



# REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT AND MINERAL RESOURCES

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## WEATHER REVIEW FOR JULY 2010 AND THE OUTLOOK FOR AUGUST 2010

### 1. SUMMARY

*Most parts of the country remained generally dry in July 2010. The Western areas, however, recorded substantial amounts of rainfall. The rainfall amounts recorded indicated an enhancement at Kitale and Eldoret, but generally depressed elsewhere in the region. The Coastal areas recorded near average rainfall amounts though depressed, especially at Malindi and Msabaha.*

*Occasional cool and cloudy conditions with light rains were experienced in the Central highlands including Nairobi area; especially during the second half of the month. The average day and night time temperatures were slightly higher than average.*

*The outlook for August 2010 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; Lake Victoria Basin (Kisumu, Kisii, Busia); and parts of Central Rift Valley (Nakuru, Nyahururu), are likely to experience slightly enhanced rainfall amounts. Occasional light morning showers are expected to occur along the Coastal strip while cool/cold and cloudy/foggy conditions, with occasional light morning 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 2010

#### 2.1 Rainfall Review

Rainfall analysis for July 2010 indicates that most parts of the country remained generally dry, as expected of the month. Most meteorological stations in Northwestern, Northeastern and Southeastern parts of the country recorded monthly rainfall totals not exceeding 15mm with majority of stations recording no rainfall at all throughout the month. The Central highlands, including Nairobi, recorded light rainfall amounts with monthly totals barely exceeding 30mm. However, most parts of the Western highlands recorded significant amounts of rainfall that was highly enhanced at Kitale and Eldoret. Kakamega and Kericho stations in the western highlands and Nakuru station in the central Rift Valley recorded near-average rains while Kisii and Kisumu stations in the Lake Victoria basin recorded generally depressed rainfall. The Eldoret and Kitale meteorological stations recorded 184% and 148% of their monthly Long-Term Means (LTMs), respectively, while Kisumu station recorded just 19% of its LTM. The Coastal areas recorded near-average rainfall amounts. The rainfall was, however, generally depressed, especially at Malindi and Msabaha stations. The two stations recorded less than 70 percent of their LTMs while Mombasa, Mtwapa and Lamu recorded between 80 and 90 percent of their LTMs.

Eldoret Meteorological Station recorded the highest monthly rainfall total of 307.7mm as compared to its July LTM of 167.1mm. Eldoret Internal Airport, Kitale, Kericho, Kakamega and Nakuru meteorological stations recorded 224.8, 197.5, 164.1, 145.8 and 110.1mm, respectively, as compared to their respective LTMs of 170.5, 133.4, 181.4, 153.2 and 89.8mm. Kisii, Nyahururu and all the Coastal

strip meteorological stations recorded between 50 and 100mm. The rest of the stations in the country recorded less than 40mm as shown in **Figure 1**.

## **2.2 Temperature Review**

Most parts of the country recorded fairly warm conditions during the month. The Central highlands and Nairobi area, however, experienced occasional cool and cloudy conditions especially during the second half of the month. Analysis of the July air temperatures, indicates that both the minimum (night-time) and maximum (day-time) temperatures for the month were slightly warmer than average over most parts of the country with sunny conditions dominating for most of the month.

The day-time temperatures in the Central highlands and Nairobi area occasionally fell below 20°C. The lowest daily maximum temperature of 16.1°C was recorded at Nyeri station on 8<sup>th</sup> July. The same station also recorded maximum temperatures of 16.2°C and 16.4°C on 26<sup>th</sup> and 27<sup>th</sup> July. On 8<sup>th</sup> July, Embu and Dagoretti Corner stations recorded 17.6°C and 18.3°C respectively.

The highest maximum temperature anomaly of positive 1.8°C was recorded at Kisumu Meteorological Station. On the other hand, Nakuru meteorological station recorded the highest anomaly of positive 2.4°C with regard to minimum temperatures.

## **2.3 Prevailing Synoptic Conditions During July 2010**

The synoptic conditions and climatology prevailing during July indicates that the Meridional (North-South) arm of the Inter-Tropical Convergence Zone (ITCZ) was mainly over Uganda and the western parts of Kenya. The Zonal (East-West) arm of the ITCZ remained further north in Ethiopia.

The Mascarene high-pressure system (anticyclone) was generally weaker than average for most of the month. The Eastern African high-pressure ridge was also generally weak most of the month, thus leading to slightly warmer than average weather conditions over most parts of the country.

Warmer than average Sea Surface Temperatures (SSTs) persisted over the western equatorial Indian Ocean adjacent to the East African coast. Cooler than average SSTs, however, continued to develop over the eastern and central equatorial Pacific Ocean (the Niño areas)- an indicator that La-Niña conditions were evolving in the Pacific Ocean.

# **3. WEATHER OUTLOOK FOR AUGUST 2010**

On average, the month of August is normally characterized by dry and cool conditions especially over the central parts of the country. The western highlands, however, continue to experience significant rainfall amounts throughout the month. The mean rainfall distribution for the month of August is as shown in **Figure 2**.

## **3.1 Rainfall Outlook**

The rainfall forecast for August 2010 is based on regression of Sea Surface Temperature (SSTs) anomalies as well as SST gradients on Kenyan rainfall. The La Niña-like conditions in the eastern and central parts of the equatorial Pacific Ocean have also been taken into consideration.

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

## **3.2 Temperature Outlook**

Occasional cool and cloudy conditions with light rains are expected to occur in the Central highlands including Nairobi area, especially during the first half of August. A few days may turn out to be chilly

(temperatures below 13°C) but on average, near-normal temperatures (both daytime and nighttime) are expected to occur during the month.

### **3.3 The Specific Outlook for Individual Areas is as Follows:**

- a) **The Highlands West of the Rift Valley (Kitale, Kericho, Nandi, Eldoret, Kakamega), Lake Victoria Basin (Kisumu, Kisii, Busia) and parts of Central Rift Valley (Nakuru, Nyahururu, Aberdares region)** are likely to receive near normal rainfall tending to above normal (enhanced);
- b) **The Highlands East of the Rift Valley (Nyeri, Muranga, Kiambu, Embu, Meru) and Nairobi area (Dagoretti, Kabete, Wilson, Eastleigh, Ngong)** will experience occasional cool/cold and cloudy/foggy conditions with occasional light rains / drizzles especially during the first half of the month. Sunny conditions are likely to dominate during the second half of the month. The daytime and nighttime temperatures are expected to be near-normal during the month;
- c) **The Coastal strip (Lamu, Malindi, Msabaha, Mombasa, Mtwapa, Kilifi)** is expected to experience generally dry conditions with occasional light morning showers especially confined to the southern Coastal strip;
- d) **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 the northwestern areas bordering Uganda and Sudan.

## **4. POTENTIAL IMPACTS EXPECTED**

- The expected good rainfall performance over parts of the western highlands is likely to improve crop performance over some areas, especially in the North Rift.
- Visibility may occasionally become poor due to low clouds/fog in some parts of Central highlands, Nairobi and parts of Rift Valley, especially during the first half of the month. Motorists are cautioned to exercise extra care when driving along roads such as Limuru-Kinungi-Naivasha-Nakuru - Eldoret to avoid accidents.
- The foggy conditions may also occasionally impact on air transport at Jomo Kenyatta International Airport, especially during landing and take off.
- Cases of weather related respiratory diseases like broncho- asthma, pneumonia, flu and common colds are likely to be enhanced by the expected cold and chilly weather conditions. All People and in particular, children and the elderly are advised to wear warm clothing under such conditions.

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

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OF KENYA WITH WMO**

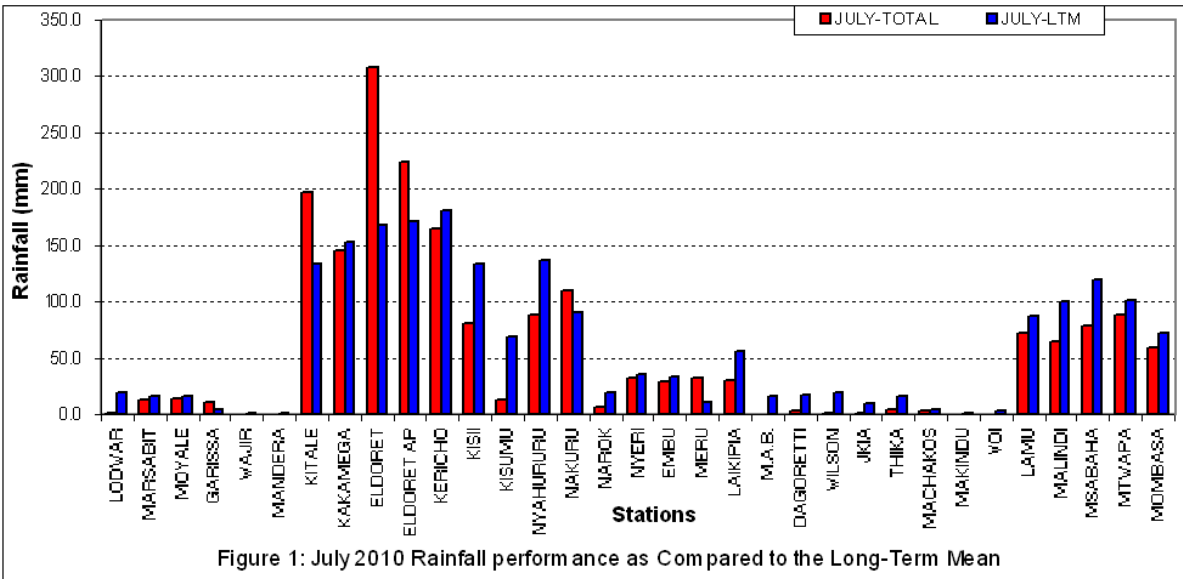


Figure 1: July 2010 Rainfall performance as Compared to the Long-Term Mean

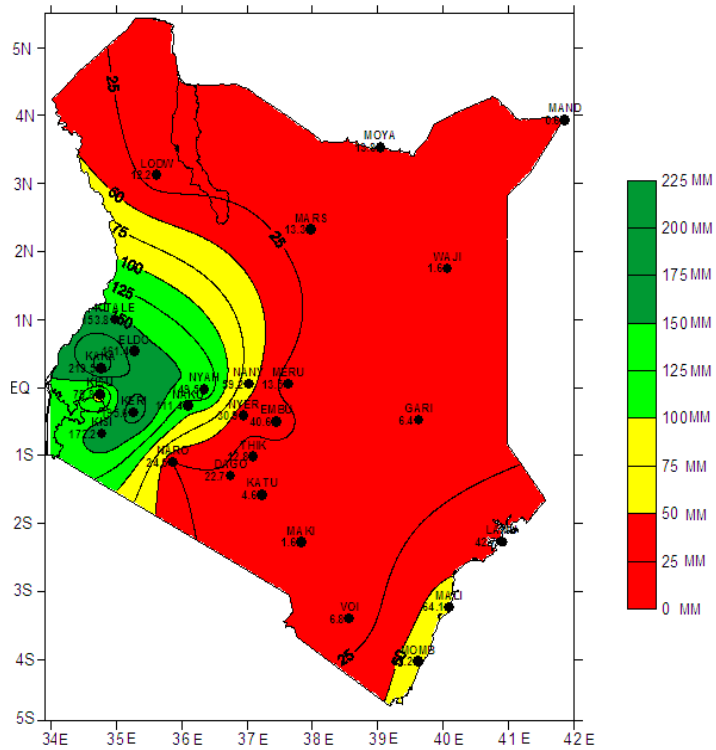
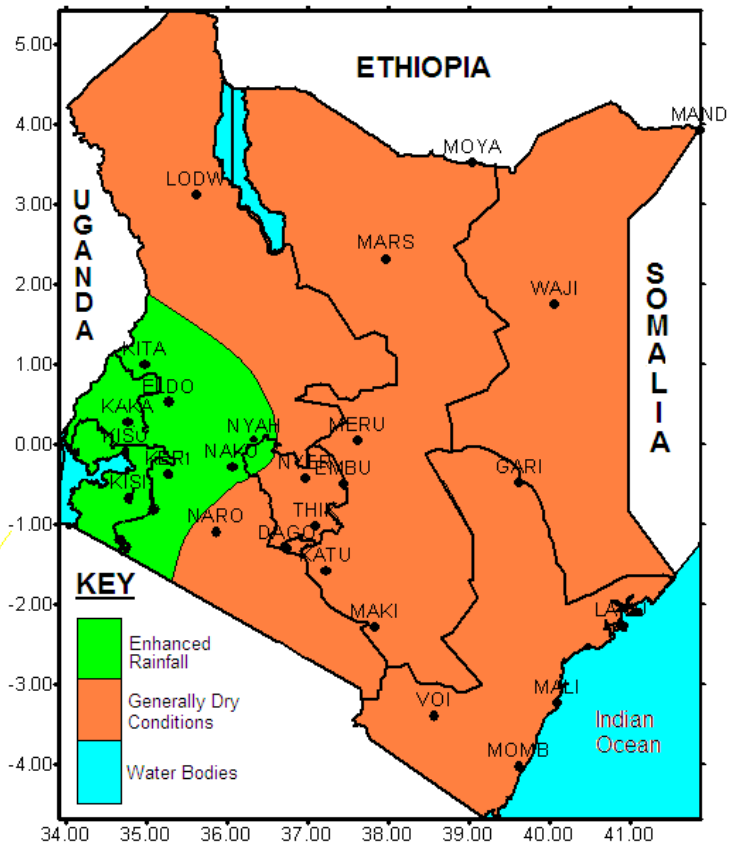


FIGURE 2: NORMAL (LTM) RAINFALL DISTRIBUTION IN AUGUST



**Figure 3: Rainfall Outlook for August 2010**