Job Class Profile: Computer Systems Analyst IA

Pay Level: CG-37   Point Band: 814-847

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	6	4	2	4	5	5	5	2	3	
Points	280	67	13	19	150	108	103	43	32	815

JOB SUMMARY

The Computer Systems Analyst IA designs, develops, and maintains geospatial databases.

Key and Periodic Activities
— Integrates various geospatial databases (i.e. forest inventory, defoliation, protected areas) to conduct spatial and temporal analysis for reporting, impact and risk assessment, and to better understand the effects of special actions or inactions.
— Analyses inventory data to ensure accuracy and integrity of data and to satisfy ad-hoc requests for maps and reports.
— Performs geospatial analysis related to various business functions such as wood supply assessment, past harvest assessment, etc.
— Uses software (ArcGIS product suite, Workstation Arc/info, Arcview 3.x) to conduct analysis.
— Develops scripts as required to facilitate analysis.
— Performs database management including: developing procedures related to data creation, editing, management and quality control of databases; developing standards for the mapping source, digitization and transfer of annual updates form industry and district/regional officers for inclusion in production databases; supports other staff in data creation, management and quality control processes to ensure completeness, spatial accuracy, and temporal accuracy of databases.
— Assists in geodatabase design functions including use of case analysis and documentation.
— Migrates existing data into the geodatabase structure. Exports data in appropriate formats for distribution to other agencies and has input to external modeling applications.
— Provides end user training in relation to new procedures/processes/applications that are implemented and delivers instruction in either individual or group settings.
— Investigates problems reported by end users and takes appropriate action to resolve problems and minimize impact on production environments.
— Performs research to explore new techniques and stay abreast of new developments. Makes recommendations to management regarding the incorporation of new technology.
— Provides day to day support to staff in the areas of Geographic Information System (GIS) and Global Positioning System (GPS). Investigates software and data related problems reported by end users and takes appropriate action to resolve them.

Key and Periodic Activities
— Utilizes the PCI Geomatica product suite when analyzing, classifying, ortho-rectifying, and developing solutions involving remotely sensed digital image products such as satellite imagery and air photos.
— Prioritizes and co-ordinates the distribution of data requests to GIS staff for completion and updates managers on status.
— Works with planners and other groups to help develop operating plans, using computer modeling software to accomplish outcomes and develop new research ideas that utilize GIS technologies.
— Acts as regional data manager by reviewing, analyzing, and fulfilling digital data requests from within the department, other departments, federal government, consulting firms, etc.
— Prepares aerial photography contracts, monitors contract progress, and reviews the finished product.
— Conducts audits on field crew data validity and communicates audit results to the field crews.
— Assists with forest inventory plot data collection as crew chief or assistant.
— Prepares geological maps in a Geographic Information System (GIS).
— Co-ordinates regular meetings for GIS staff.
— Attends provincial meetings as technical representative.
— Meets with industry representatives to discuss geospatial data requirements for emergency preparedness planning.
— Prepares and updates quarterly work plans.
— Assists with computer program design for non-paper data collection by the forest inventory crews, training of crews, and ongoing support.
— Prepares, constructs and edits graphic depictions of geological data including detailed maps, graphics, diagrams, and illustrations to be used in reports, journals, presentations, and other promotional material.

SKILL

Knowledge

General and Specific Knowledge:
— Extensive knowledge of GIS software and database management and relational database management systems.
— Information technology hardware and software changes rapidly requiring constant upgrading of skills and knowledge of the field.

Formal Education and/or Certification(s):
— Minimum: Undergraduate Degree in a related field (i.e. science, forestry, geography) and a 1 year post-secondary Diploma in Geographic Information Systems (GIS).

Years of Experience:
— Minimum: 3-4 years experience.

Competencies:
— Advanced analytical, project management, organizational, and problem solving skills.

— Strong written and verbal communication skills.

Interpersonal Skills

— Interpersonal skills include listening to information from others, asking questions to gather information, communicating routine and complex information and direction to others, and instructing/teaching/training.

— Communication skills are required to take clear direction and to present ideas, to communicate protocols to GIS staff, data analysis outcomes, and training to others, to act as a technical advisor, to represent the department on various committees, or to act as a technical liaison between various groups. In order to perform database application design and development, it requires communicating complex information to end users ensuring all parties understand the data required to capture work flows, and the nature of how data is collected as well as training to end users on new processes/applications implemented.

— The three most significant contacts are with manager/supervisor to provide updates on geospatial analysis and to set new tasks; clients/users for training, data input, feedback, and problem solving; and other divisional staff including computer support specialists to review and update data requests/tasks for completion, or other analysts to receive advice/feedback on how to proceed with certain projects.

EFFORT

Physical Effort

— The demands of the job do not result in considerable fatigue or require periods of rest.
— Occasionally lifts objects less than 10 lbs., such as office supplies, printer paper, GIS hardware, computers and printers.
— There is an opportunity for occasional standing, walking, and driving.
— Constant sitting and fine finger/precision work is required when performing work on a computer.

Concentration

— **Visual** concentration is constantly required when using a computer, performing data analysis and viewing aerial photographs.

— **Auditory** concentration is occasionally experienced for use of cell phone or satellite phone when communicating with geologists in the field and listening to end users explain issues/problems they are encountering.

— **Repetition requiring alertness** is regularly required as attention to detail and alertness is necessary when compiling data as hundreds of symbols may have the slightest difference between them.

— **Lack of control over the work pace** occurs occasionally as a result of multiple deadlines for multiple projects, higher workload during planning periods and when preparing for major international conferences.

— **Time pressures and deadlines** are experienced on a regular basis due to legislated timelines for the submission of operating plans for each management district, timelines assigned by manager, field work that must be completed within specified timelines before helicopter returns to pick-up staff, for project timelines as well as deadlines for print press or publications.

— **Eye/hand co-ordination** is required occasionally for the purpose of digitizing data, operating desktop and laptop and using tree measurement tools.

— **Exact results and precision** is required on a constant basis when compiling data, using exact measurements when working in the field and for report generation and digitizing data.

Complexity

— Tasks and activities are quite different but allow for the use of similar skills and knowledge.

— The resolution of challenges/problems/issues range from following standardized procedures and processes to problem definition and analysis requiring the development of complex solutions.

— Typical challenges/problems include technical problems with GIS software; system analysis and design involving workflows, migrating of existing databases, the design of a new database, and analysis and design of applications; working within the constraints of software often times requires developing solutions which the software does not easily solve; and striking a balance in providing appropriate information for maps within confined limits (too little information has no informative value and too much information makes the map detailed and difficult to read/interpret).

— When addressing challenges/problems/issues can reference on-line help and tutorials from software providers and assistance from coworkers or manager.

RESPONSIBILITY

Accountability and Decision-Making

— Work tasks are moderately prescribed and controlled.

— Decisions that can be made without supervisory approval include the development and design of databases, the release of data to agencies or groups who requested the information, implementation of architectural changes/updates to the database, small purchases, and plot audit results for field crews. Once projects are assigned, the work is performed with little supervision. There are discussions with stakeholders (i.e. geologists) to clarify issues and define parameters/timelines. Once completed the project is passed back to the project geologist and editorial staff for review and editing.

— Supervisory approval is required for long term project commitments, additional work requests from other divisions/branches/departments, the release of sensitive data, large purchases, new or significant changes to field sample plot data collection processes, or the release of inventory databases to outside research agencies.

— A high degree of discretion and judgement must be exercised in the performance of daily duties including system analysis design, database design, and application design as well as when representing the division/department on committees and working groups.

Impact

— Work performed can have a positive or negative impact on the immediate work area, department, organization and clients/public.

— Resources impacted include information, processes and systems, and corporate image. The results of data analysis may impact decisions made by various users and stakeholders including private companies (i.e. forestry industry) and their viability. The production of data, maps, publications, which are made available on the internet, affects a large number of people as they

are seen and used by many including the general public. Analysis results are also used in the department's operating plan.
— Mistakes and errors will have an impact on the staff using the systems and may include cartographic technicians, inventory field staff, and forest engineering staff.   Maps may be generated for court cases and if found to be inaccurate, may have significant impact on the case, particularly those that are highly sensitive.
— There is no day to day supervision of work tasks. At the end of the project a Project Geologist, Manager, or more senior Analyst or other department peers (i.e. land management specialists or soil specialists) will review the work for final errors or omissions.
— Errors are normally addressed within hours of problem identification.

Development and Leadership of Others

— Not responsible for the supervision of staff.
— Provides advice and instruction to end users on software or systems, assists new employees and students in the performance of daily tasks, and acts as technical expert in recruitment or on committees.

WORKING CONDITIONS

Environmental Working Conditions

— There is normally no requirement for safety equipment or precautions except when conducting field work, which requires safety vests, hard hats, and boots.
— There is a limited likelihood of minor cuts, bruises, abrasions, and/or injury when working in the field.
— Majority of work is performed in an open office environment with little privacy and exposure to computer glare. Occasionally required to travel.