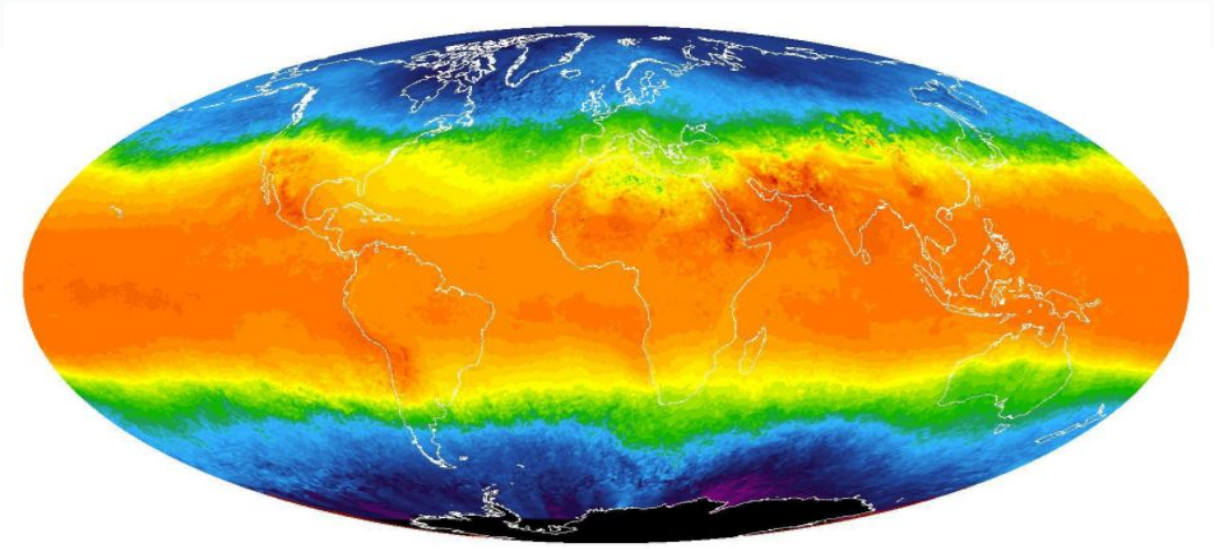

Explore Weather Trends Project

Udacity Data Analyst Nanodegree

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In this project, I analyzed local temperature of the city of Alexandria,Egypt vs the global temperature and visualize the result as in the following goals.

Steps:

1) **Extract the data :**

1- Extract the city's data:

```
SELECT year, avg_temp
FROM city_data
WHERE city = 'Alexandria' AND country = 'Egypt';
```

2- Extract the global data:

```
SELECT *
FROM global_data;
```

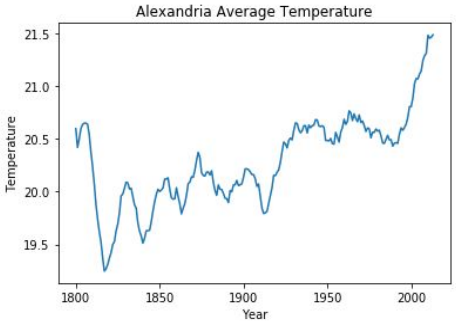
2) Line chart :

In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
```

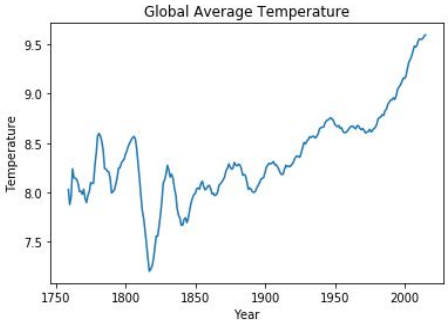
In [14]:
```
city = pd.read_csv('city.csv')
globalt = pd.read_csv('global.csv')
```

In [71]:
```
city_avg = city['avg_temp'].rolling(10).mean()
glob_avg = globalt['avg_temp'].rolling(10).mean()
```

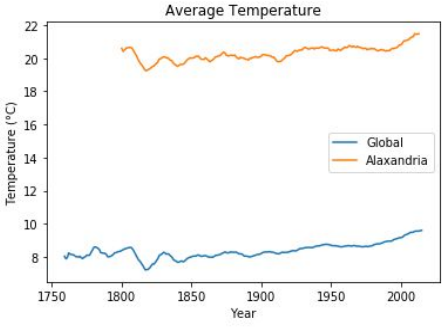
In [91]:
```
plt.plot(city['year'], city_avg)
plt.title("Alexandria Average Temperature")
plt.xlabel("Year")
plt.ylabel("Temperature")
plt.show()
```



In [89]:
```
plt.plot(globalt['year'], glob_avg)
plt.title("Global Average Temperature")
plt.xlabel("Year")
plt.ylabel("Temperature")
plt.show()
```



In [96]:
```
plt.plot(globalt['year'], glob_avg, label='Global')
plt.plot(city['year'], city_avg, label='Alaxandria')
plt.legend()
plt.title("Average Temperature")
plt.xlabel(u"Year")
plt.ylabel(u"Temperature (°C)")
plt.show()
```



3) Observations:

1. Due to climate change , the temperature is raising over the years.
2. Alexandria is hotter on average compared to the global average
3. There's a drop in temperature between 1820: 1825
4. After 1830 temperature started to raising without any stops until now
5. the overall trend look like that the world getting hotter , the temperature of the world is on constant rise

4) Languages & Tools used:

1- SQL
2. Python
3. Jupyter Notebook