

# ETHIOPIA METEOROLOGY INSTITUTE

## Agrometeorological Bulletin

### MONTHLY AGROMETEOROLOGICAL BULLETIN

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## **FORE WARD**

This Agro met Bulletin is prepared and disseminated by the Ethiopia Meteorology Institute (EMI). The aim is to provide those sectors of the community involved in Agriculture and related disciplines with the current weather situation in relation to known agricultural practices.

The information contained in the bulletin, if judiciously utilized, are believed to assist planners, decision makers and the farmers at large, through an appropriate media, in minimizing risks, increase efficiency, maximize yield. On the other hand, it is vital tool in monitoring crop/ weather conditions during the growing seasons, to be able to make more realistic assessment of the annual crop production before harvest.

The Agency disseminates ten daily, monthly and seasonal weather reports in which all the necessary current information's relevant to agriculture are compiled.

We are of the opinion that careful and continuous use of this bulletin can benefit to raise ones agro climate consciousness for improving agriculture-oriented practices. Meanwhile, your comments and constructive suggestions are highly appreciated to make the objective of this bulletin a success.

Director General

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**አህፅሮት**  
**እ.ኤ.አ ኖቬምበር 2024**

ባለፉት የኖቬምበር የመጀመሪያው አስር ቀናት በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የነበረው የበጋው ወቅት ደረቅ የአየር ሁኔታ ሰብል በደረሰባቸው አካባቢዎች ለሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ ነበር። በሌላም በኩል በመካከለኛውና በሰሜን ምስራቅ በአንዳንድ ቦታዎች ላይ የነበረው እርጥበት ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች፣ ለፍርፍሬ ተክሎችና ለጓሮ አትክልቶች የውሃ ፍላጎት መሟላት እንዲሁም በመኸር ወቅት መጨረሻ ላይ በአፈር ውስጥ በተከማቸው እርጥበት በመታገዝ ለሚዘሩ እንደ ጓያ እና ሽንብራ ለመሳሰሉ የጥራጥሬ ሰብሎች ጠቀሜታ ነበረው። በአንጻሩም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብ፣ የደቡብ ምዕራብ እና የደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ የነበረው እርጥበት በተለይም በደጋማው አካባቢ በቦረናና ጉጂ ዞኖች ለተዘሩ ሰብሎች ምቹ ሁኔታ የፈጠረ ሲሆን በአርብቶ አደሩና ከፊል አርብቶ አደሮች አካባቢ ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት መሻሻልና የዝናብ ውሃን ለመሰብሰብና ለማከማችት ገንቢ ሚና ነበረው ።

ባለፉት የኖቬምበር ሁለተኛው አሥር ቀናት በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የበጋው ደረቅ፣ ፀሐያማና ነፋሻማ የአየር ሁኔታ ተስተውሏል። ይህም ሁኔታ በዚህ ጊዜ የሰብል ስብሰባቸውን በሚያካሄዱ የመኸር ሰብል በደረሰባቸው አካባቢዎች ለሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታ ነበረው። በሌላ በኩል በምዕራብ አጋማሽ በአንዳንድ ቦታዎች ላይ እርጥበት ነበራቸው። ይህም ሁኔታ ሙሉ በሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም በመኸር ወቅት መጨረሻ ላይ በአፈር ውስጥ በተከማቸው እርጥበት በመታገዝ ለተዘሩ እንደ ጓያ እና ሽንብራ ለመሳሰሉ የጥራጥሬ ሰብሎች የተገኘው እርጥበት ጠቀሜታ ነበረው። እንደሁም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብ እና ደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ የእርጥበት ሁኔታ የተስተዋለባቸው ሲሆን የተገኘው እርጥበት በደጋማው አካባቢ ለተዘሩ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በቆላማው አካባቢ ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለግጦሽ ማርና ለመጠጥ ውሃ አቅርቦት ከፍተኛ ጠቀሜታ ነበረው። እንዲሁም የማለዳውና የሌሊቱ ቅዝቃዜ እምብዛም ያልተጠናከረ ነበር። በሌላ በኩል በሶማሌ ክልል ሽንሌ ዞን ሙስታሂል ወረዳ የሸበሌ ወንዝ በመሙላቱ በአካባቢው በማደግ ላይ በነበሩ ሰብሎች ላይ የውሃ መተኛትና መጥለቅለቅ አስከትሏል።

ባለፉት የኖቬምበር ሦስተኛው አሥር ቀናት በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የበጋው ደረቃማ የእርጥበት ሁኔታ ተስተውሏል። ይህም ሁኔታ የመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ ተግባራትን ለማከናወን አመቺ ነበረ። በሌላ በኩል በምዕራብ፣ በሰሜን ምዕራብ እና በደቡብ ምዕራብ በአንዳንድ ቦታዎች ላይ የነበረው እርጥበት ሙሉ በሙሉ እድገታቸውን



ላልጨረሱ ሰብሎችና ለቋሚ ተክሎች የውሃ ፍላጎታቸውን ከማሟላት አንጻር አዎንታዊ ሚና የነበረው ቢሆንም በመደበኛ ሁኔታ ደረቃማ የአየር ሁኔታ በሚስተዋልባቸው የመካከለኛው እና የምስራቅ የሀገሪቱ አካባቢዎች የነበረው ወቅቱን ያልጠበቀ ዝናብ በተለይም በደረሱ እና በመሰብሰብ ላይ በሚገኙ ሰብሎች አሉታዊ ተጽዕኖ ነበረው፡፡ በአንጻሩም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት ደቡባዊ የሀገሪቱ ክፍሎች ላይ የነበረው እርጥበት በበጋ ወቅት ለተዘሩ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በቆላማው አካባቢ ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለግጦሽ ሣርና ለመጠጥ ውሃ አቅርቦት የጎላ ጠቀሜታ ነበረው፡፡

በአጠቃላይ ባሳለፍነው የኖቬምበር ወር በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የበጋው ደረቅ የእርጥበት ሁኔታ ተስተውሏል፡፡ ይህም ሁኔታ ሰብል በደረሰባቸው አካባቢዎች ለሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ ነበር፡፡ በሌላም በኩል በምራብ፣ በሰሜን ምራብ እና በደቡብ ምራብ በአንዳንድ ቦታዎች ላይ የነበረው እርጥበት ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች፣ ለፍርፍሬ ተክሎችና ለጓሮ አትክልቶች የውሃ ፍላጎት መሟላት እንዲሁም በመኸር ወቅት መጨረሻ ላይ በአፈር ውስጥ በተከማቸው እርጥበት በመታገዝ ለሚዘሩ እንደ ጓያ እና ሽንብራ ለመሳሰሉ የጥራጥሬ ሰብሎች ጠቀሜታ የነበረው ቢሆንም በተለይም በዚህ ወቅት በመደበኛ ሁኔታ ደረቃማ የአየር ሁኔታ የሚስተዋልባቸው የመካከለኛው፣ የምስራቅ እና የሰሜን ምስራቅ የሀገሪቱ አካባቢዎች ላይ አልፎ አልፎ የነበረው ወቅቱን ያልጠበቀ ዝናብ በተለይም በደረሱ እና በመሰብሰብ ላይ በሚገኙ ሰብሎች ላይ በመጠኑም ቢሆን አሉታዊ ተጽዕኖ ነበረው፡፡ በአንጻሩም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብ፣ የደቡብ ምዕራብ እና የደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ የነበረው እርጥበት በተለይም በደጋማው አካባቢ በቦረናና ጉጂ ዞኖች ለተዘሩ ሰብሎች ምቹ ሁኔታ የፈጠረ ሲሆን በአርብቶ አደሩና ከፊል አርብቶ አደሮች አካባቢ ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት መሻሻልና የዝናብ ውሃን ለመሰብሰብና ለማከማችት ገንቢ ሚና ነበረው ።

## **SUMMARY**

### **NOVEMBER 2024**

During the first dekad of November 2024 the observed dry, sunny and windy weather condition prevailed over most parts of Kiremt rain benefiting area of the country. Besides, the observed dry Bega weather condition could favour the on-going harvest and post-harvest activities. As the result harvest and post-harvest activities were under way in most parts of Meher growing areas. However, the observed enhanced moisture over central, north-eastern and eastern parts of the country had been favour the existing Meher crops, which were under different phenological phases and lately planted and currently found at various growing stages which requiring additional moisture for their further development, perennial plants, fruits and vegetables as well as it would have significant contribution for the production of pulse crops which planted at the end of the season with residual moisture. Similarly, since Bega is the second rainy season for the southern, south-eastern and south-western parts of the country. The observed enhanced moisture had positive implication for the water needs of Bega season crops particularly Borena and Guji highlands and also the observed improved moisture might be positive implication for pasture and drinking water, significantly important to regenerate natural and artificial ponds over both the southern and south-eastern pastoral and agro pastoral community. On the other hand the observed better rainfall over southern and south-eastern parts of the country had a good opportunity to collect rain water harvesting.

During the second dekad of November 2024, dry, sunny, and windy weather conditions prevailed over most parts of the Kiremt rain-benefiting areas of the country. This condition was favourable for harvest and post-harvest activities in regions where the harvest season is underway. However, some areas in the western half experienced moisture, benefiting crops that had not yet fully matured, as well as perennial crops and pulse crops like Guaya and chickpeas, which were sown using soil moisture at the end of the Meher season. Additionally, the southern and south-eastern parts of the country, currently in their second rainy season, also received moisture. This moisture has been crucial for gathering the water needs of crops planted in the highlands and for providing pasture and drinking water to pastoralists and semi-pastoralists in the lowlands. Morning and night temperatures have also been mild, without significant cold.

During the third dekad of November 2024 the observed dry, sunny and windy weather condition over most parts of the country could favor the on-going harvest and post-harvest activities. As the result harvest and post-harvest activities were under way in most parts of Meher growing areas. On the other hand, the enhanced moisture over western, north-western and south-western parts of the country had been favor the existing Meher crops, which were lately planted and currently found at various growing stages which requiring additional moisture for their further development, perennial plants, fruits and vegetables as well as it would have significant contribution for the production of pulse crops which planted at the end of the season with residual moisture. Similarly, since Bega is the second rainy season for the southern and south-eastern parts of the country. The observed enhanced moisture had positive implication for the water needs of Bega season crops and which might have positive implication for pasture and drinking water over both the southern and south-eastern pastoral and agro pastoral areas. Moreover, the observed better rainfall over southern and south-eastern parts of the country had a good opportunity to collect rain water harvesting. However the received unseasonal moisture over central and eastern parts of the country might have negatively affected harvest and post-harvest activities of matured crops.

During the month of November 2024, according to the analyzed agro meteorological information dry, sunny and windy weather conditions prevailed over most parts of Kiremt rain-benefiting areas of the country. This condition was favourable for harvest and post-harvest activities of fully matured Meher season crops in regions where the harvest season is underway. On the other hand, the observed enhanced moisture over western, north-western and south-western parts of the country had been favor the existing Meher crops, which were under This situation was believed to be more favorable various crops which are found from vegetative to grain filling stages toward attaining their water need for further growth and development, perennial plants, fruits and vegetables as well as it would have significant contribution for the production of pulse crops which planted at the end of the season with residual moisture. However the receiving unseasonal moisture over central, eastern and north-eastern parts might have slightly negative impact for areas which are currently conducting harvest and post-harvest activities of matured crops. Similarly, since Bega is the second rainy season for the southern and south-eastern parts of the country, the received moisture during the month could play very crucial role to satisfy the water need of Bega season crops over the southern high lands. Moreover, the condition had positive impact for improving the availability of pasture and drinking water and significantly important to regenerate natural and artificial ponds over both the pastoral and agro pastoral areas as well

as the enhanced moisture had a good opportunity to collect rain water harvesting over both the pastoral and agro pastoral community. On the other hand, the cloud coverage had been decreasing the occurrences of frost over the high land parts of the country.

## 1. WEATHER ASSESSMENT

### 1.1 Rainfall amount (21 – 30) November 2024

During November third dekad the rain fall distribution was On Konso zone received above 200mm. Over South Omo, Derashe, Amaro, Benchmaji, Kefa, Illubabor, Gambela zone 3, East Wellega, and South Gonder zones received 50-100 mm rainfall. Over Borena, Gedeo, Basketo, Godere, Dawuro, Gambela zone 1 &3, East Wellega, Agew (Awi), West Gojam, Bahirdar, South Gojam, Waghimira, west Harergie, Fik, Korahe and Deghabur received 25-50 mm rainfall. Over Liben, Afder, Bale, Guji, Gofa, Wolayita, Sidama, KT, Gambela zone 2, Arsi, South west Shewa, Addis Ababa, West Shewa, West Wellega, Tongo, Kamashi, Assosa, West, Central, South, and East Tigray, Mekele, North and South Wollo, Oromia Special Zone, Afar Zone 3 & 5, Harer, East Harergie, Jijiga and Warder received 5-25 mm rainfall. The rest part of the country was received 0-5 mm rain fall.

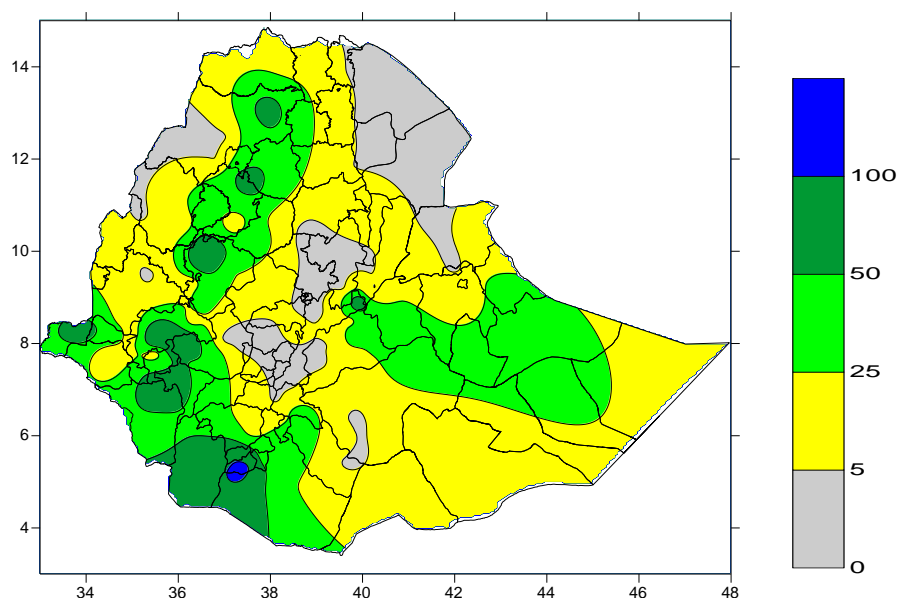


Fig 1. Rainfall distribution in mm (21 – 30) November 2024



## 1.2 Rainfall Anomaly (21 – 30 November 2024)

During third Dekad of November percent of normal distribution was all part of the country was exhibited normal to above Normal rainfall.

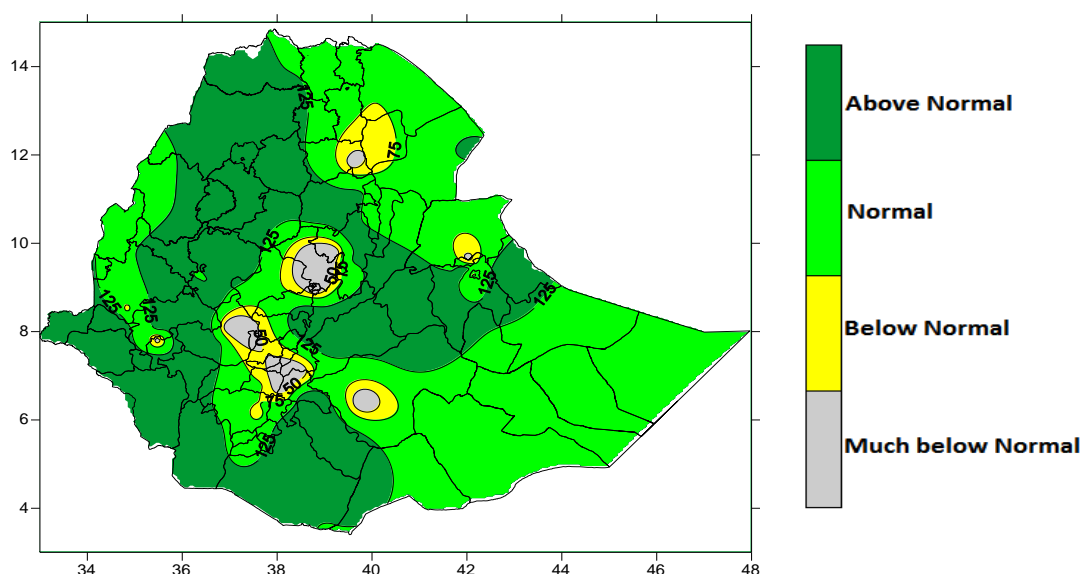


Fig. 2 Percent of normal rainfall distribution (21 – 30 November 2024)

### Explanatory notes for the Legend

- < 50- Much below normal
- 50-75%-Below normal
- 75-125%- Normal
- > 125% - Above normal

## 1.3 Moisture status (21 – 30 November 2024)

During the third dekad of October 2023, most parts of southern, south-western and western half of the country including eastern Oromia, Arsi and northern Somali exhibited moist to hyper humid moisture conditions. The rest parts of the country experienced moderately dry to very dry moisture condition.

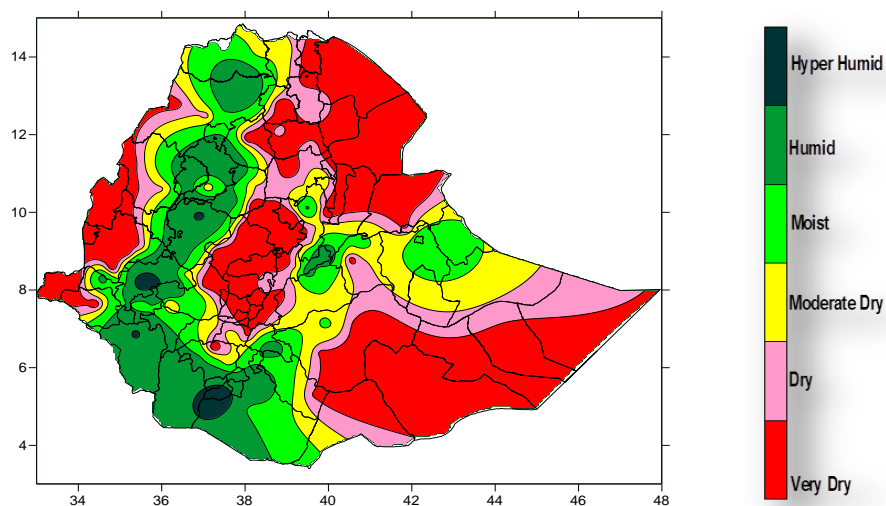


Fig. 3 Moisture Status (21-31 October 2024)

#### 1.4 Rainfall amount on the month of November 2024

During the month of November 2024, the rainfall distribution over Derashe, Konso, Amaro, Benchmaji, Sheka, Illubabur, and West Wellega received 100-200mm of rainfall. Over Borena, Guji, Gedeo, Basketo, Gofa, Dawuro, Keffa, Jimma, Sheka, Godere, Gambela zone 1, 2 & 3, Tongo, Kamashi, Agew, Bahirdar and West Gojam zone received 50-100mm rainfall. Over West Tigray, North Gonder, Metekel, West Wellega, East Gojam, KT, Welayita, Sidama, Hadiya, East Shewa, Arsi, east and west Harergie, Harer, Jijiga, Fik and Liben zone received 25-50 mm of rainfall. 1. The rest part of the country was received 0-25mm rainfall

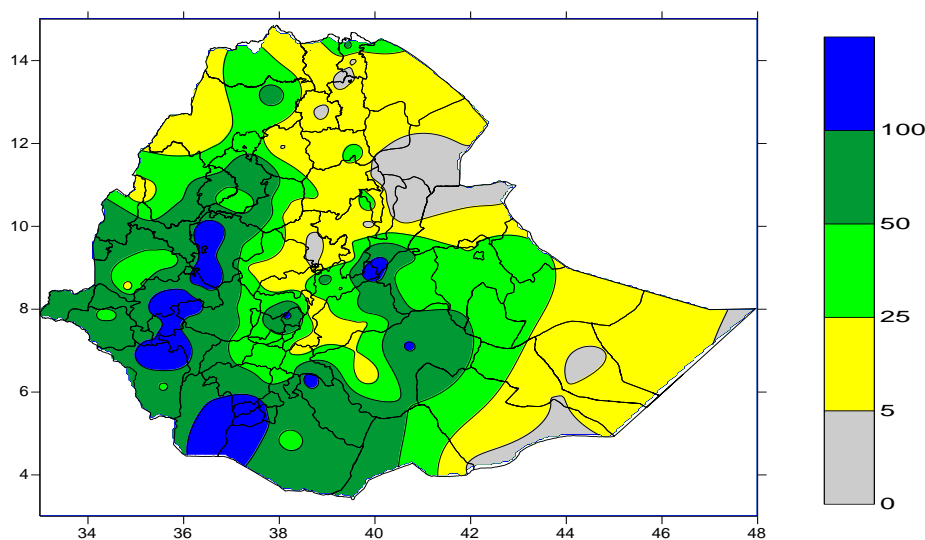


Fig. 4 Rainfall amount in mm for the month of November 2024

### 1.5 Rainfall Anomaly on the month of November 2024

During the month of November 2024 the percent of normal rainfall was most part of the country exhibited Normal to Above Normal rain fall except South Gonder, North Wollo, South Tigray, Afar zone 4, Waghimira, Dawuro, Welayita, Sidama, Gode and Korahe zones.

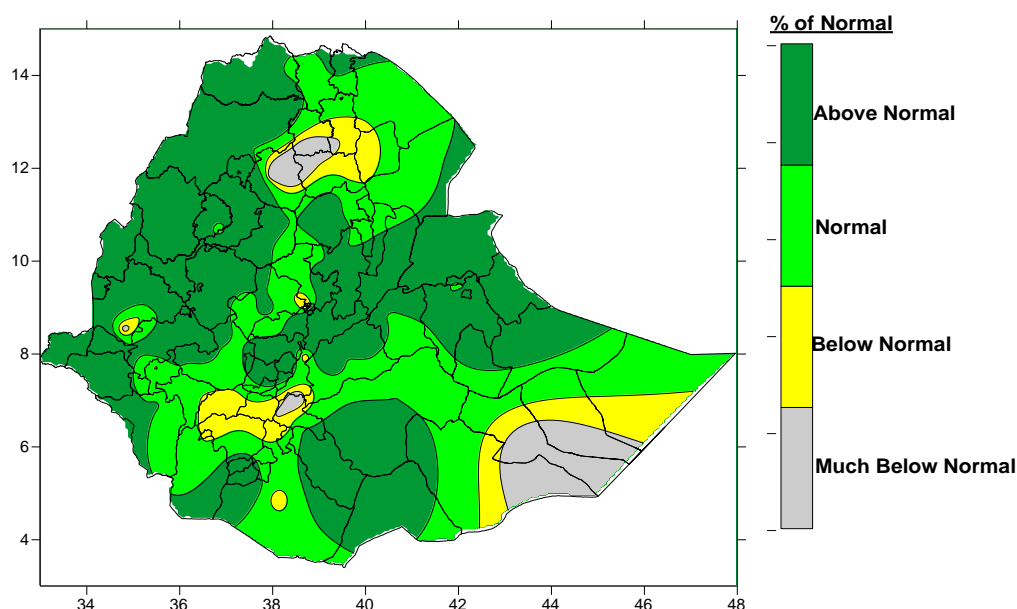


Fig. 5 Percent of Normal Rainfall for the month of November 2024

#### Explanatory notes for the Legend

- < 50-Much below normal
- 50-75%-Below normal
- 75-125%- Normal
- > 125% - Above normal

### 1.6 Moisture status on the month of November 2024

During the third dekad of October 2023, most parts of southern, south-western and western parts of the country including eastern Oromia, Arsi, Bale and some parts of southern and northern Somali exhibited moist to hyper humid moisture conditions. The rest parts of the country experienced moderately dry to very dry moisture condition.

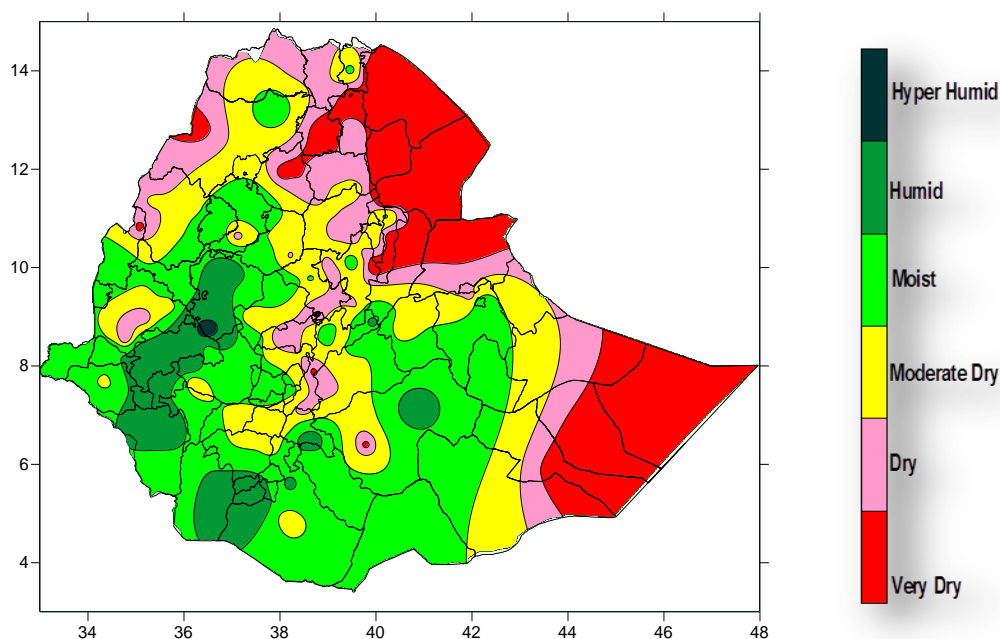


Fig. 6 moisture status for the month of November 2024

## 2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

### 2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE ON THE MONTH OF NOVEMBER 2024

During the month of November 2024, Due to dekad by dekad increasing of the enhanced moisture the NDVI Fig.7 (green plant coverage) over southern and south-eastern region during the month could play positive impact to perform different agricultural activities and the condition had positive impact for improving the availability of pasture and drinking water over both the pastoral and agro pastoral community.

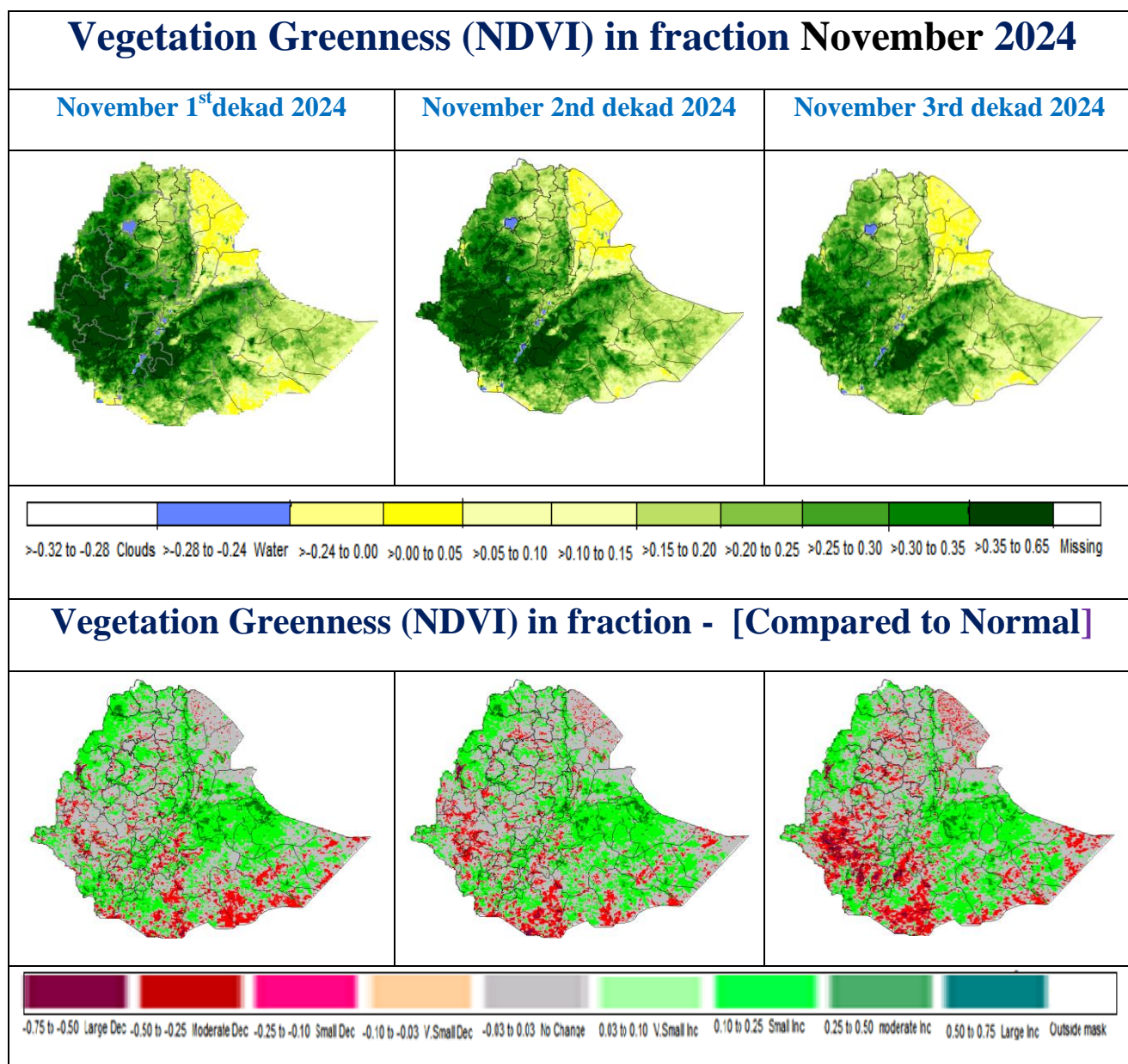


Fig.7 Vegetation Greenness (NDVI) in fraction and Compared to Normal November 2024.



## **2.1. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH OF DECEMBER 2024.**

In the coming month of December, the dry conditions prevailing in most parts of the country are expected to create favorable conditions for the implementation of harvest and post-harvest activities. On the other hand, light to moderate moisture expected over the western, southern, southwestern, and southern half of the country which are in their second rainy season (Bega)—will have a positive impact on the areas of southern Oromia that produce Bega crops. This will also positively affect the provision of pasture and drinking water for pastoral and semi-pastoral areas.

However, the expected occasional unseasonal rain may disrupt ongoing post-harvest activities in the eastern, northeastern, northern, northwestern, and western parts of the country, where crops like sesame, Teff, barley, oats, and wheat, as well as early-planted long-cycle crops such as maize and sorghum. Therefore, post-harvest activities should be undertaken promptly to avoid unnecessary harvest and post-harvest losses.

### **3. DEFINITION OF TERMS**

**ABOVE NORMAL RAINFALL:** - Rainfall in excess of 125% of the long term mean

**BELOW NORMAL RAINFALL:** - Rainfall below 75 % of the long term mean.

**NORMAL RAINFALL:** - Rainfall amount between 75 % and 125 % of the long term mean.

**BEGA:** - It is characterized with sunny and dry weather situation with occasional falls. It extends from October to January. On the other hand, it is a small rainy season for the southern and south eastern lowlands under normal condition. During the season, morning and night times are colder and daytime is warmer.

**BELG:** - Small Rainy season that extends from February to May and covers southern, central, eastern and north-eastern parts of the country.

**CROP WATER REQUIREMENTS:** - the amount of water needed to meet the water loss through evapotranspiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

**DEKAD:** - First or second ten days or the remaining days of a month.

**EXTREME TEMPERATURE:-** The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

**ITCZ:-** Inter-tropical convergence zone (narrow zone where trade winds of the two hemispheres meet.

**KIREMT:** - Main rainy season that extends from June to September for most parts of the country with the exception of the south-eastern lowlands of the country.

**RAINY DAY:** - A day with 1 or more mm of rainfall amount

