EARTH·ORG

Data Scientist Internship GIS Assessment

PURPOSE OF THE ASSIGNMENT: to assess your problem-solving skills and introduce you to GIS.

YOU HAVE 48 HOURS TO COMPLETE THE ASSIGNMENT.

<u>Please provide the answers and explain how you obtain the answers, you are welcome to provide screenshots as evidence. If you find difficulty in answering any questions, please do as much as you can and still submit your product.</u>

Please download QGIS: https://qgis.org/en/site/forusers/download.html
(You can use other GIS software or any programming language of your preference)

Datasets for this assessment:
Please download the following datasets for the assessment:
- US 50 states + DC shapefile
  http://www.arcgis.com/home/item.html?id=f7f805eb65eb4ab787a0a3e1116ca7e5
- Oil spill dataset (preprocessed) : please find attached in the email you received.

Exercise 1

- ❖ Import the datasets
- ❖ Create two different maps based on the available attributes (you can apply thresholds, create different groups, please indicate the methods and principles if you do so), save the maps as images and show also the symbology you applied

Exercise 2

- ❖ Determine the number of incidents that occurred within/on the US states/ boundary
- ❖ Determine the number of incidents that occurred within/on Texas
- ❖ Identify the state with the more than 50 incidents, report the state name and the number respectively

Exercise 3

- ❖ Identify the pair of incident nearest-neighbours that has the longest distance, indicate also the distance, while the incidents occurred within/on the US states/ boundary (The nearest-neighbour is the one incident that is closest to the subject incident than any other incidents; The two events that are the furthest apart while there is no other event that can have a shorter distance with the subject incident)
- ❖ As an additional task, feel free to perform any operation with this dataset. Try to be creative but do not put too much pressure on yourself to make something amazing! Map-based visualizations are encouraged (anything interactive is a big plus).