**Description of three observable trends based on the data.**

**Homework 06 – Python API’s**

**“What's the Weather Like?”**

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This project is about figuring out how the weather is affected (or not affected) by its proximity to the equator. We have common ideas like the closer you get to the equator the hotter it is, and that the closer to the equator the more humid it is because we assume that humidity is linked to the temperature. One of the key elements of successful data analytics is to let the data tell the story, instead of building a story and trying to fit data to it. This project is a very good and simple example of letting the data tell the story.

This is a list of some of the trends that I see in the data.

* + At this time of the year (as we are running the data for a specific day) the curve that I expected for hotter temperature the closer you get to the equator holds up, but is not exactly what I expected.
    - I expected to see a nice and even drop in temperature on both sides of the equator the further you got from the equator.
    - The data shows that the southern hemisphere is warmer than the northern hemisphere. Once I think about this, it makes sense, because the northern hemisphere is tilted away from the sun this time of year.
    - I do find it very interesting the amount the temperature can be different at the same latitude. At the latitude ~+40 the temperature can be close to 0o and as high as ~60o Fahrenheit.
    - With many years of data there are many trends that could be observed… here are just a few
      * For retailers they could use the information for when to change inventory for the summer, or winter, etc, more accurately so that they have a more exact date rather than the traditional “always on the same day.”
      * Farmers could use that data for estimating when to plant, or how many days and when there will be frost.
      * Vacation spots can use this for staffing needs and ROI projections
  + The humidity map was the one that surprised me the most. While I expected that rain (100 humidity) would not be dependent on the latitude, I was surprised that high or low humidity does not seem to have anything to do with the latitude… at least this time of the year.
  + I was also surprised by the cloudiness map, because it appears that again the amount of cloud coverage is not dependent on the latitude.
    - It was also interesting to see that for the most part cloudiness is measured in 5% increments as most of the data points are divisible by 5.
    - We also see that several %’s are used the most.
      * 90%, 75%20% and 0%