The Effect of The Solar Cycle on Mars

August Luna

Abstract The solar cycle is an 11 year cycle that the Sun undertakes every eleven years in which the sun reaches either it's solar maximum or minimum. Increase of Sunspots, areas that are darker and cooler than the rest of the sun's surface appear throughout the solar cycle, and typically come in pairs. Solar Flares are directly related to solar flares which give off explosive amounts of energy. This research seeks to determine whether or not there is a correlation between these solar phenomenon and Mars' Climate.

Background The intent of this study is to see if any affects of the sun's solar cycle affect the climate of mars. This will be done using two open source data sets that provide this information. This is of interest because there has been an ever growing push to send humanity to mars, and this study seeks to provide more information on mars.

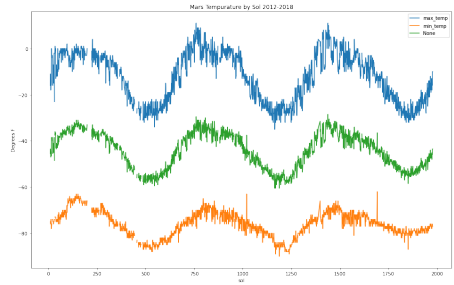

FIGURE 1. *Temperature of Mars by Sol starting from 2012 to 2018.*

Methods To determine whether or not solar flares affect Mar's climate, I will run statistical analysis on these two open source data sets, comparing and contrasting the amount of sunspots on the sun at a given time, and the temperature of mars during this time. I will use statistics to see if these temperatures give way to underlying patterns.

I will be completing this research in the required time, and will do so by following this plan.

TABLE 1. *Timeline*

week1	week 2	week 3
gather data and materials	analyze data	create presentation

References

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