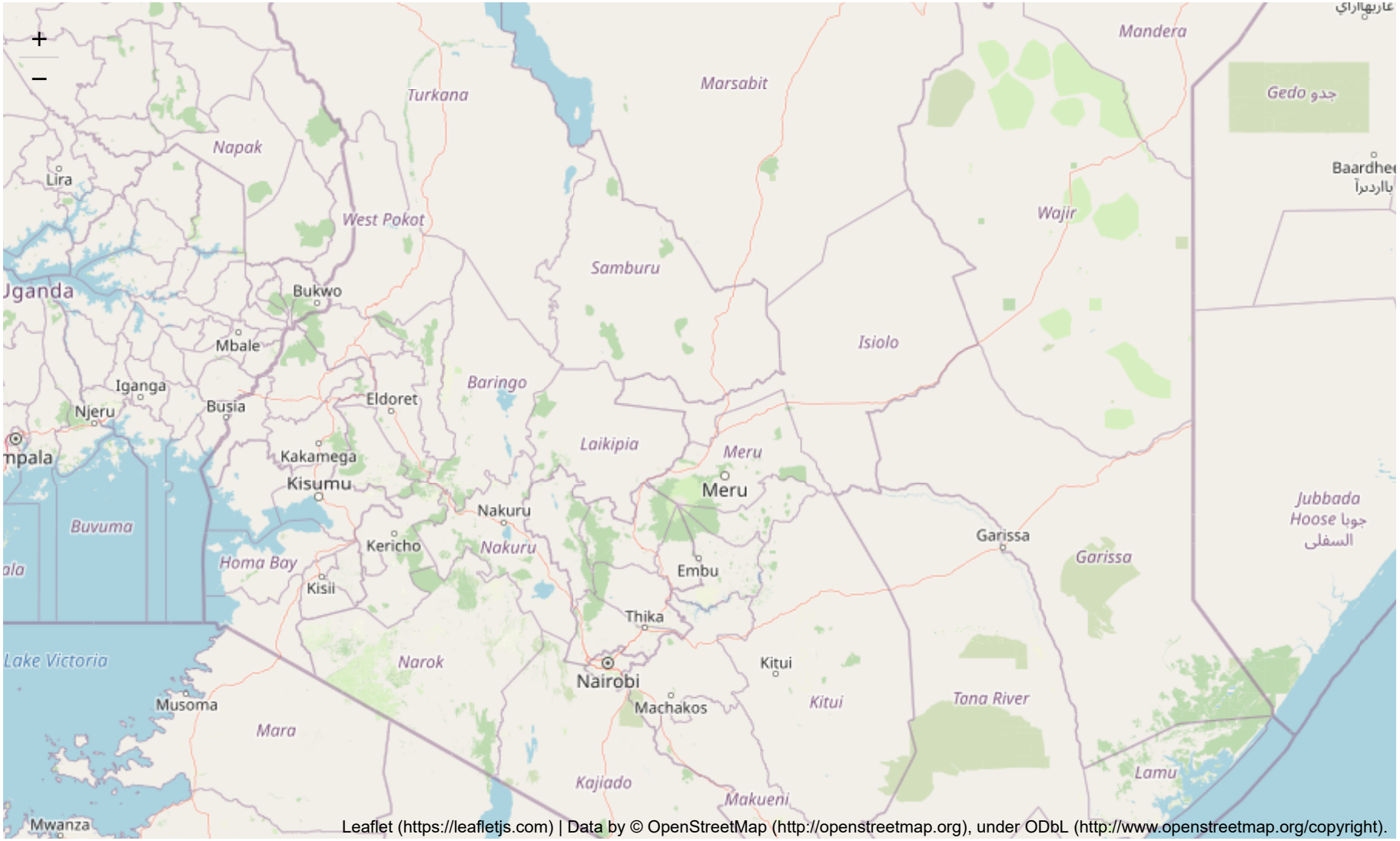
Create a Base Folium Map

In [1]:
```
import folium

fm = folium.Map(location=[0.1768696, 37.9083264], zoom_start=7)
fm
```

Out[1]:



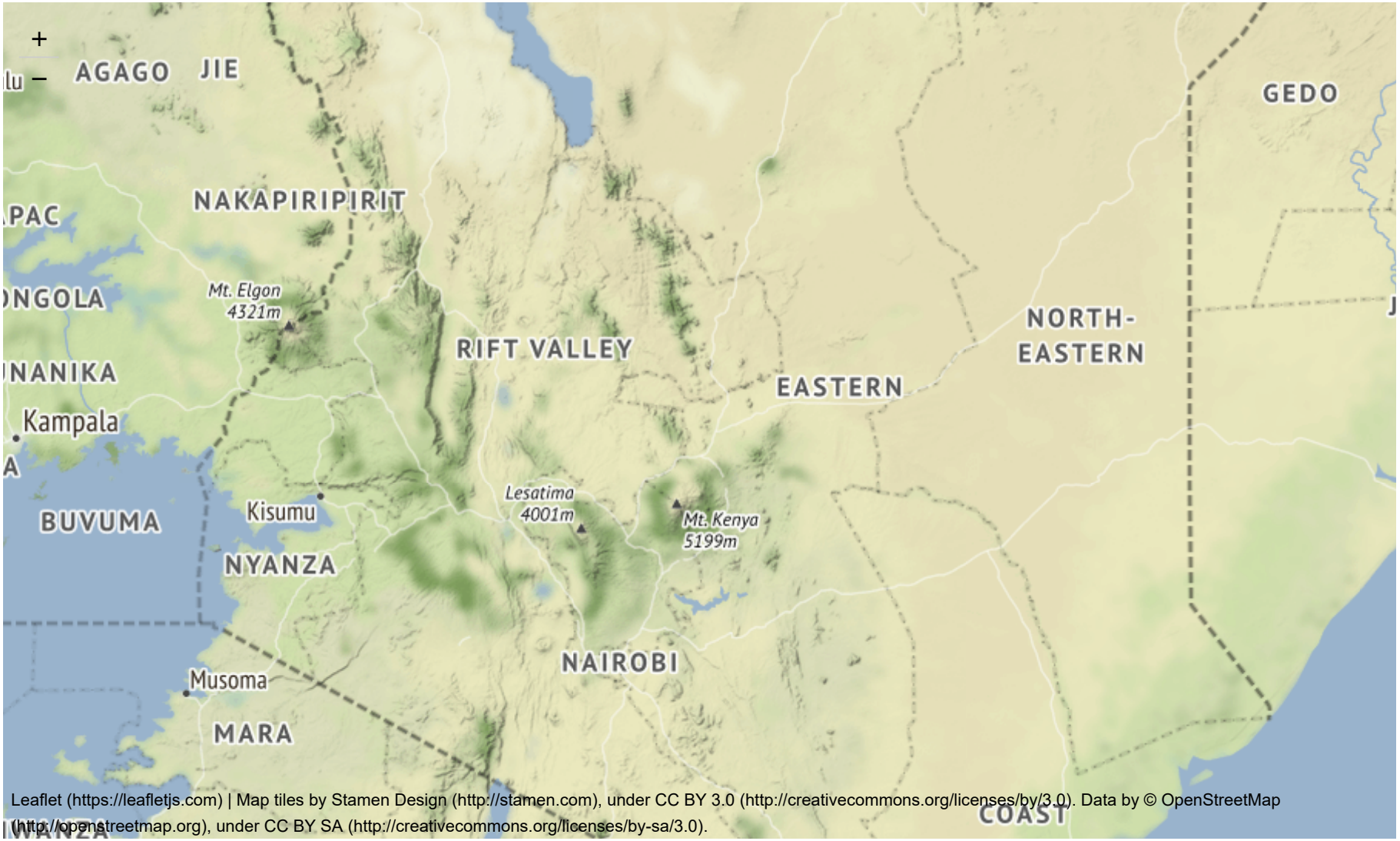
Working with Tiles in Folium

Folium support various tilesets such as OpenStreetMap, Stamen Terrain, Stamen Toner, Mapbox Bright, Mapbox Control Room and Cloudmade. In addition to these tiles also folium allows you to use custom leaflet.js compatible tileset. For Mapbox and Cloudmade you need an API_key from the vendor.

Stamen Terrain Tile

In [2]:
```
fm = folium.Map(location=[0.1768696, 37.9083264], zoom_start=7, tiles='Stamen Terrain')
fm
```

Out[2]:

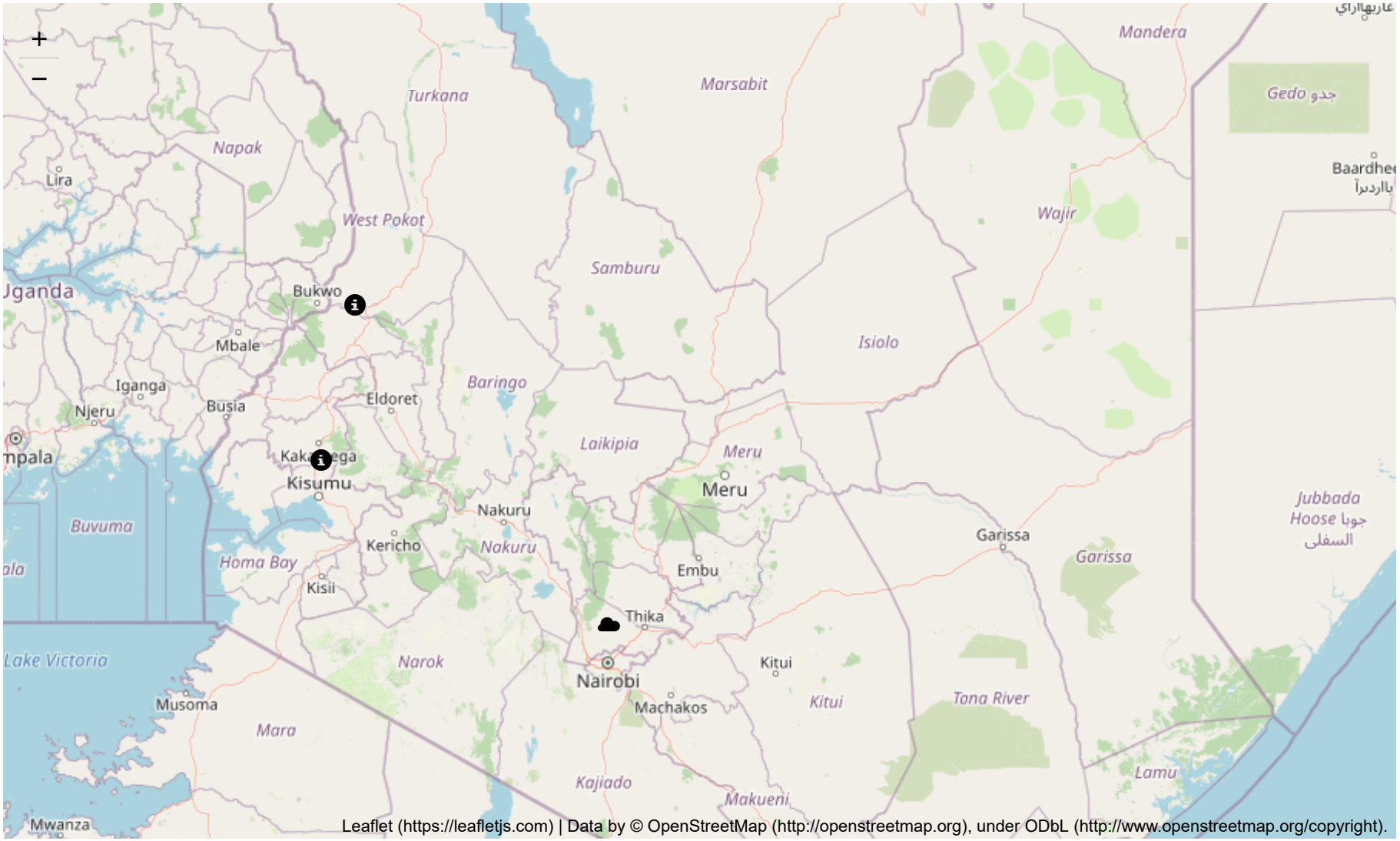


Markers in Folium

Foliumn maps allows us to set different types of markers on our maps.

In [3]:
```
fm = folium.Map(location=[0.1768696, 37.9083264], zoom_start=7)

folium.Marker([-1.28333, 36.81667], popup="<i>Nairobi City</i>", tooltip="show location",
    icon=folium.Icon(color="darkred",icon="cloud") ).add_to(fm)

folium.Marker([-0.10221, 34.76171], popup="<i>Kisumu City</i>", tooltip="show location",
    icon=folium.Icon(color="blue") ).add_to(fm)

folium.Marker([-4.05466, 39.66359], popup="<i>Mombasa City</i>", tooltip="show location",
    icon=folium.Icon(color="green") ).add_to(fm)

folium.Marker([1.01572, 35.00622], popup="<i>Kitale Town</i>", tooltip="show location",
    icon=folium.Icon(color="orange",icon="info-sign") ).add_to(fm)

fm
```

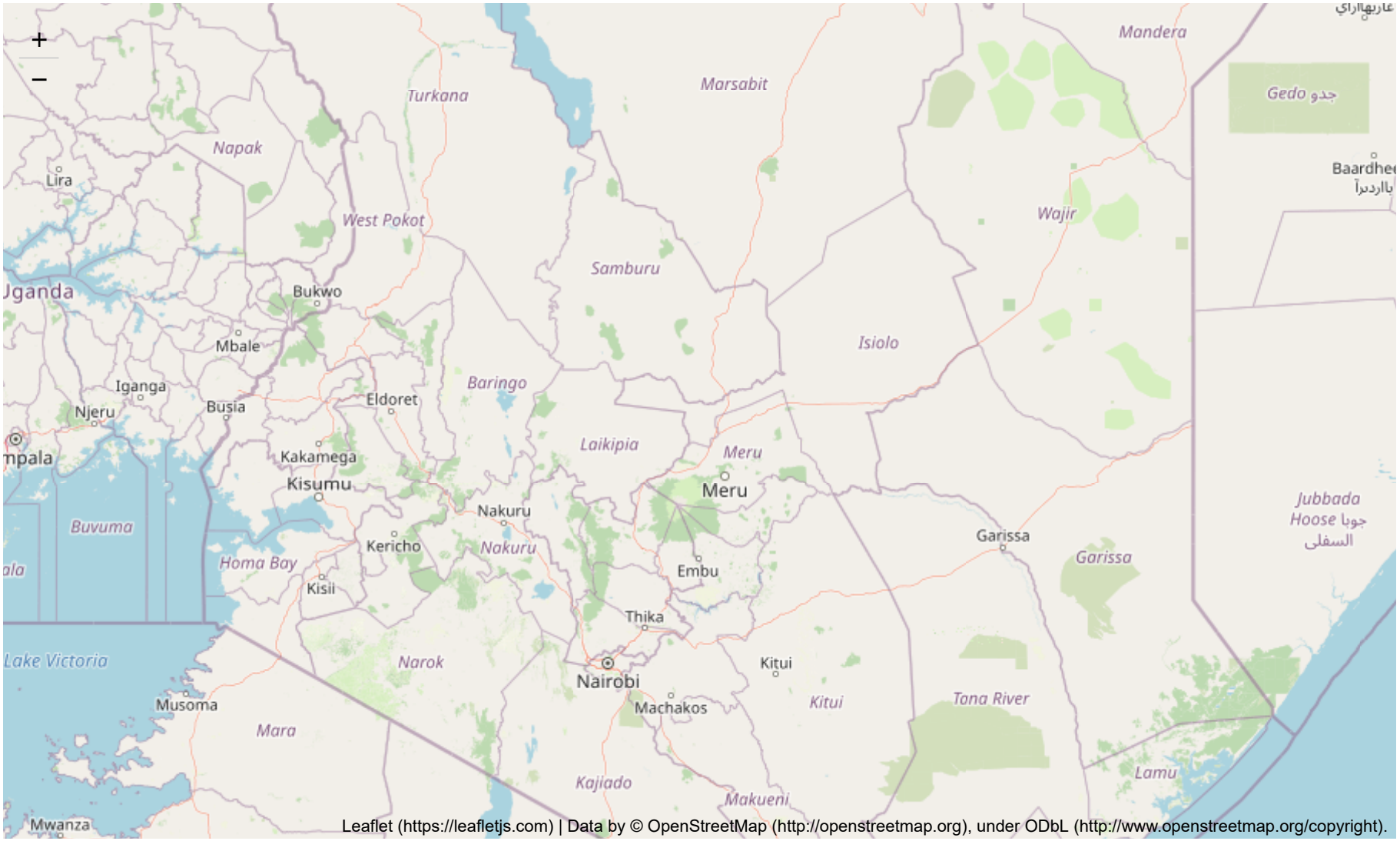
Out[3]:



Add latitude/longitude popup markers

In [4]:
```
fm = folium.Map(location=[0.1768696, 37.9083264], zoom_start=7)
fm.add_child(folium.LatLngPopup())
fm
```

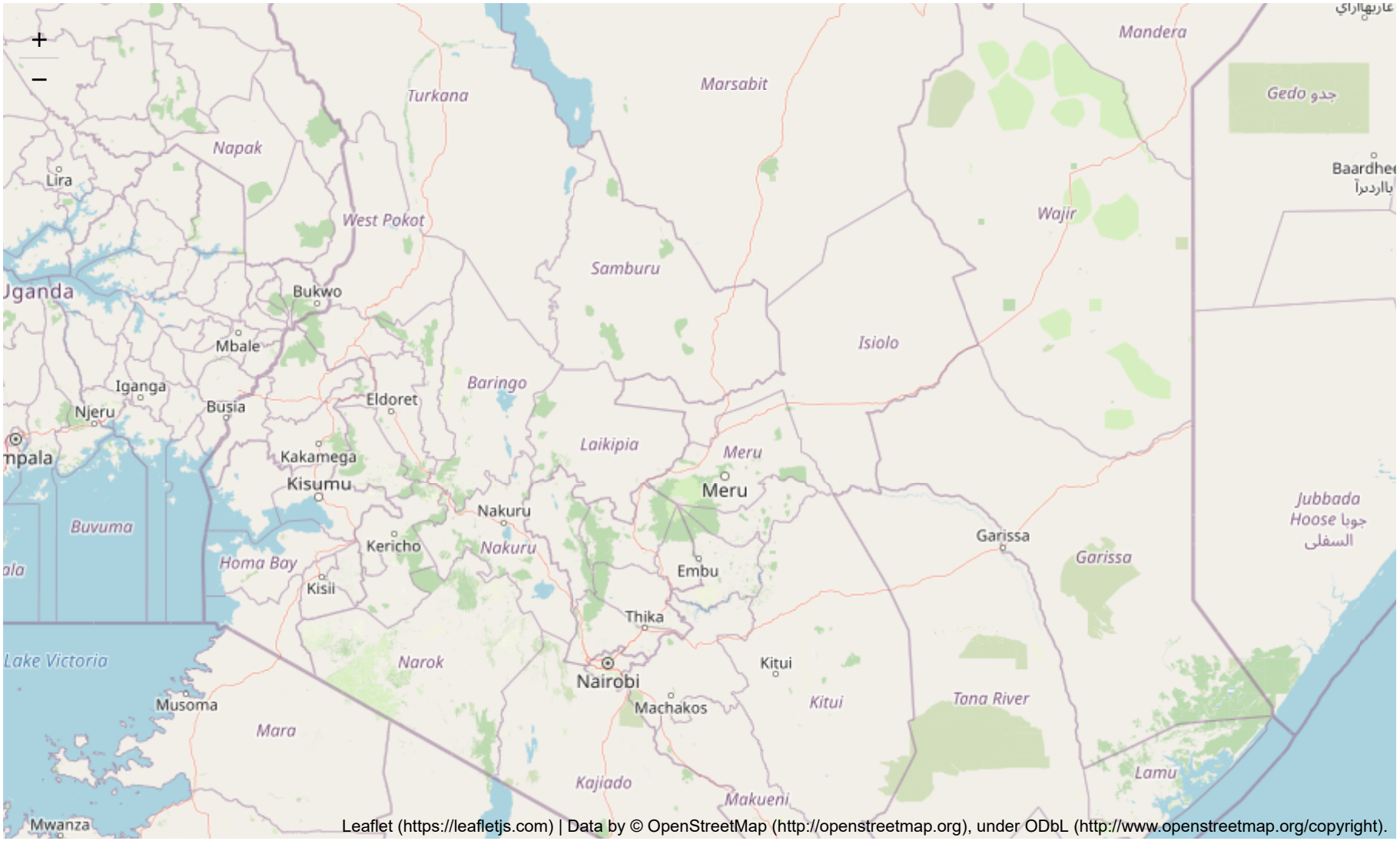
Out[4]:



Add Markers on Clicking the Map

In [5]:
```
fm = folium.Map(location=[0.1768696, 37.9083264], zoom_start=7)
fm.add_child(folium.ClickForMarker(popup="town"))
fm
```

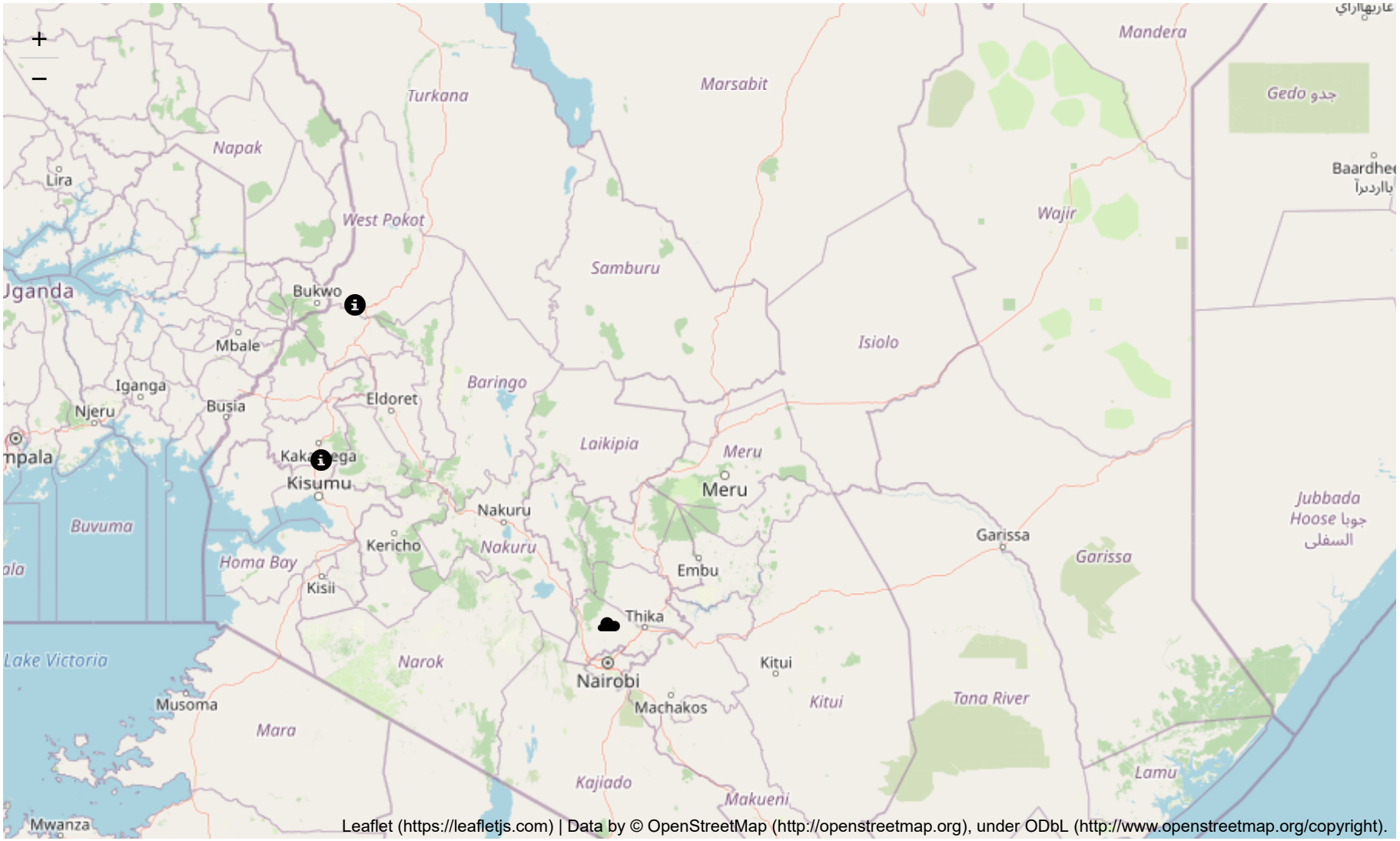
Out[5]:



Add Analyses to Markers

In [6]:
```
fm = folium.Map(location=[0.1768696, 37.9083264], zoom_start=7)

folium.Marker([-1.28333, 36.81667],
               popup="<img src='https://raw.githubusercontent.com/SammyOngaya/data2ml/main/datasets/folium%20popup%20v
isualizations/nairobi-county-population-2019-census.png'></img>",
              tooltip="Nairobi County", icon=folium.Icon(color="darkred",icon="cloud") ).add_to(fm)

folium.Marker([-0.10221, 34.76171],
              popup="<img src='https://raw.githubusercontent.com/SammyOngaya/data2ml/main/datasets/folium%20popup%20vi
sualizations/kisumu-county-population-2019-census.png'></img>",
              tooltip="Kisumu County", icon=folium.Icon(color="blue") ).add_to(fm)

folium.Marker([-4.05466, 39.66359],
              popup="<img src='https://raw.githubusercontent.com/SammyOngaya/data2ml/main/datasets/folium%20popup%20vi
sualizations/mombasa-county-population-2019-census.png'></img>",
              tooltip="Mombasa County", icon=folium.Icon(color="green") ).add_to(fm)

folium.Marker([1.01572, 35.00622],
              popup="<img src='https://raw.githubusercontent.com/SammyOngaya/data2ml/main/datasets/folium%20popup%20vi
sualizations/trans-nzoia-county-population-2019-census.png'></img>",
              tooltip="Trans-zoia County", icon=folium.Icon(color="orange",icon="info-sign") ).add_to(fm)

fm
```

Out[6]:



Choropleth Maps

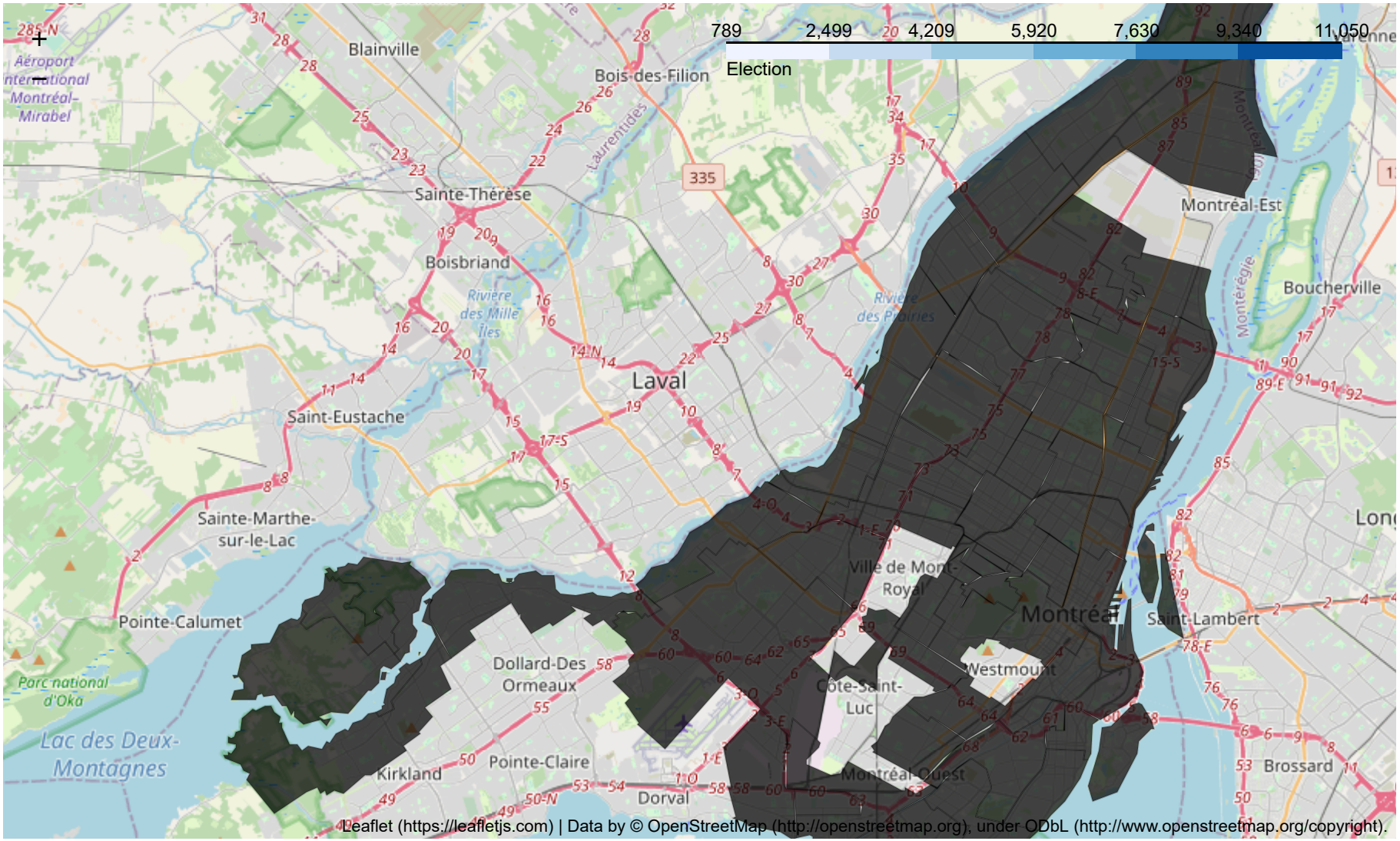
In [7]:
```
import plotly.express as px

df = px.data.election()
geojson = px.data.election_geojson()

df.head()
```

Out[7]:

	district	Coderre	Bergeron	Joly	total	winner	result	district_id
0	101-Bois-de-Liesse	2481	1829	3024	7334	Joly	plurality	101
1	102-Cap-Saint-Jacques	2525	1163	2675	6363	Joly	plurality	102
2	11-Sault-au-Récollet	3348	2770	2532	8650	Coderre	plurality	11
3	111-Mile-End	1734	4782	2514	9030	Bergeron	majority	111
4	112-DeLorimier	1770	5933	3044	10747	Bergeron	majority	112

In [8]:
```
fm = folium.Map(location=[45.5517,-73.7073], zoom_start=11)

folium.Choropleth(
    geo_data=geojson,
    data=df,
    columns=["district", "total"],
    key_on="feature.id",
    fill_opacity=0.7,
    line_opacity=0.2,
    legend_name="Election",
).add_to(fm)

folium.LayerControl().add_to(fm)

fm
```

Out[8]:



Folium with Pandas DataFrame

In [9]:
```
import pandas as pd
kenya_county_population = pd.read_csv('datasets/kenyan_population_census_2019.csv')
kenya_county_population.head()
```

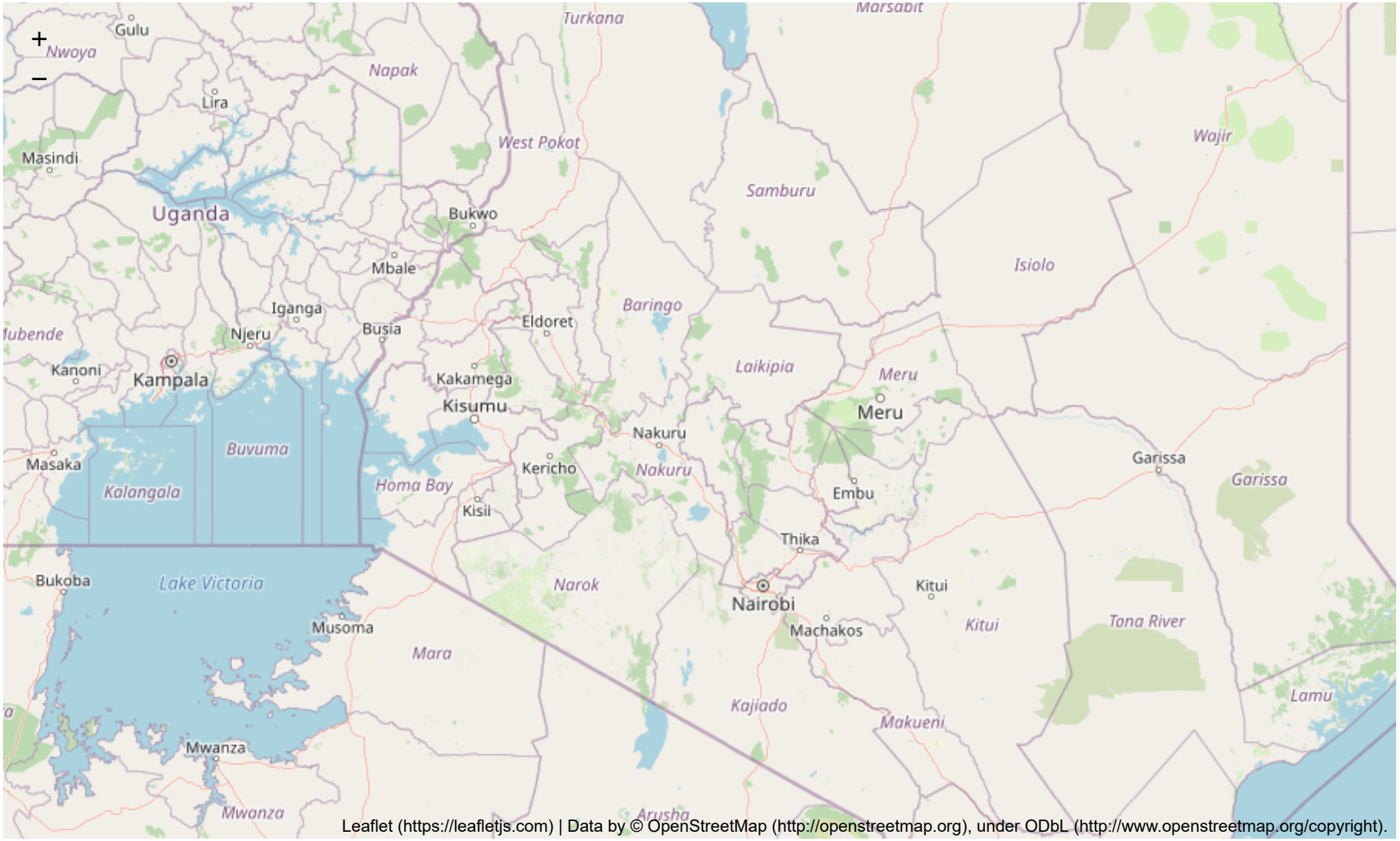
Out[9]:

	County	Male	Female	Intersex	Total Population	Town	lat	lng
0	Mombasa	610257	598046	30	1208333	Mombasa	-4.0500	39.6667
1	Kwale	425121	441681	18	866820	Kwale	-4.1737	39.4521
2	Kilifi	704089	749673	25	1453787	Malindi	-3.2100	40.1000
3	Tana River	158550	157391	2	315943	Tana River	-1.5000	40.0300
4	Lamu	76103	67813	4	143920	Lamu	-2.2686	40.9003

Create base map

In [10]:
```
fm = folium.Map(location=[kenya_county_population['lat'].mean(),kenya_county_population['lng'].mean()], zoom_start=7)
fm
```

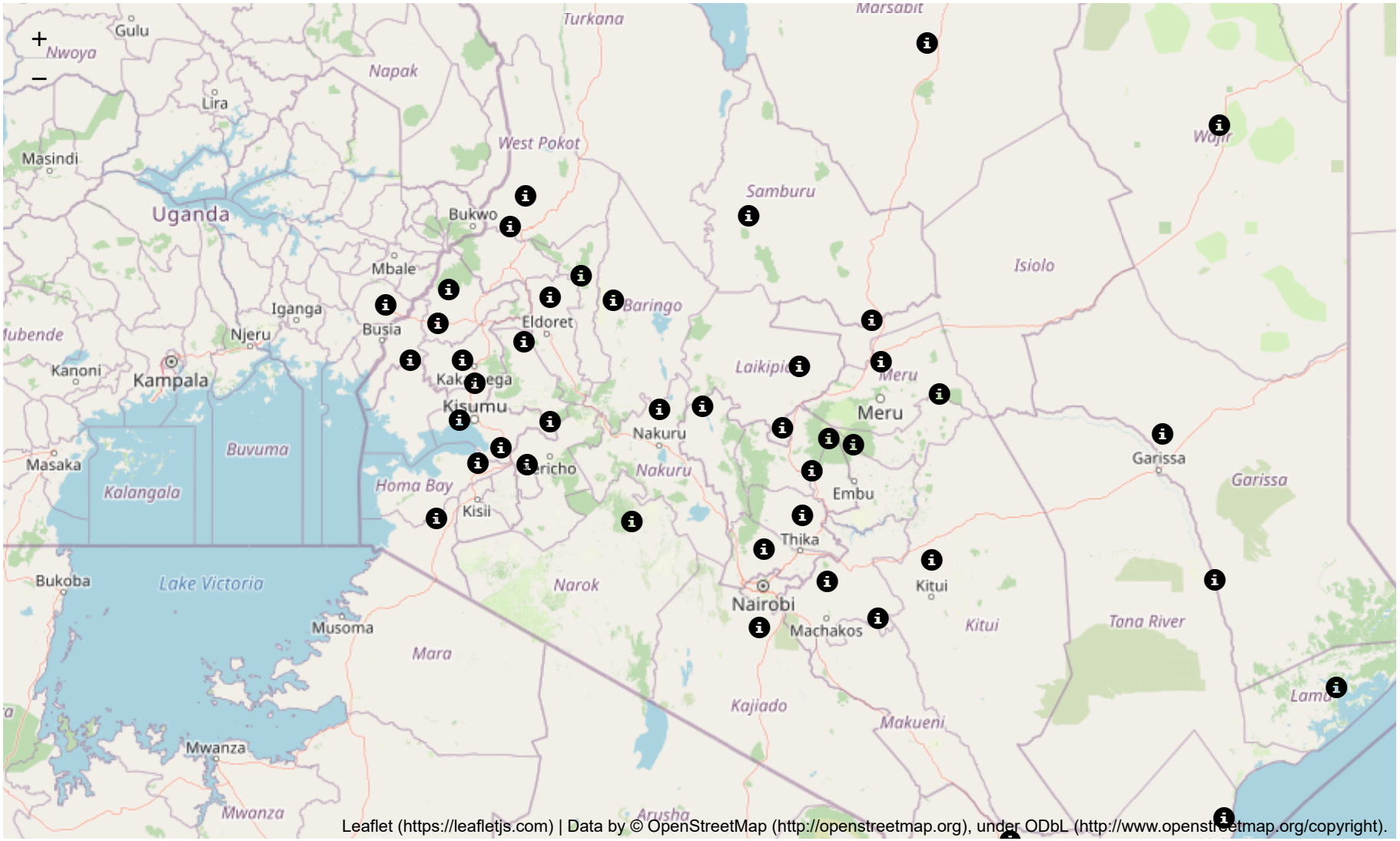
Out[10]:



Add markers

In [11]:
```
fm = folium.Map(location=[kenya_county_population['lat'].mean(),kenya_county_population['lng'].mean()],zoom_start=7)
for i, location_info in kenya_county_population.iterrows():

    folium.Marker([location_info["lat"], location_info["lng"]],
                  tooltip=location_info['County'],
                  popup=location_info['Total Population'],
                  icon=folium.Icon(color="blue",icon="info-sign")
                 ).add_to(fm)

fm
```

Out[11]:



Save Maps to html

In [12]:
```
fm.save("datasets/kenya_population_census_2019.html")
```