

PS6_{*Nongard*}

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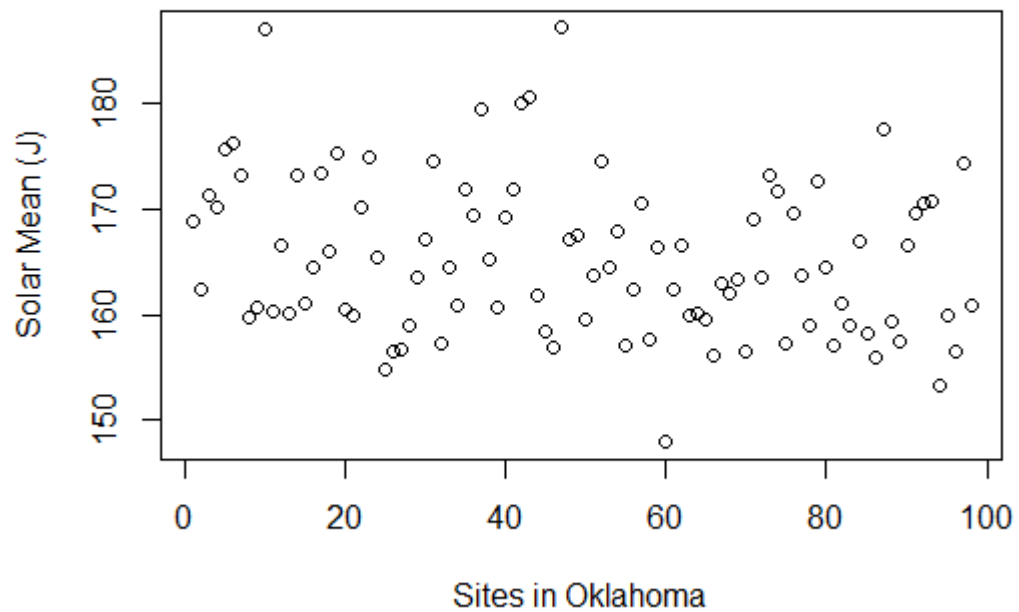
1 Cleaning

The data first came as a 98x5000ish row matrix, containing mean daily insolation values for 98 Oklahoma Mesonet spots for several years stretching from the 90s to the mid 2000s. I averaged this data for each site to one number and divided it by 10000 for readability's sake. Then, I merged those data with another file containing the lat/long locations and elevation data for the individual Mesonet sites. Then, I created the visualizations below.

2 Visualizatiois

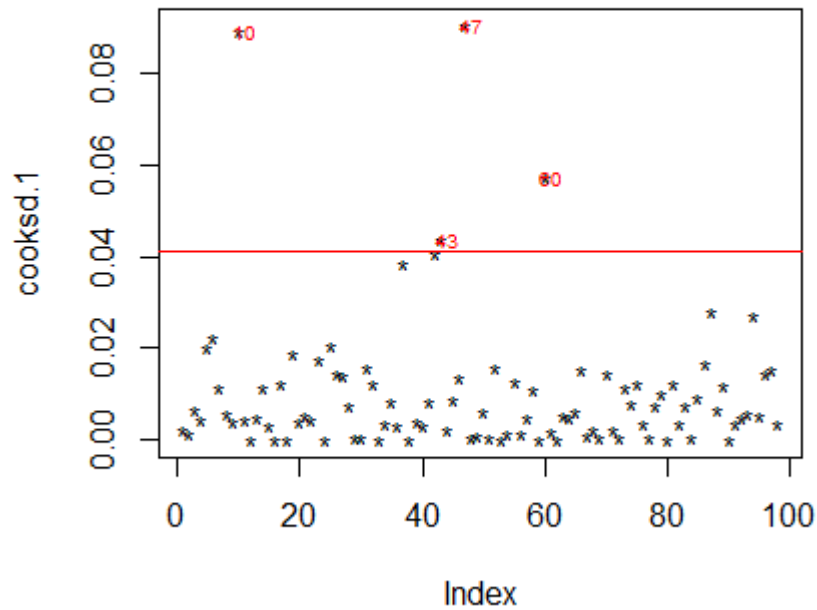
This is a plot showing the Mean Solar Value for insolation across all 98 Oklahoma Mesonet sites. From this scattered mess, we can see that there are pretty much no patterns or breaks discernible. This is useful for understanding that the increase in insolation across the state is uniform, without major breaks at any point.

Mean Solar Value (100,000 J) of Each Site in Oklahoma



This is a plot showing outliers by Cook's Distance, a measure that shows the four Mesonet points with incredibly different values. We see that there are only 4 points that meet our arbitrary criteria of 4x the mean Cook's D value, which are probably not enough outliers to bother with removing them.

Outliers' Influence by Cook's distance



This is a table showing the four points decided as influential using Cook's D. Their name, location, elevation, and insolation levels are shown. This is useful for understanding how any of those variables (elevation and location particularly) might affect the outlying numbers, if we are familiar with the data. For instance, the low level outlier, number 60, has the lowest elevation by far.

	stid	nlat	elon	elev	solarmean	s2
10	BOIS	36.69256	-102.49713	1267	18688943	186.8894
43	HOOK	36.85518	-101.22547	912	18041483	180.4148
47	KENT	36.82937	-102.87820	1322	18700559	187.0056
60	MTHE	34.31072	-94.82275	284	14795921	147.9592