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Northern Quebec Environmental Monitoring and Follow-up Networks Directory

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Preamble

Northern ecosystems show many signs of observable changes. Acquiring data and making repeated observations allow to better monitor these changes and identify the trends. Monitoring represents a priority action lead according to the « Environmental Action Plan for Northern Quebec »¹ and to the objectives and priorities of Phase II of the Northern Ecosystem Initiative (NEI).

The purpose of developing a directory of environmental monitoring and follow-up networks operating in Northern Quebec is to acquire a global profile of the different environmental components and the parameters measured by the organisations operating on the territory. It includes weather and hydrometric stations and as well as those engaged in monitoring the pedological or biological (animal or vegetation) aspects or the purely physical characteristics of the environment. The Directory does not include contaminants, which are addressed as a separate initiative.

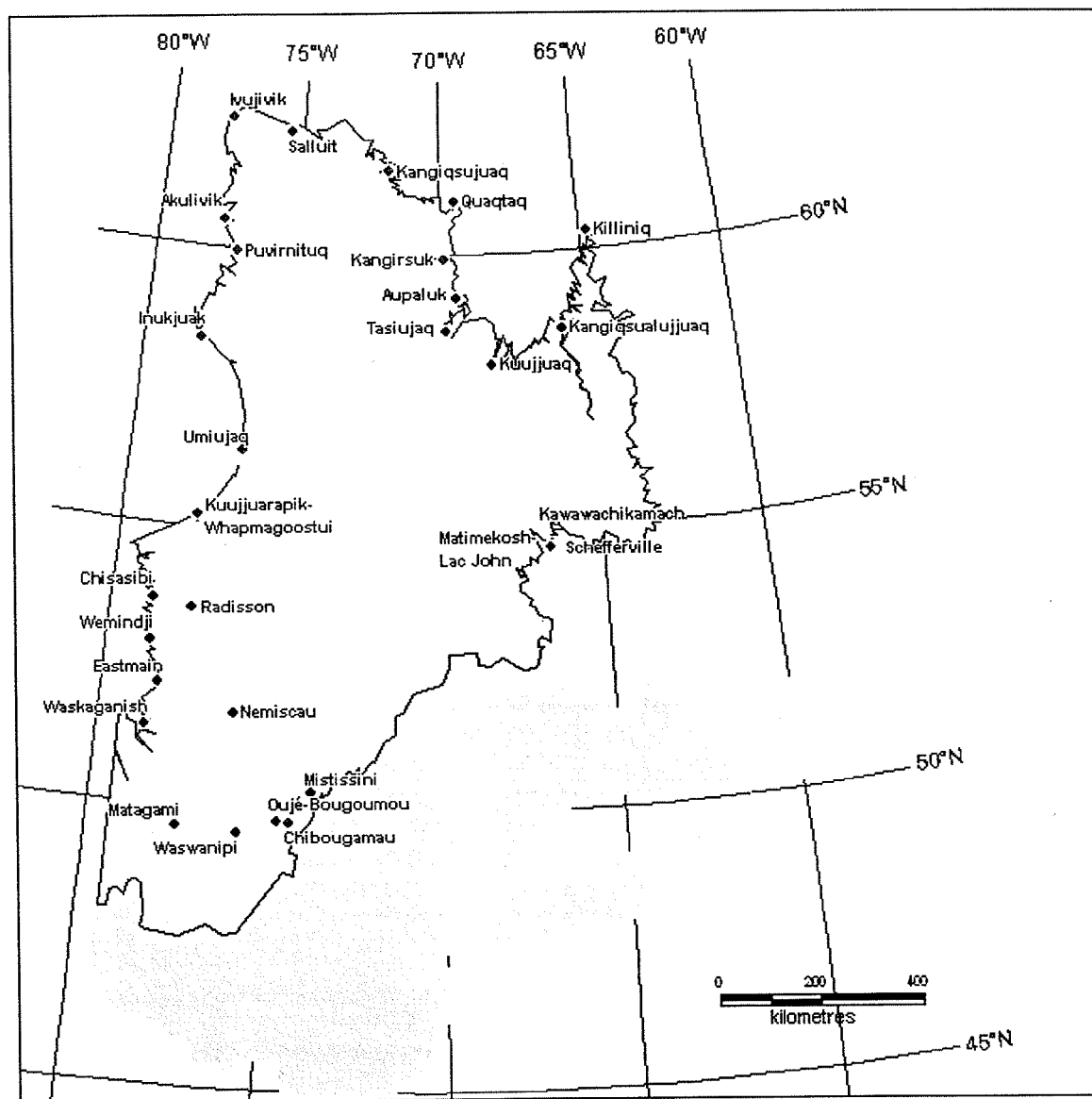
At a later stage, the Directory should allow to identify the limits of the existing networks and submit recommendations of new parameters to be added. It could also be used to implement and develop environmental indicators for the whole Canadian north. Moreover, it could be used by Aboriginal organisations, regional governing bodies, governments and researchers to assess the state and trends of environmental changes in the north.

The territory covered by the Directory corresponds to that of the James Bay and Northern Quebec Agreement (JBNQA) and Northeastern Quebec Agreement (NQA), as well as the Schefferville area which is not part of these two treaties (Figure 1).

¹ Regional Steering Committee (December 2002). *Northern Ecosystem Initiative: Environmental Action Plan for Northern Quebec*. Environment Canada, Quebec, 46 p.

Figure 1 Territories Covered by the Directory

Territories of the James Bay and Northern Quebec Agreement (JBNQA), Northeastern Quebec Agreement (NQA) and Schefferville area



Source: Statistics Canada, 1996

Each datasheet in the Directory refers to a monitoring network and includes the following information:

1. Contact information on managing agency and contact person
2. Network's objective(s)
3. Measured parameters
4. Stations identification and location
5. Access to data
6. Data format
7. A map of the area covered by the network

The Directory includes 32 datasheets, each one representing a northern environmental monitoring network. The term "network" refers either to a system measuring one type of parameters only (e.g.: Environment Canada Weather Network) or a system measuring several families of parameters (e.g.: SILA Network of the Centre d'études nordiques).

The Directory includes only those environmental monitoring networks that were active in 2004. Thus, several valuable databases, for example, that of the National Oceanic and Atmospheric Administration (NOAA), are not included in the Directory. These databases store large amounts of paleoenvironmental data, on pollens and macrofossil plants for example, but strictly speaking, they do not constitute a monitoring system.

Index by theme

	Datasheet number
Atmosphere	
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Air quality	12
	<i>Environment Canada, Meteorological Service of Canada</i>
Lightning Detection	2
	<i>Environment Canada, Meteorological Service of Canada</i>
Ozone and mercury rate in air and rainfall	5
	<i>Centre d'études nordiques</i>
Solar radiation	13
	<i>Centre d'applications et de recherches en télédétection (CARTEL)</i>
	<i>Centre d'études nordiques</i>
	<i>Environment Canada, Meteorological Service of Canada</i>
	<i>McGill SubArctic Research Station (MSARS)</i>
Weather	3
	<i>Kativik Regional Government- Transport</i>
	<i>Centre d'études nordiques</i>
	<i>Environment Canada, Meteorological Service of Canada</i>
	<i>Hydro-Québec Production – Permanent network</i>
	<i>Hydro-Québec Équipement – Temporary network</i>
	<i>Société de protection des forêts contre le feu (SOPFEU)</i>
	<i>McGill SubArctic Research Station (MSARS)</i>
Water	
Limnological monitoring	4- 5
	<i>Centre d'études nordiques</i>
Water level and discharge	14
	<i>Environment Canada, Meteorological Service of Canada</i>
	<i>Hydro-Québec Production – Permanent network</i>
	<i>Hydro-Québec Équipement – Temporary network</i>
	<i>Ministère de l'Environnement du Québec, Centre d'expertise hydrique du Québec</i>
Water quality	18
	<i>Cree Regional Authority</i>
	<i>Kativik Regional Government</i>
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	Datasheet number
Water table fluctuations	5
<i>Centre d'études nordiques</i>	
Snow and ice	
Lake Ice Monitoring	22
<i>Environment Canada, Canadian Ice Service</i>	
Sea Ice Monitoring	23
<i>Environment Canada, Canadian Ice Service</i>	
Snow cover thickness	21
<i>Environment Canada, Meteorological Service of Canada</i>	
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Soil	
Dynamics of the La Grande Rivière shorelines	24
<i>Hydro-Québec Production</i>	
Permafrost	4- 5
<i>Centre d'études nordiques</i>	
Biology	
<i>Birds</i>	
Bird monitoring	28
<i>Environment Canada, Canadian Wildlife Service</i>	
Breeding success - Migrating Canada goose population	27
<i>Environment Canada, Canadian Wildlife Service</i>	
Survey of the Black Duck	26
<i>Environment Canada, Canadian Wildlife Service</i>	
<i>Fish and aquatic mammals</i>	
Beluga monitoring	29
<i>Fisheries and Oceans Canada</i>	
Beluga captures monitoring	30
<i>Fisheries and Oceans Canada</i>	

	Datasheet number
Quality of fishery resources <i>Ministère de l'environnement du Québec</i>	31
<i>Terrestrial mammals</i>	
Animal telemetry (goose, fox, etc.) <i>Centre d'études nordiques</i>	5
Monitoring of caribou migration by satellite telemetry <i>Société de la faune et des parcs du Québec</i>	25
Resource and habitat monitoring: caribou, ptarmigan, hare, waterfowl, moose <i>Hydro-Québec Production</i>	24
<i>Vegetation</i>	
Eelgrass <i>Hydro-Québec Production</i>	24
Forest measurement <i>Centre d'études nordiques</i>	4- 5
Insects and tree diseases <i>Ministère des Ressources naturelles, de la Faune et des Parcs</i>	32
Riparian and aquatic vegetation <i>Hydro-Québec Production</i>	24
Vegetation community <i>McGill SubArctic Research Station (MSARS)</i>	11


Index by organization

	Datasheet number
Centre d'applications et de recherches en télédétection (CARTEL)	
<i>AEROCAN Network (Canadian Sunphotometry Network)</i>	13
Centre d'études nordiques	
<i>Environmental telemetry network</i>	4
<i>SILVA network</i>	5
Cree Regional Authority	
<i>Ground water quality network</i>	18
Government of Canada	
Environment Canada, Canadian Ice Service	
<i>Lake Ice Monitoring</i>	22
<i>Sea Ice Monitoring</i>	23
Environment Canada, Canadian Wildlife Service	
<i>Bird monitoring</i>	28
<i>Breeding success study - Migrating Canada goose population</i>	27
<i>Survey of the Black Duck Joint Venture Monitoring Program</i>	26
Environment Canada, Meteorological Service of Canada	
<i>Aerological Program</i>	1
<i>Air Quality Program</i>	12
<i>Canadian Lightning Detection Network</i>	2
<i>Snow cover thickness network</i>	21
<i>Water Survey of Canada</i>	14
<i>Weather network</i>	6
Fisheries and Oceans Canada, Maurice Lamontagne Institute	
<i>Beluga monitoring</i>	29
Fisheries and Oceans Canada, Aboriginal Fisheries Branch	
<i>Beluga captures monitoring</i>	30
Government of Québec	
Ministère de l'Environnement du Québec	
Direction du suivi de l'état de l'environnement	
<i>Quality of fishery resources</i>	31

	Datasheet number
Centre d'expertise hydrique du Québec <i>Hydrometry network</i>	17
Ministère des Ressources naturelles, de la Faune et des Parcs Direction de la conservation des forêts <i>Insects and tree diseases</i>	32
Société de la faune et des parcs du Québec (FAPAQ) <i>Monitoring of caribou migration</i>	25
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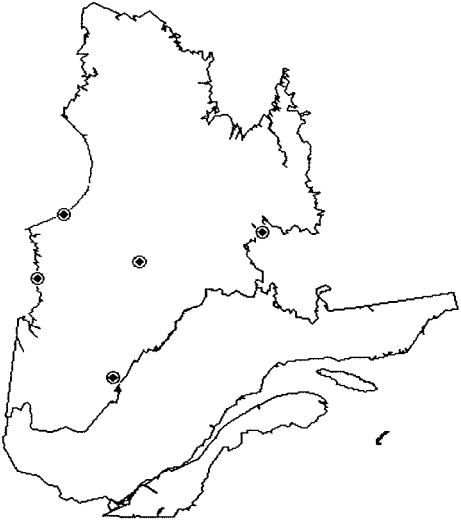
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Environment Canada Aerological Program

Managing Agency			
Agency name:	Environment Canada, Meteorological Service of Canada		
Contact person:	Daniel Aguilar		
Title of contact person:	Manager - Weather Operations		
Phone:	(514) 283-1634	Email:	daniel.aguilar@ec.gc.ca
Annual report (y/n):	No	Reference:	
Other users besides managing agency:	n/a		
Objective (s)			
Objective (s):	1. To identify air masses, cloud clearings and determine potential convection rain. 2. To provide data for digital models that allow to make weather forecasts for the following days.		
Monitored Parameters			
Data type:	Data details: Meteorological <input checked="" type="checkbox"/> Ground-level weather data, including type and quantity. Atmospheric pressure, air T°, relative humidity, wind speed Biological <input type="checkbox"/> Hydrometric <input type="checkbox"/> Physical <input type="checkbox"/> Soil <input type="checkbox"/> Others <input type="checkbox"/>		
Comments:	Measurements are taken twice/day.		
Station Identification and Location			
Number of stations:	3	Coverage:	Canada
Note on coverage:	Stations in northern Quebec are located in Kuujuaq, La Grande IV and Inukjuak.		
1st year of operation:	From 1943 to 1985	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>			
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:			

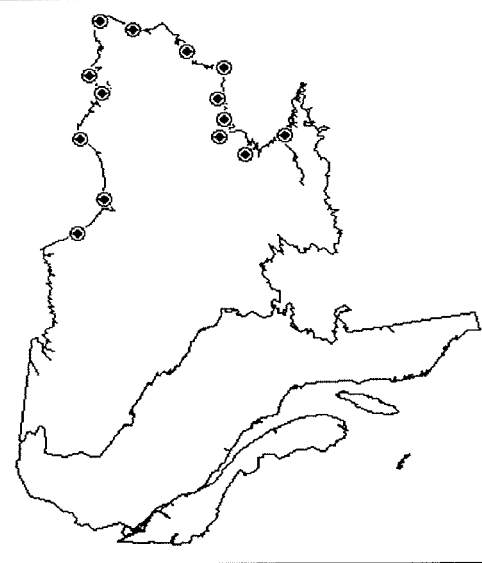
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Canadian Lightning Detection Network

Managing Agency					
Agency name:	Environment Canada, Meteorological Service of Canada				
Contact person:	Steve Kowalczyk				
Title of contact person:	Manager				
Phone:	(416) 739-4121	Email:	Steve.Kowalczyk@ec.gc.ca		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	Forecasters, aviation, municipalities, radio, television, etc.				
Objective (s)					
Objective (s):	Allow meteorologists to track the growth and movement of thunderstorms almost anywhere in the country.				
Monitored Parameters					
Data type:	Data details:				
Meteorological <input checked="" type="checkbox"/>	Flash and Stroke Information				
Biological <input type="checkbox"/>					
Hydrometric <input type="checkbox"/>					
Physical <input type="checkbox"/>					
Soil <input type="checkbox"/>					
Others <input type="checkbox"/>					
Comments:	The lightning detection system determines the time and location of a lightning flash using two methods: magnetic direction finding and time of arrival.				
Station Identification and Location					
Number of stations:	5	Coverage:	Canada		
Note on coverage:	Stations in northern Quebec are located between the 49th and 55th parallel.				
1st year of operation:	1998	Comments:			
Data Access					
Public <input type="checkbox"/>		Internal <input type="checkbox"/>			
Accessible with some limitation <input checked="" type="checkbox"/>	Restricted to paying customers and to researchers provided they sign a non-disclosure agreement and agree to provide Meteorological Service of Canada with a copy of their findings and related publication(s).				
Data Format					
Application / software:	Proprietary	Printability:	n/a	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	Yes	If not, reference:			
Comments:	Vaisala - Global Atmospheric Inc. manages the Canadian Lightning Detection Network for Environment Canada. The system function on a subscription basis.				

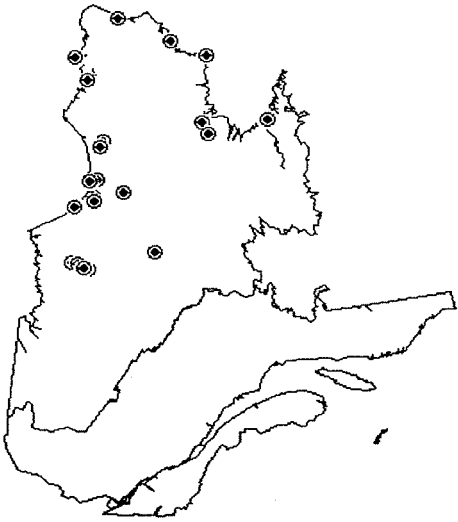
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Airports of Nunavik weather network

Managing Agency			
Agency name:	Kativik Regional Government- Transport		
Contact person:	Yvon Blain		
Title of contact person:	Director		
Phone:	(819) 964-2961, ext. 2269	Email:	yblain@krg.ca
Annual report (y/n):	No	Reference:	
Other users besides managing agency:	Environment Canada and Nav Canada (aviation).		
Objective (s)			
Objective (s):	To provide additional weather data for forecast purposes for aviation.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input checked="" type="checkbox"/>	Air T°, humidity, wind speed and direction, atmospheric pressure, type of clouds and their altitude, visibility		
Biological <input type="checkbox"/>			
Hydrometric <input type="checkbox"/>			
Physical <input type="checkbox"/>			
Soil <input type="checkbox"/>			
Others <input type="checkbox"/>			
Comments:	For Kuujuaq and Kujuarapik, observations are made hourly from radio stations, 24/24 (for the other 12 airports, between 8:00 AM and 5:00 PM). Also, additional observations are made when there is a sudden change of conditions (e.g. fog, freezing rain, etc.)		
Station Identification and Location			
Number of stations:	14	Coverage:	Inuit villages in Nunavik
Note on coverage:	Stations are located at the airports of Inuit villages in northern Quebec.		
1st year of operation:	40-50 years	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>			
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:	The Ministère des Transports du Québec owns all the stations but Kativik Regional Government - Transport operates them.		

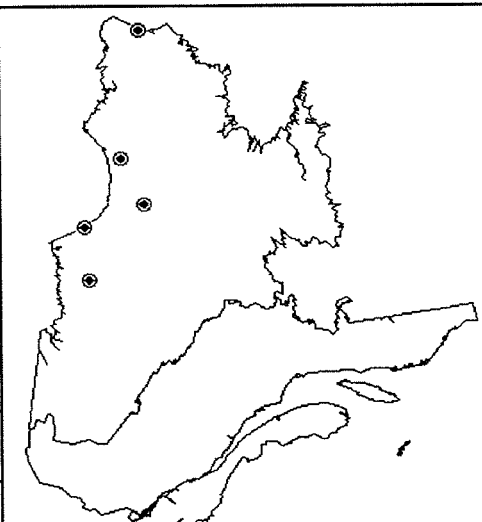
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Environmental telemetry network of the Centre d'études nordiques

Managing Agency					
Agency name:	Centre d'études nordiques				
Contact person:	Yves Bégin				
Title of contact person:	Director				
Phone:	(418) 656-2131, ext. 3340	Email:	yves.begin@cen.ulaval.ca		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	Parks Canada, ministère de la Sécurité publique, Nunavik municipalities, Quebec Geoscience Centre				
Objective (s)					
Objective (s):	To document subjects such as ecosystems response to climatic conditions, study of factors limiting forest regeneration in disturbed sites, and analysis of permafrost thermal regime in response to climate change for short and long-term.				
Monitored Parameters					
Data type:	Data details:				
Meteorological <input checked="" type="checkbox"/>	Air T°, atmospheric pressure, wind speed and direction				
Biological <input checked="" type="checkbox"/>	Forest measurement				
Hydrometric <input checked="" type="checkbox"/>	Limnological monitoring: solar radiation, water T°				
Physical <input type="checkbox"/>					
Soil <input checked="" type="checkbox"/>	Permafrost monitoring: soil T°, fissuring T°, peat mounds degradation, soil moisture				
Others <input checked="" type="checkbox"/>	Snow cover thickness				
Comments:	All parameters are not measured at all stations.				
Station Identification and Location					
Number of stations:	73	Coverage:	Northern Quebec		
Note on coverage:					
1st year of operation:	1988 (varies with stations)	Comments:	Manually read stations, some are automated		
Data Access					
Public <input type="checkbox"/>	Internal <input type="checkbox"/>				
Accessible with some limitation <input checked="" type="checkbox"/>	See with managers				
Data Format					
Application / software:	Excel	Printability:	Yes	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	Yes	If not, reference:			
Comments:	Two stations are jointly managed with the Quebec Geoscience Centre (QGC).				

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: SILA network (Sila means climate in Inuktitut)

Managing Agency			
Agency name:	Centre d'études nordiques		
Contact person:	Yves Bégin		
Title of contact person:	Director		
Phone:	(418) 656-2131, ext. 3340	Email:	yves.begin@cen.ulaval.ca
Annual report (y/n):	No	Reference:	
Other users besides managing agency:	Parks Canada, ministère de la Sécurité publique, Nunavik municipalities, Quebec Geoscience Centre		
Objective (s)			
Objective (s):	To characterise, quantify and assess environmental changes in six northern bioclimatic zones (including Bylot Island).		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input checked="" type="checkbox"/>	Air T°, atmospheric pressure, wind speed and direction, lake thermal profile		
Biological <input checked="" type="checkbox"/>	Animal telemetry (goose, fox, etc.), forest measurement		
Hydrometric <input checked="" type="checkbox"/>	Water table fluctuations, lakes and rivers water level variation		
Physical <input checked="" type="checkbox"/>	Solar radiation (ultraviolet and photosynthetically active radiation, etc.)		
Soil <input checked="" type="checkbox"/>	Permafrost monitoring: soil T°, fissuring T°, palsas degradation, soil hydrology		
Others <input checked="" type="checkbox"/>	Snow cover thickness, ozone and mercury rate in air and rainfall		
Comments:	All parameters are not measured at all stations.		
Station Identification and Location			
Number of stations:	5 observatories	Coverage:	Northern Quebec
Note on coverage:	Observatories located in Radisson, Kuujuarapik, Guillaume-Delisle-lac-à-l'Eau-Claire, Boniface River, Salluit.		
1st year of operation:	2003	Comments:	A sixth observatory located on Bylot Island
Data Access			
Public <input type="checkbox"/>	Internal <input type="checkbox"/>		
Accessible with some limitation <input checked="" type="checkbox"/>	See with managers		
Data Format			
Application / software:	Excel	Printability:	Yes
		File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	Yes	If not, reference:	
Comments:			

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

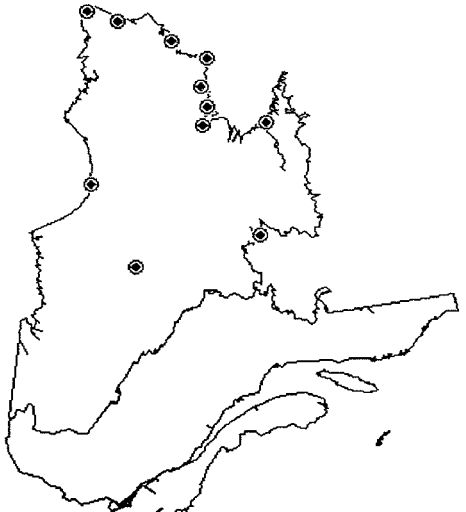
Network name: Environment Canada Weather Network

Managing Agency			
Agency name:	Environment Canada, Meteorological Service of Canada		
Contact person:	Richard Dupuis		
Title of contact person:	Special Network Manager		
Phone:	(514) 283-1635	Email:	richard.dupuis@ec.gc.ca
Annual report (y/n):	No	Reference:	http://www.msc-smc.ec.gc.ca/wsc/products/main_f.cfm?cname=products_e.cfm
Other users besides managing agency:	Forecasters, aviation, municipalities, radio, television, etc.		

Objective (s)

Objective (s): To provide a description of weather conditions to a variety of users in need of general information.

Monitored Parameters

<p>Data type:</p> <p>Meteorological <input checked="" type="checkbox"/> Data details: Air and ground T°, rain, humidity, atmospheric pressure, wind speed and direction, visibility, type of clouds, cloud extent and altitude, evaporation</p> <p>Biological <input type="checkbox"/></p> <p>Hydrometric <input type="checkbox"/></p> <p>Physical <input checked="" type="checkbox"/> Solar radiation</p> <p>Soil <input type="checkbox"/></p> <p>Others <input type="checkbox"/></p> <p>Comments:</p>	
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Station Identification and Location

Number of stations:	14	Coverage:	Canada
Note on coverage:	The stations are located between the 52nd parallel and the northernmost part of Quebec.		
1st year of operation:	From 1985 to 1993	Comments:	Most stations are manual-reading

Data Access

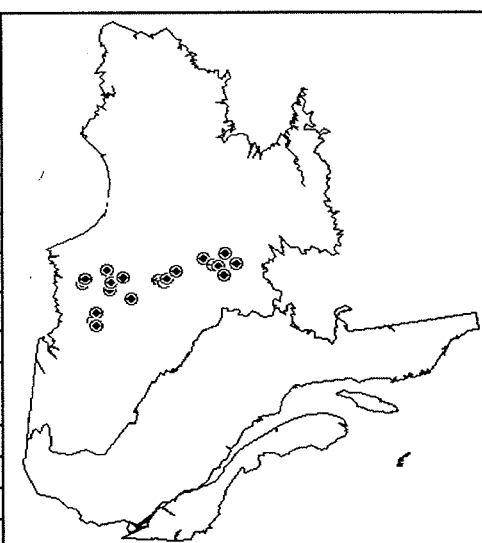
Public <input checked="" type="checkbox"/>	Internal <input type="checkbox"/>
Accessible with some limitation <input type="checkbox"/>	Fees are charged for raw data (other than those available on the Internet).

Data Format

Application / software:	Text file	Printability:	Yes	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	Yes	If not, reference:			
Comments:					

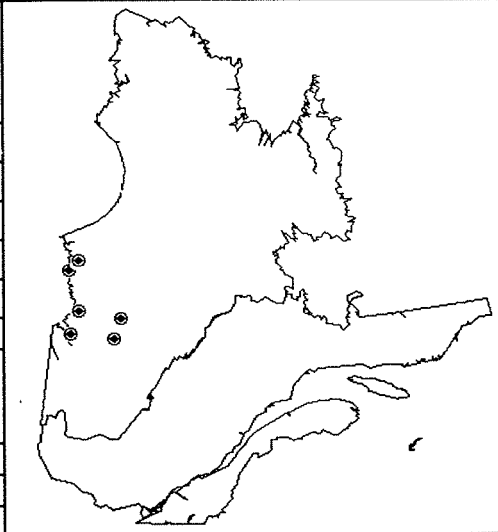
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Nom du réseau: Hydro-Québec - Permanent weather network

Managing Agency			
Agency name:	Hydro-Québec Production		
Contact person:	Pierre-Jean Rioux		
Title of contact person:	Project Manager		
Phone:	(514) 289-2211, ext. 3587	Email:	rioux.pierre-jean@hydro.qc.ca
Annual report (y/n):	Yes	Reference:	Annual report published by the Réseau météorologique coopératif québécois (RMCQ)
Other users besides managing agency:	Members of the Réseau météorologique coopératif québécois (RMCQ).		
Objective (s)			
Objective (s):	To characterize the prevailing climate at the La Grande hydroelectric complex.		
Monitored Parameters			
Data type:	Data details: Meteorological <input checked="" type="checkbox"/> Air T°, relative humidity, rainfall, wind speed and direction Biological <input type="checkbox"/> Hydrometric <input type="checkbox"/> Physical <input type="checkbox"/> Pedological <input type="checkbox"/> Others <input checked="" type="checkbox"/> Snow thickness		
Comments:	All parameters are not measured at all stations.		
Station Identification and Location			
Number of stations:	21	Coverage:	Quebec
Note on coverage:	Stations in northern Quebec are located between the 52nd and 55th parallel.		
1st year of operation:	Since 1978	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>			
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:	The parameters measured at these permanent stations are valid for 2004. They are subject to change over the next two or three years.		

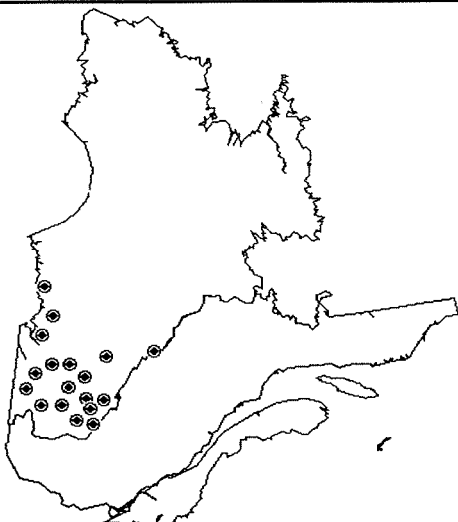
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Nom du réseau: Hydro-Québec - Temporary weather network

Managing Agency			
Agency name:	Hydro-Québec Équipement		
Contact person:	Michel Brown		
Title of contact person:	Team Manager, Geomatic databases and systems		
Phone:	(514) 840-3000, ext. 3176	Email:	Brown.Michel@hydro.qc.ca
Annual report (y/n):	Yes	Reference:	To come in 2004
Other users besides managing agency:	Private consultants in environmental assessment		
Objective (s)			
Objective (s):	To conduct an environmental study of the territory in relation to the Eastmain-1-A generating station and Rupert diversion project.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input checked="" type="checkbox"/>	Air T°, relative humidity, rainfall, wind speed and direction		
Biological <input type="checkbox"/>			
Hydrometric <input type="checkbox"/>			
Physical <input type="checkbox"/>			
Soil <input type="checkbox"/>			
Others <input type="checkbox"/>			
Comments:			
Station Identification and Location			
Number of stations:	8	Coverage:	Quebec
Note on coverage:	Stations in northern Quebec are located between the 51st and 54th parallel.		
1st year of operation:	2002	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>			
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:	These stations are used as part of the proposed studies on new energy generation equipment. Therefore, their duration is limited and they can be dismantled at any time.		

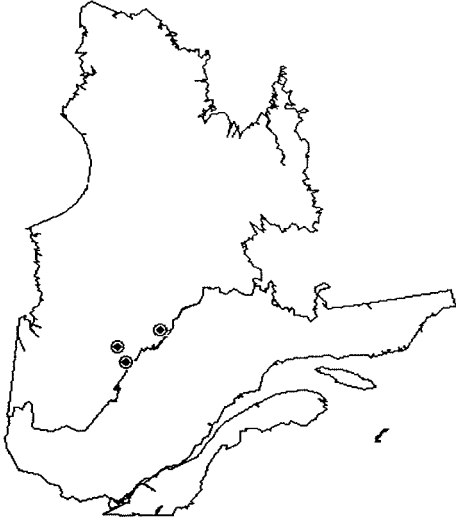
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: SOPFEU weather network

Managing Agency					
Agency name:	Société de protection des forêts contre le feu (SOPFEU)				
Contact person:	Guy Bouchard				
Title of contact person:	Meteorological Technician				
Phone:	(418) 871-3341	Email:	gbouchard@sopfeu.qc.ca		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	Members of the Réseau météorologique coopératif québécois (RMCQ).				
Objective (s)					
Objective (s):	Forest fire protection.				
Monitored Parameters					
Data type:	Data details: Meteorological <input checked="" type="checkbox"/> Air T°, relative humidity, wind speed and direction, rainfall Biological <input type="checkbox"/> Hydrometric <input type="checkbox"/> Physical <input type="checkbox"/> Soil <input type="checkbox"/> Others <input type="checkbox"/>				
Comments:	_____ _____ _____				
Station Identification and Location					
Number of stations:	18	Coverage:	Quebec (commercial forests)		
Note on coverage:	Stations in northern Quebec are located between the 48th and 53rd parallel.				
1st year of operation:	Since 1996	Comments:			
Data Access					
Public <input type="checkbox"/>	Internal <input type="checkbox"/>				
Accessible with some limitation <input checked="" type="checkbox"/>	See with managers				
Data Format					
Application / software:	n/a	Printability:	n/a	File size (Kb, Mb, or Gb):	One day data = 100 Kb
Access to raw data (y/n):	No	If not, reference:	Via FTP		
Comments:	_____ _____ _____				

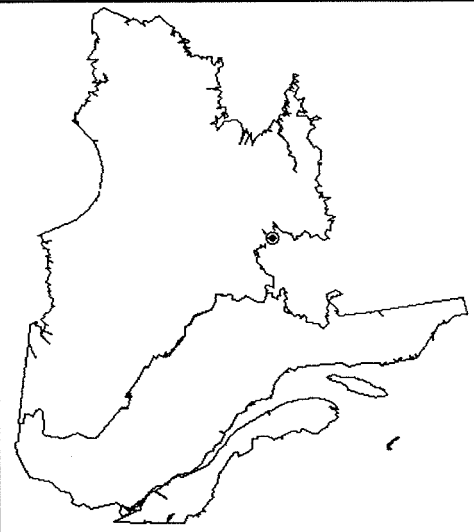
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: SOPFEU pluviometry network

Managing Agency					
Agency name:	Société de protection des forêts contre le feu (SOPFEU)				
Contact person:	Guy Bouchard				
Title of contact person:	Meteorological Technician				
Phone:	(418) 871-3341	Email:	gbouchard@sopfeu.qc.ca		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	Members of the Réseau météorologique coopératif québécois (RMCQ).				
Objective (s)					
Objective (s):	Forest fire protection.				
Monitored Parameters					
Data type:	Data details:				
Meteorological <input checked="" type="checkbox"/>	Rainfall				
Biological <input type="checkbox"/>					
Hydrometric <input type="checkbox"/>					
Physical <input type="checkbox"/>					
Soil <input type="checkbox"/>					
Others <input type="checkbox"/>					
Comments:					
Station Identification and Location					
Number of stations:	3	Coverage:	Quebec (commercial forests)		
Note on coverage:	Stations in northern Quebec are located between the 50th and 51st parallel.				
1st year of operation:	Since 1989	Comments:			
Data Access					
Public <input type="checkbox"/>	Internal <input type="checkbox"/>				
Accessible with some limitation <input checked="" type="checkbox"/>	See with managers				
Data Format					
Application / software:	n/a	Printability:	n/a	File size (Kb, Mb, or Gb):	One day data = 100 Kb
Access to raw data (y/n):	No	If not, reference:	Via FTP		
Comments:					


Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: ECONET

Managing Agency					
Agency name:	McGill SubArctic Research Station (MSARS)				
Contact person:	Dr. Wayne Pollard				
Title of contact person:	Professor & Research Director				
Phone:	(514) 398-4454	Email:	pollard@geog.mcgill.ca		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	n/a				
Objective (s)					
Objective (s):	To characterize the climate and permafrost conditions of the Schefferville area and to document the range in microclimatic conditions.				
Monitored Parameters					
Data type:	Data details:				
Meteorological <input checked="" type="checkbox"/>	Air T°, relative humidity, rainfall, wind speed and direction, atmospheric pressure				
Biological <input checked="" type="checkbox"/>	Vegetation community				
Hydrometric <input type="checkbox"/>					
Physical <input checked="" type="checkbox"/>	Solar radiation				
Soil <input checked="" type="checkbox"/>	Soil T°				
Others <input type="checkbox"/>					
Comments:					
Station Identification and Location					
Number of stations:	5	Coverage:	Schefferville area		
Note on coverage:	Within a 30 km radius				
1st year of operation:	2004	Comments:			
Data Access					
Public <input checked="" type="checkbox"/>	Internal <input type="checkbox"/>				
Accessible with some limitation <input type="checkbox"/>					
Data Format					
Application / software:	n/a	Printability:	n/a	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	n/a	If not, reference:			
Comments:					


Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: **Air Quality Program**

Managing Agency					
Agency name:	Environment Canada, Meteorological Service of Canada				
Contact person:	Richard Dupuis				
Title of contact person:	Special Network Manager				
Phone:	(514) 283-1635	Email:	richard.dupuis@ec.gc.ca		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	Researchers, meteorologists, etc.				
Objective (s)					
Objective (s):	To ensure air quality, including in remote areas.				
Monitored Parameters					
Data type:		Data details:			
Meteorological	<input type="checkbox"/>				
Biological	<input type="checkbox"/>				
Hydrometric	<input type="checkbox"/>				
Physical	<input type="checkbox"/>				
Soil	<input type="checkbox"/>				
Others	<input checked="" type="checkbox"/>	Air quality			
Comments:					
Station Identification and Location					
Number of stations:	1	Coverage:	Canada		
Note on coverage:	The northern Quebec station is located at the La Grande IV power station.				
1st year of operation:	July 2003	Comments:	Manual-reading station		
Data Access					
Public	<input type="checkbox"/>	Internal	<input type="checkbox"/>		
Accessible with some limitation	<input checked="" type="checkbox"/>	See with manager			
Data Format					
Application / software:	n/a	Printability:	n/a	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	n/a	If not, reference:			
Comments:					

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: AEROCAN Network (Canadian Sunphotometry Network)

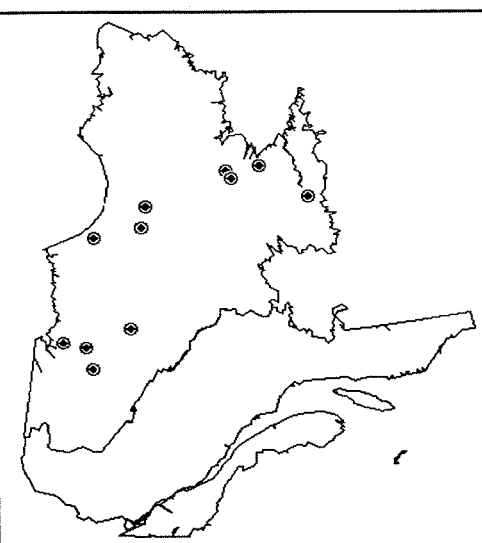
Managing Agency			
Agency name:	Centre d'applications et de recherches en télédétection (CARTEL)		
Contact person:	Alain Royer		
Title of contact person:	Professor, Université de Sherbrooke		
Phone:	(819) 821-7180	Email:	alain.royer@usherbrooke.ca
Annual report (y/n):	Yes		
Reference (s):	<p>Bokoye, A.I., A. Royer, N.T. O'Neill, P. Cliche, L.J.B. McArthur, P.M Teillet, G. Fedosejevs, J.-M. Thériault (2003). Multi-sensor analysis of integrated atmospheric water vapour over Canada and Arctic. <i>Journal of Geophysical Research</i>, Vol. 108, no D15, doi:10.1029/2002JD002721</p> <p>Thulasiraman, S., O'Neill, N. T., Royer, A., Holben, B. N., Westphal, D., L. J. B. McArthur, (2002). Sunphotometric observations of the 2001 Asian dust storm over Canada and the U.S., <i>Geophysical Research Letters</i>, Vol. 29, No 8, p. 1255-1258.</p> <p>O'Neill, N. T., T.F. Eck, B.N. Holben, A. Smirnov, A. Royer et Z. Li, (2002). Optical properties of Boreal Forest Fire Smoke Derived from Sunphotometry, <i>Journal of Geophysical Research</i>. Vol. 107, 11.</p>		
Other users besides managing agency:	n/a		
Objective (s)			
Objective (s):	1. To provide optical thickness measurements of aerosols from representative sites across Canada.		
	2. To provide reliable field optical thickness measurements to validate optical thicknesses derived from satellite measurements inversion		
	3. To provide a spatial and temporal distribution of aerosols optical thickness across Canada and provide input data for validation of the regional aerosol climate model of the northern hemisphere.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>	_____		
Biological <input type="checkbox"/>	_____		
Hydrometric <input type="checkbox"/>	_____		
Physical <input checked="" type="checkbox"/>	Solar radiation measurement		
Soil <input type="checkbox"/>	_____		
Others <input type="checkbox"/>	_____		
Comments:	Allows to derive physical and optical parameters characterising atmospheric aerosols		
Station Identification and Location			
Number of stations:	1	Coverage:	Canada
Note on coverage:	The northern Quebec station is located on the Centre d'études nordiques (CEN) research station in Kuujuaq.		
1st year of operation:	November 2002	Comments:	

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Data Access					
Public <input type="checkbox"/>		Internal <input type="checkbox"/>			
Accessible with some limitation <input checked="" type="checkbox"/>		See with manager			
Data Format					
Application / software:	n/a.	Printability:	n/a	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	No	If not, reference:	http://aeronet.gsfc.nasa.gov/		
Comments:	The AEROCAN Network is funded by EC's Meteorological Service of Canada, FQRNT Québec, NSERC Canada and receives technical assistance from the Canada Centre for Remote Sensing (CCRS), NRCan and the NASA-managed AERONET project.				

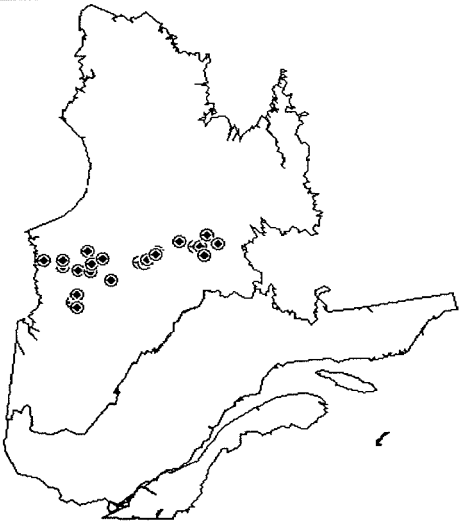
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Water Survey of Canada

Managing Agency						
Agency name:	Environment Canada, Meteorological Service of Canada					
Contact person:	Jean-François Cantin					
Title of contact person:	Section Head - Quebec Water Network					
Phone:	(418) 649-6565	Email:	jean-francois.cantin@ec.gc.ca			
Annual report (y/n):	No	Reference:	http://www.msc-smc.ec.gc.ca/wsc/products/main_e.cfm?cname=products_e.cfm			
Other users besides managing agency:	Hydrologists, Hydro-Québec, municipalities, etc.					
Objective (s)						
Objective (s):	1. To manage water in an accurate way in a given location 2. To assess and monitor the trends of the characteristics and processes required to understand the region's hydrology.					
Monitored Parameters						
Data type:	Data details: Meteorological <input type="checkbox"/> Biological <input type="checkbox"/> Hydrometric <input checked="" type="checkbox"/> Water level and discharge Physical <input type="checkbox"/> Soil <input type="checkbox"/> Others <input type="checkbox"/> Comments:					
Station Identification and Location						
Number of stations:	11	Coverage:	Canada			
Note on coverage:	The northern Quebec stations are located between the 51st and 58th parallel.					
1st year of operation:	2001	Comments:	Automatic-reading at all stations			
Data Access						
Public	<input checked="" type="checkbox"/>	Internal	<input type="checkbox"/>			
Accessible with some limitation	<input type="checkbox"/>	See with manager				
Data Format						
Application / software:	n/a	Printability:	n/a	File size (Kb, Mb, or Gb):	n/a	
Access to raw data (y/n):	n/a	If not, reference:				
Comments:						

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

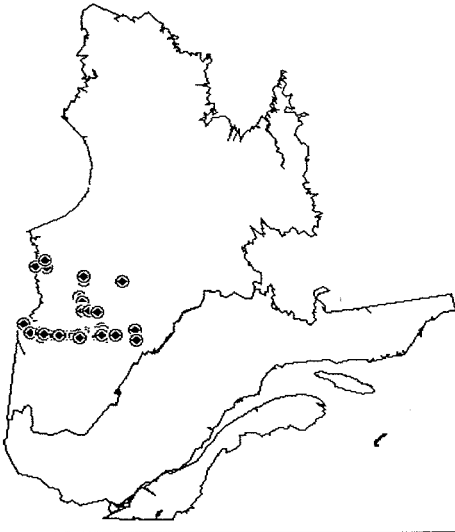
Nom du réseau: Hydro-Québec - Permanent hydrometry network

Managing Agency			
Agency name:	Hydro-Québec, Production		
Contact person:	Pierre-Jean Rioux		
Title of contact person:	Project Manager		
Phone:	(514) 289-2211, ext. 3587	Email:	rioux.pierre-jean@hydro.qc.ca
Annual report (y/n):	Yes	Reference:	Annual report published by the Réseau météorologique coopératif québécois (RMCQ)
Other users besides managing agency:	Members of the Réseau météorologique coopératif québécois (RMCQ).		
Objective (s)			
Objective (s):	To control the basin water level.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>	_____		
Biological <input type="checkbox"/>	_____		
Hydrometric <input checked="" type="checkbox"/>	Water level and discharge		
Physical <input type="checkbox"/>	_____		
Soil <input type="checkbox"/>	_____		
Others <input type="checkbox"/>	_____		
Comments:	_____		

Station Identification and Location			
Number of stations:	38	Coverage:	Quebec
Note on coverage:	Stations in northern Quebec are located between the 52nd and 55th parallel.		
1st year of operation:	Since 1978	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>	_____		
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:	The parameters measured at these permanent stations are valid for 2004. They are subject to change over the next two or three years.		

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

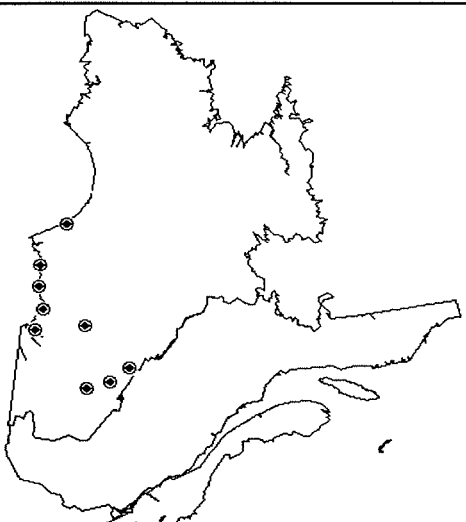
Nom du réseau: Hydro-Québec - Temporary hydrometry network

Managing Agency			
Agency name:	Hydro-Québec Équipement		
Contact person:	Michel Brown		
Title of contact person:	Team Manager, Geomatic databases and systems		
Phone:	(514) 840-3000, ext. 3176	Email:	Brown.Michel@hydro.qc.ca
Annual report (y/n):	Yes	Reference:	To come in 2004
Other users besides managing agency:	Private consultants in environmental assessment		
Objective (s)			
Objective (s):	To conduct an environmental study of the territory in relation to the Eastmain-1-A generating station and Rupert diversion project.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>	_____		
Biological <input type="checkbox"/>	_____		
Hydrometric <input checked="" type="checkbox"/>	Water level and discharge		
Physical <input type="checkbox"/>	_____		
Soil <input type="checkbox"/>	_____		
Others <input type="checkbox"/>	_____		
Comments:	_____		

Station Identification and Location			
Number of stations:	80	Coverage:	Quebec
Note on coverage:	Stations in northern Quebec are located between the 51st and 54th parallel.		
1st year of operation:	2002	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>	_____		
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:	These stations are used as part of the proposed studies on new energy generation equipment. Therefore, their duration is limited and they can be dismantled at any time.		

Northern Quebec Environmental Monitoring and Follow-up Networks Directory


Network name: Ground water quality network

Managing Agency			
Agency name:	Cree Regional Authority		
Contact person:	Ginette Lajoie		
Title of contact person:	Environment Coordinator		
Phone:	(514) 861-5837	Email:	glajoie@gcc.ca
Annual report (y/n):	No	Reference:	
Other users besides managing agency:	n/a		
Objective (s)			
Objective (s):	To monitor drinking water quality.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>	_____		
Biological <input type="checkbox"/>	_____		
Hydrometric <input type="checkbox"/>	_____		
Physical <input type="checkbox"/>	_____		
Soil <input type="checkbox"/>	_____		
Others <input checked="" type="checkbox"/>	Groundwater quality		
Comments:	Piezometers are located in contaminated areas (heavy metals, polynuclear aromatic hydrocarbons [PAH], etc.).		

Station Identification and Location			
Number of stations:	~100	Coverage:	Cree territory (Eeyou Istchee) in northern Quebec
Note on coverage:	Piezometers are distributed in the 9 Cree communities of the James Bay territory.		
1st year of operation:	n/a	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input type="checkbox"/>		
Accessible with some limitation <input checked="" type="checkbox"/>	See with managers		
Data Format			
Application / software:	n/a	Printability:	n/a
		File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	n/a	If not, reference:	
Comments:	Monitoring is done on a yearly basis but is conditional to obtaining government grants for sampling and analysis.		

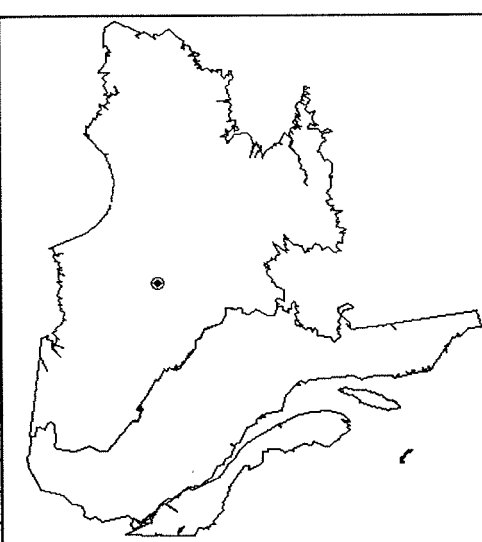
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Water quality network

Managing Agency					
Agency name:	Naskapi Nation of Kawawachikamach, Public Works Department				
Contact person:	Billy Shecanapish				
Title of contact person:	Technical Advisor				
Phone:	(418) 585-2123	Email:	bshecanapish@hotmail.com		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	n/a				
Objective (s)					
Objective (s):	Monitor quality of drinking water and sewage.				
Monitored Parameters					
Data type:	Data details:				
Meteorological <input type="checkbox"/>	_____				
Biological <input type="checkbox"/>	_____				
Hydrometric <input checked="" type="checkbox"/>	Water level, flow rates				
Physical <input type="checkbox"/>	_____				
Soil <input type="checkbox"/>	_____				
Others <input checked="" type="checkbox"/>	Chloride				
Comments:	_____				

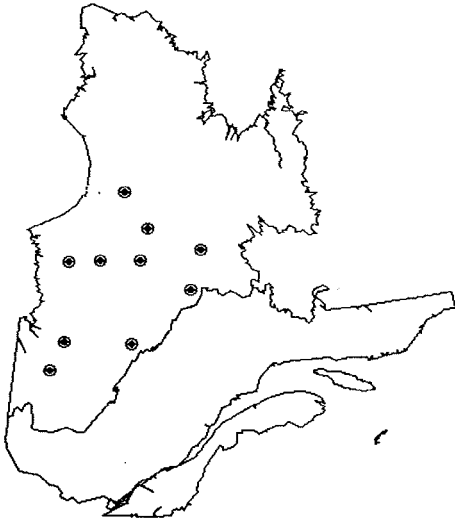
Station Identification and Location					
Number of stations:	2	Coverage:	Naskapi territory of Kawawachikamach		
Note on coverage:					
1st year of operation:	1997	Comments:			
Data Access					
Public <input type="checkbox"/>	Internal <input type="checkbox"/>				
Accessible with some limitation <input checked="" type="checkbox"/>	See with managers				
Data Format					
Application / software:	AquaContact	Printability:	Yes	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	n/a	If not, reference:			
Comments:					

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name:		Snow cover thickness network			
Managing Agency					
Agency name:	Environment Canada, Meteorological Service of Canada				
Contact person:	Richard Dupuis				
Title of contact person:	Special Network Manager				
Phone:	(514) 283-1635	Email:	richard.dupuis@ec.gc.ca		
Annual report (y/n):	No	Reference:			
Other users besides managing agency:	Meteorological scientists, Hydro-Québec, etc.				
Objective (s)					
Objective (s):	To monitor the thickness of snow cover.				
Monitored Parameters					
Data type:	Meteorological <input type="checkbox"/> Biological <input type="checkbox"/> Hydrometric <input type="checkbox"/> Physical <input type="checkbox"/> Soil <input type="checkbox"/> Others <input checked="" type="checkbox"/>		Data details:		
				Snow cover thickness	
Comments:	_____ _____ _____ _____				
Station Identification and Location					
Number of stations:	1	Coverage:	Canada		
Note on coverage:	The northern Quebec station is located at the La Grande IV power station.				
1st year of operation:	October 1985	Comments:	Manually read station		
Data Access					
	Public <input checked="" type="checkbox"/>		Internal	<input type="checkbox"/>	
	Accessible with some limitation <input type="checkbox"/>	See with managers			
Data Format					
Application / software:	Text file	Printability:	n/a	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	n/a	If not, reference:			
Comments:	_____ _____ _____ _____				

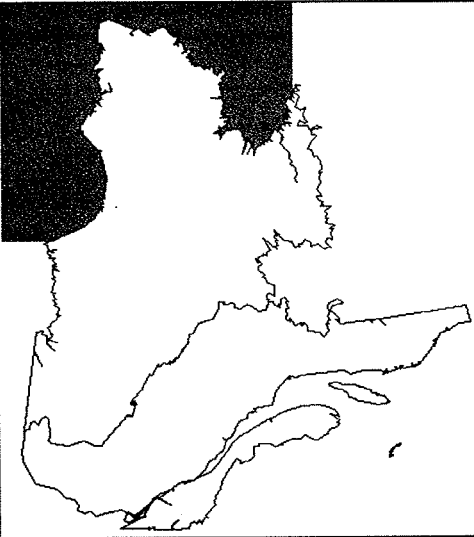
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Lake Ice Monitoring Via Remote Sensing

Managing Agency			
Agency name:	Environment Canada, Canadian Ice Service		
Contact person:	Richard Chagnon		
Title of contact person:	Archives and Climatology Manager		
Phone:	(613) 996-4390	Email:	richard.chagnon@ec.gc.ca
Annual report (y/n):	No	Reference:	
Other users besides managing agency:	University researchers		
Objective (s)			
Objective (s):	Lake freeze-up and break-up monitoring provides an integrated seasonalized index, useful in climate change observation.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>	_____		
Biological <input type="checkbox"/>	_____		
Hydrometric <input type="checkbox"/>	_____		
Physical <input type="checkbox"/>	_____		
Soil <input type="checkbox"/>	_____		
Others <input checked="" type="checkbox"/>	Measurement of ice cover in percentage		
Comments:	These measures allow to determine freeze-up and break-up dates with a ± one week accuracy. Measures are derived from the analysis of RADARSAT images, once a week (Friday).		
Station Identification and Location			
Number of stations:	10 lakes	Coverage:	Canada
Note on coverage:	Lakes in northern Quebec are located between the 49th and 56th parallel.		
1st year of operation:	1995	Comments:	
Data Access			
Public <input checked="" type="checkbox"/>	Internal <input type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>	Maps are available on the Waterloo University Web site; for raw data, send request to manager.		
Data Format			
Application / software:	Text files and Access	Printability:	Yes
		File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	Yes	If not, reference:	http://www.socc.uwaterloo.ca/lakeice/lakeice_current_e.cfm
Comments:			


Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Sea Ice Monitoring Via Remote Sensing

Managing Agency			
Agency name:	Environment Canada, Canadian Ice Service		
Contact person:	Richard Chagnon		
Title of contact person:	Archives and Climatology Manager		
Phone:	(613) 996-4390	Email:	richard.chagnon@ec.gc.ca
Annual report (y/n):	No	Reference:	
Other users besides managing agency:	Canadian Coast Guard		
Objective (s)			
Objective (s):	To monitor ice conditions in navigable waters.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>	_____		
Biological <input type="checkbox"/>	_____		
Hydrometric <input type="checkbox"/>	_____		
Physical <input type="checkbox"/>	_____		
Soil <input type="checkbox"/>	_____		
Others <input checked="" type="checkbox"/>	Measurement of ice extent and concentration (%)		
Comments:	Measurements are derived from the analysis of RADARSAT images, on a daily basis, generated by the special sensor microwave/imager (SSM/I) aboard a weather satellite of the U.S. Defence Department		
Station Identification and Location			
Number of stations:	n/a	Coverage:	Canada
Note on coverage:	North of Quebec, the sea ice measured is that of Hudson Bay and Ungava Bay.		
1st year of operation:	1955 and 1968	Comments:	1955 for daily maps and 1968 for weekly maps
Data Access			
Public <input checked="" type="checkbox"/>	Internal <input type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>	Maps are available on the Waterloo University Web site; for raw data, send request to manager.		
Data Format			
Application / software:	Text files and Access	Printability:	Yes File size (Kb, Mb, or Gb): n/a
Access to raw data (y/n):	Yes	If not, reference:	http://www.socc.ca/seaice/seaice_current_e.cfm
Comments:			

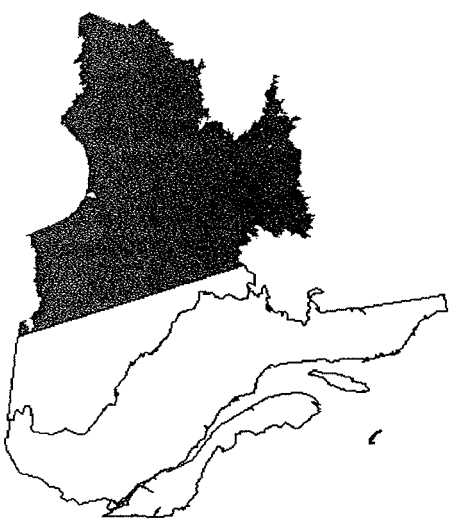
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Nom du réseau: Monitoring network of the La Grande complex

Managing Agency			
Agency name:	Hydro-Québec Production		
Contact person:	Danielle Messier		
Title of contact person:	Environmental Advisor, responsible for environmental monitoring during the operating phase of the hydroelectric station projects.		
Phone:	(514) 289-2211, ext. 6012	Email:	messier.danielle@hydro.qc.ca
Annual report (y/n):	Yes		
References:	Summary of Knowledge Acquired in Northern Environments from 1970 to 2000. http://www.hydroquebec.com/environment/centre_documentation/pdf/pop_06_08.pdf		
Other users besides managing agency:	n/a		
Objective (s)			
Objective (s):	To conduct an environmental study of the territory during the operation of the La Grande hydroelectric complex.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>			
Biological <input checked="" type="checkbox"/>	Riparian and aquatic vegetation, eelgrass abundance and distribution on the James Bay coast, resource and habitat monitoring: caribou, ptarmigan, hare, waterfowl, moose		
Hydrometric <input checked="" type="checkbox"/>	La Grande Rivière hydrology and ice		
Physical <input checked="" type="checkbox"/>	La Grande Rivière plume (temperature, salinity, currents, ice)		
Soil <input checked="" type="checkbox"/>	Dynamics of the La Grande Rivière shorelines		
Others <input type="checkbox"/>			
Comments:			
Station Identification and Location			
Number of stations:	n/a	Coverage:	La Grande complex, northern Quebec
Note on coverage:	La Grande Rivière water system		
1st year of operation:	1978	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>			
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:			

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Nom du réseau: **Monitoring of caribou migration by satellite telemetry**

Managing Agency			
Agency name:	Société de la faune et des parcs du Québec (FAPAQ)		
Contact person:	Donald Jean		
Title of contact person:	Biologist		
Phone:	(418) 748-7701, ext. 233	Email:	donald.jean@fapaq.gouv.qc.ca
Annual report (y/n):	No	Reference:	
Other users besides managing agency:	Department of National Defence and the province of Newfoundland.		
Objective (s)			
Objective (s):	To assist in field work planning, including population survey. Also to provide policy guidance for sports hunting and commercial harvesting. Monitoring data are also used in environmental impact assessments.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>	_____		
Biological <input checked="" type="checkbox"/>	Caribou migration		
Hydrometric <input type="checkbox"/>	_____		
Physical <input type="checkbox"/>	_____		
Soil <input type="checkbox"/>	_____		
Others <input type="checkbox"/>	_____		
Comments:	Some twenty caribous of the George River herd and some ten caribous of the Rivière aux Feuilles herd have satellite collars.		
Station Identification and Location			
Number of stations:	Approx. 30	Coverage:	Northern Quebec
Note on coverage:	North of 51st parallel.		
1st year of operation:	1991	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input type="checkbox"/>		
Accessible with some limitation <input checked="" type="checkbox"/>	A user licence is required. See with managers.		
Data Format			
Application / software:	Excel	Printability:	No
		File size (Kb, Mb, or Gb):	12 Mb
Access to raw data (y/n):	Yes	If not, reference:	
Comments:	Since the data are the joint property of the Société de la faune et des parcs du Québec, the Department of National Defence and the province of Newfoundland, a user licence must be issued by the database co-owners.		

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

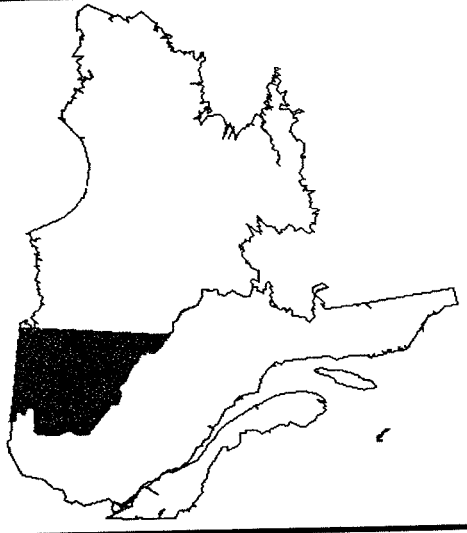
Network name: Survey of the Black Duck Joint Venture Monitoring Program in Quebec

Managing Agency			
Agency name:	Environment Canada, Canadian Wildlife Service		
Contact person:	Daniel Bordage		
Title of contact person:	Senior Biologist - Game birds		
Phone:	(418) 649-6133	Email:	daniel.bordage@ec.gc.ca
Annual report (y/n):	Yes	Reference:	http://www.gc.ec.gc.ca/faune/faune/pdf/bdjv-final.pdf
Other users besides managing agency:	U.S. Fish and Wildlife Service (USFWS), North American Waterfowl Management Plan (NAWMP), Hydro-Québec, promoters and consultants in environmental assessment.		

Objective (s)

Objective (s): To monitor the population trends of the black duck, other waterfowl species and common loon.

Monitored Parameters

<p>Data type:</p> <p>Meteorological <input checked="" type="checkbox"/></p> <p>Biological <input checked="" type="checkbox"/></p> <p>Hydrometric <input type="checkbox"/></p> <p>Physical <input type="checkbox"/></p> <p>Soil <input type="checkbox"/></p> <p>Others <input type="checkbox"/></p> <p>Comments: Positioning of waterfowl observations (\pm 50 m)</p>	<p>Data details:</p> <p>Weather conditions during surveys</p> <p>Waterfowl, birds and mammals observation</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	
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Station Identification and Location

Number of stations:	37 (5km X 5km)	Coverage:	Southern Quebec
Note on coverage:	Northern limit of coverage is 51°15'N.		
1st year of operation:	1990	Comments:	Yearly survey by helicopter

Data Access

Public <input checked="" type="checkbox"/>	Internal <input type="checkbox"/>
Accessible with some limitation <input type="checkbox"/>	


Data Format

Application / software:	SAS, Access, Excel	Printability:	From file	File size (Kb, Mb, or Gb):	10 000 Kb
Access to raw data (y/n):	Yes (by quadrat only)	If not, reference:			

Comments: Is part of a national survey of all eastern Canada (total of 156 quadrats in Québec)


Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Breeding success study - Migrating Canada goose population in northern Quebec

Managing Agency			
Agency name:	Environment Canada, Canadian Wildlife Service		
Contact person:	Richard Cotter		
Title of contact person:	Biologist		
Phone:	(418) 648-7034	Email:	richard.cotter@ec.gc.ca
Annual report (y/n):	Yes; unpublished report	Reference:	Report presented to the Technical Committee of the Atlantic Flyway.
Other users besides managing agency:	n/a		
Objective (s)			
Objective (s):	To document the reproductive success of the migrating Canada goose population and determine the influencing factors.		
Monitored Parameters			
<p>Data type:</p> <p>Meteorological <input checked="" type="checkbox"/></p> <p>Biological <input checked="" type="checkbox"/></p> <p>Hydrometric <input type="checkbox"/></p> <p>Physical <input type="checkbox"/></p> <p>Soil <input type="checkbox"/></p> <p>Others <input type="checkbox"/></p> <p>Comments:</p>	<p>Data details:</p> <p>Minimum and maximum T°, rainfall</p> <p>Number of nests, eggs, success rate, predation, etc.</p>		
Station Identification and Location			
Number of stations:	1	Coverage:	60 km south of Puvirnituq
Note on coverage:	34.5 square km; on Polemond River.		
1st year of operation:	1997 to 2003	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>			
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:			

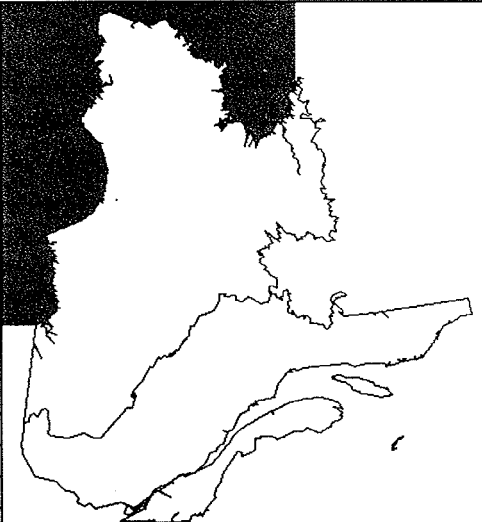
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Beluga monitoring via satellite telemetry

Managing Agency			
Agency name:	Fisheries and Oceans Canada, Maurice-Lamontagne Institute		
Contact person:	Mike Hammill		
Title of contact person:	Head of research on sea mammals		
Phone:	(418) 775-0580	Email:	hammillm@dfo-mpo.gc.ca
Annual report (y/n):	Yes	Reference:	http://www.dfo-mpo.gc.ca/zone/underwater_sous-marin/beluga/beluga_e.pdf
Other users besides managing agency:	Makivik Corporation		
Objective (s)			
Objective (s):	To track beluga distribution and migrations.		
Monitored Parameters			
Data type:	Data details:		
Meteorological <input type="checkbox"/>			
Biological <input checked="" type="checkbox"/>	Extent of the beluga summer range, fall migration routes and time. Recording of diving time and depth.		
Hydrometric <input type="checkbox"/>			
Physical <input type="checkbox"/>			
Soil <input type="checkbox"/>			
Others <input checked="" type="checkbox"/>	Polychlorinated biphenyls (PCB) and dichloro-diphenyl-trichloroethane (DDT) content.		
Comments:	The acquired information allows to determine which stocks are harvested by various groups of hunters at different times of the year, and to learn more about the beluga's feeding ecology.		
Station Identification and Location			
Number of stations:	n/a	Coverage:	Canadian marine environments
Note on coverage:	North of Quebec, the covered areas are Hudson Bay, James Bay and Ungava Bay		
1st year of operation:	1981	Comments:	
Data Access			
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>		
Accessible with some limitation <input type="checkbox"/>	Available data are those found on the Fisheries and Oceans Canada Web site.		
Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:			

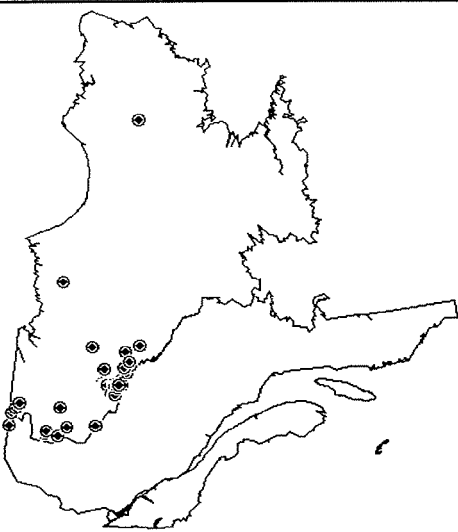
Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Beluga captures monitoring

Managing Agency					
Agency name:	Fisheries and Oceans Canada, Aboriginal Fisheries Branch				
Contact person:	Danielle Baillargeon				
Title of contact person:	Coordinator				
Phone:	(418) 648-4258	Email:	Baillargeond@dfo-mpo.gc.ca		
Annual report (y/n):	Yes	Reference:	http://www.dfo-mpo.gc.ca/zone/underwater_sous-marin/beluga/beluga_e.pdf		
Other users besides managing agency:	Hunting, Fishing and Trapping Coordinating Committee, Kativik Regional Government, Makivik Corporation, Nunavik Hunting, Fishing and Trapping Association, Inuit hunters				
Objective (s)					
Objective (s):	To monitor the management measures of the northern beluga management plan.				
Monitored Parameters					
Data type:	Data details:				
Meteorological <input type="checkbox"/>					
Biological <input checked="" type="checkbox"/>	Monitoring captures made for sustenance purposes				
Hydrometric <input type="checkbox"/>					
Physical <input type="checkbox"/>					
Soil <input type="checkbox"/>					
Others <input type="checkbox"/>					
Comments:					
Station Identification and Location					
Number of stations:	n/a	Coverage:	Canadian marine environments		
Note on coverage:	North of Quebec, the areas covered are Eastern Hudson Bay, James Bay, the southern part of Hudson Strait, and Ungava Bay				
1st year of operation:	n/a	Comments:			
Data Access					
Public <input checked="" type="checkbox"/>	Internal <input type="checkbox"/>				
Accessible with some limitation <input type="checkbox"/>	See with managers.				
Data Format					
Application / software:	Excel	Printability:	Upon request	File size (Kb, Mb, or Gb):	n/a
Access to raw data (y/n):	n/a	If not, reference:			
Comments:					

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Quality of fishery resources

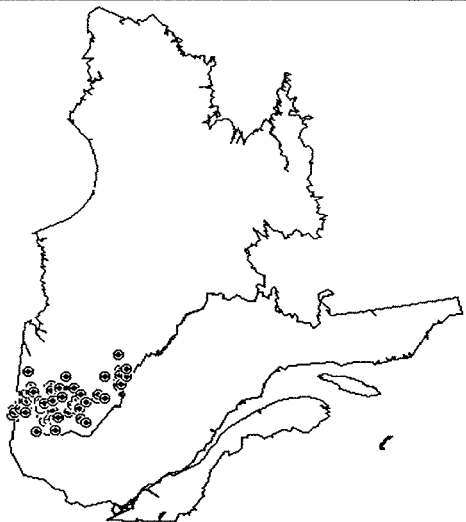
Managing Agency				
Agency name:	Ministère de l'Environnement du Québec, Direction du suivi de l'état de l'environnement			
Contact person:	Denis Laliberté			
Title of contact person:	Chemist			
Phone:	(418) 521-3820, ext. 4724	Email:	denis.laliberte@menv.gouv.qc.ca	
Annual report (y/n):	No	Reference:	A report will be published in 2004 for the Chibougamau area	
Other users besides managing agency:	Ministère des Ressources naturelles, de la Faune et des Parcs, Société de la faune et des parcs du Québec (FAPAQ), Cree communities, ministère de la Santé et des Services sociaux, Université du Québec à Montréal (UQAM)			
Objective (s)				
Objective (s):	To assess the quality of fishery resources in lakes used by the Cree communities, among others.			
Monitored Parameters				
Data type:	Data details:			
Meteorological <input type="checkbox"/>	_____			
Biological <input type="checkbox"/>	_____			
Hydrometric <input type="checkbox"/>	_____			
Physical <input type="checkbox"/>	_____			
Soil <input type="checkbox"/>	_____			
Others <input checked="" type="checkbox"/>	Metal, polychlorinated biphenyls (PCB), dioxin and furan content in fish. Metal and PCB content in sediments.			
Comments:	All parameters are not measured at all stations.			
Station Identification and Location				
Number of stations:	45	Coverage:	Quebec	
Note on coverage:	Stations in northern Quebec are located between the 48th and 59th parallel.			
1st year of operation:	1995 (varies with stations)	Comments:		
Data Access				
Public <input checked="" type="checkbox"/>	Internal <input type="checkbox"/>			
Accessible with some limitation <input type="checkbox"/>	The data are available in the appendices of the reports; for an electronic version, send request to manager.			
Data Format				
Application / software:	Excel	Printability:	Yes	File size (Kb, Mb, or Gb): n/a
Access to raw data (y/n):	No	If not, reference:	Data are available in the reports' appendices; for an electronic version, send request to manager.	
Comments:	Sampling is not done on a regular basis. More work will possibly be done in 2004 in the Chibougamau area.			

Northern Quebec Environmental Monitoring and Follow-up Networks Directory

Network name: Insects and tree diseases in Quebec

Managing Agency			
Agency name:	Ministère des Ressources naturelles, de la Faune et des Parcs, Direction de la conservation des forêts		
Contact person:	Guy Rhéaume		
Title of contact person:	Forestry Technician		
Phone:	(418) 643-9679, ext. 4749	Email:	guy.rheaume@mrnfp.gouv.qc.ca
Annual report (y/n):	Yes	Reference:	2003 report in progress
Other users besides managing agency:	n/a		

Objective (s)	
Objective (s):	To monitor the main forest pests in Quebec.

Monitored Parameters		
Data type: Meteorological <input type="checkbox"/> Biological <input checked="" type="checkbox"/> Hydrometric <input type="checkbox"/> Physical <input type="checkbox"/> Soil <input type="checkbox"/> Others <input type="checkbox"/>	Data details: _____ Insects _____ _____ _____ _____	
Comments: On each tree observed (between 100 and 700), all entomological or pathological problems are assessed.		

Station Identification and Location			
Number of stations:	85	Coverage:	Southern Quebec
Note on coverage:	The northern Quebec stations are located in plantations, between the 48th and 51st parallel.		
1st year of operation:	1984	Comments:	Since 2002, the stations are visited alternately: spruce vs pine, larch and harwoods.

Data Access	
Public <input type="checkbox"/>	Internal <input checked="" type="checkbox"/>
Accessible with some limitation <input type="checkbox"/>	

Data Format			
Application / software:		Printability:	File size (Kb, Mb, or Gb):
Access to raw data (y/n):	No	If not, reference:	
Comments:			