

## Observations:

- **Temperature** - The temperature readings varied throughout the day, with the highest temperature recorded in the afternoon and the lowest temperature during the early morning hours. This diurnal temperature variation is typical of daily temperature patterns.
- **Wind Speed and Direction** - Wind speed changed over time, with occasional gusts. Wind direction indicated prevailing wind patterns. Wind speed was higher during the day, likely due to increased solar heating.
- **Air Temperature and Relative Humidity** - Air temperature and relative humidity exhibited an inverse relationship. relative humidity was higher during the cooler parts of the day, leading to potential condensation in the early morning.
- **Atmospheric Pressure** - Atmospheric pressure remained relatively stable over the observation period, suggesting consistent weather conditions. Slight pressure variations might indicate changes in the weather.
- **Rainfall** - rainfall data showed intermittent periods of precipitation, with varying intensities. rainfall amounts were higher during certain periods, which could correspond to weather events such as rain showers or thunderstorms.
- **Solar Radiation** - Solar radiation increased in the morning, peaked around noon and decreased in the afternoon. This pattern reflects the angle of the sun and its influence on solar energy reaching the station.
- **Heat Flux** - Heat flux readings indicate heat transfer between the surface and the atmosphere. Positive heat flux values suggested heat moving from the surface to the atmosphere during the day, while negative values indicated heat loss to the atmosphere at night.

## Conclusions:

- **Diurnal Temperature Variation:** The temperature data revealed the typical diurnal variation, with warmer temperatures during the day and cooler temperatures at night. This variation is influenced by solar heating and radiative cooling.
- **Wind Patterns:** Wind speed and direction data provided insights into prevailing wind patterns. Wind speeds were generally higher during the day due to increased solar heating, and wind direction could indicate potential weather systems.
- **Humidity and Condensation:** The inverse relationship between air temperature and relative humidity highlighted times when condensation might occur, especially during the early morning hours when temperatures were lower.
- **Rainfall Events:** The recorded rainfall data indicated intermittent periods of precipitation, with varying intensities. rainfall amounts correlated with periods of higher humidity or atmospheric instability.
- **Solar Energy:** Solar radiation data showcased the influence of the sun's position in the sky, affecting the amount of solar energy reaching the station. Peak solar radiation around noon demonstrated the sun's zenith position.
- **Heat Exchange:** Heat flux readings illustrated the heat exchange between the Earth's surface and the atmosphere. Positive values during the day showed warming of the atmosphere, while negative values at night indicated cooling.