



**REPUBLIC OF KENYA  
MINISTRY OF ENVIRONMENT & FORESTRY  
KENYA METEOROLOGICAL DEPARTMENT**

Dagoretti Corner, Ngong Road, P. O. Box 30259, 00100 GPO, Nairobi, Kenya  
**Telephone:** 254 (0) 20 3867880-7, **Fax:** 254 (0) 20 3876955/3877373/3867888,  
**E-mail:** [director@meteo.go.ke](mailto:director@meteo.go.ke), [info@meteo.go.ke](mailto:info@meteo.go.ke) **Website:** <http://www.meteo.go.ke>

**Ref. No. KMD/FCST/10-2018/MO/10**

**Date: 28<sup>th</sup> September, 2018**

**WEATHER REVIEW FOR SEPTEMBER 2018 AND THE OUTLOOK FOR OCTOBER 2018**

**1. SUMMARY**

Most parts of the country experienced generally sunny and dry weather conditions during September 2018. A few areas in western Kenya experienced significant amounts of rainfall that occasionally spread to the central region. The rainfall was, however, generally depressed at most meteorological stations compared to the Long-Term Means (LTMs). Elsewhere, heavy rainfall, that was associated with flush floods in Mombasa, was recorded along the Coastal Strip towards the end of the month particularly on 26<sup>th</sup> September.

The outlook for October 2018 indicates that several parts of the country are likely to experience near-average rainfall with a tendency to above-average. Some parts of Northwestern Kenya (Lodwar, Lokichoggio, Lokitaung etc) are, however, likely to experience near-average rainfall with a slight tendency to below-average (slightly depressed rainfall).

The seasonal rainfall onset is expected during the first to third week of October over several parts of Western and Central Kenya as well as the Coastal Strip, while most of the Eastern sector will realize the onset during the third to fourth week of October. Some isolated areas in Southern Kenya are likely to observe the onset during the fourth week of October to the first week of November.

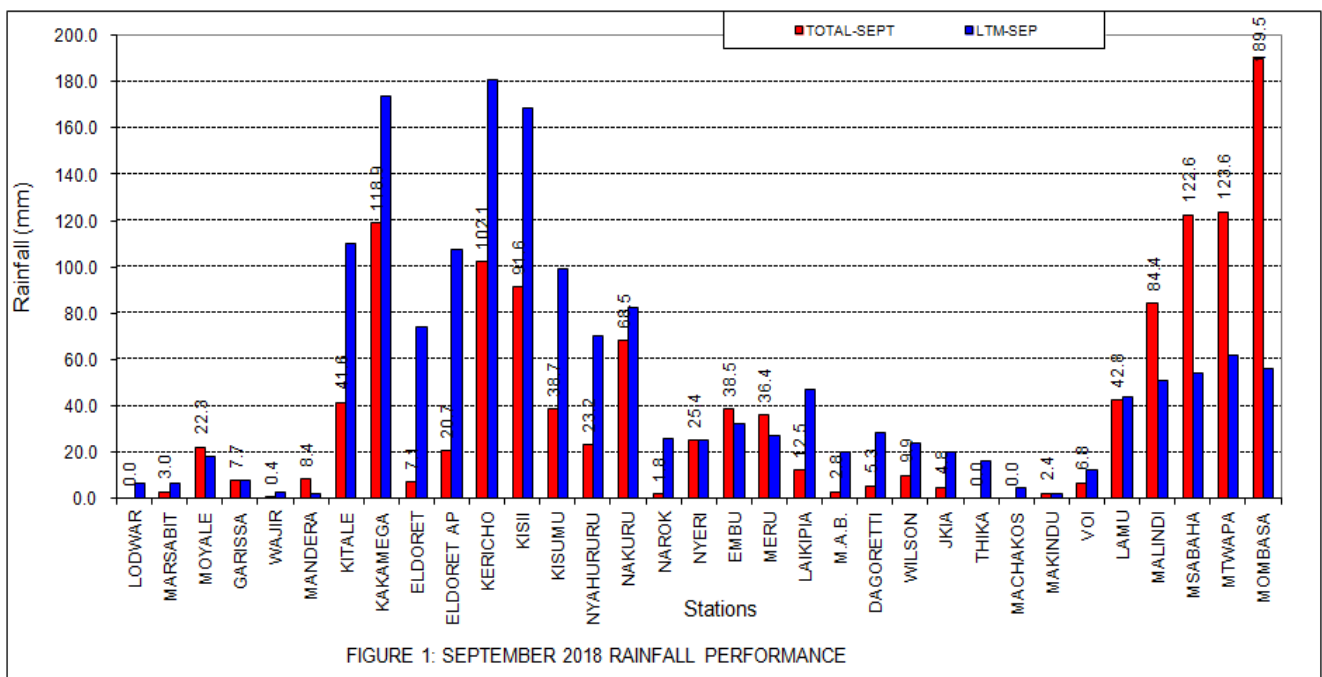
**2. WEATHER REVIEW FOR SEPTEMBER 2018**

**2.1. RAINFALL REVIEW**

Most parts of the country experienced sunny and dry weather conditions during September 2018. Significant amounts of rainfall were recorded over various parts of western Kenya and occasionally spread to the central highlands including Nairobi. The rainfall was, however, depressed at most meteorological stations compared to the LTMs.

Heavy rainfall occurred along the Coastal strip towards the end of the month. This was more so on 26<sup>th</sup> September when Shimo la Tewa, Mombasa Airport, Mtwapa, Msabaha and Malindi meteorological stations recorded 148.6mm, 118.9mm, 67.1mm, 66.9mm and 51.5mm respectively. This rainfall was associated with flush floods in Mombasa town and its environs.

Mombasa Meteorological station recorded the highest monthly rainfall total of 189.5mm (337%) as compared to its September Long-Term Mean (LTM) of 56.2mm. Mtwapa, Msabaha, Kakamega, Kericho, Kisii, Malindi and Nakuru Meteorological stations recorded 123.6mm (199%), 122.6mm (226%), 118.9mm (69%), 102.1mm (57%), 91.6mm (54%), 84.4mm (166%) and 68.5mm (83%) respectively. The rest of the stations recorded below 50mm with Lodwar, Machakos, Thika and Wajir stations recording no rainfall at all throughout the month as seen **figure 1**.



## 2.2. REVIEW OF THE SYNOPTIC PATTERNS IN SEPTEMBER 2018

During September 2018, slightly warmer than average SSTs occurred over western equatorial Indian Ocean (along the East African coast) while cooler than average SSTs were observed over eastern equatorial Indian Ocean (adjacent to Australia). This pattern constituted a slightly positive phase of the Indian Ocean Dipole (IOD) that favoured heavy rainfall along the coastal strip. Models indicate a high likelihood of a more positive IOD during October-November-December rainfall season.

The SSTs in the eastern and central Equatorial Pacific Ocean were slightly warmer than average. The situation in the Pacific Ocean, however, still indicated neutral condition (neither El Niño nor La Niña). Various models indicate an increased likelihood of an El Niño phase toward the end of the year 2018. The Meridional (North-south) arm of the Inter-Tropical Convergence Zone (ITCZ) was mainly over Uganda and parts of western Kenya. The Zonal (east-west) arm of the ITCZ remained further north in Ethiopia. The Eastern Africa high-pressure ridge was moderately strong while the Arabian ridge was not yet established by the end of the month.

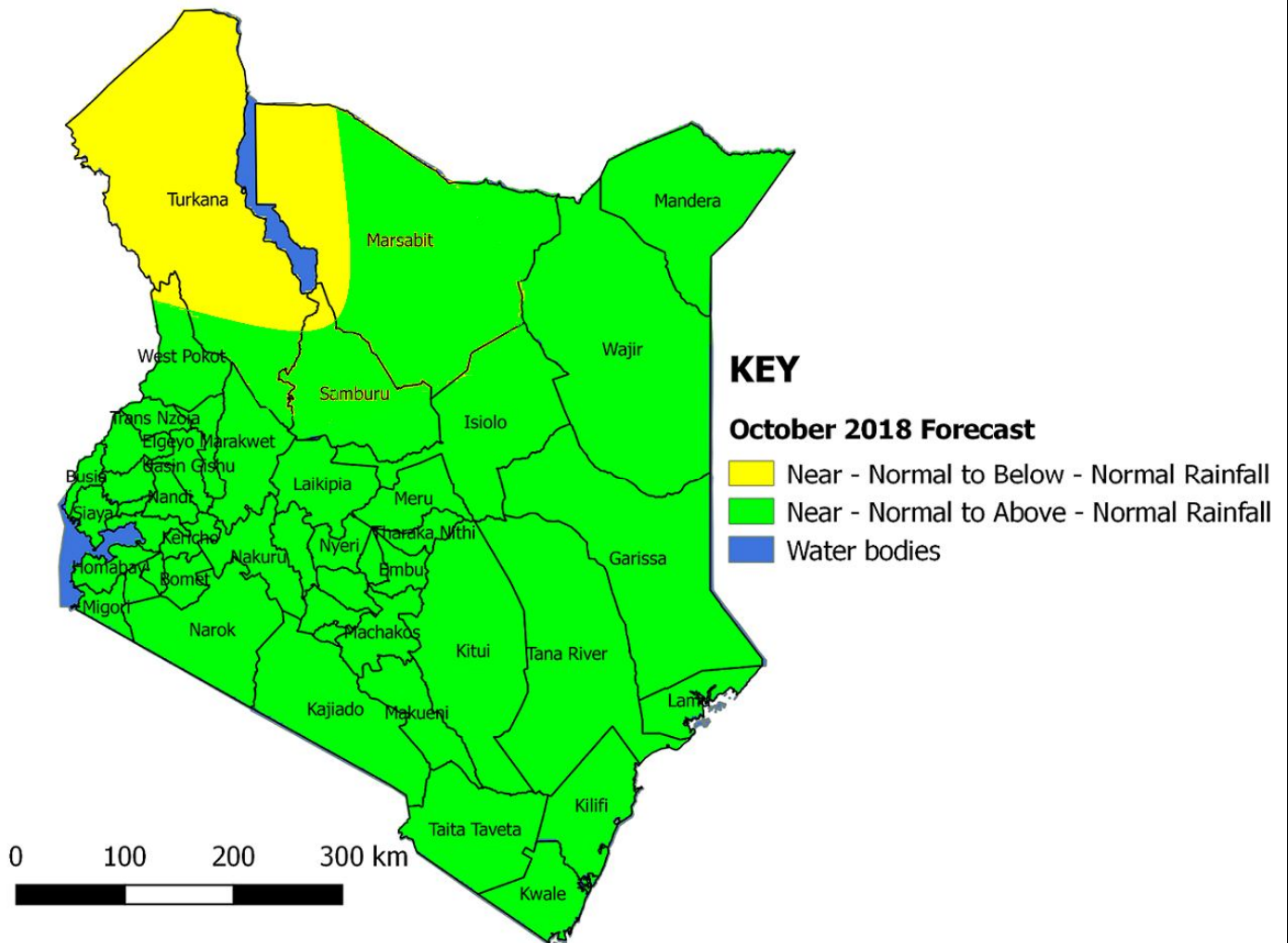
## 3. EXPERIENCED IMPACTS

- The average rainfall that occurred in Western Kenya was beneficial to farmers who observed good crop performance, especially in the maize basket areas of North Rift.
- Relatively cool temperatures kept the rate of evaporation low. Water levels in the dams within Central Kenya therefore remained fairly high following the heavy rainfall that was recorded during the March-April-May 2018 “Long-Rains” season.
- The heavy rainfall over the Coastal Strip caused flush floods in urban areas.

## 4. CLIMATE OUTLOOK FOR OCTOBER 2018

This climate outlook is based on models developed from expected evolution of SSTs in the global Oceans. The El Niño-like conditions in the Eastern and Central Equatorial Pacific Ocean (the Niño areas) as well as the evolving positive IOD in the Indian Ocean were highly considered. The expected onsets and the distribution of rainfall were derived from statistical analysis of past years (analogue years), which exhibited similar characteristics to the year 2018. The analogue years considered include 1988 and 2012.

The forecast indicates that most parts of the country are likely to experience near-average to above-average rainfall during the month of October. The Northwestern is, however, likely to experience near-average rainfall with a slight tendency to below-average (slightly depressed rainfall) as seen in **figure 2**.



**Figure 2: October 2018 Rainfall Outlook**

The specific outlook for individual areas is as follows:

**The Highlands West of the Rift Valley (Kitale, Kericho, Nandi, Eldoret, Kakamega etc), Lake Victoria Basin (Kisumu, Kisii, Busia etc), Central Rift Valley (Nakuru, Narok, Nyahururu, Naivasha etc), Highlands East of the Rift Valley (Nyeri, Muranga, Embu, Meru etc), Nairobi area and its environs (Dagoretti, Wilson, Eastleigh, Kiambu, Kikuyu, Thika etc), Northeastern Kenya (Wajir, Garissa, El Wak, Marsabit, Moyale, Mandera), Southeastern Kenya (Machakos, Kitui, Makueni etc) and the Coastal strip (Mombasa, Mtwapa, Kilifi, Malindi, Msabaha, Lamu etc) are likely to receive near-normal to above-normal (enhanced) rainfall;**

**Northwestern Kenya (Lodwar, Lokichoggio, Lokitaung etc) is likely to receive near-normal to below-normal (slightly depressed) rainfall.**

The October 2018 rainfall is expected to be well distributed, both in time and space, over the better part of the country except the Northwestern Kenya.

## 5. EXPECTED ONSET DATES

- **Nyanza and Western Counties:** represented by Kakamega, Busia, Kitale, Eldoret, Kisii, Kericho, Kisumu, Nyamira, Gucha, Kuria, etc are expected to continue experiencing rainfall during the first week of October spreading from the month of September;
- **Northwestern Kenya:** The onset in the Northwestern parts of the country (Lodwar, Lokitaung, Lolkichogio etc) is expected during the third to fourth week of October;
- **Northeastern Kenya:** (Moyale, Mandera, Marsabit, North Horr, Wajir, Garissa etc) and **The Central and Nairobi Counties:** Central Highlands (Meru, Embu, Nyeri, Murang'a etc); Nairobi area (Dagoretti, Kabete, Eastleigh etc); are expected to experience their onsets in the second to third week of October;
- **The Central Rift:** The northern parts of Central Rift Valley (Nakuru, Nyahururu etc) are likely to experience their onset during second to third week of October. The onset in the southern parts (Narok, Kajiado etc) is likely to occur in the third to fourth of October;
- **Counties in the southern parts of Southeastern Kenya:** The southeastern lowlands (Voi, Taveta, Makindu, Tana River) are likely to realize the onset during the fourth week of October to the first week of November;
- **The Coastal Strip:** Onset over the Coastal strip (Lamu, Malindi, Mombasa, Kilifi, Mtwapa Msambweni, Lungalunga) etc) is expected during the third to fourth week of October. The onset dates are depicted in **figure 3**.

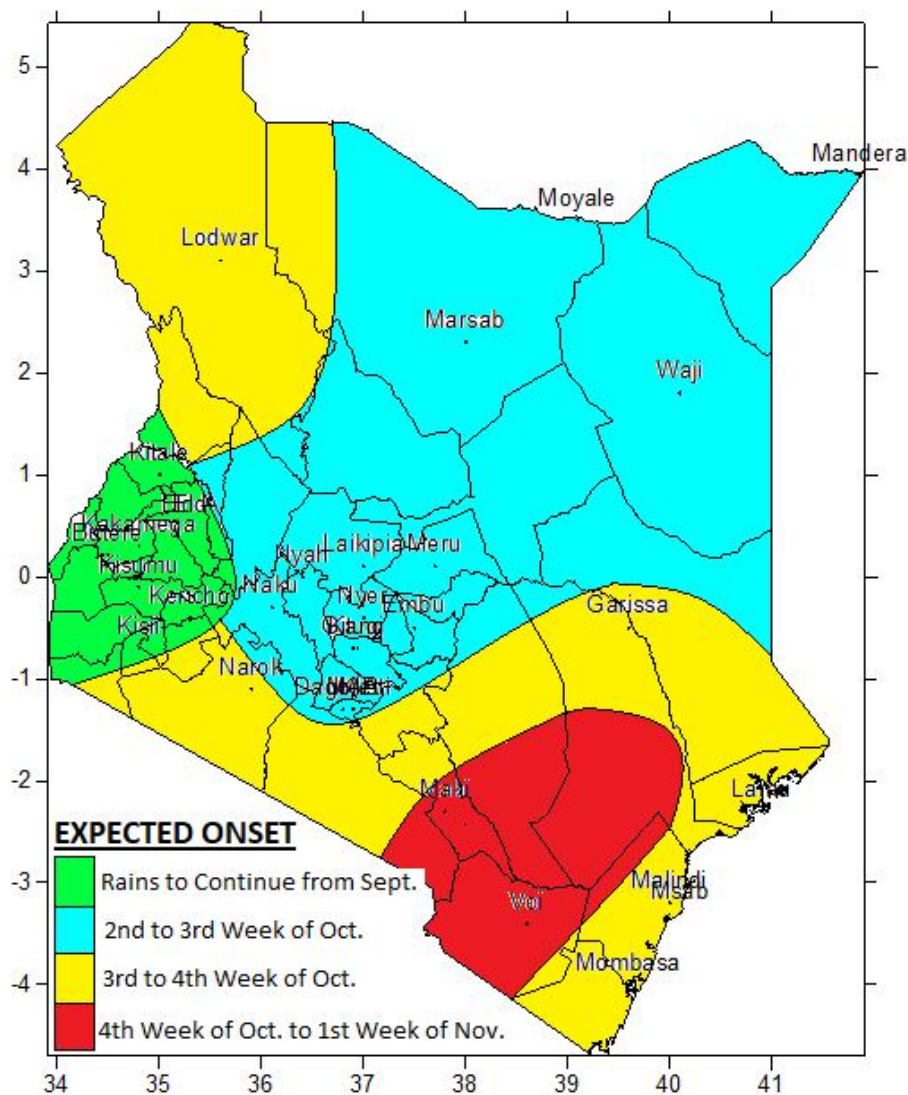


Fig. 3: Expected Onset for OND 2018 Rains

## 6. POTENTIAL IMPACTS

- Good crop performance is expected over most parts of the country, especially the western and central regions, as a result of the forecasted good rainfall performance.
- Foliage and pasture conditions in the pastoral areas of Northern and parts of Northeastern Kenya are expected to improve as a result of the expected good rains.
- The expected enhanced rainfall in western Kenya may still lead to isolated cases of flooding especially in flood-prone areas and also lightning strikes.
- The major river catchment areas for the country's hydroelectric power generating dams are forecasted to receive enhanced rainfall during the month. This is expected to improve the water levels in the Seven-Forks and Turkwel hydroelectric power generation dams.

***N.B: This forecast should be used in conjunction with the daily 24-hour and the weekly forecasts issued by this Department.***

**Stella Aura, MBS  
DIRECTOR OF METEOROLOGICAL SERVICES**