Assignments for the climate data analytics

1. Download the following variables for the period of 1980 to 2020:
    a. Monthly global Sea Surface Temperature from Hadley SST products
    b. Monthly global Surface Air Temperature from NCEP reanalysis 2

2. Compute the following for both variables:
    a. Monthly climatology
    b. Monthly Anomaly

3. Plot the following:
    a. The globally averaged monthly climatology time series
    b. The spatial plot of the climatological months i.e. jan, feb, march….
    c. The globally averaged monthly anomaly time series
    d. The spatial plot of the months of January from the monthly anomaly for the years 1998, 2016, 2011, 2008
    e. Compute the linear trend (i.e. the rate or the regression against time) for the globally averaged monthly time series of anomaly.
    f. Compute the correlation co-efficient between the time series of globally averaged monthly anomaly from surface air temperature and sea surface temperature.

4. Write a 200 words report on the above analysis.