

Plain Language Summary

Climate change can affect designated projects in Canada by increasing risks related to hazards such as flooding, permafrost thaw, and wildfires, and to increases in climate variability and shifting baseline conditions. These changes can pose challenges not only to project activities and infrastructure but also to the broader landscape where projects are planned and operated, and the surrounding environment, including potential impacts on environmental, health, social, and economic conditions, as well as effects on Indigenous Peoples. This research examines how climate change interacts with different parts of designated projects by reviewing existing research and, most especially, environmental assessment reports of mining and nuclear power projects. It includes a conceptual framework that maps out the potential effects of climate change on various parts and phases of designated projects, a research report that summarizes key findings and identifies important risks, adaptation considerations, and information gaps, and a searchable tool that brings together relevant examples from the resources reviewed. The findings show that climate change is already affecting designated projects. While risks to infrastructure, project operations, and surrounding environmental conditions are commonly recognized in the set of assessments reviewed, the quality of the related analyses varied, and few of the assessments clearly assessed the potential for related health, social, and economic effects. Filling these gaps is essential for strengthening impact assessment practices to better account for climate change and support more informed and inclusive decisions that reflect the need for improved climate resiliency.