

CCI ASSIGNMENT – 1

Name: RAHUL VARMA

Roll No: S20200010212

Location:

Narsipatnam (Latitude: 17.6664° N, Longitude: 82.6105° E).

Data is taken from: <https://power.larc.nasa.gov/data-access-viewer>.

Data Taken on 08 – 09 – 2022.

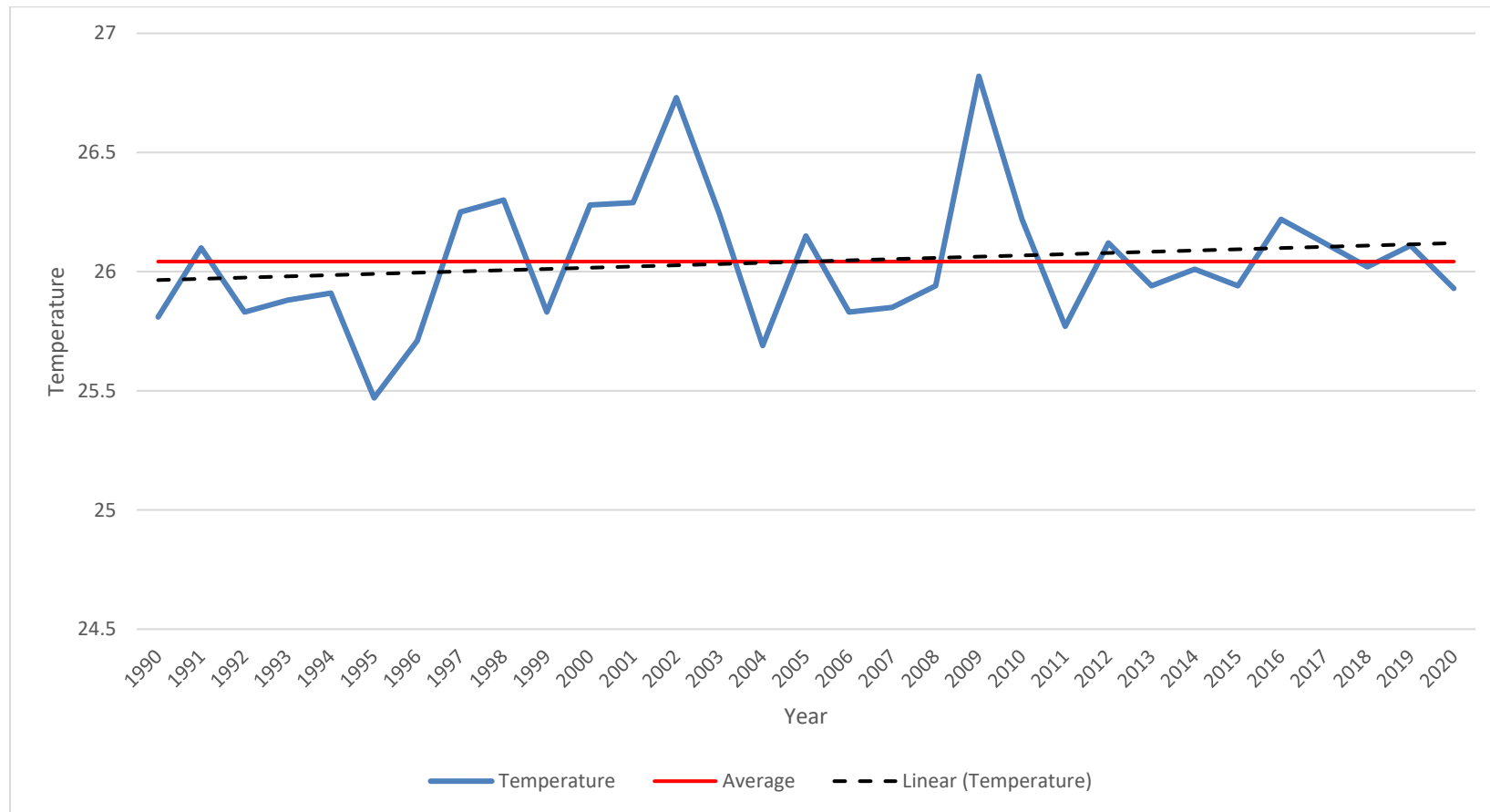
Data Taken from 1990 – 2020 (Year).

Climatic parameters:

- 1) **Temperature.**
- 2) **Precipitation (Rain Fall).**
- 3) **Solar Radiation (3 types).**

TEMPERATURE (°C):

Temperature vs Year Graph:



Trend Line for the graph is represented in Black Dashed line.

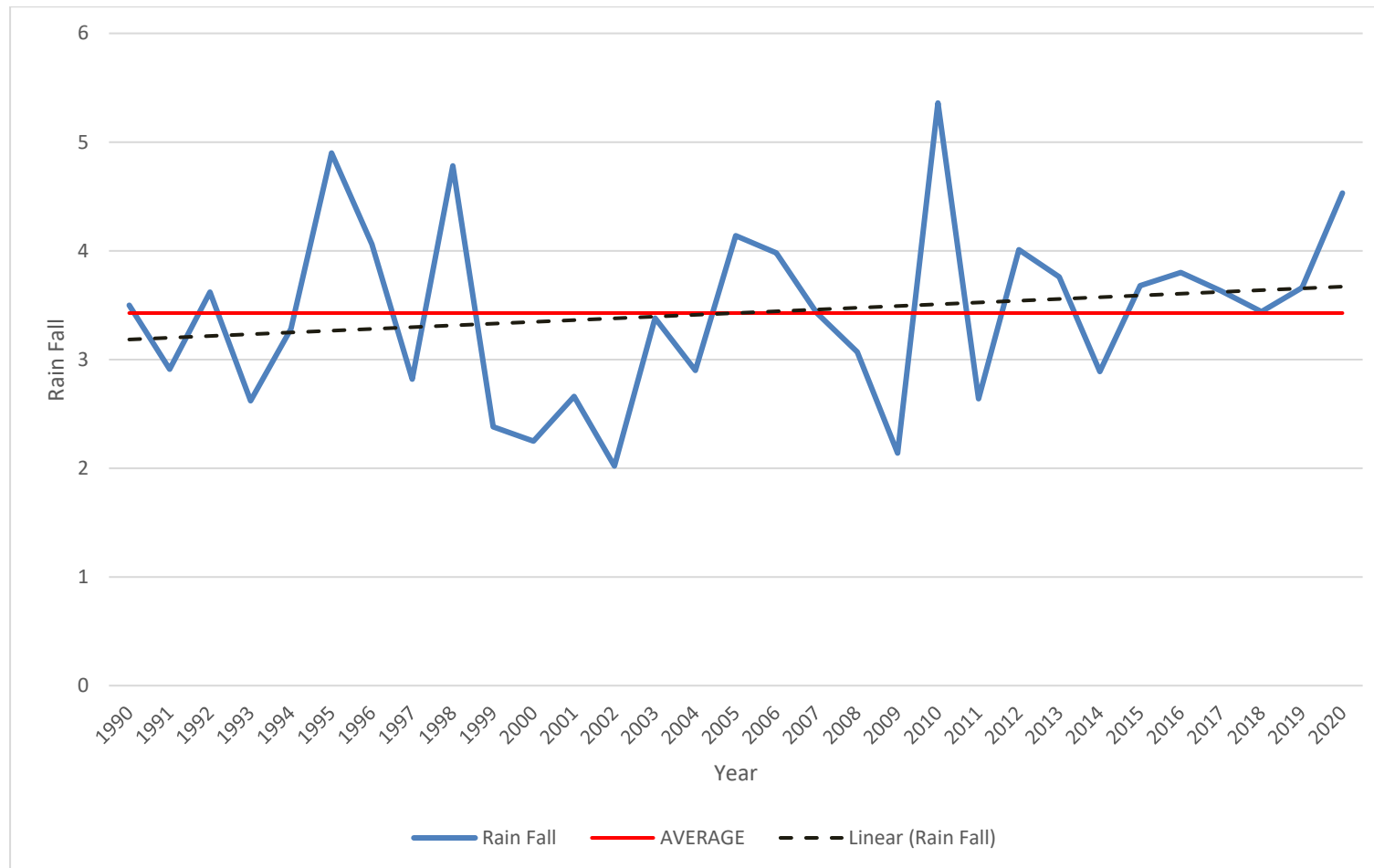
Average Temperature for the graph is represented in red line (26.04226 °C).

Observation's:

- 1) By Observing the graph one can notice that value Changes from one year to another year
- 2) In 1990 the value is 25.81 °C and in 1995 value dropped to 25.47 °C.
- 3) It's like fluctuating from one year to another this is called as **Climate variability** (year to year fluctuation).
- 4) Linear Trend line is plotted for the data and it is **pointing upwards**.
- 5) It means that the temperature is increasing in Linear Trend.
- 6) Linear Trend exist in the data which is called as **Climate change** (for long time).
- 7) The Maximum Value occurred in the year 2009 (26.82 °C) and minimum value in the year 1995 (25.47 °C).
- 8) Trend Line and Average Line clearly show that how the values are changing form year to year.

RAIN FALL (mm/day):

Rain Fall vs Year Graph:



Trend Line for the graph is represented in Black line.

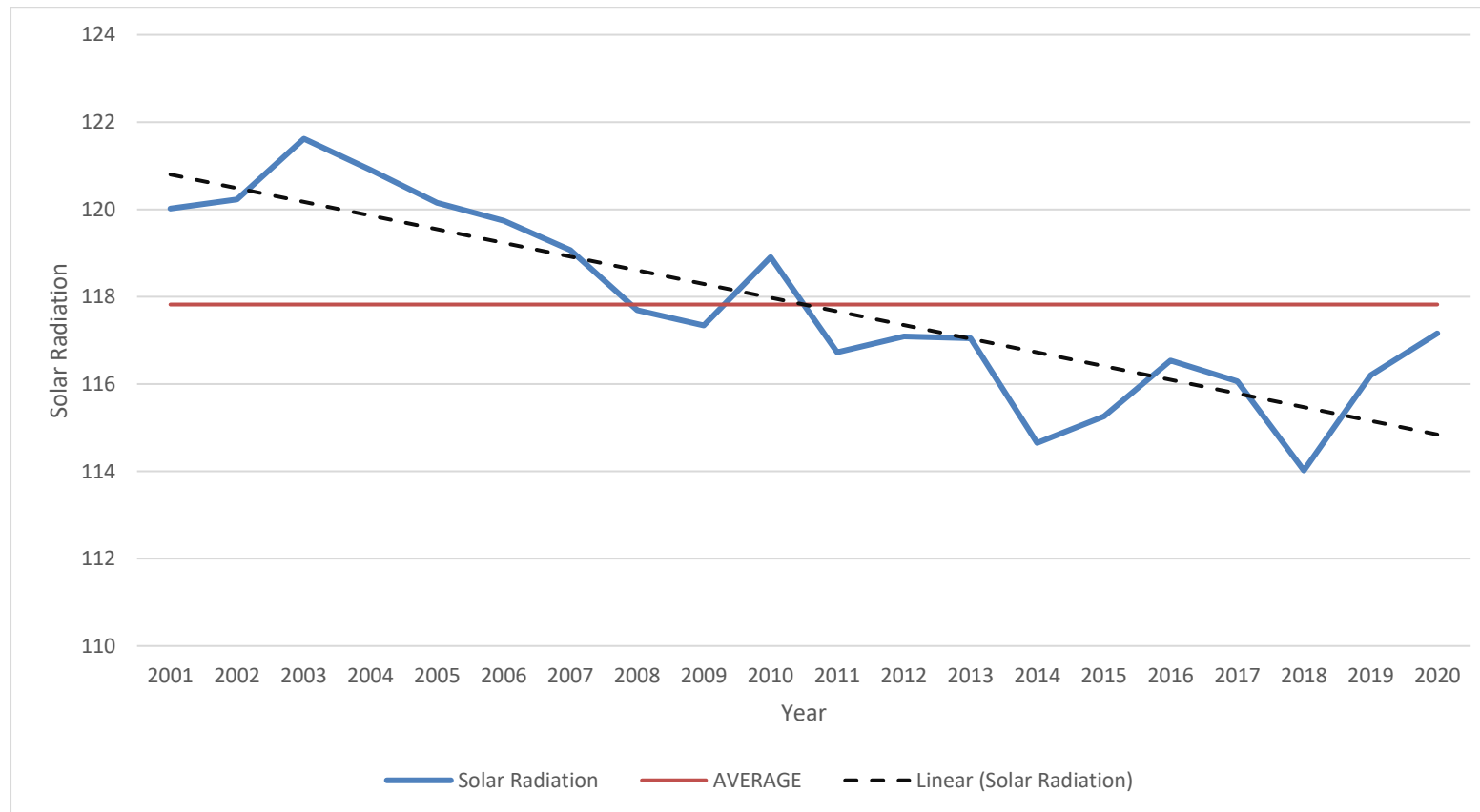
Average Rain Fall for the graph is represented in red line (3.427097 mm/day).

Observation's:

- 1) By Observing the graph one can notice that value Changes from one year to another year
- 2) In 1990 the value is 3.5 and in 2002 value dropped to 2.02 mm/day.
- 3) It's like fluctuating from one year to another this is called as **climate variability** (year to year fluctuation).
- 4) Linear Trend line is plotted for the data and it is **pointing upwards**
- 5) It means that the Rain Fall is increasing in Linear Trend.
- 6) Linear Trend exist in the data which is called as **climate change** (for long time).
- 7) The Maximum Value occurred in the year 2010 (5.36 mm/day) and minimum value in the year 2002 (2.02 mm/day).
- 8) Trend Line and Average Line clearly show that how the values are changing form year to year.

SOLAR RADIATION (W/m²): (1st type)

SOLAR RADIATION vs Year Graph with Trend Line:



This is CLRSKY_SFC_PAR_TOT Solar Radiation.

Trend Line for the graph is represented in Black line.

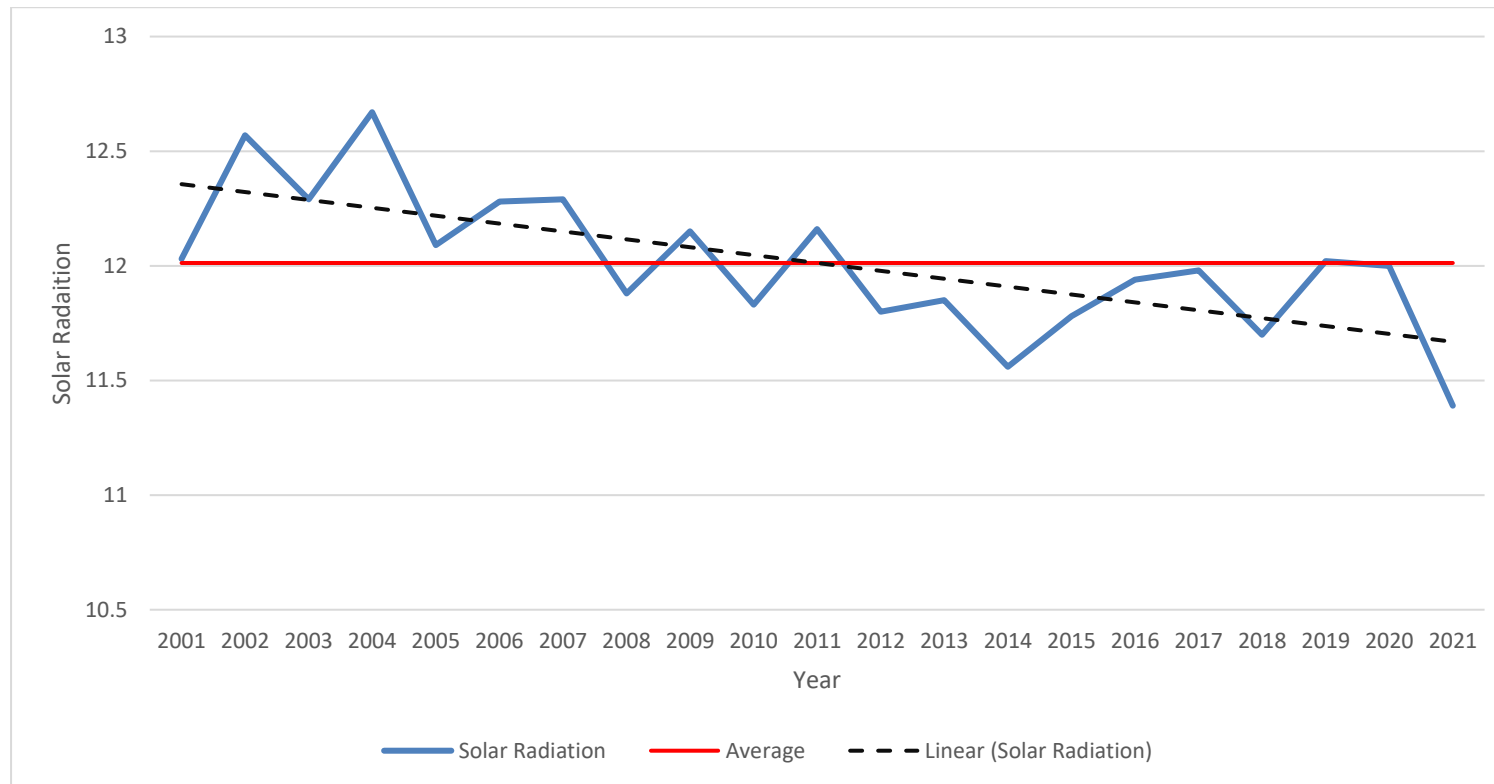
Average SOLAR RADIATION for the graph is represented in red line (117.822 W/m^2).

Observation's:

- 1) By Observing the graph one can notice that value Changes from one year to another year
- 2) In 1990 the value is 120.02 and in 2003 value raised to 121.62 W/m^2 .
- 3) It's like fluctuating from one year to another this is called as **climate variability** (year to year fluctuation).
- 4) Linear Trend line is plotted for the data and it is **pointing down wards**
- 5) It means that the SOLAR RADIATION is decreasing linearly.
- 6) Linear Trend exist in the data which is called as **climate change** (for long time).
- 7) The Maximum Value occurred in the year 2003 (121.62 W/m^2) and minimum value in the year 2018 (114.02 W/m^2).
- 8) Trend Line and Average Line clearly show that how the values are changing form year to year.

SOLAR RADIATION (W/m²): (2nd type)

SOLAR RADIATION vs Year Graph with Trend Line:

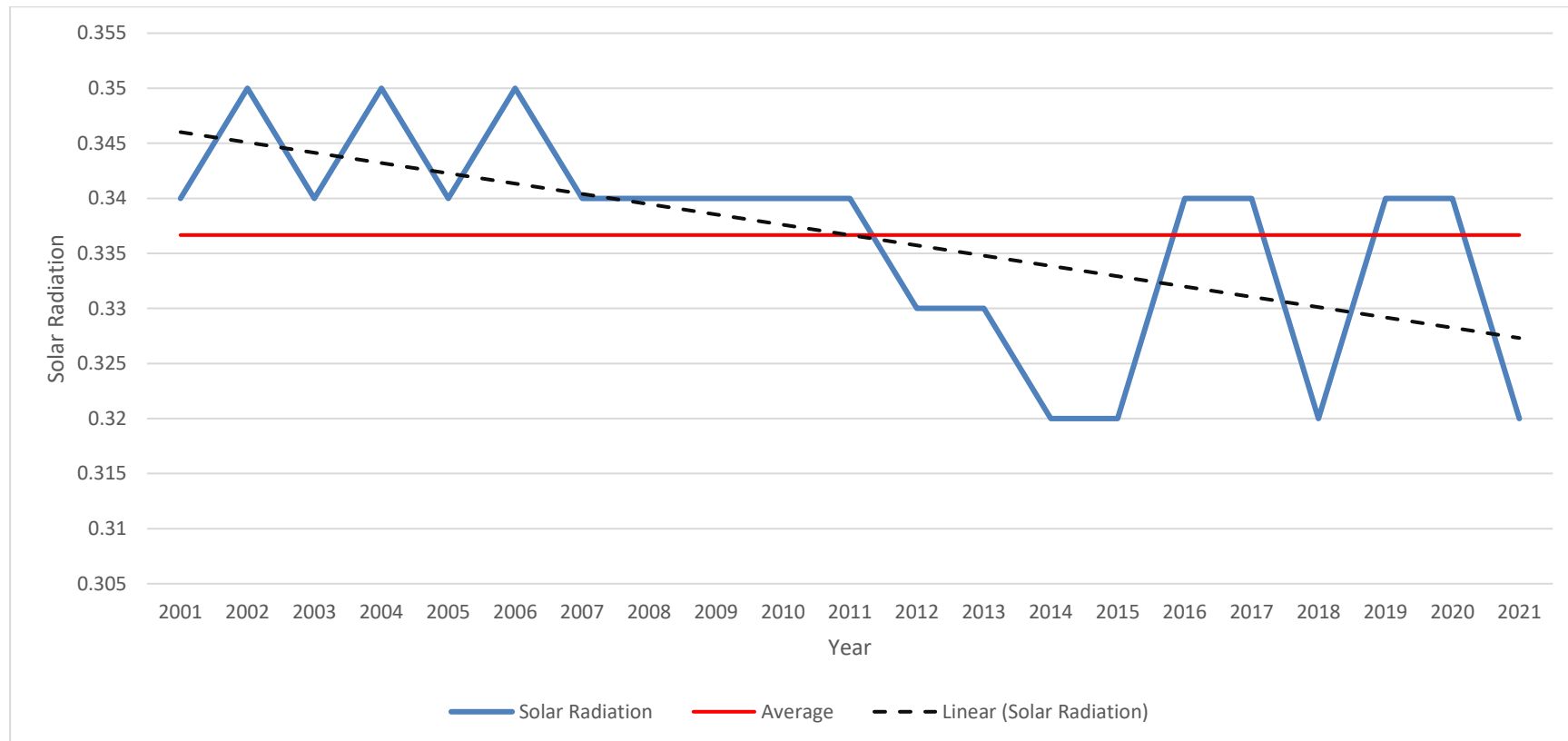


This is ALLSKY_SFC_UVA Solar Radiation.

Trend Line pointing Down Ward.

SOLAR RADIATION (W/m²): (3rd type)

SOLAR RADIATION vs Year Graph with Trend Line:



This is ALLSKY_SFC_UVB Solar Radiation.

Trend Line pointing Down Ward.

These are Three Types of Solar Radiation.

Black Dashed line represent Trend Line.

Red Line represent Average Value.

Note: For Solar Radiation, for my town the values are present from 2000 – 2020, 1990 – 1999 values are not given.

So, I Plotted for the given value from the Website.

←THE END→