

From Drought to Deluge: The Effects of Kenya's onset 'Long Rains' Season 2023

Misiani Zachary*, Linet Onyango, Paul Anywayo

International Center for Humanitarian Affairs-Kenya Red Cross Society, Nairobi, Kenya.

Email: misiani.zachary@icha.net

The current heavy rainfall being experienced in Kenya has led to significant damage to properties and loss of lives. The country is still recovering from the effects of the drought, which has had a devastating impact on the livelihoods of millions of people. The Kenya Meteorological Department had earlier predicted that the "Long Rains" season would begin on the weekend of March 11th, 2023, with light to moderate rainfall in some areas. However, the rainfall intensified and spread to various regions of the country from March 13th, 2023, causing significant destruction. The "Long Rains" season is a crucial period for Kenya's agricultural sector, particularly in the Western, Rift Valley, and Central regions, as it provides the much-needed moisture for planting and growing crops. However, the current heavy rainfall has led to flash floods, landslides, and other related disasters, which had disrupted transportation networks, and displaced communities. (REF. No: KMD/FCST/4-2023/SR/01).

The rainfall that was expected over several parts of the country from the weekend (11th March) was as a result of the impacts of the **Tropical Cyclone Freddy** **Figure 1**. TC Freddy which was developed off the North Australian coast and became a named storm on 6th February, 2023 by Australian Bureau of Meteorology, it crossed the entire South Indian Ocean and made landfall in Madagascar on 21st February and then in Mozambique on 24th February. TC Freddy was responsible for the rainfall that was experienced during the last week of February **Figure 2** in some parts of the Highlands West of the Rift Valley and Lake Victoria Basin as it made landfall in Mozambique

Tropical Cyclone Freddy, was one of the world's longest-lived, powerful, and deadly storm, it travelled more than 8,000 kilometers for 34 days, crossed the entire South Indian Ocean. While tracking westwards across the ocean, the system strengthened and became a category 4 cyclone with mean winds of 115mph by 11th February.

By the middle of February, Freddy had left the Australian Bureau of Meteorology's area of responsibility and moved into the region overseen by MeteoFrance La Réunion, according to **World Meteorological Organization**.

Category ● 5 ● 4 ● 3 ● 2 ● 1 Forecast path - - - - -



Figure 1: Note: Dates are based on Greenwich Mean Time. Source: Joint Typhoon Warning Center. By Matthew Bloch.

The heavy rainfall currently being experienced in Kenya has resulted in floods in different parts of the country, causing harm to people and damaging infrastructure like bridges and roads. According to the Kenya Red Cross Society reports, it shows since the **onset of the MAM rains until 3rd April 2023**, the long rains of MAM season have impacted many individuals, with over 5,600 households displaced, and over 52,000 people affected. Additionally, the rainfall has resulted in injuries, fatalities, and missing persons, as well as the death of thousands of livestock and damage to over 30 structures.

Most of the Meteorological stations across the country recorded rainfall that was near to above the March long-term average, except over some parts of the Southeastern lowlands counties of (Machakos, Kitui, Makueni, Kajiado and Taita-Taveta) and Malindi where below average rainfall was recorded, **Figure 3**.

In April 2023, the Kenya Meteorological Department-KMD forecasts that **Figure 4** areas such as the Highlands West of the Rift Valley, Central and Southern Rift Valley, Highlands East of the Rift Valley including Nairobi County, Northwest, Coastal region, and some parts of the Northeast and southeastern lowlands will have rainfall that is close to the normal level. Additionally, regions like the Northeastern, Southeastern lowlands, and the Lake Victoria Basin areas are expected to receive rainfall that is close to or higher than the usual amount.

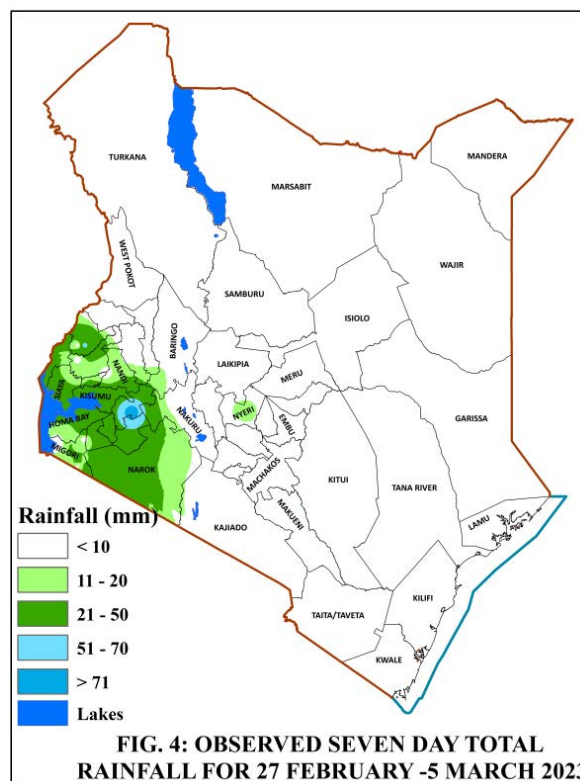


Figure 2: Observed seven-day total rainfall. Source KMD

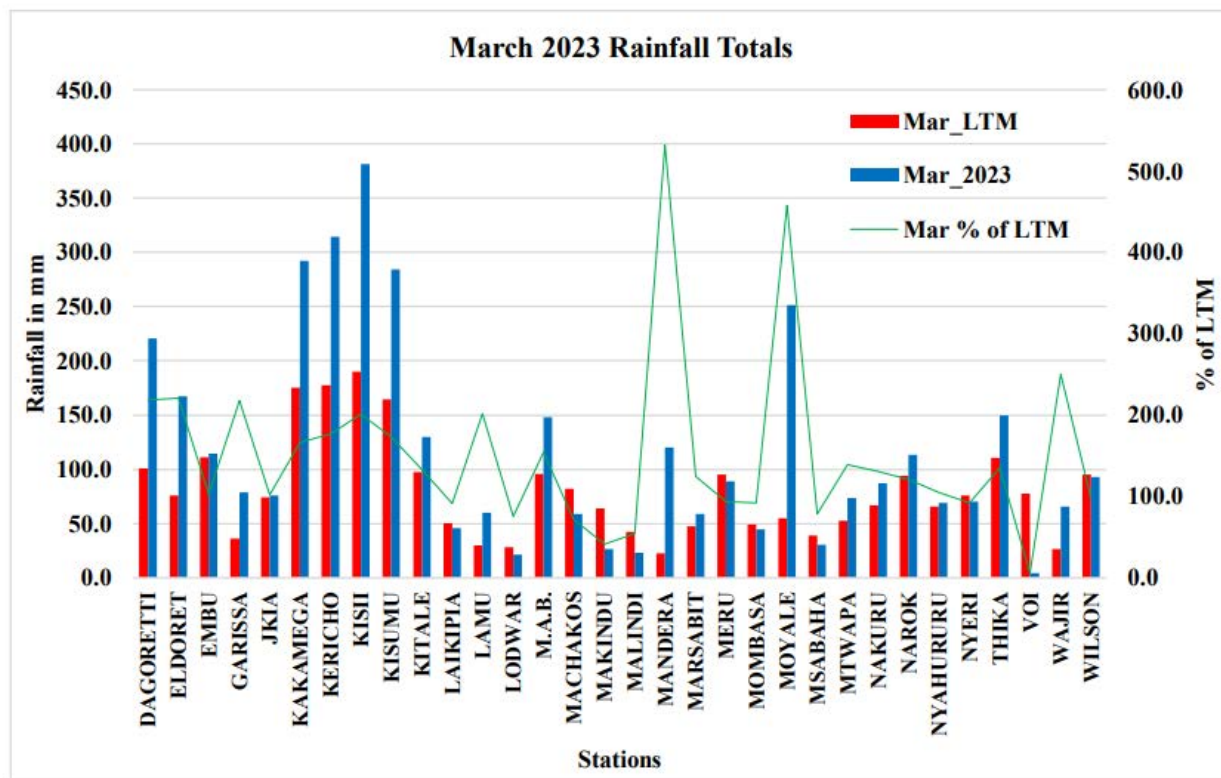


Figure 3: March 2023 Rainfall Totals against March LTM. Source KMD.

The predicted near-average to above-average rainfall with occasional heavy storms are also likely to cause some isolated cases of flash floods over some parts of The Lake Victoria Basin, parts of southern Rift Valley and parts of the Highlands west of the Rift Valley (Siaya, Kisumu, Homa Bay, Migori, Busia, Kisii, Nyamira, Kericho, Bomet, Kakamega, Nandi, Bungoma, Vihiga and Western parts of Narok counties), The Central and South Rift Valley and parts of the Highlands West of the Rift Valley (Baringo, Laikipia, Nakuru, parts of Narok, West Pokot, Trans Nzoia, Uasin Gishu, and Elgeyo Marakwet counties), The Northwest (Samburu counties), The Northeast (Marsabit, Isiolo and parts of Mander counties), The South-eastern lowlands (Kajiado, Kitui, Makueni, Machakos counties) Nairobi and Tana River county.

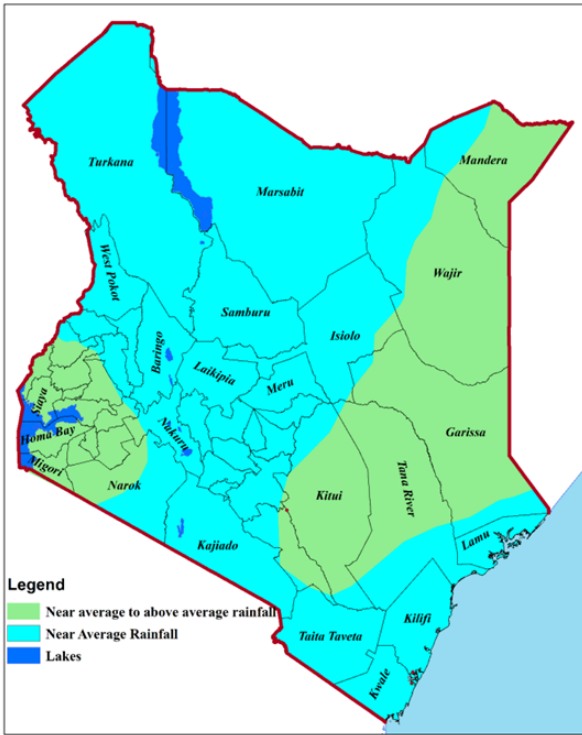


Figure 4: April 2023 Rainfall Forecast. Source KMD

According to KMD Climate outlook for the next three months (April-June 2023), certain regions of Kenya are likely to experience **near to below-average rainfall**. The Highlands West of the Rift Valley, Lake Victoria Basin, Central and South Rift Valley, and the Coastal region are included in this category. Conversely, the southeastern lowlands, northwest, and northeastern regions are expected to receive similar rainfall in April and May, with a probable **dryness in June**. Nonetheless, there may be light rainfall in June in the Highlands East of the Rift Valley, including Nairobi County, and certain parts of the Southeastern lowlands as the cold season sets in. It is projected that May will be the peak of the rainy season in the coastal region.

Additionally, temperatures are predicted to be above average throughout the country during the forecast period.

The **Kenya Red Cross Society (KRCS)** is responding to the needs of populations affected by flash floods through a range of interventions. These include providing First Aid services to casualties before referring them to hospitals, evacuating families to safer grounds, distributing Non-Food Items (NFI), providing food to affected households, and conducting integrated medical outreach programs, provision of selected early maturing and drought resistant seeds, response to water and weather related disease outbreaks.

The KRCS Emergency Operations Centre is continuously monitoring and analyzing the situation to inform preparedness and response actions. This includes a backup team of professionals and experts from different sections at the national and county levels, including Disaster Management (DM), Operations Department (OD), **International Center for Humanitarian Affairs (ICHA Climate)**, Geographic Information System (GIS) and Remote Sensing, Water, Sanitation and Hygiene (WASH), Health team, Logistics and Warehouse, all of whom are ready for deployment.

In addition, **KRCS County Rapid Response Action Teams (RCAT)** are on standby for emergency response across the country. These measures are aimed at ensuring that the affected populations receive timely and appropriate assistance to mitigate the impact of the flash floods. The Kenya Red Cross Society remains committed to responding to disasters and emergencies in a timely, effective, efficient, and coordinated manner, in partnership with other stakeholders and communities.

Kenya Red Cross Retweeted

IFRC IFRC DREF @IFRC_DREF

The rainy season in Kenya started with above-average rains, causing intense floods. At least 12 people have died and hundreds have been displaced. The @IFRC_DREF just allocated CHF 449,557 to support the response of @KenyaRedCross to this emergency. Thank you to all #DREF Donors!

1:59 PM · Apr 5, 2023 · 2,057 Views

6 Retweets 15 Likes

c/o: IFRC DREF



Kenya Red Cross staff assess the damage caused by heavy rains, that also cut off the Garissa Modogashe Wajir road at Jilango Village.

Conclusion

The onset of the 'Long Rains' season of 2023 in Kenya had both positive and negative effects on the country. While the rains brought relief to drought-stricken regions, they also caused flash flood in some areas, leading to loss of human life, displacement, loss of property and damage to infrastructure. It is important for the government and all stakeholders to invest in strategies that mitigate the impacts of extreme weather events and ensure the sustainable management of water resources. With the right policies and practices in place, Kenya can better cope with the challenges posed by climate change and ensure the well-being of its people and ecosystems.

Therefore, it is important for individuals and relevant stakeholders to plan and prepare accordingly to mitigate the potential impacts of the weather forecast on their activities, especially those that are highly dependent on weather conditions such as agriculture, transportation among others.

Conflict of interest: The authors have no conflict of interest to declare.