

LAB 9 : SST standard deviation

The purpose of this lab is to demonstrate how to calculate the standard deviation from a monthly sea surface temperature data set. The standard deviation represents the spread of the monthly SST data around the monthly SST mean. Your task is to identify areas with high and low standard deviations and then to think about what may cause the spatial variability in the spread in the SST data.

Directions:

Navigate to our often-used SST data set:

https://iridl.ldeo.columbia.edu/SOURCES/.NOAA/.NCEP/.EMC/.CMB/.GLOBAL/.Reyn_SmithOlv2/.monthly/.sst/

Restrict the spatial domain to include the Gulf of Mexico, the Caribbean Sea, and parts of the Tropical Atlantic Ocean.

The magic function to calculate the monthly standard deviation is:
monthlySD

You will need to analyze the monthly standard deviation (SD) for each month to determine which season has the highest and lowest SD. Then, take a time average of the monthly SD and indicate where the SD is highest and lowest.

Provide the below for full credit:

Enlarged map of the month with the lowest SD (2pts)

Enlarged map of the month with the highest SD (2pts)

Enlarged map of the annual average SD (2pts)

Briefly explain what SD is and provide an interpretation for an area that has a relatively high SD. (2pts)

What are the units of SD? (1pt)

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NO LINKS.