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MINISTRY OF ENVIRONMENT AND FORESTRY
KENYA METEOROLOGICAL DEPARTMENT

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**THE WEATHER OUTLOOK FOR OCTOBER 2021 AND WEATHER
REVIEW FOR SEPTEMBER 2021**

1. HIGHLIGHTS

1.1. The Weather Outlook for October 2021

The outlook for October 2021 indicates that the Highlands West of the Rift Valley, the Lake Victoria Basin, the Southern and Central Rift Valley are likely to experience near to above-average rainfall. Near to below average rainfall is likely over the Northwest, Highlands East of the Rift Valley, the South-eastern lowlands, the Coast and North-eastern Kenya where sunny and dry conditions are likely to dominate. The month of October normally marks the onset of rainfall in several parts of the country. However, during this season, the onsets are likely to be delayed and marked with intermittent dry spells especially over the eastern parts of the country as earlier predicted. Over the Highlands West of the Rift Valley, rainfall is likely to continue from September 2021 as predicted, while the onset for the rest of the country is likely to be from the third week of October to the second week of November, 2021.

1.2. The Weather Review for September 2021

Several parts of the Highlands West of the Rift Valley, the Lake Victoria Basin, the Central and South Rift Valley and North-western Kenya received rainfall that was near to above average for the month of September while the Coast and a few parts of the Highlands East of the Rift Valley received near to below average rainfall. The rest of the country was generally sunny and dry.

2. THE WEATHER FORECAST FOR OCTOBER 2021

This climate outlook is based on models developed from expected evolution of global Sea Surface Temperatures (SSTs). The neutral to cooler than average SSTs over the Western Equatorial Indian Ocean and warmer than average SSTs over the eastern Equatorial Indian Ocean that constitutes a weakened negative Indian Ocean Dipole (IOD) were carefully considered. This weakened negative IOD is not conducive to good rainfall in Kenya.

Furthermore, the Equatorial sea surface temperatures (SSTs) are below average across the Pacific Ocean, which implies ENSO-Neutral conditions are present. A transition from ENSO-neutral to La Niña is favored in the next couple of months. This phenomenon is associated with below average rainfall over Kenya.

2.1 Rainfall Forecast for October 2021

The forecast indicates that several counties of the Highlands West of the Rift Valley, the Lake Victoria Basin, the Southern, Central Rift Valley regions and a few areas in the Northwest are likely to experience near-average rainfall with a tendency to above-average, as seen in **Figure 1**. Near to below average rainfall is likely over the Highlands East of the Rift Valley and over some parts of the Northwest. Below average rainfall is expected over the South-eastern lowlands, the Coast and North-eastern regions.

The October 2021 rainfall is expected to be poorly distributed, both in time and space over most parts of the country.

Rainfall Forecast for October 2021

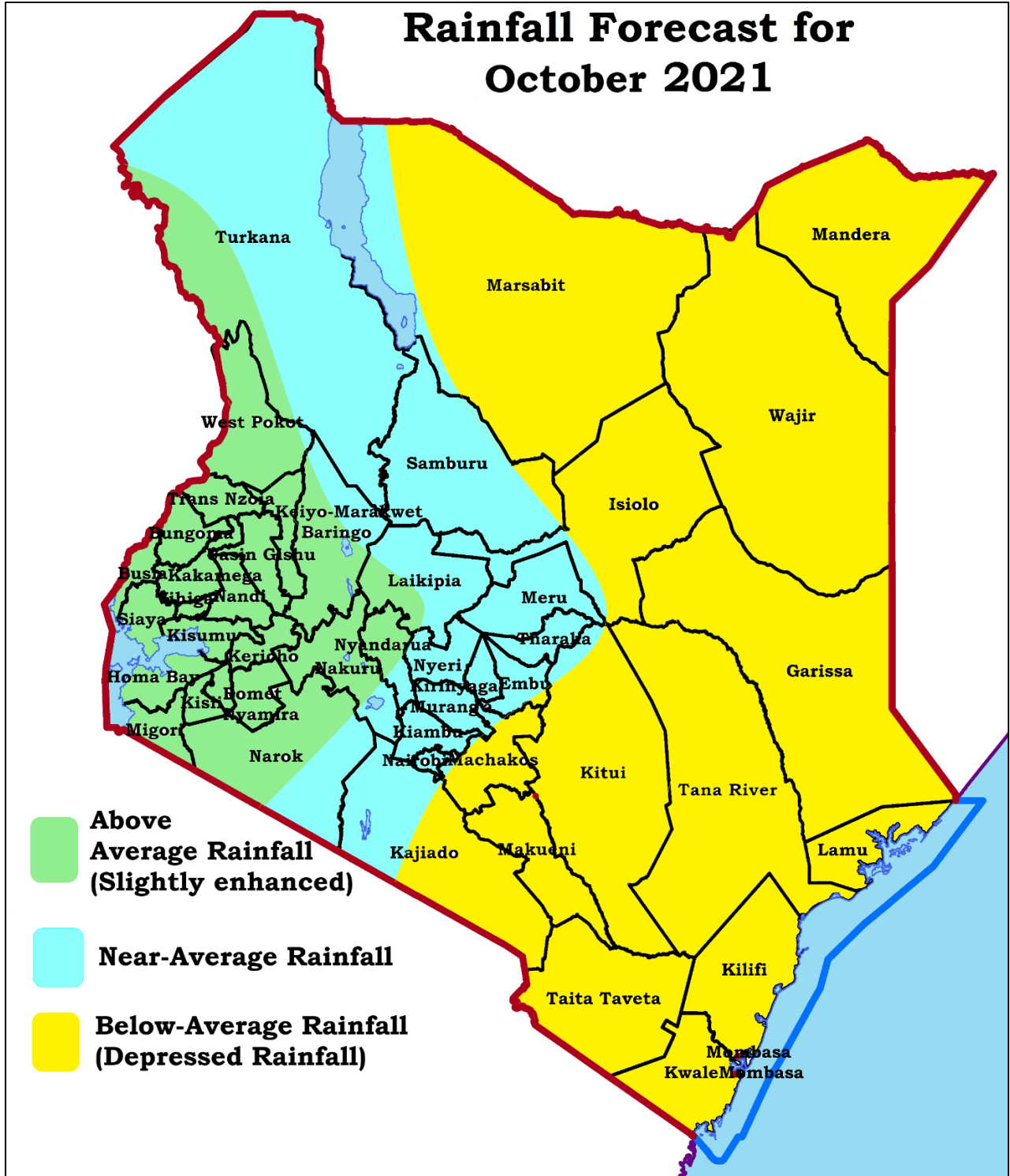


Figure 1: October 2021 Rainfall Forecast.

2.1. Specific Outlook for Individual Areas

- 2.1.1. The Highlands West of the Rift Valley** (*Trans Nzoia, Kericho, Bomet, Nandi, Uasin Gishu, Elgeyo Marakwet, Kakamega, Vihiga, Bungoma, Kisii and Nyamira counties*); **the Lake Victoria Basin** (*Kisumu, Homa Bay, Migori, Siaya and Busia counties*); **the Southern and Central Rift Valley** (*counties of Nakuru, Narok, Baringo and parts of Laikipia*); **the Northwest (West Pokot and parts of Turkana)** are likely to experience occasional showers and thunderstorms throughout the month. The expected total rainfall amounts are likely to be near to above the long-term average amounts for October. Significant rainfall is, however, likely during the first two weeks of the month.
- 2.1.2. The Highlands East of the Rift Valley (including Nairobi County)** (*counties of Kirinyaga, Nyeri, Murang'a, Embu, Meru, Nairobi, Kiambu, Nyandarua and Tharaka Nithi*); **parts of Central Rift Valley** (*Laikipia, parts of Baringo and Nakuru*) are likely to experience occasional rainfall at the beginning of the month. The rainfall is expected to break and resume during fourth week of October to first week of November, marking the onset of the seasonal rains. The expected total rainfall amounts are, however, likely to be near the long-term average amounts for October. Cool and cloudy conditions are also likely to occur in the mornings, especially at the beginning of the month.
- 2.1.3. Northwestern Kenya** (*counties of Turkana, Samburu*) is likely to experience sunny and dry conditions during the month of October. Occasional rainfall is, however, likely during the beginning and towards the end of the month. The expected total rainfall amount is likely to be near the long-term average amounts for October.
- 2.1.4. The Coast** (*Lamu, Kilifi, Mombasa, Kwale and Tana River counties*) is likely to experience sunny and dry conditions during the month. Occasional rainfall is, however, likely to occur towards the end of the month. The expected total rainfall amounts are likely to be below the long-term average amounts for October.
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2.1.5. The South-eastern lowlands (*counties of Machakos, Makueni, Kitui, Taita Taveta, Kajiado*) are likely to experience sunny and dry conditions during the month. Occasional rainfall is, however, likely to occur towards the end of the month; but the expected total rainfall amounts are likely to be below the long-term average amounts for October.

2.1.6. The Northeastern Kenya (*parts of Marsabit, Isiolo, Wajir, Mandera, and Garissa counties*) are likely to experience sunny and dry conditions throughout the month. Occasional rainfall is, however, likely to occur towards the end of the month; but the expected total rainfall amounts are likely to be below the long-term average amounts for October.

2.2. Potential Impacts

The following are the likely weather-related impacts during the month of October 2021.

2.2.1. Agriculture and Food Security

The expected near to above average rainfall in the Highlands West of the Rift Valley, Central and South Rift Valley is likely to provide sufficient soil moisture to sustain agricultural production. The rains may, however, adversely affect harvesting, drying and storage of grains.

The continuation of sunny and dry weather conditions in Northeastern Counties and the South-eastern lowlands may continue diminishing pastures for livestock in these regions.

2.2.2 Disaster Management

Occasional flooding in low lying areas and along river basins in the Lake Victoria Basin, as well as in areas surrounding the Rift Valley lakes may continue to be experienced.

In the Highlands West of the Rift Valley, where near to above average rainfall is expected, lightning strikes are also highly probable, especially in Kisii, Kisumu, Nandi, Kericho, Bungoma (Mt. Elgon areas) and Kakamega Counties. Cases of landslides/mudslides in hilly areas of the Highlands West of the Rift Valley are also highly probable.

In the Southeastern lowlands, Coastal region, Northwestern and Northeastern counties, where mainly dry and sunny conditions are expected, human to human and human to wildlife conflicts are likely to continue being experienced due to competition for diminished water resources and pasture.

2.2.3 Environment

The expected rainfall over the Highlands West of the Rift Valley, the Lake Victoria Basin and the South and Central Rift Valley is expected to maintain conducive soil moisture to the growing of trees. The public should therefore take advantage of these conditions and plant trees while putting in place appropriate measures to conserve the environment.

2.2.4 Health

In areas expected to receive average rainfall, water-borne diseases such as malaria are likely to emerge. Dry areas are likely to be susceptible to dust storms, which may lead to increase in respiratory tract diseases. Water insufficiency may also lead to acute diarrhoeal diseases in the affected areas. Poorly drained areas may harbor pools of stagnant water, which may become conducive to breeding areas for disease-causing pathogens.

2.2.5 Transport and Public Safety Sector

The expected rainfall may cause slippery roads in some parts of the country. This may result in conditions that may cause motor traffic accidents. Flash floods may cause transport challenges, especially during rush hours and more so in areas where the roads become impassable when rain falls.

3. WEATHER REVIEW FOR SEPTEMBER 2021

3.1. Rainfall Review

During the month of September 2021, several parts of the Highlands West of the Rift Valley, the Lake Victoria Basin, Southern and Central Rift Valley and North-western Kenya received rainfall that was near to above average for the month of September, while the Coast and a few parts of the Highlands East of the Rift Valley received near to below average rainfall. Generally sunny and dry weather conditions prevailed over the rest of the country during this period.

As at 27th September, Kakamega Meteorological Station recorded the highest monthly rainfall total of 339.6mm which was 195.9% of its September Long-Term Mean (LTM). Other stations that recorded over 100mm of rainfall include Kericho, Kisii, Eldoret, Kitale and Nakuru, which recorded 303.9mm (178.4%), 177.0mm (107.2%), 165.6mm (233.7%), 158.0mm (150.8%) and 146.0mm (192.3%) respectively. Kisumu, Nyahururu, and Narok recorded 94.9mm (89.2%), 90.2mm (130.1%) and 56.1mm (230.3%) respectively. The rest of the stations recorded less than 50mm of rainfall with Mandera, Garissa, Machakos, Makindu and Voi meteorological stations recording no rainfall at all during the month, as seen in **Figures 2a and 2b**.

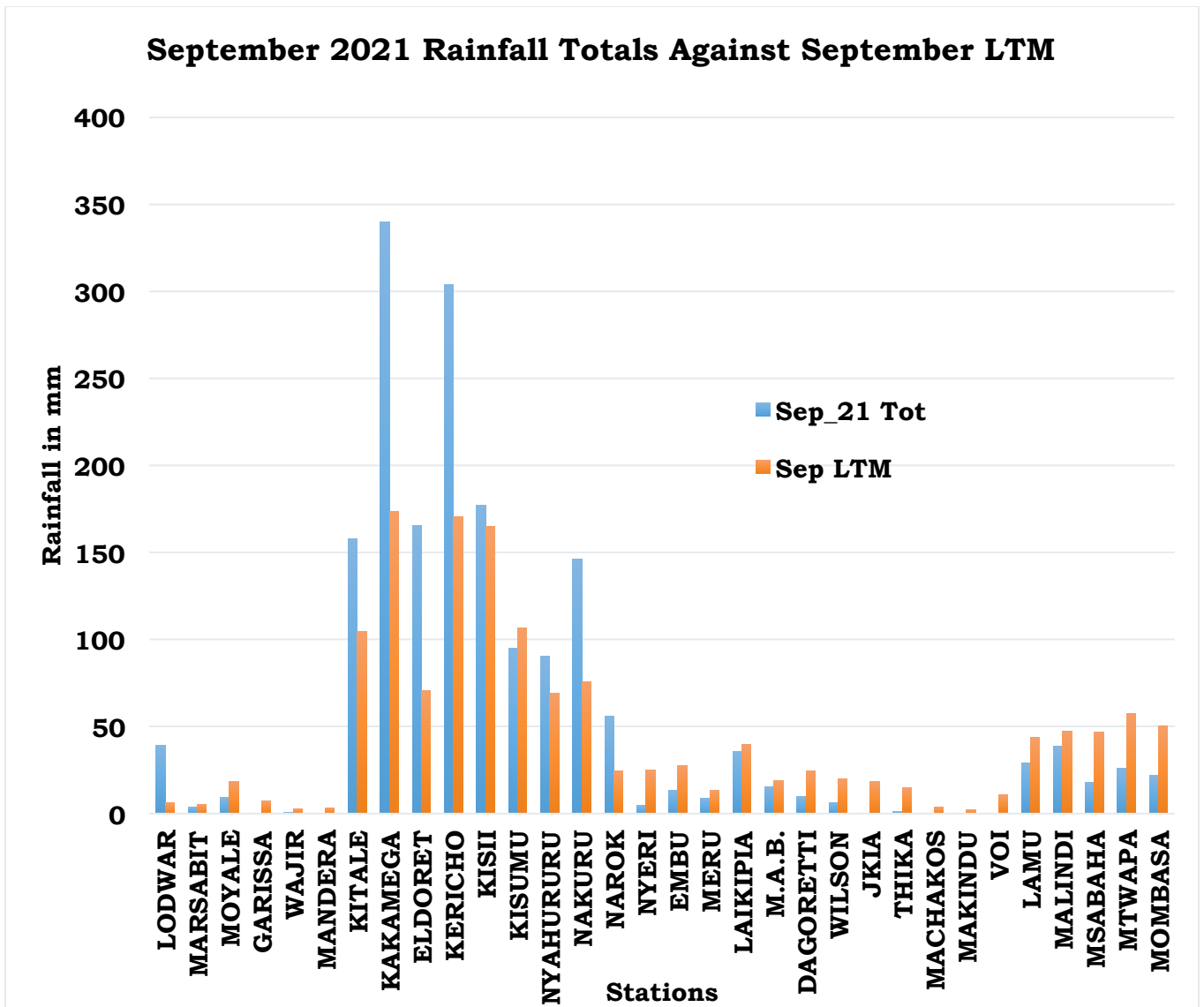


Figure 2a: September 2021 Rainfall Totals Against September LTM

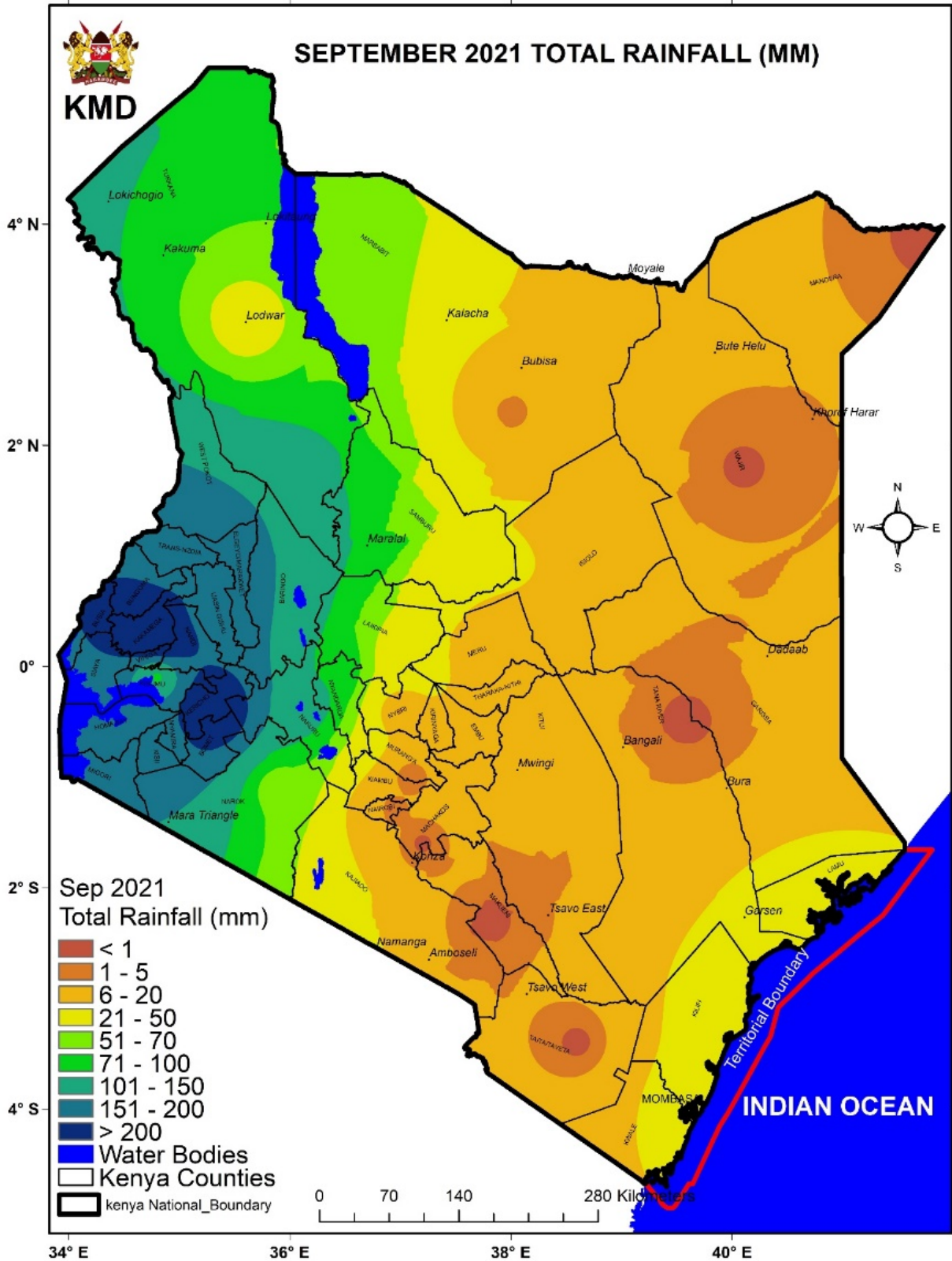


Figure 2b: September 2021 Rainfall Totals

3.2. Experienced Impacts in September 2021

3.2.1. Agriculture and Food Security

The continued dry conditions over the ASAL areas have led to insufficient pasture and water for livestock and food for human consumption. Livestock deaths were reported in Garissa and Tana River Counties. In Garissa County, more than 190,000 residents were facing starvation.

3.2.2. Disaster Management

Drought has been reported in more than twelve Counties where over two million people are faced with acute food shortage.

There were two cases of human wildlife conflicts in Kwale County where a hyena is reported to have killed two children and also attacked two adults.

3.2.3. Water Resources Management and Energy

The depressed rainfall received in the ASALs led to continued low levels of water in dams, rivers and lakes. Turkwel Dam, however, maintained high water levels and as at 29th of September, 2021, the dam level was at 1143.54MASL.

3.2.4. Transport and Public Safety

Transport was disrupted in Turkana County on 19th September 2021 as river Kanasuat overflowed following heavy rains in the area.

3.2.5. Environment

The Ministry of Environment and Forestry took advantage of the available rainfall to plant trees in various parts of the country.

NB: This outlook should be used together with the 24-hour, 5-day, 7-day, 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.



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FOR: DIRECTOR OF KENYA METEOROLOGICAL DEPARTMENT
