

# Precipitation Fact Sheet

## Kibale National Park

- Mean annual precipitation in the area of Kibale National Park is approximately 1400 mm/year (Table 1).
- There are two pronounced rainy seasons at Kibale due to its location on the equator and the annual migration of the Intertropical Convergence Zone (Figure 2a).
- There is no trend in annual precipitation over time at Kibale (Figure 2b).
- The onset of the first rains typically occurs around late-March and the onset of the second rains typically occurs around early August. At every station near Kibale except for Butiti and Kyenjojo, the second rains last significantly longer than the first rains, Significantly more rainfall is recorded during the second rains than during the first rains at every station except for Butiti.

Table 1a. Mean annual precipitation and estimates of the onset and cessation of the first rains, from harmonic analysis of monthly precipitation observations.

Station	Period	Prec. (mm)	Onset 1 (days)	Cessation 1 (days)
FortPortal	1903-1980	1493.3 ± 258	21-Feb ± 29	5-May ± 22
Kisomoro	1940-1976	1478.4 ± 320	20-Feb ± 25	2-May ± 23
Kyenjojo	1940-1982	1299.8 ± 225	25-Feb ± 27	10-May ± 21
Butiti	1940-1985	1469.0 ± 225	25-Feb ± 23	18-May ± 24
Ngogo	1977-2012	1497.2 ± 206	20-Feb ± 26	1-May ± 26
Kanyawara	1976-2010	1550.0 ± 210	5-Mar ± 32	13-May ± 22

Table 1b. Estimates of the onset and cessation of the second rains, from harmonic analysis of monthly precipitation observations.

Station	Onset 2 (days)	Cessation 2 (days)
FortPortal	9-Aug ± 22	10-Nov ± 16
Kisomoro	9-Aug ± 26	9-Nov ± 21
Kyenjojo	12-Aug ± 25	7-Nov ± 19
Butiti	7-Aug ± 24	2-Nov ± 25
Ngogo	9-Aug ± 10	16-Nov ± 10
Kanyawara	15-Aug ± 11	17-Nov ± 11

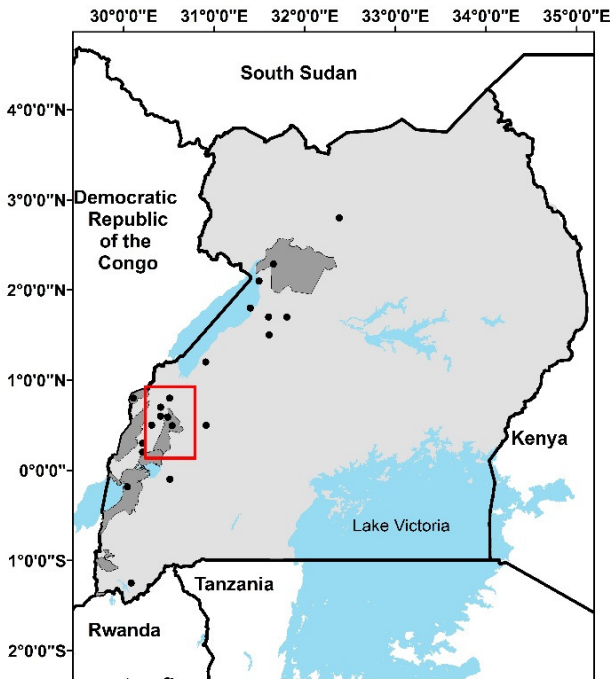


Figure 1. Map of Uganda with rainfall stations (dots) and the area around Kibale National Park highlighted by the red box.

Monthly rainfall records obtained from the following stations:

- Fort Portal (30.3°E, 0.6°N, 1903-1980)
- Kisomoro (30.20°E, 0.5°N, 1940-1976)
- Kyenjojo (30.3°E, 0.7°N, 1940-1982)
- Butiti (30.4°E, 0.8°N, 1940-1985)
- Kanyawara (30.4°E, 0.6°N, 1976-2010)
- Ngogo (30.4°E, 0.5°N, 1977-2012).

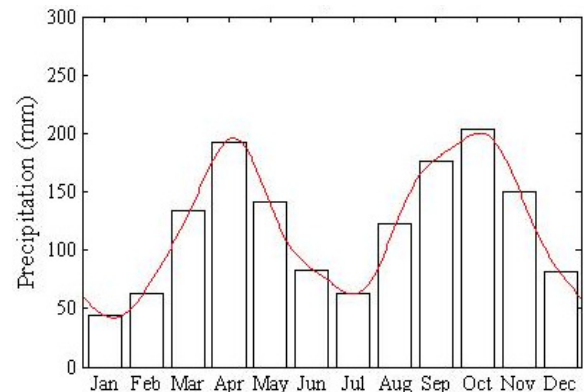


Figure 2a. Mean monthly precipitation at Kibale NP (average of Fort Portal, Kisomoro, Kyenjojo, and Butiti stations for 1940-1975).

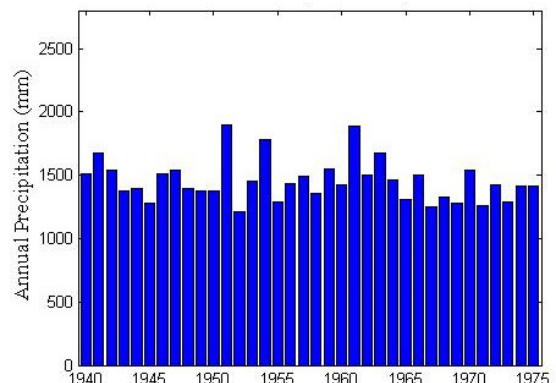


Figure 2b. Annual precipitation over time at Kibale NP (average of Fort Portal, Kisomoro, Kyenjojo, and Butiti stations for 1940-1975).

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- The Kanyawara and Ngogo stations within Kibale National Park have more recent rainfall observations than the four GHCN stations. No trend over time in precipitation patterns was detected, but station datasets with more complete coverage would provide a more complete understanding of precipitation patterns at Kibale.
- The total annual precipitation at Kanyawara is significantly different from the other five Kibale stations, but without rainfall observations that cover a longer time period, we cannot determine whether this is due to Kanyawara's location or due to the fact that its dataset covers a more recent time period than the other stations.

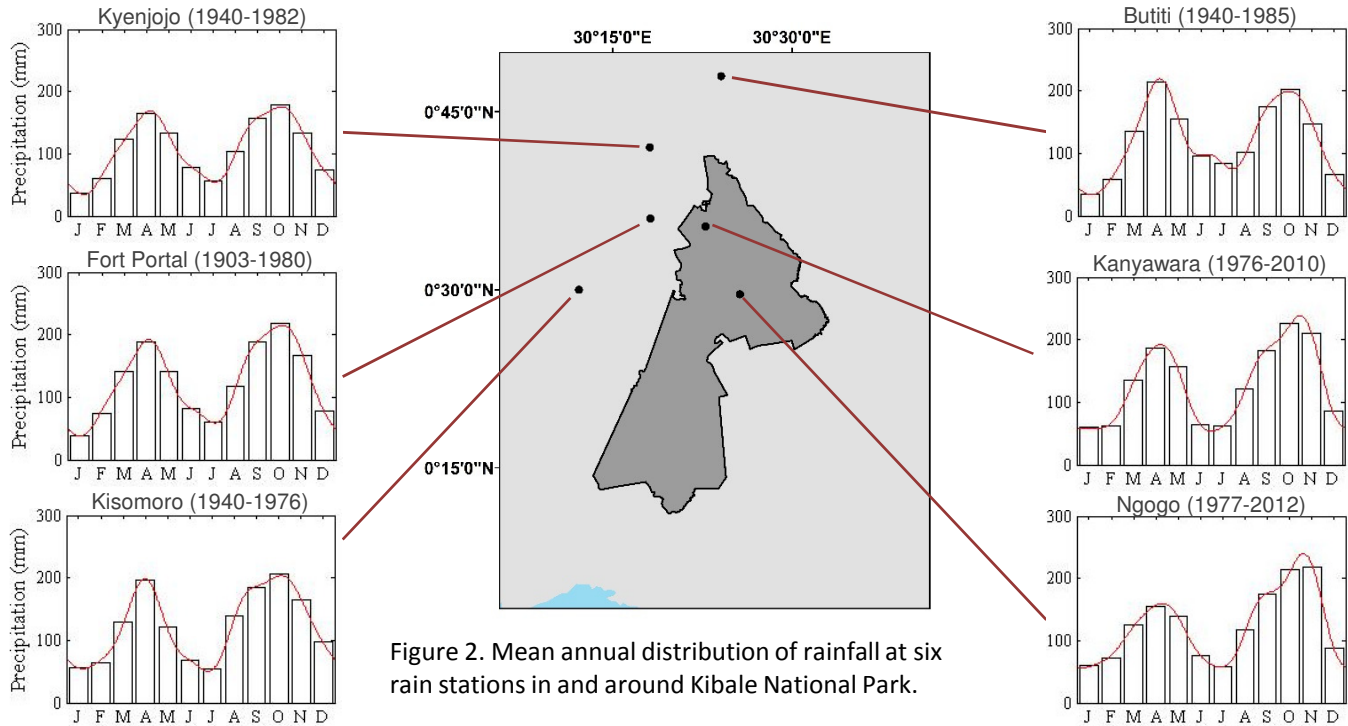


Figure 2. Mean annual distribution of rainfall at six rain stations in and around Kibale National Park.

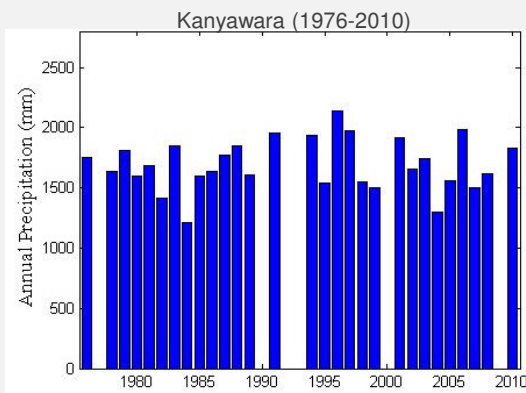


Figure 3a. Annual precipitation over time at Kanyawara station.

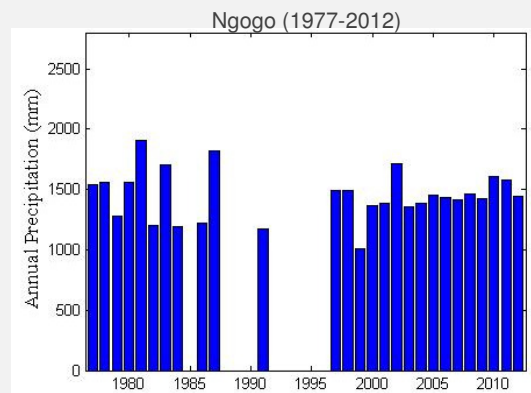


Figure 3b. Annual precipitation over time at Ngogo station.

## PECAR: People, Environment, and Climate in the Albertine Rift

Principal Investigators: Joel Hartter, Jeremy Diem, Sadie Ryan, Colin Chapman.

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