

A ESSENTIAL ANALYSIS OF LAGOS WEATHER AND  
CLIMATE FROM 2017-SEP 2022

# ARE **SUNDAYS** SUNNIER?

A Presentation to Lagosians, Lagos Governing Body  
and the Data Analysis Community

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Data Source: [Visualcrossing.com](https://visualcrossing.com)





# Executive Summary

From 2017 to September 2022, Lagos state experienced 1,172 days of rain (66%) out of the 1,773 days captured in the analysis. Other specifics include:

- ✓ Wednesdays are the most sunniest weekday, followed by Mondays.
- ✓ February and March are observed to be the hottest months.
- ✓ August is month with the highest UV intensity.
- ✓ Saturday is the coolest day.
- ✓ July is the coolest month.
- ✓ UV Radiation is observed to increase over the years.

Finally, there is an appeal to Lagosians to protect themselves from the harsh sun and seasons. The government should also take the necessary steps to reduce the greenhouse effect and climate change.



# Analysis Approach



**THE QUESTION** - Is the name of weekday Sunday derived from the fact that it is the sunniest day of the week?



**DATA COLLECTION AND SCRAPING** - Excel and DAX were used for data cleaning, wrangling/cleaning, and adjustments.



**ANALYSIS OF DATA** - Clean the data and analyse the various weather components. Sectional analysis of sun intensity and UV radiations was performed, and all data was classified by year.



**DATA INSIGHTS** - The results were visualised using PowerBi to help everyone understand the current and historical weather conditions in Lagos state.

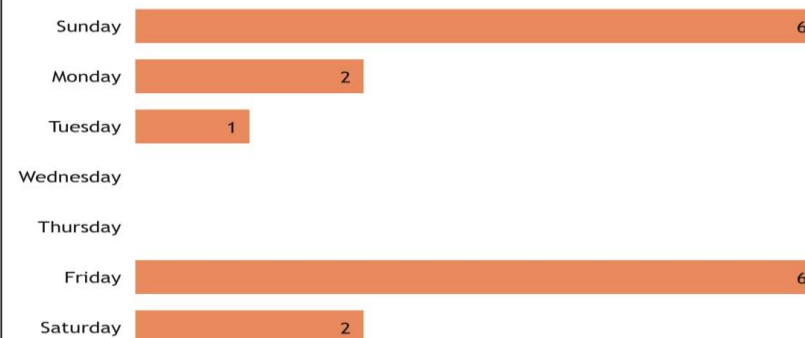


**RECOMMENDATIONS:** Provided recommendations based on the findings of the analysis.



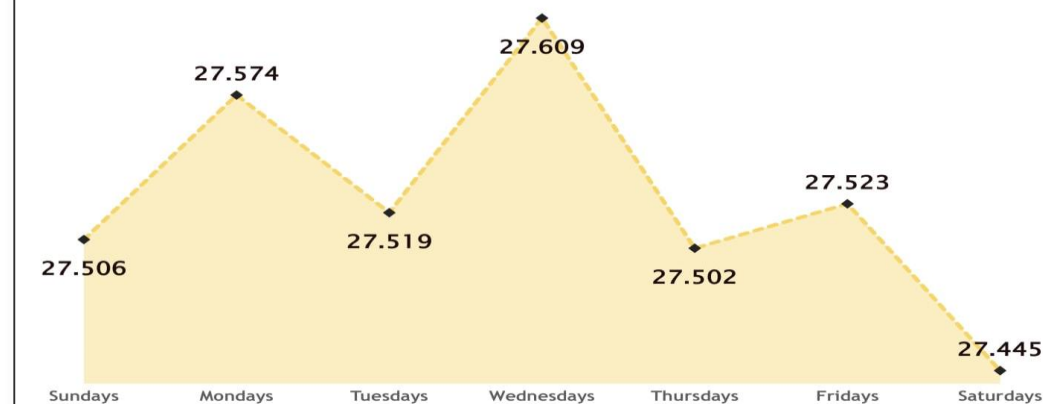
# DATA vs HUMAN PERCEPTION

**Weekday Frequency (Extraced from Responses from Lagosians)**



An analysis of 15 Lagosians' responses is depicted above, with popular opinions being that Sundays and Fridays are the hottest weekdays.

**Average Temperature per WeekDay (°C)**



In terms of the hottest day of the week, an examination of the data suggests otherwise. According to the data, the hottest weekdays are Wednesdays and Mondays.

## Excerpts & Recommendation

Here are a few excerpts from the analysis and suggestions for Lagos residents and the government to consider.

### ➤ Excerpts

- ❑ Despite not representing the entire population of Lagos, the 15 responses to the questionnaire collected for this analysis indicated that Fridays and Sundays were the sunniest days of the week.
- ❑ In contrast to what respondents believed, the weather report's analysis highlighted Wednesdays as the hottest day of the week.
- ❑ Over the years, sun intensity has increased, with 2022 recording the highest rate of increase in sun intensity.
- ❑ Given that January and December fall during the dry season, the fact that they have high sunlight levels is obvious and relatable. August has the highest sun intensity because it is the month when the earth is closest to the sun.

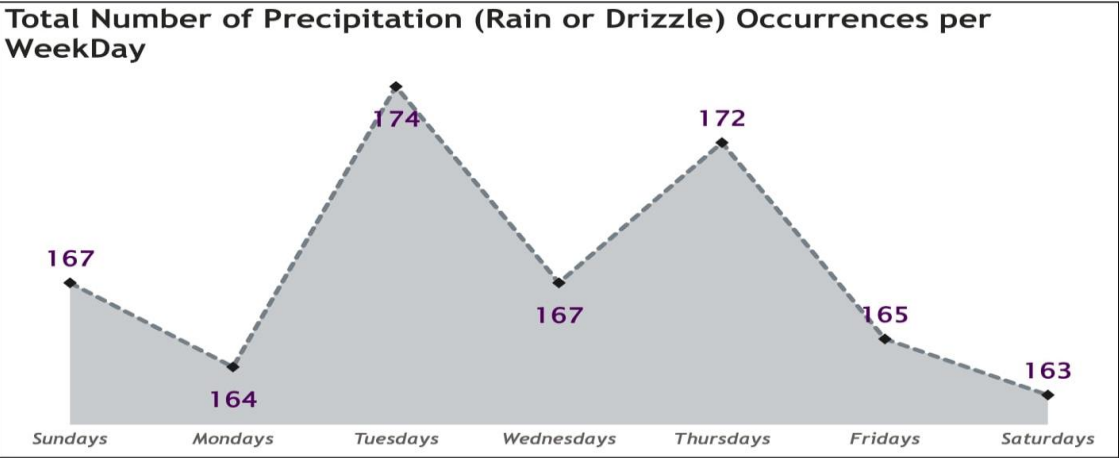
### ➤ Recommendation

- ❖ The government's comprehensive and consistent implementation of the Lagos State Climate Action Plan (2020-2025) to mitigate climate change.
- ❖ Going out in broad daylight is unavoidable because we all need to provide for our families and ourselves. As a result, Lagosians and Nigerians in general should stay hydrated, take regular cold baths, and practise good personal hygiene. Purchase protective equipment such as sunglasses, hats, and umbrellas if they are affordable.

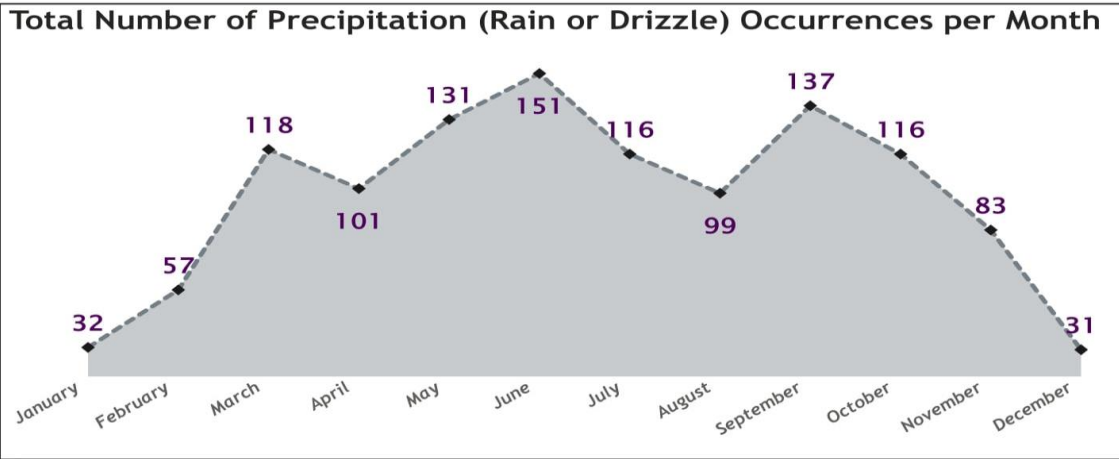
# APPENDIX



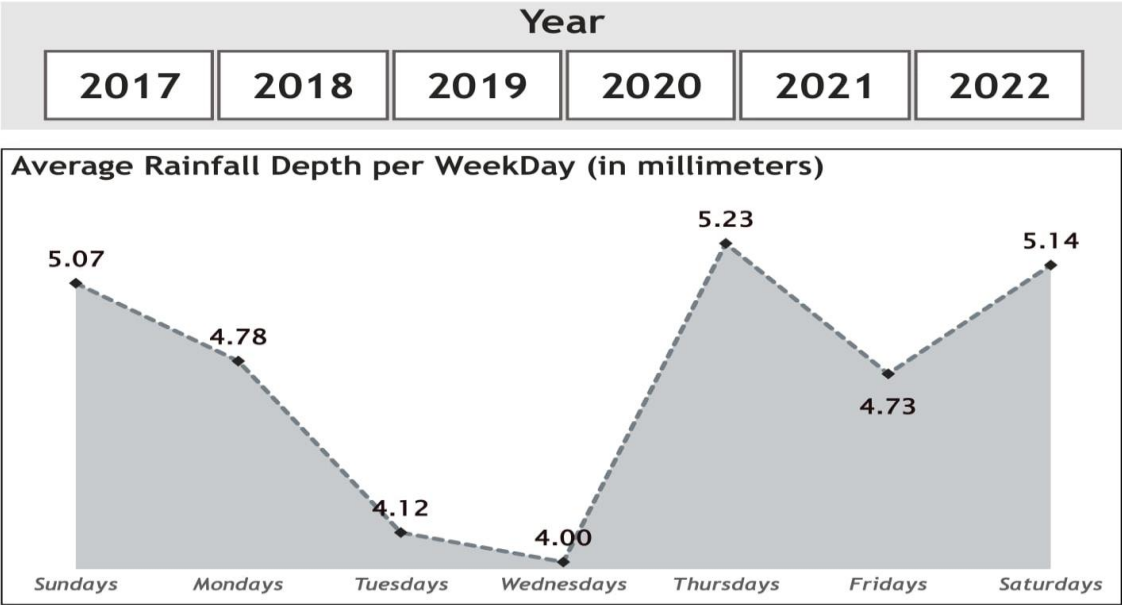
# Precipitation Figures Over the Years



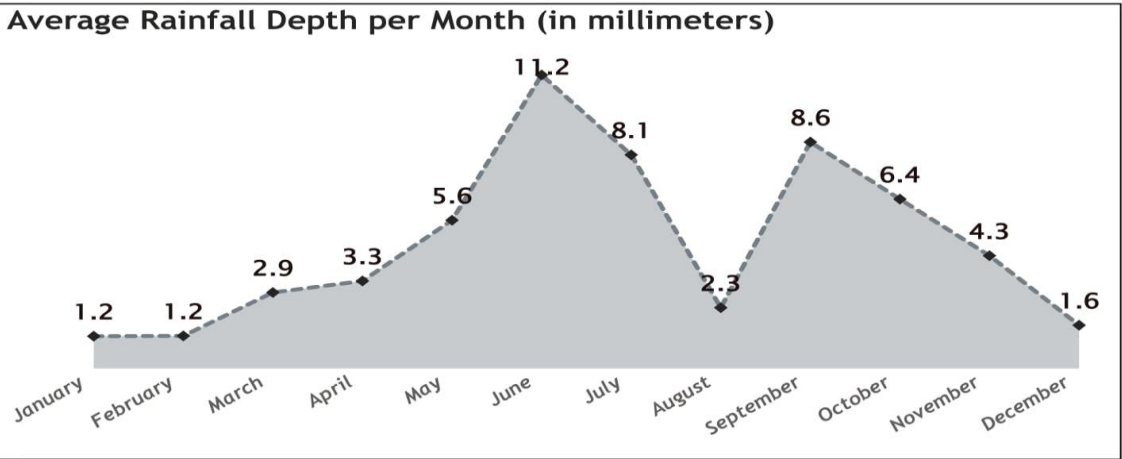
The visualization demonstrates that, over the past five years, Tuesdays and Thursdays have experienced the highest frequency of rainfall



Significantly, June and September are thought to have the highest rainfall frequency. Out of the 1,172 days that were recorded over the captured years, June recorded a total of 151 days.



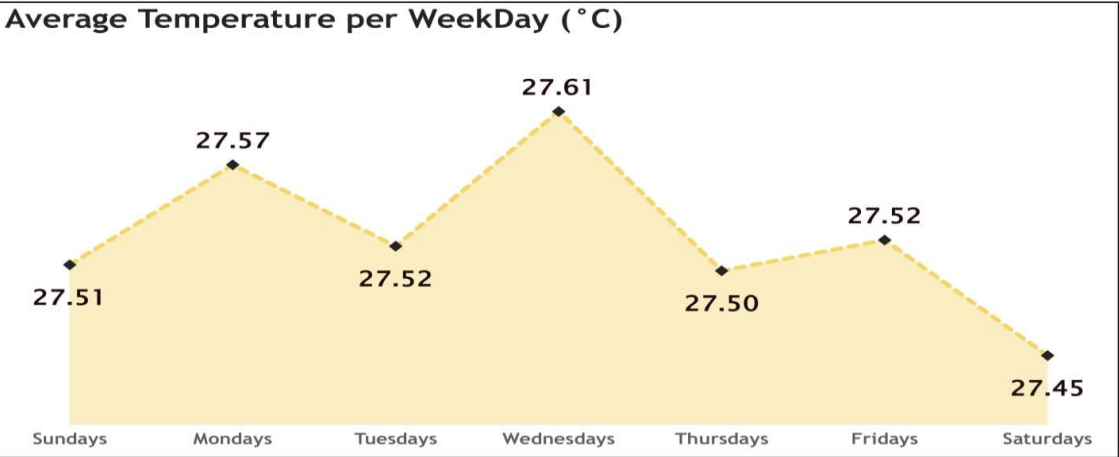
Thursdays are the days on which Lagos experiences the most intense (heavy) rainfall, despite Tuesdays recording the highest frequency of precipitation.



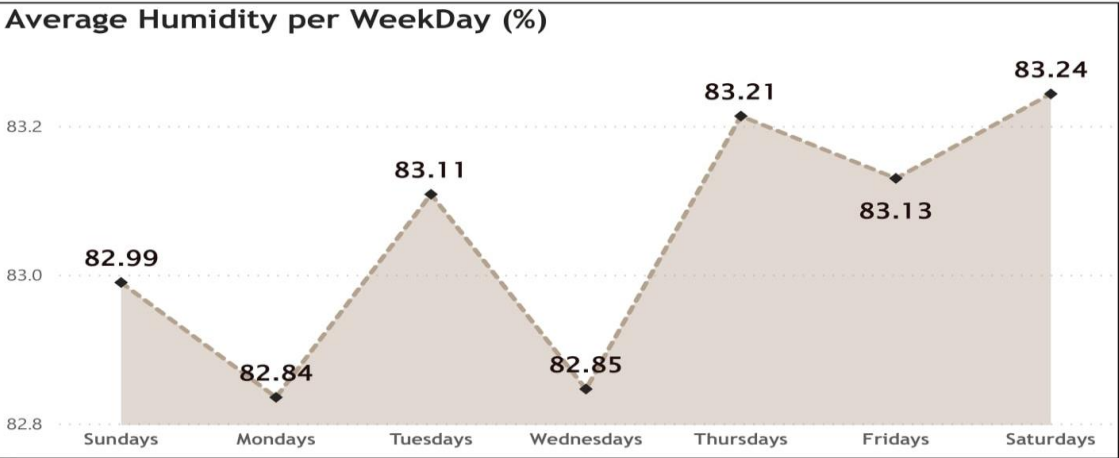
A marked decline in the frequency, intensity, and depth of rainfall in August, as seen in the year 2022. As usual, June and September are the peak months for rainfall, with January, February, and December seeing little to no precipitation.



# Factors Affecting Precipitation (Weekdays)

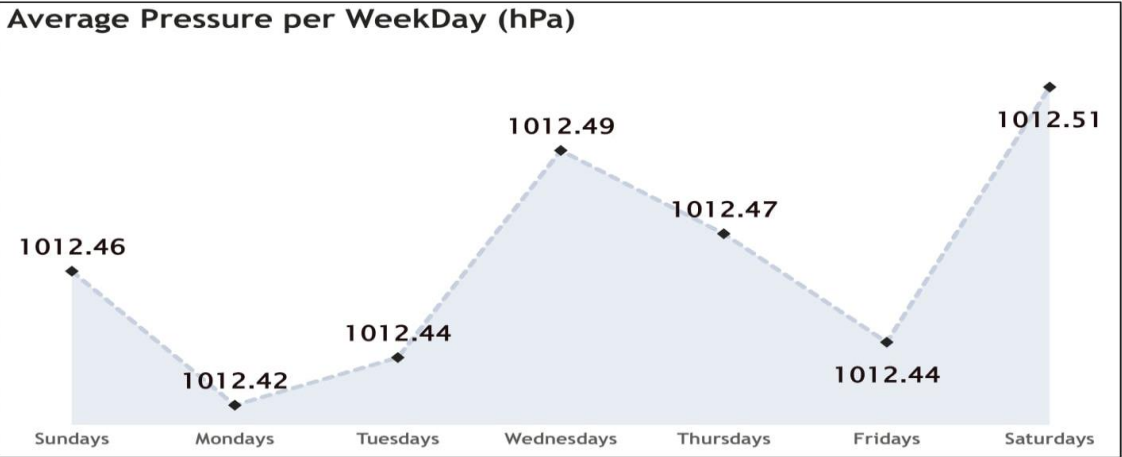


With an average temperature of 27.61<sup>0</sup>C, Wednesdays are found to be the warmest day of the week. Saturdays tend to be cooler than other weekdays.

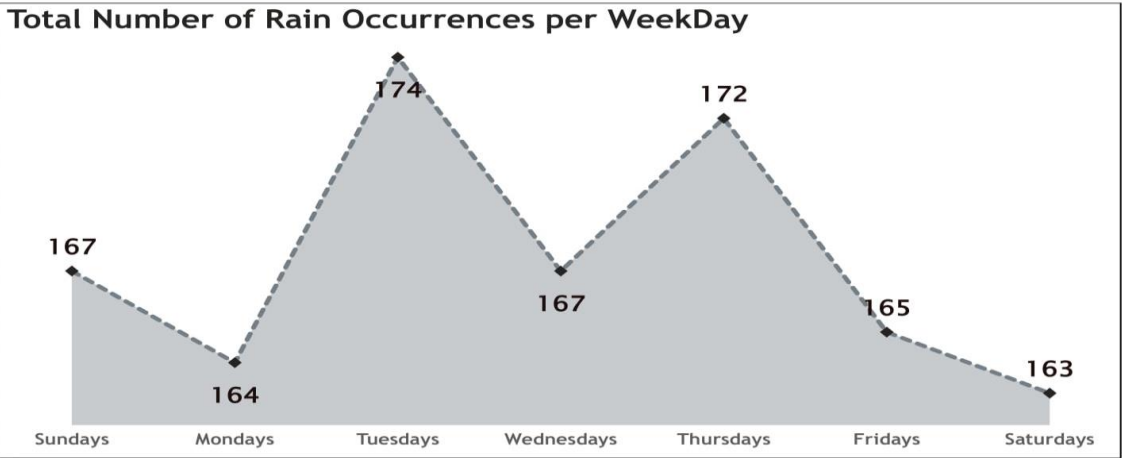


When the temperature drops, humidity is known to rise. When compared to the temperature data for each weekday, this is readily apparent across the entire chart.

Year					
2017	2018	2019	2020	2021	2022



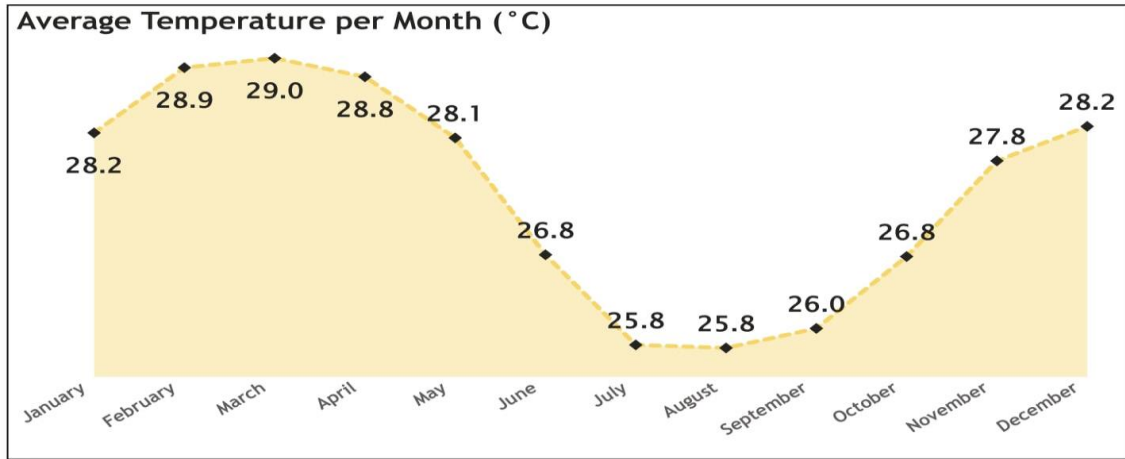
A higher pressure corresponds to a higher temperature. When it comes to Wednesday, this is crystal clear. Despite the low average temperature, Saturday has a higher-pressure peak than any other weekday. This most likely has to do with the time of year.



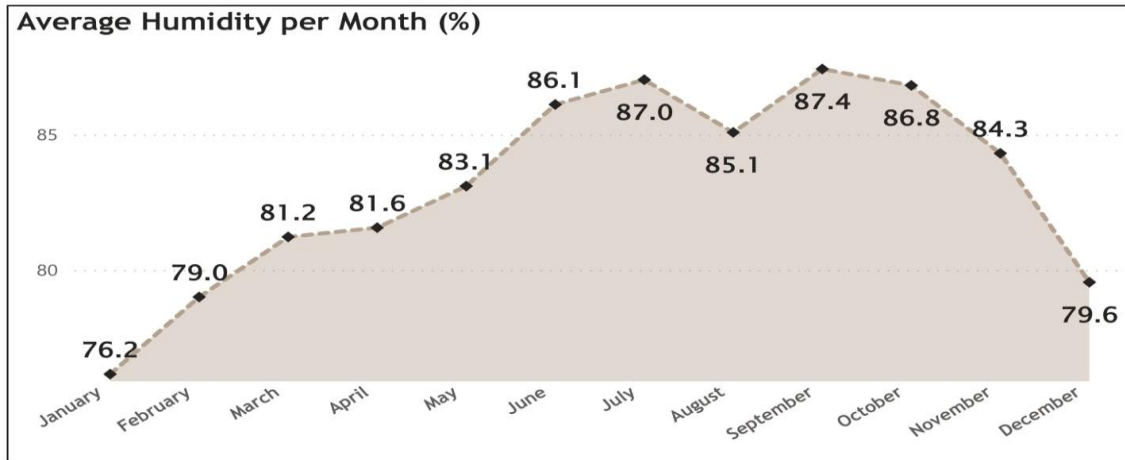
Temperatures are lower on days when it rains. Tuesdays and Thursdays are the days of the week with the highest frequency of rainfall over the past five years, according to a comparison of the temperature and rainfall occurrences charts.



# Factors Affecting Precipitation (Month)

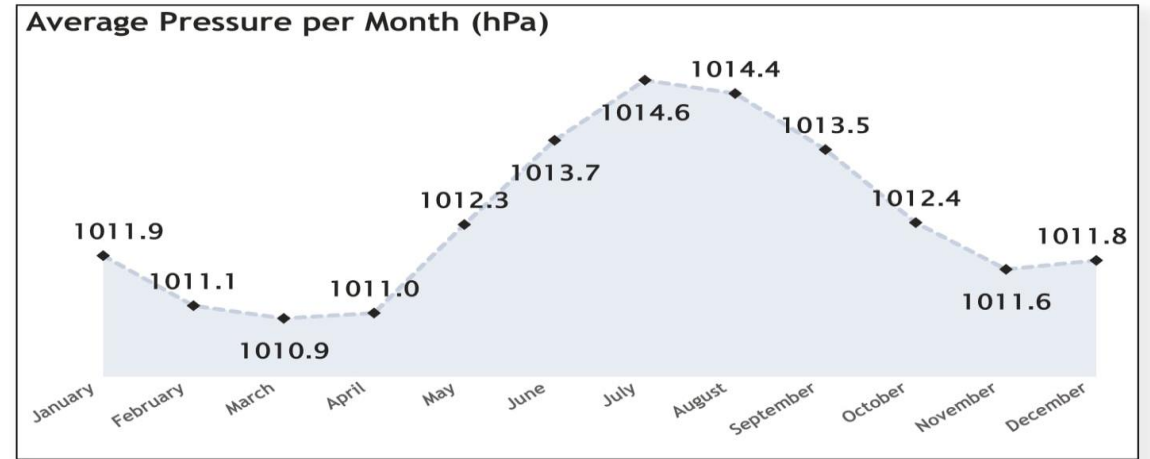


Lower temperatures are typically a feature of months with more rainfall. When it comes to June through September, this is seen. The dry season has higher temperatures, which typically lasts from November to February.

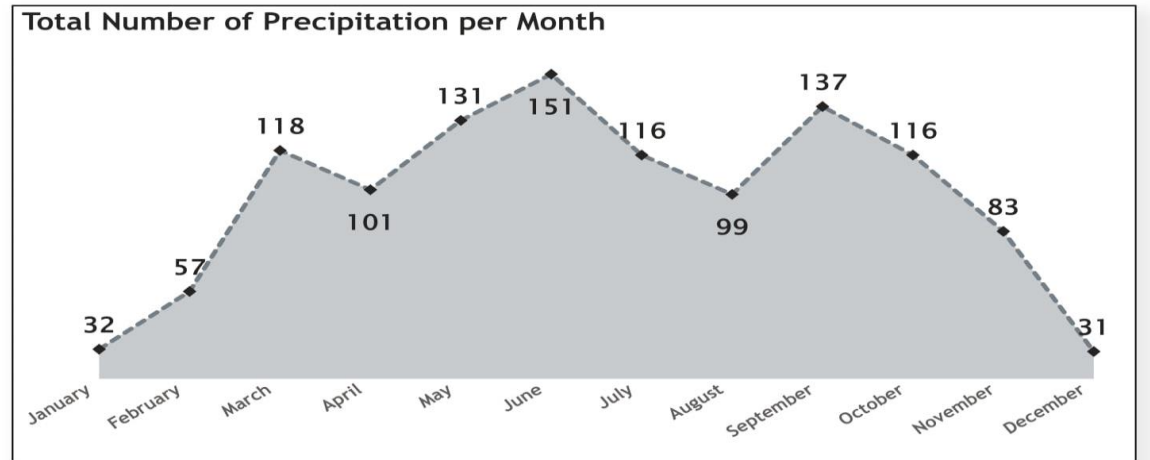


As with pressure, humidity also drops as temperature rises and vice versa. The amount of water vapour in the atmosphere is higher during observable rainy months, which results in higher humidity quotients.

Year					
2017	2018	2019	2020	2021	2022

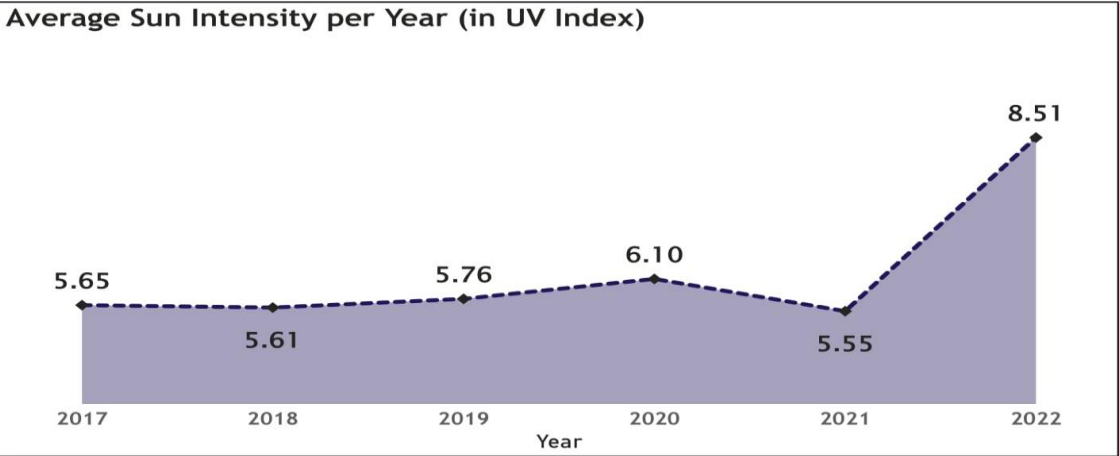


According to the Ideal Gas Law, rising temperatures must inevitably result in rising atmospheric pressure. This law is still valid if density is not a factor, which it is in this instance.

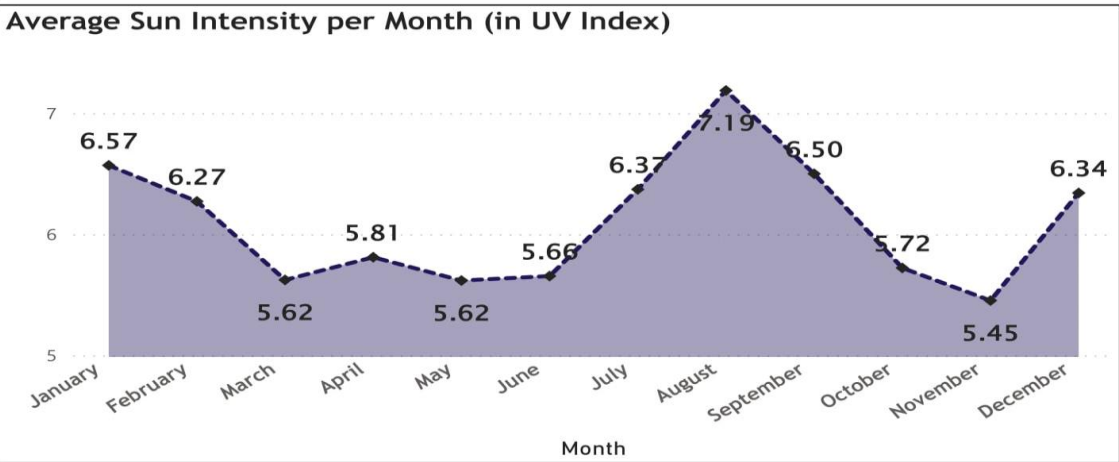


The months that experience the most rain are typically those that fall during the rainy season. The highest temperatures are seen in June and September, with a low in August. Due to the dry season, December, January, and February see less rain than other months.

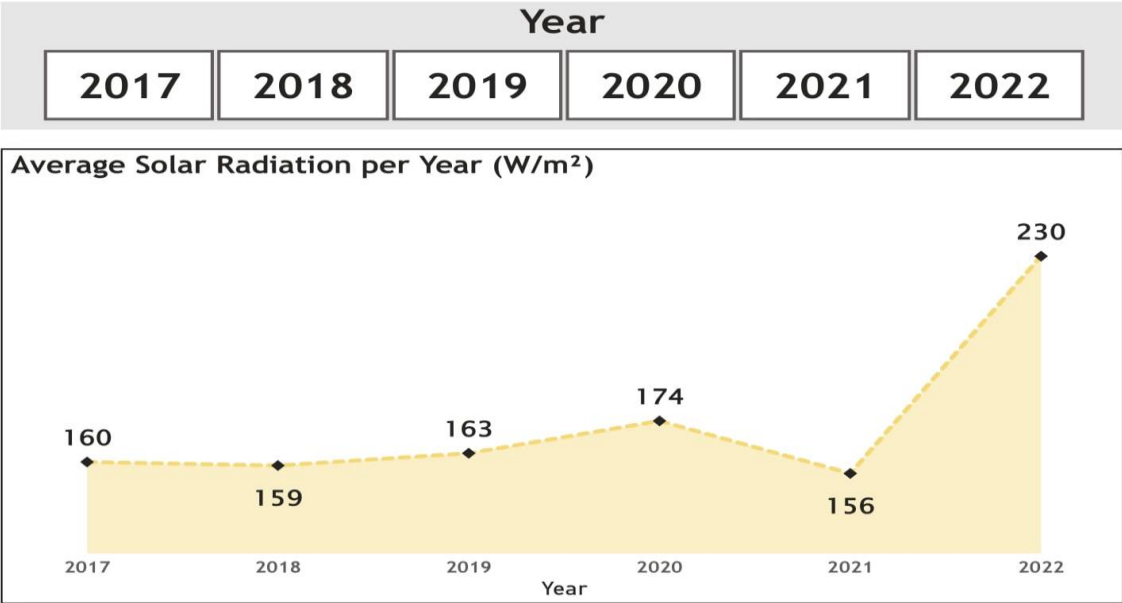
# UV and Sun Intensity Over the Years



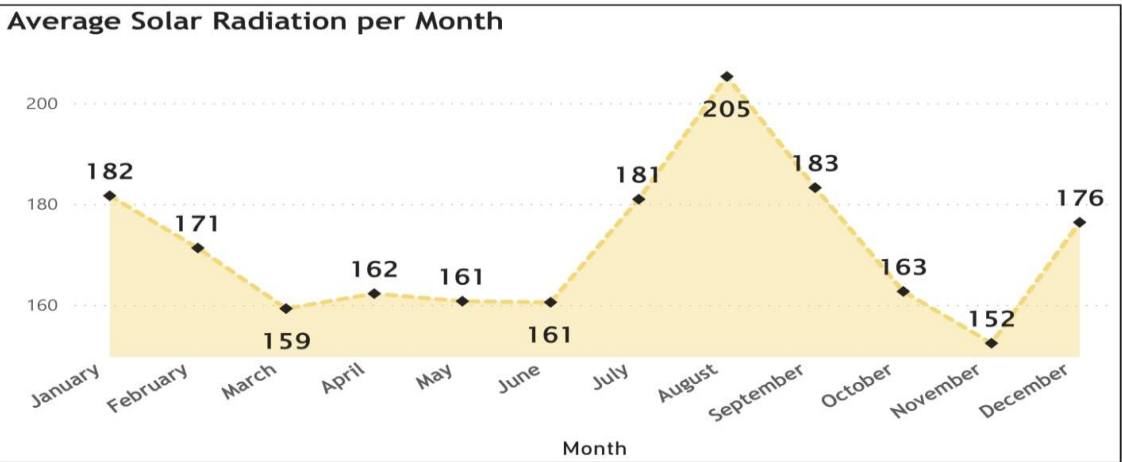
In Lagos State and across Nigeria, ultraviolet rays have been steadily rising over time, rising to an 8.51 UV Index in 2022 from a 5.55 UV Index in 2021. The value for 2022 shows that the sun's intensity is at an all-time high.



Despite being a month during the rainy season, August has the highest UV index when compared to other months. An important contributor to this increase is the spring sun in August.



According to the Ideal Gas Law, rising temperatures must inevitably result in rising atmospheric pressure. This law is still valid if density is not a factor, which it is in this instance.



Sun intensity and solar radiation are influenced by the same variables. Thus, the season, latitude, ozone level, and cloud cover are the variables that determine whether the radiation index increases or decreases.



**I HOPE IT WAS INSIGHTFUL**

**THANK YOU**

