RS notebook

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Preface

This is a Quarto book.

To learn more about Quarto books visit https://quarto.org/docs/books.

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1 Introduction to Remote Sensing

This week is about basic of Reomote Sensing. It is about "What is reomote sensing?" and about "how it works".

1.0.1 What is remote sensing?

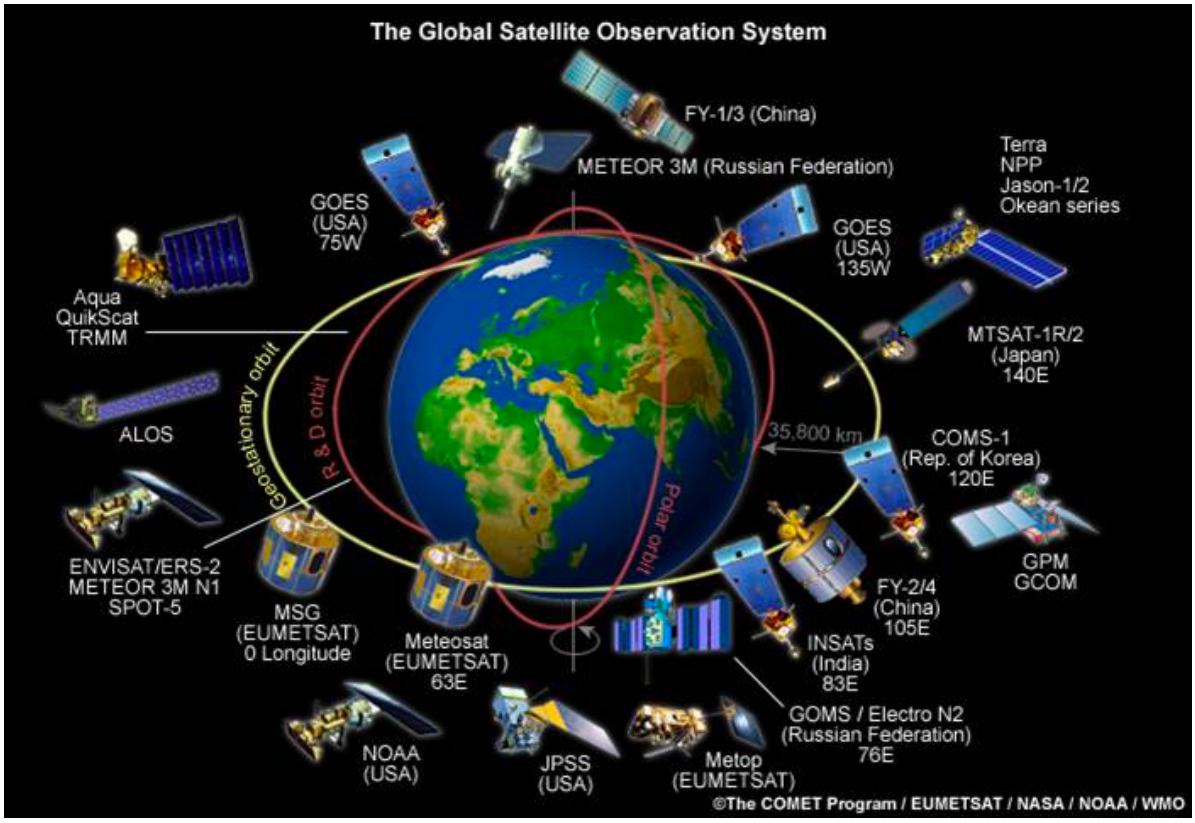
NASA defines remote sensing as **acquiring information from a distance**

Remote sensing is a technology that obtains information from a distance without contact with the observed object. It uses electromagnetic waves reflected or emitted from objects to investigate the components, types, and states of objects. In the case of ocean remote sensing, ocean currents can be estimated by measuring water temperature with an infrared sensor of an artificial satellite, the structure of upwelling or eddies can be identified, and the ocean circulation structure can also be understood. In the case of meteorological remote sensing, cloud temperature, classification, dust, ozone content, wind speed, etc. can be observed. Remote sensing is also used to monitor glacier and volcanic activity, and to study abnormal climate caused by El Niño.

1.0.2 Type of sensors

When we use Remote sensing we have to collet data by various of sensors. We can collect data by

- Satellites
- Phones(aerial imagery)
- Drones
- Phones
- Free standing on the ground or sea



Source for this image https://www.industrytap.com/remote-sensing-sustainable-land-use/33218

1.0.3 Two types of remote sensing sensors

There are two Type of sensors; Passive sensors and Active sensors. Let's see more specifically.

1.0.4 Passive sensors

This sensors don't emit anytning and use energy that is available. And they detecting reflected energy(in electromagnetic waves) from the sun. For example, human eye, camera and satellite sonsor.

1.0.5 Active sensors

This type of sensors have an energy source for illumination and actively emits electormagnetic waves and then waits to receive. Electromagnetic radiation propagates as waves. So we can