PRESS RELEASE


SUMMARY

Outlook for March-April-May 2020
Enhanced rainfall is expected over most parts of Western Kenya including the Lake Victoria Basin region, parts of Northwestern Kenya, central Rift Valley and parts of central Kenya including Nairobi area. However, near average to above average rainfall is expected over the rest of the country, particularly the Eastern and Coastal sectors.

Review of the rainfall conditions in October-November-December 2019,
Analysis of the OND 2019 seasonal rainfall indicates that the whole country received above average (generally enhanced) rainfall. The seasonal rainfall onset was early in most parts of the country while the distribution both in time and space was good throughout the country. The generally enhanced rainfall performance in the country was mainly as a result of the strong positive Indian Ocean Dipole owing to the prevailing warm Sea Surface Temperatures (SSTs) in the western Equatorial Indian Ocean adjacent to the East African Coast and the cool Sea Surface Temperatures (SSTs) in the eastern Equatorial Indian Ocean adjacent to Australia.
1. INTRODUCTION
March to May constitutes a major rainfall season over most parts of Kenya as well as much of equatorial Eastern Africa. Figure 1 depicts the mean (average) March-April-May seasonal rainfall in Kenya; the highest seasonal rainfall amounts of over 300mm are recorded over Western, Central and the Coastal regions and parts of northern Kenya (Marsabit, Moyale).

Figure 1: March April May Rainfall Long Term Mean

2. FORECAST FOR MARCH-APRIL-MAY (MAM) 2020 “LONG-RAINS” SEASON
The forecast for March-April-May (MAM) 2020 “Long-Rains” is based on the prevailing and the expected evolution of Sea Surface Temperature Anomalies (SSTAs) over the Pacific, Indian and Atlantic Oceans and also the Synoptic, Mesoscale and local factors that affect the climate of Kenya. These factors were assessed using various tools including ocean-atmosphere models, statistical models, satellite derived information and expert interpretation. The Indian Ocean Dipole (IOD), that is currently neutral, was also considered.

The forecast indicates that much of the country and especially most of the western and southern sectors are likely to experience generally enhanced rainfall. However, several parts of Northeastern and parts of the Coast are likely to experience near-normal rainfall with a tendency to above-normal (i.e. slightly enhanced rainfall).

Figure 2: March, April and May (MAM) 2020 Rainfall Outlook
The temporal rainfall distribution is expected to be fairly good especially over the Western region. The peak of the rains is expected to be in the month of April for most regions except the coastal region where the peak is expected during the month of May.

The specific outlook for March to May 2020 “Long-Rains” Season (depicted in Figure 2) is as follows:

2.1. The Lake Victoria Basin, Highlands West of the Rift Valley, 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): The expected rainfall is likely to be higher than the long-term average amounts (above normal) for the season.

2.2. North-western Region (Turkana, West Pokot and Samburu): The expected rainfall is likely to be higher than the long-term average amounts (above normal) for the season.

2.3. Highlands East of the Rift Valley and Central Kenya (Nairobi, Nyandarua, Nyeri, Kirinyaga, Murang’a, Kiambu, Meru, Embu, and Tharaka): The expected rainfall is likely to be higher than the long-term average amounts (above normal) for the season.

2.4. North-eastern Region (Wajir, Garissa, Mander, parts of Marsabit and Isiolo): The expected rainfall amount is likely to be near the long-term average for the season.

2.5. South-eastern Lowlands (Kajiado, Kitui, Makueni, Machakos and Taita Taveta): The expected rainfall is likely to be higher than the long-term average amounts (above normal) for the season.

2.6. The Coastal Strip (Mombasa, Tana River, Kilifi, Lamu and Kwale): The expected rainfall amounts for the southern coastal strip is likely to be higher than the long-term average (above average). On the other hand, in the northern parts of the coastal strip including counties of Kilifi, Lamu and parts of Tana River, near average rainfall is expected to be experienced during the season.

3. ONSET, CESSATION AND DISTRIBUTION OF RAINFALL.
The predicted Onsets, Cessation and distribution of rainfall were derived from statistical analysis of past years which exhibited similar characteristics to the current year and are as indicated in Table 1. The analogue years chosen are 1962, 1998 and 2007.

<table>
<thead>
<tr>
<th>Region</th>
<th>Onset Dates</th>
<th>Cessation Dates</th>
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<tbody>
<tr>
<td>1. Counties in the Lake Victoria Basin and in Highlands West of the Rift Valley</td>
<td>Occasional Rains are expected to continue from February and are likely to intensify from the first week of March 2020</td>
<td>Rainfall will continue into June 2020</td>
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<td>2. Southern parts of the Rift Valley (parts of Narok);</td>
<td>Occasional Rains are expected to continue from February and are likely to intensify from the first week of March 2020</td>
<td>3rd to 4th week of May 2020</td>
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3. Central highlands including Nairobi area (Nyeri, Kirinyaga, Murang’a, Embu, Meru, Kiambu, Nyandarua and Nairobi)
   Rainfall is expected in the 2nd to 3rd week of March 2020
   3rd to 4th week of May 2020

4. Central Rift Valley (Nakuru, Laikipia etc)
   Rainfall is expected in the 1st to 2nd week of March 2020
   Rainfall will continue into June 2020

5. Southeastern Counties (Kajiado, Kitui, Makueni, Machakos, Tana River)
   3rd to 4th week of March 2020.
   2nd to 3rd week of May 2020.

6. Southern Coastal Strip (Kwale, Mombasa, parts of Kilifi)
   Rainfall is expected in the 2nd to 3rd week of March 2020
   Continues into June 2020

7. Northern Coastal Strip (Lamu, coastal parts of Tana River and Kilifi)
   Rainfall is expected in the 3rd to 4th week of March 2020.
   Continues into June 2020

8. North-western Counties (Turkana, Samburu, West Pokot)
   Rainfall is expected in the 4th week of March to 1st week of April 2020 (Occasional Rainfall is expected in the beginning of March)
   3rd to 4th week of May 2020

9. North-eastern Counties (Wajir, Isiolo, Garissa, Mandera, Marsabit)
   Rainfall is expected in the 3rd to 4th week of March 2020.
   3rd to 4th week of May 2020

4. POTENTIAL IMPACTS
   4.1 Agriculture, Food Security and Livestock Sectors
   In the agricultural counties of Western Kenya, Nyanza, central Rift Valley, central Kenya and parts of Southeastern Kenya where enhanced 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. In pastoral areas, pasture and water resources are expected to be abundant for livestock.

   4.2 Disaster Management Sector
   Lightning strikes are highly likely to occur in western Kenya especially within Kisii and Kakamega counties. Cases of flooding in low lying areas as well as landslides/mudslides in hilly areas of Western, Central and Rift Valley are also highly probable. The County Governments and the National Disaster Operations Centre are, therefore, advised to put in place the necessary measures to ensure communities lives and livelihoods are safeguarded.

   4.3 Energy Sector
   The Seven Forks, Turkwel and Sondu Miriu catchment areas are expected to experience enhanced rainfall during the coming season (March-May). It is, therefore, expected that the level of water in the hydroelectric power generation dams is likely to be maintained.

   4.4 Transport and Public Safety
   Flash floods are very likely to occur in Eastern Kenya, Central Rift Valley and Central Highlands due to the expected enhanced rainfall in these areas. This may lead to transport challenges especially in areas where the roads become impassable when it rains. Slippery
roads and poor visibility during rainstorms may also pose a danger to motorists and pedestrians, especially along the Kikuyu-Kinungi stretch on the Nakuru-Nairobi Highway. Urban flooding is also very likely. Everyone should, therefore, take utmost care during the rainy period to minimize accidents that would result from such weather conditions.

4.5 Water Resources Management Sector
Water resources are expected to be replenished over most of the western sector of the country due to the expected enhanced rainfall. Efficient water management should be carried out to ensure enough water resources for the animal and human population needs especially for the eastern half of the country. Rain water harvesting should also be encouraged to boost water availability in homes.

4.6 Health Sector
Due to enhanced rainfall, diseases like cholera and typhoid may emerge in densely populated areas as a result of flooding and subsequent contamination of water. Within the coastal region as well as parts of the Lake Victoria Basin counties, diseases such as malaria are also likely to emerge due to stagnant pools of rain water. Health authorities should, therefore, equip hospitals with necessary drugs to be able to deal with such situations as they arise.

4.7 Environment
The Ministry of Environment and Forestry should encourage residents to put in place soil conservation measures to minimize environmental degradation due to soil erosion. People should also be encouraged to continue planting more trees including indigenous and fruit trees in order to increase forest cover (10%) and conserve the environment.

5. REVIEW OF THE OCTOBER-NOVEMBER-DECEMBER (OND) 2019 “SHORT RAINS” SEASON
The “Short Rains” October to December (OND) season constitutes an important rainfall season in Kenya and more so in the Central and South-eastern regions. The Climate Outlook for the October-November-December (OND) 2019 “Short Rains” season indicated that much of the country was likely to experience above average rainfall. The distribution, both in time and space, was also expected to be good.

The October to December analysis indicates that enhanced rainfall was recorded over most parts of the country. All stations recorded above 125% of their October November December LTM for the season indicating that all stations recorded above normal rainfall. The highest seasonal amount of 1415.3mm was recorded at Meru Meteorological station. Other stations that recorded high amounts of rainfall are Mombasa (942.1mm), Kericho (877.6mm), Kisumu (876.2mm), Embu (873mm), Msabaha (793.2mm), Kakamega (791.8mm), Thika (760.8mm), Mtwapa (735.2mm) and Nyeri (707.8mm). All other stations recorded between 300-684mm except Wajir, Mandera and Lodwar that reported 271.2mm, 263mm and 168mm respectively.
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Figure 3 depicts the distribution of the OND seasonal rainfall performance as a percentage of the LTM.

Rainfall performance is generally categorized as follows:
- Below 75% of the LTM – Below Normal (Depressed) rainfall
- Between 75% and 125% of the LTM - Near normal rainfall
- Above 125% of the LTM – Above Normal (Enhanced) rainfall

5.1. IMPACTS EXPERIENCED DURING OND 2019 SEASON

The rainfall that was received during the season led to severe storms and flooding in various parts of the country that led to loss of lives and destruction of property. Some of the experienced impacts include

- Farmers in cereal growing regions were unable to harvest their crops due to continuous rains and flooded fields
- Land and mud slides were experienced in Murang’a, West Pokot, Taita Taveta, Makueni and Machakos counties. There was loss of live in West Pokot, Machakos and Makueni counties.
- Severe flooding occurred in Mombasa, Nairobi, Wajir, Marsabit, Garissa, Kitui, Kisumu, Homa Bay, Migori and Tana River counties leading to loss of humans and livestock in some areas and displacement of people in other areas.
- Roads and bridges were washed away in some areas thus disrupting transport systems
- Severe hailstone destroyed crops in parts of Busia, Nyandarua, Kakamega, Kericho, Nandi and Laikipia counties.
- The experienced weather conditions in January were favourable for the breeding and spread of the locusts in various counties.
- Cases of Malaria were also reported in Baringo and Elgeyo Marakwet Counties

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

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