GIS VOCAB CHEATSHEET

THE CLIMATE TRUST™

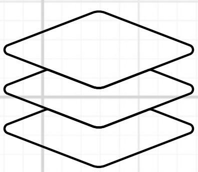
The Basics

Geographic Information Science (GIS): A computer-based system and scientific field that specializes in the assembly, analysis and visualization of spatial data.

Remote Sensing: The acquisition of information about earth's surface through measuring its reflected and emitted radiation at a distance.

Raster: A grid of pixels arranged in rows and columns, where each pixel has a value that represents information such as elevation or land cover class.

Vector: Data in the form of points, lines or polygons.



Pixels, Pixels and More Pixels

Spatial Resolution: The size of a pixel as it relates to the ground surface area. For example, a pixel with a 30 meter resolution represents an area of 30 meters by 30 meters on the ground.

Coordinate Reference System (CRS): Defines where data is located on the earth's surface through a local, regional or global coordinate-based system.

Projection: Defines how to represent the earth's curved surface on a flat map.

Data Processing and Usage

Spectral Index: A combination of spectral bands used to extract certain characteristics of a raster image. For example, NDVI extracts greenness and is often used as an indicator for vegetation health.

Land Use Land Cover (LULC): Commonly used land classification raster type that defines land use and land cover across a region.

Time Series: A series of observations of one region of interest collected over time, crucial for analyzing changes in earth's systems over time.

Satellite Roundup

Landsat: Launched in 1972 by NASA and USGS, Landsat has been recording the earth's surface for over 40 years.

Sentinel-2: Revisiting the same regions every 10 days at a 10 meter spatial resolution, this ESA satellite provides some of the most useful public data available.

Terra: NASA satellite launched in 1999, containing one of the most commonly used sensors, MODIS, which collects observation data through a whopping 36 spectral bands. After a 28 year run, Terra is scheduled for decommission in 2026.