

New

Ministry

Forestry and Parks

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Wildfire Geospatial Analyst

Requested Class

Job Focus

Operations/Program

Supervisory Level

00 - No Supervision

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Organizational Structure

Division, Branch/Unit

Forestry and Parks, FOB, PS, WIGS

Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value

Job Purpose and Organizational Context

Why the job exists:

Reporting to the Wildfire Geospatial Team Lead, this position is responsible for providing all necessary services to support the effective operation of the Fire Incident Mapping Program (FIMP), working alongside the Program Coordinator. The position is also responsible for providing essential geospatial solutions to support the Forestry Division in providing wildfire predictive services, wildfire planning, wildfire operations and forestry initiatives. This includes the assurance of dynamic data update processes, the provision of digital and/or hard copy cartographic products to support decision making, the provision of GIS web services, and of advanced data analysis.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

Supporting Fire Incident Mapping Program by:

- Providing solutions and expertise with respect to fire incident mapping to specialists working fires who are needing support on a variety of issues. This requires experience and knowledge of procedures, tools, software and hardware used for fire incident mapping, as well as a calm and helpful demeanor.
- Creating, managing and maintaining the fire incident mapping roster of professionals sourced from multiple ministries. This also includes adjusting to unexpected circumstances that require quick resourcing solutions.
- Providing training and instruction on software and tools used to map fires and related entities, both in formal delivered course work and informal sessions with one or several individuals.
- Preparing the databases and software specific files including the use of python scripting language.

Supporting the Forestry Division in wildfire related business by:

- Supporting wildfire geospatial information consumers throughout the Government of Alberta, industry, academics, and general public with making geospatial data and services available through the Alberta Geospatial Services Platform (AGSP).
- Creating, updating and maintaining dynamic spatial data update processes using python and the ESRI python libraries, and creation of tools to run the processes, or scheduled automation, to keep the databases current.
- Providing geospatial services and expertise to the Fire Weather Program including providing scripted processes for data and weather map updating.
- Providing maps, statistics, and analytics, often in extremely short timelines for the Forestry Division management group.
- Being an active member of a roster during the fire season to provide services essential to business processes and doing so outside of regular business hours and being available on standby to do so.

Problem Solving

Typical problems solved:

- Deal with hardware and data issues during the FIMP as they arise.
- During multiple large fire incident situations, support the province and the FIMP as needed.
- Solving issues that arise in the enterprise database or web services that are essential for mobile applications used for data collection and navigation. Moreover, support the many important decision support applications used in wildfire operations.
- Designing new and better methods, as well as procedures for data collection and dissemination for fire incident related data.
- Data quality management for internal agency data meets quality standards and privacy.
- Spatial data analysis and adhering to industry standards when working with spatial data

Types of guidance available for problem solving:

- Industry and scientific community standards are met to ensure statistical analysis/data handling/security and quality are being met.
- Be able to problem solve data visualization requirements and work with associated partners to deliver appropriate products.
- Be able to trouble shoot and and fix issues issues that arise in the FIMP.
- Prepare hardware for deployment as well as python scripting language and other processes to support data and server requirements.

Direct or indirect impacts of decisions:

Direct Impacts - internal ability to function is critical and decisions made will significantly impact internal capacity to deal with wildfire operations/presuppression.

Indirect Impacts - external ability to function is important concerning data quality/data standards however impact is minimal to none.

Key Relationships

Major stakeholders and purpose of interactions:

Internally: Major stakeholders are the Forestry Division specifically with the predictive services unit, prevention unit, operations unit and then other forest area contacts. The function of this position works directly in the forestry division, wildfire and the fire mapping program to provide support to their operations and functions.

Externally: Minor stakeholder to support the broader Canadian wildfire management agencies as a technical expert and building relationships with Technology and Innovations to maintain IT equipment and operation.

Required Education, Experience and Technical Competencies

Education Level

Diploma (2 year)

Focus/Major

Science

2nd Major/Minor if applicable

Designation

If other, specify:

Job-specific experience, technical competencies, certification and/or training:

Two-year technical diploma in a field related to Geographic Information Systems (GIS), cartography, geology, resource management, biology or equivalent with 6 years of related experience.

Experience may include using ESRI suite of GIS software, both desktop-based software (ArcMap, ArcCatalog, ArcGIS Pro, etc.), enterprise GIS, ESRI based web maps and dashboards, spatial analysis methods, geoprocessing, data analysis, enterprise geodatabases, SQL server databases and python scripting.

Equivalency: Directly related education or experience considered on the basis of: 1 year of education for 1 year of experience; or 1 year of experience for 1 year of education.

Additional Requirements:

- Understanding of the basics of fire behaviour.
- Certification in the Incident Command System to a minimum of ICS-100
- Experience of being deployed as a GIS or Mapping Specialist at a minimum of 2 large (Type 1) fires.
- Trained on the Alberta Wildfire Tools (AWT) add-on for ArcGIS,

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Creative Problem Solving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	Works in open teams to share ideas and process issues: <ul style="list-style-type: none"> • Uses wide range of techniques to break down problems • Allows others to think creatively and voice ideas • Brings the right people together to solve issues • Identifies new solutions for the organization 	Be able to be self directed for problem solving while also look for direction on projects. Supporting the fire incident mapping program is crucial and troubleshooting and problem solving issues that arise with technology, hardware and systems. This role is always thinking on their feet.
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Takes a long-term view towards organization's objectives and how to achieve them: <ul style="list-style-type: none"> • Takes holistic long-term view of challenges and opportunities • Anticipates outcomes and potential impacts, seeks stakeholder perspectives • Works towards actions and plans aligned with APS values • Works with others to identify areas for 	Organization and planning is a huge component of this position. Being flexible and creating that collaboration with many individuals within the forestry branch and outside is huge as the program is managed and updated/supported through fire season.

		collaboration	
Agility	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Identifies and manages required change and the associated risks: <ul style="list-style-type: none"> • Identifies alternative approaches and supports others to do the same • Proactively explains impact of changes • Anticipates and mitigates emotions of others • Anticipates obstacles and stays focused on goals • Makes decisions and takes action in uncertain situations and creates a backup plan 	Forestry branch by nature is a fast-paced and continuously changing branch, agility is a core value. Being able to work independent is key but also working in a team collaborative environment is a must. Relying on the team but as well as taking initiative to be creative, open and excited to learn and grow within the position.
Develop Networks	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Leverages relationships to build input and perspective: <ul style="list-style-type: none"> • Looks broadly to engage stakeholders • Open to perspectives towards long-term goals • Actively seeks input into change initiatives • Maintains stakeholder relationships 	Internally working and building relationships within the forestry branch are key. Learning and understanding the business problems are a must to ensure the proper work is being achieved.
Build Collaborative Environments	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Collaborates across functional areas and proactively addresses conflict: <ul style="list-style-type: none"> • Encourages broad thinking on projects, and works to eliminate barriers to progress • Facilitates communication and collaboration • Anticipates and reduces conflict at the outset • Credits others and gets talent recognized • Promotes collaboration and commitment 	This persons expertise and background is critical but also communicating the issues and conflicts that people within the branch may not understand unless in laments terms. Being to communicate for different audiences while also building various relationships is critical.

Benchmarks

List 1-2 potential comparable Government of Alberta: [Benchmark](#)

127TN01 - Environment and Parks, Unit Leader, Geomatics Unit
127TN06 - Environment and Parks, Senior Geomatics Technologist

Assign

The signatures below indicate that all parties have read and agree that the job description accurately reflects the work assigned and required in the organization.

Employee Name

Date yyyy-mm-dd

Employee Signature

Supervisor / Manager Name

Date yyyy-mm-dd

Supervisor / Manager Signature

Director / Executive Director Name

Date yyyy-mm-dd

Director / Executive Director Signature

ADM Name

Date yyyy-mm-dd

ADM Signature

DM Name

Date yyyy-mm-dd

DM Signature