



## IDENTIFICATION

| Department                     | Position Title     |                 |
|--------------------------------|--------------------|-----------------|
| Environment and Climate Change | Geospatial Analyst |                 |
| Position Number                | Community          | Division/Region |
| 23-10569                       | Inuvik             | Beaufort Delta  |

## PURPOSE OF THE POSITION

The Geospatial Analyst is responsible to implement the Geomatics Program for the Beaufort Delta Region. The position must have a broad understanding of geography, vegetation and ecological systems and specialized training and knowledge in the use of GIS and image analysis software to provide GIS/Remote Sensing support, advice, and training for effective resource management in the Region.

## SCOPE

This position is located in Inuvik and reports to the Manager, Wildlife Management. The incumbent provides information management support for digital data in all stages of wildlife management and limited stages of forest management program development and delivery. This includes the integration of GIS and/or remote sensing technology into initial program planning, development, implementation, and audit.

The incumbent will work within a team environment with other positions within the Wildlife Management division and with other stakeholders with responsibilities for developing and maintaining digital databases and developing products using that data. Liaison with staff within the division, the region and other regions and divisions is also required to effectively achieve business objectives related to the use of GIS and image analysis in wildlife and forest management program development and delivery.

The Geospatial Analyst provides spatial information for wildlife and forest management. This includes creating, editing, manipulating and storing geographical information and associated attributes, carrying out analysis on the data, developing cartographic products, reports, charts and other forms of information products, customizing applications and building new applications and procedures using various computer programming languages.



The decisions made by the position will directly affect the quality and effectiveness of the department's wildlife management database. Improper decisions in the management of geospatial information can negatively impact the accuracy and level of information available for wildlife and forest management decision making in the region and the credibility of decisions related to the management of the NWT's renewable resources. It may also directly affect the region's responsibility to deliver services to industrial and community-based clients.

Significant work is required in the development and management of digital data to enable the organization to progress more rapidly in the development and implementation of wildlife management programs essential for resource sustainability and to move sustainable resource management to the next stage of development in the region and the NWT.

## **RESPONSIBILITIES**

### **1. Spatial Data Management & Analysis**

- Creating, editing, and quality control of spatial datasets and associated metadata related to resource management that are used by Wildlife Management Division.
- Create maps and other products, that require as an input, vegetation data, wildlife population data or resource extraction related activities.
- Acquire and maintain licenses and user agreements for GIS/RS software, licensed base data and wildlife collar telemetry (ARGOS) distribution.
- Ensure integrity of data collected remotely by performing frequent audits of data coordination and input.
- Assist with the collection/conversion of survey and plot data into suitable digital format, management of data storage, compilation, and analysis.
- Assess external and internal source data to ensure suitability for integration into regional information management systems databases.
- Organize and archive large volumes of incoming and historic data.
- Coordinate the acquisition and standardization of additional data layers.
- Ensuring that an accurate and up-to-date 'data dictionary' is developed and maintained
- Assist with the development of spatial data specifications and divisional data and metadata' standards.
- Completing required geospatial data processing & analysis for production of custom-designed maps, posters, slides, animations, and other projections undertaken by ECC, Beaufort Delta Region.
- Assist Wildlife Management and other staff as necessary with project design to ensure that geospatial data can be collected, integrated and analyzed in an effective and timely manner.
- Distribute available digital data to headquarters (WMIS), regional offices, other government agencies, co-management boards and community organizations in a systematic and timely manner.



- Assist regional staff, outside researchers, and area personnel with development of spatial databases for operations.
- In conjunction with Wildlife Management Biologists, create and manipulate models to analyze wildlife movements and use patterns.
- Assist with the evaluation of procedures for integrating non-standard and standard data into GIS and, where feasible, implement the procedures.

## **2. Cartography**

- Maintaining an inventory of supplies required to operate large format plotters and color printers.
- Develop generic maps and map templates including the creation of vegetation maps, thematic maps and reports as finished graphical products for distribution to headquarters, regional offices, other government agencies, co-management boards and/or community organizations.
- Assist the Wildlife Management division with the production of field survey maps, production of thematic maps, survey results maps and summary reports.
- Create custom maps and map templates as required for ECC staff in the region.
- Create custom maps as required by other divisions and stakeholders in the region using ArcInfo, ArcView, PCI, Corel, Fast Movie Processor and Adobe Photoshop.
- Planning and preparation of map products required for posters, project reports, and publications.
- Assist in preparation of study reports and publications for technical reports and journals.
- Create/disseminate maps to the public, other agencies, co-management boards, industry, and consultants working in the area.
- Provide mapped information on various wildlife species, environmental conditions, and vegetation information to the Aklavik, Holman, Inuvik, Paulatuk, Sachs Harbour and Tuktoyaktuk Hunters and Trappers Committees and the Aklavik, Inuvik, Fort McPherson and Tsiigehtchic Renewable Resource Councils.

## **3. Serve as a center of expertise for Geomatics in the Region**

- Participate in the development of a comprehensive wildlife management information system.
- Provide technical expertise to Geomatics users in the Beaufort Delta Region.
- Provide Geomatics expertise to the public, other agencies, co-management boards, industry, and consultants working in the area.
- Liaise with the Northwest Territories Centre for Remote Sensing and other organizations (Canada Centre for Remote Sensing) to facilitate remote sensing development in the Inuvik Region.
- Provide expertise on remote sensing practices applicable to the far north.



- Prepare "how-to" guides and detailed write-ups to promote the transfer of complex methods of analyses to outside agencies.
- Participate in the development of a comprehensive wildlife management information system.
- Assist with improving data integrity and quality of the NWT - consulting with national bodies to ensure priority for updates.
- Assist with administration of data collection contracts including enforcing GNWT technical standards such as digitizing standards and auditing procedures for digital data capture.
- Presenting posters, products and techniques at Territorial and National Conferences

## **WORKING CONDITIONS**

### **Physical Demands**

No unusual physical demands.

### **Environmental Conditions**

No unusual environmental conditions.

### **Sensory Demands**

No unusual sensory demands.

### **Mental Demands**

Frequently required to meet strict deadlines.

## **KNOWLEDGE, SKILLS AND ABILITIES**

- Knowledge of Geographic Information Systems and GIS software packages including: ArcInfo, ArcGIS, ArcSDE and other ESRI products.
- Knowledge of database management systems including Access and SQL.
- Knowledge of the principles of cartography and hardcopy and digital mapping specifications.
- Knowledge of various computer programming languages would be an asset.
- Understanding of data capture by digitizing and data capture standards.
- Knowledge of wildlife population dynamics, renewable resource inventory and management and the use of GIS and Image analysis as it relates to resource management.
- The ability to independently set priorities amongst critical and time-sensitive projects.
- Initiative, originality and the ability to make sound judgment.
- The ability to think abstractly. The science and technology of some of the subject matter is complex in nature.

- Ability to customize applications and build new applications and procedures using various computer languages.
- Strong oral and written communication skills.
- Analyzing and problem-solving skills.
- Good interpersonal skills and the ability to work well in a team environment.
- Ability to work independently with minimal supervision.
- Ability to write reports of project work as required.
- Ability to commit to actively upholding and consistently practicing personal diversity, inclusion and cultural awareness, as well as safety and sensitivity approaches in the workplace.

**Typically, the above qualifications would be attained by:**

Completion of Bachelor's Degree in geography, ecology, biology or natural resources or by acquiring an Advanced Diploma in Geographic Information Systems and/or Remote Sensing from a recognized technical institute and a minimum of 1 year of experience as a GIS professional.

Equivalent combinations of education and experience will be considered.

**ADDITIONAL REQUIREMENTS**

**Position Security** (check one)

- ☒ No criminal records check required
- ☐ Position of Trust – criminal records check required
- ☐ Highly sensitive position – requires verification of identity and a criminal records check

**French language** (check one if applicable)

- ☐ French required (must identify required level below)  
 Level required for this Designated Position is:  
 ORAL EXPRESSION AND COMPREHENSION  
 Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐  
 READING COMPREHENSION:  
 Basic (B) ☐ Intermediate (I) ☐ Advanced (A) ☐  
 WRITING SKILLS:  
 Basic (B) ☒ Intermediate (I) ☐ Advanced (A) ☐
- ☐ French preferred

**Indigenous language:** Select language

- ☐ Required
- ☐ Preferred