



MINISTRY OF ENVIRONMENT, CLIMATE CHANGE AND FORESTRY

STATE DEPARTMENT FOR ENVIRONMENT AND CLIMATE CHANGE

KENYA METEOROLOGICAL DEPARTMENT

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THE CLIMATE OUTLOOK FOR OCTOBER 2025 AND REVIEW FOR SEPTEMBER 2025

1. HIGHLIGHTS

1.1. The Climate Outlook for October 2025

The outlook for October 2025 indicates that the Highlands west of the Rift Valley, the Lake Victoria Basin, the Central and South Rift Valley, the Northwest, and most parts of the Highlands east of the Rift Valley (including Nairobi County), as well as isolated areas in Marsabit, are likely to experience near to above-average rainfall.

Conversely, most of the Southeastern lowlands, the Southern Coast, a few areas within the Highlands east of the Rift Valley, and isolated parts of the Northeast are expected to receive near to below-average rainfall. In addition, most of the Northeast and the remaining sections of the Coastal region are forecast to receive below-average rainfall.

The onset of the seasonal rains is projected to occur between the third and fourth week of November over the Southeastern lowlands and Coastal regions, although occasional rainfall is expected in October, particularly over the Coastal strip and isolated areas in the Southeastern lowlands. Over the central parts of the country, including Nairobi, onset is expected between the third and fourth week of October.

Rainfall over the western sector of the country is expected to continue from September, while the onset over the northern sector remains undefined. However, isolated areas in the Northwest are expected to receive occasional rainfall extending from September, which is likely to be followed by dry spells.

Temperatures during the month are expected to be warmer than average across several parts of the country, except over the western half, where near- to cooler-than-average conditions are anticipated.

1.2. The Climate Review for September 2025

The Highlands west of the Rift Valley, the Lake Victoria Basin, the Central Rift Valley and most areas in Nyandarua received significant amounts of rainfall during the month. The rest

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of the Highlands east of the Rift Valley, including Nairobi County, the South Rift Valley and the Coastal region remained generally with a few rainy days during the month. The rest of the country remained generally dry, though isolated areas over the Northwest and southeastern lowlands bordering Nairobi received light to moderate rainfall for a few days. Both maximum and minimum temperatures were warmer than average over most parts, except few areas over the Western sector including the Lake Victoria Basin where maximum temperatures were cooler than average and in Voi and Jomo Kenyatta International Airport, where minimum temperatures were near the September LTM and slightly cooler than average respectively.

2. THE CLIMATE OUTLOOK FOR OCTOBER 2025

This climate outlook is based on models developed from the expected evolution of global Sea Surface Temperatures (SSTs). Currently, ENSO-neutral conditions prevail, with equatorial SSTs near to below average in the central and eastern Pacific Ocean. La Niña is favored to develop between October and December, with a 71% likelihood. Thereafter, its likelihood decreases to about 54% for December 2025 to February 2026. A negative phase of the Indian Ocean Dipole (IOD) is also underway, with the latest index value recorded at $-1.24\text{ }^{\circ}\text{C}$ for the week ending 28 September 2025. Both drivers are typically associated with below-average rainfall over Kenya and the greater Eastern Africa region. Figure 1a illustrates the rainfall climatology for October.

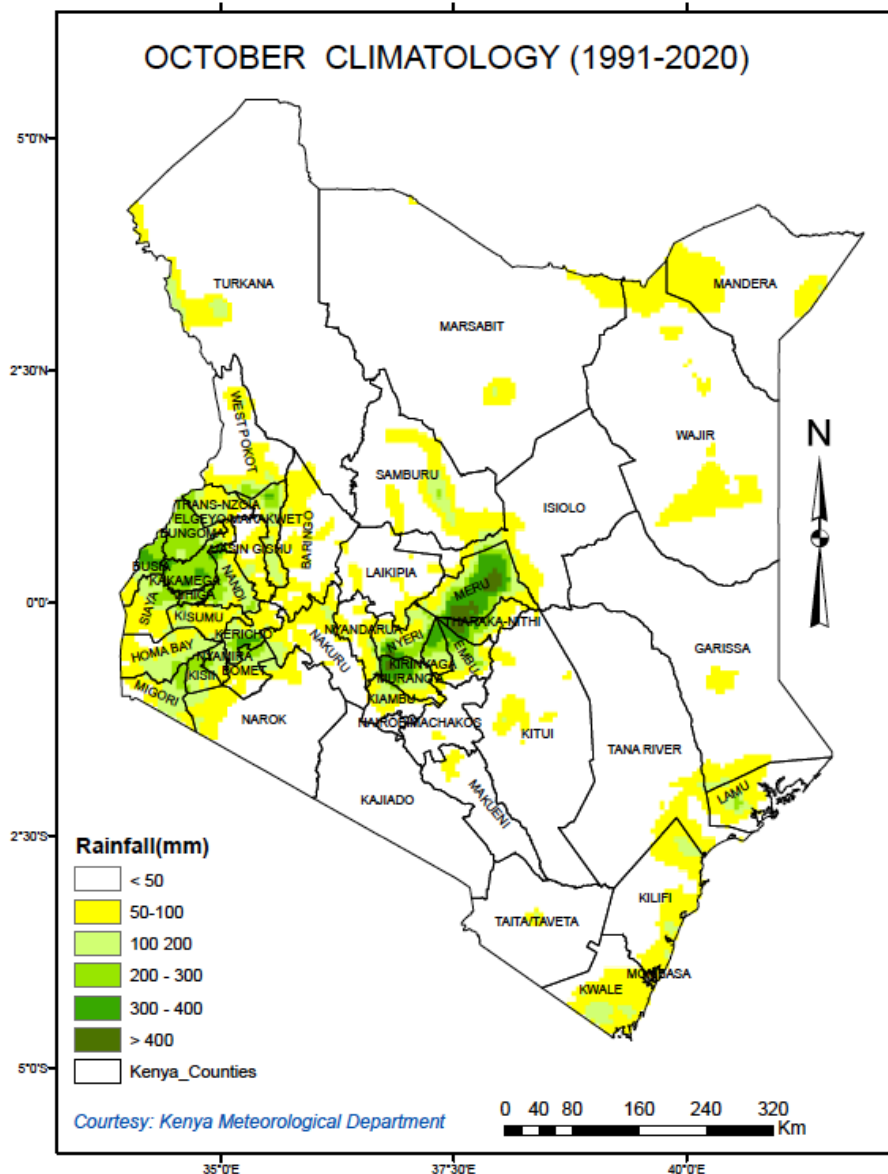


Figure 1a: October Rainfall Climatology

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2.1 Rainfall Outlook for October 2025

As shown in Figure 1b, the outlook for October 2025 indicates that the Highlands west of the Rift Valley, the Lake Victoria Basin, the Central and South Rift Valley, the Northwest, most parts of the Highlands east of the Rift Valley (including Nairobi County), and isolated areas in Marsabit are likely to experience near to above-average rainfall. In contrast, most of the Southeastern lowlands, the southern Coast, a few areas of the Highlands east of the Rift Valley, and isolated areas of the Northeast are expected to receive near to below-average rainfall. The rest of the Northeast and much of the Coastal region are likely to experience below-average rainfall.

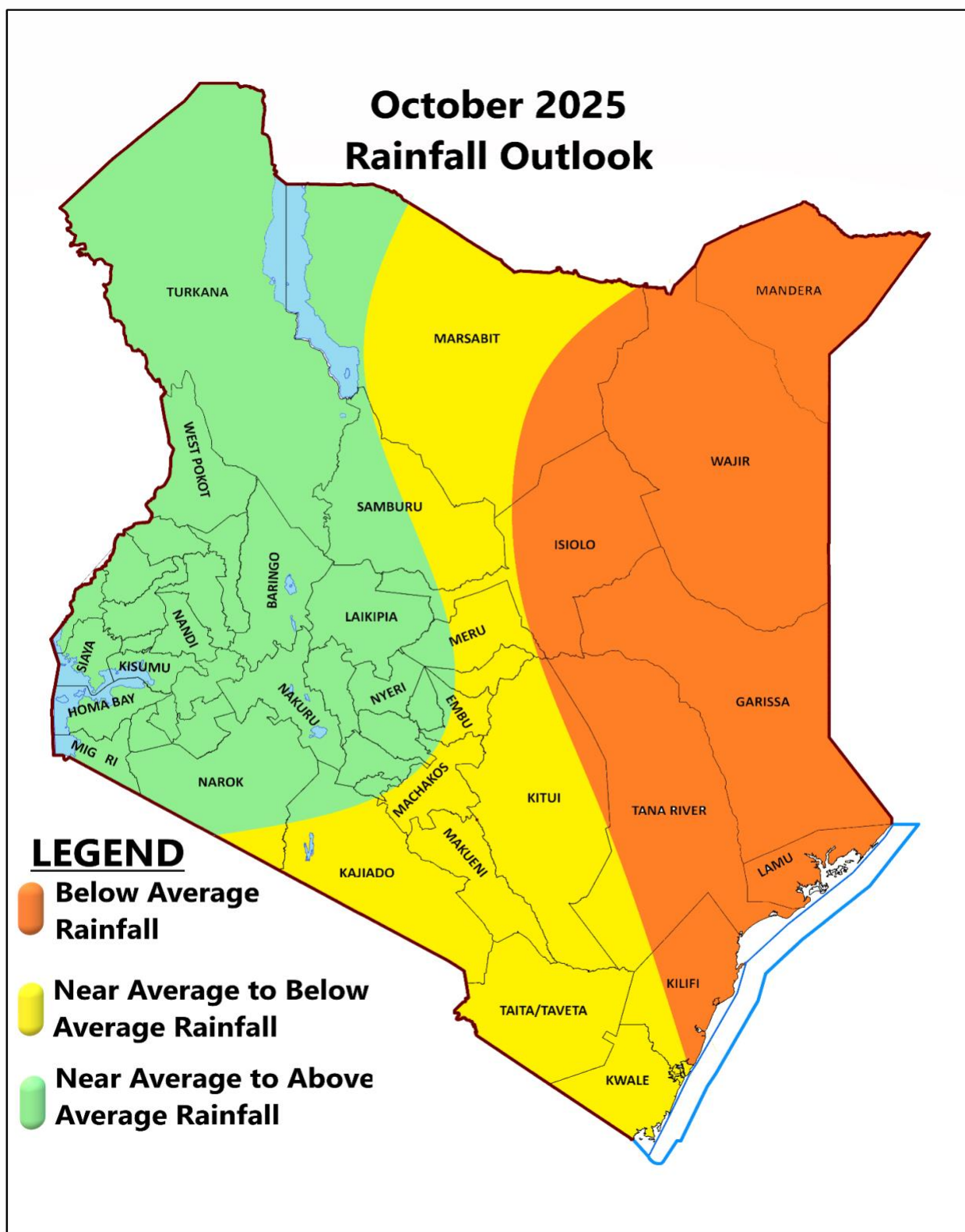


Figure 1b: October 2025 Rainfall Forecast

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2.1.1. Specific Outlook for Individual Areas

2.1.1.1. The Highlands West of the Rift Valley (Trans Nzoia, Kericho, Bomet, Nandi, Uasin Gishu, West Pokot, Elgeyo Marakwet, Kakamega, Vihiga, Bungoma, Kisii and Nyamira counties); the Lake Victoria Basin (Kisumu, Homa Bay, Migori, Siaya and Busia counties); the Southern and Central Rift Valley (counties of Narok, Nakuru, Baringo and Laikipia); are likely to receive rainfall during October. The total amounts are expected to be near to above the long-term average for the month.

2.1.1.2. The Northwest (Turkana and Samburu Counties) and parts of Northeast (Western Marsabit) are likely to experience occasional rainfall during the month. The expected total rainfall amounts are likely to be near to above the long-term average amounts for October.

2.1.1.3. The Highlands East of the Rift Valley (including Nairobi County) (counties of Kirinyaga, Nyandarua, Nyeri, Murang'a, Embu, Meru, Nairobi, Kiambu, Tharaka Nithi and parts of Laikipia), are likely to experience occasional rainfall during October. The total rainfall amounts are expected to be near to above the long-term average for the month.

2.1.1.4. Southeastern lowlands (Kajiado, Makueni, Machakos, Taita Taveta and Kitui Counties) are likely to experience predominantly dry weather conditions during October. However, occasional rainfall may occur, with amounts expected to be near or slightly below the long-term average for the month.

2.1.1.5. The Northeast (Isiolo, Wajir, Mandera, Garissa and parts of Marsabit counties and Tana River county) are likely to experience mainly dry weather conditions for most of the month. However, occasional rainfall may occur over a few areas during the month. The rainfall amounts are likely to be below the long-term average amounts for October except for a few areas in Isiolo and Marsabit counties where the amounts are likely to be near to below average.

2.1.1.6. The Coast (Lamu, Kilifi, Mombasa and Kwale counties) is likely to remain generally dry with occasional showers. The total rainfall amounts are expected to be below the October LTM except over the South Coast and a few areas in Kilifi where the amounts are likely to be near to below average.

2.2. Expected Onset Dates

The predicted onsets, cessations, and distribution of rainfall were derived from dynamical models and statistical analysis of past years. The analogue year selected was 2021, which exhibited characteristics similar to those expected in 2025. The rainfall outcomes from this analogue year are provided for reference only and should not be interpreted as part of the forecast; rather, they illustrate the range of possible outcomes under broadly similar global

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climate conditions.

2.2.1. Lake Victoria Basin, Highlands West of the Rift Valley and the Central Rift Valley: (Kakamega, Busia, Vihiga, Nandi, Elgeyo Marakwet, West Pokot, Baringo, Kisumu, Trans Nzoia, Siaya, Bungoma, Bomet, Uasin Gishu, Kisii, Kericho, Kisumu, Nyamira, Migori, Homa Bay, Baringo, Nakuru and western parts of Laikipia) are expected to continue experiencing rainfall continuing from September.

2.2.2. Northwestern Kenya and parts of Northeast (Counties of Turkana, Samburu and Western Marsabit) is expected to continue experiencing rainfall spreading from the month of September, though this is likely to be followed by a dry spell.

2.2.3. Northeastern Kenya: (Counties of Mandera, Wajir, Garissa, Isiolo and most of Marsabit) does not have a defined onset, although occasional rainfall that does not meet the onset criteria may be experienced in October over a few areas.

2.2.4. Highlands East of the Rift Valley including Nairobi and a few areas in Central Rift Valley (Counties of Nairobi, Meru, Embu, Nyeri, Murang'a, Kiambu, Tharaka Nithi, Kirinyaga, Nyandarua and southern parts of Nakuru) will experience occasional rainfall at the beginning of the month which will be followed by a dry spell till the third or fourth week of October when onset is likely.

2.2.5. The South Rift Valley (Narok County) is expected to receive rainfall during the fourth week of October to first week of November though occasional rains may be experienced over a few areas at the beginning of the month which are likely to be followed by a dry spell.

2.2.6. The Southeastern Lowlands: Counties of Machakos, Kitui, Kajiado, Taita Taveta, Makueni, and Tana River) are likely to realize the onset during the third to fourth week of November. However, a few areas especially those bordering Nairobi may experience occasional rainfall at the beginning of the month which will be followed by a dry spell.

2.2.7. The Coastal Strip Counties: Onset over the Coastal strip (Lamu, Kwale, Mombasa, Kilifi and the Coastal Tana River) is expected during the third to fourth week of November. Occasional morning showers are however expected during the month.

2.3. Forecast of The Standardized Precipitation Index (SPI) For The OND 2025 Season Based On August Model Initializations

This is an update to the SPI outlook for the upcoming “short rains” season issued in September. The forecast is based on a combination of direct and calibrated model outputs from the September initializations during the OND season. The forecasts indicate a high likelihood of below-average rainfall across the country, mainly due to the models’ prediction of a negative Indian Ocean Dipole (IOD) and the anticipated development of a La Niña event during the OND season.

2.3.1 Background

A probabilistic forecast of SPI can provide advance warning by indicating the likelihood of various parts of the country either sliding into or recovering from the alert or alarm worsening phases of the national drought early warning system. The national drought early warning system uses $SPI < -0.09$ and $SPI < -0.98$ thresholds for the alert and alarm worsening phases, respectively.

2.3.2 SPI Forecast

Consistent with the July and August forecasts, the latest projections continue to indicate a high likelihood of below-average short rains across Kenya in 2025, especially in the ASAL regions. The forecast probabilities for both mild and severe droughts have decreased slightly across the country, but they remain significantly high over the eastern half of the country. The expected rainfall deficit is likely to exceed the thresholds for both alert and alarm worsening drought phases. Counties with the highest likelihood of experiencing severe drought include Mandera, Garissa, Wajir, Samburu, Tana River, Tharaka Nithi, Kitui, Makueni, Machakos, Taita Taveta, Kajiado, Kwale, Kilifi, and Lamu. It is worth noting, however, that there is still some uncertainty in the models, which necessitates monthly monitoring as the season approaches. The forecast probabilities for the two thresholds are shown in Figures 1c and d below.

Forecast probabilities of SPI, Kenya: OND 2025 - initialised: Sep
number of models = 4 : newD2025_; newD2025_; newD2025_; newD2025_

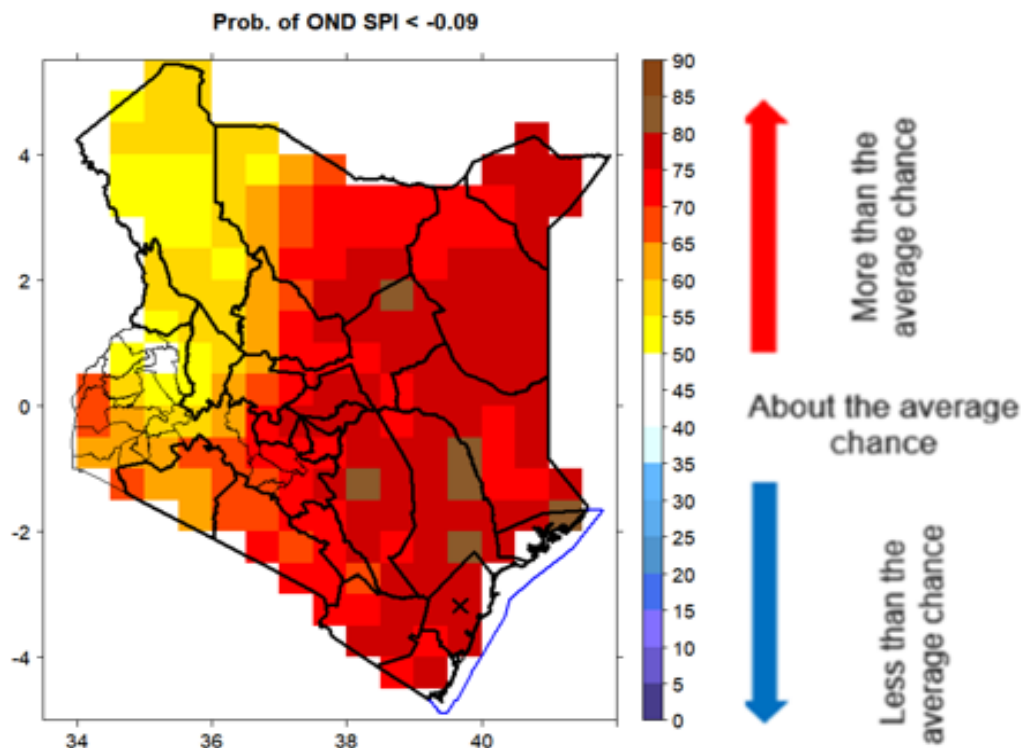


Figure 1c: Forecast probability of the country likely to get into the alert phase

The average chance of $SPI < -0.09$ occurring is 46% but the forecast indicates a high probability of between 55% to 80% over much of the country which is close to 1 to 2 times more likely than climatology. The chance of the event unfolding is still much higher over the eastern and central parts of the country.

Forecast probabilities of SPI, Kenya: OND 2025 - initialised: Sep
number of models = 4 : newD2025_; newD2025_; newD2025_; newD2025_

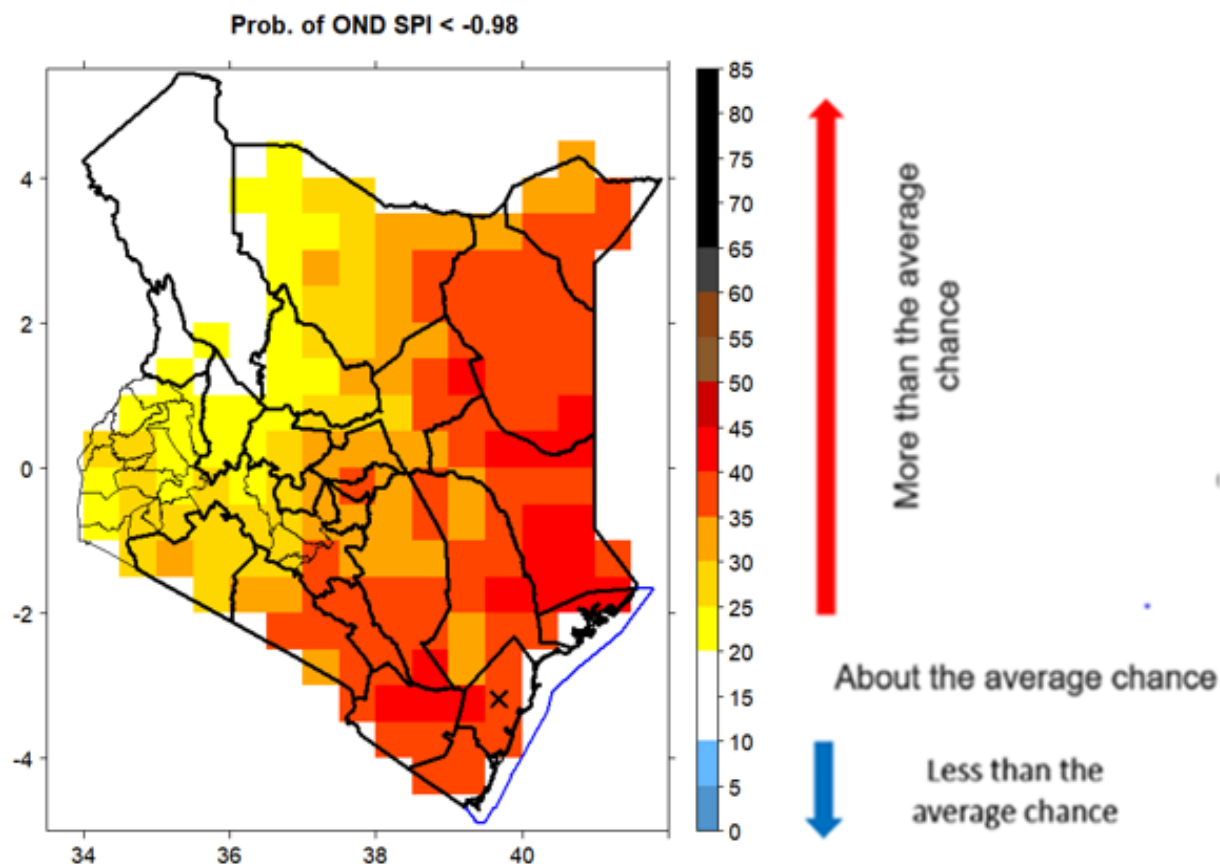


Figure 1d: Forecast probability of the country likely to get into the alarm worsening phase

The average chance of $SPI < -0.98$ is 16%. The forecast probabilities are between 30% and 50% over the eastern half of the country and less than 25% over the north west and highlands west of the Rift Valley. This indicates that there is still a high chance of the eastern parts of the country experiencing severe rainfall deficits during the OND season.

2.4. Potential Impacts

The following are the likely impacts during the month of October 2025,

2.4.1. Agriculture and Food Security

The expected near to above average rainfall in the Highlands West of the Rift Valley, Central and North Rift Valley is likely to provide sufficient soil moisture to sustain agricultural production. The rains are however likely to disrupt harvesting of crops in areas that are ongoing with harvesting.

The continuation of sunny and dry weather conditions in the Northeast counties and South-eastern Lowlands may lead to diminishing pastures and water for livestock in these regions. Close monitoring of the situation is therefore necessary to avert loss of animals.

2.4.2. Disaster Management

In western Kenya where near to above average rainfall is expected, lightning strikes are highly probable, especially in Kisii, Kisumu, Nandi, Kakamega and Bungoma counties (Mt.Elgon areas).

2.4.3. Water Resources Management and Energy

The major river catchment areas that supply the country's hydroelectric power dams are forecast to receive near to above-average rainfall. Water harvesting is recommended to maximize the utilization of rainwater, particularly in the ASAL regions.

2.4.4. Environment and Forestry

The expected rainfall over the Highlands west of the Rift Valley, the Lake Victoria Basin, and the Central Rift Valley is likely to maintain conducive soil moisture for tree growth. The public should therefore take advantage of these favorable conditions to plant trees and adopt measures to conserve the environment. This recommendation aligns directly with Kenya's Mission 15B (JazaMiti) — a presidential campaign launched to plant 15 billion trees and restore degraded landscapes by 2032. Under this national initiative, planting efforts are being promoted across the country, especially in areas with suitable moisture and soil conditions.

2.4.5 Health

In areas expected to receive near to above average rainfall and have poor drainage systems, pools of stagnant water may form and lead to vector borne diseases such as Malaria as the stagnant water becomes conducive breeding areas for disease causing pathogens. Dry areas are likely to be susceptible to dust storms which may lead to an increase in respiratory tract diseases.

2.4.6 Transport and Public Safety Sector

The expected rainfall may cause slippery roads in some parts of the country. This may result in conditions that may cause accidents. Flash floods may cause transport challenges especially during rush hour and more so in areas where the roads become impassable when it rains.

3. CLIMATE REVIEW FOR SEPTEMBER 2025

3.1. Rainfall Review

Several parts of the country remained generally dry and sunny except over the Highlands West of the Rift Valley, the Lake Basin, the Central Rift Valley and a few areas in Nyandarua county where significant amounts of rainfall was received. This rainfall was near to above average except in Kakamega and Kisumu where below average rainfall was received. The Coastal region, the South Rift Valley, the remaining part of the Highlands East of the Rift Valley including Nairobi County and a few areas over the Southeastern lowlands particularly those bordering Nairobi received occasional rainfall that was near to below the September LTM. The Northeast, most of the Northwest and the Southeastern lowlands remained sunny and dry throughout the month.

As of 28th September, the highest monthly rainfall total of 268.1 mm was recorded in Kibisi Secondary School, Bungoma followed by Nyahururu Meteorological station with 223.6 mm. Other stations that recorded high amounts of rainfall include Nyahururu Meteorological station (219.5 mm), Kanduyi Agricultural office (204.9 mm), Khalaba Ward (201.3 mm), Bungoma water supply (197.2 mm), Koromangucha (196.9 mm), Maseno University (194.7mm), Kubura dispensary, (193.0mm), Kitinda secondary (185.0mm), Sipili Agricultural office (183.5 mm), Nabichakha Secondary School (181.3 mm) and Kaplamai's Chief office (180.0mm). The rest of the stations recorded less than 180 mm of rainfall with most stations over Northeast, Northwest, South Rift Valley and Southeastern lowlands recording no rainfall at all throughout the month as seen in figures 2a and 2b. A few stations in Trans Nzoia, Kakamega, Bungoma, Migori and Nyandarua occasionally recorded heavy rainfall above 50 mm in 24 hours.

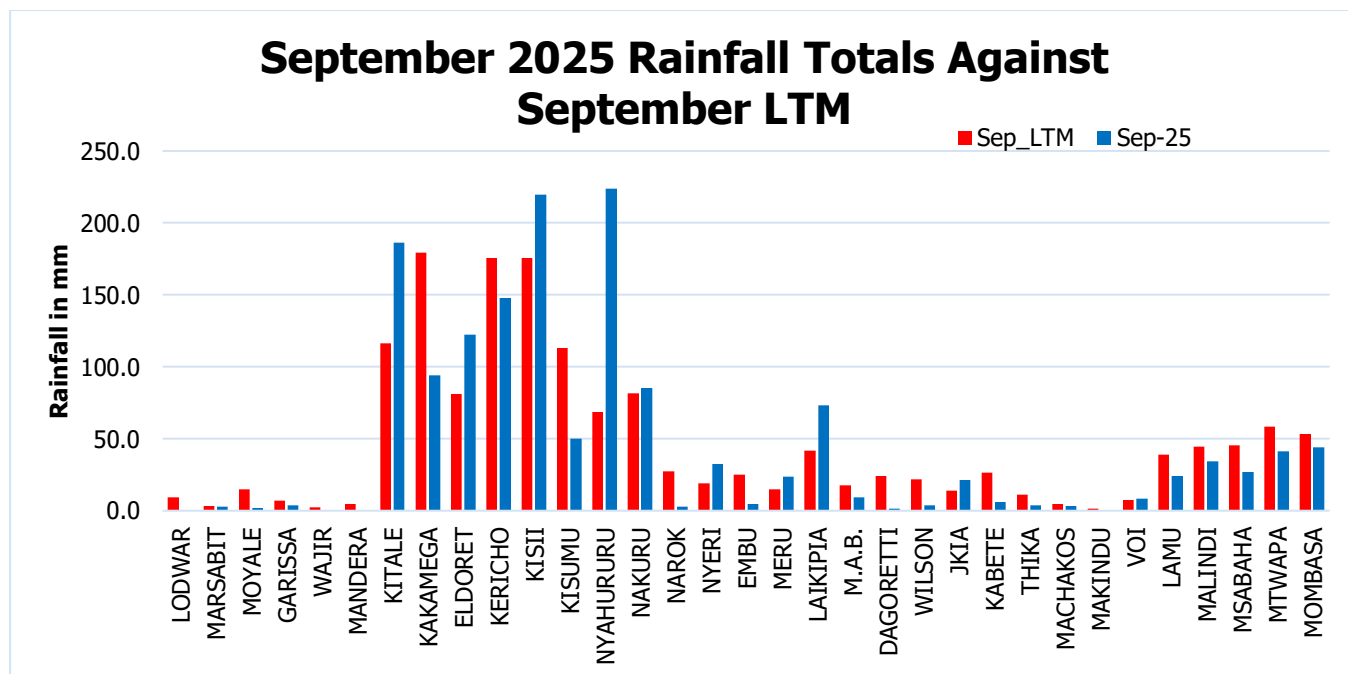


Figure 2a: September 2025 Rainfall Totals Against September LTM

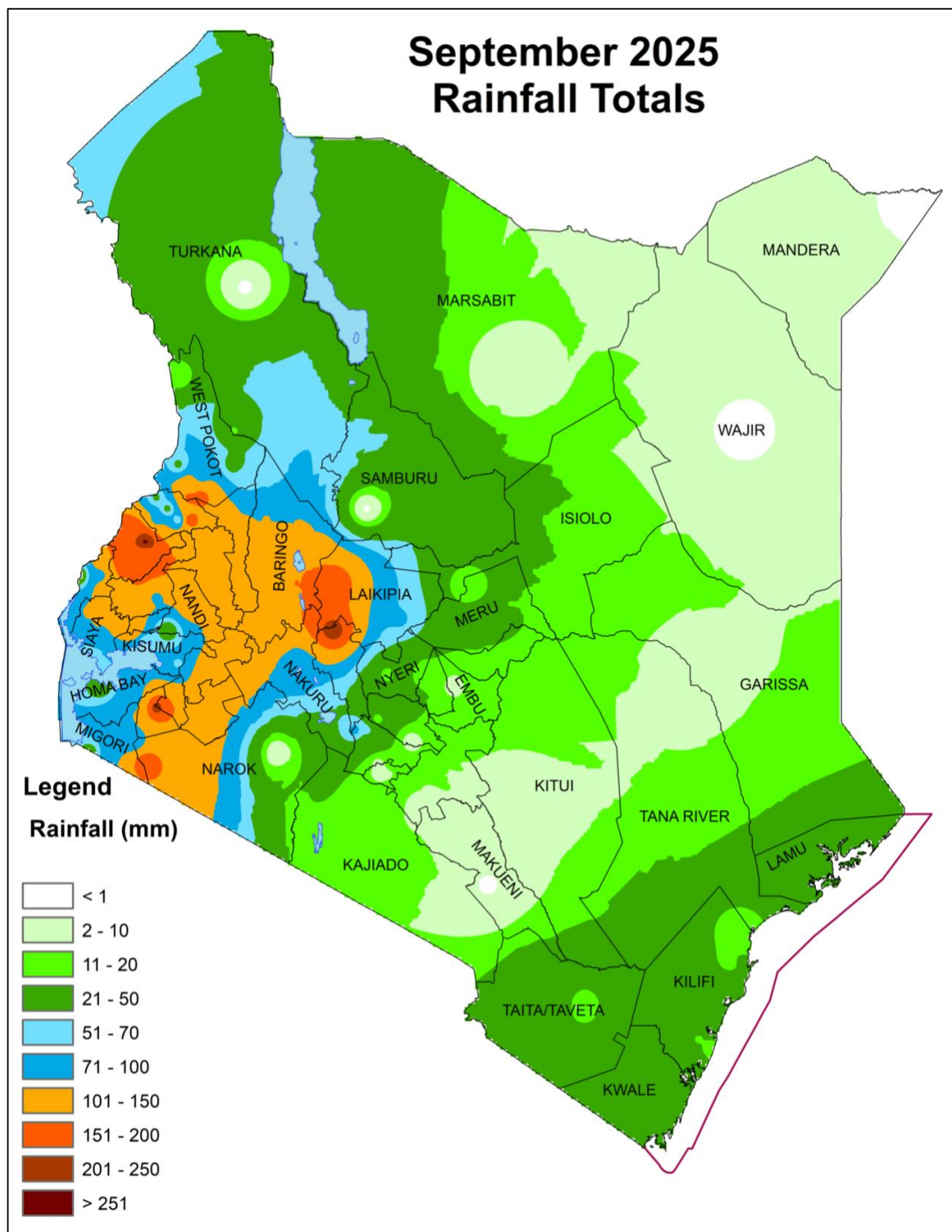


Figure 2b: September 2025 Rainfall Totals

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3.2 Temperature Review

Maximum temperatures were warmer than normal over several parts of the country except in Kitale, Eldoret Kisumu and Kericho where temperatures were cooler than the September LTM. The highest monthly mean temperature, 37.1⁰C was recorded in Mandera.

Minimum temperature was also warmer than average over most parts of the country except in Voi where temperature was near the September LTM and in Jomo Kenyatta International Airport where temperature was slightly cooler than normal. The lowest monthly minimum temperature of 7.4⁰C was recorded in Nyahururu station which also recorded temperatures less than 10⁰C for most of the days except on 12th September when the temperature was 10.1⁰C.

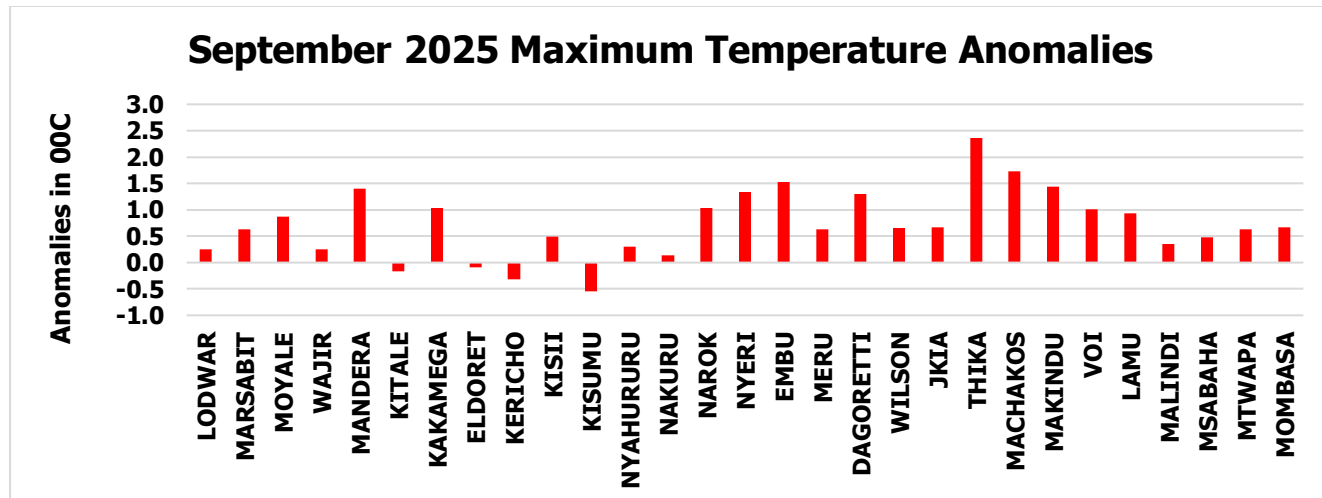


Fig. 3a: September 2025 Maximum Temperature Anomalies

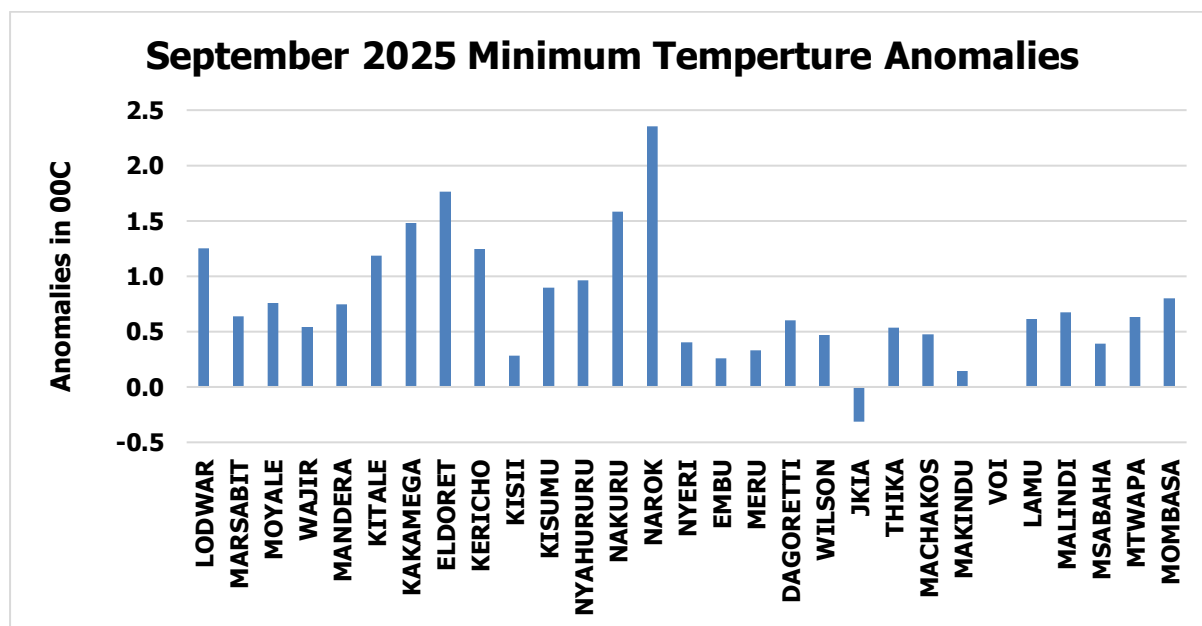


Fig 3b. September 2025 Minimum Temperature Anomalies

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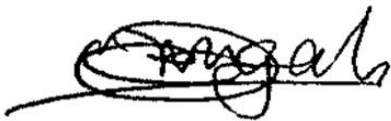
3.3 Experienced Impacts

3.3.1 Agriculture and Food Security

Two camels died in Silale, Tiaty constituency after they were swept by flash floods along the Akwichatis-Naudo river following heavy rains experienced in the area on 3rd September 2025

Crops were destroyed in Jua Kali area, Nyandarua county after heavy rains accompanied by hailstorms was experienced on 12th September 2025.

NB: This outlook should be used together with the 24-hour, 5-day, 7-day, monthly, special forecasts and regular updates/advisories issued by this Department as well as Weekly and Monthly County forecasts developed and availed by County Meteorological Offices.



Charles Mugah

For Ag. Director of Kenya Meteorological Services