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Abstract

Impacts of climate change on British Columbia biodiversity: A literature review

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This Extended Abstract condenses a literature review that summarized research on the current and potential impacts of climate change on biodiversity in British Columbia. The review, which is preceded by a brief summary of observed and predicted climate changes, brings together the relevant information contained in those publications for the benefit of natural resource managers. Contemporary increases in atmospheric carbon dioxide concentration, average annual temperatures, and sea surface temperatures have been documented, and climatologists predict these increases will continue through this century. Research suggests that whole ecosystems and biogeoclimatic zones will not respond as a unit; rather, individual components of ecosystems will respond. Species will respond to these climate changes either by adapting in place, migrating, or going extinct. Examples of species responses have already been recorded in British Columbia. Finally, the review summarizes research on how to mitigate climate change impacts on biodiversity. Mitigation will require implementing conservation principles, reducing non-climate stressors, providing latitudinal and elevational migration corridors, and instituting long-term monitoring to define causality between climate change and biotic responses. Perhaps the most important advice for natural resource and biodiversity managers is to implement, to the extent possible, good conservation practices.

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