Introduction and Plan (Sue Estes)

1:00 – 1:15 pm

Fundamentals of Remote Sensing (Maury Estes)

1:15 – 2:30 pm

What is Remote Sensing?

Description, History

Principles of Radiation

Electromagnetic Spectrum, Radiation-Target Interactions

Spectral Signatures

Multispectral, Hyperspectral

Resolution

Radiometric, spectral, spatial, and temporal

Satellite Orbits

Data Types and Characteristics

Raster, Vector, Data Samples – MODIS and Landsat TM

Applications

Class Exercises and Discussion

2:30 Install Software for Class Use

3:00 Break

Hands-on Training (Mohammad Al-Hamdan)

3:00 – 4:45 pm

a. Acquire remotely sensed data sets
    i. MODIS Land Surface Temperature (LST) (1 km)
    ii. MODIS Land Cover Land Use (LCLU) (1 km)
    iii. Landsat-derived LCLU (30 m)
b. Intro to ArcGIS and MODIS Reprojection Tool (MRT)

c. Process remotely sensed data sets
    i. Process MODIS LST and LCLU data using MRT → Geotiff Grids
    ii. Import Geotiff grids into ArcGIS
d. Import a hypothetical public health data coverage into ArcGIS
e. Link environmental and hypothetical health data into ArcGIS
f. Intro to demonstration projects
    i. HELIX-Atlanta (Air Quality/Asthma)
    ii. REGARDS (LCLU/LST/Blood Pressure)
    iii. PHAIRS (Air Quality/Dust)
    iv. POLLEN (Air Quality)

Wrap-up and Adjourn (Sue Estes)

4:45 - 5:00