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MINISTRY OF ENVIRONMENT AND FORESTRY
KENYA METEOROLOGICAL DEPARTMENT

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Ref. No. KMD/FCST/6-2021/MO/07

Date: 30th June 2021

**WEATHER OUTLOOK FOR JULY 2021 AND REVIEW OF WEATHER DURING
THE MONTH OF JUNE 2021**

1. HIGHLIGHTS

1.1. The Forecast for July 2021

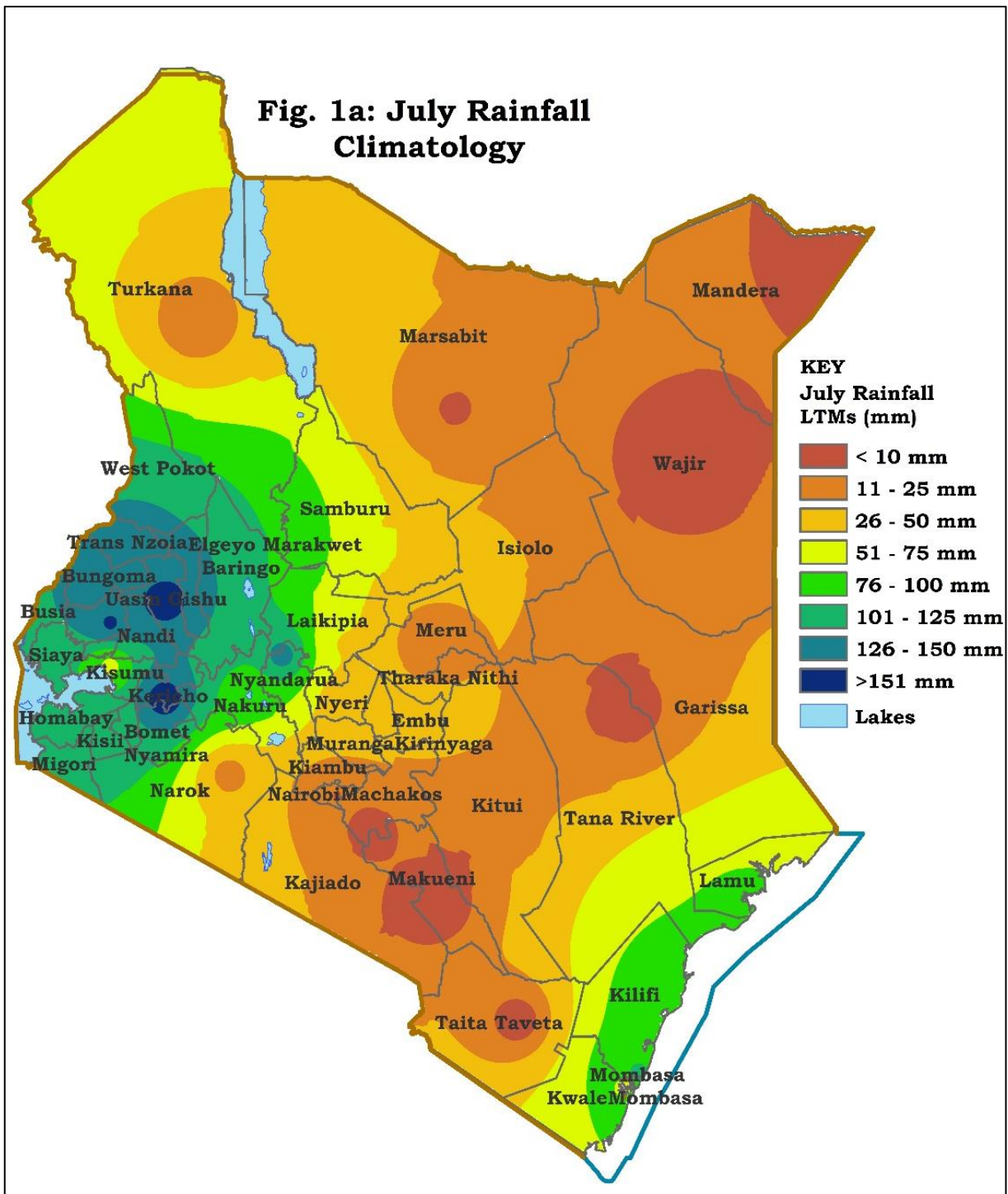
The outlook for July 2021 indicates that counties in the Lake Victoria Basin Region, Highlands West of the Rift Valley, Central and Southern Rift Valley and the Northwestern parts of the country are likely to experience near-average to above-average rainfall (slightly enhanced rainfall). The Coastal Strip is likely to receive near-average rainfall. Counties in the Northeast and Southeastern Lowlands are likely to experience generally sunny and dry conditions. Cool/cold and cloudy/foggy conditions with occasional rains/drizzles are expected to prevail over the Highlands East of the Rift Valley, Nairobi County and the Central and Southern Rift Valley.

1.2. Weather Review for June 2021

Several parts of the country remained generally dry in June 2021. However, the Highlands West of the Rift Valley, the Lake Victoria Basin, the central and south Rift Valley and the Coastal Strip recorded significant amounts of rainfall. This rainfall was generally depressed i.e., it was below the long-term averages for the month of June. Occasional cool and cloudy conditions dominated over the Highlands East of the Rift Valley, the Central Highlands including Nairobi County and parts of the southeastern lowlands during the month. The daytime temperatures over the Highlands East of the Rift Valley were generally cool with maximum temperatures occasionally dropping to below 18°C.

2. WEATHER FORECAST FOR JULY 2021

The weather forecast for July 2021 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 over Western Kenya and the Coastal region. **Figure 1a** shows the climatology of July.



2.1. Rainfall Forecast for July 2021

The forecast indicates a slightly wetter than usual month over the western parts of the country. Near-average to above average rainfall is likely to be recorded over the Highlands West of the Rift valley, Lake Victoria Basin, Central and Southern Rift Valley as well as the Northwestern parts of the country. The Coastal Strip is, however, likely to experience near average rainfall. The Southeastern and Northeastern counties are likely to remain generally sunny and dry.

Occasional cool and cloudy conditions with light morning rains/drizzles are likely to be observed in the Highlands East of the Rift Valley (including Nairobi County) and some parts of the Highlands West of the Rift Valley, Central and Southern Rift

Valley as the cold season peaks in July. **Figure 1b** illustrates the July 2021 rainfall forecast.



2.2. Specific Rainfall Outlook for Individual Areas

2.2.1. The Lake Victoria Basin, Highlands West of the Rift Valley, 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 expected during the month of July 2021. The region is likely to receive above average rainfall during the first two weeks and near average rainfall towards the end of the month. The expected total rainfall amount is likely to be near to above the long-term average amounts for July.

2.2.2. Northwestern (Turkana, West Pokot, Western Samburu):

Occasional rainfall is expected during the beginning of the month and near average rainfall towards the end of the month. This is especially over the areas bordering Uganda and South Sudan. The expected total rainfall amount is likely to be near to above the long-term average amounts for July.

2.2.3. The Coastal Strip (Mombasa, Tana River, Kilifi, Lamu, Kwale)

These counties are expected to receive occasional rainfall during the month. The expected total rainfall amount is likely to be near the long-term average for July.

2.2.4. The Highlands East of the Rift Valley (including Nairobi County): (Nyandarua, Nyeri, Kirinyaga, Murang'a, Kiambu, Meru, Embu, Tharaka Nithi, Nairobi)

These counties are expected to experience occasional cool and cloudy conditions (overcast skies) with occasional rains/drizzles. A few days are expected to be cold and chilly with daytime (maximum) temperatures falling below 18°C in various parts. Occasional afternoon showers are likely to occur at the beginning of the month.

2.2.5. Southeastern Lowlands (Machakos, Makueni, Kitui, Taita Taveta and parts of Kajiado) and Northeastern Kenya (Mandera, Marsabit, Wajir, Garissa and Isiolo)

These counties are likely to remain generally sunny and dry. Occasional cool and cloudy conditions are however likely to occur over some counties in Southeastern counties especially those areas bordering the Highlands East of the Rift Valley.

2.3. TEMPERATURE FORECAST FOR JULY 2021

The month of July marks the peak of the cold season especially over the Highlands East of the Rift Valley including Nairobi County. The temperature forecast for July 2021 indicates that the Highlands East of the Rift Valley including Nairobi County are expected to experience cold/cool temperatures, however the expected temperatures in these areas are likely to be warmer than the mean for July. On average, the maximum temperatures are expected to range between 20°C and 23°C but a few days may experience maximum temperatures below 18°C. The minimum temperatures are expected to range between 8°C and 13°C but a few days may experience minimum temperatures as low as 3°C.

Warmer than average temperatures are expected over the Coastal Strip, the Southeastern Lowlands, the Northeast, Central and South Rift Valley.

Near average temperatures are expected over much of the Lake Victoria Basin, Highlands West of the Rift Valley and the Northwestern parts of the country.

2.4. POTENTIAL IMPACTS

The following are the likely impacts during the month of July:

2.4.1. Agriculture and Food Security Sector

The expected rainfall in the Lake Victoria Basin, Highlands West of the Rift Valley, Central and South of the Rift Valley is likely to provide sufficient soil moisture to sustain agricultural production.

The expected sunny and dry during the month over the ASAL regions is expected to lead to insufficient water for human use and pasture for agricultural production.

2.4.2. Disaster Management Sector

There is still chance of flooding in low-lying areas and flood plains especially over the Lake Victoria Basin region where occasional rainfall is expected. Cases of lightning strikes are likely in the Lake Victoria Basin and Highlands West of Rift Valley. The expected sunny and dry conditions during the month of July over the ASAL regions is expected to lead to reduction in foliage and pasture for the livestock in the pastoral regions.

2.4.3. Transport and Public Safety

Fog formation in the Highlands East of the Rift Valley (including Nairobi County) is likely to pose a danger to motorists due to low visibility. Care should therefore be taken when driving in the areas likely to be affected and especially along the Nairobi-Naivasha Highway and particularly on the Kikuyu-Kinungi stretch. Fog is also likely to occasionally lead to disruption of operations at the Airports.

2.4.4. Health Sector

In areas such as Nairobi, Highlands East of the Rift Valley, Central and South Rift Valley and some parts of the Highlands West of the Rift Valley, cases of respiratory diseases like asthma, pneumonia, flu and common colds are likely to increase due to the expected cool/cold conditions. The general public is advised to adopt warm dress codes and follow advice from the Health Authorities to avoid contracting diseases.

NB: It is advisable that during chilly days, *jikos* in poorly ventilated houses are avoided as burning charcoal produces carbon monoxide gas which is lethal when inhaled.

2.4.5. Water Resources Management and the Energy Sectors

The water catchment areas over the highlands west of the Rift Valley are expected to receive above average rainfall during the month. It is, therefore, expected that the optimum water level in the hydroelectric power generation dams will be maintained.

Availability of water for both human and livestock is expected to continue diminishing in the ASAL areas. Rainwater harvesting is encouraged to boost water availability for households.

2.4.6. Environment

The expected rainfall over the Highlands West of the Rift Valley, Lake Victoria Basin, Central and Southern Rift Valley is expected to maintain soil moisture for growing of trees. The public is, therefore advised to take advantage of this

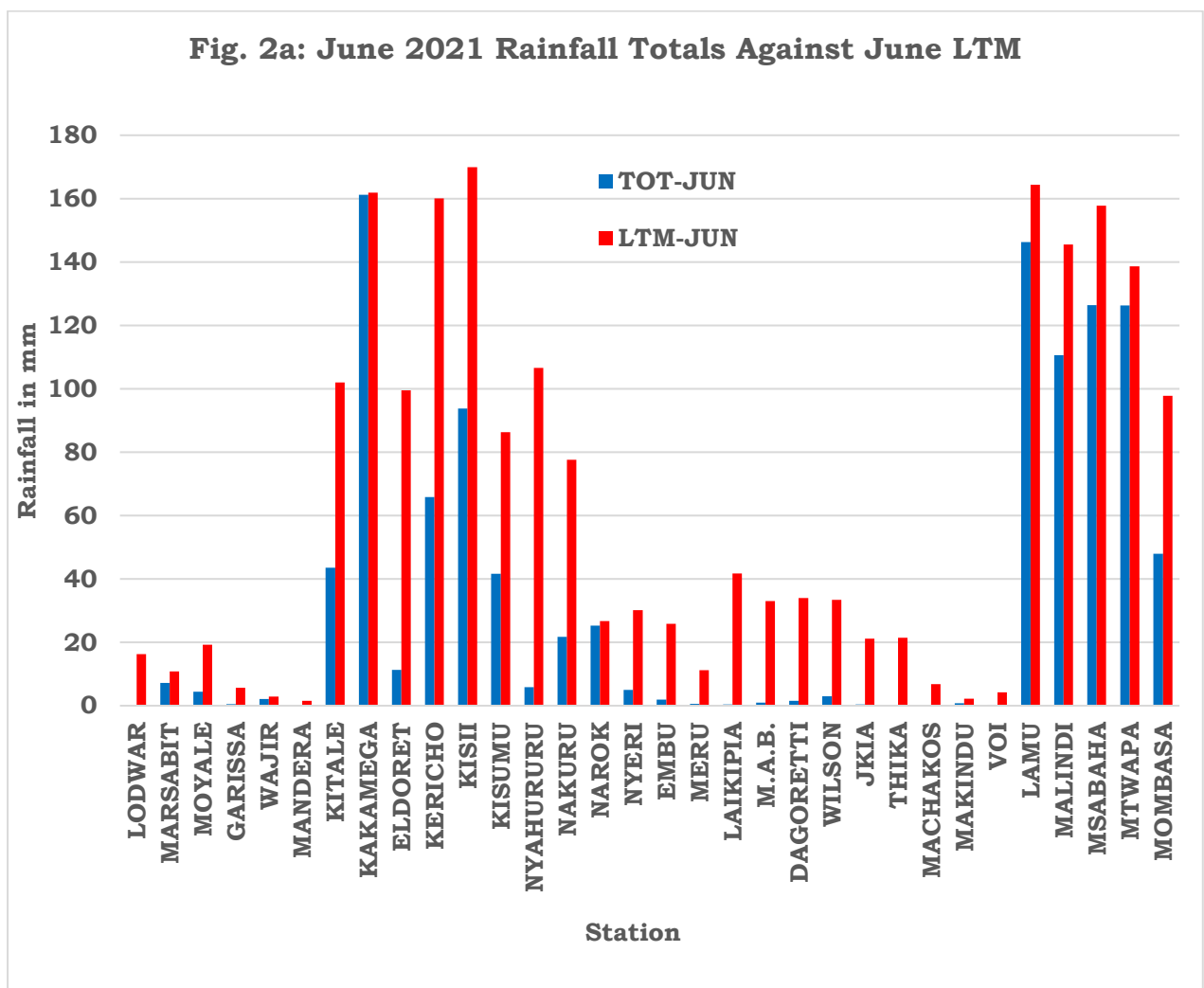
and plant trees in order to contribute to national target of 10% forest cover by 2022 while putting in place measures to conserve the environment.

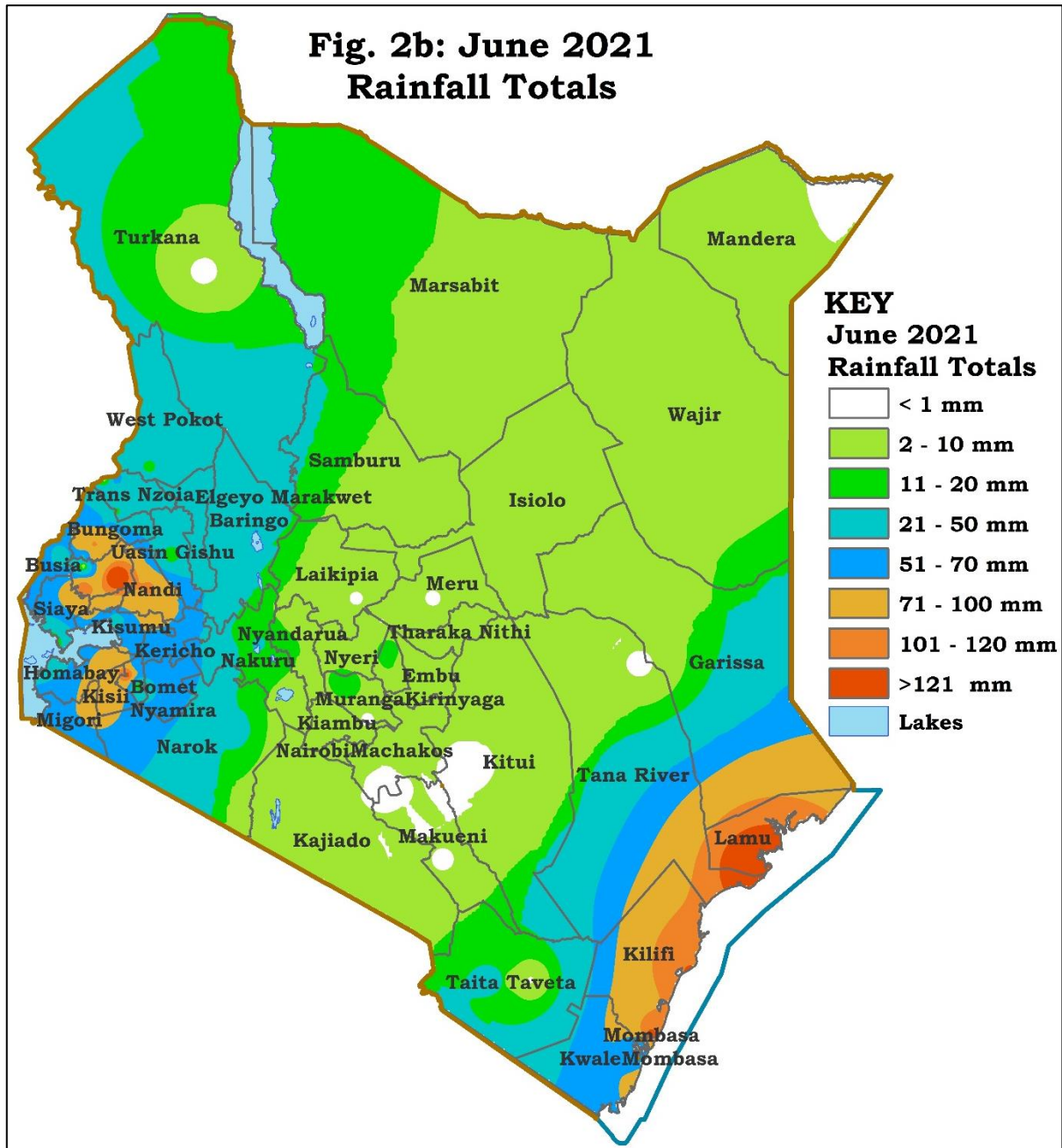
3. REVIEW OF THE WEATHER IN JUNE 2021

3.1. Rainfall Review in June 2021

Several parts of the country remained generally dry in the month of June. However, several stations over the Highlands West of the Rift Valley, the Lake Victoria Basin, Central and South Rift Valley as well as the Coastal Strip received significant amounts of rainfall. Analysis of the June 2021 monthly rainfall from 1st to 29th June 2021 indicates that most parts of the country experienced near to below-average rainfall (below 75 percent of the June LTM). As at 29th June, 2021, Kakamega Meteorological Station had recorded the highest monthly rainfall total of 161.2mm (99.6% of its June LTM). This was followed by Lamu station which recorded 146.3 mm (89.0%). Msabaha, Mtwapa, Malindi, Kisii, Kericho, Mombasa, Kitale, Kisumu, Narok, Nakuru and Eldoret stations recorded 126.4mm (80.1%), 126.3mm (91.1%) 110.6mm (76%), 93.8mm (55.2%), 65.8mm (41.1%), 47.9mm (49%), 43.5mm (42.6%), 41.6mm (48.2%), 25.3mm (94.8%), 21.7 (28%) and 11.3mm (11.4%) respectively. The rest of the stations recorded less than 10mm of rainfall with Lodwar, Manderera and Thika recording no rainfall at all throughout the month.

Figure 2a shows the rainfall recorded from 1st to 27th June, 2021 (**Blue bars**) compared to June LTMs (**Red bars**). **Figure 2b** depicts the June 2021 rainfall totals.





3.2. Temperature Review in June 2021

The month of June marked the beginning of the cold season in the country. During June 2021, several stations over the Highlands East of the Rift Valley including Nairobi County recorded day time (Maximum) temperatures that were below 18°C. For instance, Kangema station recorded a maximum temperature of 14.7°C on 22nd June. Nyeri station recorded a maximum temperature of 16.1°C on 27th June. On the same day, Ngong and Dagoretti stations recorded 16.2°C and 17.0°C respectively. The lowest monthly average day time temperature of 20.1°C was recorded in Ngong station. Eldoret, Kericho, Narok, Nyahururu, Laikipia, Kabete, Ngong and Machakos occasionally recorded night time (Minimum) temperature below 10°C. For instance, Nyahururu station recorded a minimum temperature of 2.2°C on 9th June and 3.0°C on 1st June while Narok recorded 7.4°C on 11th June. The lowest monthly average night time temperature of 6.2°C was recorded in Nyahururu station.

3.3. SYNOPTIC CONDITIONS IN JUNE 2021

During the month of June, SSTs were near-average in the western Indian Ocean and near to above average in the eastern Indian Ocean, constituting a negative IOD. During the last 4 weeks, SSTs have remained near average across most of the equatorial Pacific Ocean indicating that ENSO-neutral conditions were present. The Zonal (east-west) arm of the Inter-Tropical Convergence Zone (ITCZ) remained over the North in Ethiopia and South Sudan for most of the period. The Meridional (North-South) arm of the ITCZ was mainly over Congo and Uganda but occasionally shifted to parts of Western Kenya. The Mascarene high-pressure system and the Eastern Africa high-pressure ridge were moderate for most of the month. This led to occasional cool temperatures over some parts of the country.

3.4. EXPERIENCED IMPACTS

The depressed rainfall recorded over several parts of the country was associated with the following impacts:

3.4.1. Agriculture and Food Security Sector.

The dry conditions over the ASAL regions resulted in insufficient pasture and water for livestock. There were cases of crop failure and food shortage in Lamu County where over 2000 people face starvation due to the dry conditions being experienced there.

3.4.2. Disaster Management Sector

There was conflict over water, pasture and grazing fields between residents of Isiolo and Wajir counties where five people were killed and several others injured.

3.4.3. Transport and Public Safety

Fog occurrence was reported along the Nairobi-Nakuru highway, over several counties in the Highlands East of the Rift Valley and over a few counties in Northeast. Meru Meteorological Station reported five hours of fog on 12th June 2021. Nyeri Meteorological Station reported five hours of fog on 13th and 16th June 2021, while Marsabit reported 5 hours of fog on 1st and 9th June 2021

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 County forecasts developed and availed by County Meteorological Offices.



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