

The Soil Climate Analysis (SCAN) Network in the Caribbean Area consists of six automated weather stations. These stations provided hourly data on air and soil temperature. The location of the stations is shown in Figure 1 and Table 1. The instrumentation and configuration of the stations are summarized in Table 2.

The data were collected for a 7 years period with the exception of the Isabela station, where the data were collected for a five years period. Air temperature data were obtained with a Vaisala HMP45C sensor at 1.6 m above the surface. Soil temperature was measured with Campbell 107 sensors at depths of 5, 10, 20, 50 and 100 cm with the exception of the Guánica station where the measurements were made at 5, 10, 20, 25 and 30 cm due to the soil depth. The Isabela station does not have a sensor at a 100 cm depth. Measurements were made at 20 minutes intervals, and averaged and recorded hourly. The stations used meteor burst telemetry to obtain remote site information in near real-time (USDA-NRCS, 2001). The data were automatically validated against limits and were flagged if the value were outside the preset. Any flagged value was examined to determine their accuracy and the appropriate corrections were made. The data were graphed and comparisons were made between sensors to verify that the data were within an acceptable range. The data were summarized and statistical analyzed using InfoStat version 2004 (InfoStat, 2004) to determine standard deviation, coefficient of variation and mean comparisons by the tukey test.



**Figure 1. Soil Climate Analysis Network in the Caribbean Area.**

**Table 1. Puerto Rico Soil Climate Analysis Network.**

Station	Municipality	Coordinates	Elevation (m)
Guánica State Forest	Guánica	17°58'20" N; 66°52'05" W	164
Combate	Cabo Rojo	17°58'45" N; 67°10'08" W	10
Maricao State Forest	Maricao	18°09'26" N; 67°00'14" W	746
Guilarte State Forest	Adjuntas	18°08'54" N; 66°46'04" W	1019
Isabela	Isabela	18°28'24" N; 67°03'03" W	120
Fortuna	Juana Díaz	18°01'30" N; 66°31'40" W	24

**Table 2. Puerto Rico Soil Climate Analysis Network configuration.**

Parameter	Description
Precipitation (inches)	TE 525 Tipping bucket precipitation gage at 3 meters above the ground.
Air Temperature (°C) / Relative Humidity (%)	Vaisala HMP45C sensor at 1.6 meters above the ground.
Wind Speed (mph) and Direction	Met One sensor (propeller-type anemometer) at 3 meters above the ground.
Solar Radiation (W/m <sup>2</sup> )	LI-COR pyranometer at 3 meters above the ground.
Soil Moisture (Volts)/ Soil Temperature (Volts)	Vitel Dielectric constant soil moisture sensors at 5, 10, 20, 50 and 100 cm with the exception of Guánica station where the sensors are at 5, 10, 20, 25 and 30 cm.
Soil Temperature	Campbell 107 soil temperature sensors at 5, 10, 20, 50 and 100 cm with the exception of the Guánica station where the sensors are at 5, 10, 20, 25 and 30 cm.
Data Transmission	MCC 545 RF modem.