GIS for Designers
VT | A+D | SU22

TUTORIAL 8 | MAPBOX SCROLLYTELLING TEMPLATE

Zoom: **Wednesday 06.22, 6:30-7:30pm**
https://virginiatech.zoom.us/j/2981092726

Intro

In this week's tutorial you'll upload your Map Assignment 3 research layers from QGIS to Mapbox, adjust the style of your basemap to match, and then put your new map into the Mapbox scrollytelling template.

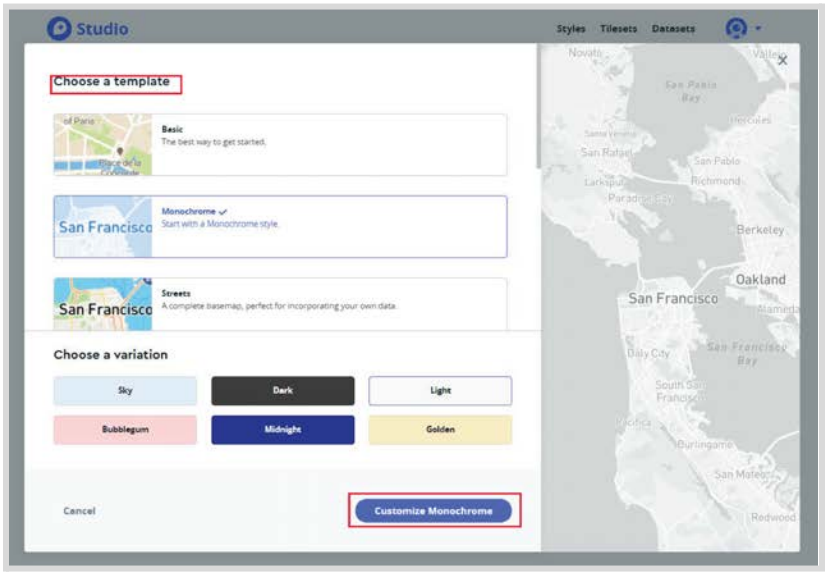
Before you start this tutorial, please first check out this page for more information on the Mapbox template:
https://demos.mapbox.com/scrollytelling/

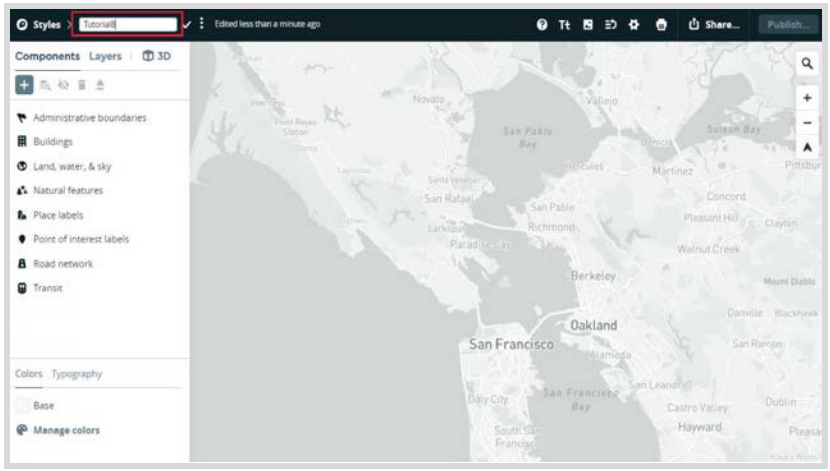
For a refresher on how to upload layers to Mapbox, please scroll back through Tutorials 6 & 7.

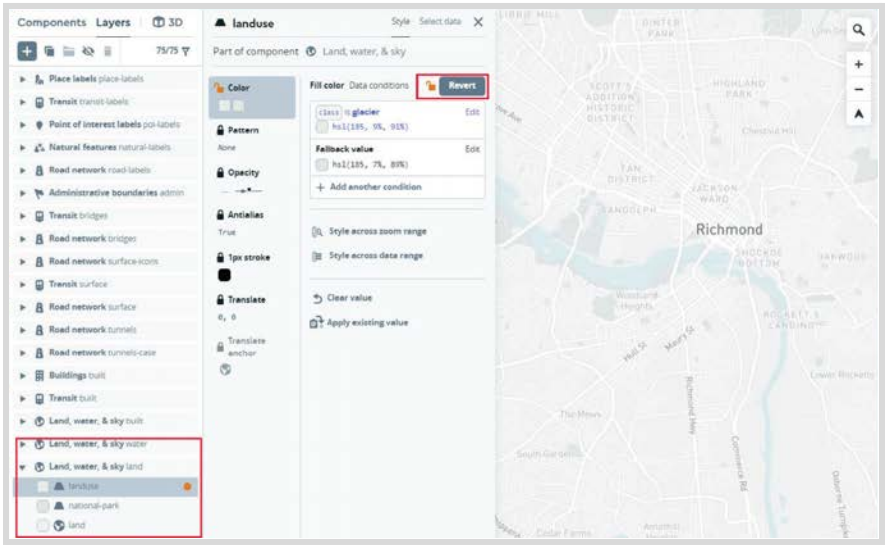
> **Note: throughout this tutorial keep in mind that it can take Mapbox a while to update!! This means that your published changes might not be visible for several minutes.**

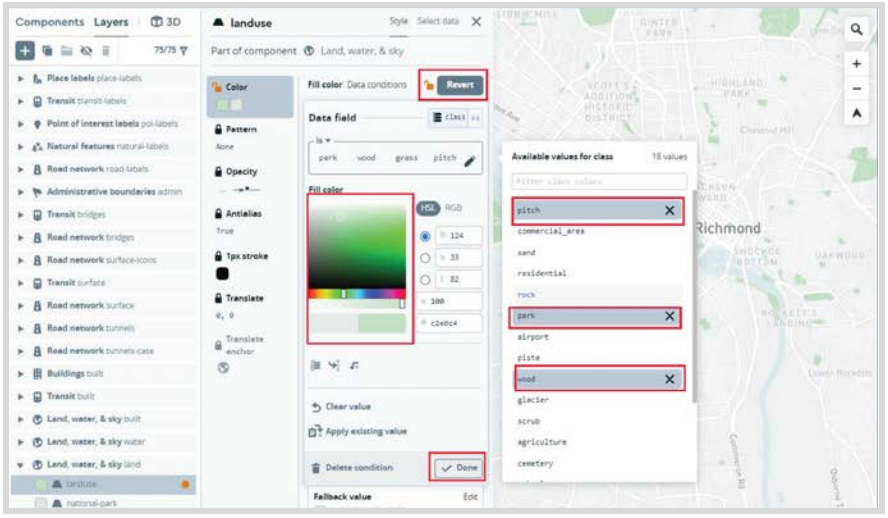
Step 1: Upload your layers to a new Mapbox style

First, create a new Mapbox Style (basemap) to display your data. Either start with a blank map like we did before, or start with a template:




Styles
Tutorial8
Edited less than a minute ago
Share...
Publish...
Components
Layers
3D
Administrative boundaries
Buildings
Land, water, & sky
Natural features
Place labels
Point of interest labels
Road network
Transit
Colors
Typography
Base
Manage colors
Novato
Vallejo
San Pablo Bay
Suisun Bay
Martinez
Concord
San Rafael
San Pablo
Richmond
Pleasant Hill
Clayton
Walnut Creek
Berkeley
Mount Diablo
Oakland
San Francisco
Alameda
San Ramon
San Leandro
Daly City
Castro Valley
Dublin
Hayward


Components
Layers
3D
landuse
Style
Select data
Part of component
Land, water, & sky
Color
Pattern
Opacity
Antialias
1px stroke
Translate
Fill color
Data conditions
Revert
Add another condition
Style across zoom range
Style across data range
Clear value
Apply existing value
Richmond


Components
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Select data
Part of component
Land, water, & sky
Color
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Data field
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wood
grass
pitch
Clear value
Apply existing value
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Available values for class
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rock
park
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piste
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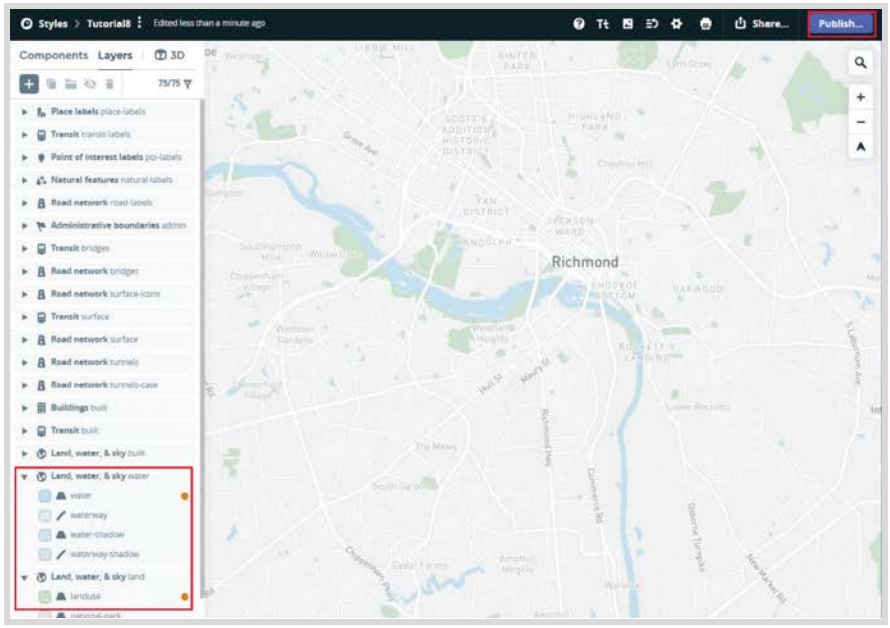
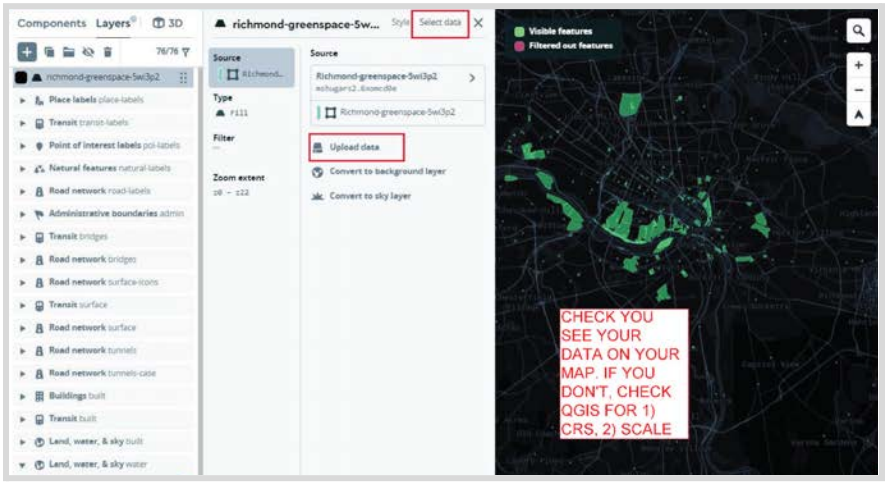
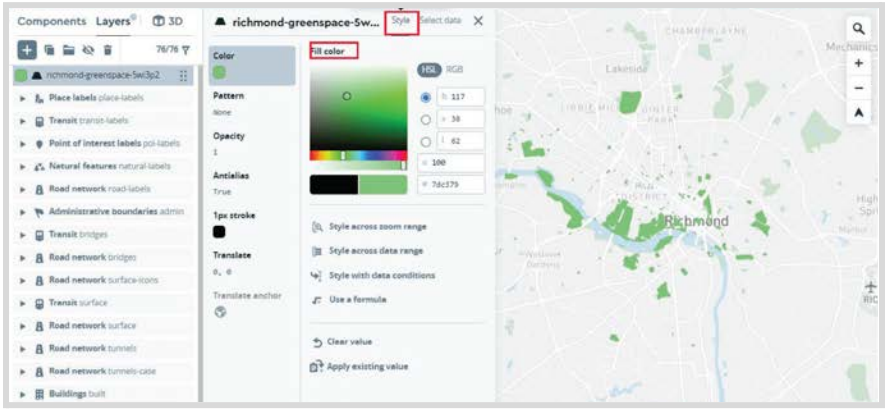
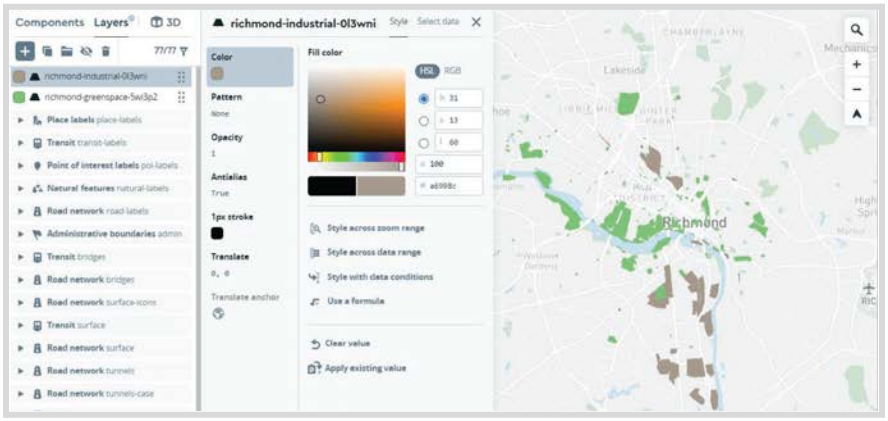
scrub
agriculture
cemetery
Richmond

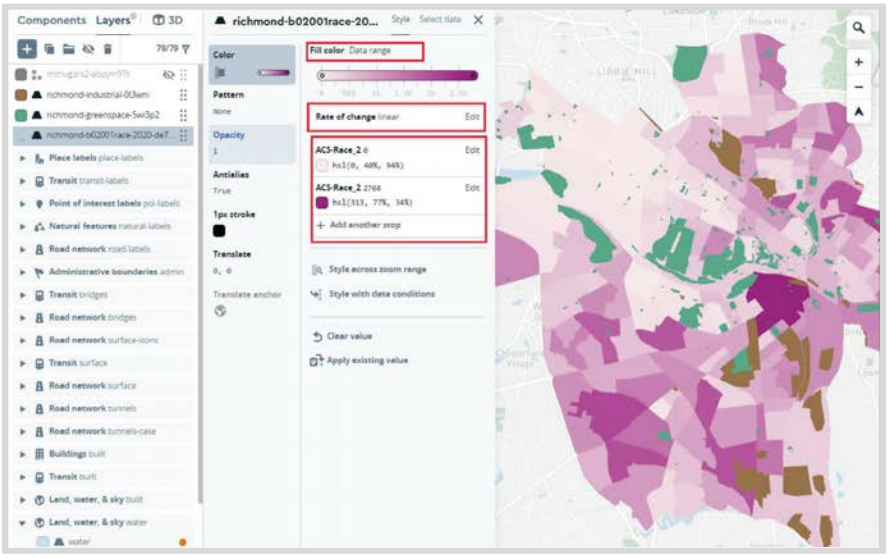


Next, upload your QGIS data layers to Mapbox (refer to Tutorial 6). Remember to set your CRS to **EPSG 3857: Pseudo Mercador when you export:**






Components
Layers
3D
richmond-industrial-0l3wni
Style
Select data
Color
Fill color
Pattern
Opacity
Antialias
1px stroke
Translate
Style across zoom range
Style across data range
Style with data conditions
Use a formula
Clear value
Apply existing value
Richmond


Components
Layers
3D
richmond-b02001race-20...
Style
Select data
Color
Fill color
Data range
Pattern
Opacity
Antialias
1px stroke
Translate
Rate of change
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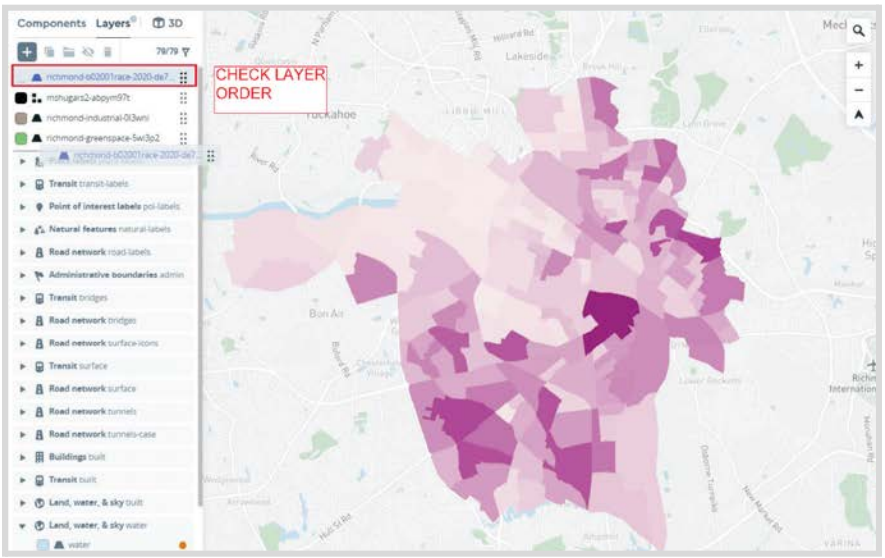
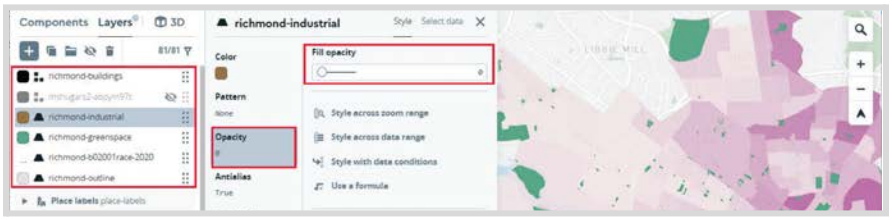
ACS-Race_2
ACS-Race_2
Add another stop
Style across zoom range
Style with data conditions
Clear value
Apply existing value


Components
Layers
3D
CHECK LAYER ORDER

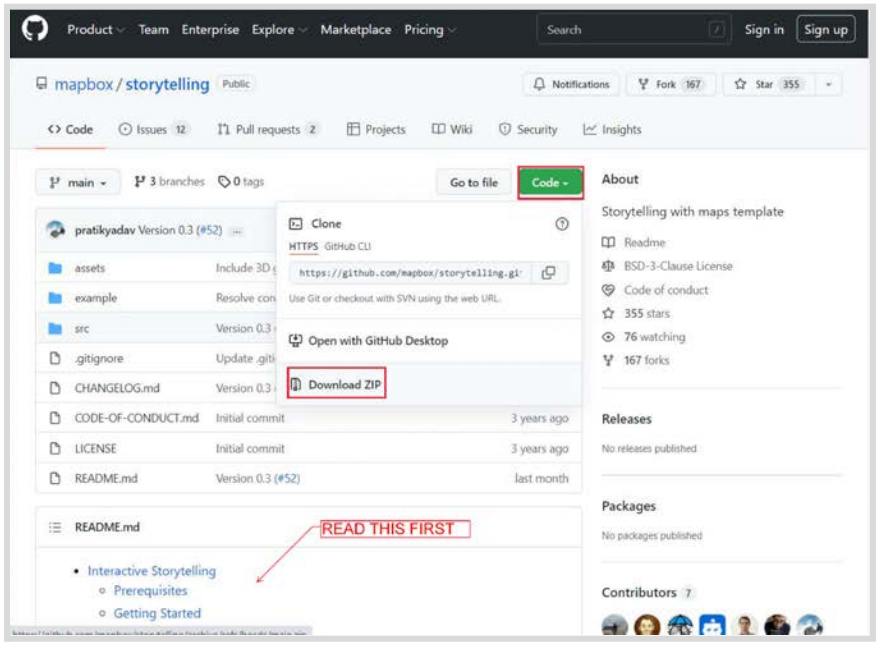
Note: If your QGIS layer is over 20MB large after zipping it, Mapbox will be unable to display it fully on the map. In this case, you may need to re-export your layers in separate parts. You can also try the QGIS tool Vector > Geometry Tools > Simplify.

Note: All layers you want to use should be shown, with their opacity set to 0:

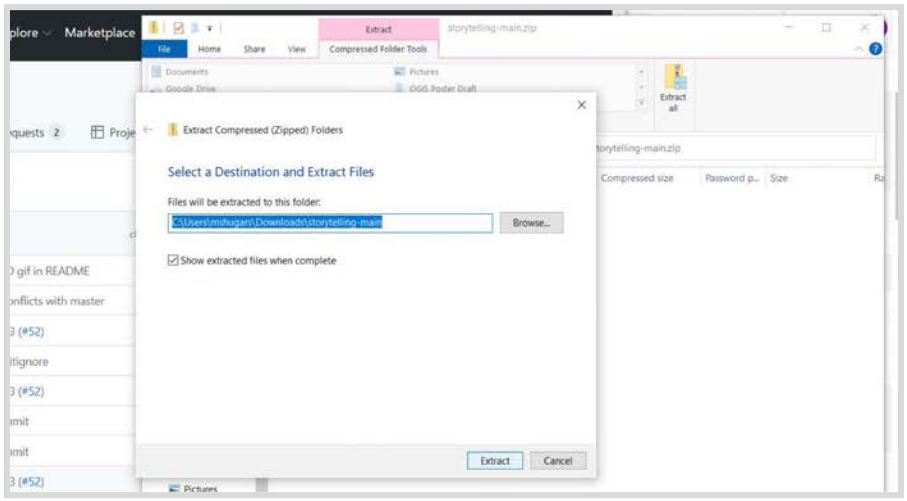


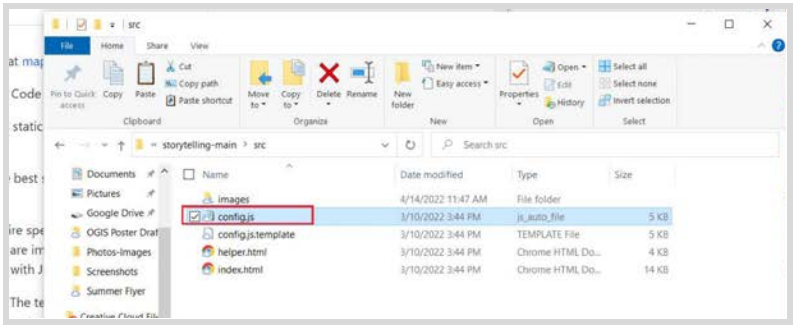
Step 2: Download the zipped Mapbox Scrollytelling template file from: https://github.com/mapbox/storytelling

Note: Read through the README.md part of the Github page first; this tutorial roughly follows the instructions here, but you will also see feature options for this Template:



Unzip the file and open the folder “src/”. From here, copy “config.js.template” and rename it “config.js”. Open this new file in Visual Studio Code:

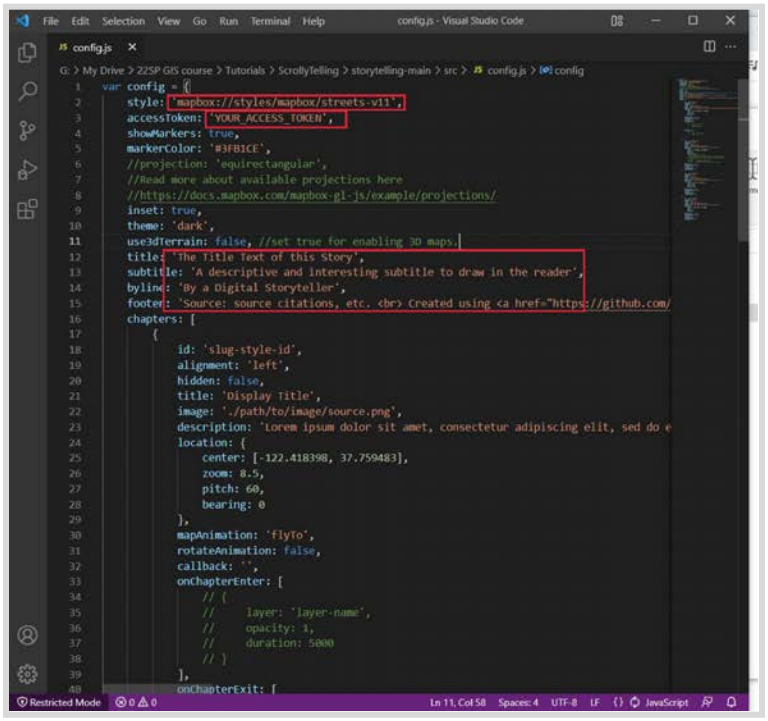




Note: also open your “index.html” file in Visual Studio to preview the results in your web browser as you go.

Step 3: Update the config file

As before, add your Mapbox access token url and new Mapbox style url to the template. Update the “title”, “subtitle”, “byline”, and “footer” with your project information:



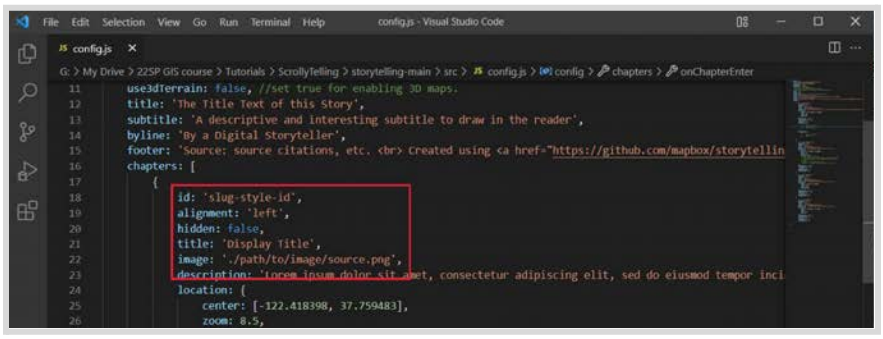
Step 4: Add 4 chapters to your map as practice

You'll see that the template includes 4 chapters by default.

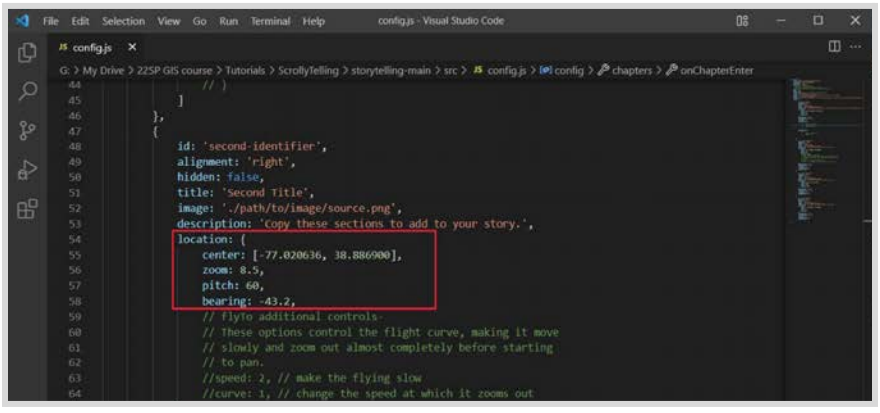
The default chapters 1 and 2 walks us through several of the chapter features, so first let's take a look at this. Note that, in javascript, you can comment out text with two backslashes (//) – this means that the code compiler won't read that part as code. Programmers use this to embed comments in their code. In chapters 1 and 2 of this template you can see several comments that either give you optional code (in chapter 1), or explain optional features (in chapter 2).

So, let's look at the parts of one of these chapters. First, we see "id" – this is used to refer to the chapter in other parts of your code. For example, it can be used as an anchor, which means that a hyperlink at the top of the page could take you straight down to the beginning of the chapter. This is a useful way to navigate long scrolling pages like this.

Next, we see "alignment" – which refers to the chapter text box alignment; "hidden" – can you see the text; "title" – what is the title of your chapter; "image" – chapter image; "description" – chapter content. That's all pretty straightforward text editing. For more text editing options, like font, size, and color, check out the index.html file.



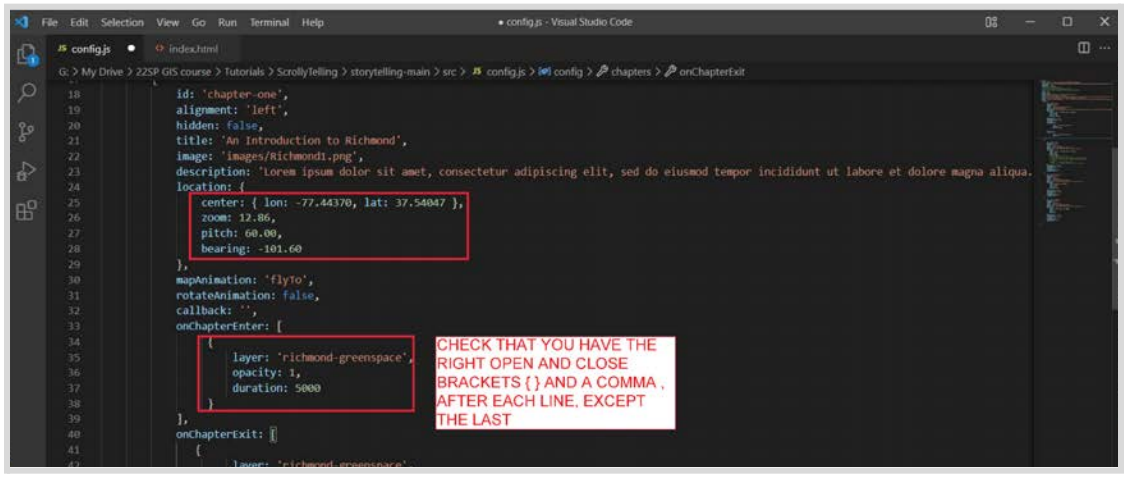
After that, we see the section that locates the chapter on your map, "location". You can see the center will be your lon/lat; zoom level; pitch and bearing (discussed below).

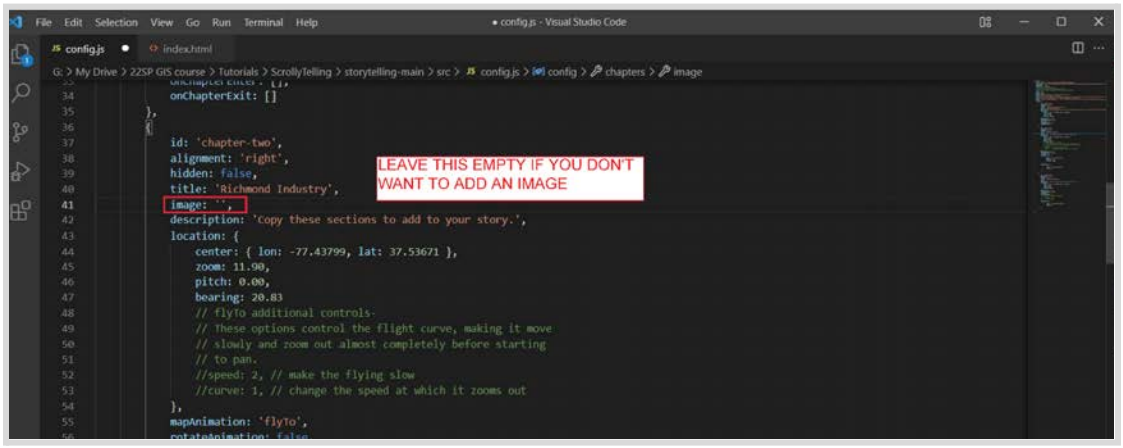


Next, we see a few options for "mapAnimation" (how to animate between chapters), "rotateAnimation", and "callback"; for more information on these options, refer to the README.md on Github. For now, leave them as-is.

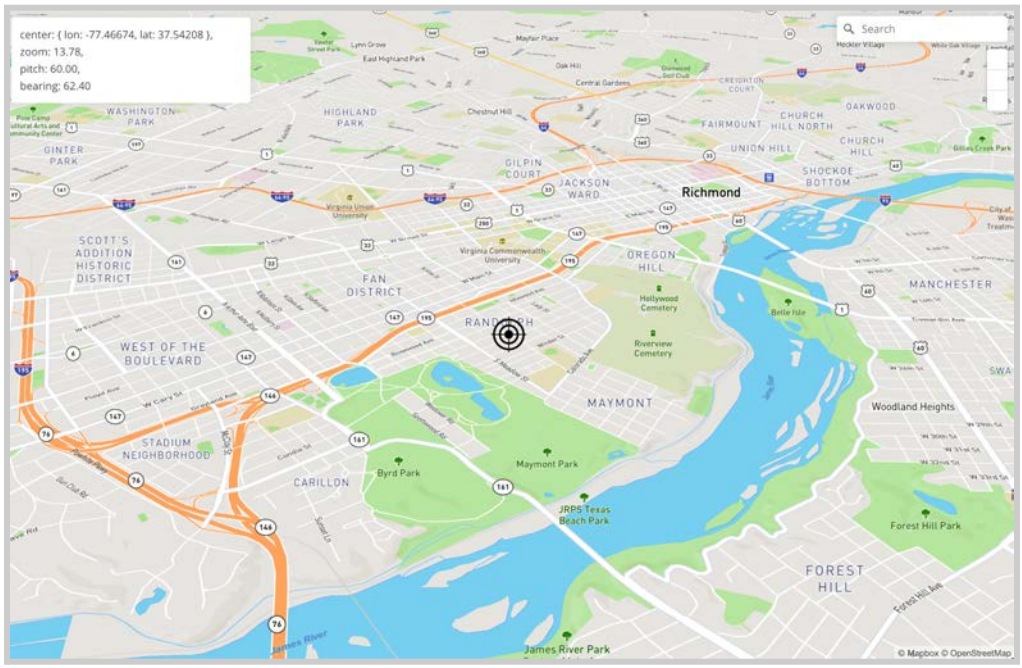
The last two sections are “onChapterEnter” and “onChapterExit”, which refers to transitions to and from your chapter. This is where you can instruct the map to turn on and off certain layers when moving between chapters. You’ll also see “duration”, which refers to the time in milliseconds to turn on or off the layer. Opacity 1 means it’s fully visible, Opacity 0 means it’s fully invisible. Make sure you turn on and off the appropriate layers when entering and leaving each chapter.

Fill out the information for each chapter. Set your layer transitions, trying out different speeds. Make sure each “id” name has no spaces or special characters. Keep these simple.





Along with Zoom level and Center, you can also choose a Pitch and Bearing (angle of the camera and direction of view); you can play around with these, or simply use Mapbox's location helper to find the location, pitch, and bearing (use right click to tilt the map):
https://demos.mapbox.com/location-helper/



Once you have this set up, open your index.html file in Chrome to preview the results.

Step 5: Cartoon your story map

Now comes a fun part: draw a series of panels (in your notebook or on your laptop) and sketch out your scrollytelling sequence in the panels – a cartoon set. Think about the order of information you want to present. Use your Map Assignment 3 maps as a basis for the story you want to tell.

Think about your story as having a beginning, middle, and end, like some of the examples we looked at. The beginning will tell us the general outline of the social issue that you are visualizing. It will tell us the where, when, and who. In other words, it will introduce (in text) the major data layers that you'll be showing. The middle will be your data layer maps, which start to set up possible explanations or correlations to describe the issue. The end will summarize your maps and conclude with some observations about the problem.

Think about how each of these parts of your story relates to a geographic level as well. For example, my story might be about the health impacts of pollution near New Orleans. I might start with a map zoomed out to show the entire area around New Orleans and the Gulf Coast, with the locations of petrochemical plants located on the map. The text here would describe the issue of airborne pollution on health, and the number of factories in this area, and the high cancer rates among residents: setting up the major datasets of my maps. The middle series of maps would be at a closer zoom level, and would show each of these variables, one by one and then maybe overlaid to compare the geographical location of each incidence: location of factories compared with location of high cancer rates. This middle section might also include quotes, statistics, and graphs (as embedded images) to support conclusions about the data correlation. The end might zoom back out, or might show all the layers overlaid together, and would conclude that the presence of these factories likely causes higher rates of cancer for these residents, and should be restricted.

Think about the sequence of your maps (or, panels in your cartoon set) as chapters, like in the template file. List out the following below each panel/chapter:

1. data layers shown
2. zoom level (county? state? national? city?)
3. brief text description (what part of your story does this map tell?)

Note: open the example maps in the Template folder (“example” folder; open the respective index.html files) for inspiration.

Note: In the next Tutorial, you’ll experiment with different styling options for your scrollymap. Keep your map panel sequence loose and open to change, since you may decide to show different information or in a different order based on the capabilities of this template.

Step 6: Screenshot map and cartoon panels

For the Tutorial Assignment, please include a legible image of your cartoon panels, as well as screenshots of your scrollymap at this stage. The screenshots should include each distinct chapter.

- no Bonus -