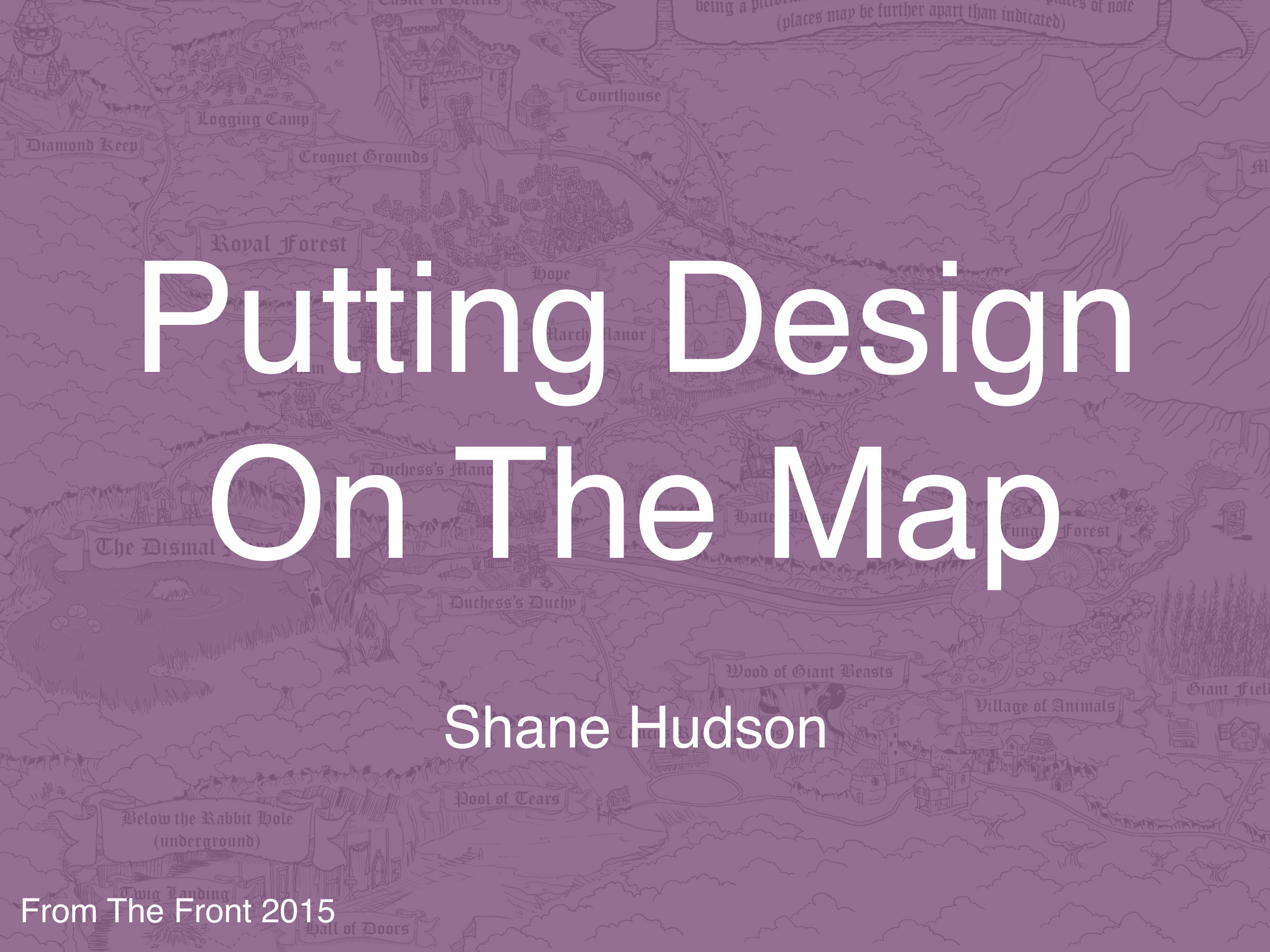
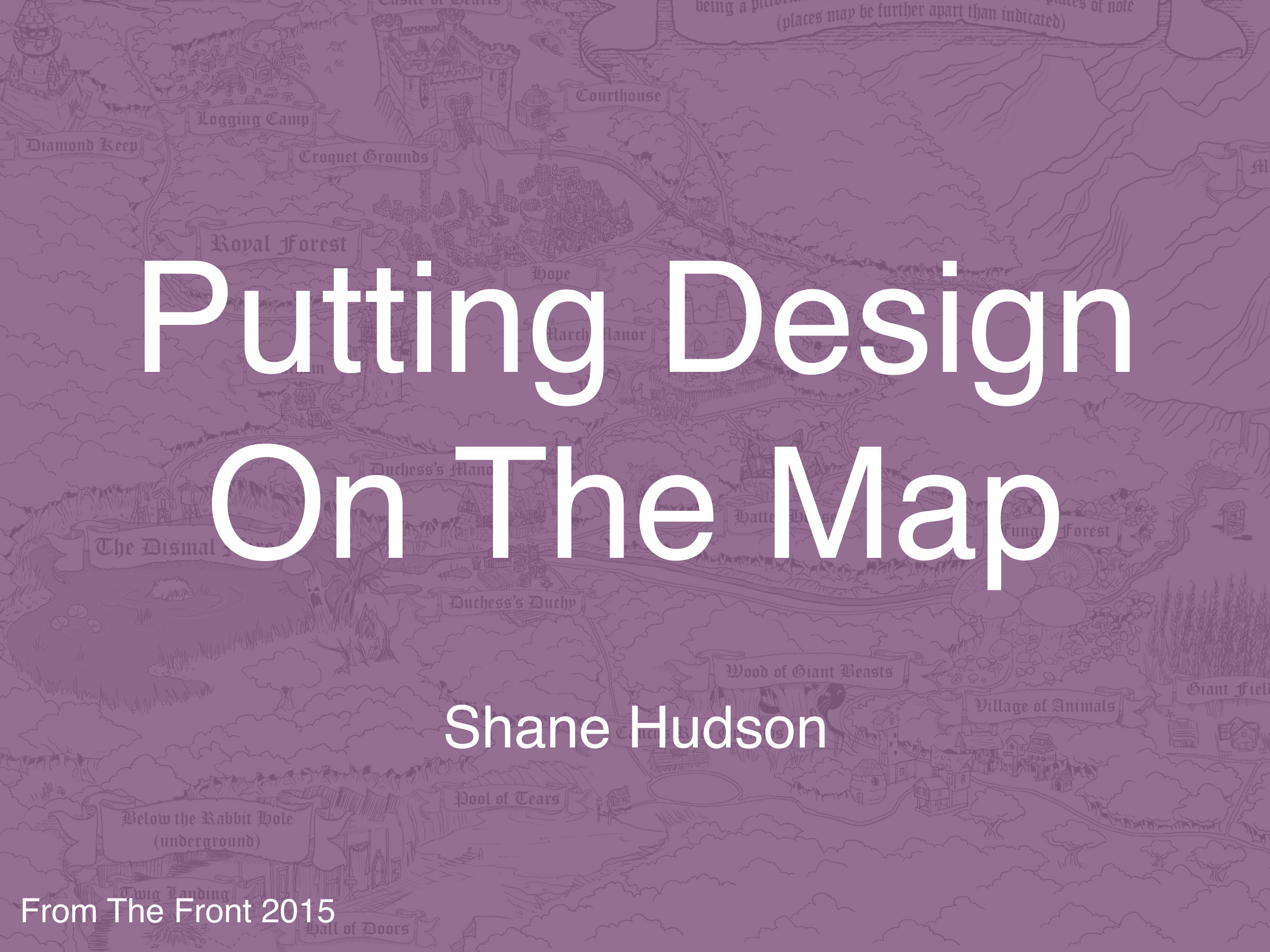




Putting Design On The Map

Shane Hudson

From The Front 2015



Putting Design On The Map

Shane Hudson

From The Front 2015

“ The original idea of the web was that it should be a collaborative space where you can communicate through sharing information. ”

Sir Tim Berners-Lee





“ But we already have Google Maps,
right? ”

Everyone

“Yup!”

Me

The First Web Page - No Styling!

World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

[What's out there?](#)

Pointers to the world's online information, [subjects](#) , [W3 servers](#), etc.

[Help](#)

on the browser you are using

[Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#) ,X11 [Viola](#) , [NeXTStep](#) , [Servers](#) , [Tools](#) , [Mail robot](#) , [Library](#))

[Technical](#)

Details of protocols, formats, program internals etc

[Bibliography](#)

Paper documentation on W3 and references.

[People](#)

A list of some people involved in the project.

[History](#)

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[How can I help ?](#)

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[Getting code](#)

Getting the code by [anonymous FTP](#) , etc.

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Google



ViziCities



CESIUM



esri



MAPZEN



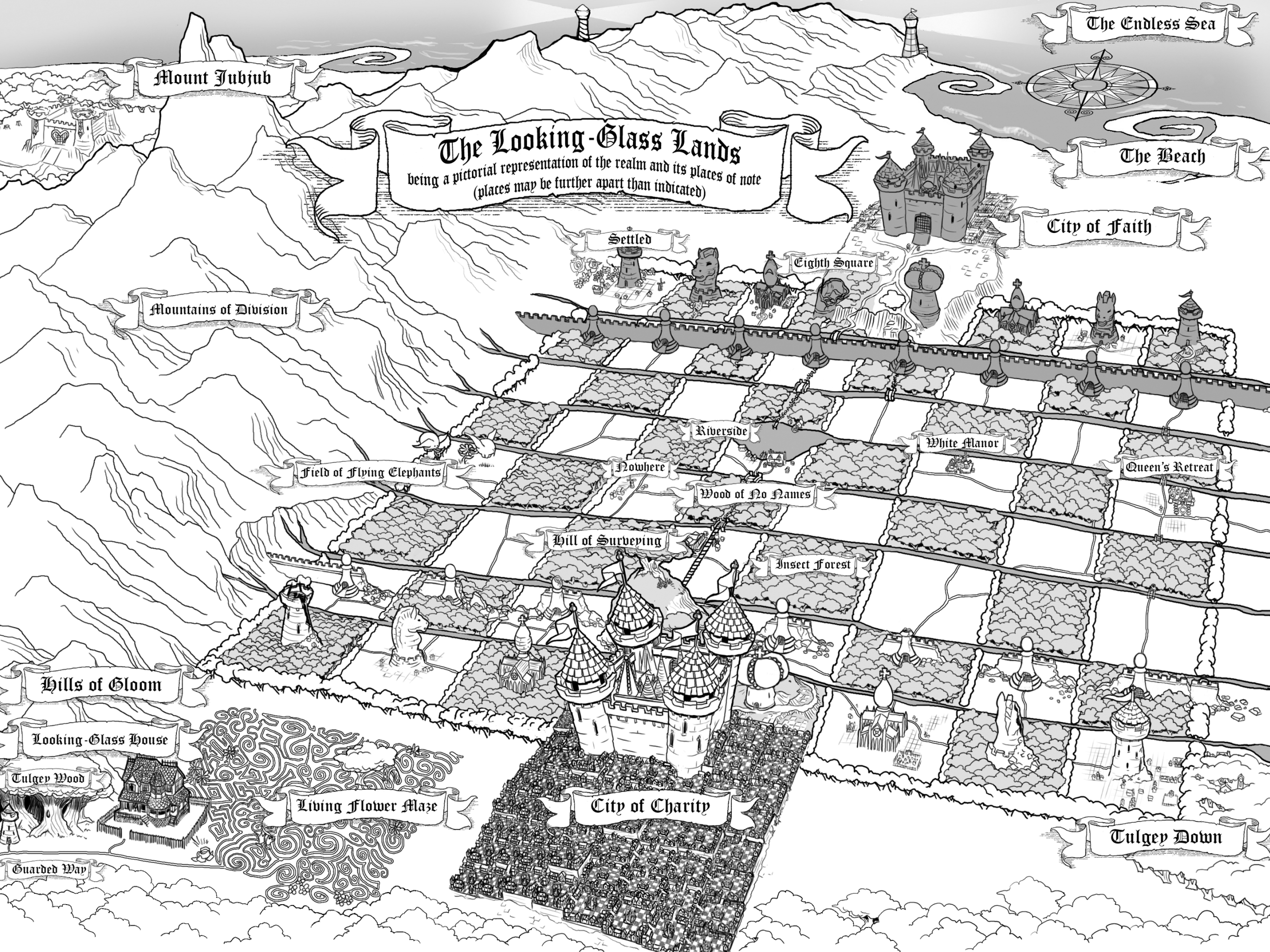
CARTO^{DB}

Polymaps

Leaflet



Mapbox



Mount Jubjub

The Looking-Glass Lands
being a pictorial representation of the realm and its places of note
(places may be further apart than indicated)

The Endless Sea

The Beach

City of Faith

Settled

Eighth Square

Mountains of Division

Field of Flying Elephants

Riverside

Nowhere

Wood of No Names

White Manor

Queen's Retreat

Hill of Surveying

Insect Forest

Hills of Gloom

Looking-Glass House

Tulgey Wood

Living Flower Maze

City of Charity

Tulgey Down

Guarded Way

“ A map does not just chart, it unlocks and formulates meaning; it forms bridges between here and there, between disparate ideas that we did not know were previously connected. ”

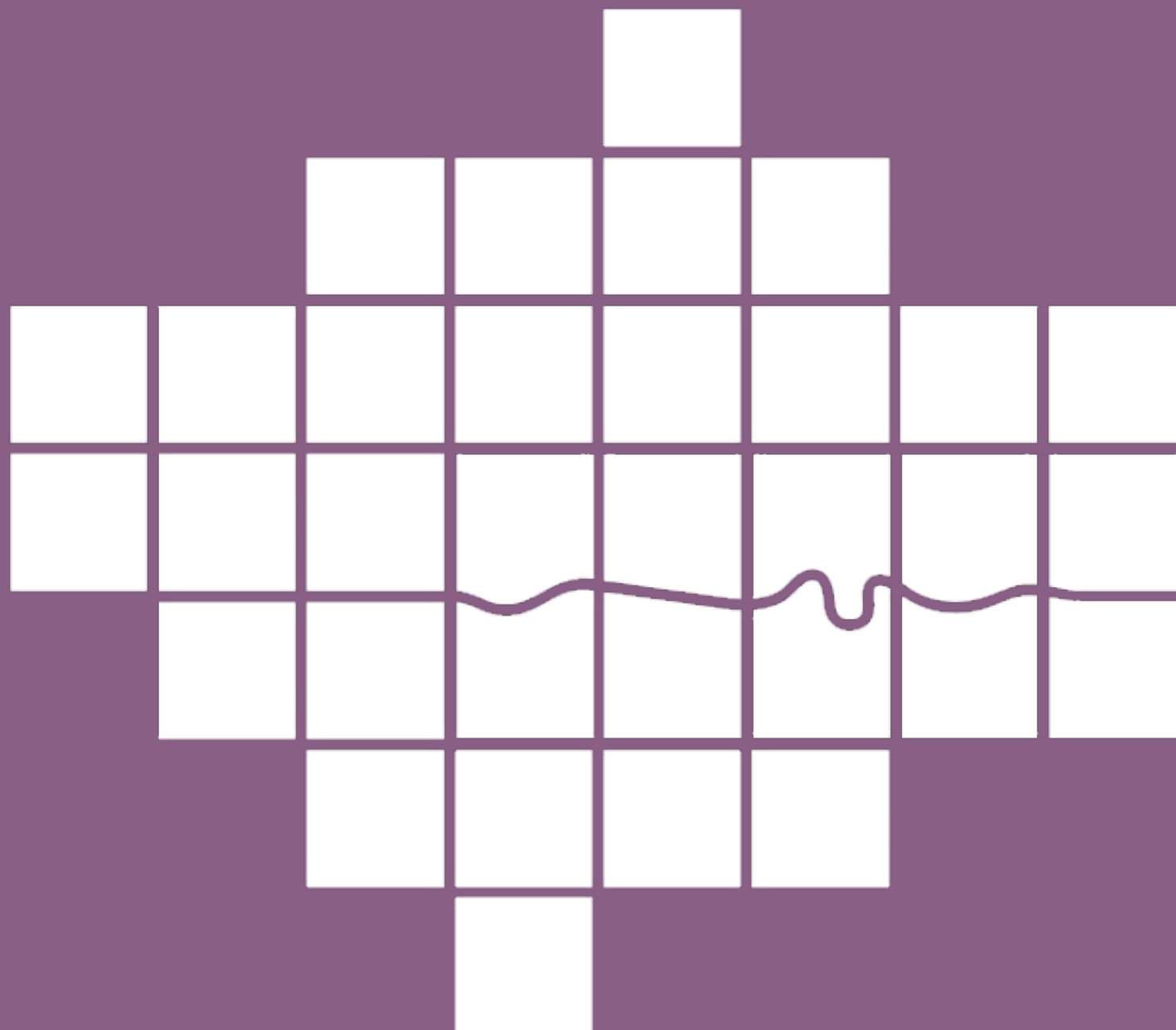
Reif Larsen, *The Selected Works of T.S. Spivet*

“ A map does not just chart, it unlocks and formulates meaning; it forms bridges between here and there, between disparate ideas that we did not know were previously connected. ”

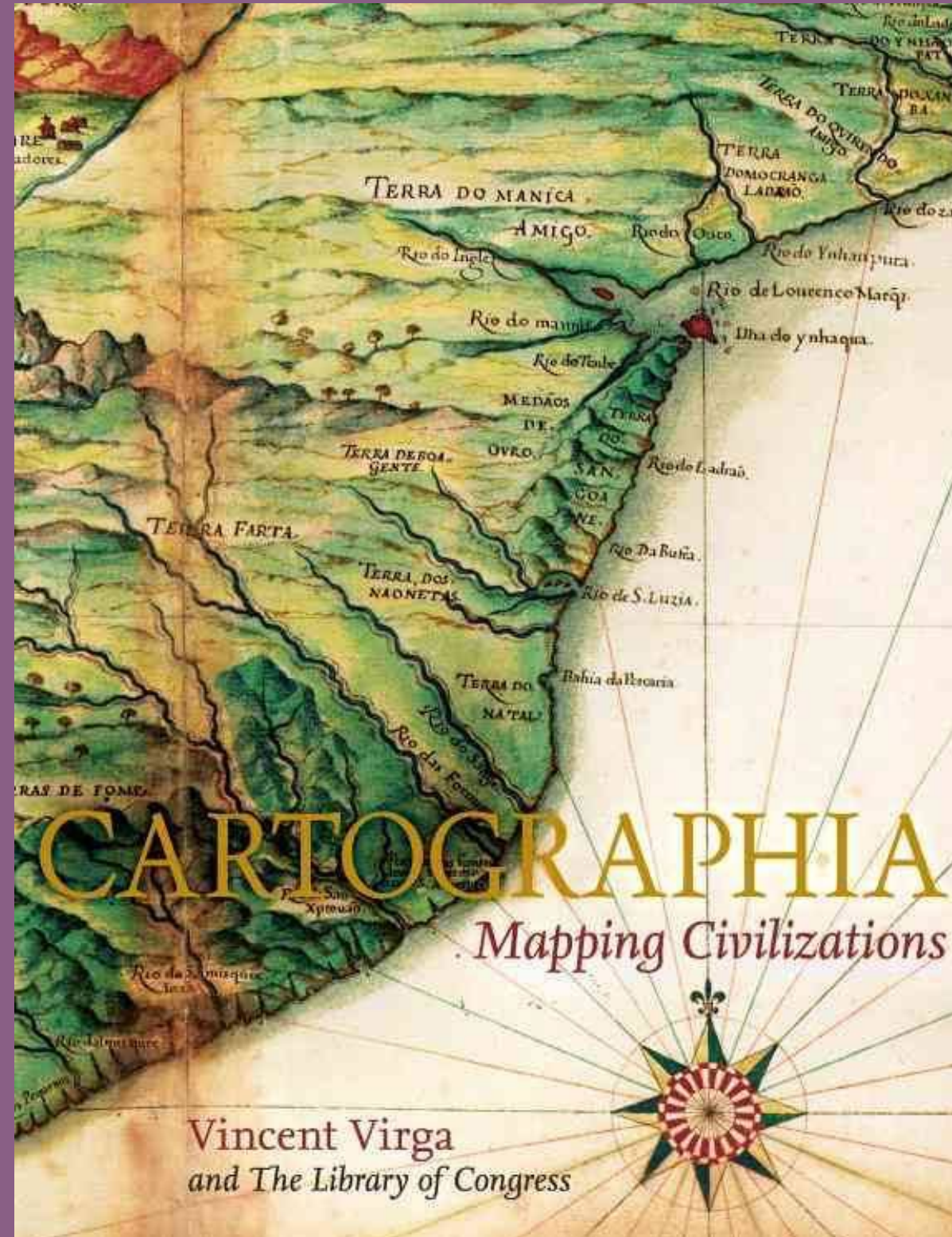
Reif Larsen, *The Selected Works of T.S. Spivet*

The difference between a map and a picture is the **context** between the lines and dots, the unlocked meaning within.

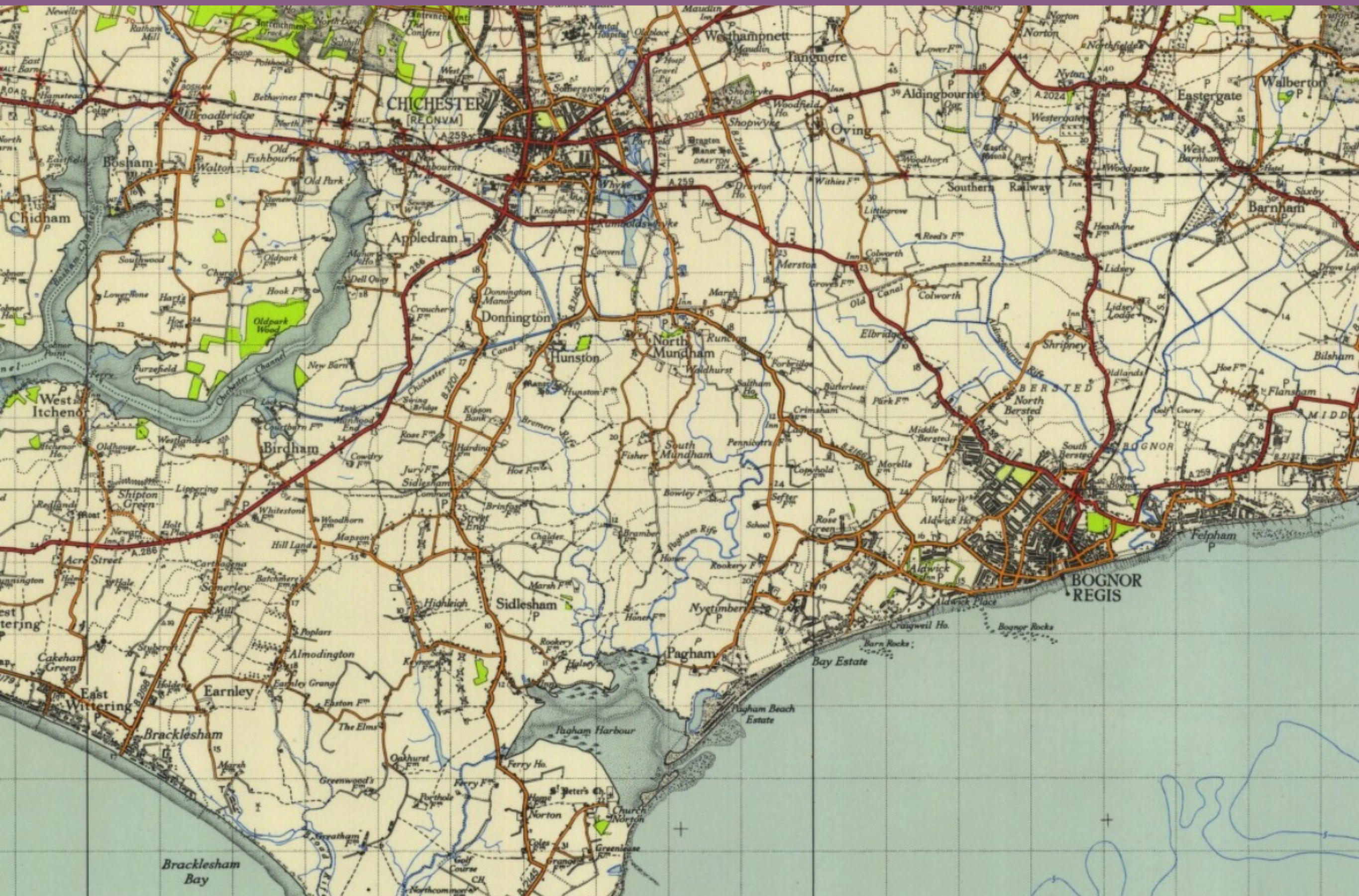
London Squared Map



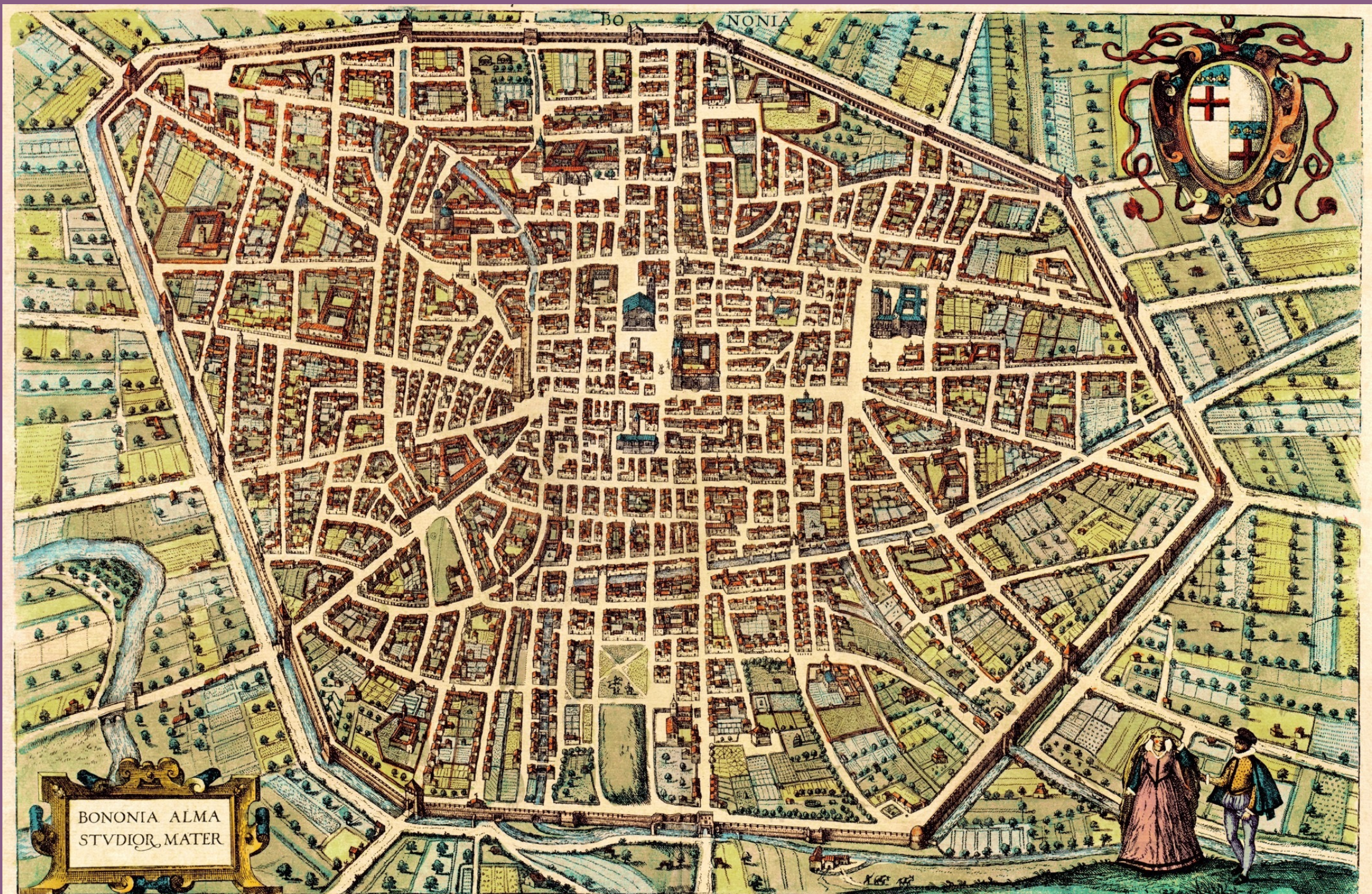
Cartographia by Vincent Virga



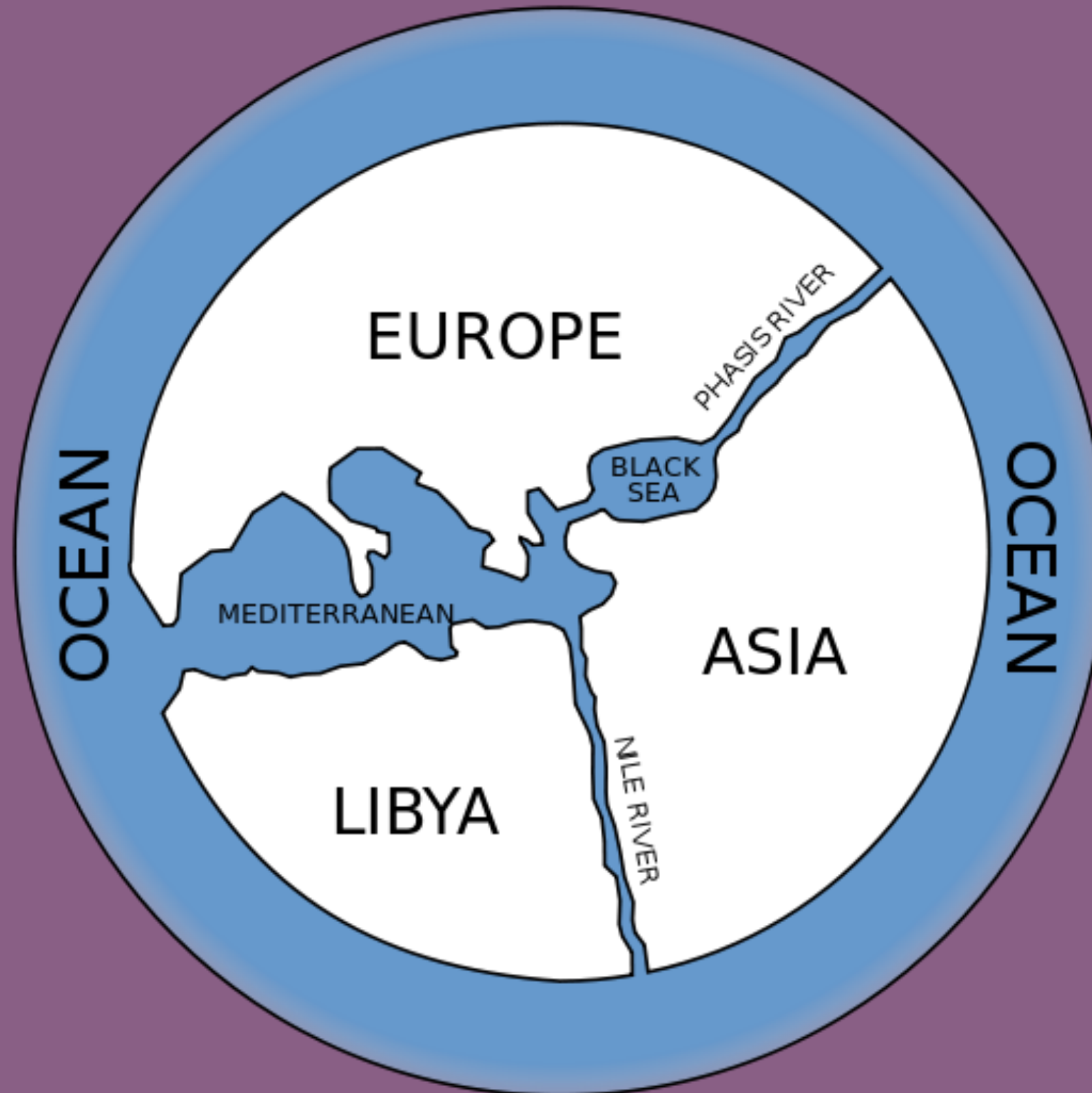
1947 Ordnance Survey Map



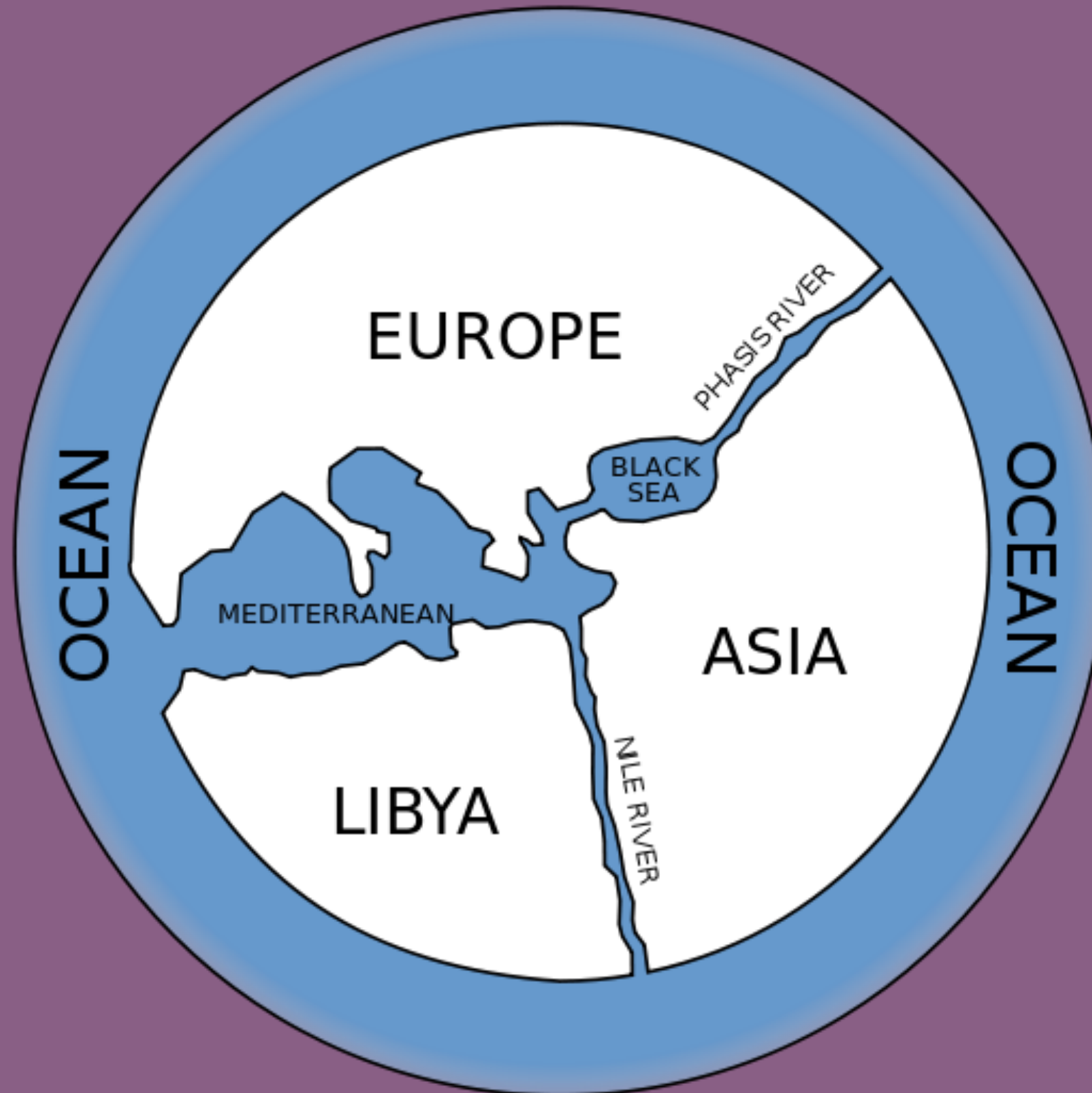
Map of Bologna from Civitates Orbis Terrarium



Reconstruction of Anaximander's Map



Reconstruction of Anaximander's Map



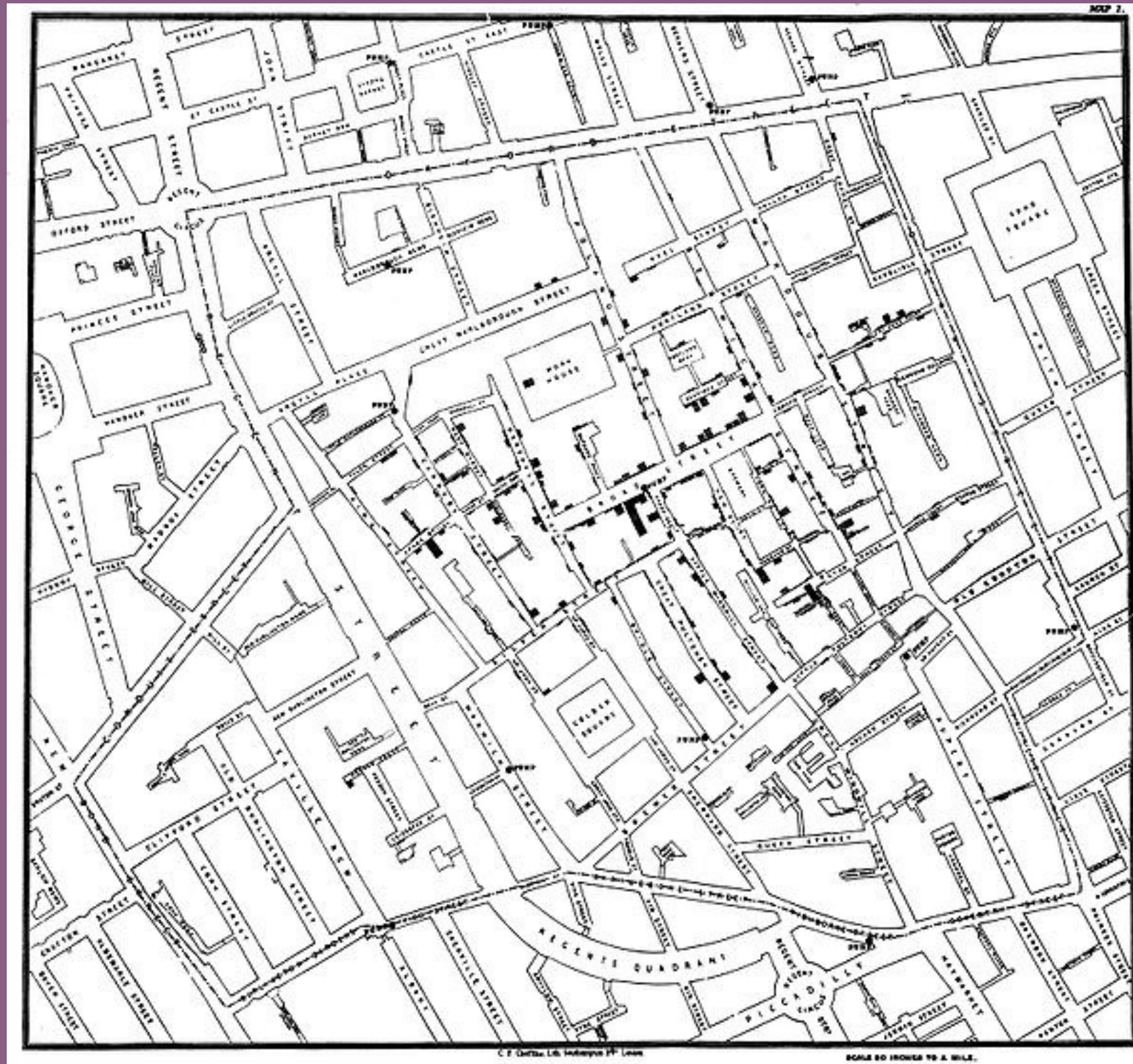
Reconstruction of 'The World According To Hecataeus'



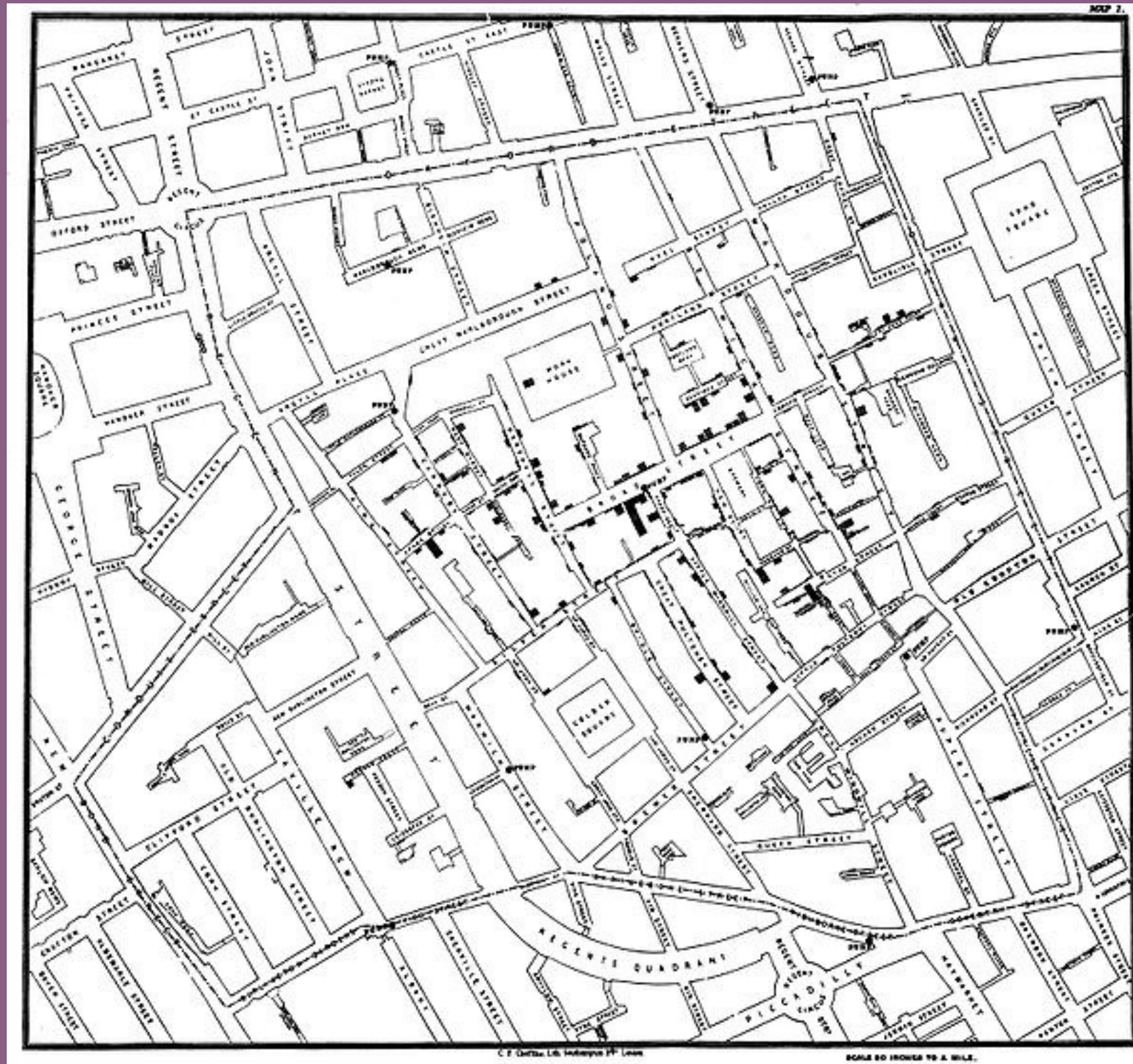
Reconstruction of 'The World According To Hecataeus'



Dr John Snow's 1854 Map of the London Cholera Outbreak



Dr John Snow's 1854 Map of the London Cholera Outbreak



Ethnographical map of the Balkan Peninsula by Jovan Cvijić

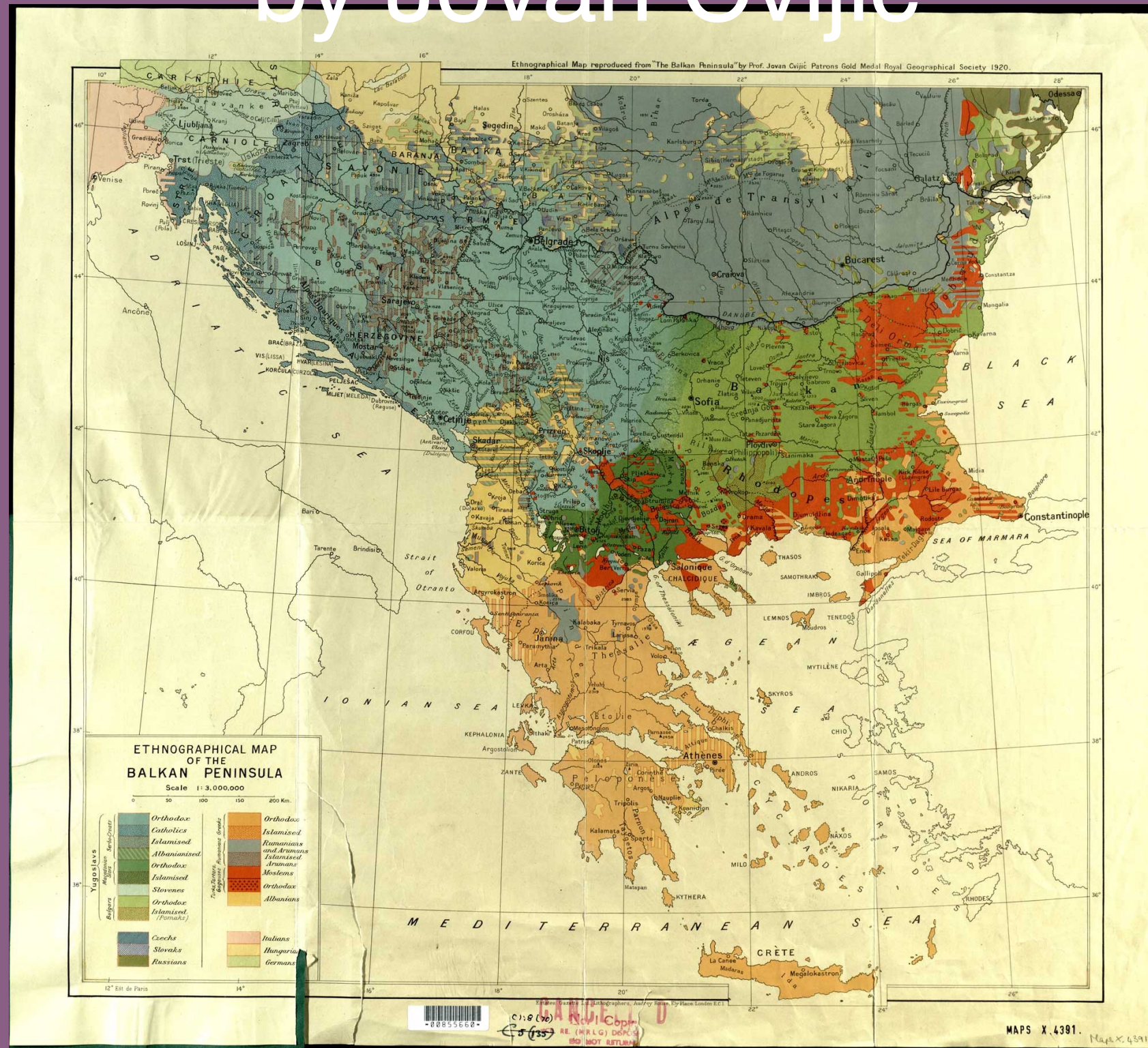
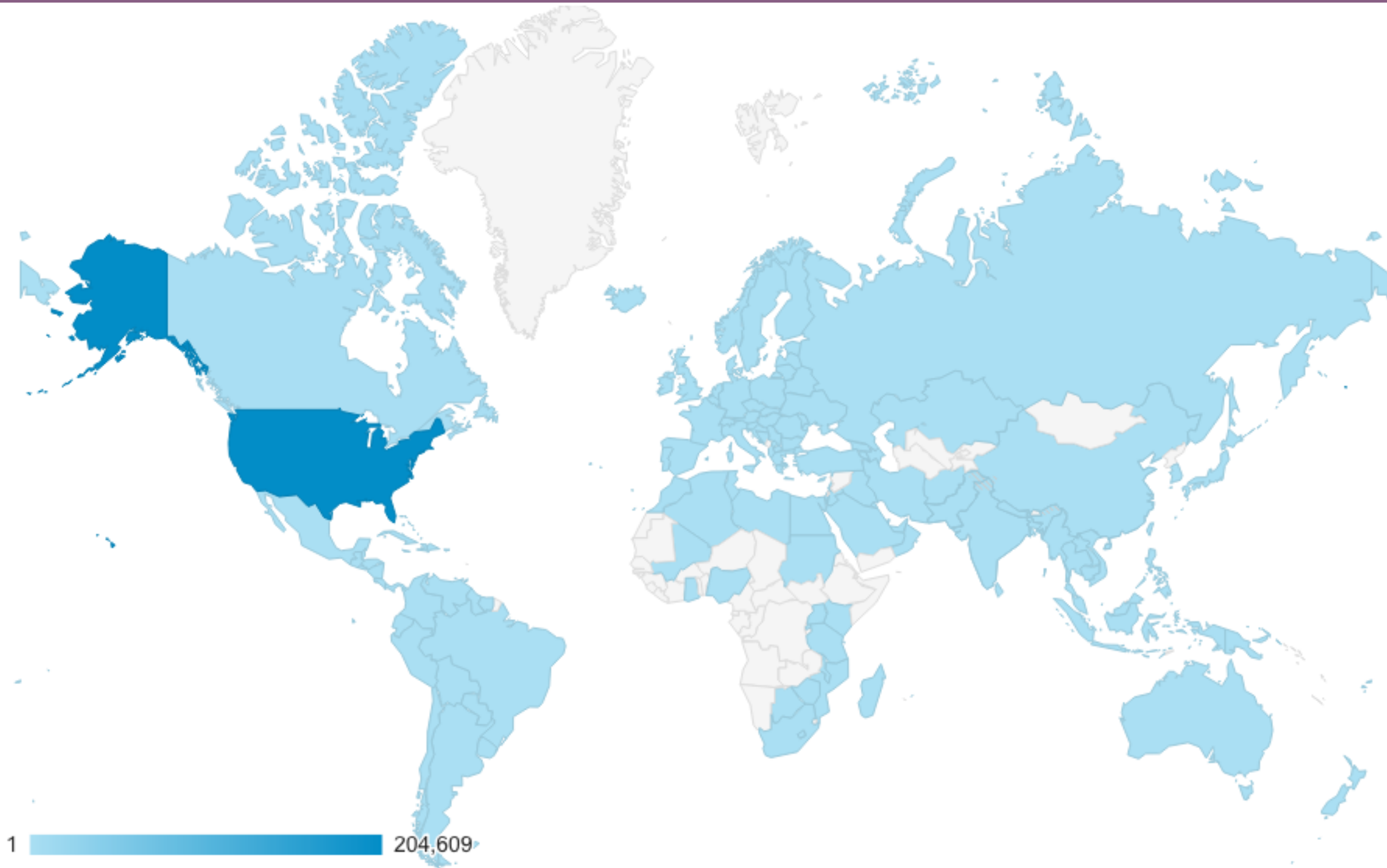


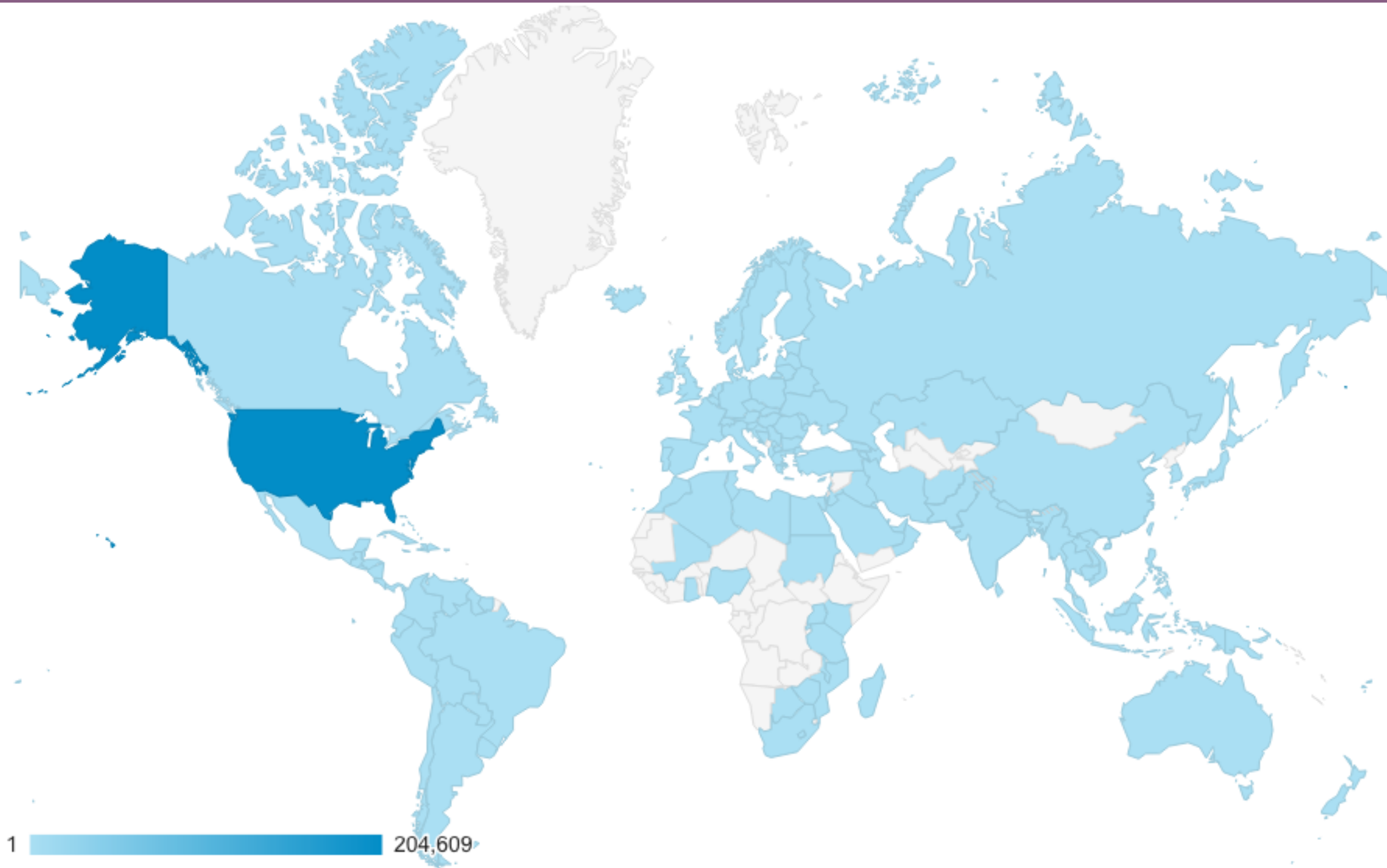
Photo of Cyprus taken In 2014 from the International Space Station

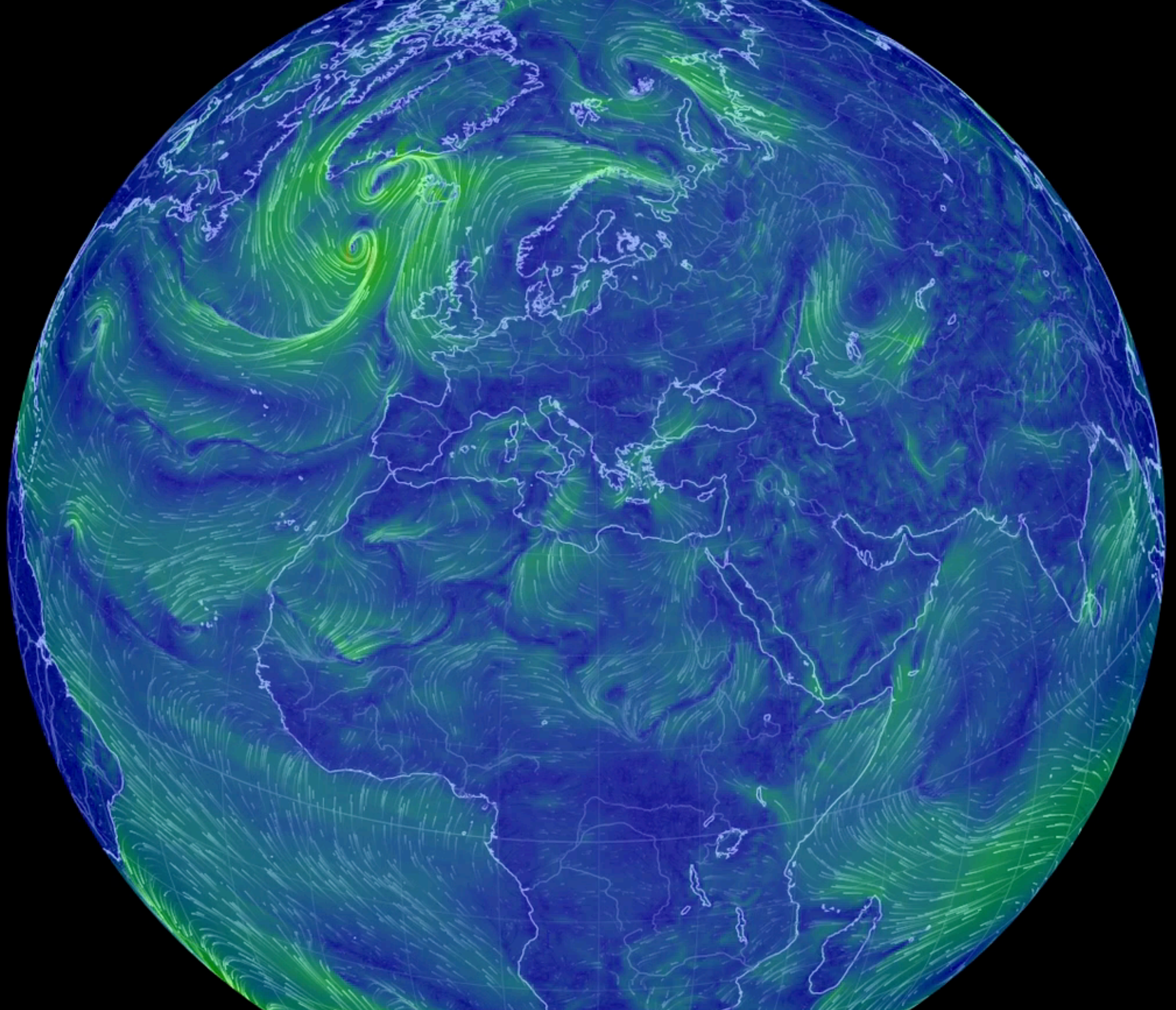


Google Analytics Locations



Google Analytics Locations





1862 Map of Abe River Region



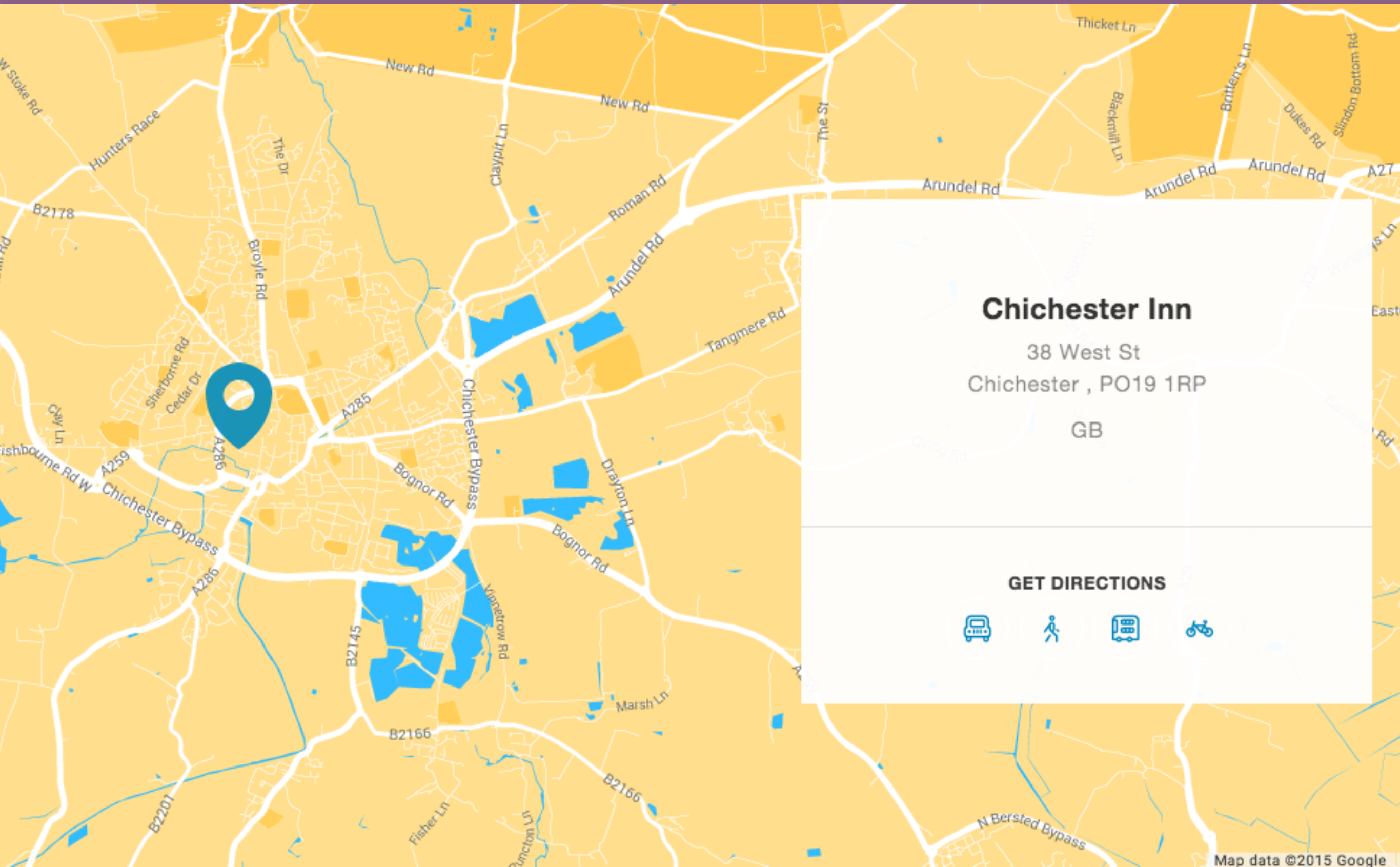


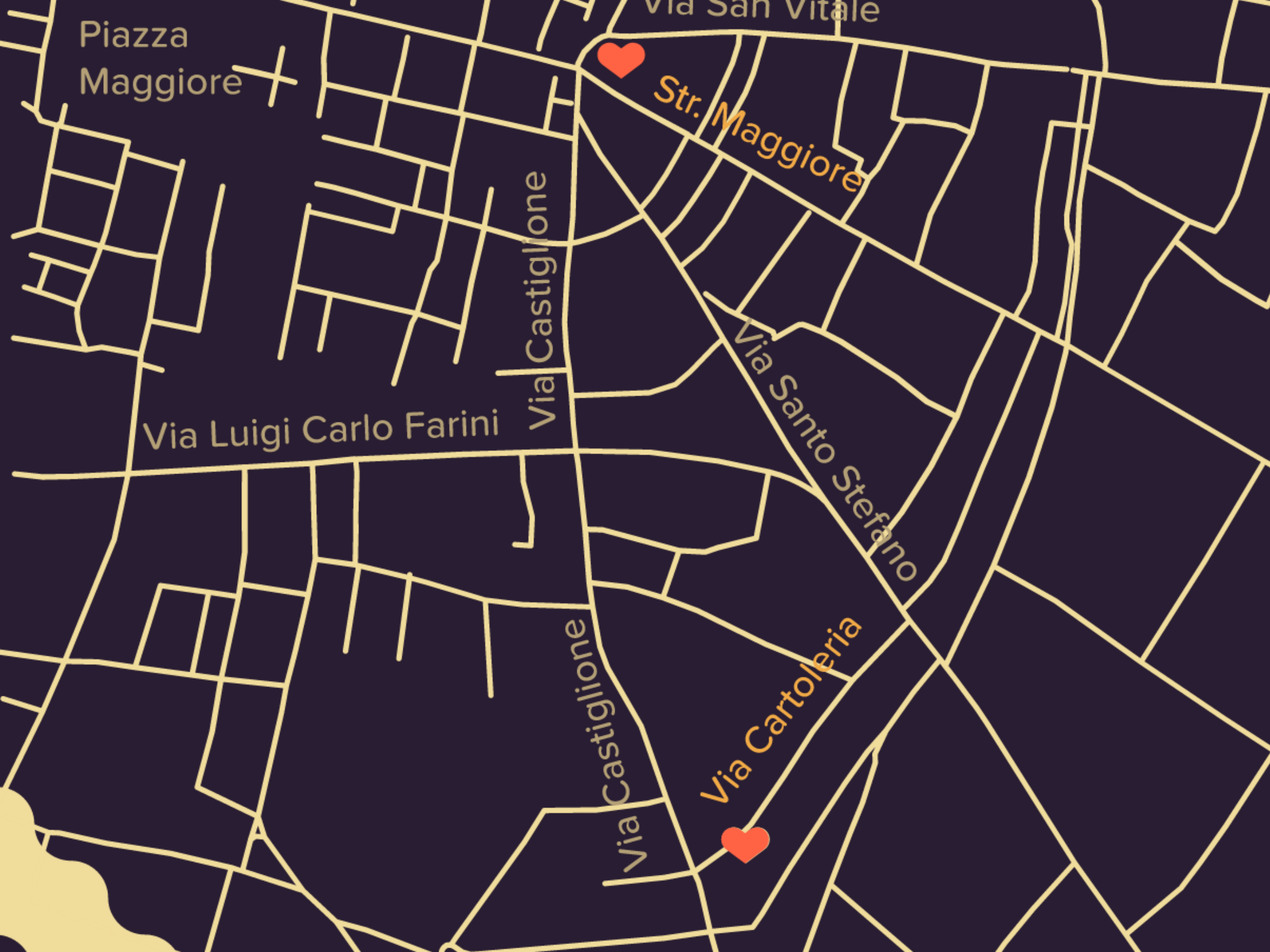
W. H. P. 1872



W. H. P. 1872

Eventbrite Styled Google Map





Piazza
Maggiore

Str. Maggiore

Via Castiglione

Via Luigi Carlo Farini

Via Santo Stefano

Via Castiglione

Via Cartoleria

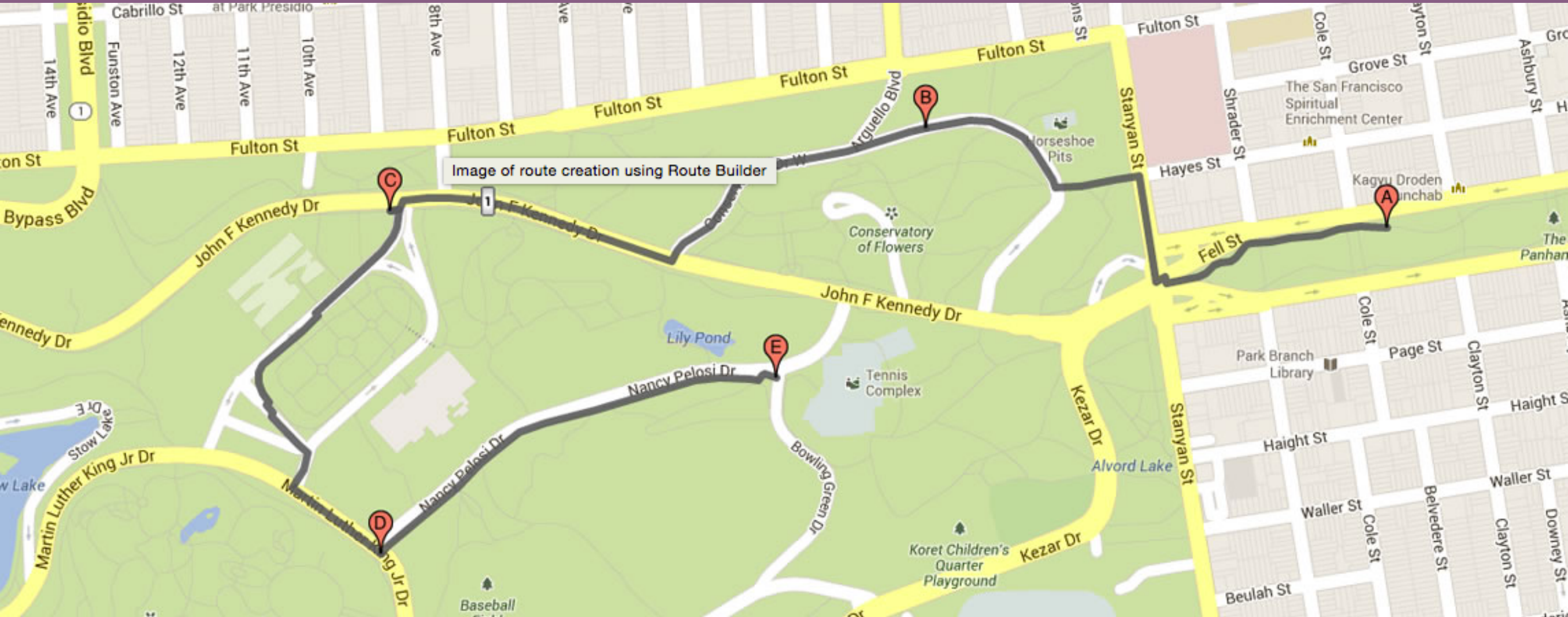
2015 Map for dConstruct Venue



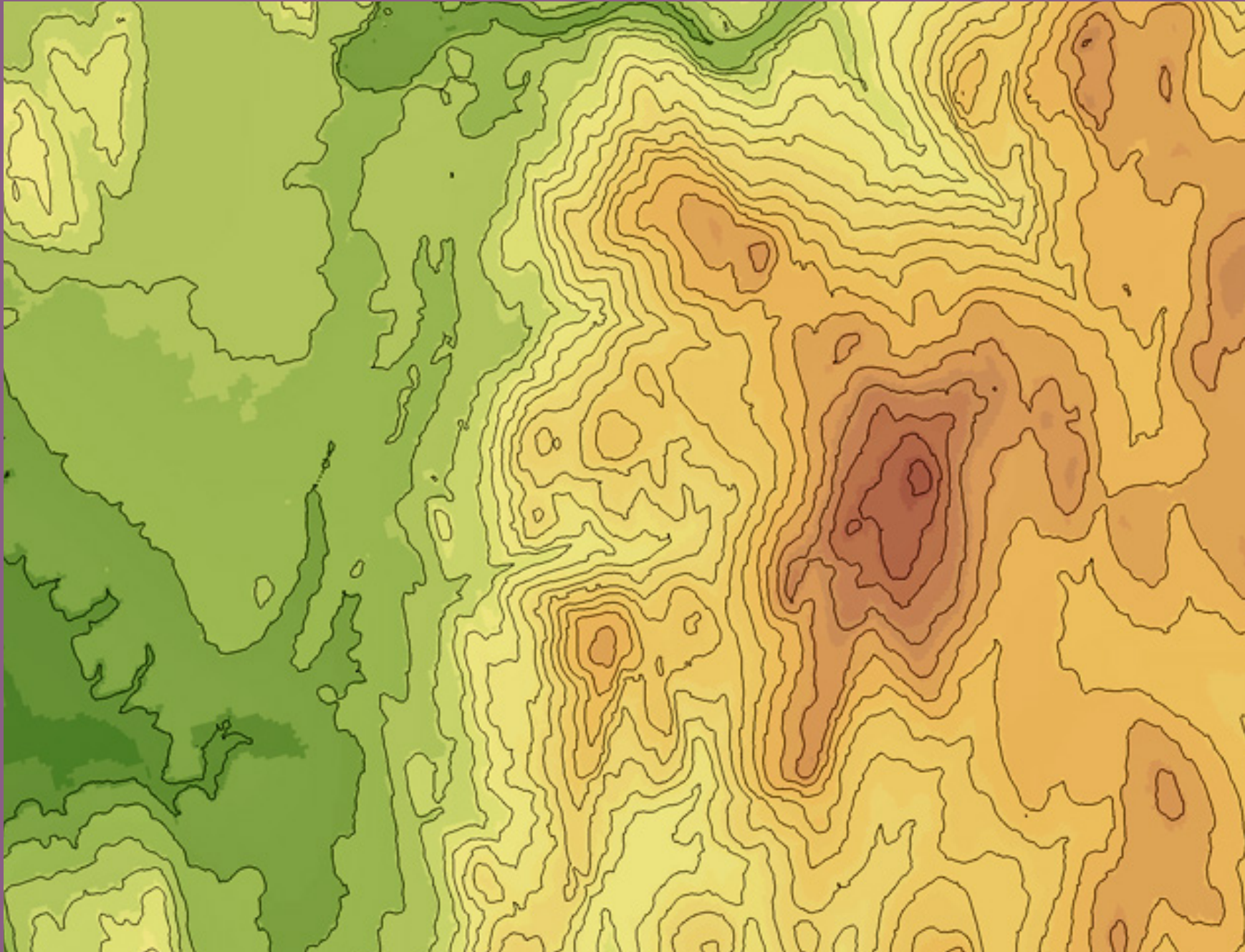
Located at
BRIGHTON DOME

Visualisation Techniques

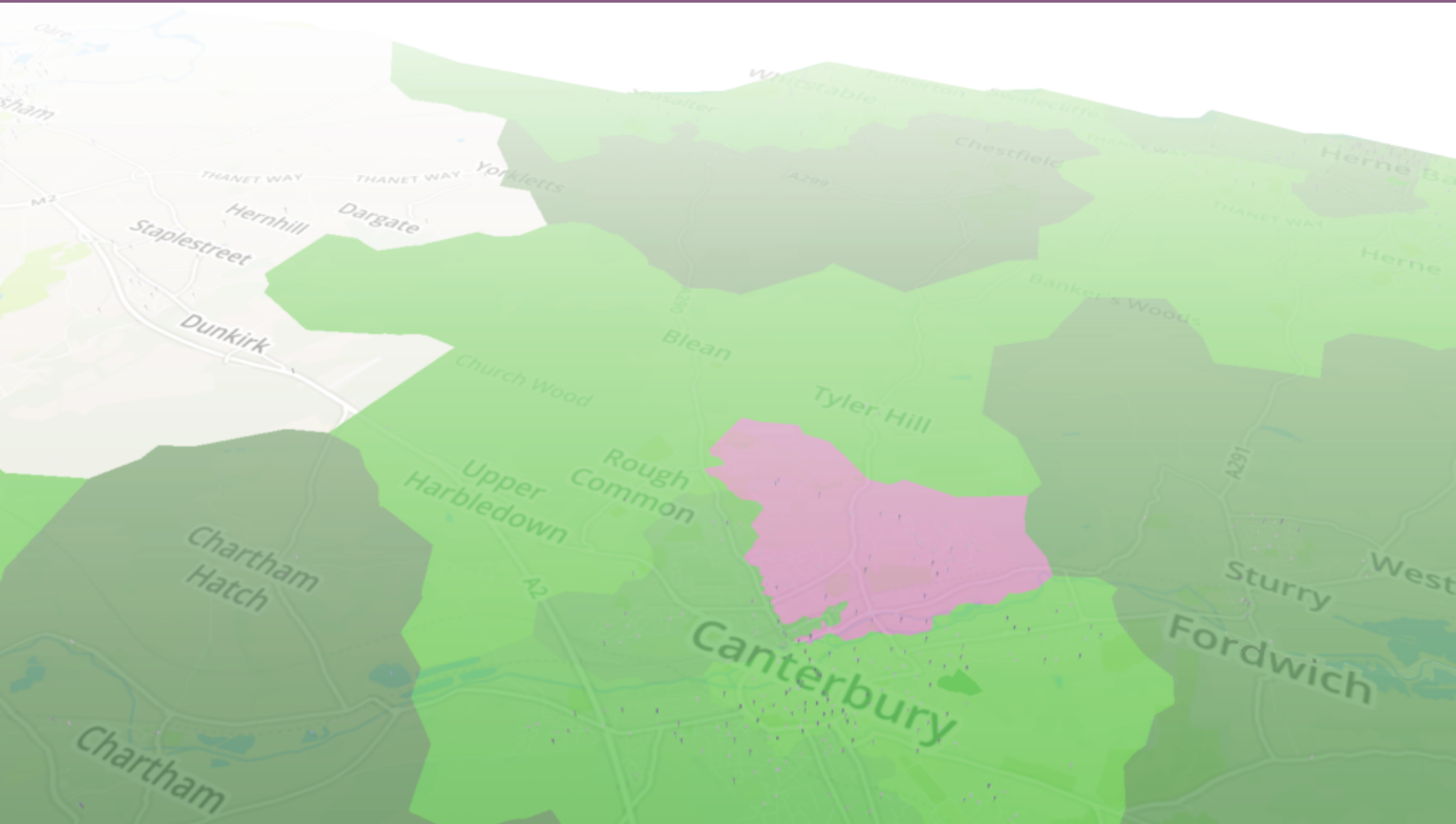
Markers



Contours



Choropleth

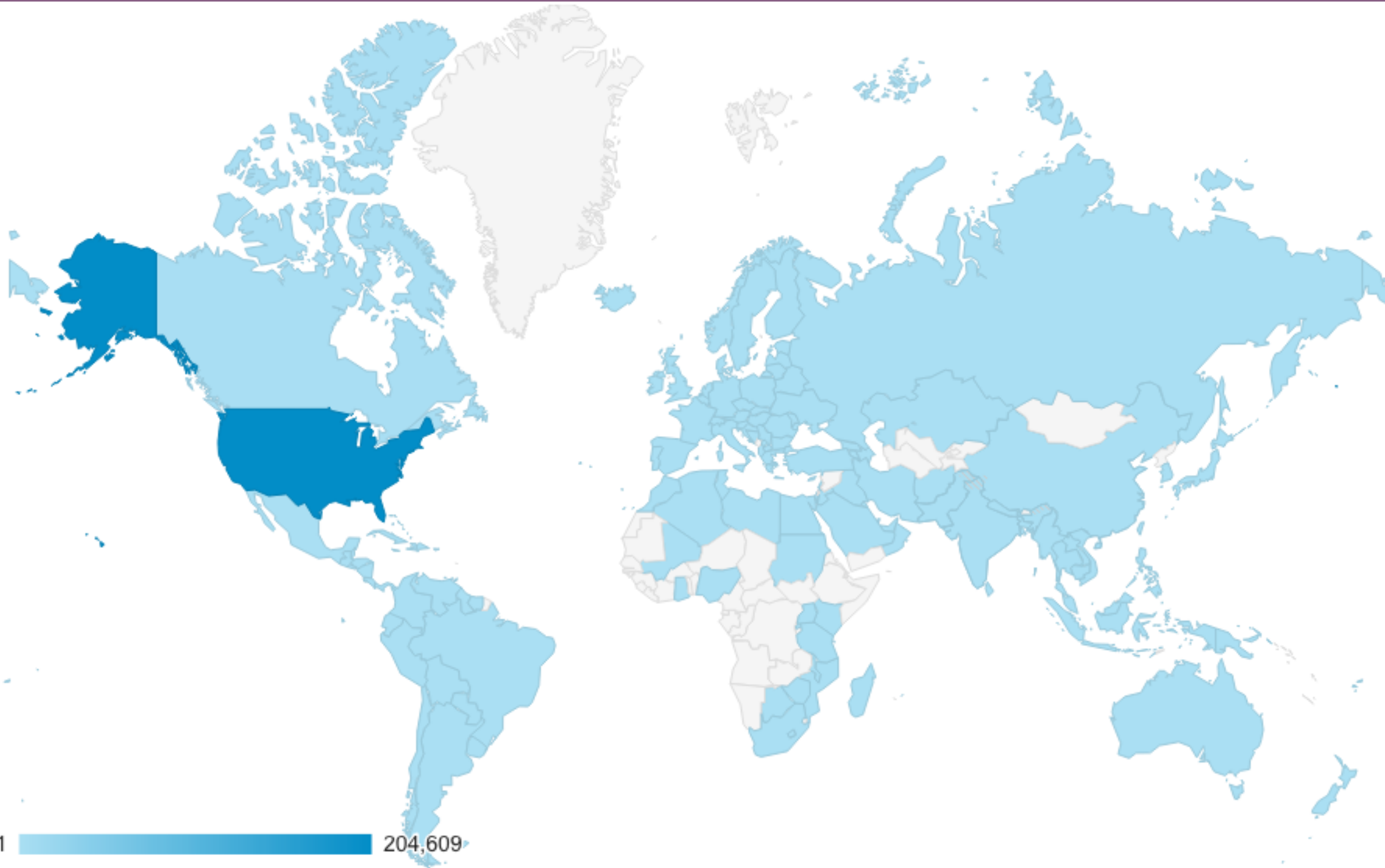


Heatmap



Technical

Google Analytics Locations



Using Google Charts To Produce A Map

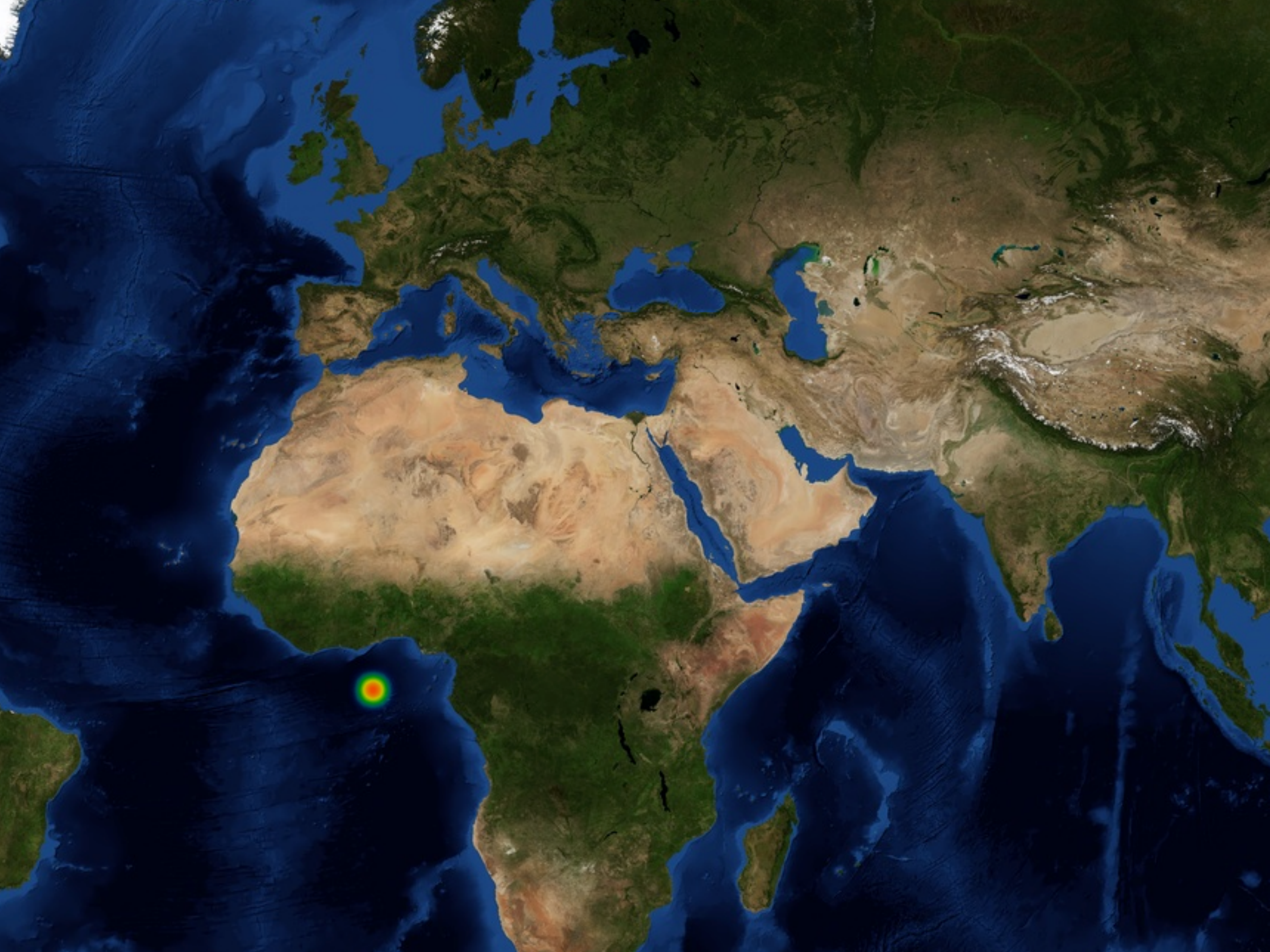
```
google.load("visualization", "1", {packages:["geochart"]});
google.setOnLoadCallback(drawRegionsMap);

function drawRegionsMap() {
  var data = google.visualization.arrayToDataTable([
    // array of countries with data such as ["Italy", 100]
  ]);

  var options = {};
  var chart = new google.visualization.GeoChart(container);
  chart.draw(data, options);
}
```


Projections

EPSG:4326 = Geographic Coordinate
System
EPSG:3857 = Projected Coordinate
System



Base Maps



Streets

Worldwide streets and terrain data



Streets Classic

Worldwide streets



Comic

Fun design



Light

Subtle map for data visualization



Dark

Subtle map for data visualization



Satellite

Worldwide imagery

API Response

```
{
  "messages": [
    {
      "device": "1615",
      "owner": "gizmo",
      "topic": "/orgs/EMSC/aegean-sea",
      "payload": {
        "encoding": "UTF-8",
        "content-type": "text/plain",
        "text": {
          "source-catalog": "EMSC-RTS",
          "time": "2015-09-07T08:17:54.9Z",
          "longitude": 24.6,
          "magnitude": 2.8,
          "unit-id": "20150907_0000038",
          "auth": "THE",
          "region": "AEGEAN SEA",
          "updated_at": "2015-09-07T08:32:00.0Z",
          "depth-in-km": 7.0,
          "magnitude-type": "ml",
          "id": "20150907_0000038",
          "latitude": 38.6,
          "source-id": "458114",
          "event-type": "ke"
        }
      },
      "date": "2015-09-07T08:37:25.650Z",
      "device": "1615",
      "owner": "gizmo",
      "topic": "/orgs/EMSC/aegean-sea",
      "payload": {
        "encoding": "UTF-8",
        "content-type": "text/plain",
        "text": {
          "source-catalog": "EMSC-RTS",
          "time": "2015-08-21T05:58:25.8Z",
          "longitude": 25.87,
          "magnitude": 2.0,
          "unit-id": "20150821_0000014",
          "auth": "ISK",
          "region": "AEGEAN SEA",
          "updated_at": "2015-08-21T06:12:00.0Z",
          "depth-in-km": 9.0,
          "magnitude-type": "ml",
          "id": "20150821_0000014",
          "latitude": 40.34,
          "source-id": "455634",
          "event-type": "ke"
        }
      },
      "date": "2015-08-21T06:17:21.576Z",
      "device": "1615",
      "owner": "gizmo",
      "topic": "/orgs/EMSC/aegean-sea",
      "payload": {
        "encoding": "UTF-8",
        "content-type": "text/plain",
        "text": {
          "source-catalog": "EMSC-RTS",
          "time": "2015-08-21T06:17:21.576Z",
          "longitude": 25.87,
          "magnitude": 2.0,
          "unit-id": "20150821_0000014",
          "auth": "ISK",
          "region": "AEGEAN SEA",
          "updated_at": "2015-08-21T06:12:00.0Z",
          "depth-in-km": 9.0,
          "magnitude-type": "ml",
          "id": "20150821_0000014",
          "latitude": 40.34,
          "source-id": "455634",
          "event-type": "ke"
        }
      },
      "date": "2015-08-21T06:17:21.576Z"
    }
  ]
}
```

GeoJSON

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [24.6, 38.6]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.87, 40.34]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.61, 39.79]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.9, 38.47]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.75, 38.82]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.14, 40.18]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.71, 40.33]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.86, 39.45]
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [25.99, 39.38]
      }
    }
  ]
}
```




Earthquakes - Set up Open Layers map

```
var raster = new ol.layer.Tile({  
  source: new ol.source.MapQuest({layer: 'sat'})  
});
```

```
var map = new ol.Map({  
  target: 'map',  
  layers: [ raster ],  
  view: new ol.View({  
    center: ol.proj.transform(  
      [37.41, 8.82], 'EPSG:4326', 'EPSG:3857'  
    ),  
    zoom: 4  
  })  
});
```


Earthquakes - Set up Open Layers map

```
var raster = new ol.layer.Tile({  
  source: new ol.source.MapQuest({layer: 'sat'})  
});
```

```
var map = new ol.Map({  
  target: 'map',  
  layers: [ raster ],  
  view: new ol.View({  
    center: ol.proj.transform(  
      [20, 40], 'EPSG:4326', 'EPSG:3857'  
    ),  
    zoom: 4  
  })  
});
```

Earthquakes - Get Data

```
$.ajax({  
  type: "GET",  
  url: "https://opensensors.io/api/1.0/users/ShaneHudson/messages-by-topic",  
  headers: {"Authorization": "api-key xxxxx"},  
  data: {  
    "topic": "/orgs/EMSC/aegean-sea"  
  },  
  success: addData  
});
```


Earthquakes - Parse The Data

```
function parseGeo(data) {  
  var geoData = {  
    type: "FeatureCollection",  
    features: []  
  };  
  
  for (var i = 0; i < data.messages.length; i++) {  
    var payload = JSON.parse(data.messages[i].payload.text);  
    geoData.features.push({  
      type : "Feature",  
      geometry : {  
        type : "Point",  
        coordinates : [payload.longitude, payload.latitude]  
      }  
    });  
  }  
  
  return geoData;  
}
```

Earthquakes - Put Data On The Map

```
var addData = function(response) {  
  var format = new ol.format.GeoJSON();  
  var heatmap = new ol.layer.Heatmap({  
    source: new ol.source.Vector({  
      features: format.readFeatures(  
        parseGeo(response), {  
          featureProjection : "EPSG:3857"  
        })  
      }  
    }  
  )),  
  radius: 5  
});  
  
map.addLayer(heatmap);  
};
```

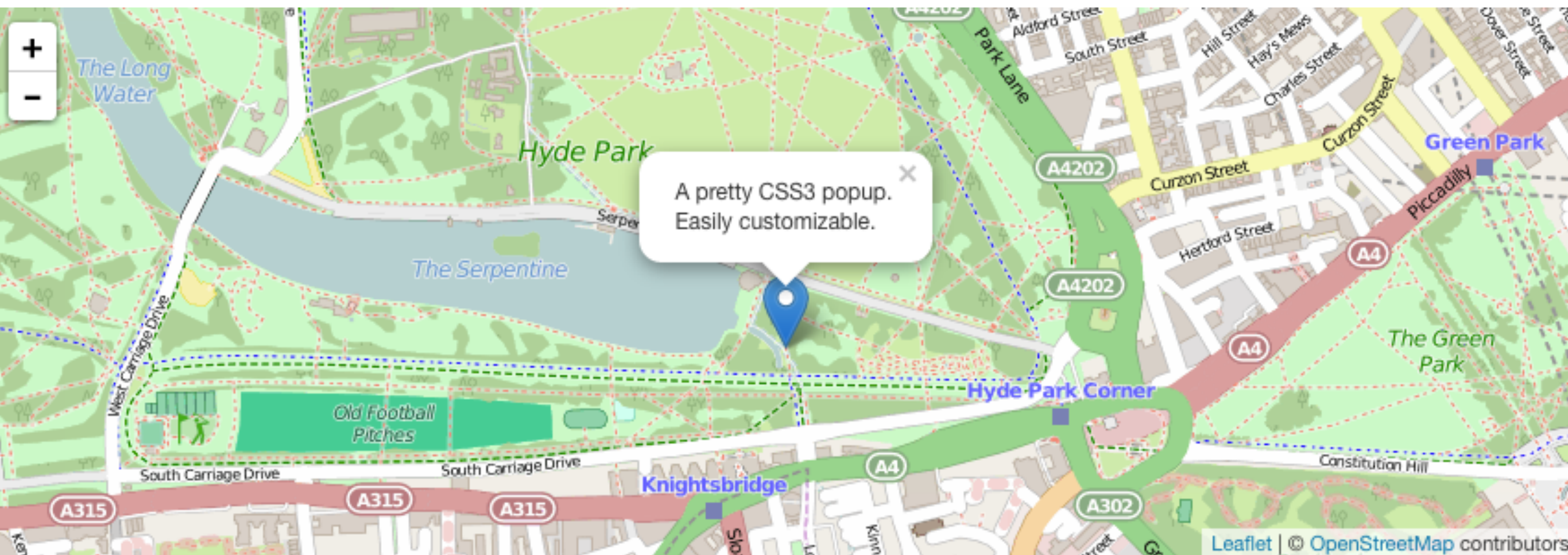



Web Maps Can Work Offline! (Soon)

Real time

Tools

Leaflet



Leaflet

```
var map = L.map('map').setView([51.505, -0.09], 13);

L.tileLayer('http://{s}.tile.osm.org/{z}/{x}/{y}.png', {
  attribution: '&copy; <a href="http://osm.org/copyright">OpenStreetMap</a> contributors'
}).addTo(map);

L.marker([51.5, -0.09]).addTo(map)
  .bindPopup('A pretty CSS3 popup.<br> Easily customizable.')
  .openPopup();
```


Open Layers

 OpenLayers 3

[Docs](#)

[Examples](#)

[API](#)

[Code](#)

A high-performance, feature-packed library for all your mapping needs.

LATEST

OpenLayers v3.9.0 is here! Check out the [docs](#) and the [examples](#) to get started. The full distribution can be downloaded from the [release page](#).

If you've come here looking for OpenLayers 2.x information, you'll find everything you need on the [2.x page](#).

FEATURES

Tiled Layers

Pull tiles from OSM, Bing, MapBox, Stamen, MapQuest, and any other XYZ source you can find. OGC mapping services and untiled layers also supported.



Fast & Mobile Ready

Mobile support out of the box. Build lightweight custom profiles with just the components you need.



Vector Layers

Render vector data from GeoJSON, TopoJSON, KML, GML, and a growing number of other formats.



Cutting Edge & Easy to Customize

Map rendering leverages WebGL, Canvas 2D, and all the latest greatness from HTML5. Style your map controls with straight-forward CSS.



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ViziCities

ViziCities

[Blog](#)

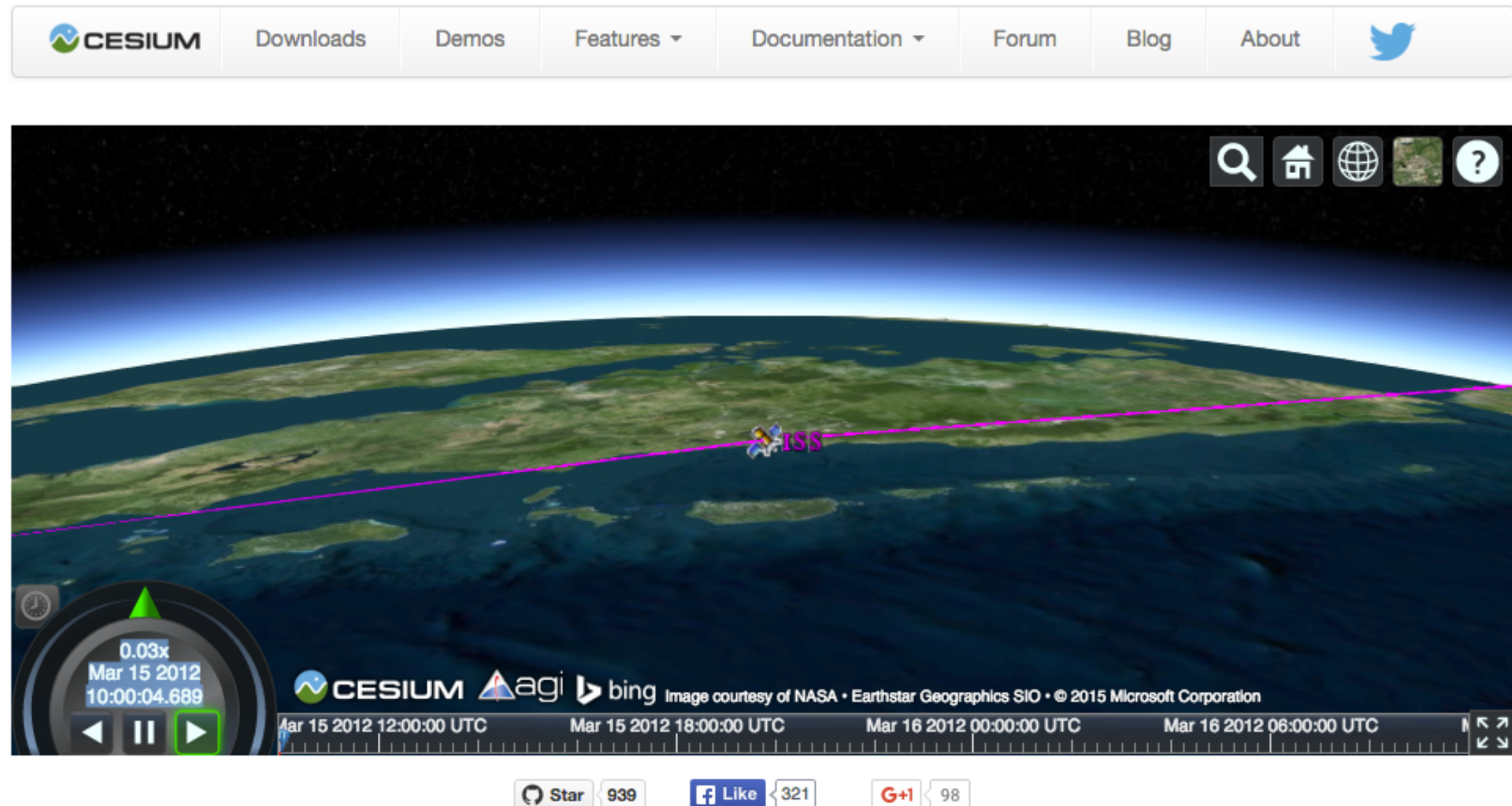
[Demo](#)

[Download](#)



See your city in
revolutionary ways

Cesium



Cesium is a JavaScript library for creating 3D globes and 2D maps in a web browser without a plugin. It uses WebGL for hardware-accelerated graphics, and is cross-platform, cross-browser, and tuned for dynamic-data visualization. Cesium is open source under the Apache 2.0 license. It is free for commercial and non-commercial use.

Mapbox

Mapbox

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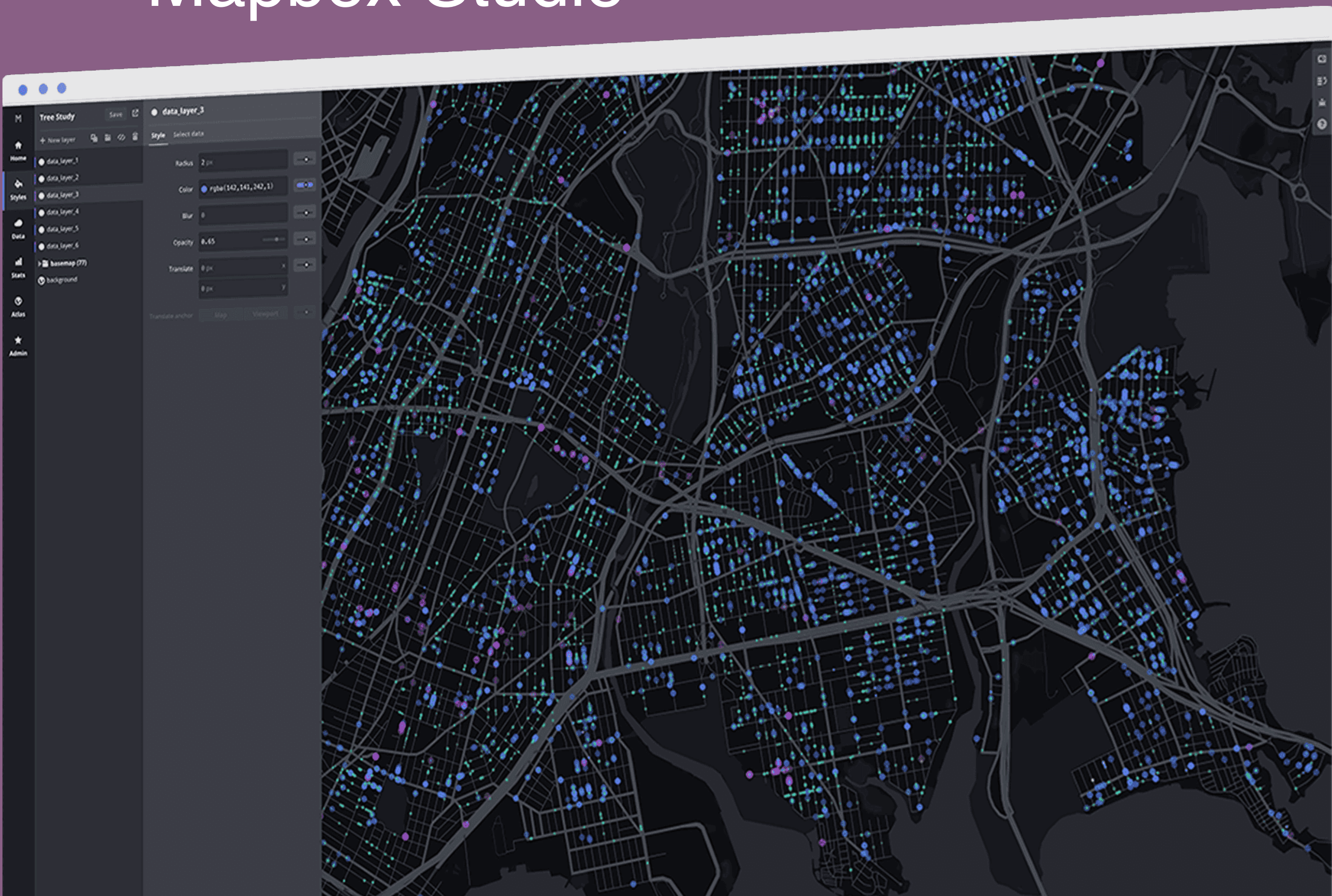
**BUILD THE
MAP YOUR
APPLICATION
DESERVES.**

[Try it for free](#)

[How it works ↓](#)



Mapbox Studio



Mapbox Online Editor

The screenshot displays the Mapbox Online Editor interface. At the top, a navigation bar includes the Mapbox logo, a 'Style' button, a 'Data' button, a 'Project' button, a search icon, and a 'Save' button. The main area shows a world map with a dark, textured background. On the left, a sidebar lists 15 map styles: Streets, Light, Dark, Satellite, Satellite Streets, Wheatpaste, Streets Classic, Comic!, Outdoors, Run, Bike, and Hike, Pencil, Pirates, Emerald, High Contrast, and Transparent. Below the styles is a link to 'Customize these styles or create your own in Mapbox Studio'. At the bottom left, a 'Map style' panel provides instructions on how to customize the map. At the bottom right, a copyright notice reads '© Mapbox © OpenStreetMap Improve this map'.

Mapbox Online Editor

Navigation: **Style** | **Data** | **Project** | **Save**

Map Styles:

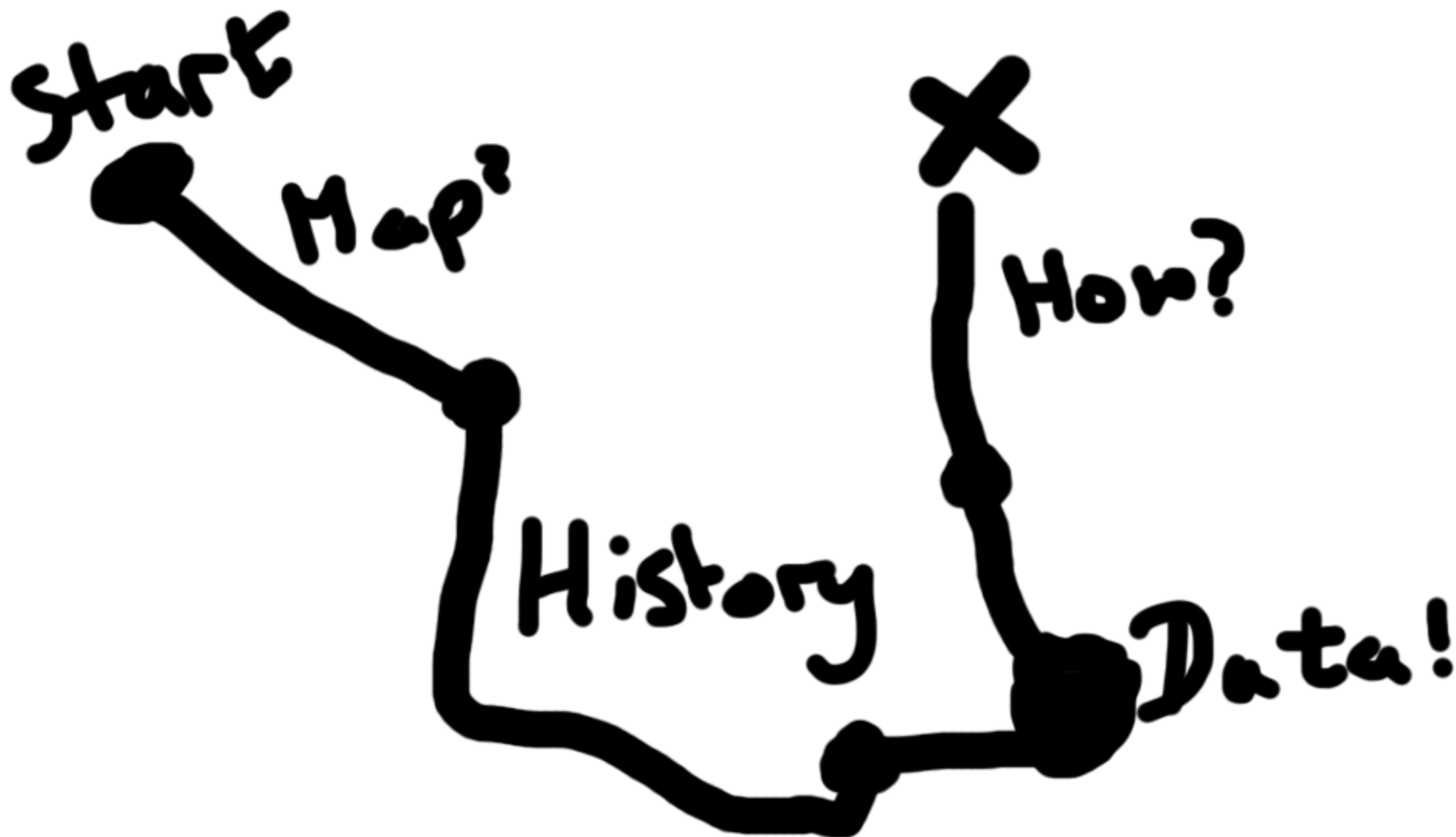
- Streets
- Light
- Dark
- Satellite
- Satellite Streets
- Wheatpaste
- Streets Classic
- Comic!
- Outdoors
- Run, Bike, and Hike
- Pencil
- Pirates
- Emerald
- High Contrast
- Transparent

Customize these styles or create your own in [Mapbox Studio](#) →

Map style [Need help?](#) [×](#)

Customize your map by picking a different baselayer. You can customize any of these styles or create your own in **Mapbox Studio**.

© Mapbox © OpenStreetMap [Improve this map](#)





Bologna

GHETTO EBRAICO

Alma Mater Studiorum
- Università di Bologna

Piazza Maggiore

Basilica di San Pietro

QUADRILATERO

Basilica Santo Stefano

Via Luigi Carlo

Via De' Poeti

Via Marsili

Hotel Touring Bologna

Via Paglietta

Piazza Malpighi

Via Novadella

Via Saragozza

Viale Antonio Aldini

Via Goito

Via Nazario Sauro

Str. Maggiore

Via Guerrazzi

Via Santo Stefano

Via Orfeo



Thank you!

@shanehudson

shanehudson.net

From The Front 2015