



Photo: Garth Lenz, iLCP

CLIMATE CHANGE AND THE CANADIAN CROWN OF THE CONTINENT

The Canadian Crown of Continent (CCOC) ecoregion spans an extensive range of latitudes and climates with large intact natural areas, and several globally significant biomes. The area occupies a central position in the Rocky Mountains providing a link between Banff, Kootenay and Yoho National Parks in the North, and Waterton Glacier National Peace Park in the South (Figure 1).

The CCOC holds great recreational opportunities for hiking, horseback riding, backcountry camping, and wilderness discovery. Local residents benefit from tourism operations and a high quality of life. Many parts of the CCOC play a critical role in supplying surrounding areas with freshwater as the dense snow pack slowly melts each summer. The region is very important ecologically and spiritually as it has been for centuries.

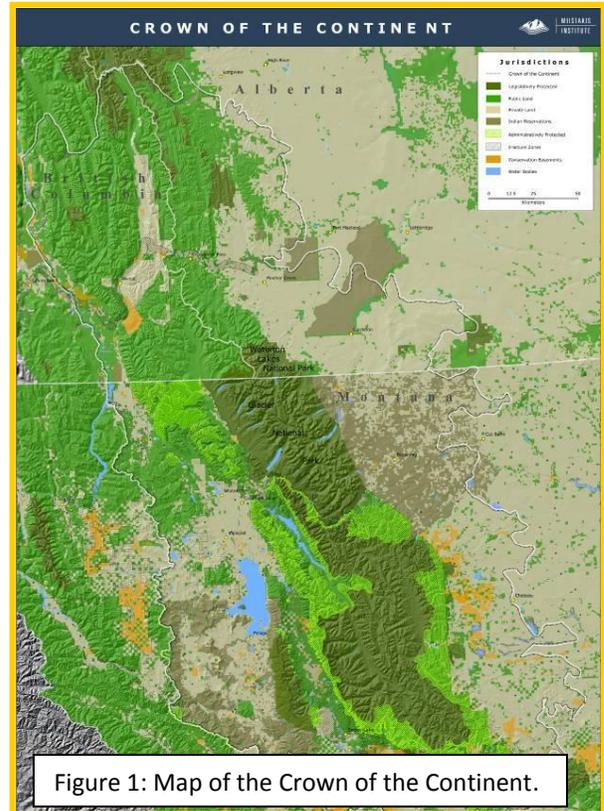


Figure 1: Map of the Crown of the Continent.

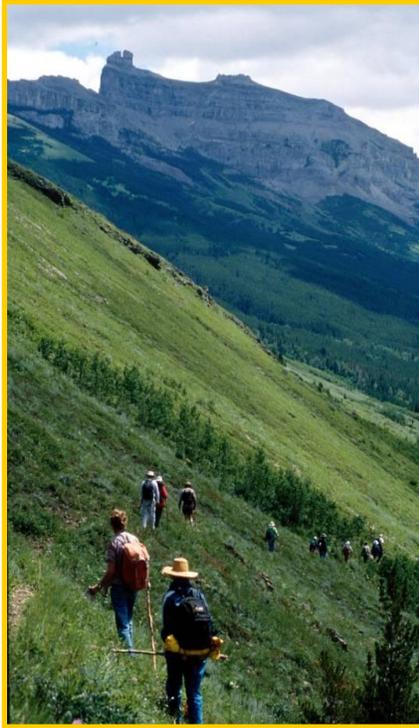
In addition to its adjacency to an extensive network of protected areas and its high level of biodiversity and naturalness, the CCOC exhibits a high ecological resilience to climate change. Expanding and connecting the existing protected areas network is of upmost importance to ensure this resilience over the long term.



Photo: Joe Riis, iLCP

BIODIVERSITY

Many of the regions within the CCOC remain in a remarkably natural state. With one of the highest species densities in Canada, the CCOC boasts a variety of plant species, creating a diversity of habitats that support an abundance of wildlife. The area is home to several threatened or endangered species including Westslope Cutthroat Trout, Rocky Mountain Tailed Frogs, Alpine Meadow Foxtail, and Grizzly Bears.



CLIMATE CHANGE IMPACTS

The CCOC region has warmed markedly (3°C) in the past century. According to current climate predictions, the region is expected to warm between 2.5-3.1°C by 2050. This will increase the growing season by prolonging warmer summer conditions. As temperature and precipitation patterns continue to change, the following impacts are expected:

- Changes in species community composition and structure;
- Alteration to the timing and amount of water availability;
- Increased rainfall triggering more flood events;
- Inability of species to migrate relative to the rate of climatic change, possibly leading to extinction;
- Northward and upslope shifts in species distribution;
- Changes in plant phenology (e.g., the timing of bud burst and flowering);
- Increasing occurrence of disturbance and threat of invasive species; and
- Decline of old growth forest communities.

RECOMMENDATIONS AND A CALL FOR ACTION

Healthy, functioning and diverse ecosystems are more resilient to change, thus providing more opportunity for nearby human communities to adapt as well. Retaining areas with options for species to persist and expand in the face of climate change is a key adaptation strategy (Hebda, R., 2010). The diverse habitats and wildlife, combined with the intact natural flora of the CCOC will help to reduce the severity of ecological and biodiversity impacts in the future. Many experts believe that this area will be a climate change adaptation hotspot, further increasing the need for conservation action now. The CCOC can buffer the risks of rapid changes and loss of ecological values and natural resources, if appropriately protected and conserved, in turn, helping to preserve this beautiful landscape for future generations.



For more information please refer to complete reports entitled: “The Future of Flora: The Impacts of Climate Change on the Flora of the Canadian Southern Rocky Mountain Region and its Value to Conservation” by Richard J. Hebda, 2010 and “The Future of Freshwater: The Impacts of Climate Change on Freshwater in British Columbia’s Flathead Watershed and Alberta’s Upper Castle River Sub-basin” by Patrick Thompson, MSc (Zoology), 2010. Or visit www.cpaws.org