



REPUBLIC OF KENYA
MINISTRY OF ENVIRONMENT AND FORESTRY
KENYA METEOROLOGICAL DEPARTMENT

Dagoretti Corner, Ngong Road, P. O. Box 30259, 00100 GPO, Nairobi, Kenya

Telephone: 254 (0) 20 3867880-7, 0724 255 153/4

E-mail: director@meteo.go.ke, info@meteo.go.ke

Website: <http://www.meteo.go.ke>

Twitter: [@MeteoKenya](https://twitter.com/MeteoKenya)

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THE WEATHER OUTLOOK FOR SEPTEMBER 2021 AND WEATHER REVIEW FOR AUGUST 2021

1 HIGHLIGHTS

1.1 The outlook for September 2021

The outlook for September 2021 indicates that several parts of the country will continue to experience generally sunny and dry weather conditions. However, the Lake Victoria Basin, the Highlands West of the Rift Valley, Central and Southern Rift Valley are likely to experience near-average rainfall with a tendency to above average (slightly enhanced) rainfall. Occasional light morning showers are expected along the Coastal Strip while the Highlands East of the Rift Valley (including Nairobi County) are likely to experience occasional afternoon showers and cloudy conditions in the mornings especially at the beginning of the month.

1.2 The Weather Review for August 2021

During the month of August, near to below average rainfall was recorded over the Lake Victoria Basin, the Highlands West of the Rift Valley, Central and South Rift Valley and parts of Northwestern Kenya. The rainfall occasionally spread to the Highlands East of the Rift Valley (including Nairobi County). Dry weather conditions were experienced over the Southeastern lowlands, Northeastern and most of the Northwestern Kenya. The mean temperatures were above normal over most parts of the country.

2. THE WEATHER FORECAST FOR SEPTEMBER 2021

The rainfall forecast for September 2021 is based on the observed patterns of the Global Sea Surface Temperatures (SSTs) and more so those over the Indian and Pacific Oceans. The near average to below average SSTs in the Western Equatorial Indian Ocean (adjacent to the East African Coast) and the warmer than average SSTs in the Eastern Equatorial Indian Ocean (adjacent to Australia) and also the near to below average SSTs across most of the equatorial Pacific Ocean were taken into account. This constitutes a negative Indian Ocean Dipole and ENSO neutral conditions. **Figure 1a** shows the rainfall climatology in September.

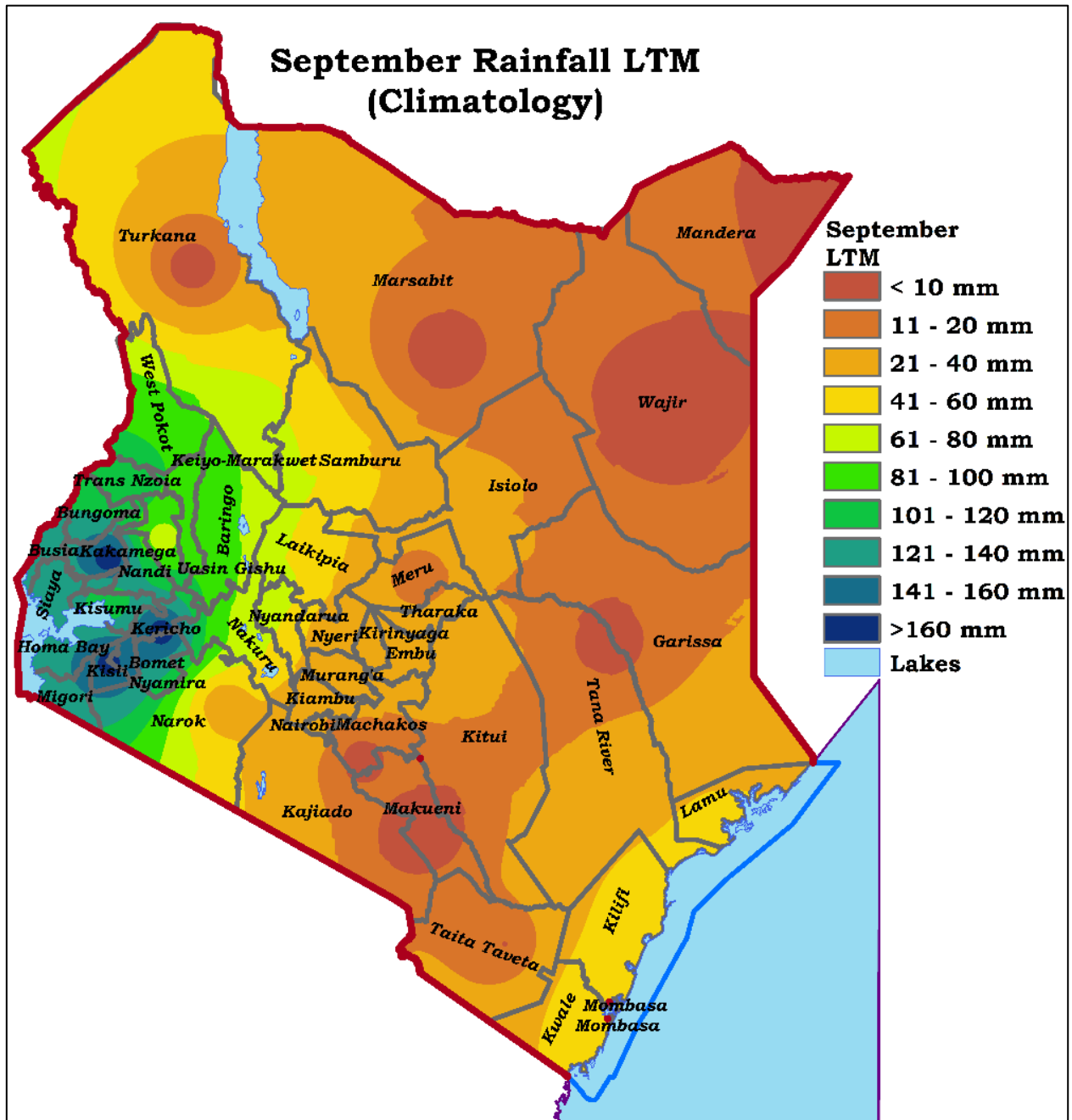


Fig. 1a: September Rainfall LTM (Climatology)

2.1. Rainfall Forecast for September 2021

It is expected that several parts of the country will be generally dry for most of the month of September. However, near-average to above-average rainfall is likely to be experienced over the Lake Victoria Basin, the Highlands West of the Rift Valley, Central Rift Valley and some parts of the Highlands East of the Rift Valley including Nairobi County as depicted by **Figure 1b**.

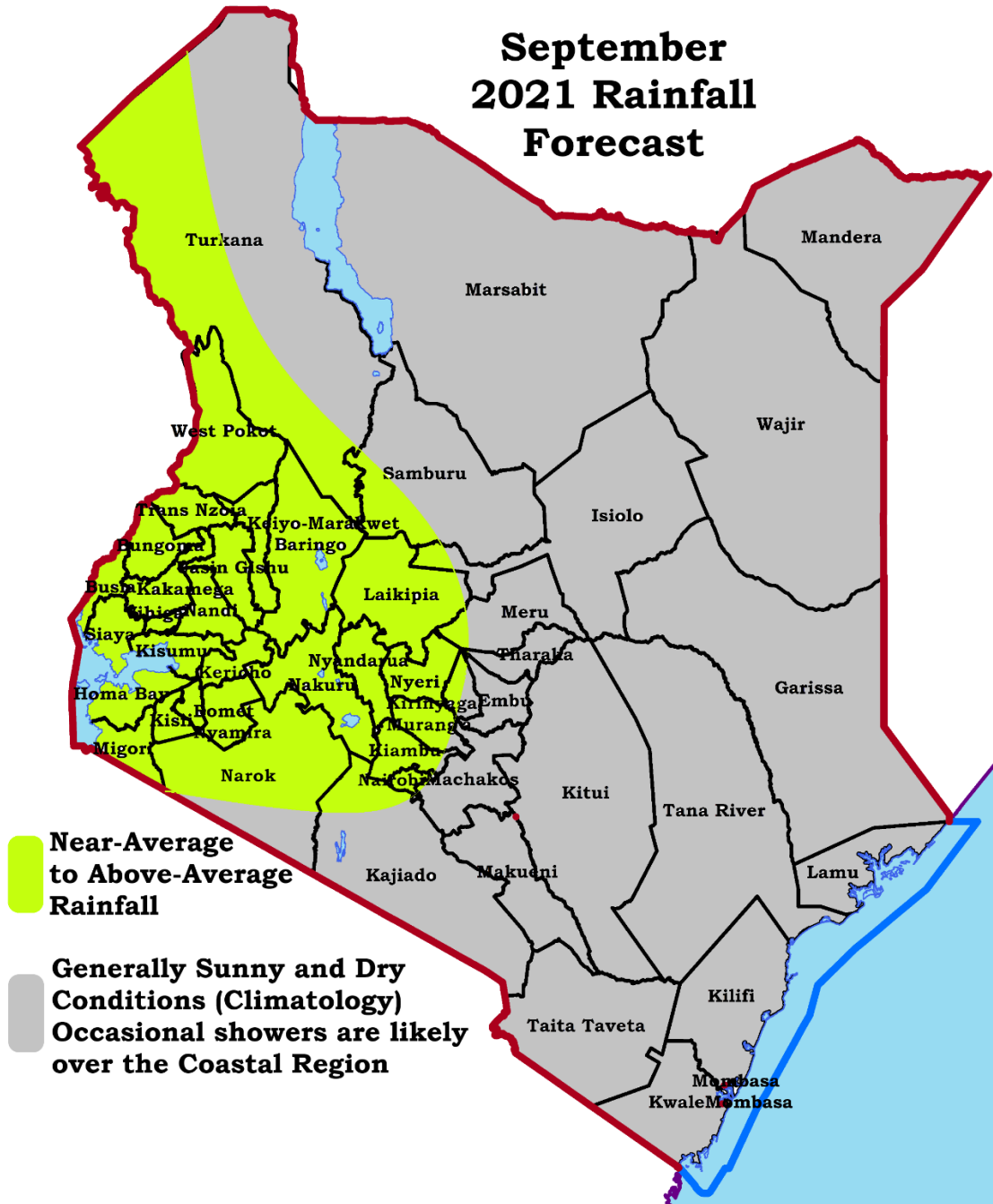


Figure 1b: September 2021 Rainfall Forecast

2.2 Specific Outlook for particular areas

2.2.1 The Highlands West of the Rift Valley (Trans Nzoia, Nandi, Kericho, Uasin Gishu, Elgeyo-Marakwet, Kakamega, Vihiga, Bungoma, Kisii, Nyamira counties); the **Lake Victoria Basin:** (Kisumu, Homa Bay, Migori, Siaya, Busia counties); the **Central Rift Valley** (Nakuru, Baringo, Laikipia counties) and the **Southern Rift Valley** (Bomet, Narok counties) are likely to experience slightly above long-term average rainfall, which will be characterized by occasional showers and thunderstorms during the month. The rainfall is expected to be above average in the third week and near average during the rest of the month.

2.2.2 Northwestern Kenya (Turkana, West Pokot and Samburu counties) is likely to experience sunny and dry weather conditions throughout the month. However, areas bordering Uganda and Southern Sudan are likely to experience occasional rainfall during the first two weeks of the month. The expected total rainfall amount is likely to be slightly above the long-term average amounts for September.

2.2.3 The Highlands East of the Rift Valley (Nyeri, Murang'a, Kiambu, Kirinyaga, Nyandarua, Embu, Meru and Tharaka-Nithi counties); **Nairobi County;** are likely to experience sunny and dry weather conditions for most of the month. However, occasional afternoon showers and cloudy conditions in the mornings are likely, especially during the first three weeks. The expected total rainfall amount is likely to be near the long-term average for September.

2.2.4 The Coast (Lamu, Kilifi, Mombasa, Kwale and Tana River counties) is likely to experience generally dry weather conditions with occasional light morning showers. The expected total rainfall amount is likely to be below the long-term average for the month of September.

2.2.5 Northeastern Kenya (Marsabit, Isiolo, Wajir, Mandera, and Garissa counties); the **Southeastern Lowlands** (Machakos, Makueni, Kitui, Kajiado and Taita Taveta counties) are likely to experience generally sunny and dry weather conditions throughout the month.

2.3 POTENTIAL IMPACTS

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

2.3.1 Agriculture and Food Security

The continuation of sunny and dry weather conditions in the Southeastern lowlands, Northeastern and most of Northwestern Kenya may lead to diminishing

pastures for livestock in these regions. Close monitoring of the situation is therefore necessary to avert loss of livestock. Livestock farmers are encouraged to de-stock their herds while they are still in good condition. Food and water shortages are expected in these areas. Plans to distribute food as well as provide water to affected communities should be put in place.

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

2.3.2 Disaster Management

There is likelihood of food and water shortages in the ASAL areas. Contingency plans should be put in place to avoid malnutrition-related diseases and loss of lives.

The limited resources in the ASAL regions may lead to human-wildlife and inter-community conflicts. Plans should be put in place to provide watering points for wildlife. Inter-community peace talks as well as sensitization of the current situation should be enhanced.

Strong southerly winds of up to about 25 knots are expected over Northeastern counties (Garissa, Mandera, Marsabit and Wajir) during much of the month. As these winds are likely to raise dust, residents in the affected areas are advised to take the necessary safety measures.

2.3.3 Water Resources Management and Energy

The water levels in the dams across the country are expected to remain low during this period and may therefore affect hydro-electric power generation. Reservoir management practices should be put in place to regulate power production.

2.3.4 Health

Water scarcity in the ASAL areas may lead to water-borne diseases such as diarrhea, dysentery and cholera. Plans should be made to provide safe drinking water, as well as provide water treatment chemicals to communities that draw the essential resource from open sources.

Cases of nutrition-related diseases are likely to increase in ASAL areas. Rapid vulnerability assessment should therefore be carried out to determine the most affected and provide relief food to the most vulnerable population.

There may be an increase in respiratory tract diseases over the Northeastern Kenya as a result of the strong winds and dry weather conditions which may lead to dust storms.

2.3.5 Environment

The expected dry weather conditions may lead to an increase in forest fires. Relevant authorities should take necessary measures to avoid or minimize the impacts associated with forest fires.

The expected occasional 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 grow trees in order to contribute to the national target of 10% forest cover by 2022 while putting in place measures to conserve the environment.

3 REVIEW OF THE WEATHER DURING AUGUST 2021

3.1 Rainfall Review in August 2021

During the month of August, rainfall was recorded over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Central Rift Valley, the Coast and parts of Northwestern Kenya. This rainfall occasionally spread to the Highlands East of the Rift Valley and Nairobi. Dry weather conditions were recorded over the Southeastern lowlands, the southern Rift Valley, Northeastern and parts of Northwestern Kenya where most meteorological stations recorded monthly rainfall totals of less than 20mm. For example, Wajir, Mandera, Marsabit, Moyale, Makindu and Lodwar stations recorded no rainfall at all.

The rainfall amounts recorded over the Lake Victoria Basin, the Highlands West of the Rift Valley, the Central Rift Valley and the Highlands East of the Rift Valley (including Nairobi County) were near to below average, compared with their August monthly LTMs, while the Coast recorded below average rainfall. Kakamega Station recorded the highest monthly rainfall total of 224mm which is 105.5% of its August LTM. Other stations that recorded rainfall totals exceeding 100mm include Kericho 213.3mm (114.6%), Kisii 167.8mm (103.1%), Eldoret 156.5mm (102.2%), Nakuru 126.4mm (117.5%) and Laikipia 103.7mm (207.3%). Kisumu, Kitale and Nyahururu recorded 99.4mm (126.3%), 99.2mm (65.5%), and 74.1mm (51.1%) respectively. The rest of the stations recorded less than 50mm as seen in **Figure 2a and 2b** below.

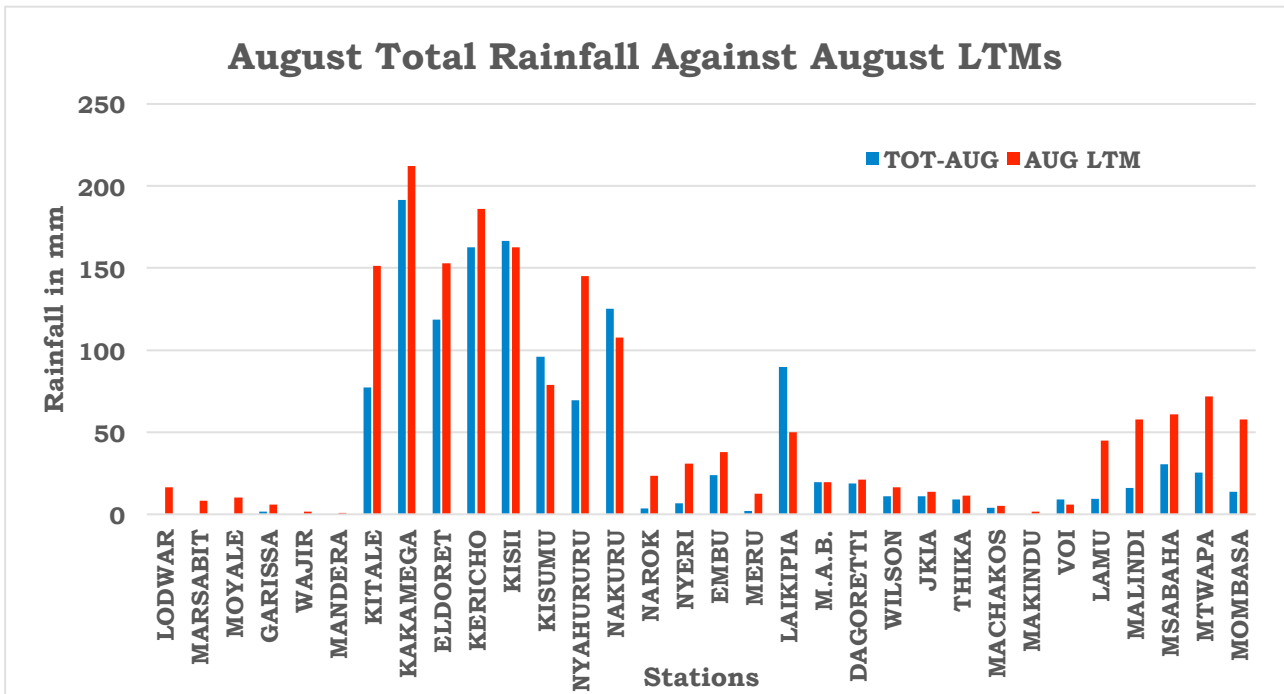


Figure 2a: Observed August 2021 Total Rainfall vs August LTMs

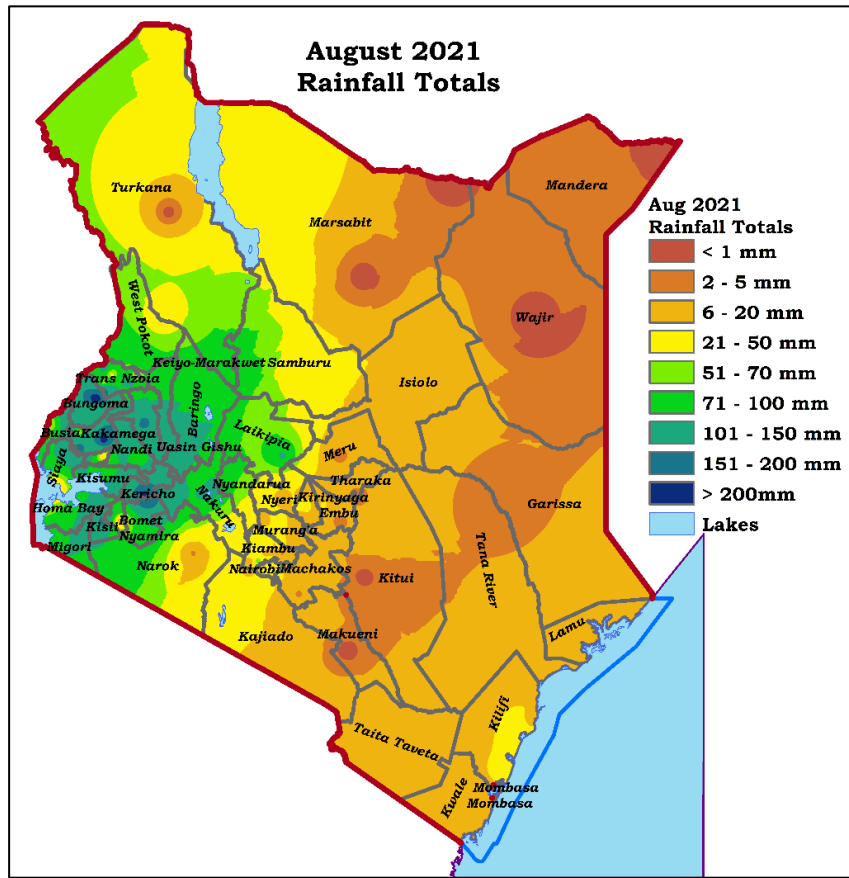


Fig. 2b: Observed August 2021 Rainfall Totals

3.2 Temperature Review in August 2021

The month of August marks the end of the cold season. An analysis of temperature up to 30th August indicates that most parts of the country recorded mean temperatures that were above the long term mean for the month of August as had been predicted in the August forecast. However, Embu meteorological station experienced below average temperatures.

There were a few days when several stations in the Highlands East of the Rift Valley, including Nairobi County, recorded maximum temperatures that were below 18°C. For instance, Kangema recorded a maximum temperature of 15.9°C on 11th August while Ngong reported 16.9°C on the same day. On 12th August Kangema recorded 13.4°C while Nyeri, Dagoretti, Kabete and Ngong reported 16.8°C, 16.6°C, 15.5°C and 16.1°C respectively on the same day. The lowest monthly average day time temperature of 21.3°C was recorded in Kangema station.

Narok, Nyahururu, Laikipia and Machakos meteorological stations occasionally recorded night time (minimum) temperatures below 10°C. For instance, Nyahururu station recorded a minimum temperature of 4.2°C on 5th August while Narok recorded 6.0°C on 24th August. Machakos and Laikipia recorded 7.5°C and 7.3°C on 15th and 18th August respectively. The lowest monthly night time temperature (7.4°C) was recorded in Nyahururu station.

3.3 Experienced Impacts

3.3.1 Agriculture and Food Security

The dry conditions over the ASAL regions resulted in insufficient pasture and water for livestock. There were cases of livestock death in Wajir and Kilifi Counties where residents are also faced with starvation. Milk production in Marsabit County declined. There were also cases of crop failure and food shortage in Kilifi County. Livestock in Kajiado County are reported to be in bad condition.

3.3.2 Disaster Management

Drought has been reported in twenty ASAL counties where animals are dying and the residents are facing acute food shortages. Some counties are in the drought alarm levels and the situation is expected to worsen in coming days.

Strong winds of more than 25 knots were reported over a number of counties in the Southeastern lowlands, the Coast, Northeastern and Northwestern Kenya.

3.3.3 Transport and Public Safety

Fog occurrence was reported along the Nairobi-Nakuru highway and over few areas in the Highlands East of the Rift Valley and Northeastern Kenya during the first half of the month. Meru Meteorological Station reported five consecutive

hours of fog on 12th August while Marsabit and Ngong reported four consecutive hours of fog on 8th and 11th August respectively.

3.3.4 Water Resources Management and the Energy

The water levels in the hydro power generation dams have started to reduce. There has also been shortage of water for domestic use in the ASAL areas.

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.



David Gikungu, PhD

FOR: DIRECTOR OF KENYA METEOROLOGICAL DEPARTMENT