

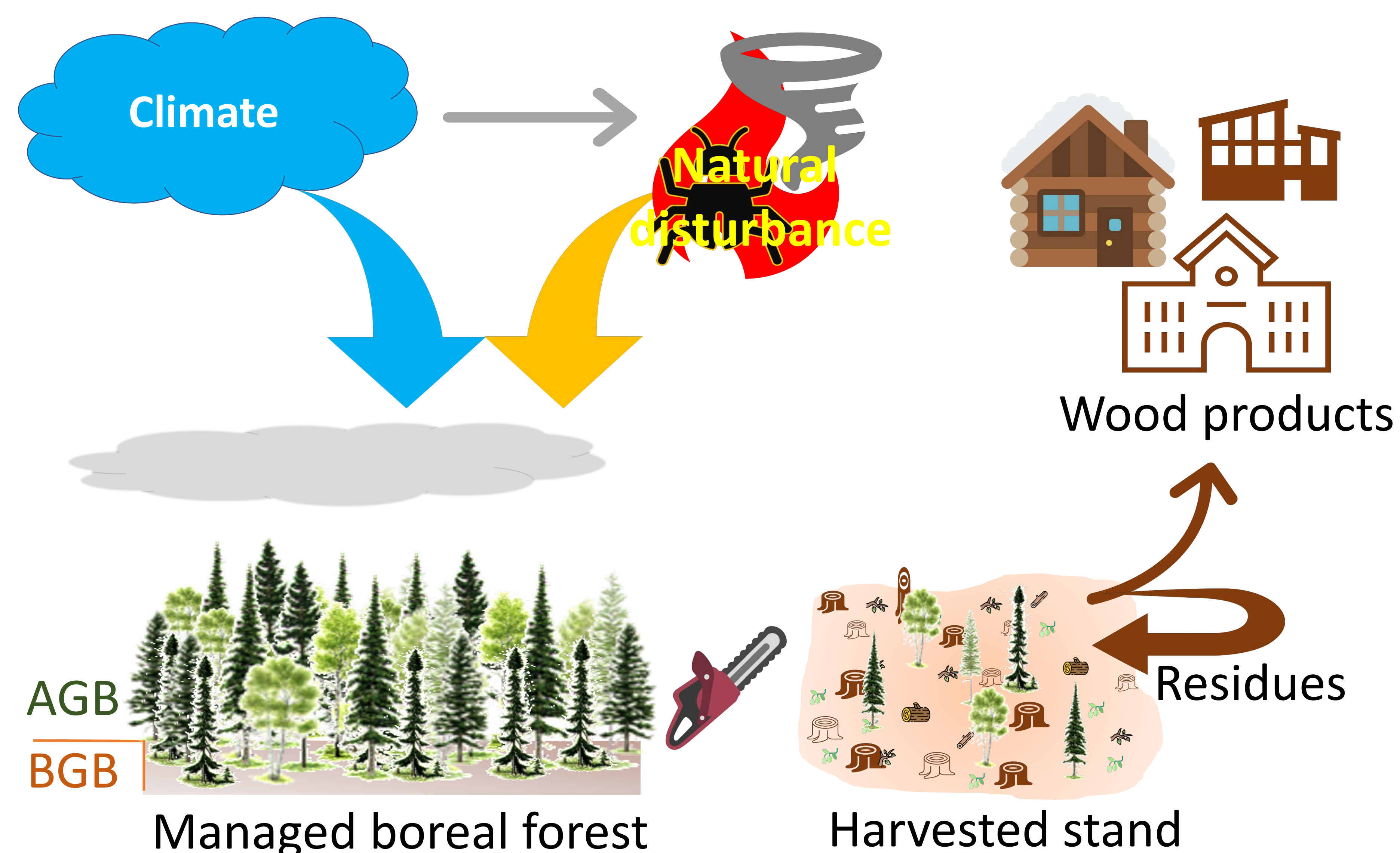
Understanding forest management as a solution for climate change mitigation: Carbon dynamics modeling at landscape level

Naveen Verabhadraswamy¹, Osvaldo Valeria¹, and Dominic Cyr²

¹Forest Research Institute, Université du Québec en Abitibi-Témiscamingue, Naveen.Verabhadraswamy@uqat.ca

²Environment and Climate Change Canada (ECCC), Canada

Project aim: To identify, by landscape modeling, forest management strategies that optimize the mitigation capacity of the managed boreal forest by increasing opportunities offered by climate change, and thus better guide the choices of forest managers.



Chapter 1

To understand the effect of current forest management practices on managed boreal forest under future climate and natural disturbance.

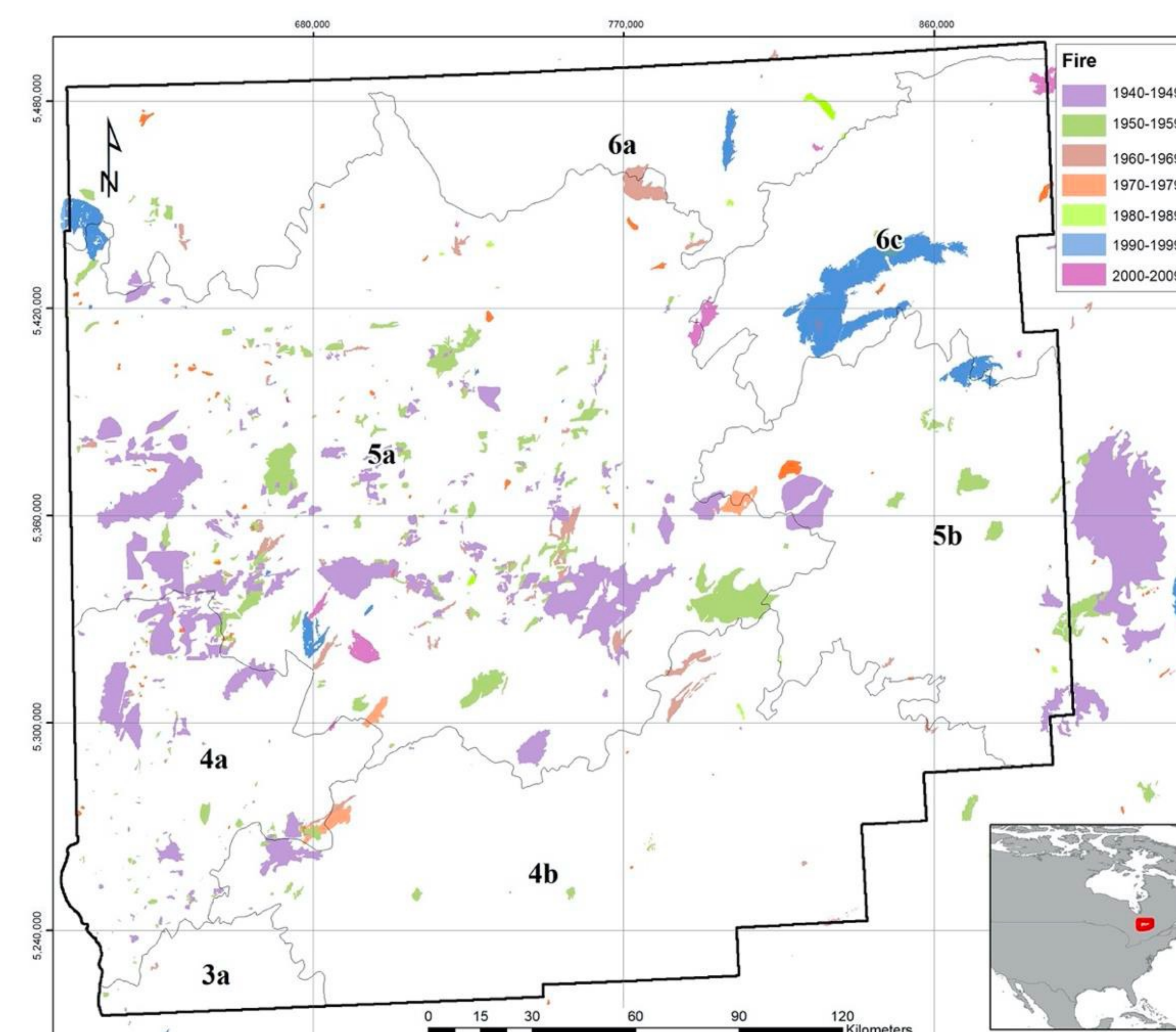
Chapter 2

To evaluate the effect of commercial-part-wood-only harvest on carbon pools and dynamics at landscape level under climate change.

Chapter 3

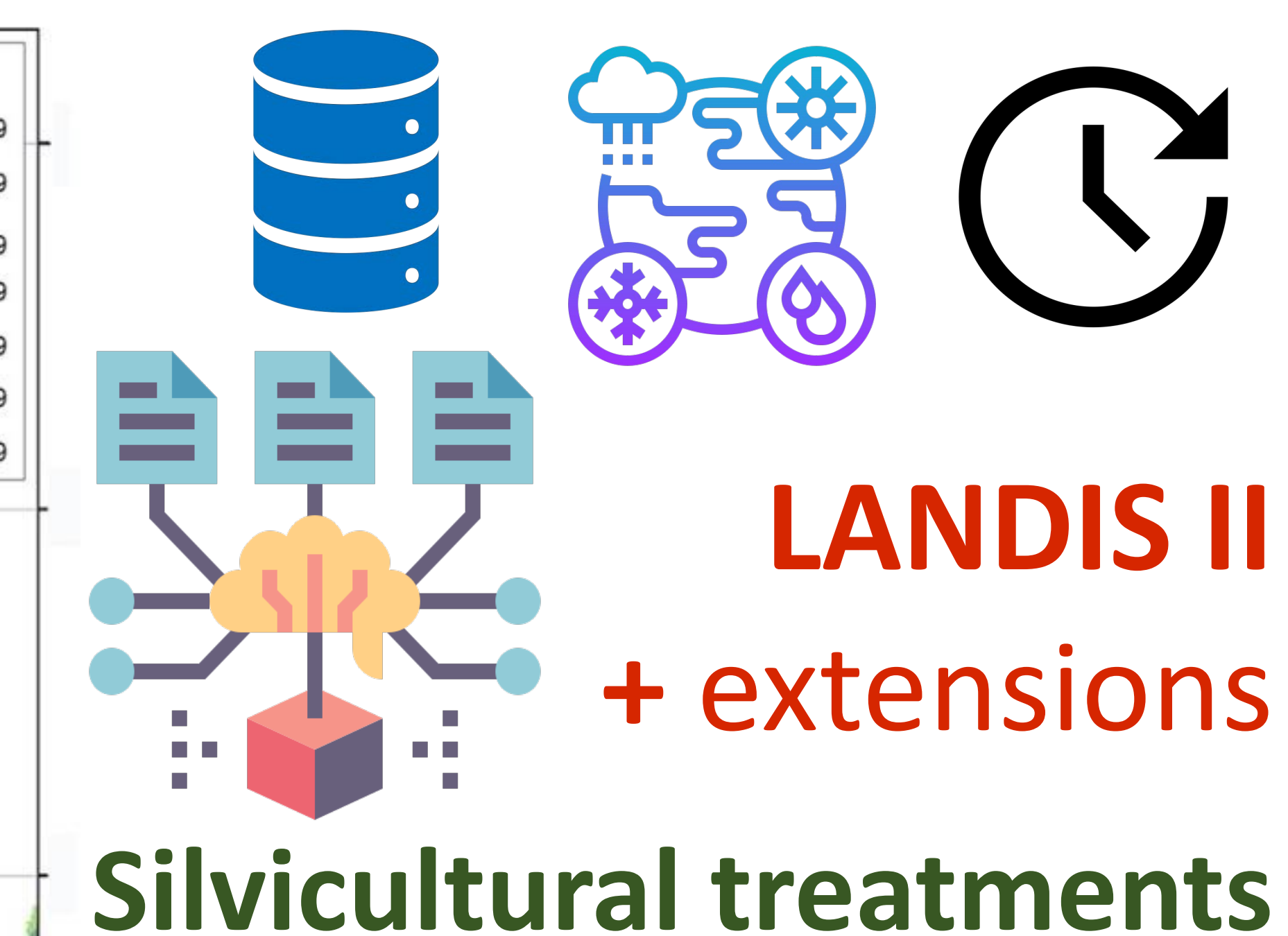
To identify the best silvicultural treatment for maintaining the productivity of the boreal forest under future climate change.

Study area



Boreal Forest of Quebec

Methodological approach



Results



Research questions

- How does current forest management practice affect the stand structure, age, and composition under future climate and natural disturbance?
- How does remaining residues affect forest productivity under climate change?
- How much time is required for a harvested stand to reach breakeven point, pre-harvest state?
- What are the effects of different silvicultural treatments (partial cut and clear cut/different thinning percentages) on forest productivity under climate change and disturbance?