REPUBLIC OF KENYA

MINISTRY OF ENVIRONMENT AND MINERAL RESOURCES

KENYA METEOROLOGICAL DEPARTMENT

Dagoretti Corner, Ngong Road, P. O. Box 30259, Nairobi, Kenya,
Telephone: 254-20-3867880-5, Fax: 254-20-3876955/387373,
E-mail:director@meteo.go.ke

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REVIEW OF WEATHER IN JANUARY AND THE OUTLOOK FOR FEBRUARY 2010

SUMMARY

In January 2010, most parts of Northwestern Kenya, the western highlands, central highlands including Nairobi and parts of southeastern lowlands experienced high amounts of rainfall as opposed to generally sunny and dry conditions normally experienced in January. Several areas in Northeastern and the coastal strip however remained generally dry for most of the month.

*The forecast for the month of February 2010 indicates a general dryness and sunny over most parts of the country (**see Figure 2**). However, a few areas in the Lake Basin, highlands west of the Rift Valley, Central Rift Valley and central highlands are likely to experience occasional light rainfall amounts.*

JANUARY 2010 RAINFALL PERFORMANCE

Torrential rains were experienced over most parts of northwestern districts, western highlands, central highlands including Nairobi and a few areas in southeastern Kenya during the first ten days of January 2010. The heavy rains caused serious flooding in some areas like Narok including some parts of Nairobi and North Rift (Turkana areas). However, the northeastern areas and the entire Coastal strip remained generally dry throughout the month.

Thika Meteorological station in Central Kenya recorded the highest daily rainfall amounting to 63.5mm (recorded on 8th January). The same station recorded 56.8mm of rainfall on 9th January while Lodwar station in Northwestern Kenya and Moi Airbase station in Eastleigh, Nairobi recorded 54.9 and 50.5mm on 1st and 9th January, respectively. Kisii and Eldoret Meteorological stations in western Kenya recorded 43.7 and 46.4mm on 1st and 3rd January, respectively. Dagoretti Corner Meteorological station, in Nairobi, recorded 44.8mm on 9th January.

By 31st January, records show that Narok Meteorological station recorded the highest monthly rainfall total of 142.6mm as compared to its January Long-Term Mean (LTM) rainfall of 86.3mm. Thika, Meru, Moi Airbase, Kisumu, Nyahururu, Kisii, Eldoret Airport and Kericho Meteorological stations recorded 138.3, 115.0, 105.8, 96.9, 87.8, 87.3, 83.5 and 82.5mm, respectively, as compared to their LTMs of 37.8, 59.5, 42.7, 78.2, 37.9, 110.6, 71.8 and 97.4mm, respectively. The rest of the meteorological stations recorded less than 80mm during the month of January as depicted in **Figure 1** below.

The *synoptic climatology* for January 2010 indicates that the East-West (zonal) arm of the rain bearing belt referred to as Inter-Tropical Convergence Zone (ITCZ) traversed over central and southern Tanzania leaving most of the eastern sector of the country under generally sunny and dry conditions. The North-South (meridional) arm of the ITCZ was, however, active over the western sector and even shifted eastwards to the central highlands, Nairobi and parts of Southeastern Lowlands pulling in its wake the moisture-laden Congo Air mass.

Warmer than average Sea Surface Temperatures (SSTs) were observed to dominate over the northwestern Indian Ocean adjacent to the Somali coast. This situation also generated favourable conditions for moisture influx injected from the Indian Ocean to the central parts of the country, thereby enhancing rainfall in these areas.

EXPERIENCED IMPACTS

Agricultural and Food Security Sector: The torrential rains that occurred at the beginning of January was quite a blessing to farmers in different parts of the country and more so the southeastern districts. The rainfall resulted in good crop performance and some areas were expecting bumper harvest. This will enhance food security in these areas. However, the rains coincided with a harvesting period in western and parts of central highlands where several acres of crop were swept away by floods.

Disaster Management Sector: The heavy rains, strong winds and lightning, also resulted into various disasters. In Turkana district, for example, several people lost their lives while 20,000 others were displaced when River Kerio burst its banks. About 2,000 animals were swept away by flash floods. Elsewhere, property worth thousands of shillings was destroyed in Ngong Town following a heavy downpour that occurred at the beginning of the month. In Narok, a number of people lost their lives while property worth millions of shillings was also destroyed. Several other areas, especially in Rift Valley, were also affected by floods. Several roads including the Kitale-Lodwar-Sudan and Maimahiu-Narok were rendered impassable.

Water Resource Management: There was a recharge of water points and flash floods in rivers and streams. However, with the previous prolonged droughts and degradation of water towers, it is not clear how much water would be retained for drinking and sanitation including use by industry.

Energy: The hydropower generation had been severely impacted by recurrent and prolonged drought in the previous four seasons of insufficient rains. Thermal generators had to be used to complement the power produced by hydro. It is not very clear how much run off from rainfall was captured by dams and sustainability of hydropower production, especially in view of increasing energy use by industry and rural electrification programme.

Health Sector: Water borne diseases like cholera and typhoid were reported to have increased during the rainy period in parts of rural and urban areas.

Environment: The rains enabled growth of foliage in pastoral and agricultural marginal areas which had deteriorated due to recurrent droughts. Rainfall run offs added water to drying lakes and aquivers. Snow was seen to increase on Mt. Kenya. The rains also accorded an opportunity for tree planting to conserve the environment.

FORECAST FOR FEBRUARY 2010

This forecast is based on the expected evolution of global Sea Surface Temperatures (SSTs) patterns and average performance of rainfall during previous years when the December-January SSTs behaved in a similar manner (analogue) to the current trend. The current weak El-Niño condition in the Pacific Ocean was also considered.

The weather outlook for February 2010 (**Figure 3**) indicates that most parts of the country are likely to remain generally sunny and dry except for a few areas within the Lake Basin, Central Rift Valley, Western highlands and Central highlands, which are expected to experience light to moderate rainfall amounts. The specific outlooks for individual areas are as follows:

The Lake Basin (Kisii, Kisumu, Busia; Parts of Highlands West of the Rift Valley (Kericho, Kakamega) and Central Rift Valley (Narok):

The above areas are expected to be generally sunny for most of the month. A few areas are, however, likely to experience occasional *light-to-moderate* rainfall amounts and more so during the second half of the month.

The Central Highlands including Nairobi Area (Nyeri, Embu, Meru, Nyahururu, Murang'a, Dagoretti, Wilson and JKIA):

The above areas are expected to be mainly sunny for most of the month. *Light-to-moderate* rainfall emanating from the westerly moist Congo Air Mass may occasionally occur over a few places, especially, during the second half of the month.

The North-western (Lodwar, Lokichoggio, Lokitaung); North-Eastern Kenya (Moyale, Marsabit, Wajir, Mandera, Garissa); South-Eastern (Makindu, Voi, Machakos); and the Coastal Strip (Mombasa, Malindi, Lamu, Tana River):

The above areas are expected to be mainly sunny and dry throughout the month.

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

Dr. Joseph R. Mukabana, MBS.
DIRECTOR OF METEOROLOGICAL SERVICES & PERMANENT REPRESENTATIVE OF KENYA WITH THE WORLD METEOROLOGICAL ORGANIZATION (WMO)

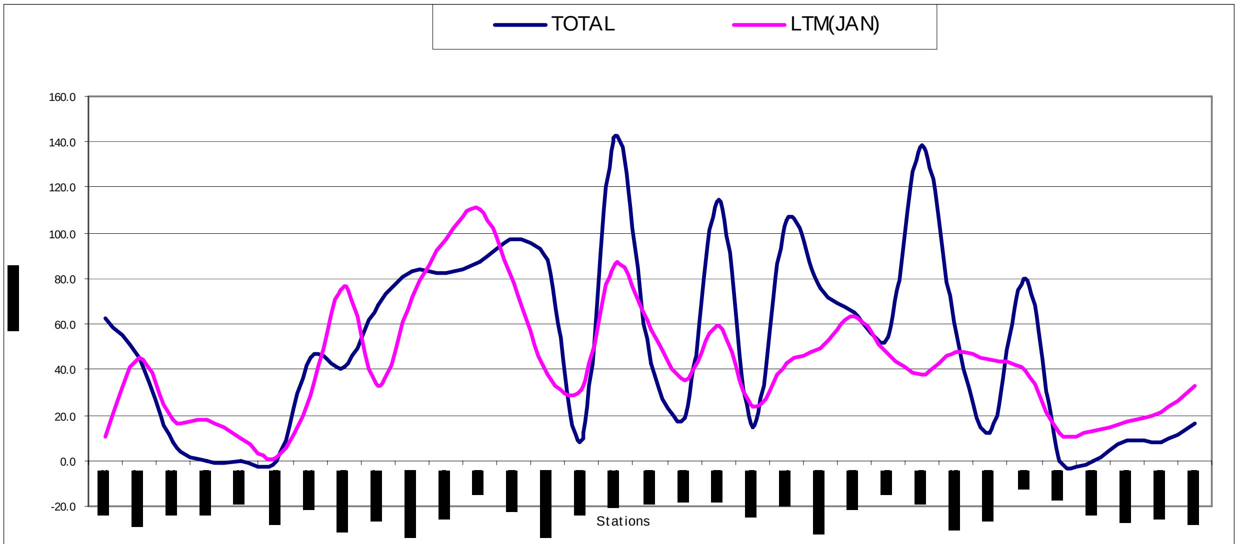

Figure 1: January 2010 Rainfall performance

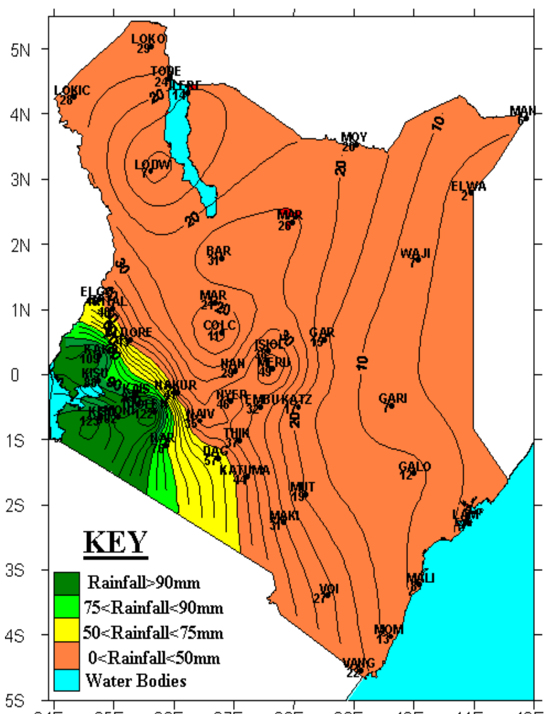

Fig. 2: Normal Rainfall Distribution in February

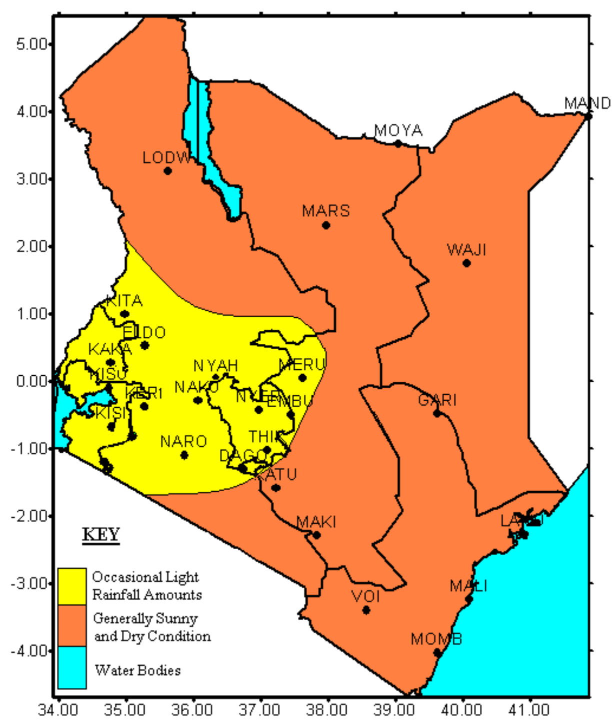

Fig. 3: Projected Rainfall Performance in February 2010