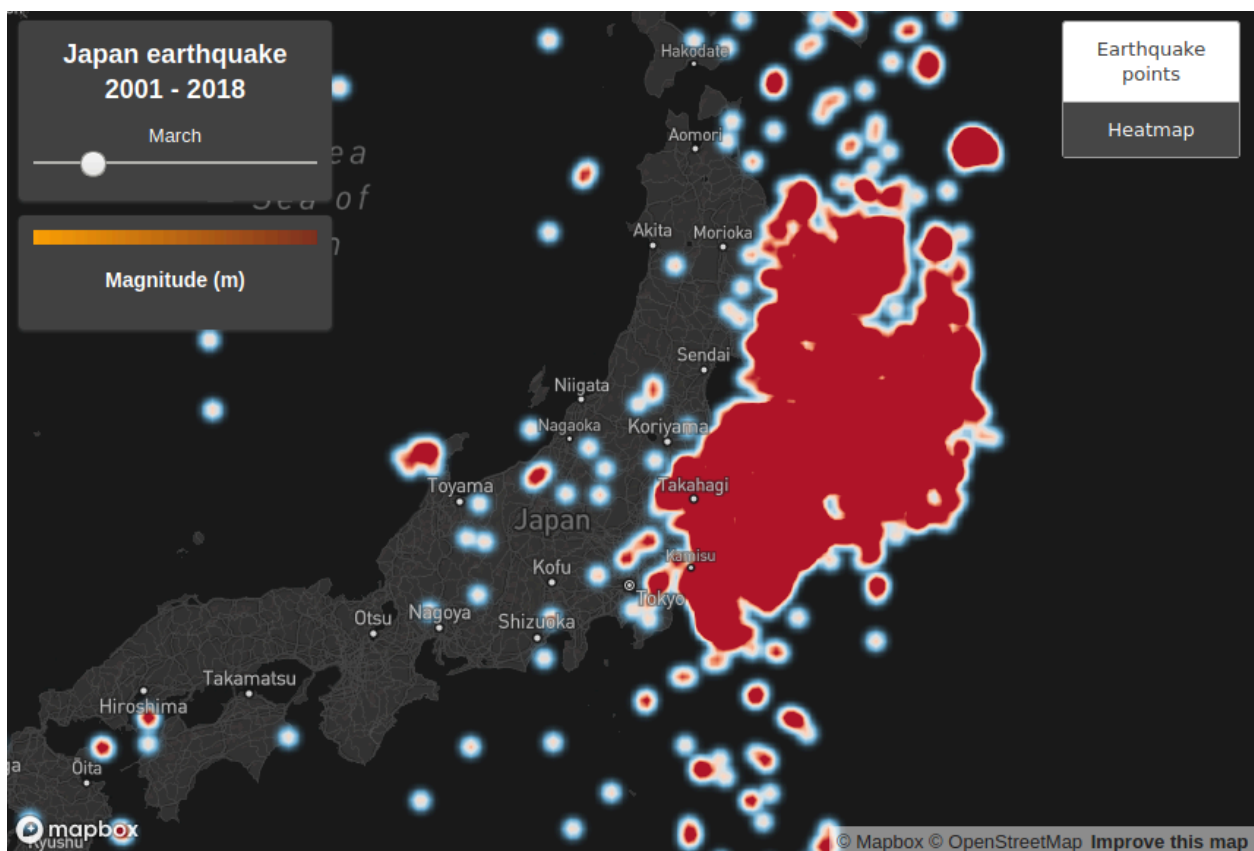


Creating Heat Maps

Creating Heatmaps with sliders using open data with Mapbox



Difficulty level ●○○○○ (Easy)

PREPARED BY

BABY AI LAB - M04-SC3

Prerequisites

1. TEXT editor (Need to edit HTML file). Some Text editors include:
 - ATOM by Github (<https://atom.io/>)
 - Microsoft Visual Code (<https://code.visualstudio.com/>)
 - Notepad, TextEditor, etc..
2. Mapbox Account
 - Register here : (<https://account.mapbox.com/auth/signup/>). After you created an account it generate a token and copy the Public Key as seen in below picture:

Access tokens

[+ Create a token](#)

You need an API access token to configure [Mapbox GL JS](#), [Mobile](#), and [Mapbox web services](#) like routing and geocoding. Read more about [API access tokens](#) in our documentation.

Default public token

[Refresh](#)

pk.eyJ1Ijoic2hhaHVkIiwiaWYiOiI6ImNrMHZ4MjNsbDAXZ3IzZ29kdzdoamdGUiFQ.0vvv6e3tJd9gS8ZbCq2Vpw



Last modified: 5 months ago
URLs: N/A

3. Dataset (Japan Earthquake dataset) : Download here : (
<https://dl.dropboxusercontent.com/s/kvj9u5k9tn20091/japanearthquakes.geojson>
)

Must see Resources

1. Mapbox Tutorials example for **Heatmap** - (<https://docs.mapbox.com/mapbox-gl-js/example/heatmap-layer/>)
Please refer to this document as it contains the source code we will use to create the heatmap
2. Mapbox Tutorials example for **Slider** - (<https://docs.mapbox.com/mapbox-gl-js/example/timeline-animation/>)
Please refer to this document as it contains the source code we will use to create the Slider.
3. **D3 Tutorial** - (<https://github.com/d3/d3/wiki>)
Refer to the D3 tutorial as you will need it for Fetching the data from the dropbox location.)
4. **Sample HTML** - (<https://pastecode.xyz/view/9ad56743>)
Download this Sample HTML code if you need help to get started!

Procedure

Open up the text editor and copy the code from Resource #4 in to the editor. Go through the code

1. Connecting to Mapbox API

First of all we have to connect to the Mapbox API. For this, goto your Mapbox account and copy the public key (If no key is there create a new token). Paste the code into the *mapboxgl.accessToken* as shown below.

Before:

```
mapboxgl.accessToken = '*** Insert public key here ***';
```

After:

```
mapboxgl.accessToken = 'pk.eyJ1Ijoic2hhaHVkIiwiaSI6ImNrMHZ4MjNsbDaxZ3IzZ29kdzdoamdpcGUifQ.0vvv6e3tJd9gS8ZbCq2Vpw';
```

2. Initiating Mapbox

```
var map = new mapboxgl.Map({  
  container: 'map',  
  style: 'mapbox://styles/mapbox/dark-v10',  
  center: [139.7563139, 37.5410332],  
  zoom: 5  
});
```

A style is a JSON document that conforms to the Mapbox Style Specification. The style specification is designed especially for Mapbox GL JS (browser) and the Mapbox mobile SDKs (mobile) to read and understand so your map can be rendered on the page. The style controls almost everything about the map.

This variable contains how you want to load the map to be displayed in the webpage. You can pick from many different styles available from the mapbox website. For this tutorial, we will use the dark-v10 theme of style. Since we are dealing with a heatmap about Japan, you can get the coordinates of Japan online. Also pick a zoom level that looks the best.

You can make your own style from (<https://docs.mapbox.com/studio-manual/reference/styles/>)

3. Connecting to Dataset

There are two methods to do this. Connecting to an online link to the dataset or connecting to the dataset which is located locally in your computer.

For this tutorial, we will connect to the dataset hosted in Dropbox.com

Before:

```
map.on('load', function () {  
  
    d3.json(  
        '***LINK HERE ***',  
        function (err, data) {  
            if (err) throw err;  
        })  
})
```

After:

```
map.on('load', function () {  
  
    d3.json(  
        'https://dl.dropboxusercontent.com/s/kvj9u5k9tn20091/japanearthquakes.geojson',  
        function (err, data) {  
            if (err) throw err;  
        })  
})
```

If you want to use the dataset hosted in your computer, get the local address where the file is located and paste it as a link.

4. Connecting Layers to Slider Button

Since this Visualization contains two buttons, “Earthquake points” and “Heatmap”, we have to link the buttons to the respective layer that we want to be shown when it is clicked.

From the layers we added to the map, we collect all the ‘id’s of those layers and paste them as id1, id2, id3, id4

Before:

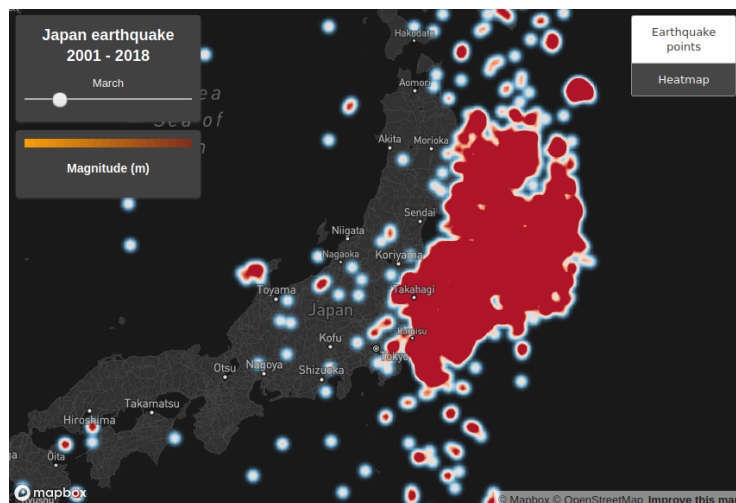
```
//whatever layers you want to toggle go in to this function
//Button 1
toggleLayer(['** id1 **', '** id2 **'], 'Earthquake points');
//Button 2
toggleLayer(['** id3 **', '** id4 **'], 'Heatmap');
```

After:

```
//whatever layers you want to toggle go in to this function
toggleLayer(['earthquake-labels', 'earthquake-circles'], 'Earthquake points');
toggleLayer(['earthquakes-heat', 'earthquakes-point'], 'Heatmap');
```

Click any button to load the data.

That's it! The heatmap and slider should be working now. :)



Full Solution

- Fully completed version Download: <https://jsfiddle.net/shahud/z4kt2dw5>

References

Mapbox : <https://docs.mapbox.com>

Dropbox: <https://dropbox.com>

D3: <https://d3js.org>

Jsfiddle: <https://jsfiddle.net>