CHANTALE CERNY, M.Sc

CLIMATE DATA & ENVIRONMENTAL SERVICES LEADER (23 years experience)

Manager, Data Products & Services
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Highly accomplished climate data and environmental services specialist with over 23 years of federal government experience at Environment and Climate Change Canada (ECCC).

Location: Toronto, Canada (intending permanent relocation to Australia)
Language: English (fluent), French (fluent)
Citizenship: Canadian

PROFESSIONAL PROFILE

Highly accomplished climate data and environmental services specialist with **over 23 years of federal government experience at Environment and Climate Change Canada (ECCC)**. I have led the design, modernisation, and operational delivery of national climate datasets and monitoring systems that underpin climate adaptation, renewable energy planning, water resource management, and public safety across Canada.

My work sits at the intersection of climatology, data systems, monitoring governance, and public communication**. I manage large multidisciplinary teams**, **significant public-sector budgets**, **and multi-jurisdictional partnerships spanning federal, provincial and territorial agencies, academia, utilities, and industry**.

I am now seeking to bring this experience to Australia, contributing to the **Tier 1 national priority sector of Clean Energy & Renewables**, including climate intelligence, climate modelling and environmental data systems. My family and I intend to permanently relocate to Australia, where **I can support national initiatives in climate resilience, energy transition, and environmental governance**.

A. Priority Sector Alignment – National Innovation Visa (Subclass 858)

Tier 1 – National Priority Sector: Clean Energy & Renewables / Climate & Environmental Intelligence

1) **Design and leadership of national climate reference datasets used as inputs by:**
   - renewable energy and grid planning
   - infrastructure design and climate-risk assessments
   - water and hydrological resource modelling
   - sectoral adaptation (agriculture, transport, insurance)

2) **Governance of environmental monitoring networks and intergovernmental councils, directly relevant to:**
   - integrated national observation frameworks
   - standardisation of climate and hydrometeorological data

3) **Oversight of climate data platforms and archives, including QA/QC frameworks and public-facing web services, critical to:**
   - climate services for government, industry, and communities
   - early warning, emergency management, and public communication

These skills are directly transferable to Australian institutions such as the Australian Climate Service, Bureau of Meteorology, CSIRO, state environment and water agencies, and energy system planners.

B. Key Skills & Capabilities

1) Climate Data Systems & QA/QC

- Design and oversight of national climate archives and reference datasets.
- Development of quality assurance/quality control protocols and validation workflows.

2) Environmental Monitoring & Governance

- Coordination of multi-agency observation networks across federal, provincial and territorial partners.
- Co-lead of snow and hydrometeorological monitoring governance working groups.

3) Program & People Leadership

- Management of teams of 12–15 professionals plus students and casual staff.
- Budget responsibility, project planning, risk management and reporting.

4) Climate Services & Public Communication

- Long-running production of public climate bulletins and seasonal briefings.
- Media interviews, stakeholder briefings, and advice to senior officials.

5) Stakeholder & Intergovernmental Engagement

- Negotiation and implementation of **Memoranda of Understanding** and data sharing agreements.
- Collaboration with utilities, emergency authorities, agricultural agencies, and research partners.

6) Bilingual Communication & Knowledge Translation

- Fluent in English and French.
- Skilled at turning complex climate and environmental data into actionable guidance for non-technical decision-makers.

C. Selected Career Highlights

1) Manager of Data Products & Services – Meteorological Service of Canada, ECCC (2021–present)

Led the production of **1991–2020 Canadian Climate Normals**, a flagship national dataset based on data **from 938 stations** and used as a baseline for climate trends across sectors **including energy, agriculture, transport and infrastructure**.

Introduced a five-phase delivery model, modern station-threading concepts and enhanced web dissemination through the Historical Climate Data website, **earning a Monitoring Strategies and Data Services Impact Award for resilience and innovation**.

Also led the production of Climatological Standard Normals or CLINO for the World Meteorological Organization as Canada's contribution to global update of climate datasets.

2) Co-Lead, State of Snow Monitoring Observations in Canada Report (2022–present)

Co-led the **national State of Snow Monitoring Observations in Canada Report**, coordinating the aggregation of data and metadata from **more than 80 monitoring operators across governments, utilities, and academia**.

Oversaw survey design, data analysis, and report drafting to characterise Canadian snow observations, identify gaps, and **propose improvements for hydrological and climate adaptation planning**.

3) Head, Climate Services Centre – Prediction Services Central Region, ECCC (2019–2021)

Led a team delivering climate services to governments and emergency managers, including **the Ontario Monthly Weather Review and Integrated Seasonal Vigilance Bulletin**, key tools for seasonal risk awareness and planning.

EDUCATION

MASTER OF SCIENCE, M.Sc IN PHYSICAL GEOGRAPHY, UNIVERSITY OF SHERBROOKE, CANADA (1999-2004)

BACHELOR OF SCIENCE, B. Sc IN PHYSICAL GEOGRAPHY, UNIVERSITY OF SHERBROOKE, CANADA (1995-1998)

MEMBERSHIPS

- **Canadian Association of Geographers, Current Member (2025)**
- **Canadian Meteorological and Oceanographic Society, Current Member (2025)**
- **Australian Council for Educational Leaders, Current Member (2025)**

AWARDS

- **20 years of Long Service – Environment and Climate Change Canada / Government of Canada (March 20th, 2022)**
- **Team award - Monitoring Strategies and Data Services Impact Award (May 2025)**

PERSONAL INTERESTS AND ACTIVITIES

I am a certified PADI **Divemaster** with professional scuba diving qualifications, reflecting strong discipline, situational awareness, and a commitment to marine and environmental stewardship. I also hold a **Pleasure Craft Operator Certificate** and a **Restricted Operator's Certificate (Maritime) with DSC Endorsement**, demonstrating advanced knowledge of maritime safety and communications. In addition, I am actively involved in community leadership and currently serve as **President of the Parents' Committee** at my daughters' high school, where I support school governance, family engagement, and student wellbeing initiatives.

PROFESSIONAL EXPERIENCE

Position: **Manager of Data Products and Services (Physical Scientist-04)**
Monitoring and Data Services Directorate, Meteorological Service of Canada (MSC), Environment and Climate Change Canada (ECCC)

Period: **September 2021 to present**

Role Responsibilities:

- Provide strategic **financial and human resources leadership** for the Products and Services Unit (formerly the Data Services and Partnerships Unit), reporting directly to the Director of the Data, Partnerships and Program Support Division. Lead and manage a multidisciplinary team of **12–15 professionals**, including meteorologists, physical scientists, students, casual, term, and indeterminate staff, and oversee workforce planning and recruitment for specialist physical scientist roles, including a national competitive process with over **140 applicants** at the PC-03 level.
- Lead **climate product rationalisation initiatives** to improve efficiency, relevance, and national alignment of climate data products, ensuring consistency with domestic priorities and international standards.
- Oversee the **production, validation, and delivery of the 1991–2020 Climate Normals**, contributing to official datasets published for the **World Meteorological Organization** and Canada's national climate services, supporting climate risk assessment, policy development, and public access via web platforms.
- Direct the **operational management of national climate data platforms**, including the Historical Climate Data website and the internal data extraction system *Discoverii*, ensuring reliability, accuracy, and accessibility of mission-critical climate information used by government, industry, researchers, and the public.
- Act as a senior **client liaison**, engaging with diverse stakeholders across government, industry, and research sectors to ensure climate products and services meet evolving user needs and support evidence-based decision-making.
- Manage the **Collaborative Monitoring portfolio**, including oversight of the Council for Weather and Climate Monitoring, serving as a national governance mechanism for engagement with provincial and territorial governments. Lead and negotiate **Memoranda of Understanding** to advance intergovernmental data-sharing agreements with provinces, territories, and other government agencies.
- Provide strategic leadership in **client segmentation** and co-lead a **national working group on snow observations**, strengthening Canada's climate monitoring capability and supporting resilience, forecasting, and climate adaptation initiatives.

Position: **Head of Climate Services Centre (Physical Scientist-04)**
Prediction Services - Central Region
Meteorological Service of Canada (MSC), Environment and Climate Change Canada (ECCC

Period: **May 31st, 2019 to September 2021**

Role Responsibilities:

- Provide **financial and human resources leadership** for the Applied Climatology Services Unit, managing a team of **eight specialists** and overseeing recruitment and workforce planning across multiple classifications, including students, casual staff, PC-01, PC-02, and senior assignments at the **MT-05** level.

- Lead the **harmonisation of climate service processes** across the Central Region, including responses to climate information requests and the coordinated delivery of **provincial monthly and seasonal climate bulletins**, ensuring consistency, quality, and alignment with national service standards.
- Drive the **transformation of the climate services portfolio**, guiding the team through organisational change and the modernisation of service delivery. Lead the development of a **climate services management dashboard** to support executive decision-making and advance the adoption of a **standardised national format** for monthly climate bulletins.
- Actively contribute to **internal, national, and international climate governance and coordination forums**, including:
    - Chairing a **national Working Group on Climate Services.**
    - Participating in the **Archive Renewal & External Requirements Working Group.**
    - Participating in the **Canadian Centre for Climate Services (CCCS) Support Desk Working Group.**
    - Serving as **Secretariat for the Ontario Climate Advisory Committee.**
    - Co-President of the **Comité changement climatique (CCC)** under the **Plan d'action Saint-Laurent (PASL).**
    - Member of the **Great Lakes Water Quality Agreement (GLWQA) – Annex 9 Sub-Committee.**
- Ensure the delivery of climate intelligence products under the **North American Climate Services Partnership (NACSP)**, including **Great Lakes Quarterly and Annual Climate Bulletins**, produced in close collaboration with the **U.S. National Oceanic and Atmospheric Administration (NOAA)**, supporting cross-border climate monitoring and resilience initiatives.
- Provide **strategic advice and evidence-based recommendations** to senior management on climate risks, climate services delivery, and emerging priorities, supporting policy development and operational decision-making at regional and national levels.
- Support the **advancement of national climate service objectives**, contributing to improved coordination, stakeholder engagement, and the delivery of authoritative climate information to governments, industry, and communities.

Position: **Coordinator / Officer Climatologist (Physical Scientist-03)**
Prediction Services - Central Region
Meteorological Service of Canada (MSC), Environment and Climate Change Canada (ECCC
*Acting Manager of Climate Services (MT-07 level) on nine occasions, for periods ranging from one week to two months.

Period: **September 2009 – May 2019**

Role Responsibilities:

- Provide **supervisory and mentoring leadership** to professional and junior staff, including direct supervision of a PC-02 officer and oversight of indeterminate employees, university students, and secondary school students. Responsibilities included setting objectives, allocating duties, establishing performance measures, approving leave, and ensuring quality and timely delivery of work. During acting management assignments, led teams of **7–8 staff**, and provided structured mentoring programs with defined milestones, achievable goals, and practical assignments.

- Lead and support **workforce planning and staffing processes** across multiple classification levels (PC-01, PC-02, PC-03, and MT-05), including drafting Work Descriptions and Statements of Merit Criteria, screening candidates, administering and marking written assessments, conducting interviews, and ranking candidates in accordance with public service recruitment standards.
- Ensure the **delivery of authoritative climate services** for Ontario and oversee **cost-recovery climate services** for the Prairies and Northern Region, supporting government, industry, and public-sector decision-making.
- Contribute to the **centralisation of financial operations** related to Vote-Netted Revenue (VNR), improving transparency, efficiency, and governance of climate service funding.
- Support **climate services operations and continuity**, including coordination of support services essential to the reliable delivery of climate information.
- Act as an official **media spokesperson**, conducting interviews related to monthly climate reviews.
- Act as a material witness to provide **expert testimony in court** to interpret and explain historical weather and climate records, demonstrating high levels of professional accountability and credibility.
- Serve as a **climate observer** for the Canadian Cooperative Climate Station (Toronto North York), contributing to the integrity and continuity of Canada's national climate observing network.
- Provide **operational leadership during critical system failures**, coordinating responses to data retrieval tool outages. Organised staff training sessions, developed training materials, and contributed to **User Requirements** for the replacement of legacy GRP tools, supporting system modernisation and resilience.
- Serve as **Secretariat for the Ontario Climate Advisory Committee**, and contribute to numerous national and operational forums, including:
    - Climate Operations Group (COG), acting as **Chair** for one year
    - Climate Normals Advisory Committee (NAC)
    - 2304 Processing and Life-Cycle Working Group
    - MSC Operational Weather Summaries Working Group
    - Water and Climate Summits
    - Data Quality Management Workshops
- Act as **Project Lead** for the public exhibit *"Observing the Weather – A Canadian Contribution to Aviation"*, displayed for six months at the Malton Gallery, Toronto Pearson Airport. Led the MSC contribution as part of Environment Canada's 40th anniversary and MSC's 140th anniversary celebrations, including developing exhibit content, sourcing and packaging historical instruments, coordinating on-site installation, securing senior executive (ADM) review, and preparing briefing materials for Members of Parliament.
- Contribute climate expertise to **Business Continuity Planning (BCP)** exercises in preparation for the **G8/G20 Summits (June 2010)**, providing climate intelligence for the Muskoka and Toronto regions. This information supported contingency planning and tabletop emergency exercises for national and international security events.
- Manage **contracting and procurement activities** related to climate data key-punching and the scanning of surface analysis maps, ensuring data preservation and accessibility.
- Prepare **high-level briefing materials** for senior management, Directors, and Members of Parliament, summarising key issues discussed at meetings and workshops, supporting Ministerial visits, and informing opening speeches for public and government-facing events.

Position: **Data Specialist (PC-02)**
Data Analysis and Archive Division (DAAD), Weather and Environmental Monitoring (WEM)
Meteorological Service of Canada (MSC), Environment Canada

Period: **July 2005 – September 2009**

Role Responsibilities:

- Led the **design and implementation of the DAAD SharePoint platform** (October 2007 – March 2009), including development of site architecture, document management frameworks, and large-scale content migration. Prepared **Administrator and User Guides** and delivered staff training sessions, strengthening knowledge management and operational efficiency within a national climate data division.
- Managed the **reformatting and integration of Quebec MDDEP Tipping Bucket Rain Gauge (TBRG) data** (October 2007 – April 2008), covering the 1996–1999 period. Liaised with provincial data providers, headquarters staff, regional subject-matter experts, and database specialists to design, test, and implement a reformatting tool compliant with **MSC national standards**. Exercised technical judgment and problem-solving to ensure data integrity due to its direct impact on **Intensity–Duration–Frequency (IDF) curves**, which underpin infrastructure design and climate risk assessment. Prepared a reusable information package for future MDDEP data ingestion and reviewed the **Canada–Quebec climatological networks MOU**, providing governance feedback on data-sharing obligations.
- Served as **AMDAR Content Expert** (February 2005 – December 2007), acting as the primary interface between end-users, data providers (Canadian Meteorological Centre), and computer science teams. Developed technical documentation and **Use Cases** (high-level, metadata, and data elements) for AMDAR observations transmitted in **BUFR format**, and defined Measurement Information across multiple deployment phases. Conducted data validation to ensure accurate ingestion into national archives.
- Led the **impact assessment of changes to MANOBS (7th Edition)** on archival systems and **Quality Assurance / Quality Control (QA/QC)** processes (August – October 2007), analysing changes in observing practices, identifying affected QC checks, and assessing implications for long-term climate records.
- Supported **ISO 9001:2000 compliance activities** (May – June 2006), assisting senior leadership with review of the WES Board Gap Assessment Report relating to data storage and accessibility. Conducted detailed gap analysis, identified errors and omissions, and completed a comprehensive inventory of climate data documentation across internal and external platforms, including DAAD intranet, MSC public websites, and the Data Management Framework (DMF) SharePoint site.
- Conducted evaluations of **web-based applications** (April – July 2006) across multiple intranet platforms, identifying opportunities for improvement, assessing development effort, and providing structured recommendations to support system optimisation.
- Authored **requirements and technical documentation for new NAS elements** (April 2005 – May 2006; August 2007), including creation of extraction Use Cases, system testing, and acting as content expert for newly introduced archival elements. Prepared documentation for Climate Services announcements, updated technical references, and maintained national tracking of one-minute and RCS Phase 2 elements.

- Led the **Archive Integrity – SR50 Snowfall Study** (Fall 2005 – March 2006), evaluating whether automated SR50 snowfall observations should be archived alongside manual snowfall data. Reviewed raw and QC datasets, analysed calculation methodologies, coordinated with snowfall experts, identified discrepancies at co-located sites, and documented experimental findings. Prepared evidence-based recommendations, including advantages and limitations, and delivered a concise technical report to inform national archival policy.

Position: **Data Quality Control Specialist (Physical Scientist-01/ Physical Scientist-02)**
Data Analysis and Archive Division (DAAD), Weather and Environmental Monitoring (WEM)
Meteorological Service of Canada (MSC), Environment Canada
** Acting as Data Specialist from November 17th, 2003 to July 3rd, 2005*

Period: **July 2002 – July 2005**

Role Responsibilities:

- Delivered **operational Quality Assurance and Quality Control (QA/QC)** for national climate datasets (June – December 2004), ensuring data completeness and reliability across **hourly, synoptic, and daily observations**. Conducted detailed manual quality checks, documented data anomalies ("datablasts") from automated stations, and escalated suspicious or erroneous records to the **National Monitoring Desk**, supporting the integrity of Canada's climate archives.
- Completed the **Basic Weather Observation Course** (Environment Canada, October 2004), gaining formal training in **cloud identification, weather phenomena, sky conditions, and synoptic bulletins**, strengthening professional capability in observational meteorology.
- Led a **national precipitation range-check improvement project** (July 2002 – June 2004), addressing limitations of a single static threshold applied across Canada. Extracted large datasets from the National Climate Archives and performed **statistical analyses** (including descriptive statistics and ANOVA) on synoptic, hourly precipitation, and daily snowfall data. Developed **dynamic, region- and season-specific upper limits** using Box-Tukey methodologies, and validated results against historical observations to enhance data accuracy and early error detection.
- Designed and implemented a **near real-time spatial quality-check methodology** for total precipitation data. Developed a binary-combination approach using data from **seven neighbouring stations**, analysed DLY04 archive data (1985–1990), and calculated monthly and seasonal probabilities of precipitation occurrence. Validated the methodology across multiple **prototype regions** (Vancouver, Edmonton, London, and Prince Edward Island), contributing to national QA/QC system enhancements.
- Provided **bilingual client support** (French and English) for Climate Services (July 2002 – July 2005), responding to public and stakeholder enquiries, supplying climate and weather data, translating web-based climate archive content, reviewing translations of major technical documentation (including EnviroDat), and liaising with clients by phone and email on behalf of unilingual colleagues.

Academic & Accessibility Support Roles

Disability Support Examination Assistant

Université de Sherbrooke, Sherbrooke, Québec | 2002
(Assisted students with disabilities during formal examinations)

Teaching Assistant – Climatology & Geospatial Sciences

Université de Sherbrooke, Sherbrooke, Québec | 2000 - 2001

Subjects:

- Fundamentals of Climatology (GEO 101)
- Specialized Climatology & Hydrometeorology (GEO 415)
- Interpretation of Maps & Aerial Photographs (GEO 304)

Field & Technical Research Roles

Field Technician – SeaWiFS / St. Lawrence Field Campaign

May 2000 | Québec, Canada

(Data collection using solar photometer – Crestech Microtops)

Internships & Work Terms

Research Intern – Atmospheric & Cryospheric Modelling

Summer Intern Program, University of Alaska Fairbanks (UAF) | Aug–Sep 2001
(Delta-Eddington modelling of snow extinction coefficients)

Field Research Assistant – Antarctic Cryosphere & Remote Sensing

Finnish Antarctic Research Program (FINNARP 99/00) | Dec 1999 – Feb 2000
(Spectroradiometric measurements of snow and ice radiance)

Research Assistant – Climatology & Environmental Sciences

Université de Sherbrooke & McGill Subarctic Research Station | May - Aug 1997
(Dendrochronology, spectroradiometry, and meteorological data analysis)

Technical & Planning Roles

Geomatics Work-Term Student

Legal Surveys Division, Whitehorse, Yukon | Jan - Apr 1997
(Cadastral topology, CARIS systems, geospatial validation)

Assistant Urban Planner (Student Placement)

Ministère des Transports du Québec | May - Aug 1996
(Road safety analysis, urban mapping, socio-economic data surveys)

PUBLICATIONS

- Cerny, C., Nguyen, D. (2025) 1991-2020 Canadian Climate Normals. Canadian Meteorological and Oceanographic Society (CMOS) 59th Congress, the Canadian Geophysical Union (CGU) Annual Meeting, Saskatoon, Saskatchewan, Canada, May 25-29, 2025. Session 4061, Canadian Climate Services, Impact Assessment, and Actionable Climate Information - Part 2, presentation date: May 27, 2025. cmos.in1touch.org/client/relation_roster/clientRelationRosterDetails.html?clientRelationId=3153756&clientRelationRosterId=133&no_header=true&bodyonly=true
- Cerny, C., Weber, F., McLeod, S. (2025) State of Canadian Snow Observations (Draft) Report. Canadian Meteorological and Oceanographic Society (CMOS) 59th Congress, the Canadian Geophysical Union (CGU) Annual Meeting, Saskatoon, Saskatchewan, Canada, May 25-29, 2025. Session 6011, Observation and modelling of snow and glacier processes - Part 2, presentation date: May 27, 2025.

  cmos.in1touch.org/client/relation_roster/clientRelationRosterDetails.html?clientRelationId=3153625&clientRelationRosterId=133&no_header=true&bodyonly=true
- 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 Information Archive from Environment Canada and partner networks. Atmospheric Networks and Observatories. CMOS, May 29 - June 1 2006, Toronto, Ontario, 3B1.7.
- 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).
- Lavoie, C., 2004: Étude de l'atténuation du rayonnement solaire dans le couvert de neige en Dronning Maud Land, Antarctique. Master's Thesis, Centre for Research and Applications in Remote Sensing (CARTEL), University of Sherbrooke, Quebec, Canada, 115 p., September 2004.
- Lavoie, C., Granberg, H.B., and O'Neill, N., 2002: Attenuation of solar radiation by the snowpack in Dronning Maud Land, Antarctica. Presentation at the 59th ESC (Eastern Snow Conference) held in Stowe, Vermont, June 5-7th.
- Kärkäs, E., Granberg, H.B., Kanto, K., Rasmus, K., Lavoie, C., and Leppäranta, M., 2002: Physical Properties of the Seasonal Snow Cover in Dronning Maud Land, East Antarctica. Annals of Glaciology, vol. 34, p. 89-94.
- Granberg, H.B., Kärkäs, E, Kanto, K., Lavoie, C., and Leppäranta, M., 2002: Antarctica's susceptibility to climate change: What the snow cover in Queen Maud's Land tells us. Poster presentation (HBG) at the Climate Change Symposium (Climate change and variability in Northern Europe) held in Turku/Åbo, June 6-8th.
- Lavoie, C., 2001 : Étude de l'atténuation du rayonnement solaire par le couvert de neige en Dronning Maud Land, Antarctique. Presentation at the 69th ACFAS (Association canadienne-française pour l'avancement des sciences) Symposium held in Sherbrooke (Québec), May 14-17th.
- Granberg, H.B., Lavoie, C., Kärkäs, E., Rasmus, and Leppäranta, M., 2001 Penetration of solar radiation into snow and blue ice near Aboa, Antarctica. Presentation by Hardy B. Granberg at Tvärminne (Finland).

Project One - 1991-2020 Canadian Climate Normals

Organisation: Environment and Climate Change Canada – Federal Government of Canada
Industry: Government
Specialisation: Climatology, Client Services
Project Duration: September 2021 to March 2025
Project Outcome: Team award - Monitoring Strategies and Data Services Impact Award

A. Project Aims

The project delivered national-scale climate intelligence infrastructure through the production of authoritative 30-year Climate Normals, Averages and Extremes (1991–2020) for Canada. The datasets were developed using composite climate stations with a minimum of 15 years of valid observational data within the reference period, ensuring scientific robustness, statistical reliability, and international comparability.

These Climate Normals establish a critical national baseline for expected climatic conditions and underpin evidence-based decision-making, climate risk assessment, long-term planning, and innovation across strategic sectors, including agriculture, energy, transportation, tourism, forestry, infrastructure, and environmental resilience. The outputs directly support national priorities in climate science excellence, data innovation, and public policy enablement.

B. Key Project Highlights

1) Led the end-to-end management and national release of the Canadian Climate Normals, overseeing both scientific production and public publication to ensure accuracy, credibility, and national accessibility.
2) Established and executed comprehensive project governance, including strategic planning, milestone tracking, risk management, and executive-level reporting across the project lifecycle.
3) Designed and implemented an innovative five-phase delivery framework to optimise national rollout. This approach segmented locations to accelerate data quality review, enabled three structured test and validation cycles, and culminated in a full operational run to generate final, authoritative climate values.
4) Coordinated multidisciplinary teams comprising of climate data specialists, information technology enablers, database experts, and web dissemination teams, ensuring seamless integration across scientific, technical, and digital domains.
5) Ensured continuity and consistency with previous Climate Normals editions, while maintaining ongoing engagement with climate services specialists and responding to frontline technical and stakeholder inquiries.
6) Prepared high-level executive briefing materials for the Assistant Deputy Minister, including communication strategies, key messages, and frequently asked questions, to support informed decision-making and public communication of the national release schedule.
7) Led project closure and knowledge transfer activities, including structured lessons-learned consultations and the preparation of a formal closure report to inform future national-scale climate data initiatives.

C. Roles and Responsibilities

Manager, Data Products and Services Section (Environment and Climate Change Canada)

1) Provided national leadership in the governance, design, and delivery of Canada's 1991–2020 Climate Normals program, a mission-critical national scientific dataset.
2) Led the integration of long-term climate observations, ensuring all contributing composite stations met the requirement of a minimum of 15 years of valid data within the reference period.
3) Directed advanced station threading methodologies to maintain temporal continuity and scientific integrity across historical climate records.
4) Conducted and approved scientific evaluations of station joins, applying statistical rigor, innovation, and international best-practice standards.
5) Established and enforced comprehensive data quality assurance and validation frameworks, safeguarding accuracy, consistency, and long-term usability of national climate products.
6) Designed and implemented a phased delivery and release approach, enabling effective risk management and timely national dissemination.
7) Oversaw end-to-end project governance, including strategic planning, milestone tracking, executive reporting, and cross-functional coordination.
8) Led digital publication and dissemination, overseeing web design, data presentation, and public accessibility to maximise cross-sector adoption and innovation impact.
9) Ensured climate intelligence products were fit-for-purpose for government, industry, researchers, and international stakeholders, delivering sustained national and global value.

D. Project Outcomes

1) The project team received a **Departmental Impact Award (Monitoring Strategies and Data Services Impact Award)** in the Resilience category, recognising the project's national importance, leadership, and contribution to climate resilience and data excellence.
2) Project outcomes and methodologies were actively disseminated within Environment and Climate Change Canada, including presentations delivered as part of an internal seminar series **attended by over 100 employees, supporting organisational capability-building and knowledge transfer.**
3) **An abstract was submitted and accepted for presentation at the Canadian Meteorological and Oceanographical Society (CMOS) Congress in May 2025, demonstrating external peer recognition and contribution to the broader scientific community.**
4) The innovative five-phase publication framework significantly accelerated production timelines and enabled staged national release of Climate Normals data. Supporting communication lines and FAQs improved transparency, clarified expectations regarding release schedules, locations, and climatic elements, and strengthened stakeholder confidence.
5) Strong application of project management and governance principles ensured delivery remained on schedule, with risks and issues proactively identified and mitigated. Resources were strategically reallocated to priority areas to manage complexity and maintain delivery momentum.

6) Publication of the 1991–2020 Climate Normals, Averages and Extremes commenced in September 2023 and concluded in December 2025. The final release provided authoritative climate products for 450 locations nationwide, derived from 938 climate stations, significantly expanding national coverage.

7) Both core (staple) climatic elements and new analytical products were delivered, including precipitation quintiles and enhanced extremes for the normal period, increasing the analytical value and applicability of the dataset.

8) The station threading concept was formally introduced on the Historical Climate Data platform, supported by comprehensive data and metadata download packages and the launch of a new bulk download tool, substantially improving accessibility and usability for researchers, industry, and government users.

9) Structured lessons-learned consultations were conducted at project close to identify improvement opportunities and inform planning for the next Climate Normals edition at the end of the following decade.

10) **The Climate Normals are a foundational product of the Meteorological Service of Canada.** This edition was delivered successfully despite significantly increased complexity, driven by evolving observational practices, modernised data management systems, and workforce transition—demonstrating resilience, adaptive leadership, and advanced delivery capability.

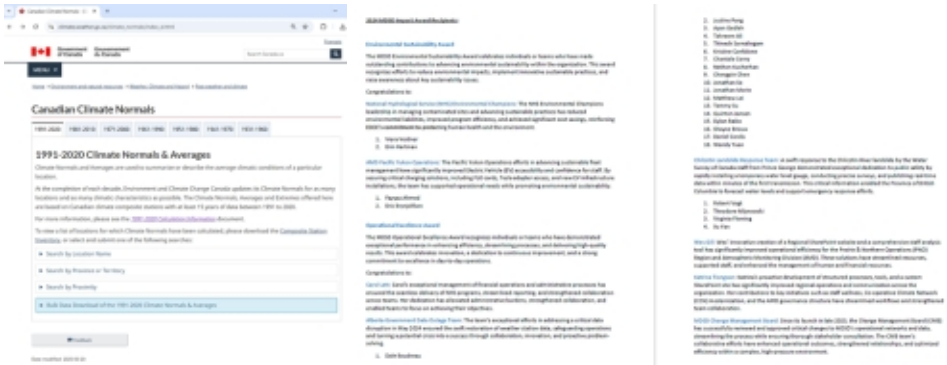
E. Supporting Graphics and Photos

Conference Presentation on May 27, 2025
Abstract accepted for presentation at the **Canadian Meteorological and Oceanic Society (CMOS) Conference.**

Cerny, C., Nguyen, D. (2025). **1991–2020 Canadian Climate Normals**.
Canadian Meteorological and Oceanic Society (CMOS) Congress,
25–29 May 2025, Saskatoon, Canada (Hybrid Congress).
Session **4061**: *Canadian Climate Services, Impact Assessment, and Actionable Climate Information – Part 2*.
Conference details:
https://cmos.in1touch.org/company/roster/companyRosterDetails.html?companyId=76844&companyRosterId=49&no_header=true&bodyonly=true&language=en_CA#

Public Access to Climate Normals Data:
The 1991–2020 Canadian Climate Normals are publicly available via Environment and Climate Change Canada:

https://climate.weather.gc.ca/climate_normals/index_e.html



Project Two - State of Snow Monitoring Observations in Canada Report

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

Industry: Government, Academia, Energy, Industry

Specialisation: 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 Outcome: The *State of Snow Monitoring Observations in Canada* report is in final peer review and approval and will serve as a national reference on snow data availability, practices, and standardisation. Key findings are being shared with the scientific community, with an accepted presentation at the **2025 Canadian Meteorological and Oceanographic Society Conference**.

A. Project Aims

This project delivers a national, cross-jurisdictional assessment of snow monitoring capability in Canada, strengthening climate resilience, data standardisation, and decision-support systems. Led under the Canadian Council for Weather and Climate Monitoring (CWAC), the initiative evaluates snow observation practices across federal, provincial, territorial, and operational sectors to inform future national coordination, innovation, and standardisation of snow data.

The project supports climate risk assessment, water resource management, avalanche safety, infrastructure planning, and energy security, aligning with national priorities in advanced climate monitoring, data governance, and evidence-based policy.

B. Key Project Highlights

1) Convened a national working group representing snow monitoring network operators across territorial, provincial, and federal agencies, as well as operational sectors including avalanche services and utilities.
2) Designed and distributed a national survey to over 80 snow monitoring network operators, documenting observation practices for snowfall and snowpack elements, including snowfall depth, snow water equivalent, total precipitation, density, hardness, and liquid water content.
3) Collected a comprehensive inventory of in-situ snow observations, covering instrumentation, sampling frequency, quality assurance practices, and data processing methodologies.
4) Integrated survey results, inventories, and expert knowledge to characterise Canada's major operational snow monitoring networks, including technologies, network densities, and operational processes.
5) Produced a nationally coordinated assessment to support future standardisation, innovation, and system improvement.

C. Roles and Responsibilities

Co-Lead, CWAC Snow Monitoring Working Group

1) Co-led a national, multi-sector working group under CWAC, comprising of representatives from federal, provincial, and territorial agencies, the avalanche sector, municipal utilities, and hydroelectric utilities.
2) Established governance structures, assembled expert contributors, and developed a coordinated work plan to deliver a nationally significant assessment.
3) Led the design, deployment, and analysis of a national survey, capturing snow observation practices, instrumentation, quality assurance, data processing, and reporting standards.
4) Served as lead author for key report sections and provided senior-level technical review to ensure scientific rigor and policy relevance.
5) Liaised with senior management, external stakeholders, and communications teams to support bilingual (English/French) publication and national dissemination.
6) Oversaw planning for public release on the Federal Science Libraries Network website, https://science-libraries.canada.ca/, with January 2026 targeted for publication.

D. Project Outcomes

The State of Snow Monitoring Observations in Canada report is nearing completion and is currently undergoing peer review and departmental approval. The report will serve as a national reference on snow data availability, observation practices, strengths, limitations, and opportunities for standardisation, supported by regional analysis and mapping. Findings are being communicated to the scientific community ahead of publication, with an accepted presentation at the 2025 Canadian Meteorological and Oceanographic Society Conference.

E. Supporting Graphics and Photos

Conference Presentation on May 27, 2025.

Abstract accepted for presentation at the Canadian Meteorological and Oceanographic Society (CMOS) Conference.

Cerny, C., Weber, F., McLeod, S. (2025).

State of Canadian Snow Observations (Draft Report).

CMOS Congress, **25–29 May 2025**, Saskatoon, Canada (Hybrid Congress).

Session **6011**: *Observation and Modelling Snow and Glacier Processes – Part 2*.

Conference details:

https://cmos.in1touch.org/company/roster/companyRosterDetails.html?companyId=76845&companyRosterId=49&no_header=true&bodyonly=true&language=en_CA

Project Three - Oceanwater Buddies – Marine Plastic Pollution Education & Climate Impact Campaign (Australia)

Organisation: SOULU Pty Ltd (Australia)

Campaign Owner: Oceanwater Buddies (SOULU Impact Initiative)

Cause Beneficiary Partner: Jack the Super Prawn Environment Education Program

Project Duration: July 2024 - current

Project Location: Australia (NSW-based initiative with national reach)

Project Status: Initial stage Development – Active Planning, Partner Engagement, and Education Framework Design.

A. Campaign Overview – Oceanwater Buddies

Oceanwater Buddies is an Australian-founded, technology-enabled **cause marketing and environmental education campaign** designed to mobilise brands, families, schools, and communities in the fight against **marine plastic pollution**.

The campaign operates as a **fundraising and engagement platform**, using collectables, memberships, brand partnerships, and storytelling to raise sustained funding for **science-based environmental education and awareness initiatives** in Australia.

A core objective of Oceanwater Buddies is to **generate funding and visibility for qualified cause beneficiary partners**, supporting their missions through structured, long-term, education-first impact.

B. Education at the Heart: Cause Beneficiary Partner – Jack the Super Prawn

As part of its education strategy, Oceanwater Buddies raises funds to support one of Cause Beneficiaries - Jack the Super Prawn, a fully developed Australian environmental education program and story universe designed to educate children and families through entertainment.

The Jack the Super Prawn series uses humour, adventure, and relatable storytelling to explain complex environmental issues—such as plastic pollution, microplastics, ecosystem damage, and human impacts on marine systems—in a way that is engaging, age-appropriate, and accessible.

The educational storylines are already developed and have received **endorsement from ANSTO (Australia's Nuclear Science and Technology Organisation)**, ensuring scientific accuracy, credibility, and educational integrity.

Through Oceanwater Buddies, funds are directed to support:

- Development and distribution of educational content
- School and community-based environmental learning
- Digital platforms and public awareness initiatives

This partnership addresses a recognised gap in Australia's environmental education ecosystem, particularly for children and families.

C. Key Team Leader – Chantale Cerny's contribution and Leadership

I serve as a **key team leader** within the Oceanwater Buddies campaign, providing **scientific governance, climate intelligence, and environmental data expertise** to ensure that funds raised support **credible, high-impact educational outcomes** in Australia.

My contributions include:

- Providing **scientific oversight and governance advice** to ensure alignment between campaign messaging, beneficiary education content, and best-practice climate and environmental science.
- Advising on **environmental monitoring, pollution pathways, and systems thinking**, strengthening the educational framework supported by campaign funding.
- Translating complex climate and environmental data into **clear, public-facing education principles** suitable for children, families, and educators.
- Supporting **impact measurement and education-first funding frameworks**, ensuring transparency and accountability in how funds support the cause beneficiary's mission.
- Applying senior public-sector leadership experience to strengthen **credibility, governance, and long-term sustainability** of the Australian campaign.

D. Leadership & Delivery

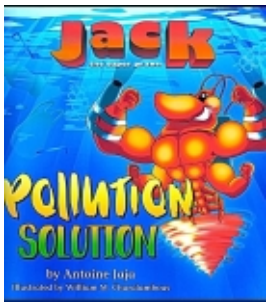
1) **Chantale Cerny** – Internationally recognised climate and environmental data leader, providing scientific governance and education integrity.
2) **Anthony Harrison** – Founder & CEO of SOULU, leading campaign strategy, partnerships, and commercial execution.
3) **SOULU Pty Ltd** – Responsible for campaign design, fundraising mechanisms, creative development, launch, and ongoing management, ensuring scalable growth and strong brand alignment.

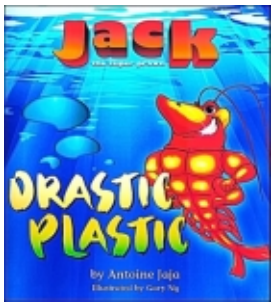
E. Australian National Benefit and Impact

Oceanwater Buddies delivers direct and ongoing benefits to Australia by:

- Advancing **environmental and climate literacy** through funded education initiatives.
- Supporting **marine conservation and plastic reduction awareness** at a national level.
- Creating Australian jobs across creative, digital, education, and campaign operations.
- Strengthening Australia's leadership in **innovative, science-led cause marketing and environmental education.**
- Complementing government regulation with **community-driven education and behavioural change.**

F. Supporting Information





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

Organisation: Environment and Climate Change Canada – Federal Government of Canada

Industry: Government, Commercial Aviation, History, Education

Specialisation: Climatology, Aviation, Education

Project Duration: 1.5 years, from August 2010 to February 2012

Project Location: Toronto, Ontario, Canada

Project Outcome: The exhibit *Observing the Weather – A Canadian Contribution to Aviation* was showcased for eight months at Toronto Pearson Airport, promoting public awareness of Canada's role in aviation meteorology and engaging a national and international audience.

A. Project Aims

This project delivered a national public engagement initiative highlighting Canada's leadership and historical contributions to weather observing and aviation meteorology. Developed in collaboration between the Meteorological Service of Canada (MSC) and the Greater Toronto Airports Authority (GTAA), the exhibit supported national milestone celebrations and strengthened public understanding of the role of meteorological science in aviation safety, innovation, and national infrastructure.

B. Roles and Responsibilities

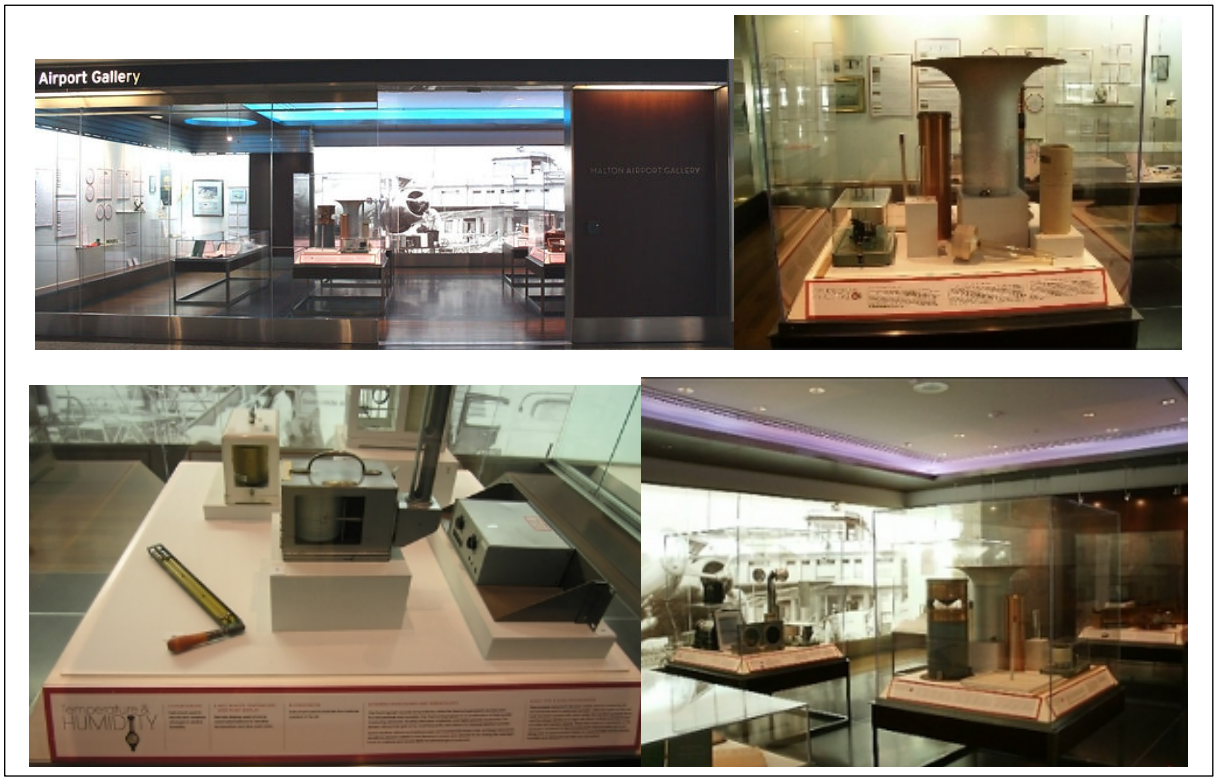
Project Lead

1) Led the project on behalf of the Meteorological Service of Canada, collaborating with the GTAA curator to design and deliver a high-profile public exhibit.
2) Conducted literature review and historical research and developed authoritative exhibit content showcasing Canada's aviation meteorology contributions.
3) Sourced, prepared, and curated historical meteorological instruments and materials for public display.
4) Managed end-to-end project delivery, including on-site exhibit setup, packaging and logistics of equipment, and adherence to a fixed public opening schedule.
5) Secured senior executive approvals (up to Assistant Deputy Minister level) and coordinated with Communications teams.
6) Prepared official briefing materials for a Member of Parliament, supporting public engagement and opening events.
7) Ensured all exhibit components—including content panels, maps, and equipment—were reviewed, approved, produced, and installed on time.

C. Project Outcomes

The exhibit Observing the Weather – A Canadian Contribution to Aviation was displayed for eight months at the Malton Gallery, Toronto Pearson Airport, reaching a broad national and international audience. The opening included a formal reception with remarks by a Member of the Canadian Parliament, supported by a parallel juried art exhibition. The project successfully enhanced public awareness of Canada's aviation meteorology heritage and was formally archived by Environment Canada upon completion.

D. Supporting Graphics and Photos



ART and EXHIBITIONS

Because there's plenty to take in before and after your flight.

LOOKING UP

EXPLORING THE WEATHER

Project Five - Ontario Monthly Weather Review

Organisation: Environment and Climate Change Canada – Federal Government of Canada

Industry: Government

Specialisation: Weather, Climate, Client Services, Media, Education

Project Duration: September 2009 to May 2019

Project Location: Toronto, Ontario, Canada

Project Outcome: The Ontario Monthly Weather Reviews were produced and distributed on schedule each month and disseminated widely via web release, email, and fax to approximately 400 subscribers.

A. Project Aims

This project delivered a high-frequency, operational climate intelligence product in the form of a monthly public bulletin, providing timely summaries of observed weather conditions, analysis of severe weather events, and forward-looking outlooks. The bulletin supported media reporting, emergency preparedness, government decision-making, and public awareness across Ontario.

B. Key Project Highlights

1) Delivered as an operational product through collaboration between climate analysis and warning preparedness teams.
2) Content underwent program, communications, and executive approvals, followed by translation and public dissemination.
3) Distributed via external web release, email, PDF, and fax to a broad stakeholder network.
4) Distribution included media organisations (radio and print), provincial emergency management agencies, provincial governments, NOAA (USA), Canadian Crown corporations, and commercial industries.
5) Generated significant media engagement, with follow-up interviews conducted to provide location-specific insights.

C. Roles and Responsibilities

Coordinator / Officer Climatologist, Prediction Services Directorate

1) Led the monthly climate summary for the Province of Ontario, providing authoritative analysis of observed weather conditions.
2) Retrieved, analysed, and tabulated monthly temperature and precipitation data, including comparison against 30-year climate normals to calculate anomalies.
3) Interpreted climate anomalies and trends to clearly communicate past conditions and impacts.
4) Assembled, edited, and coordinated end-to-end production and distribution of the bulletin.
5) Reviewed bilingual (English/French) translated materials to ensure technical accuracy prior to release.
6) Conducted media interviews and briefings in response to location-specific and event-driven requests.
7) Contributed to the standardisation of bulletin format and content across Ontario and Quebec, improving consistency and operational efficiency.

D. Project Outcomes

The **Ontario Monthly Weather Reviews** delivered a reliable, operational climate intelligence service, providing timely analysis of observed conditions and anomalies to support **risk awareness, emergency preparedness, and public communication**. Distributed monthly to approximately **400 government, media, and operational stakeholders**, the product strengthened decision-making, media readiness, and climate resilience - capabilities directly transferable to **Australia's national priorities in extreme-weather readiness, public safety, and climate adaptation**.

E. Supporting Graphics and Photos

Examples of Media Coverage Following Monthly Weather Bulletins

MuskokaTODAY.com (4 May 2019): Flooding fuelled by double normal rain in April

https://muskokatoday.com/2019/05/flooding-fuelled-by-double-normal-rain-in-april/

Sudbury.com (5 May 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 Six - Integrated Seasonal Vigilance Bulletin for the province of Ontario

Organisation: Environment and Climate Change Canada – Federal Government of Canada

Industry: Government

Specialisation: Weather, Climate, Client Services, Media, Education

Project Duration: September 2009 to May 2019

Project Location: Toronto, Ontario, Canada

Project Outcome: The Ontario Integrated Seasonal Vigilance Bulletins were delivered on schedule each quarter, providing seasonal climate risk insights to support preparedness, situational awareness, and decision-making. The briefings were disseminated through presentation decks and live Webex sessions with subscribed government and operational stakeholders.

A. Project Aims

This project delivered a seasonal climate risk intelligence product designed to support government preparedness, emergency management, agricultural planning, and insurance risk assessment. The bulletin provided an integrated assessment of seasonal weather conditions, significant severe weather events, hydrological and agricultural impacts, and a forward-looking outlook for the upcoming season, strengthening anticipatory decision-making and climate resilience.

B. Key Project Highlights

1) Developed as an operational, cross-agency product in collaboration with climate analysis and warning preparedness teams.
2) Integrated contributions from Agriculture and Agri-Food Canada and the Canadian Ice Service, enabling a whole-of-government perspective.
3) Delivered through interactive virtual presentations to provincial emergency management organisations and government stakeholders.
4) Strengthened cross-jurisdictional coordination and consistency in seasonal climate risk communication.

C. Roles and Responsibilities

Coordinator / Officer Climatologist, Prediction Services Directorate

1) Led the production of the seasonal climate summary for the Province of Ontario, delivering authoritative analysis of observed conditions across each climatological season.
2) Retrieved, analysed, and synthesised seasonal temperature and precipitation data, including comparison to 30-year climate normals to quantify anomalies and impacts.
3) Interpreted seasonal climate signals to inform risk awareness across weather, hydrology, and agriculture.
4) Assembled, edited, and coordinated end-to-end production and distribution of the seasonal bulletin.
5) Reviewed bilingual (English/French) translations to ensure technical accuracy prior to dissemination.
6) Delivered the bulletin via virtual briefings to provincial governments, emergency managers, and insurance boards, enabling real-time discussion and decision support.
7) Contributed to national standardisation, developing templates to enable consistent seasonal reporting across provinces and territories, including jurisdictions previously without such products.

D. Project Outcomes

The Ontario Integrated Seasonal Vigilance Bulletins were delivered on schedule at the end of each quarter, providing actionable seasonal climate intelligence to government and operational stakeholders. The briefings enhanced preparedness, supported risk-informed planning, and strengthened climate resilience through structured presentations and live stakeholder engagement.

Project Seven - New National Climate Archive System Elements

Organisation: Environment and Climate Change Canada – Federal Government of Canada

Industry: Government

Specialisation: Weather, Climate, Client Services

Project Duration: April 2005 to August 2007

Project Location: Toronto, Ontario, Canada

Project Outcome: Expansion of the MSC digital archive, enabling public access to new radar products, upper-air and surface aviation observations.

A. Project Aims

This project strengthened Canada's national climate and meteorological data infrastructure by expanding the Meteorological Service of Canada's National Climate and Information Archive to accommodate rapidly evolving observational technologies and data streams. The initiative integrated data from Doppler RADAR, aviation observing networks, and the Canadian Upper Air Observing Program (including AMDAR), addressing critical gaps caused by the rapid proliferation of automated stations, higher-frequency sampling, and non-traditional data formats.

The project enabled scalable ingestion, quality control, and public accessibility of new climate, marine, and hydrometric elements, ensuring the national archive remained fit-for-purpose for research, operational forecasting, aviation safety, climate resilience, and decision-making in a data-rich environment.

B. Key Project Highlights

1) Enabled the transition from raw, unusable observational data to fully decoded, quality-controlled, and accessible climate archive products
2) Assessed and prioritised new daily, hourly, and one-minute observations for national archiving
3) Expanded archive capability to support non-stationary and high-frequency data, addressing limitations of legacy systems
4) Developed a new taxonomy and metadata framework for emerging observational elements
5) Produced comprehensive documentation describing elements, units, processing methods, and usage, supporting long-term interoperability and scalability.

C. Roles and Responsibilities

Data Specialist – National Climate and Information Archive

1) Defined and documented functional and technical requirements for the ingestion of new weather, climate, aviation, radar, and upper-air data elements.
2) Developed use cases and decoding logic to extract previously unsupported elements from operational bulletins.
3) Conducted system testing and validation, ensuring accuracy, completeness, and reliability of newly archived elements.

4) Acted as subject-matter expert for new observational elements introduced into the national archive.
5) Prepared public-facing and internal documentation to support Climate Services enquiries and enable effective data retrieval.
6) Updated technical documentation and metadata published on external websites.
7) Maintained tracking tools documenting the implementation status of one-minute observations and new Reference Climate Station (RCS) elements.
8) Disseminated project outcomes through peer-reviewed and professional conferences, contributing to international knowledge exchange.

D. Project Outcomes

The project delivered a significant expansion of the MSC digital archive, enabling public and operational access to new observational datasets. These included Doppler RADAR volume scans and imagery, enhanced aviation observations, 25 new Reference Climate Station elements (precipitation, wind, solar radiation), and additional upper-air variables such as wind, pressure, altitude, temperature, and humidity. The upgrades ensured Canada's national climate archive could support modern, high-resolution climate monitoring and resilience planning, with approaches directly transferable to Australia's national observing and data systems.

E. Supporting Graphics and Photos

Peer-Reviewed and Professional Conference Contributions

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 Annual Meeting, Atlanta, USA.

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.

Canadian Meteorological and Oceanographic Society (CMOS) Congress, Toronto, Canada.

https://cmosarchives.ca/Congress_P_A/program_abstracts2006.pdf

Personal Statement – Intention to Live and Contribute to Australia

To: Department of Home Affairs
Attn: National Innovation Visa (Subclass 858) Team

Dear Case Officer,

My name is **Chantale Marie Nathalie CERNY (DOB: 23 August 1974)**, and I am an environmental and climate data specialist with more than twenty-three years of experience at **Environment and Climate Change Canada**. My current position is Manager of the Data Products and Services Section in the Monitoring and Data Services Directorate. My professional life has been dedicated to improving how governments, industries and communities understand and respond to climate variability and change.

I am now seeking to make **Australia my family's permanent home**, together with my husband, **Norman Paul CERNY (DOB: 20 May 1972),** a senior leader and business professional with extensive experience leading multiple Tier-1 automotive programs concurrently (Ferrari, General Motors, Honda, Ford), and our two young daughters **Charlotte Marie Leona CERNY (DOB: 3 August 2006) and Juliette Marie Lilian CERNY (DOB: 22 September 2008)**.

We are fully committed to **living, working, studying and building our future in Australia on a long-term basis**.

Why Australia?

Australia is at the forefront of many of the climate challenges I have spent my career working on: analysing increasing climate extremes, water security pressures, bushfire and flood risks, and the rapid transition to clean energy. I am inspired by Australia's commitment to **climate resilience, renewable energy, and environmental stewardship**, and I believe that my experience in national climate data systems can make a meaningful contribution to these efforts.

Throughout my career in Canada, I have:

- led the development of **national climate reference datasets** used for infrastructure design, hydrological planning and energy system analysis.
- co-led **governance frameworks for snow and climate monitoring**, in collaboration with multiple levels of government and utilities.
- overseen the provision of **public-facing climate information services** that support emergency managers, government agencies and communities.

These are exactly the types of systems that underpin Australia's work in **clean energy, climate intelligence and long-term adaptation planning**. Moving to Australia represents not only a personal relocation, but a natural next step in my professional mission to support societies in adapting to a changing climate.

Commitment to Permanent Settlement

My husband and I have carefully considered this decision. We are not seeking a temporary posting or short-term professional experience. We are seeking to:

- **relocate to Australia permanently.**
- integrate into Australian society and contribute to our local community.

- ensure our daughters can complete their schooling in Australia and grow up in a stable, secure environment.
- align our long-term careers, friendships and community involvement entirely within Australia.

We are prepared to **sell our property and re-establish our lives** in Australia. Our intention is to put down roots: to work, learn, volunteer, and contribute socially and economically over the long term.

How I Intend to Contribute

If granted the opportunity to live and work in Australia, I intend to contribute in the following ways:

1. **Supporting climate and energy initiatives**

   I hope to work with organisations such as the **Australian Climate Service, Bureau of Meteorology, CSIRO, state environment and water agencies, or energy system planners**, bringing my experience in:

   a) national climate datasets and archives;
   b) observation network governance;
   c) climate data quality assurance and quality control;
   d) public and stakeholder-oriented climate services.

2. **Strengthening climate data systems that underpin clean energy and resilience**

   I can assist in designing and refining environmental data frameworks that support:

   a) renewable energy forecasting and grid planning;
   b) flood, drought and bushfire risk assessments;
   c) water resource management and hydrological modelling;
   d) long-term climate adaptation strategies for infrastructure, agriculture and communities.

3. **Mentoring and capacity-building**

   I enjoy leading and mentoring multidisciplinary teams and would be eager to support early- and mid-career professionals in climate data science, public service innovation and environmental governance.

4. **Community and school engagement**

   Beyond my professional work, I have a strong record of community involvement, including serving as president of the parents' committee at my daughters' schools. In Australia, I aim to continue participating in school communities, local initiatives, and environmental education activities.

Shared Family Values and Australian Culture

Our family identifies strongly with values that are central to Australian society: **fairness, inclusion, respect for diversity, and a sense of community responsibility**. Having worked in a public service context for over two decades, I deeply value transparency, accountability, and evidence-based decision-making - all qualities that I see reflected in Australia's public institutions.

We are particularly drawn to Australia's:

a) leadership in **renewable energy and environmental research**
b) openness to global talent contributing to national priorities
c) strong focus on **education, safety and community wellbeing**

We see Australia not only as a place where I can make a professional contribution, but also as the best environment for our daughters to grow, learn, and participate in a diverse and forward-looking society.

Conclusion

Our decision to seek a National Innovation Visa (Subclass 858) is driven by a clear and long-term intention:

a) to **live in Australia permanently with my family**, and to apply my expertise in climate data and environmental services to support the country's **clean energy transition, climate resilience and environmental governance**.

b) We are ready to embrace Australia as our home - socially, professionally, and personally - and to contribute actively to the communities we join.

Yours sincerely,

Chantale Marie Nathalie CERNY, M.Sc.

Climate Data and Services Specialist (23+ years)
Manager, Data Products and Services
Monitoring and Data Services Directorate

Meteorological Service of Canada (MSC),
Environment and Climate Change Canada (ECCC)

Phone: +1 647-281-1025
E: ccerny@rogers.com

PROFESSIONAL REFERENCES

Charles van Dongen (Nominator)
Chartered Electrical & Electronic Engineer (CPEng, Engineers Australia)
Chief Technology Officer & Director, Zenaji Pty Ltd/ Involve Audio
Melbourne, Victoria, Australia
Mobile: +61 438 698 325
Email: Charlie.winvd@gmail.com

Note: As a Chartered Professional Engineer (CPEng) with more than 45 years of experience in advanced electronics, grid technology, and clean energy storage innovation.

Tony Lombardi
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Geoff Coulson
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Sandy (Alexandra) Radecki
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Antoine Jaja
Jack the Super Prawn Author (Australia)
Tel: +61 405 252 791
Email: aj@jackthesuperprawn.com
Website: www.jackthesuperprawn.com

Note: An author and advocate in Australia with a strong interest in environmental education, climate awareness, and resilience.

Anthony Harrison, CEO
SOULU Pty Ltd
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Bellingen NSW 2454
Mobile: +61 412 526 196
Email: anthony@soulu.com.au
Website: www.soulu.com.au

Note: The SOULU Project – Oceanwater Buddies collaborates with Jack the Super Prawn to deliver environmental education and climate resilience programs across Australia.

To The Department of Home Affairs

Attn: National Innovation Visa (Subclass 858) Processing Team

Dear Sir or Madam,

Re: Nomination of Ms Chantale Marie Nathalie CERNY - National Innovation Visa (Subclass 858) - Tier 1 Priority Sector (Clean Energy, Climate & Environmental Intelligence)

I am writing in strong support of the nomination of **Ms Chantale Marie Nathalie Cerny** for the **National Innovation Visa (NIV) Subclass 858**. I have carefully assessed her qualifications, achievements, and international standing, and I confirm that she is an exceptional leader whose expertise squarely aligns with Australia's **Tier 1 priority sector: Clean Energy & Renewables, including climate intelligence, environmental monitoring, and modelling systems.**

As a Chartered Professional Engineer (CPEng) with more than 45 years of experience in advanced electronics, grid technology, and clean energy storage innovation, I am well placed to evaluate experts whose work underpins the scientific and technological foundations of Australia's renewable energy transition. It is my professional opinion that Ms Cerny's capabilities will directly strengthen Australia's national climate resilience, energy planning, environmental intelligence systems, and climate-related infrastructure design.

1. **Alignment with Tier 1 – National Priority Sector: Clean Energy, Climate Intelligence & Environmental Data Systems**

Australia's clean energy transition, net-zero commitments, and national resilience planning rely on high-quality, scientifically governed climate datasets. Climate 1ormal, environmental observation networks, and hydrometeorological archives are essential inputs for:

a) renewable energy and grid design
b) bushfire, flood, drought and extreme weather preparedness
c) water resource management
d) energy modelling and climate-risk planning
e) infrastructure and agricultural adaptation

Ms Cerny's 23-year career at Environment and Climate Change Canada (ECCC) has been dedicated to exactly these systems. She has built, managed, and modernised national environmental data frameworks that governments and industry rely on for climate-sensitive

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decision-making. Her experience is an exact match to Australia's Tier 1 priority sector, and her contribution would be immediately valuable to organisations such as:

a) The Australian Climate Service
b) Bureau of Meteorology
c) CSIRO
d) State environmental and water agencies
e) Renewable energy modelling and infrastructure planning bodies

~ Her expertise is rare, globally recognised, and urgently needed in Australia.

2. Internationally Recognised Expertise and Outstanding Achievements

a) National Lead - 1991–2020 Canadian Climate Normals

As Manager of Data Products and Services, Ms Cerny led one of Canada's most important national climate reference datasets, integrating observations from 938 monitoring stations across the country.

Her leadership in:

1) station threading
2) QA/QC systems
3) phased production workflows
4) web dissemination architecture

resulted in a national product now used for energy system design, climate-risk modelling, infrastructure planning, agriculture, transportation, and environmental assessments.

~ Her team received the Monitoring Strategies and Data Services Impact Award, highlighting the national importance of her contribution.

b) Co-Lead – State of Snowfall Monitoring Observations in Canada Report

This multi-jurisdictional project spans more than **80 institutional partners**, producing a national assessment of snow and climate monitoring capabilities. This work is directly relevant to Australia's needs for:

1) hydrological forecasting
2) alpine region water management
3) extreme weather risk assessment
4) climate adaptation planning

~ Her leadership has been recognised with presentations at the Canadian Meteorological and Oceanographic Society (CMOS) 2025 Congress, confirming the work's scientific and operational significance.

c) Climate Communication and Public Safety Leadership

For a decade, she led the Ontario Monthly Weather Review and the Integrated Seasonal Vigilance Bulletin, providing government agencies, emergency managers, and the public with climate updates essential for preparedness, resilience, and disaster response.

~ Her work strengthened the national approach to climate risk communication — a critical capability for Australia.

3. Contribution to Australia's Clean Energy and Climate Resilience Objectives

Ms Cerny's move to Australia will bring immediate value in the following areas:

a) Strengthening national climate intelligence systems

Her experience modernising Canada's Historical Climate Data platform will help enhance Australia's environmental data architecture, enabling more accurate energy modelling, infrastructure planning, and extreme weather forecasting.

b) Improving environmental monitoring networks

Her governance leadership across provinces and territories directly supports Australia's need to improve data consistency across states and climate regions.

c) Supporting renewable energy integration

High-quality climate datasets underpin the modelling for solar, wind, and hydro systems. Her work directly informs:

1) renewable yield forecasting
2) grid stability analysis
3) long-term energy transition planning

d) Advancing climate adaptation and public safety

Her background supports resilience efforts related to drought, flooding, heatwaves, and bushfire risk.

e) Capacity-building and mentoring

Her leadership of multidisciplinary scientific teams positions her to strengthen Australia's environmental workforce.

4. My Background as Nominator

My name is Charles van Dongen, a Chartered Electrical & Electronic Engineer (CPEng) with over 45 years' experience in the design, certification, and commercialisation of innovative technologies in clean energy storage and advanced electronics. I serve as CTO and Director at Zenaji Pty Ltd, a company specialising in world-leading lithium titanate (LTO) energy storage systems, and have held leadership roles at Involve Audio, an internationally recognised audio technology company.

I have been granted multiple international patents and have contributed to technologies integral to renewable energy systems, grid stability, and advanced power electronics. Because of this background, I am highly qualified to assess the calibre of experts whose work underpins climate intelligence, clean energy planning, and environmental monitoring.

In my professional judgement, Ms Cerny's expertise is exceptional, globally recognised, and directly aligned with Australia's most urgent climate and energy priorities.

5. Highly Recommendation

I wholeheartedly affirm that Ms Chantale Cerny is an outstanding candidate for the National Innovation Visa – Subclass 858, meeting and exceeding the requirements for Tier 1 National Priority Sector.

Her proven ability to design and manage national climate systems, coupled with her leadership in environmental monitoring governance, will significantly strengthen Australia's scientific, environmental, and clean energy capabilities. Her contributions will be immediate, enduring, and nationally strategic.

I strongly recommend her nomination without reservation.

Please feel free to contact me should further information be required.

Yours faithfully,

14/12/2025

Charles van Dongen

Chartered Electrical & Electronic Engineer (CPEng, Engineers Australia)

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REFERENCE LETTER – From Antoine Jaja, Creator and Author of Jack the Super Prawn

REFERENCE LETTER FOR CHANTALE CERNY
From: Antoine Jaja, Creator and Author of Jack the Super Prawn

Friday, 16 May 2025

To Whom It May Concern,

It is with enthusiasm and confidence that I write this letter in support of Ms. Chantale Cerny, M.Sc., as a distinguished colleague, collaborator, and fellow changemaker in our shared mission to protect the oceans and inspire the next generation through the Oceanwater Buddies initiative.

As the creator of *Jack the Super Prawn*, a pioneering multimedia environmental education franchise endorsed by ANSTO, my journey has been focused on creating accessible, engaging content to help families, particularly young children, understand the critical threat of marine plastic pollution. The Oceanwater Buddies movement, of which Chantale is a vital part, builds on this mission, uniting cause marketing, environmental education, and national action into a scalable platform for long-lasting global impact.

Chantale Cerny brings to this collaboration not only her esteemed background as a senior climatologist with Environment and Climate Change Canada, but a uniquely human, collaborative spirit rooted in science, empathy, and leadership. Her expertise is not theoretical, it is backed by over two decades of experience at the helm of climate services, public data stewardship, and environmental governance. Chantale is internationally respected for her stewardship of national climate datasets, including her leadership in the development of the 1991–2020 Climate Normals for the World Meteorological Organisation and Canada.

Chantale possess a rare blend of scientific rigour and creative adaptability essential to complex interdisciplinary projects like Oceanwater Buddies. While my role has been to create emotionally resonant characters and stories that children can relate to, like Jack the Super Prawn, Harmony the Whale, or Toytle the Turtle, Chantale's involvement provides key essential intel to make sure the stories are not only compelling but deeply rooted in environmental truth. Her insight into the causes and consequences of marine pollution, particularly microplastics, climate variation, and oceanic feedback loops, provides accuracy to the much-needed educational storylines and fact-checked scripts for scientific integrity.

She is not just a subject-matter expert; Chantale is a mentor, a leader, and a trusted advisor to all members of the Oceanwater Buddies team. Her contributions to the strategic vision of our foundation are irreplaceable. She helps translate scientific data into community language, equipping children, educators, and policymakers with digestible, actionable knowledge. Moreover, Chantale brings vast experience managing complex projects,

mentoring young scientists, and navigating intergovernmental relationships, all of which have enhanced our campaign's credibility and cohesion.

Chantale's work with Oceanwater Buddies exemplifies her commitment to driving practical, scalable solutions to environmental issues through education, storytelling, and technology. Whether she is consulting on curriculum development, reviewing episode scripts for the Jack the Super Prawn animated series, or aligning our campaign goals with national and international environmental frameworks, her work is always detailed, principled, and impact oriented.

I would particularly highlight her leadership in helping the Oceanwater Buddies team define educational objectives aligned with the United Nations Sustainable Development Goals, including SDG 13 (Climate Action) and SDG 14 (Life Below Water). She has also been instrumental in shaping our monitoring and impact reporting frameworks, ensuring we can measure the educational and behavioural shifts our campaign seeks to inspire.

As the Oceanwater Buddies movement scales, both nationally across Australia and internationally through digital media, Chantale Cerny stands as an important and needed influential and an indispensable architect. She personifies the very qualities our campaign aims to instil in future generations: scientific literacy, global citizenship, environmental responsibility, and a passion for collective action.

It is a privilege to work alongside her, and I am confident that any organisation, initiative, or movement she joins will benefit profoundly from her dedication, intellect, and collaborative integrity.

Please do not hesitate to contact me should you require further insight into Chantale's contributions, impact, or character.

Warm regards,
Antoine Jaja

Antoine Jaja

Creator & Author, *Jack the Super Prawn*
Co-founder, Oceanwater Buddies Movement
www.jackthesuperprawn.com