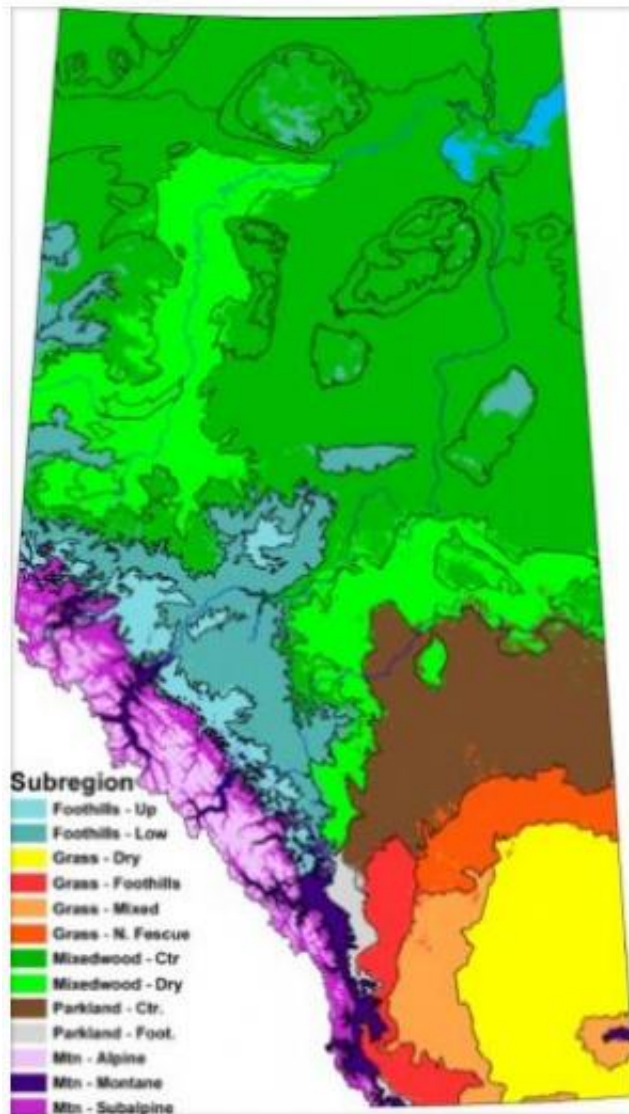


Alberta's climate will get warmer, drier, report says

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The current distribution of Alberta's natural subregions, pictured here, is likely to change significantly as the subregions shift northward in response to climate change.

A new report from an institute at the University of Alberta paints the clearest picture yet of how climate change will reshape the province's landscape.

The report from the Alberta Biodiversity Monitoring Institute (ABMI) describes how Alberta's ecosystems are likely to respond to [climate change](#). In [*Alberta's Natural Subregions Under a Changing Climate: Past, Present and Future*](#), U of A researcher Richard Schneider presents state-of-the-art climate projections for the province and a detailed analysis of how Alberta's ecosystems are likely to shift in response to climate change over the next century.

The projections show a range of possible changes to the climate. At a minimum, temperatures in Alberta are expected to increase by 2 C over the next hundred years; all available [global climate models](#) predict this outcome. In response, Alberta's ecosystems are projected to shift northward: for example, the parkland landscape around Edmonton will come to resemble the [grassland](#) landscape around Calgary.

At the upper end, under a high global [greenhouse gas emissions](#) scenario, the climate models predict drier conditions and temperature increases of up to 6.5 C, which could result in the near-complete loss of the boreal forest from northern Alberta. The [boreal region](#) currently covers more than half of the province.

"This report provides state-of-the-art projections of ecosystem transitions for the province, at a level of detail previously unavailable," says Schneider. "We've essentially taken the existing snapshot of Alberta's ecosystems and created a movie to describe what is likely to change in those living systems as they respond to climate change."

Alberta's ecosystems are classified into six natural regions and 21 natural subregions. Because broad [climate patterns](#) determine the distribution of these ecosystems—the grassland in the south and the [boreal forest](#) in the north—they are likely to respond strongly to climate change. Schneider models the response of these regions to climate change based on their current climate associations and several projections of Alberta's future climate.

Understanding how Alberta's natural regions are likely to change in the future is directly relevant to land use planning initiatives, such as forest management, that are linked to the current extent and distribution of these regions. This report is intended to assist in informing decisions about natural resource and land use.

The report was produced as part of the Biodiversity Management and Climate Change Adaptation Project led by ABMI, with collaborators from the U of A and the Miistakis Institute. The project receives its core funding from the Climate Change and Emissions Management Corporation.

"This is a significant report for the CCEMC," said Eric Newell, chair of the corporation. "It improves our understanding of the implications of climate change for Alberta over time, and continued work will enhance the ability of industries like forestry that rely on Alberta's ecosystems to plan and prepare for the future."

Provided by University of Alberta

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