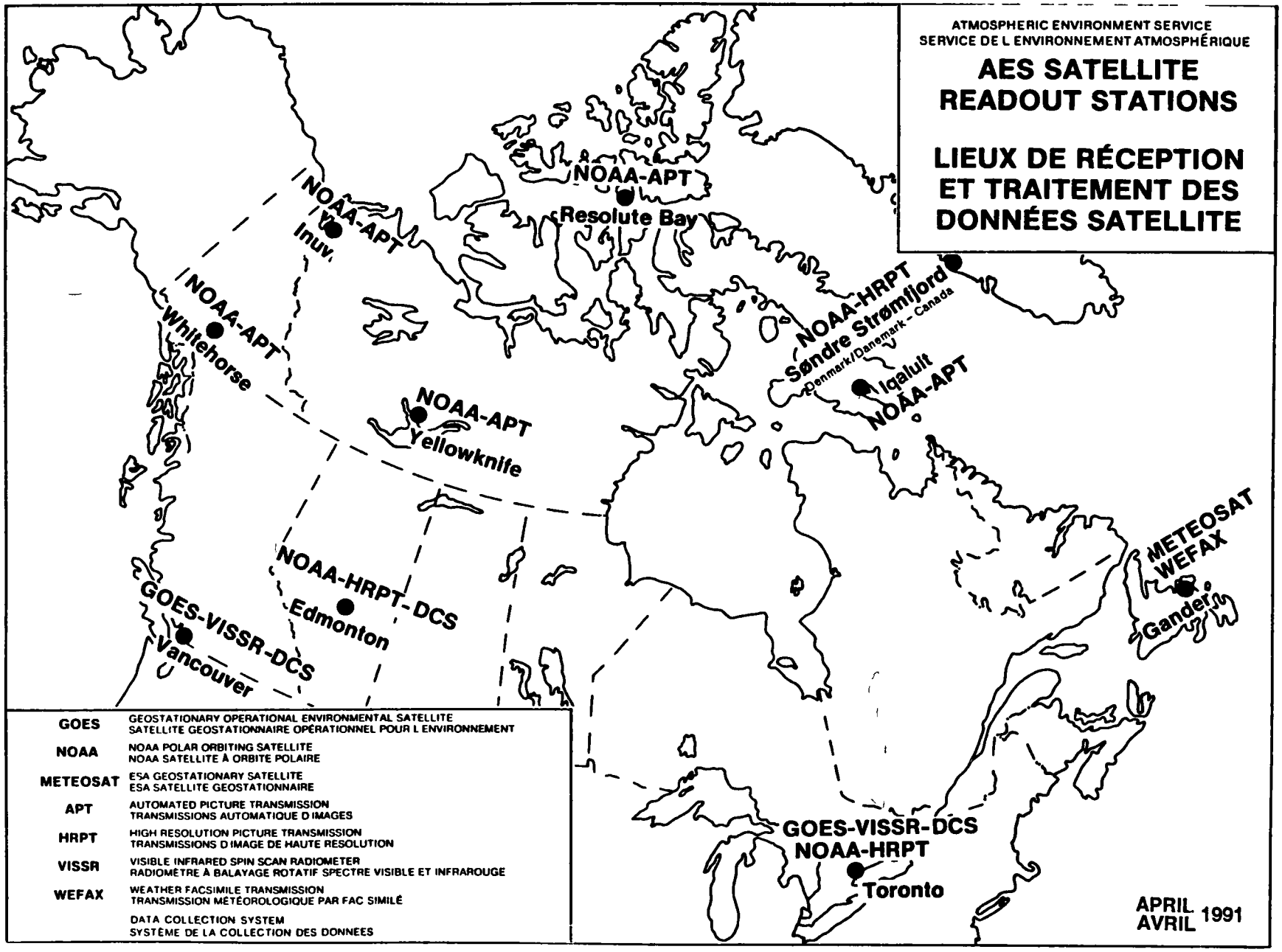

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
HOURLY STATIONS WITH NON-AES OBSERVERS
STATIONS HORAIRES AVEC OBSERVATEURS EXTÉRIEURS AU SEA
Komakuk Beach A
Dawson A
Mayo A
Fort Simpson A
Coppermine A
Pond Inlet
Clyde A
Cape Dyer
Baker Lake
Cape Dorset
Kangiqsujuaq
Quaqtaq
Cartwright
Goose Bay
St. Anthony
Bonavista
Fort St James A
Edmonton Namao A
Gillam A
Kuujjuarapik A
Wabush Lake
Victoria Marine
Calgary
Springbank A
Swift Current
Portage La Prairie
Pickle Lake
Red Lake A
Kapuskasing
Bagotville A
Gaspé A
Îles de la Madeleine A
Summerside A
Shearwater A
Digby
Toronto Buttonville A
APRIL 1991
AVRIL

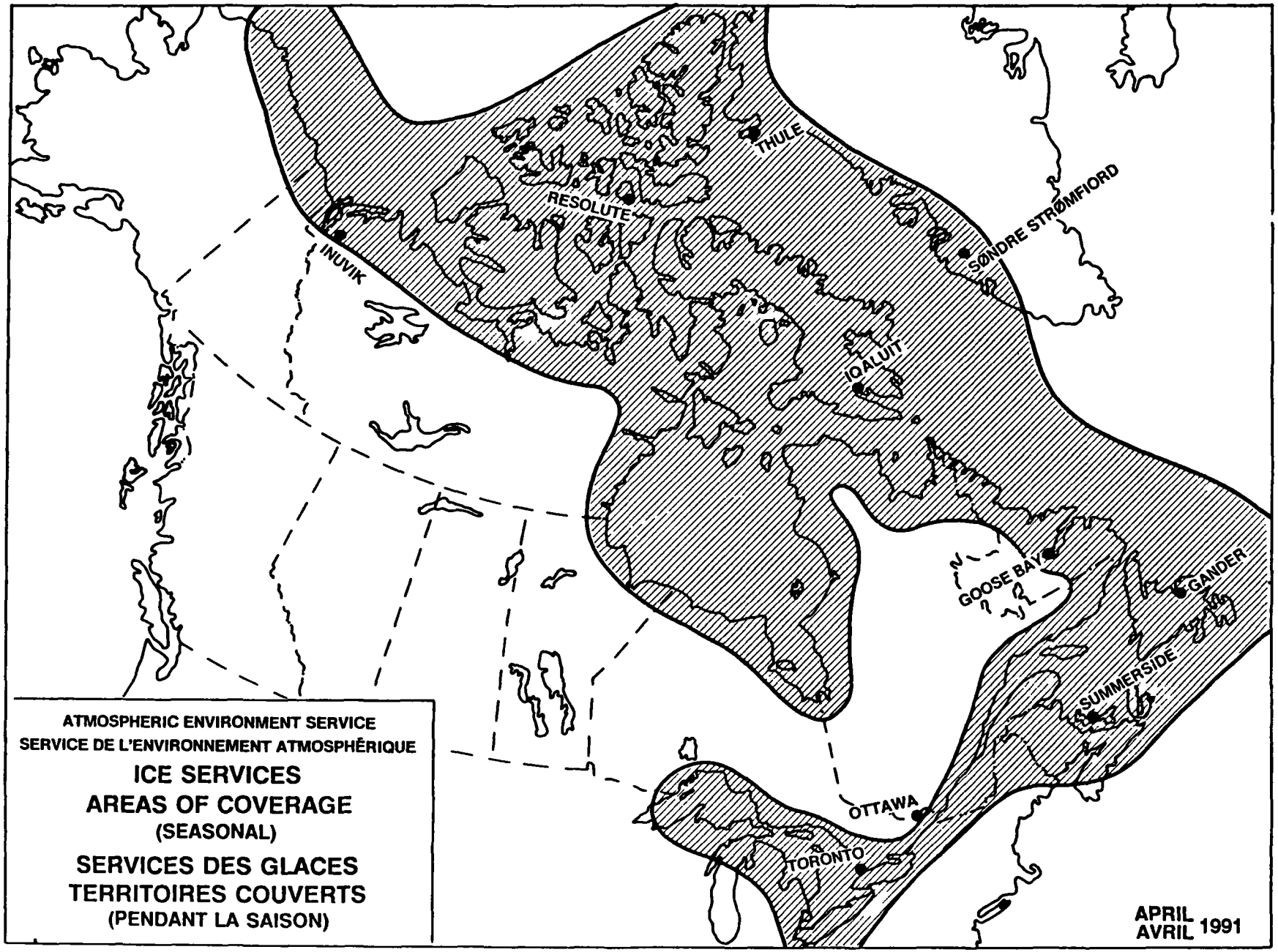

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
HOURLY AUTOMATIC STATIONS
STATIONS HORAIRES AUTOMATIQUES
Alert Base
Isachsen
Dawson A
Fort Liard
Ennadai Lake
Uranium City
Fort Chipewyan
Rocky Mountain House
Flin Flon
Grand Rapids
Peawanuck
Victoria Gonzales Hts
Pincher Creek A
Elbow
Weyburn
Winnipeg Int'l A
Armstrong
North Bay
Toronto Headland
Long Point
Hopedale
Lac Eon
Twillingate
Argentia A
Miscou Island
Inverness
Riviere du loup
St. Stephen
Truro
Western Head
APRIL 1991
AVRIL

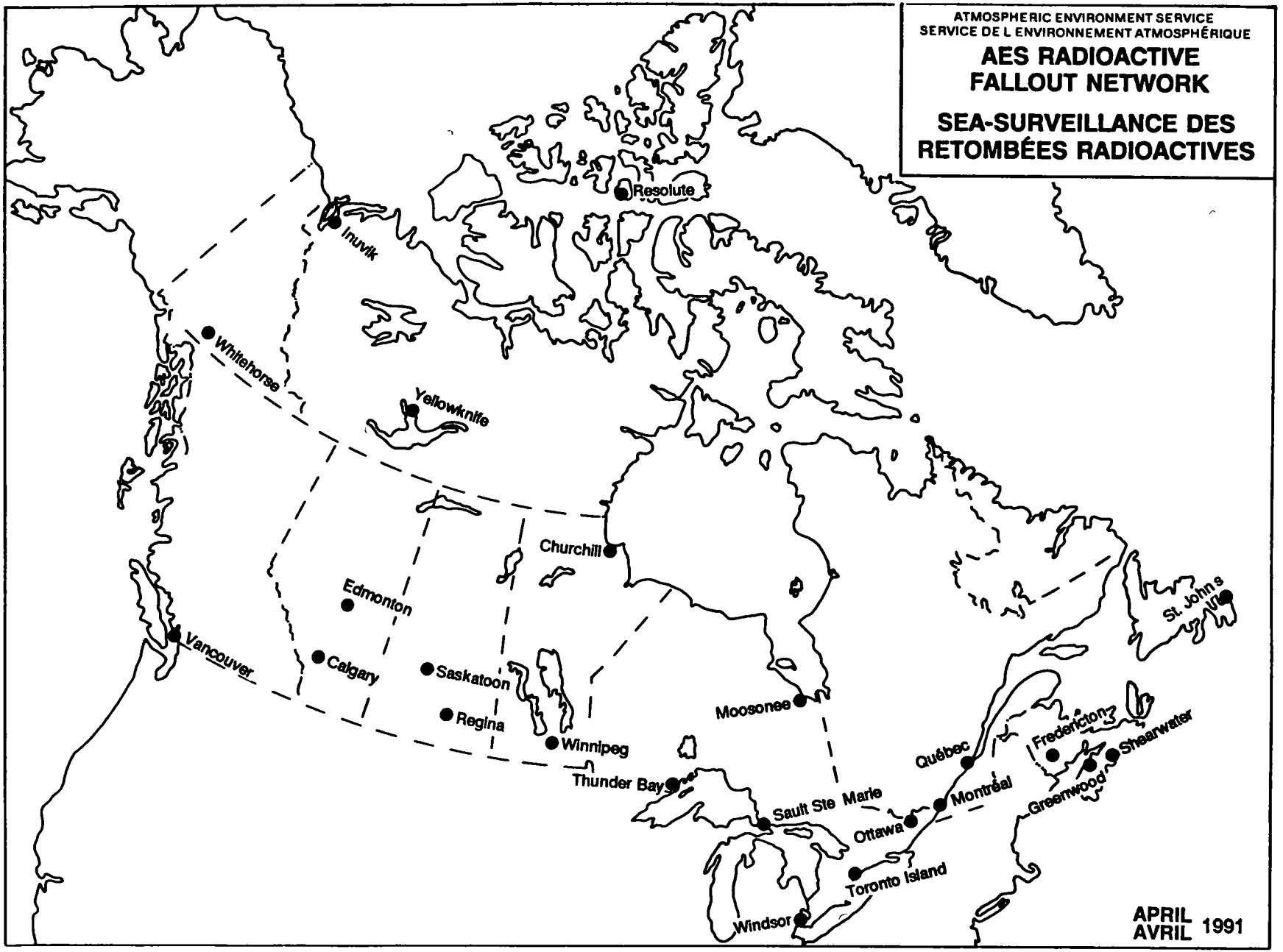

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L ENVIRONNEMENT ATMOSPHÉRIQUE
AEROLOGICAL STATIONS
STATIONS AÉROLOGIQUES
AEROLOGICAL STATIONS ONLY
STATIONS AÉROLGIQUES SEULEMENT
AEROLOGICAL/OZONE STATIONS
STATIONS AÉROLOGIQUES/OZONE
OZONE STATIONS ONLY
STATIONS OZONE SEULEMENT
Alert
Eureka
Mould Bay
Resolute
Inuvik
Norman Wells
Cambridge Bay
Hall Beach
Iqaluit
Whitehorse
Baker Lake
Fort Nelson
Fort Smith
Inukjuak
Kuujjuaq
Goose Bay
Port Hardy
Prince George
Churchill
Edmonton Stony Plain
The Pas
La Grande IV
Stephenville
St. John's
Vernon
Sept-Îles
Big Trout Lake
Broadview
Moosonee
Sable Island
Maniwaki
Yarmouth
Toronto
APRIL
AVRIL 1991

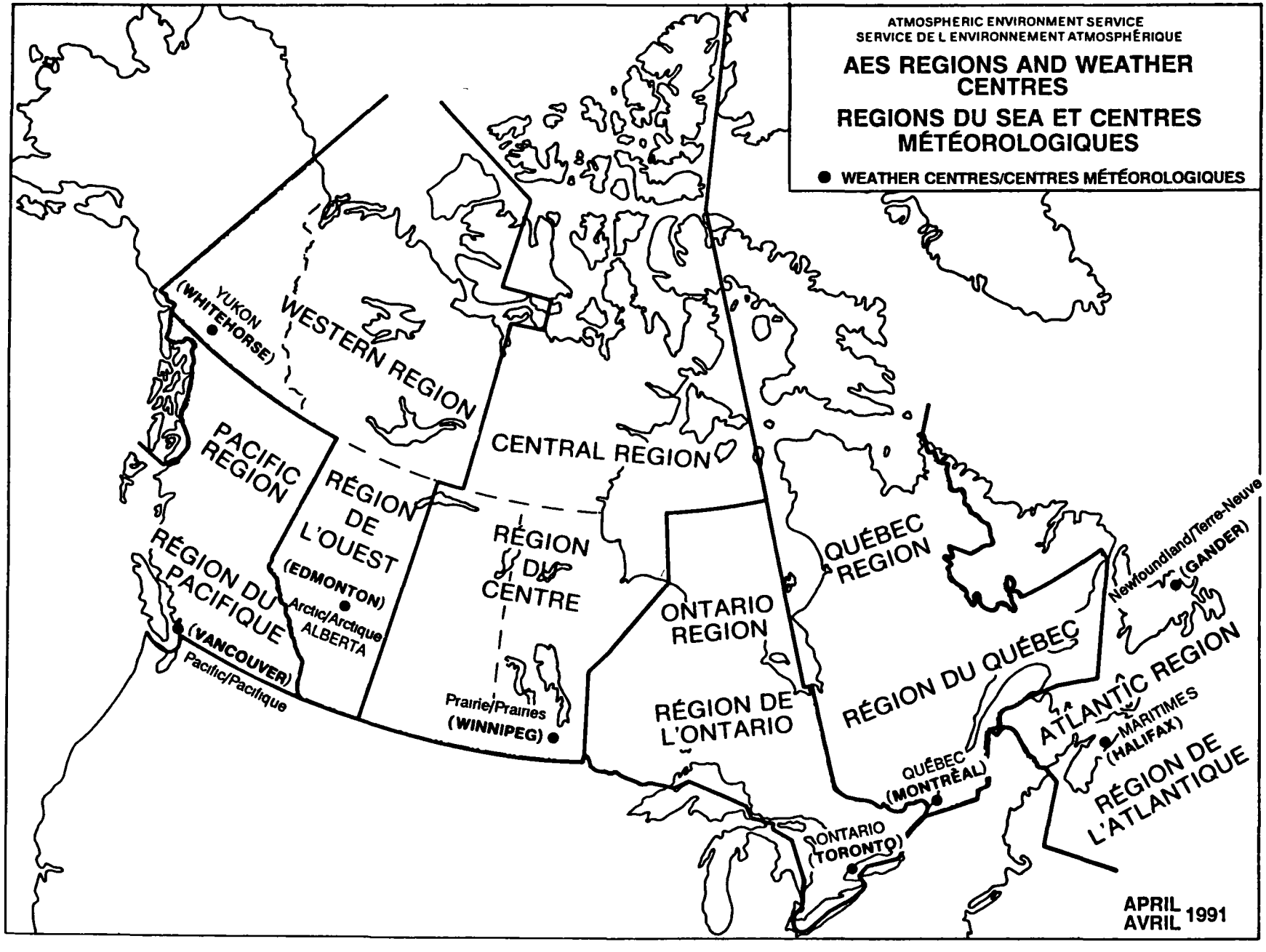

ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L ENVIRONNEMENT ATMOSPHÉRIQUE
AES WEATHER RADAR NETWORK
RÉSEAU DE RADARS MÉTÉO DU SEA
WEATHER RADAR SITE
SITE DU RADAR MÉTÉOROLOGIQUE
AREAL COVERAGE BY RADAR NETWORK
TERRITOIRE COUVERT PAR LE RÉSEAU DE RADARS MÉTÉOROLOGIQUES
CARVEL
VULCAN
ELBOW
BROADVIEW
VIVIAN
UPSALA
MONTREAL RIVER
BRITT
CARP
VILLEROY
HOLYROOD
HALIFAX
KING CITY
EXETER
APRIL
AVRIL 1991


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHERIQUE
CAPMoN - RCEPA
BAPMoN
SNARE RAPIDS
CREE LAKE
SATURNA
ESTHER
McCREARY
ISLAND LAKE
ELA
BONNER LAKE
ALGOMA
WARSAW CAVES
PRICEVILLE
EGBERT
LONGWOODS
PENN STATE
CHAPAIS
CHALK RIVER
SUTTON
MONTMORENCY
HARCOURT
JACKSON
KEJIMKUJIK
PORT CARTIER
BAY D'ESPOIR
GOOSE BAY B
CAPMoN – RCEPA
▲ PRECIPITATION
◆ PRECIPITATION AND/ET AIR
★ PREC & AIR & OZONE
APRIL
AVRIL 1991


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L ENVIRONNEMENT ATMOSPHÉRIQUE
AES SATELLITE READOUT STATIONS
LIEUX DE RÉCEPTION ET TRAITEMENT DES DONNÉES SATELLITE
NOAA-APT
Resolute Bay
NOAA-APT
Inuv.
NOAA-APT
Whitehorse
NOAA-HRPT
Søndre Strømfjord
Denmark/Danemark - Canada
Iqaluit
NOAA-APT
NOAA-APT
Yellowknife
METEOSAT
WEFAX
Gander
NOAA-HRPT-DCS
Edmonton
GOES-VISSR-DCS
Vancouver
GOES-VISSR-DCS
NOAA-HRPT
Toronto
GOES GEOSTATIONARY OPERATIONAL ENVIRONMENTAL SATELLITE
SATELLITE GEOSTATIONNAIRE OPÉRATIONNEL POUR L ENVIRONNEMENT
NOAA NOAA POLAR ORBITING SATELLITE
NOAA SATELLITE À ORBITE POLAIRE
METEOSAT ESA GEOSTATIONARY SATELLITE
ESA SATELLITE GEOSTATIONNAIRE
APT AUTOMATED PICTURE TRANSMISSION
TRANSMISSIONS AUTOMATIQUE D IMAGES
HRPT HIGH RESOLUTION PICTURE TRANSMISSION
TRANSMISSIONS D IMAGE DE HAUTE RESOLUTION
VISSR VISIBLE INFRARED SPIN SCAN RADIOMETER
RADIOMÈTRE À BALAYAGE ROTATIF SPECTRE VISIBLE ET INFRAROUGE
WEFAX WEATHER FACSIMILE TRANSMISSION
TRANSMISSION MÉTÉOROLOGIQUE PAR FAC SIMILÉ
DATA COLLECTION SYSTEM
SYSTÈME DE LA COLLECTION DES DONNEES
APRIL
AVRIL 1991


THULE
RESOLUTE
INUVIK
SØNDRE STRØMFIORD
IQALUIT
GOOSE BAY
GANDER
SUMMERSIDE
OTTAWA
TORONTO
ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L'ENVIRONNEMENT ATMOSPHÉRIQUE
ICE SERVICES
AREAS OF COVERAGE
(SEASONAL)
SERVICES DES GLACES
TERRITOIRES COUVERTS
(PENDANT LA SAISON)
APRIL
AVRIL 1991


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L ENVIRONNEMENT ATMOSPHÉRIQUE
AES RADIOACTIVE FALLOUT NETWORK
SEA-SURVEILLANCE DES RETOMBÉES RADIOACTIVES
Resolute
Inuvik
Whitehorse
Yellowknife
Churchill
Edmonton
Vancouver
Calgary
Saskatoon
Regina
Winnipeg
Thunder Bay
Moosonee
Québec
Fredericton
Shearwater
Greenwood
St. John's
Sault Ste Marie
Montréal
Ottawa
Toronto Island
Windsor
APRIL AVRIL 1991


ATMOSPHERIC ENVIRONMENT SERVICE
SERVICE DE L ENVIRONNEMENT ATMOSPHÉRIQUE
AES REGIONS AND WEATHER CENTRES
REGIONS DU SEA ET CENTRES MÉTÉOROLOGIQUES
WEATHER CENTRES/CENTRES MÉTÉOROLOGIQUES
YUKON (WHITEHORSE)
WESTERN REGION
PACIFIC REGION
RÉGION DU PACIFIQUE
(VANCOUVER)
Pacific/Pacifique
RÉGION DE L'OUEST
(EDMONTON)
Arctic/Arctique
ALBERTA
CENTRAL REGION
RÉGION DU CENTRE
Prairie/Prairies
(WINNIPEG)
ONTARIO REGION
RÉGION DE L'ONTARIO
ONTARIO (TORONTO)
QUÉBEC REGION
RÉGION DU QUÉBEC
QUÉBEC (MONTRÉAL)
Newfoundland/Terre-Neuve
(GANDER)
ATLANTIC REGION
MARITIMES
(HALIFAX)
RÉGION DE L'ATLANTIQUE
APRIL AVRIL 1991

CHAPTER 5

RESULTS DEFINITION MODEL

ATMOSPHERIC ENVIRONMENT SERVICE

MANAGEMENT BY RESULTS
as a basis for planning in AES

AES has adopted a Management by Results tool for strategic, operational and activities planning, and for program evaluation. This move towards Management by Results (Results Definition Model) is occurring throughout Environment Canada The Results Definition Model is consistent with the Federal Government's Public Service 2000 initiative to reform the operations of the Public Service. It focuses AES decision-making on the needs of Canadians within the defined mandate of the Department of the Environment This approach differs from past methods which tended to focus on the products rather than the client(s); e g improving forecasts, under the implicit assumption that the client(s) would benefit.

The **AES RESULTS DEFINITION MODEL** links the **MISSION** of the organization (a given to the model), the client **NEEDS** that are to be satisfied, and **RESULTS** (impacts of program on the client) **STRATEGIES** are not stated on the Model, but are developed through the planning process **STRATEGIES** are managerial statements of how Results will be achieved, and hence link Activities to Results

The strength of the model is in its identification of Client Needs and clear articulation of organizational expectations or "Results" intended to meet those Needs This ensures that the AES activities are focused for maximum effect The model has the added advantage of flexibility It is a dynamic, as opposed to static, management tool able to respond to changing client needs, emerging issues and unforeseen events Finally through a set of **RESULT MEASURES**, the model facilitates the assessment of an organization's success Result Measures highlight strengths and weaknesses in Program delivery and the strategies selected to achieve intended Results

The Results Definition model is incorporated in this edition of the Program Digest and Addendum The Program Activity Structure is used to describe program activities and to allow comparisons with previous years' activities. The Results Definition is described in following paragraphs, indicating the Needs, Results and Sub-Results Each Sub-Result is described in order to give an overview of the program output that support that particular Sub-Result

Need 1. Canadians need protection from Environmental Hazards. (1996 6 PY, $200,748 5 K · total of Results 1 1 and 1 2)

Result 1.1. Deaths and injuries to Canadians and damage to property in incidents where meteorological conditions are a factor are prevented or minimized. (1990.1 PY, $200,254.1 K · total of Sub-Results 1.1 1, 1 1.2 and 1 1 3)

Sub-Result 1.1.1. Canadians are aware of weather, sea-state and ice hazards and know how to react. (48 1 PY, $4,280 2 K)

In order for Canadians to understand meteorological hazards, it is important that they be aware of the hazards which occur in Canada, of the methods and means by which they will be warned of their occurrence, and of the options (be they protection of life or property) they have to deal with these hazards. AES publishes and distributes information on atmospheric, sea-state and ice hazards, and on associated AES warning services In addition, AES actively pursues, often with partners, the education of media, emergency response agencies, stakeholders and the public at large in these matters

Sub-Result 1.1.2. Canadians are warned of weather, sea-state and ice hazards and know how to react. (1921.4 PY, $194,204 0 K)

The provision of the warnings and advisories over land, sea and air is the major product of this result AES identifies this Sub-Result as the primary intent of activities which consume approximately of 75% of the Service's resources AES's capability to predict hazard occurrence and issue warnings must be in effect 24 hours a day, 365 days of the year, and cover all of mainland Canada and territorial waters

Sub-Result 1.1.3. Canadians structures and industrial operations are designed safely based on climate, sea state and ice information. (20 6 PY, $1,769 9 K)

Canadians live in an environment of extremes It is essential that their structures and operations be designed to withstand these conditions for the safety of lives and the security of property AES develops and implements analysis systems that provide extreme event information and provides advice on the application of this information (e g building codes, structural designs) to a wide variety of government and private sector client groups

Result 1.2. Deaths and illness to Canadians and damage to property caused by pollution are prevented or minimized. (6 5 PY, $494 4 K total of Sub-Results 1.2 1 and 1 2 2)

Sub-Result 1.2.1. Canadians are aware of the dangers of atmospheric pollution and know how to react. (0.4 PY, $25 6 K)

In order for Canadians to understand the dangers of atmospheric pollution, it is important that they be aware of the hazards which occur in Canada, of the methods and means by which they will be warned of their occurrence, and of the options (be they protection of life or property) they have to deal with these hazards AES researches these topics, publishes and distributes information on the hazards, and on associated AES warning services. In addition, AES actively pursues, often with partners, the education of media, emergency response agencies, stakeholders and the public at large in these matters.

Sub-Result 1.2.2. Canadians are warned of hazardous pollution events in time to react. (6 1 PY, $468 8 K)

In the event of a hazardous pollution occurrence, AES provides air quality, meteorological and sea state information to emergency response agencies, predicts conditions to follow, and provides information bulletins to the public As well, AES performs air quality research and development including modeling chemical and physical processes directly and in collaboration with other domestic and international agencies

Need 2. Canadians need a Good Quality of Life.
(314.8 PY, $30,321 7 K : total of Sub-Results 2 1 1, 2.1 2 and 2 1 3)

Result 2.1. From the wise adaptation to their natural environment, Canadians achieve economic and social benefits which are sustainable.
(314 8 PY, $30,321 7 K total of Sub-Results 2 1.1, 2 1 2 and 2 1 3)

Sub-Result 2.1.1. The gap between available and needed scientific knowledge and environmental information is reduced.
(92 7 PY, $11,000 3 K)

There is much to be learned in order to reduce the uncertainties in our understanding of the natural environment and its impact on our lives. AES seeks to create an increased understanding of the physical and chemical processes of the atmosphere and its interaction with the earth's surface by conducting basic research, participating in international research projects, participating in science committees, hosting science conferences, supporting professional societies and universities, and promoting the benefits of atmospheric sciences among policy makers and other stakeholders

Sub-Result 2.1.2. Canadians are knowledgeable of the value of environmental information and the implications of the environment on their activities. (9.8 PY, $1,391.2 K)

All the earth's population live immersed in the atmosphere AES endeavours to educate Canadians on the value of understanding the environment, by conducting studies on the impacts of the environment on man, by distributing specialized publications on this topic and by contributing to State of the Environment reporting

Sub-Result 2.1.3. The environment is factored into decisions related to health, convenience and enjoyment. (44 9 PY, $3,610 6 K)

In addition to Canadians being knowledgeable about the impact of the environment on their lives, it is important that they factor this knowledge into their everyday decisions and activities This Sub-Result focuses on those activities related to human health, convenience and enjoyment. AES prepares and distributes public weather forecasts, prepares advice on local weather, climate, air quality, and sea state and performs research and development on the relationship between weather and human comfort and well-being Public weather forecasts provide AES its greatest public visibility

Sub-Result 2.1.4. The environment is factored in economic decisions
(167.4 PY, $14 319 6 K)

Similar to Sub-Result 2 1 3, it is important that Canadians factor the environment into their economic decisions AES conducts activities in a variety of arenas in an attempt to achieve this result In particular, AES provides forecasts and climate information tailored to various economic sectors (e g forestry, agriculture, aviation), participates in environmental assessments, performs research and development in these areas and contributes to public economic policy decisions by influencing decision makers

Need 3. Canadians need a Clean Environment. (104 6 PY, $11,685 0 K total of Sub-Results 3.1 1, 3.1 2 and 3.1.3)

Result 3.1. Damage to the environment through human activities is minimized. (104 6 PY, $11,685 0 K · total of Sub-Results 3 1 1, 3 1 2 and 3 1.3)

Sub-Result 3.1.1. Canadians are aware of the threat of human activities to the environment. (1 8 PY, $149 9 K)

The impact of human activities on the environment can be critical Canadians need to be aware of the threat which their actions pose to the environment AES collects and analyses impacts data in co-operation with other government departments, participates in domestic and international research projects, provides expert testimony, monitors compliance with the Weather Modification Information Act, and educates and consults with selected sectors (e g forestry, energy, agriculture) in these matters

Sub-Result 3.1.2. Canadians and others make knovledgeable decisions to reduce or avoid adverse chemical and physical alterations to the environment. (102 1 PY, $11,488.9 K)

Once Canadians are knowledgeable about the impact which their individual and collective actions have on the environment, it is important that they factor this knowledge into their everyday decision making. This Result focuses on those activities which assist Canadians in their decision making AES acquires, analyses and interprets air quality and climate data, participates in socio-economic impact studies of policy, participates in the development and maintenance of domestic and international accords, protocols, agreements, legislation and regulations, and performs and reports on air quality and climate research and development in these areas (e g Climate Change)

Sub-Result 3.1.3. Pollution episodes where meteorological conditions are a factor are prevented or minimized. (0 7 PY, $46 2 K)

Complementary to Result 1 2 2 (where Canadians are warned of hazardous pollution events in time to react), there is the need to reduce the overall impact on the environment of pollution episodes AES in limited cases provides forecast information to regulatory agencies and industry which can assist in the scheduling of activities in a manner which minimizes the impact of pollution releases

CHAPTER 6

FUNCTIONS AND BUDGETS BY ORGANIZATION

ATMOSPHERIC ENVIRONMENT SERVICE

6 1 ATMOSPHERIC ENVIRONMENT SERVICE

6 1.1 AES Organizational Structure

The Atmospheric Environment Service is organized functionally into five Directorates, two Branches, six Regions, and three special purpose offices

Weather Services Directorate	WSD
Atmospheric Research Directorate	ARD
Canadian Climate Centre	CCC
Central Services Directorate	CSD
Policy, Planning and Assessment Directorate	APDG
Finance and Administration Branch	AABD
Human Resources Branch	AHRD
Pacific Region	PAED
Western Region	WAED
Central Region	CAED
Ontario Region	OAED
Quebec Region	QAED
Atlantic Region	MAED
International Affairs	AIA
Climate Change Conventions Negotiations Office	AOCD
Energy Advisor	ADMA

Four of the five Directorates plus the Finance and Administration Branch and the Human Resources Branch have their headquarters in Downsview, Ontario The Policy, Planning and Assessment Directorate has its office in Ottawa, Ontario but also maintains staff in Downsview The six regions are located across Canada with headquarters in Vancouver, British Columbia (PAED), Edmonton, Alberta (WAED); Winnipeg, Manitoba (CAED); Toronto, Ontario (OAED); Montreal, Quebec (QAED), and Bedford, Nova Scotia (MAED) The Assistant Deputy Minister has an office in both Ottawa and Downsview Downsview, of course, houses more than just H Q management and administration units Telecommunications, research and training staff, laboratories, instruments experts, the library, and other national operational units are also located there

The International Affairs Co-ordinator reports directly to the ADM, and co-ordinates and assists with official business with other countries and organizations

The Climate Change Convention Negotiations Office reports directly to the ADM, and will represent Environment Canada in a multi-departmental effort to take Canada through the negotiating process for an international agreement on Climate Change

One other special advisor reports to the ADM with responsibility for advising the ADM on energy consumption trends and the impacts of domestic and international environmental action plans on energy in Canada

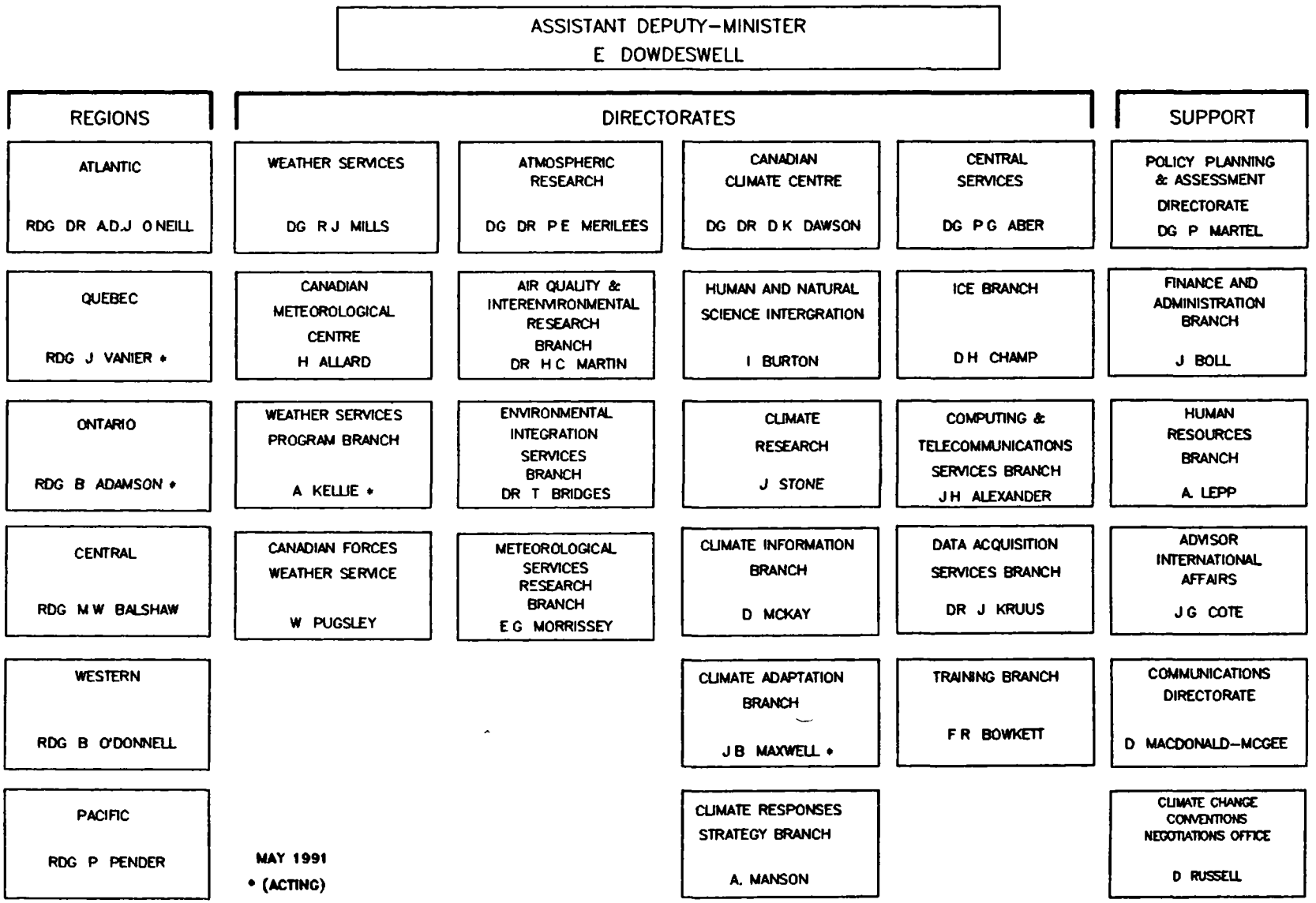
It should be noted that while there is a relationship between the organizational structure and the five program components (sub-activities) of the AES, they do not correspond exactly For program support purposes, certain "common service" directorates have been created within AES to achieve such objectives as efficiency, effectiveness and the centralization of expertise These directorates include Atmospheric Research Directorate, Central Services Directorate, Policy, Planning and Assessment Directorate, Finance and Administration Branch, and Human Resources Branch

Working Closely with AES

The Atmospheric Environment Service provides weather, ice and sea-state services to the Department of National Defense as provided for in a Memorandum of Understanding between the two parties For this purpose DND maintains a Canadian Forces Weather Service headed by the Director of Meteorology and Oceanography (DMetOc) in Ottawa DMetOc formally reports to a higher level DND authority while, functionally the Director reports to either the ADM of the Atmospheric Environment Service or to the Director General of the Weather Services Directorate as appropriate, and is a full member of the AES Management Committee

The AES part of the DOE Communications Directorate (CD) is located in Downsview with its headquarters in Ottawa CD provides direct support to the ADM and full services to AES managers This includes development and implementation of AES's public information and media relations programs (in particular press releases)

ATMOSPHERIC ENVIRONMENT SERVICE
ORGANIZATION 1991 – 92



ATMOSPHERIC ENVIRONMENT SERVICE
1991 - 92 BUDGET ($000)

1.2 TOTAL BUDGET BY PROGRAM ACTIVITY AND ORGANIZATION

SA1	SA2		ADMA	APDG	AIA	AOCD	AABD	AHRD	ARD
0800		MANAGEMENT & COMMON SUPPORT SERVICES							
	0810	MANAGEMENT	524 3	1532.5	488 4	186 9	405 2		
	0830	COMMON SUPPORT SERVICES	221 9				9284 3	3300 6	
		TOTAL	746 2	1532 5	488 4	186 9	9689 5	3300 6	
1000		WEATHER SERVICES							
	1100	PUBLIC WEATHER SERVICES							
	1200	MARINE WEATHER SERVICES							
	1300	AVIATION WEATHER SERVICES							
	1400	ECONOMIC WEATHER SERVICES							
	1500	CANADIAN FORCES WEATHER SERVICES							
	2000	DATA ACQUISITION							
	3000	WEATHER SERVICES SUPPORT SYSTEMS					3837 5		6174 4
		TOTAL					3837 5		6174.4
4000		CLIMATE SERVICES & RESEARCH							
	4100	CLIMATE SERVICES							
	4500	CLIMATE RESEARCH AND DEVELOPMENT							725 9
	4600	CLIMATE SERVICES SUPPORT SYSTEMS							
	4700	CLIMATE SERVICES PLANNING							
	4800	CLIMATE RESPONSE STRATEGIES							
		TOTAL							725 9
5000		ICE SERVICES							
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION							
	5200	ICE ANALYSIS AND FORECASTING							
	5300	ICE CLIMATE SERVICES							
	5400	ICE SERVICES SUPPORT SYSTEM							
	5500	ICE SERV RESEARCH AND DEVELOPMENT							
		TOTAL							
6000		AIR QUALITY SERVICES & RESEARCH							
	6100	AIR QUALITY SERVICES & RESEARCH							863 3
	6300	AIR QUALITY RESEARCH							11015 9
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES							3338 9
		TOTAL							15218 1
GRAND TOTAL			746 2	1532 5	488 4	186 9	13527 0	3300 6	22118 4

CCC	CSD	WSD	MAED	QAED	OAED	CAED	WAED	PAED	TOTAL	SA2
									3137 3	0810
									12808 8	0830
									15944 1	
		2000 9	6441 8	4354.1	3573 4	3998 1	5149.4	4098 2	29615 9	1100
			683 2	136 1	710 9		67 9	463 4	2061 5	1200
			983 2	1789 2	969 6	520 2	2375 3	1250 7	7888 2	1300
			44 9	268 6	1055 4	168 2		92 5	1629 6	1400
		7743 0							7743 0	1500
	8242 0	304 9	4683 9	5971 3	3421 8	11989 6	5027 3	5679 9	45320 7	2000
	24775 1	12022 0	3113 4	3562 6	3480 0	4469 1	6139.9	3652.2	71226 2	3000
	33017 1	22070 8	15950 4	16081 9	13211 1	21145 2	18759 8	15236 9	165485 1	
7532 0	52 1		474.6	660 5	595.9	555 7	379 5	687 5	10937 8	4100
2141 0									2866 9	4500
998 8	3766 5		332 0		166 8	104 0	130 4	47 0	5545 5	4600
1042 3									1042 3	4700
730 8									730 8	4800
12444 9	3818 6		806 6	660 5	762 7	659.7	509.9	734 5	21123 3	
	14354 0								14354 0	5100
	5479 9								5479 9	5200
	586 3								586 3	5300
	243 4								243 4	5400
	3138 2								3138 2	5500
	23801 8								23801 8	
			110 9	84 0	109.7	118 4		396 2	1682 5	6100
			7 8	171 7	54 0		130 1		11379 5	6300
									3338 9	6700
			118 7	255 7	163 7	118 4	130 1	396 2	16400 9	
12444 9	60637 5	22070 8	16875.7	16998.1	14137 5	21923 3	19399 8	16367 6	242755 2	

ATMOSPHERIC ENVIRONMENT SERVICE
1991 - 92 BUDGET

6 1 3 PERSON YEARS BY PROGRAM ACTIVITY AND ORGANIZATION

l SA2		ADMA	APDG	AIA	AOCD	AABD	AHRD	ARD
0800	MANAGEMENT & COMMON SUPPORT SERVICES							
0810	MANAGEMENT	5 8	23 0	3 8	3 0	2 0		
0830	COMMON SUPPORT SERVICES	2 0				71 9	41 4	
	TOTAL	7 8	23 0	3 8	3 0	73 9	41 4	
1000	WEATHER SERVICES							
1100	PUBLIC WEATHER SERVICES							
1200	MARINE WEATHER SERVICES							
1300	AVIATION WEATHER SERVICES							
1400	ECONOMIC WEATHER SERVICES							
1500	CANADIAN FORCES WEATHER SERVICES							
2000	DATA ACQUISITION							
3000	WEATHER SERVICES SUPPORT SYSTEMS					35 3		72 6
	TOTAL					35 3		72 6
4000	CLIMATE SERVICES & RESEARCH							
4100	CLIMATE SERVICES							
4500	CLIMATE RESEARCH AND DEVELOPMENT							5 5
4600	CLIMATE SERVICES SUPPORT SYSTEMS							
4700	CLIMATE SERVICES PLANNING							
4800	CLIMATE RESPONSE STRATEGIES							
	TOTAL							5 5
5000	ICE SERVICES							
5100	ICE RECONNAISSANCE AND DATA ACQUISITION							
5200	ICE ANALYSIS AND FORECASTING							
5300	ICE CLIMATE SERVICES							
5400	ICE SERVICES SUPPORT SYSTEM							
5500	ICE SERV RESEARCH AND DEVELOPMENT							
	TOTAL							
6000	AIR QUALITY SERVICES & RESEARCH							
6100	AIR QUALITY SERVICES & RESEARCH							8 5
6300	AIR QUALITY RESEARCH							85 6
6700	AIR QUALITY & RESEARCH SUPPORT SERVICES							9 9
	TOTAL							104 0
GRAND TOTAL		7 8	23 0	3 8	3 0	109 2	41 4	182 1

CCC	CSD	WSD	MAED	QAED	OAED	CAED	WAED	PAED	TOTAL	SA2
									37 6	0810
									115 3	0830
									152 9	
		9 0	103 6	67 0	62 5	71 0	82 0	64 1	459 2	1100
			10 0	2 0	11 0		1.0	6 0	30 0	1200
			18 0	25 5	18 0	12 0	40 0	23.0	136 5	1300
			1.0	4.0	17 0	3.0		1.0	26 0	1400
		111 0							111 0	1500
	73.0	6 0	29 6	50 0	31.0	91 6	69 0	44 0	394 2	2000
	144 0	134 7	45 0	49 9	40.9	57 1	60 6	43 5	683 6	3000
	217 0	260 7	207.2	198 4	180 4	234 7	252 6	181 6	1840 5	
89 5	1 0		7 0	3.5	10 0	10 0	5 5	6 8	133 3	4100
29 0									34 5	4500
12 1	33 0		6 0		3 0	2 0	2 0	0 5	58 6	4600
4 0									4 0	4700
7 0									7 0	4800
141.6	34 0		13 0	3 5	13 0	12 0	7 5	7.3	237 4	
	18 9								18 9	5100
	28 6								28 6	5200
	4 0								4 0	5300
	4 0								4 0	5400
	7 5								7 5	5500
	63 0								63 0	
			2 0	1 5	3 0	2 0		5 7	22 7	6100
				1 0	1 0		2 0		89 6	6300
									9 9	6700
			2 0	2 5	4 0	2 0	2 0	5 7	122 2	
141.6	314 0	260 7	222 2	204 4	197.4	248 7	262 1	194 6	2416 0	

ATMOSPHERIC ENVIRONMENT SERVICE
1991 - 92 BUDGET ($000)

6.1 4 SALARY BY PROGRAM ACTIVITY AND ORGANIZATION

SA1	SA2		ADMA	APDG	AIA	AOCD	AABD	AHRD	ARD
0800		MANAGEMENT & COMMON SUPPORT SERVICES							
	0810	MANAGEMENT	378 4	1235.1	200 9	176.9	280 0		
	0830	COMMON SUPPORT SERVICES	99 5				3042 4	2760 4	
		TOTAL	477 9	1235 1	200 9	176 9	3322 4	2760 4	
1000		WEATHER SERVICES							
	1100	PUBLIC WEATHER SERVICES							
	1200	MARINE WEATHER SERVICES							
	1300	AVIATION WEATHER SERVICES							
	1400	ECONOMIC WEATHER SERVICES							
	1500	CANADIAN FORCES WEATHER SERVICES							
	2000	DATA ACQUISITION							
	3000	WEATHER SERVICES SUPPORT SYSTEMS					2285 5		4128 1
		TOTAL					2285 5		4128 1
4000		CLIMATE SERVICES & RESEARCH							
	4100	CLIMATE SERVICES							
	4500	CLIMATE RESEARCH AND DEVELOPMENT							371 6
	4600	CLIMATE SERVICES SUPPORT SYSTEMS							
	4700	CLIMATE SERVICES PLANNING							
	4800	CLIMATE RESPONSE STRATEGIES							
		TOTAL							371 6
5000		ICE SERVICES							
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION							
	5200	ICE ANALYSIS AND FORECASTING							
	5300	ICE CLIMATE SERVICES							
	5400	ICE SERVICES SUPPORT SYSTEM							
	5500	ICE SERV. RESEARCH AND DEVELOPMENT							
		TOTAL							
6000		AIR QUALITY SERVICES & RESEARCH							
	6100	AIR QUALITY SERVICES & RESEARCH							452 8
	6300	AIR QUALITY RESEARCH							4500 5
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES							476 7
		TOTAL							5430 0
GRAND TOTAL			477 9	1235 1	200 9	176 9	5607 9	2760 4	9929 7

CCC	CSD	WSD	MAED	GAED	OAED	CAED	WAED	PAED	TOTAL	SA2
									2271 3	0810
									5902 3	0830
									8173.6	
		544 3	5927 7	3812 5	3361 1	3628 7	4819 2	3673 6	25767 1	1100
			547 8	136 1	687 3		65 0	349 6	1785 8	1200
			949 1	1390 9	949 6	520 2	2213 6	1223 2	7246 6	1300
			44 9	268 6	1027 4	168 2		57.4	1566.5	1400
		6926 0							6926 0	1500
	3549 9	291 7	1573 2	2732 5	1481 4	5248 7	3459 5	2291.3	20628 2	2000
	7232 0	7630 0	2153 0	2270.5	2284 1	2897 5	3081 1	1773 3	35535 1	3000
	10781 9	15392 0	11195 7	10611 1	9790 9	12263 3	13638 4	9368 4	99455 3	
4353 4	50 0		336 1	185 5	455.0	437 9	299 5	284.2	6401 6	4100
1585 1									1956 7	4500
640 2	1536 8		327 1		127 5	93 7	105 2	22 1	2852 6	4600
271 1									271 1	4700
359 9									359 9	4800
7209 7	1586 8		663 2	185 5	582 5	531.6	404 7	306.3	11841 9	
	1209 3								1209 3	5100
	1927.6								1927 6	5200
	235 8								235 8	5300
	195 0								195 0	5400
	530 4								530 4	5500
	4098 1								4098 1	
			110 9	84 0	104 7	101 2		313 6	1167 2	6100
				51 2	54 0		119 1		4724 8	6300
									476 7	6700
			110 9	135.2	158 7	101 2	119 1	313 6	6368 7	
7209 7	16466 8	15392 0	11969 8	10931.8	10532 1	12896 1	14162 2	9988 3	129937 6	

ATMOSPHERIC ENVIRONMENT SERVICE
1991 - 92 BUDGET ($000)

6 1.5 O&M BY PROGRAM ACTIVITY AND ORGANIZATION

SA1	SA2		ADMA	APDG	AIA	AOCD	AABD	AHRD	ARD
0800		MANAGEMENT & COMMON SUPPORT SERVICES							
	0810	MANAGEMENT	130 9	251 4	277.5		51 4		
	0830	COMMON SUPPORT SERVICES	122 4				4045 0	508 6	
		TOTAL	253.3	251 4	277 5		4096 4	508 6	
1000		WEATHER SERVICES							
	1100	PUBLIC WEATHER SERVICES							
	1200	MARINE WEATHER SERVICES							
	1300	AVIATION WEATHER SERVICES							
	1400	ECONOMIC WEATHER SERVICES							
	1500	CANADIAN FORCES WEATHER SERVICES							
	2000	DATA ACQUISITION							
	3000	WEATHER SERVICES SUPPORT SYSTEMS					357 0		1182 3
		TOTAL					357 0		1182 3
4000		CLIMATE SERVICES & RESEARCH							
	4100	CLIMATE SERVICES							
	4500	CLIMATE RESEARCH AND DEVELOPMENT							26 3
	4600	CLIMATE SERVICES SUPPORT SYSTEMS							
	4700	CLIMATE SERVICES PLANNING							
	4800	CLIMATE RESPONSE STRATEGIES							
		TOTAL							26 3
5000		ICE SERVICES							
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION							
	5200	ICE ANALYSIS AND FORECASTING							
	5300	ICE CLIMATE SERVICES							
	5400	ICE SERVICES SUPPORT SYSTEM							
	5500	ICE SERV. RESEARCH AND DEVELOPMENT							
		TOTAL							
6000		AIR QUALITY SERVICES & RESEARCH							
	6100	AIR QUALITY SERVICES & RESEARCH							410 5
	6300	AIR QUALITY RESEARCH							4912 3
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES							1026 7
		TOTAL							6349 5
GRAND TOTAL			253 3	251 4	277 5		4453 4	508 6	7558 1

CCC	CSD	WSD	MAED	QAED	OAED	CAED	WAED	PAED	TOTAL	SA2
									154 8	0810
									2228 5	0830
									2383 3	
		1368 0	5 8	292.9	8.0	21 0		118.2	1813 9	1100
								46 2	46.2	1200
				0.7					0 7	1300
										1400
										1500
	4381 2		983 7	595 1	379 3	1679 2	61 9	798 7	8879 1	2000
	2501 4	2434 3	177.0	222.8	340 3	483 1	1206.5	575 9	8805.3	3000
	6882 6	3802 3	1166 5	1111 5	727 6	2183 3	1268 4	1539 0	19545 2	
2006 3					13 5	5 6		34 6	2060 0	4100
195 9									523 9	4500
137 5					8 5				146 0	4600
21 2									21 2	4700
52 9									52 9	4800
2413 8					22 0	5 6		34 6	2804.0	
	92 6								92 6	5100
	1129 7								1129 7	5200
	187 2								187 2	5300
	1 3								1 3	5400
	1871 2								1871 2	5500
	3282 0								3282 0	
								30 0	30 0	6100
				14.4			1 3		1618 8	6300
									1041 5	6700
				14 4			1.3	30 0	2690 3	
2413 8	10164 6	3802 3	1166 5	1125 9	749 6	2188 9	1269 7	1603 6	30704 8	

ATMOSPHERIC ENVIRONMENT SERVICE
1991 - 92 BUDGET ($000)

S 1.6 CAPITAL BY PROGRAM ACTIVITY AND ORGANIZATION

SA1	SA2		ADMA	APDG	AIA	AOCD	AABD	AHRD	ARD
0800		MANAGEMENT & COMMON SUPPORT SERVICES							
	0810	MANAGEMENT	15 0	46 0	10 0	10 0	73 8		
	0830	COMMON SUPPORT SERVICES					2196 9	31 6	
		TOTAL	15 0	46 0	10 0	10 0	2270 7	31 6	
1000		WEATHER SERVICES							
	1100	PUBLIC WEATHER SERVICES							
	1200	MARINE WEATHER SERVICES							
	1300	AVIATION WEATHER SERVICES							
	1400	ECONOMIC WEATHER SERVICES							
	1500	CANADIAN FORCES WEATHER SERVICES							
	2000	DATA ACQUISITION							
	3000	WEATHER SERVICES SUPPORT SYSTEMS							864 0
		TOTAL							864 0
4000		CLIMATE SERVICES & RESEARCH							
	4100	CLIMATE SERVICES							
	4500	CLIMATE RESEARCH AND DEVELOPMENT							328 0
	4600	CLIMATE SERVICES SUPPORT SYSTEMS							
	4700	CLIMATE SERVICES PLANNING							
	4800	CLIMATE RESPONSE STRATEGIES							
		TOTAL							328 0
0		ICE SERVICES							
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION							
	5200	ICE ANALYSIS AND FORECASTING							
	5300	ICE CLIMATE SERVICES							
	5400	ICE SERVICES SUPPORT SYSTEM							
	5500	ICE SERV RESEARCH AND DEVELOPMENT							
		TOTAL							
6000		AIR QUALITY SERVICES & RESEARCH							
	6100	AIR QUALITY SERVICES & RESEARCH							
	6300	AIR QUALITY RESEARCH							1603 1
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES							1041 5
		TOTAL							2644 6
GRAND TOTAL			15 0	46 0	10 0	10 0	2270 7	31 6	3836 6

CCC	CSD	WSD	MAED	QAED	OAED	CAED	WAED	PAED	TOTAL	SA2
									711 2	0810
									4676 0	0830
									5387 2	
		88 6	508 3	248 7	204 3	348 4	330 2	306 4	2034 9	1100
			135 4		23 6		2.9	67 6	229.5	1200
			34 1	397 6	20 0		161 7	27 5	640 9	1300
					28.0			35 1	63 1	1400
		817 0							817 0	1500
	310 9	13 2	2127 0	2643 7	1561 1	5061 7	1505 9	2589 9	15813 4	2000
	14945 7	1957 7	783 4	1069 3	855 6	1288 5	1852 3	1303 0	25594 8	3000
	15256 6	2876.5	3588 2	4359 3	2692 6	6698 6	3853 0	4329 5	45193 6	
1172 3	2 1		138 5	475 0	127 4	112 2	80 0	368 7	2476 2	4100
360 0									386 3	4500
221 1	2229 7		4 9		30 8	10 3	25.2	24 9	2546 9	4600
750 0									750 0	4700
318 0									318 0	4800
2821 4	2231 8		143 4	475 0	158 2	122 5	105 2	393 6	6477 4	
	13052 1								13052 1	5100
	2422 6								2422 6	5200
	163 3								163 3	5300
	47 1								47 1	5400
	736 6								736 6	5500
	16421 7								16421 7	
					5.0	17 2		52.6	485 3	6100
			7 8	106 1			9 7		5035 9	6300
									1026 7	6700
			7 8	106 1	5 0	17 2	9 7	52 6	6547 9	
2821 4	33910 1	2876 5	3739.4	4940.4	2855 8	6838 3	3967 9	4775 7	80027 8	

ATMOSPHERIC ENVIRONMENT SERVICE
1991 - 92 BUDGET ($000)

6 1 7 GRANTS AND CONTRIBUTIONS BY PROGRAM ACTIVITY AND ORGANIZATION

SA1	SA2		ADMA	APDG	AIA	AOCD	AABD	AHRD	ARD
0800		MANAGEMENT & COMMON SUPPORT SERVICES							
	0810	MANAGEMENT							
	0830	COMMON SUPPORT SERVICES							
		TOTAL							
1000		WEATHER SERVICES							
	1100	PUBLIC WEATHER SERVICES							
	1200	MARINE WEATHER SERVICES							
	1300	AVIATION WEATHER SERVICES							
	1400	ECONOMIC WEATHER SERVICES							
	1500	CANADIAN FORCES WEATHER SERVICES							
	2000	DATA ACQUISITION							
	3000	WEATHER SERVICES SUPPORT SYSTEMS					1195	0	
		TOTAL					1195	0	
4000		CLIMATE SERVICES & RESEARCH							
	4100	CLIMATE SERVICES							
	4500	CLIMATE RESEARCH AND DEVELOPMENT							
	4600	CLIMATE SERVICES SUPPORT SYSTEMS							
	4700	CLIMATE SERVICES PLANNING							
	4800	CLIMATE RESPONSE STRATEGIES							
		TOTAL							
5000		ICE SERVICES							
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION							
	5200	ICE ANALYSIS AND FORECASTING							
	5300	ICE CLIMATE SERVICES							
	5400	ICE SERVICES SUPPORT SYSTEM							
	5500	ICE SERV. RESEARCH AND DEVELOPMENT							
		TOTAL							
6000		AIR QUALITY SERVICES & RESEARCH							
	6100	AIR QUALITY SERVICES & RESEARCH							
	6300	AIR QUALITY RESEARCH							
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES							794 0
		TOTAL							794 0
GRAND TOTAL							1195	0	794 0

CCC	CSD	WSD	MAED	QAED	OAED	CAED	WAED	PAED	TOTAL	SA2
										0810
										0830
										1100
										1200
										1300
										1400
										1500
	0 0								0 0	2000
	96 0								1291 0	3000
	96 0								1291 0	
										4100
										4500
										4600
										4700
										4800
										5100
										5200
										5300
										5400
										5500
										6100
										6300
									794 0	6700
									794 0	
	96 0								2085 0	

1991 - 92 Budget

ATMOSPHERIC ENVIRONMENT SERVICE

6 1 8 BY ORGANIZATIONAL UNIT

		($000)			
	FY	SALARY	O&M	CAPITAL	G&C	TOTA-
OFFICE OF THE ASSISTANT DEPUTY MINISTER	7 8	477.9	253 3	15 0		746
POLICY, PLANNING AND ASSESSMENT	23 0	1235 1	251 4	46.0		1532
CANADIAN CLIMATE CENTRE	141 6	7209.7	2821 4	2413 8		12444 9
ATMOSPHERIC RESEARCH DIRECTORATE	182 1	9929 7	7558 1	3836 6	794 0	22118
WEATHER SERVICES DIRECTORATE	149 7	8466 0	2059 5	3802 3		14327 8
CANADIAN FORCES WEATHER SERVICE	111 0	6926 0	817 0			7743
CENTRAL SERVICES DIRECTORATE	314 0	16466 8	33910 1	10164 6	96 0	60637
FINANCE AND ADMINISTRATION BRANCH	109 2	5607 9	4453 4	2270 7	1195 0	13527 0
HUMAN RESOURCES BRANCH	41 4	2760 4	508 6	31 6		3
ATLANTIC REGION	222 2	11969 8	3739 4	1166 5		16875 7
QUEBEC REGION	204 4	10931 8	4940 4	1125 9		1
ONTARIO REGION	197 4	10532 1	2855 8	749 6		14137
CENTRAL REGION	248 7	12896 1	6838 3	2188 9		21923
WESTERN REGION	262 1	14162 2	3967 9	1269 7		19
PACIFIC REGION	194 6	9988.3	4775 7	1603 6		16 7 6
ADVISOR ON INTERNATIONAL AFFAIRS	3 8	200 9	277 5	10 0		4
CLIMATE CHANGE NEGOTIATIONS OFFICE	3 0	176 9		10 0		1
AES TOTAL	2416 0	129937 6	80027 8	30704 8	2085 0	242755 2

1991-92 Budget
($000)

6 1 9 ATMOSPHERIC ENVIRONMENT SERVICE

RECONCILIATION TO MAIN ESTIMATES

AND NET REFERENCE LEVEL

1)	Allocated Within AES (Total in Program Digest)	$242,755 7
2)	Plus· Employee Benefit Plan	19,956 0
3)	Plus· Treasury Board X Budget	6,604 1
4)	Plus Frozen Allotment	2,099 3
5)	Main Estimates (Blue Book)	271,415 1
6)	Less Vote Netted Revenue	34,089 1
7)	Less Non-tax Revenue	2,208 0
8)	1991/92 Net Reference Level	$235,118 0

AES MAIN ESTIMATES BY ORGANIZATION AND INPUT FACTOR (1991/92)

6110

	ADMA	AOCD	AIA	APDG	AABD	AHRD	ACDG	CCDG	ARDG	CFWS	AWDG	MAED	QAED	OAED	CAED	WAED	PAED	TOTAL
P-Ys	7 7	3 0	3 8	23 0	107 4	41 4	321 0	141 6	182 1	111 0	148 7	222 2	204 8	198 5	247 1	260 1	192 6	2416 0
SALARY	453 7	167 3	187 2	1177 8	3845 8	1524 6	14348 8	6898 3	9074 7	6318 1	7335 4	9916 7	8784 9	8541 2	10087 1	11230 4	8436 7	108328 7
OVERTIME	5 0	2 0	5 0	4 9	64 1	27 0	1190 8	60 0	382 5	195 5	207 6	1083 7	1232 5	1700 0	1615 0	1733 4	816 0	10325 0
OPC	5 0	2 4	3 0	15 0	883 9	1134 0	667 2	35 0	151 4	190 4	364 3	559 7	538 8	340 0	739 3	697 2	396 3	6722 9
	61 8	24 1	30 5	184 7	862 4	332 4	2577 6	1137 0	1462 2	891 3	1194 0	1784 2	1644 5	1593 9	1984 2	2088 6	1546 5	19400 0
	253 2	0 0	277 4	251 4	4444 0	508 6	33836 9	2819 7	7564 5	817 0	2132 0	3789 1	4985 5	2772 0	7018 1	3914 7	4811 6	80195 7
CAPITAL	15 0	10 0	10 0	46 0	2270 7	31 6	10164 6	2413 8	3836 6	0 0	3802 3	1166 5	1125 9	749 6	2188 9	1269 7	1603 6	30704 8
G&C	0 0	0 0	0 0	0 0	1195 0	0 0	160 0	0 0	794 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	2149 0
TOTALS (1)	793 7	205 8	513 1	1679 8	13565 9	3558 2	62945 9	13363 8	23265 9	8412 3	15035 6	18299 9	18312 1	15696 7	23632 6	20934 0	17610.7	257826 1

92 1

NOTES

(1) VNR included

OPC - Other Personnel Costs
CEBP - Employee Fringe Benefits
G&C - Grants and Contributions

6.1.11 VOTE NETTED REVENUE ALLOCATIONS (1991/92)

SALARY
(000's $)

	ACDG	CCDG	AABD	AWDG + Regions	CFWS	TOTAL	P-Ys
DOT-MARINE	1935 0					1935 0	31 0
DOT-AIR				8002.2		8002 2	155 0
EM&R				83 7		83 7	
DND					6746 0	6746 0	111 0
MISCELLANEOUS							
TOTAL SAL	1935 0	0 0	0 0	8085 9	6746 0	16766 9	297 0

NON-SALARY
(000's $)

	ACDG	CCDG	AABD	AWDG + Regions	CFWS	TOTAL	P-Ys
DOT-MARINE	12680 0					12680 0	
DOT-AIR	312.9			3058 4		3371 3	
EM&R				28 9		28.9	
DND					817 0	817 0	
MISCELLANEOUS	150 0	25 0	150 0	100 0		425.0	
TOTAL O&M	13142 9	25 0	150 0	3187 3	817 0	17322 2	

TOTAL VNR (000's $)	15077 9	25.0	150 0	11396 7	7563 0	342089 1	297 0

6 1.12 PERSON-YEARS BY ORGANIZATION AND BY LOCATION
(TOTAL 2416 0)

	Location	Branch	Region/ Directorate
OFFICE OF THE ASSISTANT DEPUTY MINISTER			7 8
Downsview, Ont	7 8		
Ottawa, Ont	3 0		
POLICY, PLANNING AND ASSESSMENT			23 0
Downsview, Ont	6 0		
Ottawa, Ont.	17 0		
ADVISOR ON INTERNATIONAL AFFAIRS			3 8
Downsview, Ont	3 8		
CLIMATE CHANGE NEGOTIATIONS OFFICE			3 0
Ottawa, Ontario	3 0		
FINANCE AND ADMINISTRATION			109 2
Downsview, Ont.	109 2		
HUMAN RESOURCES BRANCH			41 4
Downsview, Ont	41 4		
ATMOSPHERIC RESEARCH DIRECTORATE			185 7
Director General's Office		6 5	
Downsview, Ont	5 5		
Vancouver, B C	1 0		
Air Quality and Inter-Environmental Research Branch		92 4	
Downsview, Ont	92 4		
Meteorological Services Research Branch		81 8	
Dorval, Que	25 0		
Downsview, Ont	56 8		
Environmental Integration Services Branch		5 0	
Downsview, Ont	5 0		
CANADIAN CLIMATE CENTRE			141 6
Director General's Office		13 1	
Downsview, Ont	13 1		
Climate Research Branch		32 0	
Downsview, Ont	24 0		
Saskatoon, Sask	8 0		
Climate Adaptation Branch		41 5	
Downsview, Ont	41 5		
Climate Information Branch		48 0	
Downsview, Ont	48 0		
Climate Response Strategy Branch		7 0	
Downsview, Ont	7 0		

	Station Type *	Location	Branch	Region or Directorate
CENTRAL SERVICES DIRECTORATE				314 0
Director General's Office			5 0	
Downsview, Ont		2 0		
Computing and Telecommunications Services Branch			111 0	
Dorval, Que.		35 0		
Downsview, Ont.		76.0		
Data Acquisition Services Branch			74.0	
Downsview, Ont.		74 0		
Ice Branch			64 0	
Downsview, Ont.		11 0		
Ottawa, Ont		53 0		
Training Branch			63.0	
Cornwall, Ont.		31 0		
Downsview, Ont		24 0		
Montreal, Que		8 0		
WEATHER SERVICES DIRECTORATE				149 7
Toronto (Downsview), Ontario		53 5		
- Directors General's Office			14 0	
- Program Branch			39.5	
Montreal (Dorval), Quebec		96 5		
- Canadian Meteorological Centre			96 5	
ATLANTIC REGION				222 2
Charlottetown, P E I	W04	4 0		
Churchill Falls, Labrador	WS3	4 0		
Fredericton, N B.	W04	5 0		
Gander, NFLD.				
- Newfoundland Weather Centre	W01/W04	45 0		
Halifax, N S (Bedford)				
- Regional Headquarters		69 2		
- Maritmes Weather Centre	W01/W04	51 0		
Moncton, N B	W04	10 0		
Sable Island, N S	WS1	6 0		
Saint John, N.B.	W04	4 0		
St. John's, Nfld	W04	10 0		
Stephenville, Nfld	WS2	3 0		
Sydney, N S	W04	6 0		
Yarmouth, N.S	W04	5 0		
QUEBEC REGION				204 4
Baie Comeau, Que	W04/WS3	6 0		
Chibougamau, Que	WS3	5 0		
Iqaluit, N W T	W04/WS2	6 0		
Inukjuak, N W.T	WS1	5 0		
Kuujjuaq, Que	WS2	3 0		
La Grande IV, Que	WS1	4 0		
Maniwaki, Que	WS1	5 0		
Mirabel, Que	W04/WS3	7 0		

* See page 98 for definitions of station types

Montreal, Que			
- Regional Headquarters (Ville St Laurent)		61 9	
- Quebec Weather Centre (Ville St Laurent)	W01	57 5	
- International Airport Weather Office (Dorval)	W04	13 0	
- International Airport Weather Station (Dorval)	WS3	3 0	
Quebec City, Que.	W04/WS3	7 0	
Saguenay/Lac St-Jean, Que	W04	2 0	
Sept-Iles, Que	W04/WS2	4 0	
Sherbrooke, Que	W04	2 0	
St Hubert, Que	W04/WS3	6 0	
Trois Rivieres, Que	W04	1 0	
Val d'Or, Que	W04	6 0	
ONTARIO REGION			197 4
Hamilton, Ont.	W04	4 0	
Kingston, Ont	W04	3 0	
London, Ont	W04	5 0	
Moosonee, Ont.	WS1	4 0	
Niagara District, Ont	W04	2 0	
North Bay, Ont	W04	2 0	
Ottawa, Ont	W04	9 5	
Peterborough, Ont	W04	2 0	
Pickle Lake, Ont	WS1	1 0	
Sarnia, Ont.	W04	2 0	
Sault Ste Marie, Ont	W04	6 0	
Sudbury, Ont	W04	6 0	
Thunder Bay, Ont	W04	7 0	
Toronto, Ont			
- Regional Headquarters		68 4	
- Ontario Weather Centre	W01	38 5	
- International Airport Weather Office	W04	26 0	
Big Trout Lake, Ont	WS1	2 0	
Waterloo-Wellington, Ont	W04	2 0	
Windsor, Ont	W04	7 0	
CENTRAL REGION			247 7
Alert, N W T	WS1	3 0	
Baker Lake, N W T	WS2	2 0	
Brandon, Man	W04	1 0	
Broadview, Sask	WS3	5 0	
Churchill, Man	WS1	7 0	
Cree Lake, Sask	WS3	4 0	
Dauphin, Man	W04	1 0	
Estevan, Sask	WS3	4 0	

* see page 98 for definitions of station types

Eureka, N W T.	WS1	8	0
Gillam, Man	WS3	1	0
Hall Beach, N W T.	WS1	5	0
Hudson Bay, Sask	WS3	1	0
Kindersley, Sask.	WS3	1	0
Mould Bay, N W.T	WS1	7	.0
Prince Albert, Sask	WO4	3	0
Regina, Sask.	WO3	13	0
Resolute, N W.T	WO4/WS2	6	0
Saskatoon, Sask.	WO4	11	0
The Pas, Man.	WS1	6	0
Thompson, Man.	WO4	1	0
Winnipeg, Man.			
- Regional Headquarters		96	7
- Prairie Weather Centre	WO1	43	0
- International Airport Weather Office	WO4	18	0
Wynyard, Sask	WS3	1	0
WESTERN REGION			266 3
Banff, Alta	WO4	3	0
Calgary, Alta	WO4	16	0
Cambridge Bay, N W T	WS1	6	0
Cape Parry, N W T	WS3	3	0
Coronation, Alta	WS3	2	0
Edmonton, Alta			
- Regional Headquarters		88	3
- Alberta Weather Centre	WO1/WO4	32	0
- Arctic Weather Centre	WO1/WO4	31	0
- International Airport Weather Office	WO4	6	0
- Municipal Airport Weather Office	WO4	5	0
Edson, Alta	WS3	4	0
Fort McMurray, Alta	WS3	3	0
Fort Reliance, N W T	WS3	3	0
Fort Smith, N W T	WS2	3	0
Grande Prairie, Alta	WO4	4	0
Inuvik, N W T	WO4/WS2	8	0
Jasper, Alta	WS3	3	0
Lethbridge, Alta	WO4	5	0
Norman Wells, N.W T	WS2	3	0
Pincher Creek, Alta	WS3	1	0
Rocky Mountain House, Alta	WS3	3	0
Slave Lake, Alta	WS3	4	0
Stony Plain, Alta	WS2	3	0
Whitehorse, Yukon			
- Yukon Weather Centre	WO1/WO4	18	0

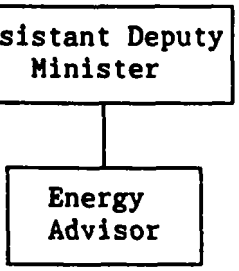
* see page 98 for definitions of station types

- Weather Station	WS2	3 0	
Yellowknife, N.W T.	W03	6 0	
PACIFIC REGION			194 6
Cape St. James, B C	WS3	3 0	
Castlegar, B C	W04	3 0	
Dease Lake, B.C.	WS3	2 0	
Fort St John, B.C.	W04	3 0	
Fort Nelson, B C	W04/WS2	3 0	
Hope, B C	WS3	3 0	
Kamloops, B C	W04	4 0	
Kelowna, B C	W04	7 0	
Penticton, B C	W04	2 0	
Port Alberni, B C.	WS3	1 0	
Port Hardy, B C	WS2/W04	4 0	
Prince George, B C	WS2/W04	8 0	
Revelstoke, B C	WS3	2 0	
Terrace, B.C.	W04	3 0	
Vancouver, B C.			
- Regional Headquarters		75 1	
- Pacific Weather Centre	W01	43 5	
- Lower Mainland Weather Office	W04	12 0	
- International Airport Weather Station	WS3	5 0	
Vernon, B C	WS2	2 0	
Victoria, B.C			
- Weather Office	W03	9 0	
CANADIAN FORCES WEATHER SERVICE		111 0	111 0
AES TOTAL			2416 0

Station types

W01 - a primary forecast office which provides forecasts, consultation and in some cases, presentation services
W03 - provides consultation and presentation services to a wide variety of users, in addition to taking surface weather observations
W04 - provides presentation services to a wide variety of users, in addition to taking surface weather observations
WS1 - takes both surface and upper air (radiosonde and rawinsonde) observations and provides weather information service
WS2 - takes upper air observations
WS3 - maintains a full or partial surface observing program, with observations taken by AES technicians and provides weather information service

6 2 OFFICE OF THE ASSISTANT DEPUTY MINISTER



6 2 1 FUNCTIONS OF THE OFFICE OF THE ADM (7.8 PY, $746 2 K)

The Assistant Deputy Minister (ADM)

- provides executive direction to, and management of, the Atmospheric Environment Service,
- participates in the corporate executive management of Environment Canada,
- serves as the alternate head of the Canadian Delegation to the Intergovernmental Negotiating Committee on Climate Change (INC) and co-chairs the INC Working Group on Implementation Measures,
- is Canada's Permanent Representative to, and serves on the Executive Council of, the World Meteorological Organization, and
- is the principal Canadian delegate to the Intergovernmental Panel on Climate Change (IPCC)

The Energy Advisor reports directly to the ADM and is responsible for

- providing advice on energy consumption trends and the impacts of domestic and international environmental action plans on energy in Canada

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

OFFICE OF THE ASSISTANT DEPUTY MINISTER

SA1	SA2		FY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
	0810	MANAGEMENT	5.8	378 4	130.9	15 0		524.3
	0830	COMMON SUPPORT SERVICES	2.0	99.5	122.4			221 9
		TOTAL	7.8	477 9	253 3	15.0		746.2
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			7.8	477 9	253.3	15 0		746 2

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
OFFICE OF THE ASSISTANT DEPUTY MINISTER

RESULTS DEFINITION		FY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1 1	CANADIANS ARE AWARE	0.5	24 9	30 6			55.5
1.1.2	CANADIANS ARE WARNED	6 3	403 3	161 5	15.0		579 8
	TOTAL	6 8	428 2	192 1	15 0		635 3
2 1.2	KNOWLEDGE/INFORMATION/VALUE	0 5	24 9	30 6			55 5
	TOTAL	0 5	24.9	30 6			55 5
3.1 1	AWARE ACTIVITIES THREAT	0 5	24.8	30 6			55 4
	TOTAL	0 5	24 8	30 6			55 4
GRAND TOTAL		7 8	477 9	253 3	15 0		746 2

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

OFFICE OF THE ASSISTANT DEPUTY MINISTER

Sa1	Sa2	1.1.1	1.1.2	1.1.3	1.2 1	1.2 2	2.1 1	2 1 2	2.1 3	2 1.4	3.1.1	3.1.2	3 1.3	TOTAL
0800	0810		524 3											524.3
	0830	55 5	55 5					55 5			55.4			221.9
	TOTAL	55 5	579 8					55.5			55.4			746.2
GRAND TOTAL		55.5	579 8					55.5			55.4			746 2

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

OFFICE OF THE ASSISTANT DEPUTY MINISTER

Sa1	Sa2	1 1.1	1 1 2	1 1 3	1 2 1	1.2 2	2.1 1	2 1.2	2 1 3	2.1.4	3 1 1	3.1.2	3.1 3	TOTAL
0800	0810		5 8											5.8
	0830	0 5	0 5					0.5			0 5			2.0
	TOTAL	0 5	6 3					0 5			0.5			7.8
GRAND TOTAL		0 5	6 3					0.5			0 5			7 8

SALARY BY SA1, SA2 AND SUB-RESULTS

OFFICE OF THE ASSISTANT DEPUTY MINISTER

Sa1	Sa2	1.1 1	1.1.2	1.1.3	1.2.1	1 2 2	2.1.1	2 1.2	2.1.3	2 1.4	3.1 1	3 1 2	3 1 3	TOTAL
0800	0810		378 4											378.4
	0830	24 9	24 9					24 9			24 8			99 5
	TOTAL	24.9	403 3					24 9			24 8			477 9
GRAND TOTAL		24 9	403 3					24 9			24 8			477 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

OFFICE OF THE ASSISTANT DEPUTY MINISTER

Sa1	Sa2	1.1.1	1 1 2	1.1 3	1 2.1	1.2 2	2 1 1	2 1.2	2 1.3	2 1.4	3 1 1	3 1 2	3.1.3	TOTAL
0800	0810		130.9											130.9
	0830	30.6	30.6					30.6			30.6			122.4
	TOTAL	30 6	161.5					30 6			30.6			253 3
GRAND TOTAL		30 6	161 5					30 6			30 6			253 3

CAPITAL BY SA1, SA2 AND SUB-RESULTS

OFFICE OF THE ASSISTANT DEPUTY MINISTER

Sa1	Sa2	1 1.1	1 1 2	1 1 3	1 2 1	1 2.2	2 1 1	2.1 2	2.1 3	2 1 4	3 1 1	3 1 2	3.1 3	TOTAL
0800	0810		15 0											15 0
	0830													
	TOTAL		15 0											15 0
GRAND TOTAL			15 0											15 0

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

OFFICE OF THE ASSISTANT DEPUTY MINISTER

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2.2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810													
	0830													
	TOTAL													
GRAND TOTAL														

6 3 ADVISOR ON INTERNATIONAL AFFAIRS

6 3 1 FUNCTIONS OF THE ADVISOR ON INTERNATIONAL AFFAIRS (3 8 PY, $488 4 K)

Reporting to the ADM, AES, the Office of International Affairs

- provides a focal point within AES for international activities;
- facilitates coordination of AES activities in international programmes,
- negotiates bilateral agreements and develops AES/Canadian positions on international issues;
- develops and assists in the preparation of policies on international affairs;
- liaises with clients which includes· DOE, Other Government Departments, International Organizations and Agencies, Provincial/ territorial governments and universities,
- manages and coordinates AES international activities such as bilateral agreements and those associated with WMO and UNEP;
- represent AES/DOE/Canada at national and international meetings,
- provides protocol support functions within AES for international meetings

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

ADVISOR ON INTERNATIONAL AFFAIRS

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
	0810	MANAGEMENT	3 8	200 9	277 5	10 0		488 4
		TOTAL	3 8	200 9	277 5	10 0		488 4
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			3 8	200 9	277 5	10 0		488 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
ADVISOR ON INTERNATIONAL AFFAIRS

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2	CANADIANS ARE WARNED	3 8	200 9	277 5	10 0		488 4
	TOTAL	3 8	200 9	277 5	10 0		488 4
GRAND TOTAL		3 8	200 9	277 5	10 0		488 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

ADVISOR ON INTERNATIONAL AFFAIRS

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810		488 4											488 4
	TOTAL		488 4											488 4
GRAND TOTAL			488 4											488 4

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

ADVISOR ON INTERNATIONAL AFFAIRS

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810		3 6											3 6
	TOTAL		3 6											3 6
GRAND TOTAL			3 6											3 6

SALARY BY SA1, SA2 AND SUB-RESULTS

ADVISOR ON INTERNATIONAL AFFAIRS

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810		200 9											200 9
	TOTAL		200 9											200 9
GRAND TOTAL			200 9											200 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

ADVISOR ON INTERNATIONAL AFFAIRS

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810		277 5											277 5
	TOTAL		277 5											277 5
GRAND TOTAL			277 5											277.5

CAPITAL BY SA1, SA2 AND SUB-RESULTS

ADVISOR ON INTERNATIONAL AFFAIRS

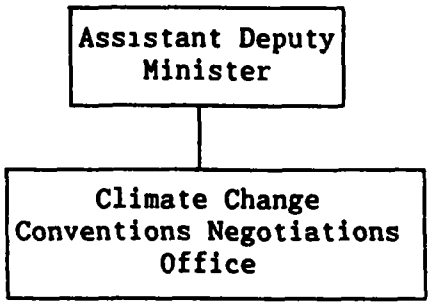
Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810		10 0											10 0
	TOTAL		10 0											10 0
GRAND TOTAL			10 0											10 0

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

ADVISOR ON INTERNATIONAL AFFAIRS

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810													
	TOTAL													
GRAND TOTAL														

6 4 CLIMATE CHANGE CONVENTIONS NEGOTIATIONS OFFICE



6 4 1 FUNCTIONS OF THE CLIMATE CHANGE CONVENTIONS NEGOTIATIONS OFFICE (3 0 PY, $186 9 K)

Reporting to the Assistant Deputy Minister, AES, the Climate Change Convention Negotiations Office is responsible to ensure that

Canada's negotiating positions on the issues to be addressed in the international negotiations leading to the signature in 1992 of a Framework Convention on Climate Change are consistent with Canada's environmental goals as well as domestic policy directions on the economy, energy, forestry, agriculture, etc

All primary stakeholders in the climate change issue in Canada are consulted on the Canadian positioning at the negotiating sessions (including provincial/territorial governments, other federal department, and relevant non-government organizations)

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CLIMATE CHANGE NEGOTIATIONS OFFICE

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
	0810	MANAGEMENT	3 0	176 9		10 0		186 9
		TOTAL	3 0	176 9		10 0		186 9
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			3 0	176 9		10 0		186 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CLIMATE CHANGE NEGOTIATIONS OFFICE

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
3 1 2	KNOWLEDGEABLE DECISIONS	3 0	176 9		10 0		186 9
	TOTAL	3 0	176 9		10 0		186 9
GRAND TOTAL		3 0	176 9		10 0		186 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

CLIMATE CHANGE NEGOTIATIONS OFFICE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810											186 9		186 9
	TOTAL											186 9		186 9
GRAND TOTAL												186 9		186 9

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

CLIMATE CHANGE NEGOTIATIONS OFFICE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810											3 0		3 0
	TOTAL											3 0		3 0
GRAND TOTAL												3 0		3 0

SALARY BY SA1, SA2 AND SUB-RESULTS

CLIMATE CHANGE NEGOTIATIONS OFFICE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810											176 9		176 9
	TOTAL											176 9		176 9
GRAND TOTAL												176 9		176 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

CLIMATE CHANGE NEGOTIATIONS OFFICE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0600	0810													
	TOTAL													
GRAND TOTAL														

CAPITAL BY SA1 SA2 AND SUB-RESULTS

CLIMATE CHANGE NEGOTIATIONS OFFICE

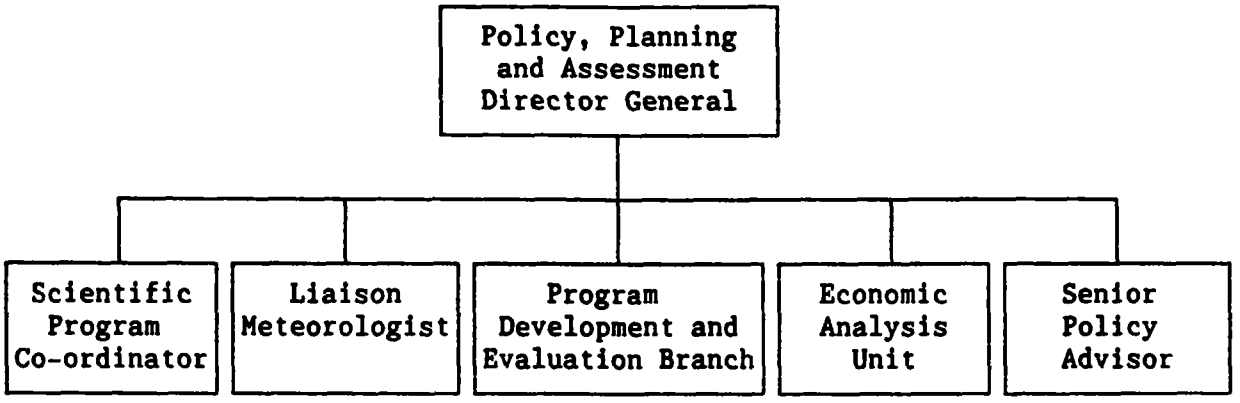
Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0600	0510											10 0		10 0
	TOTAL											10 0		10 0
GRAND TOTAL												10 0		10 0

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

CLIMATE CHANGE NEGOTIATIONS OFFICE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0600	0810													
	TOTAL													
GRAND TOTAL														

6 5 POLICY, PLANNING AND ASSESSMENT DIRECTORATE



6 5 1 FUNCTIONS OF THE POLICY, PLANNING AND ASSESSMENT DIRECTORATE (23 0 PY, $1,532 5 K)

Reporting to the ADM, AES, the Director General of the Policy, Planning, and Assessment Directorate·

- provides policy and strategic advice to the Minister and AES senior management on priority Service and Departmental issues,
- manages policy projects and issues of interest to AES and co-ordinates these among the stakeholders, inside and outside government,
- co-ordinates and integrates Service strategic, operational and program evaluation and audit activities;
- provides program management advice, information services and support to the Assistant Deputy Minister and to the AES management committee (AMC),
- is responsible for Service wide contributions to department, governmental and non-governmental science programs and initiatives,
- liaises with the Minister's and Deputy Minister's offices on Service issues,
- informs and advises AES senior management on private sector meteorological activities and liaises with the meteorological industry on behalf of AES;
- conducts socio-economic studies and research in atmospheric areas, provides consulting service and advice for the development of the Climate Change Convention; and
- coordinates and prepares replies to Ministerial correspondence on issues that concern AES

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

POLICY, PLANNING AND ASSESSMENT

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
	0810	MANAGEMENT	23 0	1235 1	251 4	46 0		1532 5
		TOTAL	23 0	1235 1	251 4	46 0		1532 5
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			23 0	1235 1	251 4	46 0		1532 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
POLICY, PLANNING AND ASSESSMENT

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 1	CANADIANS ARE AWARE	0 4	23 6	2 4			26 0
1 1 2	CANADIANS ARE WARNED	0 4	23 6	2 0			25 6
1 1 3	SAFE DESIGN	0 4	23 6	2 0			25 6
1 2 1	POLLUTION AWARENESS	0 4	23 6	2 0			25 6
1 2 2	POLLUTION WARNING	0 4	23 6	2 0			25 6
	TOTAL	2 0	116 0	10 4			125 4
2 1 1	REDUCE GAP	6 6	367 9	65 0	20 0		452 9
2 1 2	KNOWLEDGE/INFORMATION/VALUE	2 3	121 1	25 0			146 1
2 1 3	ENVIRONMENT/HEALTH	1 1	70 5	15 0			85 5
2 1 4	ENVIRONMENT/ECONOMY	2 8	147 5	50 0	26 0		223 5
	TOTAL	13 0	707 0	155 0	46 0		908 0
3 1 2	KNOWLEDGEABLE DECISIONS	8 0	410 1	86 0			496 1
	TOTAL	8 0	410 1	86 0			496 1
GRAND TOTAL		23 0	1235 1	251 4	46 0		1532 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

POLICY, PLANNING AND ASSESSMENT

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810	26 0	25 6	25 6	25 6	25 6	452 9	146 1	85 5	223 5		496 1		1532 5
	TOTAL	26 0	25 6	25 6	25 6	25 6	452 9	146 1	85 5	223 5		496 1		1532 5
GRAND TOTAL		26 0	25 6	25 6	25 6	25 6	452 9	146 1	85 5	223 5		496 1		1532 5

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

POLICY, PLANNING AND ASSESSMENT

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810	0 4	0 4	0 4	0 4	0 4	6 6	2 3	1 1	2 8		8 0		23 0
	TOTAL	0 4	0 4	0 4	0 4	0 4	6 6	2 3	1 1	2 6		8 0		23 0
GRAND TOTAL		0 4	0 4	0 4	0 4	0 4	6 6	2 3	1 1	2 6		8 0		23 0

SALARY BY SA1, SA2 AND SUB-RESULTS

POLICY, PLANNING AND ASSESSMENT

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810	23 6	23 6	23 6	23 6	23 6	367 9	121 1	70 5	147 5		410 1		1235 1
	TOTAL	23 6	23 6	23 6	23 6	23 6	367 9	121 1	70 5	147 5		410 1		1235 1
GRAND TOTAL		23 6	23 6	23 6	23 6	23 6	367 9	121 1	70 5	147 5		410 1		1235 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

POLICY, PLANNING AND ASSESSMENT

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810	2 4	2 0	2 0	2 0	2 0	65 0	25 0	15 0	50 0		86 0		251 4
	TOTAL	2 4	2 0	2 0	2 0	2 0	65 0	25 0	15 0	50 0		86 0		251 4
GRAND TOTAL		2 4	2 0	2 0	2 0	2 0	65 0	25 0	15 0	50 0		86 0		251 4

CAPITAL BY SA1, SA2 AND SUB-RESULTS

POLICY, PLANNING AND ASSESSMENT

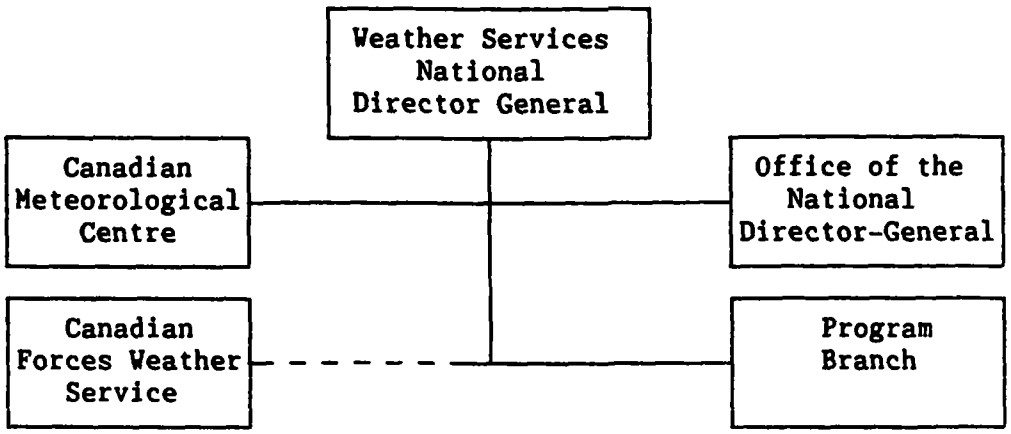
Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810						20 0			26 0				46 0
	TOTAL						20 0			26 0				46 0
GRAND TOTAL							20 0			26 0				46 0

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

POLICY, PLANNING AND ASSESSMENT

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0810													
	TOTAL													
GRAND TOTAL														

6.6 WEATHER SERVICES DIRECTORATE



6 6 1 FUNCTIONS: WEATHER SERVICES DIRECTORATE (149 7 PY, $14,327 8 K)

This Directorate is accountable for the overall program management of the Weather Services Program It is responsible for setting the program direction, priorities, and establishing program policies and standards It is responsible for reporting on and assessment of the functional components of the Weather Services Program including data acquisition, forecast production and dissemination to the general public The National Director General is supported in Downsview by the Office of the Director General and the Program Branch Also within the Directorate is the Canadian Meteorological Centre which provides national level meteorological products as guidance to AES Regions as well as outside clients

Office of the National Director General (14 PY, $3,085 6 K)

This office is responsible for the day-to-day support of the affairs of the National Director-General and for coordination and liaison with Regional Management on national aspects of the weather services program In this role the office

- provides the National Director-General with corporate advice and national level issue management support,
- provides advice on effectiveness and on client satisfaction with the weather services program;
- provides an up-to-date management information service in support of decision-making;
- provides responses to politically sensitive program issues, and
- serves as the first point of contact for selected national activities

Program Branch (39 2 PY, $4,792 8 K)

The Program Branch supports the National Director General in the development, control and management of change to Directorate national operations, and the monitoring and assessment of trends in Directorate operations and outputs. The Branch has the following composition·

Policy and Plans Division:
- develops national plans and policies for the Weather Services Program, including data acquisition, weather forecasting and dissemination activities, and
- develops and maintains DOE/AES agreements and relationships with components of other departments such as Transport, National Defense, and Fisheries and Oceans

Procedures and Requirements Division
- develops the procedures and requirements to be used in the WSD activities of data acquisition, weather forecasting and dissemination; and
- maintains the national meteorological applications programs used in the weather centres

Financial and Administrative Services Unit·
- provides financial analysis and advice on WSD proposals for the Weather Services program,
- provides guidance and advice on financial procedures, and
- prepares resource allocations for the Directorate and monitors expenditures

Canadian Meteorological Centre (96 5 PY, $6,449 4 K)

The Canadian Meteorological Centre, as described on page 33, is made up of two divisions - the Operations Division and Development Division

The Operations Division
- assimilates data into operational runs,
- prepares subjective forecast products,
- implements and maintains the computerized production system; and
- monitors and evaluates automated and manual output

The Development Division·
- improves the quality and range of forecast products, and
- provides efficient production systems

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

WEATHER SERVICES DIRECTORATE

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES	9 0	544 3	88 6	1368 0		2000 9
	2000	DATA ACQUISITION	6 0	291 7	13 2			304.9
	3000	WEATHER SERVICES SUPPORT SYSTEMS	134.7	7630 0	1957.7	2434 3		12022.0
		TOTAL	149 7	8466.0	2059 5	3802 3		14327 8
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			149 7	8466 0	2059 5	3802 3		14327 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
WEATHER SERVICES DIRECTORATE

RESULTS DEFINITION			PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1.1	CANADIANS ARE AWARE		24 2	1416 4	322 5	203 4		1942 3
1 1 2	CANADIANS ARE WARNED		122 5	6889.7	1710.6	3598 9		12199 2
1 2 2	POLLUTION WARNING		2 0	116 9	26 4			143 3
		TOTAL	148.7	8423.0	2059 5	3802 3		14284 8
2.1.3	ENVIRONMENT/HEALTH		1.0	43 0				43 0
		TOTAL	1.0	43.0				43 0
GRAND TOTAL			149 7	8466 0	2059 5	3802 3		14327 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

OFFICE OF THE DIRECTOR GENERAL-WSD

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES				1368.0		1368.0
	2000	DATA ACQUISITION	1.0	53 3	13.2			66.5
	3000	WEATHER SERVICES SUPPORT SYSTEMS	13 0	762 7	888.4			1651.1
		TOTAL	14 0	816.0	901.6	1368 0		3085.6
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			14 0	816.0	901 6	1368 0		3085 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
OFFICE OF THE DIRECTOR GENERAL-WSD

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1.2	CANADIANS ARE WARNED	14.0	816 0	901 6	1368 0		3085.6
	TOTAL	14.0	816 0	901.6	1368 0		3085 6
GRAND TOTAL		14.0	816 0	901.6	1368 0		3085 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

WEATHER SERVICES PROGRAM BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	2000	DATA ACQUISITION	5.0	238 4				238.4
	3000	WEATHER SERVICES SUPPORT SYSTEMS	34 2	1939.1	391 7	2223 6		4554.4
		TOTAL	39 2	2177.5	391 7	2223.6		4792.8
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			39 2	2177.5	391 7	2223 6		4792 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
WEATHER SERVICES PROGRAM BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1.1	CANADIANS ARE AWARE	24 2	1416 4	322 5	203 4		1942 3
1.1 2	CANADIANS ARE WARNED	15.0	761 1	69.2	2020.2		2850.5
	TOTAL	39.2	2177 5	391 7	2223 6		4792 8
GRAND TOTAL		39 2	2177.5	391 7	2223 6		4792 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CANADIAN METEOROLOGICAL CENTRE

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES	9 0	544.3	88.6			632.9
	3000	WEATHER SERVICES SUPPORT SYSTEMS	87 5	4928.2	677.6	210 7		5816.5
		TOTAL	96 5	5472 5	766 2	210 7		6449.4
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			96 5	5472 5	766 2	210.7		6449.4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CANADIAN METEOROLOGICAL CENTRE

RESULTS DEFINITION			PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2	CANADIANS ARE WARNED		93 5	5312 6	739 8	210 7		6263 1
1 2 2	POLLUTION WARNING		2.0	116 9	26 4			143 3
		TOTAL	95.5	5429 5	766.2	210.7		6406 4
2 1.3	ENVIRONMENT/HEALTH		1.0	43.0				43 0
		TOTAL	1 0	43 0				43 0
GRAND TOTAL			96 5	5472 5	766 2	210 7		6449.4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CANADIAN FORCES WEATHER SERVICE

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1500	CANADIAN FORCES WEATHER SERVICES	111.0	6926.0	817.0			7743.0
		TOTAL	111.0	6926 0	817.0			7743 0
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			111.0	6926 0	817.0			7743 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CANADIAN FORCES WEATHER SERVICE

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1.2	CANADIANS ARE WARNED	111 0	6926 0	817.0			7743 0
	TOTAL	111.0	6926 0	817.0			7743 0
GRAND TOTAL		111 0	6926 0	817 0			7743 0

1991 - 92 Budget

WEATHER SERVICES DIRECTORATE

6 6 2

BY ORGANIZATIONAL UNIT

	PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
OFFICE OF THE DIRECTOR GENERAL-WSD	14.0	816 0	901 6	1368.0		3085.6
WEATHER SERVICES PROGRAM BRANCH	39 2	2177 5	391 7	2223 6		4792 8
CANADIAN METEOROLOGICAL CENTRE	96 5	5472 5	766 2	210 7		6449.4
WSD TOTAL	149 7	8466 0	2059.5	3802.3		14327.8
CANADIAN FORCES WEATHER SERVICE	111 0	6926 0	817 0			7743 0
CANADIAN FORCES WEATHER SERVICE	111 0	6926 0	817 0			7743 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

WEATHER SERVICES DIRECTORATE

Sa1	Sa2	1 1.1	1.1.2	1.1.3	1.2 1	1 2.2	2.1.1	2.1 2	2.1 3	2 1.4	3.1.1	3.1 2	3.1 3	TOTAL
1000	1100		1857.6			143.3								2000.9
	2000		304.9											304 9
	3000	1942.3	10036.7						43.0					12022 0
	TOTAL	1942.3	12199.2			143 3			43.0					14327.8
GRAND TOTAL		1942 3	12199 2			143.3			43 0					14327.8

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

WEATHER SERVICES DIRECTORATE

Sa1	Sa2	1.1.1	1.1.2	1 1.3	1.2.1	1 2.2	2.1 1	2 1 2	2.1 3	2 1.4	3 1 1	3 1.2	3.1 3	TOTAL
1000	1100		7 0			2 0								9.0
	2000		6 0											6.0
	3000	24 2	109 5						1 0					134 7
	TOTAL	24 2	122 5			2.0			1 0					149 7
GRAND TOTAL		24 2	122 5			2 0			1 0					149 7

SALARY BY SA1, SA2 AND SUB-RESULTS

WEATHER SERVICES DIRECTORATE

Sa1	Sa2	1.1 1	1.1 2	1 1.3	1.2.1	1.2 2	2 1.1	2.1.2	2.1 3	2.1.4	3 1.1	3.1.2	3.1.3	TOTAL
1000	1100		427.4			116.9								544.3
	2000		291 7											291.7
	3000	1416.4	6170.6						43 0					76 .0
	TOTAL	1416 4	6889 7			116 9			43 0					84 .0
GRAND TOTAL		1416.4	6889 7			116 9			43 0					84 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

WEATHER SERVICES DIRECTORATE

Sa1	Sa2	1.1.1	1.1.2	1.1.3	1.2 1	1 2.2	2.1.1	2 1.2	2 1.3	2.1.4	3.1 1	3 1 2	3 1 3	TOTAL
1000	1100		62 2			26.4								
	2000		13 2											13.2
	3000	322 5	1635.2											1957 1
	TOTAL	322.5	1710 6			26 4								2059 5
GRAND TOTAL		322 5	1710.6			26.4								2059.5

CAPITAL BY SA1, SA2 AND SUB-RESULTS

WEATHER SERVICES DIRECTORATE

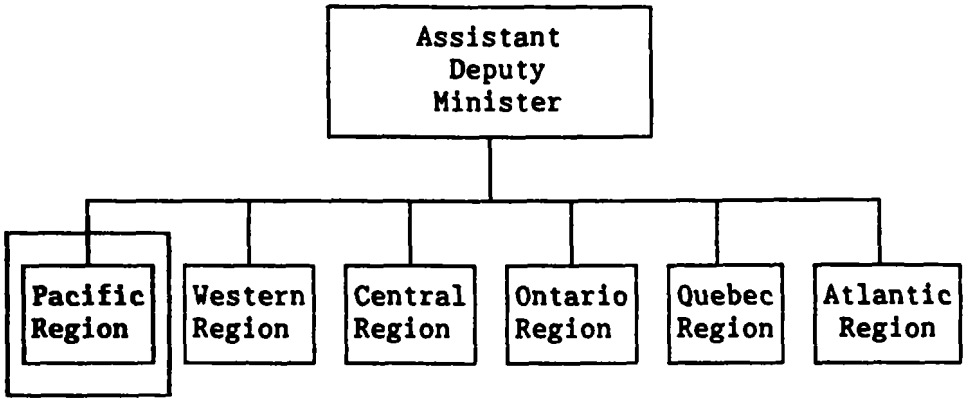
Sa1	Sa2	1 1 1	1 1.2	1 1 3	1 2.1	1.2 2	2 1.1	2.1.2	2 1 3	2 1 4	3 1 1	3.1 2	3 1 3	TOTAL
1000	1100		1368 0											1 0
	2000													
	3000	203 4	2230 9											2434 3
	TOTAL	203 4	3598 9											3802.3
GRAND TOTAL		203.4	3598.9											3802 3

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

WEATHER SERVICES DIRECTORATE

Sa1	Sa2	1.1.1	1 1.2	1 1.3	1 2.1	1 2 2	2 1.1	2 1 2	2.1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100													
	2000													
	3000													
	TOTAL													
GRAND TOTAL														

6 7 REGIONAL DIRECTORATES



6.7.1 FUNCTIONS OF THE PACIFIC REGION (194.6 PY, $16,367 6 K)

The Pacific Region encompasses all of British Columbia and the adjacent waters of the Pacific Ocean The Regional Director General reports directly to the Assistant Deputy Minister and is currently the Chairperson for the B C and Yukon Committee of Regional Executives (CORE) and thus is responsible for Environment Canada's regional corporate activities in these areas

There are four main programs within the Region which are supported by the Finance and Administration Division, the Human Resource Division and an Informatics (Computer and Electronics) Unit

These main program areas are:

Forecast Operations - produces weather forecasts for British Columbia and adjacent waters These include public, marine aviation and special forecasts

Weather Services - ensures that the requirements of all users are met through Weather Offices, Weatheradio Network, the media, telephones and contracts with Transport Canada on aviation requirements

Data Acquisition - a data collection division that provides input to the AES forecast operations and Canadian Climate Programs This data is collected through a series of upper air stations, surface weather stations, voluntary observers, meteorological buoys, automatic weather stations and ships

Scientific Services - ensures the integrity of climatological data for the Region including both the Climate and Air Quality Services Programs through data processing, climate monitoring and reporting and consultation with the users

ATMOSPHERIC ENVIRONMENT SERVICE

1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

PACIFIC REGION

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800	MANAGEMENT & COMMON SUPPORT SERVICES							
1000	WEATHER SERVICES							
	1100 PUBLIC WEATHER SERVICES		64 1	3673 6	306.4	118 2		4098 2
	1200 MARINE WEATHER SERVICES		6.0	349 6	67.6	46 2		463.4
	1300 AVIATION WEATHER SERVICES		23.0	1223 2	27.5			1250 7
	1400 ECONOMIC WEATHER SERVICES		1 0	57 4	35 1			92 5
	2000 DATA ACQUISITION		44 0	2291 3	2589 9	798 7		5679 9
	3000 WEATHER SERVICES SUPPORT SYSTEMS		43 5	1773 3	1303 0	575 9		3652 2
		TOTAL	181 6	9368 4	4329 5	1539 0		15236 9
4000	CLIMATE SERVICES & RESEARCH							
	4100 CLIMATE SERVICES		6 8	284 2	368 7	34 6		687.5
	4600 CLIMATE SERVICES SUPPORT SYSTEMS		0 5	22 1	24 9			47 0
		TOTAL	7 3	306 3	393 6	34 6		734 5
5000	ICE SERVICES							
6000	AIR QUALITY SERVICES & RESEARCH							
	6100 AIR QUALITY SERVICES & RESEARCH		5 7	313 6	52 6	30 0		396 2
		TOTAL	5 7	313 6	52 6	30 0		396 2
GRAND TOTAL			194 6	9988 3	4775 7	1603 6		16367 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
PACIFIC REGION

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 1	CANADIANS ARE AWARE	2.0	92 8	113 8	5 1		211 7
1 1 2	CANADIANS ARE WARNED	179 2	9243 3	4375.3	1549.3		15167 9
1 1.3	SAFE DESIGN	0 9	40 5	28 3			68 8
1 2 2	POLLUTION WARNING	0 7	35 4	0 5			35 9
	TOTAL	182 8	9412 0	4517 9	1554 4		15484.3
2 1.1	REDUCE GAP	0 1	5 7	4.0			9.7
2 1.3	ENVIRONMENT/HEALTH	0 2	8 6	0 2			8 8
2 1 4	ENVIRONMENT/ECONOMY	5 2	212 9	200 0	19 2		432 1
	TOTAL	5 5	227.2	204 2	19 2		450.6
3 1.1	AWARE ACTIVITIES THREAT	0 3	14.4	5 2			19 6
3 1 2	KNOWLEDGEABLE DECISIONS	5 3	293 5	43.4	30 0		366 9
3 1 3	POLLUTION PREVENTION	0 7	41 2	5 0			46 2
	TOTAL	6 3	349 1	53 6	30 0		432 7
GRAND TOTAL		194 6	9988 3	4775 7	1603 6		16367 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

PACIFIC REGION

Sa1	Sa2	1 1.1	1.1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3.1.3	TOTAL
1000	1100		63 4			0 7								64 1
	1200		6.0											6 0
	1300		23.0											23 0
	1400		1 0											1 0
	2000		44 0											44 0
	3000	2.0	40.8										0.7	43 5
	TOTAL	2 0	178 2			0 7							0 7	181 6
4000	4100		1 0	0 9					0 2	4 7				6 8
	4600									0 5				0 5
	TOTAL		1 0	0 9					0 2	5 2				7 3
6000	6100						0 1				0 3	5 3		5.7
	TOTAL						0 1				0 3	5 3		5 7
GRAND TOTAL		2 0	179 2	0 9		0 7	0 1		0 2	5 2	0 3	5 3	0.7	194 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

PACIFIC REGION

Sa1	Sa2	1 1.1	1.1 2	1 1.3	1 2.1	1 2 2	2 1.1	2 1 2	2.1 3	2 1 4	3 1.1	3 1 2	3.1.3	TOTAL
1000	1100		4062 3			35 9								4 2
	1200		463 4											463 4
	1300		1250 7											1250 7
	1400		92 5											92 5
	2000		5679 9											5679 9
	3000	211.7	3394 3										46 2	2 2
	TOTAL	211 7	14943 1			35.9							46 2	15236.9
4000	4100		224 8	68.8					8 8	385 1				687 5
	4600									47.0				47 0
	TOTAL		224 8	68 8					8 8	432 1				734.5
6000	6100						9 7				19 6	366 9		396 2
	TOTAL						9 7				19 6	366 9		396 2
GRAND TOTAL		211 7	15167 9	68 8		35 9	9 7		8 8	432 1	19 6	366 9	46 2	16 7 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

PACIFIC REGION

Sa1	Sa2	1 1 1	1.1 2	1.1.3	1 2.1	1.2.2	2.1.1	2.1.2	2.1.3	2.1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		3638 2			35 4								3673 6
	1200		349 6											349.6
	1300		1223 2											1223 2
	1400		57 4											57.4
	2000		2291 3											2291.3
	3000	92.8	1639.3										41.2	1773 3
	TOTAL	92 8	9199.0			35 4							41 2	9368.4
4000	4100		44 3	40 5					8 6	190 8				284 2
	4600									22 1				22.1
	TOTAL		44 3	40 5					8 6	212.9				306.3
6000	6100						5 7				14 4	293 5		313 6
	TOTAL						5 7				14 4	293 5		313 6
GRAND TOTAL		92.8	9243 3	40 5		35 4	5 7		8 6	212.9	14 4	293 5	41 2	9988 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

PACIFIC REGION

Sa1	Sa2	1.1 1	1 1 2	1 1.3	1 2 1	1 2 2	2 1.1	2 1 2	2 1 3	2 1.4	3 1 1	3 1.2	3 1.3	TOTAL
1000	1100		305.9			0 5								4
	1200		67.6											67 6
	1300		27 5											27 5
	1400		35 1											.1
	2000		2589 9											2589 9
	3000	113 8	1184 2										5 0	1303 0
	TOTAL	113 8	4210 2			0 5							5.0	4329 5
4000	4100		165 1	28 3					0.2	175 1				7
	4600									24 9				24.9
	TOTAL		165 1	28 3					0 2	200 0				393.6
6000	6100						4 0				5 2	43 4		52 6
	TOTAL						4 0				5 2	43 4		52 6
GRAND TOTAL		113 8	4375 3	28 3		0 5	4.0		0 2	200 0	5 2	43.4	5 0	4775 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

PACIFIC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1.3	1 2 1	1 2 2	2 1 1	2 1.2	2 1 3	2.1.4	3.1.1	3 1 2	3 1 3	TOTAL
1000	1100		118 2											118 2
	1200		46 2											46 2
	1300													
	1400													
	2000		798.7											7 7
	3000	5 1	570 8											575 9
	TOTAL	5 1	1533 9											15 0
4000	4100		15 4							19 2				34.6
	4600													
	TOTAL		15.4							19 2				34 6
6000	6100											30 0		30 0
	TOTAL											30 0		0
GRAND TOTAL		5 1	1549 3							19 2		30 0		1603 6

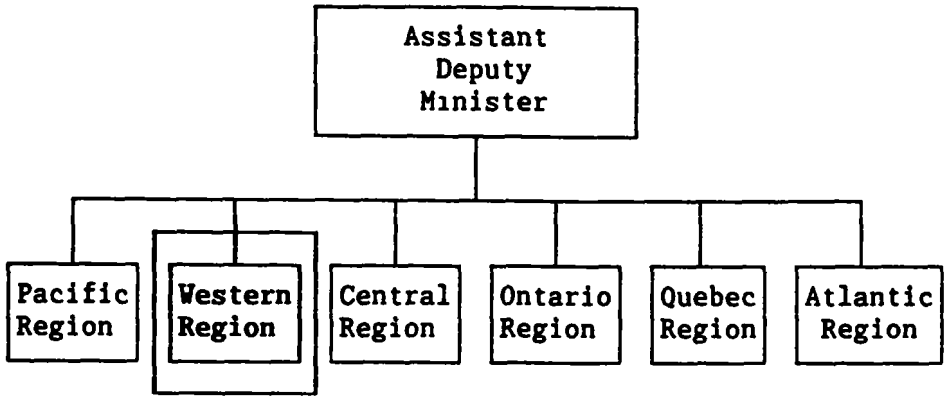
ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

PACIFIC REGION

Sa1	Sa2	1 1 1	1 1 2	1.1 3	1.2 1	1.2.2	2.1.1	2 1.2	2.1 3	2 1 4	3 1 1	3 1 2	3 1.3	TOTAL
1000	1100													
	1200													
	1300													
	1400													
	2000													
	3000													
	TOTAL													
4000	4100													
	4600													
	TOTAL													
6000	6100													
	TOTAL													
GRAND TOTAL														

6 8 REGIONAL DIRECTORATES



6 8 1 FUNCTIONS OF THE WESTERN REGION (262 1 PY, $19,399 8 K)

Western Region of the Atmospheric Environment Service provides weather and climatological services to the people of Alberta, Yukon and western Northwest Territories There are four main programs within the Region and these are supported by Finance and Administration Division, Human Resource Division and Computer and Communications Division

Data Acquisition - Collects meteorological data as input to the AES weather forecast and Canadian climate programs through a network of four Aerological Stations, two weather radars, manned weather stations, automatic weather stations and climate stations Provides other environmental data on air quality, acid rain, radioactivity, etc Ensures that meteorological instruments are maintained and calibrated, and also trains volunteer and contract weather observers Cooperates with Transport Canada Aviation in data collection

Forecast Operations - Weather warnings and forecasts are produced for various user groups such as mariners, aviators, farmers, the media and public The Arctic Weather Centre, which produces forecasts for the NWT, and the Alberta Weather Centre are located in Edmonton The Yukon Weather Centre is in Whitehorse An HRPT Satellite Receiving Station, located in Edmonton, supports forecast production

Weather Services - Nine Weather Offices disseminate weather information and forecasts to a myriad of users using Weatheradio, automatic telephone answering devices (ATAD's), facsimile and personal contacts Staff at these offices promote the application of weather information in their region of responsibility

Scientific Services - Studies are conducted into regional meteorological problems related to agriculture, forestry, air quality, energy applications and hydrometeorology As well there are studies of the regional impact of climate change and consultative services to various sectors of society on the impacts of climate change Air quality and atmospheric chemistry studies are done and reports produced. The division acts as the lead for regional environmental assessment and emergency response. It also provides climatological information to users and controls the quality of climatological data in the Region.

ATMOSPHERIC ENVIRONMENT SERVICE

1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

WESTERN REGION

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0600		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES	82 0	4819 2	330 2			5149 4
	1200	MARINE WEATHER SERVICES	1 0	65 0	2 9			67 9
	1300	AVIATION WEATHER SERVICES	40 0	2213 6	161 7			2375 3
	2000	DATA ACQUISITION	69 0	3459 5	1505 9	61 9		5027 3
	3000	WEATHER SERVICES SUPPORT SYSTEMS	60 6	3081 1	1652 3	1206 5		6139 9
		TOTAL	252 6	13636 4	3853 0	1268 4		18759 8
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	5 5	299 5	80 0			379 5
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	2 0	105 2	25 2			130 4
		TOTAL	7 5	404 7	105 2			509 9
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6300	AIR QUALITY RESEARCH	2 0	119 1	9 7	1 3		130 1
		TOTAL	2 0	119 1	9 7	1 3		130 1
GRAND TOTAL			262 1	14162 2	3967 9	1269 7		18399 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
WESTERN REGION

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 1	CANADIANS ARE AWARE	8 0	751 9	129 2	155 4		1036 5
1 1 2	CANADIANS ARE WARNED	239 6	12311 4	3566 1	1054 6		16932 1
1 2 2	POLLUTION WARNING	1 0	60 5	4 3			64 8
	TOTAL	248 6	13123 8	3699 6	1210 0		18033 4
2 1 3	ENVIRONMENT/HEALTH	1 5	57 2	12 7			69 9
2 1 4	ENVIRONMENT/ECONOMY	10 0	862 1	245 9	56 4		1166 4
	TOTAL	11 5	919 3	256 6	56 4		1236 3
3 1 2	KNOWLEDGEABLE DECISIONS	2 0	119 1	9 7	1 3		130 1
	TOTAL	2 0	119 1	9 7	1 3		130 1
GRAND TOTAL		262 1	14162 2	3967 9	1269 7		19399 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

WESTERN REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		5084 6			64 8								5149 4
	1200		67 9											67 9
	1300		2375 3											2375 3
	2000		4300 9							726 4				5027 3
	3000	1036 5	5103 4											6139 9
	TOTAL	1036 5	16932 1			64 8				726 4				18759 8
4000	4100								69 9	309 6				379 5
	4600									130 4				130 4
	TOTAL								69 9	440 0				509 9
6000	6300											130 1		130 1
	TOTAL											130 1		130 1
GRAND TOTAL		1036 5	16932 1			64 8			69 9	1166 4		130 1		19399 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

WESTERN REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		61 0			1 0								62 0
	1200		1 0											1 0
	1300		40 0											40 0
	2000		65 0							4 0				69 0
	3000	8 0	52 6											60 6
	TOTAL	8 0	239 6			1 0				4 0				252 6
4000	4100								1 5	4 0				5 5
	4600									2 0				2 0
	TOTAL								1 5	6 0				7 5
6000	6300											2 0		2 0
	TOTAL											2 0		2 0
GRAND TOTAL		8 0	239 6			1 0			1 5	10 0		2 0		262 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

WESTERN REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		4758 7			60 5								4819 2
	1200		65 0											65 0
	1300		2213 6											2213 6
	2000		2944 9							514 6				3459 5
	3000	751 9	2329 2											3051 1
	TOTAL	751 9	12311 4			60 5				514 6				13636 4
4000	4100								57 2	242 3				299 5
	4600									105 2				105 2
	TOTAL								57 2	347 5				404 7
6000	6300											119 1		119 1
	TOTAL											119 1		119 1
GRAND TOTAL		751 9	12311 4			60 5			57 2	562 1		119 1		14162 2

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

WESTERN REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		325 9			4 3								330 2
	1200		2 9											2 9
	1300		161 7											161 7
	2000		1352 5							153 4				1505 9
	3000	129 2	1723 1											1852 3
	TOTAL	129 2	3566 1			4 3				153 4				3653 0
4000	4100								12 7	67 3				80 0
	4600									25 2				25 2
	TOTAL								12 7	92 5				105 2
6000	6300											9 7		9 7
	TOTAL											9 7		9 7
GRAND TOTAL		129 2	3566 1			4 3			12 7	245 9		9 7		3967 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

WESTERN REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100													
	1200													
	1300													
	2000		3 5							56 4				61 9
	3000	155 4	1051 1											1206 5
	TOTAL	155 4	1054 6							58 4				1268 4
4000	4100													
	4600													
	TOTAL													
6000	6300											1 3		1 3
	TOTAL											1 3		1 3
GRAND TOTAL		15. 1	1054 6							55 4		1 3		1269 7

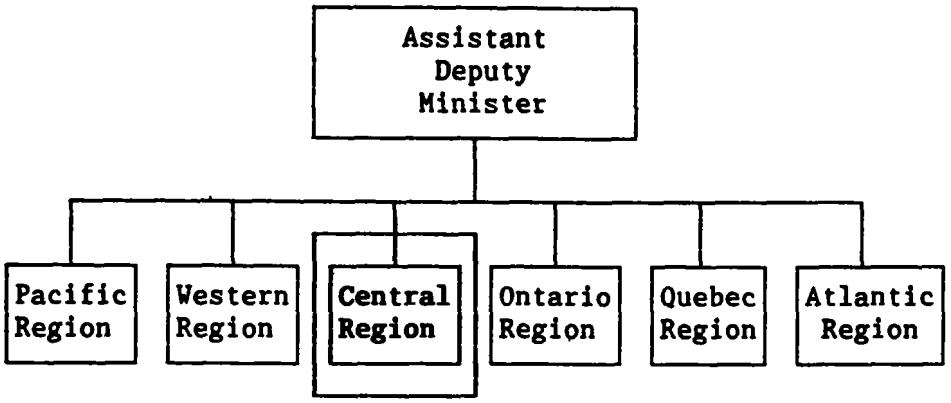
ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

WESTERN REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100													
	1200													
	1300													
	2000													
	3000													
	TOTAL													
4000	4100													
	4600													
	TOTAL													
6000	6300													
	TOTAL													
GRAND TOTAL														

6 9 REGIONAL DIRECTORATE



6 9 1 FUNCTIONS OF THE CENTRAL REGION (248 7 PY, $21,923 3 K)

The Central Region is the largest of the six AES Regions both from the point of view of geographic area and budgetary considerations The Regional Director General reports directly to the Assistant Deputy Minister The Region includes all of the Provinces of Manitoba and Saskatchewan and portions of the Central and High Arctic of the North West Territories.

There are four main programs within the Region and these are supported by Regional Finance and Administration Division, Human Resource Division and a Computer Communication Unit The main program areas are as follows

Weather Services - All aspects of the development and delivery of weather services to routine and special users, including the staffing and operation of nine weather offices, technician and meteorologist development training, and coordination with Transport Canada on aviation services, requirements and standards

Meteorological Systems - All aspects of weather observing programs, including related environmental and geophysics data, the staff and instrumentation of the field stations; plus standard, electronic maintenance, inspection and site development functions associated with their operation, techniques and technology development in support of weather services activities and regional weather services program evaluation

Forecast Operations - All aspects of forecast production including public, marine, aviation, and special forecasts (i e fire weather) Severe weather watches and warnings are also a key responsibility

Scientific Services - Regional delivery of Climate and Air Quality Services Programs including data processing, climate monitoring and reporting, information services, consultative services in areas of special applications or expertise and program assessment and development

The Regional Director General is currently the Co-Chair for the Western and Northern Committee of Regional Executives (CORE) and is responsible for regional corporate activities and programs in Manitoba and Saskatchewan Corporate communications, the CORE Secretariat activities and the Environmental Partners Fund (EPF) program are administered by a staff of eight located in a sub-office adjacent to the Central Region office The CORE Co-Chair also represents regional corporate interests as a full member of Environment Management Board

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CENTRAL REGION

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0600		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES	71 0	3628 7	346 4	21 0		3996 1
	1300	AVIATION WEATHER SERVICES	12 0	520 2				520 2
	1400	ECONOMIC WEATHER SERVICES	3 0	168 2				168 2
	2000	DATA ACQUISITION	91 6	5248 7	5061 7	1679 2		11989 6
	3000	WEATHER SERVICES SUPPORT SYSTEMS	57 1	2697 5	1288 5	453 1		4469 1
		TOTAL	234 7	12263 3	6696 6	2163 3		21145 2
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	10 0	437 9	112 2	5 6		555 7
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	2 0	93 7	10 3			104 0
		TOTAL	12 0	531 6	122 5	5 6		659 7
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6100	AIR QUALITY SERVICES & RESEARCH	2 0	101 2	17 2			118 4
		TOTAL	2 0	101 2	17 2			118 4
GRAND TOTAL			248 7	12596 1	6838 3	2168 9		21923 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CENTRAL REGION

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 1 CANADIANS ARE AWARE		10 0	479 5	105 6	58 9		644 0
1 1 2 CANADIANS ARE WARNED		221 7	11615 6	6593 0	2124 4		20333 0
	TOTAL	231 7	12095 1	6698 6	2183 3		20977 0
2 1 3 ENVIRONMENT/HEALTH		6 0	266 2		5 6		271 8
2 1 4 ENVIRONMENT/ECONOMY		9 0	433 6	122 5			556 1
	TOTAL	15 0	699 8	122 5	5 6		827 9
3 1 2 KNOWLEDGEABLE DECISIONS		2 0	101 2	17 2			118 4
	TOTAL	2 0	101 2	17 2			118 4
GRAND TOTAL		248 7	12896 1	6838 3	2188 9		21923 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

CENTRAL REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		3998 1											3998 1
	1300		520 2											520 2
	1400								168 2					168 2
	2000		11989 6											11989 6
	3000	644 0	3825 1											4469 1
	TOTAL	644 0	20333 0						168 2					21145 2
4000	4100								103 6	452 1				555 7
	4600									104 0				104 0
	TOTAL								103 6	556 1				659 7
6000	6100											118 4		118 4
	TOTAL											118 4		118 4
GRAND TOTAL		644 0	20333 0						271 8	556 1		118 4		21923 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

CENTRAL REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		71 0											71 0
	1300		12 0											12 0
	1400								3 0					3 0
	2000		91 6											91 6
	3000	10 0	47 1											57 1
	TOTAL	10 0	221 7						3 0					234 7
4000	4100								3 0	7 0				10 0
	4600									2 0				2 0
	TOTAL								3 0	9 0				12 0
6000	6100											2 0		2 0
	TOTAL											2 0		2 0
GRAND TOTAL		10 0	221 7						6 0	9 0		2 0		246 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

CENTRAL REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		3628 7											3628 7
	1300		520 2											520 2
	1400								165 2					165 2
	2000		5248 7											5248 7
	3000	479 5	2218 0											2697 5
	TOTAL	479 5	11615 6						165 2					12263 3
4000	4100								95 0	339 9				437 9
	4600									93 7				93 7
	TOTAL								95 0	433 6				531 6
6000	6100											101 2		101 2
	TOTAL											101 2		101 2
GRAND TOTAL		479 5	11615 6						266 2	433 6		101 2		12596 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

CENTRAL REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		348 4											348 4
	1300													
	1400													
	2000		5061 7											5061 7
	3000	105 6	1162 9											1268 5
	TOTAL	105 6	6593 0											6698 6
4000	4100									112 2				112 2
	4600									10 3				10 3
	TOTAL									122 5				122 5
6000	6100											17 2		17 2
	TOTAL											17 2		17 2
GRAND TOTAL		105 6	6593 0							122 5		17 2		6838 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

CENTRAL REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		21 0											21 0
	1300													
	1400													
	2000		1679 2											1679 2
	3000	58 9	424 2											483 1
	TOTAL	58 9	2124 4											2183 3
4000	4100								5 6					5 6
	4600													
	TOTAL								5 6					5 6
6000	6100													
	TOTAL													
GRAND TOTAL		58 9	2124 4						5 6					2188 9

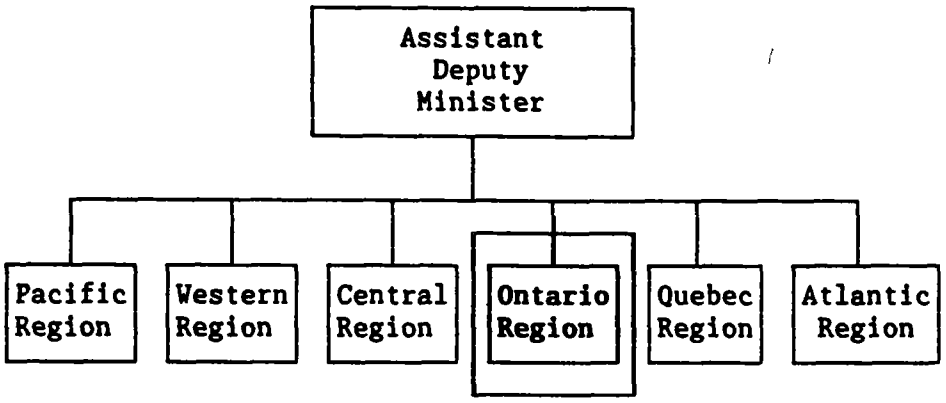
ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

CENTRAL REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100													
	1300													
	1400													
	2000													
	3000													
	TOTAL													
4000	4100													
	4600													
	TOTAL													
6000	6100													
	TOTAL													
GRAND TOTAL														

6.10 REGIONAL DIRECTORATES



6 10 1 FUNCTION OF THE ONTARIO REGION (197.4 PY, $14,137 5 K)

AES Ontario Region delivers weather, sea state, climate, air quality and other environmental services for the province of Ontario and the Great Lakes through four operational division Data Acquisition, Forecast Operations, Weather Services and Scientific Services These are assisted by three support divisions. Informatics & Systems, Human Resources, and Finance & Administration

The region is responsible for the delivery of these results

Weather, sea state, climate and air quality data are provided in Ontario and adjacent waters through cooperative networks with partners and volunteers Inspection & maintenance services, training, management of contracts is also provided,

The General Public in Ontario, marine clients on the Great Lakes & major inland waterways, aviation clients in Ontario, forestry and agricultural sectors in Ontario are aware of weather/sea state hazards and information through warnings and forecasts Central Region and Quebec Region issue the products for Northwestern Ontario and the National Capital Region, respectively,

Weather, sea state, climate, air quality and other environmental information services are provided via the media, via the telecommunications systems, via Weatheradio broadcasts, telephone, and personal briefings from fourteen weather offices, by the Scientific Services Division, via the Port Meteorological program and the distribution systems of other agencies such as the Coast Guard Some specialized services are provided on a cost recovery basis, for example, data sets,

Meteorological services (weather, air quality, marine) are provided in support of federal environmental emergency responses to air and water pollution events in Ontario and adjacent international waters;

Scientific studies and advice are provided concerning air quality, environmental impact assessment, climate change, energy, economic, agricultural and forestry issues in Ontario and adjacent waters in cooperation and consultation with other parts of Environment Canada, other government departments, the provincial government and academia

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

ONTARIO REGION

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800	MANAGEMENT & COMMON SUPPORT SERVICES							
1000	WEATHER SERVICES							
	1100 PUBLIC WEATHER SERVICES		62 5	3361 1	204 3	8 0		3573 4
	1200 MARINE WEATHER SERVICES		11 0	687 3	23 6			710 9
	1300 AVIATION WEATHER SERVICES		18 0	949 6	20 0			969 6
	1400 ECONOMIC WEATHER SERVICES		17 0	1027 4	26 0			1055 4
	2000 DATA ACQUISITION		31 0	1481 4	1561 1	379 3		3421 8
	3000 WEATHER SERVICES SUPPORT SYSTEMS		40 9	2264 1	855 6	340 3		3480 0
		TOTAL	180 4	9790 9	2692 6	727 6		13211 1
4000	CLIMATE SERVICES & RESEARCH							
	4100 CLIMATE SERVICES		10 0	455 0	127 4	13 5		595 9
	4600 CLIMATE SERVICES SUPPORT SYSTEMS		3 0	127 5	30 8	8 5		166 8
		TOTAL	13 0	582 5	158 2	22 0		762 7
5000	ICE SERVICES							
6000	AIR QUALITY SERVICES & RESEARCH							
	6100 AIR QUALITY SERVICES & RESEARCH		3 0	104 7	5 0			109 7
	6300 AIR QUALITY RESEARCH		1 0	54 0				54 0
		TOTAL	4 0	155 7	5 0			163 7
GRAND TOTAL			197 4	10532 1	2855 8	749 6		14137 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
ONTARIO REGION

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 1	CANADIANS ARE AWARE	3 0	182 6	122 4	59 2		364 2
1 1 2	CANADIANS ARE WARNED	163 4	6724 8	2645 2	681 9		12051 9
	TOTAL	166 4	8907 4	2767 6	741 1		12416 1
2 1 3	ENVIRONMENT/HEALTH	17 0	1027 4	28 0			1055 4
2 1 4	ENVIRONMENT/ECONOMY	10 0	438 6	55 2	8 5		502 3
	TOTAL	27 0	1466 0	83 2	8 5		1557 7
3 1 2	KNOWLEDGEABLE DECISIONS	4 0	158 7	5 0			163 7
	TOTAL	4 0	158 7	5 0			163 7
GRAND TOTAL		197 4	10532 1	2855 6	749 6		14137 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

ONTARIO REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		3573 4											3573 4
	1200		710 9											710 9
	1300		969 6											969 6
	1400								1055 4					1055 4
	2000		3421 6											3421 6
	3000	364 2	3115 8											3460 0
	TOTAL	364 2	11791 5						1055 4					13211 1
4000	4100		260 4							335 5				595 9
	4600									166 8				166 8
	TOTAL		260 4							502 3				762 7
6000	6100											109 7		109 7
	6300											54 0		54 0
	TOTAL											163 7		163 7
GRAND-TOTAL		364 2	12051 9						1055 4	502 3		163 7		14137 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

ONTARIO REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		62 5											62 5
	1200		11 0											11 0
	1300		18 0											18 0
	1400								17 0					17 0
	2000		31 0											31 0
	3000	3 0	37 9											40 9
	TOTAL	3 0	160 4						17 0					180 4
4000	4100		3 0							7 0				10 0
	4600									3 0				3 0
	TOTAL		3 0							10 0				13 0
6000	6100											3 0		3 0
	6300											1 0		1 0
	TOTAL											4 0		4 0
GRAND TOTAL		3 0	163 4						17 0	10 0		4 0		197 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

ONTARIO REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		3361 1											3361 1
	1200		687 3											687 3
	1300		949 6											949 6
	1400								1027 4					1027 4
	2000		1481 4											1481 4
	3000	182 6	2101 5											2284 1
	TOTAL	182 6	8550 9						1027 4					9790 9
4000	4100		143 9							311 1				455 0
	4600									127 5				127 5
	TOTAL		143 9							438 6				582 5
6000	6100											104 7		104 7
	6300											54 0		54 0
	TOTAL											158 7		158 7
GRAND TOTAL		182 6	8724 8						1027 4	138 6		158 7		10532 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

ONTARIO REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		204 3											204 3
	1200		23 6											23 6
	1300		20 0											20 0
	1400								28 0					28 0
	2000		1561 1											1561 1
	3000	122 4	733 2											855 6
	TOTAL	122 4	2542 2						28 0					2692 6
4000	4100		103 0							24 4				127 4
	4600									30 8				30 8
	TOTAL		103 0							55 2				158 2
6000	6100											5 0		5 0
	6300													
	TOTAL											5 0		5 0
GRAND TOTAL		122 4	2645 2						28 0	55 2		5 0		2855 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

ONTARIO REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		8 0											8 0
	1200													
	1300													
	1400													
	2000		379 3											379 3
	3000	59 2	281 1											340 3
	TOTAL	59 2	668 4											727 6
4000	4100		13 5											13 5
	4600									8 5				8 5
	TOTAL		13 5							8 5				22 0
6000	6100													
	6300													
	TOTAL													
GRAND TOTAL		59 2	681 9							8 5				749 6

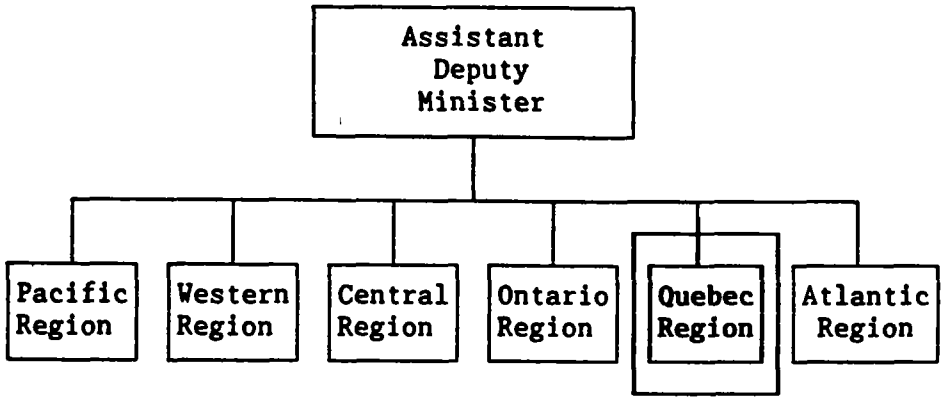
ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

ONTARIO REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100													
	1200													
	1300													
	1400													
	2000													
	3000													
	TOTAL													
4000	4100													
	4600													
	TOTAL													
6000	6100													
	6300													
	TOTAL													
GRAND TOTAL														

6 11 REGIONAL DIRECTORATES



6.11.1 FUNCTION OF THE QUEBEC REGION (204 4 PY, $16,998 1 K)

Quebec Region provides weather services to the Province of Quebec, to a portion of eastern Ontario and to Baffin Island It has four divisions

Data Acquisition Division
- provides weather data to AES forecasting systems and to Canada Climate programs through a network of upper-air, surface and automated stations
- ensures that meteorological instruments are maintained and calibrated
- trains volunteer and contract station observers

Weather Forecasting Division
- prepares and issues all forecasts for Quebec Region
- provides certain weather services to the media and general public
- issues regional weather warnings to the public, aviation, shipping and other users

Weather Services Division
- provides weather information to Quebec Region through weather bulletins in newspapers, TV and radio broadcasts, and Weatheradio Canada, and in response to requests for information made by telephone or in person at AES offices
- sees that regional needs for meteorological services are met

Scientific Services Division
- studies regional meteorological problems related to agriculture, forestry, air quality, energy applications and hydrometeorology, and studies the regional impact of climate change on these activities
- co-ordinates AES participation in the assessment of environmental impacts
- controls the quality of climatological data in the region and provides them to users

ATMOSPHERIC ENVIRONMENT SERVICE

1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

QUEBEC REGION

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES	67 0	3812 5	248 7	292 9		4354 1
	1200	MARINE WEATHER SERVICES	2 0	136 1				136 1
	1300	AVIATION WEATHER SERVICES	25 5	1390 9	397 6	0 7		1789 2
	1400	ECONOMIC WEATHER SERVICES	4 0	268 6				268 6
	2000	DATA ACQUISITION	50 0	2732 5	2643 7	595 1		5971 3
	3000	WEATHER SERVICES SUPPORT SYSTEMS	49 9	2270 5	1069 3	222 8		3562 6
		TOTAL	198 4	10611 1	4359 3	1111 5		16061 9
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	3 5	185 5	475 0			660 5
		TOTAL	3 5	185 5	475 0			660 5
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6100	AIR QUALITY SERVICES & RESEARCH	1 5	64 0				64 0
	6300	AIR QUALITY RESEARCH	1 0	51 2	106 1	14 4		171 7
		TOTAL	2 5	135 2	106 1	14 4		255 7
GRAND TOTAL			204 4	10931 5	4940 4	1125 9		16998 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
QUEBEC REGION

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2 CANADIANS ARE WARNED		194 4	10342 5	4359 3	1111 5		15813 3
	TOTAL	194 4	10342 5	4359 3	1111 5		15813 3
2 1 3 ENVIRONMENT/HEALTH		7 5	454 1	475 0			929 1
	TOTAL	7 5	454 1	475 0			929 1
3 1 2 KNOWLEDGEABLE DECISIONS		2 5	135 2	106 1	14 4		255 7
	TOTAL	2 5	135 2	106 1	14 4		255 7
GRAND TOTAL		204 4	10931 8	4940 4	1125 9		16998 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

QUEBEC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		4354 1											4354 1
	1200		136 1											136 1
	1300		1789 2											1789 2
	1400								268 6					268 6
	2000		5971 3											5971 3
	3000		3562 6											3562 6
	TOTAL		15813 3						268 6					16081 9
4000	4100								660 5					660 5
	TOTAL								660 5					660 5
6000	6100											84 0		84 0
	6300											171 7		171 7
	TOTAL											255 7		255 7
GRAND TOTAL			15813 3						929 1			255 7		16998 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

QUEBEC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		67 0											67 0
	1200		2 0											2 0
	1300		25 5											25 5
	1400								4 0					4 0
	2000		50 0											50 0
	3000		49 9											49 9
	TOTAL		194 4						4 0					198 4
4000	4100								3 5					3 5
	TOTAL								3 5					3 5
6000	6100											1 5		1 5
	6300											1 0		1 0
	TOTAL											2 5		2 5
GRAND TOTAL			194 4						7 5			2 5		204 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

QUEBEC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		3812 5											3812 5
	1200		136 1											136 1
	1300		1390 9											1390 9
	1400								268 6					268 6
	2000		2732 5											2732 5
	3000		2270 5											2270 5
	TOTAL		10342 5						268 6					10611 1
4000	4100								185 5					185 5
	TOTAL								185 5					185 5
6000	6100											84 0		84 0
	6300											51 2		51 2
	TOTAL											135 2		135 2
GRAND TOTAL			10342 5						454 1			135 2		10931 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

QUEBEC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		248 7											246 7
	1200													
	1300		397 6											397 6
	1400													
	2000		2643 7											2643 7
	3000		1069 3											1069 3
	TOTAL		4359 3											4359 3
4000	4100								475 0					475 0
	TOTAL								475 0					475 0
6000	6100													
	6300											106 1		106 1
	TOTAL											106 1		106 1
GRAND TOTAL			4359 3						475 0			106 1		4940 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

QUEBEC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		292 9											292 9
	1200													
	1300		0 7											0 7
	1400													
	2000		595 1											595 1
	3000		222 8											222 8
	TOTAL		1111 5											1111 5
4000	4100													
	TOTAL													
6000	6100													
	6300											14 4		14 4
	TOTAL											14 4		14 4
GRAND TOTAL			1111 5									14 4		1125 9

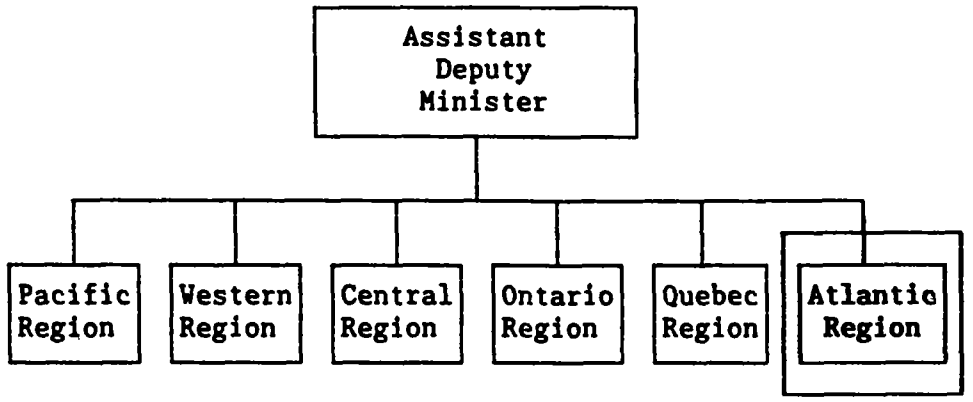
ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

QUEBEC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100													
	1200													
	1300													
	1400													
	2000													
	3000													
	TOTAL													
4000	4100													
	TOTAL													
6000	6100													
	6300													
	TOTAL													
GRAND TOTAL														

6 12 REGIONAL DIRECTORATES



6 12 1 FUNCTION OF THE ATLANTIC REGION (222 2 PY, $16,875 7 K)

The Atlantic Region of AES provides Weather services to Canadians in the provinces of Prince Edward Island, New Brunswick, Nova Scotia, and Newfoundland (including Labrador) as well as their adjacent waters The Atlantic Region has four operational divisions

Data Acquisition - Collects weather data as inputs to the AES forecast operation systems and the Canadian climate programs through a network of upper air stations, surface weather stations, meteorological buoys, automatic weather stations, climate stations, and voluntary ships Provides other environmental data on air quality, acid rain, etc Ensures that meteorological instruments are properly maintained and calibrated as well as trains volunteer and contract weather observers

Forecast Operations - Produces weather warnings and weather forecasts at the Maritimes Weather Centre in Bedford, N S and the Newfoundland Weather Centre in Gander, Newfoundland for Atlantic Canada and adjacent waters The forecasts are prepared for use by the public, aviation, marine, and various other interests

Weather Services - Ensures that the need for weather services of Atlantic Canada and adjacent waters are being met through a network of Weather Offices providing consultation to users Provides weather information to Atlantic Canadians using the regional Weatheradio Network, the media, telephones and personal contacts. Provides meteorological support during Environmental Emergencies

Scientific Services - Conducts studies into regional meteorological problems related to agriculture, forestry, air quality, energy applications and hydrometeorology Conducts studies of the regional impact of climate change and provides consultative services to the public on the impacts of climate change Conducts air quality and atmospheric chemistry studies for the Atlantic Region and provides consultation services to the public on air quality and atmospheric chemistry matters. Acts as the focal point for regional environmental assessment Provides climatological services to users and controls the quality of climatological data in the Atlantic Region

ATMOSPHERIC ENVIRONMENT SERVICE

1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

ATLANTIC REGION

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	1100	PUBLIC WEATHER SERVICES	103 6	5927 7	508 3	5 8		6441 8
	1200	MARINE WEATHER SERVICES	10 0	547 8	135 4			683 2
	1300	AVIATION WEATHER SERVICES	18 0	949 1	34 1			983 2
	1400	ECONOMIC WEATHER SERVICES	1 0	44 9				44 9
	2000	DATA ACQUISITION	29 6	1573 2	2127 0	963 7		4683 9
	3000	WEATHER SERVICES SUPPORT SYSTEMS	45 0	2153 0	763 4	177 0		3113 4
		TOTAL	207 2	11195 7	3586 2	1166 5		15950 4
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	7 0	336 1	138 5			474 6
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	6 0	327 1	4 9			332 0
		TOTAL	13 0	663 2	143 4			806 6
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6100	AIR QUALITY SERVICES & RESEARCH	2 0	110 9				110 9
	6300	AIR QUALITY RESEARCH			7 8			7 8
		TOTAL	2 0	110 9	7 8			118 7
GRAND TOTAL			222 2	11969 8	3739 4	1166 5		16575 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
ATLANTIC REGION

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2 CANADIANS ARE WARNED		201 2	10926 0	3371 6	1166 5		15464 1
	TOTAL	201 2	10926 0	3371 6	1166 5		15464 1
2 1 4 ENVIRONMENT/ECONOMY		21 0	1043 8	367 8			1411 6
	TOTAL	21 0	1043 8	367 8			1411 6
GRAND TOTAL		222 2	11969 8	3739 4	1166 5		16875 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

ATLANTIC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		6441 8											6441 8
	1200		683 2											683 2
	1300		983 2											983 2
	1400		44 9											44 9
	2000		4197 6							486 3				4683 9
	3000		3113 4											3113 4
	TOTAL		15464 1							486 3				15950 4
4000	4100									474 6				474 6
	4600									332 0				332 0
	TOTAL									806 6				806 6
6000	6100									110 9				110 9
	6300									7 8				7 8
	TOTAL									118 7				118 7
GRAND TOTAL			15464 1							1411 6				16875 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

ATLANTIC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		103 6											103 6
	1200		10 0											10 0
	1300		18 0											18 0
	1400		1 0											1 0
	2000		23 6							6 0				29 6
	3000		45 0											45 0
	TOTAL		201 2							6 0				207 2
4000	4100									7 0				7 0
	4600									6 0				6 0
	TOTAL									13 0				13 0
6000	6100									2 0				2 0
	6300													
	TOTAL									2 0				2 0
GRAND TOTAL			201 2							21 0				222 2

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

ATLANTIC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		5927 7											5927 7
	1200		547 8											547 8
	1300		949 1											949 1
	1400		44 9											44 9
	2000		1303 5							269 7				1573 2
	3000		2153 0											2153 0
	TOTAL		10926 0							269 7				11195 7
4000	4100									336 1				336 1
	4600									327 1				327 1
	TOTAL									663 2				663 2
6000	6100									110 9				110 9
	6300													
	TOTAL									110 9				110 9
GRAND TOTAL			10926 0							1043 8				11969 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

ATLANTIC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		508 3											508 3
	1200		135 4											135 4
	1300		34 1											34 1
	1400													
	2000		1910 4							216 6				2127 0
	3000		783 4											783 4
	TOTAL		3371 6							216 6				3588 2
4000	4100									138 5				138 5
	4600									4 9				4 9
	TOTAL									143 4				143 4
6000	6100													
	6300									7 8				7 8
	TOTAL									7 8				7 8
GRAND TOTAL			3371 6							367 5				3739 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

ATLANTIC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100		5 8											5 8
	1200													
	1300													
	1400													
	2000		983 7											983 7
	3000		177 0											177 0
	TOTAL		1166 5											1166 5
4000	4100													
	4600													
	TOTAL													
6000	6100													
	6300													
	TOTAL													
GRAND TOTAL			1166 5											1166 5

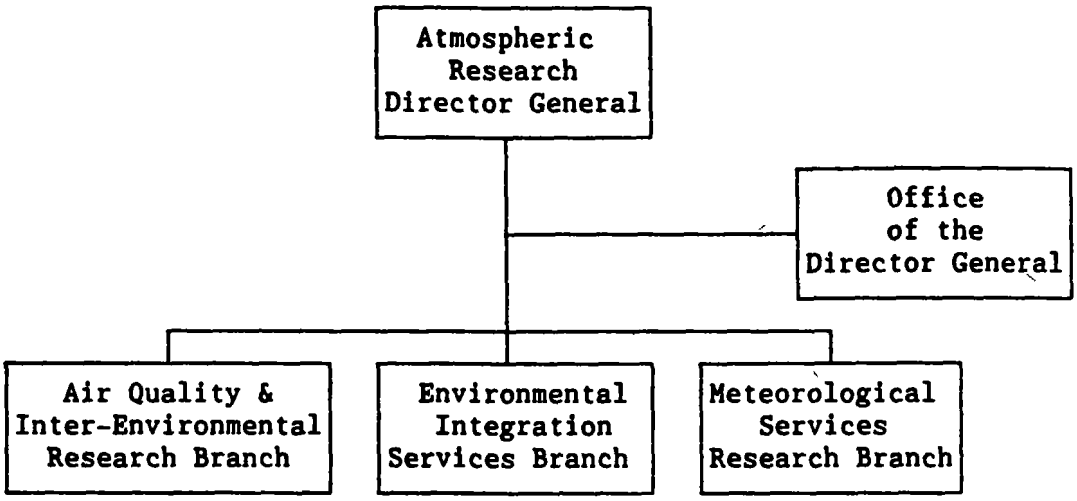
ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

ATLANTIC REGION

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	1100													
	1200													
	1300													
	1400													
	2000													
	3000													
	TOTAL													
4000	4100													
	4600													
	TOTAL													
6000	6100													
	6300													
	TOTAL													
GRAND TOTAL														

6 13 ATMOSPHERIC RESEARCH DIRECTORATE



6 13 1 FUNCTIONS ATMOSPHERIC RESEARCH DIRECTORATE (182 1 PY, $22,118 4 K)

Offices of the Director General and Research Policy and Planning
(6 5 PY, $4,038 9 K)

These offices provide the following services

- executive and management direction for ARD,
- long-term direction to Service programs,
- ensures scientific representation of AES nationally and internationally;
- manages Post-Graduate Scholarships, Visiting Fellowships and Science Subventions for AES; and
- coordinates the management of the AES Scientific Research Group

Air Quality and Inter-Environmental Research Branch
(92 4 PY, $11,524 5 K)

This Branch analyzes the atmospheric chemical and physical environment as it relates to environmental (air) quality This is done by measuring (to ascertain the extent and quality), by studying processes (to understand the method of operation), through integration (combining parts into a whole) and through the provision of services A major part of these efforts has been in support of the Long-Range Transport of Air Pollutants (LRTAP) program, and to monitor and study the stratospheric ozone layer. Currently, the Branch is shifting some attention toward assessing the significance of the transport and deposition of toxic chemicals, exploring the linkage between atmospheric composition and climate change, and studying the process of smog formation

Environmental Integration Services Branch (5 0 PY, $270 0 K)

This Branch is responsible for the coordination of federal and provincial research projects on acid rain, ground-level ozone and associated LRTAP issues, and provides advice to policy-makers

Meteorological Services Research Branch (78 2 PY, $6,285 0 K)

This Branch carries out research and development in support of the prediction services of the AES for weather, sea-state, ice and other environmental elements

The Aerospace Meteorology Division develops techniques for using meteorological satellite data in AES weather services To accomplish this task the division carries out research on assimilation of satellite data into numerical weather prediction models, radiative transfer modeling for remote sensing, and automated analysis of satellite images.

La Division de la Recherche en Prevision Numérique located in Dorval, Quebec develops numerical weather forecasting models in support of the forecasting operations at the Canadian Meteorological Centre

Forecast Research Division develops statistical/dynamical models and procedures for forecasting various weather elements and environmental parameters such as sea-state, ice and ice-related variables Also, the Division participates in the development and evaluation of automated systems to support the weather services function of the AES

The Cloud Physics Research Division is involved in many different cloud related projects including: studying techniques for detection of severe weather using Doppler Weather Radar, conducting mesoscale field projects to improve our understanding of storm systems, studying cloud chemical processes important to the deposition and redistribution of atmospheric pollutants, and quantifying the impact of clouds on our climate and their role in climate change. This Division also administers the Weather Modification Information Act

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

ATMOSPHERIC RESEARCH DIRECTORATE

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	3000	WEATHER SERVICES SUPPORT SYSTEMS	72 6	4128 1	1182 3	864 0		6174 4
		TOTAL	72 6	4128 1	1182 3	864 0		6174 4
4000		CLIMATE SERVICES & RESEARCH						
	4500	CLIMATE RESEARCH AND DEVELOPMENT	5 5	371 6	26 3	326 0		725 9
		TOTAL	5 5	371 6	26 3	328 0		725 9
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6100	AIR QUALITY SERVICES & RESEARCH	6 5	432 8	410 5			843 3
	6300	AIR QUALITY RESEARCH	85 6	4500 5	4912 3	1603 1		11015 9
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES	9 9	476 7	1026 7	1041 5	794 0	3336 9
		TOTAL	104 0	5430 0	6349 5	2644 6	794 0	15216 1
GRAND TOTAL			182 1	9929 7	7556 1	3836 6	794 0	22116 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
ATMOSPHERIC RESEARCH DIRECTORATE

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2	CANADIANS ARE WARNED	75 0	4256 9	1386 9	864 0		6507 8
1 2 2	POLLUTION WARNING	2 0	132 1	67 1			199 2
	TOTAL	77 0	4389 0	1454 0	864 0		6707 0
2 1 1	REDUCE GAP	65 8	3475 0	3604 1	1934 7		9013 8
	TOTAL	65 8	3475 0	3604 1	1934 7		9013 8
3 1 2	KNOWLEDGEABLE DECISIONS	39 3	2065 7	2500 0	1037 9	794 0	6397 6
	TOTAL	39 3	2065 7	2500 0	1037 9	794 0	6397 6
GRAND TOTAL		182 1	9929 7	7556 1	3836 6	791 0	22116 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

OFFICE OF THE DIRECTOR GENERAL-ARD

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	3000	WEATHER SERVICES SUPPORT SYSTEMS				345 0		345 0
		TOTAL				345 0		345 0
4000		CLIMATE SERVICES & RESEARCH						
	4500	CLIMATE RESEARCH AND DEVELOPMENT				173 8		173 8
		TOTAL				173 8		173 8
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6300	AIR QUALITY RESEARCH	1 0			747 0		747 0
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES	5 5	316 6	644 4	1025 9	764 0	2773 1
		TOTAL	6 5	316 6	644 4	1772 9	764 0	3520 1
GRAND TOTAL			6 5	316 6	644 4	2291 7	764 0	4036 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
OFFICE OF THE DIRECTOR GENERAL-ARD

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2	CANADIANS ARE WARNED	2 4	126 6	204 6	345 0		676 4
	TOTAL	2 4	126 6	204 6	345 0		676 4
2 1 1	REDUCE GAP	2 9	108 9	337 4	920 6		1367 1
	TOTAL	2 9	108 9	337 4	920 6		1367 1
3 1 2	KNOWLEDGEABLE DECISIONS	1 2	81 1	102 4	1025 9	764 0	1993 4
	TOTAL	1 2	81 1	102 4	1025 9	764 0	1993 4
GRAND TOTAL		6 5	316 6	644 4	2291 7	764 0	4036 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

ENVIRONMENTAL INTEGRATION SERV BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6300	AIR QUALITY RESEARCH	5 0	267 6		2 4		270 0
		TOTAL	5 0	267 6		2 4		270 0
GRAND TOTAL			5 0	267 6		2 4		270 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
ENVIRONMENTAL INTEGRATION SERV BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
3 1 2	KNOWLEDGEABLE DECISIONS	5 0	267 6		2 4		270 0
	TOTAL	5 0	267 6		2 4		270 0
GRAND TOTAL		5 0	267 6		2 4		270 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

METEOROLOGICAL SERVICES RESEARCH BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	3000	WEATHER SERVICES SUPPORT SYSTEMS	72 6	4128 1	1182 3	519 0		5829 4
		TOTAL	72 6	4128 1	1182 3	519 0		5829 4
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6300	AIR QUALITY RESEARCH	5 6	273 4	170 2	12 0		455 6
		TOTAL	5 6	273 4	170 2	12 0		455 6
GRAND TOTAL			78 2	4401 5	1352 5	531 0		6285 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
METEOROLOGICAL SERVICES RESEARCH BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2	CANADIANS ARE WARNED	72 6	4128 1	1182 3	519 0		5829 4
1 2 2	POLLUTION WARNING	1 0	68 2	41 3			109 5
	TOTAL	73 6	4196 3	1223 6	519 0		5938 9
2 1 1	REDUCE GAP	4 6	205 2	128 9	12 0		346 1
	TOTAL	4 6	205 2	128 9	12 0		346 1
GRAND TOTAL		78 2	4401 5	1352 5	531 0		6285 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

AIR QUALITY & INTER-ENVIRONMENTAL RESEARCH BR

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
	4500	CLIMATE RESEARCH AND DEVELOPMENT	5 5	371 6	26 3	154 2		552 1
		TOTAL	5 5	371 6	26 3	154 2		552 1
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
	6100	AIR QUALITY SERVICES & RESEARCH	8 5	452 8	410 5			863 3
	6300	AIR QUALITY RESEARCH	74 0	3959 5	4742 1	841 7		9543 3
	6700	AIR QUALITY & RESEARCH SUPPORT SERVICES	4 4	157 9	362 3	15 6	10 0	565 8
		TOTAL	86 9	4570 2	5534 9	857 3	10 0	10972 4
GRAND TOTAL			92 4	4941 5	5561 2	1011 5	10 0	11524 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
AIR QUALITY & INTER-ENVIRONMENTAL RESEARCH BR

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 2 2	POLLUTION WARNING	1 0	63 9	25 8			89 7
	TOTAL	1 0	63 9	25 8			89 7
2 1 1	REDUCE GAP	56 3	3160 9	3137 8	1001 9		7300 6
	TOTAL	56 3	3160 9	3137 8	1001 9		7300 6
3 1 2	KNOWLEDGEABLE DECISIONS	33 1	1717 0	2397 6	9 6	10 0	4134 2
	TOTAL	33 1	1717 0	2397 6	9 6	10 0	4134 2
GRAND TOTAL		92 4	4941 5	5561 2	1011 5	10 0	11524 5

1991 - 92 Budget

ATMOSPHERIC RESEARCH DIRECTORATE

6 13.2

BY ORGANIZATIONAL UNIT

	PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
OFFICE OF THE DIRECTOR GENERAL-ARD	6 5	318 8	644 4	2291 7	784 0	4038 9
ENVIRONMENTAL INTEGRATION SERV BRANCH	5 0	267 6		2 4		270 0
AIR QUALITY & INTER-ENVIRONMENTAL RESEARCH	92 4	4941 8	5561 2	1011 5	10 0	11524 5
METEOROLOGICAL SERVICES RESEARCH BRANCH	78 2	4401 5	1352 5	531 0		6285 0
ARD TOTAL	182 1	9929 7	7558 1	3836 6	794 0	22118 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

ATMOSPHERIC RESEARCH DIRECTORATE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	3000		6174 4											6174 4
	TOTAL		6174 4											6174 4
4000	4500						725 9							725 9
	TOTAL						725 9							725 9
6000	6100					89 7						773 6		863 3
	6300					109 5	7555 8					3350 6		11015 9
	6700		333 4				732 1					2273 4		3338 9
	TOTAL		333 4			199 2	8287 9					6397 6		15218 1
GRAND TOTAL			6507 8			199 2	9013 8					6397 6		22118 4

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

ATMOSPHERIC RESEARCH DIRECTORATE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	3000		72 6											72 6
	TOTAL		72 6											72 6
4000	4500						5 5							5 5
	TOTAL						5 5							5 5
6000	6100					1 0						7 5		5 5
	6300					1 0	56 2					28 4		85 6
	6700		2 4				4 1					3 4		9 9
	TOTAL		2 4			2 0	60 3					39 3		104 0
GRAND TOTAL			75 0			2 0	65 5					39 3		152 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

ATMOSPHERIC RESEARCH DIRECTORATE

Sa1	Sa2	1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	2 1.1	2 1.2	2.1 3	2.1 4	3.1 1	3 1.2	3.1.3	TOTA
1000	3000		4128.1											41
	TOTAL		4128.1											4128
4000	4500						371 6							371.
	TOTAL						371.6							371 6
6000	6100					63 9						388.9		452.
	6300					68 2	2915 5					1516 8		45 5
	6700		128 8				187 9					160 0		476
	TOTAL		128.8			132 1	3103.4					2065.7		54
GRAND TOTAL			4256 9			132.1	3475.0					2065.7		9929 7

O&M BY SA1, SA2 AND SUB-RESULTS

ATMOSPHERIC RESEARCH DIRECTORATE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAI
1000	3000		1182 3											1182 3
	TOTAL		1182 3											1182
4000	4500						26 3							26
	TOTAL						26 3							26
6000	6100					25 8						384 7		410 5
	6300					41 3	3049 2					1821 6		4912 3
	6700		204 6				528 6					293 5		1026 7
	TOTAL		204 6			67 1	3577 8					2500 0		6349 5
GRAND TOTAL			1386 9			67 1	3604 1					2500 0		7555 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

ATMOSPHERIC RESEARCH DIRECTORATE

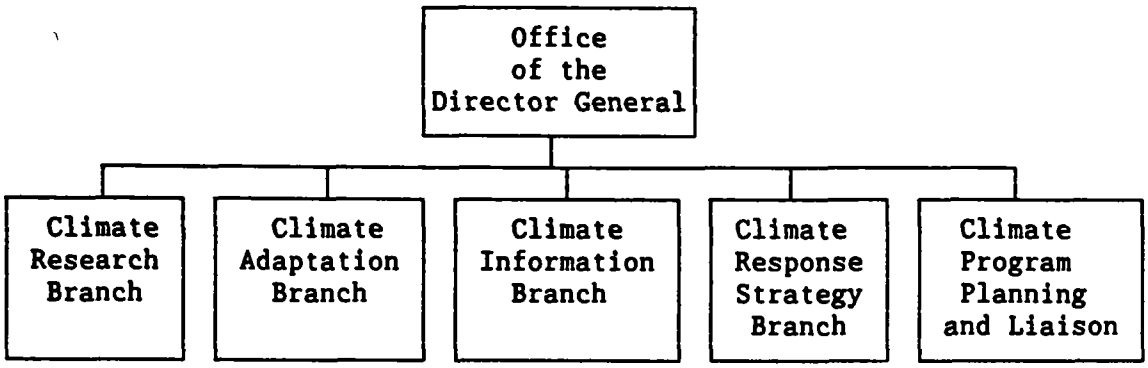
Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	3000		864 0											864 0
	TOTAL		864 0											864 0
4000	4500						328 0							328 0
	TOTAL						328 0							328 0
6000	6100													
	6300						1591 1					12 0		1603 1
	6700						15 6					1025 9		1041 5
	TOTAL						1606 7					1037 9		2644 6
GRAND TOTAL			864 0				1934 7					1037 9		3836 6

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

ATMOSPHERIC RESEARCH DIRECTORATE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
1000	3000													
	TOTAL													
4000	4500													
	TOTAL													
6000	6100													
	6300													
	6700											794 0		794 0
	TOTAL											794 0		794 0
GRAND TOTAL												794 0		794 0

6 14 CANADIAN CLIMATE CENTRE



6 14 1 FUNCTIONS THE CANADIAN CLIMATE CENTRE (141 6 PY, $12,444 9 K)

The Canadian Climate Centre was organized in 1978 to provide a focus for climate activity in Canada The Centre consists of the office of the Director General which includes the Chief Scientist, Senior Climatologist and a Director of Natural and Human Sciences Integration, other units of the centre comprise of a Climate Research Branch, a Climate Adaptation Branch, a Climate Information Branch, a Climate Response Strategy Branch and a Climate Program Planning and Liaison Division

Office of the Director General (13 1 PY, $1,789 1 K)

- provides the executive scientific direction and management of the Canadian Climate Centre,
- promotes understanding and awareness of the weather and climate of Canada;
- ensures effective scientific programs,
- provides leadership in execution of a Great Lakes Pilot Project, and
- promotes understanding and awareness of the weather and climate of Canada

Climate Research Branch (32 PY, $2,393 0 K)

This Branch consists of a Director's Office which includes a Special Projects unit focusing on remote sensing issues, and three Divisions

1. Climate Modeling and Diagnostic studies·
   - undertakes modeling research to gain knowledge of climate system, climate variability and climate change, and
   - conducts climate diagnostic studies.

2 Hydrometeorological Processes Research:
   - undertakes research to improve understanding of physical processes within the hydrological cycle, and
   - conducts investigations into climate variability and change and impacts on water resources on the Prairies

3. Extended Range Forecast Research·
   - conducts research to increase understanding of climate forecasting over monthly and seasonal time scales

Climate Adaptation Branch (41 5 PY, $3,215 7 K)

This Branch consists of a Directors Office and six sections·

1. Data Integration·
   - develops and provides integrated data sets containing conventional and non-conventional data, and
   - develops tools to provide spatial distribution of climate parameters.

2. Climate Change Detection
   - issues annual reports on State of Canadian Climate, and
   - conducts studies on Canadian climate including variability and trends

3 Water Resources and Marine Adaptation
   - develops and promotes use of hydrometeorological and marine climate data for safe operations, and
   - analyses and interprets climate and water resources data to improve management of water resources

4 Industrial Adaptation.
   - develops and provides information to industrial and energy sectors to develop building and safety codes, and
   - provides climatic information to support building energy efficiency analyses and energy analyses

5 Bioclimate Adaptation·
   - determines the relationship between climate and the biosphere, and
   - conducts adaptation studies in agriculture and forestry

6 Arctic Adaptation
   - analyses arctic climate and climate related processes to assess climate change impacts on health and safety, and
   - identifies adaptative activities to promote safe operations

Climate Information Branch (48 PY, $4,316 3 K)

This Branch consists of a Director's office and six sections

1 Data Management:
- quality controls and archives meteorological information, and
- maintains documentation on past and present observing stations

2. System Development and Implementation
- develops, implements and maintains software systems to improve the operation and accessibility of the National Climate Archive

3 Network Data and Standards·
- develops climate network and data standards to assure integrity of archived data

4 Forecasting and Real-time Reporting
- produces monthly climate forecasts (temperature), and
- monitors developing climate trends and distributes information

5 Products and Publications·
- provides access to digital and paper archives,
- generates standard climate reports, and
- produces and makes available publications and specialized products

6 Development Climatology
- develops new climate publications and products for use by a variety of users, and
- supports and maintains standard software used to access climate information

Climate Response Strategy Branch (7 0 PY, $730 8 K)

This Branch is comprised of an office of the Director, advisor of global warming and staff examining adaptive, and limitation strategies Its responsibilities include influencing and collaborating with other government departments and agencies to establish and implement adaptive and limitation strategies on climate change, educating Canadians on the impact of their actions on the environment and advising the Department on build up and trends of greenhouse gases

Climate Program Planning and Liaison Division

This Division's role is to ensure coordination and planning of Climate Services and Research Program, nationally and internationally to provide the secretariat for the various climate program committees, and to manage climate change impact studies as part of the Canadian Climate Program

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CANADIAN CLIMATE CENTRE

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	89 5	4353 4	1172 3	2006 3		7532 0
	4500	CLIMATE RESEARCH AND DEVELOPMENT	29 0	1565 1	360 0	195 9		2141 0
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	12 1	640 2	221 1	137 5		998 8
	4700	CLIMATE SERVICES PLANNING	4 0	271 1	750 0	21 2		1042 3
	4800	CLIMATE RESPONSE STRATEGIES	7 0	359 9	318 0	52 9		730 8
		TOTAL	141 6	7209 7	2821 4	2413 8		12444 9
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			141 6	7209 7	2521 4	2413 8		12444 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CANADIAN CLIMATE CENTRE

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 3	SAFE DESIGN	16 0	844 7	446 0	84 7		1375 4
	TOTAL	16 0	844 7	446 0	84 7		1375 4
2 1 1	REDUCE GAP	20 0	1091 5	300 0	132 4		1523 9
2 1 2	KNOWLEDGE/INFORMATION/VALUE	7 0	366 4	600 0	21 2		1169 6
2 1 3	ENVIRONMENT/HEALTH	1 0	58 8	55 0	33 0		146 8
2 1 4	ENVIRONMENT/ECONOMY	73 1	3451 2	671 3	1936 2		6060 7
	TOTAL	101 1	4969 9	1626 3	2124 8		8921 0
3 1 1	AWARE ACTIVITIES THREAT	1 0	54 9	20 0			74 9
3 1 2	KNOWLEDGEABLE DECISIONS	23 5	1340 2	529 1	204 3		2073 6
	TOTAL	24 5	1395 1	549 1	204 3		2148 5
GRAND TOTAL		141 6	7209 7	2521 4	2413 5		12444 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

OFFICE OF THE DIRECTOR GENERAL-CCC

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	9 1	520 7	150 0	76 1		746 8
	4700	CLIMATE SERVICES PLANNING	4 0	271 1	750 0	21 2		1042 3
		TOTAL	13 1	791 8	900 0	97 3		1789 1
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			13 1	791 8	900 0	97 3		1789 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
OFFICE OF THE DIRECTOR GENERAL-CCC

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
2 1 2	KNOWLEDGE/INFORMATION/VALUE	3 0	203 5	725 0			926 5
2 1 4	ENVIRONMENT/ECONOMY	6 1	269 8	100 0	76 1		445 9
	TOTAL	9 1	473 3	825 0	76 1		1374 4
3 1 2	KNOWLEDGEABLE DECISIONS	4 0	318 5	75 0	21 2		414 7
	TOTAL	4 0	318 5	75 0	21 2		414 7
GRAND TOTAL		13 1	791 8	900 0	97 3		1789 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CLIMATE ADAPTATION BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	41 5	2165 2	797 3	253 2		3215 7
		TOTAL	41 5	2165 2	797 3	253 2		3215 7
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			41 5	2165 2	797 3	253 2		3215 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CLIMATE ADAPTATION BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 3	SAFE DESIGN	16 0	844 7	446 0	64 7		1375 4
	TOTAL	16 0	844 7	446 0	64 7		1375 4
2 1 2	KNOWLEDGE/INFORMATION/VALUE	4 0	164 9	75 0	21 2		261 1
2 1 3	ENVIRONMENT/HEALTH	1 0	58 6	55 0	33 0		146 6
2 1 4	ENVIRONMENT/ECONOMY	19 0	993 2	196 3	109 0		1295 5
	TOTAL	24 0	1216 9	326 3	163 2		1706 4
3 1 2	KNOWLEDGEABLE DECISIONS	1 5	103 6	25 0	5 3		133 9
	TOTAL	1 5	103 6	25 0	5 3		133 9
GRAND TOTAL		41 5	2165 2	797 3	253 2		3215 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CLIMATE RESEARCH BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
	4500	CLIMATE RESEARCH AND DEVELOPMENT	29 0	1565 1	360 0	195 9		2141 0
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	3 0	119 5	71 1	61 4		252 0
		TOTAL	32 0	1704 6	431 1	257 3		2393 0
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			32 0	1704 6	431 1	257 3		2393 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CLIMATE RESEARCH BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
2 1 1	REDUCE GAP	20 0	1091 5	300 0	132 4		1523 9
	TOTAL	20 0	1091 5	300 0	132 4		1523 9
3 1 2	KNOWLEDGEABLE DECISIONS	12 0	613 1	131 1	124 9		869 1
	TOTAL	12 0	613 1	131 1	124 9		869 1
GRAND TOTAL		32 0	1704 6	431 1	257 3		2393 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CLIMATE RESPONSE STRATEGY BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
	4800	CLIMATE RESPONSE STRATEGIES	7 0	359 9	318 0	52 9		730 8
		TOTAL	7 0	359 9	318 0	52 9		730 8
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			7 0	359 9	318 0	52 9		730 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CLIMATE RESPONSE STRATEGY BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
3 1 1	AWARE ACTIVITIES THREAT	1 0	54 9	20 0			74 9
3 1 2	KNOWLEDGEABLE DECISIONS	6 0	305 0	298 0	52 9		655 9
	TOTAL	7 0	359 9	318 0	52 9		730 8
GRAND TOTAL		7 0	359 9	318 0	52 9		730 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CLIMATE INFORMATION BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	48 0	2188 2	375 0	1753 1		4316 3
		TOTAL	48 0	2188 2	375 0	1753 1		4316 3
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			48 0	2188 2	375 0	1753 1		4316 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CLIMATE INFORMATION BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
2 1 4	ENVIRONMENT/ECONOMY	48 0	2188 2	375 0	1753 1		4316 3
	TOTAL	48 0	2188 2	375 0	1753 1		4316 3
GRAND TOTAL		48 0	2188 2	375 0	1753 1		4316 3

1991- 92 Budget

CANADIAN CLIMATE CENTRE

BY ORGANIZATIONAL UNIT

($000)

	PY	SALARY	O&M	CAPITAL	G&C	TOTAL
OFFICE OF THE DIRECTOR GENERAL-CCC	13 1	791 8	900 0	97 3		1789 1
CLIMATE RESEARCH BRANCH	32 0	1704 6	431 1	257 3		2393 0
CLIMATE ADAPTATION BRANCH	41 5	2165 2	797 3	253 2		3215 7
CLIMATE RESPONSE STRATEGY BRANCH	7 0	359 9	315 0	52 9		730 8
CLIMATE INFORMATION BRANCH	46 0	2166 2	375 0	1753 1		4316 3
CCC TOTAL	141 6	7209 7	2621 4	2413 6		12444 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

CANADIAN CLIMATE CENTRE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
4000	4100			1375 4				261 1	146 8	5614 8		133 9		7532 0
	4500						1523 9					617 1		2141 0
	4600							67 4		445 9		485 5		998 8
	4700							861 1				181 2		1042 3
	4800										74 9	655 9		730 8
	TOTAL			1375 4			1523 9	1189 6	146 8	6060 7	74 9	2073 6		12444 9
GRAND TOTAL				1375 4			1523 9	1189 6	146 8	6060 7	74 9	2073 6		12444 9

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

CANADIAN CLIMATE CENTRE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
4000	4100			16 0				4 0	1 0	67 0		1 5		69 5
	4500						20 0					9 0		29 0
	4600							1 0		6 1		5 0		12 1
	4700							2 0				2 0		4 0
	4800										1 0	6 0		7 0
	TOTAL			16 0			20 0	7 0	1 0	73 1	1 0	23 5		141 6
GRAND TOTAL				16 0			20 0	7 0	1 0	73 1	1 0	23 5		141 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

CANADIAN CLIMATE CENTRE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
4000	4100			844 7				164 9	58 8	3181 4		103 6		4353 4
	4500						1091 5					493 6		1585 1
	4600							67 4		269 8		303 0		640 2
	4700							136 1				135 0		271 1
	4800										54 9	305 0		359 9
	TOTAL			844 7			1091 5	368 4	58 8	3451 2	54 9	1340 2		7209 7
GRAND TOTAL				844 7			1091 5	368 4	58 8	3451 2	54 9	1340 2		7209 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

CANADIAN CLIMATE CENTRE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
4000	4100			446 0				75 0	55 0	571 3		25 0		1172 3
	4500						300 0					60 0		360 0
	4600									100 0		121 1		221 1
	4700							725 0				25 0		750 0
	4800										20 0	296 0		316 0
	TOTAL			446 0			300 0	800 0	55 0	671 3	20 0	529 1		2621 4
GRAND TOTAL				446 0			300 0	800 0	55 0	671 3	20 0	529 1		2621 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

CANADIAN CLIMATE CENTRE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
4000	4100			84 7				21 2	33 0	1862 1		5 3		2006 3
	4500						132 4					63 5		195 9
	4600									76 1		61 4		137 5
	4700											21 2		21 2
	4800											52 9		52 9
	TOTAL			84 7			132 4	21 2	33 0	1938 2		204 3		2413 6
GRAND TOTAL				84 7			132 4	21 2	33 0	1938 2		204 3		2413 6

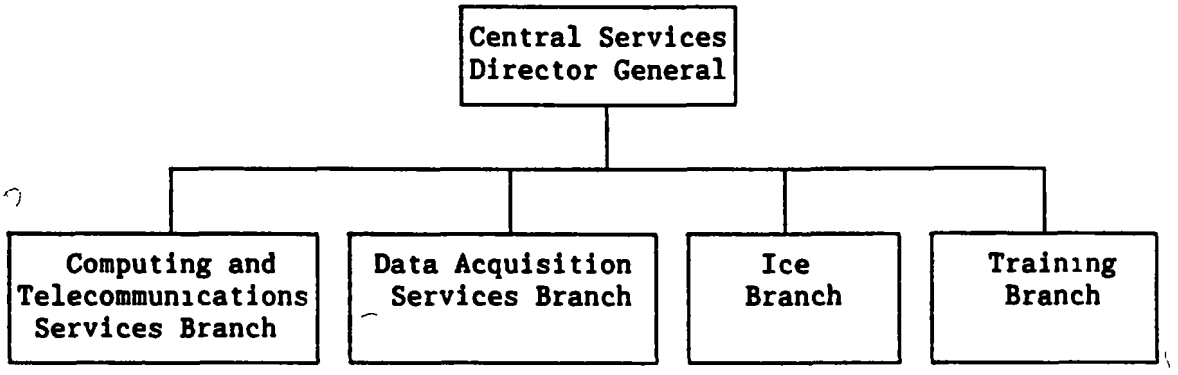
ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

CANADIAN CLIMATE CENTRE

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
4000	4100													
	4500													
	4600													
	4700													
	4800													
	TOTAL													
GRAND TOTAL														

6 15 CENTRAL SERVICES DIRECTORATE



6 15.1 FUNCTIONS CENTRAL SERVICES DIRECTORATE (314 0 PY, $60,637 5 K)

This Directorate is responsible for information and advisory services on sea ice distribution, computing and telecommunications services, technical and professional training, and the centralized design, implementation and sustenance of data acquisition systems The Directorate has four Branches, each of which is responsible for one of the services listed above The Director General is the Chairman of the AES Program Advisory Committee on Computers and Communications

Computing and Telecommunications Services Branch
(111.0 PY, $23,280 6 K)

- plans, designs and operates AES' national EDP and the telecommunications facilities, and
- ensures that AES has the EDP, information-processing, telecommunication services and facilities to meet current and future requirements

Within this Branch, there are three Divisions·

1) The Centre d'Informatique de Dorval·
   - co-located with the Canadian Meteorological Centre in Dorval, operates the national computation facilities for all AES programs,
   - operates CRAY X-MP 4/16 computer system, along with extensive support computers and peripherals, and
   - provides centralized computing services to AES and other government departments and selected academic users

2) Operational Systems Division
   - manages, operates and maintains AES national telecommunications systems,
   - operates a Hitachi Data System XL-60 computer system to provide computing and user services primarily to support the Canadian Climate Centre and other users at AES Downsview, and
   - operates the central satellite receiving station

3) Planning & Development Division:
   - develops plans, manages development projects and co-ordinates activities to ensure that AES's needs for EDP and telecommunications services are satisfied

Data Acquisition Services Branch (74 0 PY, $8,294 1 K)

- responsible for the planning, design, specification and standards, procurement, implementation and operational support of measurement systems for meteorological and related environmental conditions in support of all AES services

There are four Divisions and one Section reporting to the Director, all located in Downsview

1) Technology Division
   - develops and evaluates prototype meteorological sensors and systems for AES operational networks and research programs,
   - develops specifications and standards to meet observing systems requirements,
   - investigates new technologies applicable to the AES data acquisition systems, and
   - tests and evaluates new meteorological instrumentation systems

2) Implementation Division
   - plans and manages projects for implementation of new and replacement data acquisition systems, and
   - supports new and/or replacement procurements (including Stores inventory)

3) Operational Data Acquisition Systems Division
   - develops and promulgates national standards and documentation for installation and maintenance for the Service's Data Acquisition Services equipment,
   - arranges for the national maintenance program for data acquisition systems,
   - coordinates "life cycle" management activities for data acquisition systems,
   - provides specialized support such as emergency maintenance services, and
   - provides technical training for field personnel of AES and co-operating agencies

4) Quality Assurance Division
   - provides quality assurance services for procurement of instruments, systems and related services.

5) Data Acquisition Systems Planning Section·
   - Coordinates the design, development, preparation, and revision of the AES Meteorological Data Acquisition Plan;
   - plans and organizes the preparation of strategic alternatives for meeting objectives in the meteorological data acquisition plan, and
   - prepares and provides consultation on policy documents related to meteorological data acquisition systems

Ice Branch (63 0 PY, $23,801 8 K)

- responsible for the provision of sea ice information for all Canadian territorial and adjacent ocean areas;
- provides daily and seasonal ice forecasts to shipping interests in ice waters;
- prepares ice climatology reports;
- supplies climatological ice information to users upon request,
- maintains an ice data archive, and
- conducts research into new and improved techniques for ice data collection and analysis

There are six Divisions in the Branch Four of the Divisions (Ice Forecasting, Ice Program Planning and Development, Ice Climatology & Applications and Ice Research) are located in Ottawa and are commonly referred to as Ice Centre Environment Canada (ICEC) The Director's Office and the Ice Reconnaissance Division are located in Downsview

1) Ice Forecast Division.
   - provides analyses and forecasts of ice distribution, type, movement and development, and
   - provides daily and seasonal ice forecasts to various users, including the Canadian Coast Guard icebreaker fleet, the Canadian Oil and Gas Lands Administration (COGLA), marine transportation interests, fishermen and offshore resource development interests

2) Ice Climatology & Applications Division
   - develops and maintains the ice data archive,
   - supplies climatological ice information and prepares reports, and
   - provides advice on ice climatology application to varied users such as marine engineers and designers, naval architects, scientists in varied fields such as geophysics, environment and fisheries

3) Ice Program Planning and Development Division
   - manages sub-projects to implement the Expanded Ice Information Services Project (EIISP), and
   - provides engineering expertise for the design, specification, acquisition and implementation of ice data acquisition systems

4) Ice Reconnaissance Division·
   - provides observations of the distribution and type of sea ice from aerial ice reconnaissance, ship reports, shore reports and satellites

5) Ice Research & Development Division·
   - develops models, methods and procedures for making optimum use of remote sensing in the ice programs, and
   - participates in international projects for improving research & development activities respecting sea ice with the main emphasis on remote sensing

Training Branch (64 0 PY, $3,925 3 K)

Training Branch manages training and development strategies and activities that assist people in attaining the knowledge and skills necessary for excellent job performance

There are two training divisions, a training coordination and a training support unit in the Branch

1) Professional Training Division
   - develops and implements initial, upgrading and specialized training programs for operational meteorologists Programs are delivered in Toronto, Montreal, through workshops in regional offices and by distance learning activities Division staff participate in research activities that impact the work and training of operational meteorologists.

2) Technical Training Division
   - provides meteorological training programs for AES, MOT and DND personnel at the Transport Canada Training Institute in Cornwall and at regional weather offices

3) Training Coordination Unit facilitates the Branch training programs by
   - recruiting university and high school graduates,
   - administrating the Service Studentship program,
   - conducting task, knowledge and skills analyses,
   - coordinating Service participation in other training programs, and
   - providing a English and French editing service

4) Training Support Unit facilitates the Branch training programs by providing
   - administrative and word processing services,
   - computer support service,
   - audio-visual service; and
   - graphic art service

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

CENTRAL SERVICES DIRECTORATE

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	2000	DATA ACQUISITION	73 0	3549 9	310.9	4381 2	0 0	8242 0
	3000	WEATHER SERVICES SUPPORT SYSTEMS	144 0	7232 0	14945 7	2501 4	96.0	24775 1
		TOTAL	217 0	10781.9	15256 6	6882 6	96 0	33017 1
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	1 0	50 0	2 1			52 1
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	33 0	1536 8	2229 7			3766 5
		TOTAL	34 0	1586 8	2231.8			3818 6
5000		ICE SERVICES						
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION	18 9	1209 3	13052 1	92.6		14354 0
	5200	ICE ANALYSIS AND FORECASTING	28 6	1927 6	2422 6	1129 7		5479 9
	5300	ICE CLIMATE SERVICES	4 0	235.8	163.3	187 2		5 3
	5400	ICE SERVICES SUPPORT SYSTEM	4 0	195 0	47 1	1 3		243 4
	5500	ICE SERV RESEARCH AND DEVELOPMENT	7 5	530 4	736.6	1871 2		3138 2
		TOTAL	63 0	4098 1	16421 7	3282 0		23801 8
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			314 0	16466 8	33910 1	10164 6	96 0	60637 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
CENTRAL SERVICES DIRECTORATE

RESULTS DEFINITION			($000) PY	SALARY	O&M	CAPITAL	G&C	TOTAL
1.1.2	CANADIANS ARE WARNED		278 1	14785 5	31605 6	10164.6	96.0	56651 7
1.1 3	SAFE DESIGN		0 9	53.0	74 8			127 8
		TOTAL	279 0	14838.5	31680.4	10164 6	96 0	56779 5
2 1 4	ENVIRONMENT/ECONOMY		35 0	1628 3	2229 7			3858 0
		TOTAL	35 0	1628 3	2229 7			3858 0
GRAND TOTAL			314 0	16466 8	33910 1	10164 6	96 0	60637 5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

DATA ACQUISITION SERVICES BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	2000	DATA ACQUISITION	73 0	3549 9	310 9	4381 2	0 0	8242 0
		TOTAL	73 0	3549 9	310 9	4381 2	0 0	8242 0
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	1.0	50 0	2 1			52 1
		TOTAL	1 0	50 0	2 1			52.1
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			74 0	3599 9	313 0	4381 2	0 0	8294 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

TRAINING BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	3000	WEATHER SERVICES SUPPORT SYSTEMS	64.0	3253.8	389 6	185.9	96.0	3925.3
		TOTAL	64 0	3253 8	389 6	185 9	96.0	3925.3
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			64 0	3253 8	389 6	185 9	96 0	3925 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
TRAINING BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1 2	CANADIANS ARE WARNED	62 0	3162 3	389 6	185 9	96 0	3833 8
	TOTAL	62.0	3162 3	389 6	185 9	96 0	3833 8
2 1.4	ENVIRONMENT/ECONOMY	2.0	91.5				91.5
	TOTAL	2 0	91 5				91 5
GRAND TOTAL		64 0	3253 8	389 6	185 9	96 0	3925 3

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

OFFICE OF DIRECTOR GENERAL-CSD

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	3000	WEATHER SERVICES SUPPORT SYSTEMS	2 0	168.2	1164.4	3.1		1335.7
		TOTAL	2.0	168.2	1164.4	3.1		1335 7
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			2.0	168 2	1164 4	3.1		1335.7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
OFFICE OF DIRECTOR GENERAL-CSD

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1 2	CANADIANS ARE WARNED	2.0	168.2	1164.4	3 1		1335 7
	TOTAL	2 0	168 2	1164 4	3.1		1335.7
GRAND TOTAL		2.0	168.2	1164.4	3 1		1335 7

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

COMPUTING & TELECOMMUNICATIONS SYSTEMS BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	3000	WEATHER SERVICES SUPPORT SYSTEMS	78 0	3810.0	13391.7	2312.4		19514 1
		TOTAL	78.0	3810 0	13391.7	2312 4		19514.1
4000		CLIMATE SERVICES & RESEARCH						
	4600	CLIMATE SERVICES SUPPORT SYSTEMS	33 0	1536 8	2229 7			3766.5
		TOTAL	33 0	1536 8	2229 7			3766 5
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			111.0	5346 8	15621 4	2312 4		23280 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
COMPUTING & TELECOMMUNICATIONS SYSTEMS BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1.2	CANADIANS ARE WARNED	78 0	3810 0	13391 7	2312 4		19514 1
	TOTAL	78 0	3810 0	13391 7	2312 4		19514 1
2 1.4	ENVIRONMENT/ECONOMY	33 0	1536.8	2229 7			3766 5
	TOTAL	33 0	1536 8	2229 7			3766 5
GRAND TOTAL		111.0	5346 8	15621 4	2312 4		23280 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

DATA ACQUISITION SERVICES BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
	2000	DATA ACQUISITION	73.0	3549.9	310 9	4381 2	0 0	8242.0
		TOTAL	73.0	3549.9	310 9	4381.2	0.0	8242 0
4000		CLIMATE SERVICES & RESEARCH						
	4100	CLIMATE SERVICES	1.0	50 0	2.1			52.1
		TOTAL	1 0	50 0	2 1			52.1
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			74 0	3599.9	313.0	4381 2	0.0	8294.1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
DATA ACQUISITION SERVICES BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1 2	CANADIANS ARE WARNED	74 0	3599 9	313 0	4381 2	0 0	8294 1
	TOTAL	74 0	3599 9	313.0	4381 2	0 0	8294 1
GRAND TOTAL		74 0	3599 9	313 0	4381.2	0 0	8294 1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

ICE SERVICES BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
	5100	ICE RECONNAISSANCE AND DATA ACQUISITION	18 9	1209 3	13052 1	92 6		14354 0
	5200	ICE ANALYSIS AND FORECASTING	28.6	1927.6	2422 6	1129 7		5479 9
	5300	ICE CLIMATE SERVICES	4 0	235.8	163 3	187.2		586 3
	5400	ICE SERVICES SUPPORT SYSTEM	4 0	195 0	47 1	1.3		243.4
	5500	ICE SERV RESEARCH AND DEVELOPMENT	7.5	530 4	736.6	1871.2		3138.2
		TOTAL	63 0	4098 1	16421 7	3282 0		23801.8
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			63 0	4098 1	16421 7	3282 0		23801 8

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
ICE SERVICES BRANCH

RESULTS DEFINITION		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1.2	CANADIANS ARE WARNED	62 1	4045 1	16346 9	3282 0		23674.0
1.1 3	SAFE DESIGN	0 9	53 0	74.8			127.8
	TOTAL	63 0	4098 1	16421 7	3282 0		23801 8
GRAND TOTAL		63 0	4098.1	16421 7	3282 0		23801 8

1991 - 92 Budget

CENTRAL SERVICES DIRECTORATE

6.15.2

BY ORGANIZATIONAL UNIT

($000)

	FY	SALARY	O&M	CAPITAL	G&C	TOTAL
DATA ACQUISITION SERVICES BRANCH	74.0	3599 9	313 0	4381.2	0.0	8294.1
OFFICE OF DIRECTOR GENERAL-CSD	2.0	168.2	1164.4	3.1		1 .7
TRAINING BRANCH	64.0	3253 8	389 6	185.9	96 0	3925.3
COMPUTING & TELECOMMUNICATIONS SYSTEMS	111 0	5346 8	15621 4	2312.4		23280.6
ICE SERVICES BRANCH	63 0	4098.1	16421 7	3282.0		23801 8
CSD TOTAL	314 0	16466 8	33910 1	10164 6	96 0	60637.5

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

CENTRAL SERVICES DIRECTORATE

Sa1	Sa2	1.1.1	1.1.2	1.1.3	1.2.1	1.2 2	2.1.1	2.1.2	2.1.3	2 1.4	3.1.1	3.1.2	3.1.3	TOTAL
1000	2000		8242.0											8242.0
	3000		24683.6							91.5				24775.1
	TOTAL		32925.6							91.5				33017.1
4000	4100		52.1											52.1
	4600									3766.5				31 .5
	TOTAL		52.1							3766 5				3818.6
5000	5100		14354.0											14354 0
	5200		5479 9											5479.9
	5300		458.5	127.8										586.3
	5400		243.4											243 4
	5500		3138 2											3138 2
	TOTAL		23674 0	127.8										23801 8
GRAND TOTAL			56651 7	127 8						3858 0				60637 5

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

CENTRAL SERVICES DIRECTORATE

Sa1	Sa2	1 1 1	1 1 2	1 1.3	1.2.1	1.2 2	2.1 1	2.1.2	2.1.3	2 1 4	3.1 1	3 1 2	3 1 3	TOTAL
1000	2000		73 0											73.0
	3000		142 0							2.0				144 0
	TOTAL		215.0							2.0				217 0
4000	4100		1.0											1 0
	4600									33 0				33 0
	TOTAL		1.0							33 0				34 0
5000	5100		18 9											18 9
	5200		28 6											28 6
	5300		3.1	0 9										4 0
	5400		4 0											4 0
	5500		7 5											7 5
	TOTAL		62 1	0 9										63 0
GRAND TOTAL			278 1	0.9						35 0				314 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

CENTRAL SERVICES DIRECTORATE

Sa1	Sa2	1.1.1	1.1 2	1.1.3	1.2.1	1 2.2	2.1.1	2 1 2	2.1.3	2.1.4	3 1.1	3 1.2	3 1.3	TOTAL
1000	2000		3549.9											3549 9
	3000		7140.5							91.5				7232.0
	TOTAL		10690.4							91.5				10781.9
4000	4100		50.0											.0
	4600									1536.8				1[illegible] .8
	TOTAL		50.0							1536.8				1[illegible] 8
5000	5100		1209 3											1 .3
	5200		1927 6											1927.6
	5300		182.8	53 0										.8
	5400		195.0											1 .0
	5500		530 4											[illegible] .4
	TOTAL		4045 1	53.0										4 .1
GRAND TOTAL			14785.5	53 0						1628 3				16466 8

O&M BY SA1, SA2 AND SUB-RESULTS

CENTRAL SERVICES DIRECTORATE

Sa1	Sa2	1 1 1	1.1.2	1 1 3	1 2.1	1 2 2	2 1 1	2 1 2	2 1.3	2.1.4	3 1 1	3 1.2	3 1 3	TOTAL
1000	2000		310.9											310.9
	3000		14945.7											14945.7
	TOTAL		15256.6											15256.6
4000	4100		2 1											2.1
	4600									2229 7				2229 7
	TOTAL		2.1							2229.7				2231 8
5000	5100		13052.1											13052 1
	5200		2422.6											2422 6
	5300		88 5	74 8										163.3
	5400		47 1											47 1
	5500		736 6											1 .6
	TOTAL		16346.9	74 8										16421 7
GRAND TOTAL			31605.6	74 8						2229 7				33910.1

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

CENTRAL SERVICES DIRECTORATE

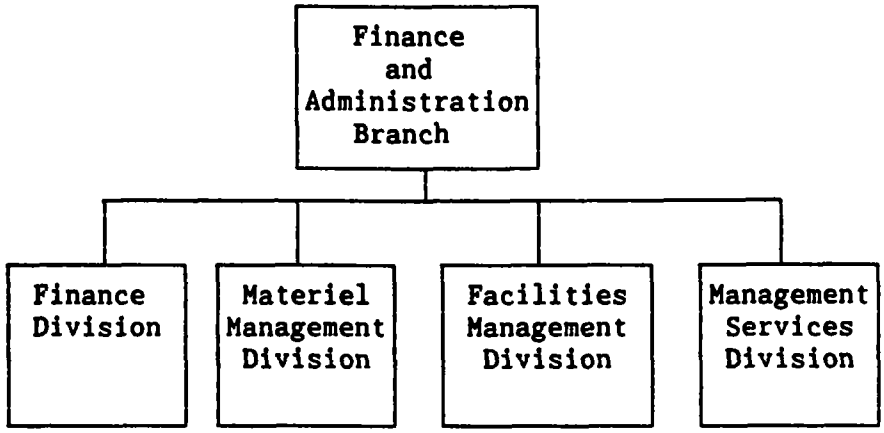
Sa1	Sa2	1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	2.1.1	2 1 2	2 1.3	2.1.4	3.1.1	3.1.2	3.1 3	TOTAL
1000	2000		4381.2											4381.2
	3000		2501.4											2501.4
	TOTAL		6882 6											6882.6
4000	4100													
	4600													
	TOTAL													
5000	5100		92 6											92 6
	5200		1129 7											1129 7
	5300		187.2											187.2
	5400		1.3											1.3
	5500		1871.2											1871.2
	TOTAL		3282.0											3282.0
GRAND TOTAL			10164.6											10164.6

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

CENTRAL SERVICES DIRECTORATE

Sa1	Sa2	1 1 1	1.1 2	1.1 3	1 2 1	1 2 2	2 1.1	2 1 2	2 1 3	2 1 4	3 1 1	3 1.2	3 1 3	TOTAL
1000	2000		0 0											0.0
	3000		96 0											96 0
	TOTAL		96 0											96.0
4000	4100													
	4600													
	TOTAL													
5000	5100													
	5200													
	5300													
	5400													
	5500													
	TOTAL													
GRAND TOTAL			96.0											96 0

6 16 FINANCE AND ADMINISTRATION BRANCH



6 16 1 FUNCTIONS FINANCE AND ADMINISTRATION BRANCH (109 2 PY, $13,527 0 K)

This branch supports all AES results and ensures that AES has the expertise, policies, procedures and systems to manage physical, financial and information resources to achieve all AES results Functional direction, advice and services are provided to headquarters elements and regions As well the Branch serves as a focal point for the implementation of concepts inherent in Comptrollership There are four divisions

1) Finance Division
Ensures that AES has financial information, accounting services and expert advice by

- Developing and implementing financial planning and management policies, procedures and systems including those relating to the results management plan,
- Ensuring, with the Policy, Planning and Assessment Directorate, that both financial and planning systems incorporate adequate linkage between resource plans and program objectives, goals and outputs,
- Providing guidance and advice on financial matters to senior management,
- Coordinating and reporting on the preparation of Treasury Board submissions including those relating to the Green Plan and resulting from the Internal Review Committee decisions
- Processing and paying all invoices and providing accounting services to AES headquarters;
- Preparing and submitting Treasury Board Multi-Year Operational Plan and Main Estimates financial data and providing a functional lead for MYOP update and parts II and III of Estimates,
- Preparing work plan allocations and budget data and recommending changes to the ADM,
- Analyzing and outlining the financial status of the AES and recommending to ADMA and AMC, corrective action, and
- Ensuring that the AES accounting and financial information systems function effectively

2) Material Management Division
Ensures that AES has meteorological/research equipment, materiel, supplies and services where and when needed by·
- Developing related Service policies, procedures and systems,
- Providing procedural recommendations and advice on supply matters,
- Providing functional lead for the Material-In-Use system, Stores, Inventory Management system, Fleet Management, disposal, Procurement and Contracting;
- Purchasing, storing and distributing special meteorological instruments, equipment and supplies; and
- coordinating the annual Eastern Arctic resupply for Environment Canada

3) Facilities Management Division
Ensuring that AES has real property, facilities and access to office technology systems within a secure work environment by
- Developing AES policies and procedures and providing support services in accommodation, real property, security, parking, accessibility and telecommunication matters;
- Providing functional guidance to regional offices on facilities matters,
- Serving as Program Area coordinator for facilities, non-meteorological furniture and equipment;
- Coordinating major construction projects at the service level; and
- Providing the lead for security for the service in the area of information, personnel, EDP and physical security

4) Management Services Division
Ensures that AES has access to the world's meteorological literature and to AES correspondence and that AES has a safe and healthy work environment which recognizes the participation of employees and promotes equity of participation by
- Providing policy, procedural and system recommendations and advice on general administration matters,
- Developing policies and provides procedural recommendations and advice on the management of information;
- Acquiring and making available for reference and loan a collection of books, journals and other resource material,
- Providing support services to AES in records management, mail, publications, cartography, health and safety and information distribution
- Coordinating the planning, implementation and monitoring of activities for the Incentive Awards Program, and
- Administering the Access to Information and Privacy Program

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

FINANCE AND ADMINISTRATION BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
	0810	MANAGEMENT	2.0	280.0	51.4	73.8		.2
	0830	COMMON SUPPORT SERVICES	71.9	3042.4	4045.0	2196 9		9284.3
		TOTAL	73.9	3322.4	4096.4	2270 7		9689.5
1000		WEATHER SERVICES						
	3000	WEATHER SERVICES SUPPORT SYSTEMS	35.3	2285 5	357.0		1195.0	3837.5
		TOTAL	35.3	2285.5	357.0		1195 0	3837.5
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			109 2	5607 9	4453 4	2270 7	1195.0	13527 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
FINANCE AND ADMINISTRATION BRANCH

RESULTS DEFINITION			PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1.1.2		CANADIANS ARE WARNED	88 0	4814 3	3188.2	2102.6	1195.0	11300 1
		TOTAL	88 0	4814 3	3188 2	2102.6	1195.0	11300.1
2.1.3		ENVIRONMENT/HEALTH	9.6	382.8	617 5			1000 3
		TOTAL	9.6	382.8	617 5			1000 3
3.1.2		KNOWLEDGEABLE DECISIONS	11.6	410.8	647.7	168.1		1226 6
		TOTAL	11.6	410.8	647 7	168 1		1226 6
GRAND TOTAL			109 2	5607.9	4453 4	2270 7	1195 0	13527 0

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

FINANCE AND ADMINISTRATION BRANCH

Sa1	Sa2	1.1.1	1.1.2	1.1 3	1.2 1	1.2.2	2 1.1	2.1 2	2.1 3	2.1.4	3 1 1	3 1 2	3.1 3	TOTAL
0800	0810		405.2											4 .2
	0830		7057.4						1000.3			1226.6		9284.3
	TOTAL		7462.6						1000 3			1226.6		9689 5
1000	3000		3837 5											3837 5
	TOTAL		3837 5											3837.5
GRAND TOTAL			11300 1						1000 3			1226.6		13527.0

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

FINANCE AND ADMINISTRATION BRANCH

Sa1	Sa2	1 1.1	1.1.2	1 1 3	1 2.1	1 2.2	2 1.1	2.1 2	2.1 3	2 1.4	3 1.1	3.1.2	3 1.3	TOTAL
0800	0810		2 0											2.0
	0830		50.7						9 6			11 6		71.9
	TOTAL		52 7						9.6			11.6		73 9
1000	3000		35 3											3
	TOTAL		35 3											35 3
GRAND TOTAL			88 0						9 6			11 6		1 2

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

SALARY BY SA1, SA2 AND SUB-RESULTS

FINANCE AND ADMINISTRATION BRANCH

Sa1	Sa2	1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	2.1.1	2 1 2	2.1.3	2.1.4	3 1 1	3.1.2	3 1.3	TOTAL
0800	0810		280.0											0
	0830		2248 8						382.8			410.8		3042.4
	TOTAL		2528.8						382 8			410.8		3322.4
1000	3000		2285.5											.5
	TOTAL		2285.5											2285.5
GRAND TOTAL			4814 3						382 8			410 8		1 9

O&M BY SA1, SA2 AND SUB-RESULTS

FINANCE AND ADMINISTRATION BRANCH

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1.2 1	1 2 2	2 1 1	2 1 2	2.1 3	2 1 4	3.1 1	3.1 2	3 1.3	TOTAL
0800	0810		51 4											51 4
	0830		2779.8						617 5			647 7		4045 0
	TOTAL		2831 2						617.5			647 7		4 4
1000	3000		357 0											1 0
	TOTAL		357.0											1.0
GRAND TOTAL			3188.2						617 5			647.7		4453 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

CAPITAL BY SA1, SA2 AND SUB-RESULTS

FINANCE AND ADMINISTRATION BRANCH

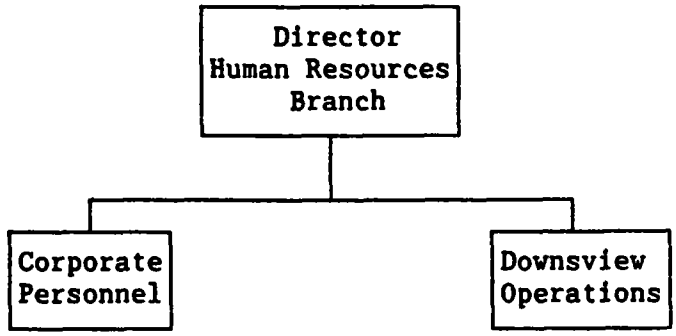
Sa1	Sa2	1.1.1	1.1.2	1.1.3	1.2.1	1.2.2	2.1.1	2 1.2	2.1.3	2.1.4	3.1.1	3.1 2	3 1 3	TOTAL
0800	0810		73.8											73 8
	0830		2028.8									168.1		21
	TOTAL		2102.6									168.1		2270
1000	3000													
	TOTAL													
GRAND TOTAL			2102.6									168.1		2270.

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

FINANCE AND ADMINISTRATION BRANCH

Sa1	Sa2	1.1.1	1.1 2	1 1 3	1 2 1	1 2.2	2 1 1	2 1.2	2 1 3	2.1.4	3 1 1	3.1 2	3 1 3	TOTA
0800	0810													
	0830													
	TOTAL													
1000	3000		1195 0											1195 0
	TOTAL		1195.0											11
GRAND TOTAL			1195 0											11

6.17 HUMAN RESOURCES BRANCH



6 17 1 Human Resources Branch (41 4 PY, $3,300 6 K)

This Branch provides Human Resources services to the AES Headquarters components, Regions and the Canadian Forces Weather Service (CFWS), either directly or functionally, and participates in the Personnel Management Planning activity of AES It consists of two components, Corporate Personnel and Downsview Operations Corporate Personnel consists of four divisions which are responsible for providing support to management on the implementation of the AES strategic plan, co-ordinating national programs and activities, and providing specialist advice to the operational components Downsview Operations provides service to AES Headquarters units The Regional Human Resources Offices report directly to the Regional Director General; functional direction is provided by the Human Resources Branch

Corporate Personnel

1) Human Resources Division·
   - provides advice and guidance in application of policies concerning staffing, recruitment, human resources planning, employment equity, and training and development,
   - co-ordinates and administers all executive staffing, redeployment and development,
   - develops the Service human resource planning framework, incorporating initiatives to support implementation of the Strategic Plan and the Green plan,
   - provides advice and guidance on workforce adjustment and attendant issues and priorities,
   - co-ordinates the management of the meteorologist population, including recruitment of meteorologists on a national basis,
   - establishes Service recruitment policies and formal career progression plans for meteorological technicians and meteorologists,
   - plans, implements and evaluates Service management training and development and education leave programs,
   - develops action plans to attain the objectives of the Employment Equity Plan,
   - monitors and reports on the progress of the Service towards meeting the objectives of the Employment Equity Plan, and
   - manages the Employee Assistance Program and the Personal Harass nt Policy for the Service

2) Staff Relations and Compensation Division
   - manages the Service compensation program,
   - co-ordinates Service input to collective bargaining and serves as a member of the MT and EG negotiating teams,
   - investigates and co-ordinates replies to final level grievances and referrals to adjudication,
   - provides advice and guidance and ensures conformity in interpretations of collective agreements,
   - acts as the AES focal point on conflict of interest questions,
   - participates in and provides functional advice at Service-level UMCCs, Safety and Health Committee meetings and co-ordinates personnel-related issues;
   - provides guidance in the application of policies and on the administration of discipline;
   - administers the designation and exclusion process, and
   - when appropriate, co-ordinates the Service strike contingency planning activities, provides advice to Regional Chiefs, Human Resources and senior managers, and acts as two-way communication link between TB, DOE and Service

3) Classification and Official Languages Division
   - co-ordinates activities related to AES classification policy, guidelines and systems development;
   - co-ordinates activities related to classification of positions including advice and guidance, monitoring of the quality of decisions, control of standards application and relativity,
   - reviews the validity of classification standards, with particular emphasis on the prime user standards, such as MT and EG, and manages the implementation of conversions,
   - co-ordinates the audit program, grievance administration and classification training,
   - recommends the Service framework for delegation of classification authorities,
   - ensures the consistent application of the delegation of classification authority,
   - develops action plans to attain the objectives of the Official Languages Program;
   - monitors and reports on the progress of the Service towards meeting the objectives of the Memorandum of Understanding on Official Languages;
   - investigates complaints,
   - provides French language revision and editing services,
   - co-ordinates translation services,
   - co-ordinates and administers language testing, and
   - administers the monitor program

4) Human Resource Management Information System
   - identifies AES's requirements for human resource information and develops plans to meet them,
   - develops and implements human resource reports;
   - designs and implements custom-tailored modules and programs for AES;
   - co-ordinates the implementation of on-line pay, office automation and HRMIS modules in all offices; and
   - provides technical support and training.

Downsview Operations·

- provides day-to-day personnel services, including classification, staffing, staff relations and pay and benefits, to employees at AES Headquarters

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY SUB-ACTIVITY (SA-1) AND SUB-SUB-ACTIVITY (SA-2)

HUMAN RESOURCES BRANCH

SA1	SA2		PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
0800		MANAGEMENT & COMMON SUPPORT SERVICES						
	0830	COMMON SUPPORT SERVICES	41 4	2760 4	508 6	31 6		3300 6
		TOTAL	41 4	2760 4	508 6	31 6		3300 6
1000		WEATHER SERVICES						
4000		CLIMATE SERVICES & RESEARCH						
5000		ICE SERVICES						
6000		AIR QUALITY SERVICES & RESEARCH						
GRAND TOTAL			41 4	2760 4	508 6	31 6		3300 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET BY RESULTS DEFINITION
HUMAN RESOURCES BRANCH

RESULTS DEFINITION			PY	SALARY	O&M	($000) CAPITAL	G&C	TOTAL
1 1 2	CANADIANS ARE WARNED		36 6	2454 4	460 1	31 6		2946 1
1 1 3	SAFE DESIGN		2 4	159 7	12 6			172 3
		TOTAL	39 2	2614 1	472 7	31 6		3118 4
2 1 4	ENVIRONMENT/ECONOMY		1 3	66 4	22 5			105 9
		TOTAL	1 3	66 4	22 5			105 9
3 1 2	KNOWLEDGEABLE DECISIONS		0 9	59 9	13 4			73 3
		TOTAL	0 9	59 9	13 4			73 3
GRAND TOTAL			41 4	2760 4	506 6	31 6		3300 6

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

TOTAL BUDGET BY SA1, SA2 AND SUB-RESULTS

HUMAN RESOURCES BRANCH

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0830		2946 1	172 3						108 9		73 3		3300 6
	TOTAL		2946 1	172 3						108 9		73 3		3300 6
GRAND TOTAL			2946 1	172 3						108 9		73 3		3300 6

PERSON YEARS BY SA1, SA2 AND SUB-RESULTS

HUMAN RESOURCES BRANCH

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0830		36 8	2 4						1 3		0 9		41 4
	TOTAL		36 8	2 4						1 3		0 9		41 4
GRAND TOTAL			36 8	2 4						1 3		0 9		41 4

SALARY BY SA1, SA2 AND SUB-RESULTS

HUMAN RESOURCES BRANCH

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTAL
0800	0830		2454 4	159 7						66 4		59 9		2760 4
	TOTAL		2454 4	159 7						66 4		59 9		2760 4
GRAND TOTAL			2454 4	159 7						66 4		59 9		2760 4

ATMOSPHERIC ENVIRONMENT SERVICE
1991-92 BUDGET ($000)

O&M BY SA1, SA2 AND SUB-RESULTS

HUMAN RESOURCES BRANCH

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTA
0800	0630		460 1	12 6						22 5		13 4		508 6
	TOTAL		460 1	12 6						22 5		13 4		508
GRAND TOTAL			460 1	12 6						22 5		13 4		508 0

CAPITAL BY SA1, SA2 AND SUB-RESULTS

HUMAN RESOURCES BRANCH

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTA
0600	0830		31 6											31
	TOTAL		31 6											31 6
GRAND TOTAL			31 6											31 6

GRANTS AND CONTRIBUTIONS BY SA1, SA2 AND SUB-RESULTS

HUMAN RESOURCES BRANCH

Sa1	Sa2	1 1 1	1 1 2	1 1 3	1 2 1	1 2 2	2 1 1	2 1 2	2 1 3	2 1 4	3 1 1	3 1 2	3 1 3	TOTA
0800	0830													
	TOTAL													
GRAND TOTAL														