THE OUTLOOK FOR APRIL 2020 AND WEATHER REVIEW FOR MARCH 2020

1. HIGHLIGHTS
   1.1. The forecast for April 2020
   April marks the peak month of the “Long Rains” season. The outlook for April 2020 indicates that the eastern sector and a few areas over the Highlands East of the Rift Valley likely to experience above average rainfall while the rest of the country is expected to experience near average rainfall. The North-western and parts of the Highlands West of the Rift Valley are likely to receive heavy rainfall during the last week of the month. The distribution is likely to be fair both in time and space. Some days may be characterized by heavy storms especially over the South-eastern Lowlands, the Highlands East of the Rift Valley, the Northwest and the Highlands West of the Rift Valley during the last week of the month.

   1.2. Weather Review for March 2020
   The month of March marked the onset of the March-May “long-rains” season in the country. Enhanced rainfall that was characterized by heavy storms was recorded over several parts of the country. The Lake Victoria Basin, the Highlands West of the Rift Valley, the Central and South Rift Valley, the Highlands East of the Rift Valley and South-eastern Lowlands received significant rainfall during the first and last week of March, 2020. The heavy rainfall towards the end of the month resulted in isolated cases of flooding and loss property. Some areas in the Coastal Strip and North-eastern Kenya recorded depressed rainfall. The onset of the March-May 2020 “long-rains” seasonal rainfall was well within the predicted period of the first and second week of March.

2. FORECAST FOR APRIL 2020
   April marks the peak month of the “Long Rains” season. The rainfall forecast for April 2020 is based on regression of Sea Surface Temperature Anomalies (SSTAs) on Kenyan rainfall, Sea Surface Temperature (SST) gradients and the expected evolution of global SST patterns. The forecast indicates that the eastern half of the country (Mandera, Wajir, Garissa, Isiolo, parts of Kajiado, Kitui, Makueni, Machakos, Taita Taveta, Mombasa, Tana River, Kilifi, Lamu and Kwale counties) and central Kenya (Embu, Tharaka Nithi, parts of Meru and Kirinyaga counties) are likely to experience above average rainfall especially during the first three weeks. The Lake Victoria Basin (Siaya, Kisu, Homa Bay, Migori, Kisii, Nyamira and Busia), the Highlands West of the Rift Valley (Trans Nzoia, Uasin Gishu, Elgeyo Marakwet, Nandi, Kakamega, Vihiga, Bungoma and Busia), Central Rift Valley (Nakuru, Laikipia, Baringo) and Southern Rift Valley (Bomet, Kericho, Narok, parts of Kajiado),
Northwestern (Turkana, West Pokot and Samburu) and a few areas in the Highlands East of the Rift Valley (Nyeri, Nairobi, Kiambu, Nyandarua, parts of Meru) are likely to experience dry spells during the first two weeks of the month. Figure 1 shows the expected rainfall performance during April 2020.

Figure 1: April 2020 Forecast

2.1. SPECIFIC OUTLOOK

2.1.1. The Lake Victoria Basin; Highlands West of the Rift Valley; and 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): Rainfall is expected to continue during the month of April 2020. However, the rainfall amounts are expected to be below average during the first two weeks and near to above average during the second half of the month.

2.1.2. North-western Region (Turkana, West Pokot and Samburu): The first three weeks of the month are likely to be sunny and dry. Occasional heavy rainfall is expected towards the end of the month. The expected total rainfall amounts are likely to be near the long-term average for the region.
2.1.3. Highlands East of the Rift Valley and Central Kenya (Nairobi, Nyandarua, Nyeri, Kirinyaga, Murang’a, Kiambu, Meru, Embu, and Tharaka Nithi): Rainfall is expected to continue during much of the forecast period. However occasional breaks are likely especially during the first half of the forecast period. The rainfall amounts are likely to be higher than the long-term average for the region.

2.1.4. North-eastern Region (Mandera, Marsabit, Wajir, Garissa and Isiolo): Occasional rainfall is expected throughout the month. The expected rainfall amounts are likely to be higher than the long-term average for the region.

2.1.5. South-eastern Lowlands (Kajiado, Kitui, Makueni, Machakos and Taita Taveta): Occasional rainfall is expected throughout the month. The expected rainfall amounts are likely to be higher than the long-term average.

2.1.6. The Coastal Strip (Mombasa, Tana River, Kilifi, Lamu and Kwale): is expected to receive occasional rainfall in April. The expected rainfall amounts are likely to be higher than the long-term average.

2.2. POTENTIAL IMPACTS

i. Pasture for livestock is likely to continue improving in the pastoral areas.

ii. Chances of flooding are still likely over low-lying areas including urban centers which have poor drainage systems.

iii. Landslides/mudslides are very likely over prone areas in the Highlands East of the Rift Valley (Murang’a, Meru) as well as over the Highlands West of the Rift Valley (West Pokot, Elgeyo Marakwet, including hilly areas) and the Central Rift Valley (Baringo). Contingency measures should therefore be put in place to avoid any loss of lives and property.

iv. In the agricultural counties of Lake Victoria Basin, Highlands West of the Rift Valley, Central Rift Valley, South Rift Valley and Highlands East of the Rift Valley as well as parts of the South-eastern Lowlands where above normal rainfall is expected, the farming communities should take advantage of the expected rains and maximize crop yield through appropriate land-use management. Farmers are advised to liaise with the State Department of Agriculture for advice on the appropriate seeds to be used.

v. Food security is expected to improve over most parts of the country and more so in the Arid and Semi-Arid Lands (ASALs) of Kenya. The good rainfall performance expected in these areas may also impact positively on the livestock sector.

vi. Cases of lightning strikes are likely in the Lake Victoria Basin and the Highlands West of the Rift Valley. Contingency measures should therefore be put in place to avoid loss of life and property.

vii. The Seven Forks and Sondu Miriu catchment areas are expected to experience near-normal to above-normal rainfall during the coming season. It is, therefore, expected that the optimum water level in the hydroelectric power generation dams will be maintained.

3. REVIEW OF THE WEATHER DURING MARCH 2020

The month of March marks the onset of the March-May “long-rains” season in the country. During this period, several parts of the Highlands West of the Rift Valley, the Northwest, the South-eastern Lowlands, the Central Rift Valley and the Highlands East of the Rift Valley and Nairobi recorded...
enhanced rainfall. The Coastal Strip and the Northeast received near average rainfall. Wundanyi rainfall station in Taita Taveta County recorded the highest amount of rainfall within 24 hours (130.0mm 8th March 2020) while on the 25th March, Kitale meteorological station recorded 101.3mm. Elsewhere, several stations in the Highlands West of the Rift Valley, the Highlands East of the Rift Valley, the South-eastern Lowlands and a few areas in the Northwest recorded significant rainfall. The most enhanced rainfall of 322.7mm (337.6% of the Long-Term Mean (LTM)) was recorded at Kitale station while Makindu station recorded 163.5mm (250.8% of the LTM). Other stations that recorded enhanced rainfall include Nyahururu, Eldoret, Kismu, Lodwar, Machakos and Narok. Kisii station recorded the highest monthly rainfall total amount of 358.0mm (178.6%) as compared to its LTM rainfall of 200.4mm. Kismu, Kericho, Kakamega, Thika and Narok stations recorded 349.7mm (214.3%), 296.3mm (167.9%), 285.9mm (165.2%), 206.0mm (179.3%) and 199.9mm (202.9%) respectively. Machakos, Makindu, Embu, Eldoret and Dagoretti stations also recorded above 200mm while the rest of the stations recorded less than 200mm.

**NB:** The rainfall recorded at Makindu station in March 2020 was near its March-May (MAM) seasonal LTM. The station recorded 87% of its MAM seasonal LTM while Lodwar station recorded 72.0%.

**Figure 2** shows the total amount of rainfall recorded in March 2020 (the green bars) as compared to the LTMs - (the orange bars) while **Figure 3** depicts the spatial distribution.
During this period, near-average to cooler than average SST conditions dominated western sides of equatorial Indian Ocean with average to warmer than the average conditions over the Central and Eastern Equatorial Indian Ocean. This pattern has presented a neutral phase of the Indian Ocean Dipole (IOD). Models show persistence of a neutral phase of the IOD through to the second quarter of year 2020. Neutral SSTs prevailed over the northwestern Indian Ocean adjacent to the Horn of Africa. These temperature patterns were not conducive for rainfall over the eastern sector of the country. The zonal arm of the rain-bearing Inter-Tropical Convergence Zone (ITCZ) was mainly over central and Southern Tanzania, occasional shifting to Northwestern Kenya. The meridional arm was well situated in the Congo, occasionally shifting to the Western parts of Uganda and the rainfall received in the first week of March was also influenced by the 2nd phase of the Madden-Julian Oscillation (MJO) that led to rainfall over Western parts of Kenya.

### 3.2. EXPERIENCED IMPACTS

i. In the pastoral areas of Rift Valley, pastures for livestock continued to improve significantly as a result of the favorable rains experienced in these regions;
ii. There were cases of flooding in Busia in the Western parts of Kenya as a result of heavy rainfall episodes especially on the last week of March 2020; one of the worst hit areas was Budalang’i in Busia County. Local media reported that at least 500 families in Budalang’i had been forced to move to higher ground.

iii. Flooding has also affected other areas of western Kenya, including Migori, Homa Bay, Kisumu and Siaya counties, blocking roads, damaging homes and causing further displacements;

iv. Locusts continued to thrive and spread to more counties due to favorable conditions.

NB: This outlook should be used with the 24-hour, 5-day, 7-day, monthly forecasts and regular updates issued by this Department. Weekly County forecasts are available from County Meteorological Offices.

Stella Aura, MBS
DIRECTOR OF METEOROLOGICAL SERVICES