CHANTALE CERNY, M.Sc.
Cell: 647-281-1025,

KEY SKILLS:

Client-focus, Management of Human and Financial Resources, Adaptable, Problem-Solver, Knowledge of climate data and monitoring practices, Action-driven, Team-player

Leader of Environmental Change and Organisational Transformation

Highly accomplished climate data and services expert with over two decades of dedicated experience at Environment and Climate Change Canada. I've built a strong reputation for leading the development, transformation, and delivery of climate services, with a demonstrated ability to manage large teams, complex projects, and strategic partnerships at regional, national, and international levels. She brings advanced academic credentials in physical geography, with field research in Antarctica, Alaska, and Canada's North, complemented by technical expertise in data quality, meteorology, climatology, and environmental monitoring systems.

My leadership spans human and financial resource management, stakeholder engagement, and policy implementation. I've successfully directed critical initiatives including the rationalisation of Canada's climate products, operational management of national data platforms, and the advancement of national climate monitoring governance frameworks. I've also been instrumental in cross-governmental collaborations, negotiating MOUs and coordinating data-sharing agreements across jurisdictions.

An articulate communicator in both French and English, I'm experienced in briefing senior officials, participating in technical committees, and engaging with media. I am known for my collaborative spirit, strategic thinking, and ability to translate complex scientific data into actionable insights. My work has contributed to the evolution of climate services in Canada, making me a valuable asset in the fields of climate science, public service innovation, and environmental data management.

Education

Master's in Physical Geography, University of Sherbrooke, 1999-2004

Involved field work in Antarctica, data processing, statistics, modelling. Received various grants and awards, internship in Alaska and specialized courses on snow and georadar in Finland and Svalbard.

Bachelor in Physical Geography, University of Sherbrooke, 1995-1998

Topics: meteorology, climatology, GIS, remote sensing, hydrology, geology. COOP program with work terms at Ministry of Transportation, Geomatics Canada, and University Research Assistant in Northern environment. Included 1 semester at McGill University, Montreal, Quebec.

Memberships

Member - Australian Council for Educational Leaders

Professional Experience

Manager of Products and Services (PC-04), September 2021 to present

Monitoring and Data Services Directorate, Meteorological Service of Canada (MSC), Environment and Climate Change Canada (ECCC)

Financial and HR management of the Products and Services unit, formerly Data Services and Partnerships unit. Reporting to the Director of Data, Partnerships and Program Support Division. 12-15 direct reports. Hired students, casuals, term and indeterminate staff. Ran staffing process for physical scientist positions (at the PC-03 level) for which over 140 candidates applied.

Climate product rationalisation

Oversee production of the 1991-2020 Climate Normals for the World Meteorological Organization and domestic Canadian product for web publication

Operational management of the Historical Climate Data website and internal data extraction tool Discoverii.

Client liaison

Manage the Collaborative Monitoring file, including the Council for Weather and Climate Monitoring, governance mechanism for engagement with provincial and territorial government engagement. Oversee Memorandum of Understanding toward data sharing agreements with provinces and territories, other government agencies, client segmentation and co-lead of a national working group focusing on snow observations.

Head of Climate Services Centre (PC-04), May 31st 2019 to September 2021

Prediction Services Central Region, MSC, Environment and Climate Change Canada

Financial and HR management of the Applied Climatology Services unit. 8 direct reports. Hired students, casual, 1 PC-1, 2 PC-02, assignment for MT-05.

Harmonization of processes for Central Region (response to climate inquiries and delivery of provincial monthly & seasonal bulletins).

Lead team through transformation of the Climate file. Creation of a climate services dashboard for management. Advance the adoption of a national format for the monthly bulletins.

Active participation in internal, national, and international meetings. Lead national working group (WG) on Climate Services. Participation in Archive Renewal & External Requirements WG, Canadian Centre for Climate Services (CCCS) Support Desk WG. Secretariat for the Ontario Climate Advisory Committee. Co-president of the Comité changement climatique (CCC) of the Plan d'action St-Laurent (PASL). Member of the Great Lakes Water Quality Agreement (GLWQA) Annex 9 sub-committee.

Ensure delivery of products related to the North American Climate Services Partnership (NACSP): Great Lakes Quarterly and Annual Bulletins, delivered in partnership with NOAA.

Provide advice and recommendations to Management on matters related to climate.

Support progress in the implementation of the national climate and hydrometeorological vigilance approach.

Coordinator/Officer Climatologist (PC-03), September 2009 to May 2019

Prediction Services Central Region, MSC, Environment and Climate Change Canada

Acting Manager of Climate Services at MT-07 level on 9 occasions, for durations of 1 week to 2 months

Supervision/Mentoring: 1 direct report at PC-02 level. Supervised new staff (indeterminate, University student, high-school student), incl. setting objectives, assign duties and performance measures, oversee quality of work), training plans and leave approvals. During acting assignments, supervised 7-8 people. Mentoring of an employee, which required setting milestones, achievable goals, practical assignments.

Staffing experience: 7 hiring processes for PC-01, PC-02, PC-03 and MT-05 levels. Wrote the Work Description and Statement of Merit Criteria for some positions, screened candidates, administered and marked written tests, conducted interviews and ranked candidates.

Ensured delivery of climate services for Ontario and cost-recovery for Prairies and Northern Region.

Worked toward centralization of Financial Operations for vote netted revenue (VNR)

Support Services and Operations

Media interviews related to the monthly review and testified in court to explain weather records.

Climate observer for Canadian Cooperative Climate station Toronto North York.

Leadership in organizing response to data retrieval tool failures. Organised training sessions, material, contributed to the development of User Requirements to replace the GRP tools.

Secretariat for the Ontario Climate Advisory Committee. Contributed to: the Climate Operations Group (COG), for which I acted as the chairperson for a year; the Climate Normals Advisory (NAC) committee; 2304 processing and life cycle working group; MSC Operational Weather Summaries Working Group; the Water and Climate Summits; and Data Quality Management workshops.

Project Lead for the exhibit “Observing the Weather – A Canadian Contribution to Aviation” on display for 6-month duration at the Malton Gallery of Toronto Pearson Airport. In FY 2010-2011, as part of EC’s 40th and MSC’s 140th anniversary celebrations, the MSC and the Greater Toronto Airports Authority (GTAA) collaborated to develop an exhibit that displayed the history of weather observing in Canada. I was in charge of the MSC contribution. Created exhibit content, obtained

instruments for display, packaged equipment, set up exhibit on-site, got text exhibit reviewed by the ADM, prepared briefing note for Member of Parliament (MEP).

Contributed to the BCP Table Top Exercise in Preparation to the G8/G20 Events (June 14, 2010). I provided climate related information for the Muskoka & Toronto areas to the Summit organizing groups. This information was used for contingency planning and a tabletop contingency exercise.

Contracting and Procurement experience for keypunching of climate data and scanning of surface analysis maps.

Prepared briefing material to the attention of my manager, the Director and Member of Parliament to inform them of key information discussed during a meeting or workshop, in preparation to a Ministerial visit and for the opening speech of the Meteorological Exhibit.

Data Specialist (PC-02), July 2005 to September 2009

Data Analysis and Archive Division (DAAD), WEM, MSC, Environment Canada

DAAD SharePoint site (Oct 2007 to Mar 2009). Elaborated the structure of the new SharePoint site, document management and migration. Prepared Administrator and User guides and held training sessions

Quebec MDDEP Tipping Bucket Rain Gauge (TBRG) data (Oct 2007–Apr 2008). Goal: reformat 1996-1999 TBRG data acquired by the Ministère du Développement durable, de l'Environnement et des Parcs (MDDEP). Liaise with MDDEP data providers, headquarters and provincial TBRG data experts and Access database expert to help with the creation, testing, and implementation of the reformatting tool. Problem solving and decision making to ensure the dataset is processed according to standard MSC procedures due to its implication in updating Intensity Duration Frequency (IDF) curves. Prepare an information package for the reformatting of future MDDEP TBRG data. Reviewed Memorandum of Understanding (MOU) “Convention entre le gouvernement du Canada et le gouvernement du Québec concernant les réseaux climatologiques du Québec” and provided feedback on obligations to provide data to headquarters.

AMDAR Content Expert (Feb 2005 to Dec 2007). Acted as a link between clients, data provider (CMC), and the computer science group; Provided advice and documentation; Created Use Cases (High Level, Metadata, and Data Elements) for the AMDAR messages received in BUFR format; Created Measurement Information for Phase 1, 1st and 2nd deployment; Validations to ensure data is ingested according to requirements.

Impact Assessment of upcoming changes to MANOBS 7th Edition on the Archive and Quality Assurance and Quality Control (QA/QC) system (Aug-Oct 2007). I described the changes in observing practices compared to current procedures; reviewed the QA/QC checks affected and impact on observational elements.

ISO 9001:2000 (May-June 2006). Assisted the Head of Engineering Climate Services with the review of ISO 9001:2000 WES Board Gap Assessment Report for items related to 2A1g (All monitoring data is stored and easily accessible). Performed a review of the gap assessment and identified errors, omissions, and rewording of given sections. Performed an inventory of documents related to 2A1g posted in three different websites: Data Analysis and Archive Division’s (DAAD) intranet, MSC’s external website, and the Data Management Framework (DMF) SharePoint site.

Web Applications (Apr-Jul 2006). Researched web applications accessible from 2 intranet NADM sites. Identified the web applications that could be improved, provided comments for individual applications and amount of work required.

New NAS Elements (Apr 2005-May 2006, Aug 2007). Wrote requirements for new elements. Created Use Cases to extract elements from bulletins. Performed testing. Acted as content expert for new elements introduced and/or added to the Archives. Prepared documentation for Climate Services group (for announcements and update of Technical Documentation). Updated spreadsheet including status of the one-minute elements and new RCS elements Phase 2.

Archive Integrity - SR50 Snowfall Study (Fall 2005-Mar 2006). Goal: Determine if SR50 data should be archived as the same element as the manned snowfall data. I reviewed the project plan, re-evaluated tasks, duration, etc. I reviewed raw data provided; investigated calculation methods for hourly and daily snowfall; compared raw and QC daily data; communications with snowfall experts; identified discrepancies between co-located sites; documented results & experiments; from the outcome of the study, drafted recommendations (incl. Pros & cons) and prepared a condensed report with our findings.

Data Quality Control Specialist (PC-01, PC-02), July 2002 to July 2005

Data Analysis and Archive Division (DAAD), WEM, MSC, Environment Canada

Acting as Data Specialist between November 17, 2003 and July 03, 2005.

Operational QA/QC (Jun-Dec 2004): Ensured data completeness; perform manual quality control of hourly, synoptic and daily data; document datablasts from automatic stations; and report suspicious and erroneous data to the National Monitoring Desk.

Basic Weather Observation Course (Oct 13-26, 2004), Environment Canada. Modules on: clouds, weather phenomena, sky conditions and synoptic bulletins.

Precipitation Project / Range Checks (Jul 2002-Jun 2004). Goal: Improve the current range checks that consist of a single upper value (50 mm) valid for all seasons and all stations in Canada. Extracted data from the National Climate Archives; performed statistical analysis (basic statistics, ANOVA analysis) on synoptic and hourly precipitation data, and on daily total snowfall data; determined dynamic regional and seasonal Upper Limits from Box-Tukey diagrams; and validation with historical data.

Precipitation Project / Spatial Checks. Goal: Develop a near real-time spatial check for the occurrence of total precipitation data. Established a methodology based on binary combinations (14) using data from 7 neighbouring stations; extracted DLY04 data for 1985-1990 from the National Climate Archives; calculated monthly and seasonal probabilities of precipitation occurrence for various cases. We used prototype-areas: Vancouver (BC), Edmonton (AB), London (ON), and PEI.

Client Support (Jul 2002-Jul 2005). Responded in French to general requests for Climate Services; answered requests and provided weather data in French, on behalf of the Greenlane-MSC; translation of web-based information for Climate Services primarily related to the Archives Online website; review the translation of a large technical document on EnviroDat; and contact clients by phone or email on behalf of unilingual co-workers.

Disabled Person's Assistant for writing exams, 2002, Université de Sherbrooke, Sherbrooke (QC)

Teachers' Assistant, 2000-2001, Université de Sherbrooke, Sherbrooke (Québec)

Subject: - Fundamentals of Climatology (Géo 101); - Specialized Climatology and Hydrometeorology (Géo 415); - Interpretation of Maps and Aerial Photographs (Géo 304)

Field Technician for SeaWifs/St.Lawrence 2000 Field Campaign, May 23-29, 2000

Subject: Data collection with a solar photometer (Crestech Microtops) on the North shore of the St.Lawrence river (from Sept-Iles to Baie St-Paul, Québec).

Internship / Work Terms

Summer Intern Program, Aug-Sep 2001, University of Fairbanks Alaska (UAF), Fairbanks (Alaska)

Subject: Use of the delta-Eddington model to compute apparent and inherent extinction coefficients of snow.

(FINNARP) 99/00 field season, Dec 1999-Feb 2000. Data collection with spectroradiometer (ASD PSII) of upwelling radiance at various depths in snow and ice.

Research Assistant for Climatology Professor and Master's Degree Candidate, May-Aug1997

Université de Sherbrooke, Sherbrooke (QC) and McGill Subarctic Research Station, Schefferville (QC)

Subject: - Ring growth analysis (dendrochronology), - spectroradiometric data collection on various

surfaces, and analysis of meteorological data.

Work term in Geomatics, Jan-Apr 1997, Legal Surveys Division, Whitehorse (Yukon)

Subject: From surveyor's plans, build topology (CARIS) on cadastral framework, validation and modification of cadastral lines, use of SIRS program.

Assistant City-Planner, May-Aug 1996, Ministère des Transports, Longueuil (Québec)

Subject: - Road safety study on Taschereau boulevard; - Urban mapping (MRC Les Mascoutains); - Data survey (socio-economic portrait of Montérégie).

Key Projects

Project:

1991-2020 Canadian Climate Normals

Organization:

Environment and Climate Change Canada – Federal Government of Canada

Industry:

Government

Specializations:

Climatology, Client Services

Project Duration:

September 2021 to March 2025

Project Location:

Toronto, Ontario, Canada

Project Aims:

Produce 30-year averages for as many locations and as many climatic characteristics as possible. The Climate Normals, Averages and Extremes are based on Canadian composite stations with at least 15 years of data between 1991 and 2020. Climate Normals and Averages are used to describe climatic conditions at a particular location. They are used as a baseline for expected conditions by a wide range of economic sectors (e.g. agriculture, transportation, tourism, energy, forestry) for decision-making.

Roles and Responsibilities:

Manager of the Data Products and Services Section – Responsible for the production of the 1991-2020 Canadian Climate Normals, including processes such as:

- *station threading,*
- *analysis of station joins suitability,*
- *data quality control,*
- *establish a phased-in approach,*
- *project planning, tracking and reporting,*
- *web design and content publication.*

Key Project Highlights:

- Manage the production and publication of the climate normals.
- Project planning, tracking and reporting.
- To optimize the delivery of the product, I established a 5-phase approach to divide the number of locations and accelerate the data quality review process, production of 3 test runs and validations, followed by an operational run to produce final values.
- Coordination of activities from teams of data specialists, informatics technology enablers, database specialists, and web dissemination team.
- Ensure consistency with previous editions of the product and ongoing engagement with climate services specialists, answering frontline inquiries.

- Create briefing material for the Assistant Deputy Minister, communication lines and frequently asked questions to inform the Applied Climatology team and Canadians of the scheduled release plan.
- Conduct project closure activities with lessons learned consultation meetings and report.

Project Outcomes:

My team was awarded a departmental award (Monitoring Strategies and Data Services Impact Award) in the category of Resilience.

Presentations on the project were done as part of a seminar series for Environment and Climate Change employees, for which over 100 people attended. An abstract was submitted and accepted for presentation in May 2025 at the Canadian Meteorological and Oceanographical Society Congress.

The 5-phase publication schedule increased the production speed and release of normals data. The Communication lines and FAQs clarified expectations for locations and elements to be released. Project management principles ensured project kept on track, risks and issues were identified and mitigated in a timely manner, resources were reallocated on priorities.

- The product's publication began in September 2023 and concluded in December 2025. Climate Normals, Averages and Extremes are available for 450 locations across the country and are made up of data from 938 stations. Staple elements were produced, and new ones were introduced, such as precipitation quintiles, extremes for the normal period. Threading concept was introduced on the Historical Climate Data website, with data and metadata download packages available and the addition of a new bulk download tool. Lessons learned were conducted to identify opportunities to implement prior to the next edition of the product, at the end of the next decade.

The climate normal are a staple product for the Meteorological Service of Canada. This edition of the product had increased complexity due to changes in the observational practices, data management systems, and staff overturn.

Supporting:

Upcoming presentation at the Canadian Meteorological and Oceanic Society Conference. Abstract Accepted.

> Cerny, C., Nguyen, D., 2025: 1991-2020 Canadian Climate Normals. CMOS, May 25-29, 2025, Sakskatoon (hybrid congress), Session 4061: Canadian Climate Services, Impact Assessment, and Actionable Climate Information – Part 2.
> https://cmos.in1touch.org/company/roster/companyRosterDetails.html?companyId=76844&companyRosterId=49&no_header=true&bodyonly=true&language=en_CA#

Link to access the 1991-2020 Canadian Climate Normals:
https://climate.weather.gc.ca/climate_normals/index_e.html

Project:

State of Snowfall Monitoring Observations in Canada Report

Organization:

Environment and Climate Change Canada, in collaboration with provincial and territorial governments, Utilities, and Academia.

Industry:

Government, Academia, Energy, Industry

Specializations:

Snowfall, snow water equivalent, solid precipitation, total precipitation. Climate observations, instrumentation, metadata.

Project Duration:

Fall 2022 to Fall 2025

Project Location:

Toronto, Ontario, Canada

Project Aims:

The Canadian Council for Weather and Climate Monitoring (CWAC), a governance mechanism between Environment and Climate Change Canada and its provincial and territorial counterparts, has assembled a working group that was tasked with developing a comprehensive assessment of the state of snow monitoring in Canada. The working group is comprised of representatives from snow monitoring network operators from territorial, provincial and national agencies, the avalanche sector, municipal utilities, and hydroelectric utilities.

Roles and Responsibilities:

Co-lead of the CWAC Snow Working Group – Assemble working group, plan activities, oversee survey development, analysis of results. Lead author for certain sections and reviewer responsibility. Liaise with

Senior Management, stakeholders, and Communications department for web publication of the report in French and English. Fall 2025 is targeted for publication.

Key Project Highlights:

The working group is comprised of representatives from snow monitoring network operators from territorial, provincial and national agencies, the avalanche sector, municipal utilities, and hydroelectric utilities.

- Over 80 network operators were invited to complete a survey, describing their observation practices in reporting snow elements for new snowfall and the snowpack, such as depth of snowfall, snow water equivalent, total precipitation, density, hardness, liquid content. Questions covered instrumentation, sampling interval, quality assurance practices, data processing. An inventory of in-situ observations were collected.
- Survey results, inventories and expertise of the Snow Monitoring Working group was used to assemble the report. The report seeks to characterize the major operational snow monitoring networks in Canada, including their technologies, instrumentation, network densities, and processes.

Project Outcomes:

The State of Snowfall Monitoring Observations in Canada Report is near completion. It is currently undergoing peer-review and departmental content approval. Information contained in the report will act as a reference guide for snow data available in Canada. It can be used to raise awareness of the differences in current methods and to potentially improve standardization. The observational practices described are presented by element, such as total snow depth, water equivalent of snow cover, and precipitation. Regional analysis is accompanied by maps that show a snapshot of current distribution of surface-based monitoring stations. The report contains information on data production, dissemination and usage. Strengths and weaknesses of Canadian snow observation systems are summarized, and recommendations are provided. Once finalised, the report will be listed in the Canada.ca website as a PDF publication.

Ahead of publication, I will make a presentation at the upcoming 2025 Canadian Meteorological and Oceanographic Society Conference to inform the community of the upcoming report. The abstract was accepted and session presentation is scheduled for May 27, 2025.

Supporting:

Upcoming presentation at the Canadian Meteorological and Oceanic Society Conference. Abstract Accepted.

> Cerny, C., Weber, F., McLeod, S., 2025: State of Canadian Snow Observations (Draft) Report. CMOS, May 25-29, 2025, Sakskatoon (hybrid congress), Session 6011: Observation and modelling snow and glacier processes – Part 2.
> https://cmos.in1touch.org/company/roster/companyRosterDetails.html?companyId=76845&companyRosterId=49&no_header=true&bodyonly=true&language=en_CA

Project:

Meteorological Exhibit "Observing the Weather: A Canadian Contribution to Aviation"

Organization:

Environment and Climate Change Canada – Federal Government of Canada

Industry:

Government, Commercial Aviation, History, Education

Specializations:

Climatology, Aviation, Education

Project Duration:

1.5 years, from August 2010 to February 2012

Project Location:

Toronto, Ontario, Canada

Project Aims:

As part of Environment Canada's 40th and Meteorological Service of Canada's 140th anniversary celebrations, the Meteorological Service of Canada and the Greater Toronto Airports Authority (GTAA) collaborated to develop an exhibit that showcases the history of weather observing and contributions to aviation in Canada. The exhibit will be on display at the Malton Gallery, located in Terminal 1 for a 6-month duration.

Roles and Responsibilities:

Project Lead – Responsible for contributions on the Meteorological Service of Canada. Collaborating with the curator for Art Display at the Pearson International Airport (GTAA) to develop the exhibit. I did a literature review, created the exhibit content, obtained instruments to use for display, packaged equipment, set up exhibit on-site, obtained senior management (up to Assistant Deputy Minister level) and Communications approvals, prepared Briefing Note for a Member of Parliament (MEP). I had to ensure the project was on track for the exhibit to open on the scheduled date and for all components (final content panels reviewed, approved and printed, as well as maps and equipment) to be ready on time.

Project Outcomes:

The exhibit "Observing the Weather – A Canadian Contribution to Aviation" was on display for 8 months at the Malton Gallery of Toronto Pearson Airport. The exhibit opened in July 2011. A reception ceremony was held with Stella Ambler, member of the Canadian Parliament doing opening remarks

based on the material I had prepared. In parallel, an a juried art exhibit was launched. The exhibit was dismantled in February 2012 and all instruments and exhibit panels were returned to Environment Canada for archival.

The exhibit was advertised within Environment Canada through an internal newsletter. The meteorological and juried art exhibits were advertised within the Toronto Airport's newspaper.

Project:

Ontario Monthly Weather Review

Organization:

Environment and Climate Change Canada – Federal Government of Canada

Industry:

Government

Specializations:

Weather, Climate, Client Services, Media, Education

Project Duration:

September 2009 to May 2019

Project Location:

Toronto, Ontario, Canada

Project Aims:

To produce a monthly bulletin issued as a media release, providing a summary of weather conditions of the month, description of severe weather events and an outlook of conditions to expect for next month.

Roles and Responsibilities:

Coordinator/Officer Climatologist for the Prediction Services Directorate – Lead for the summary section of the past month's conditions for the Canadian province of Ontario. Data retrieval, analysis and tabulation of the monthly temperature and precipitation totals. Comparison of the monthly totals to normal (30-year) values to calculate anomalies and describe the past conditions. Assemble the report, edition, and distribution. Review of translated material prior to distribution. Conduct media interviews for location-specific requests. Over the years, I was also involved in standardizing the format of the bulletin for the provinces of Ontario and Quebec.

Key Project Highlights:

The operational product was created in collaboration from the climate group and warning preparedness group. Content was edited by the Communications department. Prior to publication, it went through program and communications approval, was translated and distributed either as a news release on an external website or by email and fax to subscribed members. The distribution list was composed of media outlets, radio and print, provincial emergency management organization, provincial Canadian governments, the National Oceanic and Atmospheric Administration (NOAA) of the United States government, and Canadian crown organizations and commercial industries.

Following the release of the monthly review, media outlets contacted Environment Canada to conduct interviews to get information specific to their location in the province.

Project Outcomes:

The Ontario Monthly Weather Reviews were produced and distributed in a timely manner, at the end of each month. Over the years, they were distributed as a web news release, and by fax and as a PDF document to a list of approximately 400 subscribers.

Supporting:

Example of media interviews generated following the release of the monthly weather bulletin.

- MuskokaTODAY.com (May 4, 2019) Flooding fueled by double normal rain in April, https://muskokatoday.com/2019/05/flooding-fuelled-by-double-normal-rain-in-april/
- Sudbury.com (May 5, 2010) 2009-2010 winter fifth driest in Ontario history, https://www.sudbury.com/local-news/2009-2010-winter-fifth-driest-in-ontario-history-228713

Project:

Integrated Seasonal Vigilance Bulletin for the province of Ontario

Organization:

Environment and Climate Change Canada – Federal Government of Canada

Industry:

Government

Specializations:

Weather, Climate, Client Services, Media, Education

Project Duration:

September 2009 to May 2019

Project Location:

Toronto, Ontario, Canada

Project Aims:

To produce a seasonal bulletin providing a summary of weather conditions of the climatological season (3 months), description of the most notable severe weather events, overview of hydrological and agricultural conditions, and an outlook of conditions to expect for next season.

Roles and Responsibilities:

Coordinator/Officer Climatologist for the Prediction Services Directorate – Lead for the summary section of the past season's conditions for the Canadian province of Ontario. Data retrieval, analysis and tabulation of the temperature averages and precipitation totals. Comparison of the seasonal values to normal (30-year) values to calculate anomalies and describe the past conditions. Assemble the report, edition, and distribution by email. Review of translated material prior to distribution. The product was delivered by virtual presentation with provincial government representatives, emergency managers, and insurance boards. Over the years, I was also involved in standardizing the format of the seasonal bulletin across the country and developing a template for use in provinces or territories that were not producing it.

Key Project Highlights:

The operational product was created in collaboration from the climate group and warning preparedness group, with contributions from other federal governments such as Agriculture and Agri-Food Canada and the Canadian Ice Service. The product was delivered via virtual presentation to provincial emergency management organizations, and provincial Canadian governments.

Project Outcomes:

The Ontario Integrated Seasonal Vigilance Bulletins were produced and distributed in a timely manner, at the end of each quarter. Over the years, it was distributed as a presentation deck and verbally via a Webex call with subscribers and stakeholders.

Project Title:

New National Climate Archive System Elements

Organization:

Environment and Climate Change Canada – Federal Government of Canada

Industry:

Government

Specializations:

Climatology, Client Services

Project Duration:

April 2005 to August 2007

Project Location:

Toronto, Ontario, Canada

Project Aims:

The aim of the project was to make additions to the Meteorological Service of Canada's National Climate and Information Archive from Environment Canada and partner networks from the Doppler RADAR, Aviation network, and from the Canadian Upper Air Observing Program, including the Canadian Aircraft Meteorological Data Relay (AMDAR) Program. With the proliferation of automatic weather and climate stations, there has been a rapid increase in the number of variables being reported. Due to the high volume of new weather and climate elements and finer sampling intervals, some climate, marine and hydrometric elements being observed are not decoded, quality controlled or ingested in the MSC digital archive. The Archives also had to be retooled to handle non-traditional data, as it was designed to handle stationary point form data.

Roles and Responsibilities:

Data Specialist – Wrote requirements for new elements. Created Use Cases to extract elements from bulletins. Performed testing. Acted as content expert for new elements introduced and/or added to the Archives. Prepared documentation for the Climate Services group, intended to answer inquiries from the general public and allow retrieval of the new elements. Updated the Technical Documentation available on the external website. Updated spreadsheet including status of the one-minute elements and new RCS elements Phase 2. Presented findings at the 22nd International Conference on Interactive information Processing Systems for Meteorology, Oceanography and Hydrology, at the 2006 American Meteorological Society Conference in Atlanta, United States. Co-wrote abstract and deck for presentation at the Canadian Meteorological and Oceanographic Society's 2006 conference.

Key Project Highlights:

- *In the past, many of these new elements could not be accommodated by the existing alphanumeric bulletins, and consequently only the raw data were archived, but were not in a usable format. The New Elements project was initiated to assess the work required in order to archive new weather and climate elements. New daily, hourly and one-minute data were considered as candidates for archiving.*
- Archive and increase access to new elements, to keep up with the proliferation of automatic weather and climate stations, generating a rapid increase in the number of variables, finer data sampling interval and non-stationary data.
- Develop new element taxonomy, create use cases to validate decode process, and create documentation to describe elements, units, processing.

Project Outcomes:

In 2006, several new elements were made available in MSC's digital archive. Volume scans and images data from Doppler RADAR were made available. New elements added from the Hourly Aviation network include altimeter setting, new cloud layers, obscuring phenomena, wind character and wind gust speed. Twenty-five new Reference Climate Station (RCS) elements pertaining to precipitation, wind, and solar radiation were also added. New Upper Air elements from the Canadian Upper Air Observing Program include wind speed, wind direction, altitude above sea level, and pressure. Some messages also contain relative humidity and temperature.

Supporting:

Cerny, C., Sopoco, T.H, Tiongson, K., 2006: Upgrades to the MSC's National Climate and Water Archives. Proceedings of the 22nd International Conference on Interactive Information Processing Systems for Meteorology, Oceanography, and Hydrology (IIPS). AMS, Jan 29-Feb 2 2006, Atlanta, Georgia, 4.6 (CD-Rom). https://ams.confex.com/ams/Annual2006/techprogram/paper_100792.htm

Tiongson, K, Cerny, C., Sopoco, T., Jarrett, P., 2006: Additions to the MSC's National Climate and Information Archive from Environment Canada and partner networks. Atmospheric Networks and Observatories. CMOS, May 29 - June 1 2006, Toronto, Ontario, 3B1.7. https://cmosarchives.ca/Congress_P_A/program_abstracts2006.pdf

Publications

Cerny, C. and Gravelle, K. (2008) SharePoint 2007 - Site Administrator Guide. DAAD/WEM/MSC. Internal document, V1.0 April 10 2008, 29 pages.

Gravelle, K. and Cerny, C. (2008) SharePoint 2007 Guide. DAAD/WEM/MSC. Internal document, V2.0 April 24 2008, 20 pages.

Cerny, C. (2008) Impact Assessment of changes to MANOBS Seventh Edition on the Archive & QA/QC system. DAAD/WEM/MSC. Internal document, V4.0 April 9 2008, 10 pages.

Cerny, C. (2008) Quebec MDDEP TBRG data reformatting. DAAD/WEM/MSC. Internal document, February 26 2008, 11 pages.

Cerny, C. (2008) REFORMATTING TOOL (in Access) FOR MDDEP TBRG DAILY CARDS. (Translated from Malepart, M. (2007) DÉCODEUR DES CARTES JOURNALIÈRES DE PLUVIOMÈTRE DU MDDEP. Internal document, MSC, Montreal, 10 pages.)

Tiongson, K, Cerny, C., Sopoco, T., Jarrett, P., 2006: Additions to the MSC's National Climate and

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Personal Interests and Activities

Divemaster (professional scuba diving certification), Pleasure Craft Operator, Restricted Operator's Certificate (Maritime) with DSC Endorsement. President of the parents committee at my daughters' high school.