



Applications of remote sensing and geographical information system

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DESCRIPTION

Remote sensing is one of the methods commonly used for collecting physical data to be integrated into GIS. Remote sensors acquire information from objects on the earth without any physical contact. It plays a key role in detecting energy reflected from the earth, and are typically mounted on satellites or aircraft.

Remote sensing is utilized in various fields, such as geography, land surveying and maximum Earth technological fields (for example, hydrology, ecology, meteorology, oceanography, glaciology, geology); it additionally has military, intelligence, commercial, economic, planning, and humanitarian applications.

Remote sensing may be divided into styles of methods: Passive sensing and Active sensing. Passive sensors accumulate radiation this is emitted with the aid of using the item or surrounding regions. Reflected daylight is the maximum not unusual place supply of radiation measured with the aid of using passive sensors. Examples of passive sensors encompass movie photography, infrared, charge-coupled devices, and radiometers. Active collection, on the alternative hand, emits electricity if you want to experiment items and regions a sensor then detects and measures the radiation this is backscattered from the target. RADAR and LiDAR are an example of sensing in which the time postpone among emission and go back is measured, setting up the location, pace and course of an item. A Geographic Information System (GIS) is a well-developed framework that provides the ability to capture and analyze spatial and geographic data. GIS applications (or GIS apps) are computer-based tools that allow the user to create interactive queries (user-created searches), store and edit spatial and non-spatial

data, analyze spatial information output, and visually share the results of these operations by presenting them as maps.

Applications

Land Use Mapping: Remote sensing statistics is beneficial in acquiring up to date land use sample of big regions at any given time and additionally reveal adjustments that arise from time to time. It may be used for updating street maps, asphalt conditions, and wetland delineation.

Weather Forecasting: Remote sensing has improved weather forecasts, showing wind movement and atmospheric temperature obtained from space.

Environmental Study: It is used to observe deforestation, degradation of fertile lands; pollutants in atmosphere, desertification, eutrophication and oil spillage from oil tankers.

Study of Natural hazards: Remote sensing may be used to take a look at damages as a result of earthquakes, volcanoes, landslides, floods and melting of ice in Polar Regions.

Resource exploration: Remote sensing is beneficial for updating present geological maps, fast practice of lineament and tectonic maps, figuring out the web sites for quarrying the minerals and beneficial in finding fossil gasoline deposits.

GIS applications: The GIS is used to look at geologic features, examine soils and strata, investigate seismic facts, and or create 3 dimensional (3D) presentations of geographic features. GIS may be extensively utilized to investigate rock facts traits and figuring out the excellent dam web page location.

IMPORTANCE

All these remote sensing and GIS systems play a prominent role. A properly-evolved GIS machine is used to defend the environment. It has emerged as an integrated, properly evolved and a success device in catastrophe control and mitigation. Remote sensing helps people acquire information about the Earth. It is thus essential to hazard assessment as well as the monitoring of land degradation and conservation.