**VMSG *GIS for Geoscientists* Workshop 2021**

**Data Checklist for Exercise 1**

Below, you’ll find a list of file names that you will use in the first exercise (Session 2), grouped by file type. Each file also has a subsection describing what it is, where I got it from, and what steps we will use it in for Exercise #1.

**1. Vector**

All of these files are found under the “GIS\_Base\_Layer,” folder.

* **GISPORTAL\_GISOWNERS01\_ECUADORLEV3POPULATIONCENSUS10.shp**
  + Population census broken up into *parroquia* (parishes) across Ecuador. Provides geographic boundaries (polygon geometry) for each parish, with relevant demographic data summarized in columns with a common code. XML file provides key for these codes.
  + Downloaded directly from [GeoData@Tufts](https://geodata.tufts.edu/)
  + Use Case: Steps 3, 7-10
* **ecu\_popcensus.gpkg**
  + Re-projected, geoPackage version of the raw population dataset described above. This is the actual layer use in my calculations
  + Exported as a separate layer after editing GISPORTAL\_GISOWNERS01\_ECUADORLEV3POPULATIONCENSUS10.shp
  + Use Case: Steps 3, 7-10
* **ecuador\_country.gpkg**
  + Used in the Overview panel. Derived from GeoData @ Tufts country boundary file. Used in Step 10.
* **quito.gpkg**
  + Population census block covering boundary of Quito municipality. Also happens to be the population center we are most interested in + concerned about: “High Risk Zone,” due to a combination of lahars + 90 mm ash isopach. Derived from eco\_popcensus layer. Calculated in Step 8, Used in Steps 9 and 10.
* **affected\_area\_guagua\_pichincha.gpkg**
  + Population census blocks affected by both lahars and 90 mm ash isopach. Medium Risk Zone. Calculated in Step 8, Used in Step 9 and 10.
* **regional\_affected\_area.gpkg**
  + Population census blocks affected by only the 30 mm ash isopach. Low Risk Zone. Calculated in Step 8, Used in Step 9 and 10.

All the GISPORTAL shapefiles in the “GIS\_Base\_Layers,” file under “qgis,” in the GitHub download file can and should be viewed. **We will use some of these layers in future exercises, but we will not use them today.**

* GISPORTAL\_GISOWNER01\_ECUADORLEVEL3ADMIN12.shp
  + Parish boundaries
* GISPORTAL\_GISOWNER01\_ECUADORLEVEL2ADMIN12.shp
  + Country(?) boundaries
* GISPORTAL\_GISOWNER01\_ECUADORLEVEL1ADMIN12.shp
  + Province boundaries
* GISPORTAL\_GISOWNER01\_ECUADOR250KSUMMITS12.shp
  + Point vector layer representing named summits (e.g. mountaintops)
* GISPORTAL\_GISOWNER01\_ECUADOR250KRIVERS12.shp
  + This polygon dataset represents rivers in Ecuador digitized from 1:250,000 scale topographic maps.
* GISPORTAL\_GISOWNER01\_ECUADOR250KMINES12.shp
  + This point dataset represents mines in Ecuador digitized from 1:250,000 scale topographic maps.
* GISPORTAL\_GISOWNER01\_ECUADOR50KINDIGCOMM11.shp
  + This polygon dataset represents indigenous communities in Ecuador, usually with traditional construction methods created from 1:50,000 scale topographic maps..
* GISPORTAL\_GISOWNER01\_ECUADOR1MTOWNS08.shp
  + This point dataset represents towns and villages in Ecuador digitized from 1:1 million scale topographic maps.
* GISPORTAL\_GISOWNER01\_ECUADOR1MTORRENTRIVERS08.shp
  + This line dataset represents torrential rivers in Ecuador digitized from 1:1 million scale topographic maps.
* GISPORTAL\_GISOWNER01\_ECUADOR1MROADS11.shp
  + This line dataset represents roadways in Ecuador digitized from 1:1 million scale topographic maps.
* GISPORTAL\_GISOWNER01\_ECUADOR1MRAILROAD08.shp
  + This line dataset represents railways in Ecuador digitized from 1:1 million scale topographic maps.
* GISPORTAL\_GISOWNER01\_ECUADOR1MCOAST08.shp
  + This line dataset represents coastal borders in Ecuador digitized from 1:1 million scale topographic maps.
* GISPORTAL\_GISOWNER01\_ECUADOR1MAIRPORTS08.shp
  + This point dataset represents airports in Ecuador digitized from 1:1 million scale topographic maps.

**2. Raster**

These files are found under either the “Geology” or “DEM” subfolders

* **GP\_Hazard\_Map.jpg**
  + Un-georeferenced geological map that we use to extract relevant hazard information to inform our risk assessment. Extracted from Telenchana (2019) - Poster\_MGGP\_ISAG.pdf. Used in Steps 5, 6, 8-10.
* **Hazard\_map\_georef\_tps.tif**
  + Georeferenced version of GP\_Hazard\_Map.jpg. Errors given in similarly named error report PDF. Used in Steps 6, 8-10
* **dem\_hillshade.tif**
  + Hillshade symbolized a version of the 1-arc second SRTM elevation datasets I downloaded from USGS EarthExplorer. I pre-processed these (see Friday’s lecture) layers after downloading to make them more visually appealing and accurate. Used in Steps 4, 9, 10
* **dem\_merged.tif**
  + Pseudocolor symbolized version of the 1-arc second SRTM elevation datasets I downloaded from USGS EarthExplorer. I pre-processed these (see Friday’s lecture) layers after downloading to make them more visually appealing and accurate. Used in Steps 4, 9, 10