

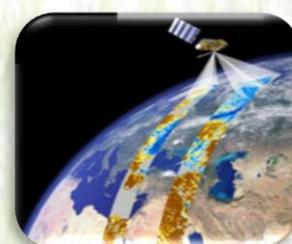
# ETHIOPIA METEOROLOGY INSTITUTE

## Agrometeorological Bulletin

### SEASONAL AGROMETEOROLOGICAL BULLETIN

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Kiremt 2023 VOLUME 40 No. 27 DATE OF ISSUE: - October 13, 2023



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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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**አህፅርት**  
**እ.ኤ.አ ክረምት 2023**

የክረምት ወቅት ዝናብ በኤፕሪልና ሜይ ወሮች ቀደም ብለው ለተዘሩ እንደ በቆሎና ማሽላ ለመሳሰሉ የረጅም ጊዜ የመኸር ሰብሎች በተሟላ ሁኔታ እንዲያድጉ የሚኖረው አስተዋፅዖ ከፍተኛ ሲሆን እንዲሁም ከጁን ጀምሮ ለሚዘሩ የተለያዩ የመካከለኛ ጊዜ አዝርዶች ያለው ጠቀሜታ ከፍተኛ ነው። በተጨማሪም በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት የሚኖረው አስተዋፅዖ የጎላ ነው።

እ.ኤ.አ በጁን ወር 2023 ለክረምት ዝናብ መኖር አመቺ ሁኔታ የሚፈጥሩ የአየር ሁኔታ ክስተቶች በመጠናከራቸው በተለይም በደቡብ ምዕራብ፣ በምዕራብና በመካከለኛው የሀገሪቱ አካባቢዎች ላይ የእርጥበት መጠኑ እየተስፋፋ የወቅቱ ዝናብ ተጠቃሚ የሀገሪቱ አካባቢዎችን ያዳረሰና በመጠንም ሆነ በስርጭት ረገድ እየተሻሻለ የመጣበት ሁኔታ ነበረ። ከዚህም ጋር ተያይዞ ከጁን ጀምሮ የዘር ጊዜና የማሳ ዝግጅት በሚካሄድባቸው አካባቢዎች በወቅቱ ለመዝራት አመቺ ሁኔታ የፈጠረ ሲሆን፣ ዘግይተው ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች የውኃ ፍላጎታቸውን ከሟሟላት አንፃር የጎላ ሚና ከመኖሩም በላይ ከኤፕሪል ጀምሮ ቀደም ብለው ለተዘሩ እንደ በቆሎና ማሽላ ለመሳሰሉ የረጅም ጊዜ የመኸር ሰብሎች በተገቢው ሁኔታ እድገታቸውን እንዲቀጥሉ የጎላ አስተዋፅዖ ነበረው። በሌላ በኩል በአንዳንድ አካባቢዎች ላይ የነበረው ከባድ ዝናብ በተለይም በምዕራብ የአገሪቱ አካባቢዎች እንዲሁም ባላለፍናቸው ቀናት በተከታታይ ዝናብ በማግኘት ላይ በነበሩ ቦታዎች ላይ የአፈር ውስጥ እርጥበት መብዛት እና በአንዳንድ ቦታዎች ላይ ለወንዝ መሙላትና ለጎርፍ ተጋላጭ በሆኑ አካባቢዎች ላይ የጎርፍ መከሰት የነበረ ቢሆንም፣ በግብርናው አንቅስቃሴ ላይ ያደረሰው ከፍተኛ ጉዳት አልነበረም። በአንጻሩ በአርብቶ አደርና በከፊል አርብቶ አደር አካባቢዎች የነበረው እርጥበት አነስተኛ ቢሆንም ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት አዎንታዊ አስተዋፅዖ ነበረው።

ባላለፍነው የጁላይ ወር 2023 የመጀመሪያው አስር ቀናት በምዕራብ፣ በደቡብ ምዕራብ እና መካከለኛው እንዲሁም ደቡብ ብሔር ብሄረሰቦች እና ህዝቦች ክልል እንዲሁም በሁለተኛው አስር ቀናትም በምዕራብ የሀገሪቱ ዳርቻዎችና አልፎ አልፎ በምስራቅ የሀገሪቱ አካባቢዎች ላይ የተስፋፋ የእርጥበት ስርጭት የነበር ሲሆን በአንጻሩ ግን በሶስተኛው አስር ቀናት የእርጥበት ስርጭቱ የተወሰኑ የክረምት ተጠቃሚ አካባቢዎችን ያላዳረሰ ነበር። በአጠቃላይ ባላለፈው የጁላይ ወር ለክረምት ዝናብ መፈጠር መንስኤ የሆኑ የአየር ሁኔታ ክስተቶች በመዳከማቸው ከመካከለኛው፣ ከምዕራብ እና ደቡብ ምዕራብ ጥቂት ቦታዎች በስተቀር አብዛኛው የክረምት ተጠቃሚ አካባቢዎች ላይ አነስተኛ የእርጥበት መጠንና ስርጭት ነበራቸው። ይህም ሁኔታ ከጁላይ ጀምሮ ለሚዘሩ የተለያዩ የመካከለኛ ጊዜ ሰብሎች ለመዝራትና በታቀደው መሰረት የግብርና እንቅስቃሴን ለማከናወን አሉታዊ ጎን ቢኖረውም፣ አስቀድሞው ተዘርተው በተለያዩ

የእድገት ደረጃ ላይ ለሚገኙ የመኸር ሰብሎች የውኃ ፍላጎታቸውን ከሚሟላት አንፃር የጎሳ ሚና ከመኖሩም በላይ ከኤፕሪል ጀምሮ ቀደም ብለው ለተዘሩ እንደ በቆሎና ማሽላ ለመሳሰሉ የረጅም ጊዜ የመኸር ሰብሎች እንዲሁም ለተለያዩ ቋሚ ተክሎች በተሟላ ሁኔታ እንዲያድጉ የጎሳ አስተዋፅዖ ነበረው። ከዚህ በተጨማሪ በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች የነበረው የእርጥበት ሁኔታ ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት አዎንታዊ አስተዋፅዖ ነበረው። በሌላ በኩል በአንዳንድ አካባቢዎች ላይ የነበረው ከባድ የዝናብ መጠን በመደበኛ ባህሪያቸው በእርጥበት መብዛት በሚታወቁ ሰፍራዎች ላይ ለጎርፍ መከሰትና የመሬት መንሸራተት እንዲሁም በአንዳንድ ሰፍራዎች ላይ በሰብል ማሳዎች ላይ የውሃ መተኛትን ያስከተለ ሲሆን ይህም ሁኔታ እየተከናወነ በሚገኘው የእርሻ ስራ እንቅስቃሴ ላይ አሉታዊ ጎን ነበረው።

ባለፈው የአገሪት ወር 2023 ለወቅቱ ዝናብ መኖር አመቺ የሆኑት የአየር ሁኔታ ክስተቶች ከመኖራቸው ጋር ተያይዞ በመጀመሪያው እና ሦስተኛው አስራ አንድ ቀናት የዝናቡ ስርጭት በምዕራብ፣ በደቡብ ምዕራብ እና መካከለኛው እንዲሁም ደቡብ ብሔር ብሄረሰቦች እና ህዝቦች ክልል የሀገሪቱ አካባቢዎች ላይ የተሻለ የዝናብ ስርጭት ነበራቸው። በሁለተኛው አስር ቀናት ግን በምስራቅ እንዲሁም መካከለኛው የሀገሪቱ አካባቢዎች ላይ የመቀነስ አዝማሚያ የታየበት ቢሆንም በምዕራብ የሀገሪቱ አካባቢዎች ላይ የተስፋፋ የዝናብ ስርጭት ነበራቸው። ይህም ሁኔታ የአፈርን እርጥበት ከማሻሻል እንዲሁም ተክሎች የሚያስፈልጋቸውን ውሃ ከማቅረብ አንጻር ገንቢ ሚና ነበረው። በተጨማሪም ከሰብል ልማት አንጻርም ቀደም ሲል በሚያዝያና ግንቦት ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙት የረጅም ጊዜ ሰብሎች እንደ ማሽላና በቆሎ ለመሳሰሉት እንዲሁም ዘግይተው ተዘርተው በቡቃያና በተለያዩ የእድገት ደረጃ ላይ ላሉት እንደ ስንዴ፣ ገብስ፣ አጃ እና ጤፍ ለመሳሰሉት የብርዕ ሰብሎች፣ የጥራጥሬ እህሎችና የቅባት እህሎች እንዲሁም ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት ምቹ ሁኔታን ከመፍጠሩም በተጨማሪም ለአርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች በመጠን ረገድ አነስተኛም ቢሆን ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት መሟላት በጎ ጎን ነበረው። በተጨማሪም በአንዳንድ የአገሪቱ አካባቢዎች ላይ ከባድ ዝናብ የነበረ ሲሆን፣ በዚህም ምክንያት ማሳ ላይ ወሃ መተኛትና ቅጽብታዊ ጎርፍ በተወሰኑ ቦታዎች በመከሰቱ በተለያዩ የእድገት ደረጃዎች ላይ ባሉ ሰብሎች፣ በአፈር ጥበቃ ሥራ እንዲሁም በሰው እና በንብረት ላይ መጠነኛ ጉዳት ነበረው።

ባላለፍነው የሴፕቴምበር ወር 2023 ለክረምት ዝናብ መኖር አመቺ ሁኔታ የሚፈጥሩ የአየር ሁኔታ ክስተቶች የነበሩ በመሆኑ በአብዛኛው የክረምት ዝናብ ተጠቃሚ አካባቢዎች ከቦታ ቦታ በመጠን ይለያይ እንጂ በስርጭት ረገድ ብዙ ቦታዎችን ያደረሰ የእርጥበት ሁኔታ ነበራቸው። የተተነተኑ ወርቃዊ የአፈር ውስጥ እርጥበት ጠቋሚ መለኪያ (Moisture Index) እንደሚያመለክተው በተለይም በምዕራብ አጋማሽ፣ በመካከለኛው፣ በምስራቅና በደቡብ የሀገሪቱ አካባቢዎች ላይ ብዙ ቦታዎችን የሸፈነ እርጥበት ነበራቸው። ይህም ሁኔታ የአፈር ውስጥ እርጥበትን ከማሻሻል ጋር ተያይዞ እድገታቸውን ላልጨረሱና በተለያዩ የእድገት ደረጃ ላይ

ለሚገኙ የመኸር ሰብሎችም ሆነ ለቋሚ ተክሎች የሚያስፈልጋቸውን ውሃ ከማገኘት አንጻር ገንቢ ሚና ነበረው። በተጨማሪ በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች የነበረው የእርጥበት ሁኔታ ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት አዎንታዊ አስተዋፅዖ ከማበርከቱም በላይ ሰው ሰራሽም ሆነ የተፈጥሮ ምንጮችን ከማጎልበት አንጻር አዎንታዊ ሚና ነበረው። እንዲሁም ቀስ በቀስ በተለይም የሁለተኛው እና የመጨረሻዎቹ አስር ቀናት ላይ ወደ ደቡብ የተስፋፋው እርጥበት በደጋግሞ አካባቢ የማሳ ዝግጅት ለማከናወንና የግጦሽ ሳርና የመጠጥ ውሃ አቅርቦትን ከማሻሻል አንጻር በጎ ሚና ነበረው። በተጨማሪም ተከታታይነት የነበረው እርጥበትና በመደበኛ ባህሪያቸው በእርጥበት መብዛት በሚታወቁና የመሬት አቀማመጣቸው ተዳፋትና ውሀ ገብ በሆኑ አካባቢዎች ላይ የነበረው የእርጥበት መብዛት በሰብል ማሳዎች ላይ የውሃ መተኛት ያስከተለ ሲሆን፤ ይህም ሁኔታ እየተከናወነ በሚገኘው የእርሻ ስራ እንቅስቃሴ ላይ አሉታዊ ጎን ነበረው። እንዲሁም የነበረው ከፍተኛ እርጥበት ለአረም መስፋፋትም ለሰብል በሽታዎች መከሰት ምቹ ሁኔታን የፈጠረ ነበር ።

በአጠቃላይ እ.ኤ.አ ክረምት 2023 በግብርና እንቅስቃሴ ላይ የነበረውን ሁኔታ ስንገመግም ዝናብ ሰጪ ክስተቶች በአብዛኛዎቹ የክረምት ተጠቃሚ የአገሪቱ አካባቢዎች ላይ በተለይም በደቡብ ምዕራብ፣ በምዕራብና መካከለኛው የሀገሪቱ ክፍሎች ወቅቱን ጠብቆ የጀመረና የእርጥበት መጠኑ እየተስፋፋ የወቅቱ ዝናብ ተጠቃሚ የሀገሪቱ አካባቢዎችን ያዳረሰና በመጠንም ሆነ በስርጭት ረገድ እየተሻሻለ የመጣበት ሁኔታ ነበር። ይህም ሁኔታ የአፈርን እርጥበት ከማሻሻል እንዲሁም ተክሎች የሚያስፈልጋቸውን ውሃ ከማቅረብ አንጻር ገንቢ ሚና የነበረው ሲሆን ከሰብል ልማት አንጻርም ከጁን ጀምሮ የዘር ጊዜና የማሳ ዝግጅት በሚካሄድባቸው አካባቢዎች በወቅቱ ለመዝራት አመቺ ሁኔታ የፈጠረ ከመሆኑም በላይ ከኤፕሪል ጀምሮ ቀደም ብለው ለተዘሩ እንደ በቆሎና ማሽላ ለመሳሰሉ የረጅም ጊዜ የመኸር ሰብሎች የውሃ ፍላጎታቸውን ከሟሟላት አንጻር የጎሳ አስተዋፅዖ ነበረው። በጁላይ እና ኦገስት ወራቶችም ለክረምት ዝናብ መፈጠር መንስኤ የሆኑ የአየር ሁኔታ ክስተቶች በመዳከማቸው ከመካከለኛው፣ ከምዕራብ እና ደቡብ ምዕራብ የተወሰኑ አካባቢዎች በስተቀር በአብዛኛው የክረምት ተጠቃሚ ስፍራዎች ላይ የእርጥበት መቀነስ የተስተዋለባቸው ሲሆን። ይህም ሁኔታ አስቀድሞው ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የመኸር ሰብሎች ለተለያዩ ቋሚ ተክሎች በተሟላ ሁኔታ እንዲያድጉ ምቹ ሁኔታ ቢኖረውም ከጁላይ ጀምሮ ለሚዘሩ የተለያዩ የመካከለኛ ጊዜ ሰብሎች ለመዝራትና በታቀደው መሰረት የግብርና እንቅስቃሴን ለማከናወን እንዲሁም የወቅቱ ዝናብ ተጠቃሚ በሆኑት በምስራቅና በሰሜን ምስራቅ አርብቶ አደርና ከፊል አርብቶ አደር አካባቢዎች በግጦሽ ማርና በመጠጥ ውሃ አቅርቦት ላይ አሉታዊ ተፅዕኖ ነበረው። በአወጣጥ ረገድም በመደበኛ ሁኔታ ከመካከለኛው፣ ከምሥራቅ እና ከሰሜን ምስራቅ የሀገሪቱ ክፍሎች ላይ ለተወሰኑ ቀናት በመዘግየቱ ምክንያት እድገታቸውን ላልጨረሱ እና ዘግይተው ለተዘሩ የመኸር ሰብሎች በጎ ጎን የነበረው ሲሆን በአርብቶ አደርና በከፊል አርብቶ አደር አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት አዎንታዊ አስተዋፅዖ የነበረው ሲሆን ቀስ በቀስም ወደ ደቡብ የተስፋፋው እርጥበት በደጋግሞ አካባቢ ቀደም ብሎ የማሳ ዝግጅት

ለማከናወንና የግጦሽ ሳርና የመጠጥ ውሃ አቅርቦትን ከማሻሻል አንጻር በጎ ሚና ነበረው። በሌላ በኩል አልፎ አልፎ በአንዳንድ መኸር አብቃይ አካባቢዎች ከባድ ዝናብ ከመስተዋለ ጋር ተያይዞ በሰብሎች ማሳ ላይ የውሃ መተኛት፣ ለወንዞች ሙላትና ለቅጽቦታዊ ጎርፍ መከሰት ያስከተለበትና በሰብሎች፣ በንብረትና በሰው ሕይወት ጭምር ጉዳት ያስከተለበት ሁኔታ እንደነበረ ከተለያዩ ምንጮቹ የተገኙ መረጃዎች ያሳያሉ። በአጠቃላይ በክረምት ወቅት የነበረው የእርጥበት ሁኔታ በመጠንና በስርጭት በአንዳንድ የክረምት ዝናብ ተጠቃሚ በሆኑ አካባቢዎች በተለይም በመካከለኛው፣ በሰሜን፣ በሰሜን ምስራቅ፣ በምስራቅና በስምጦ ሸለቆ ደቡባዊ ስፍራዎች የእርጥበት እጥረት ከመኖሩ በስተቀር የክረምት 2023 ወቅት የዝናብ መጠንና ስርጭት በግብርናዉ ላይ የነበረውን ሁኔታ ስንመለከት ለአብዛኛው የመኸር ሰብሎችና አጠቃላይ የእርሻ ሥራ እንቅስቃሴ አመቺ ሁኔታ ነበረው።

## **SUMMARY**

### **Kiremt 2023**

Kiremt is the season that fulfills the water requirement of long cycle crops which are planted in the months of April-May and Meher crops that achieve maturity during the Bega season. In addition to the Kiremt rain, the Belg seasonal rainfall, the rainfall amount and distribution during the months of April and May has significant impact on the performance of long cycle crops (maize and sorghum).

During the month of June 2023, due to the intensification of weather events that create favorable conditions for the existence of Kirmt rains, especially in the southwest, west and central areas of the country, the amount of moisture is spreading on Kirmt benefiting areas of the country and it has been improving in terms of quantity and distribution. This condition was favorable for created timely sowing in the areas where seeding time and land preparation are held since June. In addition to having a significant role to satisfy their water needs for Meher crops that are sown late and at different stages of development, it also had a significant contribution for long-term crops such as corn and sorghum that were sown early from April to continue their growth in appropriate conditions. On the other hand, the heavy rains especially western parts of the country, and in the areas that have been receiving continuous rain for the past few days, increased the moisture in the soil, and there was flooding. It did not cause for significant damage on agricultural development. Although moisture was low in pastoral and semi-pastoral areas, it contributed positively to pasture and drinking water availability.

During the month of July 2023, the time when the weather events that create favorable conditions for winter rains, the pre-sown crops get the high amount of moisture they need for growth, and in some areas, it is also the time to sow medium-term crops such as teff. The analyzing Agro meteorological data indicated that during the last dekad of July, there was widespread moisture distribution in the west, southwest, central, southern and there was widespread moisture distribution in the western margin of the country and occasionally in the eastern areas of the country in the first ten days of July and in the second ten days of July respectively. In general, in the last month of July, due to the weakening of the weather events that caused the formation of Kirmt rain, except for a few places in the middle, west and southwest, there was a small amount of moisture and distribution in most of the Kirmt rain benefiting areas. Although this situation has a negative side for planting various medium-term crops that will be

sown from July and carrying out agricultural activities as planned; In addition to having a significant role in to satisfy their water needs for early-sown harvest crops at different stages of growth, it also contributed significantly to the full growth of long-term crops such as corn and sorghum, which were sown from April, as well as various permanent plants. In addition, the moisture conditions in the pastoral and semi-pastoral areas had a positive contribution to the supply of pasture grass and drinking water. On the other hand, the heavy rainfall in some areas caused floods and landslides in areas that are known for their normal characteristics of moisture, and in some areas, water logging of crop fields, which had a negative impact on the ongoing agricultural activities.

During the month of August 2023, in the first and third dekad of the month, related with the occurrence of favorable weather events, the distribution of rain was better in the western, southwestern, central and southern parts of the country. Whereas in the second dekad, there was a decreasing trend in the eastern and central parts, however there was widespread moisture experienced in the western half of the country. This condition had been good enough to satisfy daily crop water requirement for various early planted Meher season crops including the long cycle crops such as maize and Sorghums. In general the wide distribution of rainfall across Kiremt rain benefiting areas could have a positive contribution toward enhancing the growth of late planted various crops such as such as Wheat, Barley, Oats, and Teff, oilseeds, pulse crops and perennial plants. The enhanced moisture over the north eastern and the eastern pastoral and agro pastoral community might play crucial role toward improving the availability of pasture and drinking water as well as to regenerate natural and artificial ponds. On the other hand, areas which have been receiving rainfall in continuous manner might experience excess soil moisture which might lead to water logging and runoff. Further, the reported locally heavy falls might enhance the occurrence of flash flood and soil erosion.

During the month of September 2023 rain bearing meteorological systems showed relative strength in amount and distribution over most of Kiremt rain benefiting areas of the country. Normaly the rainfall patterns withdrawal from north-eastern and northern parts of the country however in the current year most parts of Kiremt rain benifiting areas particularly western half, central, eastern and southern part of the country experienced good rainfall in amount and distribution. The received enhanced moisture might have played crucial role toward improving the availability of pasture and drinking water. Moreover, during the month enhanced moisture particularly after second and third dekade of the month was extended over the southern section of the country the situation was favorable for land preparation and

sowing of crops over the southern high land and availability of pasture and water over pastoral areas. On the other hand, during the month of September, heavy fall were reported from some parts of the country. The excessive moisture due to continuity of rainfall over areas which are characterized normally as prone to excess moisture might have led to water logging and which caused slightly damage on crops found at various stages.

Generally during Kiremt 2023, due to the intensification of weather events that create favorable conditions for the existence of Kirt rains, especially in the southwest, west and central areas of the country the rainfall was started on time and month by month the amount of moisture is spreading on Kirt benefiting areas of the country and it has been improving in terms of quantity and distribution. The situation was a significant and positive contribution with respect to satisfying the water need of early sown long cycle crops (Maize, sorghum) which were at different phenological stages, late sown cereal crops like (Teff, wheat and barley) and pulses (beans, peas and haricot beans) and perennial plant as well as it improved pasture and drinking water availability over eastern and north-eastern pastoral and agro pastoral areas of the country. Moreover under normal condition, Kiremt rains start to retreat by the second dekad of September from northeastern Ethiopia. However, as the major rain-producing systems the June-to-September rainy season has remained active, with continuous rainy conditions across the central and northern half of Ethiopia. The situation had been favor the existing Meher crops where not yet fully matured and late sown pulses and oil seeds. On the other hand the observed continuous and heavy rainfall particularly over north western, central and eastern parts of the country might have caused soil erosion, water logging and land slide as well as the flood affected crops, life and property. Generally with the exception of the observed Moisture stressed at the beginning and mid-terms of the season over some areas of central northern, north-eastern, eastern and southern parts of rift valley and the adjoining areas of the country and also crops affected due to heavy fall in some areas the overall situation was favorable for Kiremt season's agricultural activities.

# Kiremt 2023 Moisture Status Map

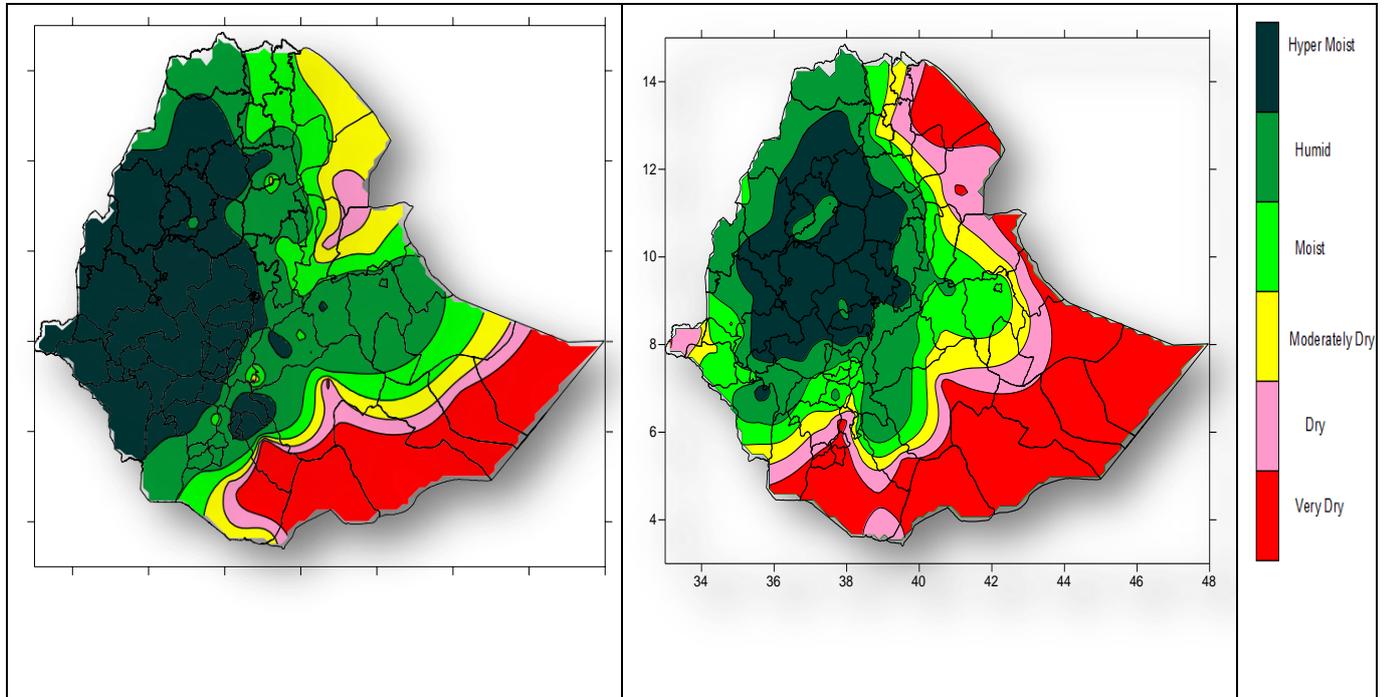


Figure 1. Moisture status for the month of June 2023

Figure 2. Moisture status for the month of July 2023

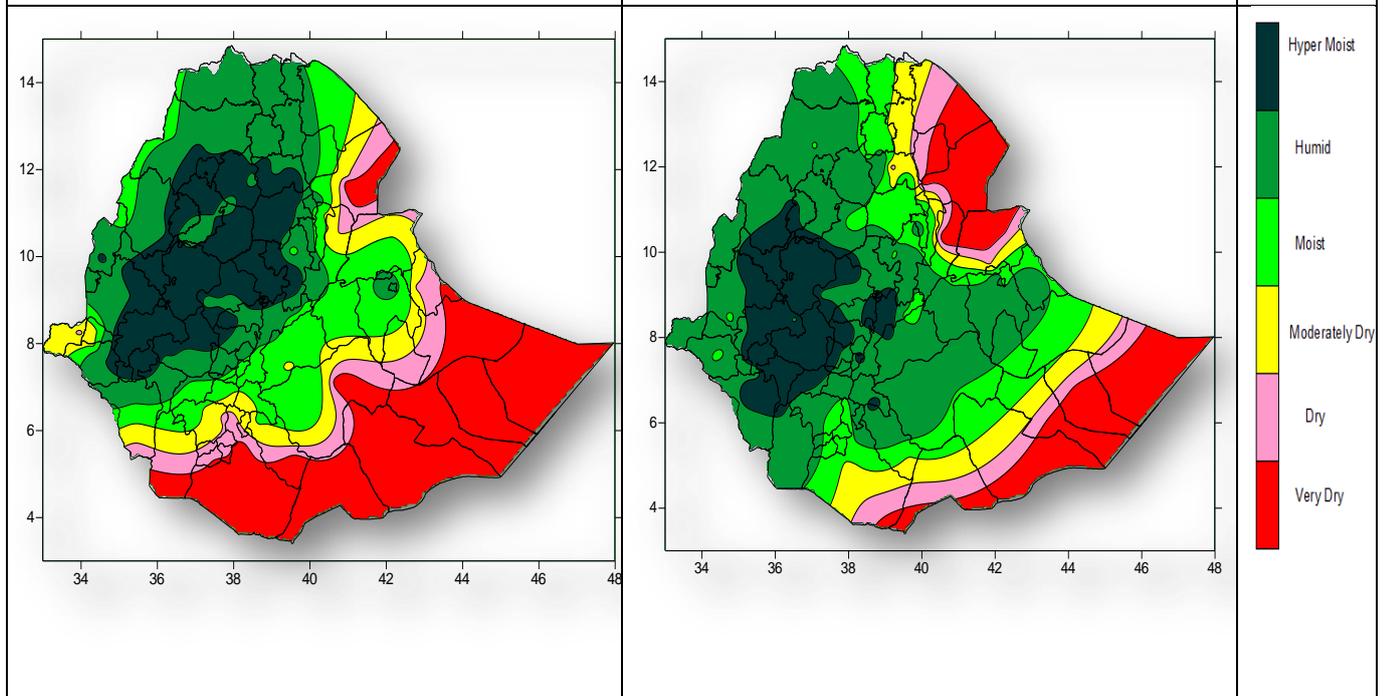
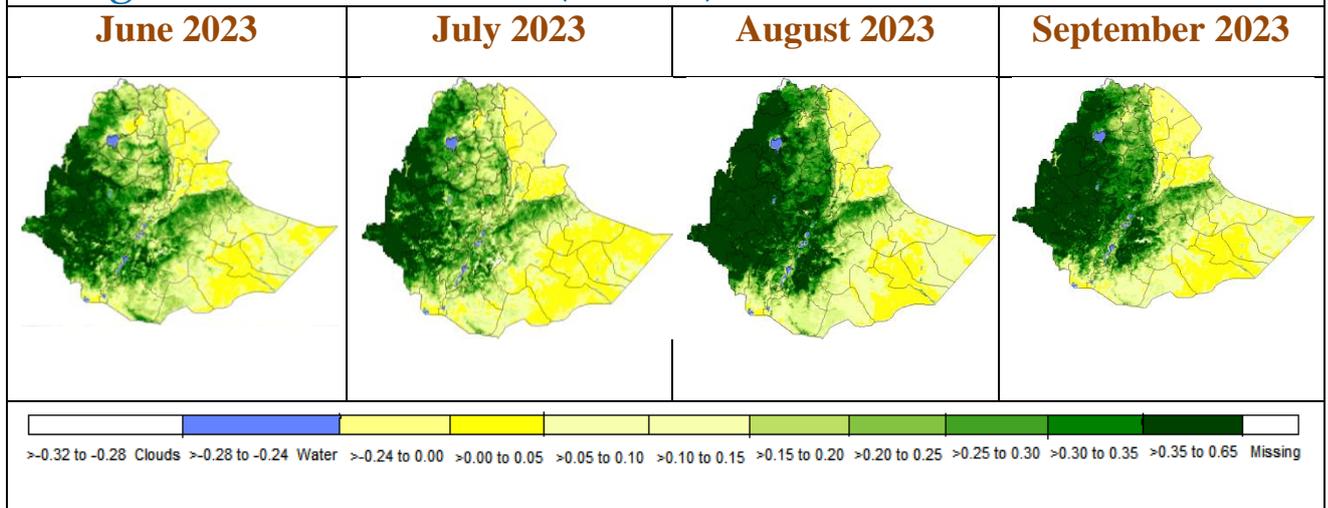


Figure 3. Moisture status for the month of August 2023

Figure 4. Moisture status for the month of September 2023

## Vegetation Greenness (NDVI) in fraction Kiremt 2023



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

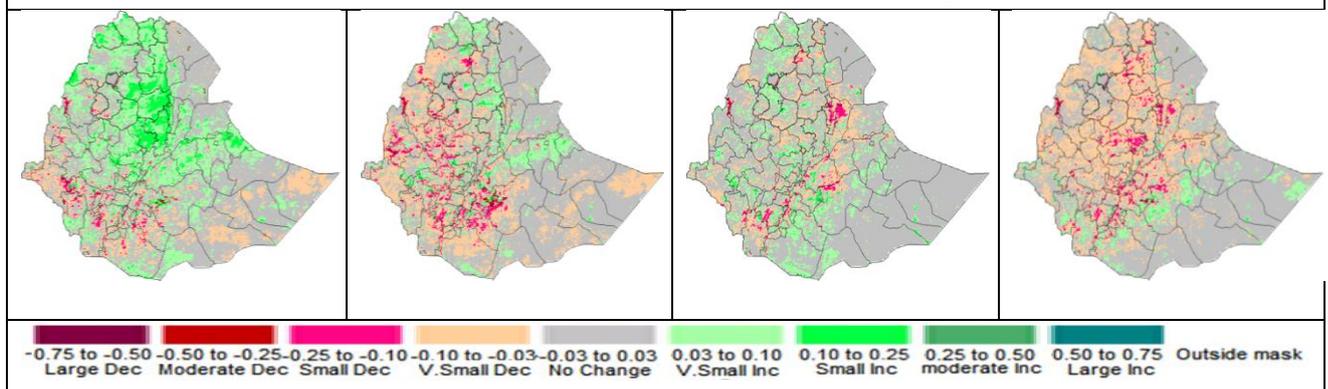


Fig. 5. Vegetation Greenness (NDVI) in fraction and Compared to Normal Kiremt (June-September) 2023

## Rangeland WRSI in % - Kiremt 2023

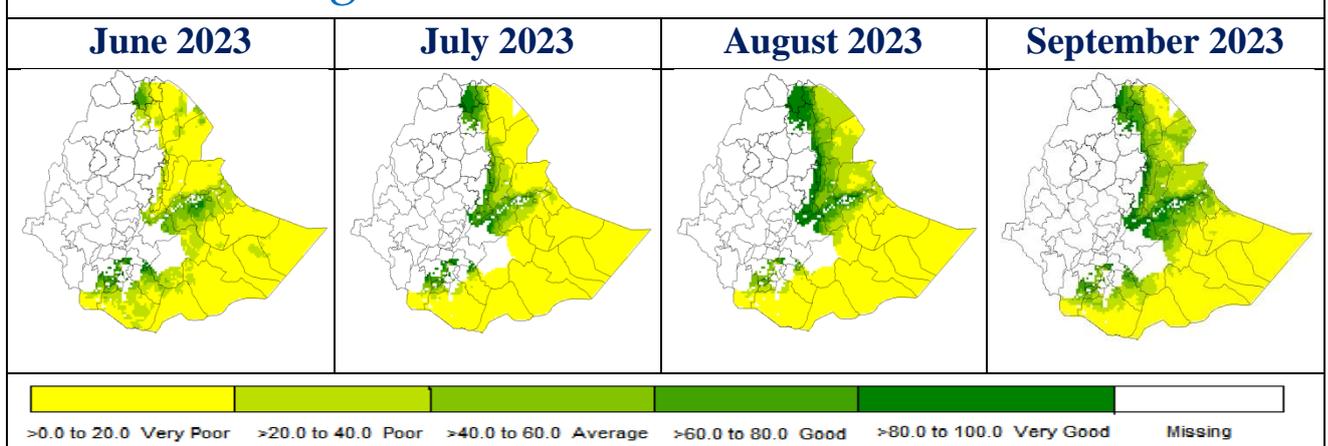


Fig.6. Rangeland WRSI in % Kiremt (June- September) 2023

# Standardized Precipitation Index (SPI) For Kiremt 2023

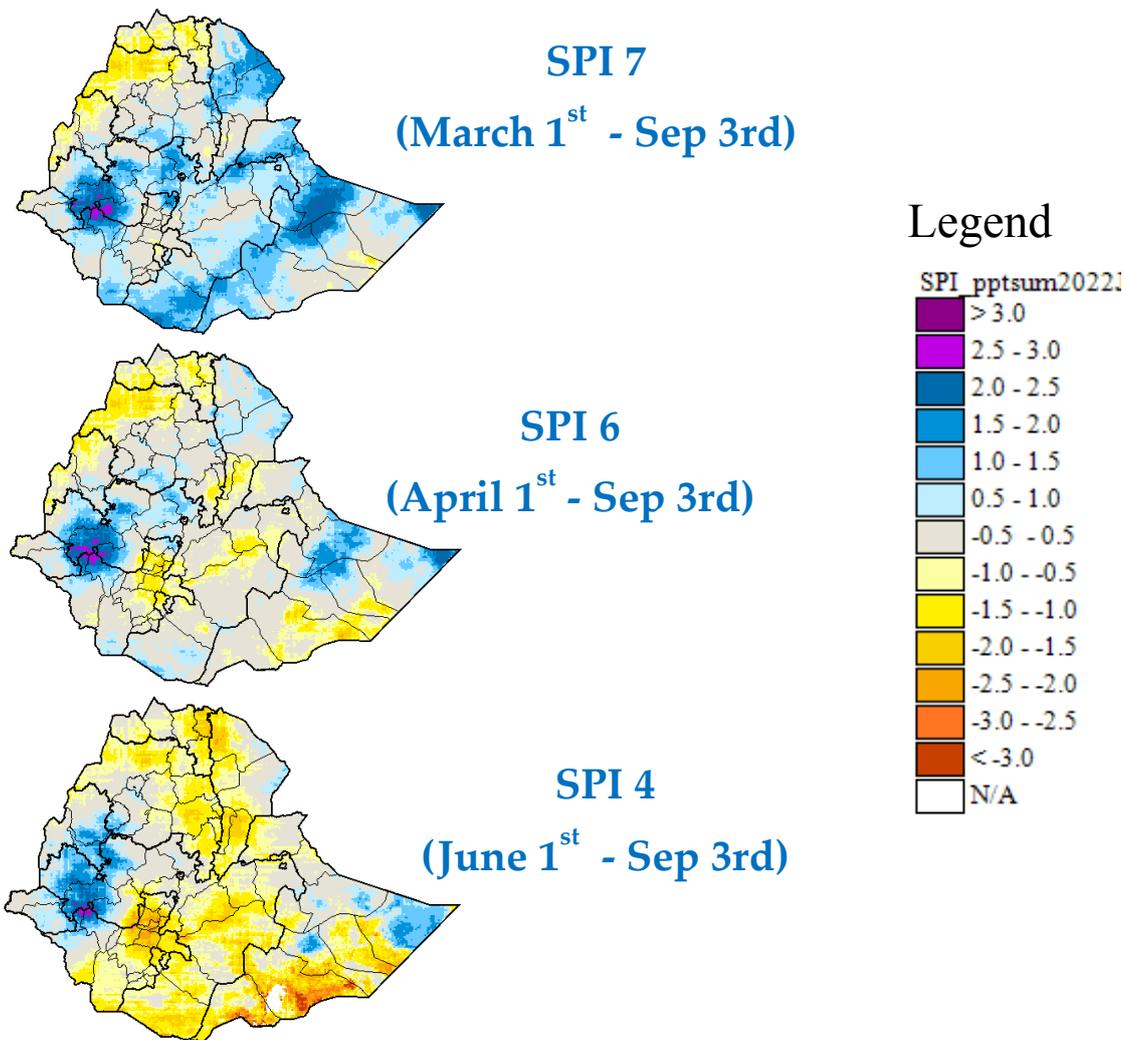
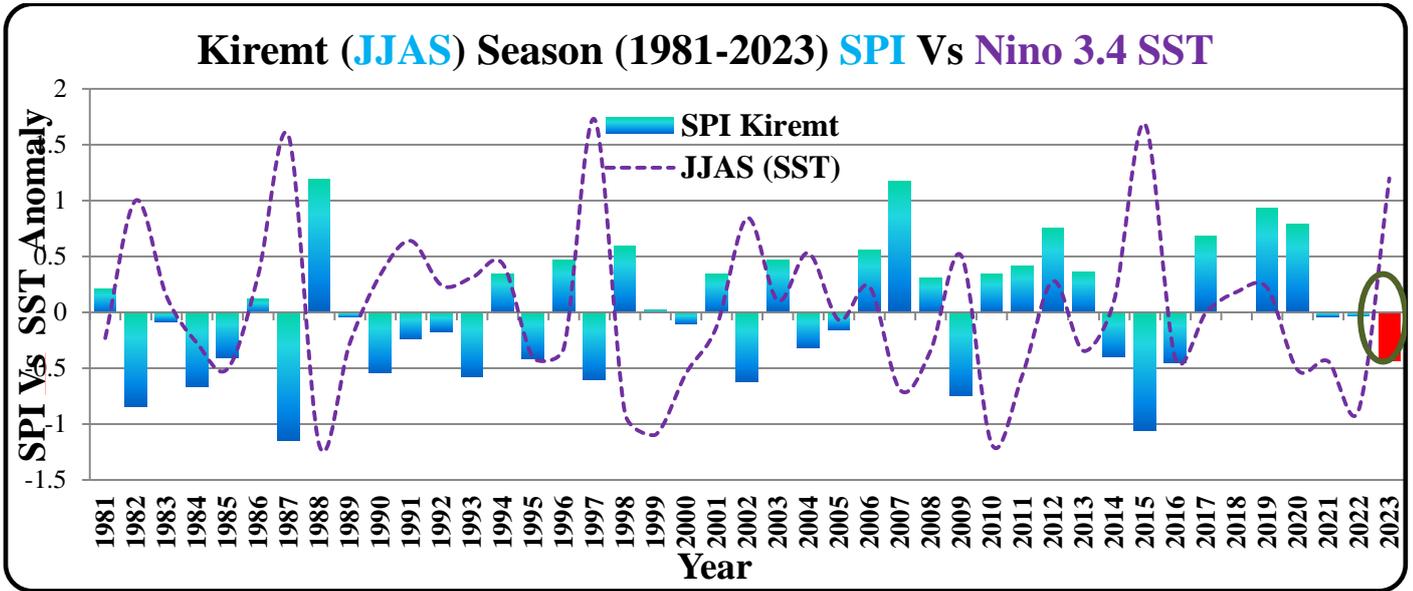


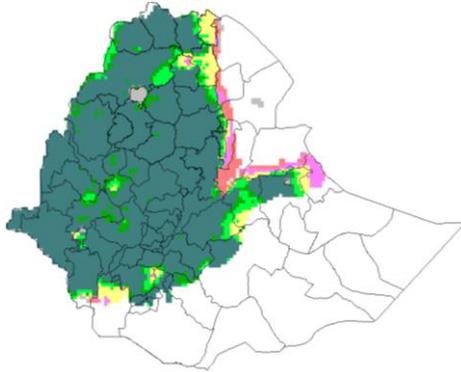
Fig.7. Standardized Precipitation Index (SPI) Kiremt (June- September) 2022

## Final Index (WRSI) in fraction - Meher 2023

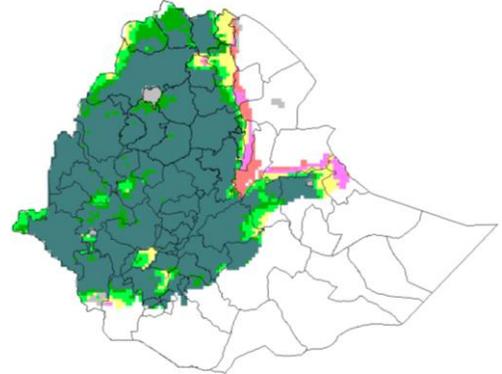
### Legend



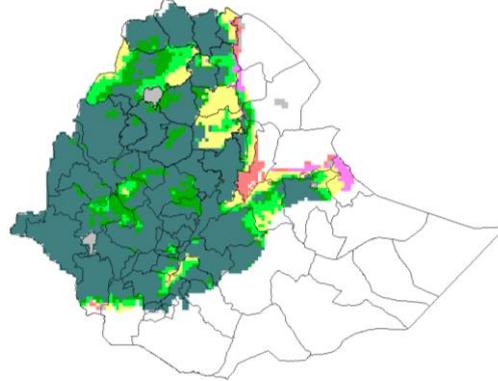
Maize\_Meher



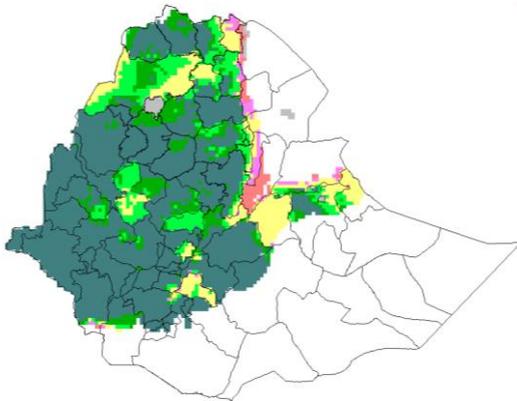
Sorghum\_Meher



Barley\_Meher



Teff\_Meher



Wheat\_Meher

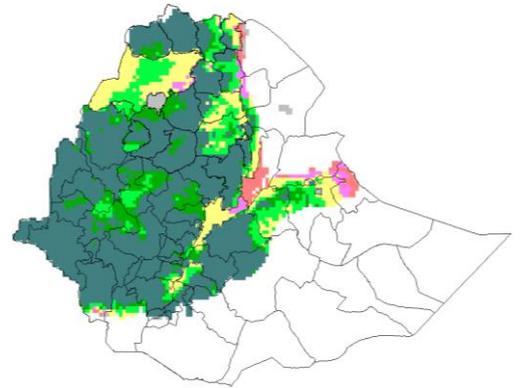


Fig.8. Final Index (WRSI) for Major crops (Maize, Sorghum, Barley, Teff and Wheat in fraction - Meher 2023

# 1. WEATHER ASSESSMENT

## 1.1. Rainfall amount (21 – 30) September 2023

During Third Dekad of September 2023 the rain fall distribution was pocket areas of Bahir Dar, West Wellega, West and south WEST Shewa, Assosa, pocket areas of West Wellega, Illibabur, Jimma, Gurage, Siliti, Alaba, Hadiya, Dawero, Sidama, Gedeo, Keffa, Sheka, Gambella Zone2, Godere, Bench Maji, Bsketo, Keffa Zones are received 50-200 mm rain fall. Pocket area o North and South Gonder, Bahir Dar, East Gojjam, Metkel, West Wellega, Tango, Oromia Zone, South Wellega Afar Zone 1,3&5, Shinile, West and East Hararghe, Jijiga, Arsi, Bale, Fik, Liben, Guji, Borena, Amaro, Konso Zones are received 5-25 mm rain fall. The rest part of the country was received 0-5 mm rain fall.

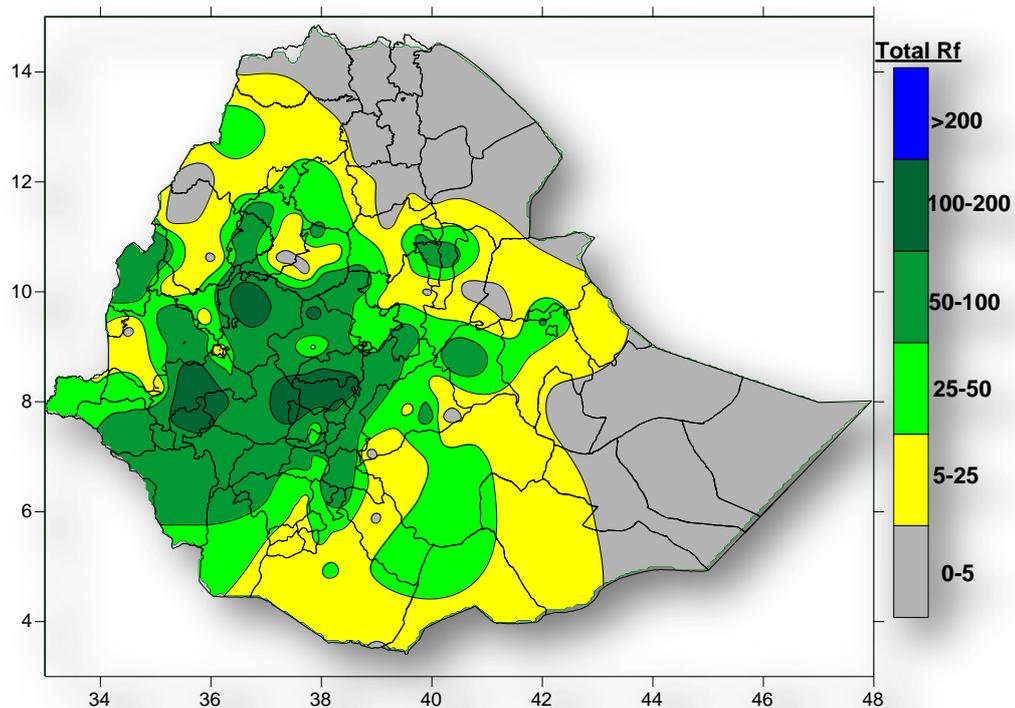


Fig 9. Rainfall distribution in mm (21 – 30) September 2023

## 1.2. Rainfall Anomaly (21 – 30) September 2023

Pocket area of Metekel, Agew-Awi, west and east Gojam, Tongo, Kamashi, west and east Wellega, north and west Shewa, Addis Ababa zone, north and south Wollo, Harer, Jigjiga, Dawero, Welayita, Sidama, Basketo, Gamo gofa, Gedeo, South Omo, Dirashe, Amaro and Guji exhibited Below Normal too Much Below Normal. The rest parts of the countries exhibited Normal to Above Normal.

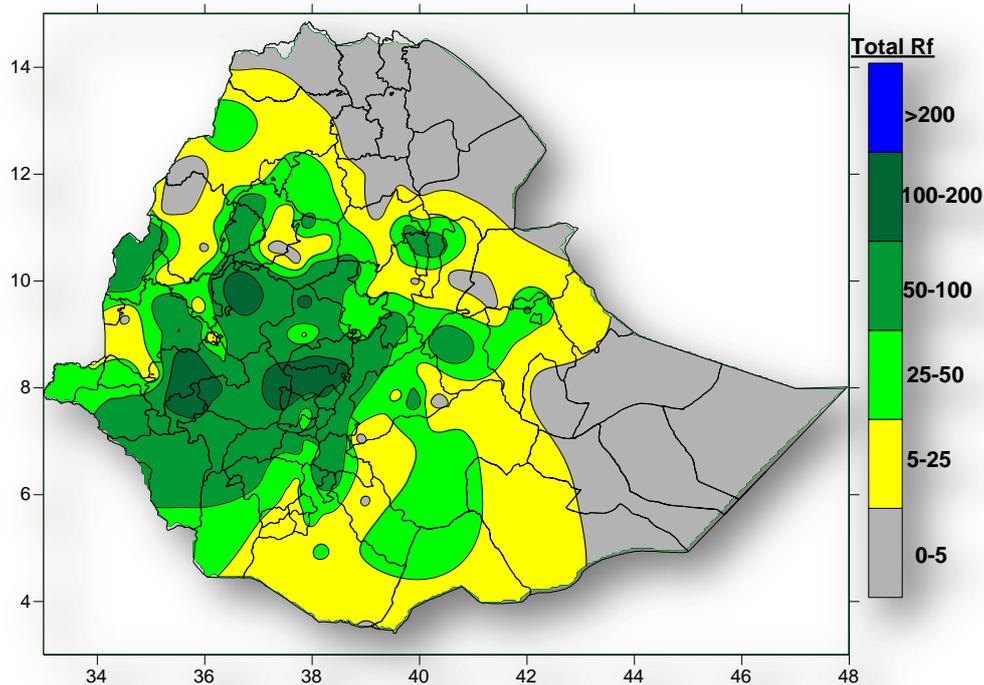


Fig. 10. Percent of normal rainfall distribution (21 – 30September 2023)

### 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) September 2023

During the third dekad of September 2023, much of Kirmt and Meher rain fall benefiting areas some parts of Amhara, Benishangul Gumuz, West and Central Oromia, Gambella, , Sidama, SNNRP and the Southern Highlands and part of the country exhibited moist to hyper humid moisture conditions. The rest parts of the country moderately dry to very dry moisture condition

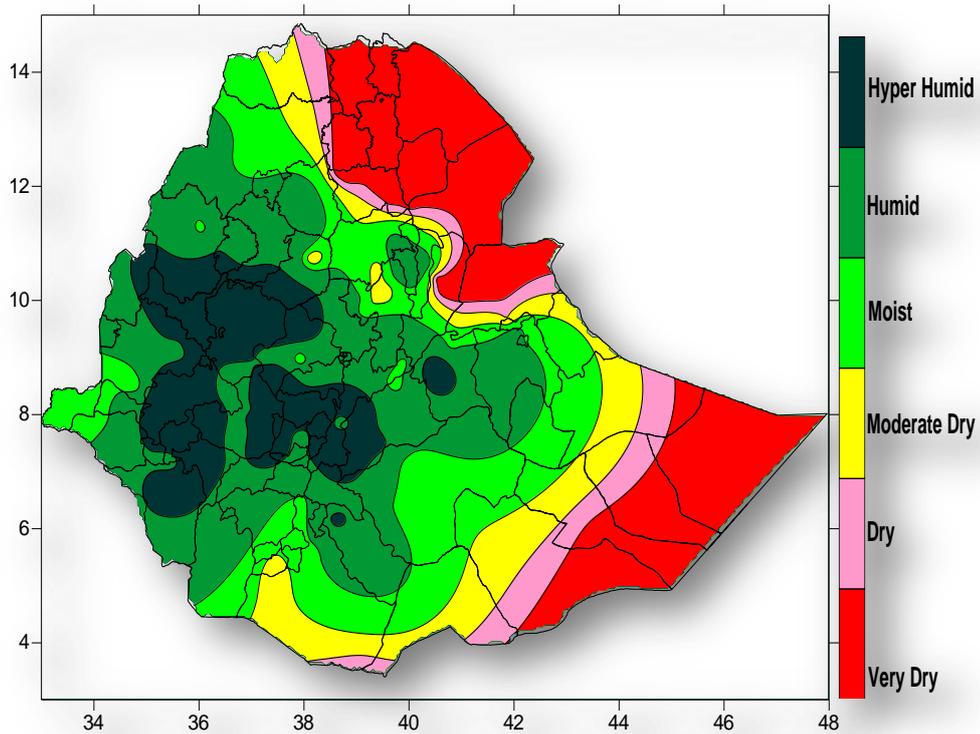


Fig.11. Moisture Status (21-31 September 2023)

#### 1.4. Rainfall amount on the month of September 2023

During the last Kirmt Season on month of September 2023 the rain fall distribution was pocket areas of Bahir dar, Kamashi, West and East Wellega, Illibabur, South West Shewa, Gurage, Jimma, Sheka, Godere, Keffa, Dawero, Gurage, Siliti, Bench Maji and Basketo Zones are received 100-200 and above 200 mm rain fall. West Tigray, Waghimera, North and South Gonder Bahir Dar, South Wello, Afar, Zone 3&5, Metkel Agew Awi, Esat Gojjam, Assosa, Addis Ababa Zone, Gambella Zone1,2&3, Godere, Bench Maji, South Omo, Konso, Basketo, Wolita, Sidama, Alaba, Bale, Arsi, West and East hararghe, Zones are 25-50 mm rain fall. The rest part of the country was received 0-5 mm rain fall.

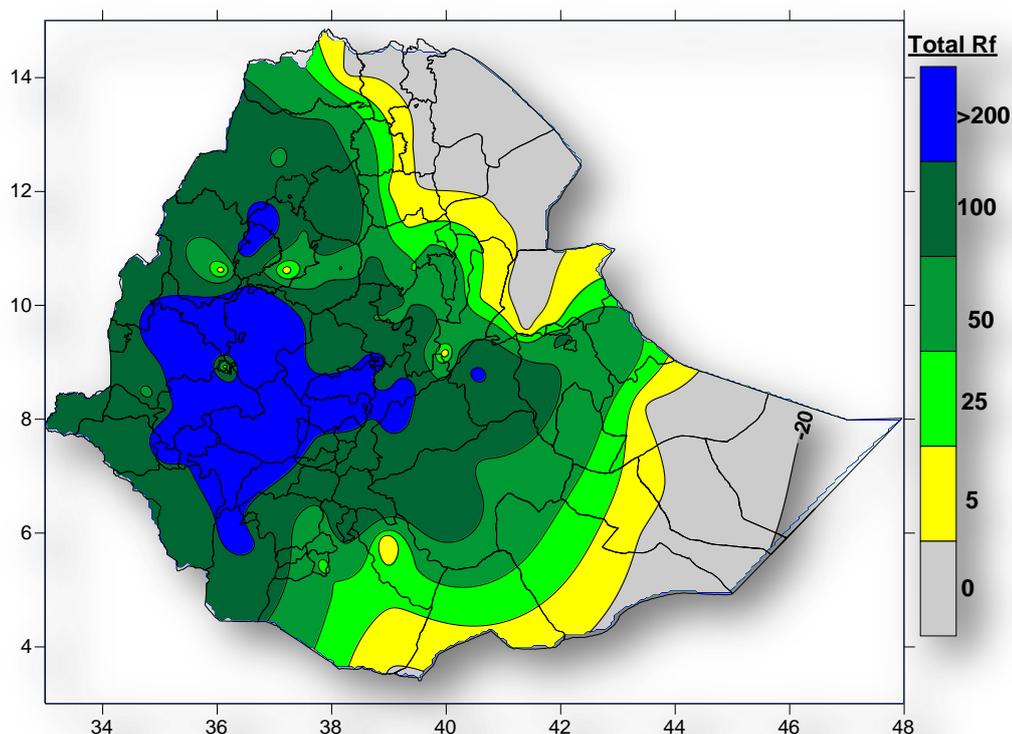


Fig. 12. Rainfall amount in mm for the month of September 2023

### 1.1. Rainfall Anomaly on the month of September 2023

During the month of September 2023 the rain fall anomaly was Most the country particularly, Western, North and South Western, Central, Southern and some areas South Eastern areas are exhibited Normal to Above Normal Rain fall condition. on the other hand, the rest part of the country was received Below Normal to Much Below Normal rain fall condition.

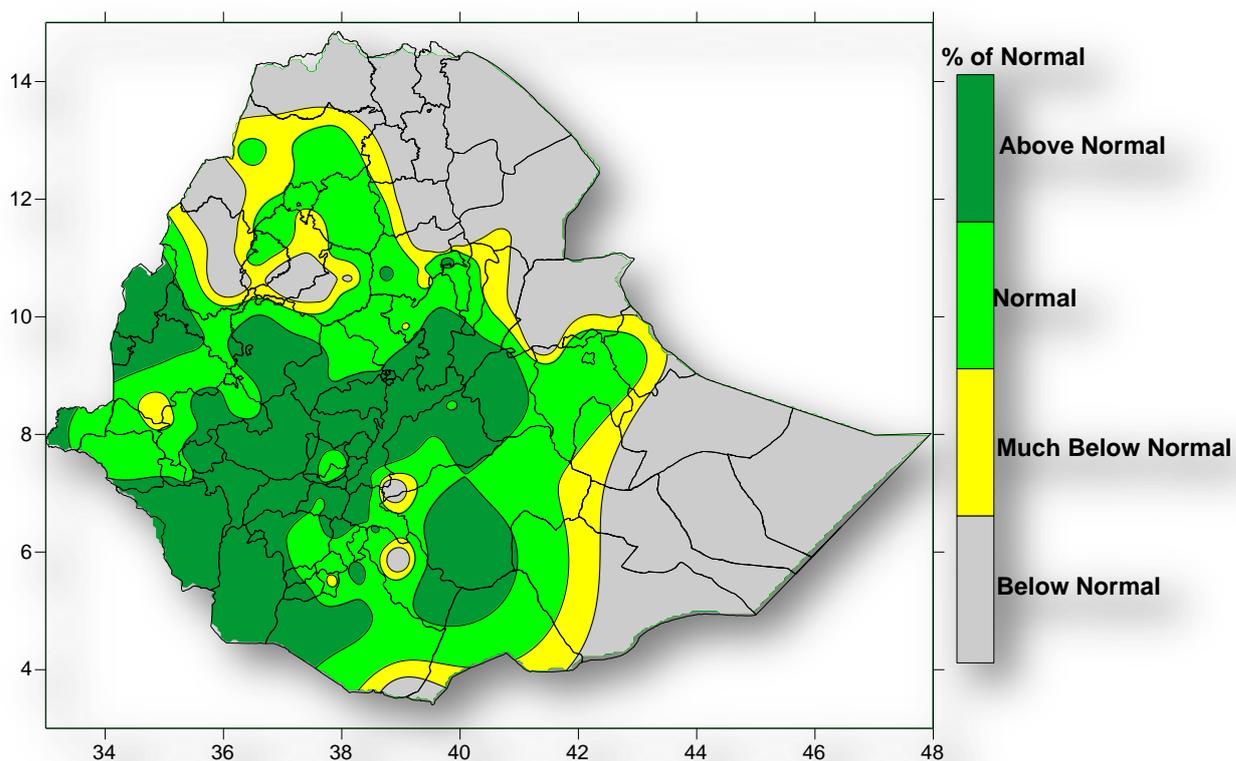


Fig. 13. Percent of Normal Rainfall for the month of September 2023

#### Explanatory notes for the Legend

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

## 1.2. Moisture status on the month of September 2023

During the month of September 2023 West Central and East Tigray, pocket area of (South Tigray, North Wello, Oromia Zone, Sowth West Shewa Arsi, East Hararge, Bale, Gurji, Gurage, SW Siliti, Alaba, Hadiya, Sidama, Jimma, Illibabur, Godere, Bench Maji,) South Wello, Shinile, Assosa, Tango, half of West Wellega, West Hararghe, Noth Gonder, Gambella Zone 1,2, &3, Wagihemra Zones are exhibited Normal to Above Normal. The rest parts of the countries exhibited very dry to Moderately dry.

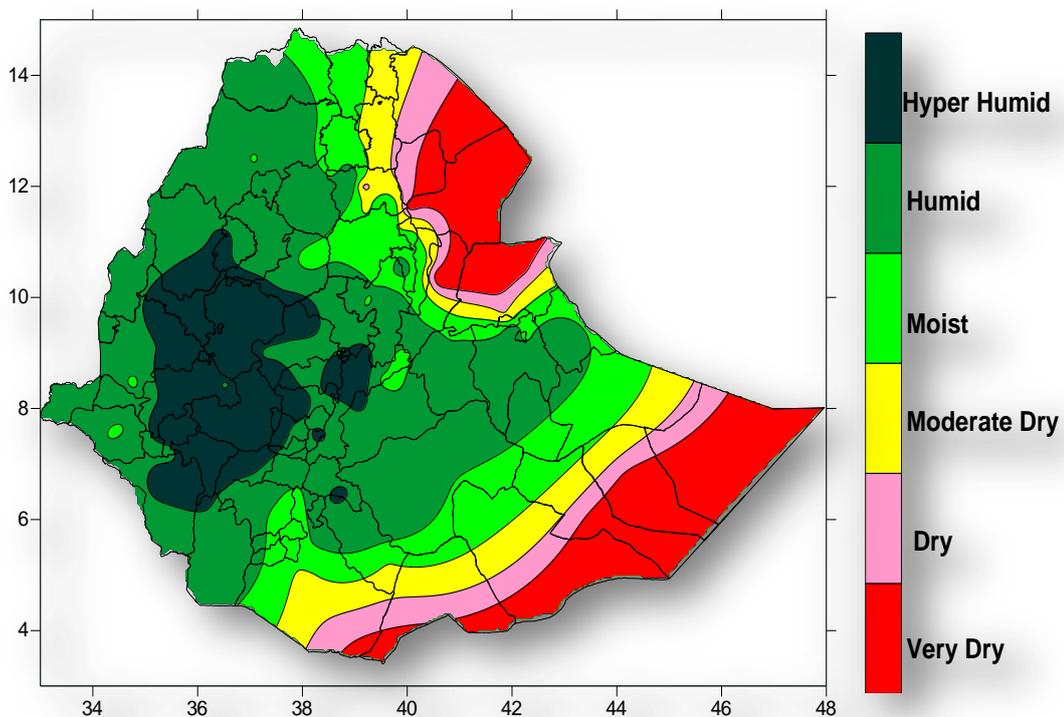


Fig.14. Moisture status for the month of September 2023

### 1.1. Rainfall Amount on Kiremt season 2023

During Kiremt season of 2023 the rainfall distribution was most part of rain benefiting areas received 200-1200 mm rainfall. particularly pocket areas of North and South Gondar, Baher Dar, Kamashi, West and East Wellega, Illibabur, Jimma, Gurage, South West Shewa and Addis Ababa Zones are received 1000-1200mm rainfall. West Tigray, Waghimera, North and South Gondar, North and South Wello, Metkel East Gojjam, Assosa, Tango, Gambella Zone 1,2&3, Sheka, Godere, Keffa, Bench Maji, Basketo South Omo, Dawero, Alaba, Hadiya, Siliti, South West Shewa, Arsi, West Hararghe Zones are Received 200-400 mm rainfall. pocket areas of West, Central and South Tigray, Afar Zone 1,3,4&5 East Hararghe, Jijiga, Fik, Bale, Sidama, Gedo, South Omo, Konso, Amaro, Zones are received 100-200 mm rainfall. On the other hand pocket areas of West, Central, and South Tigray, Afar Zone 1,3 4&5, Shineli, East Hararghe, Jijiga, Degahabur, Fik, Bale, Guji, Borena, Amaro and Konso Zones are received 50-100mm rainfall. The rest part of the country was received 0-25mm rainfall.

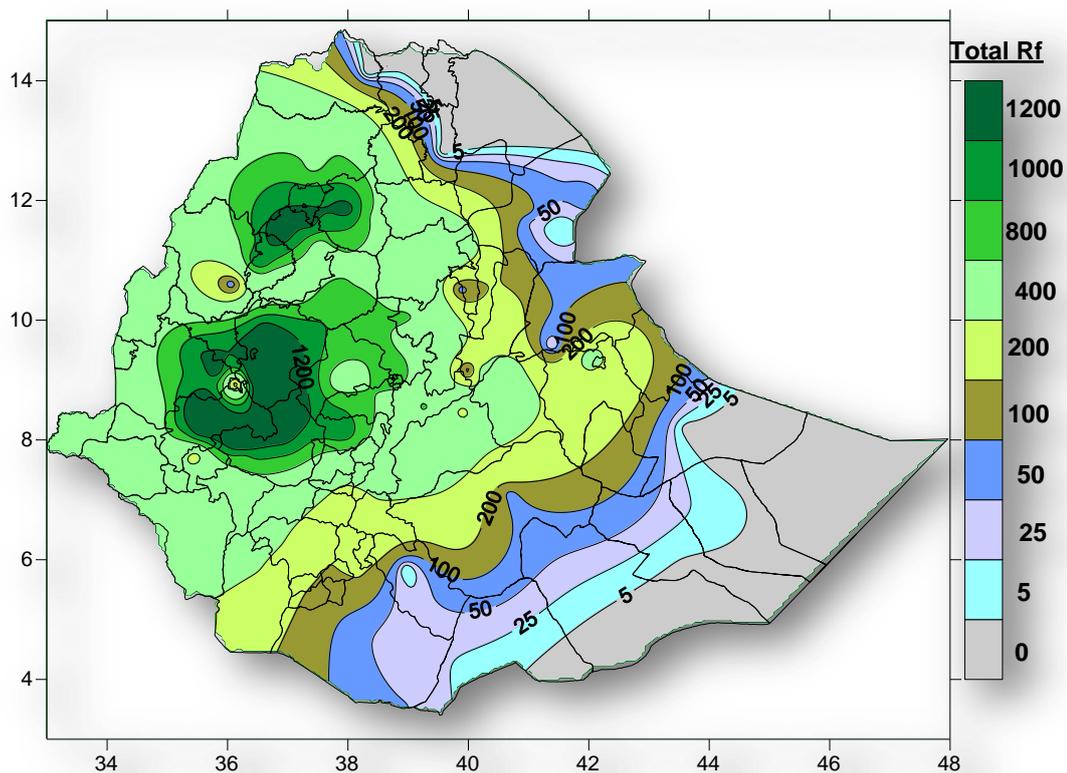


Fig.15. Rainfall amount in mm for Kiremt 2023

## 1.2. Rainfall Anomaly on Kiremt Season 2023

During Kiremt season of 2023 the rainfall anomaly was most part of the country was exhibited Normal rainfall, more over pocket areas of Afar Zone 1&4, Illibabur, Jimma, Arsi, and Bale Zones area exhibited Normal to Above Normal rainfall. The rest part of the country was much below Normal to Below Normal rainfall.

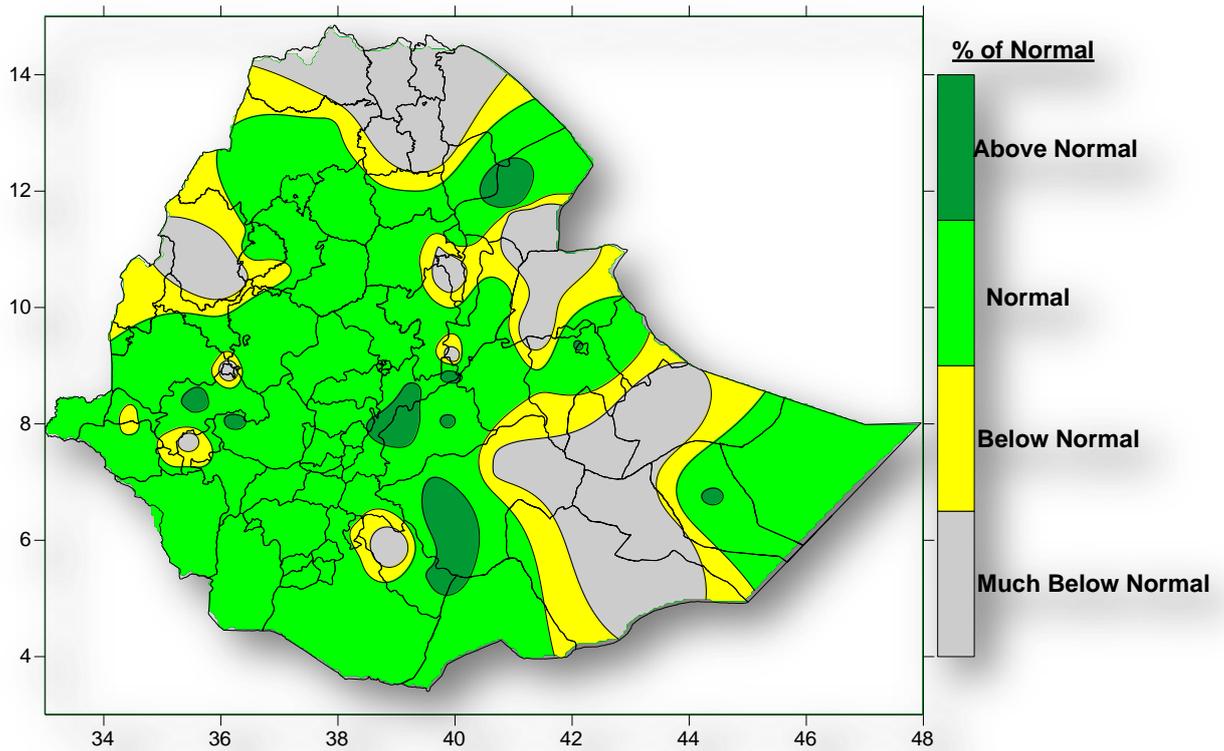


Fig.16. Percent of Normal Rainfall for Kiremt 2023

### 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**

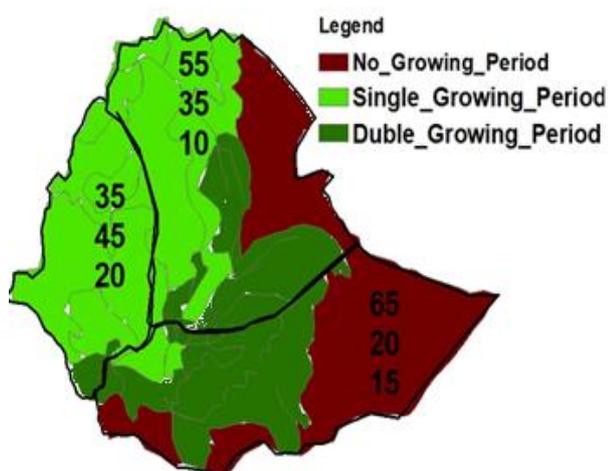
### **2.1. VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING KIREMT 2023**

During Kiremt 202, the observed good moisture condition throughout the months (figure 1 to 4) benefited Meher agricultural activities, availability of pasture and drinking water over especially in the southwest, west and central areas of the country, without considerable the observed Moisture stressed over at the beginning and mid-terms of the season over some areas of central northern, north-eastern, eastern and southern parts of rift valley and the adjoining areas as well as crops affected due to heavy fall in some areas of the country. The computed WRSI (figure.8) for Meher Maize, Sorghum, Barley, Teff and Wheat indicates that Meher rain performed well. It indicates a good prospect for Meher crop production. The range land index based on WRSI (figure.6) and NDVI (figure.5) computed for Meher 2023 month to month shows good improvement except difcited shows months of July and September. The situation was slightly negative impact for availability of pasture and water over eastern and north-eastern pastoral and agro-pastoral areas. Generally with the exception of the observed slight Moisture stressed at over some areas of southern margin, central and eastern part and soil erosion, water logging and land slide as well as the flood affected crops, life and property affected due to heavy fall in some areas the overall situation was favorable for kiremt season's agricultural activities. Finally the overall agricultural condition was good over most parts of Meher growing area with the exception of the observed adverse weather situations over some places.

## 2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING BEGA, 2023\_24 SEASON

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.

### TERCILE BASED AGROMET ADVISORY FOR BEGA (ONDJ) 2023\_24



### IMPLICATION OF THE SEASON:-

- ❖ Positive IOD and El Niño episode projected.
- ❖ Above normal rainfall performance is anticipated to dominate across the south and south-eastern.
- ❖ Early onset of Bega and late cessation will be expected
- ❖ Moreover, heavy rainfall and flash flood is likely to prevail over some pocket areas
- ❖ Much of the northern, north-eastern, eastern and central Ethiopia will have above normal rainfall (unseasonal rainfall).
- ❖ The northwestern parts of the country are anticipated to be dominated normal rainfall (unseasona rainfall).
- ❖ Above-normal to slightly near-normal temperature expected over the eastern, central and south eastern
- ❖ The southwestern and western portions of the country dominantly will receive normal rainfall with occasional heavy rainfall pattern.

The indicated good moisture status, Rainfall Anomaly, SPI and increase in vegetation cover and Rangeland index based on WRSI on the selected analogue years particularly on the month of October and November expected to favour Bega season agricultural activities. The situation confirmed by seasonal probabilistic forecast in view of the prevailing and projected climate scenarios relatively wet Bega season is anticipated to dominate much of the country in ONDJ 2023/24

The expected Normal to above normal rainfall over southern and south-eastern Ethiopia where Bega is their second rainy season would have positive impact on regenerating pasture and the availability of drinking water and crop performance of agro pastoral areas as well. Therefore, proper input should be utilized to take advantage of the relatively better

condition. The expected early onset and late cessation will be favorable Bega season agricultural activities.

The expected Above Normal tending to Normal rainfall activity is anticipated across most of Meher crop producing area expected to favour the existing Meher crops were not yet fully matured and late sown pulses and oil seeds using residual moisture obtained during October over highlands.

The expected occasional Unseasonal rain to prevail over Northern half Meher producing areas of the country over seasonally dry sectors in areas where crops are ready to harvest of the country would have negative impact on harvest and post-harvest activities. Thus, harvest and post-harvest activities should be undertaken on time in order to avoid unnecessary harvest and post-harvest loses.

The extended rainfall during October could be positive for lately sowing crops to the northern, north western, eastern and the central parts of the country. In addition to this the extended wet condition would favour flood affected areas where replanting of the crops has been going on recently.

However, the extended rainfall was negatively affected fully matured crops in some pocket areas especially lowland parts to the western and western half of the country. Moreover, the expected unseasonable rainfall would favour the occurrence of crop pests and disease. Therefore, farmers are advised properly and regularly visit their farm fields for monitoring pest and diseases for proper precaution should be undertaken ahead of time to minimize loses.

The occurrence of moist air and cloud coverage will expect the anticipated less likely occurrence of frost over frost prone areas would create favorable condition for the normal growth and development of plants in the area.

Last but not least the onset, distribution and cessation of season's rainfall are very important in terms of agricultural activities. Thus, users should interpret the weather forecast in terms of their area of interest and the existing condition of the specific area.

### **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.

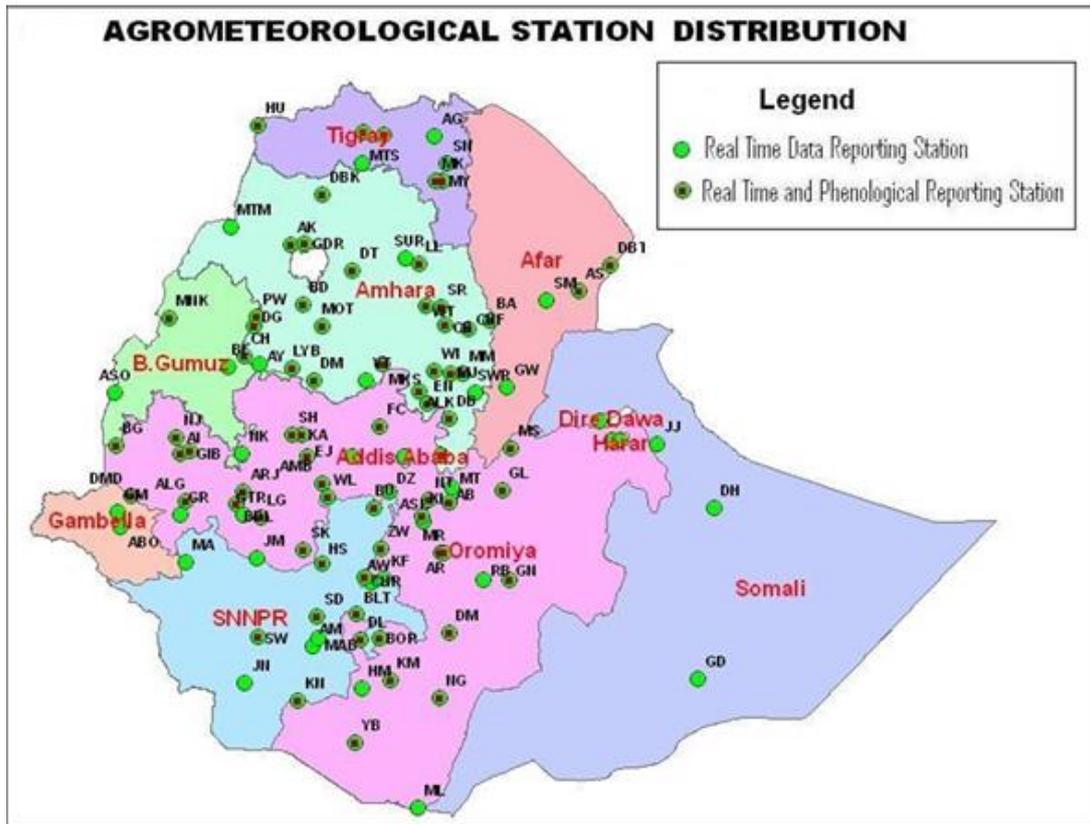
**DEKAD:** - First or second ten days or the remaining days of a month.

**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	Woreilu	WI
Bedelle	BDL	Gonder	GDR	Merraro	MR	Yabello	YB
BUI	BU	Gore	GR	Metehara	MT	Ziway	ZW
Combolcha	CB	H/Mariam	HM	Metema	MTM		
D. Berehan	DB	Harer	HR	Mieso	MS		
D. Habour	DH	Holleta	HL	Moyale	ML		