REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT, CLIMATE CHANGE AND FORESTRY

STATE DEPARTMENT FOR ENVIRONMENT AND CLIMATE CHANGE

KENYA METEOROLOGICAL DEPARTMENT

REF. NO: KMD/FCST/4-2025/MO/03 **Date: 28th February 2025**

CLIMATE OUTLOOK FOR MARCH 2025 AND REVIEW OF FEBRUARY 2025

1 HIGHLIGHTS

1.1 The Climate Outlook for March 2025

The outlook for March 2025 indicates that near to above average rainfall is expected over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Central and Southern Rift Valley, the Highlands East of the Rift Valley (including Nairobi County), the Southeastern lowlands, and isolated areas over Northeast and Northwest. Near to Below average rainfall is expected over the Coast, most of the Northeast and Northwestern regions. Temperature is expected to be warmer than average over the entire country with higher probabilities over the Northeast, Northwest, Highlands East of the Rift Valley including Nairobi County and parts of the Coast and Southeastern lowlands.

1.2 February 2025 rainfall and temperature review

Mainly sunny, dry and hot weather conditions prevailed over most parts of the country during the month. However, isolated areas over the Lake Victoria Basin, Highlands West of the Rift Valley, Central and South Rift Valley, Highlands East of the Rift Valley including Nairobi County and the South-eastern lowlands received a day or two of rainfall that was below the long term mean for February. Garissa is the only station that recorded above average rainfall. Temperatures were warmer than average over most parts of the country with some stations over the North recording high daytime temperatures of up to 40^0C.

2 THE FORECAST FOR MARCH 2025

The rainfall forecast for March 2025 is based on regression of Sea Surface Temperature Anomalies (SSTAs) on the March rainfall as well as Sea Surface Temperature (SST) gradients. One of the features of interest is the Madden Julianne Oscillation (MJO), a band of convective clouds that moves across the tropical oceans and brings rainfall to the country when it is in phases two, three and part of phase four. It is expected to be in phase two from the second week of March and is likely to lead to an earlier than anticipated onset over some parts of the country.

2.1 The Rainfall Forecast for March 2025

The forecast indicates that near to above average rainfall is expected over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Central and Southern Rift Valley, the Highlands East of the Rift Valley (including Nairobi County), the Southeastern lowlands, and isolated areas over Northeast and Northwest. Near to Below average rainfall is expected over the Coastal region, most of the Northeastern and Northwestern region*s*. **Figure 1** depicts the expected rainfall pattern in March 2025.

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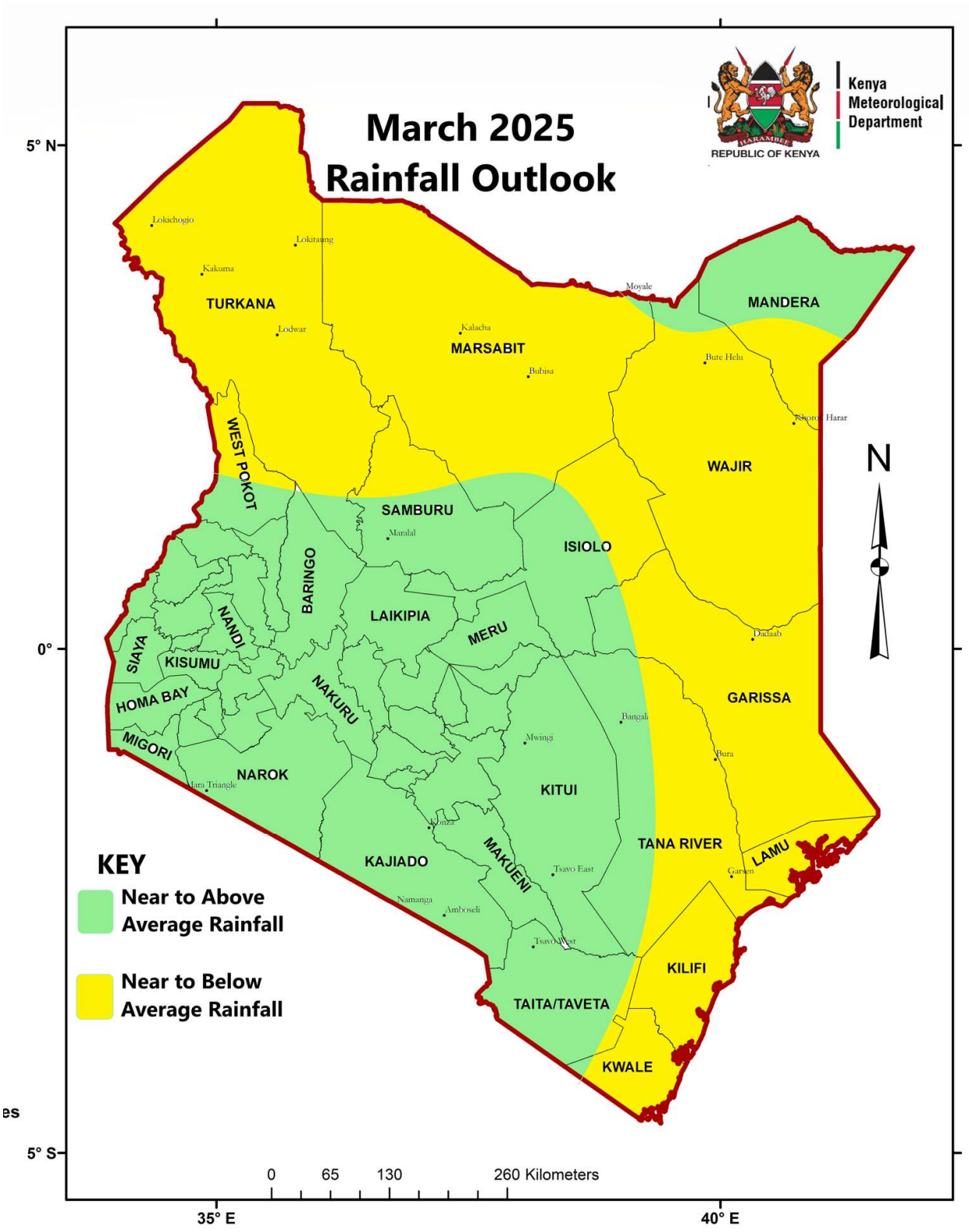

Figure 1: March 2025 Rainfall Outlook

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2.1.1 Specific Outlook for Individual Areas

2.1.1.1 The Lake Victoria Basin, the Highlands West of the Rift Valley and the Central and South Rift Valley (Siaya, Kisumu, Homa Bay, Migori, Kisii, Nyamira, Trans Nzoia, Baringo, Uasin Gishu, Elgeyo Marakwet, West Pokot, Nandi, Laikipia, Nakuru, Narok, Kericho, Bomet, Kakamega, Vihiga, Bungoma and Busia):

These counties are likely to experience rainfall during the month of March. The expected rainfall amounts are likely to be near to above the long-term average for the month. The onset of the long-rains season is expected from the second to third week of March.

2.1.1.2 North-Western Region (Turkana and Samburu Counties):

Sunny and dry conditions are expected, although occasional rainfall is likely over a few areas from the second to third week of the month followed by a dry spell. The total rainfall amounts are likely to be near to below the March LTM although the southern parts of Samburu may receive near to above average rainfall. The onset of the long-rains season is expected from the first to second week of April.

2.1.1.3 The Highlands East of the Rift Valley and Central Kenya (Nairobi, Nyandarua, Laikipia, Nyeri, Kirinyaga, Murang'a, Kiambu, Meru, Embu and Tharaka Nithi):

The expected rainfall amounts are likely to be near to above the long-term average for March. The onset of the long-rains season is expected from the second to third week of March, which may be followed by a short dry spell.

2.1.1.4 North-Eastern Region (Mandera, Marsabit, Wajir, Garissa and Isiolo Counties):

Sunny and dry conditions are expected during the month although occasional rainfall is likely over a few areas from the second to third weeks of the month followed by a likely dry spell. The expected rainfall amounts are likely to be near to below the long-term average for March although parts of Mandera and Wajir that border Ethiopia and the southern parts of Marsabit may receive near to above average rainfall. The onset of the long-rains season is expected from the first to second weeks of April.

2.1.1.5 South-Eastern Lowlands (Kajiado, Kitui, Makueni, Machakos and Taita Taveta):

The expected rainfall amounts in these counties are likely to be near to above the long-term average for March. The onset of the long-rains season is expected from the second to third week of March which may be followed by a short dry spell.

2.1.1.6 The Coastal Strip (Mombasa, Tana River, Kilifi, Lamu and Kwale):

These counties are likely to experience occasional rainfall from the second to third weeks of March, followed by a dry spell. The expected rainfall amounts are likely to be near to below the long-term average for March. The onset is expected during the fourth week of March to the

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first week of April over the South Coast and second to third week of April over the North coast.

2.2 Potential impacts

The following are the likely impacts of the expected climate conditions in March 2025.

2.2.1 Agriculture and Food Security

The near to above average rainfall expected over the high agricultural potential areas of the Highlands West and East of the Rift Valley, the Lake Victoria Basin, Central and South Rift Valley, and the Southeastern lowlands are conducive for agriculture. Farmers are advised to liaise with the relevant agricultural authorities for best agricultural practices.

2.2.2 Disaster Management Sector

There may be cases of flash and riverine floods in poorly drained urban centers and along rivers especially over the Highlands East of the Rift Valley, Nairobi, the Lake Victoria Basin, South Rift Valley, and the Southeastern lowlands. Residents are advised not to walk, drive or cycle in moving waters to avoid loss of life.

2.2.3 Water Resources Management and Energy

The rainfall expected during the month is likely to improve water availability both for human and animal consumption, especially in areas that are expected to receive near to above average rainfall. Users are encouraged to practice water harvesting to boost their water storage.

The hydro power generating dams, especially over the Highlands East of the Rift Valley, may register an improvement in the water levels.

2.2.4 Health

There may be an increase in vector borne diseases in areas that are expected to receive near to above average rainfall especially over the Lake Victoria Basin as stagnant water coupled with warmer than average temperatures provide breeding grounds for mosquitoes.

2.2.6 Transport and public safety

The rainfall expected during the month may lead to slippery roads and poor visibility especially on days with heavy rainfall. Motorists are therefore advised to be careful on the roads to minimize accidents.

3 CLIMATE REVIEW FOR FEBRUARY 2025

3.1 Rainfall Review

Sunny, dry and hot weather conditions prevailed over most parts of the country during the month. However, isolated areas over the Lake Victoria Basin, Highlands West of the Rift Valley, Central and South Rift Valley, Highlands East of the Rift Valley including Nairobi County and the South-eastern lowlands and parts of Northeast (Garissa) received some rainfall. This rainfall was below the February LTM except in Garissa where 6.8mm of rainfall was received against an LTM of 2.4mm. An analysis of rainfall up to 27th February shows that the highest monthly total rainfall was recorded in Migori County at Ulanda Girls School (76.9mm) and Miyare station (72.1mm). Other stations that recorded more than 50 mm are Bungoma Water

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supply (63.8mm), Khalaba ward (63.5mm), Kanduyi agricultural office (61.1mm) and Mabanga ATC (57.5mm). The remaining stations recorded less than 50 mm of rainfall.

Figure 2A shows the total amount of rainfall recorded in the February 2025**. Figure 2B** shows a comparison of the total rainfall amounts recorded in February 2025 **(Blue bars)** and the February LTMs (**Red bars**).

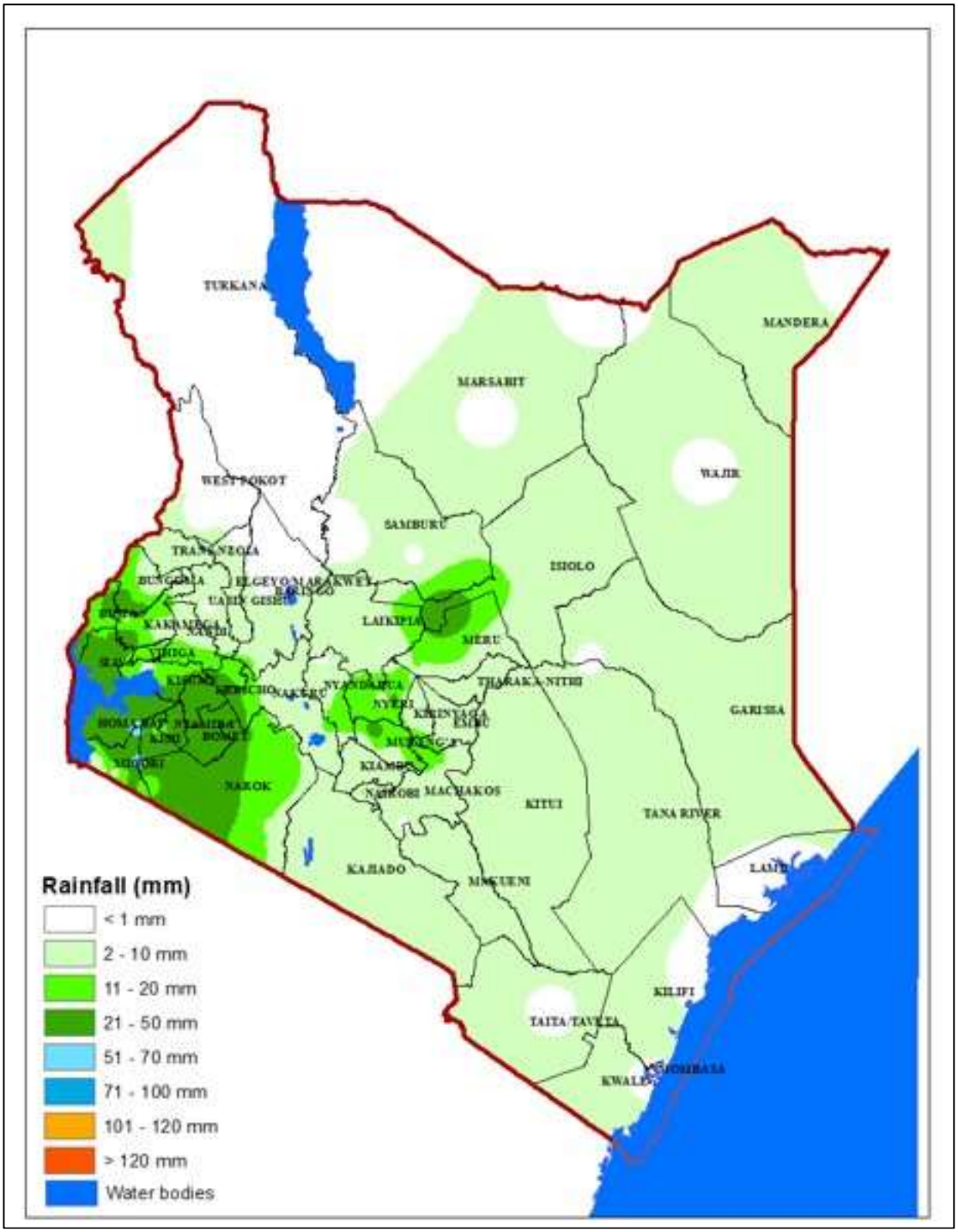

Figure 2a: February 2025 Rainfall Totals

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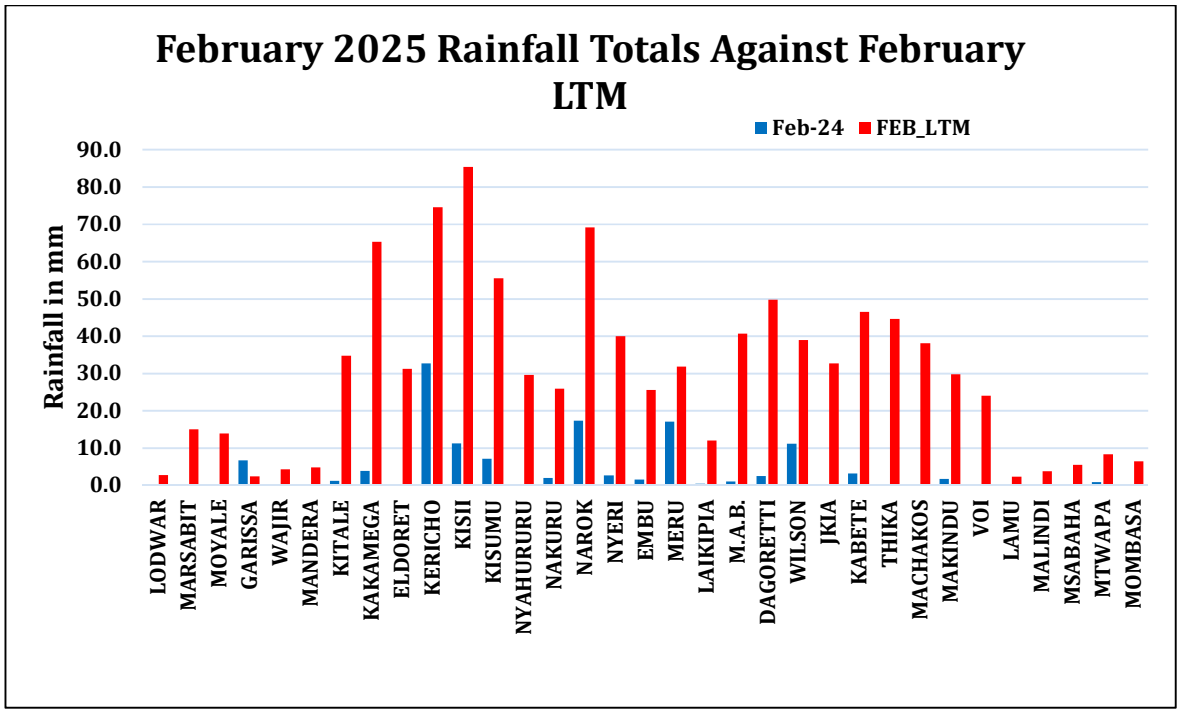

Figure 2b: February 2025 Rainfall Totals vs February LTM

3.2 Temperature Review

Most parts of the country recorded higher than average daytime (Maximum) temperatures during the month except Jomo Kenyatta International Airport (JKIA) and Voi where the temperature was slightly lower than average. Temperatures were exceptionally high over most parts of the country particularly during the last week of February, as shown in **Table 1**. Wajir Meteorological Station recorded the highest daily maximum temperature (41.1°C on 20th February 2025) as well as the highest monthly average temperature (38.4°C).

Minimum (night time) temperatures were also higher than average over most parts of the country except Lodwar, Kitale, Narok, Nyahururu and Nyeri where they were lower than the LTM. A few stations over the Highlands East and West of the Rift Valley, Central and South Rift Valley occasionally recorded minimum temperatures below 10°C. For instance, Narok recorded 6.6 °C on 22nd February, Laikipia Air Base (LAB) 7.0°C on 19th, Nyeri 7.0°C on 21st, Eldoret 7.9°C on 26th, Kericho 8.1°C on 18th while Nyahururu recorded less than 10°C throughout the month. The lowest daily minimum temperature (4.1°C) was recorded in Nyahururu on 21st February. This station also recorded the lowest monthly average minimum temperature (6.5°C).

Figures **3a** and **3b** show the anomalies for Maximum and Minimum temperatures respectively. Positive anomalies indicate that temperature was warmer than average while negative ones show cooler than average temperatures.

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Table 1: Days with exceptionally high temperatures

S/No	Station	LTM (0^0c)	Temperature (^{0}c)	Date
1	Wajir	37.3	41.1	20-2-2025
			40.5	27-02-2025
2	Mandera	37.3	39.8	23-02-2025
3	Lodwar	37.5	39.6	20-02-2025
				21-02-2025
4	Mombasa	32.9	37.5	26-2-2025
5	Makindu	31.3	35.6	20-2-2025
6	Kisumu	31.7	35.6	20-2-2025
7	Kakamega	30.1	34.2	20-2-2025
				21-2-2025
8	Thika	28.3	32.0	21-2-2025
9	Nyeri	27.3	31.3	20-2-2025
10	Narok	27.2	30.9	21-2-2025
11	Nakuru	28.7	30.8	27-2-2025
12	Machakos	27.7	30.7	27-2-2025
13	Wilson Airport	27.5	30.1	20-2-2025

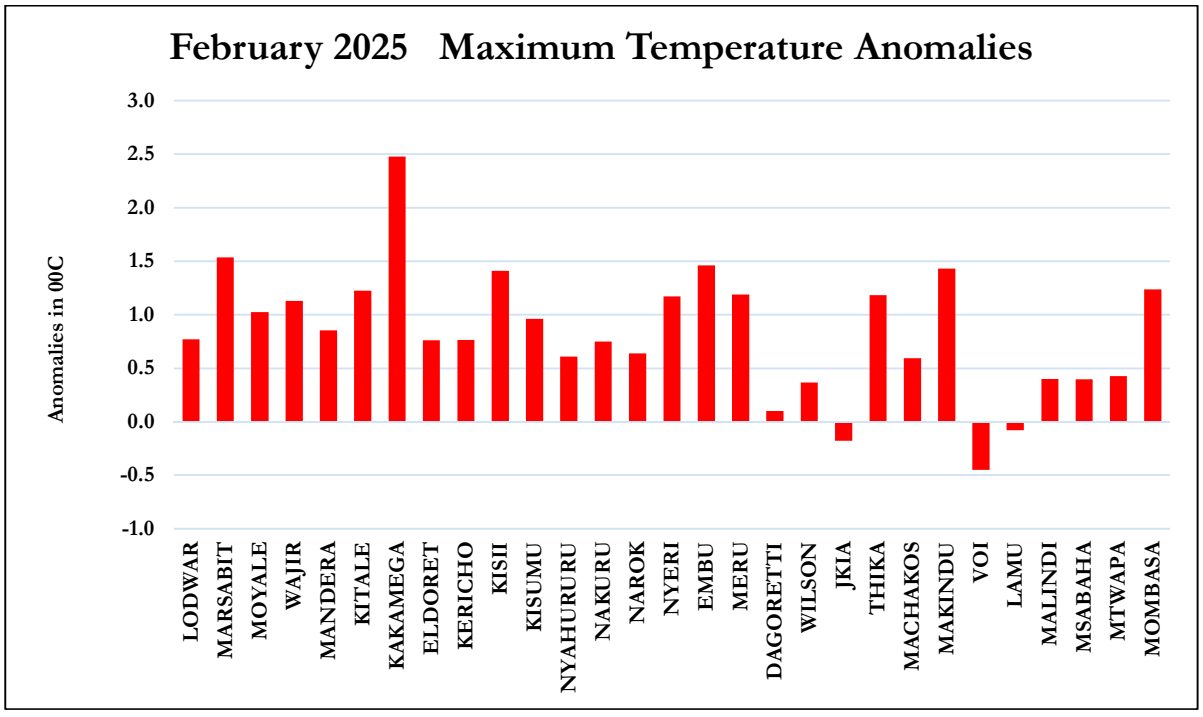

Figure 3a: Maximum Temperature Anomalies

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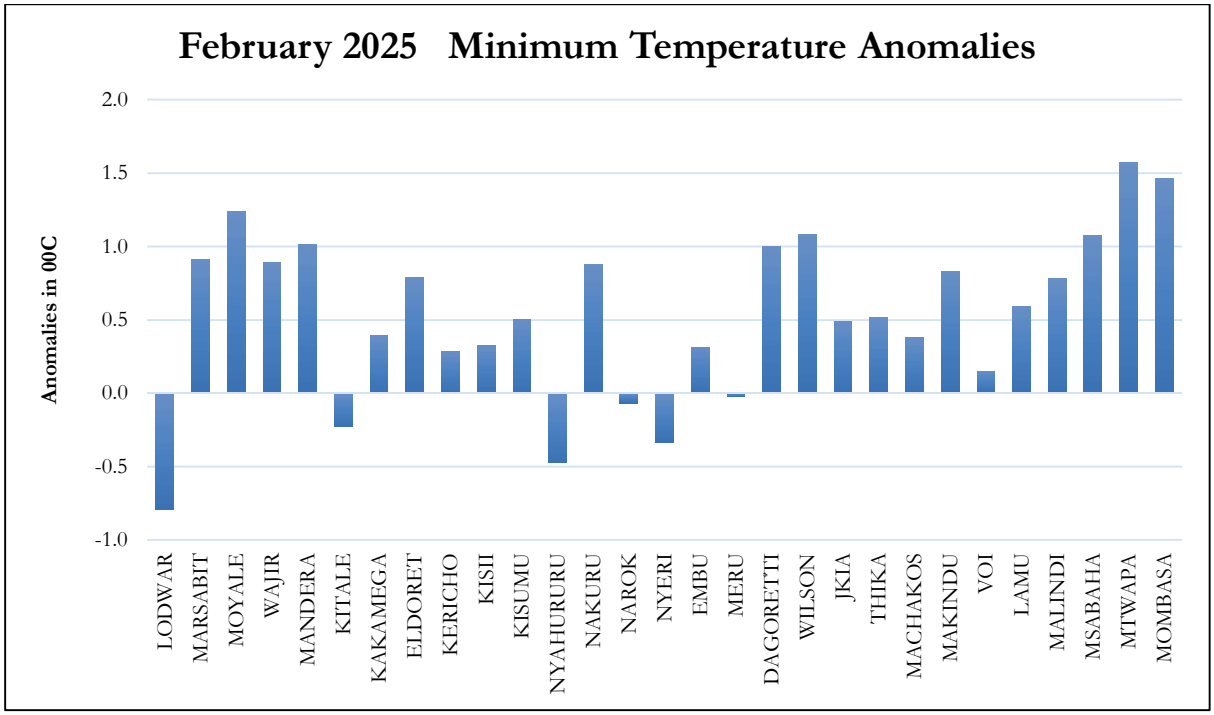

Figure 3b: Minimum Temperature Anomalies

NB: This outlook should be used with 24-hour, 5-day and 7-day regular updates issued by this Department. Weekly County forecasts are available from County Meteorological Offices.

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