

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 and duration of severe wildfires in Canada. The researcher will work with fire scientists from NRCan and statisticians at NRCan and at Western University, London, ON, as part of the interdisciplinary “Severe Wildfire Risk Prediction” project.

We seek a statistician or a quantitative environmental scientist with expertise and interest in statistical methods relevant for atmospheric/environmental sciences. The position offers an excellent environment for working with a highly skilled interdisciplinary team in NRCan and at Western University. The expertise of team members includes applied statistical modelling, biometrics, smoothing and generalized additive models, spatial statistics, stochastic processes, survey statistics, survival analysis, climate analyses, and wildfire behavior and occurrence prediction. The successful candidate will focus on the analysis of the influence of weather and other fire danger variables on the occurrence and duration of severe fires and the development of predictive models for such occurrence. Understanding and predicting such “megafires” is an area of intensive current research in the fire science community and important to public safety.

The position requires developing and applying a combination of statistical methods such as spatio-temporal statistics, extreme value analysis, survival analysis, machine learning, and possibly Bayesian methods to estimate the probabilities of climate events under different scenarios. 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 and duration of wildfires in relation to forecasted weather and other explanatory variables. The researcher will work with fire scientists to apply and to weather forecasts and implement them within in a wildfire information system.

Specific Responsibilities:

- Develop and apply statistical methods for prediction of the occurrence and duration of severe wildfires.
- Evaluate the uncertainty in model forecasts due to forecast error and model formulation.
- 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 a large and integrated team.

Essential Qualifications:

- PhD in statistics or environmental sciences 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:

- Ability to use R or SAS
- 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 / functional data analysis, statistical learning, spatial statistics, survival analysis, Bayesian statistics
- Experience in environmental, forest or atmospheric science, forest science

How To Apply:

- To submit your application follow the "Apply online" link at : <https://emploisfp-psjobs.cfp-psc.gc.ca/psrs-srfp/applicant/page1800?poster=785734>
- You will need to create a jobs.gc.ca account
- In the Text – Requirement 2 section of the application indicate a specialization in *Biostatistics in Natural Resources, Forest Fire Science, or Forest Modelling*
- In the Text – Requirement 3 section of the application indicate a preference for Natural Resources Canada
- You will be required to include a resume in the application
- Send a note to staylor@nrca.gc.ca indicating your interest in the position

Notes:

- Successful candidates will be hired as term SE-RES-1 employees (salary range: \$53,161 - \$69,942).
- This is a 1-year term position with the possibility of renewal for a second year based upon satisfactory job performance and continuing availability of funds. The position will be initially located in Victoria, BC, with the possibility of relocation to Western University, London, ON, in a second year. The anticipated start date is September 2015.
- Team members are :
Steve Taylor, Pacific Forestry Centre, Canadian Forest Service
Steen Magnussen, Pacific Forestry Centre, Canadian Forest Service
Mike Wotton, Canadian Forest Service & University of Toronto
Douglas Woolford, Western University
Charmaine Dean, Western University
- Conditions of employment: Reliability Status security clearance
- 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. This new pilot program replaces the *Visiting Fellowships in Canadian Government Laboratories Program* that was previously administered by NSERC on behalf of Canadian government laboratories.