



MINISTRY OF ENVIRONMENT, CLIMATE CHANGE AND FORESTRY

STATE DEPARTMENT FOR ENVIRONMENT AND CLIMATE CHANGE

KENYA METEOROLOGICAL DEPARTMENT

REF. NO: KMD/FCST/5-2025/MO/05

Date: 30 April 2025

CLIMATE OUTLOOK FOR MAY 2025 AND REVIEW OF APRIL 2025

1 HIGHLIGHTS

1.1 The forecast for May 2025

May marks the end of the “Long Rains” season across much of the country, except for the Coastal and western regions, where rainfall typically extends into June. The outlook for May 2025 indicates that several parts of the country are likely to experience near-average to above-average rainfall, although a few areas, particularly over the North Coast and parts of Garissa County, are expected to receive below-average rainfall. Rains are, however, likely to continue into the June–July–August (JJA) season over Western Kenya and the Coastal region. Meanwhile, the cool and cloudy season is expected to set in over the highlands east of the Rift Valley, including Nairobi County. A gradual reduction in rainfall is anticipated towards the end of the month over the Northeastern and parts of the Southeastern regions. The month is also likely to be characterized by isolated severe storms over several parts of the country. Temperature is expected to be warmer than average over the counties of the Highlands East of the Rift Valley and Nairobi, the Coastal region, South Rift Valley, Southeastern lowlands and Northeastern parts of the country. The Highlands West of the Rift Valley, Central Rift Valley, Northwestern and parts of the Lake Victoria Basin are expected to have near average to cooler than average temperatures.

1.2. Rainfall Review for April 2025

April marked the peak of the Long Rains (March–April–May) season over most parts of the country, except for the Coastal region where the rainfall is expected to peak in May. Most areas received rainfall during the month, which was near to above average across the country—except at Mombasa, Malindi, Kitale, Lamu, and Msabaha meteorological stations, where below-average rainfall was recorded. The month was characterized by severe storms over several parts of the country.

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2. May 2025 Forecast

The rainfall forecast for May 2025 is based on regression of sea surface temperatures (SSTs), SST gradients, and the expected evolution of global SST patterns as well as upper air circulation patterns on Kenyan rainfall. Figure 1a illustrates the mean monthly rainfall in May.

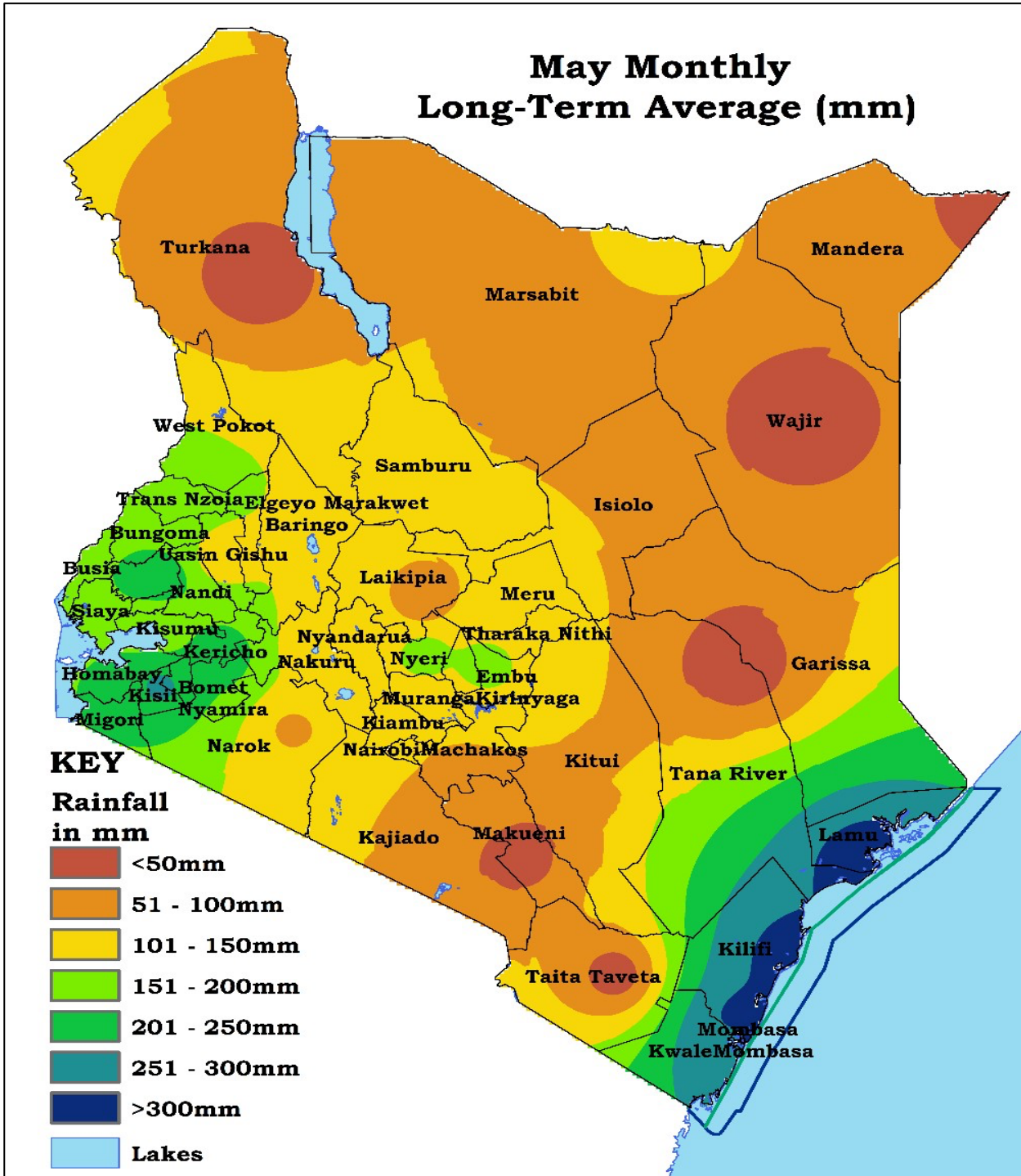


Figure 1a: Mean monthly rainfall for May

2.1 The Rainfall Forecast for May 2025

The forecast indicates that several parts of the country are likely to experience near-average to above average rainfall, with a few areas over north Coast and parts of Garissa County expected to receive near to below average rainfall, as shown in **Figure 1b**. The month is also likely to be characterized by isolated severe storms over several parts of the country.

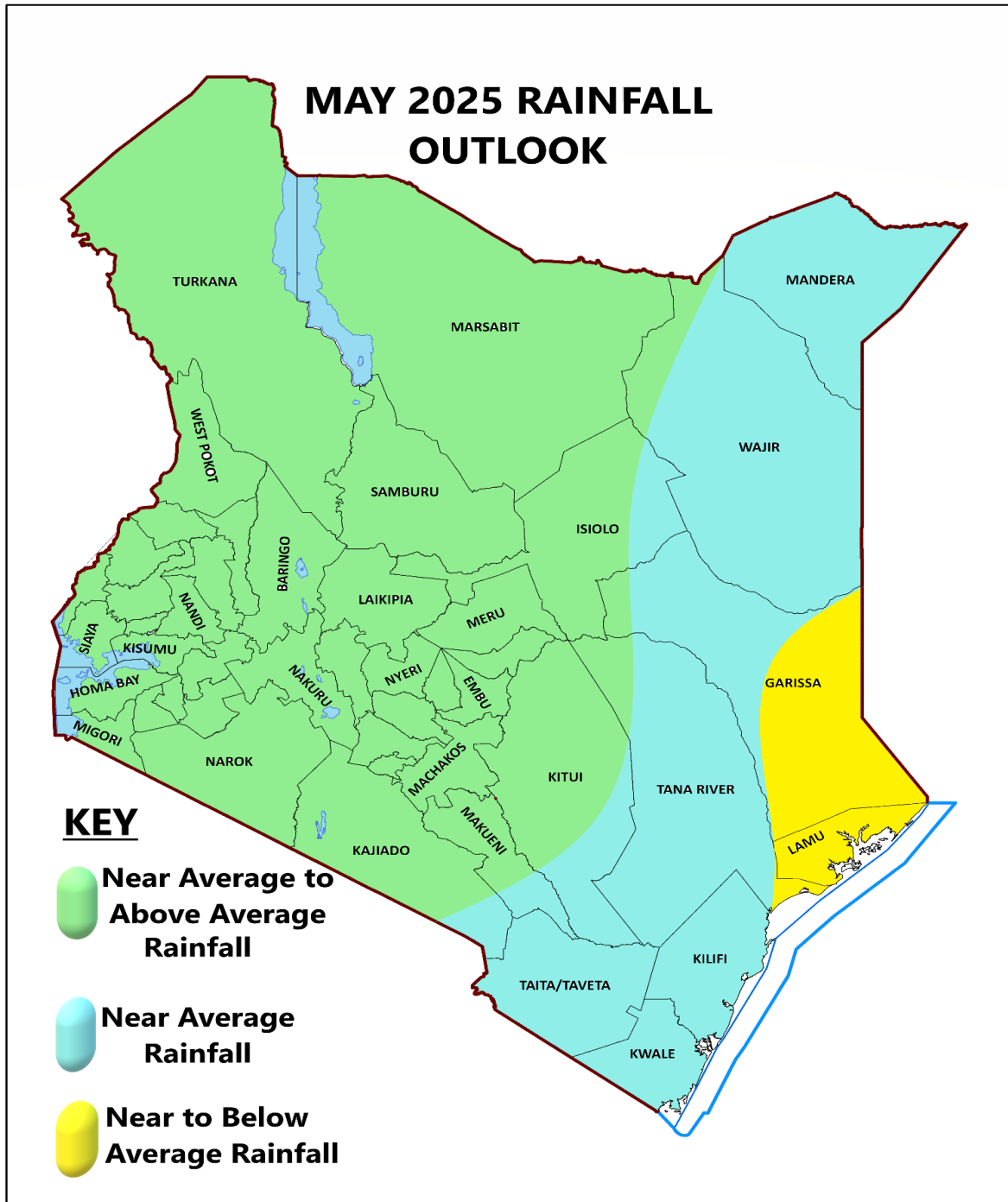


Figure 1b: Rainfall forecast for May 2025

2.2. SPECIFIC OUTLOOK FOR VARIOUS PARTS OF THE COUNTRY

2.2.1. Counties within the Lake Victoria Basin (Siaya, Kisumu, Homa Bay, Migori, Busia, Highlands West of the Rift Valley (Bungoma, Kisii, Nyamira, Bomet, Nandi, Kakamega, Vihiga, West Pokot, Elgeyo Marakwet, Trans Nzoia and Uasin Gishu), Central and South Rift Valley (Baringo, Nakuru, Narok and Western parts of Laikipia County): The total amounts of rainfall expected are likely to be near to above average. Occasional storms are also likely to be experienced.

2.2.3. North-western Region (Turkana and Samburu counties): Occasional rainfall is expected during the month. The total amounts of rainfall are likely to be near to above-average. Occasional storms are also likely to be experienced.

2.2.4. Counties of the Highlands East of the Rift Valley (Nyandarua, Nyeri, Kirinyaga, Murang'a, Kiambu, Meru, Embu, Tharaka Nithi and eastern parts of Laikipia) and Nairobi: The total amounts of rainfall expected are likely to be near to above-average. Occasional storms are also likely to be experienced.

2.2.5. North-eastern Region (Marsabit, Mandera, Wajir, Garissa, and Isiolo counties): Occasional rainfall is expected during the month. The total amounts of rainfall are likely to be near to above average in Marsabit and parts of Isiolo, and near average over the rest of the region. However, a few areas in Garissa may experience near to below average rainfall.

2.2.6. Counties in the South-eastern Lowlands (Kajiado, Kitui, Makueni, Machakos, Taita Taveta and parts of Tana River): Occasional rainfall is expected during the month. The total amounts of rainfall are likely to be near to above-average. Occasional storms are also likely to be experienced.

2.2.7. The Coastal counties (Mombasa, Kilifi, Lamu, Kwale and Parts of Tana River): The total amounts of rainfall expected in the month are likely to be near-average. However, Lamu is expected to receive near to below average rainfall. Occasional storms are also likely to be experienced. May marks the peak of the Long Rains season in the Coastal region.

2.3 POTENTIAL IMPACTS

2.3.1. Agriculture and Food Security

The expected rainfall is likely to be conducive for agricultural production, especially in the high-potential counties of the Highlands West of the Rift Valley, the Lake Victoria basin region as well as Central and Southern Rift valley, where rainfall is expected to continue into the June-July-August season. Farmers in these areas are encouraged to continue liaising with agricultural extension officers to get advice on appropriate land use management and hence maximize their crop yields.

The near-average to above average rainfall expected over the ASAL areas of Northern and Southeastern lowlands is expected to improve pasture and browse. However, pastoralists and relevant authorities are advised to conserve pasture as the season comes to an end to ensure their livestock have adequate feed to last till the next rainfall season.

2.3.2. Disaster Management

There is a likelihood of flooding in low-lying areas and flood plains, especially over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Coastal region as well as in poorly drained urban centers where rainfall is expected. Relevant authorities are therefore advised to put in place measures to avert possible

negative impacts that may arise. County Governments are also advised to clear drainages in good time to avert flooding in the urban areas. The public are advised not to drive or walk through flooded rivers or moving waters.

Cases of lightning strikes are still likely over the Lake Victoria Basin and Highlands West of the Rift Valley, especially in Kisii, Kisumu, Nandi, Bungoma (Mt. Elgon areas), and Kakamega Counties. The public are advised not to take shelter near metallic structures or under trees to avoid the risk of lightning strikes, which could lead to loss of life.

2.3.3. Water Resource Management and Energy

The anticipated increase in rainfall is expected to enhance water availability, supporting domestic and livestock needs. To maximize on this resource, the public are encouraged to adopt rainwater harvesting and storage techniques. However, the surge in rainfall may also pose challenges, including increased siltation and sedimentation in rivers and dams, as well as heightened risks of flooding—such as river overflows, urban flooding, and flash floods. To mitigate these effects, authorities should prioritize dam desilting and implement strategies to separate storm water and wastewater channels, reducing flood impacts on communities.

Additionally, higher inflows into hydropower reservoirs are likely to boost hydropower generation and improve groundwater recharge for geothermal energy production. However, increased rainfall may also disrupt power supply, creating socio-economic risks. Strengthening power transmission and distribution infrastructure will be essential to ensure a reliable electricity supply.

As seasonal rainfall declines in arid and semi-arid (ASAL) regions, effective water management becomes crucial to sustain water resources for both human and livestock needs beyond the rainfall season. Residents in these areas are encouraged to adopt rainwater harvesting techniques to supplement their water supply as the season comes to an end.

2.3.4. Environment and Forestry

The anticipated increase in rainfall across the Lake Victoria Basin, Highlands West of the Rift Valley, Central, and South Rift Valley regions is poised to provide sufficient soil moisture, creating conducive environments for tree growth. Thus, active participation in tree planting initiatives, such as the 15 billion tree planting initiative, is strongly encouraged to further enhance the national forest cover. However, it is crucial to remain mindful of the potential environmental risks associated with excessive rainfall, particularly soil erosion.

To mitigate these risks and ensure environmental sustainability, the public are advised to adopt responsible agricultural practices. These include implementing soil conservation measures to prevent erosion and maintain soil health. By taking proactive steps to safeguard the environment, communities can contribute to long-term resilience against the impacts of climate change while promoting the growth of healthy, thriving ecosystems.

2.3.5. Health

The risk of vector-borne diseases, notably Malaria, is anticipated, particularly in regions such as the Lake Victoria Basin, the Highlands West of the Rift Valley, and the Coastal region. Additionally, flood-prone areas, particularly in the Lake Victoria region, may experience outbreaks of waterborne diseases. Health authorities are advised to strategically position and redistribute medical supplies and insect-treated nets in the affected areas. Furthermore, public health education efforts focusing on disease prevention, as well as

initiatives promoting Water Sanitation and Hygiene (WASH), should be intensified to mitigate the spread of diseases among these vulnerable communities.

2.3.6. Transport and Public Safety

Flash floods are expected to be a concern in various regions, including the Lake Victoria Basin, the Highlands West of the Rift Valley, the Central and South Rift Valley, the Coastal region, and parts of the Highlands East of the Rift Valley, including Nairobi County. The anticipated floods pose a risk of causing structural damage to infrastructure such as roads, bridges, and sub-standard facilities. Consequently, transportation may be affected, with the possibility of property damage and loss of lives. It is crucial for the public to exercise caution while driving in rainy conditions and to refrain from crossing flooded roads to minimize the risk of accidents resulting from such adverse weather conditions.

3. REVIEW OF THE CLIMATE IN APRIL 2025

3.1. Rainfall Performance During April 2025

April marked the peak of the Long Rains (March–April–May) season over most parts of the country, except for the Coastal region, where the rainfall is expected to peak in May. Most areas received rainfall during the month, which was **near to above average** across the country—**except at the Mombasa, Malindi, Kitale, Lamu, and Msabaha meteorological stations**, where **below-average** rainfall was recorded.

Stations that recorded **above average rainfall** (more than 125% of their April Long-Term Mean) included **Voi**, which received **235.0 mm** (299.3% of LTM), **Makindu** with **188.3 mm** (260.1%), **Nyahururu** with **256.5 mm** (243.1%), **Meru** with **450.5 mm** (180.1%), **Mtwapa** with **319.9 mm** (161.6%), **Garissa** with **107.6 mm** (147.3%), **Wilson** with **250.9 mm** (142.7%), and **Moi Air Base** (M.A.B.) with **247.3 mm** (139.8%).

Stations that experienced **near average rainfall** (between 75% and 125% of the LTM) were **Narok** with **160.6 mm** (122.3%), **Laikipia** with **130.0 mm** (117.3%), **Kericho** with **274.0 mm** (112.5%), **Dagoretti** with **229.2 mm** (110.7%), **Wajir** with **107.1 mm** (110.0%), **Thika** with **231.5 mm** (107.6%), **Lodwar** with **52.4 mm** (107.4%), **Marsabit** with **202.4 mm** (107.2%), **Eldoret** with **156.2 mm** (106.2%), **JKIA** with **131.9 mm** (105.8%), **Mandera** with **73.7 mm** (98.2%), **Nakuru** with **128.4 mm** (97.0%), **Kisumu** with **203.5 mm** (96.4%), **Kakamega** with **244.3 mm** (90.9%), **Embu** with **266.2 mm** (90.9%), **Nyeri** with **163.7 mm** (89.8%), **Moyale** with **134.5 mm** (89.7%), **Kisii** with **226.3 mm** (89.1%), and **Machakos** with **95.8 mm** (76.0%).

Stations that recorded **below average rainfall** (less than 75% of the LTM) were **Mombasa** with **103.4 mm** (74.6%), **Malindi** with **102.3 mm** (71.2%), **Kitale** with **112.1 mm** (61.3%), **Lamu** with **63.4 mm** (58.7%), and **Msabaha** with **57.8 mm** (41.6%).

By 27th April 2025, the highest rainfall amounts were recorded at Kasafari Rainfall Station in Embu and Michimikuru Rainfall Station in Meru, both receiving 530.9 mm. Gitoro KWS in Meru followed closely with 523.3 mm, while Kangema Meteorological Station in Murang'a recorded 482.1 mm as Meru Meteorological Station reported 450.5 mm. Other notable stations included Ndaka-ini in Murang'a with 400.9 mm, Gakoe in Kiambu with 375.5 mm, Koromangucha in Migori with 348.4 mm, Mtwapa in Kilifi with 319.9 mm, and Kiateneni in Machakos with 319.7 mm.

Other stations that recorded rainfall amounts **>250mm** are shown in Table 1.

Table 1: Rainfall Stations that recorded >250mm

S/ N O	STATION	COUNTY	AMOUNT IN MM
1	Kasafari rainfall station	Embu	530.9
2	Michimikuru rainfall station	Meru	530.9
3	Gitoro KWS rainfall station	Meru	523.3
4	Kangema Meteorological station	Murang'a	482.1
5	Meru Meteorological station	Meru	450.5
6	Ndaka-ini rainfall station	Murang'a	400.9
7	Gakoe rainfall station	Kiambu	375.5
8	Koromangucha rainfall station	Migori	348.4
9	Mtwapa Meteorological station	Kilifi	319.9
10	Kiateneni rainfall station	Machakos	319.7
11	Ngerenyi FTC rainfall station	Taita Taveta	296.3
12	Kabete Meteorological station	Kiambu	287.7
13	Kitobo seed rainfall station	Taita Taveta	283.2
14	Kericho Meteorological station	Kericho	274.0
15	Kanguru ATC rainfall station	Meru	273.1
16	Igumo rainfall station	Tharaka Nithi	271.9
17	Embu Meteorological station	Embu	266.2
18	Suba Meteorological station	Homa Bay	262.9
19	Kaisagat rainfall station	Trans Nzoia	262.1
20	Gafarsa rainfall station	Isiolo	260.7
21	NEMA rainfall station	Isiolo	260.7
22	Kaler rainfall station	Migori	158.8
23	Nyahururu Meteorological station	Nyandarua	256.5
24	Kasikeu rainfall station	Makueni	255.7
25	Mbooni rainfall station	Makueni	251.6
26	Wilson Airport Meteorological station	Nairobi	250.9

In April 2025, a number of stations across Kenya recorded significant rainfall, with more than 70 mm of rainfall within a 24-hour period. These intense weather events were particularly notable across various regions, including the Highlands East of the Rift Valley, the Lake Victoria Basin, the Coastal region, and parts of the Southeastern lowlands and Northeastern Kenya.

Table 2 highlights the stations that recorded more than 70 mm of rainfall within 24 hours, with Thika Meteorological Station in Kiambu topping the list at 127.3 mm on 9th April 2025. Other significant rainfall events included 124.6 mm at Kiateneni in Machakos on 19th April, and 122.0 mm at Kinna in Isiolo on the same day. Stations like Michimikuru in Meru (118.2 mm), Gafarsa in Isiolo (112.5 mm), and Mtwapa in Kilifi (102.7 mm) also received substantial rainfall.

These extreme rainfall totals indicate the intensity and variability of the storms experienced in April 2025, affecting a wide range of areas across the country.

Table 2: Stations that recorded more than 70 mm of rainfall in 24 hours.

S/No	STATION	COUNTY	AMOUNT (MM)	DATE
1	Thika Meteorological station	Kiambu	127.3	9-4-2025
2	Kiateneni rainfall station	Machakos	124.6	19-4-2025
3	Kinna rainfall station	Isiolo	122.0	19-4-2025
4	Michimikuru rainfall station	Meru	118.2	4-4-2025
5	Gafarsa rainfall station	Isiolo	112.5	20-4-2025
6	Nguu Masumba rainfall station	Makueni	107.3	5-4-2025
7	Makindu Meteorological station	Makueni	106.6	5-4-2025
8	Mtwapa Meteorological station	Kilifi	102.7	5-4-2025
9	WRA Rumuruti rainfall station	Laikipia	93.3	17-4-2025
10	Wilson Airport Met station	Nairobi	97.1	21-4-2025
11	Kula Mawe rainfall station	Isiolo	96.0	20-4-2025
12	Mavindini rainfall station	Makueni	94.2	20-4-2025
13	Bisan Biliqo rainfall station	Isiolo	90.6	20-4-2025
14	Marsabit Meteorological station	Marsabit	89.8	12-4-2025
15	Gafarsa rainfall station	Isiolo	88.0	17-4-2025
16	Kasafari rainfall station	Embu	86.6	18-4-2025
17	NEMA Isiolo rainfall station	Isiolo	85.2	18-4-2025
18	Kirie rainfall station	Embu	85.9	19-4-2025
19	Murang'a WRA	Murang'a	83.5	12-4-2025
20	Kasikeu rainfall station	Makueni	81.7	19-4-2025
21	Mtwapa Meteorological station	Kilifi	81.1	27-4-2025
22	Kaler rainfall station	Migori	79.9	12-4-2025
23	Moyale Meteorological station	Marsabit	78.6	13-4-2025
24	Kasafari rainfall station	Embu	78.1	3-4-2025
25	Mukaa rainfall station	Makueni	78.0	19-4-2025
26	Kasafari rainfall station	Embu	76.1	5-4-2025
27	Kalungu rainfall station	Kitui	76.4	20-4-2025
28	Gakoe Tea Estate rainfall station	Kiambu	76.0	12-4-2025
29	Murang'a WRA	Murang'a	74.7	9-4-2025
30	Kasafari rainfall station	Embu	74.0	17-4-2025
31	Kangema Meteorological station	Murang'a	73.0	18-4-2025
32	Gitoro KWS rainfall station	Meru	74.0	17-4-2025
33	Wath Onger rainfall station	Migori	73.8	12-4-2025
34	Ndaka-ini rainfall station	Murang'a	73.5	12-4-2025
35	Bisan Biliqo rainfall station	Isiolo	73.4	17-4-2025
36	Kasikeu rainfall station	Makueni	73.2	5-4-2025

Figure 2a shows the total amount of rainfall recorded in April 2025 (blue bars) as compared to the LTMs – (red bars) while Figure 2b and 2c depicts the spatial distribution.

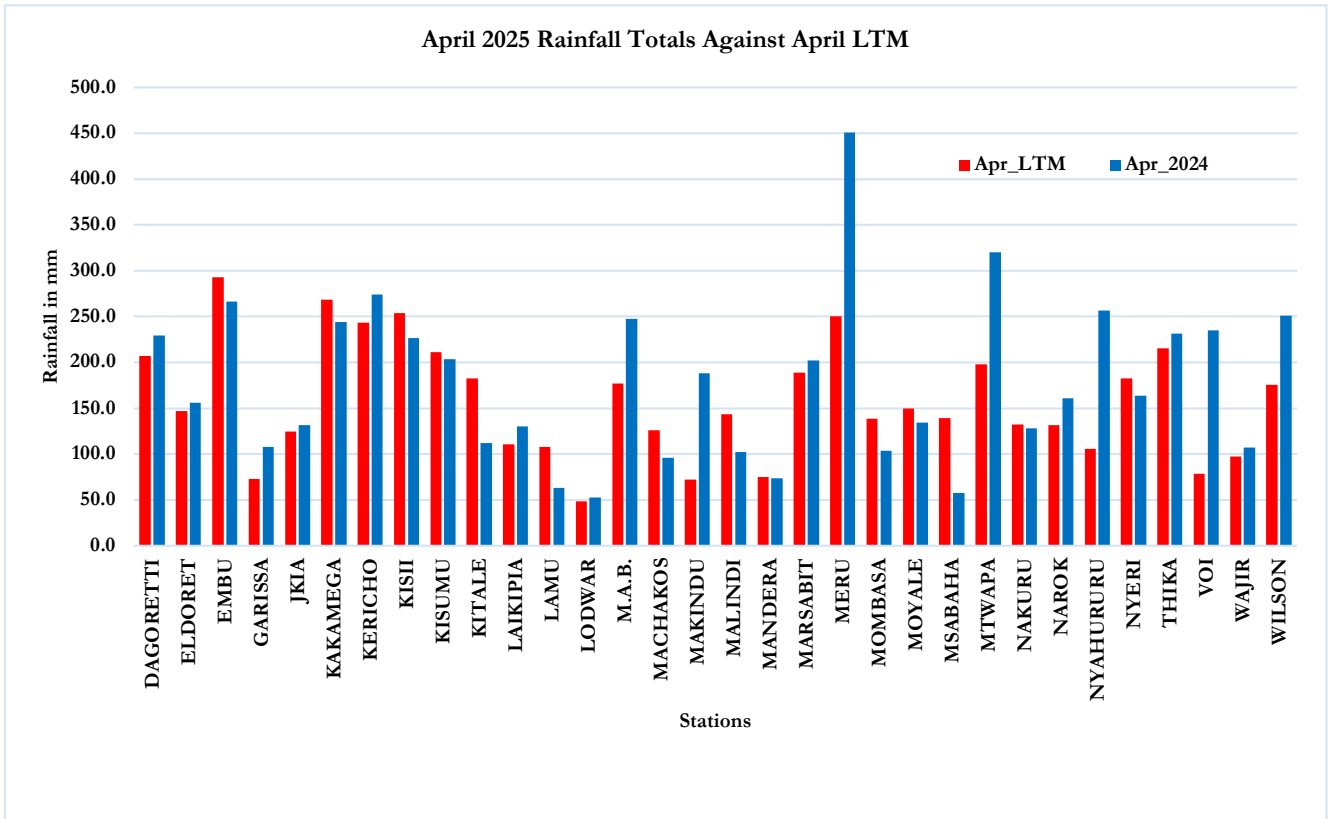


Figure 2a: April 2025 Rainfall as Compared to the April Long-Term Mean

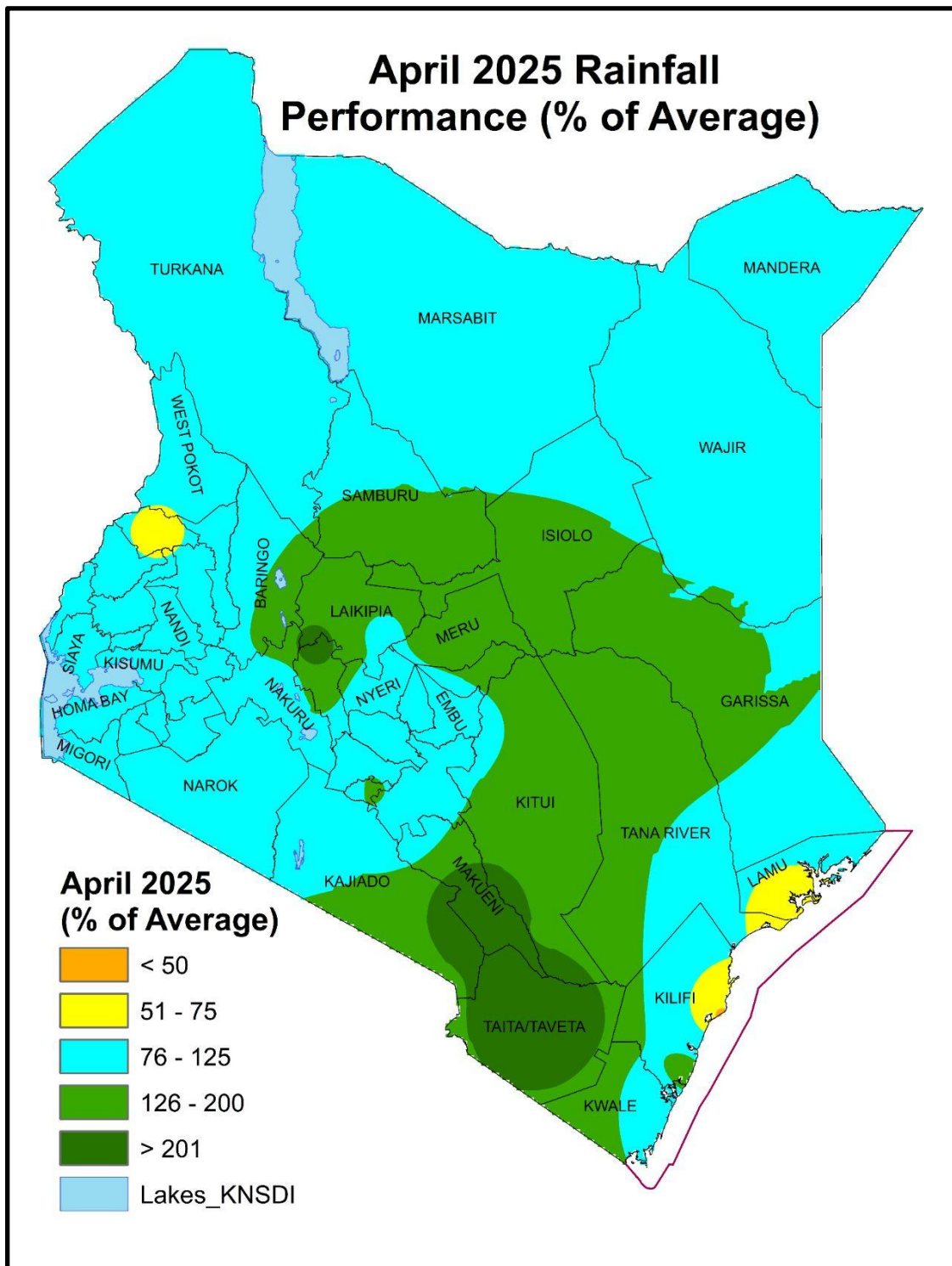


Figure 2b: April 2025 rainfall performance as a percentage of the April LTM

April 2025 Rainfall Totals

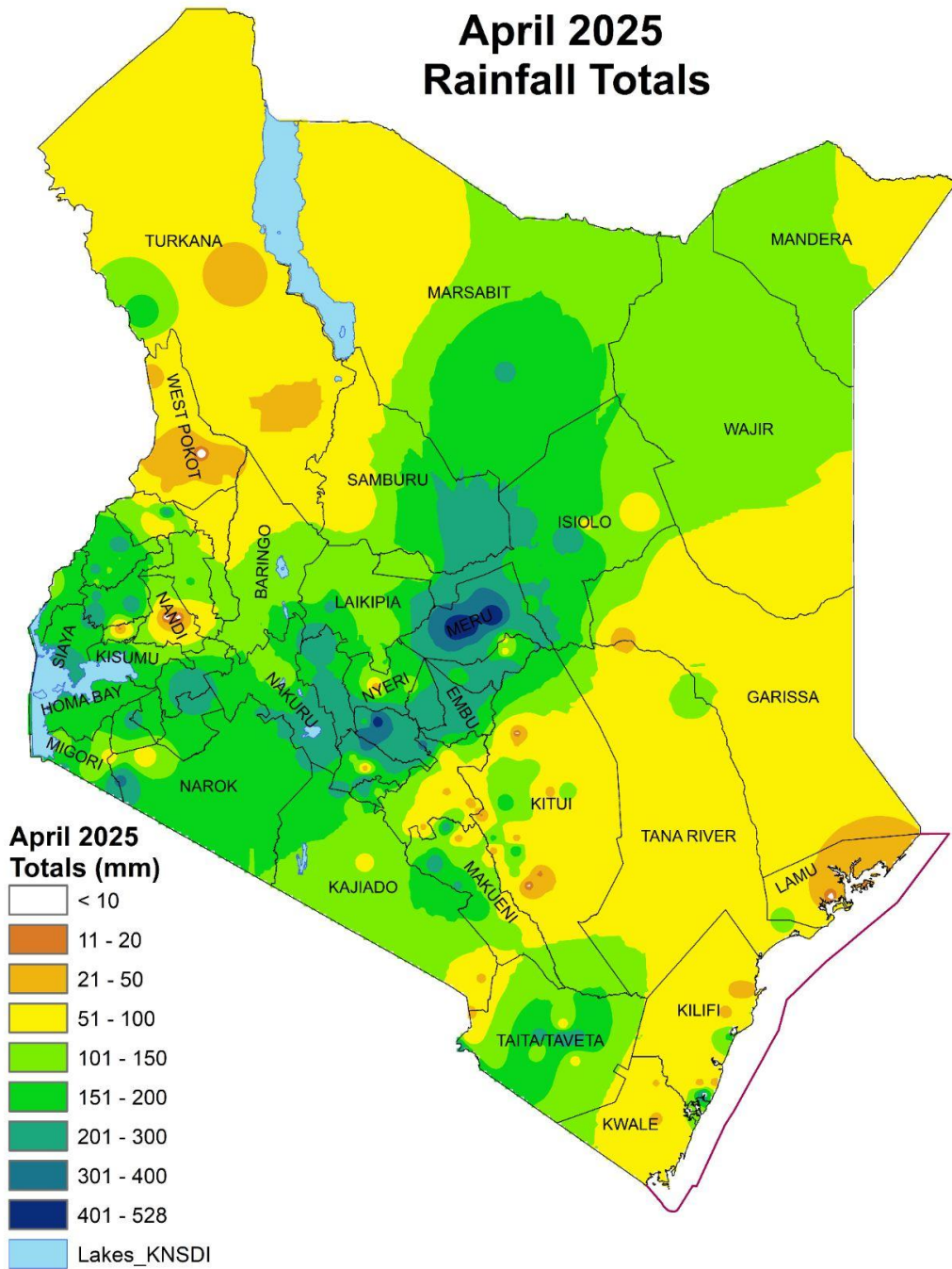


Figure 2c: April 2025 Totals

3.2 Temperature Review

Several parts of the country recorded lower than average day time (maximum) temperature, except over the Central region (including most stations in Nairobi), most stations over the Coast, Kakamega and Mandera where higher than average temperatures were recorded. The highest average monthly temperature (36.5⁰C) was recorded in Mandera.

Minimum (night time) temperatures were higher than average over most parts, except Mandera and Voi, which recorded lower than average temperatures, and Embu which recorded temperatures that were near the April LTM. The lowest average monthly temperature (9.7°C) was recorded in Nyahururu.

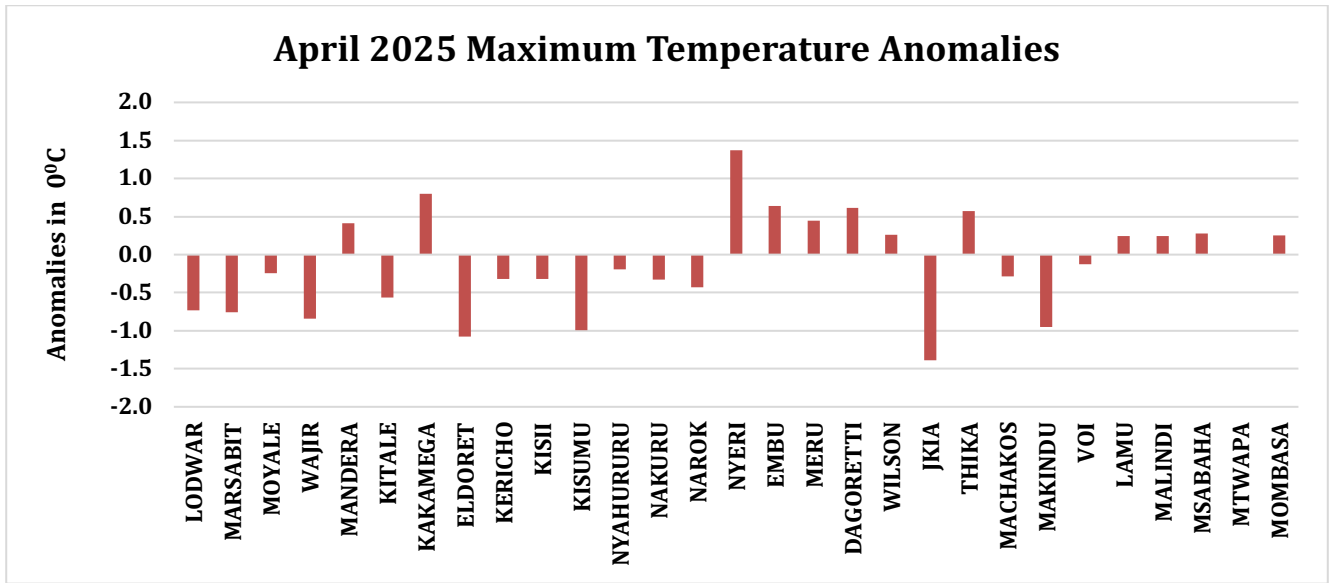


Fig 3a: April 2025 Maximum Temperature Anomalies

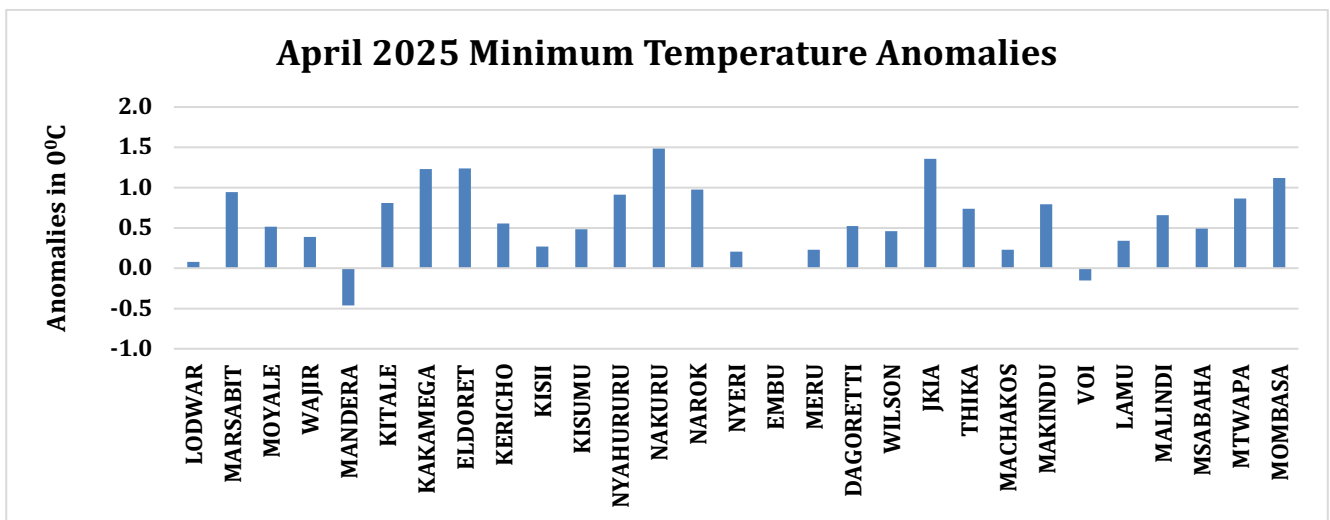


Fig 3b: April 2025 Minimum Temperature Anomalies

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

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