

Sensors

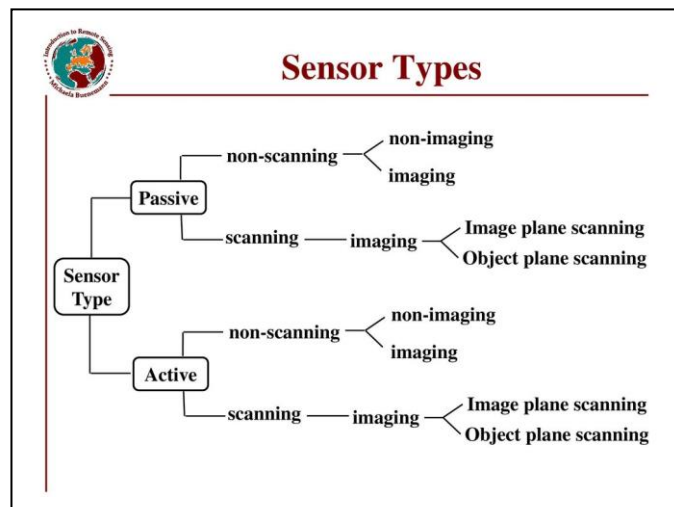
Praveen Kumar, *Department of Geography*

Introduction:

Sensor is a device that gathers energy (EMR or other), converts it into a signal and presents it in a form suitable for obtaining information about the target under investigation. According to Jensen (2000), remote sensors are mechanical devices, which collect information, usually in storable form, about objects or scenes, while being at some distance from them. Sensors used for remote sensing can be either those operating in Optical Infrared (OIR) region or those operating in the microwave region. Depending on the source of energy, sensors are categorized as active or passive:

Electromagnetic energy from the sun in the form of reflected energy from the earth and the energy emitted energy by the earth are measured and recorded to derive information for identification of surface features and their characteristics. There is a variation in the measured values of energy as it is dependent on the physical, chemical and biological characteristics of the features. Sensors placed on either static or moving platform make the measurements of electromagnetic radiation. The sensor-platform combination is employed to obtain the characteristics of the resulting image data. Different types of sensors are available for different applications. Aircrafts and satellites are used as platform to platform to carry one or more sensors.

Classification of Sensors:



Sensors can be classified on the basis of source of energy. The sensors which depend on external source of energy, usually the sun are known as Passive Sensors, While the sensors which have their own source of energy are known as Active Sensors. A normal photographic camera is one of the oldest sensors. Under good illumination operating conditions when flash is not used, the camera behaves as a passive sensor. However, when the camera operates under poor illumination condition using a flash, it becomes an active sensor.

In order for a sensor to collect and record reflected or emitted energy from Earth surface, it is placed on a stable platform away from the surface being observed. The platform may be ground based, airborne, or space – borne.