Summaries of Duties Typically Associated With
Different Kinds of GIS-Related Jobs

GIS Director (GIO or CIO)

Summary of Typical Duties

- Direct and manage computing and information technology strategic plans, policies, programs, and schedules for business and finance data processing, computer services, network communications, and management information services to accomplish corporate goals and objectives.
- Direct the information and data integrity of the company and its business units.
- Develop strategic plans and implement the objectives of the information technology needs of the company to ensure the computer capabilities are responsive to the needs of the company's growth and objectives.
- Develop and establish operating policies and approaches for computing and information technology.
- Evaluate overall operations of computing and information technology functions and recommend enhancements.
- Advise senior management on strategic systems conversions and integrations in support of business goals and objectives.
- Prepare enterprise objectives and budgets to facilitate the orderly and efficient capture, storage, processing, and dissemination of information.
- Interact with company managers on internal and external operations that are impacted by the capture, storage, processing and dissemination of information.
- Review and approve major contracts for computing and information technology services and equipment.
- Ensure the security of the information systems, communication lines, and equipment.
- Oversee the development, design, and implementation of new applications and changes to existing computer systems and software packages.
- Take responsibility for the development, review, and certification of all back-up and disaster recovery procedures and plans.
- Identify emerging information technologies to be assimilated, integrated, and introduced within the company.
- Assess new computing technologies to determine potential value for the company.
- Oversee ongoing improvements and the feasibility of system enhancements.
- Establish company infrastructure to support and guide individual divisions/departments/sites in computing and information technology efforts.
- Establish and implement short- and long-range departmental goals, objectives, policies, and operating procedures.
- Serve on planning and policy-making committees.

GIS Manager

Summary of Typical Duties

- Setting project goals and objectives.
- Developing GIS policies and procedures.
- Designing and implementing organization-wide GIS standards.
- Planning, setting budgets, and implementing GIS projects and applications.
- Recommending capital and operation outlays, and developing and tracking GIS-related budgets.
- Monitoring performance against plans and establishing resolution actions for any variances from plans.
- Obtaining and managing necessary GIS resources.
- Hiring or recommending the hiring of GIS staff and related personnel.
- Supervising, monitoring and evaluating the work of GIS staff.
- Recommending and, where appropriate, developing GIS and related training programmes.
- Coordinating GIS-related activities with user departments.
- Providing technical and project management support.
- Negotiating and managing consulting and service contracts to ensure compliance.
- Providing an interface between GIS staff and consulting professionals working within the organization.
- Coordinating and leading GIS initiatives with external organizations.
- Managing GIS committees at technical and management level.
- Preparing GIS status reports.
- Acting as liaison with related external organizations.
- Evaluating technological advances and promoting the usage of appropriate technology and application.

GIS Coordinator

Summary of Typical Duties

- Assisting the GIS manager in the exercise of his/her responsibilities (if the organisation has a GIS Manager).
- Guiding policy making regarding GIS matters.
- Supervising the activities of GIS staff.
- Overseeing GIS applications development, RFP and contract development, and hardware and software acquisition.
- Operating and maintaining GIS hardware and software, including developing and/or modifying applications software and/or related sub-system applications software.
- Using and determining uses (assessing and understanding user needs) for the GIS software and databases and providing support to others in the organization in the development and application of GIS technologies.
- Identifying, analysing, and defining changes to GIS applications software and related systems and subsystems that will maximise efficiencies for better services to users; then recommending such changes to the organisation and developing plans to implement them.
- Implementing project management where appropriate.
- Developing, implementing, coordinating, and maintaining internal technical standards and including coordinating these activities with the requirements of organisation's IT or IS department.
- Developing, maintaining and updating databases.
- Coordinating database development activities with database administrators in the organizations IT or IS department.
- Identifying, analysing and solving system problems.
- Interpreting work requests.
- Providing technical expertise, user training and support to users.
- When necessary, facilitating user training from outside the organization.
- Coordinating GIS activities with the other facets of the organisation's work.
- Writing meeting agendas and technical reports detailing the activities of the GIS group.
- Convening meeting.
- Serving as the organisation's point of contact on GIS matters.
- Managing relationships with collaborating and/or related outside GIS organizations and attending meetings of local user groups.

GIS Analyst

Summary of Typical Duties

- Undertaking data analyses and data conversion.
- Coordinating the acquisition of new spatial data and supervising the integration of these data into the organisation's GIS.
- Developing and managing quality control procedures.
- Performing spatial analyses and creating information products from the GIS and related software and subsystems.
- Designing, developing, testing, documenting, and certifying applications, programmes and systems functionality.
- Managing individual data and application's development projects.
- Coordinating GIS activities with programmers and technicians.
- Providing support for GIS data conversion, systems integration and system's and application's development and implementation.
- Providing support for cartographic design and high quality map production.
- Designing and implementing training plans.
- Assisting in training in various aspects of the GIS software and database creation and use.
- Diagnosing and "troubleshooting" problems experienced with the use of GIS and related software.
- Consulting users to identify new data/software requirements.
- Supporting users.
- Preparing project plans, and directing vendors (consultants) and internal project teams to accomplish plan tasks in order to meet user/ data/software requirements.

GIS Specialist

Summary of Typical Duties

- Undertaking discipline specific GIS user needs studies.
- Designing, developing (implementing), customising and maintaining (enhancing) the discipline specific GIS.
- Providing quality control with regard to discipline specific in-house data capture (data conversion), the evaluation of data acquired from outside of the organisation and database construction.
- Developing, maintaining and updating discipline specific GIS databases.
- Manipulating GIS data to create information products to meet discipline specific needs.
- Developing and applying GIS analysis solutions to meet other discipline specific needs.
- Serving as the GIS technical lead and point of contact on discipline specific GIS and related matters.

GIS Systems Analyst/Programmer

Summary of Typical Duties

- Consulting with users, management, vendors, and other GIS staff to determine needs and system requirements.
- Assisting with formulating and reviewing GIS plans.
- Assisting in preparing, monitoring, adjusting and approving operational budgets.
- Assisting in the design, development (implementation) and maintenance of the organization's GIS.
- Assisting in analysing GIS related workflows and the assigning or scheduling of work to meet priorities and goals.
- Evaluating GIS development and application development proposals and assessing the feasibility of projects.
- Creating and maintaining (updating and enhancing) the programmes that run the applications to satisfy specific user needs in the organization, taking full advantage of GIS platform functions and applications.
- Coordinating the installation and testing of applications programmes and writing the documentation that describes the operating procedures for using them.
- Maintaining and managing GIS software and hardware and "troubleshooting" problems that occur in software and hardware.
- When required, independently preparing information products to support the organisation's needs.
- Developing, maintaining and executing quality control/assurance programmes, including reviewing data developed by outside contractors or acquired from outside organizations.
- Providing technical support related to the data transmission networks of the organization.
- Providing (or supplementing) GIS training activities and providing technical support to GIS users.
- Preparing and reviewing operational reports and project progress reports.
- Making presentations.

GIS Technician

Summary of Typical Duties

- Capture GIS data in different formats using GPS, electronic data recorders, digitisers, and other means.
- Download, convert and upload GIS data available from internal and external sources to make them usable.
- Perform GIS data quality control, including reviewing data for completeness and accuracy; identifying and correcting errors or omissions in the data.
- Catalog and inventory GIS data, including metadata creation.
- Input, update and maintain GIS databases, including backups and also maintaining linkages to other databases.
- Perform GIS spatial analyses.
- Create map layouts and views, and generate maps and reports.
- Develop new applications and train others in the use of these applications.

GIS User (Heavy and Light)

Summary of Typical Duties

GIS User (Heavy)

"Heavy" users of GIS technology are technically not in a GIS or related department, but use the system's software and applications frequently. The heavy GIS user could use the system as often as once a day and on a wide variety of projects. Most often the heavy user works with GIS a few times a week. These individuals can come from backgrounds in planning, engineering, assessment, public works, etc. The heavy user will be able to get around the GIS and have a comprehensive knowledge of shortcuts, commands, and specific applications. The heavy user often acquires one's skills from extensive training and repeated use.

GIS User (Light)
A GIS user is anyone who operates or uses GIS software, technology, and principles within any scope of their job. The GIS user is not a GIS professional such as manager, analyst, programmer, etc. The interval of use may be once a day, week, or month. A "light" GIS user would use GIS software only once every couple of weeks or months. These individuals can come from a wide variety of backgrounds or positions within the public sector, ranging from planning, to engineering, to public works. Light users may even include village administrators, city officials, or state department heads. These individuals may be able to navigate themselves around the GIS but most often have a fairly limited knowledge of the system. The light GIS user acquires one's skill through either limited training or hands on practice.