Puja Roy   2/10/22

CET 4900 - OL60

Internship Journal Entry #3

Throughout this week, I completed NOAA's Center Wide Core Competency (CWCC) research training for my internship. Since my internship is also based on Geographic Information Systems (GIS), I had to complete 3 projects by familiarizing and utilizing GIS tools such as QGIS and ArcGIS. A Geographic Information System is a type of database that stores geographic data and is comprised of software tools to analyze and visualize data. As shown below in Fig 1, QGIS is an application that allows to view, create, and analyze geospatial data. Similarly shown below in Fig 2, ArcGIS is an online geographic information system utilized for developing maps and analyzing geospatial data stored on the cloud.
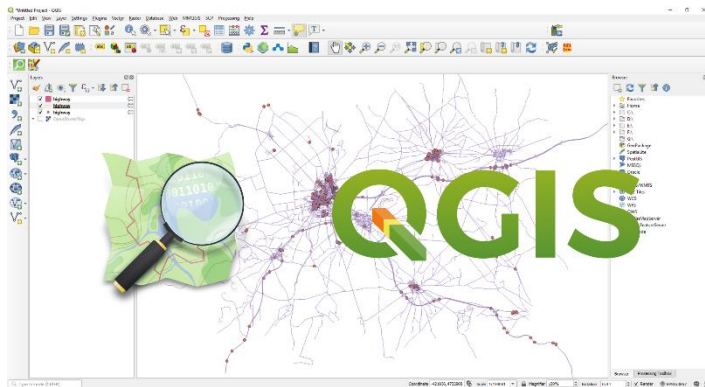

Figure 1 - QGIS Geographic Information System software

Figure 2 – AcrGIS command line-based Geographic Information System

The first GIS project that I worked on shown to the right in Fig 3, was creating a global carbon dioxide (CO2) map based on CO2 Emission data in an Excel file and leveraging a global shapefile template. The purpose of this project is to successfully process and import data to ArcMap in QGIS. I followed the methodology of joining the Excel data to the shapefile by utilizing Landscape page setup and proper color ramps to display CO2 emissions from countries around the
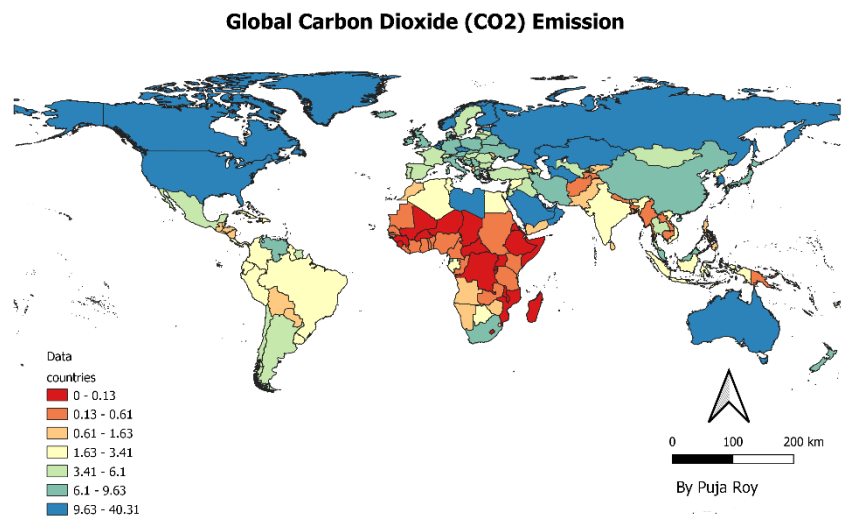

Figure 3 – Project 1: Global Carbon Dioxide (CO2) Emission

world. As shown below in Fig 4, the second project that I worked on was creating a contiguous USA map that compares total carbon dioxide emissions (per capita) and total energy consumed per capita (million Btu) for year 2014 using graduated symbols and colors. As shown below in Fig 5, the third project that I worked on was creating a map displaying Volcanos across the world based on Latitude and Longitude data. The methodology that I had to follow was adding layer to add delimited text layer.

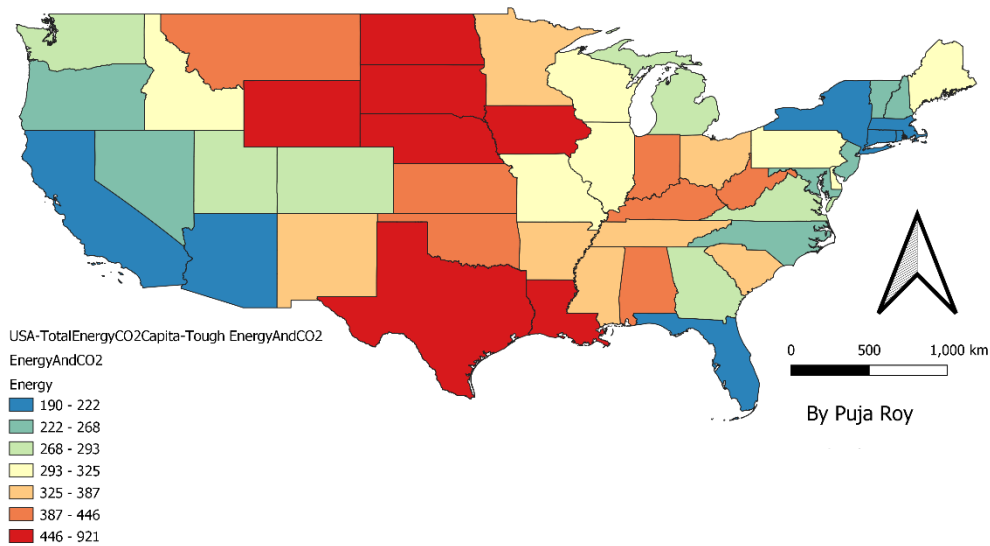**Total Carbon Dioxide Emissions (per capita) & Total Energy Consumed per Capita in 2014**

Figure 4 – Project 2: Total Carbon Dioxide Emissions (per capita) and Total Energy Consumed per Capita in 2014

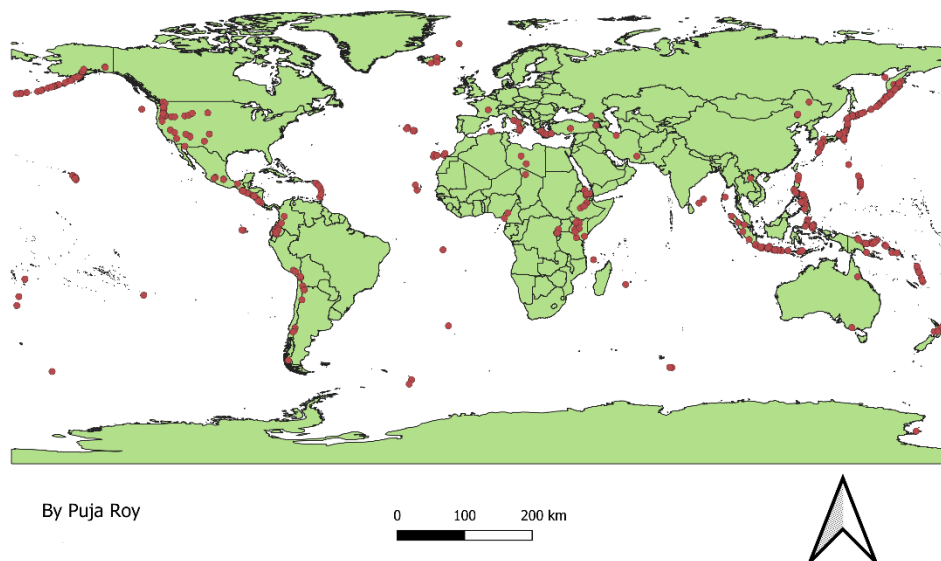**Longitude & Latitude of the World's Volcanoes**

Figure 5 – Project 3: Longitude & Latitude of the World's Volcanoes