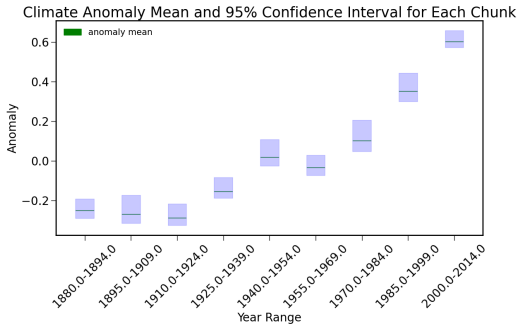
In [ ]:

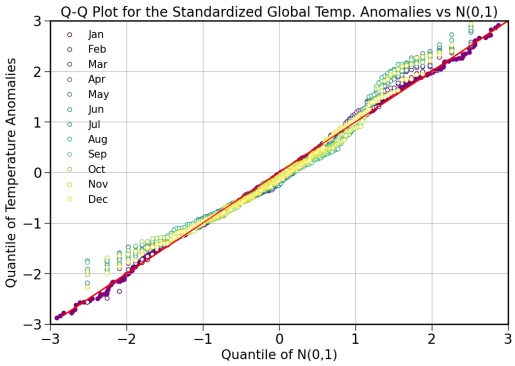
ReadME

- This is a compilation of small projects done for Climate Modeling.
- All datasets used are sourced:
  - Hansen_Global and Jones_Global
  - NCEP Monthly Mean and Anomalies
  - NOAA Global Temperature SAT
- Results shows:
  - data valadity of both Hansen and Jones data
  - Q-Q plot of the Jones data to show each month's standarized global temperature anomalies.
  - NCEP Monthly Mean and Anomalies datas are used to show different modes of EOF and PC from 1948 to 2015
  - The Area Weigthed Average from 1880 to 2017 of the Southern Hemisphere are computated from using NOAA Global Temperature. Yearly and specified months are shown.
  - The De-trended Area Weighted Average Annual is also computated.

Hansen and Jones Global Data



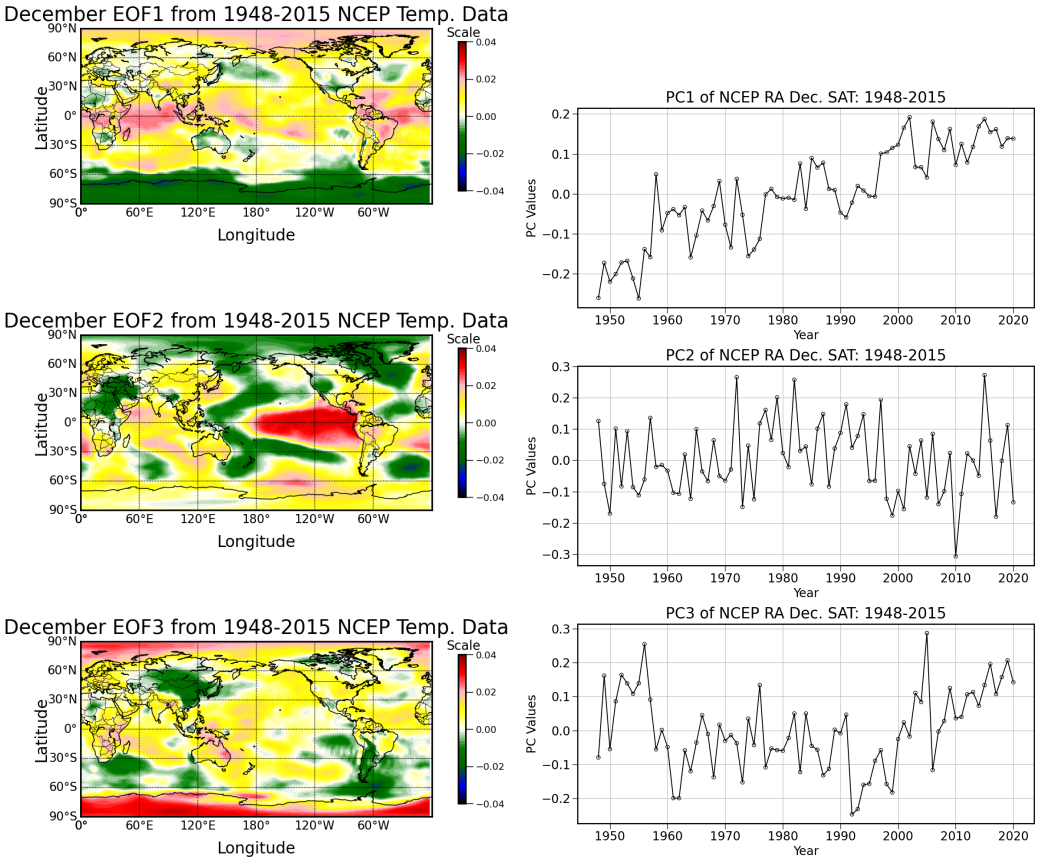
- From using the dataset produced by Hansen and Jones global data, the are checked to ensure data validity (with years in blocks).



- Q-Q plot of the standard deviation of Jones Global dataset.

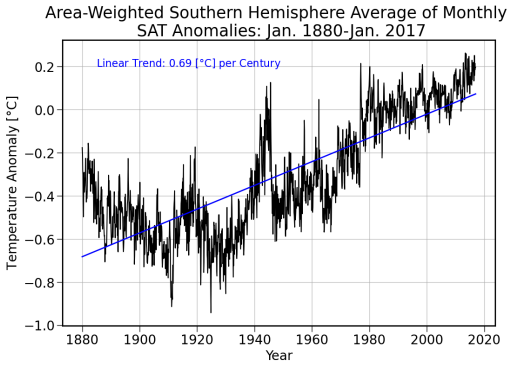
NCEP Anomaly Mean and Monthly

• NCEP Temperature Data (Modes)

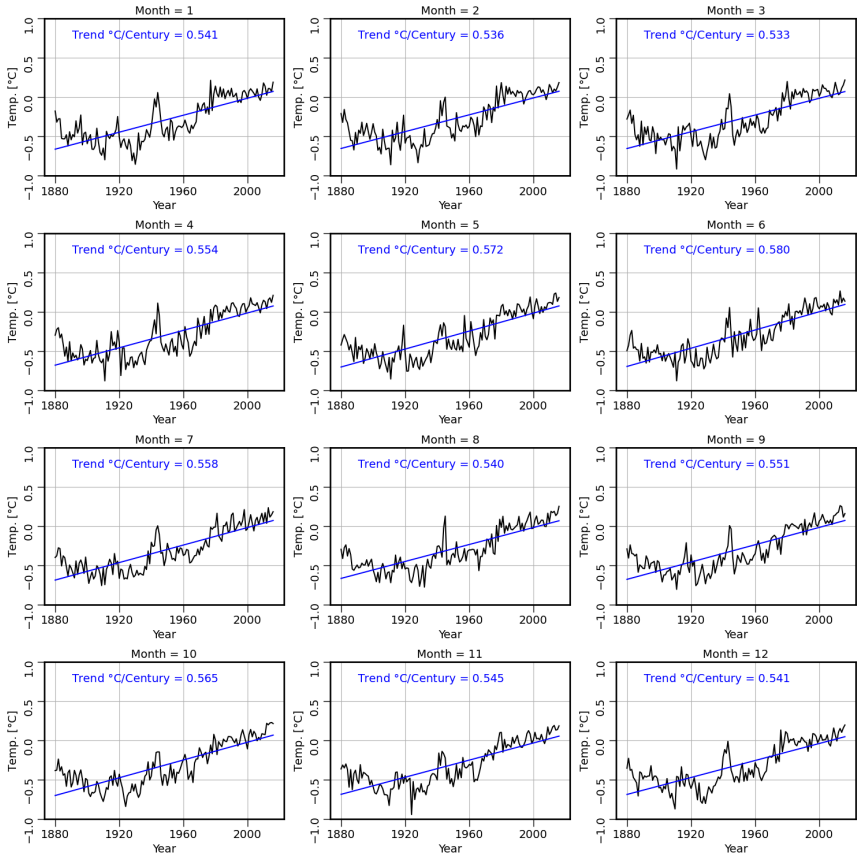


- EOF and PC paired showing the temperature have been rising throughout the years.

• Area Weighted Monthly Average (Southern Hemisphere)

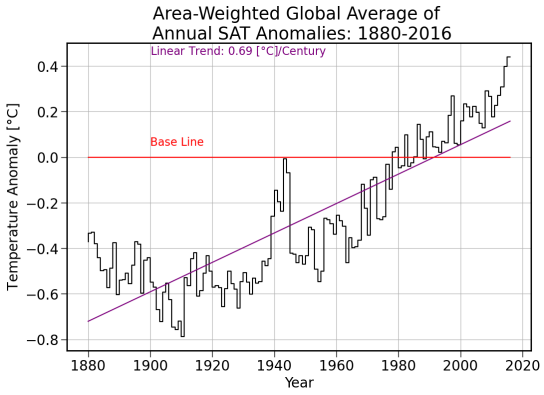


- Here is the monthly average from 1880 to 2017.



- Here is the average at each specified month (1 Jan., 2 Feb., ..., 12 Dec.) from 1880 to 2017.

- **De-Trended Area Weighted Average Annual SAT**


Area-Weighted Global Average of
Annual SAT Anomalies: 1880-2016
Linear Trend: 0.69 [°C]/Century
Base Line
Temperature Anomaly [°C]
0.4
0.2
0.0
−0.2
−0.4
−0.6
−0.8
1880
1900
1920
1940
1960
1980
2000
2020
Year