

Living Lab Program for Climate Change and Conservation - Final Report



Project title: Snow in Mountains (SiM): Berg Pass Alpine Snowpack and Weather Observatory

Lead researcher(s): Dr. Joseph Shea

Research findings

- Real-time weather data will assist park managers with emergency preparedness, safety, infrastructure design and protection, and provide important baseline climate data for ecological monitoring, climate change impact assessments, and glacier, snowpack, and hydrology studies.
- A proposed site near Robson Pass (not Berg Pass) was identified in June 2025
- The station was not installed in 2025 due to procurement delays and the need to develop and sign MoUs with First Nations who have territory in the study area (a pre-condition from other funding agencies supporting the project)
- Proposed installation is June 2026

Methods summary

- Meetings and conversations with park managers to determine equipment needs and specifications and identify potential monitoring sites
- Site visit in June 2026 to assess potential monitoring sites on the ground
- Procurement of equipment and fabrication of the mounting structure completed in Summer 2026
- Testing of equipment in Fall 2025 and Winter 2026
- Presentation of partnership and pilot at CPCIL e-summit, March 2-3 2026

Key outcomes for BC Parks

- Real-time data to support park management and visitor safety
- Improved information for hydrological forecasting, avalanche forecasting, and wildfire forecasting in the park and nearby communities
- The start of baseline climate data collection for ecological monitoring, ongoing research in the park, climate change impact assessments, and glacier and snowpack studies

Relevance to BC Parks management

- Weather dashboard and precipitation warnings (emails) to identify the development of potentially hazardous situations
- Real-time data on air temperature, hourly precipitation (liquid and solid), snow depth, and snow water equivalence will provide important information for managing park access and visitors
- Ongoing research on ecological change in the alpine will benefit from long-term climate monitoring data

Project's challenges/opportunities

- Satellite telemetry requires costly annual subscriptions (or problematic open-source options that still have an annual cost)
- A fully remote station that meets both real-time data transfer and scientific requirements needs supplementary funding, and delays in securing that funding postponed the installation
- Building relationships and having appropriate conversations with First Nations partners takes time! We are excited about working with the Simpcw First Nation and the Lheidlih T'enneh First Nation through the duration of this project, and have now reached agreements with them.
- Installing a remote station is a big commitment in both cost and time, and we want to have everything tested to make sure we get it right the first time (measure twice, cut once mentality)

Conclusions/next steps

- Final testing of station components and communications in Spring 2026
- Installation of the station will take place in June 2026 (or once the pass is snow-free)
- Real-time data from Robson Pass will be available to park managers as soon as the installation is complete
- At the end of the summer season we will meet with park managers to discuss data delivery, formats, utility, and identify any issues that need to be resolved.
- Real-time data will be shared with the public as well as provincial/regional forecasting agencies (River Forecast Centre, Avalanche Canada, BC Wildfire)

References and links

[Optional - Provide any other links or information related to the project, including existing blogs, related publications, or other media]

Checklist

- Have you filled out the separate Living Lab Story Form? If not, this is due no later than 30 days after the end of the term of your agreement.
- Have you added any relevant Living Lab project data or reports to the BC Data warehouse and/or EcoCat? Please contact Stephen Ban (Stephen.ban@gov.bc.ca) or Jeanine Bond (Jeanine.bond@gov.bc.ca) for assistance.
- Invoice submitted? An invoice is required to receive the final instalment of your Living Lab transfer agreement funds. The invoice should include:
 - the university address,
 - the Transfer Payment number (as per your agreement),
 - a one-line description of what the project is about,
 - the amount due (you may need to send this via your financial arm) and indicate that this is the final instalment. The invoice should follow or accompany the completion of this final report template of which both are due on or before March 17th, 2025. **If we do not receive an invoice from you by this date, we will not be able to issue your final payment.**