**Project 3**

In this project, you’ll analyse earthquake data to explore trends and understand patterns of seismic activity around the world.

This will be an opportunity for you to practice the following skills we’ve learnt so far:

* Exploring a data set to understand both the opportunities it presents as well as any limitations. Making sensible, justifiable decisions about how best to proceed with analysis when working with imperfect data.
* Creating a variety of visualisations to uncover insights
* Utilising breakdowns, groups, sets, filtering, pages and calculated metrics (where/ if relevant) to enhance your visualisations and findings
* Refining your visualisations to craft a clear and concise story for your audience
* Bringing a variety of visualizations together in a dashboard and/or storypoints to convey a coherent narrative

**Deliverable**

Your final deliverable will be a series of visualisations displayed in either a dashboard or storypoints that conveys your findings relating to worldwide earthquakes.

Please also include brief notes on any limitations or shortcomings of the data, assumptions, as well as recommended next steps for analysis and/or research.

### Process

Step One: Exploratory Analysis

* Familiarise yourself with the dataset by making a few high level visualisations and/or examining the raw data.
* Consider: Could there be any pattern/s of inconsistency, inaccuracy or incompleteness within the data? Will these patterns have changed over time? How can you adjust your approach to the analysis to account for this?

Step Two: Creation of Visualisations

Create visualisations to show:

* Location of earthquakes around the world
* Total earthquakes over time (use a date range based on your judgement)
* Significant earthquakes over time. Include an editable slide filter for magnitude.
* An overview of the share of earthquakes by their size and/ or impact
* Any other visualisations of your choosing that provide an overview or insight into seismic activity.

Step Three: Summary and Presentation

* Pull a selection of your key visualisations into a Tableau Dashboard or ‘Story’ and add appropriate commentary to explain your findings.
* Using what you know about earthquakes and the dataset, create hypotheses or theories to explain any patterns or findings you have uncovered
* Create recommendations for further research and/or analysis
* Note any assumptions and/or limitations

**Bonus (Not graded)**

* Consider: How could you utilise a calculated field to add value to your analysis? Create your proposed calculated field and utilise it in a visualisation.
* Use the ‘custom split’ functionality on the data source tab to extract country name from the full location name. Use the new field in a visualisation. Consider any limitations of this new field and how you might (theoretically) manage or overcome these.
* Ask a classmate to review your visualisations for feedback (and don’t forget to return the favour!). Consider: Are there any opportunities for further refinement, enhancement or further analysis?

### 

### Rubric

Instructors will evaluate student skill based on the following rubric:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Incomplete (0)** | **Doesn’t Meet Expectations (1)** | **Meets Expectations (2)** | **Exceeds Expectations (3)** |
| **Findings and insights**   1. Summary of high level data exploration 2. Analysis of data 3. Interpretation of analysis 4. Description of findings/ insights 5. Organisation and format |  |  |  |  |
| **Overview of limitations, assumptions and recommended next steps**   1. Recommendations for further analysis/ research 2. Presentation of limitations and assumptions 3. Identification of follow-up problems and future questions (if applicable) |  |  |  |  |

You must receive a score of at least Meets Expectations in all categories to pass this project.