ISTE 782: Visual Analytics

Assignment 5

Due date: November 26, 2024, 3:30 PM

Background:

Earthquakes are a persistent global hazard. In this assignment, you will import earthquake data into QGIS and conduct a space/time analysis of earthquake activity around the world over the past 30 days.

Instructions:

1. Download a CSV of the Past 30 Days, M2.5+ Earthquakes
https://earthquake.usgs.gov/earthquakes/feed/v1.0/csv.php

2. Import your CSV into QGIS as a layer.

3. Based upon the distribution of the earthquake magnitudes, categorize the magnitudes into at least 3 separate categories, where the symbology of each category is unique and reflective of the meaning of the earthquake's magnitude category.
https://www.qgistutorials.com/en/docs/3/basic_vector_styling.html

4. Add a base map to provide context for your data. Your base map should have city/country names visible in it.

5. Add one or more of the Assignment 5 datasets (in Assignment_5_data_sets.zip) to support your analysis. For example, to show world population by country, potential earthquake impacts on roads, and so on.

6. Make a video showing earthquake activity over the past 30 days using the Temporal Controller to generate individual frames and the Python script that you used in the Activity 17 Exercise to combine the images into a video. Feel free to make use of any of the tutorials at https://www.qgistutorials.com/en/index.html to assist in your analysis.

Deliverables

1. The video you made in Step 6 showing your earthquake analysis.

2. A 250-300 word description of what you found interesting about your analysis of the earthquakes in space and time.

Extra credit

- (10 points) Add an audio track (or closed captioning) of the description you wrote for your video. If you do this, then only submit the video and not the description.