

Glossary

Aero triangulation: It is a process that identifies any discrepancies in aerial photography and the targeted ground control points, and ensures correct positions and elevations for mapping purposes

Agro-Ecological Zones (AEZ): a land resource mapping unit, defined in terms of climate, landform and soils, and/or land cover, and having a specific range of potentials and constraints for land use.

Alluvium: loose, unconsolidated (not cemented together into a solid rock), soil or sediments, eroded, deposited, and reshaped by water in some form in a non-marine setting.

Asymmetric: lack of balance on both sides of a central line

Avulsion: abandonment of an old river channel and the creation of a new one

Barrage: a structure, with gates, constructed across a river channel for the purpose of regulating flow. The river depth is increased through closing of the gates to enhance water extraction.

Bunds: these are water containment structures that prevent leaks and spillage from crop fields

Catchment area: an extent of land where water from rain and melting snow or ice drains downhill into a water course. It is also known as a drainage basin.

Celestial: an imaginary sphere of arbitrarily large radius, concentric with the Earth and rotating upon the same axis.

Climate: the day-to-day average weather conditions (temperature, humidity, atmospheric pressure, wind, rainfall, atmospheric particle count and numerous other meteorological elements) observed in a given region over a long period of time

Coefficient of Variation (CV): A statistical measure of the dispersion of data points in a data series around the mean.

Color balancing: Adjusting the intensities and distribution of colours to create an image with a particular color appearance for display or printing

Contour: a line that joins points of equal elevation (height) above a given level, such as mean sea level

Cross section: a representation of a vertical section across and through a landscape or landscape feature, as in a cross-valley profile—a section of a valley drawn at right angles to the course of a river at a given point

Database: A database is an integrated collection of logically related records or files consolidated into a common pool in one or more computerized files. These records can easily be accessed, managed and updated

Delineation: a drawing of the outlines of forms or objects

Deposition: adding material like sediment to a landform

Deshek: Natural flood depression

Digital Elevation Model (DEM): a digital representation of continuous elevation values over a topographic surface, referenced to a common datum

Edge matching: the process of ensuring that detail along the edge of two adjacent map sheets matches correctly

Electromagnetic waves: a phenomenon that takes the form of self-propagating waves in a vacuum or in matter. It consists of electric and magnetic field components which oscillate in phase perpendicular to each other and perpendicular to the direction of energy propagation

Elevation: height above a fixed reference point, often the mean sea level

Floodplain: flat or nearly flat land adjacent to a stream or river that experiences occasional or periodic flooding

Geographic Information Systems (GIS): a computer based system capable of assembling, storing, manipulating, and displaying geographically referenced information

Geo-morphogenetry: the branch of geology that studies the characteristics and configuration and evolution of rocks and land

Geopedology: a science and art of modelling the occurrence of soils in landscape

Geo-reference: to assign real-world coordinates to the geometric representation of an object(s), map, image or photograph

Gorge: also called a canyon (occasionally spelled cañon) is a deep ravine between cliffs often carved from the landscape by a river

Ground Control Point (GCP): a point on the surface of the earth of known location (i.e. fixed within an established co-ordinate system) which is used to geo-reference image data sources, such as remotely sensed images or scanned maps, and divorced survey grids, such as those generated during geophysical survey

Gypsum: very soft mineral composed of calcium sulfate dihydrate, with the chemical formula $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$

Igneous rock: (derived from the Latin word "Igneus" meaning of fire, from "Ignis" meaning fire) is one of the three main rock types (the others being sedimentary and metamorphic rock)

Image: a two-dimensional picture, that has a similar appearance to some subject (usually a physical object or a person)

Image Resolution (RS): the area represented by each pixel (smallest picture element) of a satellite image. The smaller the area represented by a pixel, the more accurate and detailed the image

Infrared: electromagnetic radiation with wavelengths longer than visible light but shorter than radio waves

Inter-Tropical Convergence Zone (ITCZ): is the zone over which two airstreams (air masses) consisting of the north-easterly and south-easterly trade winds meet.

Landform or physical feature: comprises a geomorphologic unit, and is largely defined by its surface form and location in the landscape, as part of the terrain, and as such, is typically an element of topography

Landscape: comprises the visible features of an area of land, including physical elements such as landforms, living elements of flora and fauna, abstract elements like lighting and weather conditions, and human elements like human activity and the built environment

Marshland: low-lying wet land with grassy vegetation; usually is a transition zone between land and water

River meanders: are curves in a stream (or river).

Meridian (or line of longitude): an imaginary arc on the Earth's surface from the North Pole to the South Pole that connects all locations running along it with a given longitude

Metamorphic rock: the result of the transformation of an existing rock type, the protolith, in a process called metamorphism, which means "change in form".

Monsoon: traditionally defined as a seasonal reversing wind accompanied by seasonal changes in precipitation, but is now used to describe seasonal changes in atmospheric circulation and precipitation

Mosaicking: stitching the pictures together to form a single big picture of the scene

Nomenclature: refers to either a list of names and/or terms, or to the system of principles, procedures and terms related to naming

Orography: (from the Greek ὄρος, hill, γραφία, to write) is the study of the formation and relief of mountains, and can more broadly include hills, and any part of a region's elevated terrain

Ortho-rectification: Is the process of removing relief displacement and sensor or camera attitude variations from an aerial photograph resulting in a planimetrically correct image

Pastoralism: the branch of agriculture concerned with the raising of livestock

Plateau: in geology and earth science, a plateau, also called a high plain or tableland, is an area of highland, usually consisting of relatively flat terrain. A highly eroded plateau is called a dissected plateau

Potential Evapo-Transpiration (PET): is the amount of water that could be evaporated and transpired if there was sufficient water available

Prime meridian: the meridian (line of longitude) at which the longitude is defined to be 0°

Radar: an object detection system that uses electromagnetic waves to identify the range, altitude, direction, or speed of both moving and fixed objects such as aircraft, ships, motor vehicles, weather formations, and terrain

Relative humidity: the amount of water vapor that exists in a gaseous mixture of air and water

Relief: a three-dimensional representation of terrain

Remote Sensing (RS): the science and art of acquiring information (spectral, spatial, temporal) about material objects, area, or phenomenon, without coming into physical contact with them

Return period: is the frequency with which, on average, a given event is expected to recur. A 50 year return period flood therefore implies that floods of such magnitude or higher are likely to occur once in a period of 50 years

River confluence: a meeting of two or more rivers

Sedimentary rock: a type of rock that is formed by sedimentation of material at the Earth's surface and within bodies of water

Spectrum: a condition that is not limited to a specific set of values but can vary infinitely within a continuum

Tributary or affluent: is a stream or river which flows into a main stem (or parent) river

Volcano: an opening, or rupture, in a planet's surface or crust, which allows hot magma, ash and gases to escape from below the surface

Watershed: is a land feature that can be identified by tracing a line along the highest elevations between two areas that drains water to a particular stream, river, or lake.