

**ANNEX 1**  
**GLOSSARY OF TECHNICAL TERMS**

**AM/FM**

Automated Mapping and Facilities' Management—Term used to describe the digital mapping systems used in utilities such as water or electricity supply companies.

**Analogue Maps**

Paper maps.

**Attribute**

Non-spatial, descriptive characteristic of a real-world phenomenon. Often a measurement or value associated with spatial locations.

**Buffer**

A corridor of a specified width defined parallel to lines or around polygons. Buffering is the process of defining the corridor and drawing the new geometry to delimit it.

**Coverage**

A collection of data describing spatial features stored in the same map file (primarily used by ESRI in ARC/INFO systems).

**Database**

An organized, integrated collection of data collated for common fact or purpose.

**Data Base Management System (DBMS)**

A collection of computer software used to organize and access the information in a database.

**Data Capture**

Encoding of data, or the conversion of map data to digital data—both spatial and non-spatial aspects.

**Data Dictionary**

This contains information about definition, structure, and usage of data in a database. No data are actually kept here.

**Data Model**

An abstraction of the real world that incorporates only those properties thought to be relevant to the application in hand. Also, a set of guidelines for the representation and logical organization of data in a database, consisting of named logical units of data and the relationships between them. In GIS this term usually refers to a set of spatial features with associated characteristics.

**Data Quality**

The quality of the data measured in relation to the actual phenomena measured at source.

**Dataset**

A named collection of logically related features arranged in a prescribed format.

**DEM**

Digital Elevation Model: a digital representation of a surface as a regular grid of elevation values.

**Digital Map Data**

A collection of digital information about real-world spatial phenomena.

## **DTM**

Digital Terrain Model: a digital representation of ground surface relief enhanced by the addition of topographic information.

## **Digitiser**

A device (usually electronic) for coding point locations on a graphic image or map to plane (x, y) coordinates.

## **Geographic Information (GI)**

Information that can be related to a location (defined in terms of point, line, and area), particularly information on natural phenomena, cultural or human resources.

## **Geographical Information Systems (GIS)**

Tools for collecting, storing, retrieving at will, transforming and displaying spatial data from the real world for a particular set of circumstances (Burrough 1986)

GIS form an information technology package which stores, analyses, and displays both spatial and non-spatial data (Parker 1988)

- A decision support system involving the integration of spatially referenced data in a problem- solving environment (Cowan 1988)

## **Global Positioning System (GPS)**

A GPS is a position-fixing system that uses the time taken for signals to travel from at least three GPS satellites in a known orbit to a receiver on the ground.

## **Image Processing**

Encompasses all the various operations that can be applied to image or raster format data. These include image compression, restoration, enhancement, rectification, preprocessing, quantization, spatial filtering, and other image pattern recognition techniques.

## **Interpolation**

The procedure of estimating the values of unknown points on a surface from the values of a number of points of known value.

## **LIS**

Land Information System: a system for handling land ownership (cadastral) data.

## **Network Analysis**

Analytical techniques concerned with the relationships between locations on a network, capacities of network systems, and the best location for facilities on a network.

## **Pixel**

Short for PICture ELEment, i.e., the smallest discrete element that makes up an image. It may represent either a small square or portion of the Earth's surface, scanned by satellite or aircraft, a portion of a graphics' image sensed by an optical scanner or an individual dot on a screen.

## **Raster Data**

Data expressed as an array of pixels with the spatial position implicit in the ordering of the pixels.

## **Relational Database**

A database of tables that can be linked together through common attributes.

**Remote Sensing**

The technique of obtaining data about the environment and surface of the earth from a distance, e.g., from an aircraft or satellite.

**Resolution**

Level of discrimination in the representation of objects, generally spatial.

**Scale**

The ratio or fraction between the distance on a map, chart, or photograph and the corresponding distance on the surface of the Earth.

**Spatial Analysis**

Analytical techniques associated with the study of locations of geographical phenomena together with their spatial dimensions.

**Spatial Data**

Data relating to the location of geographical phenomena together with their spatial dimensions.

**Supervised Classification**

This is the method of generating spectral signatures for image classification, in which the analyst is directly involved in the pattern recognition process. Usually, supervised classification requires the analyst to select training samples from the data which represents patterns to be classified.

**Terrain Modelling**

The creation of a realistic terrain representation for computer display.

**TIN**

Triangular Irregular Network: the most equilateral set of triangles possible joining a set of points.

**Topographic Map**

A map showing the features that describe the surface of a particular place or region.

**Triangulation**

The interconnection of all points within an area to form a set of reproducible triangles.

**Unsupervised Classification**

This is a computer-automated method of pattern recognition in which some parameters are specified by the user and are used to uncover statistical patterns that are inherent in the data.

**Vector Data**

A description of spatial phenomena based upon geometry.

**Vectorisation**

The process of converting raster data into vector form.