

# Light Visualization in the Dominican Rainforest

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## Abstract

The objective of this research is to use visualization tools to identify trends in understory light levels in the Dominican rainforest.

Three quantum light sensors measuring photosynthetically active radiation (PAR) were placed in each of 9 forest plots. Each sensor measured the light level every 10 seconds, and these readings were averaged and recorded over 5-minute intervals using a data logger.

R (statistical package) was used to subset PAR sensor data by month and to perform basic analysis, including finding the average light level for each sensor and identifying statistical outliers.

To gain additional insight, Tableau was used as a tool to visualize patterns in light levels across a time period. Readings were plotted from each PAR sensor for the month of June 2008 and filtered by forest site.

Some forest stands consistently registered higher light levels than others. However, overall light patterns were similar across all sites.

- Nine forest stands in tropical forest of the island of Dominica
- Sensors measuring understory light levels (photosynthetically active radiation)
- Measurements made during June 2008

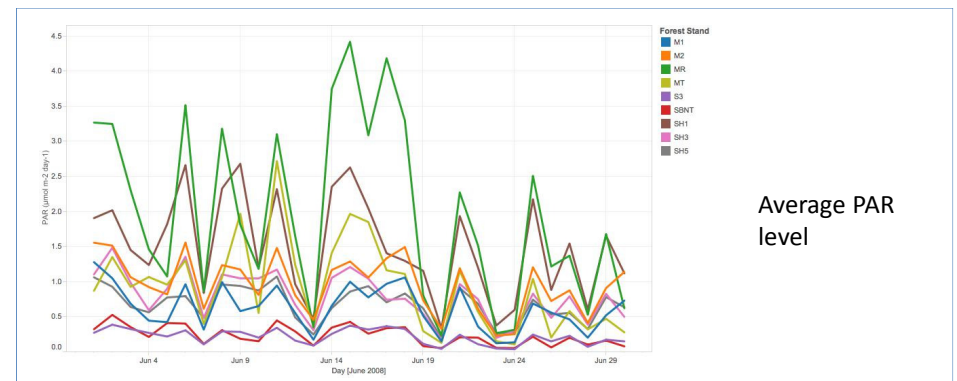
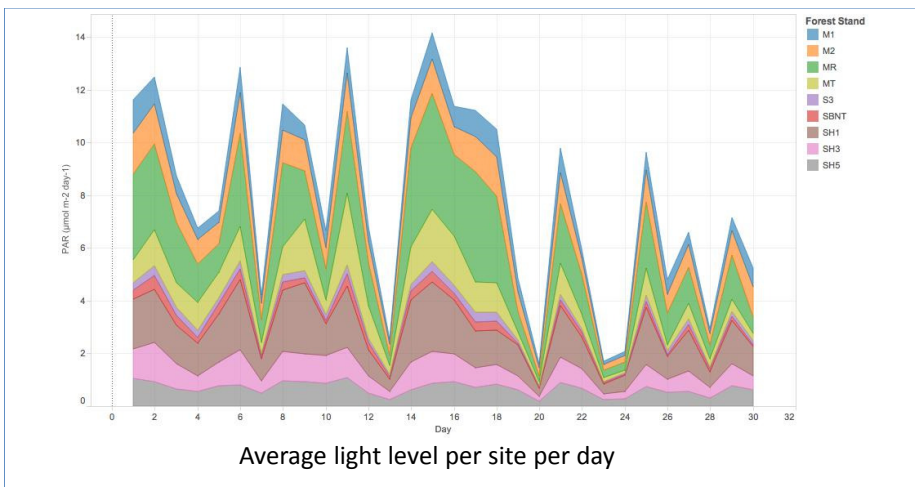
**Data Characteristics:** Time-series and cross-sectional

**Software Used:** Tableau, R, Gap Light Analyzer

**Visualization Tools:** Stacked area graph, small multiples time-series graph, stacked line graph



PAR Sensor



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