

**NON-MANAGEMENT JOB DESCRIPTION
POINT RATING EVALUATION PLAN**

Working Title Wildfire Data Scientist	Name
--	------

Position Number	Reports to Position No., Class & Level	Division, Branch/Unit Forestry Division, Wildfire Management Branch	Ministry Forestry and Parks
-----------------	--	--	--------------------------------

Present Class	Requested Class
---------------	-----------------

Dept ID	Program Code	Project Code (if applicable)
---------	--------------	------------------------------

PURPOSE: Give a brief summary of the job, covering the main responsibilities, the framework within which the job has to operate and the main contribution to the organization (see Non-Management Job Description Writing Guide [Pages 7-8](#)).

Reporting to the Wildfire Intelligence Program Lead, this position supports key functional areas within the Forestry operations branch, specifically the Predictive Services unit which provides pertinent data and information within the wildfire services. This position will help analyze data, identify trends, provide insights, and help convey these findings through data visualization, tools, and more to a broad audience of internal and external partners. They will focus on enhancing, updating, and looking to the future of Predictive Services, to provide the most pertinent and updated information for suppression and presuppression activities.

RESPONSIBILITIES AND ACTIVITIES: The purpose of the job can be broken down in different responsibilities and end results. Each end result shows what the job is accountable for, within what framework and what the added value is. Normally a job has 4-8 core end results. For each end result, approximately 3-6 activities should be described (see Writing Guide [Pages 9-10](#)).

- Responsible for incorporating knowledge of data science and technical skills into the Predictive Services Unit by:
- Develop and create a data science role within Predictive Services and help shape the unit in way to meet the business needs for wildfire suppression and presuppression activities.
 - Work with large data sets to ensure data cleaning, quality control and database creation as well as provide data visualization in various formats. Automaton of data visualization is preferred.
 - Complete statistical analysis and system-based models, data linking, and provide data support to the wildfire managers.
 - Using data, develop processes, tools, trends, and insights from that data about wildfire and display that information in many formats to communicate current wildfire situations to various stakeholders. In addition, support wildfire operations and prevention units with information, tools, visualizations, statistics and more to help them make informed decisions.
 - Develop relationships with the pillar of predictive services (weather, fire behaviour and geospatial services) to build streamlined services in supporting wildfire management.
 - Participate on intra- and inter-departmental project teams.
 - Provide oversight to analysis techniques with particular emphasis on process management and quality control.
 - Fulfil a technical specialist role during fire season.
 - Support and provide expertise provincially and nationally on best available science and technology to meet current data science business needs and client/stakeholder feedback.

SCOPE: List specific information that illustrates the challenges, problem solving and creativity requirements and decision making capacity of the position. Also identify the internal or external areas the job impacts (see Writing Guide [Pages 11-12](#)).

- This position has a strong focus on providing data science practices and knowledge to the predictive services unit to ensure wildfire intelligence is continuously assessed, communicated, understood, and managed within the context of departmental goals and initiatives. Due to the uncertain but inevitable nature of fire across the landscape, good decisions can have undesirable and/or unanticipated outcomes. This position supports the wildfire intelligence

SCOPE: List specific information that illustrates the challenges, problem solving and creativity requirements and decision making capacity of the position. Also identify the internal or external areas the job impacts (see Writing Guide [Pages 11-12](#)).

- program lead by examining many sources of wildfire related information to provide support and expertise for operational decisions with the most accurate, defensible recommendations.
- This position must have strong communication skills and relay information to the team on a regular basis as well as the wildfire intelligence program lead.
 - This position strives to provide emerging research and industry best practices into modeling, coding and data analysis methodologies used to support predictive services. Moreover, performing statistical based analysis and employing modeling techniques to explore and understand complex data sets, identifying patterns, and extract insights that can inform business decisions is important.
 - Designing, developing, enhancing, debugging, maintaining, and evaluating small tool development either through code, data visualization, research or other for wildfire managers is crucial. This entails keeping with data cleaning and processing standards as well as data security and integrity. Communicating complex data insights as well as providing clear, concise, and effective data visualizations to the wildfire management is essential.
 - This position will provide support to the wildfire during wildfire activity through presuppression and suppression activities.

KNOWLEDGE, SKILLS & ABILITIES: Include information on required diplomas and degrees along with identifying the most important knowledge factors, including knowledge about practical procedures, administrative, technical or professional techniques, technical, scientific or program related processes, etc. Detail specific training if there is an occupational certification/registration requirement for the position. Specify the type of experience required for the position (see Writing Guide [Pages 12-14](#)).

The position requires:

- The required behavioural and technical competencies expected of the Program Services 3 as per the minimum recruitment standards and those outlined in the job advertisement.
- Communication skills in order to effectively interact with a wide range of stakeholders by participating on working groups and project teams, delivering presentations, and producing written guidelines, procedures, and technical documents. In addition, translation skills to interpret outputs from data analysis and communicate to general audiences.
- Technical skills are required such as various programming languages (preferably python) for complex data analysis, statistical software tools, develop documentation, research analytics and stakeholder communication and expertise.
- Advanced computer and analytical skills to manage many types of data sets and report wildfire information by using tools and systems available within the GOA.
- Ability to articulate applicable scientific advancements and influence the adjustment of management practices.
- Knowledge of provincial protection priorities (life, communities, watershed/soils, natural resources, and critical infrastructure) and the ability to quantify the potential impact of wildfire on values at risk.

CONTACTS: Identify the main contacts the position communicates with and the purpose of the communication (See Writing Guide [Pages 14-15](#)).

Internal Contacts	Nature and Purpose of Contact
Fire Behaviour Analysts	Technical, modelling and data support.
Wildfire Management Branch Headquarters Managers Group	Technical and data support.
Forest Management Branch	Interaction at meetings and working sessions. Assisting with technical support.
Wildfire Management Area Staff	Technical and data support.
Wildfire Management Executive	Technical and data support.
Wildfire Operations Officers	Technical and data support.
Wildfire Prevention Officers	Technical and data support.
Wildfire Management Specialists	Technical and data support.

External Contacts	Nature and Purpose of Contact
Contractors and consultants	Supervisor and provide technical and data support.
Canadian Wildfire Management Agencies	Support Wildfire Management Agency requests & technical expertise to collaborative initiatives.
Other GOA Ministries	Cross-government initiatives and discussions related to data.
Research Providers	Provide technical expertise to focused research projects and collaborate on scientific advancements.

SUPERVISION EXERCISED: List position numbers, class titles, and working titles of positions directly supervised (see Writing Guide [Page 15](#))

Not Applicable

CHANGES SINCE LAST CLASSIFICATION REVIEW: Identify significant changes, that have impacted the responsibilities assigned to your position since the last review (see Writing Guide [Pages 15-16](#)).

Not Applicable

ORGANIZATION CHART: An organization chart that includes supervisor, peers and staff **MUST** be attached (see Writing Guide [Page 17](#)).

ATTACHED

This information is being collected under the authority of Section 10 of the Public Service Act and will be used to allocate positions within a classification plan and to manage the Alberta government human resources program. If you have any questions about the collection of this information, contact the Job Evaluation Unit, 6th Floor, Peace Hills Trust Tower, 10011 - 109 Street, Edmonton, Alberta, T5J 3S8, phone 780/408-8400 or contact your Ministry Human Resource Office.

Signatures

The signatures below indicate that the incumbent, manager and division director/ADM have read, discussed and agreed that the information accurately reflects the work assigned (see Writing Guide [Page 16](#))

Incumbent

Name Signature Date

Manager

Name Signature Date

Division Director/ADM

Name Signature Date