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Geo-visualization: Map of Australia

In [1]:
```
# Import library that will be useful for the mapping and analysis
import numpy as np
import pandas as pd
import folium
from geopy.geocoders import Nominatim
```

In [2]:
```
# Define the map of Australia using geolocator
address = 'Australia'

geolocator = Nominatim(user_agent="map_explorer")
location = geolocator.geocode(address)
latitude = location.latitude
longitude = location.longitude
print('The geograpical coordinate of Australia is {}, {}.'.format(latitude, longitude))
```

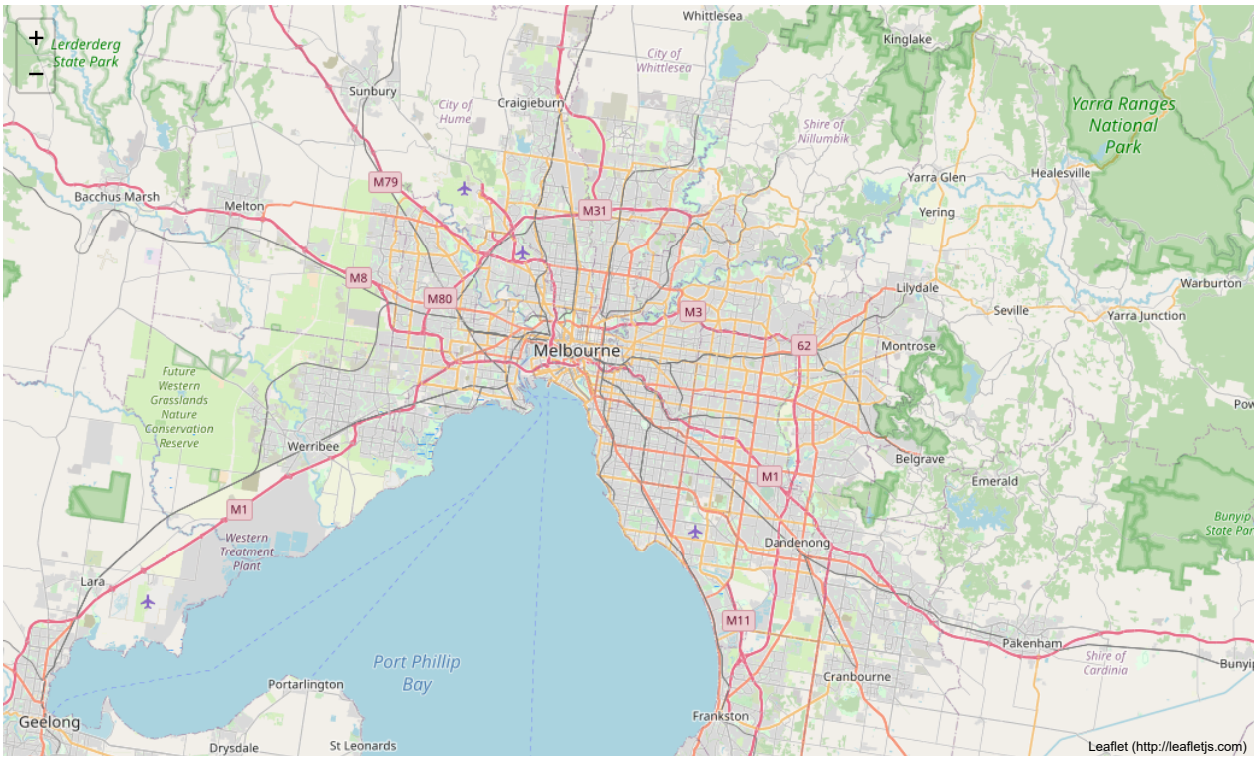
```
The geograpical coordinate of Australia is -24.7761086, 134.755.
```

In [3]:
```
# Draw the map of Australia
Australia = folium.Map(location=[-24.776, 134.755], zoom_start = 4)

# display the map
Australia
```

Out[3]:

In [4]:
```
# Zoom in to Melbourne
Melbourne = folium.Map(location=[-37.814, 144.9632], zoom_start = 10)

# display the map
Melbourne
```

Out[4]:



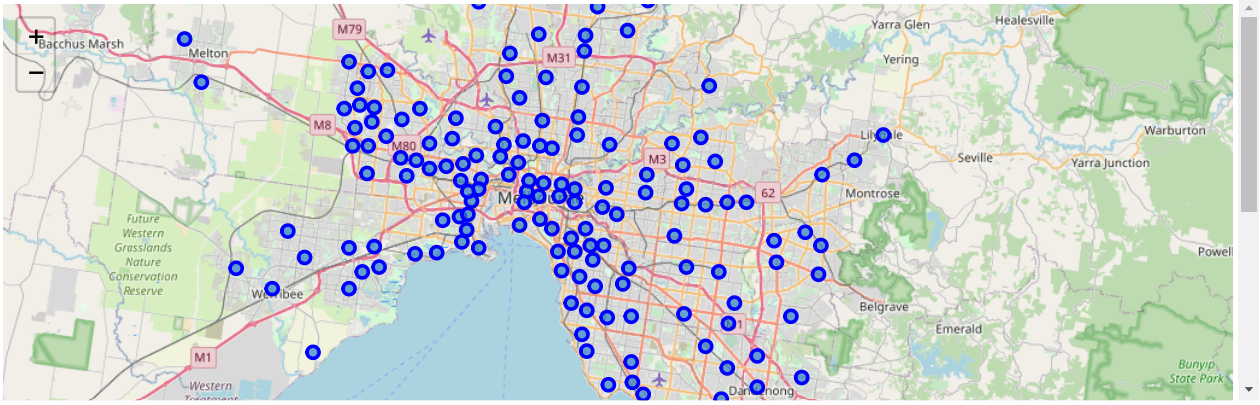
In [5]:
```
# Open the Suburbs of Victoria file
Victoria = pd.read_csv("Victoria.csv")
Victoria.drop(['Unnamed: 0'], axis=1, inplace = True)
Victoria.head()
```

Out[5]:

	Latitude	Longitude	Suburb	Postcode
0	-37.813	144.961	Melbourne	3000
1	-37.813	144.984	East Melbourne	3002
2	-37.809	144.947	West Melbourne	3003
3	-37.842	144.976	Melbourne	3004
4	-37.818	144.944	Docklands	3008

In [6]:
```
# Add markers to map
for lat, lng, suburb, postcode in zip(Victoria['Latitude'], Victoria['Longitude'], Victoria['Suburb'], Victoria['Postcode']):
    label = '{}, {}'.format(postcode, suburb)
    label = folium.Popup(label, parse_html=True)
    folium.CircleMarker(
        [lat, lng],
        radius=5,
        popup=label,
        color='blue',
        fill=True,
        fill_color='#3186cc',
        fill_opacity=0.7,
        parse_html=False).add_to(Melbourne)

Melbourne
```

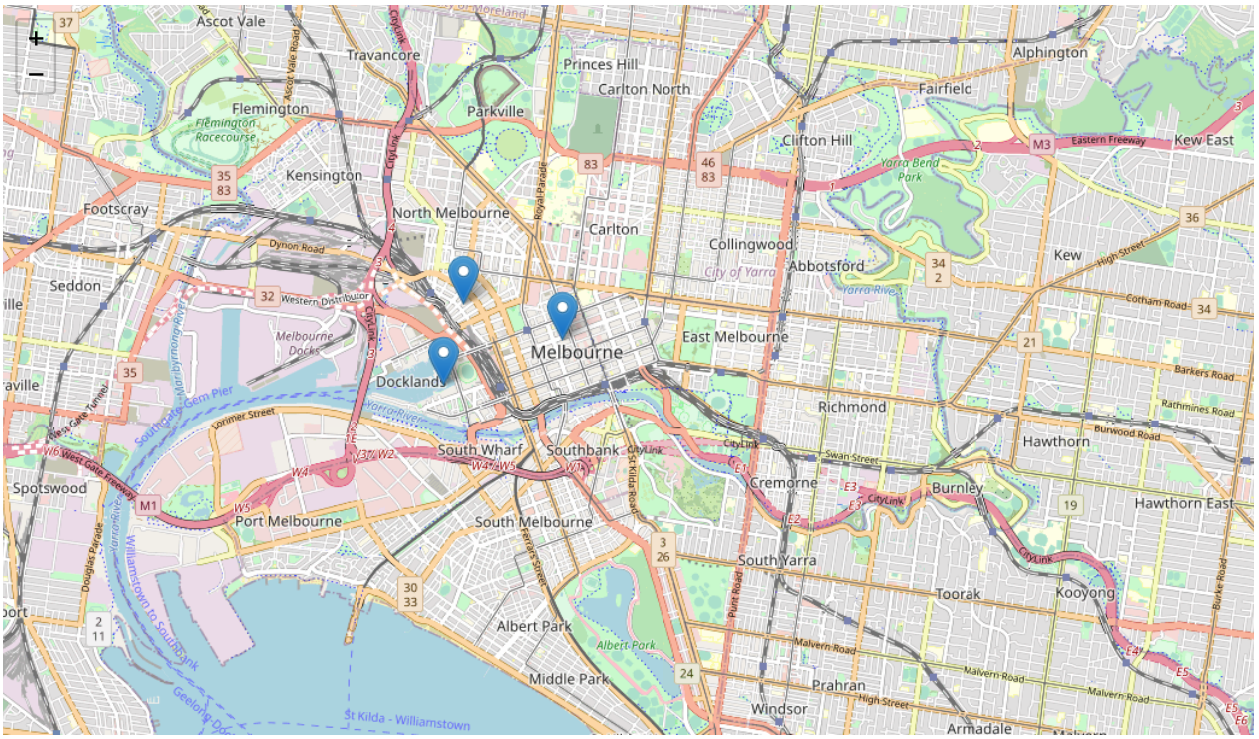
Out[6]:



In [7]:
```
import os
import json
import requests


url = 'https://raw.githubusercontent.com/python-visualization/folium/master/examples/data'
vis1 = json.loads(requests.get(f'{url}/vis1.json').text)
vis2 = json.loads(requests.get(f'{url}/vis2.json').text)
vis3 = json.loads(requests.get(f'{url}/vis3.json').text)
```

In [8]:
```
# Add popup marker on the map
m = folium.Map(
    location=[-37.814, 144.9632],
    zoom_start=13
)

folium.Marker(
    location=[-37.813, 144.961],
    popup=folium.Popup(max_width=450).add_child(
        folium.Vega(vis1, width=450, height=250))
).add_to(m)


folium.Marker(
    location=[-37.809, 144.947],
    popup=folium.Popup(max_width=450).add_child(
        folium.Vega(vis2, width=450, height=250))
).add_to(m)


folium.Marker(
    location=[-37.8180, 144.944],
    popup=folium.Popup(max_width=450).add_child(
        folium.Vega(vis3, width=450, height=250))
).add_to(m)


m
```

Out[8]:



We can combine any dataset that has location details, onto the map to check what activity has been going on in the city

In [ ]:
```
```