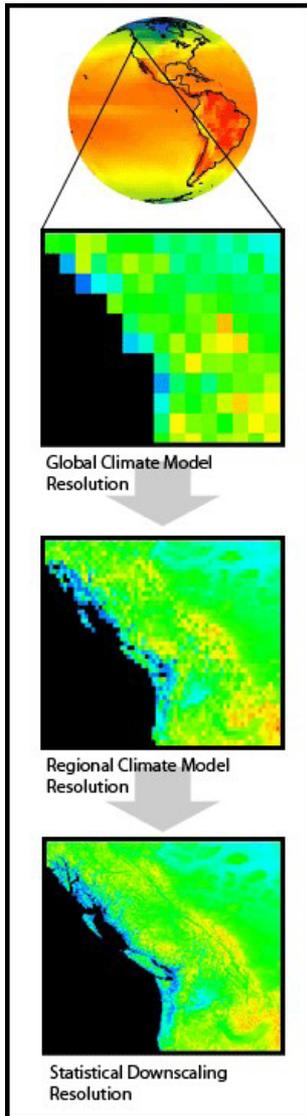




PCIC UPDATE

PCIC is pleased to share this most recent edition of the PCIC Update in its new HTML format. This new format will allow PCIC to deliver more concise and frequent updates on our program. In order to deliver the most important points quickly, many of the paragraphs below offer condensed, short summaries with links that lead to full stories on our [website](#).

STATISTICAL DOWNSCALING OF CLIMATE PROJECTIONS



PCIC researchers recently completed a project in which they applied statistical downscaling techniques to the output of regional and global climate models over most of Canada. The resulting climate projection has a spatial resolution of roughly ten kilometres and a daily resolution in time.

The project utilized all of the available regional climate models participating in the North American Regional Climate Change Assessment Program (NARCCAP), as well as a dozen global models from the fifth phase of the Climate Model Intercomparison Project (CMIP5). The CMIP5 runs were chosen based both on the model's ability to recreate historical observations and to create an ensemble that best captures the range of plausible changes to future climate. Three future emissions scenarios were chosen for the CMIP5 runs. In these, the atmospheric concentration of greenhouse gases (including carbon dioxide) reach the equivalent of approximately 490, 650 and 1370 parts per million of carbon dioxide by the year 2100. The statistical downscaling techniques used for this work, Bias Correction and Statistical Downscaling (BCSD), and Bias Correction/Climate Imprint (BCCI) were chosen for their ability to simulate indices of climate extremes.

Climate change is a global phenomenon, but its effects are felt at the local scale. This work is helpful in analyzing the potential impacts of climate change on smaller, regional and community scales. This in turn is useful information for planners and stakeholders. PCIC is currently working on a data portal that will deliver this data to users.

Scientists at PCIC require higher resolution information than is provided in global climate models. Using regional climate models, with resolutions around 50 km and statistical downscaling, some of which can resolve down to a point, we are able to provide region-specific information to users. This figure provides three examples of model resolution: global climate model resolution (several hundred km), regional climate model resolution (about 50 km) and statistical downscaling resolution (varying from just under 20 km down to a point).

SEASONAL CLIMATE MAPS

The differences between average weather conditions that normally prevail at a given time of year and what is experienced is a critical link between people and climate. The normal, or expected, weather conditions for a month or season is known as the climatology for an area and plays a major role in defining the locale. Departures from normal conditions are experienced as unusual weather that is rainier, drier, warmer or colder than normal periods. PCIC has recently constructed a series of maps that depict this by showing departures of observed temperatures and precipitation from a 1971-2000 baseline period, at observational weather stations in BC. These maps, describing the season that has just passed, will be posted operationally. [See our website for more information](#) or, go straight to the [maps tool](#).

JOINT CMOS, CGU AND CWRA SCIENTIFIC CONGRESS

The first Joint Scientific Congress of the Canadian Meteorological and Oceanographic Society, the Canadian Geophysical Union and the Canadian Water Resources Association will be held in Saskatoon Saskatchewan, from May 26th to May 30th.

PCIC scientists will be participating, presenting results from recent hydrology and regional climate impacts work. [See our website for more information on the event](#).

ATMOSPHERIC RIVERS WORKSHOP

PCIC, partnering with [the British Columbia Ministry of Environment](#) and [the Pacific Institute for Climate Solutions](#) recently arranged and held the *BC Atmospheric River Events: State of the Knowledge Workshop*. This event brought together forecasters, emergency responders and policy advisors to discuss atmospheric rivers. [See our website for more information on this event](#).

NEWSWORTHY SCIENCE

Our two most recent PCIC Science Briefs examine the effects of mountain pine beetle infestation on water quality and the potential effect of projected changes to rainfall on automobile safety in Vancouver.

Recent work on a mountain pine beetle-infested area shows that municipal water supplies that draw from such regions may have higher concentrations of both organic carbon and potentially harmful byproducts that are formed by the interaction of disinfection chemicals with organic and inorganic matter present in the water. [Read more about this article on our website](#). This Science Brief covers a recent paper in *Nature Climate Change*, by Mikkelsen (2013) and colleagues.

New research published in the journal *Climatic Change*, (Hambly et al. 2013) suggests that projected increases in heavy rainfall events in the Greater Vancouver area could lead to higher automobile collision counts by the 2050s. [Read more about this article on our website](#).

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