

Graduate Internship Opportunity

Summer 2025

PROJECT TITLE

Enhancing FireSmart and ClimateSmart Neighbourhood Resilience through Community Mapping and Data Visualization

ORGANIZATION

Sierra Club BC, NatuR&D, and partners

Project Background

The Resilient Urban Systems & Habitat (RUSH) initiative is an interactive mapping platform designed for non-technical audiences to track progress toward sustainable and resilient urban systems that promote community health and ecosystem balance in the face of climate change. Prototyped on Southern Vancouver Island, RUSH focuses on integrating data to empower communities to take measurable, replicable actions that enhance resilience and sustainability.

Project Description

This research project will focus on centralizing and integrating data related to FireSmart and ClimateSmart neighborhood features. The scholar will identify and acquire key datasets, conduct comparative analyses, and work collaboratively with municipal, community, and insurance partners to publish actionable information on the RUSH platform (<https://whatstherush.ca/>). This work will support communities in advocating for urban planning and development that enhances systemic resilience, integrates habitat conservation, and aligns with climate adaptation goals while addressing increasing risks of wildfires and other climate emergencies.

The project will also contribute to planning conversations that transform housing development proposals into opportunities for ecological and community resilience. By identifying and visualizing data related to urban tree canopies, fire prevention infrastructure, habitat conservation, and other elements of resilient urban systems, the

applied research will help communities visualize how to bring the need for affordable housing into balance with long-term climate adaptation strategies.

Objectives

1. Research FireSmart and ClimateSmart Features:

- Identify and analyze key elements that enhance neighborhood resilience, such as wildfire prevention strategies (e.g., vegetation management, emergency response infrastructure) and climate adaptation measures (e.g., tree canopy coverage, permeable surfaces, watershed health).

2. Centralize and Integrate Data:

- Acquire and organize relevant datasets (e.g., fire hydrant frequency, urban tree canopy distribution, housing density regulations) to support community advocacy and planning.

3. Collaborate with Stakeholders:

- Work with municipal governments, community organizations, and insurance providers to identify data needs and priorities for FireSmart and ClimateSmart neighborhoods.

4. Publish Data and Tools on RUSH Platform:

- Develop user-friendly visualizations of the data on the RUSH website to make resilience metrics accessible to communities.

5. Evaluate Tools and User Experience:

- Conduct testing and gather feedback from stakeholders to refine the mapping tools and ensure their effectiveness for advocacy and planning.

Scope of Work

The scholar will focus on the research and development of data-driven tools to support FireSmart and ClimateSmart neighborhoods. Primary activities will include:

Research:

- Conduct a comparative analysis of FireSmart and ClimateSmart features being promoted to communities.
- Identify common and conflicting trends between fire safety and climate regulation/management strategies.

Data Collection and Analysis:

- Acquire datasets related to neighborhood fire safety (e.g., air temperature, soil moisture, # hydrants, % vegetation, fire stations) and environmental resilience (e.g., canopy cover, green infrastructure - including natural firebreaks).

- Organize and analyze data for integration into the RUSH platform.

Public Engagement:

- Interview municipal, community, and insurance stakeholders to identify data priorities and ensure the tools meet their needs.

Tool Development and Publication:

- Collaborate with the RUSH team to design and publish an interactive map of data sets on the RUSH website.

Communication and Testing:

- Present tools to communities & organizations and gather feedback on user experience to refine the final deliverables.

Key Deliverables

Comparative Analysis Report:

Summary of FireSmart and ClimateSmart features, highlighting opportunities and conflicts in resilience planning.

Centralized Dataset:

Curate a collection of comparative and comprehensive datasets of neighborhood resilience metrics for a *Protect from Fire* “clickable map option” on the RUSH website displaying climate & fire safety considerations in the legend.

Interactive Map:

Collaborate with the RUSH Team to upload the RUSH - *Protect from Fire* interactive map to the website so that communities can work together to harmonize urban systems and habitat sustainability.

Stakeholder Feedback Summary:

Insights and recommendations gathered from stakeholder engagement to enhance the tools’ effectiveness for advocacy and planning.

Time Commitment

This project will be completed between May 1 and August 15, 2025 (250 hours). Hours and project schedule are flexible and will be planned together with the Scholar at the outset of the program.

Preferred Skills & Background

- An interest and basic skill level with spatial & geographic data.

- Strong analytical and project management skills
- Strong research and writing skills.
- Interest in sustainability, urban planning, and/or climate adaptation.
- Organizational skills and ability to meet deadlines.
- Experience with community mapping or community engagement to gain feedback and synthesize findings.
- Familiarity with GIS tools or related software is an asset.
- Knowledge of the emerging field of natural assets/green infrastructure and its benefits.
- Knowledge of habitat conservation or biodiversity-focused urban planning is an asset.

Additional Information

The scholar will work remotely with the RUSH team but may need to attend some in person meetings and community events. Travel within Southern Vancouver Island may be required, with costs covered by the RUSH Initiative. A strong interest in climate resilience and community advocacy will be beneficial for this project.

We are seeking a candidate who is comfortable engaging with diverse people and organizations, adaptable to emerging needs, and enthusiastic about contributing to climate resilience and neighborhood safety.

Program Information

Dates: May 1—August 15, 2025

Compensation: Scholars are paid approximately \$31.80/hr for 250 hours of work (based on UVic Research Assistant pay rate)

Application Deadline: January 31, 2025

Contact: Laurel Currie (sustainability-scholars@uvic.ca)

[Visit our website](#) to learn more about eligibility and application requirements.