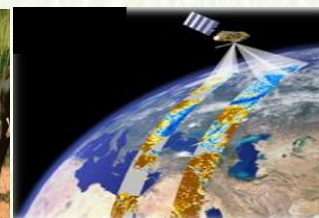


# **NATIONAL METEOROLOGY AGENCY**

## **Agrometeorological Bulletin**

### **MONTHLY AGROMETEOROLOGICAL BULLETIN**

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## **FOREWARD**

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.

Ethiopia Meteorology Institute 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.

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## አህፅሮት

እ.ኤ.አ ዲሴምበር 2024

ባሳለፍነው የዲሴምበር የመጀመሪያው አስር ቀናት ደረቃማ የእርጥበት ሁኔታ በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ አመዝናኛው ተስተውሏል። ይህም ሁኔታ በዚህ ጊዜ የሰብል ስብሰባቸውን በሚያካሄዱ ሰብል በደረሰባቸው አካባቢዎች ለሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ እንደነበረ የተሰበሰቡ የግብርና ሚኒስቴሮች መረጃዎች ያመለክታሉ። የፈጠረ ቢሆንም በአንፃሩ ግን የሌሊትና የማለዳው ቅዝቃዜ በመስኖ በሚለሙ ሰብሎች፣ በጓሮ አትክልቶችና በፍራፍሬ ተክሎች እንዲሁም በእንሰሳት ጤና ላይ አሉታዊ ተጽዕኖ ነበረው። በሌላም በኩል በአንዳንድ የምዕራብ እና የደቡብ ምዕራብ አካባቢዎች ላይ የነበረው አነስተኛ እርጥበት ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች፣ ለፍርፍሬ ተክሎችና ለጓሮ አትክልቶች የውሃ ፍላጎትን ከማሟላት አንፃር የጎላ ጠቀሜታ የነበረው ሲሆን በተጨማሪም ለአርብቶ አደሩና ከፊል አርብቶ አደሮች አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት መሻሻል ገንቢ ሚና ነበረው።

ባሳለፍነው የዲሴምበር የሁለተኛው አስር ቀናት የበጋው ደረቅ፣ ፀሐይማና ነፋሻማ የአየር ሁኔታ በተለይም በመጀመሪያዎቹ አጋማሽ አስር ቀናት በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የተስተዋለ እንደነበር የተተነተኑ የእርሻ ሚኒስቴሮች መረጃዎች ያመለክታሉ። ይህም ሁኔታ መኸር አብቃይ በሆኑት በአብዛኛው የሀገሪቱ ክፍሎች ላይ በመካሄድ ላይ ላለው የሰብል ስብሰባ እና ድህረ ሰብል ስብሰባ ተግባራትን ለማከናወን አመቺ ሁኔታን የፈጠረ ነበር። በአንፃሩ ከደረቃማውና ነፋሻማው የአየር ሁኔታ ጋር ተያይዞ የሌሊት እና የማለዳው ቅዝቃዜ በተለይም በአንዳንድ በሰሜን፣ በሰሜን ምስራቅ፣ በምስራቅ እና በመካከለኛው የሀገሪቱ ደጋማ ስፍራዎች ላይ አይሎ የተስተዋለ ሲሆን፤ ይህም ሁኔታ በመስኖ በሚለሙ ሰብሎች፣ በጓሮ አትክልቶችና በፍራፍሬ ተክሎች እንዲሁም በእንሰሳት ምርታማነትና ጤና ላይ በመጠኑም ቢሆን አሉታዊ ተጽዕኖ ነበረው።

ባለፉት የዲሴምበር ሶስተኛው አስራ አንድ ቀናት የበጋው ደረቅ፣ ፀሐይማና ነፋሻማ የአየር ሁኔታ በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የተስተዋለ እንደነበር የተተነተኑ የሚኒስቴሮች መረጃዎች ያመለክታሉ። ይህም ደረቃማ የእርጥበት ሁኔታ የመኸር አብቃይ በሆኑት በአብዛኛው የሀገሪቱ ክፍሎች በመካሄድ ላይ ላለው ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ ነበር። ከደረቃማውና ከነፋሻማው የአየር ሁኔታ ጋር ተያይዞ

በተለይም በሰተመጨረሻ ባሉት ቀናቶች የሌሊት እና የማለዳው ቅዝቃዜ በተለይም በአንዳንድ የሰሜን ምስራቅ፣ የመካከለኛው፣ የደቡብና የምስራቅ የሀገሪቱ ደጋማ ስፍራዎች ላይ ከሞላጎደል ቀጥሎ ተስተወሏል። ይህም ሁኔታ በመስኖ በመታገዝ በሚለሙ ሰብሎች በፍራፍሬ ተክሎችና በጓሮ አትክልቶች ላይ በተወሰነ መጠን አሉታዊ ጎን ነበረው። በሌላ በኩል አልፎ አልፎ ባሉት ቀናት በደቡብ፣ በምዕራብና በደቡብ ምዕራብ የነበረው መጠነኛ እርጥበት ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት ለአርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት በተወሰነ መልኩ በጎ ገጽታ ነበረው ።

በአጠቃላይ ባሳለፍነው የዲሴምበር ወር የበጋው ደረቃማ፤ ፀሃያማና ነፋሻማ የአየር ሁኔታ በተለይም በመጀመሪያውና ሁለተኛው አስር ቀናት በአብዛኛው የሀገሪቱ ስፍራዎች ላይ ተስተወሏል። ይህም በወሩ ውስጥ የተስተዋለው ደረቅ የእርጥበት ሁኔታ የደረሱ ሰብሎች እንዲደርቁ፤ በጊዜ እንዲሰበሰቡና የድህረ ሰብል ስብሰባ ተግባራትን ለማከናወን ምቹ ሁኔታ ነበረው። በሌላ በኩል በአንዳንድ የሰሜን፣ የመካከለኛው፣ የደቡብና የምስራቅ የሀገሪቱ ደጋማ ስፍራዎች ላይ ከቀኑ ዝቅተኛ የሙቀት መጠን ጋራ ተያይዞ የሌሊቱና የማለዳው ቅዝቃዜ ከ5 ዲግሪ ሴልሽየስ በታችና በተወሰኑ ቦታዎች ከ0 ዲግሪ ሴልሽየስ በታች ሆኖ ተመዝግቧል። ይህም የተስተዋለው ቅዝቃዜ በእንሰሳት ጤናና፤ በመስኖ በመታገዝ በሚለሙ የፍራፍሬ ተክሎችና በጓሮ አትክልቶች ላይ በጥቂት ቦታዎች ላይ በተወሰነ መጠን አሉታዊ ጎን ነበረው። ይሁንና በተለይም በዲሴምበር የመጨረሻዎቹ አስራ አንድ ቀናት አልፎ አልፎ በሰሜን ምስራቅ፣ በመካከለኛው፣ በደቡብና ምስራቅ የሀገሪቱ ደጋማ ስፍራዎች ላይ ከሞላጎደል ቀጥሎ ተስተወሏል። ይህም ሁኔታ ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ አንዳንድ ሰብሎች፣ ለቋሚ ተክሎች፣ ለአትክልቶችና እንዲሁም ከሰብል ስብሰባ በኋላ ለሚዘሩ እንደ ጓያ እና ሽንብራ ለመሳሰሉ የጥራጥሬ ሰብሎችም ሆነ ለእንሰሳት የግጦሽ ሳርና የመጠጥ ውሃ አቅርቦት ላይ የተገኘው እርጥበት ጠቀሜታ ነበረው።

## **SUMMARY**

### **December 2024**

During the first dekad of December 2024, dry moisture conditions were prevailed in most parts of the country. The dry moisture condition had create favourable conditions for harvesting and post-harvesting activities in Meher crop growing areas of North, Northeast, central and Southern highlands of the country. On the other hand, the observed cold temperatures during night and morning was increased relatively, especially in the north, northeast, east, central and southern highlands of the country, which condition had a negative impact on the growth of irrigated crops, fruit, vegetables and perennial plants. In the same way, it may cause minor effect to the health of animals, especially calves.

During the second dekad of December 2024, according to meteorological information collected from all over the country in the first half of the dekad it was observed that the Bega season dry, sunny and windy weather conditions have prevailed in most part of the country. This condition might have a positive impact for harvest and post-harvest activities in Meher growing areas, where crops were fully matured. However, in relation to the prevailing dry weather condition, some high land areas like northern, north-eastern, eastern and central parts of the country experienced extreme minimum temperature below 5<sup>0</sup>C. This condition might have negative implication on the development of Bega season irrigated crops as well as on fruit, vegetables and perennial plants. Whereas, since Bega is the second rainy season for the southern and south-eastern low land parts of the country, the dry condition during the dekad negatively affected different agricultural activities over pastoral and agro pastoral areas.

During the third dekad of December 2024, according to the agro meteorological analysis, during the last dekad of December, the Bega season dry, sunny and windy weather condition prevailed across most part of the country. This condition had a positive impact for the Meher crop growing areas toward assisting the ongoing post-harvest activities. Following on the prevailed dry condition some high land areas of north eastern, central and eastern parts of the country was somehow experiencing low night and morning temperatures. This low temperature might have negative impact on irrigated crops as well as horticulture plants. On the other hand, parts of southern, south-western and western of the country received light to moderate moisture. This situation in turn might favour toward satisfying the daily water need of perennial crops and the provision of pasture and drinking water in some extent for pastoral and agro-pastoral communities.

Generally, during the month of December, the Bega season dry, sunny and windy climate condition prevailed across the country and this situation was more pronounced during the first and second dekad of the month. Given the current state of agricultural activities, the dry condition was favourable for the timely dry out of matured crops and to conduct harvest and post-harvest activities. On the other hand, in line with the dry condition some of the northern, central, south and eastern parts of the country recorded minimum temperatures below 5<sup>0</sup>C while some few places remained below zero degree Celsius. This cold and chill condition might have some negative impact on livestock health, irrigated Bega season crops and over various horticulture plants. However during the last dekad of December light to moderate moisture was recorded over few places of north-eastern, central, southern and eastern parts of the country. This condition favours toward the water satisfaction of not fully matured crops, perennial plants, for various horticulture crops and some of legumes which often planted after harvest of Meher crops. In addition, it might have positive impact on ensuring the availability of pasture and drinking water over pastoral and agro pastoral areas.



# 1. WEATHER ASSESSMENT

## 1.1. Rainfall amount (21 – 31) December 2024

During the month of December 2024 the rain fall distribution over some pocket areas of Gambela Zone 1, Arsi, Konso and Jimma zones were received 25-50 mm of rainfall. Some areas of Gambela zone 1 and 2, South Omo, Derashe, Amaro, Benchmaji, Illubabor, Jimma, Keffa, Basketo, Konso, Dawro, Gamogofa, Arsi, Bale, Afar zone1 and 4 and Agew (Awi) Zones were received 5-25 mm rainfall. However the rest part of the country was received 0-5 mm rain fall.

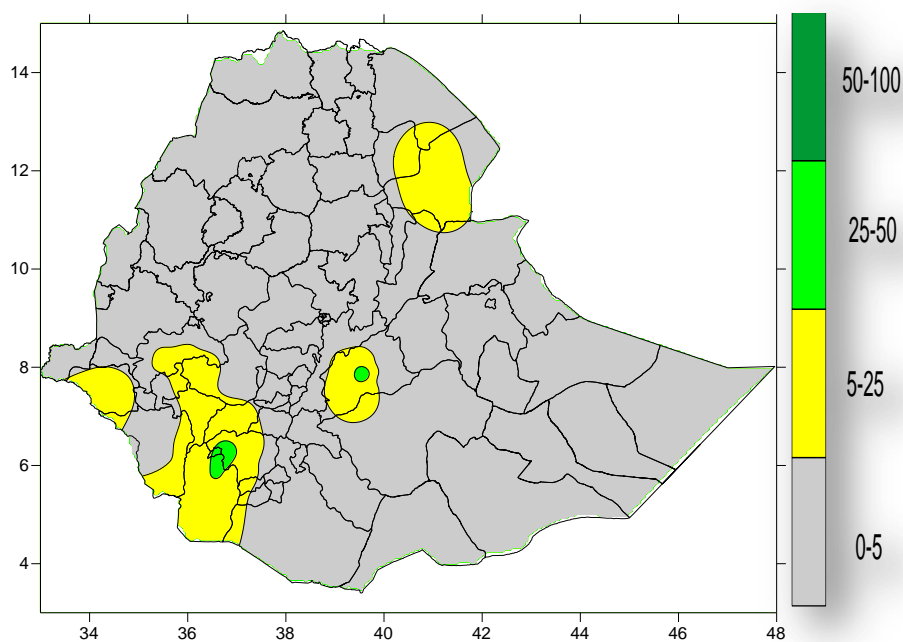


Fig 1. Rainfall distribution in mm (21 – 31) December 2024

## 1.2. Rainfall Anomaly (21 – 31 December 2024)

During the month of December some western and northeastern and pocket areas of central were exhibited Normal to Above Normal rainfall. On the other hand most parts of the country were dominantly prevailed Below Normal Rainfall condition.



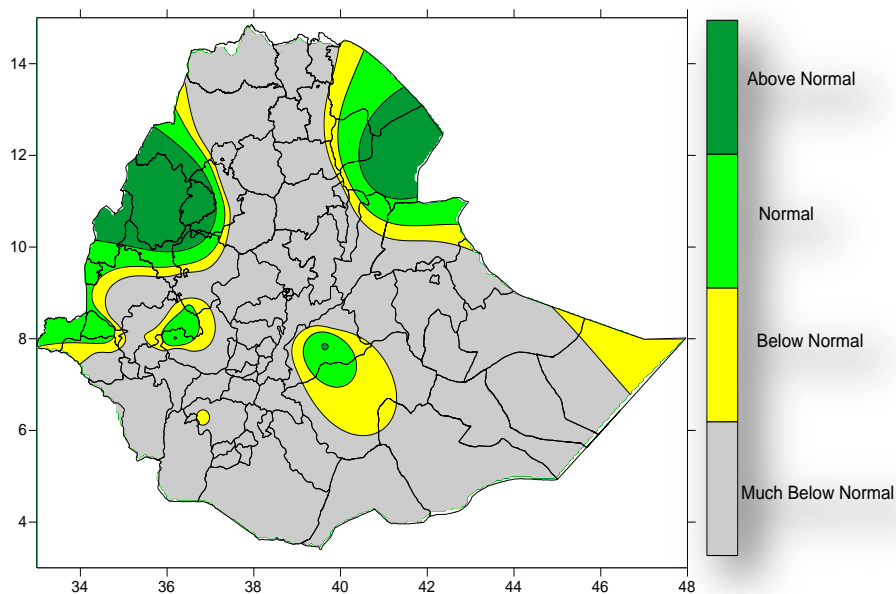


Fig. 2 Percent of normal rainfall distribution (21 – 31 December 2024)

#### Explanatory notes for the Legend

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

#### 1.3. Moisture status (21 – 31 December 2024)

During December third dekad 2024, some south-western, southern and north-eastern pocket areas were exhibited Humid to Moist. The rest parts of the countries exhibited Moderately Dry too Very Dry.

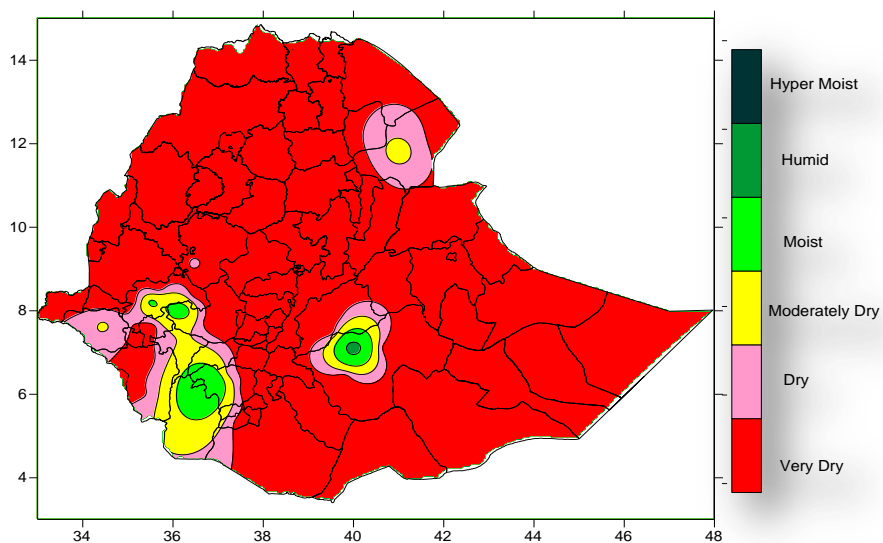


Fig. 3 Moisture Status (21-31 December 2024)

#### 1.4. Rainfall amount on the month of December 2024

During the month of December 2024 the rain fall distribution over some pocket areas of Gambela Zone 1, Arsi, Konso and Jimma zones were received 25-50 mm of rainfall. Some areas of Gambela zone 1 and 2, South Omo, Derashe, Amaro, Benchmaji, Illubabor, Jimma, Keffa, Basketo, Konso, Dawro, Gamogofa, Arsi, Bale, Afar zone1 and 4 and Agew (Awi) Zones were received 5-25 mm rainfall. However the rest part of the country was received 0-5 mm rain fall.

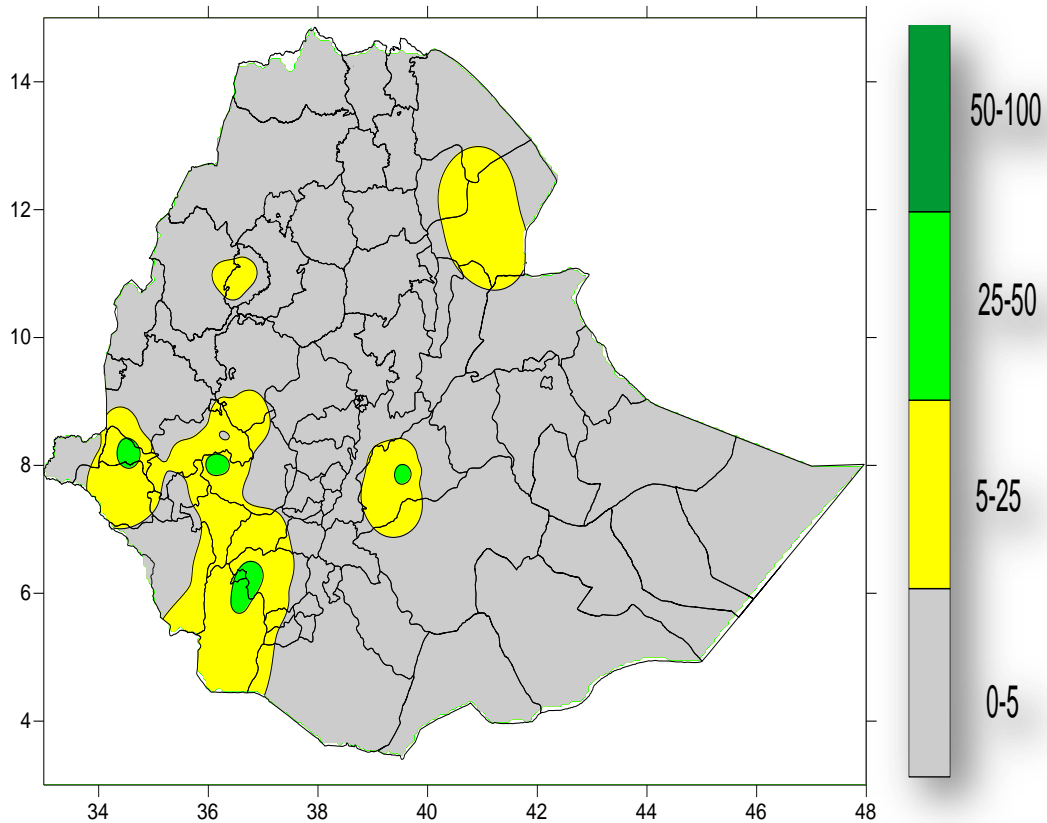


Fig. 4 Rainfall amount in mm for the month of December 2024

### 1.5. Rainfall Anomaly on the month of December 2024

During the month of December some western and northeastern and pocket areas of central were exhibited Normal to Above Normal rainfall. On the other hand most parts of the country were dominantly prevailed Below Normal Rainfall condition.

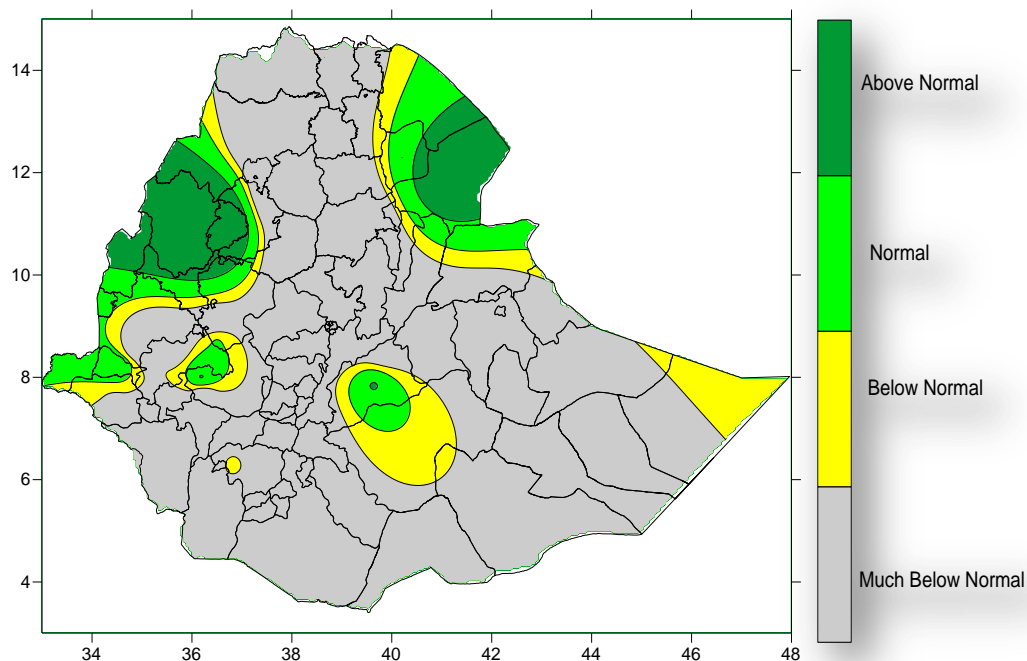


Fig. 5 Percent of Normal Rainfall for the month of December 2024

#### 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 December 2024

As indicated on the month of December 2024 moisture status map below, pocket area of western, south-western, southern and north-eastern were exhibited dry too Moderately dry moisture. The rest parts of the countries exhibited Very Dry moisture condition.

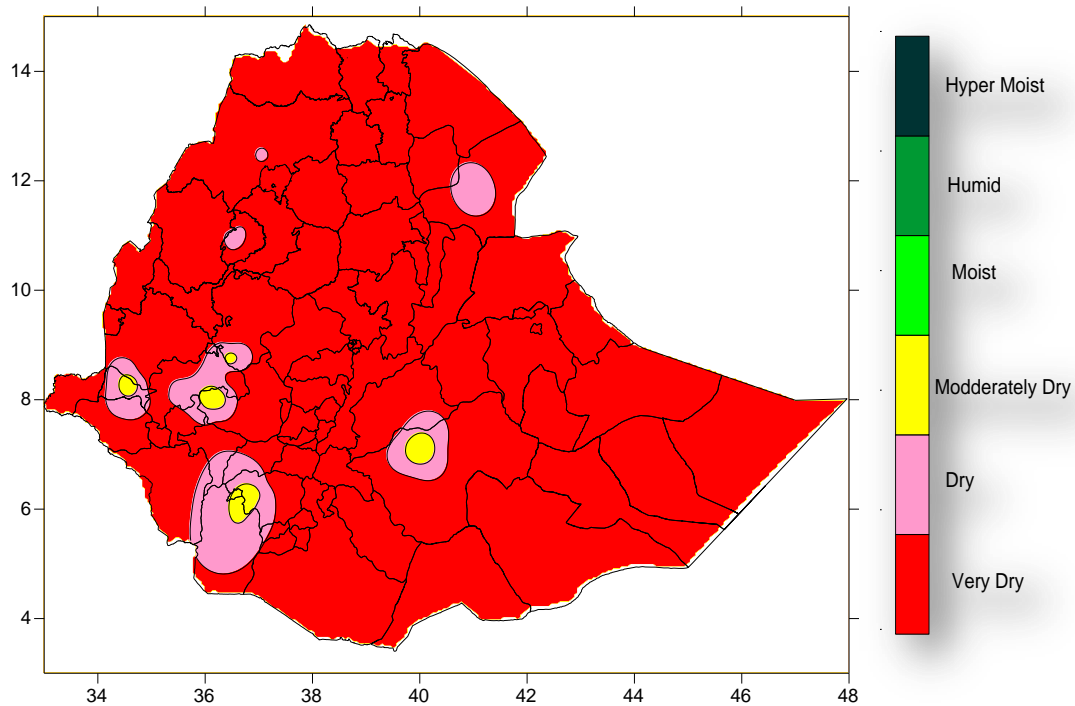


Fig. 6 moisture status for the month of December 2024

## 2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

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

During the month of December 2024, Due to dekad by dekad decreasing of moisture the NDVI Fig.7 (green plant coverage) day to day decline over southern and south-eastern region during the month negatively affected performance of different agricultural activities and the condition had negatively impacted for the availability of pasture and drinking water over both the pastoral and agro pastoral community.

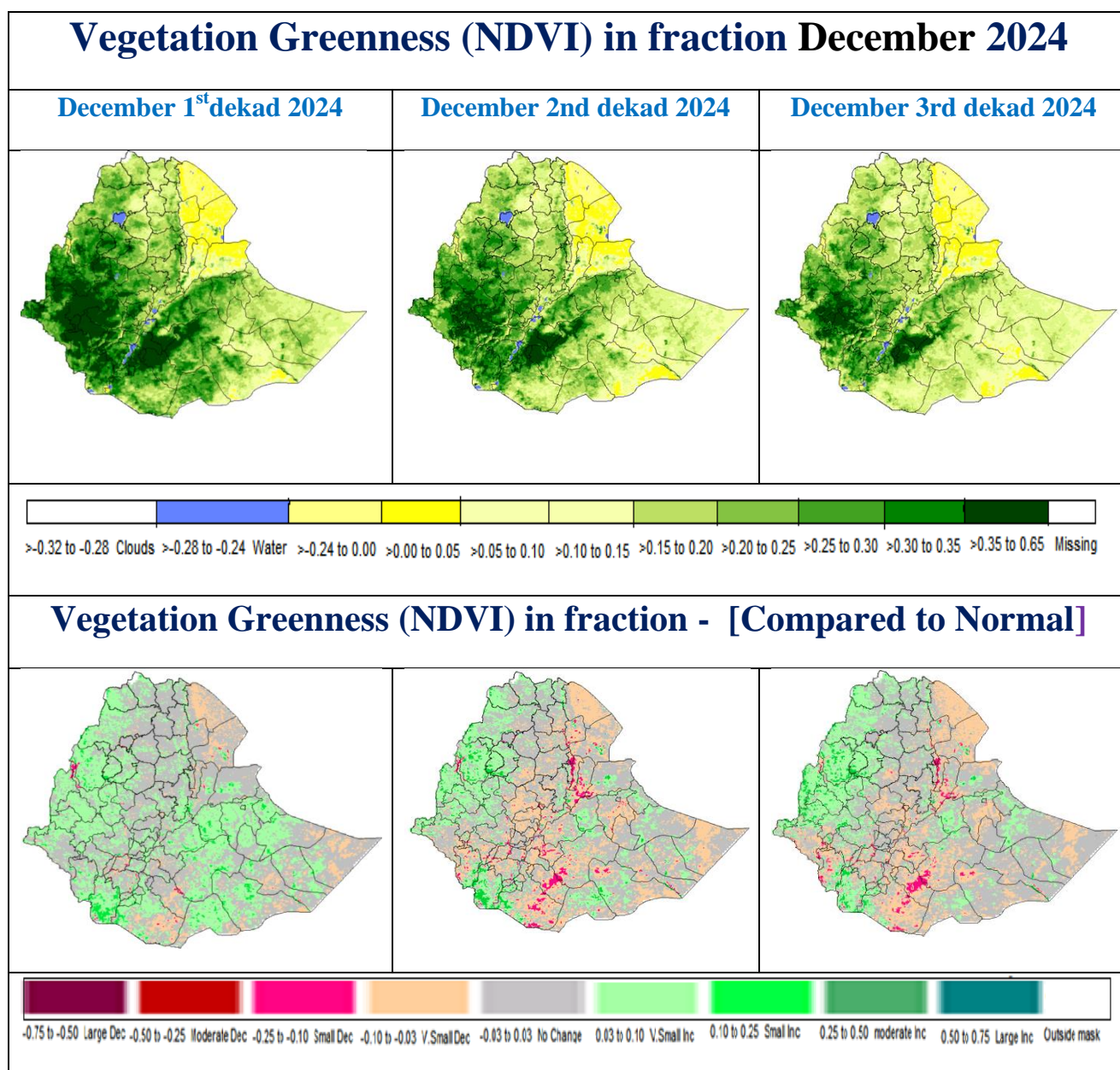


Fig.7 Vegetation Greenness (NDVI) in fraction and Compared to Normal November 2024.

## **2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH OF JANUARY 2025**

In normal condition, most Meher growing areas are widely engaged in harvest and post-harvest activities due to the favourable dry, sunny and windy weather situations during the coming month January. It is also the time that most crop fields, which have been covered with various crops for the last few months, are made free of plants and usually after the mid of the month farmers are starting preparation for the next Belg season agricultural practices. In addition, the month can also be appeared with cool and chilly weather condition during night and morning time.

According to the weather forecast for the coming January 2025, the Bega season dry, sunny and wind weather condition couple with cold night and morning is likely to be continued up to the mid of the coming month over the highland areas of the country. The probable dry weather condition up to the mid of the month is likely to favour for completing the on-going harvest and post-harvest activities and enable farmers to clear crop fields for the next season agricultural practices. On the other hand, dry, windy and cloud free condition might encourage cool and chilly weather at night and morning time particularly over some high land areas of the country. This condition is likely to be slightly negative effect on performance of vegetables, fruits and perennial plants. Therefore, farmers are advised to be ready to take the necessary measures so as to maintain the plant environment as warm as possible. However, after the mid of the month some parts of north-eastern, central and south-western and south-western parts of the country are likely to start getting little amount of rainfall due to the approach of certain rain bearing Belg season weather systems. The situation may be favourable for Bega season crops and perennial plants as well as to ensure the availability of pasture and drinking water for the pastoral and agro pastoral community. In addition, the predicted rain after the mid of the month is supposed to play a significant role toward the improvement of soil moisture and hence for land preparation for the Belg season.

### **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



