

**Wildland Fire Environmetrics Research Scientist  
SE-RES-1 (Postdoctoral Research Program)  
Natural Resources Canada, Pacific Forestry Centre, Victoria, B.C.**

**Position Summary:**

Natural Resources Canada (NRCan) is looking for a postdoctoral researcher to develop and apply statistical methods to predict the occurrence of severe wildfires in Canada. The researcher will work with fire scientists from NRCan and statisticians at the University of Guelph as part of an interdisciplinary “Daily Fire Occurrence and Burn Probability” project.

We seek a statistician or a quantitative environmental scientist with expertise and interest in statistical methods relevant for environmental/atmospheric sciences. The position offers an excellent environment for working with a highly skilled interdisciplinary team in NRCan and at Guelph University. The expertise of team members includes applied statistical modelling, stochastic processes, machine learning, climate analyses, and wildfire behavior and occurrence prediction. The successful candidate will focus on the analysis of the influence of weather and other environmental variables on the occurrence of lightning, human caused and severe fires, and the development of predictive models for such occurrence. Understanding and predicting severe fires is an area of intensive current research in the fire science community and critically important to public safety.

The position requires developing and applying a combination of statistical methods such as spatio-temporal statistics and machine learning to estimate the probabilities of fire events under different atmospheric and environmental conditions. A key focus will be to quantify the uncertainty in the probabilities in light of a wide variety of sources of uncertainty. The researcher will evaluate, extend and implement existing methods and develop new statistical frameworks and methods to predict the occurrence of wildfires in relation to forecasted weather and other explanatory variables. The researcher will work with fire scientists to implement predictive models in a wildfire information system.

**Specific Responsibilities:**

- Develop and apply statistical methods for prediction of the occurrence of severe wildfires.
- Compare predictions to past observations to evaluate the fidelity of models and examine the risk of model failure (false negatives)
- Produce and deliver oral and written presentations of scientific results.
- Work effectively in an integrated team.

**Essential Qualifications:**

- PhD in statistics, data science, environmental or physical sciences or a related field to be completed within the last 3 years and as of the start date for this position
- Experience in planning and conducting research
- Experience in working with a team of researchers and support staff
- Excellent written and oral communication skills

**Additional Desired Qualifications:**

- Proficiency with scripting languages such as R and/or Python; frameworks such as tidyverse and data visualization using ggplot2 or similar packages

- Ability to manipulate large datasets and data bases and carry out efficient computation
- Experience in one or more of the following areas: categorical data analysis, generalized additive models, statistical learning, spatial statistics, machine learning.
- Experience in environmental, forest or atmospheric science.

#### **How To Apply:**

- For information search for 'Natural Resources Canada Post Doctoral Research Program' for <https://natural-resources.canada.ca/careers/graduates/postdoctoral-research-program/17880>
- To submit an application follow the "Apply Now" link to <https://nrcan-rncan.hiringplatform.ca/6355-postdoctoral-research-program-prp/20673-application-form/en>
- In the Education section indicate a specialization in one or more of Mathematics, Forestry Science, Computer Science, Atmospheric Science and Meteorology, Physical Sciences, or Engineering and Technology at the PhD, Masters and/or undergraduate level.
- You will be required to upload a CV in the application.
- Contact [steve.taylor@nrcan-rncan.gc.ca](mailto:steve.taylor@nrcan-rncan.gc.ca) indicating your interest in the position.

#### **Notes:**

- The successful candidate will be hired as a term SE-RES-1 employee (salary range: \$ 68,264 - 90,463).
- This is a 1-year term position with renewal for an additional 18 months contingent upon satisfactory job performance and continuing availability of funds. The position will be located in Victoria, BC. The anticipated start date is September 1, 2024, but is flexible.
- Conditions of employment: Reliability Status security clearance; English essential; willingness and ability to travel within Canada.
- The *Postdoctoral Research Program (PRP)* inventory list will be open for 5 years.
- The PRP provides scientists with the opportunity to work with research groups or leaders in Canadian government laboratories and research institutions. In turn, the Government of Canada benefits from new and emerging talent.