

MINISTRY OF ENVIRONMENT, CLIMATE CHANGE AND FORESTRY

STATE DEPARTMENT FOR ENVIRONMENT AND CLIMATE CHANGE

KENYA METEOROLOGICAL DEPARTMENT

TECHNICAL STATEMENT FROM THE ELEVENTH NATIONAL CLIMATE OUTLOOK FORUM (#NCOF11)

Ref No: KMD/FCST/06-2025/SR/02 Issue Date: 05/09/2025

1.0 RAINFALL OUTLOOK FOR THE OCTOBER-NOVEMBER-DECEMBER (OND) 2025 "SHORT RAINS" SEASON.

The "Short Rains" October-November-December (OND) season constitutes an important rainfall season in Kenya, particularly in the Central and Eastern regions of the country as shown in Figure 1a and b.

The Climate Outlook for the October–December 2025 "Short Rains" season indicates that most of the Northeast, Southeastern lowlands and Coastal region are expected to receive below average rainfall. The South and Central Rift Valley, most of the Lake Victoria region, parts of the Highlands East of the Rift Valley including Nairobi county, some parts over Southeastern lowlands (parts of Kajiado) and western parts of Samburu and Marsabit counties are expected to receive near to below average rainfall. The Highlands West of the Rift Valley and parts of Northwestern are likely to receive near to above average rainfall. (**Figure 2**)

The main driver of this outlook is the **developing negative Indian Ocean Dipole (IOD)**, which is expected to persist from September to November 2025 before returning to neutral conditions in December. A negative IOD typically brings drier than normal conditions over **East Africa**, potentially suppressing rainfall during the short rains.

According to the most recent update issued on 2nd September 2025 by the World Meteorological Organization (WMO), there is about a 55% chance of La Niña developing during September-November 2025, rising to 60% in October-December 2025. The Kenya Meteorological Department (KMD) will continue to closely monitor ENSO conditions.

The distribution of rainfall is expected to be **poor**, with **prolonged dry spells** and **isolated storms** in some areas.

In Figure 2, the areas projected to receive near-average rainfall with a tendency toward above-average amounts are depicted in light green. Regions expected to receive near-average rainfall with a tendency toward below-average amounts are shown in vellow. Meanwhile, the areas forecasted to experience below-average (depressed) rainfall are highlighted in orange.

OND 2025 Seasonal Rainfall Forecast All correspondence should be addressed to the Director of Meteorological Services

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2.0 DETAILED OUTLOOK FOR PARTICULAR REGIONS

The specific outlook for October-November-December (OND) 2025 is as follows:

- **2.1** The Highlands West of the Rift Valley (Kisii, Nyamira, Trans Nzoia, Uasin Gishu, West Pokot, Elgeyo Marakwet, Nandi, Kericho, Bomet, Kakamega, Vihiga, Bungoma and the western parts of Baringo): The expected rainfall is likely to be near to slightly above the long-term average amounts for the season. The distribution of rainfall is likely to be fair to good, with occasional storms expected.
- **2.1 The Lake Victoria Basin:** (Siaya, Kisumu, Homa Bay, Migori and Southern parts of Busia): The expected rainfall is likely to be near to slightly below the long-term average amounts for the season except in northern parts of **Busia** where near to slightly above average rainfall is expected. The distribution of rainfall is likely to be poor to fair, with occasional storms expected.
- **2.1** The Central and South Rift Valley: (Nakuru, Narok and parts of Baringo): The expected rainfall is likely to be near to slightly below the long-term average amounts for the season. The distribution of rainfall is likely to be poor to fair, with occasional storms expected.
- **2.2 Northwestern (Turkana County)**: These areas are likely to receive occasional rainfall that is expected to be near to slightly above the long-term average amounts for the season. However, prolonged dry spells are likely. The rainfall is expected to be poorly distributed both spatially and temporally.
- **2.3 Northwestern (Samburu county):** These areas are likely to receive occasional rainfall that is expected to be near to slightly below the long-term average amounts for the season over western Samburu and below average over the rest of the county. Prolonged dry spells are likely and the rainfall is expected to be poorly distributed both spatially and temporally.
- **2.4 Highlands East of the Rift Valley Counties (including Nairobi area)**: (Nairobi, Nyeri, Kirinyaga, Murang'a, Kiambu, Meru, Nyandarua, Embu, Tharaka Nithi): These counties are likely to experience rainfall with some breaks (dry spells) during the season. The cumulative rainfall amounts are anticipated to be near to below the long-term average for the season in Nairobi, Kiambu, Nyandarua, parts of Murang'a and Nyeri and below average over the remaining parts. The rainfall distribution is likely to be poor to fair both in time and space with a possibility of occasional storms.
- **2.5 South-eastern Lowlands Counties** (Kitui, Makueni, Taita Taveta, Southeastern Kajiado, Tana River and central and eastern Machakos): These counties are expected to experience intermittent rainfall throughout the season. However, the total rainfall amounts are likely to be below the long-term average for the season. Prolonged dry spells are also likely and the rainfall is expected to be poorly distributed both in space and time.
- **2.6 North-Eastern Counties** (Mandera, Wajir, Garissa, Isiolo and eastern parts of Marsabit): These areas are expected to experience occasional rainfall during the season. However, the total rainfall amounts are likely to be below the long-term average for the season. Prolonged dry spells are also likely, with the rainfall expected to be poorly distributed both spatially and temporally.
- **2.7 The Coastal Counties** (Mombasa, Kilifi, Lamu, Kwale and Coastal Tanariver): <u>These</u> counties are expected to receive rainfall with intermittent breaks during the season. However, the total amounts are likely to be **below the long-term seasonal average**. Prolonged dry spells and occasional storms are also likely, with the rainfall expected to be **poorly**

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distributed both in time and space.

3. EXPECTED DISTRIBUTION OF THE OND RAINFALL, ONSET AND CESSATION DATES

3.1 Distribution

The predicted onsets, cessations, and distribution of rainfall were derived from dynamical models and statistical analysis of the past year, which showed similar characteristics to the current year, and are as indicated in Table 1.

The analogue (similar) year chosen was 2021. The rainfall outcomes for this analogue year are for reference only and should not be interpreted as part of the forecast. Rather, they provide a sense of the rainfall outcomes that can occur given broadly similar global climate conditions.

The OND 2025 rainfall is expected to be poorly distributed, both in time and space over several parts of the country. The western sector is expected to have a fair to good distribution while the central sector is expected to have a poor to fair distribution. The rest of the country is expected to have a poor distribution. This season will be marked by prolonged dry spells and occasional isolated storms, even in regions where **depressed rainfall (below average)** is forecasted.

3.2 Onset and Cessation

The expected onset and cessation dates for the Counties are as indicated in **Table 1** and **Figure 3**:

Table 1: Expected Onset and Cessation for the OND 2025 Rains

Counties	ONSET	CESSATION	DISTRIBUTION
Western Counties (Busia, Vihiga, Kakamega, Bungoma); Nyanza Counties (Kisumu, Siaya, Homa Bay, Nyamira, Migori, Kisii); Counties in the Rift Valley; (Kericho, West Pokot, Nandi, Bomet, Uasin Gishu, Trans Nzoia, Nakuru, Elgeyo Marakwet, Baringo)	Continues from	3 rd to 4 th week of December, 2025.	Fair to Good
Counties in Central Kenya (Kirinyaga, Nyeri, Murang'a, Nyandarua, Laikipia Kiambu, Meru, Embu, Tharaka Nithi); Nairobi;	3 rd to 4 th week of October, 2025.	3 rd to 4 th week of December, 2025.	Poor to Fair
Counties in North Western (Turkana, Samburu)	Undefined with occasional rainfall spreading from September	Undefined	Poor
Coastal Strip (Kwale, Mombasa, Kilifi, Lamu, Coastal part of Tana River)	3rd to 4th week of November, 2025 with occasional	3 rd to 4 th week December.	Poor

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	rainfall in October		
South Rift Valley: (Narok)	4 th week of October to 1 st week of November, 2025. (with occasional rainfall spreading from Sep)	Rainfall continues into January 2026	Poor to fair
Northeastern Counties (Mandera, Wajir, Garissa, Marsabit, Isiolo)	Undefined	Undefined	Poor
Southeastern lowlands (Machakos, Makueni, Kitui, Taita Taveta, Kajiado, Tana River)	3rd to 4th week of November, 2025.	3rd to 4th week of December.	Poor

NB: Updates on the onset, distribution, and cessation of rainfall will be provided regularly through weekly, monthly forecasts as the season approaches. These updates will offer detailed insights into any changes and developments in rainfall patterns to keep stakeholders informed and support timely decision-making.

4 Standardized Precipitation Index (SPI) forecast

The SPI forecast for the October–November–December (OND) 2025 season indicates a heightened risk of below-average rainfall across much of Kenya. The probability of experiencing mild drought conditions (SPI < -0.09) is projected at 55–90% compared to the normal climatological chance of 46%, with the highest risk over the eastern and central regions. The likelihood of severe drought conditions (SPI < -0.98) is also elevated at 20–55% compared to the usual 16%, particularly in the eastern sector. These projections suggest that many areas are likely to slide into the mild drought (alert) phase, with a significant possibility of worsening into severe drought (alarm) phase as the season progresses.

The forecast probabilities for the two scenarios are shown in **figures 4a** and **b**.

5 OND 2025 Temperature Outlook

The temperature outlook shows that most parts of the country are expected to be warmer than average except a few areas over the western sector where temperature is expected to be near to cooler than average. The Central and eastern parts of the country are expected to have higher probabilities for warmer than average temperature as illustrated **in figure 5.**

POTENTIAL IMPACTS OF THE OND 2025 RAINS 6

The expected rainfall during the months of October to December rains season is expected to have both negative and positive impacts across various sectors. The most likely impacts on various sectors will be highlighted by the sector leads.

NB: There are intraseasonal drivers of variability, such as tropical cyclones and the Madden-Julian Oscillation (MJO), that are only predictable at shorter lead times. It is therefore imperative to stay up to date with subsequent forecasts and updates.

This outlook should be used together with the 24-hour, 5-day, 7day, 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: DIRECTOR OF KENYA METEOROLOGICAL DEPARTMENT

7. Annexes

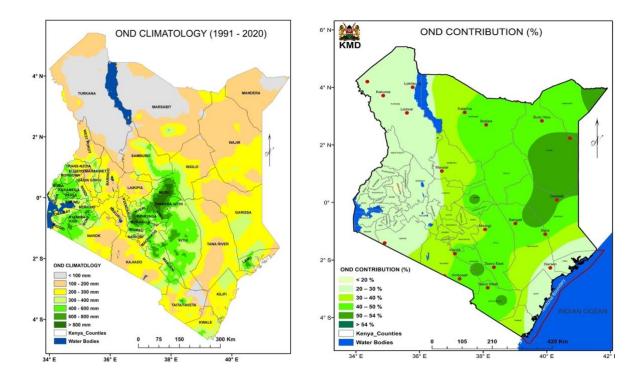


Figure 1a: October to December Rainfall Climatology

Figure 1b: OND contribution to Annual Rainfall

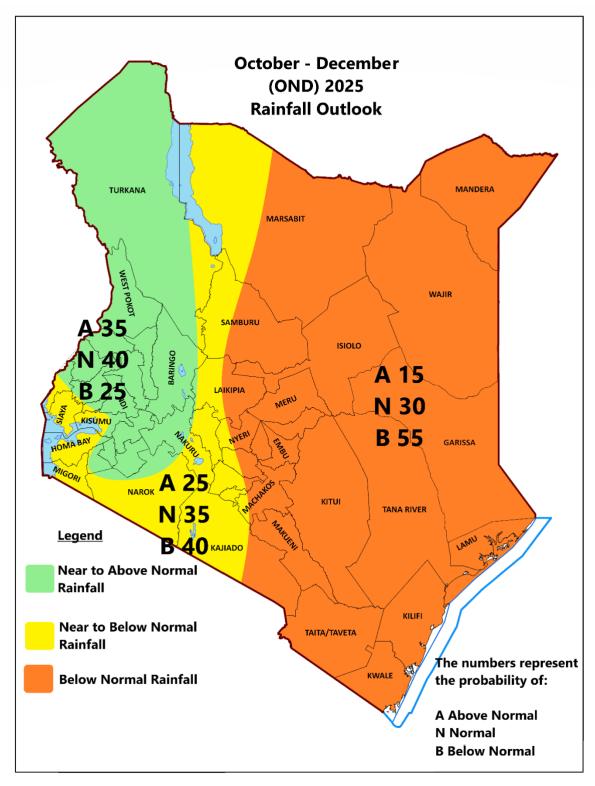


Figure 2: OND 2025 Rainfall Outlook

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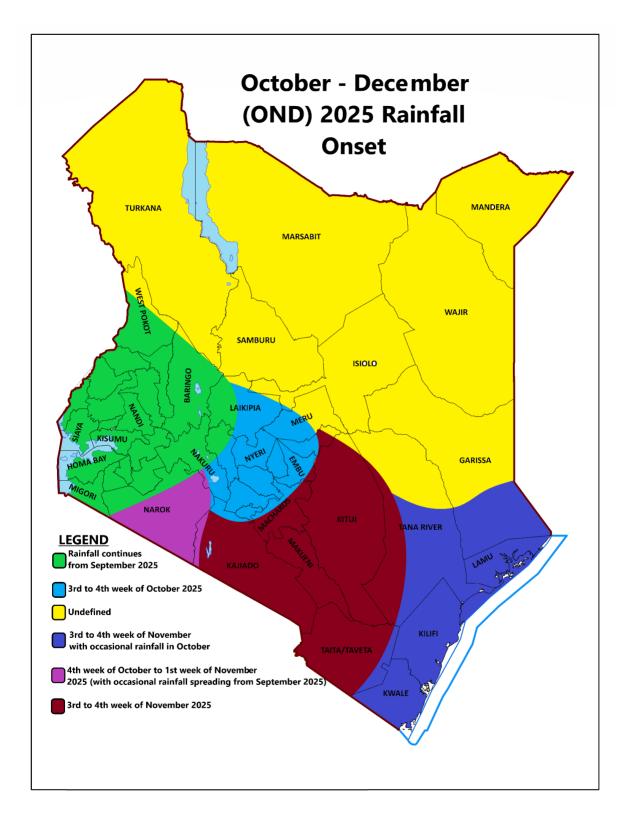


Figure 3: OND 2025 Rainfall Onset

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Forecast probabilities of SPI, Kenya: OND 2025 - initialised: Aug number of models = 1 : CDS025_pr

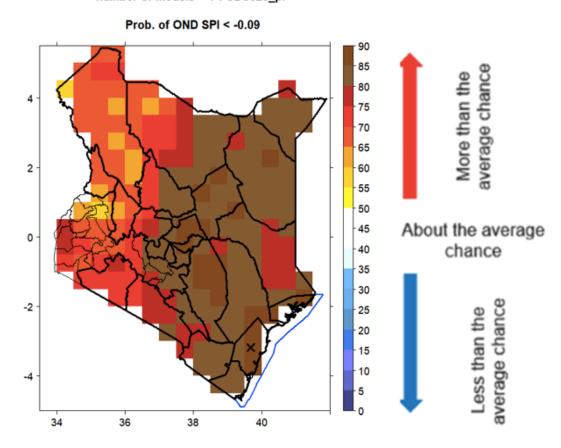


Figure 4a: Forecast probability of the country likely to get into the alert phase

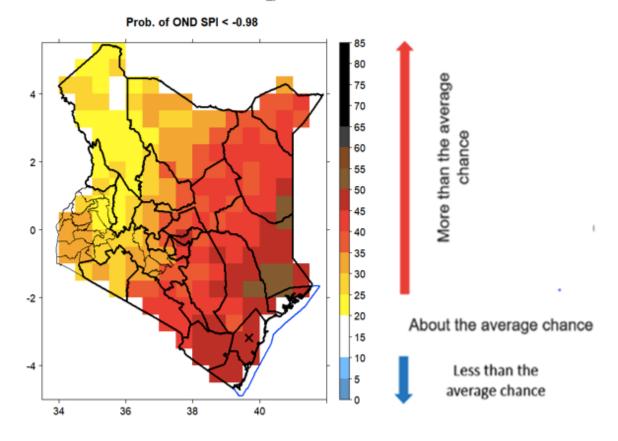


Figure 4b: Forecast probability of the country likely to get into the alarm worsening phase

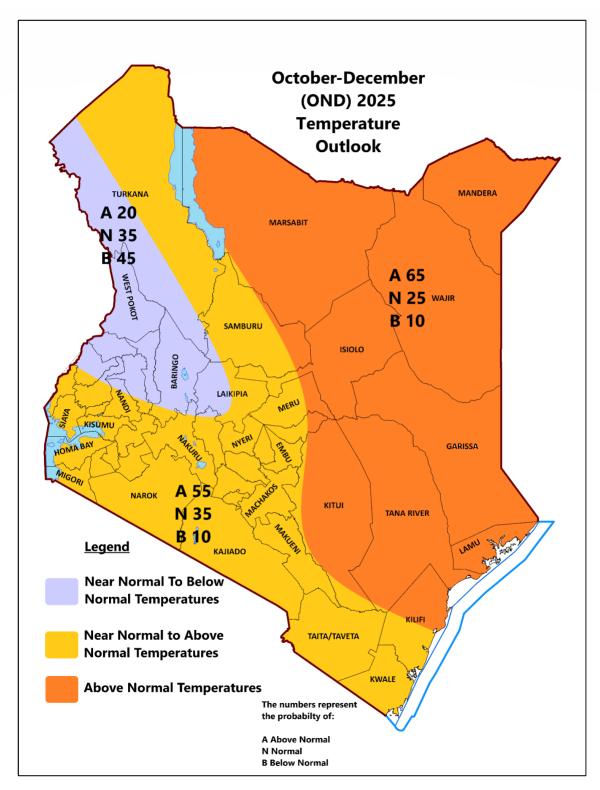


Figure 5: OND 2025 Temperature Outlook

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