



## PCIC UPDATE

### PCIC EXPANDS ITS DATA PORTAL

In 2012 PCIC launched its Data Portal with the [BC Station Data Page](#), making weather observations from more than 6000 stations available to the public. Now PCIC is pleased to announce the expansion of our Data Portal, with the launch of two more data pages, the [High-Resolution PRISM Climatology Page](#) and the [Statistically Downscaled Climate Scenarios Page](#). Users can sign in to the portal using [OpenID](#) and access the data in three different formats.

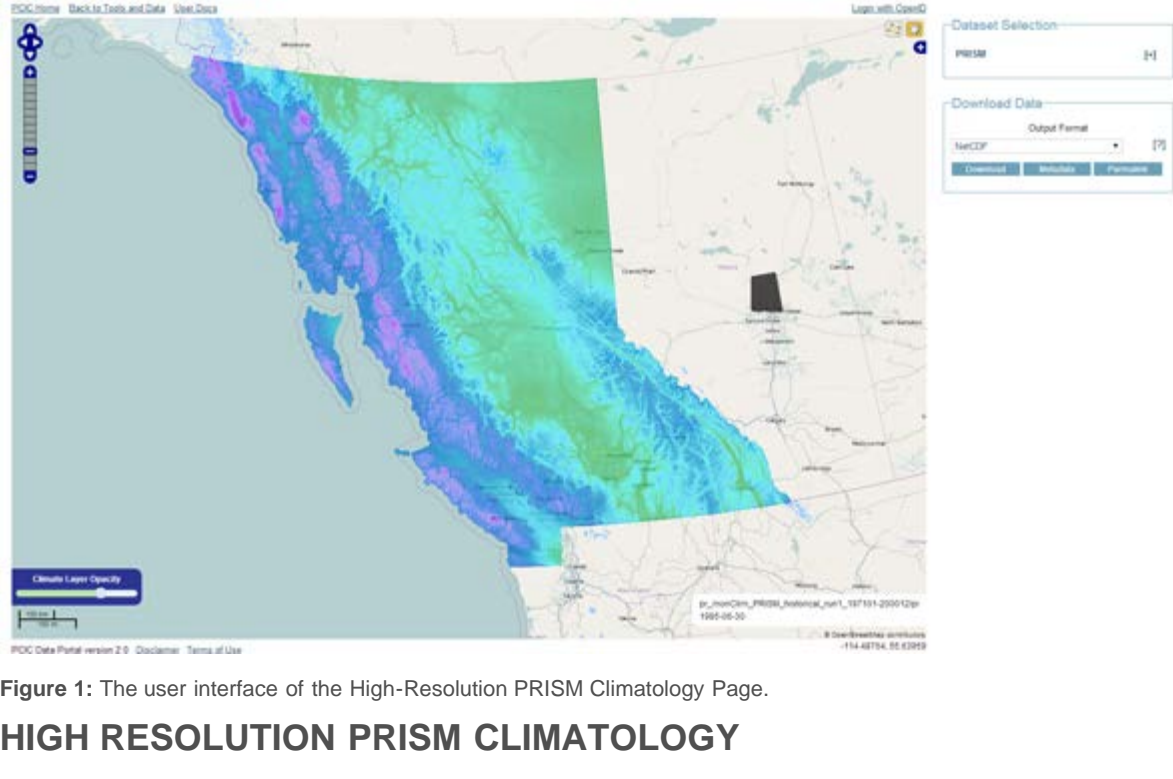


Figure 1: The user interface of the High-Resolution PRISM Climatology Page.

#### HIGH RESOLUTION PRISM CLIMATOLOGY

Three years of collaboration and effort went into developing new high-resolution climatologies for BC. These are now publicly available through our [High-Resolution PRISM Climatology Page](#). Producing these climatologies requires an interpolation model that can account for the effects of our varied topography and complex climate regimes. In order to do this, PCIC has worked with Oregon State University to adopt their Parameter Regression on Independent Slopes Model (PRISM) technology and apply it to British Columbia. PRISM has been tested and validated throughout the United States and it is applied worldwide. It has also been used in BC in the past. PCIC's PRISM climatologies use observations of temperature and precipitation from thousands of stations in BC and integrate other sources of information, including digital elevation data, snow data, upper atmosphere climatologies, glacier inventories, and local and expert knowledge in order to create a climatology of the province at a scale of 800 metres, for the period of 1971–2000. Because of the inclusion of new data and analysis, these new climatologies are an improvement over earlier PRISM climatologies of the region which were available at a scale of 4 kilometres.

Several regional stakeholders have invested in PCIC's effort to adopt the PRISM technology and make the data publicly available. They include the Pacific Institute for Climate Solutions, the BC Ministry of Environment, the BC Ministry of Forests, Lands and Natural Resource Operations and the partners of the [Climate Related Monitoring Project](#).

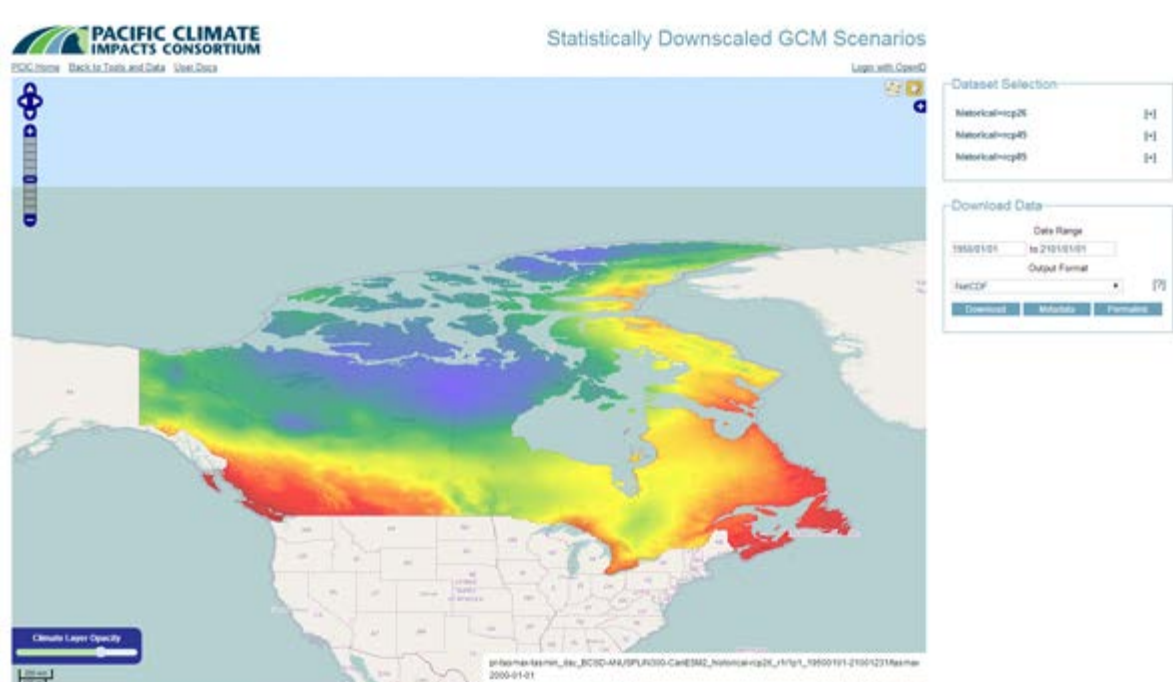


Figure 2: The user interface of the Statistically Downscaled Climate Scenarios Page.

#### STATISTICALLY DOWNSCALED CLIMATE SCENARIOS

PCIC is also proud to announce the opening of our [Statistically Downscaled Climate Scenarios Page](#). Using output from Global Climate Models participating in the Fifth Phase of the [Coupled Model Intercomparison Project](#), PCIC has applied a statistical downscaling method called BCSD to create a set of downscaled climate projections of precipitation, minimum temperature and maximum temperature. These are available for three different Representative Concentration Pathways, for all of Canada, at a scale of 300 arc-seconds (roughly 10 kilometres) for the period of 1950–2100.

The support of Environment Canada was instrumental in the development of this new PCIC product.

### SEMINAR BY FARON ANSLOW ON NEW PRISM CLIMATOLOGIES



Figure 3: Faron Anslow delivers a talk on the new PRISM Climatologies.

On February 26th, PCIC's Dr. Faron Anslow delivered a talk on the development of the BC climatologies (see above). After giving an outline of the project and an overview of how PRISM works, Dr. Anslow discussed some of the challenges that were encountered in making the new climatologies and how creative solutions combined with careful analysis can make a better data product. One example of this is the incorporation of snowpack and glacier coverage measurements in the new climatologies. This improves the precipitation climatology at high elevations and shows up as "wetter" Rocky Mountains and northwestern BC Coast Ranges than in prior PRISM climatologies of the region. He also pointed out that the new 1971–2000 climatologies incorporate three times as much precipitation data and four times as much temperature data as the previous 1961–1990 climatologies.

### NEW CLIMATE EXTREMES IN THE COLUMBIA BASIN - SUMMARY REPORT PUBLISHED

PCIC recently undertook a regional assessment of climate extremes in the Columbia Basin as part of the [Columbia Basin Trust's](#) Communities Adapting to Climate Change Initiative. This assessment used regional climate models (RCMs) to examine how climate extremes may change in the Columbia Basin. The results of this assessment have now been distilled into a summary report.

[Read more about this summary report.](#)

### VERSION 1.0 OF CLIMDEX.PCIC RELEASED

The effects of climate change are felt not only through changes to the average climate of an area, but also through changes to climate extremes. Changes to the duration and frequency of these extreme hot, dry, cold and wet conditions are of interest to climate researchers and those planning for climate change adaptation. The Expert Team on Climate Change Detection and Indices (ETCCDI) has formulated a standard suite of 27 climate extremes indices, and indices called CLIMDEX indices, to quantify and better understand changes to climate extremes events.

PCIC partnered with Environment Canada to analyze projected future changes in CLIMDEX indices. As part of this work, we independently implemented and validated an existing program used to compute the ETCCDI indices, aiding in the understanding of the ETCCDI indices' robustness and enabling the computationally-intensive indices to be computed across the globe. Version 1.0 of this program, [climdex.pcic](#), has just been released.

[Read more about the climdex.pcic release.](#)

### IPCC WORKING GROUP II REPORT APPROVED

The most recent report from the IPCC's Working Group II, which examines impacts, adaptation and vulnerability, is now available. The report was approved, line-by-line, by Working Group II and the Panel's member governments, in Yokohama, Japan, on March 29th.

[Read more about the IPCC Working Group II Report.](#)

### NEWSWORTHY SCIENCE

Our newest Science Brief covers an article in the journal *Nature*, by Sherwood, Bony and Dufresne, on the "climate sensitivity" of current CMIP5 climate models. The authors find that part of the variation in climate sensitivity between different models can be explained by how the models handle shallow, vertical mixing in the atmosphere. Using this result combined with observations, they find a lower bound of 3 °C on the warming that would eventually result from a doubling of the concentration of carbon dioxide in the atmosphere.

[Read this Science Brief.](#)

### RECENT PAPERS AUTHORED BY PCIC STAFF

Sillmann, J., V.V. Kharin, F.W. Zwiers, X. Zhang, D. Bronaugh and M.G. Donat, 2013: [Evaluating interannual variability in temperature extremes using modified percentile indices](#). *International Journal of Climatology*, doi:10.1002/joc.3899.

Shrestha, R.R., M.A. Schnorbus, A.T. Werner and F.W. Zwiers, 2014: [Evaluating hydro-climatic impacts of climate change signals from statistically and dynamically downscaled GCMs and hydrologic models](#). *Journal of Hydrometeorology* (in press). doi:10.1175/JHM-D-13-030.1

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**Our mailing address is:**  
Pacific Climate Impacts Consortium  
University House 1  
2489 Sinclair Road  
University of Victoria  
Victoria, British Columbia  
Canada V8N 6M2

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