



REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT, CLIMATE CHANGE AND FORESTRY

**KENYA METEOROLOGICAL DEPARTMENT**

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## 1. FORECAST FOR OCTOBER NOVEMBER DECEMBER 2023 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. The highest seasonal rainfall amounts (greater than 700mm) are normally recorded over the Central highlands. **See Figure 1a.**

During OND 2023, it is expected that most parts of the country will experience enhanced (above average) rainfall that will be fairly distributed in some areas and well distributed in others in both time and space. The forecast also indicates a high probability that some counties in the Northeastern region are likely to experience above-average rainfall as shown in the **Figure 1b**. This will be driven by warmer than average Sea Surface Temperatures (SSTs) over the Central and Eastern Equatorial Pacific Ocean indicating the presence of El Nino conditions. According to most of the global climate models, El Nino conditions are likely to persist throughout the OND season.

Additionally, the warmer than average SSTs in the Western Equatorial Indian Ocean (adjacent to the East African coastline), coupled with cooler than average SSTs over the Eastern Equatorial Indian Ocean (neighboring Australia) constitutes a positive Indian Ocean Dipole (IOD) that is favorable for enhanced rainfall over most of East Africa. Throughout the season, it is anticipated that most areas will have a relatively fair to good distribution of rainfall in both time and space. Occasional storms are likely to occur over several parts of the country during the season.

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

**1.1.2 The Lake Victoria Basin, Highlands West of the Rift Valley and Central and South Rift Valley: (Siaya, Kisumu, Homa Bay, Migori, Kisii, Nyamira, Baringo, Uasin Gishu, West Pokot, Elgeyo Marakwet, Nandi, Kericho, Bungoma, Kakamega, Busia, Trans Nzoia, West Pokot, Vihiga, Laikipia (Laikipia West), Nakuru and Narok Counties):** In these areas, rainfall is expected to continue throughout the season. The expected rainfall is likely to be above the long-term average amounts for the season (enhanced rainfall). The peak of the season is expected in November. The expected rainfall is likely to be poorly distributed in October, and well distributed in November and December.

**1.1.2 Northwestern Counties (Turkana and Samburu)** are likely to experience occasional rainfall during the season. The expected rainfall amount is likely to be above the long-term average for the season (enhanced rainfall). The expected rainfall is likely to be poorly distributed in October, and fairly distributed in November and December.

**1.1.3 Highlands East of the Rift Valley Counties (including Nairobi area): (Nyandarua, Nyeri, Kirinyaga, Murang'a, Kiambu, Laikipia East, Meru, Embu, Tharaka Nithi and Nairobi):** These counties are likely to experience rainfall throughout the season. Rainfall amounts are expected to be above the season's long-term average. Rainfall is expected to be well distributed in time and space.

**1.1.4 South-eastern Lowlands Counties (Kitui, Makueni, Machakos, Taita Taveta, and Kajiado):** These counties are expected to experience rainfall during the season. The expected rainfall amount is likely to be above the long-term average for the season. The rainfall is likely to be well distributed in both time and space.

**1.1.5 North-Eastern Counties (Mandera, Marsabit, Wajir, Garissa and Isiolo):** These areas are expected to experience occasional rainfall during the season. The expected rainfall amount is likely to be above the long-term average for the season, and it is likely to be fairly distributed in both time and space. Parts of the Northeast (Wajir and Mandera) are likely to experience highly enhanced rainfall (above the long-term average).

**1.1.6 The Coastal Counties (Mombasa, Tana River, Kilifi, Lamu and Kwale):** These counties are expected to receive rainfall during the season. The expected rainfall is likely to be above the long-term average amounts for the season. It is likely to be well distributed in both time and space.

## 2. EXPECTED DISTRIBUTION OF THE OND 2023 RAINFALL, ONSET AND CESSATION DATES

### 2.1 Distribution

The predicted onsets, cessations and distribution of rainfall were derived from 7 Global Circulation Model (GCM) runs as well as statistical analysis of past years which showed similar characteristics to the current year and are as indicated in Table 1. The analogue (similar) years chosen are **2006 and 1997**. The expected OND 2023 rainfall is likely well distributed. However, in some few areas (Turkana and parts of Samburu county in the Northwest), the expected rainfall is likely to be poorly to fairly distributed in both time and space. Several parts of the country are likely to experience rainfall into January 2024.

### 2.2 Onset and Cessation Dates

The forecast indicates that several parts of the country are likely to have an early onset and a late cessation. This might be especially pronounced in the Eastern Sector. Several parts of the Highlands West of the Rift Valley, the Lake Victoria Basin, the Central, and parts of South Rift Valley will continue experiencing occasional rainfall in September. The expected onset and cessation dates for the Counties are as indicated in Table 1.

**Table 1: Expected Onset and Cessation for the OND 2023 Rains**

	Region	Expected Onset	Expected Cessation	Distribution
1	Northwest (Turkana, Samburu)	Third to fourth week of October	Fourth week of December	Poor to Fair
2	Northeast (Marsabit, Mandera, Wajir, Isiolo, Garissa, Parts of Tana River)	Fourth week of September to 1st week of October	Rainfall is likely to continue in January	Fair
3	Highlands West of the Rift Valley/Lake Victoria Basin (Siaya, Kisumu, Homa Bay, Migori, Kisii, Nyamira, parts of Baringo, Uasin Gishu, West Pokot, Elgeyo Marakwet, Nandi, parts of Bomet, Kericho, Bungoma, Kakamega, Busia, Trans Nzoia, West Pokot, Vihiga)	Rainfall to continue from September	Rainfall is likely to continue in January	Poor in September and October, good in November and December
4	Central and Southern Rift Valley (Nakuru, Narok, Laikipia, parts of Bomet and Baringo)	Second to third week of October (Occasional rainfall may be	Rainfall is likely to continue in January	Good

		experienced in September)		
5	Highlands East of the Rift Valley including Nairobi (Nyandarua, Nyeri, Kirinyaga, Murang'a, Kiambu, Meru, Embu, Tharaka Nithi and Nairobi)	First to second week of October	Rainfall is likely to continue in January	Good
7	Southeast (Kitui, Makueni, Machakos, Taita Taveta, and Kajiado)	Second to third week of October with a likelihood of a dry spell after the onset (Parts of Taita Taveta may experience rains in the fourth week of September)	Rainfall is likely to continue in January	Good
8	Coast (Mombasa, Coastal parts of Tana River, Kilifi, Lamu and Kwale)	Fourth week of September to first week of October	Rainfall is likely to continue in January	Good

### 3. POTENTIAL IMPACTS OF THE OND 2023 RAINS

The forecasted enhanced rainfall during the months of October to December short 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.

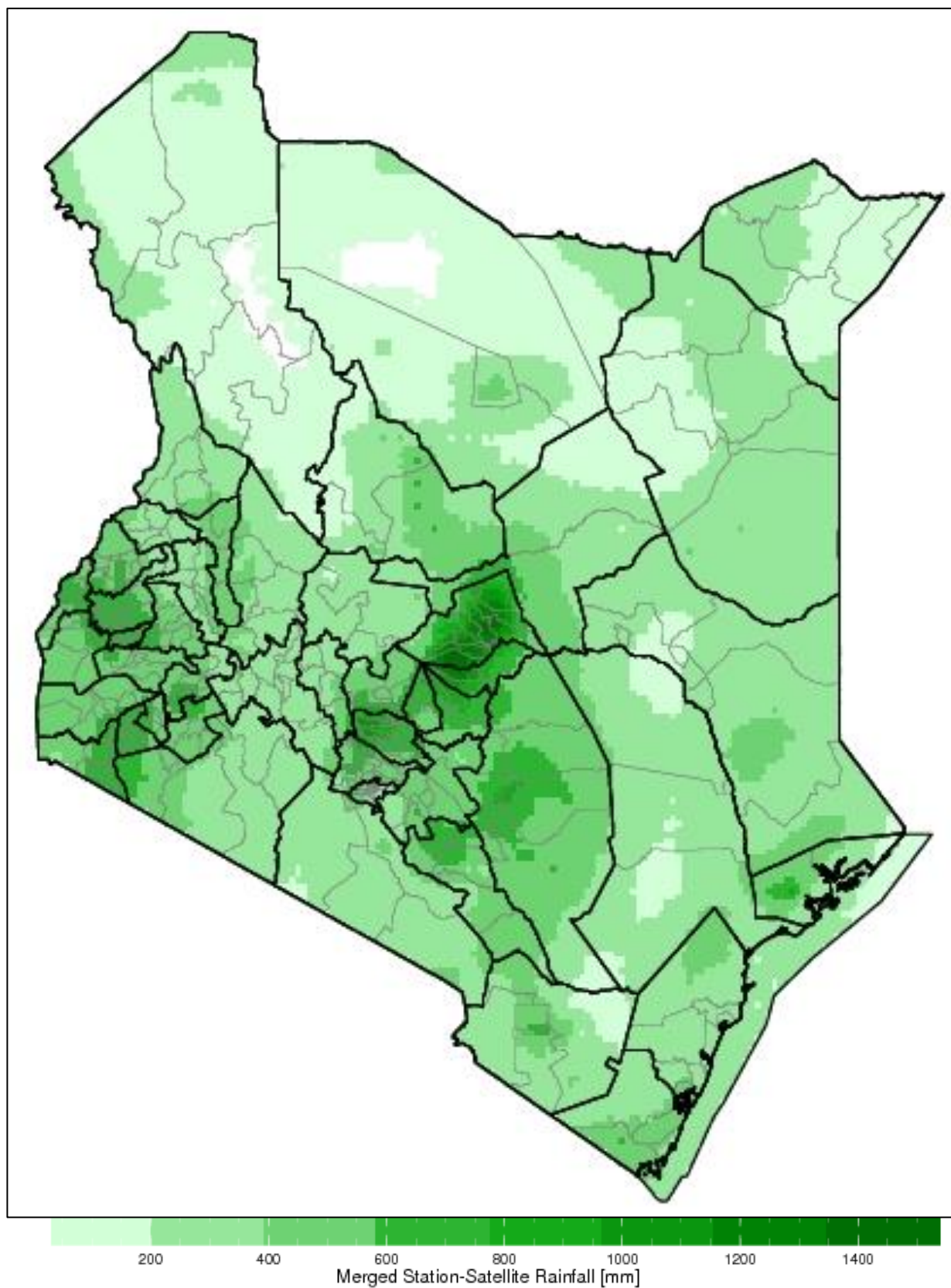
***NB: This outlook should be used together with the 24-hour, 5-day, 7day, monthly, special forecasts and regular updates/advisories issued by this Department as well as Weekly and Monthly County forecasts developed and availed by County Meteorological Offices.***



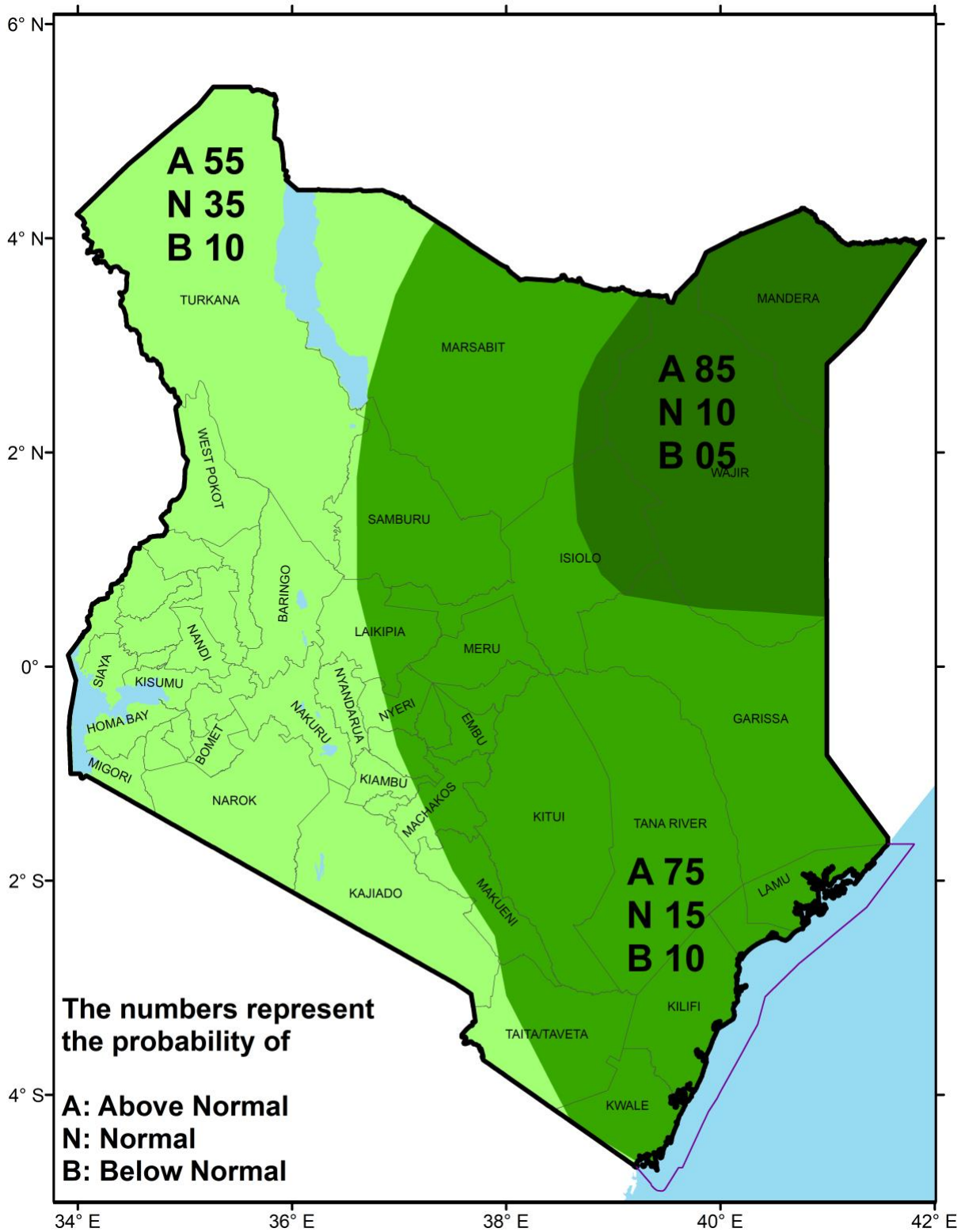
Dr. David Gikungu

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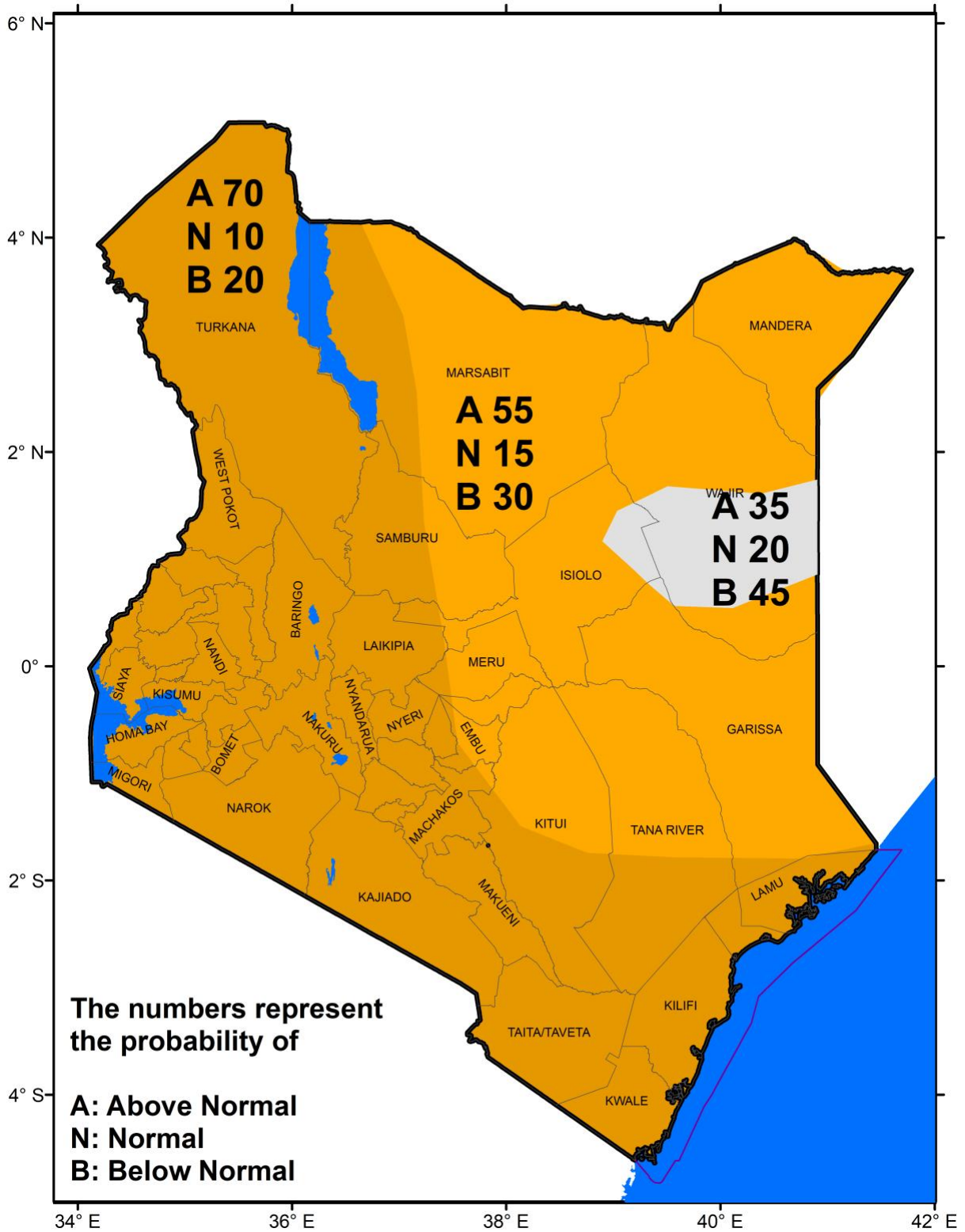
## Annexes



**Figure 1a: OND Rainfall Climatology**



**Figure 1b: OND 2023 Rainfall Forecast**



**Figure 2: OND 2023 Temperature Forecast**