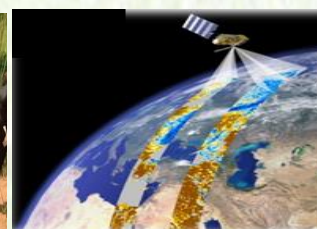


# ETHIOPIA METEOROLOGY INSTITUTE

## Agrometeorological Bulletin

### MONTHLY AGROMETEOROLOGICAL BULLETIN

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## FORE WARD

This Agro met Bulletin is prepared and disseminated by the National Meteorological Agency (NMA). 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.

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# አህፅሮት

## እ.ኤ.አ ኖቬምበር 2022

ባሳለፍነው የኖቬምበር 2022 የመጀመሪያዎቹ አስር ቀናት በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የበጋው ደረቅ፣ ፀሐይማና ነፋሻማ የአየር ሁኔታ ተስተውሏል። ይህም ሁኔታ በዚህ ጊዜ የሰብል ስብሰባቸውን በሚያካሄዱ በአንዳንድ ሰብል በደረሰባቸው አካባቢዎች ለሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ እንደነበረ የተሰበሰቡ የግብርና ሚኒስቴሮች መረጃዎች ያመለክታሉ። በሌላም በኩል የበጋው ወቅት ዝናብ ተጠቃሚ የሆኑት የደቡብ፣ የደቡብ ምዕራብና የምዕራብ የኢትዮጵያ አካባቢዎች በአንዳንድ ቦታዎቻቸው ላይ ዝናብ ነበራቸው። ይህም ሁኔታ ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም በመኸር ወቅት መጨረሻ ላይ በአፈር ውስጥ በተከማቹ እርጥበት በመታገዝ ለሚዘሩ እንደ ንፃ እና ሽንብራ ለመሳሰሉ የጥራጥሬ ሰብሎች የተገኘው እርጥበት ጠቀሜታ የነበረው ሲሆን በአንጻሩም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብና የደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ የተገኘው የተወሰነ እርጥበት በደጋማው አካባቢ ለተዘሩ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በቆላማው አካባቢ ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለግጦሽ ሣርና ለመጠጥ ውሀ አቅርቦት አዎንታዊ አስተዋጽዖ ነበረው። በተጨማሪም በመጨረሻዎቹ ጥቂት ቀናት የወቅቱ ዝናብ በማይጠበቅባቸው በምስራቅ፣ በመካከለኛውና በሰሜን ምዕራብ የሀገሪቱ አካባቢዎች ላይ በመጨረሻዎቹ ሁለት ቀናት ቀላል ዝናብ ተስተውሎባቸዋል። ይህም ሁኔታ ምንም እንኳን የደረሰን ሪፖርት ባይኖርም በተወሰኑ ቦታዎች ላይ የነበረው እርጥበት እድገታቸውን ሙሉ ለሙሉ ባልጨረሱና በመሰብሰብ ላይ ባሉ ሰብሎች ላይ በተወሰነ ሁኔታ አሉታው ተፅእኖ ይኖረዋል። እንዲሁም የማለዳውና የሌሊቱ ቅዝቃዜ እምብዛም ያልተጠናከረ ቢሆንም፣ በአንዳንድ በመካከለኛው፣ በሰሜን ምስራቅና በምስራቅ የሀገሪቱ ደጋማ ሥፍራዎች ላይ በተከታታይ ቀናት የቅዝቃዜው መጠን ከ5 ዲግሪ ሴልሽየስ በታች ሆኖ ተመዝግቧል። ይህም ሁኔታ በነዚህ አካባቢዎች በመሰብሰብና በደረሱ ሰብሎች ላይ በመጠኑም ቢሆን አሉታዊ ጎን ነበረው ።

ባሳለፍነው የኖቬምበር ሁለተኛው አስር ቀናት የተስተዋለው ደረቅ፣ ፀሃይማ እና ነፋሻማ የአየር ሁኔታ የደረሱ ሰብሎች በጊዜ እንዲደርቁ ከፍተኛ ሚና የነበረው ሲሆን፣ በአንጻሩም ከደረቃማው የአየር ሁኔታና ከደመና ሽፋን መሳሳት ጋር ተዳምሮ በአብዛኛው የሀገሪቱ ስፍራዎች ላይ የማለዳውና የሌሊቱ ቅዝቃዜ ተጠናክሮ እንደነበረ መረጃዎች የሚያመለክቱ ሲሆን፣ በተለይም በአንዳንድ በደቡብ፣ በመካከለኛው፣ በሰሜን ምስራቅና በምስራቅ የሀገሪቱ ደጋማ ሥፍራዎች ላይ ላይ በይበልጥ የተጠናከረበትና በተወሰኑ አካባቢዎች ላይም የቀኑ ዝቅተኛ የሙቀት መጠን ከ5 ዲግሪ ሴልሽየስ በታች ሆኖ ተመዝግቧል። ይህም ሁኔታ ሙሉ ለሙሉ ባልደረሱና በተለያዩ የእድገት ደረጃ ላይ በሚገኙ ሰብሎች ላይ በመጠኑም ቢሆን የራሱን አሉታዊ ተጽዕኖ አሳድሯል። በሌላ በኩል የበጋው ወቅት ዝናብ ተጠቃሚ የሆኑት

የደቡብ፣ የደቡብ ምዕራብና የምዕራብ የኢትዮጵያ አካባቢዎች የደመና ሽፋን ከመኖሩ ጋር ተያይዞ በተለይም በመጀመሪያዎቹ ቀናት ላይ በአንዳንድ ቦታዎቻቸው ላይ ዝናብ ነበራቸው። በተጨማሪም አልፎ አልፎ ከነበረው የደመና ክምችት በደቡብ ሱማሌ፣ እና በደቡብ ኦሮሚያ እና በአርሲ በጥቂት ስፍራዎቻቸው ላይ ከባድ ዝናብ ተመዝግቧል። ይህም ሁኔታ ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም በመኸር ወቅት መጨረሻ ላይ በአፈር ውስጥ በተከማቸው እርጥበት በመታገዝ ለሚዘሩ የጥራጥሬ ሰብሎች የተገኘው እርጥበት ጠቀሜታ የነበረው ቢሆንም በአንዳንድ ቦታዎች የነበረው በጣም ከፍተኛ ዝናብ በመድረስ ላይ ባሉ ሰብሎች ላይ በተወሰነ መላኩ አሉታው ተፅእኖ ያሳደረ ቢሆንም በአንጻሩ በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብና የደቡብ ምዕራቅ የሀገሪቱ ክፍሎች ላይ የተገኘው የተወሰነ እርጥበት በደጋማው አካባቢ ለተዘሩ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በቆላማው አካባቢ ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለግጦሽ ሣርና ለመጠጥ ውሃ አቅርቦት አዎንታዊ አስተዋጽዖ ነበረው።

ባላለፍነው የኖቬምበር 2022 የመጨረሻዎቹ አስር ቀናት በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ የበጋው ደረቅ፣ ነፋሻማና ፀሃያማ የአየር ሁኔታ ከሌሊቱና ከማለዳው ጠንከር ያለ ቅዝቃዜ ጋር ተዳምሮ ተስተውሏል። የነበረው ደረቃማው የአየር ሁኔታ የክረምት ተጠቃሚ የነበሩት የሀገሪቱ ክፍሎች አሁን በደረቅ የአየር ሁኔታ ላይ ያሉ ስለሆነና በዚህ ጊዜ የሰብል ስብሰባቸውን በሚያካሄዱ በአንዳንድ ሰብል በደረሰባቸው አካባቢዎች የሰብል ስብሰባና የድህረ ሰብል ስብሰባ እንቅስቃሴን ለማከናወን አመቺ ሁኔታን የፈጠረ ቢሆንም፣ በአንዳንድ ለውርጭ ተጋላጭ በሆኑ ሥፍራዎች ላይ ደግሞ የሌሊቱና የማለዳው ቅዝቃዜ እየጨመረ በመምጣቱ በአንዳንድ የሰሜን፣ የሰሜን ምዕራቅ፣ መካከለኛው እና የምዕራቅ ደጋማ አካባቢዎች ላይ የቀኑ ዝቅተኛ የሙቀት መጠን በአንዳንድ ስፍራዎቻቸው ላይ ከ5 ዲጊ በታች ሆኖ ተመዝግቧል። ይህም ሁኔታ ሙሉ ለሙሉ ላልደረሱ ሰብሎች ለፍራፍሬ ተክሎች እና ለጓሮ አትክልቶች ሁለንተናዊ እድገት እንዲሁም በእንሰሳ ጤና ላይ መጠነኛ አሉታዊ ተጽዕኖ ነበረው ። በሌላ በኩል የበጋው ወቅት ዝናብ ተጠቃሚ የሆኑት የደቡብ እንዲሁም የደቡብ ምዕራብ ኢትዮጵያ አካባቢዎች የደመና ሽፋን ከመኖሩ ጋር ተያይዞ በአንዳንድ ቦታዎቻቸው ላይ ዝናብ ነበራቸው። ይህም ሁኔታ ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች በተጨማሪም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት በደቡብ የሀገሪቱ ክፍሎች ላይ የተገኘው የተወሰነ እርጥበት በደጋማው አካባቢ ለተዘሩ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በቆላማው አካባቢ ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለግጦሽ ሣርና ለመጠጥ ውሃ አቅርቦት አዎንታዊ አስተዋጽዖ ነበረው።

ባጠቃላይ ባላለፍነው የኖቬምበር ወር 2022 በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የበጋው ደረቅ፣ ፀሐያማና ነፋሻማ የአየር ሁኔታ ተስተውሏል። ይህም ሁኔታ በዚህ ጊዜ የሰብል ስብሰባቸውን በሚያካሄዱ በአንዳንድ ሰብል በደረሰባቸው አካባቢዎች ለሰብል ስብሰባና ድህረ

ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ እንደነበረ የተሰበሰቡ የግብርና ሚኒስቴሮች መረጃዎች ያመለክታሉ። በአንጻሩም ከደረቃማው የአየር ሁኔታና ከደመና ሽፋን መሳሳት ጋር ተዳምሮ በአብዛኛው የሀገሪቱ ስፍራዎች ላይ የማለዳውና የሌሊቱ ቅዝቃዜ በተለይም ከሁለተኛው አስር ቀን ጀምሮ በአንጻራዊ ሁኔታ ተጠናክሮ እንደነበረ መረጃዎች የሚያመለክቱ ሲሆን፤ በተለይም በአንጻንድ ደጋማ የሀገሪቱ ክፍሎች ላይ የቀኑ ዝቅተኛ የሙቀት መጠን በተከታታይ ቀናት ከ5 ዲግሪ ሴልሽየስ በታች ሆኖ ተመዝግቧል። ይህም ሁኔታ ሙሉ ለሙሉ ባልደረሱና በተለያየ የእድገት ደረጃ ላይ በሚገኙ ሰብሎች ላይ በመጠኑም ቢሆን የራሱን አሉታዊ ተጽዕኖ አሳድሯል። በሌላም በኩል የበጋው ወቅት ዝናብ ተጠቃሚ የሆኑት የደቡብ፣ የደቡብ ምስራቅ፣ የደቡብ ምዕራብ አካባቢዎች በአንጻንድ ቦታዎቻቸው ላይ ዝናብ ነበራቸው። ይህም ሁኔታ ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም በመኸር ወቅት መጨረሻ ላይ በአፈር ውስጥ በተከማቸው እርጥበት በመታገዝ ለሚዘሩ የጥራጥሬ ሰብሎች የተገኘው እርጥበት የጎላ ጠቀሜታ የነበረው ሲሆን በአንጻሩም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብና የደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ የተገኘው እርጥበት በደጋማው አካባቢ ለተዘሩ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በቆላማው አካባቢ ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለግጦሽ ሣርና ለመጠጥ ውሀ አቅርቦት አዎንታዊ አስተዋጽዖ ነበረው። በተጨማሪም በመጀመሪያዎቹ ቀናት ከተጠናክሩት የሚኒስቴሮች ገጽታዎች ጋር በተያያዘ የወቅቱ ዝናብ በማይጠበቅባቸው በመካከለኛው፣ በምስራቅ፣ በሰሜን ምሥራቃዊ ዳርቻዎች እንዲሁም በሰሜን ምዕራብ የሀገሪቱ አካባቢዎች ላይ ዝናብ ተስተዋለባቸዋል። ይህም ሁኔታ ምንም እንኳን የደረሰን ሪፖርት ባይኖርም በተወሰኑ ቦታዎች ላይ የነበረው ወቅቱን ያልጠበቀ እርጥበት እድገታቸውን ሙሉ ለሙሉ ባልጨረሱና በመሰብሰብ ላይ ባሉ ሰብሎች ላይ በተወሰነ ሁኔታ አሉታው ተፅእኖ ነበረው። በተጨማሪም ከወሩ አጋማሽ በኋላ አልፎ አልፎ ከነበረው የደመና ክምችት ጋር ተያይዞ በደቡብ፣ በደቡብ ምዕራብ፣ በምዕራብ እና በደቡብ ምስራቅ በጥቂት ስፍራዎቻቸው ላይ ከባድ ዝናብ ተመዝግቧል። ይህም የተገኘው ከባድ ዝናብ በተወሰነ ቦታዎች በተለያየ የእድገት ደረጃ ላይ ባሉ ሰብሎች ላይ አሉታው ተፅእኖ ቢኖረውም ውሃ አጠር ለሆኑ አካባቢዎች ውሃን ለመሰብሰብና ለማከማቸት ጥሩ አጋጣሚን የፈጠረ ነበር።

## **SUMMARY**

### **NOVEMBER 2022**

During the first dekad of November 2022, the observed dry Bega weather condition could favour the on-going harvest and post-harvest activities in most parts of Meher growing areas. As the result harvest and post-harvest activities were under way in most parts of Meher growing areas. On the other hand enhanced moisture condition was observed over Bega season rainfall benefiting areas like southern, south-western and western parts of the country. This condition might have favorable to satisfy the water need of various early planted Meher season crops which found different phenological stages, late sown cereal and pulse crops, as well as perennial plants. Moreover Bega is the second rainy season for the southern and south-eastern parts of the country, the received moisture during the dekad could play very crucial role to perform different agricultural activities. Additionally, the condition had positive impact for improving the availability of pasture and drinking water. However due to the observed occasional unseasonal rainfall particularly the last few days of the dekad experienced over eastern, central and north-western parts of the country could have negative impact in areas where they are normally supposed to get dry moisture condition at this time of the year. Besides, the situation might have negative impact for areas which are under harvest and post-harvest activities. In relation to the dry condition, the night and morning time coldness was observed over some parts of northern, north-eastern and eastern high lands and some station recorded below 5 degree centigrade. This condition might be slightly negative impact for crops which were lately planted and currently found at various growing stages as well as fruits and vegetables which grow under irrigation.

During the second dekad of November 2022, the analysed agro meteorological information's indicated that dry, Sunny and windy weather condition was favour the on-going harvest and post-harvest activities in most parts of Meher growing areas. However in relation to the dry condition, the night and morning time coldness was observed over some parts of southern, central, north-eastern and eastern high lands and some station recorded below 5 degree centigrade. This condition might be slightly negative impact for crops which were lately planted and currently found at various growing stages as well as fruits and vegetables which grow under irrigation. On the other hand enhanced moisture condition was observed particularly at the beginning of the dekad over Bega season rainfall benefiting areas like southern, south-western and western parts of the country. In addition to this southern Somali, southern Oromia and Arsi exhibited some rainfall. This condition might have

favourable to satisfy the water need of various early planted Meher season crops which found different phonological stages, late sown cereal and pulse crops, as well as perennial plants. Moreover Bega is the second rainy season for the southern and south-eastern parts of the country, the received moisture during the dekad could play very crucial role to perform different agricultural activities. Additionally, the condition had positive impact for improving the availability of pasture and drinking water. However due to the observed occasional unseasonal heavy fall particularly at the beginning of the dekad could have negative impact in areas where they are normally supposed to get dry moisture condition at this time of the year. Besides, the situation might have negative impact for areas which are under harvest and post-harvest activities. However the observed moisture over south and south-eastern pastoral and agro-pastoral areas had been positive impacts for improvement of pasture and drinking water.

During the third dekad of November 2022, the analyzed agro meteorological information's indicated that the dry, Sunny and windy weather condition prevailed over most of northern half, central and eastern Meher growing areas of the country. This condition is believed to be favorable for harvest and post-harvest activities of fully matured Meher season crops. However, over northern, north eastern, central and eastern frost prawn high land areas recorded minimum temperature below 5 °c. Among the observed station like Debre birhan 0.2, 2.8, 2.0, 2.2, 3.2, 4.0, 4.2, 0.4, 3.0, 3.4, 2.2, 4.8, and 2.0 °c, Haromaia 1.6, 2.2, 3.4, 4.2, 1.0, 4.0, 3.0, 2.0, 3.0, 3.8, 3.4 and 3.0 Bui 3.4, 3.8, 4.6, 4.6, 4.4, 3.0, 4.6, 4.6, and 4.6. Chefa 4.2, 4.6, 4.6, 3.4, 4.2, 4.6, 4.4, and 4.2 Fitcha 4.6 Mehal meda 1.2, 2.0, 3.0, 3.2 and 4.0, Wegel Tena 2.0, 2.8, 3.5, 3.6, 4.0, 4.0, 4.5, and 4.0, Enewari 3.8, 4.5, 4.5 and 4.0, Amba mariam 4.6, 4.0, 3.6, 4.8, 4.6 and 4.0 Arsi robe 4.5, 4.0, 3.5, 4.5, 4.5 and 3.0 Debark 4.8, Robe 4.4 and 4.2 Dangila 4.0 and Emdiber 1.8 °c. Enewary 4.6 and 4.5 °c, Fitcha 4.2 °c, and Mehal meda 1.8 and 3.0 °c. This condition might be slightly negative impact for crops which were lately planted, currently found at various growing stages and irrigated fruits and vegetables and slightly affected animal health. On the other hand, enhanced moisture condition was observed over Bega rainfall benefiting areas of southern and south-western parts of the country experienced light to moderate amount of rainfall. This condition might be favourable to satisfy daily crop water requirement for various early planted Meher season crops which found different phonological stages as well as perennial plants. Moreover Bega is the second rainy season for the southern and south-eastern parts of the country, the received rain during the dekad could play very crucial role to perform different agricultural activities. Additionally, 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 community.

During the month of November 2022, according to the analysed agro meteorological information the observed dry, Sunny and windy Bega weather condition could be favourable for harvest and post-harvest activities of fully matured Meher season crops. As the result harvest and post-harvest activities were under way in most parts of Meher growing areas. Moreover in relation to the dry condition, the night and morning time coldness was observed and minimum Temperature below 5 degree centigrade continuously recorded over some high lands. This condition might be slightly negative impact for crops which were lately planted and currently found at various growing stages as well as fruits and vegetables which grow under irrigation. On the other hand, the observed enhanced moisture condition prevail over southern, south-eastern and south-western Bega rainfall benefiting areas experienced slight to heavy rainfall. This condition might have favourable to satisfy the water need of various early planted Meher season crops which found different phenological stages, late sown cereal and pulse crops, as well as perennial plants. Similarly, since Bega is the second rainy season for the southern and south-eastern parts of the country, the received rain during the month could play very crucial role to perform different agricultural activities. Additionally, the condition had positive impact for improving the availability of pasture and drinking water over both the pastoral and agro pastoral community. However due to the observed occasional unseasonal rainfall particularly the last few days of the first dekad and the beginning of the second dekad experienced over central, eastern, north-western and north-eastern margins of the country could have negative impact in areas where they are normally supposed to get dry moisture condition at this time of the year and the situation might have negative impact for areas which are under harvest and post-harvest activities. Moreover, the observed heavy fall after the second half of the month over some areas of southern, south-western, western and south-eastern parts of the country might have negative impact for areas which are under harvest and post-harvest activities. While the observed moisture over south and south-eastern pastoral and agro-pastoral areas had been positive impacts for improvement of pasture and drinking water and good opportunity to collect rain water harvesting.

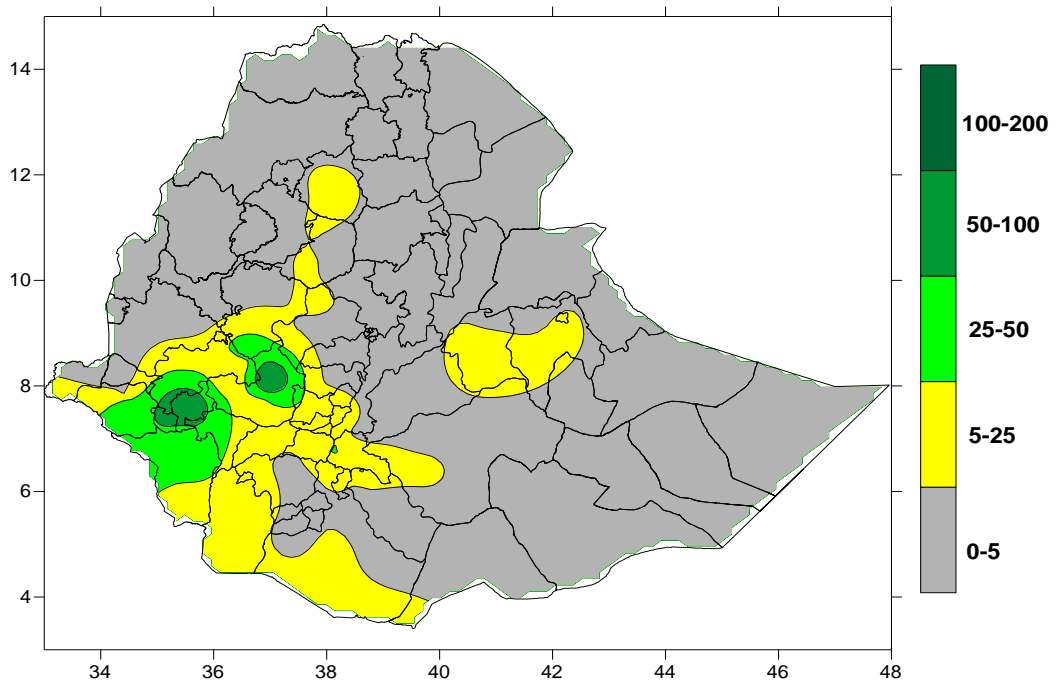


Fig 1. Rainfall distribution in mm (21 – 30) November 2022

## 1. WEATHER ASSESSMENT

### 1.1. Rainfall amount (21 – 30) November 2022

During the third dekad of November 2022 pocket areas of North Gonder and East Wellega, Illubabor, Jimma, tip areas of Guragi, Siliti, Alaba, pocket areas of Sidama, Dawero, pocket areas of Gambela Zone 1,2&3, pocket areas of Basketo South Omo, Dirsha, Borena, pocket areas of West and East Hararghe Zones are received 5-25 mm Rain fall. Pock areas of East Wellegaand Jimma, Sheka, Godere, Keffa, and Gambella Zone2 Zones received 25-50 mm Rainfall. Pocket areas of Sheka, Godere and Jimma Zones received 50-100mm Rain fall. The rest parts o f the countries received 0-5mm Rainfall.

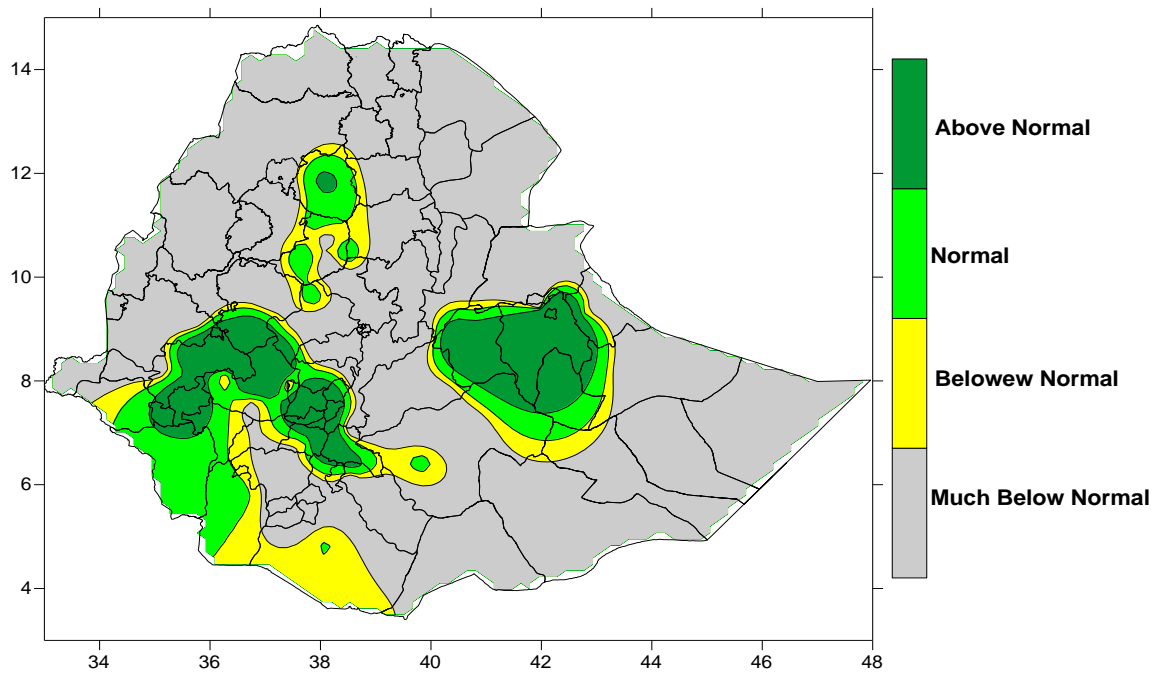


Fig. 2 Percent of normal rainfall distribution (21 – 30 November 2022)

#### Explanatory notes for the Legend

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

#### 1.2. Rainfall Anomaly (21 – 30 November 2022)

Looking into the percent of normal rainfall condition during the third dekad of November 2022 pocket areas of North and South Gondar, East Gojjam, East Wellega, Illibabur, Jimma, Sheka, Godere, Bench Maji, Keffa, Basketo, South Omo, Siliti, Alaba, Hadiya, Sidama, West and East Hararaghe, Bale and Fik Zones are exhibited Normal to Above Normal rain fall conditions. The rest parts of the countries experienced below normal too much below normal rainfall

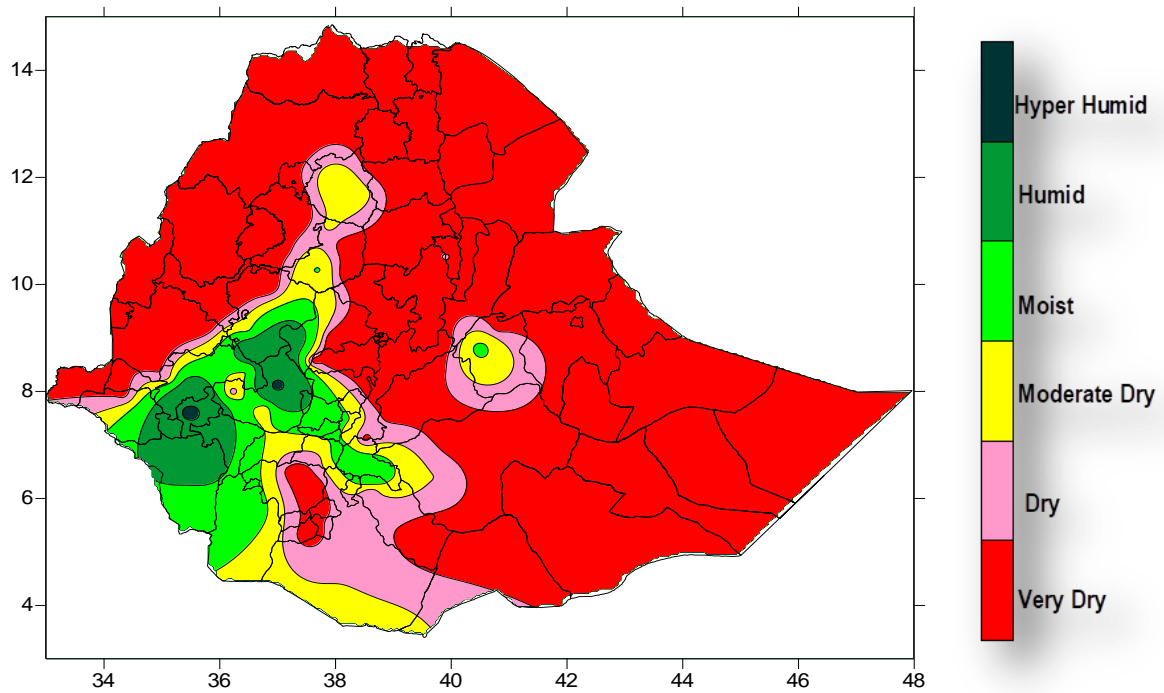


Fig. 3 Moisture Status (21-30 November 2022)

### 1.3. Moisture status (21 – 30 November 2022)

During the third dekad of November 2022 some parts of East Wellega, Illibabur, Jimma, Sheka, Godere, Bench Maji, Keffa, Basketo, South Omo, Siliti, Alaba, Hadiya, Sidama, pocket area of West Hararaghe experienced Moist to Hyper humid moisture condition. The rest parts of the countries exhibited moderately dry to very dry soil moisture.

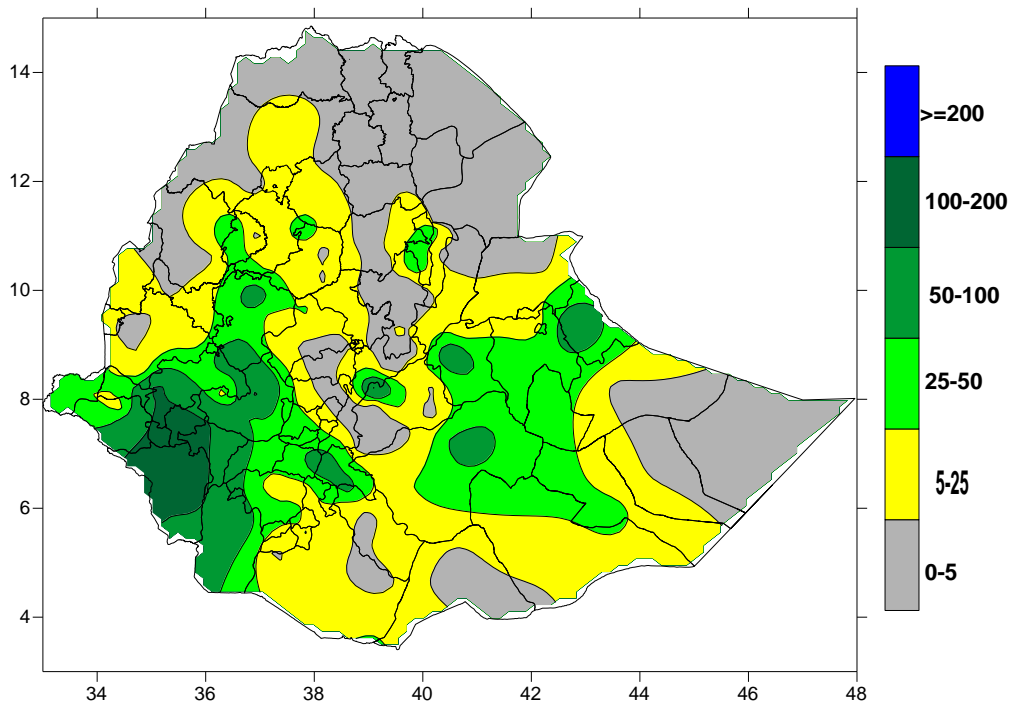


Fig. 4 Rainfall amount in mm for the month of November 2022

#### 1.4. Rainfall amount on the month of November 2022

During the month of November 2022, pocket areas of North and South Gondar, Bhir dar, Agew Awi, Pocket area of Metkel, East Gojjam, Assosa, Kamashi, West Wellega, North and West Shewa, Goffa, Amaro, Borena, Guji, Libem, Bale, Afder, Gode, Korahe, Degahabur, Shinilo, Oromia Zone, Afar Zone3&5 Zones are received 5-25mm rain fall. East Wellega, Gambela Zone 1,2&3, Illibabur, Alaba, Hadiya, Dawero, West and East Hararghe, Bale, Fik, Afder, and Gode Zones are 25-50mm rain fall received. Illibabur, Jimma, Keffa, Dawero, Basketo, South Omo, Pocket areas of Sidama, Arsi, pocket West Hararghe, and Jimma Zones received 50-100 rain fall. the rest part of the country is 0-5 rainfall received.

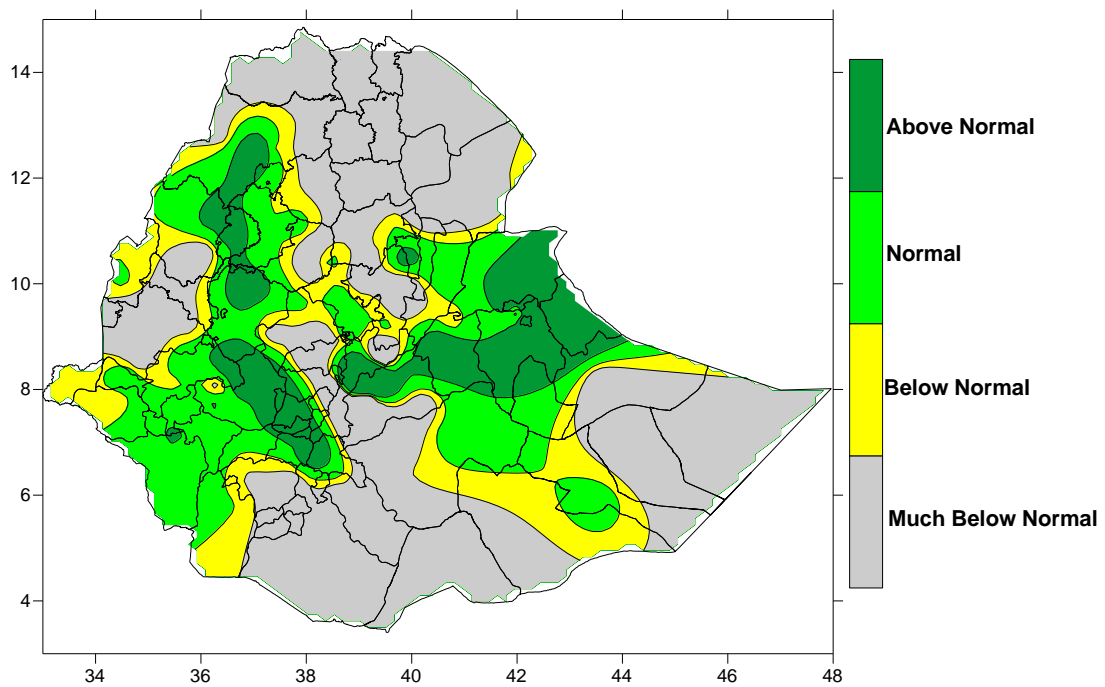


Fig. 5 Percent of Normal Rainfall for the month of November 2022

**Explanatory notes for the Legend**

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

**1.5. Rainfall Anomaly on the month of November 2022**

During the month of November 2022, pocket areas of North Gonder Bahir Dar, West Gojjam, Agew Awi, East Wellega, Illibabur, Jimma, tip areas of Gambela Zone1&2, Sheka, Godere, Keffa, Dawero, Bench Maji, Basketo, half of South Omo, Siliti, Alaba,, Sidama, half Arsi, West and East Hararghe, Shinili, Jijiga, Pocket areas of Bale and Fik Zones are exhibited Normal to Above Normal rainfall conditions, the res part of the country exhibited much Below Normal to Below Noraml .

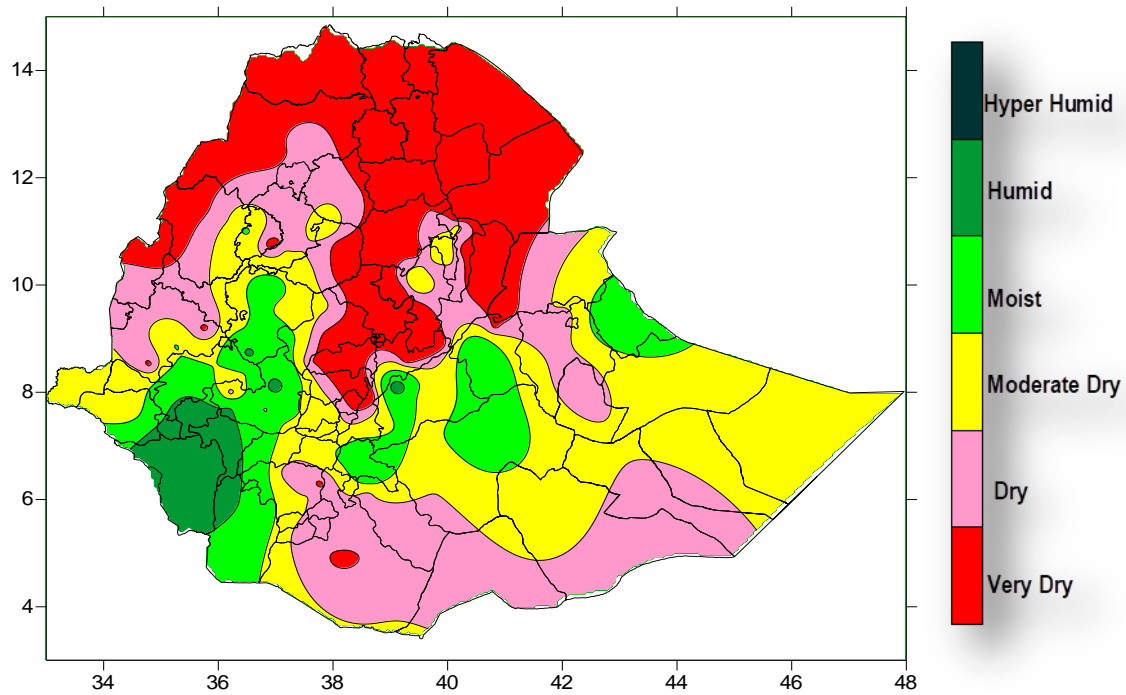


Fig. 6 moisture status for the month of November 2022

### 1.6. Moisture status on the month of November 2022

In accordance with the moisture status map above, during the month of November 2022 parts of East Wellega, Illibabur, Jimma, tip areas of Gambela Zone1&2, Sheka, Godere, Keffa, Dawero, Bench Maji, Basketo, half of South Omo, Sidama, half Arsi and Bale West Hararghe and Jijiga, experienced Moist to Hyper Humid moisture condition. The rest parts of the countries exhibited moderately dry to very dry soil moisture.

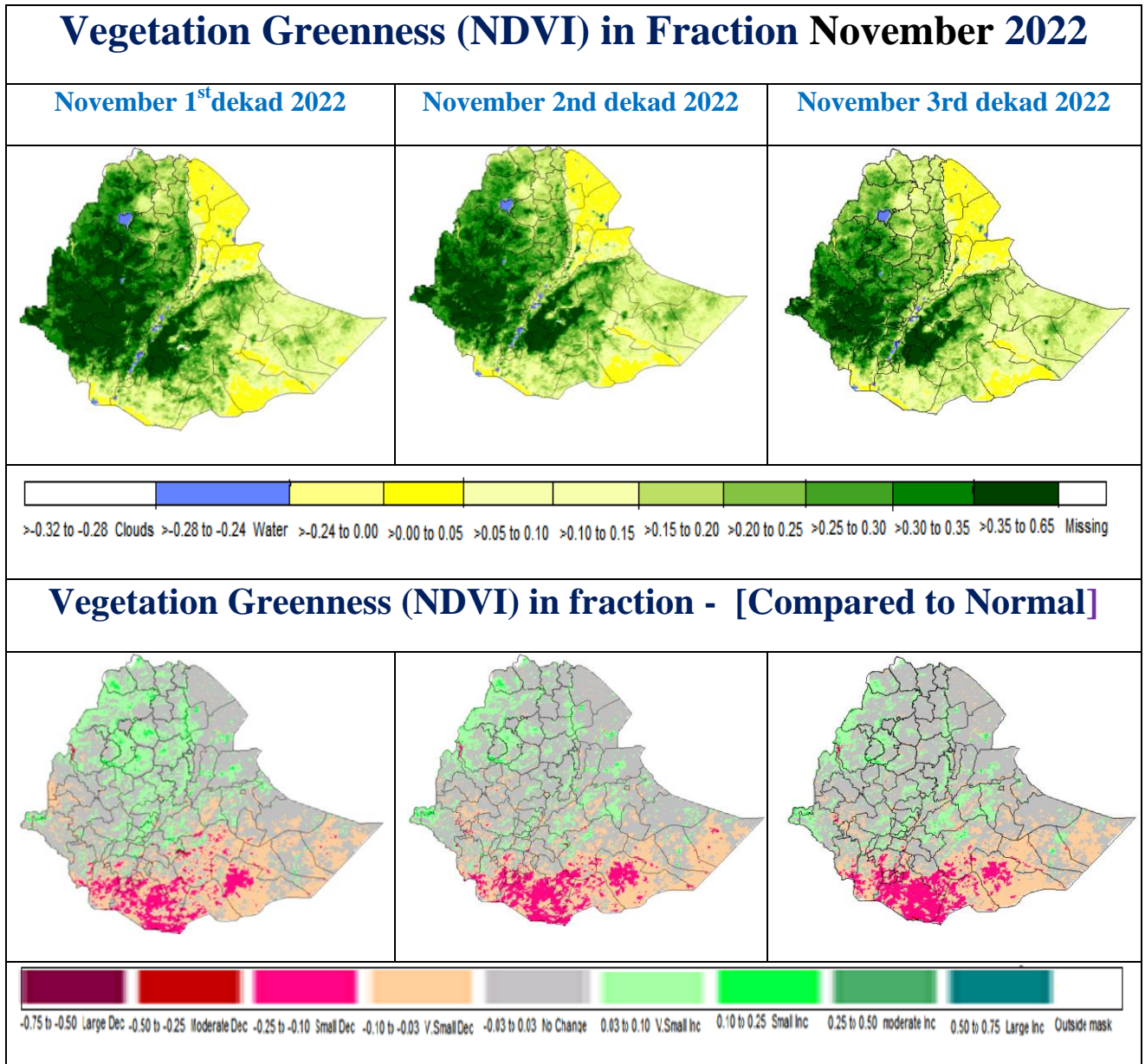


Fig.7 Vegetation Greenness (NDVI) in fraction and Compared to Normal November 2022.



## **2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE**

### **2.1. VEGETATION CONDITION AND IMPACT ON AGRICULTURE ON THE MONTH OF NOVEMBER 2022**

Generally during the month of November 2022, according to the analysed agro meteorological information the observed dry, Sunny and windy Bega weather condition could be favourable for harvest and post-harvest activities of fully matured Meher season crops. Moreover in relation to the dry condition, the night and morning time coldness was observed and minimum Temperature below 5 degree centigrade continuously recorded over some high lands. This condition might be slightly negative impact for crops which were lately planted and currently found at various growing stages as well as fruits and vegetables which grow under irrigation. On the other hand, the observed enhanced moisture condition prevail over southern, south-eastern and south-western Bega rainfall benefiting areas experienced slight to heavy rainfall and increasing of NDVI Fig.7 (the green plant coverage). This condition might have favourable to satisfy the water need of various early planted Meher season crops which found different phenological stages, late sown cereal and pulse crops, as well as perennial plants. Similarly, since Bega is the second rainy season for the southern and south-eastern parts of the country, the received rain during the month could play very crucial role to perform different agricultural activities. Additionally, the condition had positive impact for improving the availability of pasture and drinking water over both the pastoral and agro pastoral community. However due to the observed occasional unseasonal rainfall particularly the last few days of the first dekad and the beginning of the second dekad experienced over central, eastern, north-western and north-eastern margins of the country could have negative impact in areas where they are normally supposed to get dry moisture condition at this time of the year. Moreover, the observed heavy fall after the second half of the month over some areas of southern, south-western, western and south-eastern parts of the country might have negative impact for areas which are under harvest and post-harvest activities. While the observed moisture over south and south-eastern pastoral and agro-pastoral areas had been positive impacts for improvement of pasture and drinking water and good opportunity to collect rain water harvesting.

## **2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH OF DECEMBER 2022**

In normal condition, during the month of November most part of the country is subjected for dry moisture condition and harvest and post-harvest activities of fully matured crops are widely performed in most Meher season growing areas, while some of the south-western, southern and south eastern part of the country received little amount of rainfall.

According to the weather forecast, in the coming month of December 2022 Bega season dry, Sunny and windy weather condition is expected to prevail across most parts of country and this may intensify night and morning time coldness over some parts of high land areas and it may lead to the formation of frost. The forecasted dry condition should be taken as good opportunity to perform harvest and post-harvest activities over the place where Meher season crops are fully matured. Thus, farmers are strongly advised to use this opportunity to collect fully matured crops in the meanwhile. However, in line with the expected dry weather condition, along with the night and early morning cold weather may gradually increases over north-eastern, central and eastern highland land parts of the country and it may lead to the formation of frost that in turn may have slight negative impact on irrigated crops, fruit, vegetables and other horticulture plants as well as animal's health condition particularly the smallest one. Therefore, farmers need to be assisted by agricultural professional for effective management of cold conditions. On the other hand, the expected slight to moderate rainfall over some parts of western and southern Oromia zones, SNNPR, south-western regions, Somali region of Liben, Afder and Gode zones parts of the country may be favorable 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.

### **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.

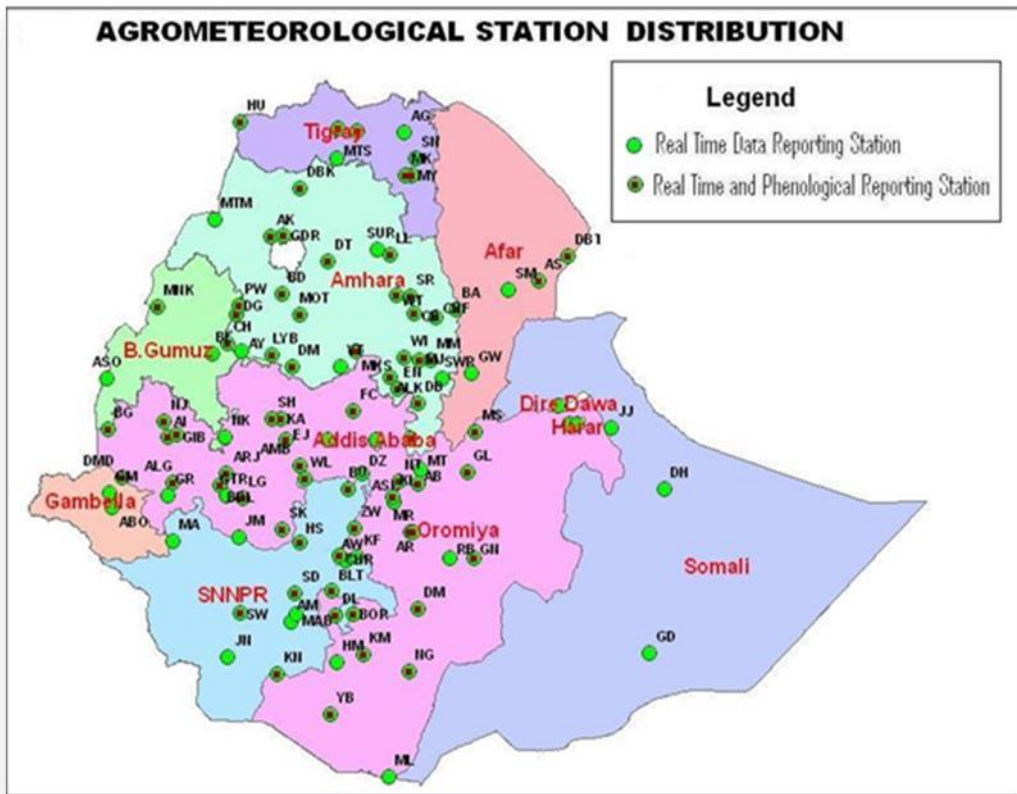
**DEKAD:** - First or second ten days or the remaining days of a month.

**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



Station	Code	Station	Code	Station	Code	Station	Code
A. Robe	AR	D. Zeit	DZ	Humera	HU	Nazereth	NT
A.A. Bole	AA	D/Dawa	DD	Jijiga	JJ	Nedjo	NJ
Adigrat	AG	D/Mena	DOM	Jimma	JM	Negelle	NG
Adwa	AD	D/Odo	DO	Jinka	JN	Nekemte	NK
Aira	AI	D/Tabor	DT	K.Dehar	KD	Pawe	PW
Alemaya	AL	Dangla	DG	K/Mingist	KM	Robe	RB
AlemKetema	ALK	Dilla	DL	Kachise	KA	Sawla	SW
Alge	ALG	Dm.Dolo	DMD	Koffele	KF	Sekoru	SK
Ambo	AMB	Dubti	DBT	Konso	KN	Senkata	SN
Arba Minch	AM	Ejaji	EJ	Kulumsa	KL	Shambu	SH
Asaita	AS	Enwary	EN	Lalibela	LL	Shire	SHR
Asela	ASL	Fiche	FC	M.Meda	MM	Shola	SG
Assosa	ASO	Filtu	FL	M/Abaya	MAB	Gebeya	SG
Awassa	AW	Gambela	GM	Maichew	MY	Sirinka	SR
Aykel	AK	Gelemso	GL	Majete	MJ	Sodo	SD
B. Dar	BD	Ginir	GN	Masha	MA	WegelTena	WT
Bati	BA	Gode	GD	Mekele	MK	Woliso	WL
Bedelle	BDL	Gonder	GDR	Mekele	MK	Woreilu	WI
BUI	BU	Gore	GR	Merraro	MR	Yabello	YB
Combolcha	CB	H/Mariam	HM	Metehara	MT	Ziway	ZW
D. Berehan	DB	Harer	HR	Metema	MTM		
D. Habour	DH	Harer	HR	Mieso	MS		
D. Markos	DM	Holleta	HL	Moyale	ML		
		Hossaina	HS	M/Selam	MSL		