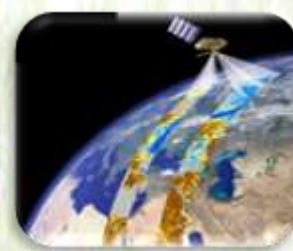


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FORE WARD

This Agro met Bulletin is prepared and disseminated by the National Meteorological Agency (NMA). The aim is to provide those sectors of the community involved in Agriculture and related disciplines with the current weather situation in relation to known agricultural practices.

The information contained in the bulletin, if judiciously utilized, are believed to assist planners, decision makers and the farmers at large, through an appropriate media, in minimizing risks, increase efficiency, maximize yield. On the other hand, it is vital tool in monitoring crop/ weather conditions during the growing seasons, to be able to make more realistic assessment of the annual crop production before harvest.

The Agency disseminates ten daily, monthly and seasonal weather reports in which all the necessary current information's relevant to agriculture are compiled.

We are of the opinion that careful and continuous use of this bulletin can benefit to raise ones agro climate consciousness for improving agriculture-oriented practices. Meanwhile, your comments and constructive suggestions are highly appreciated to make the objective of this bulletin a success.

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አህፅሮት

እ.ኤ.አ በልግ 2021

በመደበኛ ሁኔታ መካከለኛው፣ የሰሜን ከፍተኛ ቦታዎች፣ የምስራቅ ከፍተኛ ቦታዎች፣ ከፊል የመካከለኛው፣ የደቡብ ምዕራብና የደቡብ የሀገሪቱ አካባቢዎች በልግ አብቃይ በመባል ይታወቃሉ። በሰሜን፣ በሰሜን ምሥራቅና በምስራቅ ከአመታዊው ምርት የበልግ ምርት አስተዋፅኦ ከ 5-30%፣ በደቡብና ደቡብ ምእራብ ከ 30-60% ይደርሳል። ሰሜን ሸዋ፣ ምስራቅና ምእራብ ሐረርጌ፣ አርሲ፣ ባሌ፣ ሰሜንና ደቡብ ወሎ፣ ቦረናና የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል (ከምባታ፣ ሀድያ፣ ወላይታ፣ ጉለኔ፣ ከፋና ቤንች) የማህ ዝግጅትና የዘር ጊዜ የሚጀምሩት ከታህሳስ እስከ የካቲት ባለው ጊዜ ውስጥ ነው። በተጨማሪም ወቅቱ የደቡብና ደቡብ ምስራቅ አካባቢዎች ለግጦሽ ሣርና ውሃ አቅርቦት የሚሆን ውሃ የሚያከማቹበት ጊዜ ነው።

ባለፈው የፌብረዋሪ ወር 2021 የነበረው የእርጥበት ሁኔታ ሲገመገም በሁለተኛው እና በሶስተኛው አስር ቀናት በመካከለኛውና ምስራቅ አማራ፣ በምዕራብ፣ በመካከለኛውና ጥቂት የደቡብ ኦሮሚያ፣ በደቡብ ብሄር ብሄረሰቦችና ህዝቦች እንዲሁም በሲዳማ ክልል አካባቢዎች ላይ ከቀላል እስከ መካከለኛ መጠን ያለው ዝናብ የተመዘገበ ሲሆን በተለይም የበልግ ሰብል አብቃይ በሆኑት አካባቢዎች የተሻለ የእርጥበት ገጽታ እንደነበራቸው የተነተኑ የግብርና ሚቲዎሮሎጂ መረጃዎች ያመለክታሉ። ይህም የተገኘው እርጥበት የበልግ ሰብል በስፋት አምራች ለሆኑት የሀገሪቱ አካባቢዎች የማህ ዝግጅት ለማድረግና የዘር ስራ ለማከናወን አዎንታዊ ሚና ነበረው፤ በተጨማሪም ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት ከነበረው አስተዋፅኦ ጎን ለጎን ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት የጎላ ሚና ነበረው። እንደሁም አልፎ አልፎ ከነበረው ጠንካራ የደመና ክምችት በደቡብ ብሄር ብሄረሰቦችና ህዝቦች እና በምዕራብ ኦሮሚያ ጥቂት ቦታዎች ላይ ከባድ መጠን ያለው ዝናብ የተመዘገበ ሲሆን፣ ይህም ሁኔታ የበልግ እርሻን ለሚያከናውኑ አካባቢዎች የማህ ዝግጅትና ለዘር ጊዜ የእርሻ ስራ እንቅስቃሴ እንዲሁም ለአርብቶ አደሮችና ከፊል አርብቶ አደሮች ለመጠጥ ውሃ፣ ለግጦሽ ሳር አቅርቦትና ለቋሚ ሰብሎች የውሃ ፍላጎት መሟላት የጎላ ጠቀሜታ ነበረው። በሌላ በኩል በተለይም በቆላማ አካባቢዎች ላይ የተስተዋለው ከፍተኛ ሙቀት አፈር ውስጥ የሚገኘውን እርጥበት እንዲቀንስ ከማድረግም ሆነ ከአንስሳት ጤንነትና አመጋገብ አንፃር የተወሰነ አሉታዊ ጎን ነበረው ።

ባሳለፍነው የማርች ወር 2021 በመጀመሪያውና ሶስተኛው አስር ቀናት በአንዳንድ የምዕራብና ደቡብ ምዕራብ የሀገሪቱ አካባቢዎች ላይ ከነበረው አነስተኛ መጠን ያለው እርጥበት በስተቀር አብዛኛውን ጊዜ ደረቃማ የእርጥበት ሁኔታ ነበራቸው። በሌላ በኩል በሁለተኛው አስር ቀናት አብዛኛዎቹ የምዕራብና ደቡብ እንዲሁም ጥቂት የደቡብ ምስራቅ፣ የደቡብ ደጋማ ስፍራዎችና ምስራቅ የሀገሪቱ አካባቢዎች ላይ አንስተኛ እርጥበት ተስተዋል። በአጠቃላይ ባለፈው የማርች ወር በምዕራብና በመካከለኛው አማራ፣ በምዕራብና ደቡብ ኦሮሚያ፣ በደቡብ ብሄር ብሄረሰቦችና ህዝቦች ክልል፣ በሲዳማ ክልል፣ በጋምቤላ፣ በደቡብ ሱማሌ፣ በመካከለኛውና በምስራቅ ሀገሪቱ አካባቢዎች ላይ አልፎ አልፎ ከቀላል እስከ መካከለኛ መጠን ያለው እርጥበት የነበራቸው ሲሆን ይህም ሁኔታ በተለይም የበልግ ሰብል አብቃይ በሆኑት የሀገሪቱ አካባቢዎች ላይ የተሻለ የአፈር ውስጥ እርጥበት እንዲኖራቸው ያስቻለ ከመሆኑ ጋር ተያይዞ የማሳ ዝግጅት ለማድረግ እና የተለያዩ ሰብሎችን ለመዝራት አዎንታዊ ሚና የነበረው ሲሆን አስቀድመው ለተዘሩ የበልግ ወቅት ሰብሎችም ሆነ በአካባቢዎቹ ለሚበቅሉ ቋሚ ተክሎች እንዲሁም ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት በጎ ጎን ነበረው። በተጨማሪም ከከባድ ዝናብ ጋር ተያይዞ በደቡብ፣ በአማራ፣ በጋምቤላ፣ በደቡብ ብሄር ብሄረሰቦችና ህዝቦች፣ በደቡብና ምዕራብ ኦሮሚያ አንዳንድ ቦታዎች ላይ ከባድ መጠን ያለው እርጥበት የነበረ ሲሆን፣ የተገኘው ከፍተኛ መጠን ያለው እርጥበት በተለይም ውኃ አጠር ለሆኑት አካባቢዎች የዝናብ ውኃን ለማሰባሰብና ለማከማቸት ጥሩ ጎን ነበረው። በሌላ በኩል በልግ ተጠቃሚ በሆኑት በተለይም በሰሜን ምስራቅ፣ በመካከለኛውና በምስራቅ የአገሪቱ አካባቢዎች ላይ ደረቅ ሁኔታ የተስተዋለ ሲሆን በወቅቱ የበልግ የግብርና ሥራ እንቅስቃሴ ለሚያከናውኑ አካባቢዎች፣ ለአፈር እርጥበት፣ ለዘር መዝራት፣ ለአረንጓዴ ተክሎች ልምላሜና ለጓሮ አትክልት እንዲሁም ለእንሰሳት የመጠጥ ውሃና የመኖ አቅርቦት አሉታዊ ተጽዕኖ ነበረው።

እ.ኤ.አ 2021 ባለፈው የአፕሪል ወር ለወቅቱ ዝናብ መኖር አመቺ ሁኔታን የሚፈጥሩ የአየር ሁኔታ ክስተቶች በተለይም ከሁለተኛው አስር ቀናት ጀምሮ በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ላይ የተስፋፋ የእርጥበት ስርጭትና የበልግ አብቃይ እና ተጠቃሚ የሀገሪቱ ክፍሎችን ያዳረሰ የእርጥበት ሁኔታ ነበረው። ይህም ሁኔታ ቀደም ብለው ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች ቀጣይ እድገታቸው ላይ የጎላ ጠቀሜታ የነበረው ሲሆን፣ እንዲሁም ለረጅም ጊዜ ሰብሎች የማሳ ዝግጅትና ለዘር እርሻ እንቅስቃሴ፣ ለቋሚ ሰብሎች የውሀ ፍላጎት መሟላት በተጨማሪም ለአርብቶ አደሮችና ከፊል አርብቶ አደሮች አመቺ ሁኔታን የፈጠረ ነበር። በተለይም አልፎ አልፎ በአንዳንድ የሀገሪቱ አካባቢዎች ላይ በአንዳንድ ስፍራዎች የነበረው ከባድ መጠን

ያለው ዝናብ ለአዝዕርቱ የውሃ ፍላጎት መሟላት፣ ለግጦሽ ሳርና ለመጠጥ ውሀ አቅርቦት አመቺ ሁኔታን ቢፈጥርም፤ በአንዳንድ አካባቢዎች የነበረው ከባድ ዝናብና ቅጽበታዊ ጎርፍ በተለያዩ የእድገት ደረጃዎች ላይ ባሉ ሰብሎች እንዲሁም በሰው እና በንብረት ላይ በጥቂቱ አሉታዊ ተፅዕኖ ነበረው።

እ.ኤ.አ 2021 ባለፈው የሜይ ወር በአብዛኛው የሀገሪቱ አካባቢዎች ላይ በተለይም በመጀመሪያው አስር ቀናት በአብዛኛዎቹ የሀገሪቱ አካባቢዎች የእርጥበት ሁኔታው በተለይም በምዕራብ አጋማሽ፣ በምስራቅ አማራ፣ በትግራይ ምስራቃዊ ክፍል፣ በምዕራብ፣ በመካከለኛው፣ በደቡብ ብሄር ብሄረሰቦችና ህዝቦች እንዲሁም በሲዳማ የአገሪቱ አካባቢዎች ላይ በብዙ ቦታዎች በስርጭትም ሆነ በመጠን ረገድ የተስፋፋ እርጥበት እንደነበራቸው ቀሰ በቀስም ወደ ምስራቅና ሰሜን ምስራቅ አካባቢዎች ላይ ጥሩ የእርጥበት ሁኔታ ነበራቸው። ይህም ሁኔታ በተለያዩ የዕድገት ደረጃዎች ላይ ለሚገኙ ልዩ ልዩ የበልግና የረጅም ጊዜ ሰብሎች፣ ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት እና ለአርብቶ አደሩና ከፊል አርብቶ አደር አካባቢዎች ለግጦሽና የመጠጥ ውሃ አቅርቦት መሻሻል የጎላ ጠቀሜታ ነበረው። በተጨማሪም ለረጅም ጊዜ የመኸር ሰብሎች የማሳ ዝግጅትና ለዘር እርሻ እንቅስቃሴ ከፍተኛ አስተዋጾ ነበረው። በሌላ በኩል በአንዳንድ ቦታዎች ላይም ለጎርፍ መከሰት መንስኤ የሆነ ከባድ መጠን ያለው ዝናብ በተለይም በመጀመሪያውና ሁለተኛው አስር ቀናት ላይ በአማራ፣ በደቡብ ብሄር ብሄረሰቦችና ህዝቦች፣ በምዕራብና ምስራቅ አሮሚያ፣ በጋምቤላ እና በቤንሻንጉል ጉሙዝ በአንዳንድ ስፍራዎቻቸው ላይ የነበረ ሲሆን፤ በድሬደዋ አካባቢ የጣለው ካባድ ዝናብ ቅጽበታዊ ጎርፍና የመሬት መንሸራተት በማስከተል በቋሚ ተክሎች በንብረትና በሰው ህይወት ላይ ጉዳት አድርጏል ። ይሁን እንጂ ወደ ሀገራችን እየገባ የነበረው ዕርጥበት አዘል አየር ከዕለት ወደ ዕለት በመዳከሙ በተለይም በሶስተኛው አስር ቀናት የተስተዋለው የዝናብ ማነስ በተለይም የበልግ ወቅት አብቃይና ዝናብ ተጠቃሚ በሆኑ አካባቢዎች ላይ የእርጥበት እጥረት እንዲፈጠር አድርጓል።

በአጠቃላይ የበልግ 2021 ሁኔታ ስንመለከተው በፌብሩዋሪና ማርች ሁለት የበልግ ወራት በእርሻ ስራ እንቅስቃሴ ላይ የነበረውን ሁኔታ ስንመለከት በደቡብና ደቡብ ምእራብ የበልግ አብቃይና ተጠቃሚ አካባቢዎች ላይ ከቀላል እስከ መካከለኛ መጠን ያለው እረጥበት ነበራቸው። ይህም የተገኘው እርጥበት ለዘር እና ለማሳ ዝግጅት የእርሻ ስራ እንቅስቃሴ፣ በቡቃያ እና በእድገት ደረጃ ላይ ለሚገኙ የበልግ ሰብሎች የውሃ ፍላጎት መሟላት እንዲሁም በአርብቶ አደሮችና ከፊል አርብቶ አደር አካባቢዎች ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት የጎላ ጠቀሜታ ነበረው። ነገር ግን በፌብሩዋሪና

በማርች ወር በሰሜን፣ በሰሜን ምስራቅ፣ በመካከለኛው፣ በምስራቅ እና ደቡብ ምስራቅ በልግ ተጠቃሚ የሀገሪቱ አካባቢዎች ላይ ዝናቡ ዘገይቶ ከመግባቱ ጋር ተያይዞ የነበረው ደረቃማ የእርጥበት ሁኔታ ለግብርናው እንቅስቃሴ በአርሶ አደሩ እና በአርብቶ አደሩ ላይ አሉታዊ ተጽዕኖ ነበረው።። ጠቅለል ባለ መልኩ የዘንድሮው የበልግ ሁኔታ የዝናቡ ሁኔታ ዘገይቶ የገባና ደረቅ ቀናቶች የበዙበት በመሆኑ የእርጥበት እጥረት በልግ ተጠቃሚ አካባቢዎች የተስተዋለ ሲሆን በግብርና እንቅስቃሴ ላይ አሉታዊ ተፅዕኖ ነበረው።።

SUMMARY

Belg 2021

During Belg 2021 based on NMA's seasonal classification, Belg is consisting of four months starting from February and ending with the month of May. Normally central parts of northern highlands, eastern highlands, parts of central, south-western and southern Ethiopia are known as Belg growing areas. The contribution of Belg rainfall is ranging from 5-30% over north, north-eastern, and eastern highlands, where as 30-60% over south and south-western parts of the country from annual total crop production of the areas. North Shewa, East and West Hararge, Arsi, Bale, north and south Wello, Borena and SNNPR (Kembata, Hadiya and Welayita, Gurage, Keffa and Bench) start their land preparation and sowing activities during December to February. It is the time for water harvesting over pastoral and agro pastoral areas of southern and south-eastern Ethiopia.

During the month of February 2021, light to moderate amount of moisture, particularly in the second and third dekad of the month was observed over most Belg rain benefiting areas including central & eastern Amhara, western, central & pocket areas of southern Oromia, SNNPR, Sidama regions. In this regard, the condition was very promising and enabling to conduct land preparation and to satisfy the daily water need of perennial plants as well as to ensure the availability of pasture and drinking water over pastoral and agro pastoral communities. Whereas over SNNPR and western Oromia recorded heavy fall in one rainy day. The situation might have positive implication to satisfy the water need of perennial plants and for the supply of drinking water and pasture over pastoral and agro pastoral areas. On the other hand, the observed high temperature over the low land areas could cause loss of soil moisture due to high rate of daily evaporation and it might also have negative implication to the overall healthiness of livestock's.

During the month of March 2021, in the first and third ten days of March, some areas of the western and south-western parts of the country were mostly dry, with little to no rain. On the other hand, during the second ten days, most of the western and southern parts of the country, as well as some parts of the southeast, south-eastern highlands, and eastern parts of the country, were experiencing moderately moisture conditions. In March, there was occasional light to moderate moisture conditions in western and central Amhara, western and southern Oromia, SNNPR, Sidama, Gambella, southern Somalia, central and eastern parts of the country, especially in the Belg growing areas of the country. In

addition to providing better soil moisture, it also played a positive role in field preparation and sowing of various crops, as well as in the supply of early Belg crops and perennial crops, as well as pasture and drinking water. It is also associated with heavy rains in the south, Amhara, Gambella, Southern Nations, Nationalities, and Peoples, and parts of South and West Oromia; thus situation was good for rainwater harvesting, especially in areas with limited water supply. On the other hand, Belg beneficiaries, especially in the Northeast, central and Eastern parts of the country dry conditions have been observed, It has a negative impact on the growth of green plants and gardens as well as the supply of drinking water and fodder for animals.

During the month of April 2021, rain bearing meteorological phenomena was strengthening in amount and distribution over much of Belg rain benefiting area of the country. This situation might have positive impact on moisture requirement of different Belg and Meher long cycle crops found at various phases of growth, perennial plants, general agricultural activities, improve pasture and drinking water availability in pastoral and agro pastoral low land areas. Besides, the observed heavy rainfall particularly southern and south west and eastern parts of the country might have positive impact on the ongoing Belg agricultural activities normally moisture deficit areas and water harvesting where that can be used in time of deficit. Moreover the observed widespread rainfall distribution could also have indispensable contribution on the availability of pasture and drinking water for pastoral areas. On the other hand, extreme heavy fall were Delomena 98.5, 68.0 and 56.5, Jimma 55.2, Addis Ababa 30.0, 54.0 and 33.5, Dedesa 35.0 and 39.0, Gimbi 33.3, Metehara 35.5 and 37.6, Gololcha 31.0 and Gida Ayana. 40.4, Arjo 36.4, Ayira 35.2, Begi 32.9, Adele 63.0, Gelemso 39.8 and 41.5, Sawula 42.7 and 59.0, Hosanna 33.5 and 32.1, Bui 44.3, Tercha 37.2, Arba Minch 49.5 and 38.0, Jinka 59.2, 46.3 and 54. , Maji 50.3 and 30.8, Welayita Sodo 60.3 and 55.5, Hawassa 42.0 and 53.3, Kombolcha 33.6 and 31.2, Debre Markos 30.8, Ambamariam 79.2, Funo 40.7, Jijiga 40.1 and Kebri Dahar 69.7 mm in one rainy day observed. On the other hand Heavy rains and flash floods in some areas have had a negative impact on crops at different stages of development as well as on people and property.

During the month of May 2021, under normal circumstance in the month of May the rainfall activity decreasing from belg growing areas and expanded to western parts of the country. during the month of May 2021 particularly in the first dekad of the month rain bearing meteorological phenomena was strengthening in amount and distribution over much of Belg rain benefiting like western half, eastern Amhara, eastern Tigray, SNNPR, sidama and central parts of the country experienced good moisture and day to day extended over eastern and

north-eastern parts of the country. This situation might have positive impact on moisture requirement of different Belg and Meher long cycle crops found at various phases of growth, perennial plants, general agricultural activities, improve pasture and drinking water availability in pastoral and agro pastoral low land areas. On the other hand, heavy rainfall was recorded particularly in the first and second dekad of the month over SNNPR, Amhara, western and eastern Oromia, Gambella and Benshangul-Gumuz parts of the country. The situation might have positive impact on the ongoing Belg agricultural activities normally moisture deficit areas and water harvesting where that can be used in time of deficit. However, the observed heavy falls had negative impact on agricultural activities over some parts of the aforementioned areas like dire dewa heavy fall affected crops and properties of the community. Besides, the experienced less moisture condition during third dekad of the month to some extent affected the Belg agriculture activities over the Belg rainfall benefiting areas.

Generally, During Belg 2021, there was observed a little to moderate Moisture in the southern and south-western areas of Belg Benefiting and Growing areas in the months of February and March. Thus, the situation was important for seed and field preparation for agricultural activities, water supply for sprouting and growing crops, and for the supply of drinking water and grazing grass for pastoralists and semi-pastoral areas. But in February and March in the north, Northeast, central, eastern and south-eastern parts of the country the dry conditions which are associated with the delayed onset of rains, have had a negative impact on agricultural activities for farmers and pastoralists. In general, this year's Belg is due to the late onset of the rainy season and the presence of dry days, which have had a negative impact on agricultural activities.

The moisture statuses of Belg 2021 describes figure below:

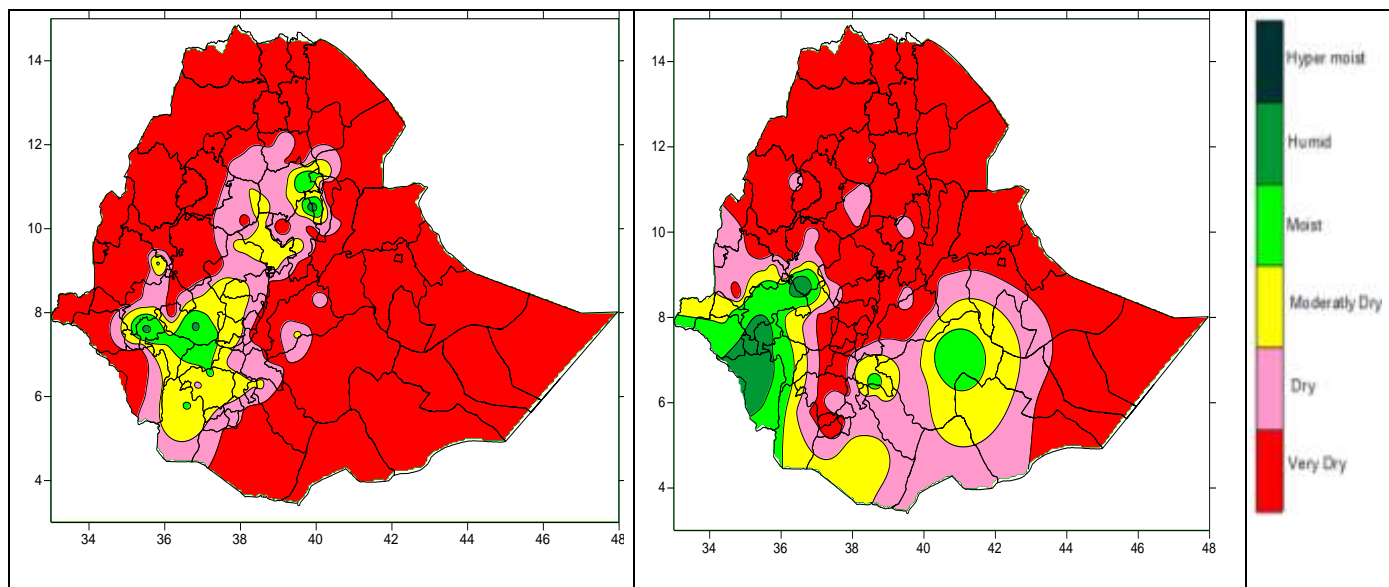


Figure 1. Moisture status for the month of February 2021

Figure 2. Moisture status for the month of March 2021

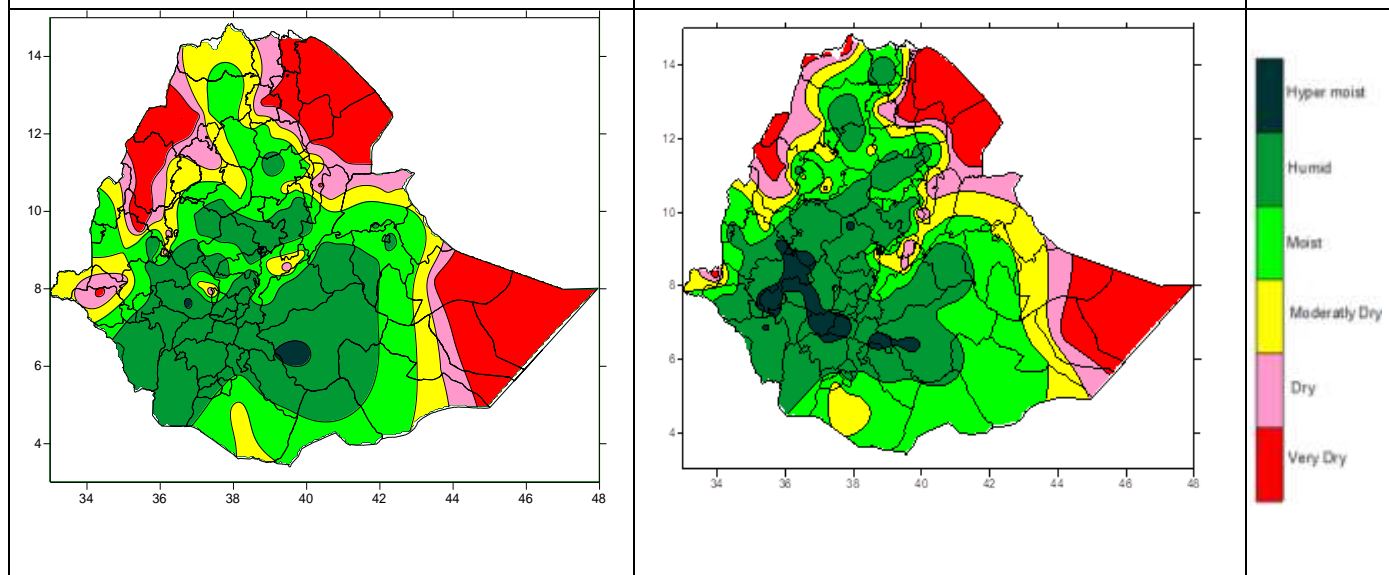
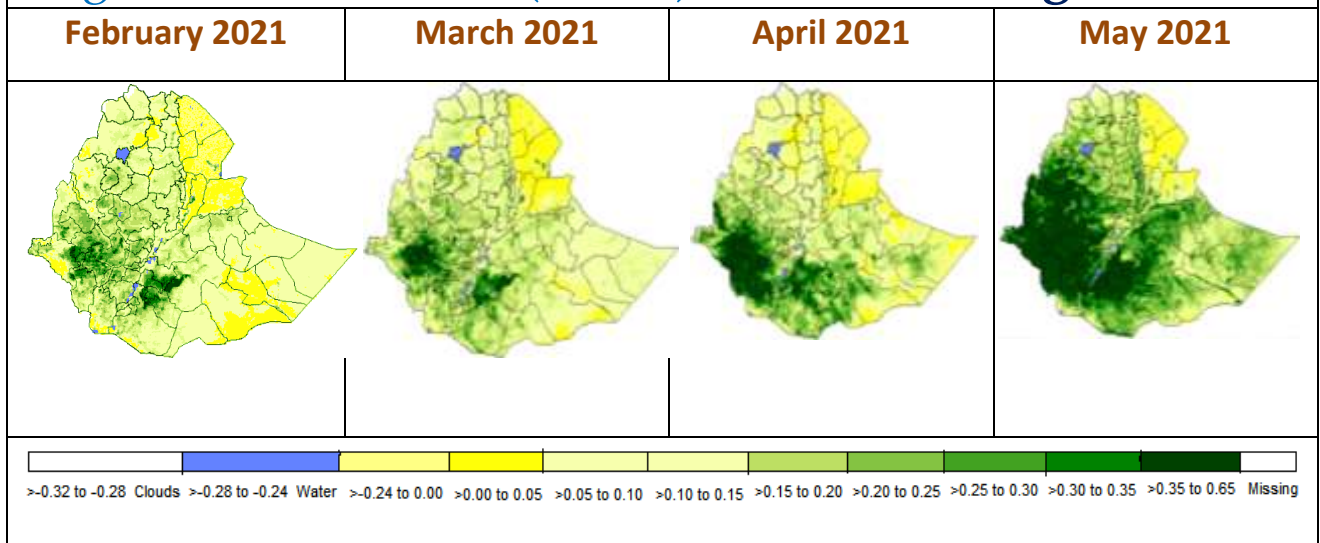


Figure 3. Moisture status for the month of April 2021

Figure 4. Moisture status for the month of May 2021

Vegetation Greenness (NDVI) in fraction Belg 2021



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

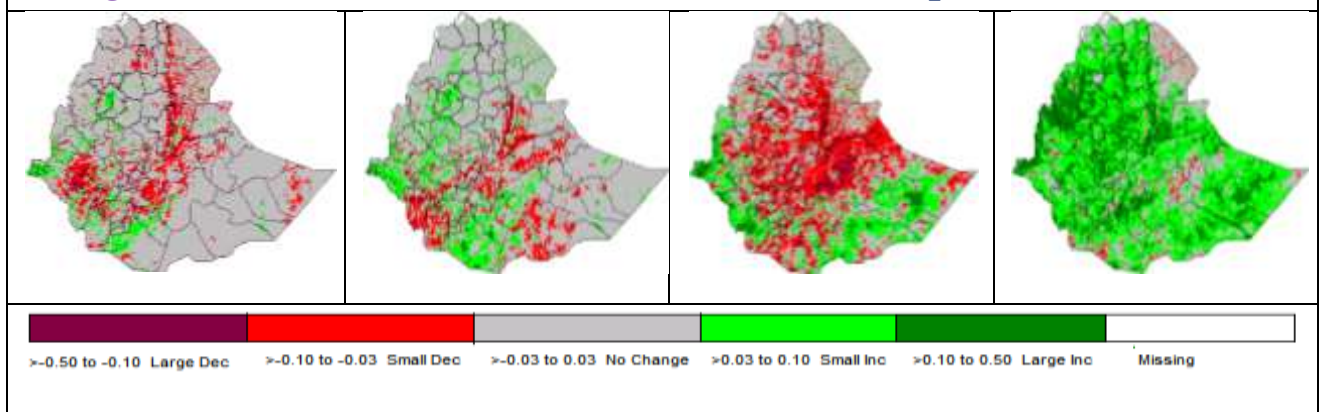


Fig. 5. Vegetation Greenness (NDVI) in fraction and Compared to Normal Bega (February- May) 2021

Rangeland WRSI in % - Belg 2021

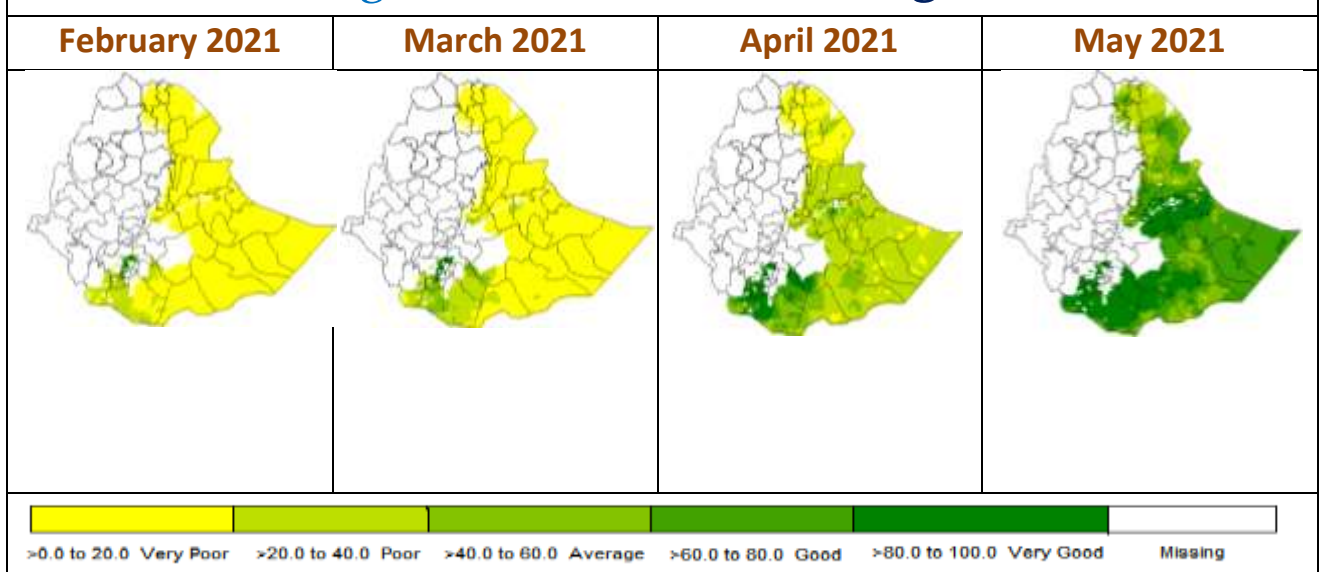


Fig.6. Rangeland WRSI in % Belg (February- May) 2021

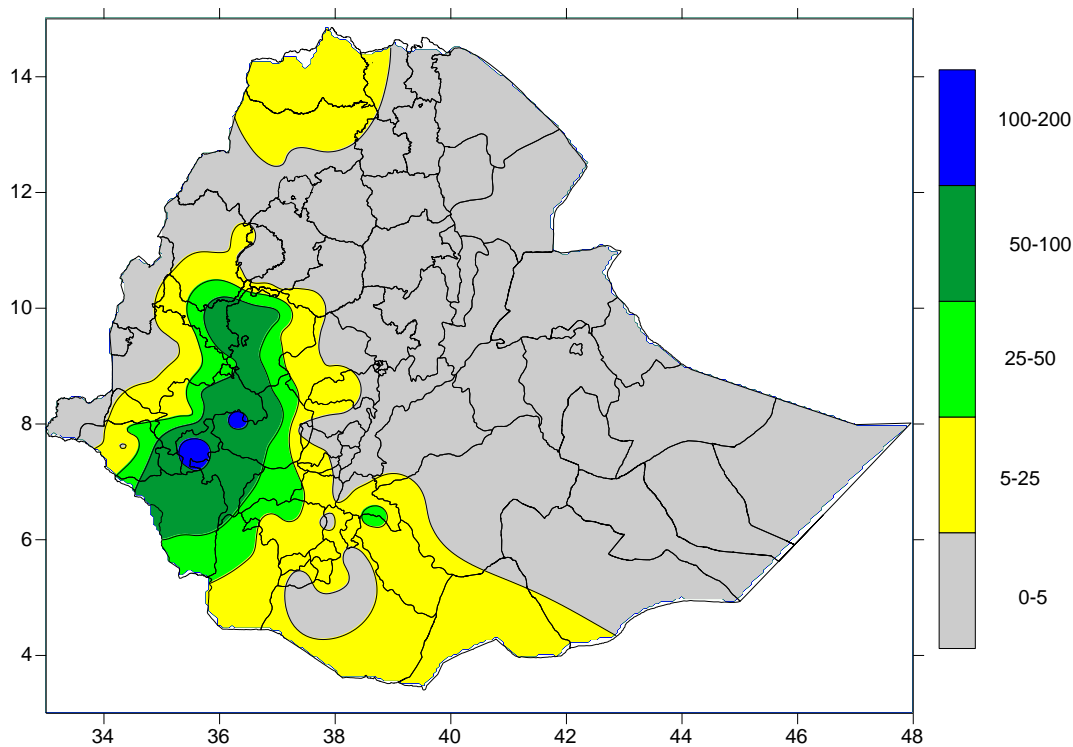


Fig 7. Rainfall distribution in mm (21 – 31) May 2021

1. WEATHER ASSESSMENT

1.1. Rainfall amount (21 – 31) May 2021

During the third dekad of May Tip area of Jimma, Sheka, Godere and Keffa received from 100-200mm of rainfall. Kamashi, east Wellega, Illubabur, Jimma, YEM, Gode, Keffa, Dawuro, Basketo and Bench Maji received from 50-100mm of rainfall. Kamashi, east and Wellega, Illubabur, Gambela zone 1 & 2, Jimma, YEM, KT, Dawuro, Welayita, Basketo, Gamo gofa, Sidama, Guji, Gedeo, Derashe and South Omo received from 25-50mm of rainfall. west, east and central Tigray, north Gonder, W.Hamra, Metekel, Agew-Awi, Assosa, west and east Wellega, north, west and south west Shewa, Gurage, Addis Ababa zone, YEM, Alaba, KT, Hadiya, Welayita, Sidama, Illubabur, Gambela zone 1 & 2, Gamo gofa, Basketo, Gedeo, Guji, South Omo, Derashe, Burji, Borena, Guji, Bale, Liben and Afdar received from 5-25mm of rainfall. The rest part of the countries received from 0-5mm of rainfall.

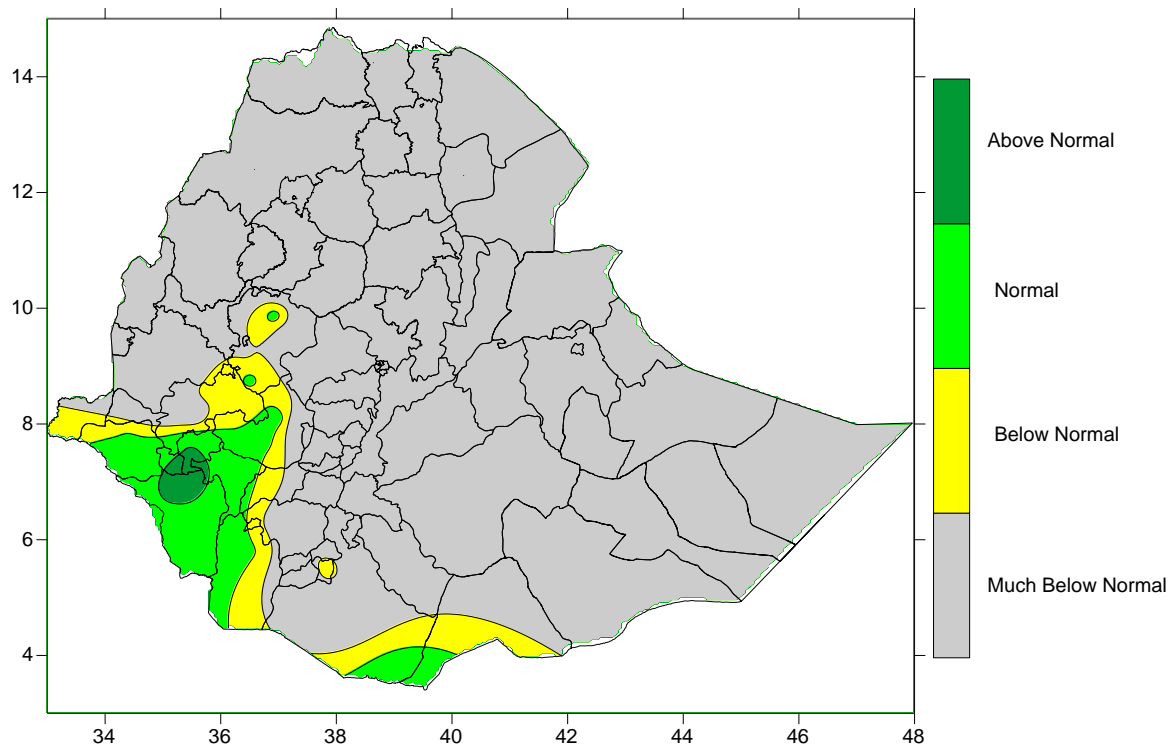


Fig. 8. Percent of normal rainfall distribution (21 – 31 May) 2021

Explanatory notes for the Legend

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

1.2. Rainfall Anomaly (21 – 31) May 2021

During third dekad of May except pocket area of east Wellega, Gambela zone 2, Jimma, Godere, Keffa, Bench Maji, Dawuro, Basketo, Gamo gofa, South Omo and Borena exhibited Normal to Above Normal. The rest part of the countries exhibited below normal too much below normal.

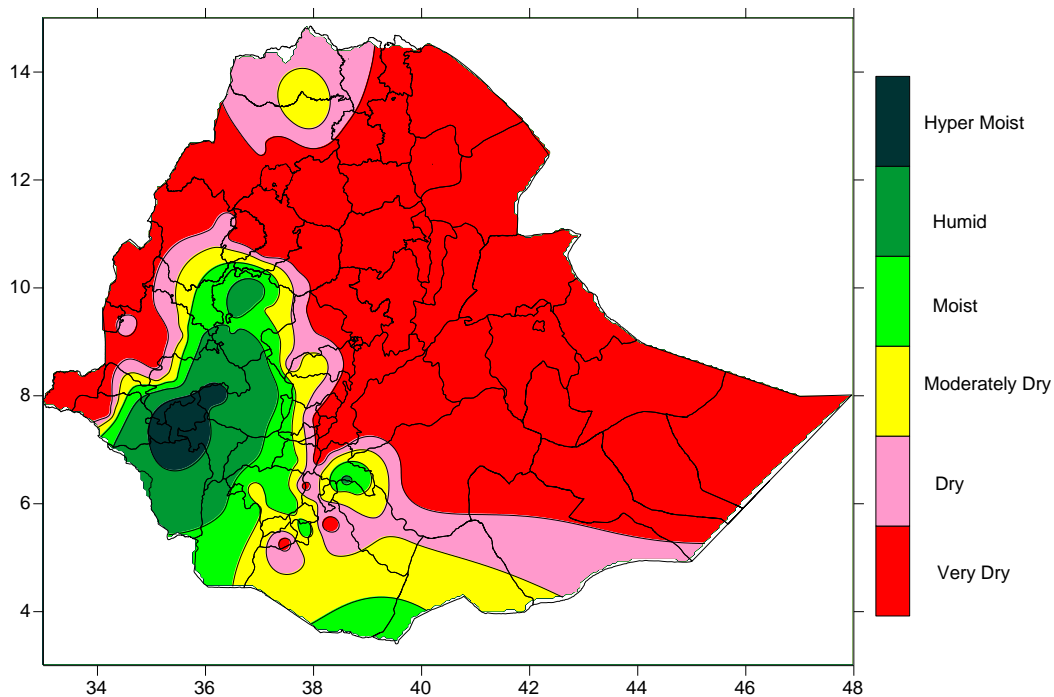


Fig.9. Moisture Status (21-31 May 2021)

1.3. Moisture status (21 – 31) May, 2021

During last dekad of May Except Kamashi, east Wellega, Illubabur, Jimma, YEM, KT, Gambela zone 2, Godere, Sheka, Keffa, Dawuro, Welayita, Bench Maji, Basketo, Gamo gofa, South Omo, Derashe, Burji and tip area of Borena exhibited Hyper Moist to Moist .The rest part of the countries exhibited Moderately Dry to Very Dry moisture conditions.

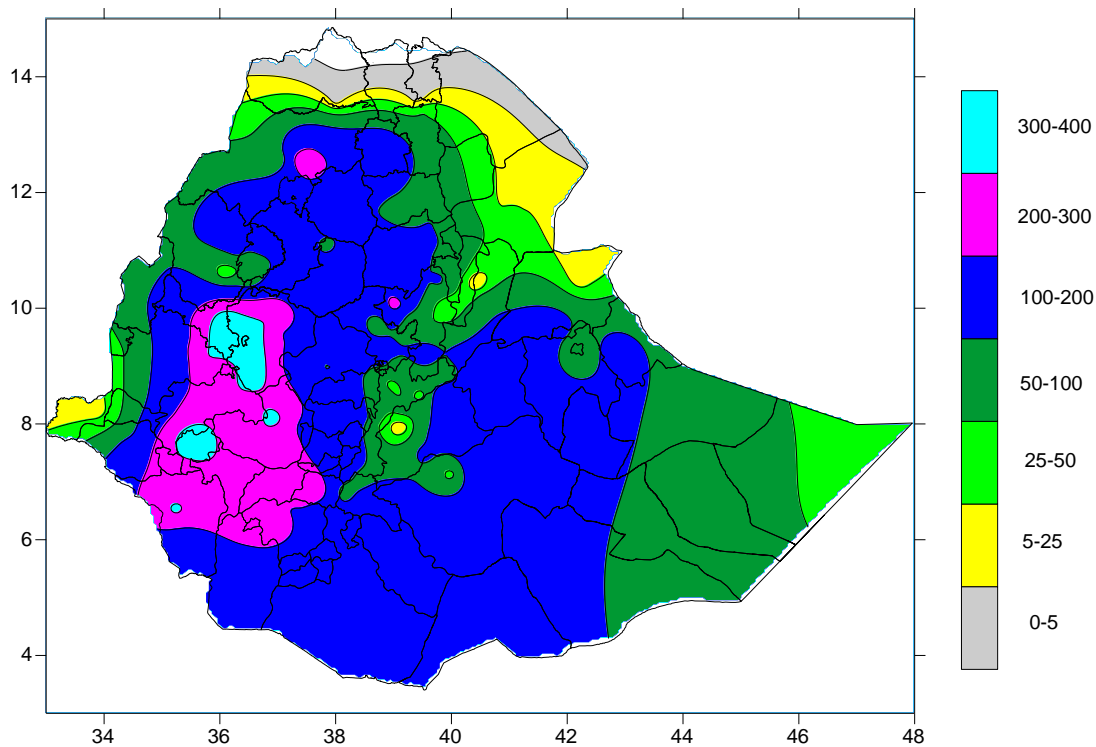


Fig. 10. Rainfall amount in mm for the month of May, 2021

1.4. Rainfall amount on the month of May 2021

During the month of May 2021 pocket area of Kamashi, east Wellega, Jimma, YEM, Sheka, Keffa and Bench Maji received from 300-400 mm of rainfall. north Gonder, Kamashi, east and west Wellega, Illubabur, Jimma, YEM, KT, Godere, Keffa, Dawuro, Welayita, Bench Maji, Basketo, Gamo gofa and South Omo received from 200-300 mm of rainfall. W.Hamra, north and south Gonder, north and south Wollo, Bahir Dar, west and east Gojam, Oromia especial zone, Agew-Awi, Assosa, Kamashi, west and east Wellega, YEM, Selti, Alaba, Hadiya, Welayita, Sidama, Gambela zone 1 & 2, Gamo gofa, Gedeo, South Omo, Derashe, Burji, Konso, Amaro, Borena, Guji, Bale, west and east Harergie, Harer, Jigjiga, Fik, Deghabur, Gode, Afder and Liben received from 100-200mm of rainfall. north Gonder, south Tigray, north Wollo, Afar zone 1, 3, 4 & 5, Oromia especial zone, Shinille, Metekel, Agew-Awi, Assosa, Tongo, west Wellega, Gambela zone 1 & 2, Addis Ababa zone, south west and east Shewa, Arsi, Selti, Alaba, Hadiya, Sidama, Bale, east Harergie, Harer, Jigjiga, Deghabur, Gode, Afder, Korahe and Warder received from 50-100mm of rainfall. west, central and south Tigray, Afar zone 1, 2, 3, 4 & 5, Shinille, Tongo, west Wellega, Gambela zone 1, 2 & 3, Arsi and Warder received from 25-50 mm of rainfall. West and central Tigray, Afar zone 1, 2, 3 & 5, Shinille, Gambela zone 3 and Arsi received from 5-25 mm of rainfall. The rest part of the countries received from 0-5 mm of rainfall.

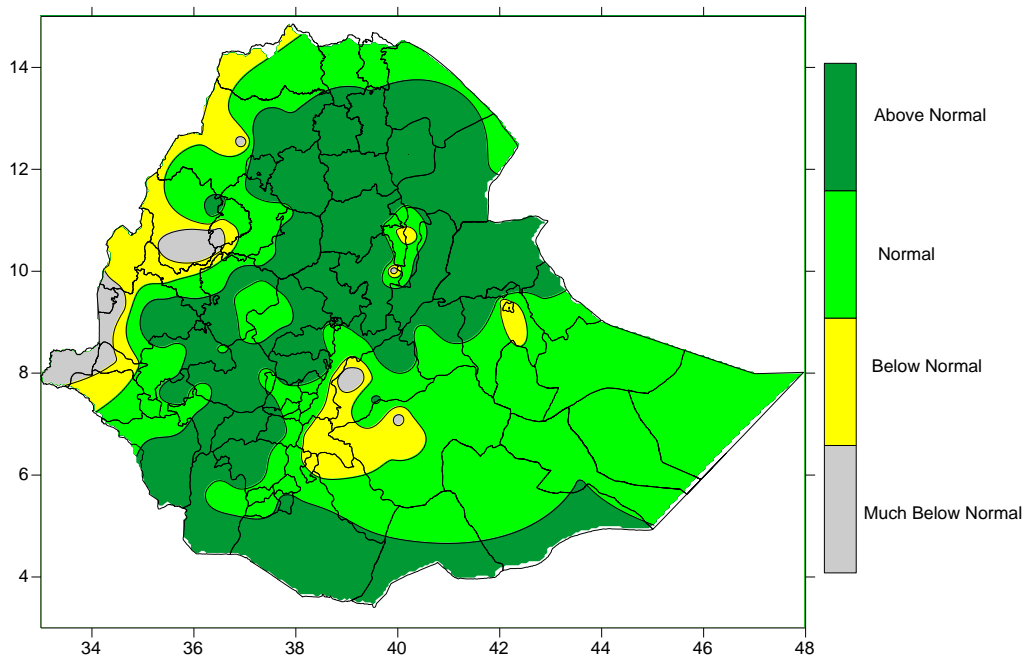


Fig. 11. Percent of Normal Rainfall for the month of May 2021

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 May 2021

During the month of May 2021 except tip area of west Tigray, north Gonder, Metekel, Agew-Awi, Assosa, Kamashi, Tongo, west Wellega, Gambela zone 1 & 2, Afar zone 5, Harer, east Harergie, Arsi, Alaba, Hadiya, Sidama, Gedeo, Guji and Bale exhibited below normal too much below normal. The rest part of the countries exhibited Normal to Above Normal.

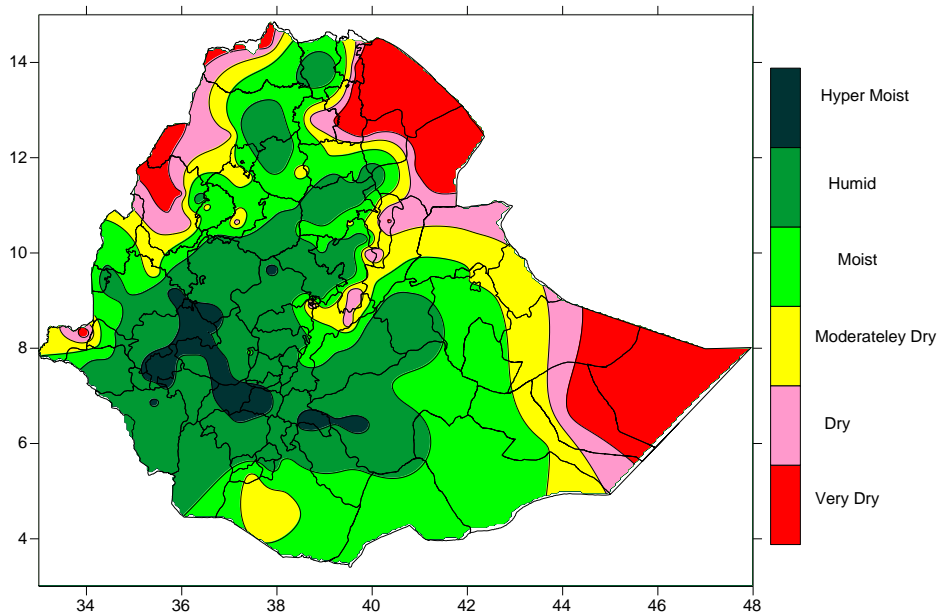


Fig. 12. Moisture status for the month of May 2021

1.6. Moisture status on the month of May 2021

During the Month of May 2021, Except west, east and south Tigray, W.Hamra, north Gonder, Afar zone 1, 2, 3, 4 & 5, Shinille, Metekel, Bahir Dar, Gambela zone 1 & 3, Amaro, Borena, Jijjiga, Harer, east Harergie, Fik, Deghabur, Gode, Korahe and Warder exhibited Moderately Dry to Very Dry. The rest part of the countries exhibited Hyper Moist to Moist.

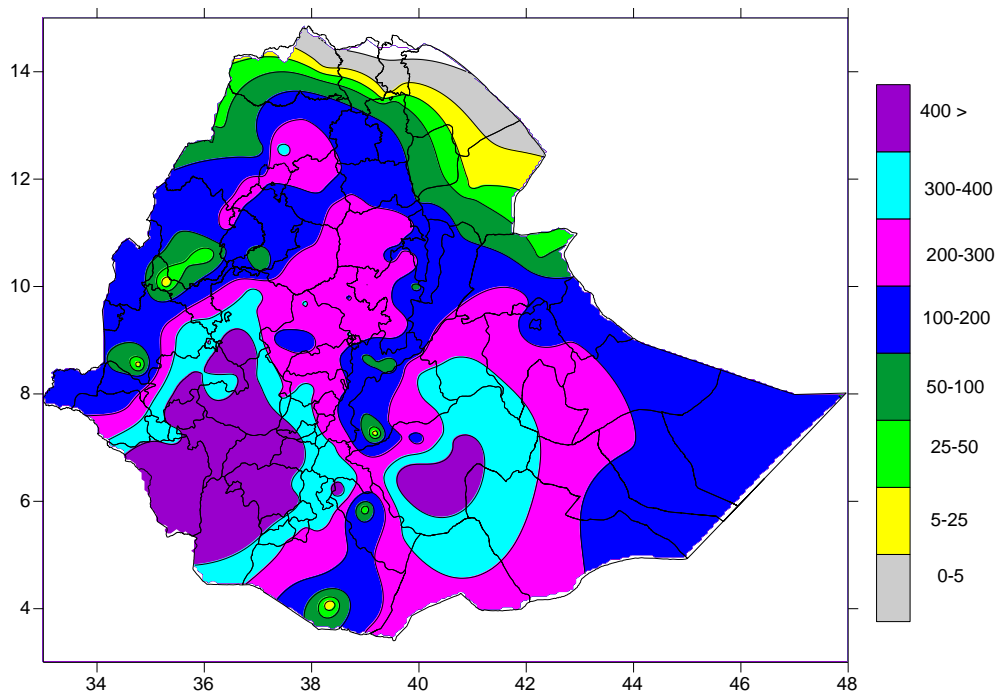


Fig.13. Rainfall amount in mm for Belg 2021

1.7. Rainfall Amount on Belg season 2021

During Belg 2021 Tip area of Illubabur, Jimma, YEM, KT, Sheka, Keffa, Dawuro, Welayita, Hadiya, Bench Maji, Basketo, Gamo gofa, South Omo, Derashe, Konso, Burji, Gedeo, Bale and Afder received from greater than 400 mm of rainfall. east Wellega, Illubabur, Godere, YEM, Gurage, Selti, Alaba, Hadiya, Welayita, Sidama, Gedeo, Burji, Konso, Amaro, west Harergie, Fik, Gode, Bale, Liben and Afder received from 300-400mm of rainfall. north and south Gonder, Bahir Dar, west and east Gojam, north and south Wollo, Oromia especial zone, Kamashi, west Wellega, north, west, north west, north south and south west Shewa, Gurage, Selti, Gambela zone 2, Amaro, Borena, Arsi, west and east Harergie, Fik, Deghabur, Gode, Korahe, Afder and Liben received from 200-300mm of rainfall. W.Hamra, south Tigray, north Wollo, north and south Gonder, Bahir Dar, west and east Gojam, Agew-Awi, Metekel, Assosa, Jimma, Tongo, west Wellega, Gambela zone 1, 2 & 3, west Shewa, Addis Ababa zone, Oromia especial zone, Afar zone 1, 3 & 5, Shinille, Arsi, Harer, east Harergie, Jigjiga, Deghabur, Guji, Borena, Afder, Korahe and Warder received from 100-200mm of rainfall. west, central and south Tigray, north Gonder, Afar zone 1, 2 & 4, Shinille, Metekel, Kamashi, Gambela zone 1, east Shewa, Guji and Borena received from 50-100mm of rainfall. Central and east Tigray and Afar zone 1 & 2 received from 25-50mm of rainfall. Central and east Tigray and Afar zone 1 & 2 received from 5-25mm of rainfall. The rest part of the countries received from 0-5mm of rainfall.

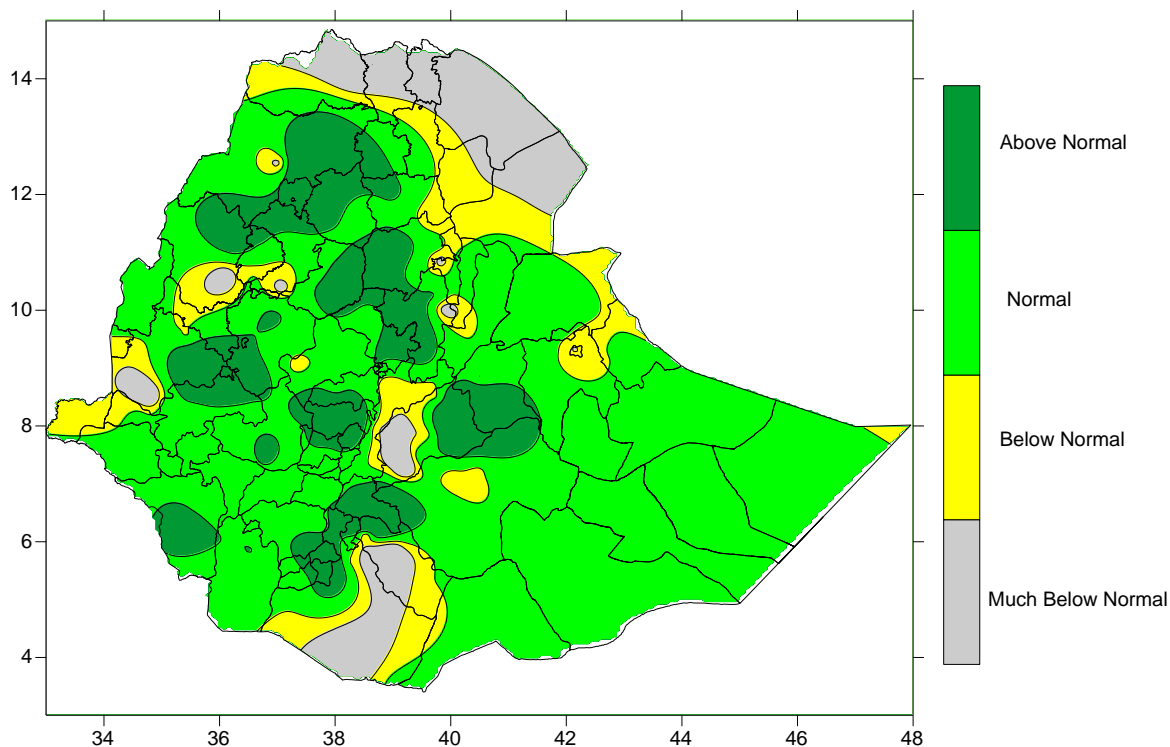


Fig.14. Percent of Normal Rainfall for Belg 2021

Explanatory notes for the Legend

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

1.8. Rainfall Anomaly on Belg Season 2021

During belg of 2021 except tip area of west, central, east and south Tigray, north Gonder, Afar zone 1, 2, 3, 4 & 5, Oromia especial zone, Shinille, Harare, Jigjiga, east Harergie, Metekel, Agew-Awi, west Gojam, Kamashi, Tongo, west Wellega, Gambela zone 1 & 3, east Shewa, Arsi, Bale, Borena and Guji exhibited below normal too much below normal. The rest part of the countries exhibited Normal to Above Normal.

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1. VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING BELG 2021

Improvement of moisture condition observed over some Belg growing areas during second dekad of February, over south western and southern Belg Benefiting areas. It might have favoured Belg agricultural activities like land preparation and sowing of belg crops.

On the month of Feb and March No significant improvement of NDVI and rangeland were observed, which might have slightly negatively impacted the livelihood of pastoral and agro pastoral conditions on the availability of pasture and drinking water.

Improvement of moisture observed moderately dry to dry moisture condition over south and south eastern pocket areas; the condition might have caused a positive impact on availability of pasture and drinking water.

The moisture stress observed over southeastern pastoral and agro pastoral areas and also most Belg growing areas of the country. The condition was negative impact for Belg agricultural activities, Sowing of Belg crops.

On the month of April, observed moderately improvement of NDVI and rangeland situation over southern and south western part of the country, which might have ease the previous months stress. The situation might have positive impact on availability of pasture and drinking water over pastoral and agro-pastoral areas.

During April 2021 relatively better moisture condition was observed over most of belg growing areas of the country, which might have favored planting of Belg crops, sowing and land preparation of long cycle crops.

During May improvement of NDVI and rangeland WRSI might have lighten the stress of pasture and drinking water over pastoral and agro-pastoral areas.

During first and second dekads of May the observed humid to moist moisture conditions over most parts of the country might have favored the ongoing agricultural activities,

planting of long cycle crops. And also maturing of Belg crops.

Total crops water requirement in Belg 2021 said to be Moderate to very good WRSI condition for Maize , Sorghum , Barley, wheat & Teff observed over SNNPR, south Oromia and some parts of Bale Belg growing areas, moreover, poor to moderate WRSI condition observed over the northern, Central and eastern parts of Belg growing areas in cause of delay of Belg rainfall. On the other hand moderate WRSI conditions for maize crop observed over east & western Hararge. Crops with conditions are not good for most parts of Belg growing areas due to delay of rainfall. On the other hand, over Gamogofa, Bale, Dawuro, Guji, East Harergie and Borena zones the performance of maize crop is good conditions and vegetative stages.

Generally, in the Belg of 2021, there was a little to moderate Moisture in the southern and south-western belg growing areas during the two Belg months of February and March. The resulting moisture was important for seed and field preparation for agricultural activities, water supply for sprouting and growing crops, as well as for the supply of drinking water and pasture for pastoralists and semi-pastoral areas. But in February and March in the north, northeast, central, eastern and south-eastern parts, the dry conditions observed , which are associated with the delayed onset of rains, have had a negative impact on agricultural activities for farmers and pastoralists. In general, this year's Belg is due to the late onset of the rainy season and the presence of dry days, which have had a negative impact on Belg agricultural activities.

2.2. EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING KIREMT, 2021 SEASON

Normally, Kiremt is the time when Moisture is most prevalent in most Meher growing areas, at the same time; it is a time of great agricultural activity. Due to the current season, farmers are preparing their fields and covering them with various crops. It is time to get enough water for the long-term crops that are already sown in April and May at different stages of development; it is also a time when areas with low moisture areas have good opportunities for water storage. Moreover, grazing and drinking water are ideal for livestock grazing in areas that receive kiremt rains. It is important to anticipate the potential impact of climate change on agricultural activity, especially during the kiremt season.

According to the forecast, the onset of the rainy season is expected to be normal, especially in the western and south-western parts of the country, which will allow for regular field preparation and timely planting of crops, as well as for immature Belg crops at various stages of development. Seasonal Moisture will play a positive role in the long-term Meher crops of sown in April and May. Over West, Southwest, and most parts of the central part of the country are expected to have normal to above-normal rainfall. Therefore, sufficient inputs should be used in the coming kiremt, and most of these areas are known for their long rainy season and high moisture. Therefore, it should be borne in mind that although the expected normal and above normal moisture in the coming kiremt months may have a positive effect on crop yields, it can lead to increased soil moisture and water logging in fields and can lead to soil erosion and landslides associated with heavy rains. Farmers and stakeholders are also advised to take precautionary measures to reduce the risk of weed infestation and crop failure. In particular, the preparation of crops that can withstand water logging in advance, There is a need to clean up existing canals, prepare new canals as needed, and make arrangements to prevent weeds and crop diseases.

On the other hand, the north, East, and Most parts of the northeast are likely to have normal moisture conditions, which are expected to be the normal moisture condition. Therefore, farmers are advised to be prepared for this, recognizing that they will be able to carry out agricultural activities as usual. In particular, they need to work together to reduce the risk of dry season water shortages by collecting and storing regular rainfall in the eastern and north-eastern lowlands.

In general, efforts should be made to increase productivity by implementing the above-mentioned agricultural-meteorological recommendations, taking into account the moisture conditions compared to normal in the regions and zones of the region.

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.

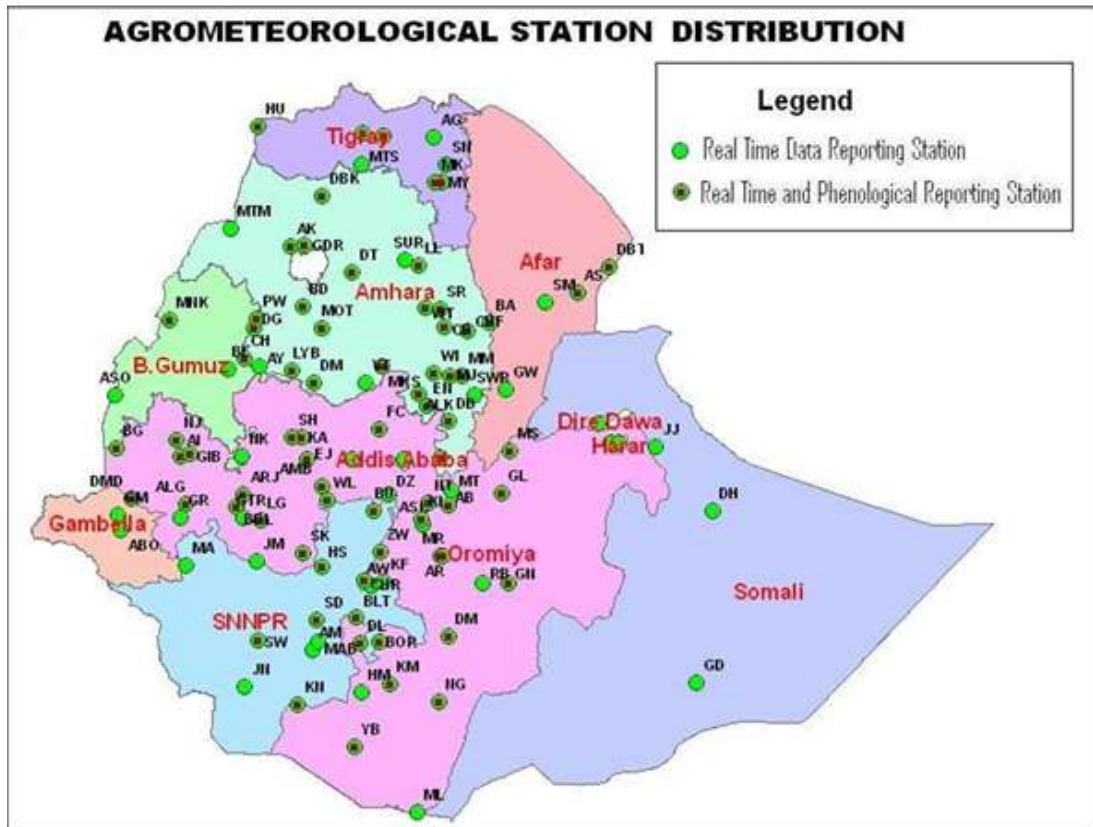
EXTREME TEMPERATURE:- The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

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	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		