**Weather API Data Analysis**

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This project examines the relationship between the latitude of a city and several different weather measurements including temperature, humidity percentage, cloudiness percentage, and wind speed.

The list of cities in this data analysis plan is derived from the citipy api and a randomly chosen set of latitude and longitude coordinates. The coordinate randomization appears to show a mostly even distribution of points on the map with a few exceptions. The most notable include a large portion of Asia and most of Greenland.

**Latitude vs. Temperature**

A scatter plot of latitude versus temperature shows a strong polynomial correlation in the form of a parabolic curve. The highest temperatures occur at the equator. Below and above the equator, the temperature decreases with increasing distance.

I chose not to use the absolute value of the distance to the equator because I thought it might show a different or slightly different correlation in the Southern hemisphere than in the Northern Hemisphere.

The graph appears to show a positive correlation in the southern hemisphere (latitude less than zero) and a negative correlation in the northern hemisphere, (latitude greater than zero). More cities are plotted in the northern hemisphere, and they show a wider spread than those of the southern hemisphere.

**Latitude vs. Humidity**

The graph of latitude versus humidity seems to reveal a slightly positive correlation that is close to nonexistent because of the very broad spread in the southern hemisphere.

**Latitude vs. Cloudiness**

No correlation was shown in the graph of latitude versus cloudiness. However, the cloudiness percentage strangely does appear to form several horizontal lines along the graph where the cloudiness remains constant and the latitude changes.

**Latitude vs. Windspeed**

Windspeed appears to have virtually no or only slight correlation with latitude in the final graph.