VacationPy

Note

- Keep an eye on your API usage. Use https://developers.google.com/maps/reporting/gmp-reporting (https://developers.google.com/maps/reporting/gmp-reporting) as reference for how to monitor your usage and billing.
- Instructions have been included for each segment. You do not have to follow them exactly, but they are included to help you think through the steps.

In [3]:
```
# Dependencies and Setup
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
import requests
import gmaps
import os

# Import API key
from api_keys import g_key
```

In [2]:
```
#!jupyter nbextension enable --py widgetsnbextension
```

```
Enabling notebook extension jupyter-js-widgets/extension...
      - Validating: ok
```

Store Part I results into DataFrame

- Load the csv exported in Part I to a DataFrame

In [4]:
```
airport_df = pd.read_csv('..//WeatherPy//output_data//cities.csv')
```

Humidity Heatmap

- Configure gmaps.
- Use the Lat and Lng as locations and Humidity as the weight.
- Add Heatmap layer to map.

In [5]:

```
gmaps.configure(api_key=g_key)

locations = airport_df[["Latitude", "Longitude"]]
humidity = airport_df['Humidity']
airport_df
```

Out[5]:

	Unnamed: 0	City	Latitude	Longitude	Max Temperature	Humidity	Cloudiness	Wind Speed	Country
0	0	nyurba	63.2842	118.3319	25.65	81	93	11.56	RU
1	1	upernavik	72.7868	-56.1549	12.47	62	86	4.43	GL
2	2	chipinge	-20.1883	32.6236	60.76	81	41	5.59	ZW
3	3	airai	-8.9266	125.4092	59.43	87	75	3.24	TL
4	4	dikson	73.5069	80.5464	8.73	97	35	9.86	RU
...	...	...	...	...	...	...	...	...	...
575	575	santa maria	-29.6842	-53.8069	60.06	98	100	2.57	BR
576	576	harper	4.3750	-7.7169	84.56	73	99	6.49	LR
577	577	kamaishi	39.2667	141.8833	46.11	95	100	3.60	JP
578	578	tazovskiy	67.4667	78.7000	18.91	93	58	9.51	RU
579	579	trinidad	-14.8333	-64.9000	87.78	66	75	6.91	BO

580 rows × 10 columns

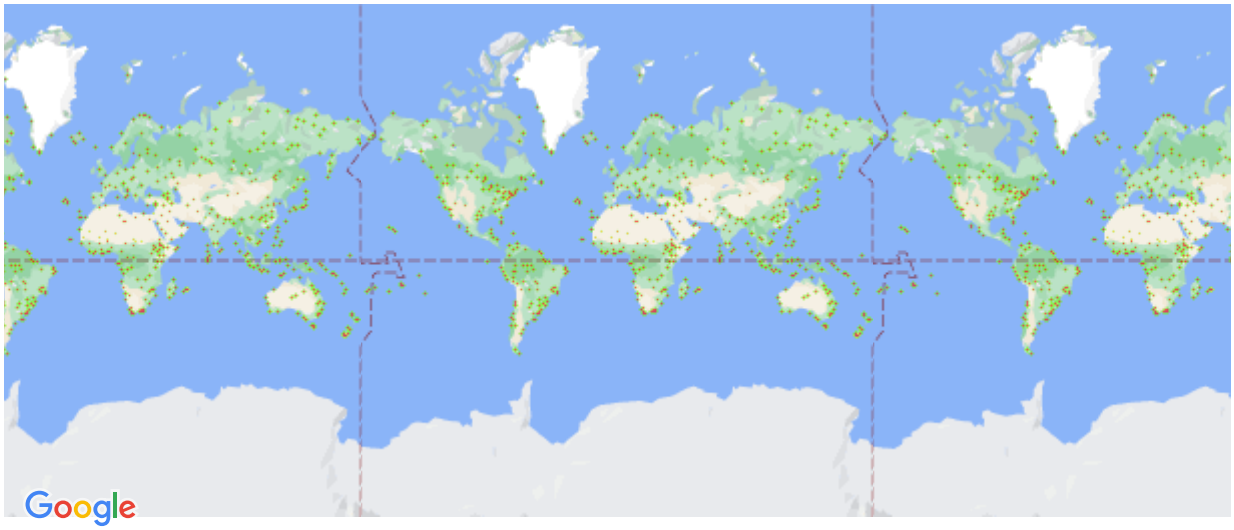
In [6]:

```
# Plot Heatmap
fig = gmaps.figure()

# Create heat layer
heat_layer = gmaps.heatmap_layer(locations, weights=humidity,
                                 dissipating=False, max_intensity=10,
                                 point_radius=1)

# Add layer
fig.add_layer(heat_layer)

# Display figure
fig
```



(https://maps.google.com/maps?ll=51.37038,0&z=0&t=m&hl=en-US&gl=US&mapclient=apiv3) Map data ©2022

Create new DataFrame fitting weather criteria

- Narrow down the cities to fit weather conditions.
- Drop any rows will null values.

In [7]:

```
#airport_df = pd.DataFrame()
airport_df.dropna()
airport_df['Hotel Name'] = ''
airport_df
```

Out[7]:

	Unnamed: 0	City	Latitude	Longitude	Max Temperature	Humidity	Cloudiness	Wind Speed	Country
0	0	nyurba	63.2842	118.3319	25.65	81	93	11.56	RU
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580 rows × 11 columns

Hotel Map

- Store into variable named `hotel_df`.
- Add a "Hotel Name" column to the DataFrame.
- Set parameters to search for hotels with 5000 meters.
- Hit the Google Places API for each city's coordinates.
- Store the first Hotel result into the DataFrame.
- Plot markers on top of the heatmap.

In [8]:

```
# geocoordinates
target_radius = 5000
target_type = "hotel"

# set up a parameters dictionary
params = {
    "radius": 5000,
    "types": "lodging",
    "key": g_key
}

for index, row in airport_df.iterrows():
    lat = row["Latitude"]
    lng = row["Longitude"]

    params["location"] = f"{lat},{lng}"

    # base url
    base_url = "https://maps.googleapis.com/maps/api/place/nearbysearch/json

    # run a request using our params dictionary
    response = requests.get(base_url, params=params)

    response = response.json()
#     print(response['results'])

    try:
        airport_df.loc[index, "Hotel Name"] = response["results"][0]["name"]

    except (KeyError, IndexError):
         print("Missing field/result... skipping.")

airport_df
```

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```

Out[8]:

	Unnamed: 0	City	Latitude	Longitude	Max Temperature	Humidity	Cloudiness	Wind Speed	Cou
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...	...	...	...	...	...	...	...	...	
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580 rows × 11 columns

In [9]:

```
# NOTE: Do not change any of the code in this cell

# Using the template add the hotel marks to the heatmap
info_box_template = """
<dl>
<dt>Name</dt><dd>{Hotel Name}</dd>
<dt>City</dt><dd>{City}</dd>
<dt>Country</dt><dd>{Country}</dd>
</dl>
"""
# Store the DataFrame Row
# NOTE: be sure to update with your DataFrame name
hotel_info = [info_box_template.format(**row) for index, row in airport_df.i
locations = airport_df[["Latitude", "Longitude"]]
```

In [10]:

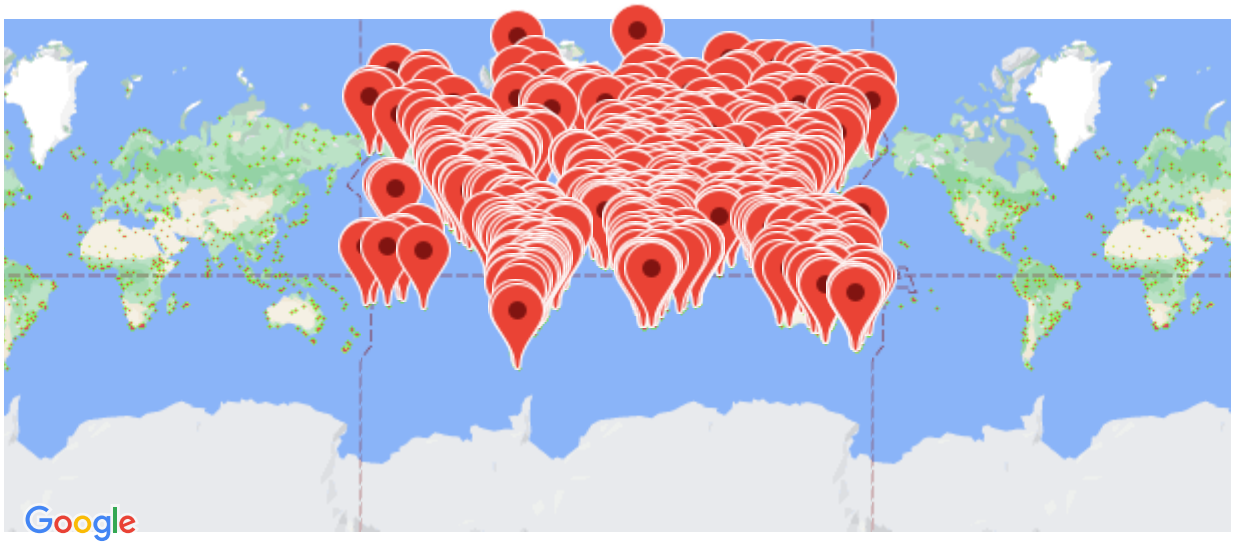
```
# Add marker layer ontop of heat map
# Create a combined map
heat_layer = gmaps.marker_layer(locations, info_box_content=hotel_info)

fig.add_layer(heat_layer)

fig

# Display figure

```



(https://maps.google.com/maps?ll=51.37038,0&z=0&t=m&hl=en-US&gl=US&mapclient=apiv3) Map data ©2022

In [ ]:

```
1
```