



the

REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT & FORESTRY

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THE OUTLOOK FOR MARCH 2021 AND WEATHER REVIEW FOR FEBRUARY 2021

1 HIGHLIGHTS

1.1 The Weather Outlook for March 2021

The outlook for March 2021 indicates that near average tending to above average rainfall is expected over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Highlands East of the Rift Valley (including Nairobi County), the Central and Southern Rift Valley, Northwestern as well as parts of the Southeastern Lowlands. Below average rainfall is expected over Northeastern Kenya and the Coastal Strip.

1.2 February 2021 Rainfall Review

In February, substantial amounts of rainfall were recorded over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Highlands East of the Rift Valley (including Nairobi County), the Central and Southern Rift Valley as well as parts of Southeastern Kenya. Several meteorological stations recorded rainfall that was more than 125% of their February long term averages (LTMs): Nyahururu Meteorological Station recorded 366.4% of its monthly LTM. Other stations that recorded more than 125% are Makindu, Wilson Airport, Meru, Jomo Kenyatta International Airport (JKIA), Dagoretti, Thika, Kisii, Kakamega, Nyeri, Eldoret, Mombasa and Kericho. Voi, Nakuru, Kitale, Malindi, Lamu, Msabaha, Garissa, Wajir, Mandera, Lodwar and Moyale recorded below normal rainfall (between 0 to 69% of their February LTMs).

2 THE WEATHER OUTLOOK FOR THE MONTH OF MARCH 2021

The rainfall forecast for March 2021 is based on regression of Sea Surface Temperature Anomalies (SSTAs) on the March rainfall as well as Sea Surface Temperature (SST) gradients. The current average SSTs in the Western Equatorial Indian Ocean (adjacent to the East African Coast) coupled with neutral to cooler than average SSTs in the Central Equatorial Indian Ocean and the slightly warmer than average SSTs (adjacent to Australia) were also considered. The analogue year 1996 was used to derive the likely onset dates of the March-May seasonal rainfall as well as its distribution over various parts of the country.

2.1 The Rainfall Forecast for March 2021

The forecast indicates that near average tending to above average rainfall is expected over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Highlands East of the Rift Valley (including Nairobi County), the Central and Southern Rift Valley, Northwestern as well as parts of Southeastern Lowlands. Northeastern Kenya and the Coastal Strip are likely to receive below average rainfall. **Figure 1** depicts the expected rainfall pattern in March 2021.

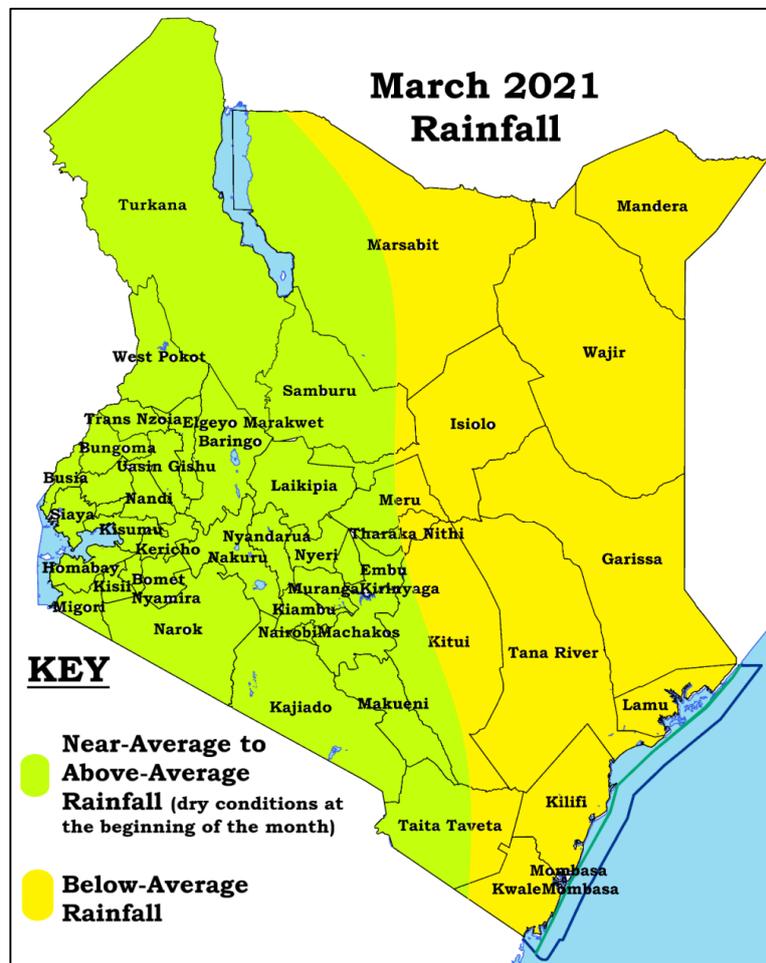


Figure 1: March 2021 Outlook

2.1.1 Specific Outlook for Individual Areas

2.1.1.1 Counties in 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, Nandi, Laikipia, Nakuru, Narok, Kericho, Bomet, Kakamega, Vihiga, Bungoma and Busia):

Occasional rainfall is likely throughout the month; however, rainfall is likely to be below average during the first two weeks of the month. Near to above average rainfall is expected between the 2nd and 3rd weeks when the onset of the rainy season is expected.

2.1.1.2 Counties in the North-Western Region (Turkana, West Pokot and Samburu):

Occasional rainfall is expected towards the end of the month. The first two weeks of the month are likely to be sunny and dry. The expected rainfall amounts are likely to be near to above the long-term average for March. High temperatures (30°C to 40°C) are expected to prevail in most places during the month.

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

Occasional rainfall is expected over several places from the third week of the month. The expected rainfall amounts are likely to be near to above the long-term average for March.

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

Sunny and dry conditions are expected to prevail for most of the month. Occasional rainfall is however likely over few areas towards the end of the month when the onset begins. The expected rainfall amounts are likely to be below the long-term average for March.

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

Sunny and dry conditions are expected over several places during the first two weeks of the month. Occasional rainfall is however expected towards the end of the month. Counties bordering Tanzania are however likely to receive occasional rainfall throughout the month. The rainfall amounts in this region are likely to be near to above the long-term average amounts for March.

2.1.1.6 Counties in the Coastal Strip (Mombasa, Tana River, Kilifi, Lamu and Kwale):

Sunny and dry conditions are expected to prevail over most areas during the month. However areas bordering Tanzania are likely to receive occasional rainfall throughout the month while the rest of the coastal strip is expected to receive rainfall towards the end of the month. The expected rainfall amounts are likely to be below the long-term average amounts for March.

2.2 Potential impacts

Most parts of the country are expected to have onsets of the seasonal rainfall during the month of March. The following are the likely impacts during the month of March 2021 based on the forecast

2.2.1 Agriculture and Food Security

In the agricultural counties of the Lake Victoria Basin, Highlands West of the Rift Valley and the Central Rift Valley, where enhanced rainfall is expected. Farmers are advised to liaise with the State Department of Agriculture for advice as they prepare for planting.

2.2.2 Disaster Management

The expected rainfall towards the end of the month in the Lake Victoria Basin and the Highlands West of the Rift Valley may result in lightning strikes and, flooding in flood prone areas. Landslides/mudslides are likely on the hilly areas of the Highlands East and West of the Rift Valley.

2.2.3 Water Resources Management and Energy

The dry conditions are not expected to adversely impact on the major river catchment areas for the country's hydroelectric power generating dams. Water harvesting is encouraged.

2.2.4 Environment

The expected dry conditions at the beginning of the month may result in dry land/vegetation cover which may increase the occurrence of wildfires in forests, parks and game reserves.

2.2.5 Health

Vector-borne diseases such as malaria are likely to emerge over the Lake Victoria Basin and the Coastal Strip. Water borne diseases are likely in flooded areas and areas expected to receive below normal rainfall.

3 REVIEW OF THE WEATHER DURING FEBRUARY 2021

3.1 Review of February 2021 Rainfall Performance

In February 2021, several parts of the country received enhanced rainfall in comparison with the Long Term Means (LTMs). An analysis of rainfall up to 25th February 2021 indicates that the performance of rainfall was above the long-term average over several parts of the country. Kisii Meteorological Station recorded the highest monthly rainfall total of 191.4mm (187.3% of LTM). Other stations that recorded more than 100mm include Kakamega (135.8mm), Kericho (126.0mm), Dagoretti (125.7mm), Moi Airbase (117.9mm), Nyahururu (117.8mm), Wilson (110.7mm) and JKIA (105.5mm). The rest of the stations recorded below 100mm. Garissa, Wajir, Mandera, Moyale and Lodwar however recorded no rainfall at all throughout the month.

The month was characterized by a few isolated storms in different parts of the country. For instance, Nyahururu recorded 65.2mm on 7th February. On the same day, Makindu reported 61.7mm, Kabete reported 60.1mm, Ngong reported 56.0mm and JKIA reported 50.2mm. On 13th February, Ngong reported 54.4mm, Dagoretti 54.2mm, Moi Air Base 47.2mm, Wilson 43.3mm, Kabete 41.8mm and JKIA 40.2mm. On 21st February, Kisii reported 55.0mm while on 22nd February, Kericho and Kisii reported 68.4mm and 54.7mm respectively. Generally sunny and dry weather conditions prevailed over Northwestern and Northeastern Kenya where most stations recorded no rainfall during the month except for Marsabit which reported 16.1mm on 23rd February.

Figure 2A shows the total amount of rainfall recorded in the month. **Figure 2B** shows the total rainfall amount recorded in February (**Blue bars**) in comparison with the February LTMs (**Red bars**).

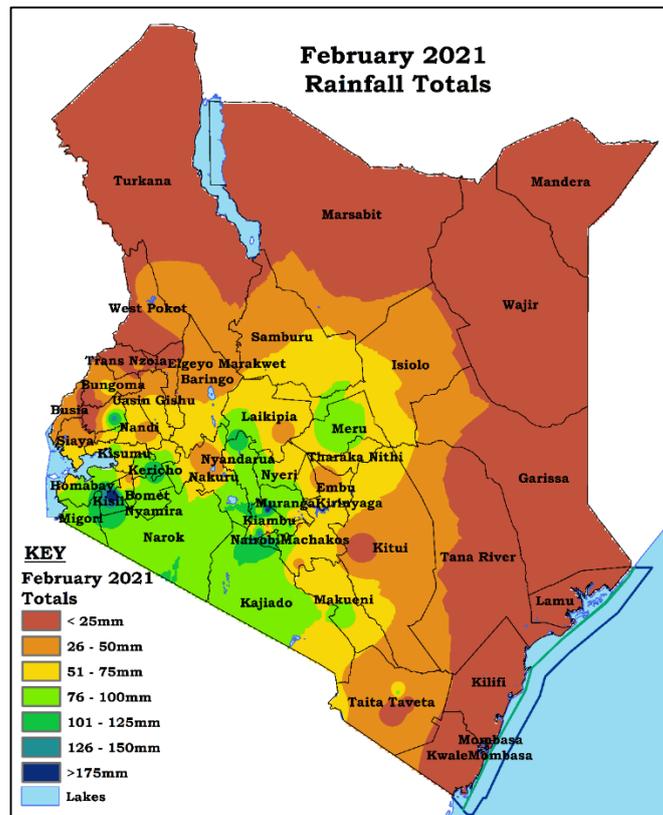


Figure 2a: February 2021 Rainfall Totals

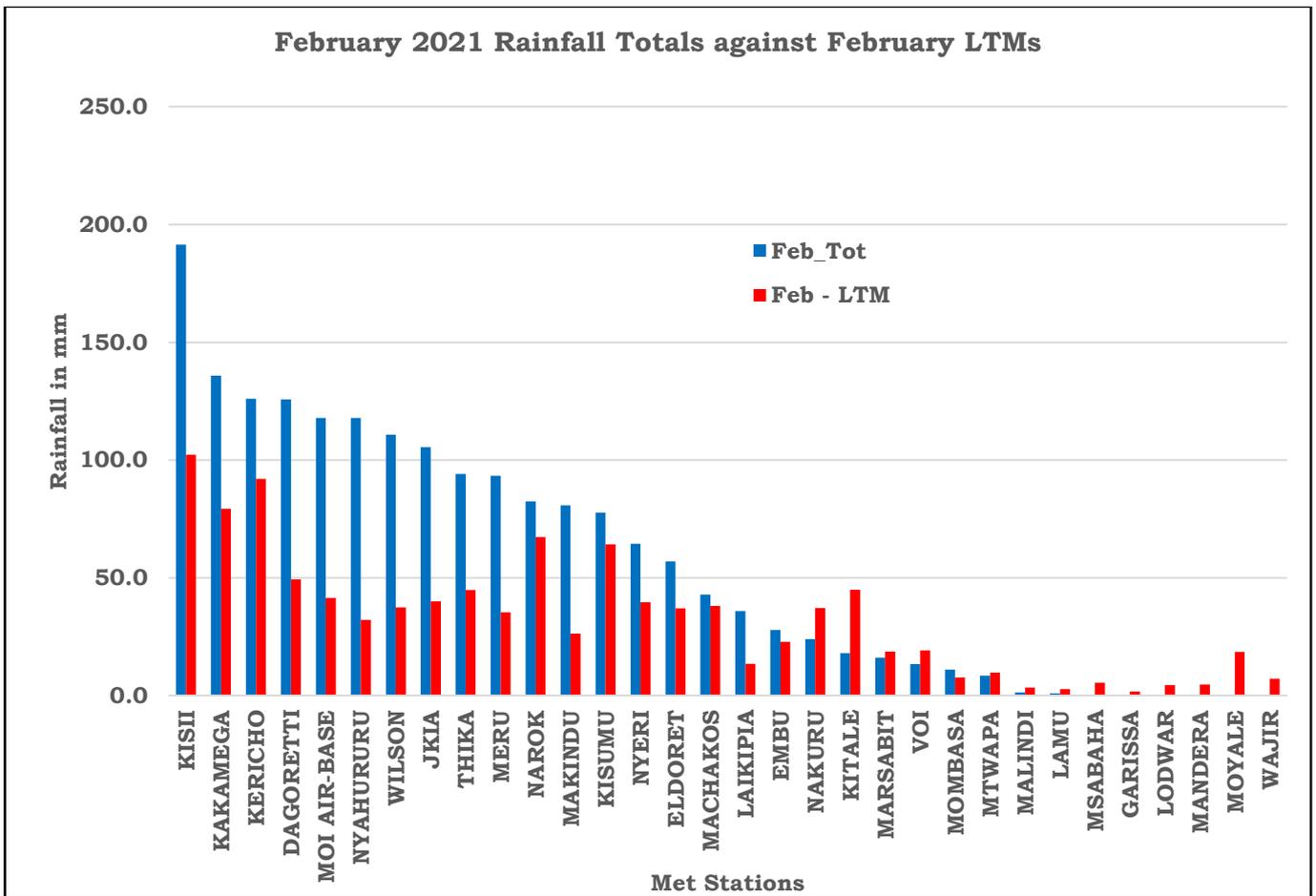


Figure 2b: February 2021 Rainfall Totals vs February LTM

3.2 Review of February 2021 Temperature Performance

Most parts of the country recorded near-average daytime temperatures during the month. However, most stations in North-Western and North-Eastern Kenya and a few stations in the Highlands West of the Rift Valley and the Highlands East of the Rift Valley (including Nairobi County) recorded higher than average temperatures. The highest daily maximum temperature of 38.8°C was recorded in Lodwar on 16th February 2021 while the lowest daily minimum (night-time) temperature of 3.4°C was recorded in Nyahururu on 1st February 2021.

3.3 Experienced Impacts in February 2021

3.3.1 Agriculture and Food Security

Declining forage and water resources led to a decline in livestock productivity, Mature desert locusts posed a serious threat to crop and forage production in affected areas.

3.3.2 Disaster Management

Flooding was reported in some urban areas. For instance Nairobi reported hailstones and flooding on the 22nd of February 2021

3.3.3 Water Resources Management and Energy

Turkwel dam recorded reduced water levels during the month due to poor rainfall performance in its catchment area.

3.3.4 Environment

The continued breeding and spreading of locusts impacted negatively on the environment.

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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Stella Aura, MBS
DIRECTOR OF METEOROLOGICAL SERVICES