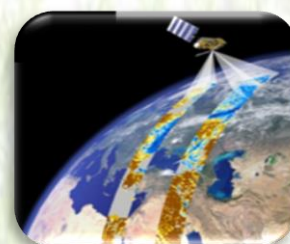


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National Meteorological Agency P.O.BOX 1090, ADDIS ABABA, ETHIOPIA

Website: [http:// www.ethiomet.gov.et](http://www.ethiomet.gov.et) E-mail nmsa@ethionet.et Fax 251-1-517066, Tel. 251-1-512299

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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.

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

EMI

P.O. Box 1090

Tel: 011661-57-79

FAX 00251-11-6625292

E-mail nmsa@ethionet.et

Addis Ababa

አህፅሮት

እ.ኤ.አ በጋ 2023/24

በኢትዮጵያ ሚኒስቴር ሚኒስቴር ኢንስቲትዩት የወቅቶች አከፋፈል መሰረት የበጋ ወቅት ከጥቅምት እስከ ጥር ያለውን ጊዜ የሚያጠቃልል ሲሆን፤ በመደበኛ ሁኔታ ፀሐይ ምት ደረቅ እና ነፋሻማ የአየር ፀባይ በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ የሚያመዝንበት እና አልፎ አልፎ ወቅቱን ያልጠበቀ ዝናብ የሚታይበት ጊዜ ነው። እንዲሁም በሰሜን ምስራቅ፣ በምስራቅ፣ በመካከለኛው እና በደቡብ ደጋማ አካባቢዎች ላይ ከፍተኛ ቅዝቃዜና የውርጭ ክስተት የሚስተዋልበት ወቅት ሲሆን በሌላ በኩል ይህ ወቅት ለደቡብ እና ደቡብ ምሥራቅ ቆላማ የሀገሪቱ አካባቢዎች ሁለተኛና አጭሩ የዝናብ ወቅታቸው ጭምር ነው። ከዚህ ምቹ የአየር ፀባይ ጋር ተያይዞ በአብዛኛው የመኸር አብቃይ በሆኑ አካባቢዎች የተለያዩ ሰብሎች እድገታቸውን የሚጨርሱበት ከመሆኑ ጋር ተያይዞ የሰብል ስብሰባና ድህረ ሰብል ስብሰባ ተግባራት በስፋት የሚካሄድበት ጊዜ ሲሆን በደቡብና በደቡብ ምሥራቅ የአርብቶ አደሩና ከፊል አረብቶ አደር አካባቢዎች ለግጦሽና ለመጠጥ ውሃ እንዲሁም መጠነኛ የሆነ እርሻ እንቅስቃሴ የሚካሄድበት ጊዜ ነው።

እ.ኤ.አ በኦክቶበር ወር 2023 በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብ፣ ደቡብ ምሥራቅ እና ደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ በተለይም በሶስተኛው አስራ አንድ ቀናት የነበረው እርጥበት በተሻለ መልኩ አብዛኛውን የሀገሪቱ ክፍሎች ያዳረሰ ነበረ። ይህም የተገኘው እርጥበት በደጋማ አካባቢዎች ለተዘሩ ሰብሎች ምቹ ሁኔታን የፈጠረ ሲሆን ለአርብቶ አደሩና ከፊል አርብቶ አደር አካባቢዎች ለአረንጓዴ እፅዋት ልምላሜ መሻሻል፣ ሰው ሰራሽም ሆነ የተፈጥሮ ምንጮችን ከማጎልበት አንፃር አዎንታዊ ሚና ነበረው። እንዲሁም በመካከለኛው፣ በሰሜን ምሥራቅና በሰሜን ምዕራብ በአንዳንድ ሥፍራዎች ላይ የነበረው ከባድ መጠን ያለው ዝናብ የሰብል ስብሰባ በሚከሄድባቸው አካባቢዎች ላይ አሉታዊ ጎን የነበረው ቢሆንም በተለያዩ ምክንያት ዘግይተው ለተዘሩና የእድገት ጊዜያቸውን ላልጨረሱ የመኸር ሰብሎችና ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት እንዲሁም ውሃ አጠር ለሆኑ አካባቢዎች ውሃን ለመሰብሰብና ለማከማቸት መልካም አጋጣሚ የፈጠረ ነበር።

እ.ኤ.አ በኖቬምበር ወር 2023 የመጀመሪያውና ሁለተኛው አስር ቀናት በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብ የሀገሪቱ አካባቢዎች በተለይም በሶማሌና

በሲዳማ ክልል፣ በደቡብ ኦሮሚያ፣ በደቡብ ኢትዮጵያና በደቡብ ምዕራብ የሃገሪቱ ስፍራዎች ላይ በመጠንም ሆነ በስርጭት ረገድ የተስፋፋና የተጠናከረ የእርጥበት ሁኔታ ነበራቸው። የተገኘው እርጥበት በተለያዩ እድገት ደረጃ ላይ ለሚገኙ የተለያዩ ሰብሎች፣ የኋሮ አተክልቶች እና ቋሚ ተክሎች የኃላ ጠቀሜታ ነበረው። በተጨማሪም የነበረው እርጥበት ለአርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች የተሻለ የግጦሽ ሳርና የመጠጥ ውሃ አቅርቦት እንዲኖራቸው ያስቻለ ነበረ። እንዲሁም በመካከለኛው፣ በምስራቅ፣ ሰሜን ምስራቅ የነበረው እርጥበት ለደረሱና በመሰብሰብ ሂደት ውስጥ በነበሩ ሰብሎች ላይ አሉታዊ ጎን የነበረው ቢሆንም በደጋማ አካባቢ ለሚገኙ እና ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም ከሰብል ስብሰባ በኋላ ለሚዘሩ እንደ ኋያ እና ሽንብራ ለመሳሰሉ የጥራጥሬ ሰብሎች የተገኘው እርጥበት ጠቀሜታ ነበረው። በሌላም በኩል ከነበረው ከፍተኛ እርጥበት ጋር ተያይዞ የዝናብ ውኃን ለመሰብሰብና ለማከማቸት መልካም አጋጣሚን የፈጠረ ነበር። ነገር ግን በደቡብ ሱማሌና በደቡብ ኦሞ አንዳንድ የሀገሪቱ አካባቢዎች የነበረው ከፍተኛ መጠን ያለው እርጥበት በተወሰኑ አካባቢዎች ላይ የጎርፍ ክስተትና የመሬት መንሸራተት በማስከተሉ በሰው ህይወትና በንብረት ላይ ጉዳት ያደረሰ ነበር። በአንፃሩም በተወሰኑ የምዕራብ፣ የመካከለኛውና የሰሜኑ አጋማሽ የሀገሪቱ አካባቢዎች ላይ የነበረው ወቅቱን ያልጠበቀ የእርጥበት ሁኔታ በደረሱ ሰብሎች እና በሰብል ስብሰባ ተግባራት ላይ አሉታዊ ሚና ነበረው። በሌላም በኩል በሶስተኛው አስር ቀናት ደረቃማ የእርጥበት ሁኔታ በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ አመዝናባቸው ተስተዋለ። ይህም ሁኔታ ለሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ እንደነበረና በአንፃሩም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የሀገሪቱ አካባቢዎች ላይ የእርጥብቱ መጠንና ስርጭት ቀስ በቀስ የመቀነስ አዝማሚያ የታየበት ቢሆንም ከበጋው ወቅት መግቢያ ጀምሮ በተከታታይ የተስተካከለ እርጥበት እያገኙ ስለነበር ብዙም ጉዳት አላስከተለም።

እ.ኤ.አ በዲሴምበር ወር 2023 ደረቃማ የእርጥበት ሁኔታ በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ አመዝናባቸው ተስተዋለ። ይህም ሁኔታ በዚህ ጊዜ የሰብል ስብሰባቸውን በሚያካሄዱ አካባቢዎች ለሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ እንደነበረ የተሰበሰቡ የግብርና ሚቲዎሮሎጂ መረጃዎች ያመለክታሉ። በአንፃሩም በመጀመሪያው እና በሁለተኛው አስር ቀናት በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑ የሀገሪቱ አካባቢዎች ማለትም በደቡብ፣ ደቡብ ምሥራቅ እና ደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ አልፎ አልፎ ከቀላል እስከ ከባድ መጠን ያለው የእርጥበት ስርጭት የታየበት ሲሆን፣ በሶስተኛው አስር አንድ ቀናት የእርጥብቱ መጠንና ስርጭት በተለይም የበልግ ዝናብ ተጠቃሚ አካባቢዎችን ያዳረሰ ነበር። ይህም

ሁኔታ ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም በደቡብ የሀገሪቱ አካባቢዎች ላይ የተስተዋለው አርጥበታማ ሁኔታ በተለይም የበጋን ወቅት እንደ ሁለተኛ የዝናብ ወቅታቸው ለሚጠቀሙ የአርብቶ አደርና የከፊል አርብቶ አደር አካባቢዎች ለሚያከናውኑት የግብርና እንቅስቃሴ አዎንታዊ ሚና ነበረው። በሌላ በኩል በተወሰኑ በመካከለኛው፣ በሰሜን ምስራቅ እና በሰሜን ምዕራብ የሀገሪቱ አካባቢዎች ላይ የነበረው ወቅቱን ያልጠበቀ የእርጥበት ሁኔታ በደረሱ ሰብሎች እና በሰብል ስብሰባ ተግባራት ላይ አሉታዊ ሚና ነበረው።

እ.ኤ.አ በጃንዋሪ ወር 2023 ደረቃማ የእርጥበት ሁኔታ በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ አመዝኖባቸው ተስተዋል። ይህም ሁኔታ ለድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፈጠረ እንደነበረ የተሰበሰቡ የግብርና ሚቲዎሮሎጂ መረጃዎች ያመለክታሉ። በሌላ በኩል በመጀመሪያው እና በሁለተኛው አስር ቀናቶች በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት በደቡብ፣ በደቡብ ምሥራቅ እና በደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ አልፎ አልፎ ከቀላል እስከ ከባድ መጠን ያለው የእርጥበት ስርጭት ነበራቸው። ይህም ሁኔታ ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም ለአርብቶ አደርና ለከፊል አርብቶ አደር አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት አዎንታዊ ሚና የነበረው ሲሆን እንዲሁም በሁለተኛው እና በሶስተኛው አስራ አንድ ቀናት በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብ የሀገሪቱ ክፍሎችን ጨምሮ በደቡብ ምዕራብ፣ በመካከለኛውና በሰሜን ምስራቅ በአንዳንድ ቦታዎቻቸው አልፎ አልፎ የነበረው ከቀላል እስከ ከባድ መጠን ያለው የእርጥበት ስርጭት የበልግ እርሻ እንቅስቃሴን ቀድመው ለሚጀምሩ አካባቢዎች ማሳን አስቀድሞ ለማዘጋጀት የጎላ ጠቀሜታ ነበረው።

በአጠቃላይ ባሳለፍነው 2023/24 የበጋ ወራት የነበረው የእርጥበት ሁኔታ ሲገመገም በጋ ሁለተኛ የዝናብ ወቅታቸው በሆኑት የደቡብ ኦሮሚያና የደቡብ ሶማሌ በተጨማሪም የመካከለኛው ኦሮሚያ፣ በአንዳንድ የሰሜን ምዕራብ፣ የምዕራብና የደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ ከቀላል እስከ ከባድ መጠን የሚደርስ የእርጥበት ይዘት እንደነበራቸው የተተነተኑ የግብርና ሚቲዎሮሎጂ መረጃዎች ያመለክታሉ። ይህም ተጠናክሮ የታየው እርጥበታማ ሁኔታ እድገታቸውን ላልጨረሱና በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የመኸር ሰብሎችም ሆነ ለቋሚ ተክሎች እድገት የሚያስፈልጋቸውን እርጥበት ከማስገኘት አንጻር አዎንታዊ ሚና ነበረው። በተጨማሪም በጋ ሁለተኛ የዝናብ ወቅታቸው ለሆኑት የአርብቶ አደርና የከፊል አርብቶ አደር አካባቢዎች የተለያዩ የግብርና እንቅስቃሴዎችን እንዲያከናውኑ አዎንታዊ ሚና የነበረው ሲሆን

ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት መሻሻልም ገንቢ ሚና ነበረው። በሌላ በኩል በተለይም በኦክቶበርና ኖቨምበር በደቡብ እና በምዕራብ ኢጋማሽ፣ በመካከለኛው፣ በምስራቅ፣ ሰሜን ምስራቅ የነበረው ከመደበኛ በላይ እርጥበት ሙሉ ለሙሉ ባልደረሱና በተለያዩ እድገት ደረጃ ላይ በሚገኙ እና በመሰብሰብ ሂደት ውስጥ በነበሩ ሰብሎች ላይ አሉታዊ ጎን የነበረው ቢሆንም በደጋማ አካባቢ ለሚገኙ እና ሙሉ ለሙሉ እድገታቸውን ላልጨረሱ ሰብሎች፣ ለቋሚ ተክሎች እንዲሁም ከሰብል ስብሰባ በኋላ ለሚዘሩ እንደ ንጹህ እና ሽንብራ ለመሳሰሉ 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 ውሃ አቅርቦት እንዲሁም ውሃ አጠር ለሆኑ አካባቢዎች ውሃን ለመሰብሰብና ለማከማቸት መልካም ኢጋማሚን የፈጠረ ነበር። ነገር ግን በደቡብ ሱማሌና በደቡብ ኦሞ አንዳንድ የሀገሪቱ አካባቢዎች የነበረው ከፍተኛ መጠን ያለው እርጥበት በተወሰኑ አካባቢዎች ላይ የጎርፍ ክስተትና የመሬት መንሸራተት በማስከተሉ በሰው ህይወትና በንብረት ላይ ጉዳት ያደረሰ ነበር። እንዲሁም በተወሰኑ በመካከለኛው፣ በሰሜን ምስራቅ እና ሰሜን ምዕራብ የሀገሪቱ አካባቢዎች ላይ የነበረው ወቅቱን ያልጠበቀ የእርጥበት ሁኔታ በደረሱ ሰብሎች እና በሰብል ስብሰባ ተግባራት ላይ አሉታዊ ሚና ነበረው። በተጨማሪም በተለይም በጃንዋሪ ወር በመካከለኛው፣ በሰሜን እና በሰሜን ምስራቅ በብዙ ቦታዎቻቸው ላይ የነበረው ከቀላል እስከ መካከለኛ መጠን ያለው እርጥበት የበልግ እርሻ እንቅስቃሴን ቀድመው ለሚጀምሩ አካባቢዎች ማሳን አስቀድሞ ለማዘጋጀት የጎላ ጠቀሜታ ነበረው።

SUMMARY

Bega 2023/24

Normally during Bega season, harvest and post-harvest activities are the major practices over most parts of Meher growing areas. It is time to perform water-harvesting activities for pastoral and agro pastoral areas of southern and south-eastern lowlands. The weather situation would favor the outbreak of pests if there were favorable environment, susceptible host and the pest itself. Under normal circumstance, there is a possibility of frost hazard during the season, mainly over north-eastern, central, eastern and southern highland.

During the month of October 2023, according to the analyzed agro meteorological information, particularly in the third dekad of the month better moisture prevail over southern, south-eastern and south-western parts of the country. The observed enhanced moisture had positive implication for various Meher season crops which were under different phenological phases and also the observed improved moisture might be positive implication for pasture and drinking water and significantly important to regenerate natural and artificial ponds over both the southern and south-eastern pastoral and agro pastoral community where Bega is the second rain season. However the observed heavy fall over some parts of central, north-eastern and north-western parts of the country had been favour the existing Meher crops, which were lately planted and currently found at various growing stages and requiring additional moisture for their further development, the water needs of perennial plants as well as the enhanced moisture had good opportunity to collect rain water harvesting. On the other hand the observed heavy fall over some areas might have caused soil erosion, water logging and land slide as well as the flood affected crops, life and property.

During the Month of November 2023, the observed enhanced moisture on the first and second dekad of the month particularly over the southern, south-western, western including north-eastern, central and eastern parts of the country might have positive implication for fulfilling the water need of various Meher crops and perennial plants. Similarly, since Bega is the second rainy season for the southern and south-eastern parts of the country, including Somali, Sidama, region, southern Oromia, southern Ethiopia and south-western parts received moisture during the month could play very crucial role to perform the water need of various Meher crops, including pulse crops which planted at the end of the season using residual moisture over high lands and perennial plants. Moreover, the condition had positive impact for improving the availability of pasture and drinking water and

significantly important to regenerate natural and artificial ponds and had a good opportunity to collect rain water harvesting over both the pastoral and agro pastoral community. However the observed heavy fall over some parts of the country including southern Somali and south-Omo parts might have experience water logging, runoff, soil erosion and landslide. Moreover the receiving unseasonal moisture over some areas negatively affected harvest and post-harvest activities of matured crops. The observed dry and sunny condition in the third dekad of the month should be taken as good opportunity to perform harvest and post-harvest activities over the place where Meher season crops are fully matured.

During the month of December, the Bega season dry, sunny and windy climate condition prevailed across the county 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 and south-eastern parts of the country recorded minimum temperatures below 5⁰C 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 western and central Amhara, Central Oromia, Gambella, SNNPR and south-western of the country. This condition favours toward the water satisfaction of not fully matured crops, perennial plants. In addition, it might have positive impact on ensuring the availability of pasture and drinking water over pastoral and agro pastoral areas. However the receiving unseasonal moisture over some areas negatively affected harvest and post-harvest activities of matured crops and the observed enhanced moisture might have positive implication for fulfilling the water need of various Meher crops, perennial plants.

During the month of January 2024, the information obtained from agro meteorological stations indicated that during the month of January 2024, the Bega season dry moisture condition prevailed across most parts of the country. This condition was favorable for the ongoing post-harvest activities for Meher season crops. On the other hand, in the first and second dekads of the month the station report indicated that during the month certain places of southern, south-eastern and south- western parts of the country received light to heavy rainfall. The situation might be positive implication for the water availability of perennial plants and to sustain the growth of fodder and pasture and the availability of drinking water in the pastoral and agro pastoral area. In addition, the experienced moisture

over central, eastern and north eastern parts had been positive implication toward fulfilling the daily water need of perennial plants as well as improving the soil moisture content and thus may favor the upcoming Belg season early time land preparation.

Generally during the past Bega 2023/24 season due to the influence El Niño events and positive Indian Ocean Dipole (IOD) conditions typically bring widespread and above-average rains during the Bega season. These wet conditions have positive impacts on agriculture, livestock, and water availabilities, stabilizing livelihoods and improving food security, especially in regions prone to drought. Particularly during the month of October and November with good moisture condition was observed over most part of the country. The observed moisture was favorable for the performances of Meher crops that are late sown and not yet fully matured, and perennial plants to satisfy the water requirement of Meher and Bega seasons crop. On the other hand, the observed dry and sunny Bega season should be taken as a good opportunity to perform harvest and postharvest activities over the place where Meher season crops are fully matured. Moreover the Bega/Deyr/Hageya rain benefiting in the south and south-eastern pastoral and Agro-pastoral regions due to the influence of El Niño and the positive Indian Ocean Dipole (PIOD), resulting in above-average rainfall from October to the end of the season. In General, the observed agro meteorological indicators that good performance of moisture index, vegetation cover and Rangeland index during Bega 2023_24 over most parts of the country. Similarly, the receiving moisture over southern and south-eastern parts of the country including Somali, Sidama, south-western region, southern Oromia, could play very crucial role to perform the water need of various Meher and Bega crops and improving the availability of pasture and drinking water. The situation was confirmed by field reports. However this period saw record-breaking heavy rains and above-average rainfall totals across some parts of the country. in line with this unusual wet conditions along with recurrent flash and riverine floods in various areas was increased hazards in both agricultural and pastoral regions and also unseasonal moisture over some areas negatively affected harvest and post-harvest activities.

Bega 2023/24 Moisture Status

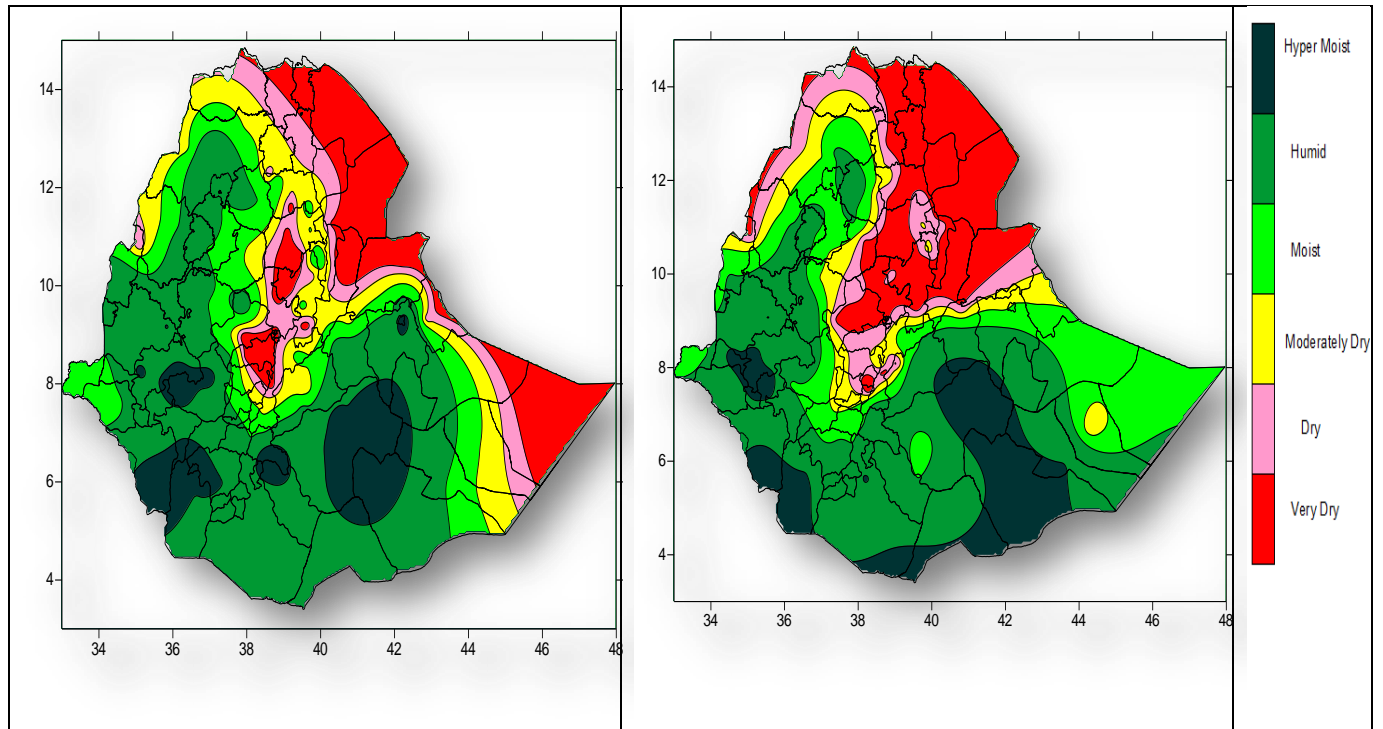


Figure 1. Moisture status for the month of October 2023

Figure 2. Moisture status for the month of November 2023

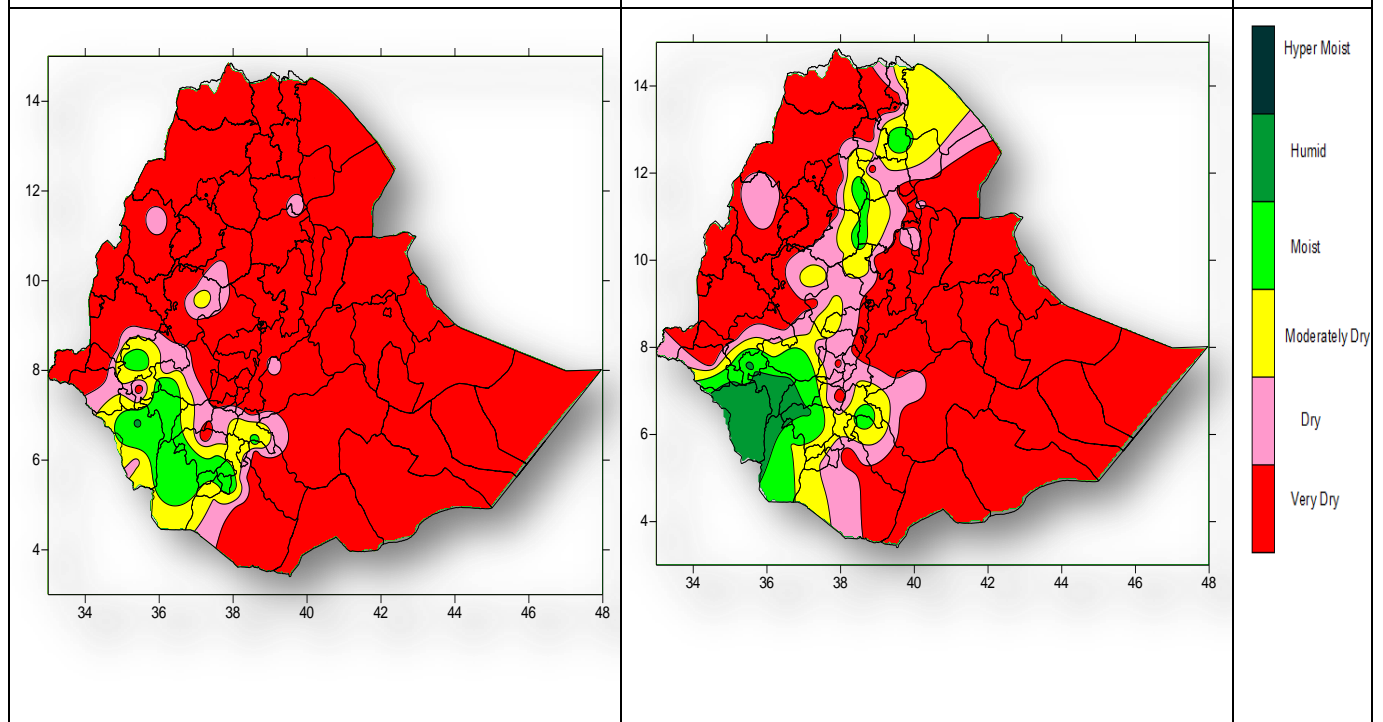
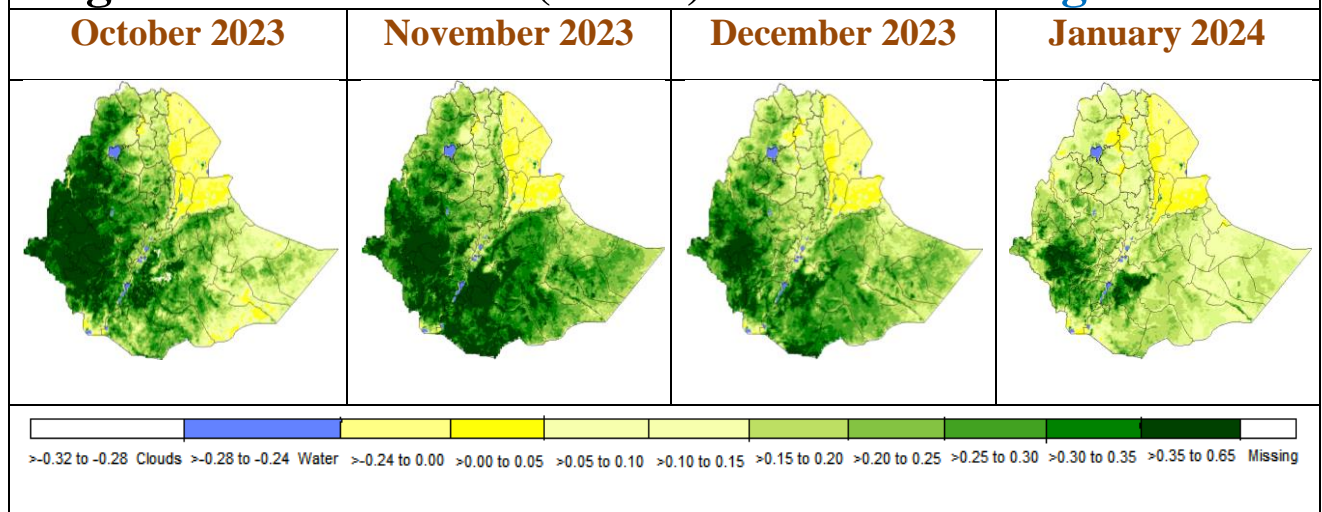


Figure 3. Moisture status for the month of December 2023

Figure 4. Moisture status for the month of January 2024

Vegetation Greenness (NDVI) in fraction - Bega 2023/24



Vegetation Greenness (NDVI) in fraction -[Compared to Normal]

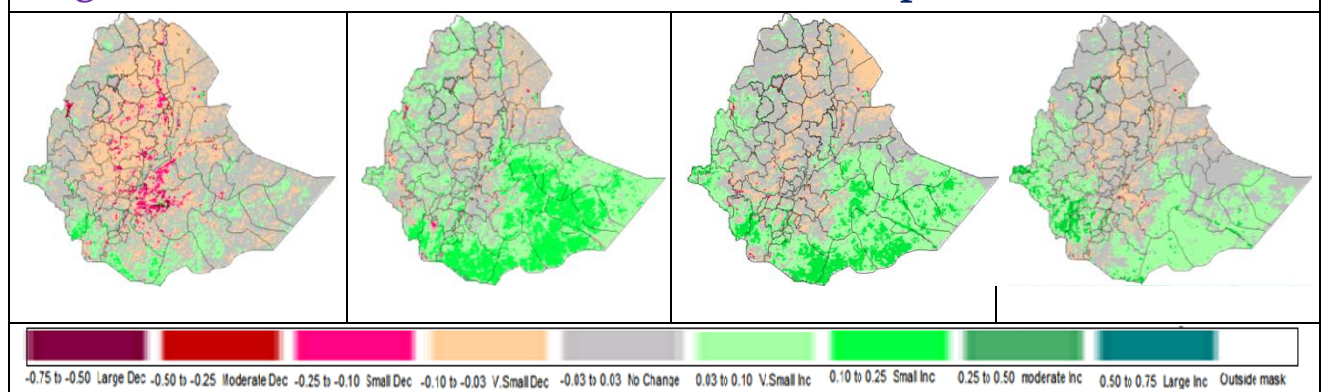


Fig. 5. Vegetation Greenness (NDVI) in fraction and Compared to Normal Kiremt (October – January) 2023_24

Rangeland WRSI in % - Bega 2023/24

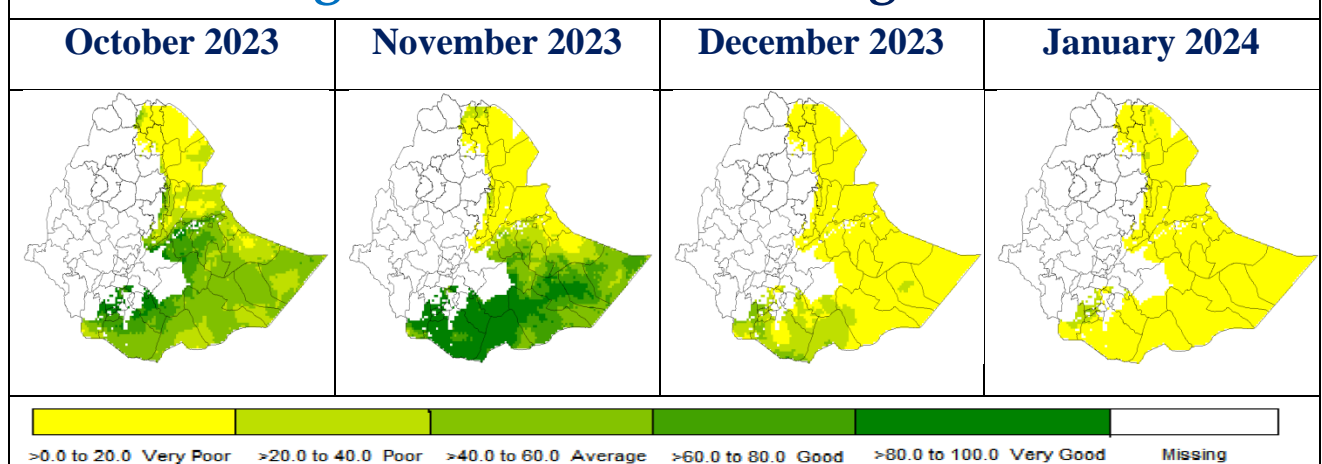
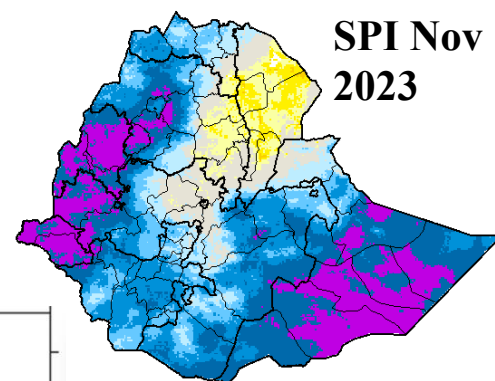
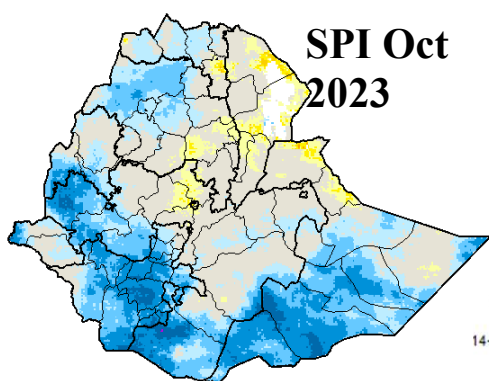
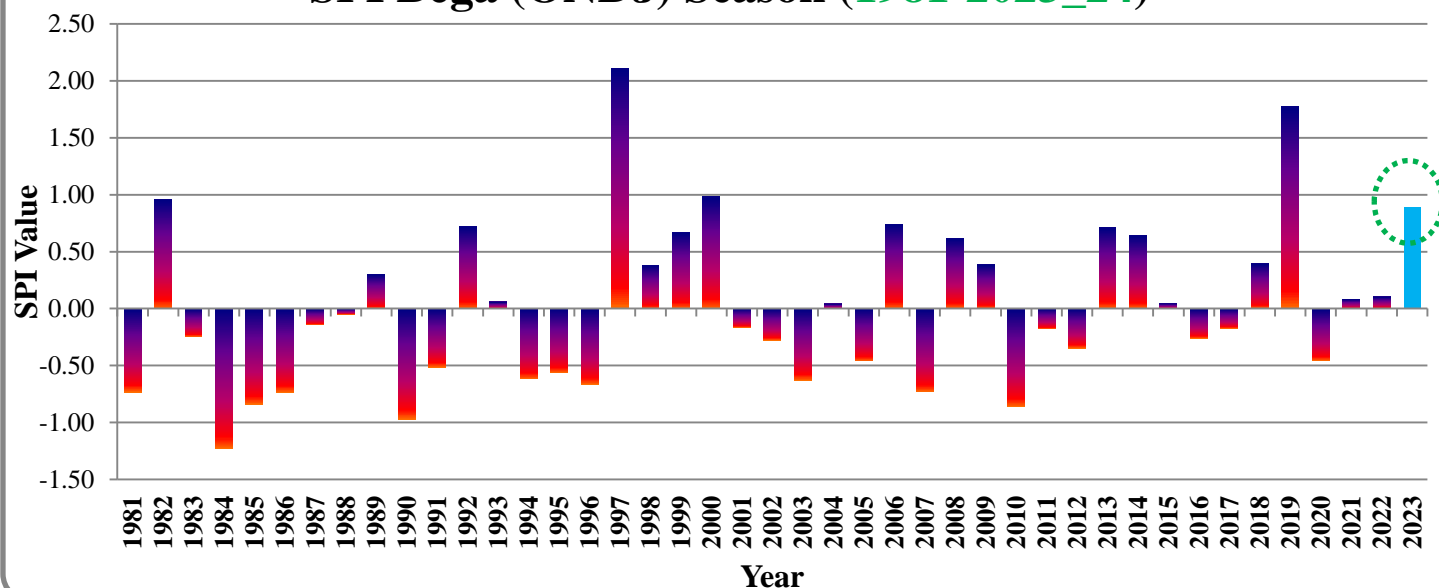
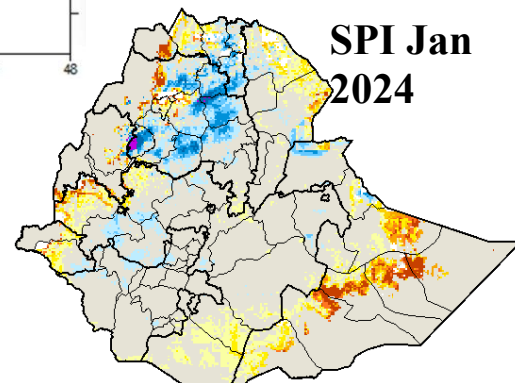
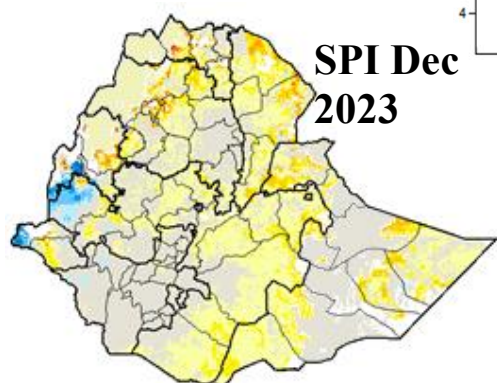
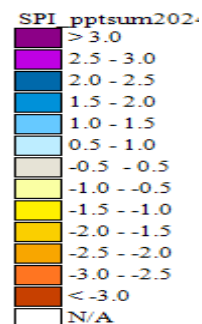
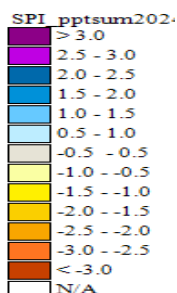
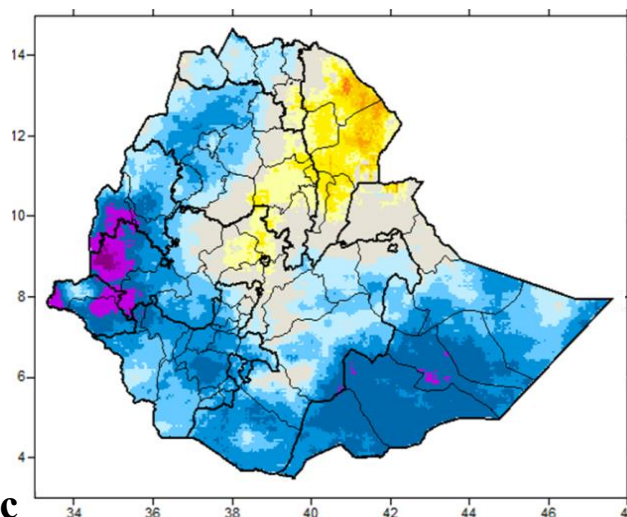


Fig.6. Rangeland WRSI in % Kiremt (October - January) 2023_24

SPI Bega (ONDJ) Season (1981-2023_24)



SPI Bega 2023_24



1. WEATHER ASSESSMENT

1.1. Rainfall amount (21 – 31) January 2024

During the thired dekad of January 2024, Mirab Omo exprinced > 100mm of rainfall. Parts of Mirab Omo, south Omo, Gamo, Gofa, Bench-Maji and basketo received 50-100mm of rainfall. Pocket area of south Wello, Some parts of east wellega, west Shewasouth Wello, Dawro, KontaDerash and Konso exhibited 25-50mm of rainfall. Wag hemera, south and north wello, north Shewa, East and West Wellega, East Gojam, West and East Shewa. Sidama, West Arsi, Gurage Silti, Kembata Tembaro, Gedeo and Amaro received 5-26mm of rainfall. The rest parts of the country experienced little or no rainfall.

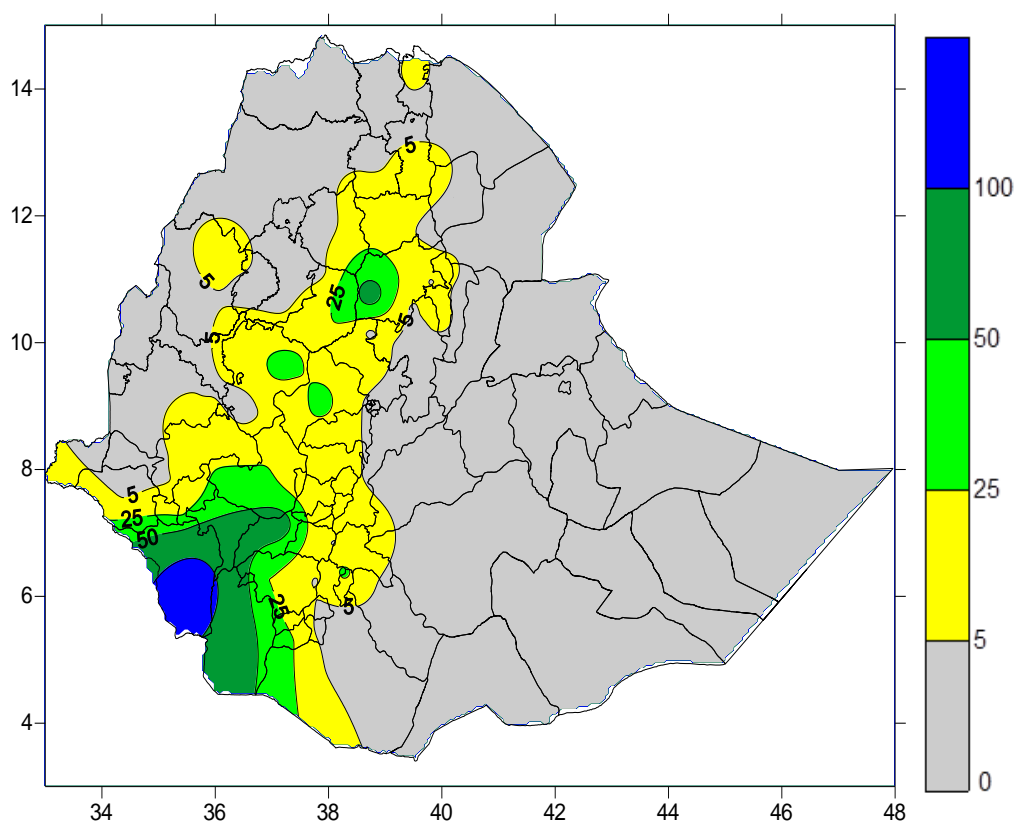


Fig 7. Rainfall distribution in mm (21 – 31) January 2024

1.2. Rainfall Anomaly (21 – 31) January 2024

During the third dekad of January 2023 MOST OF Western half and central and north eastern parts of the country exhibited normal to above normal rainfall. The rest parts experienced Below Normal too Much Below Normal rain fall.

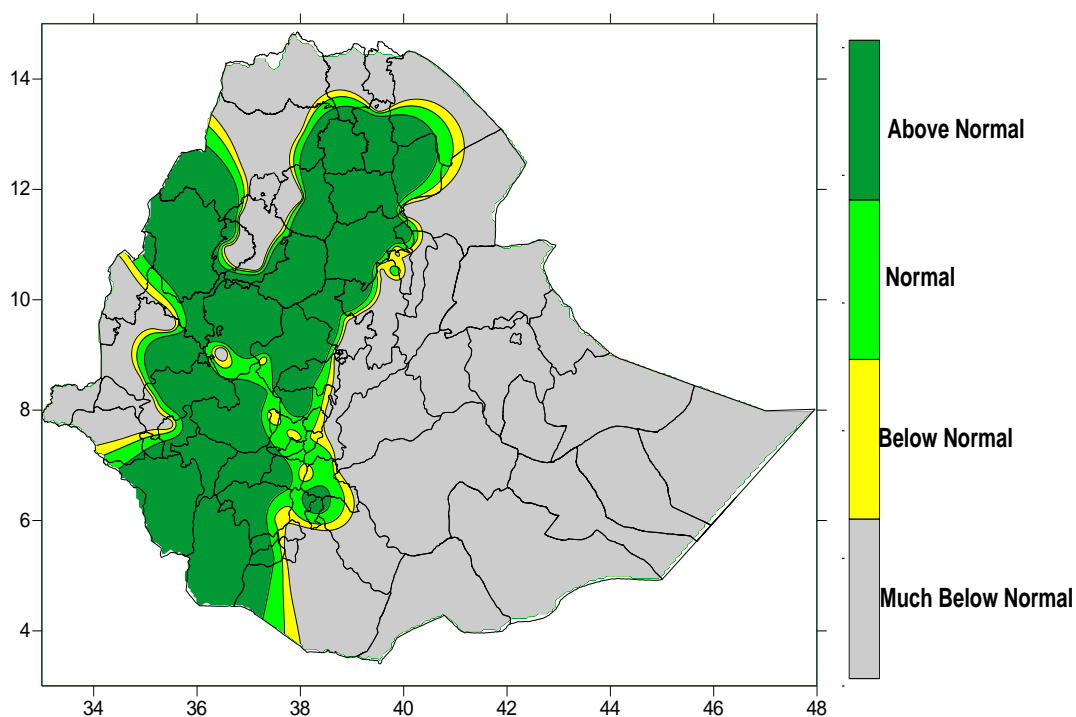


Fig. 8. Percent of normal rainfall distribution (21 – 31) January 2024

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) January 2024

During the third dekad of January 2024, Mirab Omo, south Omo, Gamo, Gofa, Bench-Maji and basket, north Shewa, east Gojam parts of north and south Wello, Bale and west Guji experienced Moist to Hyper moist moisture. The rest parts of the countries exhibited Moderately Dry to Very Dry.

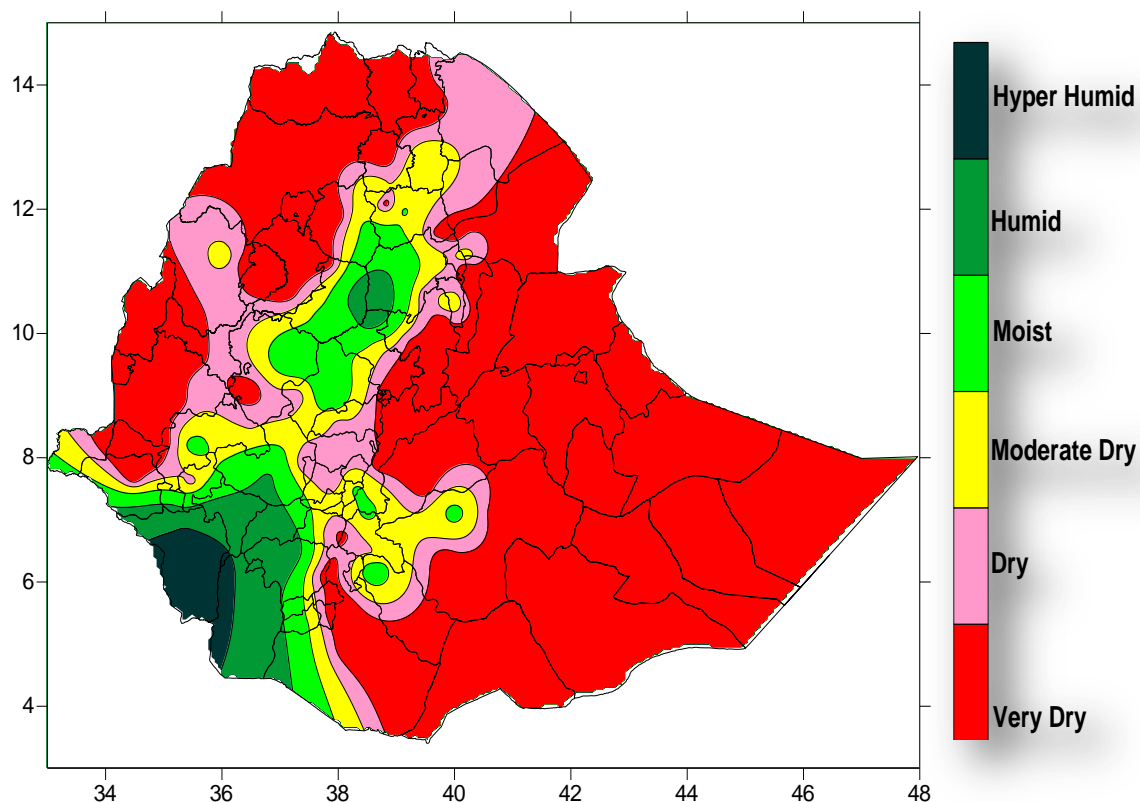


Fig.9. Moisture Status (21 – 31) January 2024

1.4. Rainfall amount on the month of January 2024

During the month of January 2024 the rainfall distribution over Mirab Omo, Debub Omo, Gamo gofa and Basketo zones experienced $> 100\text{mm}$ of rainfall. Parts of Mirab Omo, Gamo, Gofa, Bench-Maji, Basketo and south Wello received $50\text{-}100\text{mm}$ of rainfall. Some parts of south Tigray, north and south Wello, Some parts of east wellega, west Shewa, West and East Shewa. Sidama, Gurage Silti, Kembata Tembaro, Gedeo and Amaro and Konso exhibited $25\text{-}50\text{mm}$ of rainfall. West Gonder, Wag hemera, south and north wello, north Shewa, East and West Wellega, East Gojam, received $5\text{-}225\text{mm}$ of rainfall. The rest parts of the country experienced little or no rainfall.

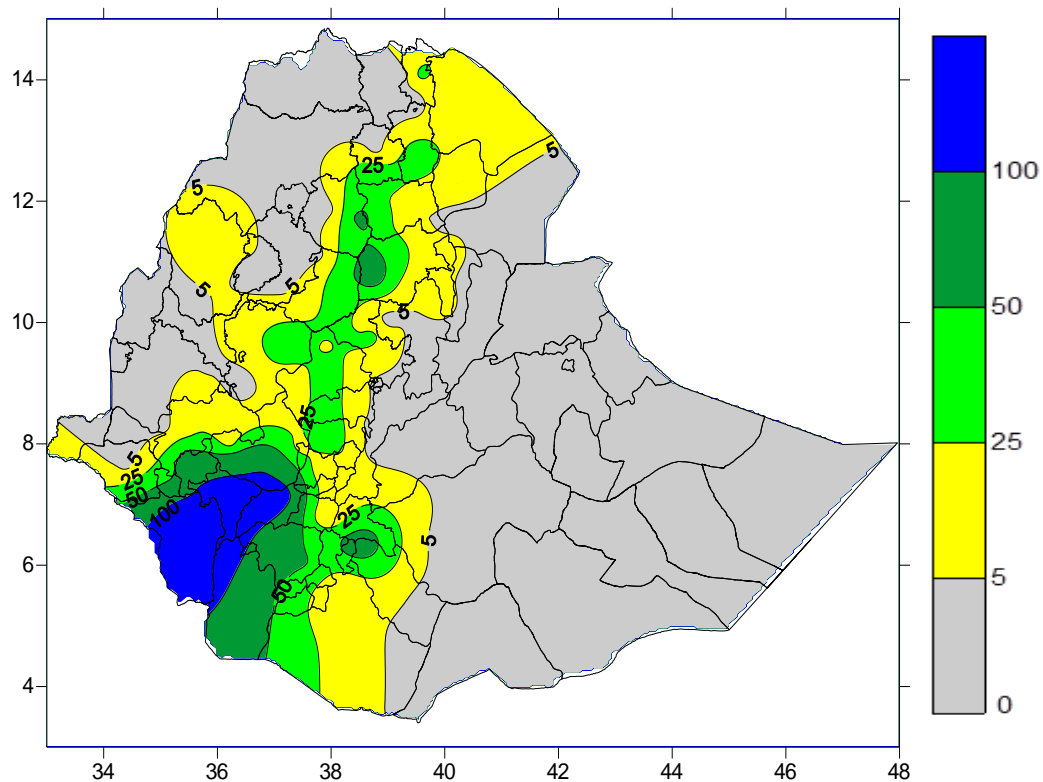


Fig. 10. Rainfall amount in mm for the month of January 2024

1.5. Rainfall Anomaly on the month of January 2024

During the Month of January 2024 western half of the country except Tigray, Gonder, West Gojam, Kelem Wollega, Agew Awi and most parts of Gambella exhibited normal to above normal rainfall. The rest parts of the country experienced Below Normal too Much Below Normal rain fall.

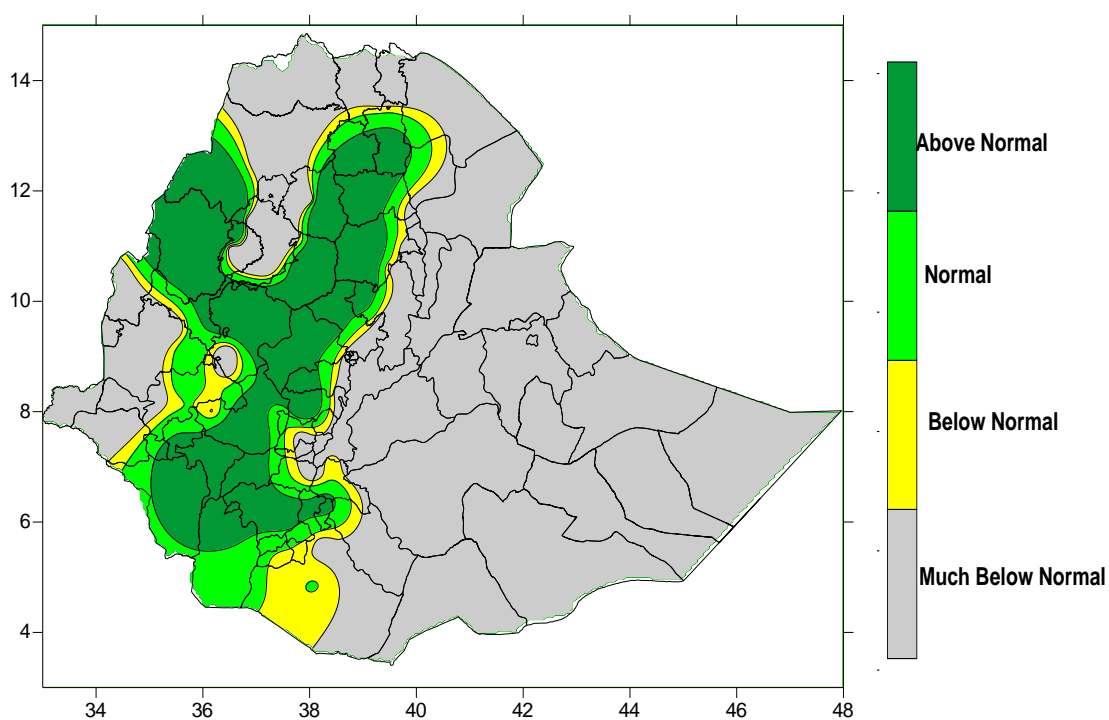


Fig. 11. Percent of Normal Rainfall for the month of January 2024

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 January 2024

During the month of January 2024 Mirab and Debub Omo, Gamo, Gofa, Bench-Maji, Basket and Gde, north and south Wello, and east Shewa exhibited Humid to moist condition. The rest parts of the countries experienced moderately dry too very dry.

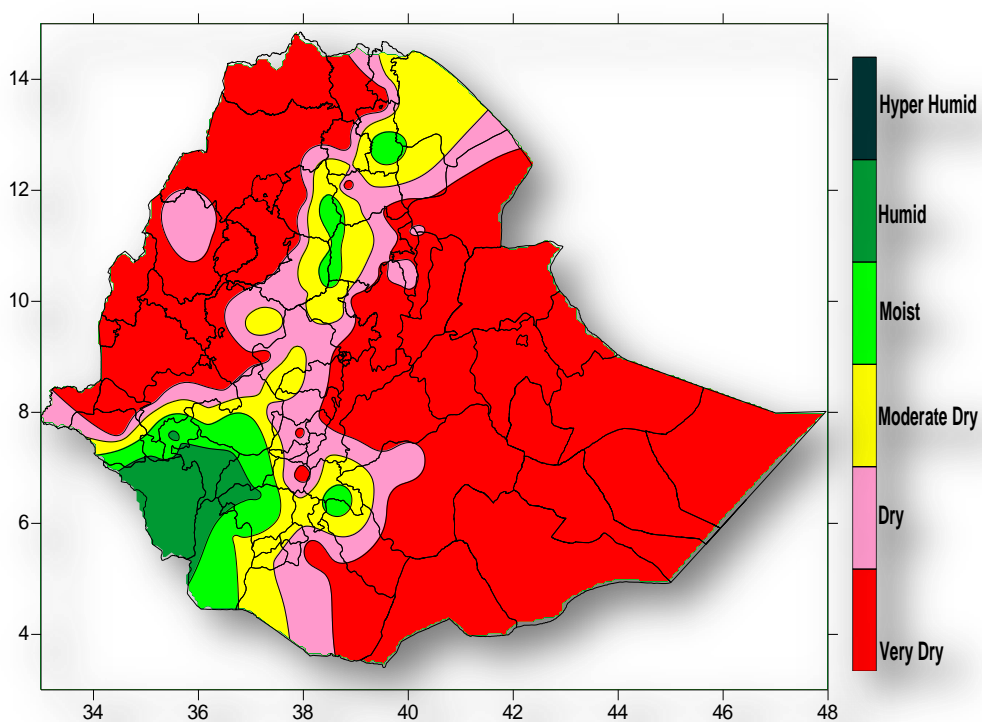


Fig. 12. Moisture status for the month of January 2024

1.7. Rainfall Amount on Bega season 2023/24

During the last Bega season some areas of Bale and Afder zone, Debub Omo, Basketo, Bench Maji, Gamo Gofa, Jima and Gedeo experienced > 500mm of rainfall. Most parts of Liben, Afder, Bale Borena Gedeo, Godere, Illubabor and Sidama received 400-500mm of rainfall. Gambela zone2, west wellega, Jima, Konso, Amaro, Derash, Borena Baleand Gode received 300-400mm of rainfall. West Tigray, Nort and sout Gonder, east Gojam Bahir dar zuria, Benshangul-Gumuze, Assosssa, west wellega, Gambela zone1, Silte, Gurage, , Alaba, Hadya, Welayta, East and west Narerge, Fik, Gode and Korahe experienced 100-300mm of rainfall. South Tigray, nort and south wello, West Shewa, west Shewa, Afar zone 5&3, Jijiga, Fik and Warder exprinced 25-100mm of rainfall. The rest parts of the country experienced little or no rainfall.

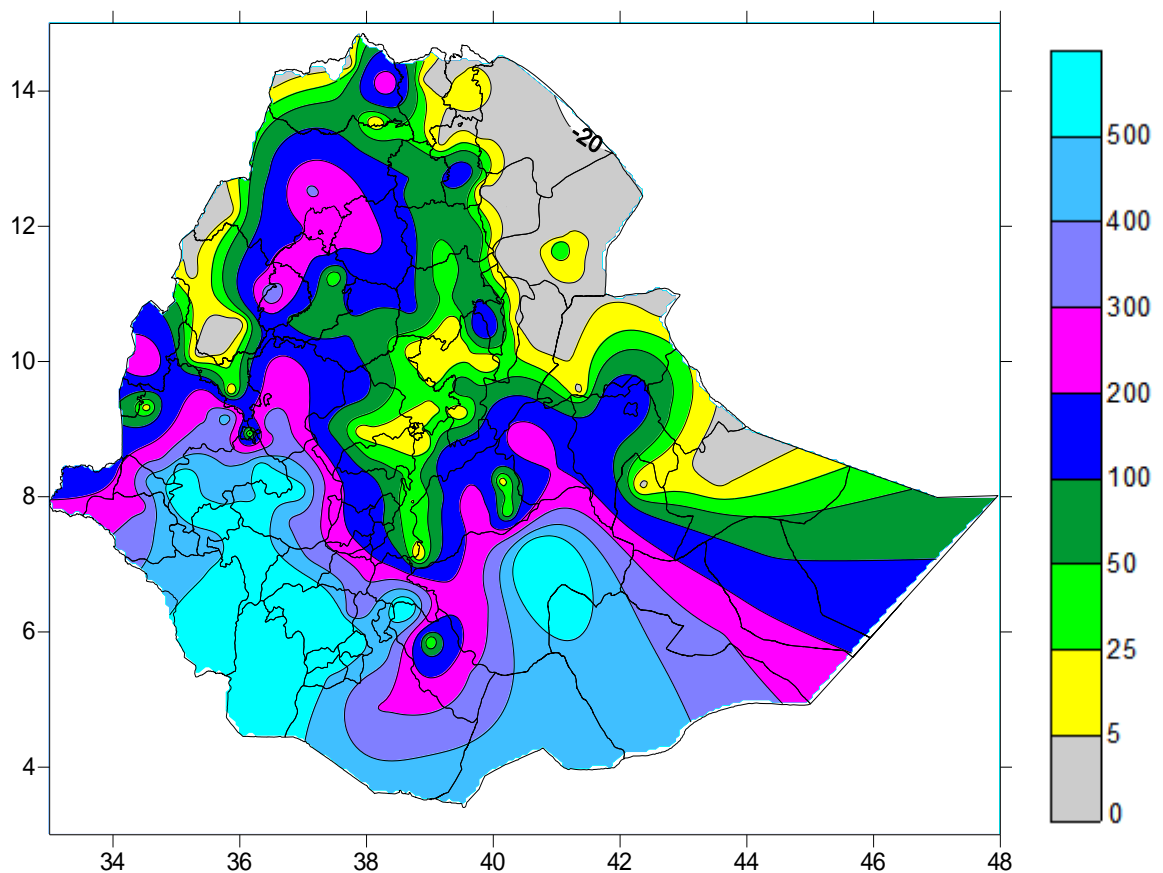


Fig.13. Rainfall amount in mm for Bega 2023/24

1.8. Rainfall Anomaly on Bega Season 2023/24

Except some areas of central eastern Afar south and south western parts of the country exhibited normal to above normal rainfall.

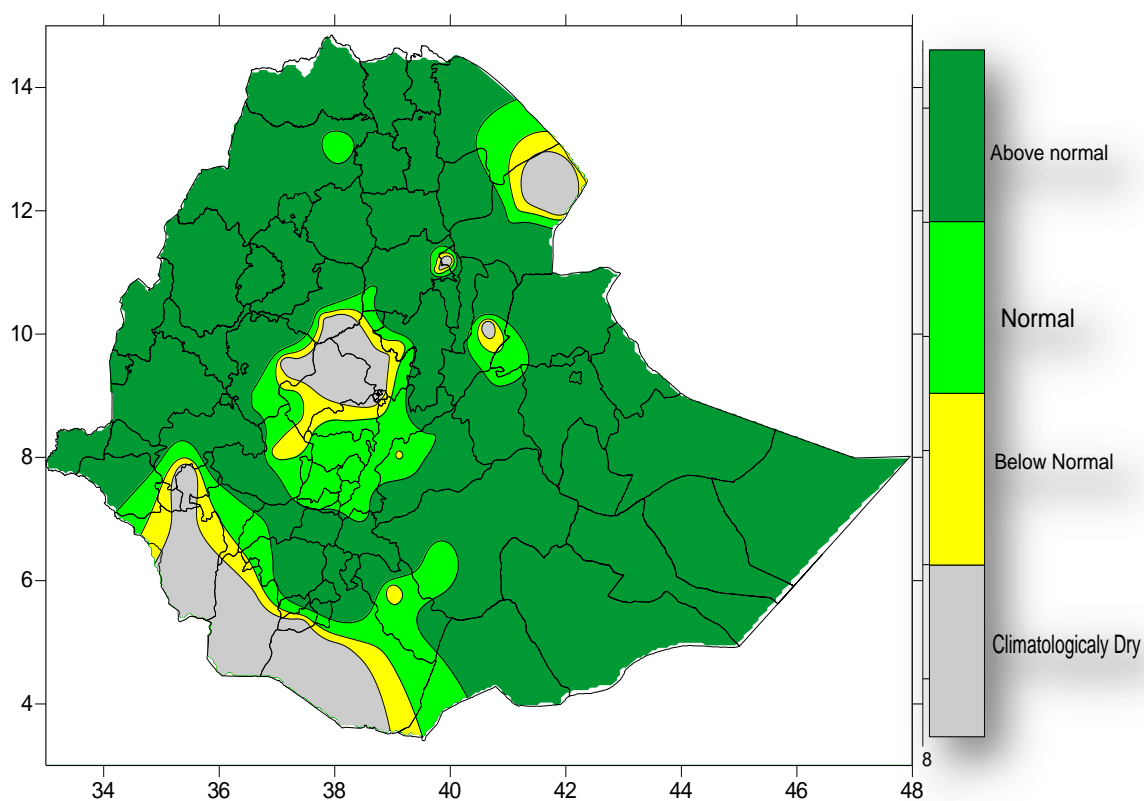


Fig.14. Percent of Normal Rainfall for Bega 2023/24

Explanatory notes for the Legend

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

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1. VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING BEGA, 2023/24

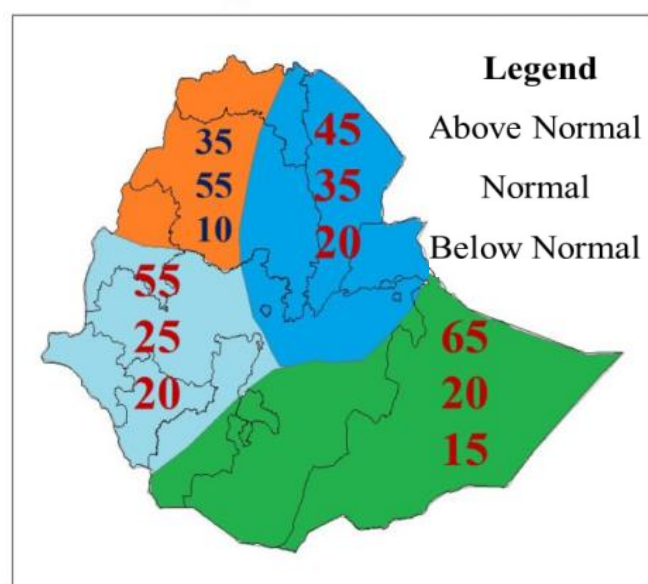
During the past Bega 2023/24 season due to the influence El Niño events and positive Indian Ocean Dipole (IOD) conditions typically bring widespread and above-average rains during the Bega season. These wet conditions have positive impacts on agriculture, livestock, and water availabilities, stabilizing livelihoods and improving food security, especially in regions prone to drought. Particularly during the month of October and November due to the observed good moisture condition over most part of the country favorable for the performances of Meher crops that are late sown and not yet fully matured, and perennial plants to satisfy the water requirement of Meher and Bega seasons crop. Moreover the observed agro meteorological indicators show a good performance of moisture index (Fig 1-4), vegetation cover and Rangeland index (Fig 5 and 6) during Bega 2023_24 over over southern and south-eastern parts of the country including Somali, Sidama, south-western region, southern Oromia, could play very crucial role to perform the water need of various Meher and Bega crops and improving the availability of pasture and drinking water.

2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING BELG, 2024 SEASON

Belg season normally central parts of northern high lands, eastern highlands, part of central, south western and southern Ethiopia are known as Belg growing areas. The contribution of Belg rainfall is ranging from 5-30% over the north, north eastern and eastern highlands whereas 30-60% over south and south western parts of the country from annual total crop production of the areas.

As of the moisture conditions for all selected analogue years, most Belg crop growing and rainfall benefiting areas had sufficient soil moisture which could sustain crop growth and availability of pasture and drinking water. The analyzing NDVI indicated that, month by month increasing vegetation coverage was prevailed over most of the country. Spatial and temporal SPI analysis for each analogue year doesn't indicate significant drought signals in most Belg crops growing areas and the RLWRSI shown mostly above average condition across the pastoral and agro pastoral community and also given the seasonal climate outlook for FMAM 2024 (Belg), most parts of Belg rain benefiting areas are likely to observe normal to above normal condition during the season with wet moisture performance. This condition is expected to be sufficient to sustain crop growth, pasture and drinking water availability. Thus, Farmers and pastoralist are advised to make all necessary early preparation to utilize all possible advantage of the climate condition.

TERCILE PROBABILITY FOR BELG (FMAM) 2024



IMPLICATION:-

- *Above Normal expected across the South and South-eastern.*
- *Normal to above normal expected over much of Northern, north-eastern, central including south-western parts.*
- *Normal to above normal expected over north-western*
- *Early onset and late cessation will be expected in the coming Belg 2024.*
- *Above-normal to slightly near-normal temperature expected over most parts of the country.*

As for the seasonal outlook for Belg 2024, the country is likely to be most of the recent and prognostic products are indicting the likelihood of continuing of ENSO Positive and IOD-Neutral episodes will dominate the performance of Belg 2024. Hence, it has positive contribution for the wet moisture performance of rainfall during the upcoming Belg season. In this regard, In view of the prevailing and projected climate scenarios, Belg 2024 season is anticipated to dominate above normal seasonal rain across the south and south-eastern regions, where Belg is the main rainy season. Accordingly, Southern part of Somali, Southern Oromia, Sidama, Southern Ethiopia and Southwest Ethiopia regions will receive extremely above normal rainfall which will have expected probability of increase the chance of getting good moisture and highly favorable for livestock fodder, forages and drinking water as well as good opportunity for water harvesting for moisture stress areas.

Moreover the expected normal to above normal rainfall is anticipated to dominate across much of northern, north-eastern, central and north-western Ethiopia. Including the forecasted early onset and late *cessation* of the season across Belg rain benefiting portion of the country is expected to be favorable for early land preparation and the timely planting of Belg crops and increase the chance of length of growing period (LGP) of Belg crops as well as long cycle crops which were planted during April and May. In the positive aspect this may favors early planted of Belg crops so as to meet their daily water need. However, most places under above rainfall category are will get excesses moisture, the expected above average rainfall may cause saturation of soil moisture and leading to water logging, soil erosion, weed infestation, and fungus driven crop diseases. Moreover, due to longer wet spells, application of inputs, such as fertilizers and pesticides may become difficult to apply. The major challenge for areas under above average category is excessive moisture. To cope up this challenge, farmers are advised to select excess moisture tolerant crop varieties for planting. In addition, they should clear the existing drainage channels as well as preparing new drainage structure, if it is required, to drain out excessive moisture from crop fields. Farmers are also advised for getting themselves ready for managing the possible infestation of weed and fungus driven crop disease. To minimize the risk related to flood, early preparation of diverting the runoff to the normal path of the stream flow is recommended. Generally the following agro meteorological practice is recommended based on the Tercile rainfall category over much of Belg rain benefiting area expected Normal to above normal rainfall category so the farmers to practices. Select appropriate high yielding varieties; Proper land and water management; Intensive water harvest, Select Excess water tolerant crops varieties/cultivars, Prepare drainage structure to drain out excess water, Postpone fertilizer application, Protect

weed infestation, Early preparation for protecting soil erosion, Rehabilitating the available drainage systems or establishing new drainage structure, Divert excess water to the normal path of their stream flow, proper input should be utilized, regular visit of the crop farm is recommended and watch desert locust outbreak and regularly updated agro meteorological information.

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

AGROMETEOROLOGICAL STATION DISTRIBUTION

The map displays the following regions and their associated stations:

- Tigray:** HU, AGT, SH, BK, MY, MTS, DBK.
- Afar:** D61, SM, AS.
- Amhara:** MTM, AK, GDR, DT, SUR, LL, SR, BA, CB, WT, MM, GW, MS, FC, ELI, SWP, WK, DB, VU, MMS, EJI, ALK, DE, JI, JJ, DH, GD.
- B.Gumaz:** MIK, PW, DG, MOT, CH, LYB, DM, BG, ID, AI, GIB, TIK, ARJ, AMB, WL, BU, DZ, HT, MT, AB, GL, MR, ZW, HS, AWKF, CUR, SD, BLT, PL, BOR, JM, MA, ABO, DMD, ALG, GR, PTRLG, BO, SK, DM, IIG, KM, YB, ML, KII, HM.
- Addis Ababa:** Addis Ababa (central location).
- Gambella:** DMD, ALG, GR, PTRLG, BO, SK, DM, IIG, KM, YB, ML, KII, HM.
- SNNPR:** SW, JH, KII, HM, YB, ML.
- Oromiya:** RE, GN, DM, IIG, KM, YB, ML, KII, HM.
- Somali:** DH, GD.

Legend:

- Real Time Data Reporting Station
- ⊙ Real Time and Phenological Reporting Station

EMI Seasonal Agro-meteorology bulletin