REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT AND MINERAL RESOURCES

KENYA METEOROLOGICAL DEPARTMENT

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MONTHLY WEATHER REVIEW FOR JULY 2009 AND THE FORECAST FOR AUGUST 2009

1. SUMMARY

In July 2009, most parts of the country remained generally dry. The Western and the Coastal areas that normally experience significant rainfall amounts in the month of July also recorded highly depressed rainfall. Several stations recorded less than 75 percent of their Long-Term Means (LTMs) for the month. Occasional cool and cloudy conditions were recorded in the Central highlands including Nairobi area but the average day and night temperatures were generally higher than average.

The outlook for August 2009 indicates that most parts of the country will continue to be generally dry. However, some parts of the Western Highlands (Kericho, Kitale, Eldoret, Kakamega, Bungoma) and parts of Central Rift Valley (Nakuru, Nyahururu) are likely to experience slightly enhanced rainfall amounts. Most of the Lake Victoria Basin (Kisumu, Kisii) is expected to experience generally depressed rainfall. Occasional light morning showers are expected to occur along the Coastal strip while cool and cloudy/foggy conditions with occasional light rains/drizzles are expected to occur over the central highlands and Nairobi area especially during the first half of the month.

2. REVIEW OF THE WEATHER DURING JULY 2009

2.1 Prevailing Synoptic Conditions

The Meridional (North-south) arm of the Inter-Tropical Convergence Zone (ITCZ) was mainly over the central parts of Africa but occasionally shifted eastwards to Uganda and some parts of western Kenya. The Zonal (east-west) arm of the ITCZ remained further north in Ethiopia.

The St. Helena and the Mascarene high-pressure systems (anticyclones) were generally weaker than average for most of the month. The Eastern Africa high-pressure ridge was generally weak for most of the period leading to warmer than average weather conditions over most parts of the country.

Warmer than average Sea Surface Temperatures (SSTs) continued to occur over western equatorial Indian Ocean adjacent to the East African coast. Warmer than average SSTs also prevailed over eastern and central equatorial Pacific Ocean, indicates development of El Niño conditions.

2.2 Rainfall Review

Rainfall analysis for July 2009 indicates that most parts of the country remained generally dry as reminiscent of this month. All meteorological stations in Northwestern, Northeastern and Southeastern Kenya recorded no rainfall throughout the month. The Central highlands including Nairobi recorded light rainfall amounts with monthly totals barely exceeding 10mm. Most parts of the Western highlands recorded generally depressed rainfall that was well below average. Most stations in the region recorded below 75 percent of the expected Long-Term Means (LTMs). For instance, stations like Kericho, Kisii and Kisumu recorded less than 50 percent of their LTMs. This was because the Meridional (North-south) arm of the Inter-Tropical Convergence Zone (ITCZ) was mainly confined

over the Central parts of Africa and only occasionally shifted eastwards to Uganda and some parts of western Kenya. The Coastal areas also experienced highly depressed rainfall with all stations recording rainfall that never exceeded 50 percent of their LTMs.

Up to 29th July, Eldoret station recorded the highest monthly rainfall total of 143.4mm (86%) as compared to its July LTM of 167.1mm. Eldoret Airport, Kitale, Kakamega, Kericho, Msabaha, Kisii and Mtwapa stations recorded 102.2 (60%), 99.4 (75%), 83.6 (55%), 59.5 (33%), 59.4 (50%), 57.6 (43%) and 50.7mm (50%) as compared to their LTMs of 170.5, 133.4, 153.2, 181.4, 118.7, 133.1 and 101.7mm respectively. The rest of the stations recorded less than 40mm as shown in **Figure 1**.

2.3 Temperature Review

The Central highlands and Nairobi experienced occasional cool and cloudy conditions during the month. Analysis of July air temperatures, however, indicates that both the minimum (night-time) and maximum (day-time) temperatures for the month were warmer than average over most parts of the country with sunny conditions dominating for most of the month. This is attributed to the generally weak Eastern Africa High-Pressure Ridge for much of the month. The day-time temperatures rarely fell below 20°C unlike some years when July maximum temperatures dip to as low as 15°C especially in the Central highlands and Nairobi area. The lowest daily maximum temperatures of 17.7°C and 17.3°C were respectively recorded on 7th and 23rd July at Dagoretti Corner Meteorological station. Nyeri Meteorological station also recorded the lowest daily maximum temperature of 17.1°C on 22nd July. The highest maximum temperature anomaly of positive 2.8°C was recorded at Thika Meteorological Station. For the minimum temperatures, Nakuru recorded the highest anomaly of positive 1.7°C. Nyahururu Meteorological station, however, recorded a negative anomaly of 1.2°C.

3. WEATHER OUTLOOK FOR AUGUST 2009

3.1 Climatology Conditions

The month of August is normally characterized by dry and cool conditions over most parts of the country save for the western highlands and the coastal strip where significant rainfall is normally recorded. The mean rainfall distribution for the month of August is shown in **Figure 2**.

3.2 Outlook for August 2009

3.2.1 Rainfall

The rainfall forecast for August 2009 is based on regression of Sea Surface Temperature (SSTs) anomalies and SST anomaly gradients on Kenyan rainfall. The El Nino-like conditions in the eastern and central equatorial Pacific Ocean were also put into considerations.

The forecast indicates that most parts of the country including the Coastal strip will continue to be generally dry for most of the month. However, enhanced rainfall (above normal rainfall) is expected over parts of the Western highlands of the country and the northern parts of Central Rift Valley. The Lake Victoria Basin and the southwestern parts of the country are expected to receive generally depressed (below normal) rainfall **(see Figure 3)**.

3.2 Temperatures

Occasional cool and cloudy conditions are expected to occur in the Central highlands including Nairobi during the first half of August.

3.3 The specific outlook for individual areas is as follows:

a) **The Highlands West of the Rift Valley (Kitale, Kericho, Nandi, Eldoret, Kakamega) and parts of Central Rift Valley (Nakuru, Nyahururu, Aberdares region)** are likely to receive near normal rainfall tending to above normal (enhanced);

b) **The Lake Victoria Basin (Kisumu, Kisii, Busia) and most of Southwestern Kenya** are expected to receive below normal (depressed) rainfall;

c) **The Highlands East of the Rift Valley (Nyeri, Muranga, Kiambu, Embu, Meru) and Nairobi area (Dagoretti, Kabete, Wilson, Eastleigh, Ngong)** will experience cool and cloudy/foggy conditions with occasional light rains / drizzles during the first half of the month. The temperatures are, however, expected to be warmer than average with mainly sunny conditions dominating during the second half of the month;

d) **The Coastal strip (Lamu, Malindi, Msabaha, Mombasa, Mtwapa, Kilifi)** is expected to experience occasional light morning showers and more so over the southern Coastal strip;

e) **The Northwestern Regions (Lodwar, Lokichoggio, Lokitaung), Northeastern Kenya (Marsabit, Garbatulla, Wajir, Mandera, Moyale), Southeastern Kenya (Machakos, Makindu, Voi) and parts of central and south Rift Valley (Narok, Magadi, Kajiado)** are expected to remain generally sunny and dry throughout the month. Occasional afternoon showers and thunderstorms are, however, likely to occur over northwestern areas bordering Uganda and Sudan.

4. EXPECTED IMPACTS

- The expected good rainfall performance over parts of the western highlands is expected to improve crop performance over some areas in the north Rift.
- Visibility may occasionally become poor in some parts of Central highlands, Nairobi and parts of Rift Valley. Drivers are cautioned to exercise extra care when driving along roads such as along the stretch between Limuru and Kinungi / Naivasha and Nakuru - Eldoret roads to avoid accidents.
- The foggy conditions may also occasionally impact on air transport at Jomo Kenyatta International Airport, especially during landing and take off.
- The expected cool and occasional chilly weather conditions are still likely to enhance cases of weather related respiratory diseases like asthma, pneumonia, flu and common colds. People (particularly children and those who are elderly) are advised to wear the right clothing under such conditions.

NB: This forecast should be used in conjunction with regular 24-hour forecasts and updates issued by this Department.

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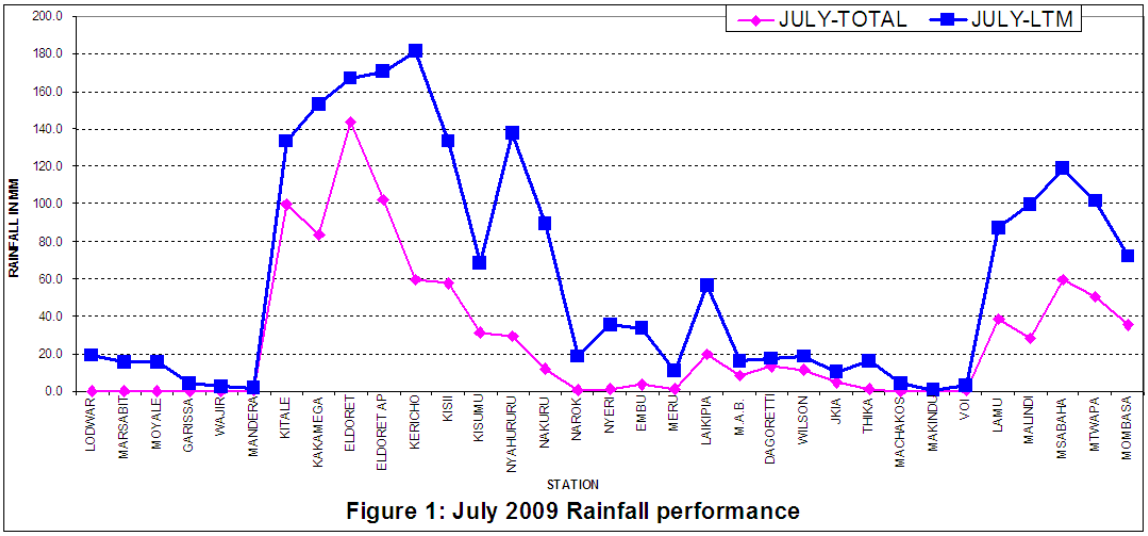

Figure 1: July 2009 Rainfall performance

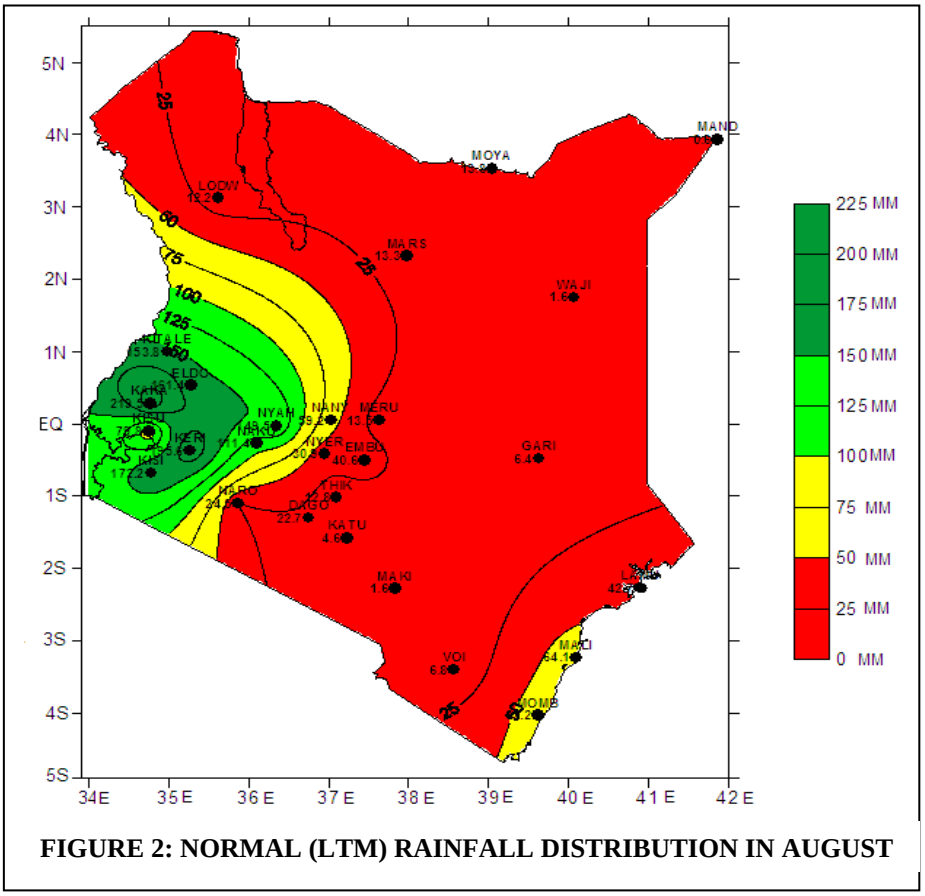

FIGURE 2: NORMAL (LTM) RAINFALL DISTRIBUTION IN AUGUST

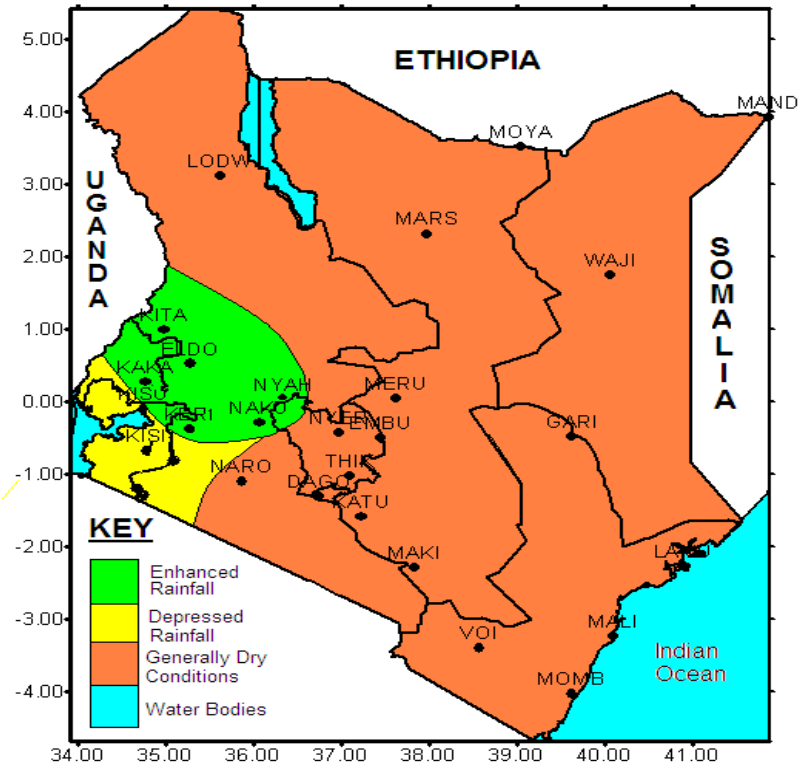

Figure 3: Rainfall Outlook for August 2009