



## **IDENTIFICATION**

| <b>Department</b>      | <b>Position Title</b>  |                                     |
|------------------------|------------------------|-------------------------------------|
| Finance                | Remote Sensing Analyst |                                     |
| <b>Position Number</b> | <b>Community</b>       | <b>Division/Region</b>              |
| 15-14771               | Inuvik                 | Application Services/Beaufort Delta |

## **PURPOSE OF THE POSITION**

The Remote Sensing Analyst provides remote sensing products, services and expertise to all Government of the Northwest Territories (GNWT) departments and agencies in order to assist in the management and monitoring of the environment, wildlife, and the economic development of resources in the NWT. Provides advice, recommendations and leadership in satellite data acquisition and image analysis

## **SCOPE**

The position is located in Inuvik and is part of the Western Arctic Centre for Geomatics, a regional office of the NWT Centre for Geomatics (NWTCG). The NWTCG is part of the Application Services Division, hosted within the Information Systems Shared Service in the Department of Finance. The NWTCG is the GNWT Centre of Excellence for satellite imagery, geographic databases, and remote sensing and geographic information systems.

The NWTCG provides leadership and expertise to all departments of the GNWT, as well as some boards and agencies, on matters related to mapping; spatial data creation, maintenance, storage and standards; unmanned airborne systems; remote sensing and data acquisition; geospatial software and hardware; and online geospatial tools and services. The Centre promotes the use of geospatial data and tools for decision making through education and outreach, and collaborates with a variety of internal and external partners to maximize the benefits of investments made in the GNWT's geospatial resources.

The Western Arctic Centre for Geomatics coordinates the remote sensing activities of the NWT Centre for Geomatics. It works to maximize the benefit of remote sensing projects and initiatives for the GNWT through increased coordination of remote sensing projects; the

development, implementation and maintenance of operational monitoring programs to support decision making; the promotion, education and outreach on remote sensing and its value to the territory; facilitating collaboration between stakeholders with common interests; the development of new projects and proposals; and pursuing third party funding sources to resource projects and initiatives.

Reporting to the Coordinator, Western Arctic Centre for Geomatics and Remote Sensing (Coordinator), the Remote Sensing Analyst provides standard and custom developed remote sensing products and services to all GNWT departmental personnel in headquarters and the regions in order to assist in the management and monitoring of the environment, wildlife, and the economic development of resources in the NWT.

The incumbent works directly with clients to define their needs and to implement remote sensing solutions within the available range of equipment, software, and data at the Centre. Client requests are made through the Coordinator or directly via phone calls, unscheduled office visits and e-mail. The incumbent also performs as a technical consultant/advisor for less experienced staff and clients undertaking their own remote sensing projects.

The remote sensing analyst engages with various educational institutions, including post-secondary organizations, to promote the application of remote sensing tools and products and the field of geomatics as a whole.

## **RESPONSIBILITIES**

### **1. Provides standard and custom remote sensing products and services to clients in all departments of the GNWT to assist in the management and monitoring of the environment, wildlife, and the economic development of resources in the NWT by:**

- Producing earth observation map products and mosaics in digital and hardcopy form following standard procedures;
- Producing classification models and other products from satellite imagery, including organizing and undertaking fieldwork, and performing digital classification techniques following standard procedures;
- Developing complex and custom products and running automated scripts that may require the combination of GIS and remote sensing data sets, advanced image analysis techniques, independent judgment, experimenting with new software, and perform research into methods and algorithms;
- Planning, scheduling and conducting all phases of projects including information management, reporting and data organization related to projects;
- Creating metadata for all projects produced.

### **2. Seeks feedback from clients to ensure satisfaction with product or service by:**

- Discussing requirements, time and budget restraints with clients;
- Collaborating with clients to identify data requirements, techniques and products for projects;
- Providing time estimates to complete work and regular updates throughout project;

- Being one of the primary contacts for staff and clients to exchange, coordinate and disseminate information regarding satellite imagery.
3. **Provides image analysis expertise and remote sensing advice to clients and to GNWT staff by:**
    - Providing technical training and support in image analysis software and methods to less experienced staff and those clients using image analysis software;
    - Evaluating proposals and reviewing methodology for GNWT staff undertaking remote sensing fieldwork and mapping projects to ensure standard methods are followed so that best value can be obtained for the time and financial resources utilized;
    - Initiating and implementing procedures to speed up processes to make internal data more available to staff and to explore broader applications of data within the Centre;
    - Developing new or improved approaches and solutions to problems in order to enable the Centre to provide products to best meet the needs of clients.
  4. **Assists the Manager and/or Coordinator in the planning and policy development in areas related to remote sensing data maintenance and management by:**
    - Maintaining an on-going liaison with other departments, agencies and the private sector to ensure a high degree of awareness of new advances and development in satellite data and image analysis technology;
    - Participating in the development of strategies and operational plans for the delivery of geomatics technologies and services to GNWT departments;
    - Assisting in the strategic and operational planning process by maintaining a continued awareness of the planning/forecasted direction and growth of client departments and other stakeholders in remote sensing;
    - Attending interdepartmental, intergovernmental and industry meetings, seminars and conferences on behalf of the GNWT concerning remote sensing technology, analysis and management.
  5. **Conducts outreach with various audiences to promote the use of remote sensing and the products, tools and services created by the NWT Centre of Geomatics.**
    - Creating links with local schools and colleges on developing materials for geography curriculums;
    - Presenting work to Indigenous groups, regional stakeholders and self-government groups on tools developed through remote sensing or cross-application of project outputs;
    - Developing presentations and materials to inform stakeholders and senior managers on projects taking place and new or emerging opportunities

## **WORKING CONDITIONS**

### **Physical Demands**

No unusual demands.

## **Environmental Conditions**

No unusual conditions.

## **Sensory Demands**

No unusual demands.

## **Mental Demands**

No unusual demands.

## **KNOWLEDGE, SKILLS AND ABILITIES**

- Advanced knowledge of remote sensing and geomatics techniques and methodologies;
- Advanced knowledge of digital image analysis, especially using PCI Geomatics, in order to provide products and services to clients of the NWT Centre for Geomatics;
- Ability to organize and undertake fieldwork in order to ground truth products from remotely sensed imagery;
- Ability to work efficiently and independently to meet deadlines and set priorities for completing remote sensing projects for clients;
- Strong ability to communicate effectively with clients to recommend products and services that meet their needs in a timely manner;
- Strong oral communication skills, including good listening skills, to convey technical concepts when training and supporting colleagues and clients in the use of remote sensing technology;
- Strong ability to troubleshoot application problems in digital image analysis and to develop new products and techniques to meet client needs;
- Ability to stay abreast of changes in technology, tools and new remote sensing methods in a rapidly evolving field;
- Knowledge of the principles and procedures of projections and earth coordinate systems;
- Knowledge of metadata standards;
- Some experience with GIS software, especially ArcGIS;
- Effective project management skills;
- Effective time management and organizational skills;
- Ability to work well under pressure;
- Ability to work in an intercultural environment;
- Ability to work well in a team environment.

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

A university degree in remote sensing, or geomatics and 2 years of related experience in the area of image analysis OR a Community college diploma in geomatics, remote sensing, or Geographic Information Systems and certification in satellite data analysis with a minimum of 4 years related experience in the area of image analysis.

**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