NASA ARSET Webinar: Water Resources Management Using NASA Earth Science Data (2015)

Assignment 1: Fundamentals of Remote Sensing

1. The most useful platform for remote sensing of earth systems is a satellite.
   1. True
   2. False
2. Infrared, visible, and microwave frequencies or wavelengths refer to
   1. satellite sensors
   2. electromagnetic radiation
   3. satellite orbits
3. Healthy, green vegetation reflections radiation with the following wavelength:
   1. Blue
   2. Green
   3. Microwave
4. Precipitation can be derived by measuring microwave radiation emitted by water particles.
   1. True
   2. False
5. Radar flying on board a satellite is which type of sensor?
   1. An active sensor
   2. A passive sensor
6. A satellite usually carries one sensor.
   1. True
   2. False
7. List the type of satellite orbits:
8. A satellite would be in a \_\_\_\_\_\_\_\_\_\_ orbit if it provides measurements every hour at the same location.
   1. polar
   2. low earth
   3. geostationary
9. A satellite in a non-polar orbit cannot provide global coverage.
   1. True
   2. False
10. If a satellite is flying at 1500 km above the earth, it must be in a low Earth orbit.
    1. True
    2. False
11. The smallest spatial unit measured by a satellite sensor is:
    1. electromagnetic radiation
    2. a pixel
    3. an orbit
12. If a sensor is a ‘12-bit sensor’ this refers to its:
    1. radiometric resolution
    2. spatial resolution
    3. spectral resolution
13. Satellite data levels L1 and L3 generally have the same spatial/temporal resolutions.
    1. True
    2. False
14. This is the satellite data level that provides geolocated and calibrated geophysical data products at the highest resolution:
    1. L0
    2. L1
    3. L2
    4. L3
15. Satellite data provide better spatial coverage than ground-based measurements.
    1. True
    2. False