1. HIGHLIGHTS

1.1. The Weather Outlook for October 2020
The outlook for October 2020 indicates that the western part of the country is likely to experience near to above average rainfall while the Eastern sector is likely to experience depressed rainfall. The month of October marks the onset of rainfall in several parts of the country. Over Western Kenya, rainfall will continue from September 2020, while the onset for the rest of the country is likely to be the third week of October to the first week of November, 2020.

1.2. The Weather Review for September 2020
Several parts of the Highlands West of the Rift Valley, the Central and South Rift Valley, North-western Kenya, the Coastal strip and a few parts of Highlands East of the Rift Valley experienced significant rainfall amounts during the month. Several meteorological stations in these regions recorded rainfall that was near to above their September Long-Term Means (LTMs). The rest of the country was generally sunny and dry.

2. THE WEATHER FORECAST FOR OCTOBER 2020
This climate outlook is based on models developed from expected evolution of global Sea Surface Temperatures (SSTs). The neutral to cooler than average SSTs over the western Equatorial Indian Ocean (adjacent to the East African Coast) coupled with warmer than average SSTs over the eastern Equatorial Indian Ocean (adjacent to Australia) were carefully considered. This phenomenon constitutes what is referred to as a negative Indian Ocean Dipole (IOD) that is not conducive for good rainfall in Kenya.
Furthermore, the Equatorial sea surface temperatures (SSTs) are below average across the central to eastern Pacific Ocean which implies La-Nina conditions are present. All key indicators of the El Niño–Southern Oscillation (ENSO) have now reached or exceed La Niña thresholds. This phenomenon is associated with below average rainfall over Kenya.

2.1 Rainfall Forecast for October 2020

The forecast indicates that some parts of the Highlands West of the Rift Valley, the Lake Victoria Basin, the Southern and Central Rift Valley and North-western Kenya are likely to experience near-average rainfall with a tendency to above-average as seen in Figure 1. The rest of the country is likely to experience below average rainfall.

The October 2020 rainfall is expected to be poorly distributed, both in time and space.

Figure 1: October 2020 Rainfall Forecast.
2.1. Specific Outlook for Individual Areas

2.1.1. The Highlands West of the Rift Valley (Trans Nzoia, Kericho, Bomet, Nandi, Uasin Gishu, Elgeyo Marakwet, Kakamega, Vihiga, Bungoma, Kisii, Nyamira); the Lake Victoria Basin (Kisumu, Homa Bay, Migori, Siaya, Busia); the Southern and Central Rift Valley (Nakuru, Narok, Baringo, parts of Kajiado, western Laikipia); parts of the Highlands East of the Rift Valley (Nairobi, Kiambu, Nyandarua, parts of Murang’a and Nyeri); and Northwestern Kenya (Turkana, West Pokot, parts of Samburu & parts of Marsabit) are likely to experience occasional showers and thunderstorms throughout the month. The expected total rainfall amounts are likely to be near to above the long-term average amounts for October. Significant rainfall is however likely during the first two weeks of the month.

2.1.2. The Highlands East of the Rift Valley (Kirinyaga, parts of Nyeri, parts of Murang’a, Embu, Meru and Tharaka Nithi); and the eastern portion of Laikipia County are likely to experience occasional rainfall. The expected total rainfall amounts are however likely to be below the long-term average amounts for October. Cool and cloudy conditions are likely to occur in the mornings especially at the beginning of the month.

2.1.3. The Coastal Strip (Lamu, Kilifi, Mombasa, Kwale and Tana River) is likely to experience occasional rainfall during the month. The expected total rainfall amounts are likely to be below the long-term average amounts for October.

2.1.4. The Northeast (parts of Marsabit, Isiolo, Wajir, Mandera, and Garissa); the South-eastern Lowlands (Machakos, Makueni, Kitui, and Taita Taveta) and the South Rift Valley: (parts of Kajiado) are likely to be receive occasional rainfall during the month. The expected total rainfall amounts are likely to be below the long-term average amounts for October.

2.2. Expected Onset Dates
The expected onset dates and the distribution of rainfall were derived from statistical analysis of past years (analogue years), which exhibited similar characteristics to the year 2020.

2.2.1. Lake Victoria Basin, Highlands West of the Rift Valley, Western Counties: (Kakamega, Busia, Vihiga, Nandi, Elgeyo Marakwet, West Pokot, Baringo, Kisumu, Trans Nzoia, Siaya, Bungoma, Bomet, Uasin Gishu, Kisii, Kericho, Kisumu, Nyamira, Migori and Homa Bay) are expected to continue experiencing rainfall spreading from the month of September;
2.2.2. **Northwestern Kenya Counties:** (Turkana, Western Marsabit, Samburu) is expected to continue experiencing rainfall spreading from the month of September;

2.2.3. **Northeastern Kenya Counties:** (Mandera, Marsabit, Wajir, Garissa, Isiolo) is expected to experience the onset in the fourth week of October to first week of November;

2.2.4. **Highlands East of the Rift Valley, and Nairobi Counties:** Central Highlands (Nairobi, Meru, Embu, Nyeri, Murang’a, Kiambu, Tharaka Nithi, Kirinyaga, and Nyandarua) will experience occasional rainfall during the first and second week of October. The rainfall is expected to break for two weeks and resume during the first to second week of November.

2.2.5. **The Central Rift Valley Counties:** The northern parts of Central Rift Valley (Nakuru, Laikipia) are likely to continue experiencing rainfall spreading from the month of September. The onset in the southern parts (Narok, Kajiado) is likely to occur in the fourth week of October to first week of November;

2.2.6. **The Southeastern Kenya Counties:** The southeastern lowlands (Taita Taveta, Machakos, Kitui, Makueni, Tana River) are likely to realize the onset during the first to second week of November;

2.2.7. **The Coastal Strip Counties:** Onset over the Coastal strip (Lamu, Kwale, Mombasa, Parts of Tana River and Kilifi) is expected during the fourth week of October to first week of November. Occasional rainfall is however expected during the second week of October.

2.3. **Potential Impacts**
The following are the likely impacts during the month of October 2020,

2.3.1. **Agriculture and Food Security**
The expected near to above average rainfall in the Highlands West of the Rift Valley, Central and North Rift Valley is likely to provide sufficient soil moisture to sustain agricultural production. The rains may however affect harvesting, drying and storage of grains adversely.

The continuation of sunny and dry weather conditions in the Northeast counties and South-eastern Lowlands may lead to diminishing pastures for livestock in these regions. Close monitoring of the situation is therefore necessary to avert loss of animals.

2.3.2. **Disaster Management**
Flooding is likely to continue in low lying areas and along river basins in the Lake Victoria Basin as well as in areas surrounding the Rift Valley Lakes.
In western Kenya where near to above average rainfall is expected, lightning strikes are highly probable, especially in Kisii, Kisumu, Nandi, Kakamega and Bungoma (Mt. Elgon areas) counties. Cases of landslides/mudslides in hilly areas of Western and Central Kenya are also highly probable. The Ministry of Interior and Coordination of National Government and humanitarian institutions are therefore advised to put in place measures to avert possible negative impacts that may arise including loss of lives, livelihoods and property.

In the southeastern lowlands and the northeastern counties where mainly dry and sunny conditions are expected, human to human and human to animal conflicts are likely due to competition for diminished water resources and pasture. The Ministry of Interior and Coordination of National Government are advised to put system in place to pre-empt the likely conflicts.

2.3.3. Water Resources Management and Energy
The major river catchment areas for the country’s hydroelectric power generating dams are forecast to receive near to above-average rainfall. The water levels in the dams across the country are therefore expected to remain high during this period. Water harvesting should be used to harness rain water.

2.3.4. Environment
The expected rainfall over the Highlands West of the Rift Valley, the Lake Victoria Basin and the Central Rift Valley is expected to maintain conducive soil moisture for the growing of trees. The public should therefore take advantage of these conditions and plant trees while putting in place measures to conserve the environment.

2.3.5 Health
In areas expected to receive average rainfall, water-borne diseases such as malaria are likely to emerge. Dry areas are likely to be susceptible to dust storms which may lead to an increase in respiratory tract diseases. Poorly drained areas may cause pools of stagnant water which may become conducive breeding areas for disease-causing pathogens.

2.3.6 Transport and Public Safety Sector
The expected rainfall may cause slippery roads in some parts of the country. This may result in conditions that may cause accidents. Flash floods may cause transport challenges especially during rush hour and more so in areas where the roads become impassable when it rains.

3. WEATHER REVIEW FOR SEPTEMBER 2020
3.1. Rainfall Review
During the month of September 2020 several parts of Highlands West of the Rift Valley, Lake Victoria Basin, North-western Kenya, Southern and Central Rift Valley, the Coastal
Strip and a few parts of the Highlands East of the Rift Valley received significant rainfall during the month. Most meteorological stations in these regions recorded rainfall that exceeded 75 percent of their September Long-Term Means (LTMs). Generally sunny and dry weather conditions prevailed over the rest of the country during this period.

As at 27th September, Kericho Meteorological Station recorded the highest monthly rainfall total of 261.4mm which was 153.5% of its September Long-Term Mean (LTM). Kakamega, Kitale, Eldoret, Kisumu, Kisii and Nakuru Meteorological Stations recorded 241.2mm (139.1%), 148.7mm (141.9%), 147.5mm (208.0%), 138.1mm (129.8%), 121.6mm (73.7%), 101.2mm and (128.9%), respectively. Dagoretti, Msabaha and Nyahururu recorded between 50 and 100mm while the rest of the stations recorded below 50mm. Mandera, Marsabit, Voi and Wajir stations recorded no rainfall at all during the month as seen in Figure 2a and 2b.

![Figure 2a](image-url)

**Figure 2a:** September 2020 Rainfall Totals Against September LTM
September 2020 Rainfall Totals

Figure 2b: September 2020 Rainfall Totals
3.2. Experienced Impacts in September 2020

3.2.1. Agriculture and Food Security
In the pastoral areas of the Rift Valley, availability of pasture for livestock was maintained. The conditions were also favorable for agricultural crop production especially in the high potential areas.

3.2.2. Disaster Management
Several schools in Baringo County had been flooded due to the filling up and overflowing of Lake Baringo. Other lakes that have overflowed include Naivasha, Nakuru and Bogoria. Incidences of flooding were reported in Turkana County as River Kawalase broke its banks. Strong winds of more than 25 knots were reported over a number of counties in the South-eastern Lowlands, the Northwest as well as along the Coastal Strip. Hailstones were also reported in Nairobi, Narok and Trans Nzoia counties.

3.2.3. Water Resources Management and Energy
The rainfall received in September continued to maintain high levels of water in dams, rivers and lakes. Turkwel Dam achieved its highest water level for the first time since its construction. As at 28th of September, 2020, the dam level was at 1147.01 MASL with 2.99m remaining before spilling level.

3.2.4. Environment
The Ministry of Environment and Forestry took advantage of the available rainfall to plant trees in various parts of the country.

*NB: This outlook should be used together with the 24-hour, 5-day, 7-day, monthly, 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.*

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