

Terra Draw

3 Years of Open Source Map Drawing

FOSS4G EU 2025

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Nearform_

An open source
JavaScript library for
drawing on web maps

Draw A Search

Drawn area name

Save Area

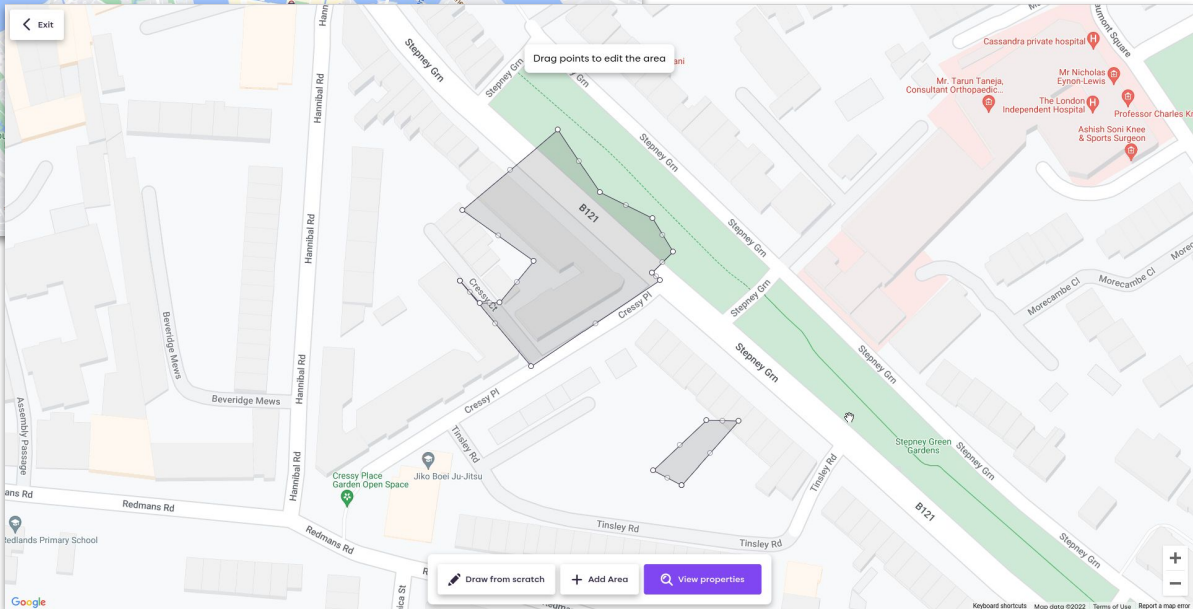
My drawn areas



Create your custom search areas

Add, move or delete points to edit a current area or clear to plot a new area from scratch.

Access your previously saved areas by [Signing In](#)





FreeDraw allows the free-hand drawing of shapes on your Leaflet map. It has a familiar UX for creating geospatial boundaries similar to [Zoopla](#) and [conceiving of polygons](#), polygon merging and simplifying, as well as other shapes. **Note:** For drawing polylines instead, try [L.Pather](#).

build failing npm v2.13.3 bower no releases license MIT

- **npm:** `npm i leaflet-freedraw`
- **Bower:** `bower i leaflet-freedraw`
- **JSFiddle:** <https://jsfiddle.net/>

version 1.0.4 npm package 1.0.4 downloads 4.8M bower package 1.0.4 build failing

forks 984 stars 1.8k license MIT

Leaflet.draw

Adds support for drawing and editing vectors and markers on [Leaflet maps](#).

Supports [Leaflet](#) 0.7.x and 1.0.0+ branches.

Please check out our [Api Documentation](#)

@mapbox/mapbox-gl-draw

build passing

Adds support for drawing and editing features on [mapbox-gl.js](#) maps. [See a live demo](#)

Requires [mapbox-gl-js](#).

Installing

```
npm install @mapbox/mapbox-gl-draw
```

Draw ships with CSS, make sure you include it in your build.

Goals



Cross-library support

Designed in a way to allow usage with many different mapping providers



Customizable

If you want to create your own modes or bring a new mapping library to the table this should be possible



Deep styling

Match the look and feel of your application



Zero dependencies

Reduces reliance on third parties, improves pipeline stability, avoids potential bloat, simpler



OpenLayers



MapLibre GL JS



Google Maps Platform

Mapbox GL JS

ArcGIS Maps SDK for JavaScript

Browser



Terra Draw

Adapters

Mapbox

OR

Leaflet

OR

Google

Modes

Polygon

Point

LineString

Select

Store

Getting started

Let's look at how we can get started with using Terra Draw in your applications today



`npm install terra-draw`



`JamesLMilner/terra-draw`



`terradraw.io`

```
1  const map = new maplibregl.Map({
2    container: id,
3    style: OSMStyle as maplibregl.StyleSpecification,
4    center: [0, 0],
5    zoom: 4,
6  });
7
8  map.once("style.load", () => {
9    const draw = new TerraDraw({
10      adapter: new TerraDrawMapLibreGLAdapter({ map }),
11      modes: [new TerraDrawPolygonMode({
12        snapping: true
13      })]
14    });
15
16    draw.start();
17  });
```

3 Years On

Terra Draw has grown to support more functionality driven by user demand

Lessons Learned

- Adapters should not be in the core library
- You don't know who will pick up what you build
- Most people want to do something simple
- Automate the tedious things

Make it Modular

Simplifying the core
library by splitting out
the map library
adapters

terra-draw-maplibre-gl-adapter

terra-draw-mapbox-gl-adapter

terra-draw-leaflet-adapter

terra-draw-google-maps-adapter

terra-draw-openlayers-adapter

terra-draw-arcgis-adapter

terra-draw

Users

Terra Draw has been lucky to have some great early adopters



Helispot H-50

S
38

MMA Heat Perimeter:
7262 Acres 7/12
01:18:00 zulu

Helispot H-30

((

1

MMA Heat Perimeter:
7262 Acres 7/12
01:18:00 zulu

BC-43

Helispot H-80

10

5

15

((
DIV M/Z Break



DATA FUTURES EXCHANGE

GeoHub

DATA

MAPS

SOLUTIONS

SUPPORT

CREATE/UPLOAD ▾

SIGN IN

DATA **LAYERS** 3



▲ Rapida) Dynamic World Lend ...

- water
- trees
- grass
- flooded_vegetation
- crops
- shrub_and_scrub
- built
- bare
- snow_and_ice

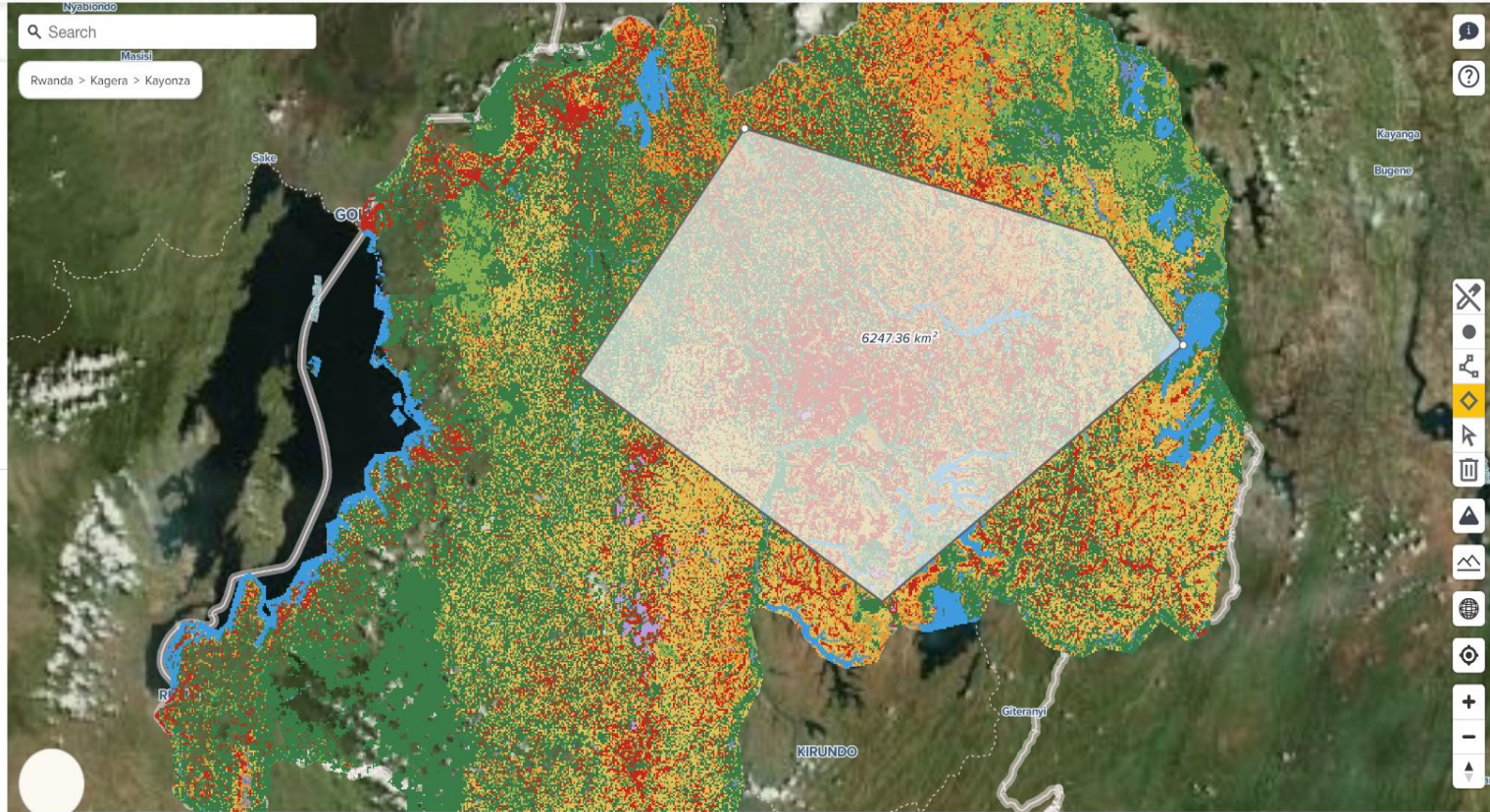
▲ 2020) ESA WorldCover

- Tree cover
- Shrubland
- Grassland
- Cropland
- Built-up
- Bare / sparse vegetation
- Snow and ice
- Permanent water bodies
- Herbaceous wetland

SAVE MAP



Search
Rwanda > Kagera > Kayanza





Images



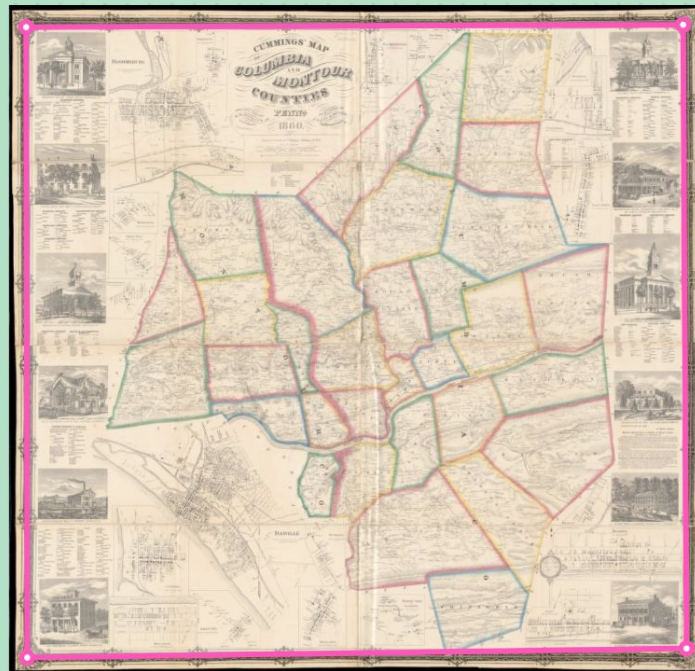
Draw mask



Georeference



Results

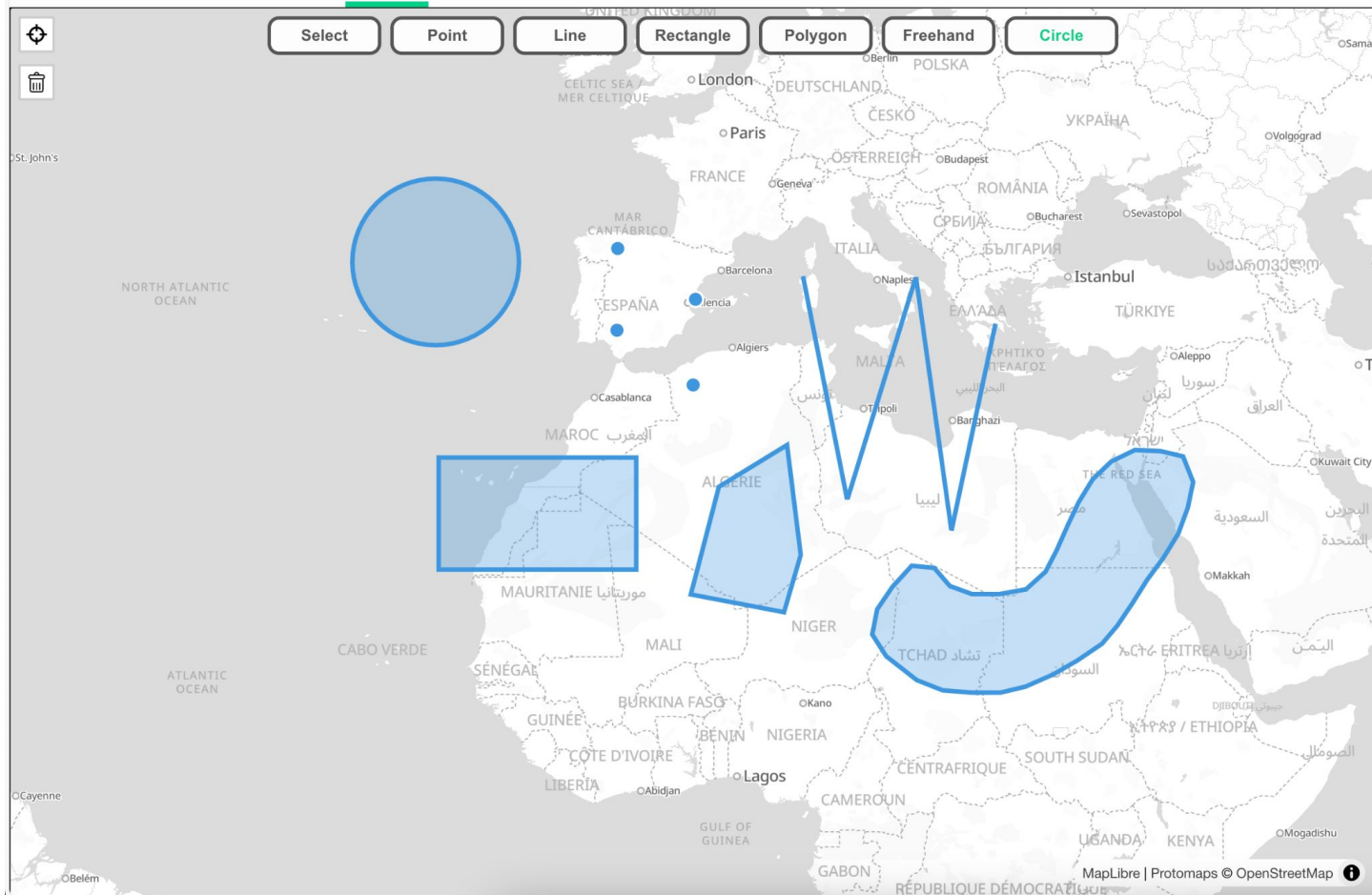


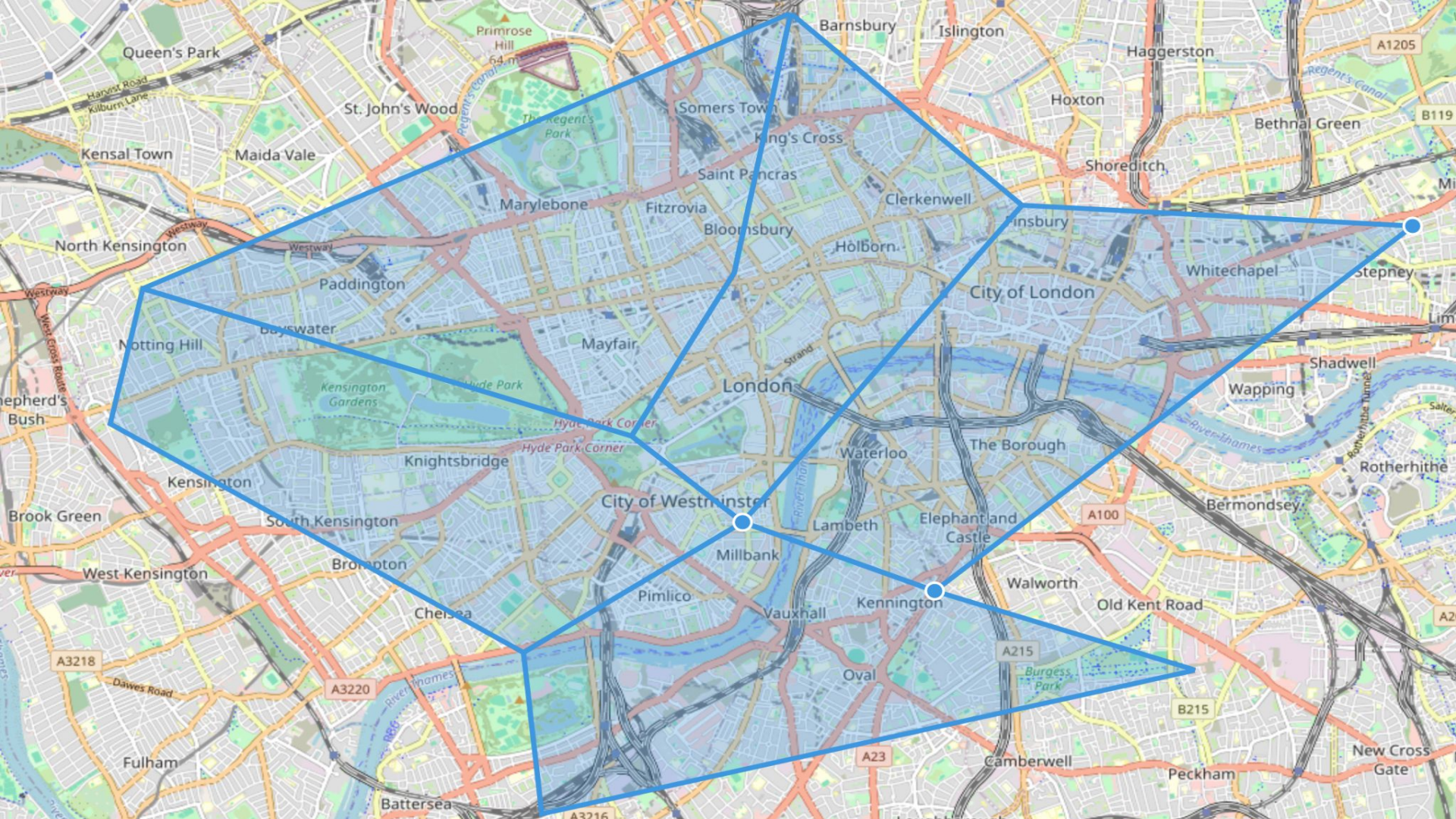
Cummings' map of Columbia and Montour counties, ...

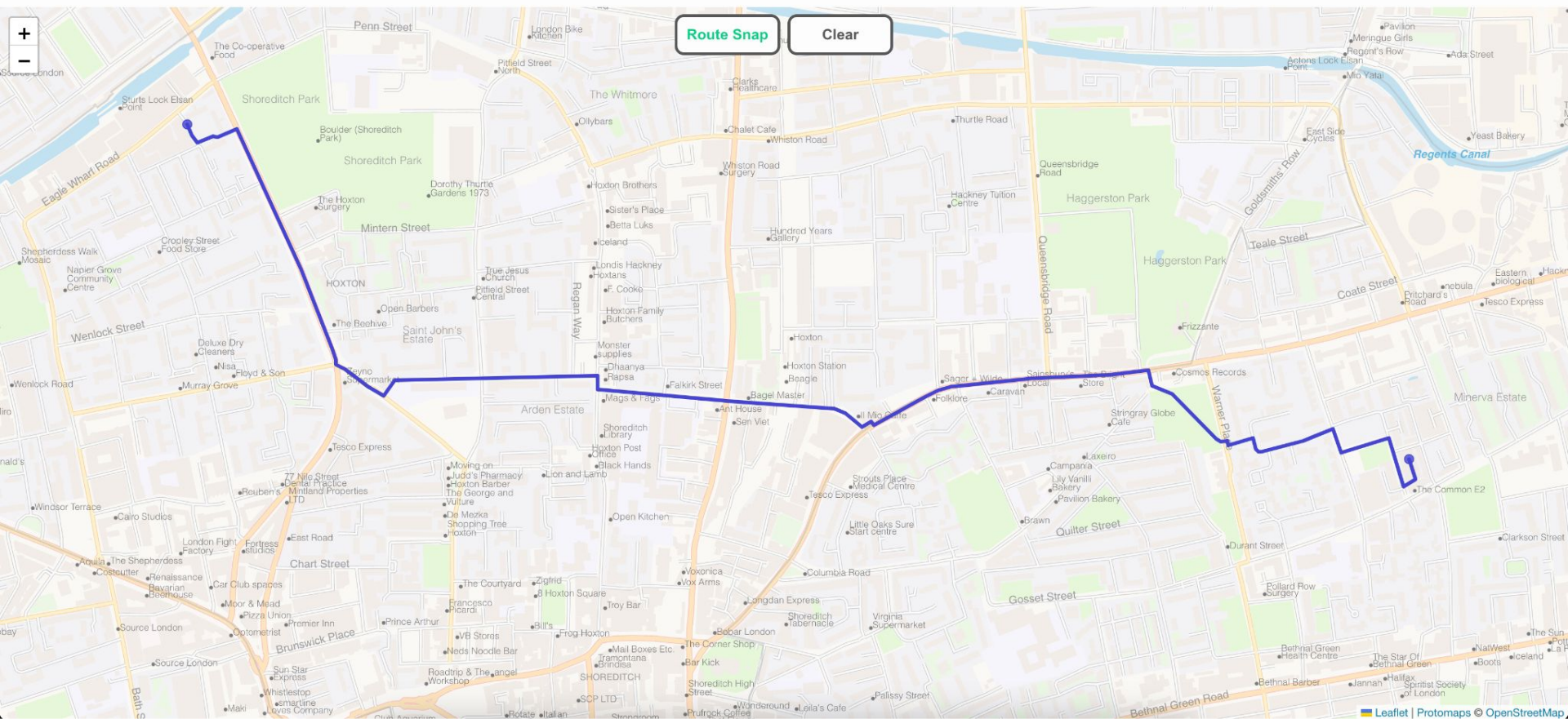


Feature Demand

Most people want to do something simple, but we also need to support the more complex cases







Automate

Automating makes life as a maintainer much simpler and reduces friction for contributors

- On PR
 - Linting
 - Unused code check
 - Build
 - Unit tests
 - E2E tests
- Release
 - Dry run
 - To npm

Triggered via push last week

JamesLMilner pushed -> 40fa74c [main](#)

Status	Total duration	Artifacts
Success	<u>2m 46s</u>	-

ci.yml
on: push

✓ lint	33s
✓ unused	32s
✓ build	1m 56s
✓ unit-tests	1m 40s
✓ e2e-tests	2m 41s

Community

Community Contributions



28 Contributors

People who have uniquely contributed to Terra Draw over the last 3 years



114 Dependent Repos

We can see from the dependency graph the other open source projects that depend on Terra Draw



711 stars on GitHub

A bit of a vanity metric but nice to see people taking an interest in the project!



64 forks on GitHub

Again nice to see people checking out the codebase and tinkering around

Getting Involved

If you are interested in getting more involved with the Terra Draw project, there are many ways to help:



Feedback

If you have feedback on the project, please feel free to write an issue on the GitHub repository or reach out



Share

If you know of projects that would benefit from the use of an open source map drawing library, please share Terra Draw with them



Contribute

Terra Draw welcomes contributions. There are many small issues that are good starting points for people wanting to help out.

Thanks

Questions?