The Power of Mapbox Studio

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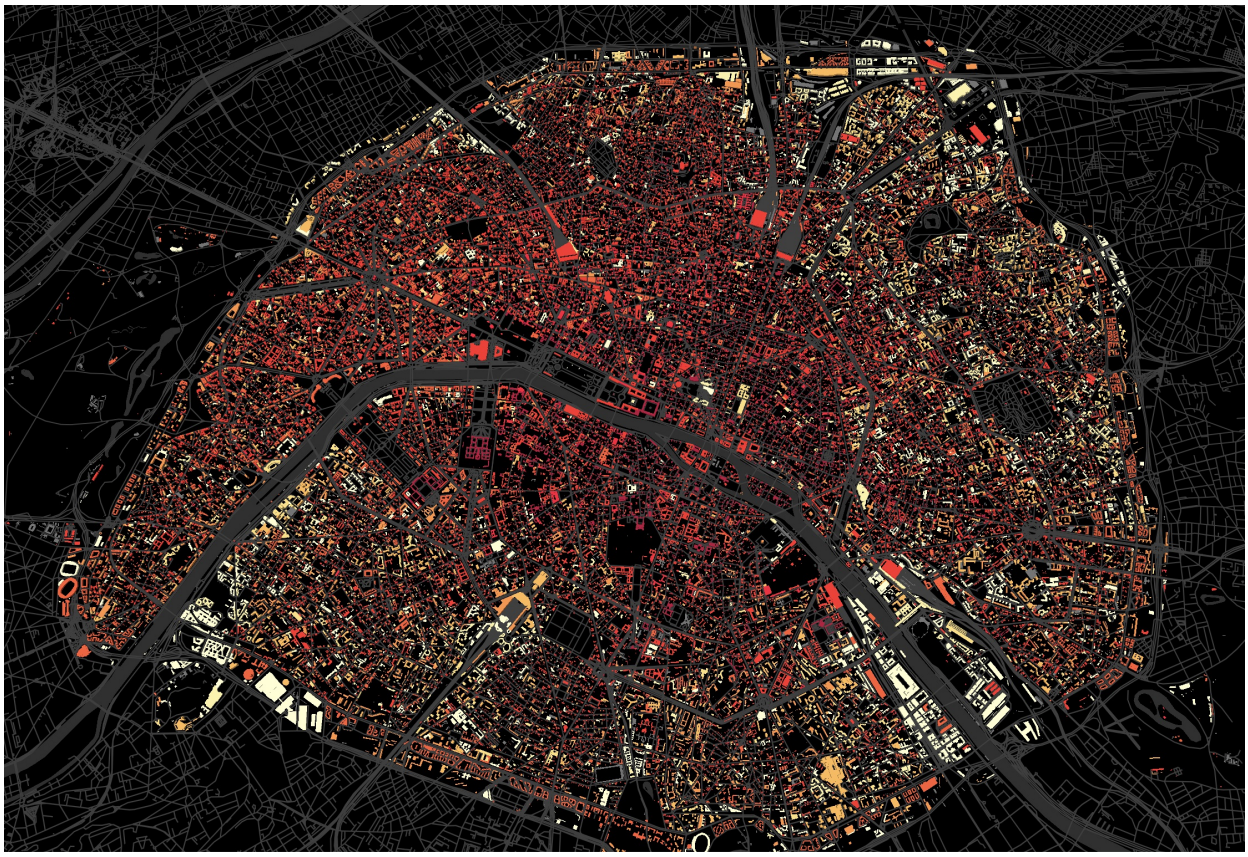
Presentation and Data: bit.ly/mapbox-nicar-2019

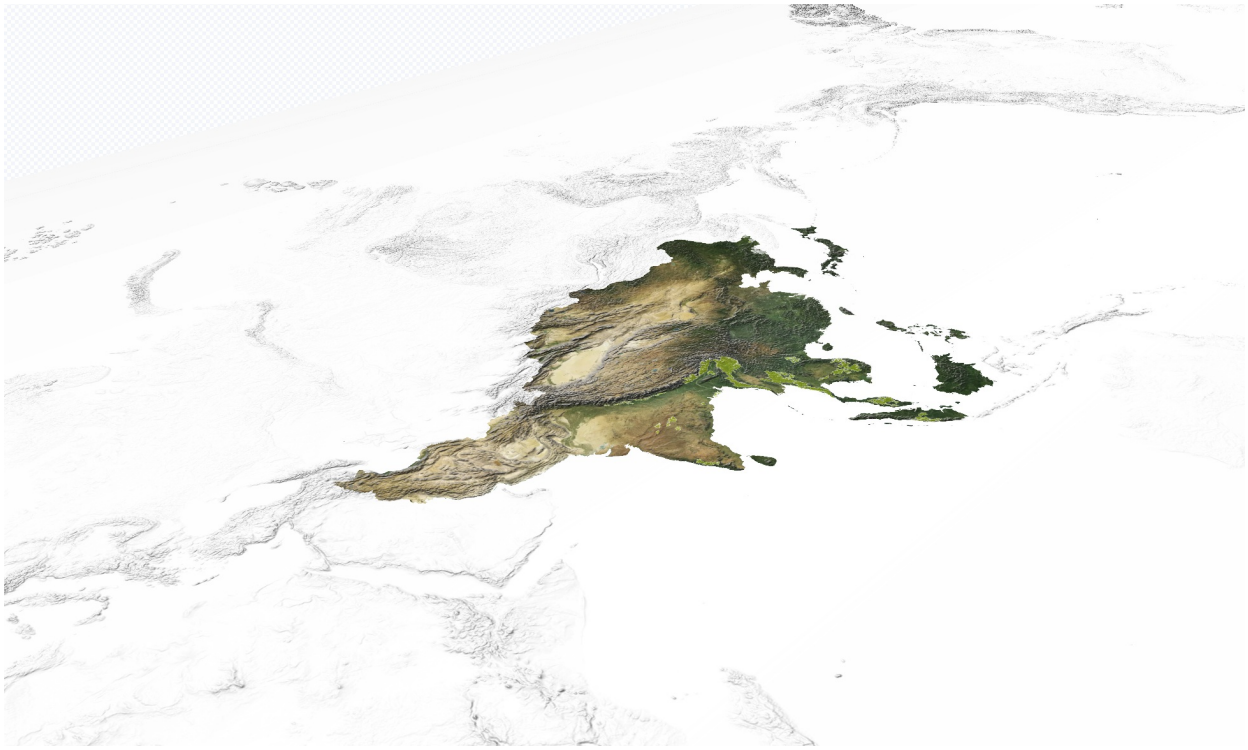
Mapbox sign-up: bit.ly/mapbox-signup

What is Studio?

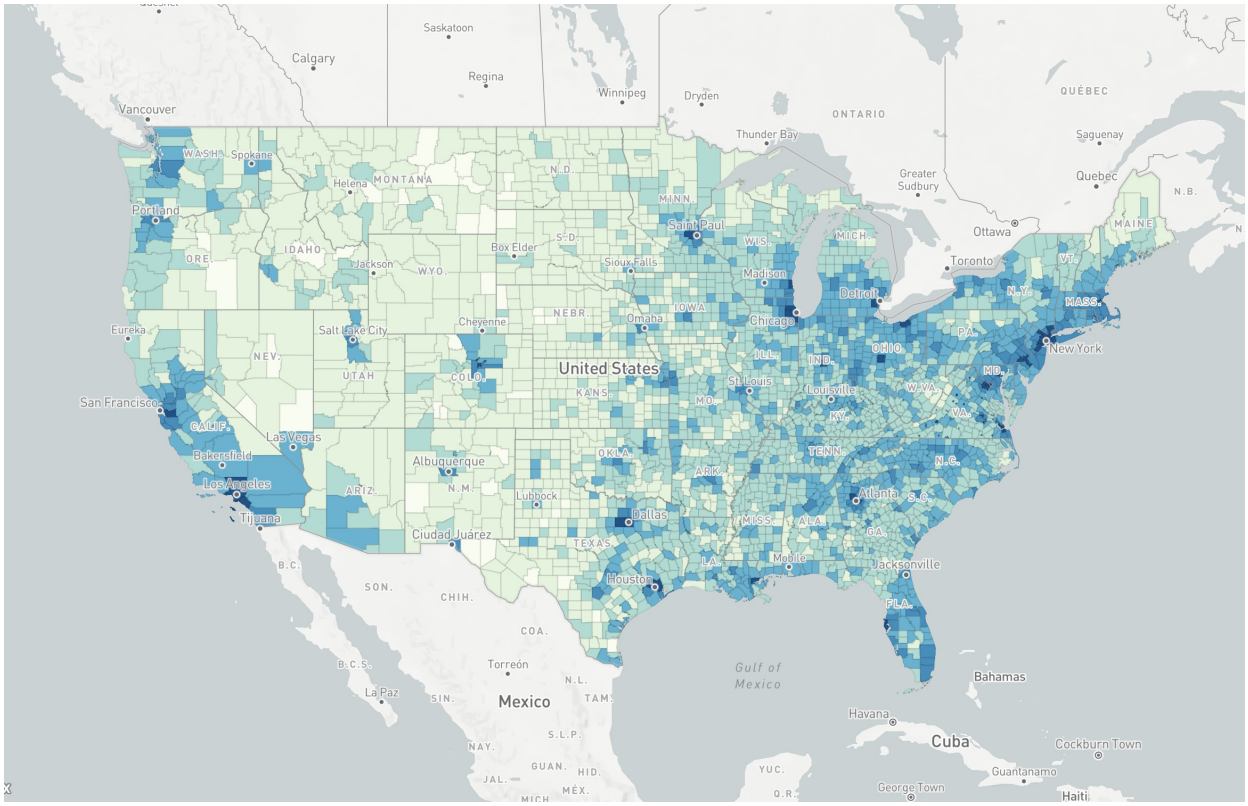
Style by Lo:



Style by Jonni Walker:



Style by Lo:



Mapbox Studio is a a powerful tool to help you optimize and visualize your data, and customize your maps.

> Mapbox Studio does NOT allow you to add interactivity

The Mapbox Studio Ecosystem

Dataset → Tileset → Styles (→ *Libraries)*

- Dataset: Edit your data
- Tileset: Bake your data into Vector tiles or upload rasters
- Styles: Customize your style in the Studio interface
- *(Libraries: add your style to applications using one of our Mapbox libraries)*

This Session

~~Dataset~~ → Tileset → Styles → ~~Libraries~~

Tilesets

- Lightweight collections of vector data
- Optimized for rendering
- Not editable but can be styled in the Mapbox Studio style editor.

Files and Uploads

Mapbox upload limits

Accepted file types and transfer limits

The accepted file types and transfer limits for dataset and tileset uploads include:

File type	Datasets	Tilesets	Transfer limits
CSV	✓	✓	5 Mb for datasets, 1 GB for tilesets
GeoJSON	✓	✓	5 Mb for datasets, 1 GB for tilesets
MBTiles		✓	25 GB
KML		✓	260 Mb with 15 layers or fewer
GPX		✓	260 Mb
Shapefile		✓	260 Mb (combined uncompressed size of `.shp` and `.dbf` files). You must upload shapefiles as a compressed (`.zip`) file.
GeoTIFF		✓	10 GB

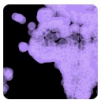
Mapbox-Provided Tilesets

Mapbox tilesets

21 Default tilesets

Mapbox Boundaries - Admin 0
Default tileset

Menu



Mapbox Boundaries - Admin 1
Default tileset

Menu

Mapbox Boundaries - Admin 2
Default tileset

Menu

Mapbox Boundaries - Admin 3
Default tileset

Menu

Mapbox Boundaries - Admin 4
Default tileset

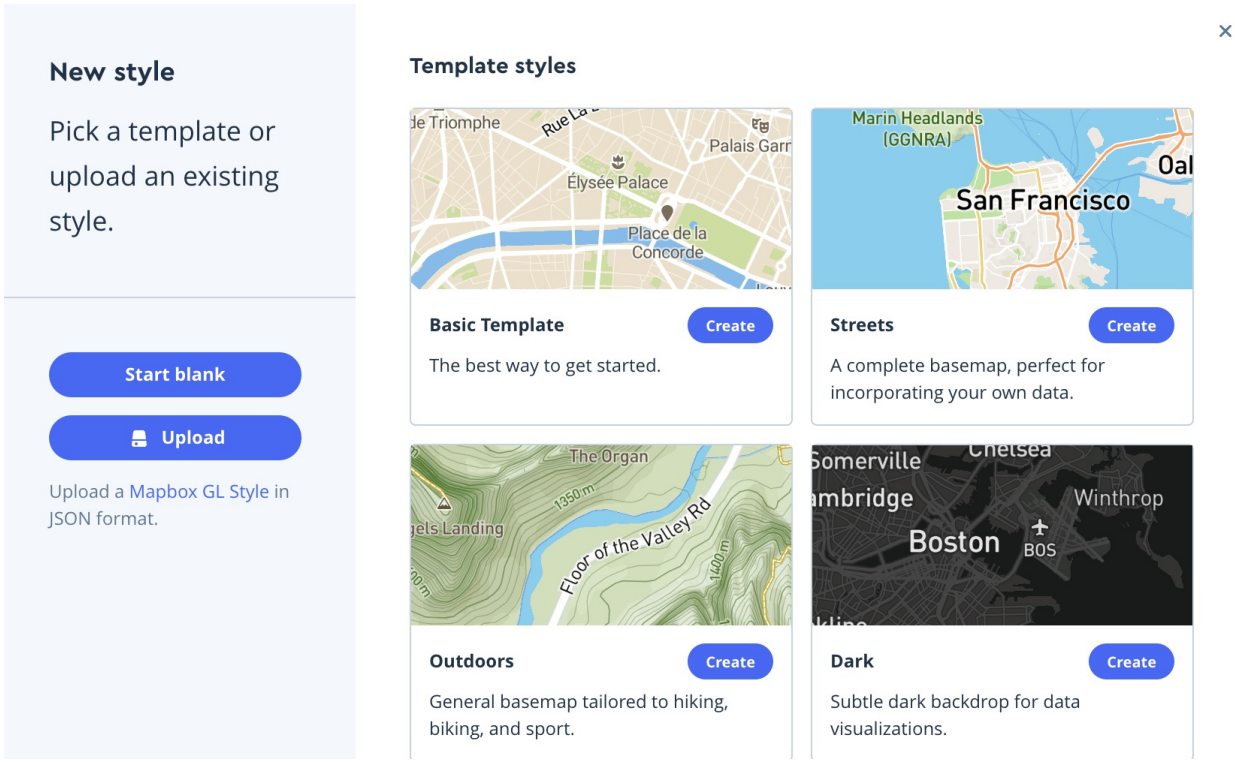
Menu

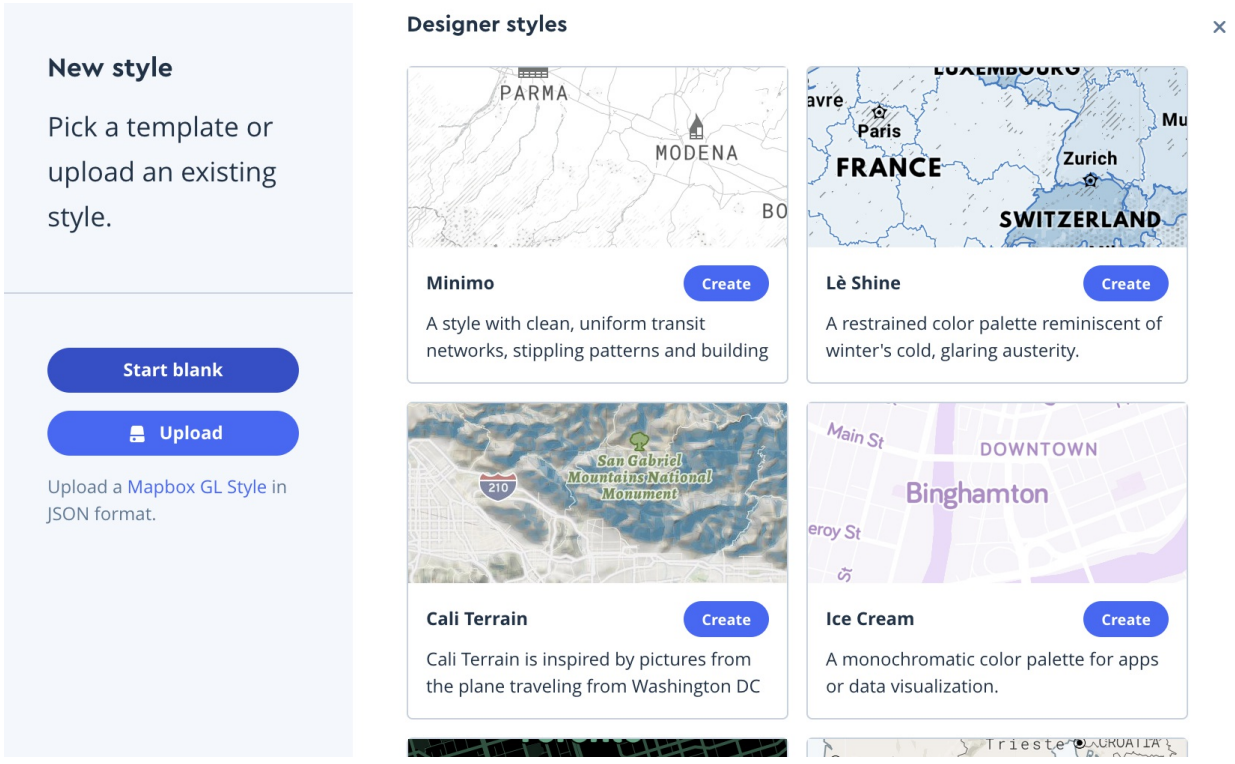
Mapbox Boundaries - Admin 5
Default tileset

Menu

Styles

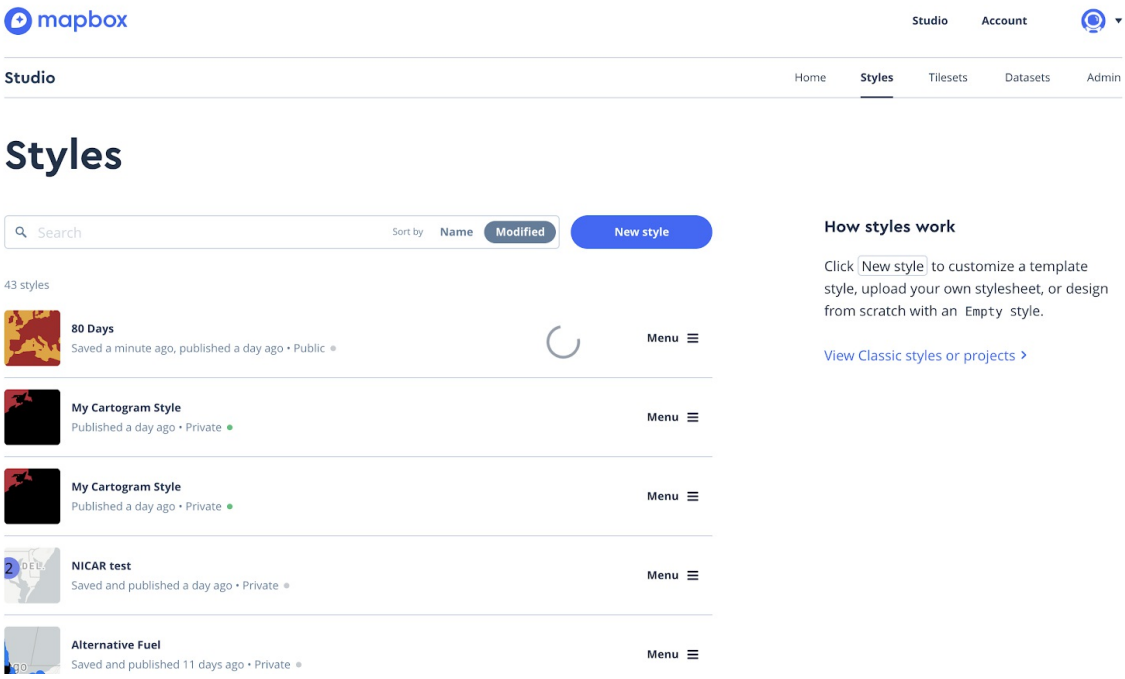
Mapbox Studio





Studio Dashboard

Mapbox Studio



Hands-on time

- Open the github repo
- Download it

What we've learned

- Upload a dataset to Studio
- Add the tileset to a style
- Create a new style using our core styles or a designer style
- Filters
- Style data
- Layers
- Terrain
- Mask
- Polygons, lines, points, symbols

Resources

The Guide To Map Design by Amy Lee Walton

Our awesome glossary from our Doc Queens

Session extras:

These are the three main function of Studio. If you are using Mapbox Studio you are trying to do one of these three things:

- Create and maintain datasets
- Create tilesets
- Create and design map styles

Tileset:

A tileset is a collection of raster or vector data broken up into a uniform grid of square tiles at up to 22 preset zoom levels. Tilesets are used in Mapbox libraries and SDKs as a core piece of making maps visible on mobile or in the browser; they are also the main mechanism we use

for determining map views.

Tilesets are made up of vector tiles and are developed for caching, scaling and serving map imagery rapidly.

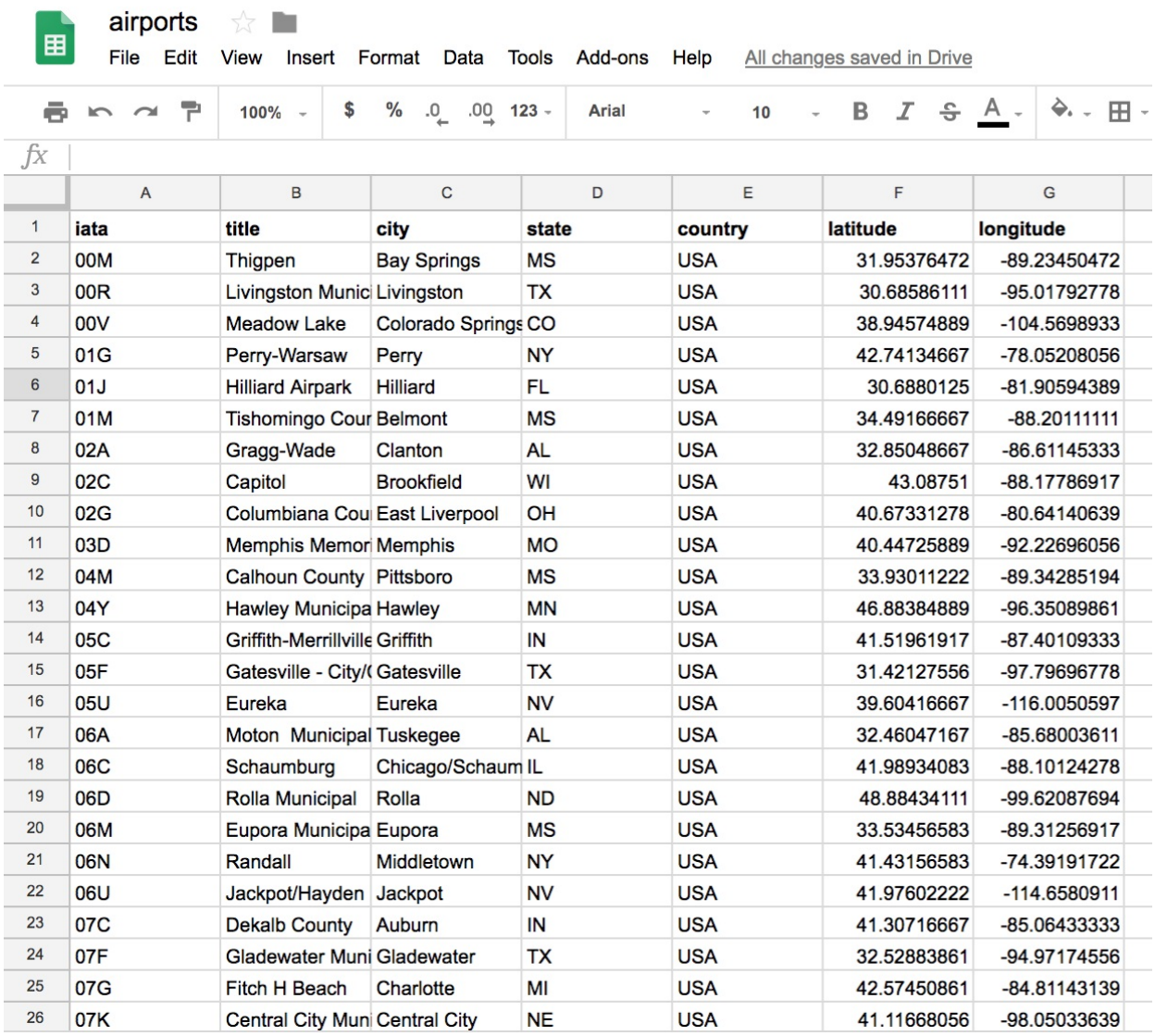
Mapbox web and mobile-ready vector tiles are 75% smaller than a raster tilesets. This results in fast, smooth zooming from the worldview of a map down to street-level detail.

Tilesets are highly cacheable and load quickly. Vector tiles are developed for caching, scaling and serving map imagery rapidly – to vector data.

As the name suggests, vector tiles contain vector data instead of the rendered image. They contain geometries and metadata – like road names, place names, house numbers – in a compact, structured format. Vector tiles are rendered only when requested by a client, like a web browser or a mobile app. Rendering happens either in the client (Mapbox GL JS, Mapbox iOS SDK, Mapbox Android SDK) or on the fly on the server (map API).

Mapbox File types:

CSV


airports

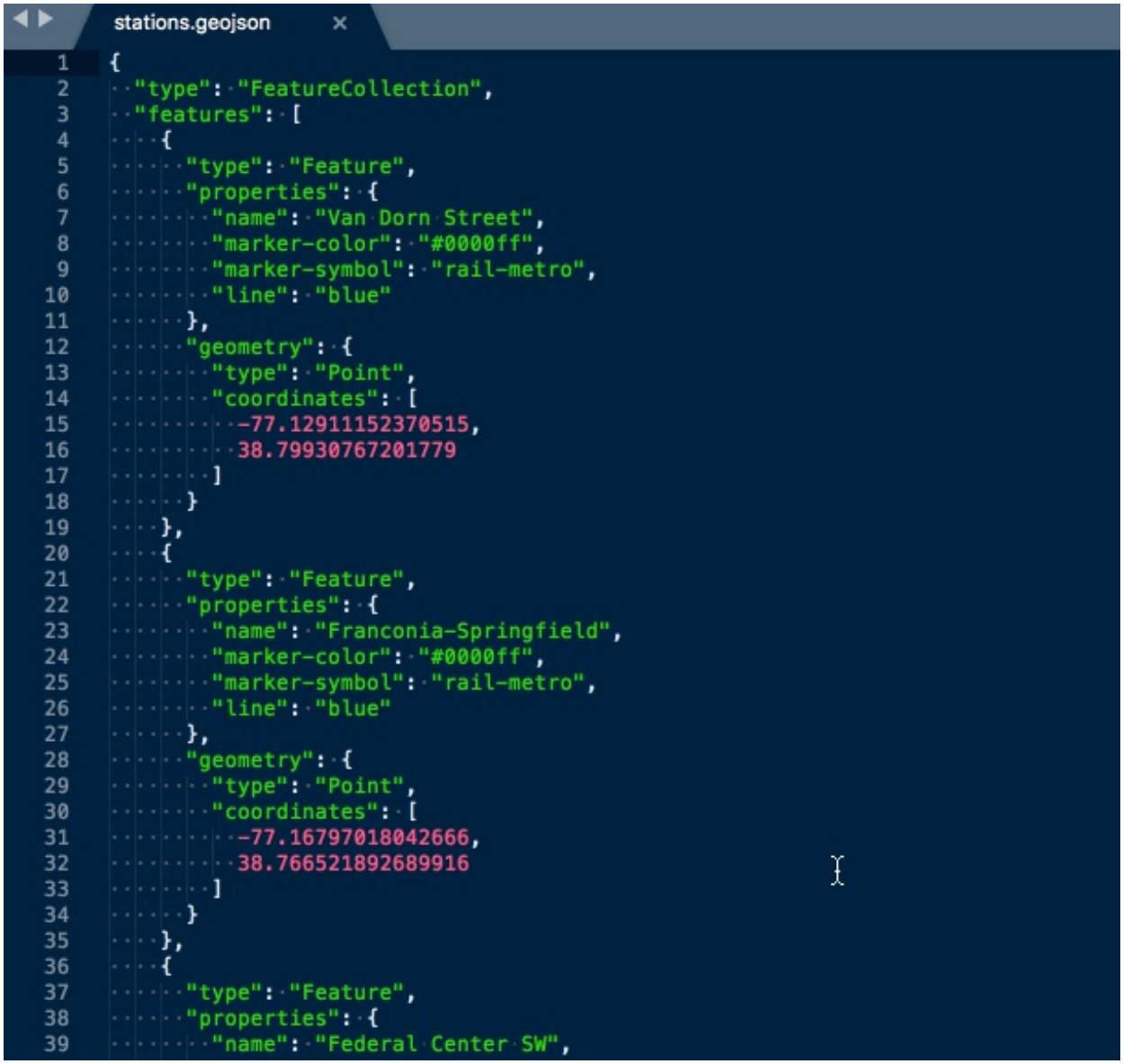
File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

	A	B	C	D	E	F	G
1	**iata**	**title**	**city**	**state**	**country**	**latitude**	**longitude**
2	00M	Thigpen	Bay Springs	MS	USA	31.95376472	-89.23450472
3	00R	Livingston Munic	Livingston	TX	USA	30.68586111	-95.01792778
4	00V	Meadow Lake	Colorado Springs	CO	USA	38.94574889	-104.5698933
5	01G	Perry-Warsaw	Perry	NY	USA	42.74134667	-78.05208056
6	01J	Hilliard Airpark	Hilliard	FL	USA	30.6880125	-81.90594389
7	01M	Tishomingo Cour	Belmont	MS	USA	34.49166667	-88.20111111
8	02A	Gragg-Wade	Clanton	AL	USA	32.85048667	-86.61145333
9	02C	Capitol	Brookfield	WI	USA	43.08751	-88.17786917
10	02G	Columbiana Cou	East Liverpool	OH	USA	40.67331278	-80.64140639
11	03D	Memphis Memor	Memphis	MO	USA	40.44725889	-92.22696056
12	04M	Calhoun County	Pittsboro	MS	USA	33.93011222	-89.34285194
13	04Y	Hawley Municipa	Hawley	MN	USA	46.88384889	-96.35089861
14	05C	Griffith-Merrillville	Griffith	IN	USA	41.51961917	-87.40109333
15	05F	Gatesville - City/(	Gatesville	TX	USA	31.42127556	-97.79696778
16	05U	Eureka	Eureka	NV	USA	39.60416667	-116.0050597
17	06A	Moton Municipal	Tuskegee	AL	USA	32.46047167	-85.68003611
18	06C	Schaumburg	Chicago/Schaum	IL	USA	41.98934083	-88.10124278
19	06D	Rolla Municipal	Rolla	ND	USA	48.88434111	-99.62087694
20	06M	Eupora Municipa	Eupora	MS	USA	33.53456583	-89.31256917
21	06N	Randall	Middletown	NY	USA	41.43156583	-74.39191722
22	06U	Jackpot/Hayden	Jackpot	NV	USA	41.97602222	-114.6580911
23	07C	Dekalb County	Auburn	IN	USA	41.30716667	-85.06433333
24	07F	Gladewater Muni	Gladewater	TX	USA	32.52883861	-94.97174556
25	07G	Fitch H Beach	Charlotte	MI	USA	42.57450861	-84.81143139
26	07K	Central City Mun	Central City	NE	USA	41.11668056	-98.05033639

The CSV (comma-separated values) format is common for table data, like the kind you may use in Excel or other spreadsheets. CSV files aren't necessarily mappable unless they contain geographic information (like latitude and longitude).
When uploading CSV files, keep the following in mind:

- Check out the Mapbox Uploads API documentation for the current size limit for CSV files.
- CSV files must be in UTF-8 encoding.
- CSV files must contain coordinates (latitude and longitude) when uploading in Mapbox Studio or Mapbox Studio Classic.
- CSV files are for point data only.

GeoJSON



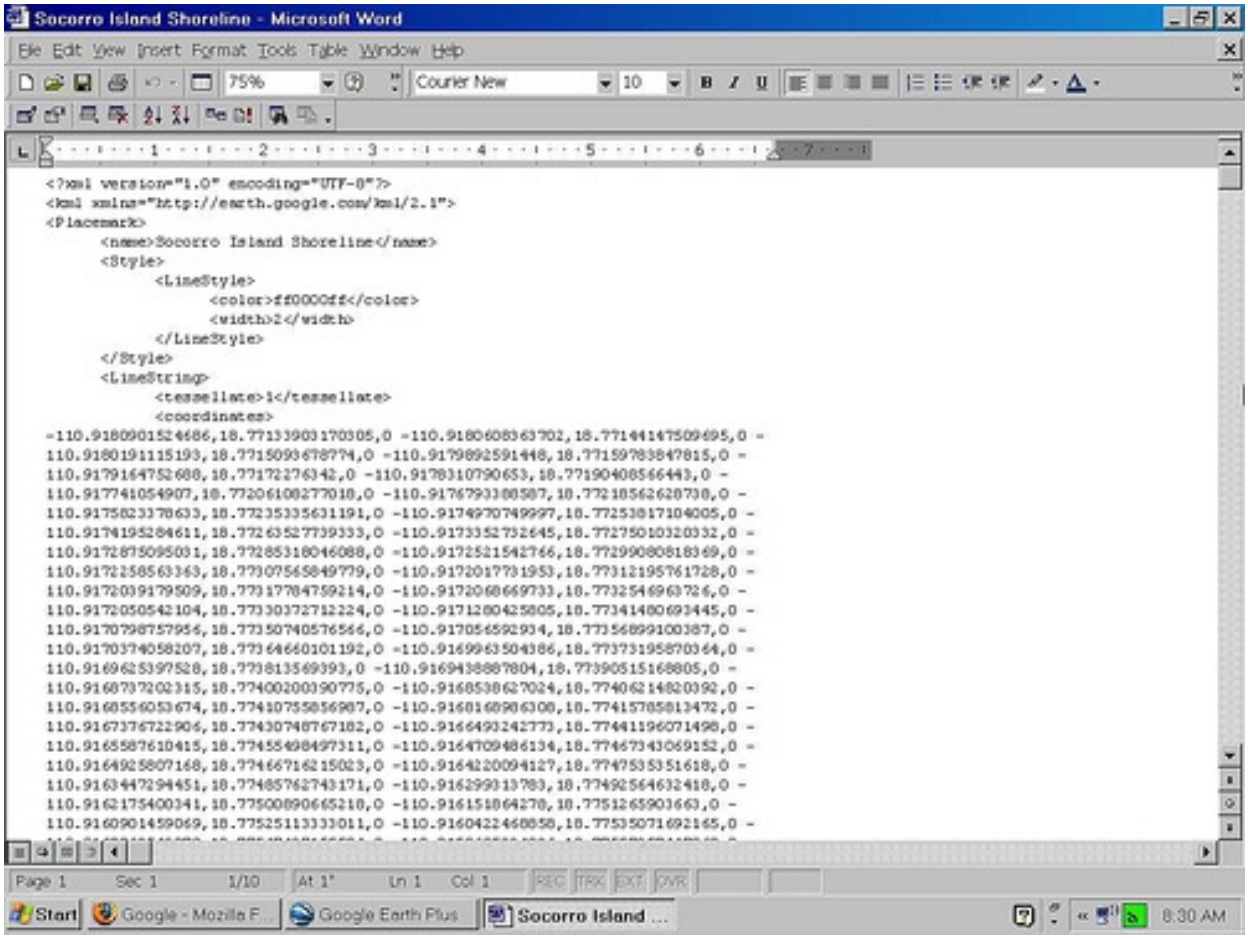
GeoJSON is a file format for map data served by Mapbox web services and APIs. As a subset of the JSON format, it can be parsed in modern software and native to the JavaScript language.
There are several open source tools for converting other geospatial data formats to GeoJSON. A few faves:

- togeojson, a node package for converting KML and GPX (XML formats).
- ogr2ogr, the ultimate 40-in-1 vector data conversion tool.
- geojson.io for creating, converting, and editing GeoJSON.

MBTiles

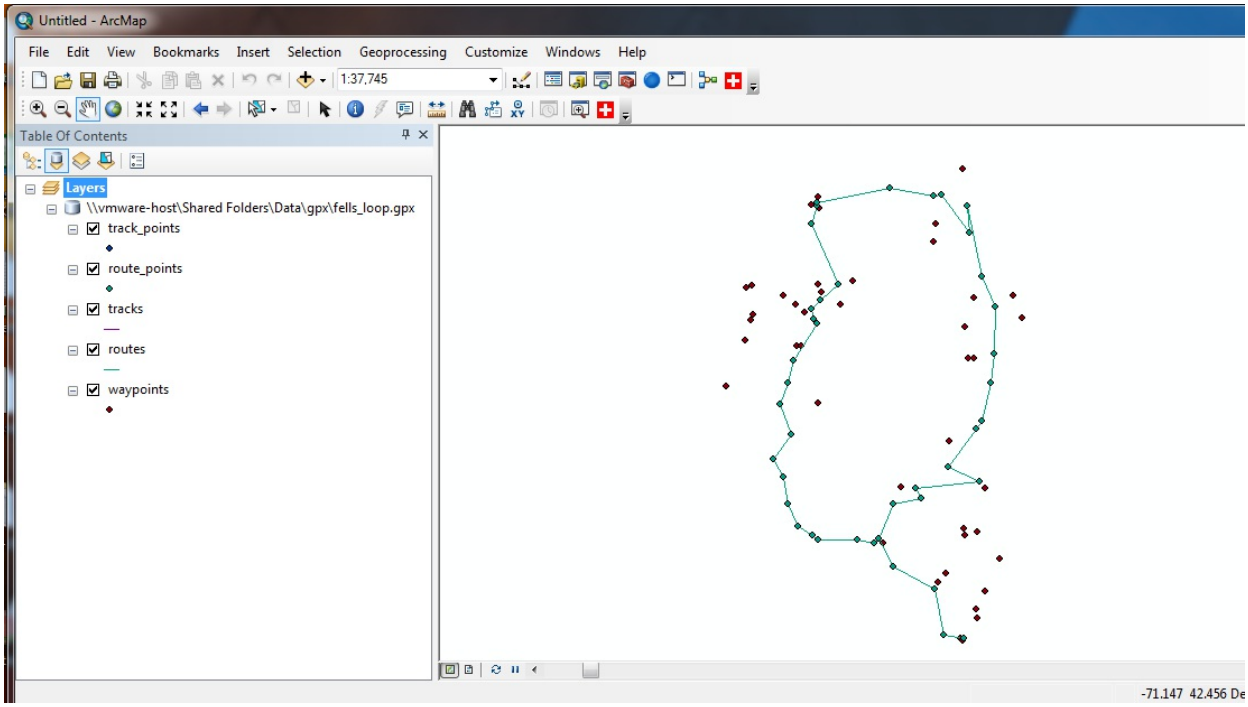
MBTiles is a file format for storing tilesets. It's designed so that you can package the potentially thousands of files that make up a tileset and move them around, eventually uploading to Mapbox or using in a web or mobile application. MBTiles is an open specification and is based on the SQLite database. MBTiles can contain raster or vector tilesets.

KML



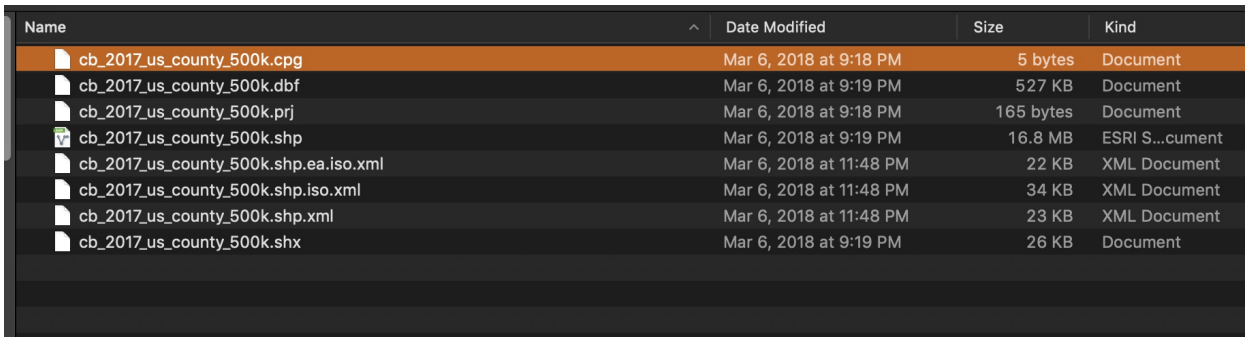
KML is a file format that is like GeoJSON, but used more commonly in Google products. Like GeoJSON, it can store points, lines, polygons, and other vector data. Unlike GeoJSON, it's based on XML, rather than JSON. When uploading KML, please note that Mapbox does not support any KML extensions.

GPX



GPX, or GPS eXchange format, is a data format commonly created from GPS receivers. You can upload GPX files to your Mapbox account to use in a custom map style. Please note that Mapbox does not support values along lines (for example, elevation and time at various points along a jogging route). A GPX file with values along a line can be uploaded, but Mapbox will ignore any data along the line.

Shapefile

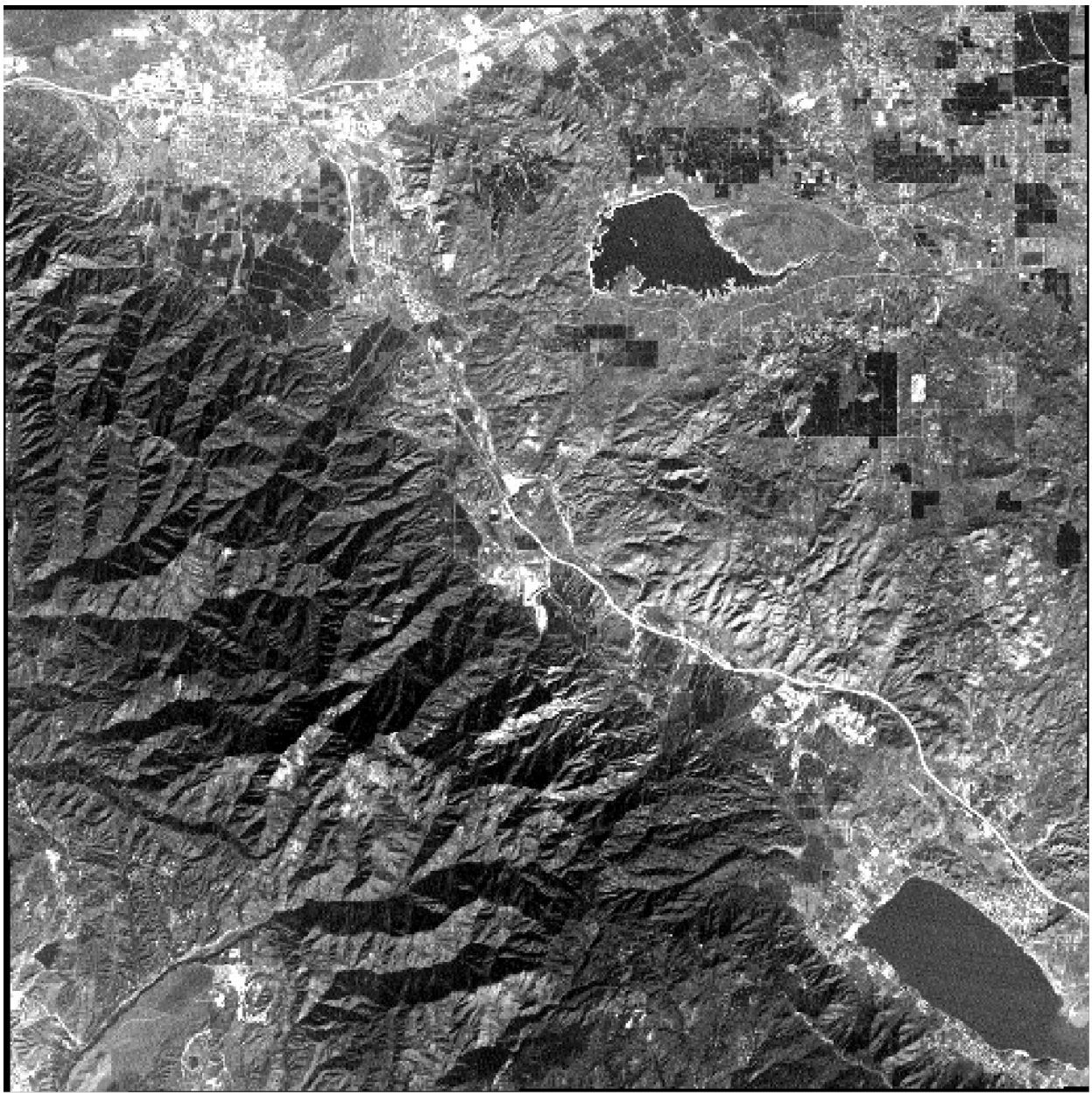


A shapefile, also known as an ESRI shapefile, is a file format for storing geographic vector data.
When uploading shapefiles, keep the following in mind:

- Check out the Mapbox Uploads API documentation for the current size limit for shapefiles. Note that this limit applies to the shapefile's uncompressed size, not the size of the compressed zip.
- Shapefiles are composed of several individual files, which should be combined into a single zip file before uploading. Of these files, Mapbox can read shp, shx, dbf, prj, and

index files. Any other files you upload with your zip file will be ignored.

TIFF



A TIFF, or sometimes TIF, is a file format for saving raster images. With Mapbox, a TIFF is often a GeoTIFF, meaning the file is embedded with georeferencing information.
You can upload TIFF files as tilesets in Mapbox Studio and use them in the Mapbox Studio style editor. When uploading a TIFF file, keep in mind the current size limit for TIFF files.