



## IDENTIFICATION

Department	Position Title	
Finance	Manager, Enterprise Geospatial Systems	
Position Number	Community	Division/Region
15-11333	Yellowknife	NWT Centre for Geomatics/HQ

## PURPOSE OF THE POSITION

The Manager, Enterprise Geospatial Systems is responsible for the Government of the Northwest Territories (GNWT)'s shared geospatial systems (hardware, software and applications). The Manager oversees geospatial systems design, management, and operational activities which allow geospatial data to be stored and integrated with line of business applications, distributed and secured. The Manager provides expertise in geospatial system architecture and vision in determining appropriate adoption of technology to meet the growing demands for Geospatial tools and services in the GNWT.

## SCOPE

Located in Yellowknife, the Manager, Enterprise Geospatial Systems (Manager) reports to the Director of the NWT Centre for Geomatics (NWTCG). The NWTCG Division resides within the Office of the Chief Information Officer (OCIO) branch in the Department of Finance, and is the GNWT Centre of Excellence for geomatic services, Earth Observation (EO), geographic databases and applications, remote sensing and geographic information systems.

The Enterprise Geospatial Systems team provides the framework upon which geomatics professionals and consumers of geomatics products rely on. This includes geospatial software, data management standards, data management and application systems, service management systems and organization geospatial Platform-As-A-Service (PAAS). These services are provided through software, data, application and system administration, maintenance and planning conducted by the Enterprise Geospatial Systems team.

The Manager is a change agent who sets a clear vision and communicates effectively the strategic roadmap for an enterprise geospatial architecture, and advocates for broad

integration across Government systems. The Manager provides leadership in the planning, monitoring, coordination, implementation and evaluation of the GNWT's geospatial system architecture, and is responsible for the overall administration and maintenance of these complex systems and applications, highly technical software and large data assets. It is essential that the Manager understands business drivers and cross-departmental requirements to plan, build and maintain a responsive and scalable GIS architecture that meets current and future needs. The Manager's leadership in establishing a system architecture is pivotal in the strategic planning and priority setting for the NWTCG.

The Manager is a computer systems expert and is proficient in geospatial data manipulation, analysis, and integration, and this knowledge is imperative to effectively plan system design and integration, as well as monitor system performance. Geomatics systems and applications are unique and specialized and operate as a closed system outside the scope of the Technology Service Centre (TSC). The Manager is responsible for the management and provisioning of a separate infrastructure cluster housed within the TSC's data centre. The incumbent has advanced technical skills in all phases of the systems development lifecycle and must have expert knowledge of: various web application development languages and protocols; scripting languages; data modelling; systems integration methods and technologies; extract, transform and load (ETL) procedures; and PL/SQL database programming languages. The incumbent must be able to apply that expert knowledge within an enterprise server, desktop, cloud and mobile infrastructure and also lead and guide a team of technical professionals in all of the above efforts.

The geospatial system architecture must be robust enough to facilitate internal use by GIS professional while also meeting demand for cross functional system integration and web publication. The Manager oversees several high-profile and critical business applications and decision instruments that enable land, resource, and environmental management, and also support industry and investment in the Northwest Territories. These are high-availability applications that require optimal performance for complex geospatial queries and reports used both by GNWT staff and the public.

The geospatial data resources in the GNWT are substantial and include authoritative historic records. The spatial data warehouse is the GNWT's central repository for vector and raster data (satellite imagery, aerial photos, drone imagery, etc). The value of the data housed in the spatial data warehouse has an estimated worth over \$10M. The Manager leads initiatives to improve processes for data authoring, publication and sustainment. The incumbent demonstrates system capabilities and the value of open geospatial data through public facing web tools and oversees the maintenance of the NWTCG website, which serves as the entry point to the GNWT's open geospatial resources.

The incumbent is responsible for security and back-ups, and must plan for disaster recovery and enable data cataloguing, discovery and distribution in support of Open Government. To manage risk, the Manager must collaborate closely with the TSC, Application Services and Governance, Policy & Security divisions when designing and executing infrastructure renewals or adoption of cloud services. The Manager adheres to enterprise standards and organizational policies that guide system development, maintenance and architecture.

The position carries out its duties within a strict legislative and policy framework in accordance with the Informatics Policy Council and various GNWT Acts and Regulations, such as the *Financial Administration Act (FAA)*, *Public Service Regulations* and the *Access to Information and Protection of Privacy Act (ATIPP)*.

The Manager coordinates and maintains the service management tools for the NWTCG, and coordinates reports for the Director, Senior Management Committee and Informatics Policy Council. The incumbent collaborates closely with the other Managers of the NWTCG on service management, application deployment, process improvement, data administration and project management and delivery.

The Manager leads the Enterprise Geospatial Team including a Geomatics Data Coordinator, an Enterprise GIS administrator and a Web Application & Database Specialist, all located in Yellowknife. The Manager may also enlist casual and term positions or contractors to alleviate sudden increases in demand.

The Manager is responsible for administering the unit's annual budget of \$766,000; \$436,000 in Compensation & Benefits, and \$330,000 in Materials & Supplies. The Manager administers systems, software, projects and contracts, and ensures delivery of services pursuant to this and other funding sources, including capital funds for special projects and initiatives. This position may be required to travel periodically.

## **RESPONSIBILITIES**

### **1. Manage the Enterprise GIS architecture and systems.**

- Plan, architect, modify and implement the GNWT Enterprise GIS architecture, and systems for optimal performance and to facilitate user interactions and system integration.
- Guide and engage in technical work including database integration through complex SQL queries, ETL scripting, security configurations, workflow development, and publishing data services and applications to the web.
- Perform coordination of system recovery plans using enterprise standards for backups through close and collaborative engagement of the Information Systems Shared Service and Technology Service Centre (TSC).
- Provide specialized technical direction and guidance on system design and optimization on interdisciplinary application development.
- Facilitate user interaction with systems and authorship of data through permission management.
- Oversee management of GNWT organizational accounts with geospatial cloud platforms, including user access and security controls.
- Enable and be accountable for appropriate levels of system security.

### **2. Manage Enterprise Geospatial Software and Hardware.**

- Manage the GNWT's Enterprise Agreement for geomatics software including planning for organizational growth and administering GNWT user accounts.

- Administer and coordinate the Platform As A Service (PAAS) organizational and individual user accounts.
- Manage all NWTCG software including maintenance and acquisitions, and coordinating contracts.
- Manage all of NWTCG computing hardware including back-up peripherals and all capital assets residing at the Byrne Road Data Centre including life-cycle management.
- Plan and execute funding submissions for replacement of capital computing infrastructure that support GNWT geospatial data, including cloud data management.
- Plan and manage the Enterprise Geospatial Systems budget related to software and hardware acquisition and maintenance.
- Coordinating planning activities with the TSC and the Governance, Policy and Security group for all new infrastructure acquisition projects to ensure organizational alignment.

### **3. Direct project activities as they relate to Enterprise Geospatial Systems and facilitate applicable communication.**

- Provide critical project guidance on capital efforts to support system integration.
- Coordinate or guide system maintenance contracts on behalf of departments in support of business applications.
- Liaise with managers across the ISSS, TSC and departments on project intake, enterprise architecture and organizational IT policies as they relate to Geomatics.
- Configure, coordinate and maintain the NWTCG service management tool and desk.
- Coordinate reports on system analytics, website metrics, and service management performance indicators for senior management.
- Administer data publishing and application development in line with applicable regulations and legislation.
- Provide leadership on process optimization by applying and promoting ITIL practices and project management standards.
- Coordinate the NWTCG's public-facing web presence including delivery and promotion of open data resources and web-based geospatial tools maintained by the NWTCG.

### **4. Manage the Enterprise Geospatial Systems team.**

- Provide mentorship, coaching and training, and evaluate technological competencies required for a fast-paced technology sector.
- Direct staff activities, roles and responsibilities and delegate responsibilities as appropriate.
- Define operational processes and guidelines for the effective maintenance of highly critical systems.
- Develop workplans against government and branch priorities, set performance targets, provide structured feedback on staff performance, and implement measures to achieve established objectives.
- Coordinate staffing activities and maintain job descriptions through regular review
- Maintain regular communication with the Enterprise Geospatial Systems team through scheduled meetings, and foster a collaborative team environment.

- Demonstrate leadership on client service and IT Service Management practices, influencing Enterprise Geospatial Systems staff and other teams within the NWTCG.

## **5. Manage the unit's financial planning and operations.**

- Establish an annual budget based on planned activities and contracts.
- Coordinate all Geospatial infrastructure, software and support contracts.
- Work closely with the Director to answer funding calls related to forced growth and initiatives on Geospatial systems and infrastructure.
- Maintain precise accounting on all expenditures.
- Seek collaborative funding opportunities across departments and with partner organizations, governments and agencies.

## **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 in IT system architecture.
- Knowledge in administrating and operating online geospatial portals, web mapping services and related elements.
- Knowledge of GIS and Geomatics server-side tools to enable online services including ESRI ArcServer suite of software solutions.
- Knowledge of the development of web-based GIS applications such as GeoCortex Essentials and system analytics.
- Knowledge in enterprise multi-user spatial and non-spatial database administration, concepts and tools, including SQL scripting.
- Knowledge in spatial data and information management practices, including metadata management and industry standards.
- Skilled in client-server environment (VMware environment, Microsoft server and Networks).
- Skilled in scripting, modelling and automation of desktop and server-based workflows.

- Skilled in IT service management concepts such as those described by the IT Infrastructure Library (ITIL), Control Objects for IT (CoBIT), Dev/Ops and lean IT, particularly related to Incident Management and demand management.
- Knowledge in all phases of system development life cycle.
- Skills relating to standard budgeting and accounting concepts and techniques including contract management.
- Ability to guide, adhere to, and monitor compliance with policies.
- Knowledge of Project Management practices such as those described in the Project Management Body of Knowledge (PMBOK).
- Ability to recognize and escalate problems and opportunities in a timely manner.
- Ability to assess and evaluate risk leveraging guidance from ISO 31000.
- Knowledge of best practices related to security of operational environments.
- Ability to set individual and team goals & objectives.
- Ability to track progress, achieve results and measure success.
- Ability to think analytically while problem solving.
- Ability to effectively manage time and team capacity.
- Ability to make effective decisions to optimize enterprise system design.
- Ability to anticipate organizational and technology trends and issues.
- Understanding of professionalism and ability to adhere to codes of conduct and service standards.
- Ability to maintain an awareness of developments in industry.
- Ability to motivate a team and coach others.
- Ability to promote environment of collaboration.
- Ability to effectively lead and manage a diverse team of professionals.
- Verbal, written and presentation skills, especially for an executive audience.
- Facilitation skills effective at all levels of the organization.
- Ability to actively listen and effectively respond to others' communications and concerns.

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

A university degree in computer science, remote sensing, or Geographic Information Systems (GIS) with an emphasis on system/data administration and web-based development, and 10 years of recent and progressive work experience, including four (4) years of staff supervision and financial management. Certification in project management, ITIL, TOGAF and/or COBIT would be an asset.

Equivalencies may be considered.

**ADDITIONAL REQUIREMENTS**

**Position Security**

- ☐ 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