Final Project Proposal
Rui Xie

Historical County Flood Impact in America

ABOUT THE PROJECT

This project will show how floods have impacted each state in America from 1996 to 2016.

DESCRIPTION

98% of U.S. counties impacted by a flooding event. This project is made to show people the historical flood impact in each county using data visualization technology. The website contains a map and a chart to display all the data. A map with different colors for each county shows the level of the frequency of flood impact. Users can select the state that they live at to see the floods frequency for each county in that state. Once the users click at one county, the map will show the total number of flooding event happened in that county in the last 10 years.

Below the map is a line chart that display the number of floods in each year. Once a user clicks a county in the map, the chart will change to show the specific historical flood impact in that county.

DATA SOURCE

All data used in this project comes from fema.gov (*https://www.fema.gov/media-library/assets/documents/130222*)

Since the data contains most county in America, it might be too large to load in JS Bin. If that happen, I will delete all the other data except the data for Iowa.

TECHNOLOGY

Bootstrap --- Front-end framework for faster and easier web development
GeoJSON --- Format for encoding a variety of geographic data structures
Leaflet --- JavaScript library for mobile-friendly interactive maps
Highcharts --- Interactive JavaScript charts for web pages.

CHALLENGES

First of all, I am not in computer related major. I have no previous experience about website developing before taking this class. The first challenge I met is the layout of the web page. I spent a long time to find out an easy way to create a clear web page which is using Bootstrap template. But I still have to understand the code in order to add map and chart to my website.

Secondly, Leaflet needs GeoJSON to generate the map with data. However, the raw data I found at fema.gov is .xlsx file. So I have to convert my .xlsx file to GeoJSON. Thirdly, I want to change the color of each county based on the the frequency of flood impact. I am still trying to understand the CSS for Leaflet.

At last, I still have to learn Highcharts to display the line chart below the map.