



Kenya Meteorological Department
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MAKUENI COUNTY

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ADVISORIES FOR THE OCTOBER-NOVEMBER-DECEMBER (OND 2023) RAIN SEASON

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1 OND 2023 Seasonal Weather Forecast.

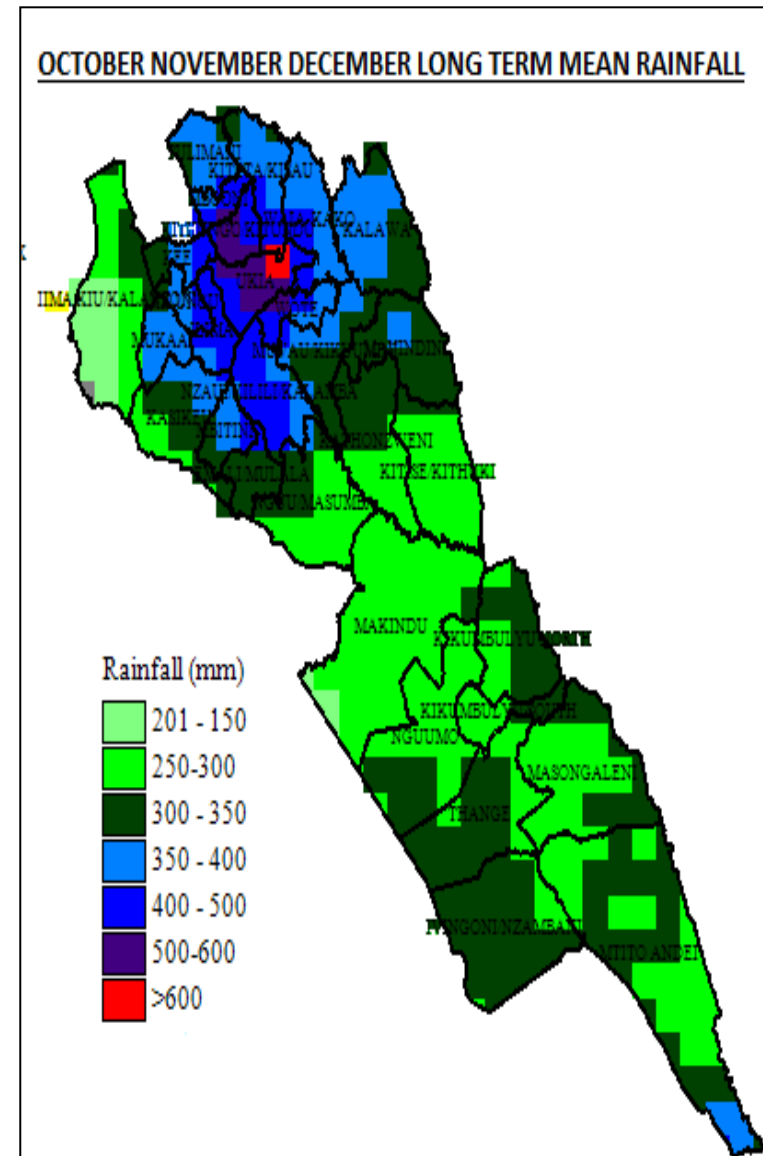
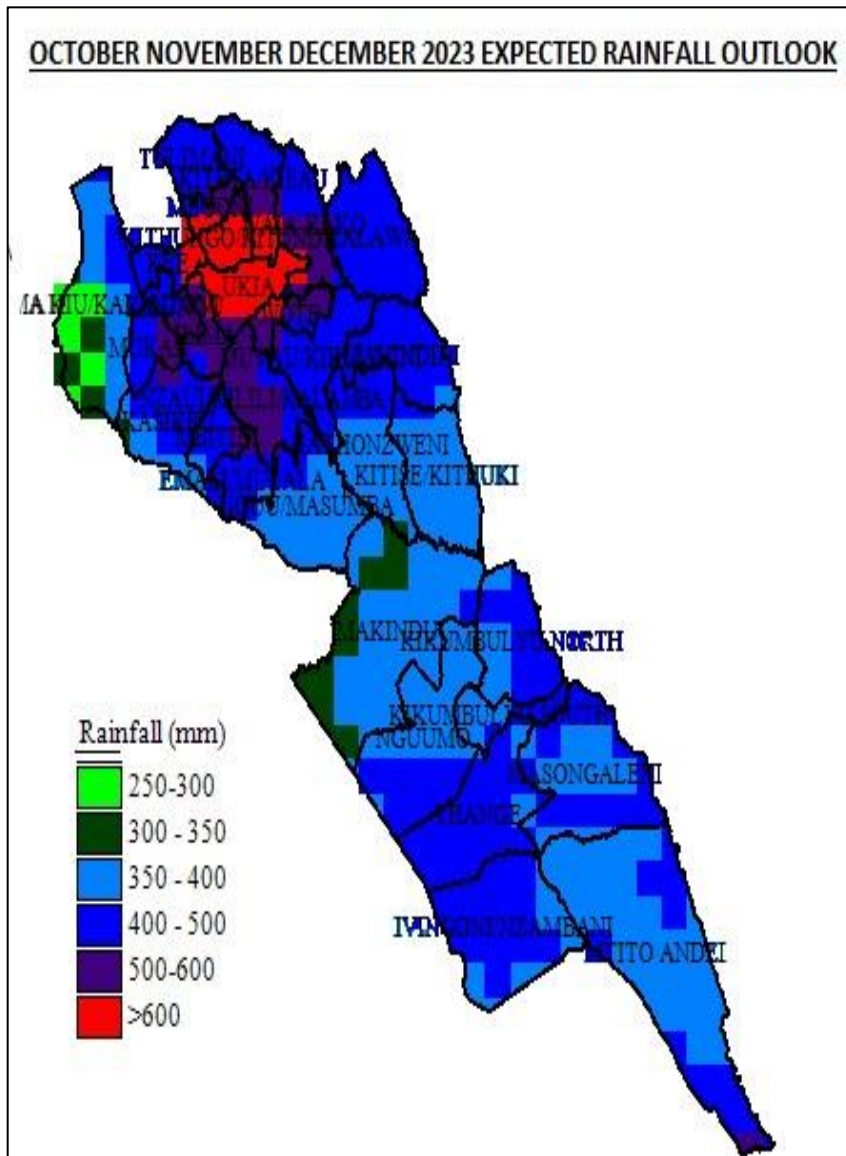
1.1 Highlights.

The OND 2023 rainy season is expected to be above normal with an early onset (Mid-October), late cessation (going into January 2024) and good distribution both in time and space.

The reasons for above normal rainfall and early onset are:

- a. Higher than normal sea surface temperatures in the Equatorial Central Pacific Ocean (El-Nino conditions) and;
- b. Higher than normal sea surface temperatures (SSTs) in the Western Indian Ocean adjacent to East Africa (Positive Indian Ocean Dipole (IOD)).

1.2 October – December Seasonal Rainfall forecast vs Long Term Mean Amount



NB: This seasonal forecast should be used in conjunction with the daily forecasts, weekly forecasts, monthly outlooks, updates and all alerts issued by KMD.

1.3 Summary of OND 2023 Seasonal Forecast by Wards/AEZs

SNO	Sub county	Ward/ climatic zone	Seasonal Amount in mm		Probable onset dates	Probable Cessation dates		
			Normal (Long term mean 1991-2020)	Forecast for OND 2023				
1	Makueni	Kitise / Kithuki	250-300	350-400	Between 15 th - 28 th October,2023	Between 1 st –14 th January, 2024		
2		Kathonzweni	250-300	350-400				
3		Mavindini	300-350	400-500				
4		Nzau / Kalamba	300-350	500-600				
5		Muvau / Kikumini	340-390	400-500				
6		Wote	400-450	500-600				
7		Mbitini	300-400	400-500				
8	Kibwezi East	Masongaleni	300-350	350-400				
9		Nzambani / Vingoni	300-350	400-500				
10		MtitoAndei	300-350	350-400				
11		Thange	300-350	400-500				
12	Kibwezi West	Makindu	250-300	350-400				
13		Mulala / Emali	300-350	400-500				
14		Nguu / Masimba	300-350	400-500				
15		Nguumo	300-350	400-500				
16		Kikumbulyu North	300-350	400-500				
17		Kikumbulyu South	300-350	400-500				
18	Kilome	Kasikeu	300-350	400-500				
19		Kiima/Kiu	350-400	350-400				
20		Mukaa	350-400	400-500				
21	Mbooni	Tulimani	350-400	500-600				
22		Mbooni	400-500	500-600				
23		Kako/Waia	350-400	500-600				
24		Kalawa	350-400	400-500				
25		Kisau/Kiteta	350-400	500-600				
26		Kithungo/Kitundu	400-500	>600				
27	Kaiti	Kilungu	500 – 600	>600			Between 15 th - 28 th October,2023	Between 1 st –14 th January, 2024
28		Ukia	500 - 600	>600				
29		Ilima	500 - 600	>600				
30		Kee	400 - 500	500 - 600				

1.4 Recommendations

- i) Choosing the right crops to plant:
 - To minimize risks, choose the crops whose seasonal Crop Water requirement within the lower limit value of the predicted range
- ii) Onset dates
 - The onset dates predicted in this seasonal forecast should be used in conjunction with weekly weather updates which are more accurate.

2 Agro-Weather Advisories

2.1 General Responsibilities

- Farmers to implement the advisories
- Agricultural Officers to advise farmers
- Input suppliers to ensure inputs are available on time
- Community Extension Volunteers to advise farmers
- Kenya Met. Department to provide weather updates (weekly, other alerts)
- Agriculture, Livestock and Fisheries development
- Insurance companies

2.2 General Farm Activities

- Early land preparation: before 18th October 2023
- Repair of soil and water conservation structures: Terraces, Zai Pits, Basins
- Repair of water storage structures: De-silting of farm ponds, weirs, water tanks, water pans, Gutters
- Practices: Conversation Agriculture (CA): Ripping, Planting stations.
- Pre-germination (seed soaking); Seed preparation
- Scale up manure and fertilizer application (basal & top dressing)
- Timely weed control
- Timely and proper pests and disease control.
- Proper spacing of crops
- Plant ecologically suitable certified seeds as indicated above
- Pitting for fruits and forest Trees

2.3 When to Plant

- Dry or Wet Plant when the **weekly weather forecast** indicates enough rainfall from the **15th October 2023**.

2.4 Specific agro-weather Advisories for the Upper zones

2.4.1 Crops and Varieties to plant

Crops to plant	Mbitini Ward Probable OND 2023 amount: 400-500 mm	Mukaa Ward Probable OND 2023 amount: 400-500 mm	Mbooni and Kithungo/Kitundo Wards Probable OND 2023 amount: >600mm
1. Maize	SC DUMA, DK8031, DK8033, PIONEER Series, Panner 3M.	Same crops	DHO2, DH04, DUMA 43, Sungura F, Kishindo, Haraka 301, Duma series, PIONEER 3253, PIONEER P28 and DK8031/8033, KISHINDO, SAWA.
2. Beans	KatB1, GLP 92, KatX56, Kat B9, Locals, KatX69, Nyota,	Same crops	KATX56, KAT B1, KAT X69, NYOTA, MWITEMANIA, GLP92, GLP1004, FAIDA, ANGAZA
3. Cow Peas	K80, M66, Locals Ken Kunde, Kunde mboga, Kunde Tamu, Kunde Soko	Same crops	K80, KV-27, M66, LOCALS, KEN KUNDE, KUNDE MBOGA, KUNDE TAMU, KUNDE SOKO, KUNDE FAULU
4. Pigeon peas	ICEAP 00936, ICEAP 00554	Same crops	ICEAP00936, MBAAZI 1, MBAAZI 2, LOCALS,

Crops to plant	Mbitini Ward Probable OND 2023 amount: 400-500 mm	Mukaa Ward Probable OND 2023 amount: 400-500 mm	Mbooni and Kithungo/Kitundo Wards Probable OND 2023 amount: >600mm
			KAT60,"MPESA",SHORT DURATION P/P, ICEAP-01662
5. Dolichos	DL 1002, DL 1009	Same crops	DL/002, DL1009
6. Cassava	KME 1, Mucericeri, KME 61, Red Stemmed Varieties, Local Varieties	Same crops	KMEI,MUCERICERI, KMW61, RED STEMMED VARIETY, LOCALS
7. Sweet Potatoes	Local Variety, KSP 20, Kemp 10, SPK 004	Same crops	KSP20, KEMP10, SPK004, LOCALS, IRENE
8. Sorghum	Gaddam, Serena, Seredo, Kari Mtama 1, Macia, Sila	Same crops	GADAM, SERENA, SEREDO, KARI MTAMA1, MACIA, SILA
9. Millets	Finger millet, Pearl Millet	Same crops	FINGER MILLET, PEAR MILLET, PROSSO MILLET
10. Green Grams	N26, KS20, Biashara, Karembo, Tosha	Same crops	Same crops

2.4.2 Fodder Crops

- Bracharia, Napier grass, Sugar grass, Boma rods, Mbwea (Gin grass)

2.4.3 Expected Hazards

a) General

Mud slides, drowning, degraded infrastructure, disease outbreak eg. diarrhoea, kipindupindu, increased water borne diseases, logging of trees, flooding of rivers and streams to disrupt schooling of children leading to increased cost due long distances to schools, interference with exam schedules, increased cost of control and treatment of diseases in the counties.

b) Energy Sector

- Falling of poles
- Common black outs
- Increased cost of energy infrastructure repair.
- Trade, Industry and Finance
- Poor access to goods and services
- increased cost of goods and services

2.4.4 Measures for water conservation.

- Terracing
- Contour farming/Layout
- Farm yard manure application
- Water ponds
- Water pans
- Mulching
- Planting of cover crops such as pumpkins and sweet potatoes.
- Roof water harvesting
- Ripping
- Timely weed control
- Proper spacing of crops
- Timely and proper pest and disease control
- Pitting for fruits and forest
- Trees

2.5 Specific agro-weather Advisories for the Middle zones

2.5.1 Crops and Varieties to plant

Crops to plant	Wards:(Tulimani, Kako/Waia, Kisau/Kiteta, Kasikeu, Kalamba, ,Emali/Mulala, Wote, Muvau/Kikumini) Probable OND 2023 amount: 500-600 mm
1. Maize	SC DUMA, DK8031, DK8033, PIONEER Series, Panner 3M.
2. Beans	KATB1, NYOTA FAIDA, KATB9, KATX56, ROSECOCO (GLP2), KATX69
3. Cow Peas	M66, K80, KUNDE MBOGA, KEN KUNDE, KUNDE SOKO, KUNDE TAMU
4. Pigeon peas	KAT 6/8, MPESA, LOCALS, , ICEAP 00936
5. Dolichos	DL 1002, DL 1009
6. Cassava	RED STEMMED CASSAVA, LOCALS
7. Sweet Potatoes	LOCAL VARIETY, KSP 20
8. Pumpkins	LOCAL VARIETY

2.5.2 Interventions

Sector	Impact	Hazards/Risks	Opportunity	Intervention/Action plan
Water	Plenty of water for harvesting	<ul style="list-style-type: none"> ●Floods ●Mudslides ●Drowning 	Water harvesting	Installation of water harvesting structures eg. Water tanks, farms ponds and on farm reservoirs
Health Sector	Increased food security	<ul style="list-style-type: none"> ●Water borne diseases ●Destruction of pit latrines 	<ul style="list-style-type: none"> ●Improved nutrition ●Improved income levels ●High standards of living 	<ul style="list-style-type: none"> ●Increase public health awareness on water borne diseases ●Sanitation and landscaping eg. Cutting long grass around homesteads
Transport/Communication	Poor transport and communication network	<ul style="list-style-type: none"> ●Accidents ●Road traffic ●Sweeping away of bridges ●Disruption of power lines 	<ul style="list-style-type: none"> ●Road water harvesting ●Road maintenance by casuals creating employment opportunities 	<ul style="list-style-type: none"> ●Public awareness ●Diverting of natural water ways ●Clearing of trees along power lines
Education	Disruption of learning process due to flooded rivers and broken bridges	<ul style="list-style-type: none"> ●Poor performance ●Drowning ●Destruction of infrastructure eg. classes 	Improved health and nutrition	<ul style="list-style-type: none"> ●Early warning and preparedness ●Public awareness
Trade	Reduced food prices	Possible disease outbreak in case of poor storage	<ul style="list-style-type: none"> ●Export of food commodities ●Increased trade 	Explore food preservation techniques

2.6 Specific agro-weather Advisories for the Lower zones

2.6.1 Crops and Varieties to plant

Crops to plant	Wards:Kiima/kiu Probable OND 2022 amount: 350-400 mm	Wards:
		Makindu, Nguu/Masumba, Kalawa, Kikumbulyu South, Kikumbulyu North, Nguumo, Thange, Nzambani/Vingoni, Mavindini, Kathonzweni, Kitse/kithuki, Masongaleni, MtitoAndei, Mavindini Probable OND 2022 amount: Amount: 400-500 mm
1. Maize	DK8031, DUMA43, HARAKA, SUNGURA, DH02, KDV4, LOCAL (KINYANYA), DH04	Same Crops
2. Beans	MWEZI MOJA, WAIRIMU, KAT/B1, KAT/B-9, NYOTA, KITUI (KAT-BX56)	Same Crops
3. Cow Peas	Plant this varieties K80, M66, KVVU-419, , KVVU-27-1, Locals, KUNDE FAULU, KUNDE SOKO, KUNDE TAMU	Same Crops
4. Pigeon peas	MPESA, MBAAZI 1, MBAAZI 2, KAT 60/8, Local variety.	Same Crops
5. Dolichos LAB LAB	DL 1002, DL 1009)	Same Crops
6. Cassava	KME-1, KME-2, KME-3, KIBANDA MENO, Mucericeri, Local (KITWA)	Same Crops
7. Sweet Potatoes	Locals, KSP-20, Kemp-10, Kemp-20, SPK 004	Same Crops
8. Green grams	N26, KS20, Biashara, Karemoab, NdenguTosha	Same Crops
9. Sorghum	Gadam, Kari Mtama 1, Seredo, Sarena, KARI Mtama 2, SMILE, Sila, Local variety (kivila kya ivui)	Same Crops
10. Millets (F-Millet/P-Millet)	Pearl millet (Mwee) – KAT/PM-1, KAT/PM-2, KAT/PM-3 Finger Millet (Uimbi) – KAT/FM-1	Same Crops
11. Pumpkins (Mongu)	Local variety, Giant elephant	Same crops

2.6.2 PASTURES

- Mbwea, Kilili, Mbeetwa, Sudan grass, Sorghum fodder, Napier grass.General Analysis of Hazards/Risks and Opportunities (agriculture)

2.6.3 Interventions

Hazards /risks	Opportunities	Proposed actions
<ul style="list-style-type: none"> • Severe flash floods • Soil erosion • Isolated incidences of water logging • Outbreak of crop pests and diseases • Leaching of nutrients • Destruction of farm structures • Low land productivity due to excess moisture • Low crop yields due to excess moisture • Loss of inputs and poor crop establishment • Food insecurity due to washing away of crops by raging floods 	<ul style="list-style-type: none"> • Maximizing yields and income through planting recommended varieties • Increased area under crop and farm forest cover • Water harvesting for crop production and household use • Availing of certified farm inputs by agro-dealers • Insuring of crops against associated hazards 	<ul style="list-style-type: none"> • Establish new and Repair existing soil and water conservation structures and farm facility structures • Staggered planting • Timely procurement of inputs • Embrace Integrated Pest Management and Integrated Crop Management • Procurement of crop insurance

3 Specific advisories for Livestock farmers

Recommended Actions	Hazard/Risks	Opportunities	RESPONSIBLE
<ul style="list-style-type: none"> ✓ Pastures/fodder to be established • Panicum maximum (Mbwea) • Chloris Roxburghiana (Kilili) • Bracharia species • Pennisetum species • Cencrusciliaris • Sorghum Fodder • Sudan grass • Eragrostis Superba (Mbeetwa) 	<ul style="list-style-type: none"> • Livestock diseases, Parasites infestation, Poor pasture and fodder establishment • Inadequate pasture and fodder • Reduced milk production • Low birth rates • Poor body condition • Low prices of animals • Reduced water availability • Reduced household income 	<ul style="list-style-type: none"> • Feed Conservation • Breed improvement-for adaptable breeds • Value addition • Water harvesting and storage • Increase of small stock number • Breed improvement-for adaptable breeds • Value addition • Water harvesting and storage • Increase of small stock number • Feed Conservation 	Farmers WLPO Community Extension Volunteers, Inputs suppliers Service providers
<ul style="list-style-type: none"> ✓ General actions • Adopt Home feed formulations. • Breed management • Rehabilitation of Existing and establishment of new water harvesting structures • Bush management for pasture improvement • De-worming • Tick control • Vaccinate the animals against weather related diseases • Proper housing for livestock protection. • Timely harvesting and preservation of pastures and fodder • Rehabilitation of fish ponds • Restocking of fish ponds. • De-silting of water structures at farm level. 			

4 Advisories for Other Livelihood Sectors

SECTOR	Impact	Hazards/ Risk	Opportunity	Intervention/Actions	Responsible
Water resources	Plenty of water that should be harvested	Raging rain water - Flash flood	Water harvesting & conservation	Develop Water harvesting structures e.g. dams ,ponds ,water tanks	Dept. of water and development partners
Disaster management	El Nino related disasters	Likelihood of El Nino phenomenon to persist	Leverage on salvaged produce	Emergency /contingency plans	National Drought Management Authority, NGOs,Governments,Faith Based Organization
Wildlife /forestry	Encroachment of wildlife like snakes into homesteads.	Increase in snake bites Loss of wildlife	Conservation and strict protection of the current biodiversity	Human /wildlife conflict minimization through budgetary allocation for compensation ,electric fencing ,surveillance and	KWS National& County Government KFS Farmers

SECTOR	Impact	Hazards/ Risk	Opportunity	Intervention/Actions	Responsible
				enforcement, Afforestation programs	
Trade, industry and finance	Commodity price decrease Increased per capita incomes	Flooded roads Impassible roads	Prudent utilization of current food reserves, Importation of essential food commodities	Subsidized trader Reduced credit interests	Dept of Trade, Business Community, National & County Government
Energy	Energy infrastructure network collapse	Electrocution, Temporary blackouts	Maintenance of KPLC infrastructures, Income from maintenance works by locals	Allocate emergency funds Creation of an emergency kitty	Kenya Power
	Power outages	Short-circuiting	Energy saving	Alternative supply e.g. solar, generators	Kenya Power
	Decreased cost of energy	Increased electric energy generation	Increased use of electric energy	Increased generation of electric energy	
Transport /communication	Poor transport & communication networks	Flash floods	Road for water harvesting	Diversion channels Emergency funds /personnel, de-clogging of culverts	Dept of Transport, NTSA, National Government, County Government
Health	Increased Food security	Increased nutrition, Decreased food deficient related ailments	Adequate food for consumption Adequate food for value addition Opportunity for food conservation	Emergency /mobile clinic, Increase Health personnel, Enhanced public health activities, Prepositioning of drugs in health facilities	Dept. Of Health, Private Hospitals, Stakeholders
Education	Disruptions of education due to flooded and impassable roads.	Poor school infrastructure due to flooding menace	Initiation of School feeding Program due to availability of various foods.	Early warning and preparedness	Dept of Education, NGOs, Faith Based Organizations, Parents

5 How to get Weather Updates

You can get weekly weather updates from the Counties folder in the KMD Website <https://meteo.go.ke/node/4942> and via SMS messages every Monday evening or early Tuesday morning.

Further information may be gotten from the Director KMD _ 0722624691.

For More information Contact, the Nearest Agric Office: Ward, Sub County & County-Makueni.

Makueni Meteorological Office . Contact: 0795929926.