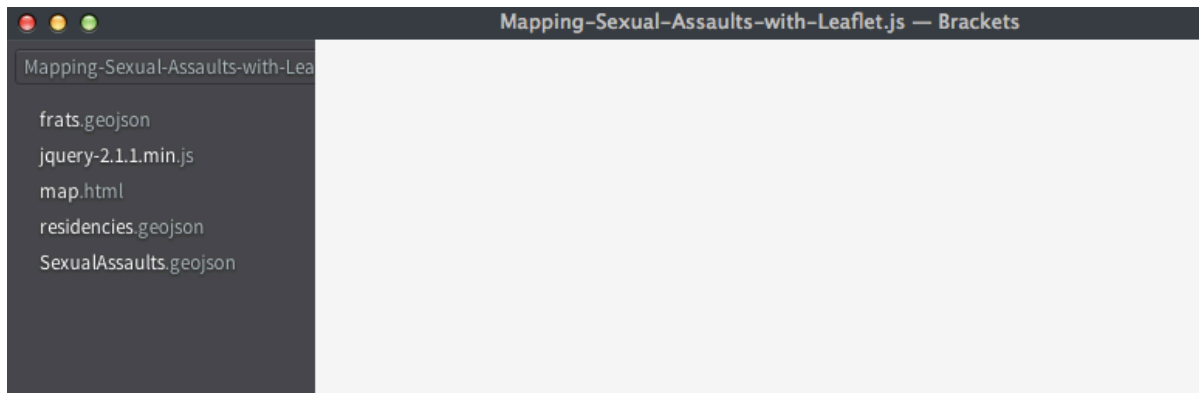


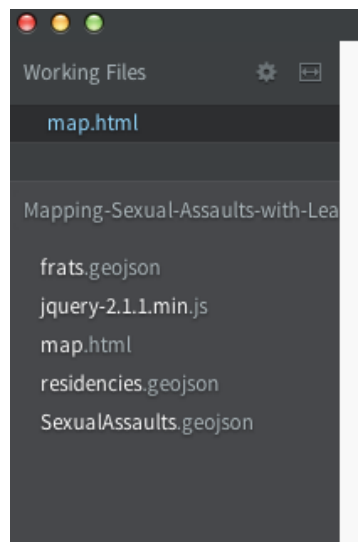
Maptime State College: April 2016

Learning Leaflet: Mapping Sexual Assaults in State College

1. Start by downloading a text editor. We suggest [Brackets](#) because it allows you to host your own server without going through any extra steps
2. Make a folder in a good place like your C:// drive or in your Documents folder and name it something like “Leaflet”. Make sure to avoid using spaces.
3. You will need to download a few things for this tutorial. They are all available [here](#).
 - a. jQuery: this JavaScript library allows us to integrate our GeoJSON file with our sexual assault data into the map
 - b. Sexual Assaults, Frats, and Residence Halls GeoJSON files
4. Open Brackets. Then go to File-> Open Folder and find your “Leaflet” folder. Everything (the jquery, geojson files, and html page) should be in one folder and now should show up on the left pane of Brackets.



5. Double click the map.html file. It will now show up under “Working Files”. Right now it is empty. Don’t worry. We’ll add some code right now.



Let's Make a Map!

6. In Brackets in your map.html page, copy and paste the following:

```
<html>
  <head>
    <title>A State College Map</title>
    <link rel="stylesheet" href="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.css"/>
    <script src="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.js"></script>
    <style>
      #map{ height: 100% }
    </style>
  </head>
  <body>

    <div id="map"></div>

  <script>
    // initialize the map
    var map = L.map('map').setView([40.79, -77.86], 13);

    // load the base map
    OpenStreetMap_BlackAndWhite = L.tileLayer('http://{s}.tiles.wmflabs.org/bw-
    mapnik/{z}/{x}/{y}.png', {
      maxZoom: 18,
      attribution: '&copy; <a
      href="http://www.openstreetmap.org/copyright">OpenStreetMap</a>'
    }).addTo(map);
  </script>
</body>
</html>
```

7. To view your map, click on the “Live Preview” button after you have **saved**. If you make changes and then want to view the update, make sure to **save**, and then hit **refresh** on the browser window.



8. Now take a few minutes to play around with the code. Here you will see you have the opportunity to change things like the **title** of the map, the **coordinates** that center the map, and the **basemap**. However, if you feel so inclined you can change the basemap by using one of the options [here](#).

Let's add some points!

9. Now that we have our map of State College, it's time to add some data. To do this, we're going to add two simple things to our code: a call to the jQuery library and the load function to add GeoJSON files to our map. **The new code to add is highlighted in orange.** Just add it to your map!

```
<html>
<head>
  <title>A State College Map</title>
  <link rel="stylesheet" href="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.css"/>
  <script src="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.js"></script>
  <script src="jquery-2.1.1.min.js"></script>
  <style>
    #map{ height: 100% }
  </style>
</head>
<body>
  <div id="map"></div>
  <script>

    // initialize the map
    var map = L.map('map').setView([40.79, -77.86], 13);

    // load the base map
    OpenStreetMap_BlackAndWhite = L.tileLayer('http://{s}.tiles.wmflabs.org/bw-
    mapnik/{z}/{x}/{y}.png', {
      maxZoom: 18,
      attribution: '&copy; <a
      href="http://www.openstreetmap.org/copyright">OpenStreetMap</a>'
    }).addTo(map);

    // load GeoJSON from external files
    $.getJSON("residencies.geojson",function(resData){
      L.geoJson(resData).addTo(map);
    });

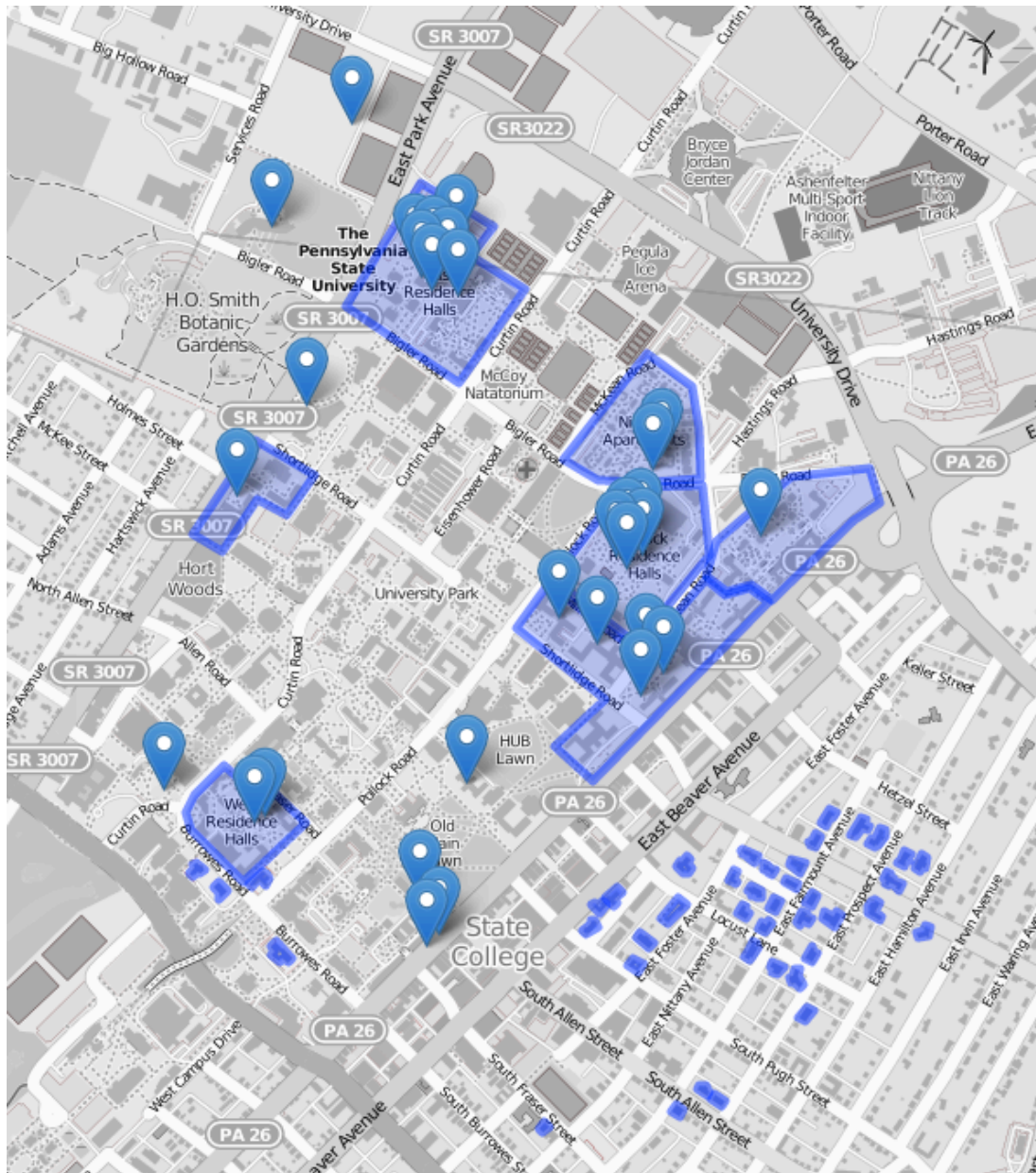
    $.getJSON("frats.geojson",function(fratData){
      L.geoJson(fratData).addTo(map);
    });

    // load GeoJSON from an external file
    $.getJSON("SexualAssaults.geojson",function(data){
      // add GeoJSON layer to the map once the file is loaded
      L.geoJson(data).addTo(map);
    });

  </script>
</body>
</html>
```

You're going to want to insert the jQuery information at the top of the document, below the Leaflet specific script. The GeoJSON data can be inserted below the base map information. Note that this loading function involves retrieving the data from where it is located on your computer, so it's important to keep the GeoJSON files in the same folder as your html file.

10. Once you've saved, refresh your page to see what your map looks like!



Add Popups!

11. It's easy to add popups to your map, so that when people click on the points they will get some information about the **Date** of the incident and the **Incident Number**

```
<html>
  <head>
    <title>A State College Map</title>
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    <script src="http://cdn.leafletjs.com/leaflet-0.7.3/leaflet.js"></script>
    <script src="jquery-2.1.1.min.js"></script>
    <style>
      #map{ height: 100% }
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  </head>
  <body>
    <div id="map"></div>
    <script>
      // initialize the map
      var map = L.map('map').setView([40.79, -77.86], 13);
      OpenStreetMap_BlackAndWhite = L.tileLayer('http://{s}.tiles.wmflabs.org/bw-
      mapnik/{z}/{x}/{y}.png', {
        maxZoom: 18,
        attribution: '&copy; <a
        href="http://www.openstreetmap.org/copyright">OpenStreetMap</a>'
      }).addTo(map);

      // load GeoJSON from external files
      $.getJSON("residencies.geojson",function(resData){
        L.geoJson(resData).addTo(map);
      });

      $.getJSON("frats.geojson",function(fratData){
        L.geoJson(fratData).addTo(map);
      });

      $.getJSON("SexualAssaults.geojson",function(data){
        // add GeoJSON layer to the map once the file is loaded
        L.geoJson(data, {
          onEachFeature : function(feature,layer) {
            var popupContent = "Incident #: " + feature.properties.IncidenNum + '<br>' +
              "Date: " + feature.properties.Date;
            layer.bindPopup(popupContent);
          }
        }).addTo(map);
      });
    </script>
  </body>
</html>
```

12. Save again and refresh. See what your map can do now! Try clicking on the marker symbols.

13. There are lots of things you can do with Leaflet, hopefully now you know some of the basics.

Here are some links that might be helpful:

1. Another Maptimes tutorial. This one goes into a little more depth than we did here: <http://maptimesboston.github.io/leaflet-intro/>
2. The Leaflet documentation: <http://leafletjs.com/>
3. To try out different basemaps, copy the code and integrate it with yours! <http://leaflet-extras.github.io/leaflet-providers/preview/>