Title: Interactive Sunspot Visualization

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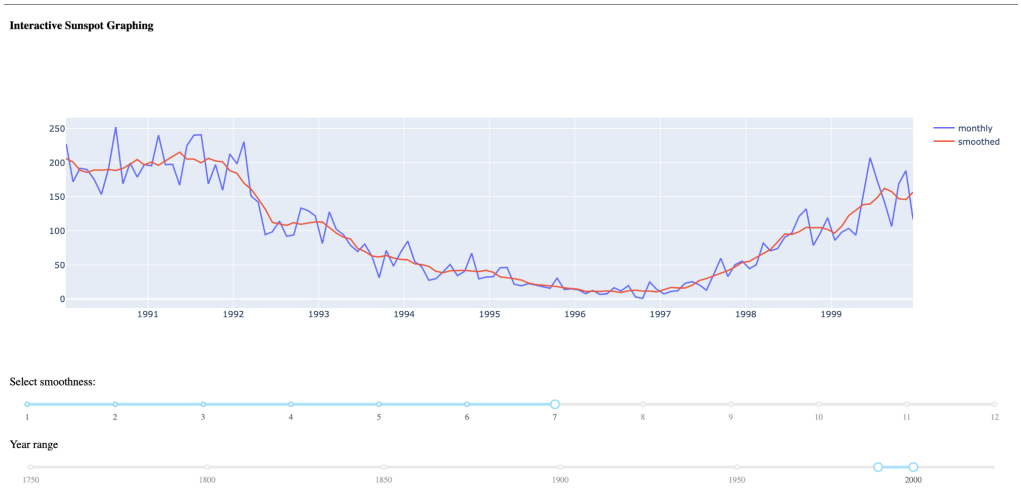
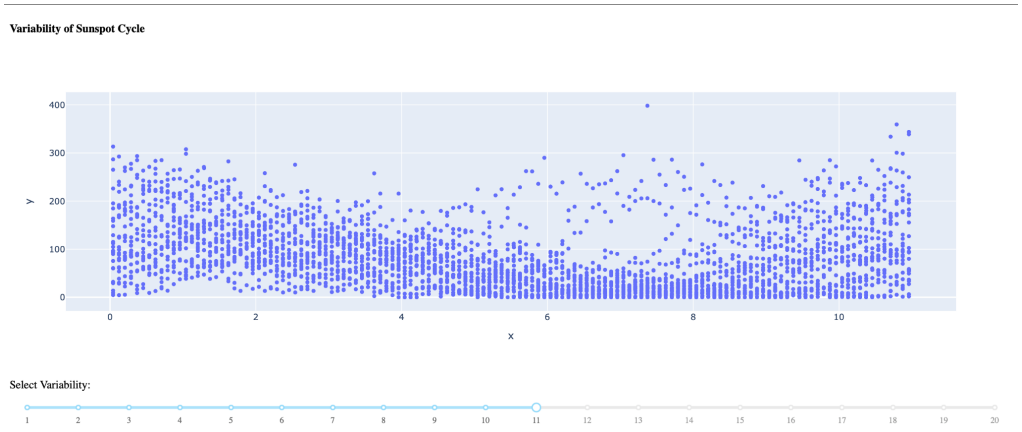
The purpose of this dashboard is to monitor and analyze sunspot historical and trending sunspot activity. I generated 3 visualizations to compare and comprehend the solar activity better in a combination. They accommodate the user input system through slider and dropdown functions and thus are built interactive.

The first visualization, called “Interactive Sunspot Graphing,” allows the user to choose year range and smoothness to be graphed. The default value is the monthly line plot, but the user could make a second line that is more smooth than the first monthly line plot. The number indicated in the slider is how much month you want to average through. For example, if you choose 7 like in the image, it generates the averaged data of every 7 months, which makes it less edgy and more smooth.

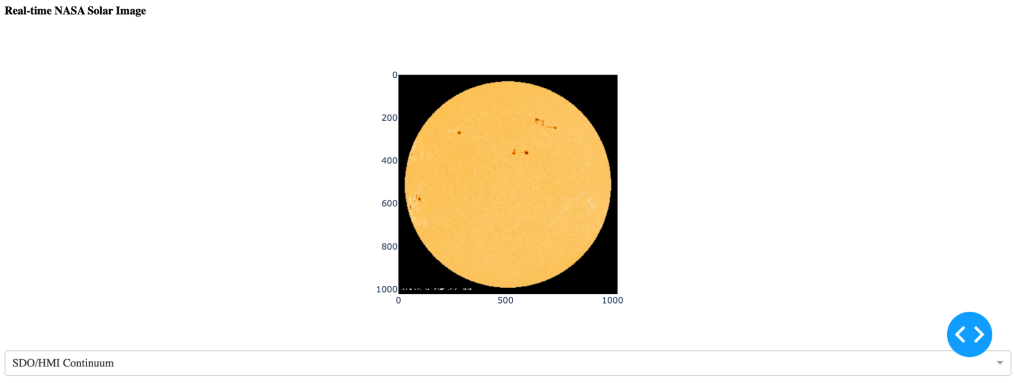


Next, I built the interactive “Variability of Sunspot Cycle” graph. It allows the user to choose variability on the slider, and transforms the dataset into fractional years based on the input. It has an intention to experiment on how many years exactly need to peak the solar activity

again, in general. It sets to be 11 years as a default because the span between peaks is 11 years on average, which you could see on the nice curve of the graph below.



Lastly, the “Real-time NASA Solar Image” shows the latest image of the sun according to NASA website published information. It also allows the user to choose their preferred filtering of sun image from the dropdown menu. Because it is using a direct jpg link from NASA website, the image changes when NASA decides to change the image. It helps the user to understand more on solar activity in a combination with above two graphings.



Reference:

“Sunspot Number: Silso.” *Sunspot Number | SILSO*, https://www.sidc.be/silso/datafiles.

“The Very Latest SOHO Images.” *NASA*, NASA,

https://soho.nascom.nasa.gov/data/realtime/realtime-update.html.