

## MATERIALS AND METHODS

Daily rainfall and air temperature data were collected by the Geographic Institute of Burundi (IGEBU).

For a given station, the number of missing daily rainfall data,  $MRD_m$  (days), was determined for each month of the recording period. The monthly rainfall depth,  $P_m$  (mm), and the monthly number of rainy days,  $NRD_m$  (days), were determined for each month with a complete record of daily rainfall data. For a given month,  $P_m$  was obtained by summing the daily rainfall depth values and  $NRD_m$  was obtained by counting the number of days of the month characterized by a daily rainfall depth greater than zero.

The number of missing daily temperature data,  $MTD_m$  (days), was also determined for each month of the recording period. The mean of the daily maximum air temperatures,  $T_{m,max}$  ( $^{\circ}\text{C}$ ), the mean of the daily minimum air temperatures,  $T_{m,min}$  ( $^{\circ}\text{C}$ ), and the mean of the daily average air temperatures,  $T_{m,ave}$  ( $^{\circ}\text{C}$ ), were calculated for each month with a complete record of daily temperature data to determine the monthly maximum, minimum and average temperature, respectively.

For each month of the year, the  $P_m$  and  $NRD_m$  values were summarized by determining the following statistics: sample size,  $N$  (years), minimum,  $min$ , maximum,  $max$ , and mean value,  $M$ , coefficient of variation,  $CV$ . Two different data sets were considered for a given month. The first data set was obtained by selecting all the available data for a given month. The second data set was obtained by considering the years with a complete record of daily rainfall values (i.e.,  $MRD_m = 0$  for all months of the year). The first approach used all available data, but the sample size changed slightly with the month, precluding a homogeneous comparison among months. By the second approach, less data than the available ones were sometimes considered for a given month. However, a homogeneous comparison among months was possible.

The two approaches (i.e., all available monthly data, years with a complete record of daily values for all months of the year) were also used to summarize the  $T_{m,max}$ ,  $T_{m,min}$  and  $T_{m,ave}$  measurements for a given month.

The annual values of rainfall depth,  $P_a$  (mm), and number of rainy days,  $NRD_a$  (days), were determined for each year with a complete record of daily rainfall values by summing the corresponding monthly values.

The annual values of the maximum,  $T_{a,max}$ , minimum,  $T_{a,min}$  and average,  $T_{a,ave}$ , temperatures were obtained for each year with a continuous record of daily temperatures by averaging the corresponding daily temperature values.