Supporting Indigenous Participation in Environmental Impact Assessment

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Integral Ecology Group

IAIA 2024
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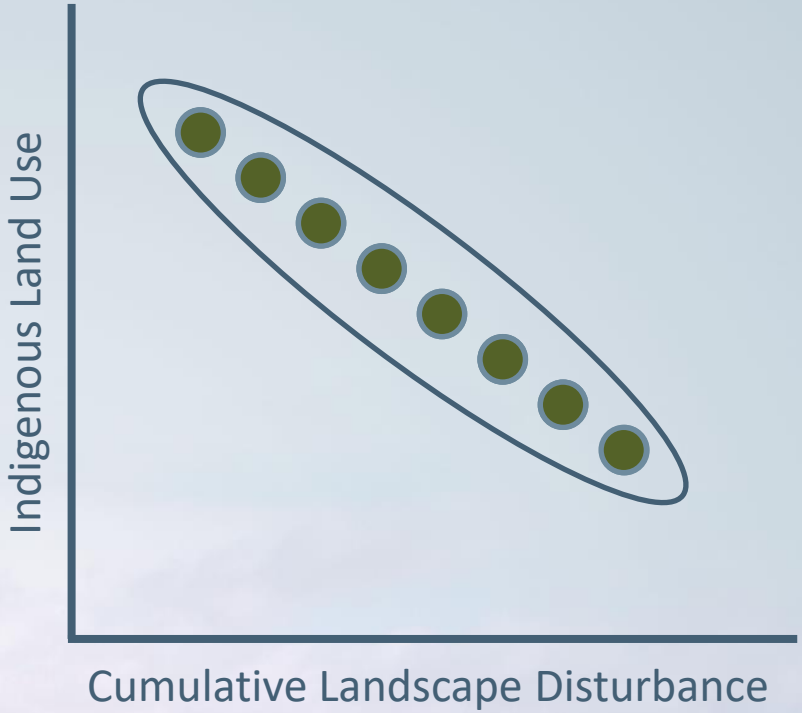
EIAs are often insufficient in scope to address cumulative impacts to Indigenous rights

Type of scope	EIA	Indigenous rights
Temporal	Short-term	Long-term
Geographic	Local	Regional
Planning	Tactical	Strategic



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EIAs are of insufficient scope to address cumulative impacts to Indigenous rights

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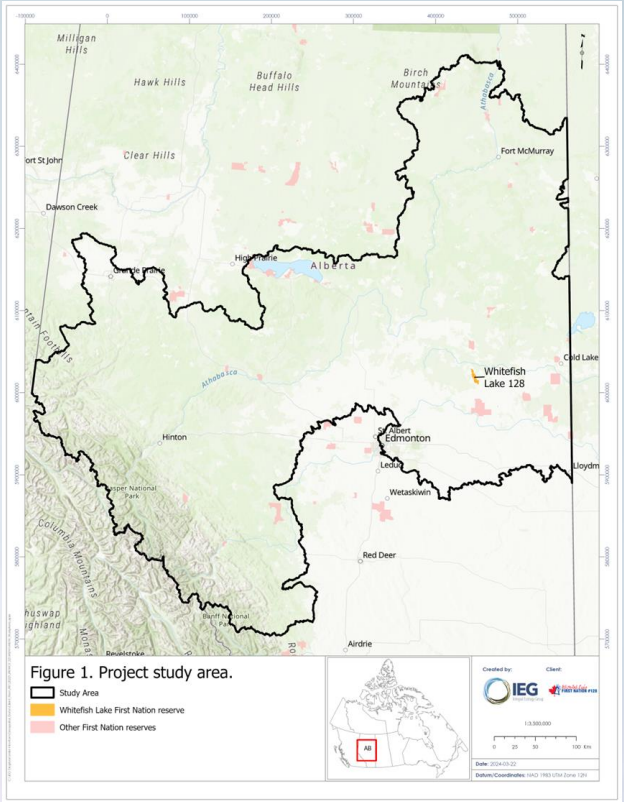

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EIAs are of insufficient scope to address cumulative impacts to Indigenous rights

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- Inefficient and insufficient engagement
  - Overwhelming volume of EIAs
  - Inconsistent with free, prior, and informed consent

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Indigenous Cumulative Effects Assessments

- Multiple projects funded by the Federal Agencies and the Indigenous Centre for Cumulative Effects
- Goals
  - improved understanding of how cumulative effects have impacted Indigenous land use
  - Equip Indigenous communities with capacity to respond to projects

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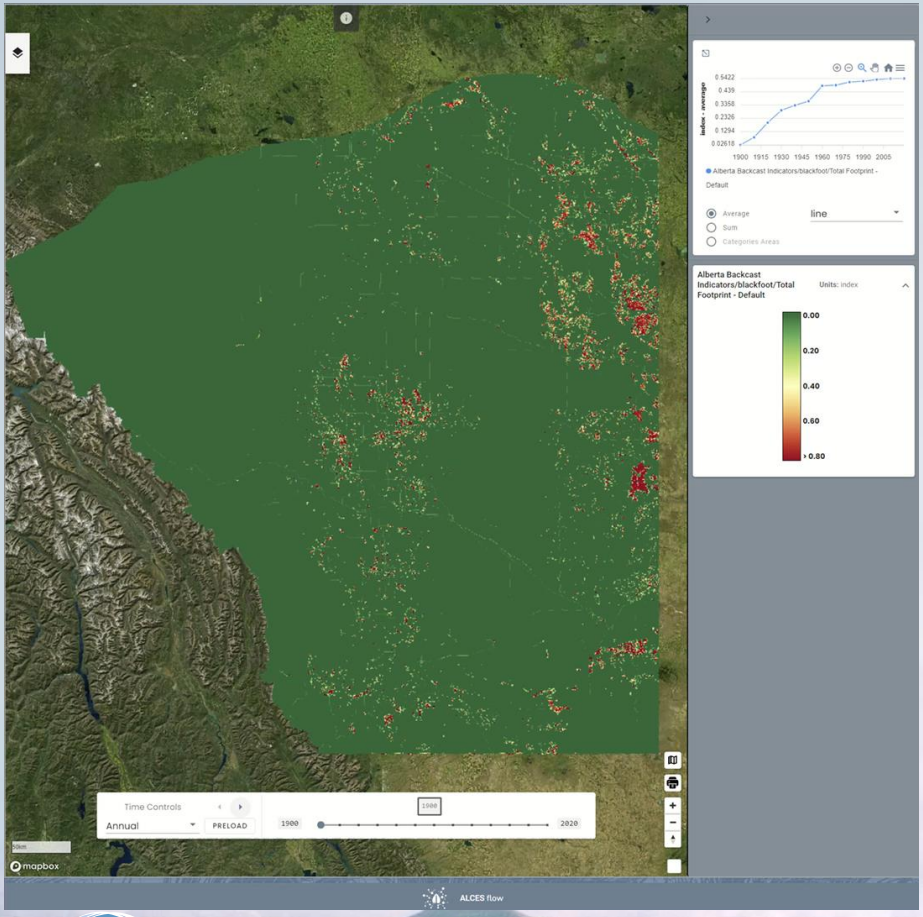
Landscape Simulation with ALCES Flow



Simulate landscape change across large scales

Comprehensive consideration of drivers

Customizable for streamlined tools

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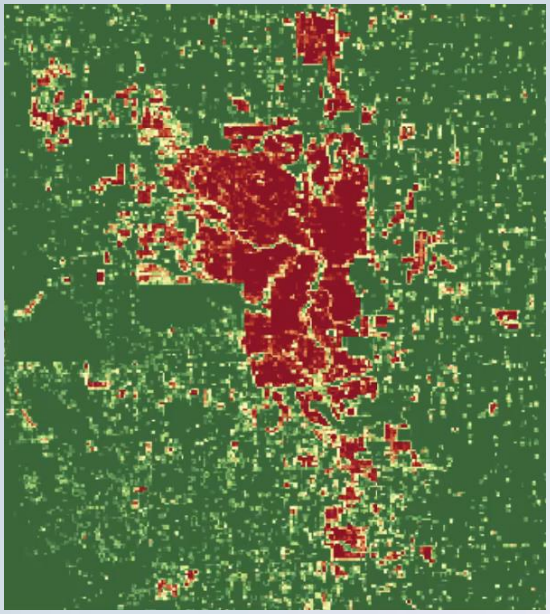
Landscape simulation with ALCES Flow

Settlements



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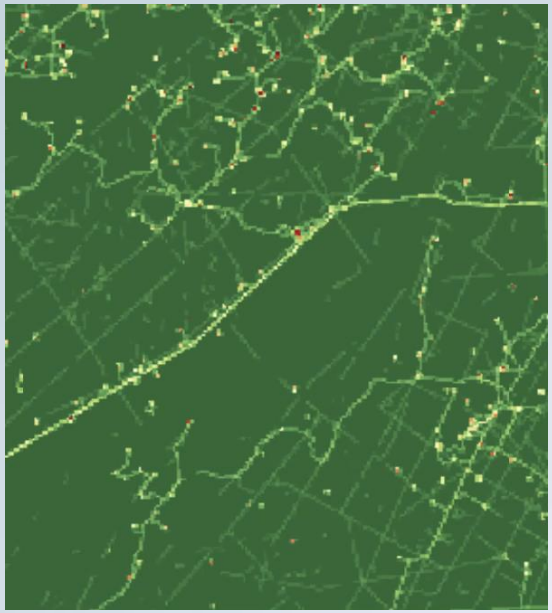
Energy



Landscape change across large scales

Comprehensive consideration of drivers

Customizable for streamlined tools

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Landscape simulation with ALCES Flow

Forestry and Fire

Landscape change across large scales

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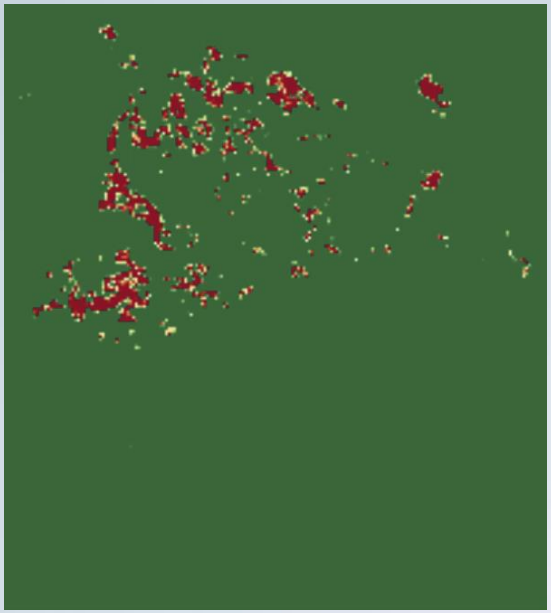
Landscape simulation with ALCES Flow

Agriculture



Landscape change across large scales

Comprehensive consideration of drivers

Customizable for streamlined tools

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Landscape simulation with ALCES Flow

Transportation

Landscape change across large scales

Comprehensive consideration of drivers

Customizable for streamlined tools

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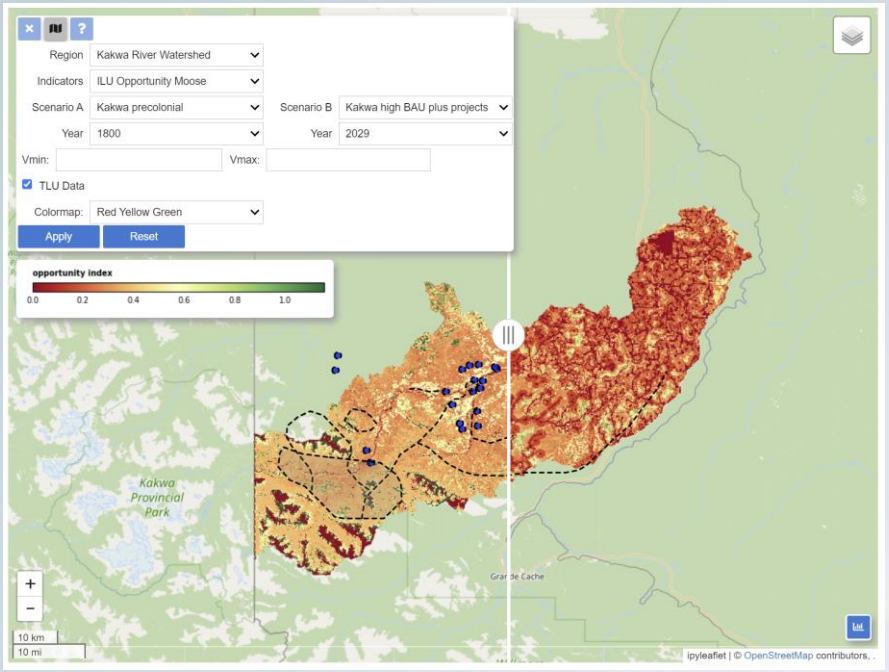
Landscape simulation with ALCES Flow



Landscape change across large scales

Comprehensive consideration of drivers

Customizable for streamlined tools

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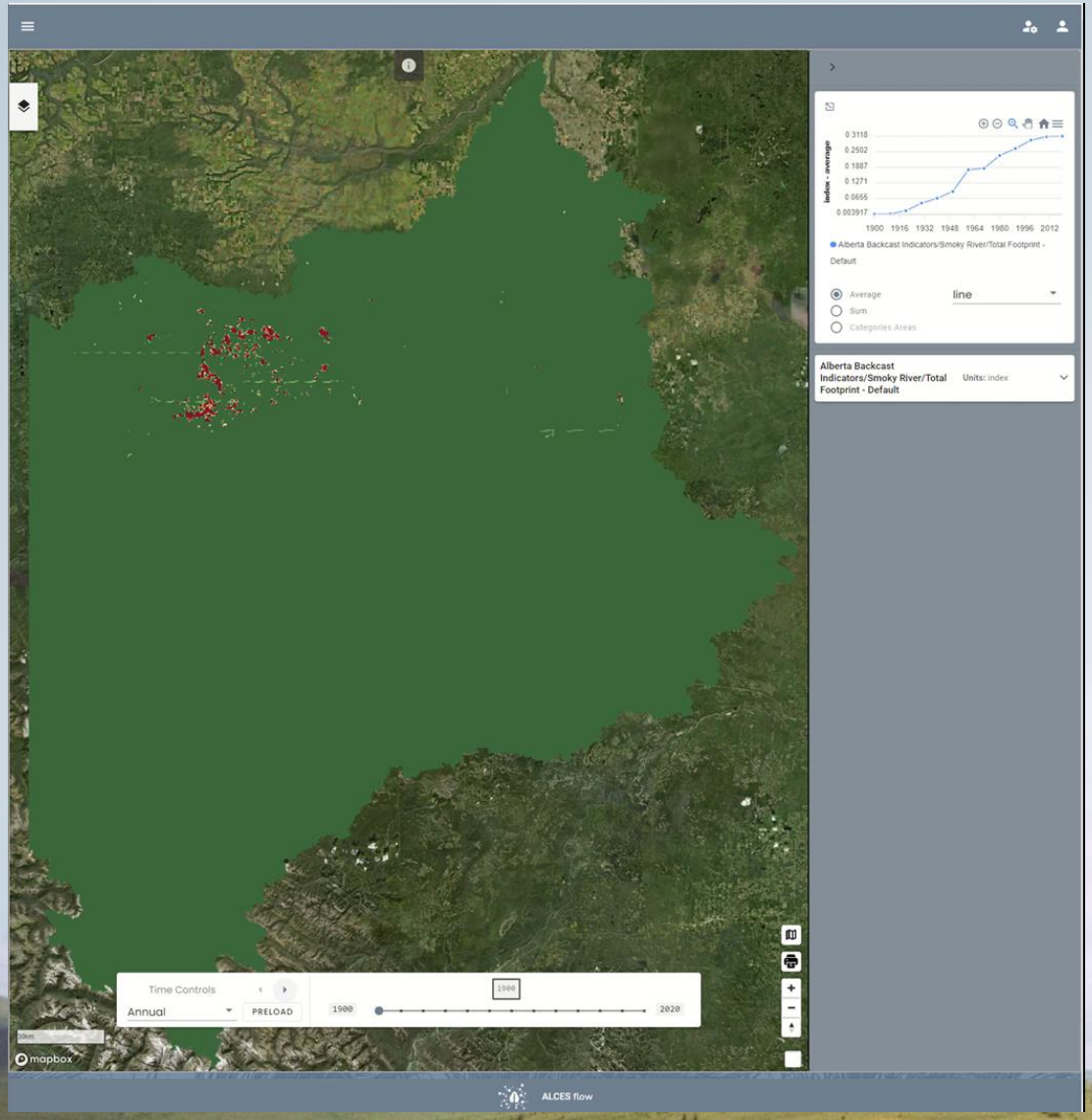
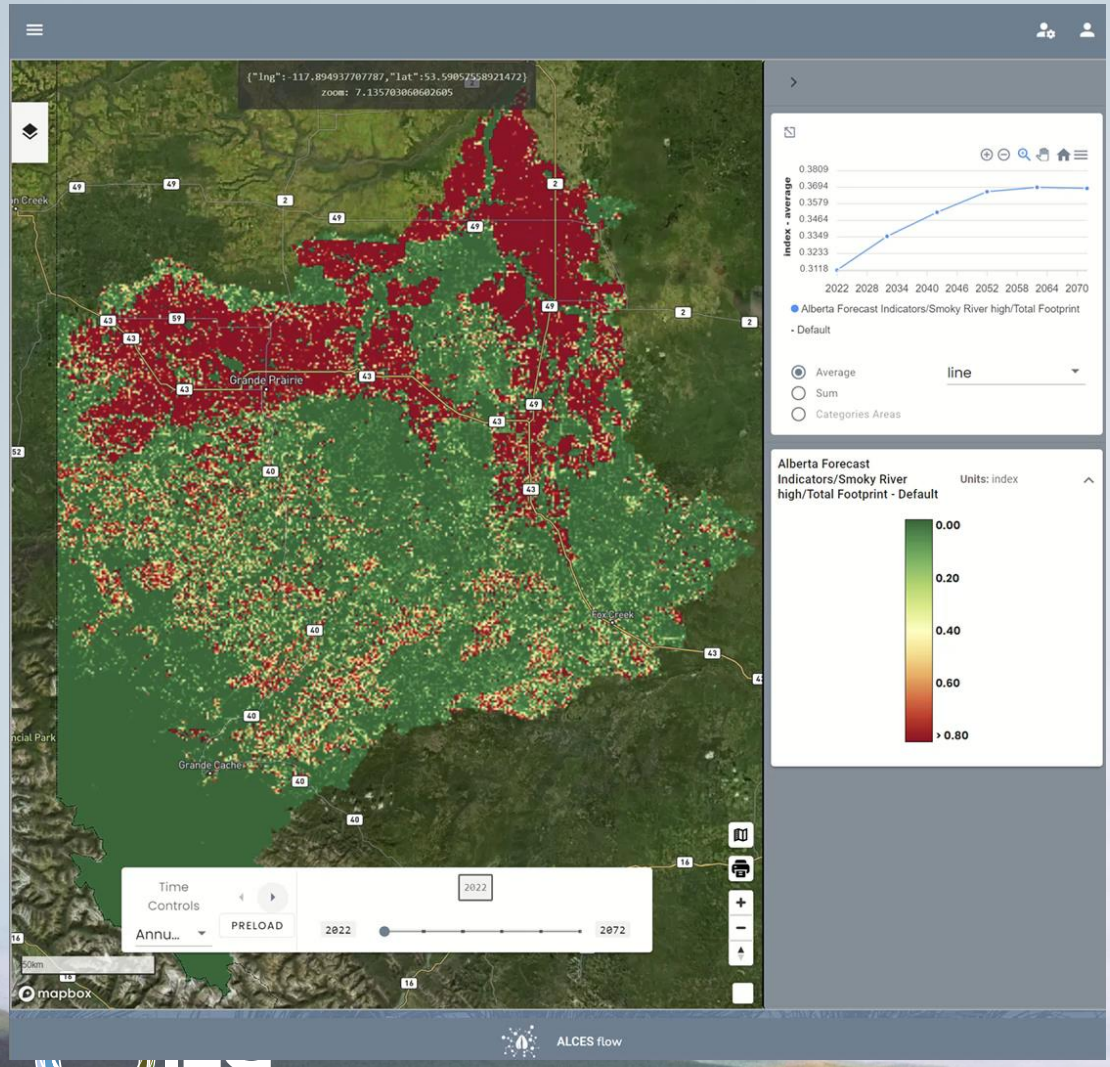
Precolonial and Backcast simulation



- Reconstruct historical landscape change
- Data sources:
  - land cover inventories
  - disturbance inventories
  - historical censuses

Forecast simulations



- Forecast future landscape change
- Data sources:
  - Projections from government agencies
  - Recent patterns
  - Research

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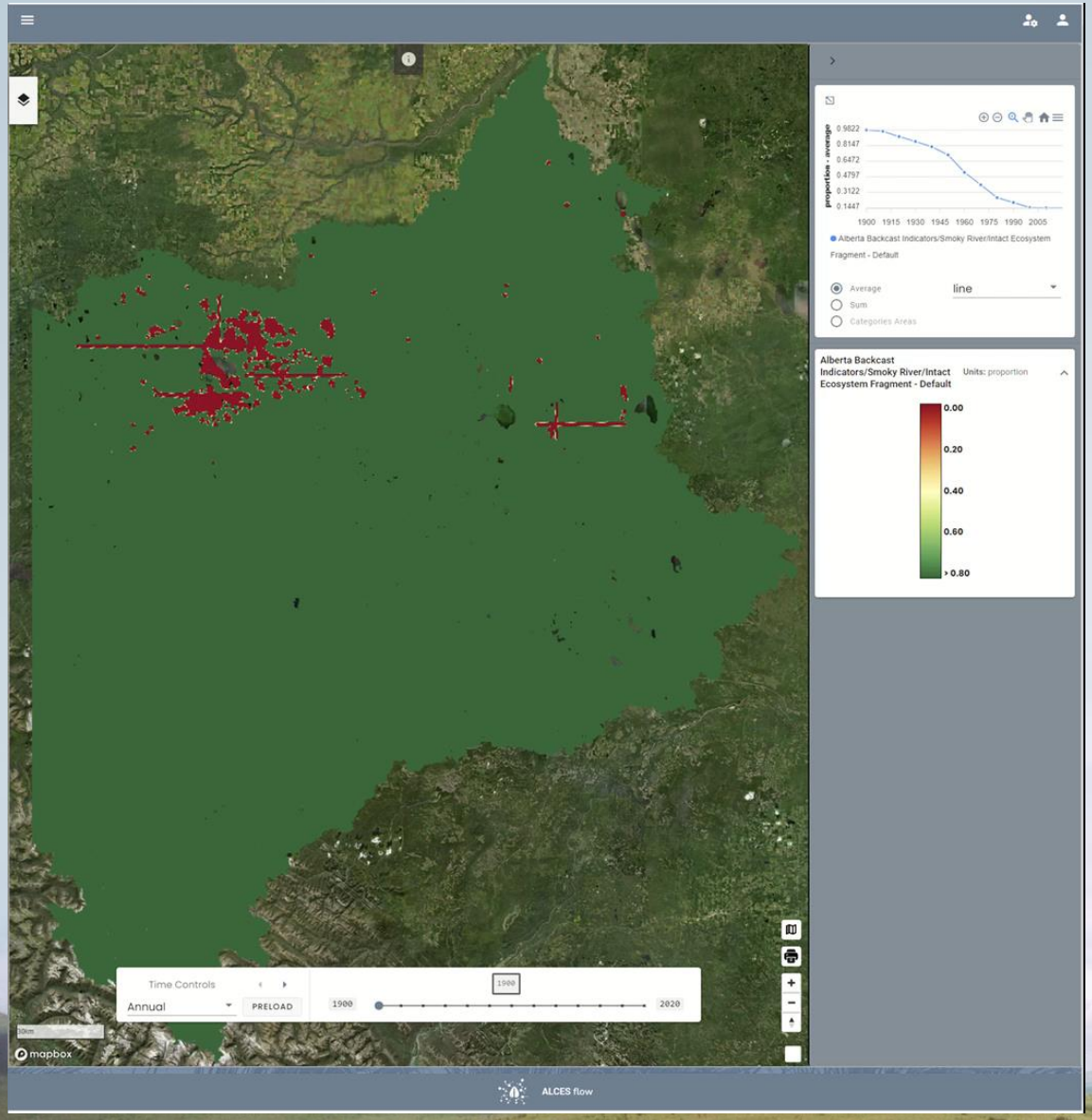
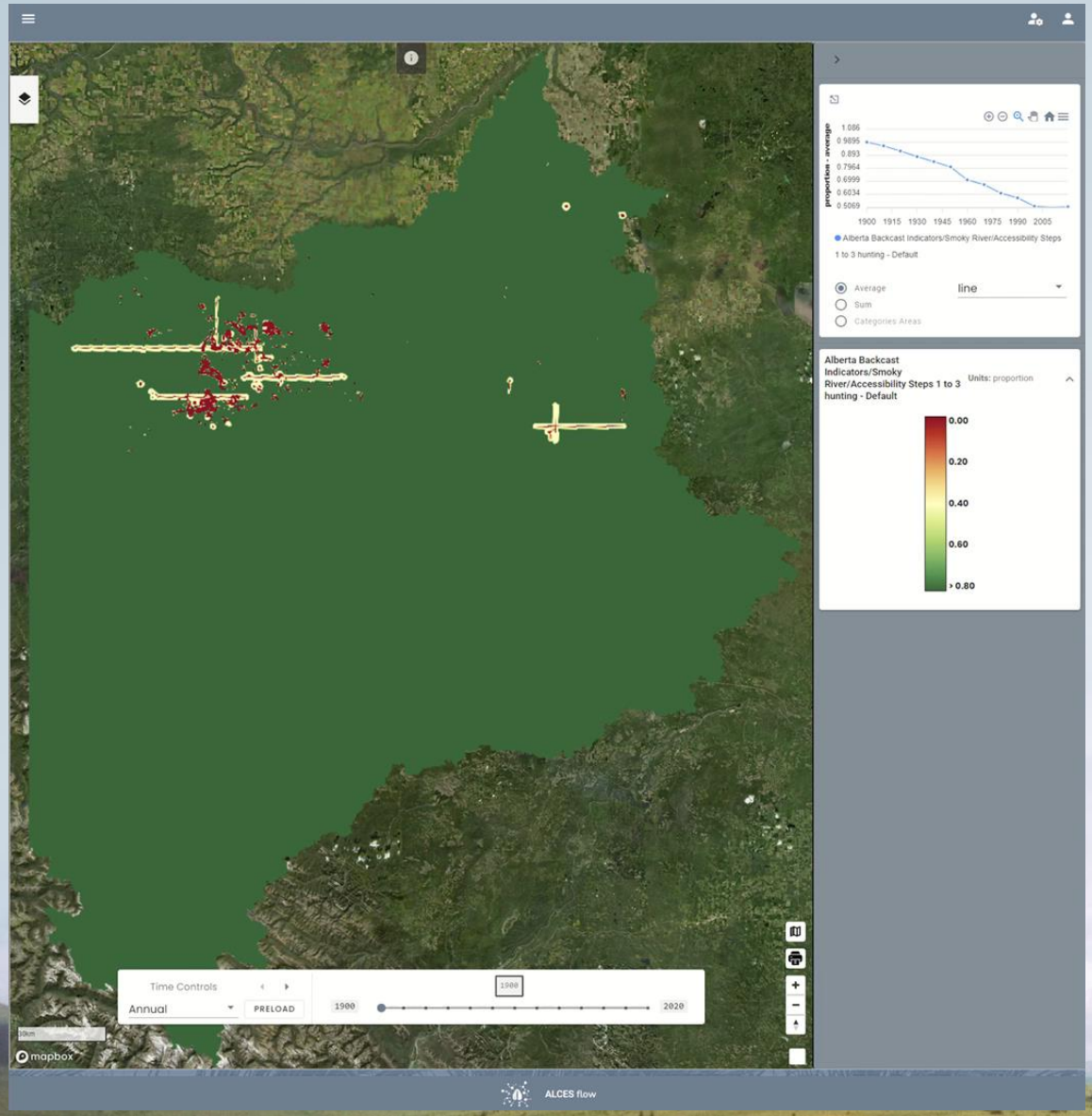
Ecosystem indicators



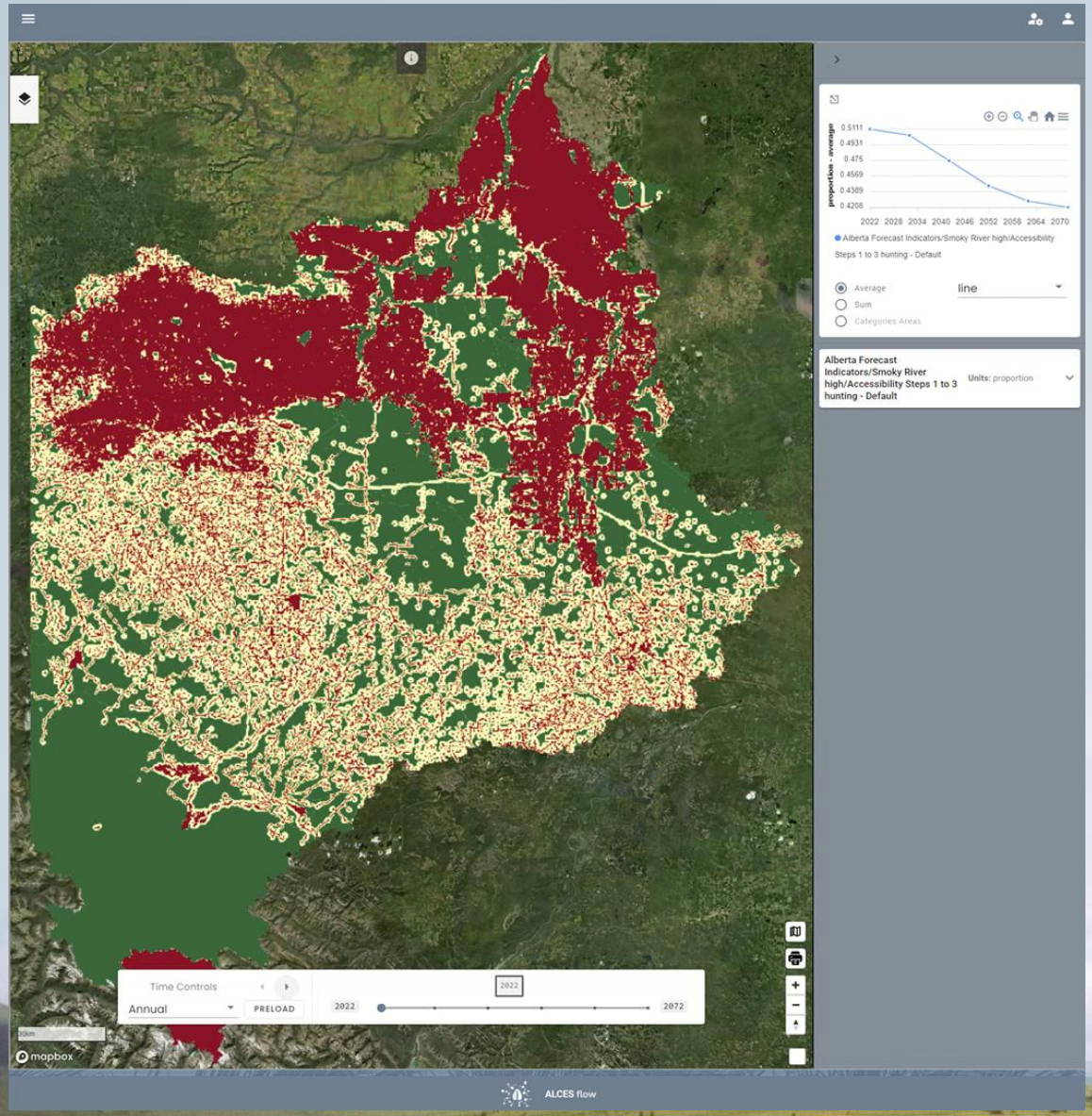
- Intact ecosystem fragments
- Wildlife
- Fish
- Water quality

Accessibility for Indigenous Land Use



- Hunting regulations
- Safety considerations
- Community preferences

Accessibility for Indigenous Land Use



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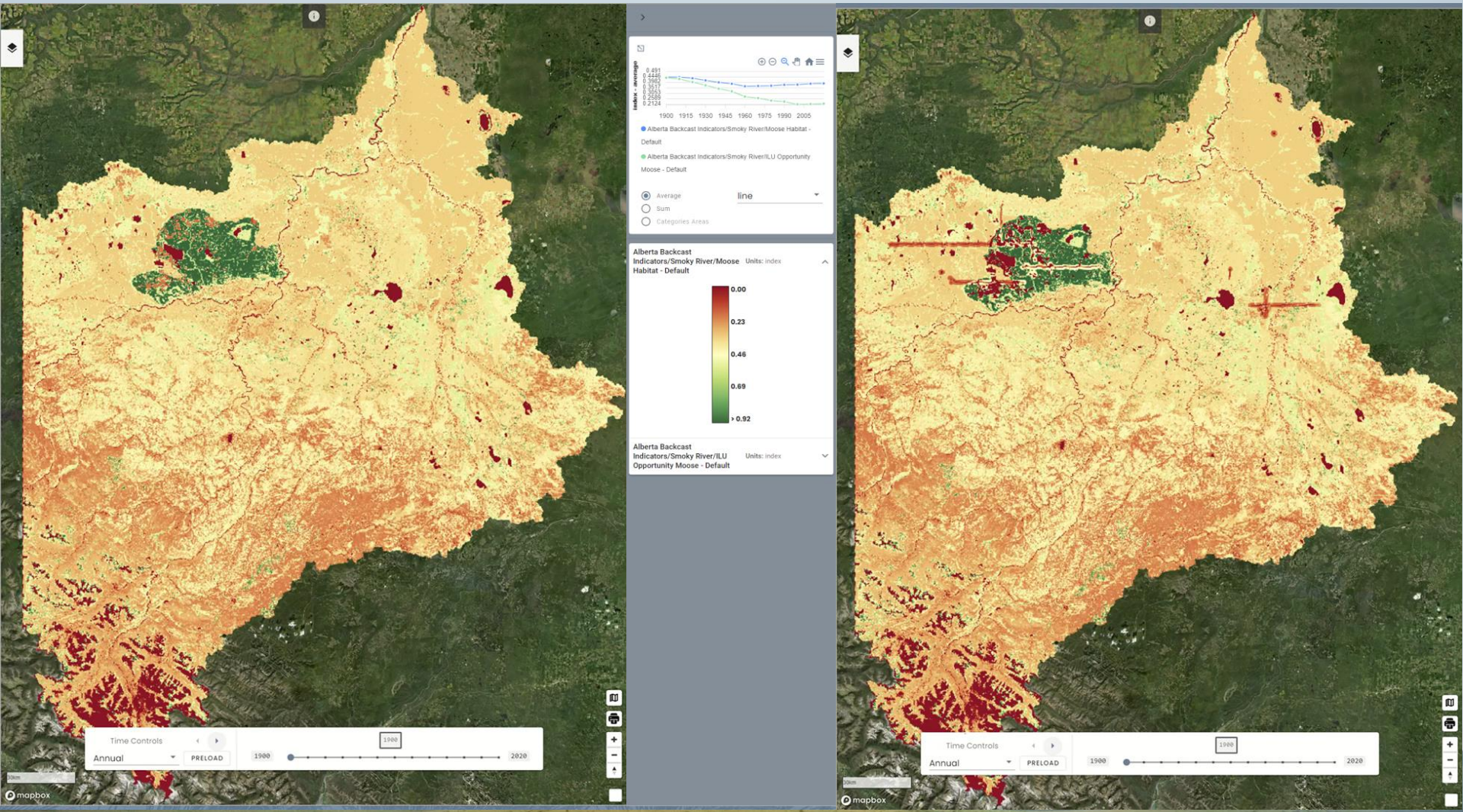
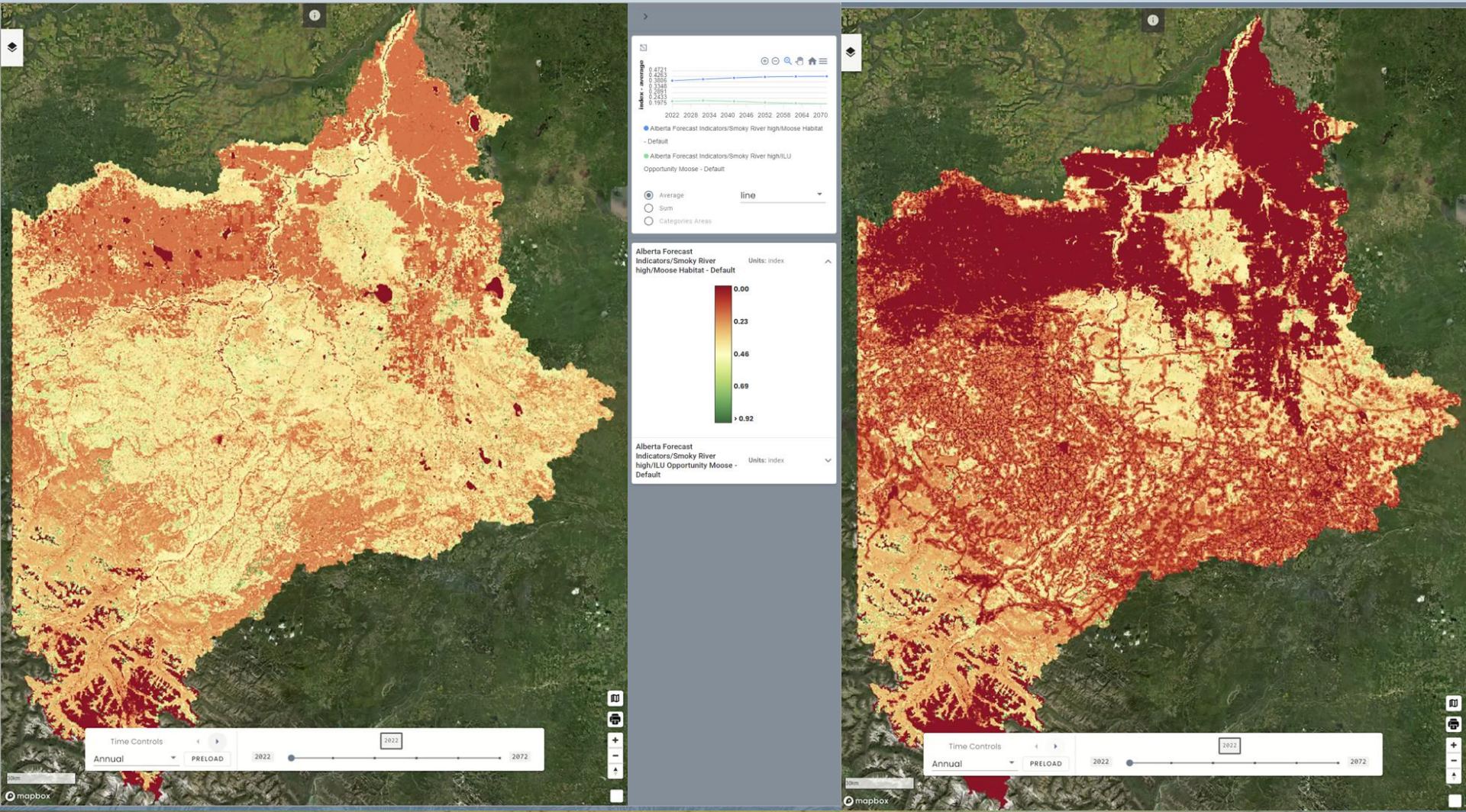
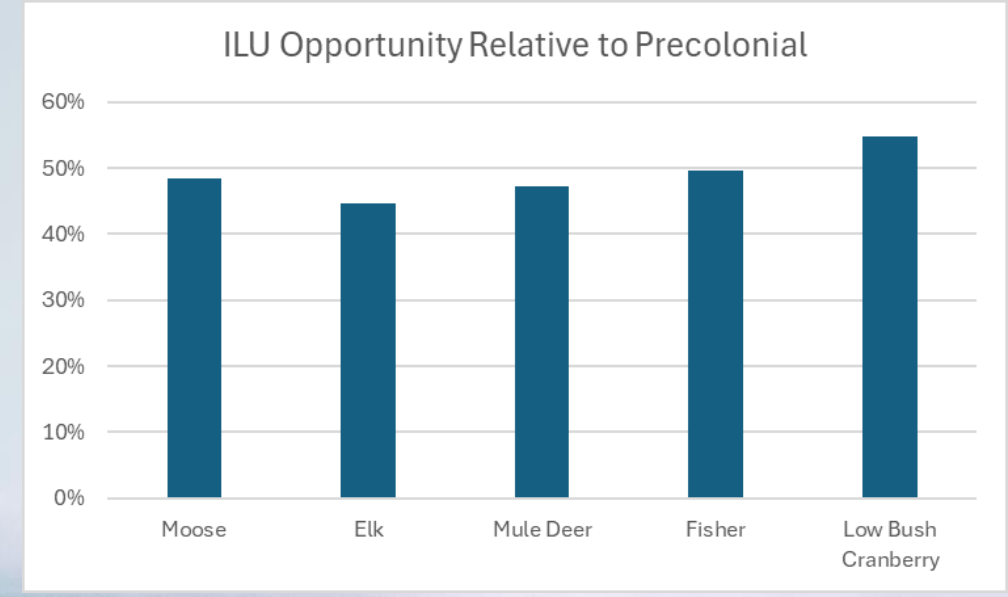
Moose habitat - historical



Moose habitat - forecast



Cumulative effects have caused a profound reduction in Indigenous land use opportunity



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CEA Tool for Indigenous response to EIAs

- Streamlined workflow
- Assess projects in cumulative effects context
- Incorporate traditional land use (TLU) data

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Inputs

1. Select the region where you want to run the analysis. You can import new development projects here.

- ○ Smoky River Watershed
- ○ Smoky River Watershed - East
- ○ Smoky River Watershed - NW
- ○ Smoky River Watershed - SW
- ◉ Kakwa River Watershed
- ○ Kakwa Cutbank Rivers Watershed

2. Select the landscape that you want to run the habitat indicator analysis on.

- ○ Present day landscape
- ○ Forecasted landscape (modest development)
- ◉ Forecasted landscape (rapid development)
- ○ Precolonial landscape

3. Select additional footprint to include in the analysis scenario. Hold CTRL to select multiple development projects.

You can import new development projects here.

Search

Footprint

- Sulfur Ridge Coal Mine
- Smoky River Wells - Prop. A
- Smoky River Wells - Prop. B
- Kakwa River Wells - Prop. A
- Kakwa River Wells - Prop. B
- Kakwa River Wells - Prop. C

Sulfur Ridge Coal Mine 2027-01-01/9999-12-31

This is a made up footprint.

Kakwa River Wells - Prop. A 2028-01-01/9999-12-31

Kakwa River Wells - Proposal A is a fake footprint for demonstration purposes. This proposal is 89 wells east of where Copton Creek feeds the Kakwa River. There wells would be operational in 2028.

4. Enter the year to analyze.

Year 2029

5. Select the resolution of the output. The analysis will run at 30m resolution but the output can be upscaled.

- ○ 300m
- ◉ 30m

6. Enter the TLU proximity filter distance in kilometers.

☑ Identify TLU sites/areas near the added footprint?

Distance threshold (km) 1

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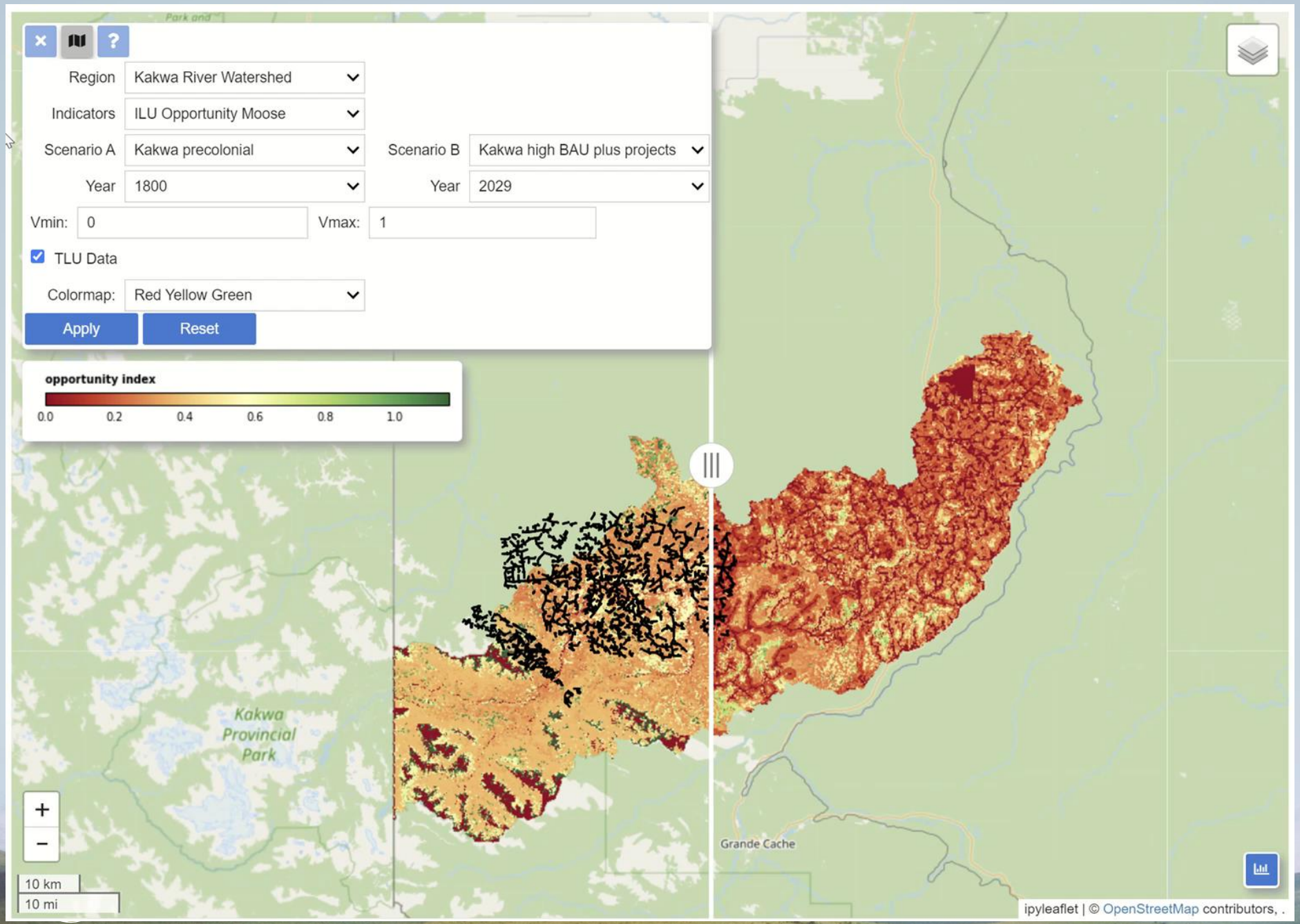
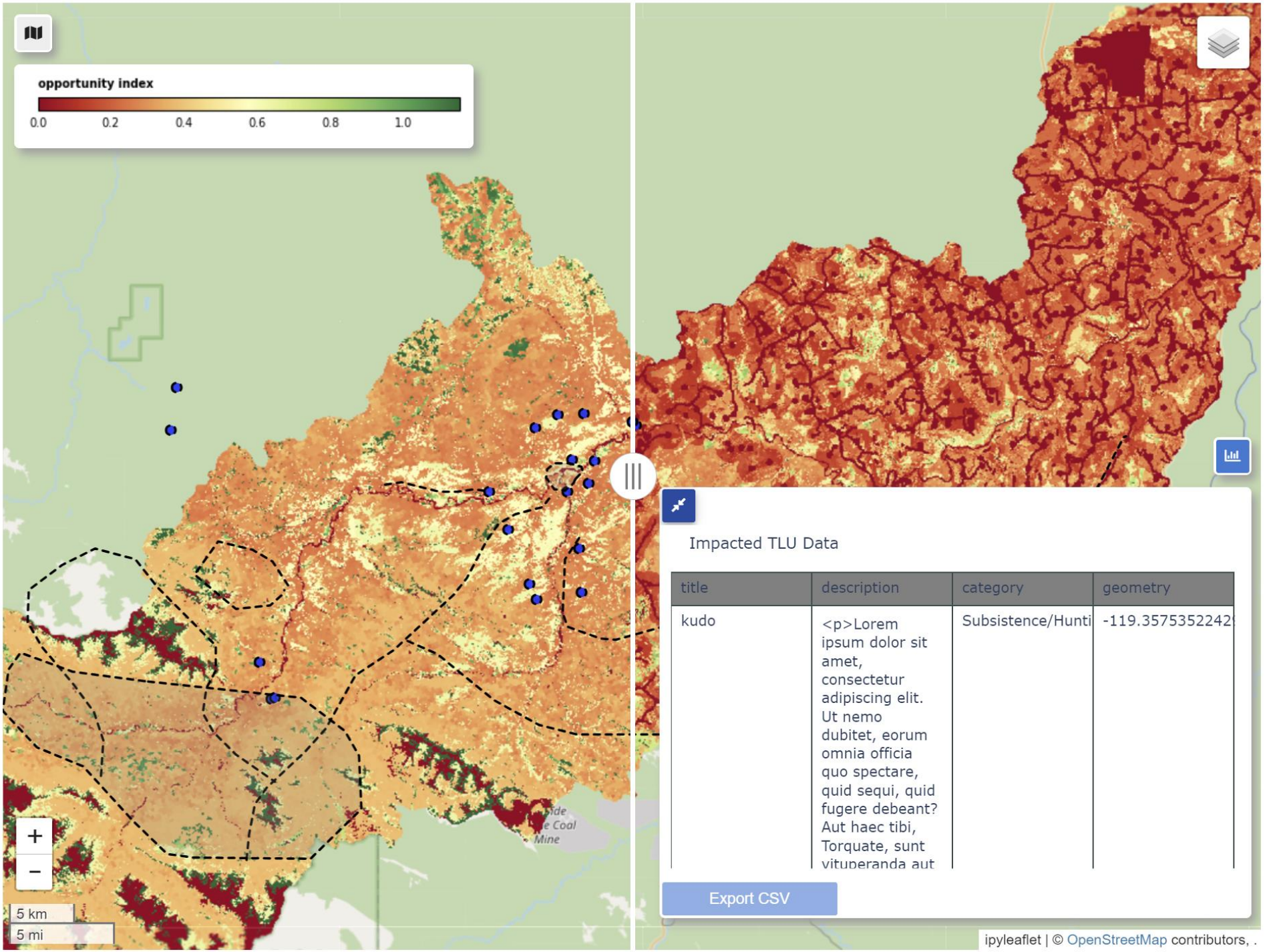
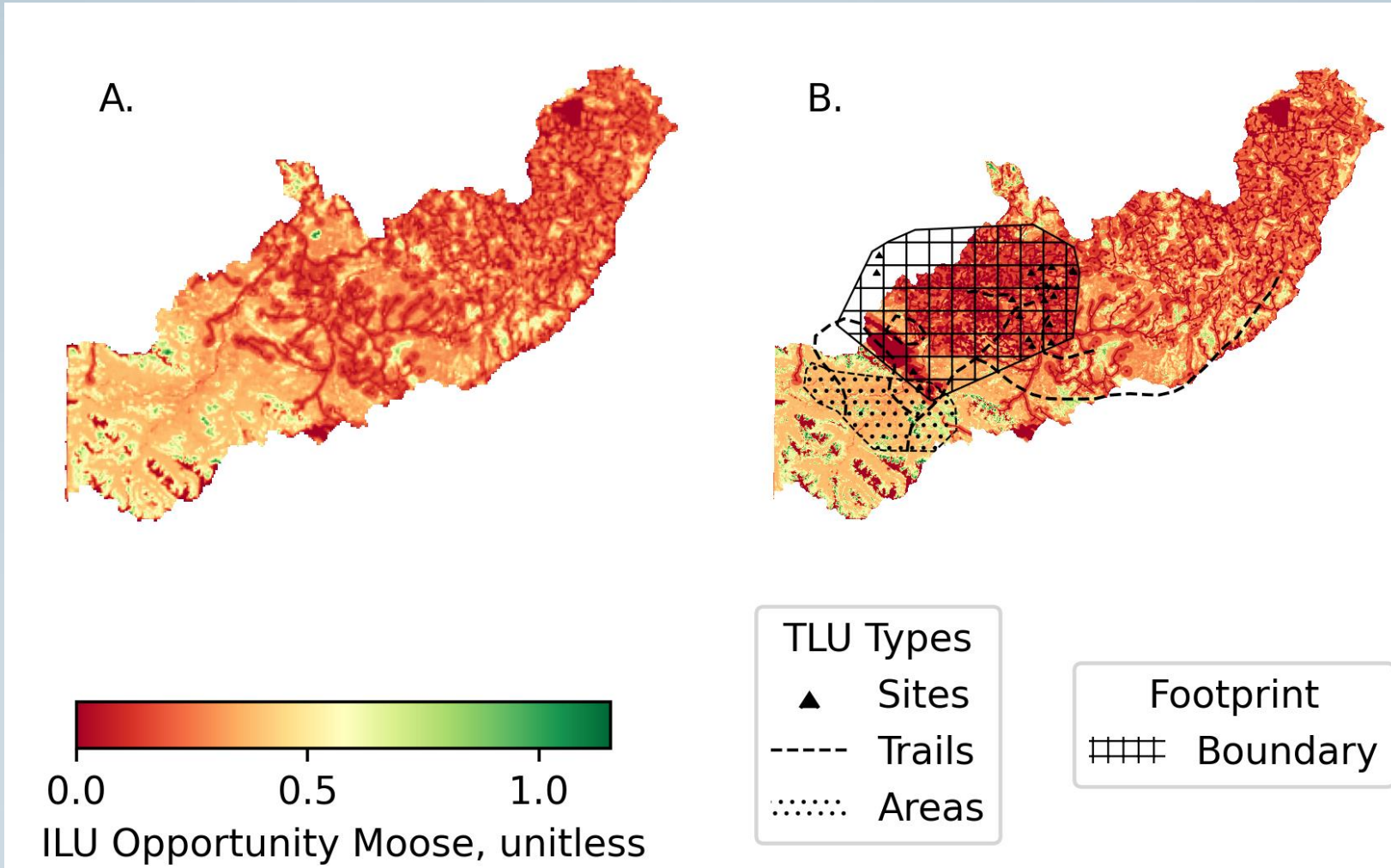

Region
Kakwa River Watershed
Indicators
ILU Opportunity Moose
Scenario A
Kakwa precolonial
Scenario B
Kakwa high BAU plus projects
Year
1800
Year
2029
Vmin:
0
Vmax:
1
TLU Data
Colormap:
Red Yellow Green
Apply
Reset
opportunity index
0.0
0.2
0.4
0.6
0.8
1.0
Kakwa Provincial Park
Grande Cache
10 km
10 mi
ipyleaflet | © OpenStreetMap contributors, .


opportunity index
0.0
0.2
0.4
0.6
0.8
1.0
Impacted TLU Data
title
description
category
geometry
kudo
<p>Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut nemo dubitet, eorum omnia officia quo spectare, quid sequi, quid fugere debeant? Aut haec tibi, Torquate, sunt
Subsistence/Hunti
-119.3575352242
Export CSV
5 km
5 mi
ipyleaflet | © OpenStreetMap contributors, .



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A way forward – regional planning

- Planning led by Indigenous communities:
  - Identify priority sites for protection of cultural and ecological integrity
  - Establish development thresholds that balance cultural, ecological, economic objectives
  - Assess proposed projects in the context of priority sites and development thresholds

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Thank you

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