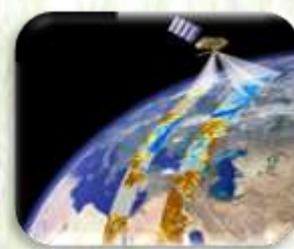


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Agrometeorological Bulletin

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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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አሀፅሮት

እ.ኤ.አ ክረምት 2020

የክረምት ወቅት ዝናብ በሚያዚያና በግንቦት ወር ለሚዘፋት የረዥም ጊዜ ሰብሎች የውሃ ፍላጎት የሚኖረው አስተዋፅዖ ከፍተኛ ሲሆን በበጋው ወቅት እድገታቸውን ለሚያጠናቅቁ የመኸር አዝርዕቶች ያለው ጠቀሜታ ከፍተኛ ነው። በተጨማሪ ከክረምቱ ዝናብ ባሻገር የበልግ ወቅት ዝናብ በተለይም በሚያዚያና በግንቦት ወር የሚኖረው የዝናብ በመጠንም ሆነ በስርጭት ረገድ ለረዥም ጊዜ ለሚደርሱ እንደ በቆሎና ማሽላ ላሉት አዝርዕቶች የዕድገት ሁኔታ አስተዋፅዖ የጎላ ነው።

እ.ኤ.አ በጁን ወር 2020 ለክረምት ዝናብ መኖር አመቺ ሁኔታን የሚፈጥሩ የአየር ሁኔታ ክስተቶች መደበኛውን ፈር ተከትለው የጀመሩ ከመሆናቸው ጋር በተያያዘ የዝናቡ ስርጭትና መጠን አብዛኛው የክረምት ዝናብ ተጠቃሚ አካባቢዎችን ያደረሰ ነበር። ይህም የተገኘው ዝናብ የአፈርን እርጥበት ያሻሻላ ሲሆን ከጁን ጀምሮ የዘር ጊዜና የማሳ ዝግጅት በሚካሄድባቸው አካባቢዎች በወቅቱ ለመዝራት አመቺ ሁኔታ ፈጥሯል፤ አስቀድሞው ተዘርተው በተለያየ የእድገት ደረጃ ላይ ለሚገኙ የመኸር ሰብሎች የውኃ ፍላጎታቸውን ከማሟላት አንፃር በተለይም ከኤፕሪል ጀምሮ ቀደም ብለው ለተዘሩ እንደ በቆሎና ማሽላ ለመሳሰሉ የረጅም ጊዜ የመኸር ሰብሎች በተሟላ ሁኔታ እንዲያድጉ የጎላ አስተዋፅዖ ነበረው። በሌላ በኩል በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች የነበረው አነስተኛ እርጥበት ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት አዎንታዊ ሚና ነበረው። በአንዳንድ አካባቢዎች ላይ የነበረው ከባድ ዝናብ እንዲሁም ባላለፍናቸው ቀናት በተከታታይ ዝናብ በማግኘት ላይ በሚገኙ ቦታዎች ላይ የአፈር ውስጥ እርጥበት መብዛት እና በአንዳንድ ቦታዎች ላይ ለወንዝ መሙላትና ለጎርፍ ተጋላጭ በሆኑ አካባቢዎች ላይ ለጎርፍ መከሰት ምክንያት ሆኖ ነበር። እንደሁም በብልግ አብቃይ አካባቢዎች ላይ የነበረው ደረቅ ሁኔታ የደረሱ የበልግ ሰብሎችን ለመሰብሰብ ጥሩ አስተዋጽኦ ነበረው።

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ዝናብ የአፈርን እርጥበት ከማሻሻልም አልፎ ከጁላይ ጀምሮ ለሚዘሩ የተለያዩ የመካከለኛ ጊዜ ሰብሎች የማሳ ዝግጅት ለማከናወንና በታቀደዉ መሰረት የግብርና እንቅስቃሴን ለማከናወን አመቺ ሁኔታ የነበረው ሲሆን፤ አስቀድሞው ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች የውኃ ፍላጎታቸውን ከሚሟላት አንፃር የጎላ ሚና ከመኖሩም በላይ ከኤፕሪል ጀምሮ ቀደም ብለው ለተዘሩ እንደ በቆሎና ማሽላ ለመሳሰሉ የረጅም ጊዜ የመኸር ሰብሎች እንዲሁም ለተለያዩ ቋሚ ተክሎች በተሟላ ሁኔታ እንዲያድጉ የጎላ አስተዋፅዖ ነበረው። ከዚህ በተጨማሪ በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች የነበረው የእርጥበት ሁኔታ ለግጥሽ ሳርና ለመጠጥ ውኃ አቅርቦት አዎንታዊ አስተዋፅዖ ከማበርከቱም በላይ ሰው ሰራሽም ሆነ የተፈጥሮ ምንጮችን ከማጎልበት አንፃር አዎንታዊ ሚና ነበረው። በአንፃሩ በአንዳንድ አካባቢዎች ላይ የነበረው ከባድ ዝናብ እንዲሁም ባሳለፍናቸው 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 ሲሆን በአንዳንድ አካባቢዎች ላይ የነበረው ከንፋስ ጋር የተቀላቀለ ከባድ ዝናብ ለመጥቀስም ያህል በባህርዳር፣ በቴፒ በአብዛኛው ምዕራብና ሰሜን ምዕራብ የተከሰተው ጎርፍ በተለያዩ ሰብሎች እና በንብረት ላይ ጉዳት እንዳስከተለ የደረሰን መረጃ ያመለክታል። በተጨማሪም በመደበኛ ባህሪያቸው በእርጥበት መብዛት በሚታወቁ ሰፍራዎች ላይ ተከታታይነት የነበረው እርጥበታማ ሁኔታ በሰብል ማሳዎች ላይ የውሃ መተኛት ያስከተለ ሲሆን ይህም ሁኔታ እየተከናወነ በሚገኘው የእርሻ ስራ እንቅስቃሴ ላይ መጠነኛ የሆነ አሉታዊ ጎን ነበረው።

እ.ኤ.አ በኦገስት ወር 2020 ለወቅቱ ዝናብ መኖር አመቺ የሆኑት የአየር ሁኔታ ክስተቶች ከመጠናከራቸው ጋር ተያይዞ የክረምት ዝናብ ተጠቃሚና የመኸር ሰብል አብቃይ በሆኑ የሀገሪቱ አካባቢዎች ላይ በመጠንም ሆነ በሥርጭት ረገድ ጥሩ የእርጥበት ሁኔታ ነበራቸዉ። ይህም ሁኔታ የአፈርን እርጥበት ከማሻሻል እንዲሁም ተክሎች የሚያስፈልጋቸውን ውኃ 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 በክረምት ወቅት ተዘርተው በቡቃያና በተለያዩ የእድገት ደረጃ ላይ ላሉት እንደ ስንዴ፣ ገብስ፣ አጃ እና ጤፍ ለመሳሰሉት የብርዕ ሰብሎች፣ የጥራጥሬ እህሎችና የቅባት እህሎች እንዲሁም ለቋሚ ተክሎች የዉሃ ፍላጎት መሟላት ምቹ ሁኔታን ከመፍጠሩም በተጨማሪም ለአርብቶ አደሩና ከፊል አርብቶ አደሩ አካባቢዎች ለመጠጥ ውሃና

ለግጦሽ ሳር አቅርቦት መሟላት በጎ ጎን ነበረው። በተጨማሪም በተከታታይ ዝናብ በማግኘት ላይ በነበሩ በአንዳንድ የአገሪቱ አካባቢዎች ላይ ከባድ ዝናብ የነበረ ሲሆን፤ በዚህም ምክንያት የመሬት መንሸራተት፣ በተለያዩ የእድገት ደረጃ ላይ ባሉ ሰብሎች የአፈር ውስጥ እርጥበት መብዛትና ቅጽበታዊ ጎርፍ በተወሰኑ ቦታዎች በመከሰቱ በተለያዩ የእድገት ደረጃዎች ላይ ባሉ ሰብሎች፣ በአፈር ጥበቃ ሥራ እንዲሁም በሰው እና በንብረት ላይ መጠነኛ ጉዳት ነበረው። በአንጻሩ የተሰበሰቡ መረጃዎች እንደሚያመለክቱት የነበረው ከባድ ዝናብ በአንዳንድ የሰሜን ምዕራብ፣ በመካከለኛውና በምስራቅ የሀገሪቱ አካባቢዎች ላይ የመሬት መደርመስና ወንዞች መሙላት በመከሰቱ በሰብሎች፣ በሰዎች እና በእንስሳት እንዲሁም በንብረት ላይ ጉዳት አድርጏል። በአጠቃላይ በዚህ ወር የተገኘው እርጥበት ቀደም ባሉት ጊዜ የእርጥበት እጥረት ለነበረባቸው ቆላማ የአገሪቱ አካባቢዎች ላይ ለሚኖሩት አርብቶ አደርና ከፊል አርብቶ አደሩ አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት ጥሩ አስተዋፅኦ ነበረው።

እ.ኤ.አ በሴፕቴምበር ወር 2020 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 ውኃ ከማግኘት አንጻር ገንቢ ሚና ነበረው። በተጨማሪ በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች የነበረው የእርጥበት ሁኔታ ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት አዎንታዊ አስተዋፅኦ ከማበርከቱም በላይ ሰው ሰራሽም ሆነ የተፈጥሮ ምንጮችን ከማጎልበት አንጻር አዎንታዊ ሚና ነበረው። እንዲሁም ቀስ በቀስ በተለይም የመጨረሻዎቹ አስር ቀናት ላይ ወደ ደቡብና ደቡብ ምስራቅ አካባቢዎች ላይ የተስፋፋው የእርጥበት ሁኔታ በደጋማው አካባቢ የማሳ ዝግጅት ለማከናወንና የግጦሽ ሳርና የመጠጥ ውኃ 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 ሆነ እንደፈንገስ ላሉ የሰብል በሽታዎች መከሰት ምቹ ሁኔታን የፈጠረ ነበር።

በአጠቃላይ እ.ኤ.አ ክረምት 2020 በግብርና እንቅስቃሴ ላይ የነበረውን ሁኔታ ስንመለከት ከኤፕሪልና ሜይ ወራት ጀምሮ ባለፉት የክረምት ወራት የክረምት ዝናብ ሰጪ ክሰተቶች በአብዛኛዎቹ ክረምት ተጠቃሚ የአገሪቱ ክፍሎች ላይ በተስፋፋ ሁኔታ በመቀጠላቸው በተለየዩ አካባቢዎች ላይ በመጠንና በስርጭት የተስተካከለ የእርጥበት ሁኔታ ነበር። ይህም የተገኘው እርጥበት የረጅም ጊዜ ሰብሎችን (በቆሎና ማሽላ) ጨምሮ በመኸር ሰብሎች ላይ አዎንታዊ ሚና ነበረው። በተጨማሪም በአገሪቱ አርብቶ አደርና ከፊል አርብቶ አደሮች አካባቢ ላይ የነበረው የእርጥበት ሁኔታ ለግጦሽ ሣርና ለመጠጥ ውሀ አቅርቦት ጥሩ አስተዋፅኦ ነበረው። በክረምት ወቅት የነበረው የእርጥበት ሁኔታ በመጠንና በስርጭት የክረምት ዝናብ ተጠቃሚ በሆኑ አካባቢዎች የእርጥበት መብዛት ከታየባቸው አካባቢዎች በስተቀር የአዝርኦትን የውሀ መጠን ፍላጎት በማሟላት በኩል ምቹ ሁኔታ የፈጠረ ነበር። በሌላ በኩል አልፎ አልፎ በአንዳንድ መኸር አብቃይ አካባቢዎች ከባድ ዝናብ ተስተውሏል፤ ከዚህም ጋር በተያያዘ በአንዳንድ ስፍራዎች በሰብሎች ማሣ ላይ የውሃ መተኛት ችግር አስከትሏል። እንዲሁም የነበረው ከፍተኛ እርጥበት ለአረም መስፋፋት ምቹ ሁኔታ ነበረው። በአጠቃላይ የክረምት 2020 ወቅት የዝናብ መጠንና ስርጭት በግብርናው ላይ የነበረውን ሁኔታ ስንመለከት ለአብዛኛው የመኸር ሰብሎችና አጠቃላይ የእርሻ ሥራ እንቅስቃሴ በቂና አመቺ ሁኔታ ነበረው።

SUMMARY

Kiremt 2020

Kiremt is the season that fulfils 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 2020 rain bearing meteorological phenomena was strengthening in amount and distribution over much of Meher season crop growing areas of the country. This situation might have positive impact toward improving soil moisture which was good for land preparation as well as planting of various crops during June. The condition was also favourable for both early planted Belg season crops and Meher season crops such as Maize and Sorghum, which were planted during April and May. In addition to that the received some amount of rain over the pastoralist and agro pastoralist community might be positive for ensuring the availability of pasture and drinking water. . On the other hand, areas which have been receiving rainfall in continuous manner experienced excess soil moisture which might lead to water logging and runoff. Further, the reported locally heavy falls might enhance the occurrence of flood and soil erosion (see Figure 1).

During the month of July 2020, due to the relative strength of rain bearing meteorological systems over most of Meher season crop growing and much of Kiremt rain benefiting areas have experienced good moisture in amount and distribution. This condition might be favourable to satisfy daily crop water requirement for various early planted Meher season crops as well as perennial plants. Moreover, this moisture might facilitate land preparation and sowing of cereals (Teff, wheat and barley), pulse (beans, peas and haricot beans) and oil seeds, further growth of early planted Meher crops and improved water resources, soil moisture reservoirs and the advancement of moisture toward the north-eastern and eastern part of the country could give an opportunity to collect and store rain water for areas often deal with moisture stress problem. The condition also might have positive implication to enhance the soil moisture availability and hereby it could satisfy water need of crops which are found at different growing stage. On the other hand, some areas experienced heavy fall ranging from 58.9 to 119.0 mm of rain within 24 hours also areas which have been receiving

rainfall in continuous manner was created excess soil moisture which might lead to Water logging and runoff further, according to the field report, some places like Bahir dar, Tepi, much of western and north-western parts have experienced heavy fall with hail and consequently certain level of damage were observed on crops, properties and human life (see Figure 2).

During the month of August 2020, a meteorological weather phenomenon was strengthening in amount and coverage over most part of Kiremt rain benefiting and Meher growing areas of the country. In line with this, Tigray, Amhara, Benshangul-Gumuze, Gambela, SNNPR, Sidama, western and central Oromia, southern high lands, eastern parts of the country, Afar, Harer, Dire Dawa and northern Somali received slight to heavy rainfall. This situation could have 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), pulses (beans, peas and haricot beans) and oil crops perennial plant as well as it improved pasture and drinking water availability over pastoral and agro pastoral areas of the country. On the other hand, during the month under review, extreme heavy fall were reported in many places from different weather stations in one rainy day over Arsi robe 60.8 mm, Addis Ababa 39.8, 40.0 & 36.1 mm, Adawa 39.0, 46.0 mm, Ayira 44.2 & 59.4 mm, Asosa 34.5 mm, Ayikel 35.1 mm, Ambamariam 73.6 & 35.2 mm, Atsibi 49.0 & 63.0 mm, Aider 52.5 mm, Awash Arba 35.0 & 37 mm, Bahirdar 77.0 & 39.2 mm, Bedele 41.7 & 39.6 mm, Bui 41.0 & 31.9 mm, Bore 43.0 & 43.1 mm, Chira 56.8 mm, Kombolcha 48.9 mm, Dangla 45.7 mm, Gambela 67.6 & 43.4 mm, Gonder 36.4 & 33.9 mm, Hareri 39.4 & 39.9 mm, Jijiga 40.9 mm, Jimma 47.5 & 36.5 mm, Masha 45.0 mm, Metema 34.6 mm, Mayitsemri 33.1 & 58.1 mm, Aman 63.8 & 40.0 mm, Tercha 55.5 mm and Dedesa 54.8, 77.3 & 111.5 mm . The observed continuous and high humid moisture condition might have cause soil erosion and water logging particularly where land is sloppy and in areas where normally affected by excess moisture. The received heavy rainfall over some place of Afar, Jigjiga and south Gonder it occurred flood and land slide cause of heavy fall, it affected crops, life and property (See Figure 3).

During the month of September 2020, rain bearing meteorological systems showed relative continues over most of Meher season crop growing as well as Kiremt rain benefiting areas including, Tigray, Amhara, Afar, Benishangul, Gambella, SNNPR, Sidama, west and central Oromia, Sothern Highland areas, Eastern Ethiopia, Harari, Dire Dawa and the northern and southern section of Somali region received little to Heavy rainfall. However, during the last

dekade of the month enhanced moisture was exhibited in more intense and large spatial coverage over the southern and south eastern section of the country. During the month under review, heavy fall was reported from large number of agro meteorological stations in the range of 30 to 88.7mm. Among the observing stations some were reporting rainfall in a single day Addis Ababa 37.4 mm, Abobo 31.4 mm, Adwa 45.5 mm, Ayira 53.6 mm, Haromaya 31.3 mm, Alige 47.7 mm, Arjo56.4 mm, Arbaminch 41.1mm, Asosa 41.6 mm, Ayikel 46.9 mm, Bahirdar 124.6 mm, Bulen 34.3 mm, Bilate 30.9 mm, Bore 33.9 mm, Debretabor 35.9 mm, Debark 44.0 mm, Ejaji 37.1 mm, Gambela 50.1 mm, Gatira 81.6 mm, Gewani 30.9 mm, Giner 31.0 mm, Gonder 61.8 mm, Jinka 44.2 mm, Majete 30.5 mm, Masha 65.5 mm, Metema 60.0 mm, Motta 58.1 mm, Nejo 63.1 mm, Pawi 57.2 mm, Semera 53.8 mm, Shire 86.0 mm, SirbAbay 50.4 mm, Batu 43.7 mm, Lare 137.0 mm and Chewaka 70.0 mm. Looking into spatially analyzed moisture index map (Figure 4) moist to humid condition was prevailing over much of the kiremt benefiting areas of the country. This condition might be favourable to satisfy daily crop water requirement for various early planted Meher season crops as well as perennial plants. The received enhanced moisture over the pastoral and agro pastoral community might play crucial role toward improving the availability of pasture and drinking water and significantly important to regenerate natural and artificial ponds. The excessive moisture due to continuity of rainfall over areas which are characterized as normally wet might lead to water logging and might affect the overall performance Meher season crops. Further, the reported locally heavy falls might enhance the occurrence of flood which could damage crops found at various stages (See Figure 4).

During Kiremt 2020, the observed good moisture condition throughout the months benefited Meher agricultural activities, availability of pasture and drinking water over pastoral and agro-pastoral areas, without considerable slightly water logging observed parts of the country. The computed WRSI for Meher Maize, Barley, Teff and Wheat indicates that Meher rain performed well. It indicates a good prospect for good Meher crop production. The range land index based on WRSI and NDVI computed for Meher 2020 month to month shows good improvement. The situation was highly favourable for availability of pasture and water over pastoral and agro-pastoral areas. Generally with the exception of the observed slight water logging and crops affected due to heavy fall in some areas the overall situation was favourable for season's agricultural activities.

On the other hand adverse weather was observed in June heavy fall with hail was occurred over Gatira it impacted on crops and property and Over Jinka in relation to heavy fall and

flood it impacted on property. During the month of July in Bahirdar in relation to heavy fall with strong wind it impacted on maize crops and plants, Over Tepi (114.8mm) in relation to heavy fall and flood it damages on property and peoples are migrating, Over Awi, north Gonder and east Gojam in relation to heavy fall and flood slightly negative impact on crops and property and Over south Gonder (Fogera) occurred Ribe and Gummer river over flow it impacts on crops and property, where as in the month of August in Gidayina in relation to heavy fall and flood it impacted on crops and property and over Jijiga flash flood it impacts property, over Bale zone, Robe, Goba and Sinana woreda in relation to heavy fall occurred water logging which has been slightly affecting wheat crops. In the Month of July and August Rainfall with hailstorm Affected different crops in Chira, Bedele and Gatira & Over Arjo rainfall with hailstorm occurred flood, soil erosion and land slide, Over south Gonder zone, Fogera and Limokemekem woreda in relation to heavy fall and flood it impacted on crops, life and property. On the month of September in Bahirdar, Alemketema & Bure in relation to heavy fall and flood it impacted on crops and property. Reported in NMA station

Generally with the exception of the slightly water logging and crops affected due to heavy fall in some areas the overall situation was favourable for kiremt season's agricultural activities. The observed rainfall condition was good over most parts of Meher growing area with the exception of the observed adverse weather situations over some places.

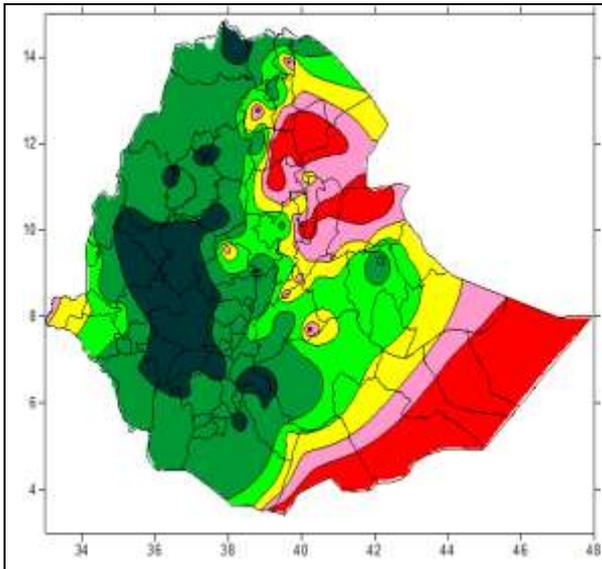


Figure 1. Moisture status for the month of June 2020

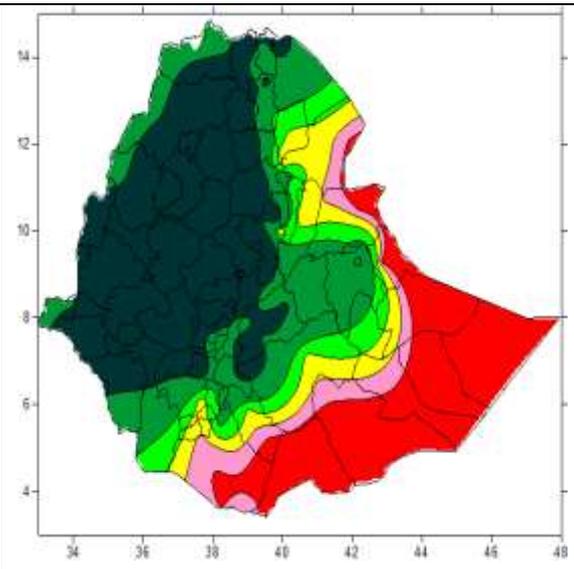


Figure 2. Moisture status for the month of July 2020

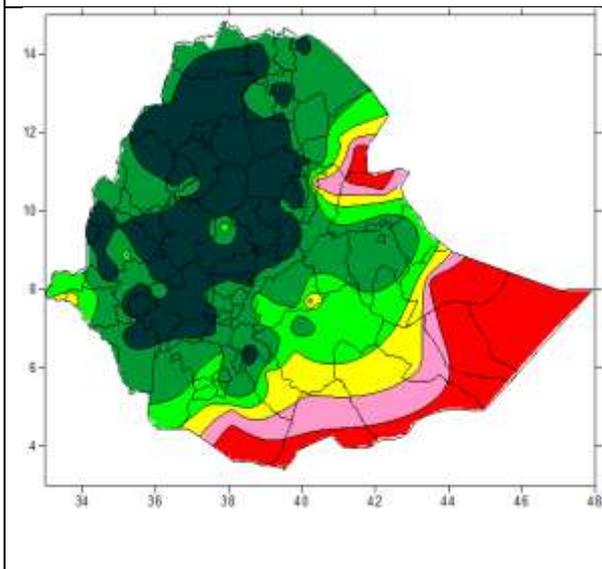


Figure 3. Moisture status for the month of August 2020

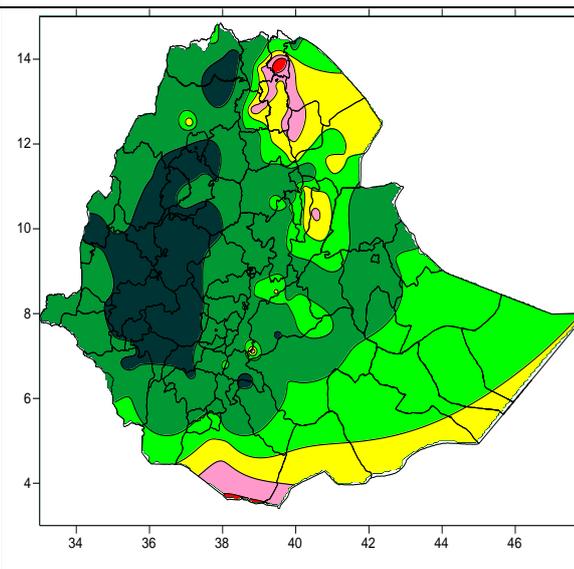
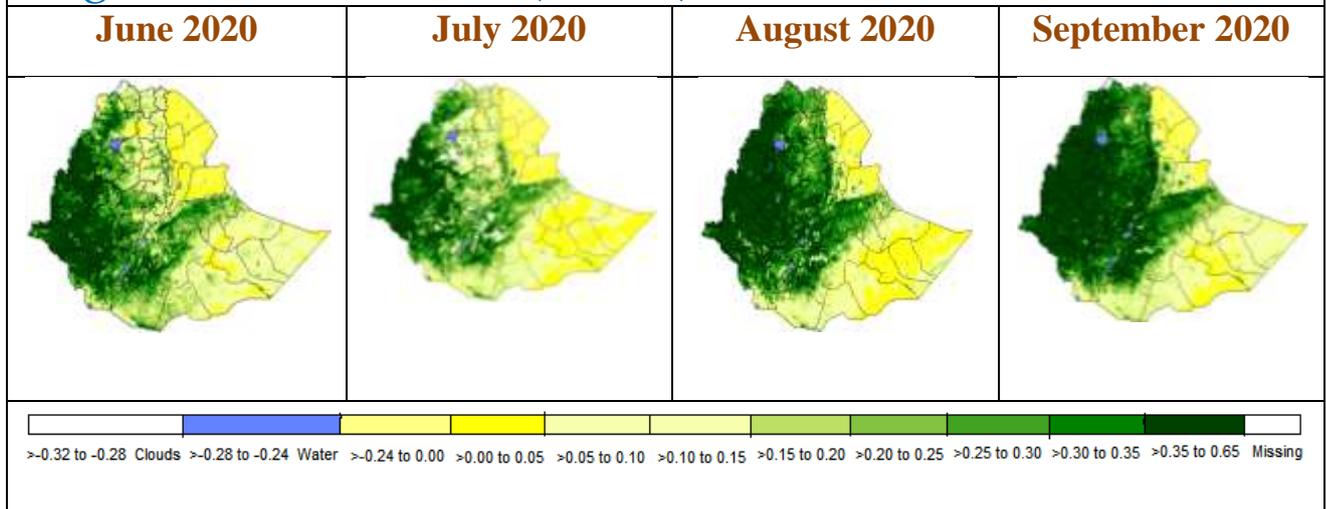


Figure 4. Moisture status for the month of September 2020

Vegetation Greenness (NDVI) in fraction Kiremt 2020



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

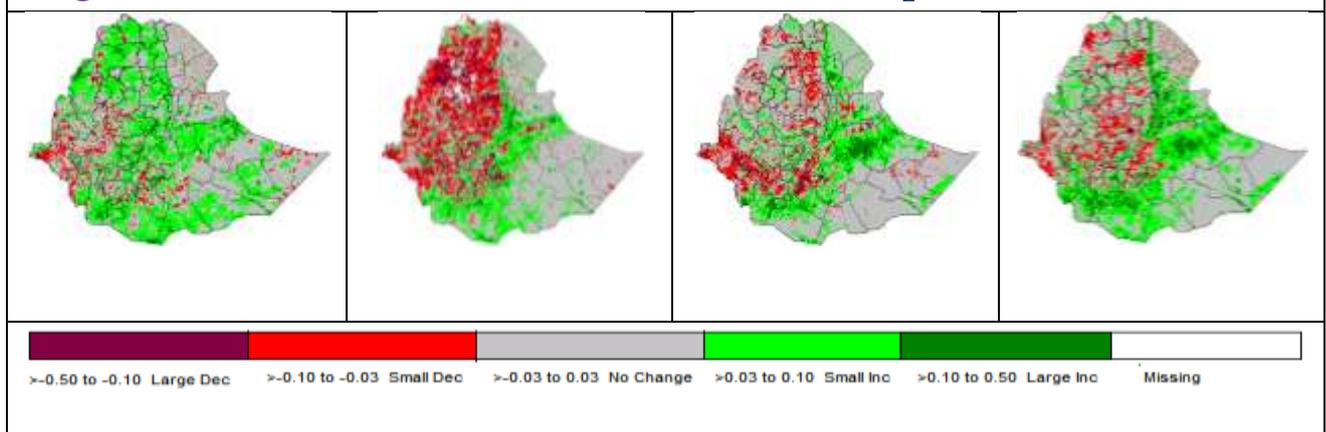


Fig. 5. Vegetation Greenness (NDVI) in fraction and Compared to Normal Kiremt (June-September) 2020

Rangeland WRSI in % - Kiremt2020

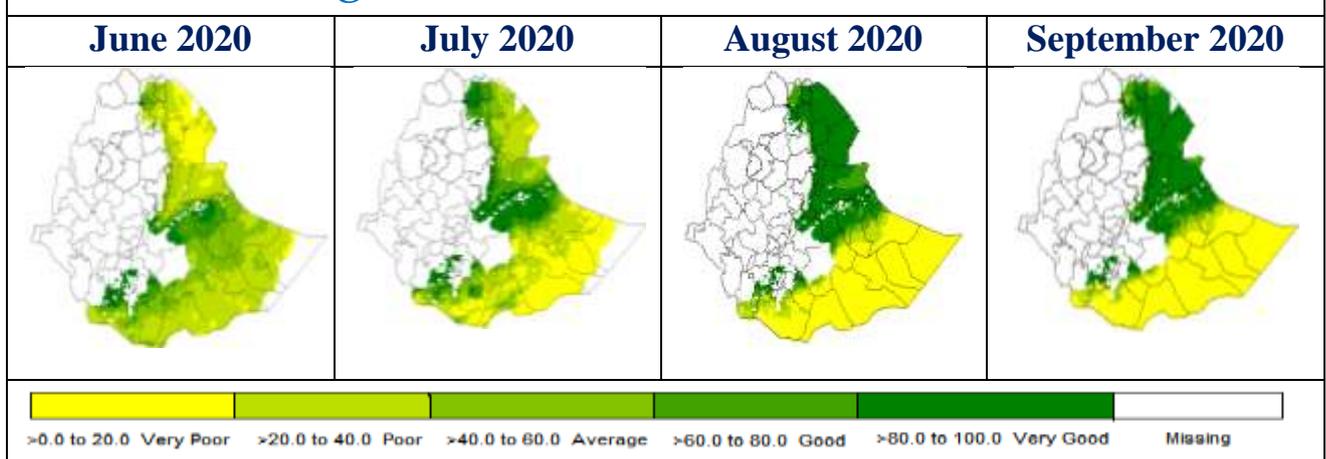


Fig.6. Rangeland WRSI in % Kiremt (June- September) 2020

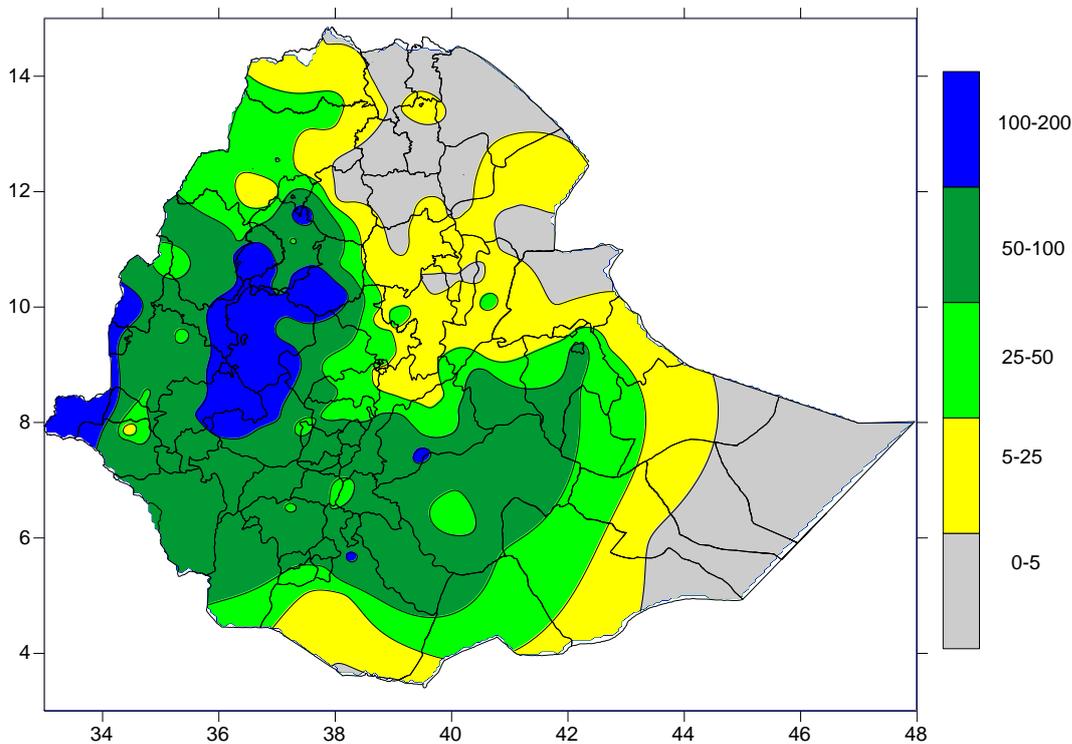


Fig 7. Rainfall distribution in mm (21 – 30) September 2020

1. WEATHER ASSESSMENT

1.1. Rainfall amount (21 – 30) September 2020

During September third 2020 south Gonder, Agew-Awi, Kamashi, east Wellega, west Shewa, Illubabur, Tongo and Gambela zone 3 & 2 received 100-200mm of rainfall. south Gonder, Bahir Dar, west and east Wellega, Illubabur, Gambela zone 1&2, Sheka, Godere, Keffa, Bench Maji, Dawero, Basketo, Gamo gofa, South Omo, Derashe, Gedeo, Guji, KT, YEM, Jimma, Hadiya, Selti, Alaba, Arsi, Bale, east and west Harergie and Harer received 50 -100 mm of rainfall. South and east Gonder, south west and west Shewa, Addis Ababa zone, Gurage, Arsi, Konso, Burji, Amaro, Bale, Liben, Afder, Gode, Fik, Harer, east and west Harergie and Deghabur received 25-50 mm of rainfall. west and central Tigray, north and south Gonder, south Wollo, Oromia especial zone, Afar zone 1,3 & 5, Jijiga, Deghabur, Korrahe, Gode, Afder, Liben & Borena received 5-25 mm of rainfall. The rest parts of the country exhibited 0-5 amount of rainfall.

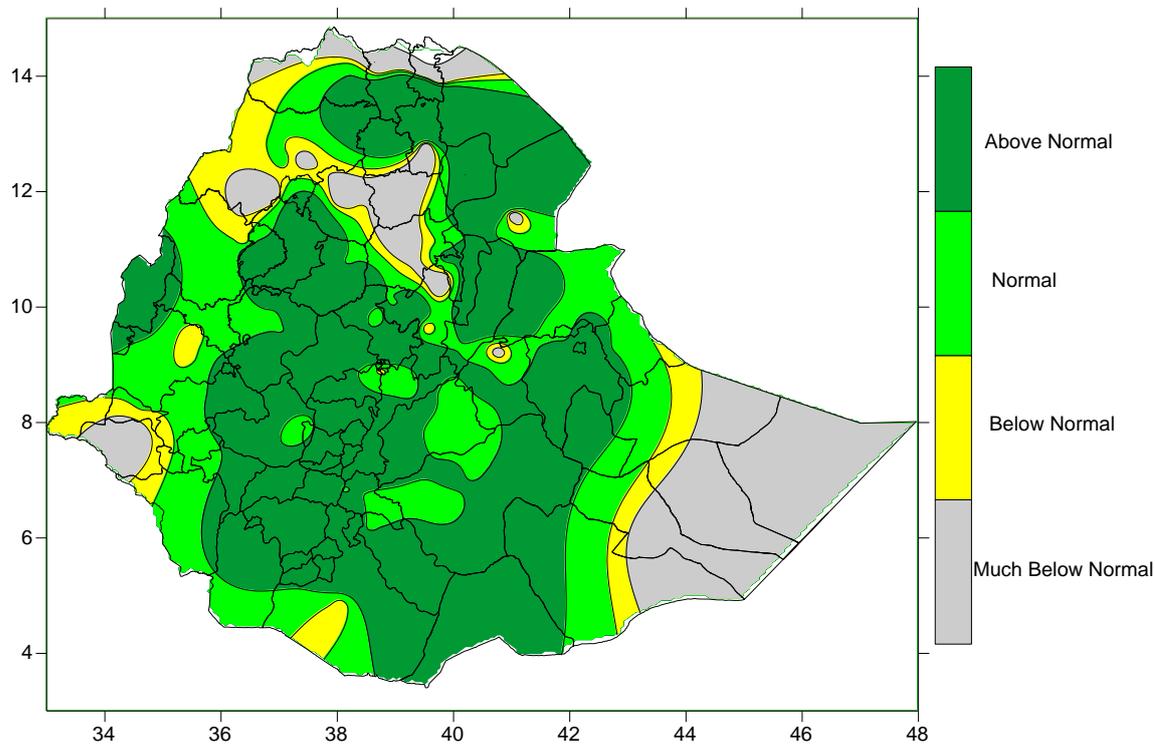


Fig. 8. Percent of normal rainfall distribution (21 – 30 September 2020)

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) September 2020

Most parts of the country exhibited normal to above normal rainfall except tip area of west and east Tigray, north and south Gonder, north and south Wollo, Oromia especial zone, Gambela zone 1, 2 &3, Borena, Deghabur, Gode, Korahe and Warder has exhibited below to much below normal rainfall.

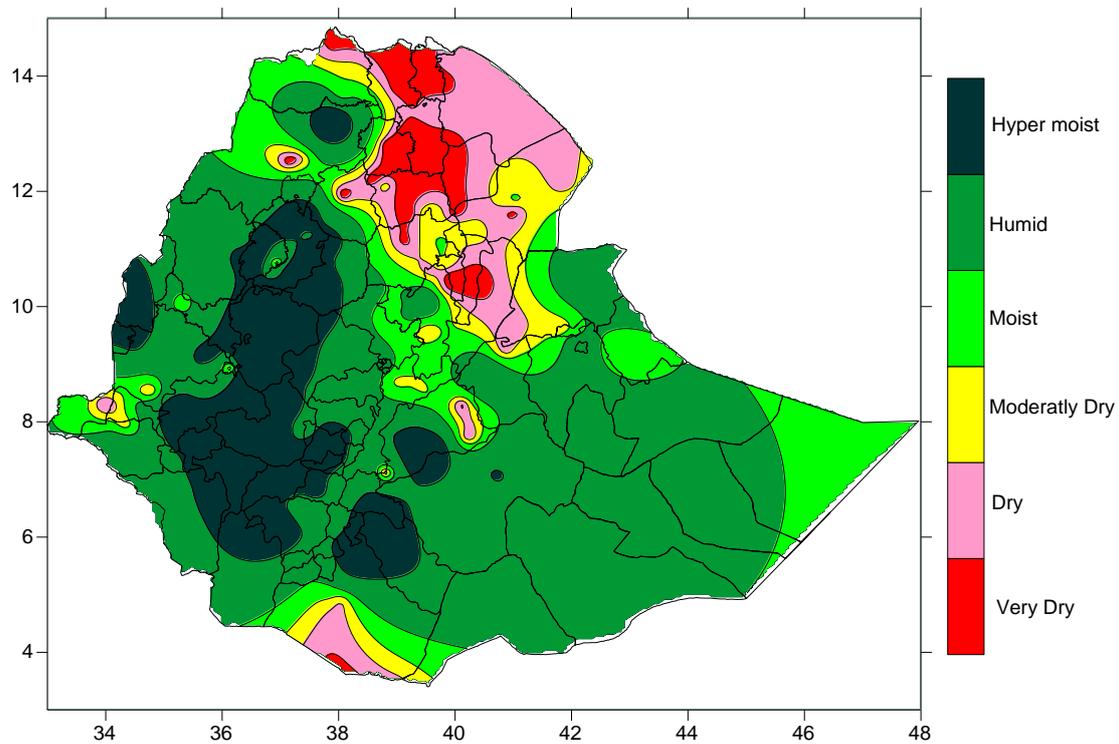


Fig.9. Moisture Status (21-31 September 2020)

1.3. Moisture status (21 – 30) September 2020

During the third dekad of September 2020, Bahirdar, west Gojam, Agew, east Wellega, Illubabur, Jimma, Sheka, Keffa, Dawuro, Welayita, Basketo, Gedeo, Guji, Tongo and Assosa exhibited Hyper moist moisture conditions. Over west Tigray, north Gonder, Metekel, Kamashi, east Gojam, west Wellega, Gambela zone 2, Godere, Bench Maji, south Omo, Konso, Drashe, Burji, Amaro, Gamogofa, Sidama, Silte, Yem, Gurage, south west Shewa, west Shewa, east Shewa, Arsi, Bale, Addis Ababa, west & east Harergie, Harer, Shinile, Jijiga, Fik, Deghabur, Gode, Koraha, Afder and Liben exhibited Humid to Moist moisture condition. The rest parts of the countries exhibited moderately dry to very dry.

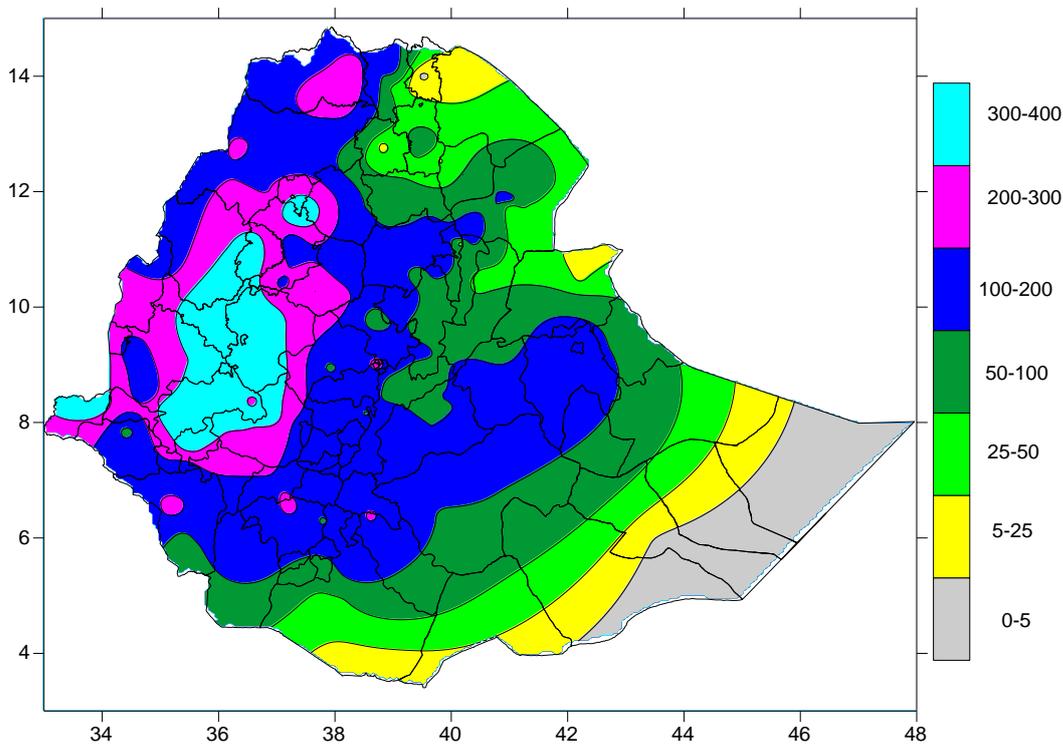


Fig. 10. Rainfall amount in mm for the month of September 2020

1.4. Rainfall amount on the month of September 2020

During September 2020, over south Gonder, Agew-Awi, east and west Wellega, Illubabur, Sheka, Jimma and Gambela zone received 300-400 mm of rainfall. West Tigray north Gonder, Metekel, Assosa, Tongo, west and east Wellega, Gambela 1 & 3, Godere, Keffa, west and north Shewa and Jimma received 200-300 mm of rainfall. west and central Tigray, north & south Gonder, west & east Gojam, south Wollo, Oromia especial zone, Metekel, north, west and south west Shewa, Addis Ababa zone, Gurage, YEM, KT, Hadiya, Selti, Alaba, Dawuro, Welayita, Sidama, Gambela zone 2, Bench Maji, Basketo, Gedeo, Derashe, South Omo, Guji, Bale, Arsi, west and east Harergie and Harer received 100-200 mm of rainfall. east, south and central Tigray, north Wollo, Afar zone 1, 4, 5 & 3, south west Shewa, Arsi, Shinille, Jijiga, Deghabur, Konso, Burji, Amaro, Guji, Bale, Liben, Afder, Fik and Gode received 50-100 mm of rainfall. W.Hamra, Afar zone 1, 2 & 4, Shinille, Borena, Liben, Afder, Gode, Deghabur and Korahe received 25-50 mm of rainfall. East Tigray, Liben, Afder, Gode, Korahe and Warder received 5-25 mm of rainfall. The rest parts of the country exhibited 0-5 amount of rainfall.

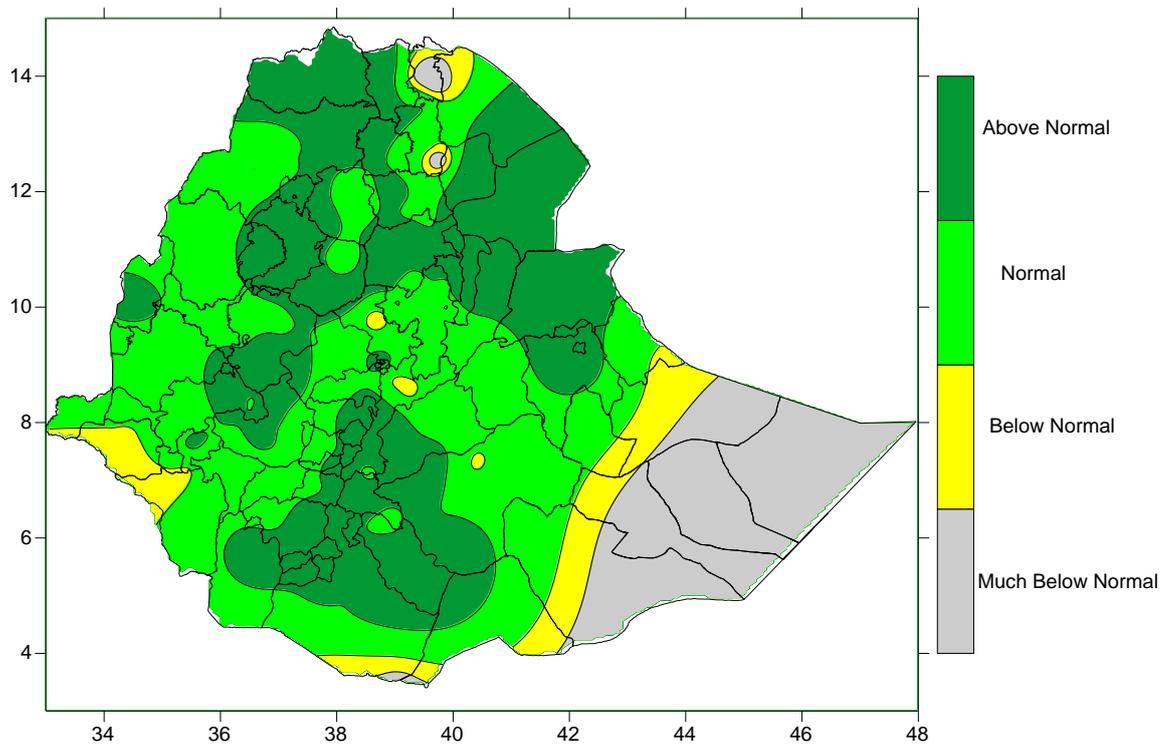


Fig. 11. Percent of Normal Rainfall for the month of September 2020

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 September 2020

Most parts of the country exhibited normal to above normal rainfall except tip area of east Tigray, Gambela zone 2, Bench Maji, Liben, Deghabur, Gode, Korahe and Warder has exhibited below to much below normal rainfall.

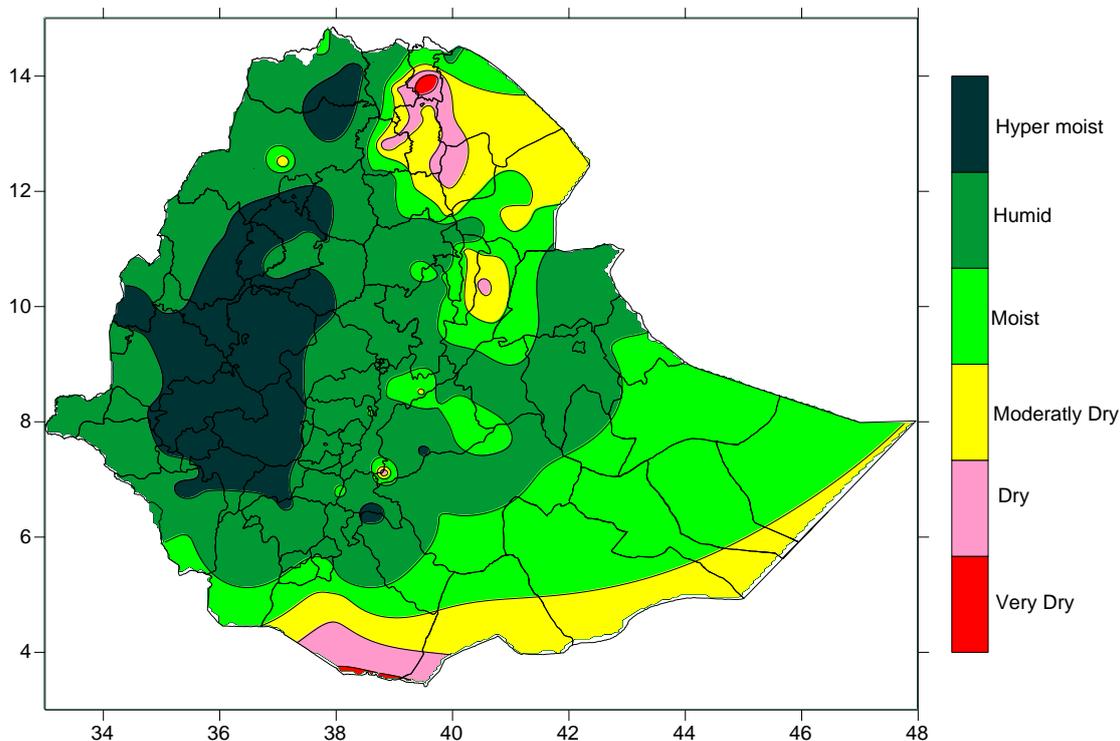


Fig. 12. Moisture status for the month of September 2020

1.6. Moisture status on the month of September 2020

During September 2020, Bahirdar, Kamashi, Metekel, Agew, east Wellega, Illubabur, Jimma, Sheka, Keffa, Dawuro and Assosa exhibited Hyper moist moisture conditions. Over west & central Tigray, north & south Wollo, Oromia special zone, Afar zone 1 & 5, Gambela zone 1, 2 & 3, north Gonder, Metekel, Kamashi, east Gojam, west Wellega, Gambela zone 2, Godere, Bench Maji, south Omo, Konso, Drashe, Burji, Amaro, Gamogofa, Sidama, Silte, Yem, Gurage, south west Shewa, west Shewa, east Shewa, Arsi, Bale, Addis Ababa, west & east Harergie, Harer, Shinile, Jijiga, Fik, Deghabur, Gode, Korah, Afdar and Liben exhibited Humid to Moist moisture. The rest parts of the countries exhibited moderately dry to very dry.

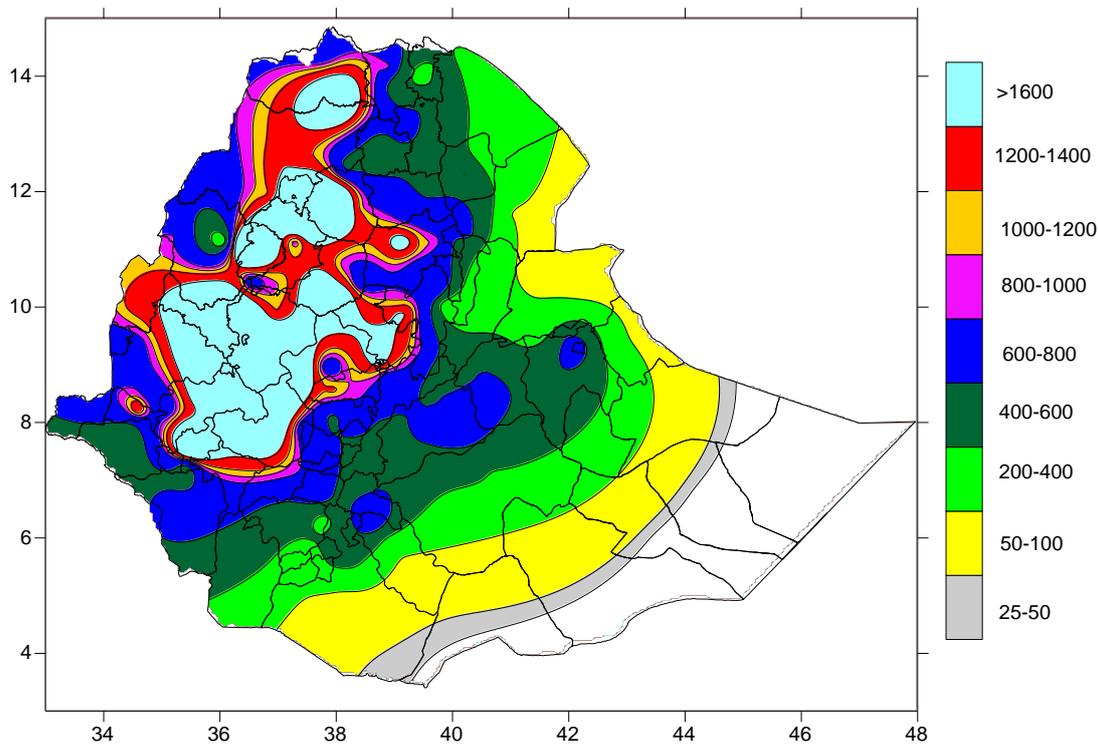


Fig.13. Rainfall amount in mm for Kiremt 2020

1.7. Rainfall Amount on Kiremt season 2020

During the Kiremt season some west Tigray, north and south Gonder, Bahir Dar, Agew-Awi, west and east Gojam, Kamashi, west and east Wellega, north, west and south west Shewa, Illubabur, Sheka, Keffa and Jimma received greater than 1600mm of rain fall. West Tigray, north Gonder, south Wollo, west and east Gojam, Agew Awi, Assosa, west Wellega, Keffa, west and south west Shewa and Addis Ababa zone received 1200-1400 mm of rain fall. west Tigray, south Wollo, east Gojam, south west Shewa, Dawuro, Gambela zone1 and Addis Ababa zone experienced rainfall in the range of 1000 - 1200mm. west Tigray, south Wollo, east Gojam, south Shew, Keffa, Assosa and Addis Ababa zone exhibited rainfall in the range of 800 - 1000mm. central and south Tigray, W.Hamra, north Wollo, Metekel, Tongo, west Wellega, Oromia especial zone, Gambela zone 1, 2 & 3, Bench Maji, Welayita, Hadiya, Gurage, Arsi and Sidama received rainfall from 600 - 800 mm. south, east and central Tigray, W.Hamra, Afar zone 1 & 4, north Wollo, west and east Harerge, Harer, Metekel, Alaba, Hadiya, Sidama, Basketo, South Omo, Gamo gofa, Gedeo and Gambela zone 2 experienced rainfall in the range of 600 - 400mm. east Tigray, Afar 1, 2, 3, 4 & 5, Shinile, Jijiga, Deghabur, Fik, Gode, Bale, Guji, Derashe, Konso, Burji, Amaro and Borena exhibited rainfall in the range of 200 - 400mm. The rest parts of north-eastern, eastern, south-

eastern, southern parts of Oromia, much of southern SNNPR had been receiving rainfall in the range of 50 - 100mm during the season under review.

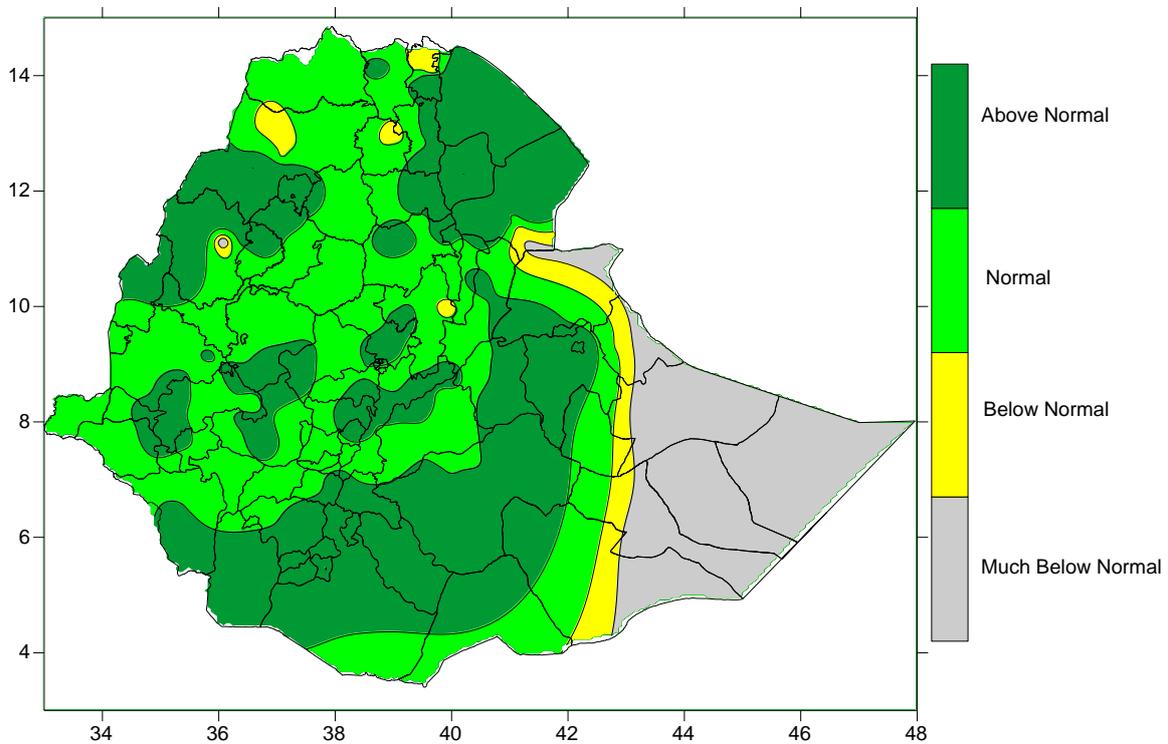


Fig.14. Percent of Normal Rainfall for Kiremt 2020

Explanatory notes for the Legend

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

1.8. Rainfall Anomaly on Kiremt Season 2020

Most parts of Kiremt rain benefiting areas of country exhibited normal to above normal rainfall except pocket areas of south, west and east Tigray, north Gonder, Metekel and some section of south-eastern exhibited below normal to much below normal.

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1. VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING KIREMT 2020

During Kiremt 2020, the observed good moisture condition throughout the months benefited Meher agricultural activities, availability of pasture and drinking water over pastoral and agro-pastoral areas, without considerable slightly water logging observed parts of the country. The computed WRSI for Meher Maize, Barley, Teff and Wheat indicates that Meher rain performed well. It indicates a good prospect for good Meher crop production. The range land index based on WRSI and NDVI computed for Meher 2020 month to month shows good improvement. The situation was highly favourable for availability of pasture and water over pastoral and agro-pastoral areas. Generally with the exception of the observed slight water logging and crops affected due to heavy fall in some areas the overall situation was favourable for season's agricultural activities.

On the other hand adverse weather was observed in June heavy fall with hail was occurred over Gatira it impacted on crops and property and Over Jinka in relation to heavy fall and flood it impacted on property. During the month of July in Bahirdar in relation to heavy fall with strong wind it impacted on maize crops and plants, Over Tepi (114.8mm) in relation to heavy fall and flood it damages on property and peoples are migrating, Over Awi, north Gonder and east Gojam in relation to heavy fall and flood slightly negative impact on crops and property and Over south Gonder (Fogera) occurred Ribe and Gummer river over flow it impacts on crops and property, where as in the month of August in Gidayina in relation to heavy fall and flood it impacted on crops and property and over Jijiga flash flood it impacts property, over Bale zone, Robe, Goba and Sinana woreda in relation to heavy fall occurred water logging which has been slightly affecting wheat crops. In the Month of July and August Rainfall with hailstorm Affected different crops in Chira, Bedele and Gatira & Over Arjo rainfall with hailstorm occurred flood, soil erosion and land slide, Over south Gonder zone, Fogera and Limokemekem woreda in relation to heavy fall and flood it impacted on crops, life and property. On the month of September in Bahirdar, Alemketema & Bure in relation to heavy fall and flood it impacted on crops and property.

Generally with the exception of the slightly water logging and crops affected due to heavy fall in some areas the overall situation was favourable for kiremt season's agricultural

activities. The observed rainfall 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, 2020/21 SEASON

Normally during the 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 favour the outbreak of pests if there were favourable environment, susceptible host and the pest itself. Moreover, the dry and windy Bega's weather situation is favourable for the occurrence and spread of fire. Under normal circumstance, there is a possibility of frost hazard during the season, mainly over north-eastern, central, eastern and southern highlands.

The situation confirmed by seasonal probabilistic forecast in view of the prevailing and projected climate scenarios, dry Bega season is anticipated to dominate much of the south and southeastern parts of the country in ONDJ 2020/21, while less likely expected negative Episode will weaken Belg 2021 rainfall.

The expected good rain during October and November will favor not fully matured Meher crops, late sown pulses crops, perennial plants and availability of pasture and water. However the scarce moisture after October might have negative impact on crops not yet fully matured. The expected dry and hot weather condition will dominate the northern half of the country, which is conducive for Meher harvesting and post-harvesting activities.

The expected normal to below normal rainfall over most parts of the southern and southeastern Ethiopia where Bega is their second rainy season would have negative impact on the availability of pasture and drinking water and crop performance of agro pastoral areas as well. Hence we advise farmers wisely utilize the water obtained from the rain as well as use water harvesting techniques.

The expected dominantly normal rain over Western and South-western with a possibility of above Normal rainfall activity over pocket areas would favor the existing crops which are at different crop phenological stages. Besides, it would have significant contribution for the

production of pulses crops with residual moisture, occasional untimely rain may negatively impact the harvest and post agricultural activities; therefore, we recommend appropriate measure to be taken to avoid crop yield losses.

The anticipated probability slight occurrence of frost over frost prone areas would create negative impact for the normal growth and development of late planted Meher crops, perennial plants and livestock conditions. Therefore, farmers are advised to take appropriate measures ahead of time to minimize the risk.

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.

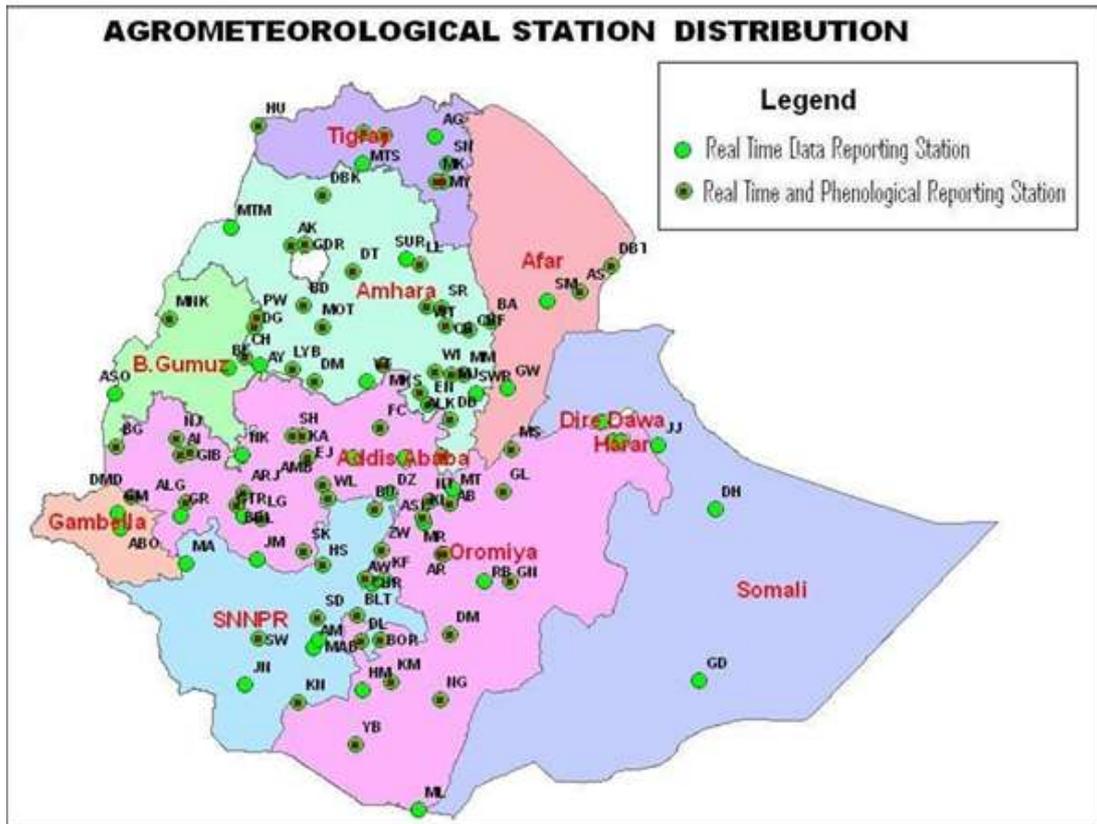
EXTREME TEMPERATURE:- The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

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



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	Mashete	MA	WegelTena	WT
Bati	BA	Gode	GD	Masha	MA	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	Holleta	HL	Mieso	MS		
				Moyale	ML		