# Technical Appendix 9.2: Meteorological Data

# 1. METEOROLOGICAL DATA

**The monthly temperatures observed over Kigali International Airport are presented in**

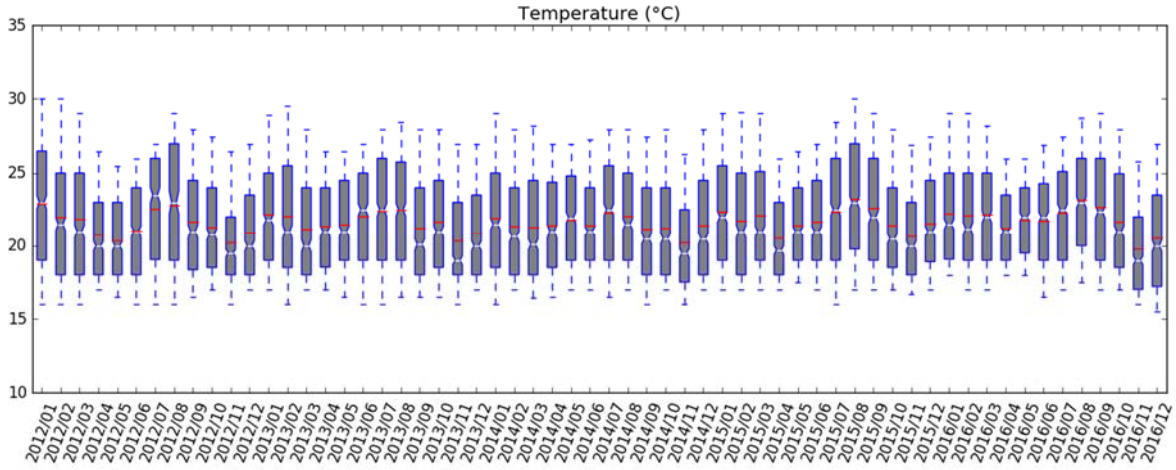


Figure 1-1, which indicates that overall monthly mean temperatures vary slightly between 21°C and 25°C with August being the warmest month and October the coldest from 2012 to 2016.

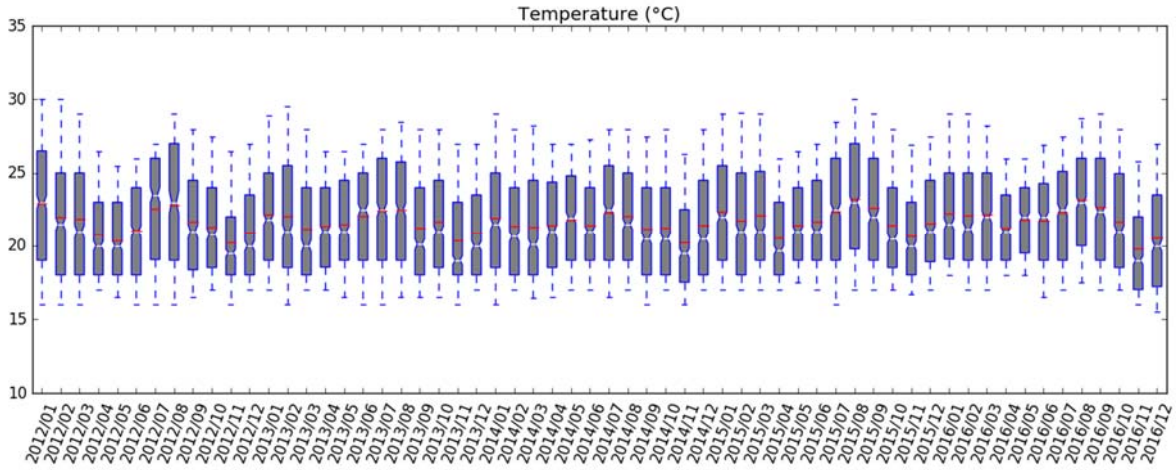


**Figure 1-1 Monthly Temperature (°C) Over the Kigali International Airport[1].**

Rainfall data for Kigali International Airport is currently not available in the international meteorological observations database[2]. As a consequence, data from NASA's MERRA 2 Modern-Era Retrospective Analysis has been considered for the period 1980 – 2016. This reanalysis combines a variety of wide-area measurements in a state-of-the-art global meteorological model to reconstruct the hourly history of weather throughout the world on a 50-kilometer grid. This data has been aggregated in the model for the calculation of the wet deposition of particles.

Figure 1-2 below presents the monthly accumulated rainfall over a sliding 31-day period centred around each day of the year. The highest monthly rainfalls occur around mid-April with an average total accumulation of 5.6 inches (142 mm). The least rainy days fall around early July, with and average total accumulation of 0.4 inches (10 mm).

[1] Whisker plots show the 5th and the 95th percentiles. Grey boxes represent the 25th and the 75th percentiles. Median is indicated by the horizontal white streak and the monthly average temperature by the red streak.
[2] https://mesonet.agron.iastate.edu/request/download.phtml

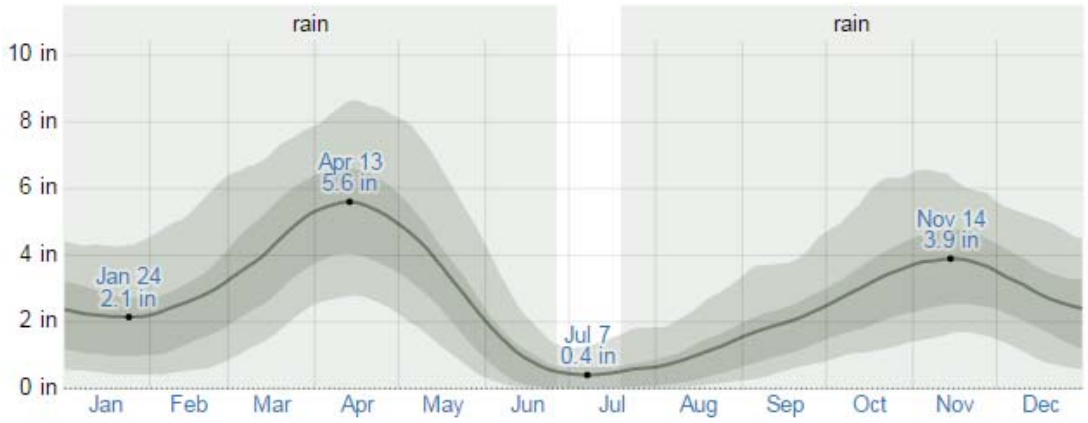


**Figure 1-2: Average Monthly Rainfall over the period between 1980 and 2016[3].**

[3] The solid line represents the accumulated precipitation over a sliding 31-day period centred on each day, with the 25th and 75th and 10th to 90th percentile bands.