



The Canadian Cryospheric Information Network

Datasets Available Through CCIN:

- Alexandra Fiord Autostation data
- Canadian Lake Ice Database
- Canadian National Permafrost DB
- Canadian Snow Data CD
- Canadian weekly ice thickness DB
- Landsat QEI Data
- Canadian SWE Maps

Example Tools on CCIN:

- Current Snow Depth Conditions
- Monthly Snow Cover Statistics
- Annual Snow cover Statistics
- Regional Snow Indicator Plots
- Canadian Regional Snow Cover Trends
- Canadian Snow Atlas
- Current SWE conditions
- SWE Time Series Plots
- Latest SWE Map for the Canadian Prairies
- Panted Average SWE Maps for the Prairies

What is the CCIN?

Important datasets often reside in various government and university labs where they remain largely unknown or access restrictions prevent effective use. Through a data and information management infrastructure, the **CCIN** addresses these problems by improving availability and access to Canadian cryospheric datasets.

Developed in concert with the CRYSYS project, as a collaborative partnership between the Federal Government (Canadian Space Agency, Meteorological Service of Canada), University of Waterloo and Noetix Research Inc., the CCIN has established a one-stop entry point for researchers to discover and access legacy data, near real-time data, current state of the cryosphere information, on-demand statistical-graph analysis, and dynamic linkages to other

major data providers including GeoConnections, The Climate and Cryosphere Project, and the National Snow and Ice Data Center. All data provided by the CCIN, locally or remotely, is accessible via the World Wide Web.

Beyond data storage, distribution, and providing tools for graphical analysis, CCIN has invested in outreach initiatives for greater visibility within the public community. The CCIN presents special online sections for cryosphere news, the media, and a youth oriented Canadian cryosphere website comprised of facts, quizzes and interactive games. As a data and information centre, CCIN continues to build upon its aggregate features to improve existing tools, implement new technologies, to promote the awareness of the Canadian cryosphere, while progressing with data collection and data rescue.

What is the Cryosphere?

The Cryosphere is the portion of the Earth's climate system that consists of snow and ice deposits. This includes seasonal snow cover, river, sea and lake ice, glaciers and ice cap / sheets, ice shelves, and permafrost / frozen ground. The term "Cryosphere" traces its origin to the Greek word kruos for frost.

Within Canada, the Cryosphere is among the most important features of the physical and biological environment with most of the country experiencing several months of snow cover each winter, more than half being covered by the permafrost zone, and many of our navigable waters affected by ice.

Why is the Cryosphere Important?

The cryosphere is an integrated part of the global climate system with important feedbacks generated through its influence on the surface energy budget, moisture fluxes, clouds, precipitation, hydrology, and atmospheric and oceanic circulation. Monitoring the cryosphere is an important component of any plan to monitor the global climate system, particularly because much of

the cryosphere is located at high latitudes where enhanced warming is projected by climate models.

Another reason for monitoring the cryosphere is that large areas of the cryosphere exist at temperatures close to melting. This means the cryosphere is especially sensitive to small changes in

The State of the Canadian Cryosphere

The State of the Canadian Cryosphere, or SOCC, website (www.socc.ca) is a project of the CCIN and often acts as the central entrance point for all CCIN related products

The purpose of the website, is to provide, in one convenient location, up-to-date information on the past, present and future state of important cryospheric variables in

Canada: including latest state of snow, sea ice, lake ice, glaciers & ice caps, frozen ground and permafrost.

Additional research information on the historic variability and future response of each cryosphere component is also available at SOCC.

CCIN Data

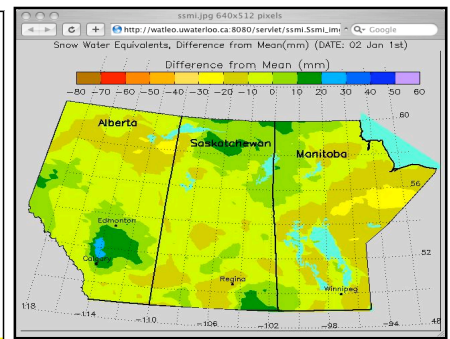
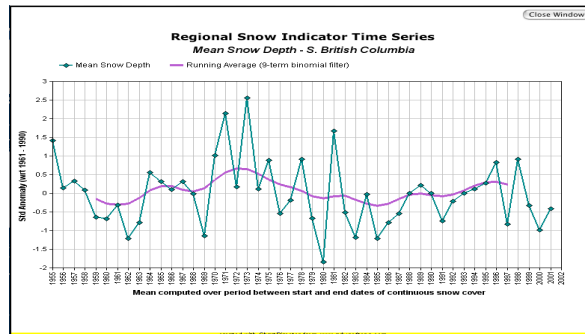
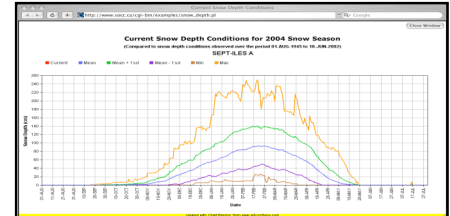
Within our large cryospheric database, the Canadian Snow Dataset is the most downloaded. It consists of daily ruler measurements of snow depth taken by Meteorological Service of Canada observers and archived as daily element 013 in the National Climate Data Archive.

Along with the Canadian Snow Data, the CCIN local database continues to grow in size. Our newest sets include Canadian Ice Watch Dataset, and processed images of NH EASE-Grid SSM/I data. Beyond locally housed data, the CCIN has hundreds of links to other data providers, all searchable through the CCIN online search.

Access to timely, comprehensive, and quality cryospheric data is an obstacle to improved knowledge and understanding of the cryosphere in Canada. Through a data and information management infrastructure, the CCIN addresses these problems by improving availability and access to Canadian cryospheric datasets.

Data Tools

The CCIN and SOCC websites offer several statistical mapping and graphing tools to assist with trend analysis and possible decision making. For example, by navigation through a national map, the latest reported snow depth values expressed as standardized anomalies can be obtained for each station in the country.



Special thanks to...



Just for Kids! SOCC Kids

SOCC Kids! is a cryosphere related website specifically created for youth cohorts. It is designed to educate youths about the cryosphere by providing interesting facts and information, games, puzzles, quizzes, forums, and much more. (<http://www.socc.ca/kids>)

For further detailed information regarding data requests and other general inquiries please contact us or browse our websites online.

The Canadian Cryospheric Information Network
 Department of Geography
 University of Waterloo
 200 University Avenue West
 Waterloo, ON N2L 3G1
 Canada
 Phone: (519) 888-4567 ext 2689
 Fax: (519) 888-6768
 Email: info@ccin.uwaterloo.ca

URL: www.ccin.ca
www.socc.ca