

GEOGRAPHICAL INFORMATION SYSTEMS

Roles, Responsibilities and Application

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MAPPING TOMORROWS WORLD TODAY



WHAT IS GIS?



A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data. The key word to this technology is Geography – this means that a portion of the data is spatial (Source: ESRI, 2018).

GIS technology applies geographic science with tools for understanding and collaboration. It helps people reach a common goal: to gain actionable intelligence from all types of data (ESRI, 2018).



Many organisations from various fields use GIS to formulate maps that communicate, perform analysis, share information, and solve complex problems around the world. This is changing the way the world works (ESRI, 2018).

GIS is a powerful tool for environmental data analysis and planning. GIS stores spatial information (data) in a digital mapping environment. A digital basemap can be overlaid with data or other layers of information in order to view spatial information and relationships. On completion of data analysis GIS helps in planning and managing the environmental hazards and risks. In order to plan and monitor the environmental problems, the assessment of hazards and risks becomes the foundation for decision making and mitigation activities. GIS supports activities in environmental assessment, monitoring, and mitigation (GISGeography, 2018)

GIS SPECIALIST SERVICES AT HANSLAB

Hanslab Pty (Ltd) is a company that specializes in providing spatial solutions to a broad-based market, this includes: government departments and diverse private sector organizations. We focus on delivering functional spatial applications to our clients in the form of:

- Master Layout Plans
- Environmental Sensitivity Mapping
- Environmental Planning
- Land-use planning
- Production of High quality maps
- GIS Spatial Modelling
- Visual impact assessments
- Floodline mapping
- Vegetation health assessments

GIS ROLES AND RESPONSIBILITIES AT HANSLAB

I am currently the head of the GIS Department at Hanslab, where GIS is being used for a number of projects to assist in Basic Assessment Reports and Water Use License Applications. My roles in the company include: providing professional analysis, production, formulation and reviewing of all maps for various projects. GIS has proved to be a useful tool, as it warrants decreased production time whilst still ensuring high quality maps. GIS also plays a role in terms of Environmental Screening; this tool can be used to map out a study area and compare it to on the ground analysis once a site visit is initiated. In this sense, we use the data to reference what we did not identify on site or use it to validate data on GIS itself. GIS has thus become an invaluable tool in Environmental Management for our projects.

As a Geography and Environmental Management Honours graduate from University of KwaZulu Natal, I have been exposed to GIS from the initial stages of my degree, it also featured in my final thesis, as I mapped out specific sections of the study area for analysis. Since then I have gained experience in a number of projects, from private to governmental, using GIS as a fundamental tool. My experiences with GIS include: Data capturing, Verification and Validation, creating shapefiles, Map formulation for analysis, Remote Sensing, Georeferencing and Geoprocessing to name a few.

**Get in touch with us to find out how we can provide GIS
services to suit your needs**

REFERENCE LIST

ESRI (2018). Overview of GIS. <https://www.esri.com/en-us/what-is-gis>

GISGeography (2018). What is Geographic Information Systems. <https://gisgeography.com/what-gis-geographic-information-systems/>

