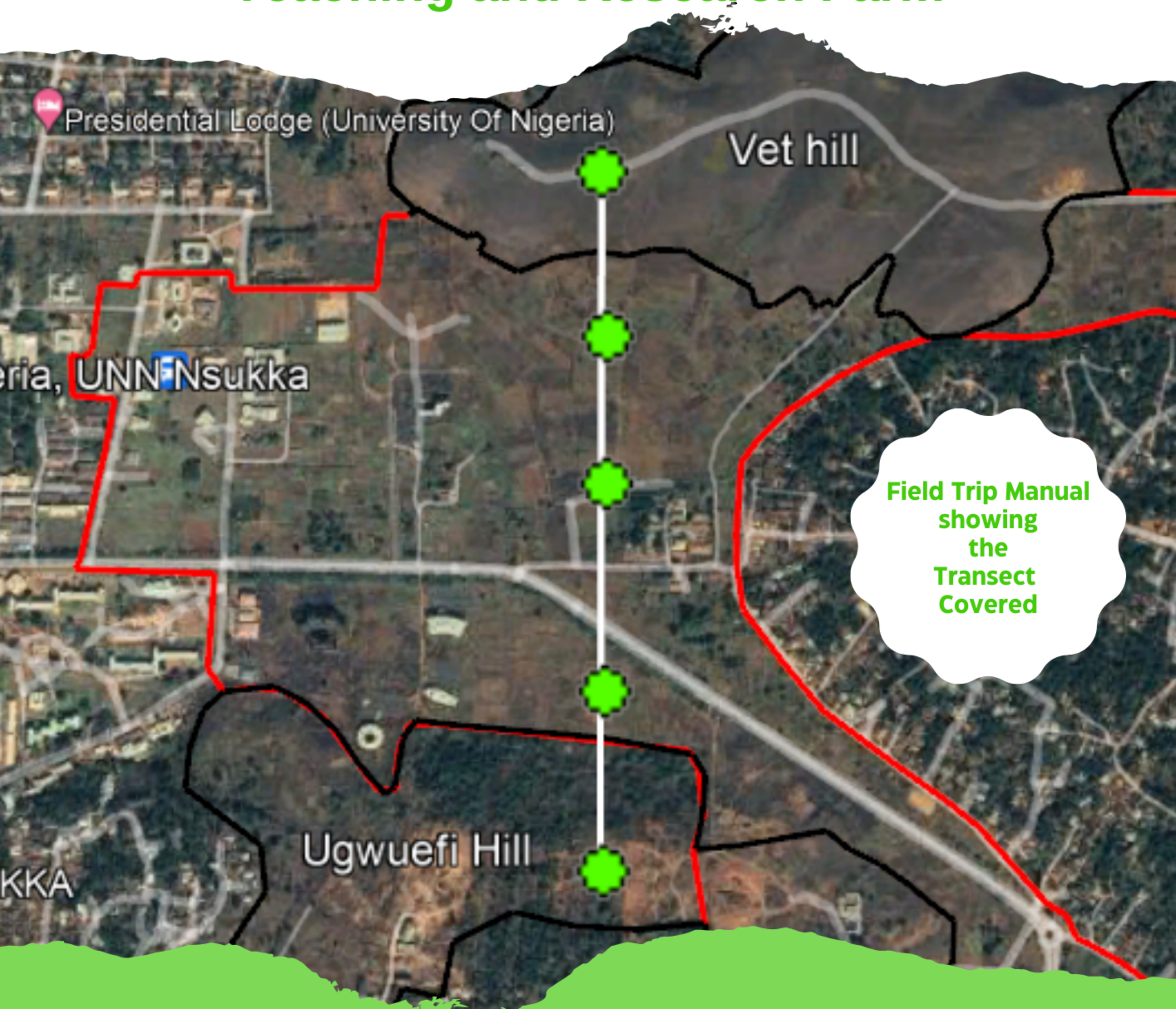


SOIL SCIENCE SOCIETY OF NIGERIA (SSSN) 47TH ANNUAL CONFERENCE, NSUKKA, 2023

FIELD TOUR GUIDE

to the
**University of Nigeria,
Teaching and Research Farm**



Date: September 22nd, 2023

Host: University of Nigeria, Nsukka, Enugu State, Nigeria

Theme: Tropical Soil and Water Resources and Management: Climate Change Mitigations for Functional Ecosystem Services and Food Security



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Background information of the field trip location

The field trip location is at the University of Nigeria Teaching and Research Farm which offers an enriching experience in agricultural research, education, and practical training. Situated within the university's premises, the farm is flanked by two hills, Ugwuefi to the north and Vet Hill to the south, creating a picturesque environment.

Within this location, there are two prominent soil series. The Nkpologu series is found on the nearly flat lower slopes of the farm, while the Uvuru series exists on the gently undulating plateaus and upperslope positions of the hills. This diversity in soil types offers an excellent opportunity for studying soil profiles along a transect.

The farm's environment, facilities, and a strong commitment to agricultural research and education make it a significant center for exploring the relationship between soil science and practical land management practices. It provides an ideal setting for researchers, and students to appreciate various aspects of soil science and gain practical experience in managing agricultural land.

Location of the farm

The farm is located by latitude ($6^{\circ}51'0''\text{N}$ and $6^{\circ}52'12''\text{N}$) and longitude ($7^{\circ}25'0''\text{E}$ and $7^{\circ}26'18''\text{E}$) on an elevation range of 419-496 m (Figure 1).

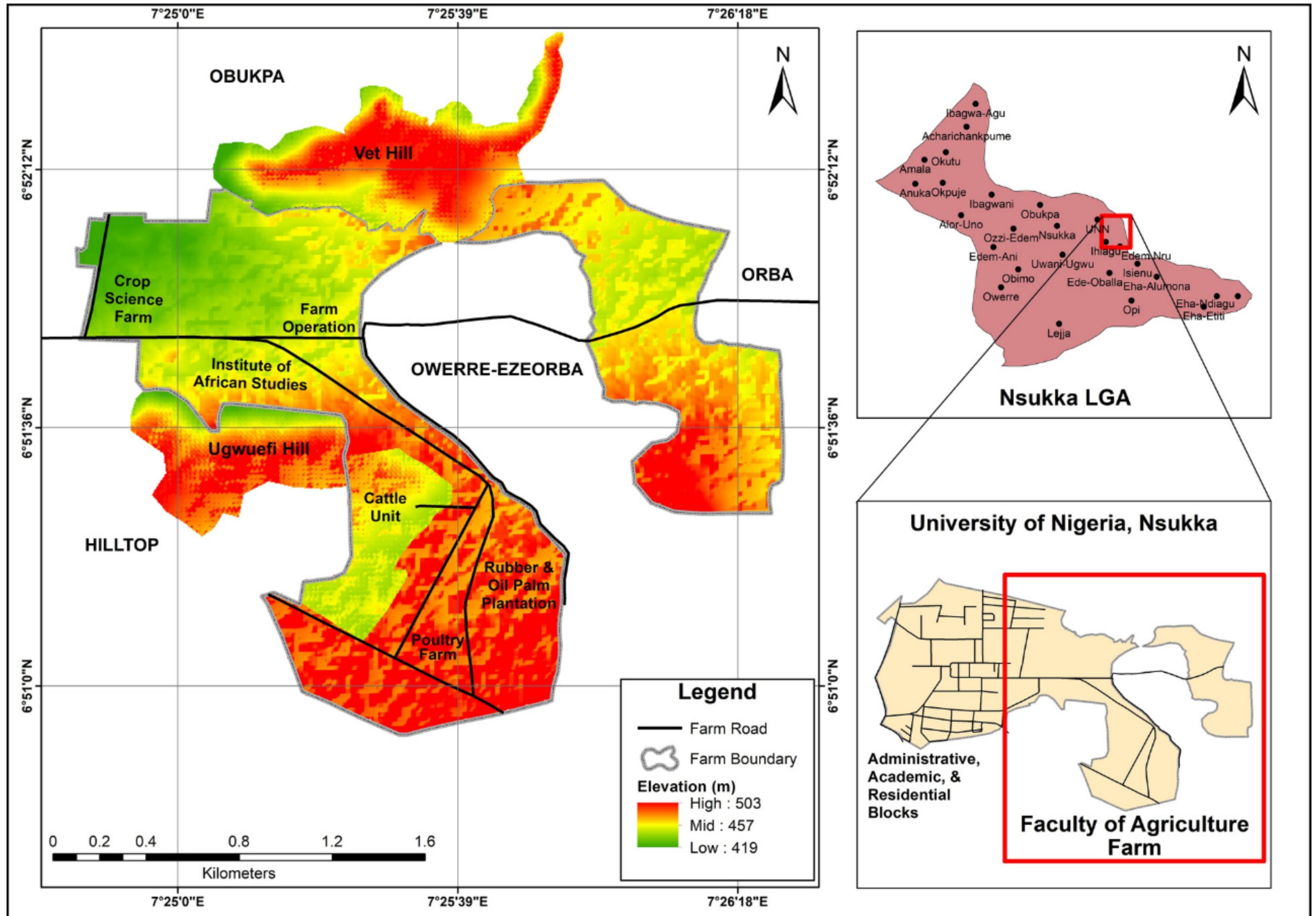


Figure 1: Map of University of Nigeria teaching and Research Farm

The Climate of Nsukka

The climate is tropical.

The summers are much rainier than the winters in Nsukka.

The Köppen-Geiger climate classification is Aw.

In Nsukka, the average annual temperature is 25.7 °C.

In a year, the average rainfall is 1504.67 mm.

The driest month is December, with 2.06 mm of rain.

The greatest amount of precipitation occurs in September, with an average of 270.24 mm.

March is the warmest month of the year.

The temperature in March averages 23.4 °C for minimum and 32.6 for maximum.

The lowest average temperatures in the year occur in October, when it is around 24.3 °C.

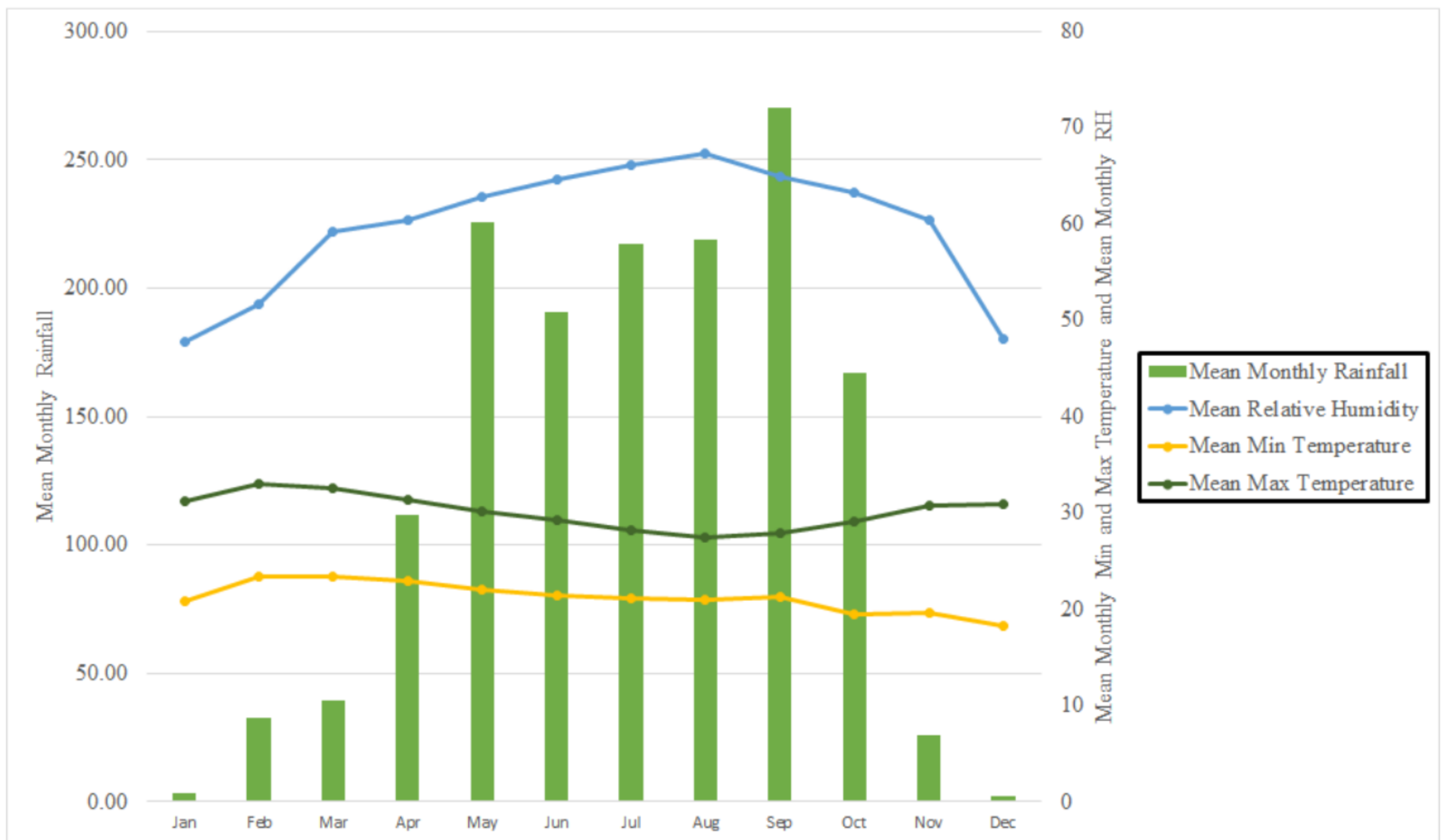


Figure 2: Nsukka climatic data

Profile pit locations

The soils along a transect form the foundation of this field manual, focusing on the prominent soil series, Uvuru and Nkpologwu, found in the study area. The selection of profile pit locations was aided by satellite imagery, as depicted in Figure 3. Two profile pits were chosen for the Uvuru series, one for each of the two hills, while three profile pits were selected for the Nkpologwu series separated at 150 m intervals. The location of the sampling points was georeferenced using GPS.

Following the guidelines outlined by the FAO (2006) for soil description, the profile pits were thoroughly examined and characterized. The description process includes assessing various soil properties and features. Soil samples collected from these pits were further analyzed using standard laboratory methods.

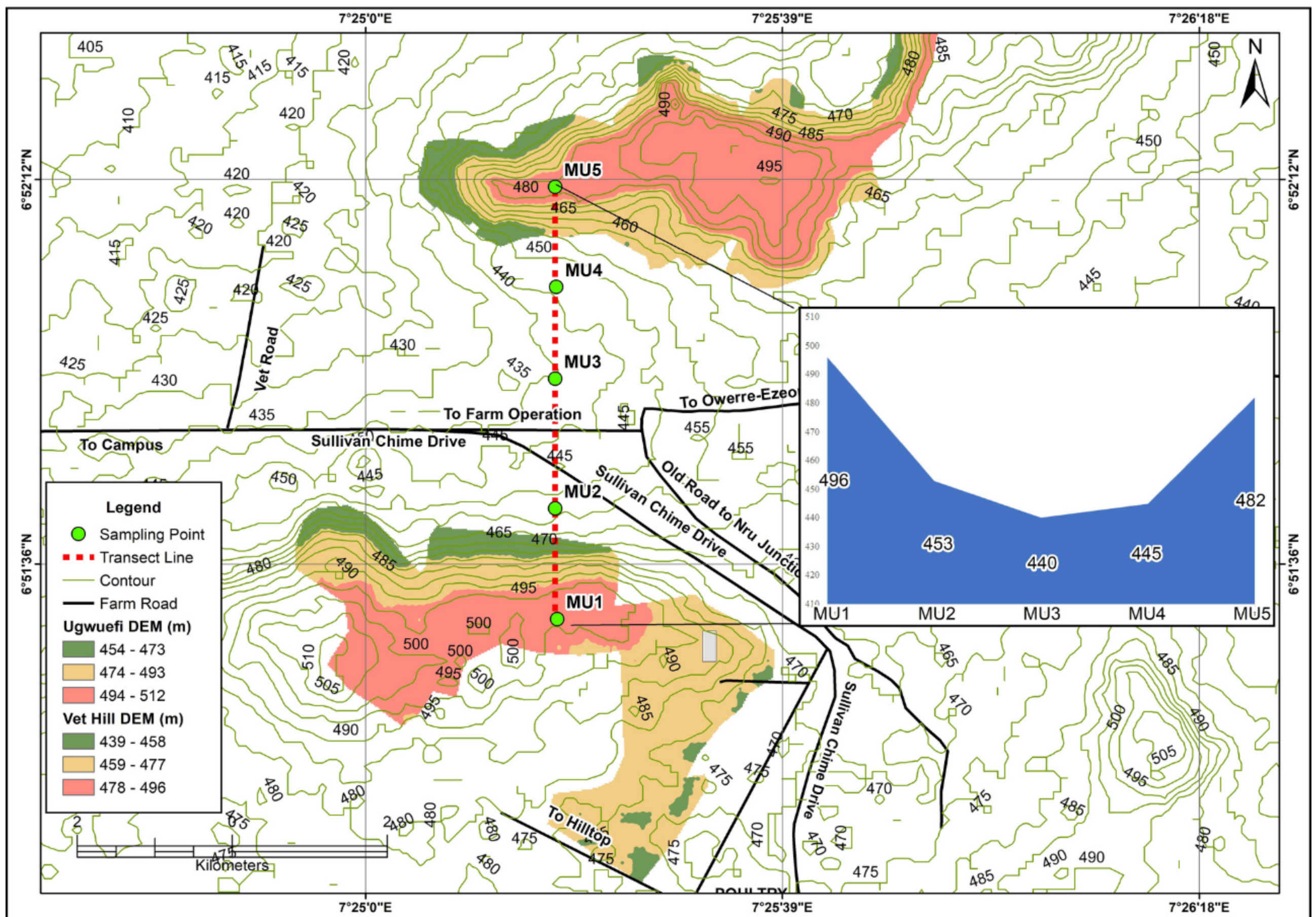


Figure 3: Map of the study area showing the transect

Field Activities

- Guided observations at each pit
- Soil sampling techniques and demonstrations
- Data collection and documentation
- Discussing the observed soil profiles and their implications
- Relating the findings to the conference theme and broader research
- Facilitating group discussions and Q&A sessions