

A Compendium of Tools for Climate Change Vulnerability Assessment for Watersheds

To help anticipate and adapt to climate change impact on Canada's water resources, ESSA worked with CCME to develop a comprehensive compendium of tools for use by technical experts, adaptation planners and resource managers to develop climate change vulnerability assessments of water quantity and water quality at a watershed scale.

Drawing guidance from the Intergovernmental Panel on Climate Change (IPCC), this compendium defines vulnerability assessment as a process for assessing, measuring, and/or characterizing the exposure, sensitivity, and adaptive capacity of watersheds to climate change. The knowledge generated by a vulnerability assessment can then be used to allocate resources for climate change planning and adaptation.

To identify tools relevant to the Canadian context, ESSA drew upon Canadian and international case studies of watershed-scale vulnerability assessments to select those that would be representative of a broad range of water resource issues, data needs, and technical capabilities.

The resulting tools in the compendium are varied and diverse, ranging from indicator based approaches to sophisticated hydrological models that calculate exposure to flood events under future projections of climate change. They also range from qualitative to quantitative approaches that address a broad range of characteristics of social-ecological systems.

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