MoonLight Energy Solutions
# Report

➔ Report on identifying high-potential regions (**Benin-malanville**, **Sierra Leone-bumbuna**, **Togo-dapaong**) for solar installation that align with the company's long-term sustainability goals.

- To identify the best country for future solar investments based on the provided dataset and MoonLight Energy Solutions' objectives, you can focus on several key columns that are critical for solar energy suitability and efficiency:

1. **Global Horizontal Irradiance (GHI)**: Higher GHI values generally indicate regions with greater solar energy potential.
2. **Direct Normal Irradiance (DNI)**: High DNI values are crucial for concentrated solar power systems.
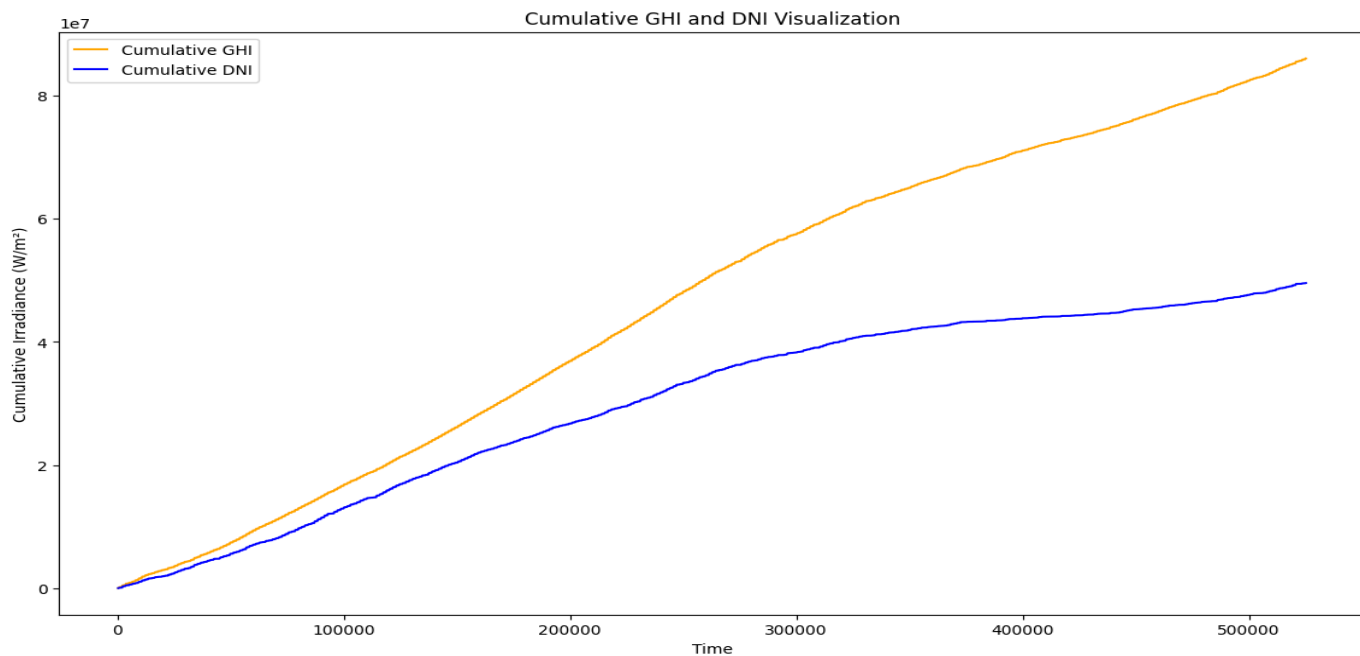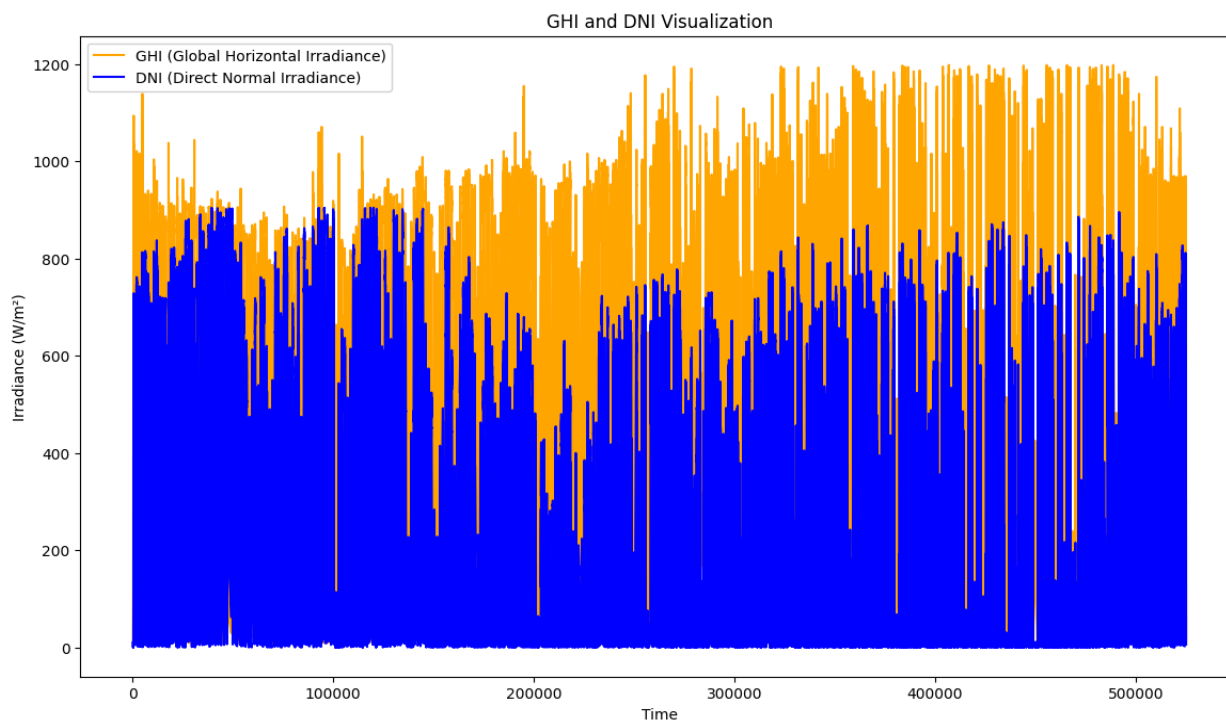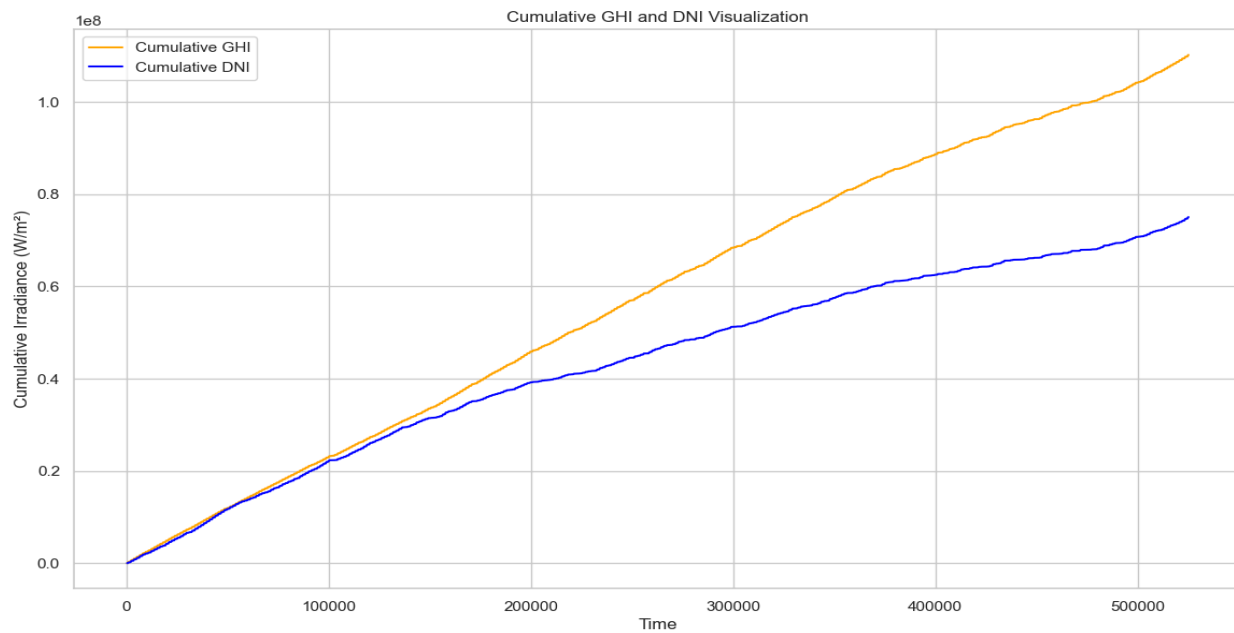
Benin-malanville GHI and DNI Visualization Plot

GHI and DNI Visualization

Cumulative GHI and DNI Visualization
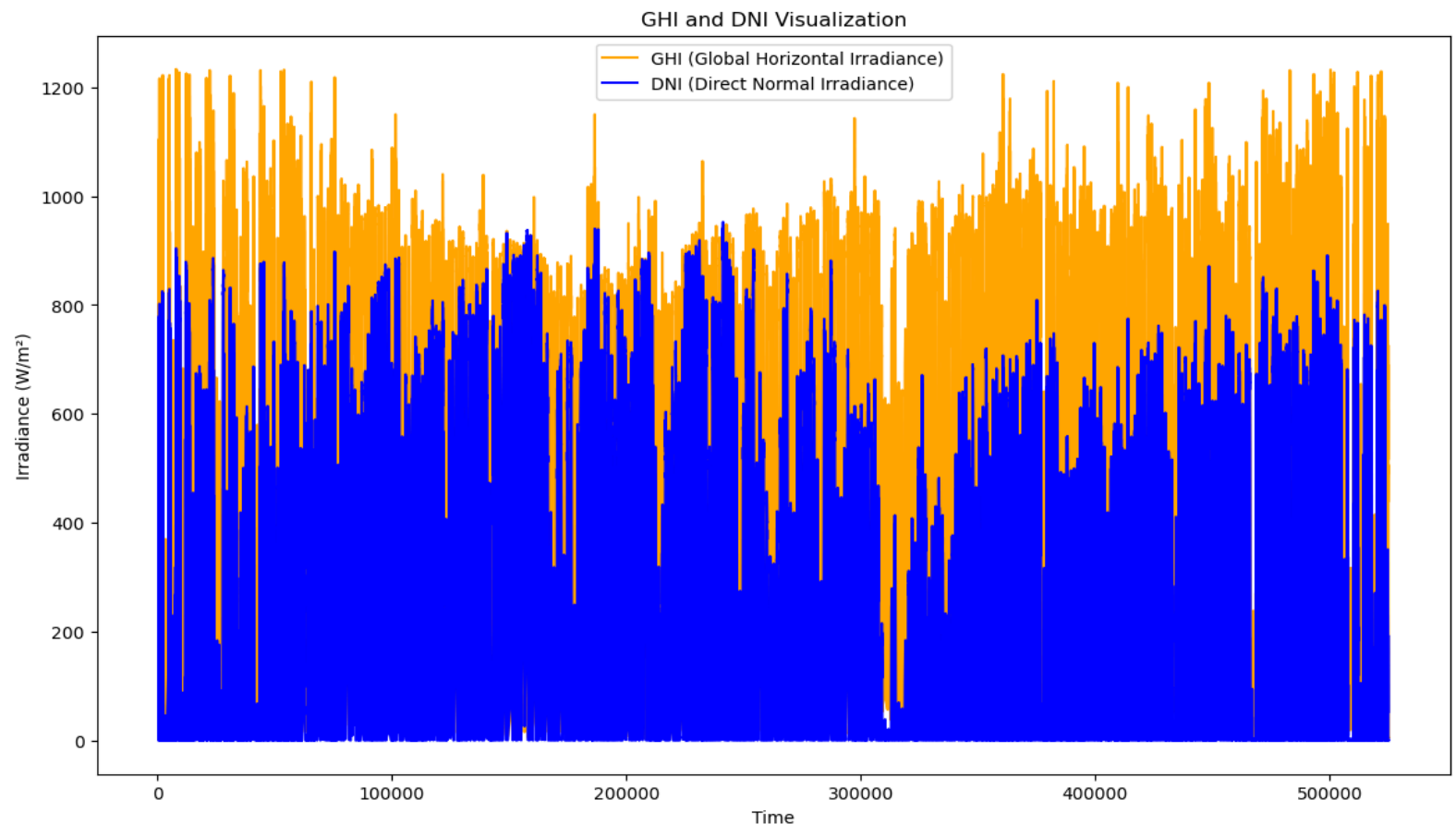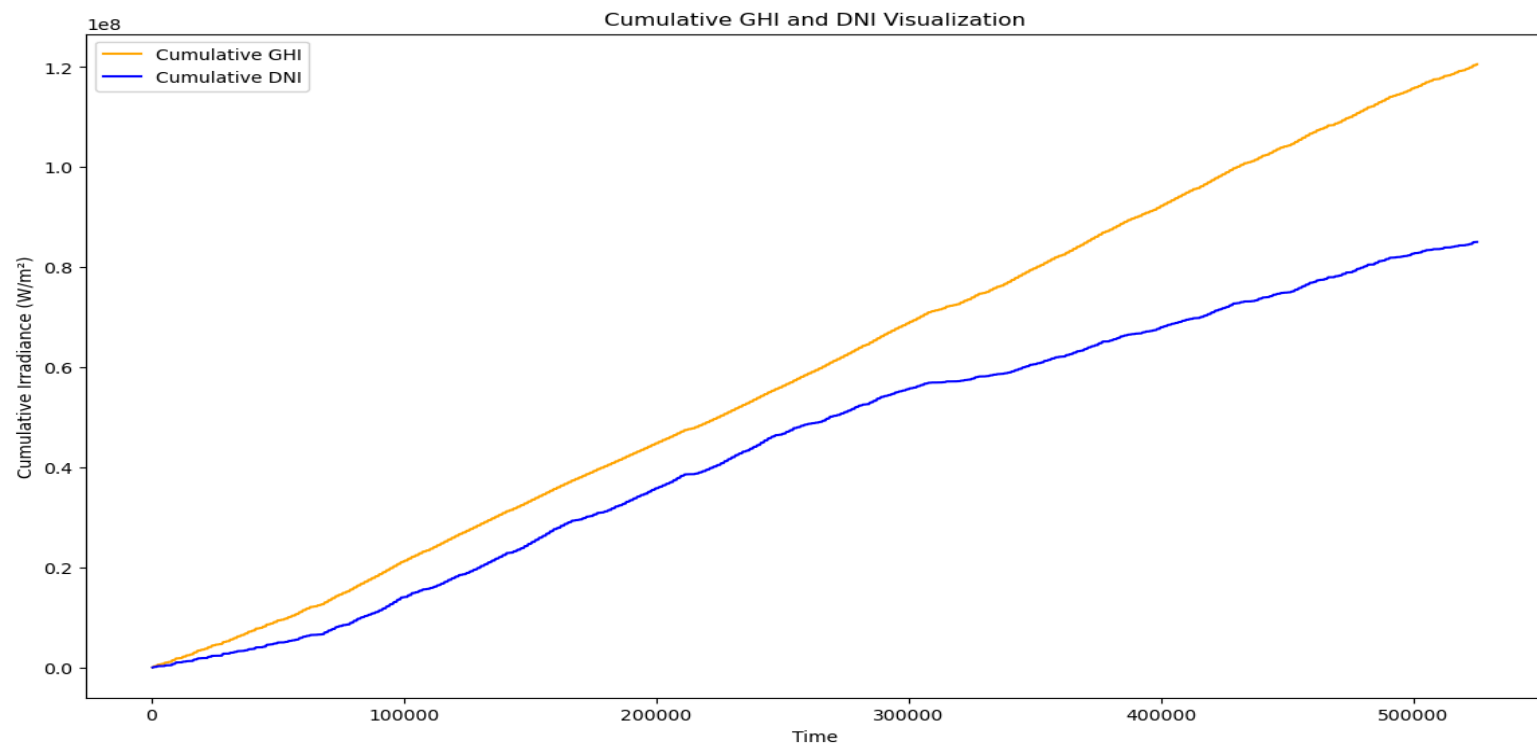
Sierra Leone-bumbuna GHI and DNI Visualization Plot

GHI and DNI Visualization

Cumulative GHI and DNI Visualization
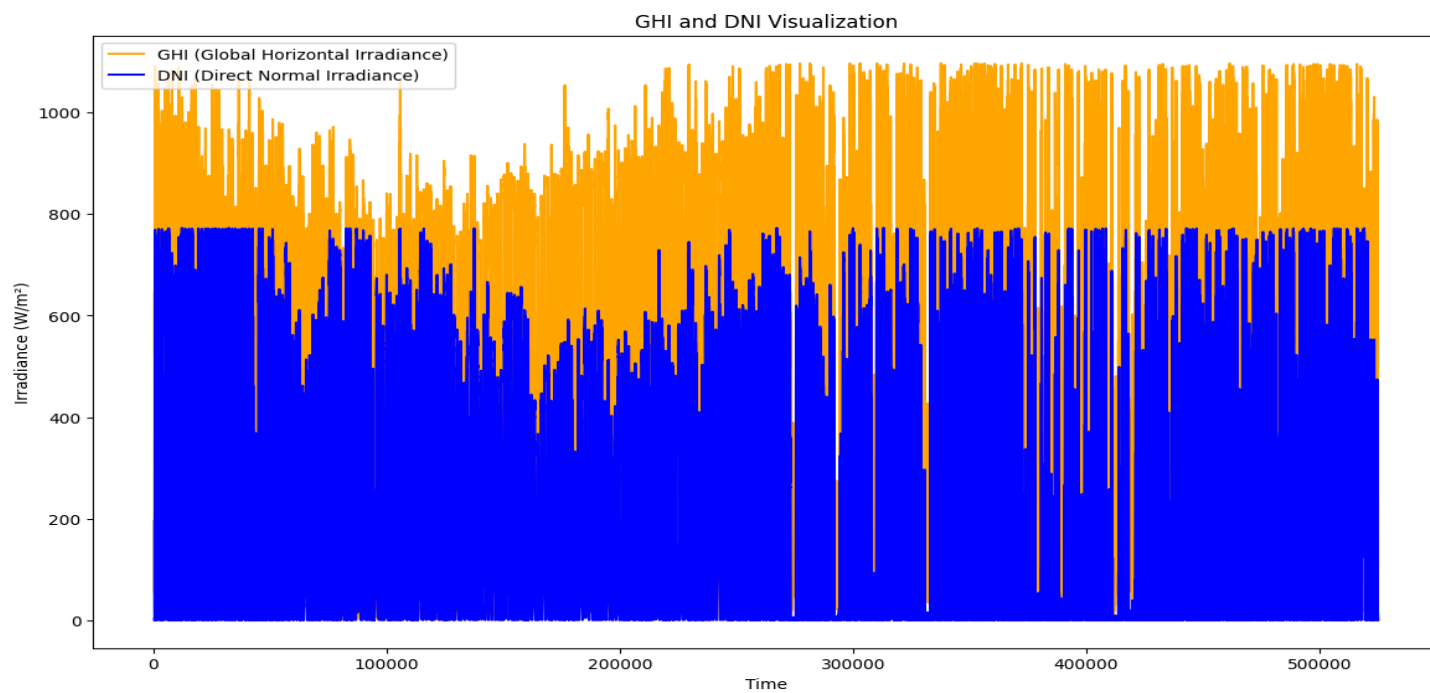
Togo-dapaong GHI and DNI Visualization Plot

GHI and DNI Visualization

Cumulative GHI and DNI Visualization

★ Based on these columns **Sierra Leone-bumbuna** with high GHI and DNI : These regions typically have more sunlight exposure, making them ideal for solar energy production.
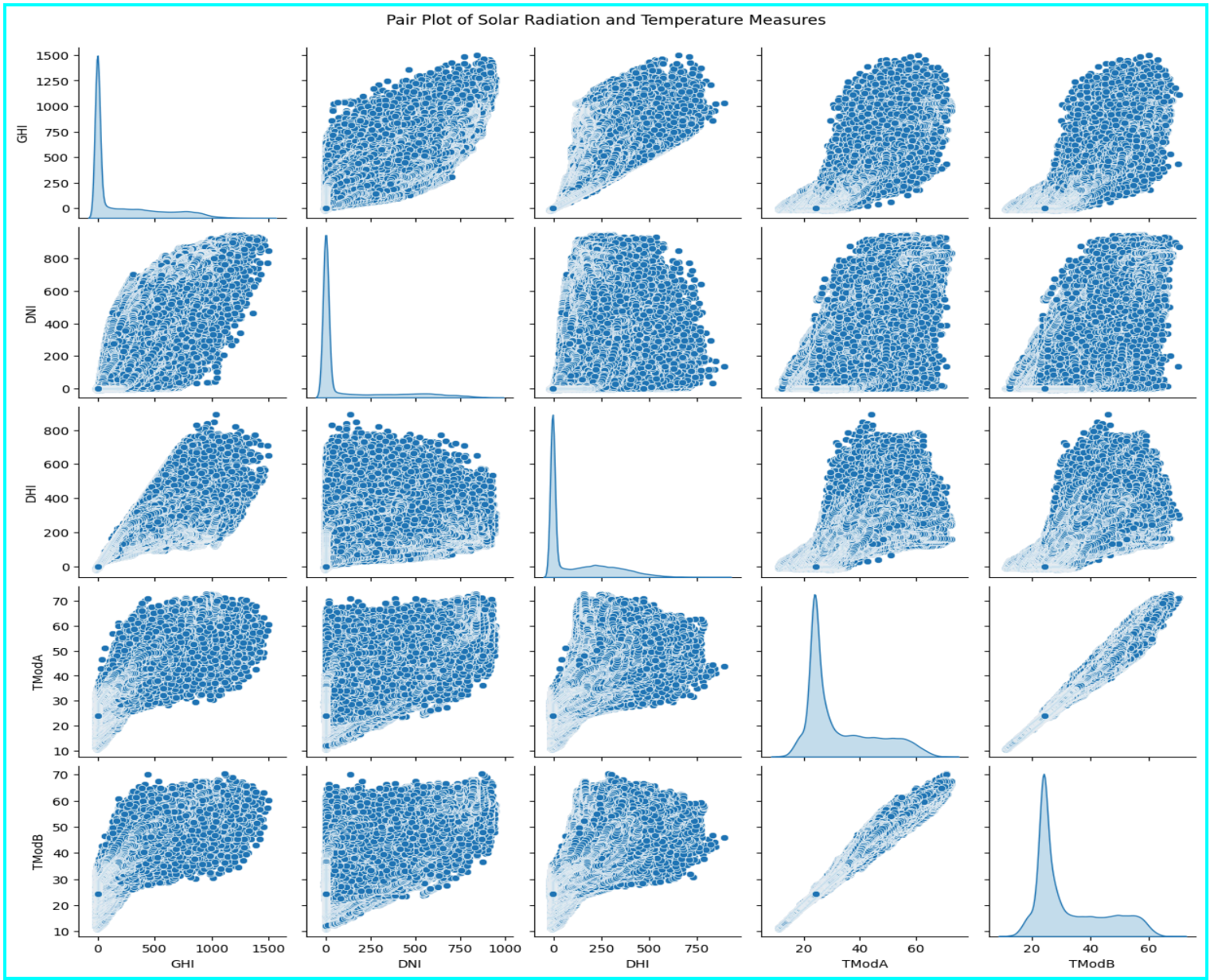
1. **Ambient Temperature (Tamb)**: Solar panel efficiency decreases with higher temperatures. Lower ambient temperatures are generally more favorable for solar panel performance.
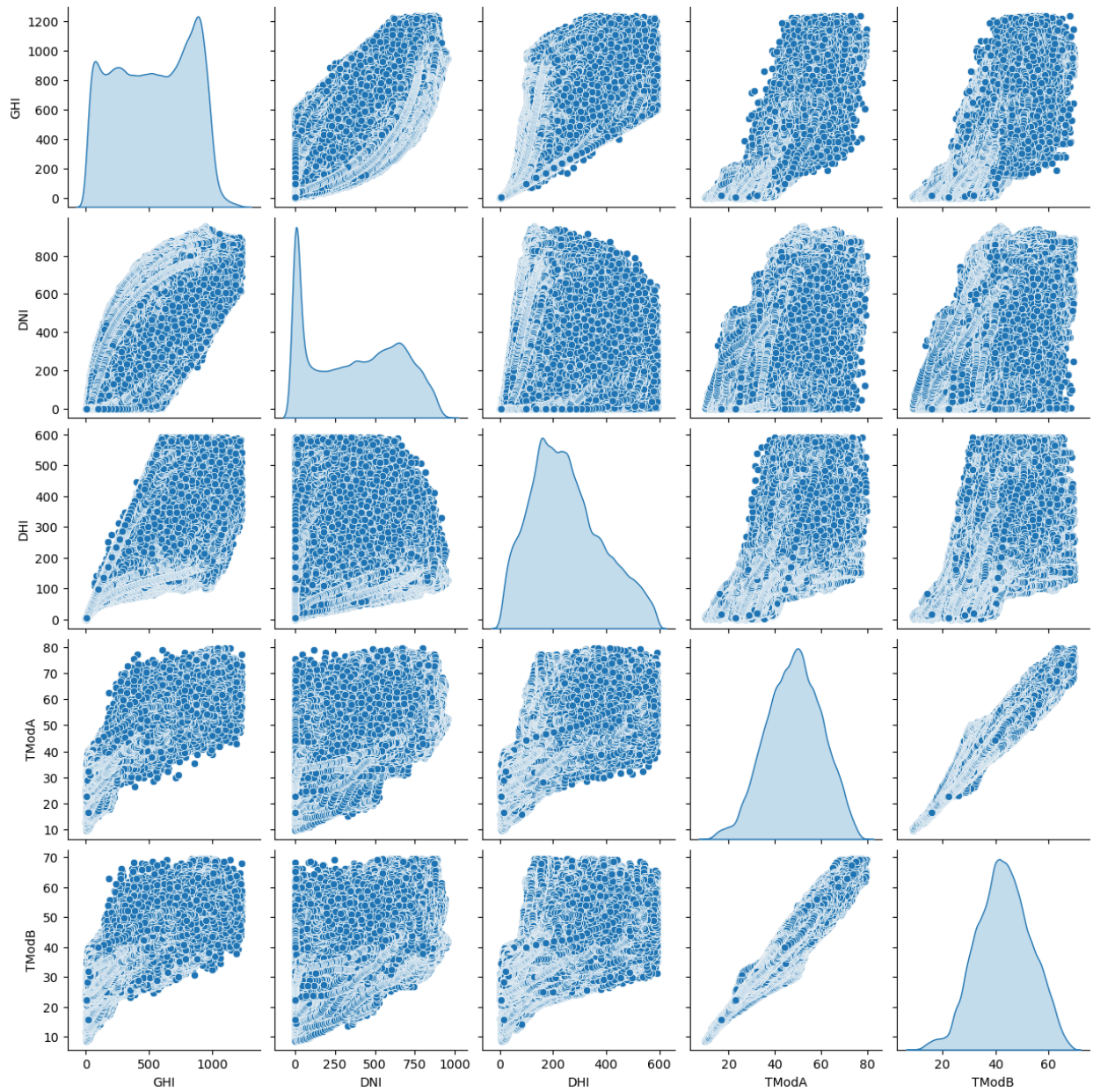
Pair Plot of Solar Radiation and Temperature Measures

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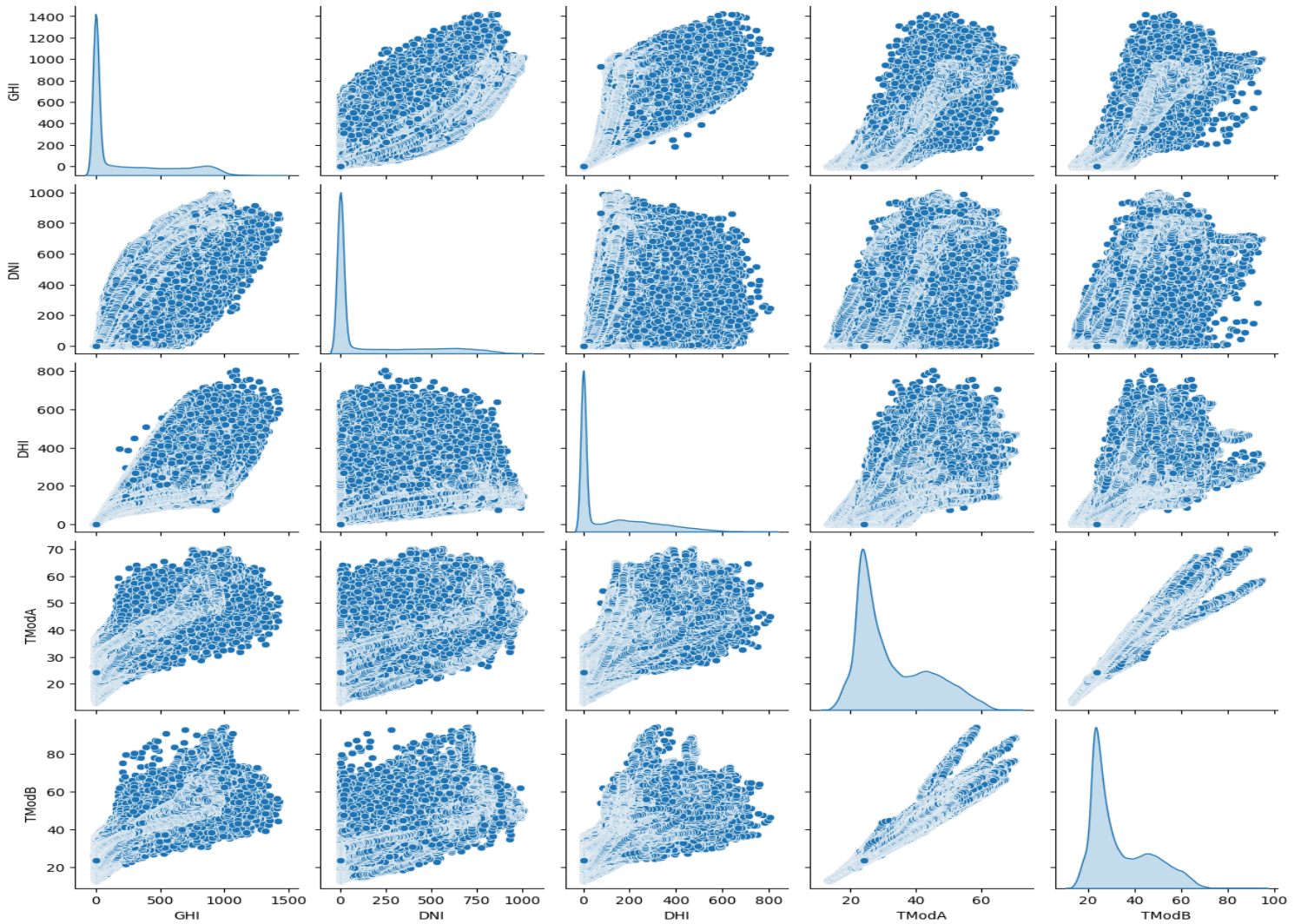
★ Based on these columns **Sierra Leone-bumbuna** with low Solar Radiation and Temperature Measures : Lower ambient temperatures are generally more favorable for solar panel performance.

Conclusion

~   By focusing on these key data points and analytical steps, I Have provided a robust strategy report that supports MoonLight Energy Solutions in making informed decisions about future solar investments that the **Sierra Leone-Bumbuna Region** is the best region of all three.