

Abstract

Eight stations with 36 years of rainfall record were selected in the dry region of Kenya, east of 37°E longitude, so as to study the nature of the moisture patterns during the Short and the Long rains (October through June).

The rainfall data were reduced to soil moisture based upon area-wide assumptions concerning soil characteristics. The start, end and duration of the rainy seasons were determined and tested for normality of distribution using a 10 mm soil moisture threshold value at each station. Mean-year conditions were computed and comparisons were made between the two growing seasons at each station and among all the stations. Stations were grouped according to the magnitude of the coefficient of determination between the start and duration of the seasons with sufficient soil moisture for plant growth, and regression equation were developed to predict season duration using the starting dates. Equations are also derived to estimate the probable length of the season for various levels of soil moisture requirements.

The important findings that have relevance for the farmer in the area so as to assist in his decision-making are: (1) The distributions of the start, end and duration of the growing seasons are not significantly skewed or significantly different from the normal distribution; (2) the start and end times of the Short rains season show a southward trend; (3) the Short rains growing season is found to last longer, be more reliable, and to have a higher soil moisture content than the Long rains season for stations located south of the equator; and (4) the opposite is true for stations north of the equator.