

History of Remote Sensing:-

Question. Give a brief account of the History of Remote sensing?

Answer--:Remote sensing means the collection of information about an object without being a physical contact with the objects. It is accomplished with the help of a camera or a scanner carried on board a satellite or an aircraft.

History--:Aerial photography represents the original form of two Scanning system and is widely used even today. As early as 1840, Arago director of Paris observatory, advocated the use of photography for topographic surveying. The first known aerial photography was taken from a balloon in 1858 by a Parisian photographer Gaspard Felix and aircraft received higher-end attention in the interest of military reconnaissance during world war I.

Remote Sensing space received its first impetus through Remote sensing from Rockets. The initial efforts aimed at imaging the earth surface from space were rather incidental outgrowth of the development of meteorological satellite with the launching of first meteorological satellite "TIROS(Television Infrared Observation satellite)" in April 1960.

The use of satellite observed data, specially those obtained through scanners has been on the increase at a phenomenal rate. A real breakthrough in the field of remote sensing was achieved with the launching of a series of environmental satellite called Landsat by the National Aeronautics and Space Administration (NASA), USA, beginning with the Landsat-I on July 23, In 1972, followed by Landsat II, Landsat-III, Landsat-IV, Landsat-V, with in the years of 1975,1978,1982 and 1984 respectively. Landsat V circles around the earth at an orbital height of about 705 Km passing over each place on the earth surface every 16 days. This satellite carries a four band Multi- Spectral Scanner (MSS) that operates in the visible and near infrared 7 Region of Electromagnetic Spectral and 7 channel thematic mapper(TM) that operates in the visible, near infrared and thermal region of the Spectrum. The MSS has a ground resolution of 79 mtrs and the TM has 30 mtrs. Ground resolution

indicates the minimum separation between objects that a particular sensor requires to detect them and distinct and separate initiates. The satellite acquires data continuously and is transmitted to a ground station in the form of electronic signals to be recorded on magnetic tabs in digital format. As the scanner data are directly recorded as digital values on magnetic tabs. These are amenable to analysis through computer base image processing techniques.

The French Satellite Spot-I, Launched in 1986, has a spatial resolution of 10 mtrs in panchromatic mode and 20 mtrs in Multispectral Mode.

In the International Scanner one of the important resource is the propose mission to plant earth of NASA, USA. The Japanese future remote sensing programs include the ADIOS-1 or 2 which will carry sensors for the ocean land and atmospheric studies. One of the most advance sensor beyond 2000 will be Japan's Advance Land Observing System Which will Contain a ten mtrs multispectral and panchromatic camera with 2.5 mtr resolution. Already launch ERS-1 And 2 Satellite carrying micro wave sensor Specially Synthetic Aperature Radar(SAR) of European Space agency are important contribution to remote sensing . Future ESA remote Sensing will have 2 types of satellite, ENVISAT looks for the environment and METORS for meteorological observation. The future France satellite SPOT-4 proposed to be launched in 1997 will have an additional spectral band in the range of 1.552-17 nm compare to already SPOT 1,2,3. SPOT-5 which is planted along 29005 may have 10 mtrs multispectral capability and panchromatic camera with 5 mtr resolution.