

One of the trends identified by the API data for cities surrounding the equator are that peak temperatures rise as you approach the latitudinal coordinate of 0 (the equator). As you move further away in either direction, you see the temperatures start to decrease in a bell-curve like shape.

Another trend that was easy to identify was the percent humidity. While there are a lot of locations with very high humidity, you can notice an increase in density between 80 and 100% humidity near the 0 degree latitudinal coordinate. You also notice there are a few areas with lower humidity percentages between the positive and negative 20 to 40 degrees latitude. However, the data seems skewed to the northern hemisphere. Distinctly though, there is a lack of cities with low humidity between -20 and 0 degrees latitude.

Cloud coverage doesn't show a significant trend, but there are two density areas identified in the plot chart. Between -20 and 20 degrees there is a grouping of the cities below 50% cloud coverage. Inversely, there is a grouping between 40 and 80 degrees that shows cloud coverage above 70 percent. This would indicate that a significant portion of the cities surrounding the equator are trending towards lower cloud coverage indicating more sunlight thus hotter temperatures. Those further from the equator have more cloud coverage and this would indicate more shading from the sun resulting in cooler temperatures.

Lastly, windspeed starts to dip as you approach the equator as well, but it does not seem to be a major indicator on this particular date.