## GOES Satellites

- **There are several different types of satellites, but the one most people are familiar with is the GOES satellite.**
    - **Stands for 'Geostationary Operational Environmental Satellite'.**
    - **Remain over the Earth at a fixed location.**

## Types of Satellite Images

- **There are three main types of satellite images: Visible, Infrared, and Water Vapor.**
- **Visible**
    - **Quite simply, it is a literal picture of the clouds that surround Earth. It would be the same picture as if you were looking at Earth from the Moon.**
    - **One of the major advantages is that it allows you to discern small-scale features that are important for forecasting (i.e. sea-breeze fronts).**
    - **Visible satellites have one major disadvantage.**
        - **They can only be used if the part of the Earth you are analyzing is being lit by the Sun.**
- **Infrared**
    - **Measures the temperature of the heat emitted by the Earth's surface.**
    - **Computer processing transfers those temperatures into images resembling clouds.**
        - **Infrared satellites *cannot* take actual pictures of clouds.**
    - **Infrared satellites have a couple of advantages.**
        - **A major advantage is that it allows a meteorologist to analyze the temperatures of cloud tops. The colder the cloud top, the higher in the troposphere it is.**
        - **It can be used 24 hours a day.**
    - **It has one significant disadvantage.**
        - **It does not allow meteorologists to discern small-scale details.**
- **Water Vapor**
    - **Displays the amount of water vapor in the atmosphere.**
    - **Water vapor satellites have one major advantage.**
        - **Allows forecasters to diagnose the flow pattern of the upper atmosphere.**

**<u>Helpful Link</u>:**
**http://www.weather.gov/mrx/sattype**