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# MACHAKOS COUNTY SEASONAL FORECAST FOR OCTOBER, NOVEMBER AND DECEMBER 2024

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Issued on September 3<sup>rd</sup>, 2024





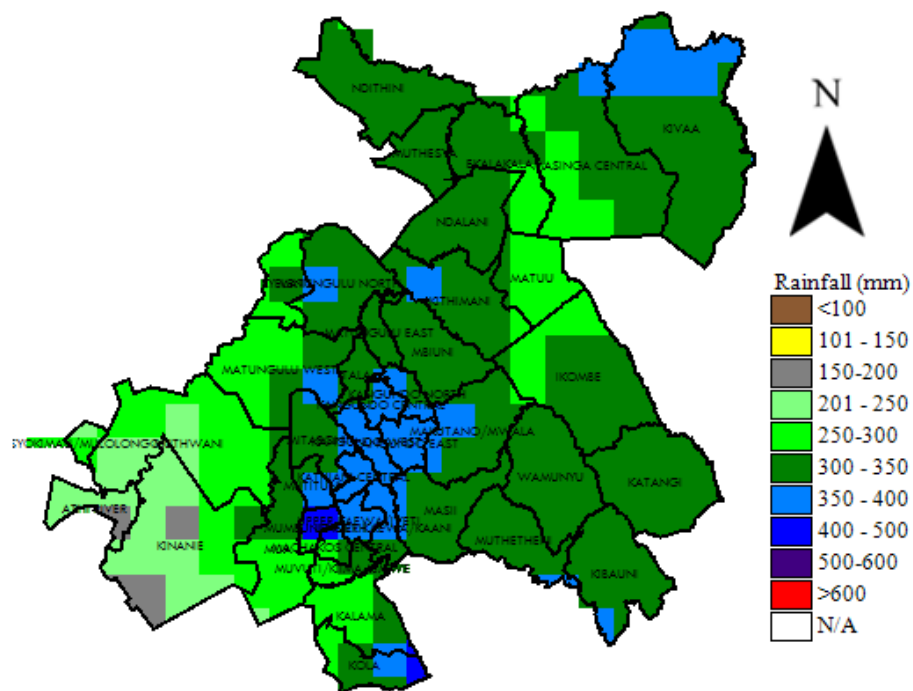


Figure 1; Machakos County seasonal forecast for October, November and December 2024

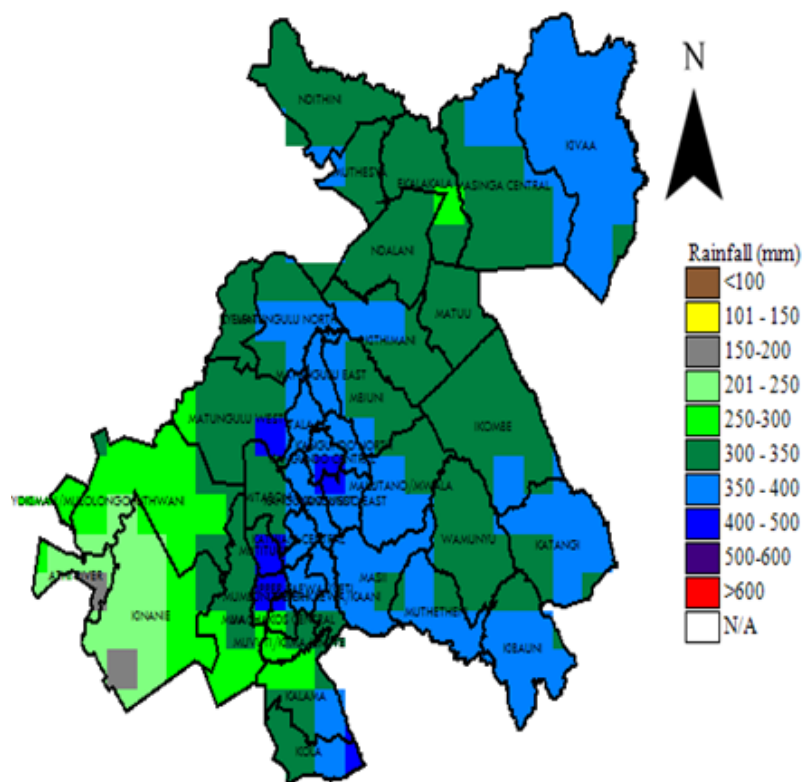


Figure 2; Machakos County long term mean for 30 years.

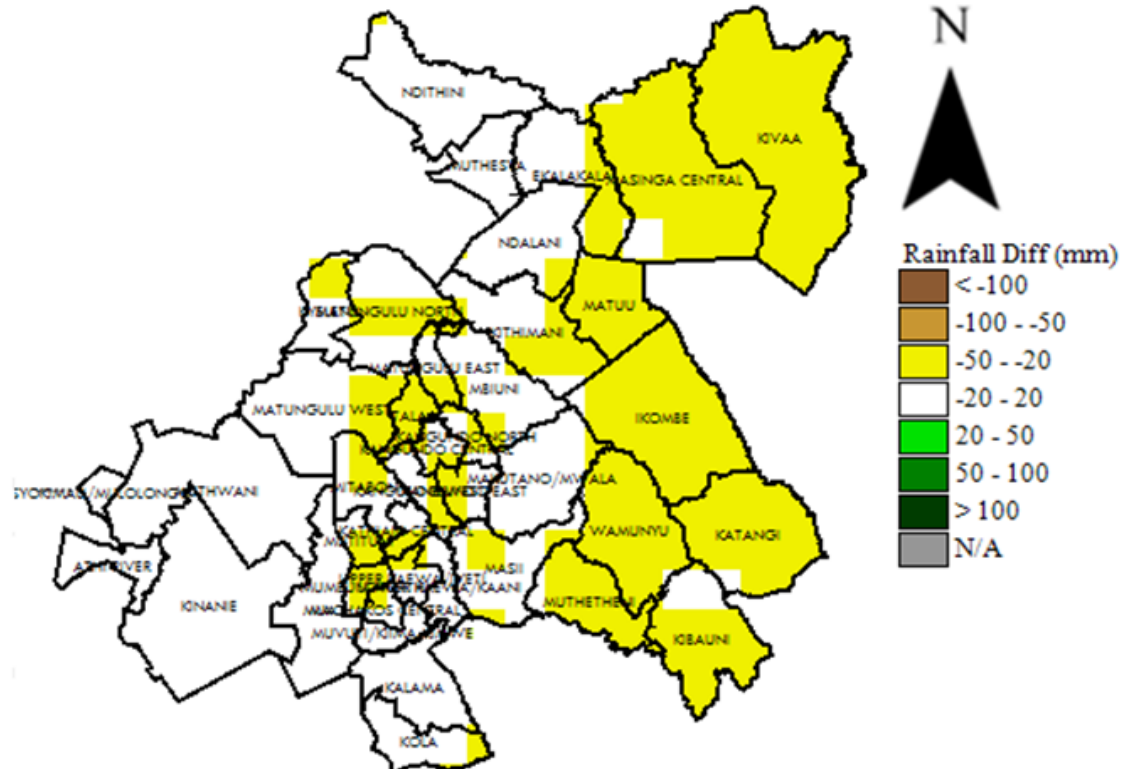


Figure 3; Rainfall difference between climatological and conditioned scenario for 50th percentile rainfall for the Machakos OND 2024 region, conditioned on the Machakos CDM2024 forecast.

Figure 1. Forecast volume of rainfall in mm in Machakos County during October, November and December 2024 indicating that the the rainfall is likely to be below the long term average.

### Onset/Cessation

- Start of rainy season (onset) in all the county will be between the 4th week of October to 1st week of November, 2024. (28th Oct to 8th November, 2024)
- End of rainy season (cessation) in all the county is likely to be between 2nd December to 13th December, 2024

### Distribution of rainfall over time

- The October, November and December 2024 short rains is expected to be Poorly distributed both in time and space.

Figure 2 shows average rainfall in mm for each ward of the county during the same three-month period it is considered to be the average volume of rainfall that fell during the same three-month period over the 30-year period from 1991-2020.

## Summary for OND 2024 seasonal forecast by ward

SNO	Sub county	Ward	Seasonal Amount in mm		Probable onset dates	Probable Cessation dates	Probable Length of Rain Period	Probable distribution
			Normal (Long term mean 1991-2020)	Forecast for OND 2024				
1	Masinga	Ndithini	300-400mm	300-350mm	21 <sup>st</sup> Oct-2nd November,2024	2-13 <sup>th</sup> Dec,2024	40-50,days	
2		Muthesya	300-400mm	300-350mm	21 <sup>st</sup> Oct-2nd November,2024	2-13 <sup>th</sup> Dec,2024	40-50	
3		Kivaa	300-400mm	300-400mm	28 <sup>th</sup> Oct-8th November,2024	2-13 <sup>th</sup> Dec,2024	35-45	
4		Masinga central	250-350mm	250-350mm	28 <sup>th</sup> Oct-8th November,2024	2-13 <sup>th</sup> Dec,2024	35-45	
5		Ekalakala	250-350mm	250-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
6					28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
7					28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
8	Yatta	Ndalani	300-350mm	300-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	Poor distribution both in time and space
9		Kithimani	300-400mm	300-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
10		Matuu	300-400mm	250-300mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
11		Ikombe	300-400mm	250-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
12		Katangi	300-400mm	300-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
13	Mwala	Kibauni	300-400mm	300-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
14		Wamunyu	300-400mm	300-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
15		Mwala/Makutano	300-400mm	300-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
16		Mbiuni	300-400mm	300-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
17		Masii	350-400mm	300-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
18		Muthetheni	300-400mm	300-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
19		Kola	300-500mm	250-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
20		Kalama	250-400mm	300-500mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
21	Machakos	Muvuti/Kiima kimwe	250-350mm	250-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	Poor distribution both in time and space
22		Machakos Central	300-400mm	250-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
23		Mua	300-350mm	250-300mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
24		Mutituni	350-500mm	350-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
25		Mumbuni North	350-500mm	300-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
26		Kangundo west	350-400mm	350-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
	Mavoko	Kinanie	150-300mm	150-300mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
27		Athi- River	150-250mm	150-250mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
28		Muthwani	201-300mm	250-300mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
29		Mlolongo	201-300mm	201-300mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
30		Syokimau	201-300mm	201-300mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
31	Matungulu	Matungulu west	300-400mm	300-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
32		Matungulu East	350-400mm	250-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	

33		Matungulu North	300-400mm	250-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
34		Kyeleni	300-350mm	250-350mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
35	Kathiani	Upper Kaewa	350-400mm	300-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
36		Lower Kaewa	300-400mm	300-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
37		Mitaboni	300-400mm	300-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	Poor distribution both in time and space.
38		Kathiani central	350-400mm	350-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
39		Kangundo east	350-400mm	350-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45	
40	Kangundo	Kangundo central	350-400mm	350-400mm	28 <sup>th</sup> Oct-8th Nov,2024	2-13 <sup>th</sup> Dec,2024	35-45,days	

## Advisories



### Agriculture and crops sector

#### Impacts

##### Positive

Water harvesting for off-season crop production under irrigation presents a significant opportunity. Specifically, (green grams) can be effectively produced in regions where the rain duration is 35–45 days, which aligns well with the crop's growth requirements. Additionally, (sorghum and chickpeas are well-suited for areas with black cotton soil. This soil type, known for its high water-holding capacity, can sustain these crops through their reproductive stage and physiological maturity, even with shorter rain durations.

##### Negative

Food insecurity is a pressing issue due to the low yields for food crops realized in MAM 2024, which is expected to worsen in the current OND season. The choice of rain-fed crop enterprises is limited, and limited water access will further reduce yields for crops planted this season. This situation is likely to lead to crop failure and high food market prices, compounded by the existing shortages.

#### Advisories

- Acquire farm inputs (e.g., manure, seed, fertilizer) in a time.
- Construct or repair soil and water conservation structures.
- Prepare land early.
- Prepare holes early for farmers planning to establish fruit orchards.
- Promote Conservation Agriculture practices.



## Water, environment and climate change

The expected impacts of the OND,2024 are divided into three; human, environmental and economic.

### Impacts

#### Positive

The increased water harvesting structures could lead to greater vegetation cover, which may boost farm production. This, in turn, will improve family incomes, fostering financial stability. Additionally, the enhanced agricultural performance in farm ponds, used for fish farming and irrigation, will further contribute to increased production.

#### Negative

Human impacts such as contaminated water and pollution, soil erosion, water logging, increased human diseases, higher temperatures, and storms can lead to significant environmental and economic consequences. Environmentally, impacts could result in the destruction of infrastructure and vegetative cover, as well as the destruction of ecosystems, leading to the extinction of certain species of plants and animals, such as flora and fauna, and increased soil erosion. Economically, impacts include the destruction of infrastructure, changes in market prices, increased costs of reconstruction and rehabilitation of affected infrastructure, low income due to reduced agricultural productivity, and higher agricultural production costs.

### Advisories

#### Water and Sanitation

- Create awareness on the use of safe drinking water, such as water treatment and boiling.
- Promote water harvesting to ensure sustainable water supply.
- Unclog storm water drainage systems to prevent flooding and waterlogging.
- Harvest surface runoff along roads to utilize excess water.
- Desilt dams to maintain their capacity and efficiency.

#### Environmental Interventions

- Construct weirs, gabions, and earth dams to increase water harvesting and storage capacity.
  - Grow trees by introducing tree nurseries and promoting reforestation.
  - Plant cover crops to protect and enrich the soil.
  - Implement agroforestry to integrate trees and shrubs into agricultural landscapes.
  - Manage catchments and protect the environment through effective strategies.
  - Rehabilitate fragile ecosystems by protecting springs and other critical areas.
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## Livestock and fisheries sector

### Impacts

#### Livestock

Increased vector-borne diseases and parasites could lead to higher disease control costs. Human-wildlife conflict may also rise, along with theft of livestock and pasture, and illegal grazing. Livestock herders are likely to move across borders in search of water and pastures, increasing the distances to grazing and watering points. This would result in inadequate livestock feeds, poor body condition, and low-quality livestock products, leading to low market prices. Additionally, there is a risk of increased migration, absconding, and predation of bees, resulting in low livestock productivity, such as eggs, meat, honey, and milk. There may be more cases of zoonotic and contagious diseases like MCF and Tryps, along with increased predation. High prices of livestock feed and poor-quality pastures and fodder, due to inadequate moisture and high temperatures, could further exacerbate the situation, along with theft of livestock and pastures.

#### Fisheries

Depressed breeding leads to low productivity and growth rates, resulting in poor quality fish, such as emaciated fish. This situation may increase economic losses and market prices. Additionally, there could be a rise in theft and increased incidences of diseases and mortalities.

#### Advisories

- Control vectors and parasites strategically by using acaricides and anthelmintics properly.
- Use fly repellents and traps to reduce vector populations.
- Separate livestock and wildlife by providing appropriate fencing, security, and separate feeding areas.
- Vaccinate livestock strategically to prevent diseases and conduct disease surveillance regularly.
- Harvest and store pastures to ensure a steady supply.
- Strengthen community policing to prevent theft and illegal activities.
- Collaborate with partners and stakeholders for better resource management.
- Harvest water from roof catchments to increase water availability.
- Increase community watering points to reduce distances to water sources.
- Establish drought-tolerant pastures and fodder like sorghum, *Cenchrus ciliaris*, and *Eragrostis superba*.
- Conserve crop residues and acacia pods for animal feed.
- Supplement animal nutrition to improve health and productivity.
- Implement ration feeding to ensure balanced diets.
- Destock or cull to maintain a manageable stock size.
- Implement artificial or supplementary feeding and watering during shortages.
- Reduce honey harvesting frequency to maintain bee populations.
- Provide shade for bees to reduce heat stress.





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**NOTE: This forecast should be used in conjunction with the five –day, weekly forecasts including updates, advisories and alerts by the department.**

Website: [www.meteo.go.ke](http://www.meteo.go.ke).

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