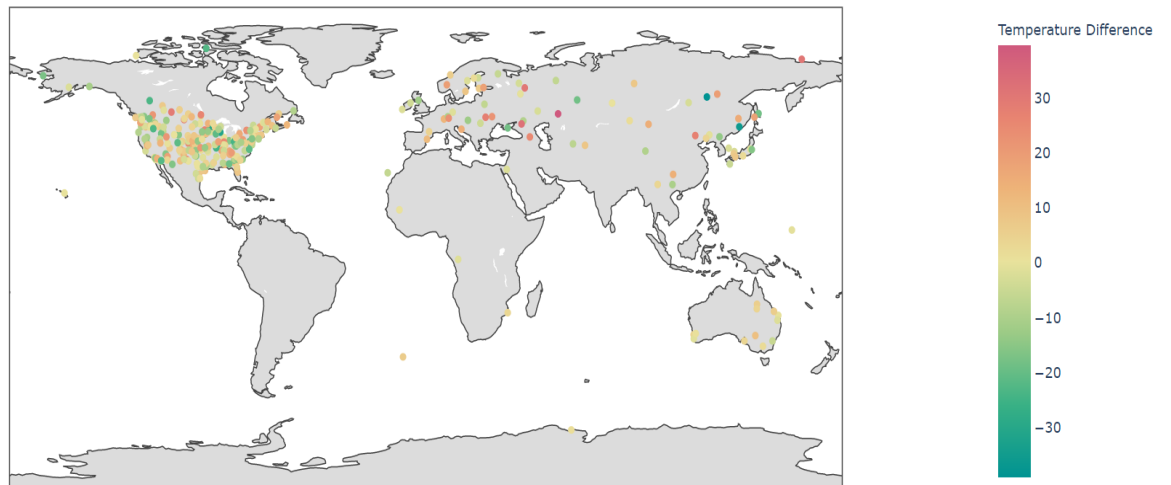


Weather Report Plots

Please note: I produce two files “FinalFile.csv” and “Test_error.csv” using Spark in “weather_spark.py”. I import these two files using pandas in “weather_plot.py”, which produced plots as shown below,

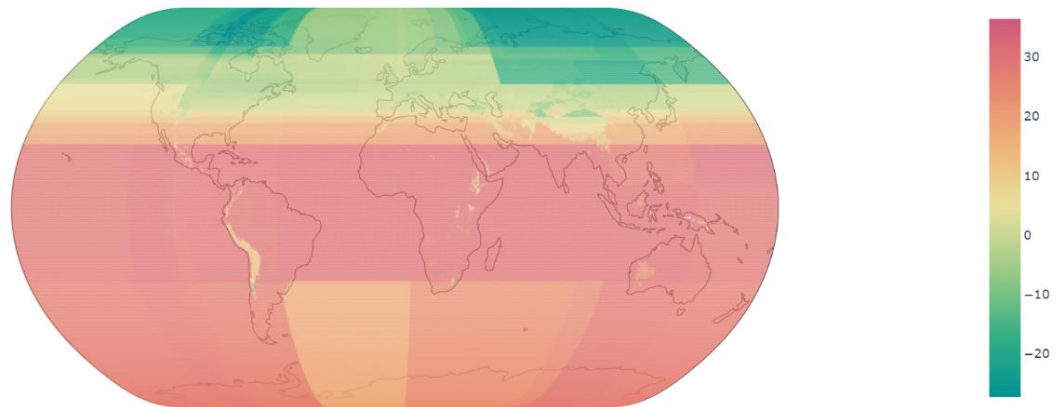
- 1) For this figure, I grouped stations based on decades, I considered 1 group of stations from 1910 and 1960 and the second group of stations from 1960 and 2010.
- 2) The plot shows that there were global cooling in some parts, but for most of the parts, it has warmed up. It's interesting to notice that some parts of Canada, have experienced cooling over the last century

Average Temperature Change in stations, between 1910 and 1960 and 1960 and 2010



- 1) With the help of grid of latitudes and longitudes, and using the weather model from assignment 9 of 732, I plotted this dense heat map.
- 2) As we can see, the model performs well in the northern regions according to our sensibilities. The problem with the model can be seen in the southern most regions, where it predicted temperatures higher than what it should be.

Density heatmap showing the temperature at each latitude and longitude



- 1) This plot was generated using the difference between tmax values of the model and the tmax-test file.
- 2) This map confirms our earlier notion, that our model performs better in the northern regions including North America and above, where the difference between the tmax lies in the yellow region
- 3) South America and Africa show some regions where the predicted temperature of our model and the tmax-test values considerably diverge.

Error between predicted tmax values and test tmax values

