The purpose of this project was to analyze how weather changes as you get closer to the equator. To accomplish this analysis, we first pulled data from the OpenWeatherMap API to assemble a dataset on over 500 cities.

After assembling the dataset, we used Matplotlib to plot various aspects of the weather vs. latitude. Factors we looked at included: temperature, cloudiness, wind speed, and humidity. This site provides the source data and visualizations created as part of the analysis, as well as explanations and descriptions of any trends and correlations witnessed.

As expected, the weather becomes significantly warmer as one approaches the equator (0 Deg. Latitude). More interestingly, however, is the fact that the southern hemisphere tends to be warmer this time of the year than the northern hemisphere. This may be due to the tilt of the earth at the time of the year this data was gathered.

Humidity does not show a strong correlation to latitude. The visualization shows a great variety of humidity percentages at different latitudes. Therefore, we cannot conclude that there is a conclusive pattern between humidity and latitude.

Cloudiness does not show a strong correlation to latitude. The visualization shows a great variety of cloudiness percentages at different latitudes. Therefore, we cannot conclude that there is a conclusive pattern between cloudiness and latitude.

Wind speed appears to slightly increase as we move away from the equator. However, to conclusively describe a pattern, we would need to go beyond the range in data to reach cities at closer to the poles. Only then can we have a sample large to confirm the pattern.

Click any plot to get an in-depth analysis.

The following table includes all of the data used for plotting during this project.