10 ITWCVP

GIS Training

Day 1

Introduction to QGIS

1. OBJECTIVE: Understand vector data
2. TASK: Familiarize with the QGIS Desktop Editor
   1. Open QGIS
   2. Take a tour of interface
      1. Cursor over each icon
      2. Open each menu
      3. Pull up Browser Panel and browse to where you have stored the data.
   3. Load Natural Earth 10m cultural political boundaries (ne\_10m\_admin\_0\_countries.shp)
3. TASK: Create vector data
   1. Create a polygon shapefile
      1. This can be done by navigating to *Layer* on main menu and selecting *Create Layer >> New Shapefile Layer* or by clicking the *New Shapefile Layer* side toolbar.
      2. Name the file: *ForecastSample.shp*
      3. Set Attributes
         1. Phenomena: Text: 80
         2. Confidence: Text: 6
         3. Start: Date (YYYY-mm-dd)
         4. End: Date (YYYY-mm-dd)
      4. Draw a couple of pretend forecast shapes
      5. Save edits
   2. Create Point and line shapefile
      1. Name the file: point.shp, line.shp
         1. Set attributes to be the same as above.
      2. Create a series of points near cities; lines near roads or rivers
      3. Save edits
4. TASK: Query attribute table
   1. Open Natural Earth 10m cultural political boundaries Attribute Table
      1. Notice different categories
      2. Query populations >10,000,000
      3. Query countries in Asia/Africa/South America/North America within selection
      4. Save selection as new shapefile
         1. Name: *continent.shp*
      5. Load in newly created shapefile.
5. OBJECTIVE: Understand coordinate reference systems (CRS)
6. TASKS:
   1. Open QGIS
   2. Load *ForecastSample.shp*
   3. Determine Projection information
   4. Reproject *ForecastSample.shp* to something different
   5. Open a world political map from Natural Earth
   6. Use Right Click, Set Project to Layer CRS to toggle between the projections
   7. What happens to the other layers?
7. OBJECTIVE: Find data online
8. TASKS:
   1. Open web browser
   2. Google for Weather/Climate data in GIS format (shapefile)
   3. Load newly discovered data into QGIS
   4. Load multiple datasets, toggle between layers