Dataset Source : https://power.larc.nasa.gov/data-access-viewer/

Region Selected : Napane
latitude : 16.5186
longitude : 73.7154

The Parameters in The dataset :
(Temperature , Min_Temperature , Max_Temperature , Humidity , Precipitation , Surface_Pressure , Wind_speed).

The Timeline Used is : (MAY 202 – JULY 2023)

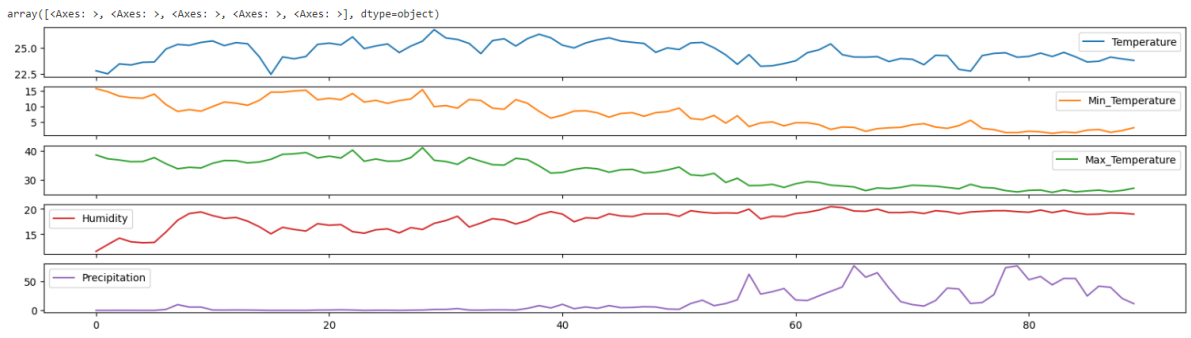
(MAY 202 – JULY 2023)

```
1 weather_data = pd.read_csv('/content/NAPANE_MAY2023-JULY2023_update.csv')
2 weather_data.head(5)
```

	Month	Days	YEAR	Date	Temperature	Min_Temperature	Max_Temperature	Humidity	Precipitation	Surface_Pressure	Wind_speed
0	May	1	2023	01-05-2023	22.80	15.72	38.53	11.60	0.00	97.55	3.54
1	May	2	2023	02-05-2023	22.51	14.73	37.23	12.94	0.01	97.63	3.68
2	May	3	2023	03-05-2023	23.47	13.32	36.79	14.22	0.11	97.76	3.70
3	May	4	2023	04-05-2023	23.37	12.84	36.21	13.49	0.05	97.71	3.52
4	May	5	2023	05-05-2023	23.62	12.65	36.27	13.31	0.01	97.63	3.62

Plotting for Temperature , Min_Temperature , Max_Temperature , Humidity , Precipitation :

X-Axis : Values (C / mm)
Y-Axis : Number of days (MAY 2023 – JULY 2023) – 90 Days

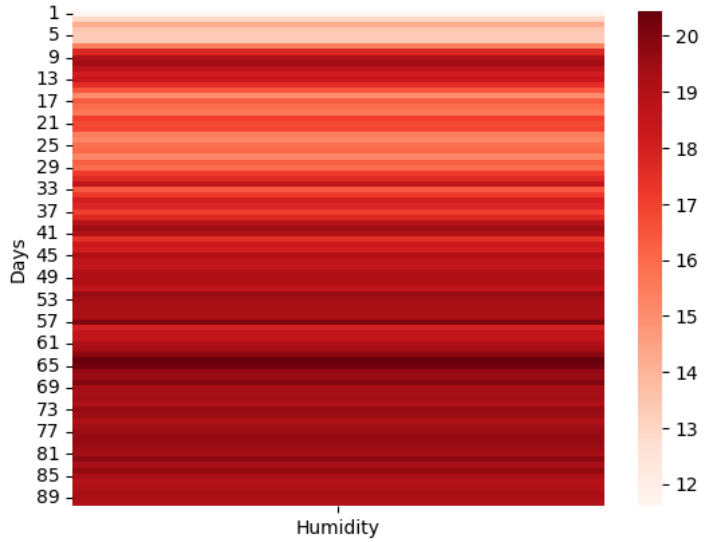


(c) is considered for the Temperature , Humidity .
(Mm/day) is considered for the Precipitation .

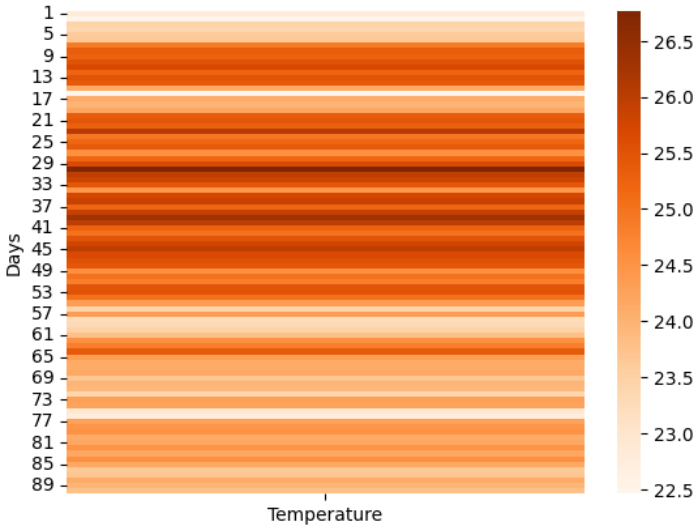
For whole Data Set :

```
Mean Temperature : 24.638222222222222
Mean Humidity : 17.994666666666667
Mean Precipitation : 15.85677777777778
```

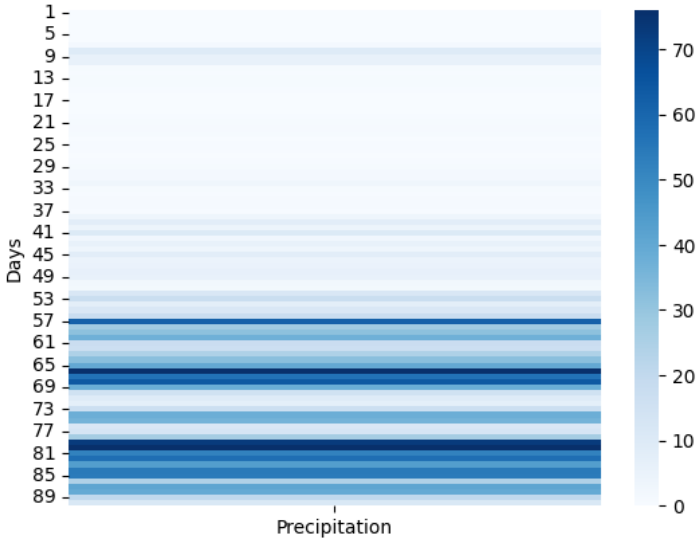
Heat Map : Humidity



Heat Map : Temperature



Heat Map : Precipitation



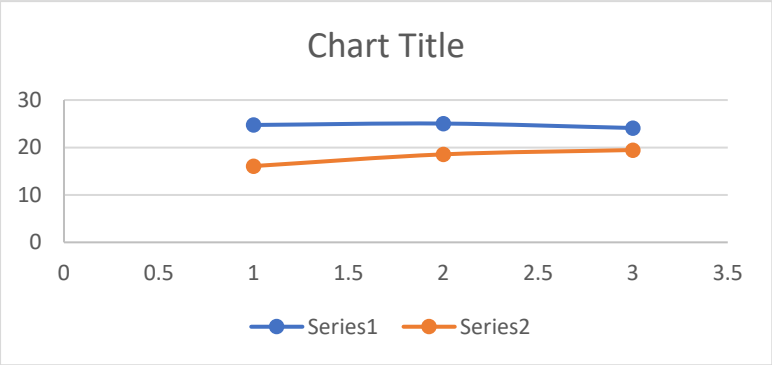
Calculated Values for Each Month By performing Operations on Dataset .

	Year	Month	Mean Temperature (C)	Mean Humidity (C)	Mean Preciptaion (mm/day)
Linear Regression Model	2023	May	24.74451613	16.08225806	1.113870968
		June	25.044	18.54833333	10.72333
		July	24.10482759	19.4662069	36.92689655

Mean Squared Error
1.994425256
0.267022832
0.123938981

Using Linear Regression Model :

X-Axis : Temperature (C)
Y-Axis : Number of Months (Jan 2022 – March 2023)



Year	Month	Mean Temperature (C)	Mean Humidity (C)
2023	May	24.74451613	16.08225806
	June	25.044	18.54833333
	July	24.10482759	19.4662069

Actual Values : Dataset Provided By Nasa
Predicted Values : Done by Training and testing and using Formula .

$$y = b0 + b1 * x$$

where:

- y is the predicted value
- b0 is the y-intercept (constant term).
- b1 is the coefficient (slope)
- X is Actual Value