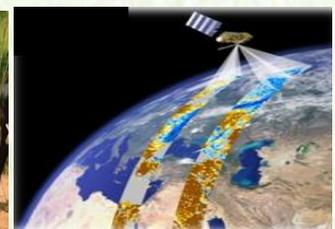


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FORE WARD

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.

Director General

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አህፅሮት

እ.ኤ.አ ጁላይ 2019

ባሳለፍነው የመጀመሪያዎቹ የጁላይ አስር ቀናት ለክረምት ዝናብ መኖር አመቺ ሁኔታን የሚፈጥሩ የሚቲዎሮሎጂ ገጽታዎች የተሻለ ጥንካሬ የነበራቸው በመሆኑ በአብዛኛው የክረምት ዝናብ ተጠቃሚና የመኸር ሰብል አብቃይ አካባቢዎች ላይ በመጠን ይለያይ እንጂ በስርጭት ረገድ ብዙ ቦታዎችን ያዳረሰ የእርጥበት ሁኔታ እንደነበራቸው ከተለያዩ የሀገሪቱ ክፍሎች የተሰበሰቡ የግብርና ሚቲዎሮሎጂ መረጃዎች ያመለክታሉ። ይህም የተገኘው እርጥበት ለመኸር የእርሻ ስራ እንቅስቃሴ አዎንታዊ ሚና የነበረው ሲሆን በተለይም የመካከለኛ ጊዜ የመኸር ሰብሎችን ለመዝራትና የማሳ ዝግጅት ለማከናወን፤ እንዲሁም በምዕራብና በደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ ቀደም ብለው ለተዘሩ ለረጅም ጊዜ ሰብሎች የውሃ ፍላጎት መሟላትና ለአርብቶ አደሮችና ከፊል አርብቶ አደር አካባቢዎች ለመጠጥ ውሃና ለግጦሽ ሳር ልምላሜ ጥሩ አስተዋጽኦ ነበረው። በተጨማሪም 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 ቢሆንም፤ በግብርናው አንቅስቃሴ ላይ ያሳደረው ጉልህ አሉታዊ ተፅዕኖ አልነበረም። በሌላ በኩል በመካከለኛውና በምስራቅ የሀገሪቱ አካባቢዎች የተገኘው እርጥበት በመጠ ያነሰ ቢሆንም በተለይም ባሳለፍናቸው ቀናት ካገኙት እርጥበት ጋር ተዳምሮ የመጠጥ ውሀ አቅርቦትንም ሆነ የግጦሽ ሳር ልምላሜና የተፈጥሮም ሆነ የሰው ሰራሽ ምንጮችን ከማጎልበት አንጻር የጎላ አስተዋጽኦነበረው ::

ባሳለፍነው የጁላይ ሁለተኛው አሥር ቀናት የተገኘው እርጥበት በአብዛኛው የክረምት ዝናብ ተጠቃሚ አካባቢዎችን ያዳረሰ ከመሆኑ ጋር ተያይዞ አብዛኛው መኸር አብቃይ የሀገሪቱ ክፍሎች ጥሩ የአፈር እርጥበት ሁኔታ ነበራቸው። ይህም ሁኔታ እየተካሄደ ለነበረው የመኸር እርሻ እንቅስቃሴ፤ የማሳ ዝግጅትና የዘር መዝራት ስራዎችን በጊዜ ለማከናወን አመቺ ሁኔታ የነበረው ሲሆን፤ አስቀድመው ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ለሚገኙ የረጅም ጊዜ ሰብሎች የውኃ ፍላጎታቸውን ከሚሟላት አንጻር የጎላ ሚና ነበረው። በተጨማሪም ምንም እንኳን የዝናቡ መጠንና ሥርጭት በሀገሪቱ ምዕራባዊ አጋማሽ ላይ የተጠናከረ ቢሆንም፤ በሰሜን ምሥራቅ

ቆላማ ቦታዎችና በምሥራቅ ኢትዮጵያ እንዲሁም በዚህ ወቅት ዝናብ በማይጠበቅባቸው የሀገሪቱ ደቡባዊው ክፍሎች ላይ የነበረው መጠነኛ እርጥበት በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት አዎንታዊ አስተዋፅኦ ነበረው። በሌላ በኩል በአንዳንድ አካባቢዎች ላይ በተለይም በመካከለኛው ኢትዮጵያ አንዳንድ ሥፍራዎች የነበረው ከባድ ዝናብ የአፈር ውስጥ እርጥበት መብዛት እና በአንዳንድ ቦታዎች ላይ ለወንዝ መሙላትና ለጎርፍ ተጋላጭ በሆኑ አካባቢዎች ላይ ለጎርፍ መከሰት ምክንያት በመሆን በግብርናው ሥራ ላይ በጥቂቱ አሉታዊ ተፅዕኖ ነበረው።

ባላለፍነው ሶስተኛው የጁላይ አስር ቀናት ለክረምት ዝናብ መኖር አመቺ ሁኔታን የሚፈጥሩ የሚቲዎሮሎጂ ገጽታዎች የተሻለ ጥንካሬ የነበራቸው በመሆኑ በአብዛኛው የክረምት ዝናብ ተጠቃሚና የመኸር ሰብል አብቃይ በሆኑት አካባቢዎች ላይ በመጠን ይለያይ እንጂ በስርጭት ረገድ ብዙ ቦታዎችን ያዳረሰ የእርጥበት ሁኔታ እንደነበራቸው ከተለያዩ የሀገሪቱ ክፍሎች የተሰበሰቡ የግብርና ሚቲዎሮሎጂ መረጃዎች ያመለክታሉ ። ይህም የተገኘው እርጥበት ለመኸር የእርሻ ስራ እንቅስቃሴ አዎንታዊ ሚና የነበረው ሲሆን በተለይም የመካከለኛ ጊዜ የመኸር ሰብሎችን ለመዝራትና የማሳ ዝግጅት ለማከናወን፤ እንዲሁም በምዕራብና በደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ ቀደም ብለው ለተዘሩ ለረጅም ጊዜ ሰብሎች ለቋሚ ተክሎችና ለተለያዩ የጎሮ አትክልቶች የውሃ ፍላጎት መሟላትና ለአርብቶ አደሮችና ከፊል አርብቶ አደር አካባቢዎች ለመጠጥ ውሃና ለግጦሽ ሳር ልምላሜ ጥሩ አስተዋጽኦ የነበረው ከመሆኑም በላይ ሰው ሰራሽም ሆነ የተፈትሮ ምንጮችን ከማጎልበት አንፃር አንድዎንታዊ ሚና ነበረው። በአንፃሩ በአንዳንድ አካባቢዎች ላይ የነበረው ከባድ ዝናብ 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 ያሳደረው ጉልህ አሉታዊ ተፅዕኖ አልነበረም። በሌላም በኩል በመካከለኛውና በምስራቅ የሀገሪቱ አካባቢዎች የተገኘው እርጥበት በመጠን ያነሰ ቢሆንም በተለይም ባላለፍናቸው ቀናት ካገኙት እርጥበት ጋር ተዳምሮ የመጠጥ ውሀ አቅርቦትንም ሆነ የግጦሽ ሳር ልምላሜና የተፈጥሮም ሆነ የሰው ሰራሽ ምንጮችን ከማጎልበት አንጻር የጎሳ አስተዋጽኦ ነበረው ።

ባጠቃላይ ባሳለፍነው የጁላይ ወር 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 ነበራቸዋል። ይህም የተገኘው ዝናብ የአፈርን እርጥበት ከማሻሻልም አልፎ ከጁላይ ጀምሮ ለሚዘሩ የተለያዩ የመካከለኛ ጊዜ ሰብሎች የማሳ ዝግጅት ለማከናወንና በታቀደው 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 ቐሚ ተክሎች በተሟላ ሁኔታ እንዲያድጉ የጎላ አስተዋፅዖ ነበረው ። ከዚህ በተጨማሪ በአርብቶ አደርና በከፊል የአርብቶ አደር አካባቢዎች የነበረው የእርጥበት ሁኔታ ለግጦሽ ሳርና ለመጠጥ ውኃ አቅርቦት አዎንታዊ አስተዋፅዖ ከማበርከቱም በላይ ሰው ሰራሽም ሆነ የተፈትሮ ምንጮችን ከማጎልበት አንፃር አዎንታዊ ሚና ነበረው። በአንፃሩ በአንዳንድ የበልግ ሰብል ሙሉ በሙሉ ባላተሰበሰቡባቸው አካባቢዎች የነበረው የእርጥበት ሁኔታ አሉታዊ ጎን ነበረው። በሌላ በኩል በአንዳንድ አካባቢዎች ላይ የነበረው ከንፋስ ጋር የተቀላቀለ ከባድ ዝናብ ጎርፍ ያስከተለ ሲሆን ለመጥቀስም ያህል በጎሎልቻ 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 መንሳፈፍ ያስከተለ ሲሆን ይህም ሁኔታ እየተከናወነ በሚገኘው የእርሻ ስራ እንቅስቃሴ ላይ አሉታዊ ጎን ነበረው። በተጨማሪም የነበረው ከፍተኛ እርጥበት ለአረም መስፋፋትም ሆነ እንደፈንገስ ላሉ የሰብል በሽታዎች መከሰት ምቹ ነበረ።

SUMMARY

JULY 2019

During the first dekad of July 2019, Kiremt rain almost covered much of Meher rain benefiting areas of the country. In particular, over Tigray, Amhara, Benshangul-Gumuze, western and central Oromia, Gambela, Highlands of southern Oromia, northern parts of SNNPR, southern Afar and Dire Dawa and Hareri exhibited better rainfall. . This situation could have a significant and positive contribution with respect to satisfying the water need of crops which were found at different phenological stages, perennial plant, land preparation and sowing of cereals (Teff, wheat and barley), pulse (beans, peas and haricot beans) and oil crops and improve pasture and drinking water availability in postural and agro pastoral areas of the country as well. On the other hand, the observed heavy falls over some places of aforementioned areas may cause flood and water logging on crops field in low lying areas as well as in areas where the soil type is clay.

In normal condition, during the second dekad of July, kiremt rain almost covered much of Meher rain benefiting areas of the country. Likewise, during the second dekad of July 2019, a meteorological weather phenomenon was strengthening in amount and coverage over most part of Keremt rain benefiting areas. Particularly, over Benshangul-Gumuze, Amhara, Tigray, Gambela and SNNPR experienced better rainfall and in addition the weather system has also extended toward over north-eastern, eastern and unexpected rainfall exhibited over southern margins of the country. This situation could have a significant and positive contribution with respect to satisfying the water need of crops which were found at different phenological stages, perennial plant, land preparation and sowing of cereals (Teff, wheat and barley), pulse (beans, peas and haricot beans) and oil crops and improve pasture and drinking water availability in over eastern and north-eastern low land parts of postural and agro pastoral areas of the country as well. Besides, the observed heavy rainfall particularly central parts of the country might have positive impact on the ongoing Meher agricultural activities normally water deficit areas and water harvesting where pods were prepared and that can be used in time of deficit. In contrast, the observed heavy falls over some places of the aforementioned areas may cause flood and water logging on crops field in low lying areas as well as in areas where the soil type is clay.

During the last dekad of July 2019, due to the relative strength of rain bearing meteorological systems over most parts of Meher crop growing areas particularly the northern, western, south-western and central were continuously receiving enhanced moisture. According to the weather report from a wide range of agro meteorological stations, the rainfall was more intensified in space and time over most parts of Meher crop growing areas after the mid of the dekad. In line with this, over Tigray, Amhara, Benishangule, Gamberlla, SNNPR, western and central Oromia, including Addis Ababa, southern high lands of Oromia, southern Afar region, Dire Dawa and Hareri received various amount of rainfall in the range of light to heavy fall. In addition to that some places, including Addis Ababa, Alem Ketema, Arjo, Adelle, Adet, Ayehu, Bahir Dar, Bore, Chagni, Debre Brihan, Debre Markos, Debre Tabor, Dangila, Dilla, Fiche, Gambella, Gimbi, Ginir, Gore, Hareri, Kachise, Nekemt, Lemugenet, Mehal Meda, Nazret, Nejo, Nuraera, Pawi, Robe, Shambu, Shawra, Sir Abaye, Werelu, Ziwaye, Terch, Jara (Amhara), Tepi, Gidayna, Chewaka, Bure, Fugnedo and Samre received heavy fall in the range 30.2 to 107.5mm with a temporal time scale of 1 to 4 days. Looking into the per cent of normal rainfall (Figure) much of the western, Central and eastern Tigray, south Gonder, west and east Gojam, south Wello, north Shewa, Assosa, Gambella, all zones of SNNPR, all zones of Wellega, parts of north Gonder, south Gonder, Assosa, all zones of wellega, Illubabora, Jimma, Gambela, all zones in SNNPR, Arsi, Bale, west and east Harerge, Guji, Borena, Afar zone 1 & 3, Fafen and city zones exhibited normal to above normal rainfall and which is good enough 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, sowing of Meher season crops, further growth of early planted Belg as well as Meher crops and improved water resources, soil moisture reservoirs. The received above normal rainfall over the pastoral and agro pastoral community particularly in the southern Oromia, afar and Somalia regions might play crucial role toward improving the availability of pasture and drinking water and regenerating 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 flood and soil erosion.

When we review the month of July 2019, due to the relative strength of rain bearing meteorological systems, most of Meher season crop growing areas as well as some of Kiremt rain benefiting areas have experienced good moisture including southern and south-eastern

low land areas which are climatologically dry in this time. In line with this, many parts of Kiremt rain benefiting areas experienced heavy fall (greater than 30 mm per day). Among, Addis Ababa, DebreSina, Abebo, Gambella, Fiche, Jimma, Majete, Mash, Mekanselam, Maytsemri, Sheraro, Arjio, Ayehu, Bahirdar, Bore, Chagni, Dilla, Gimbi, Ginir, Lemu Genet, MehalMeda, Nejo, Nekemt, SirbAbay, Tercha, chewaka, and Bure received heavy fall in the temporal time scale of 1 to 5 days during the month under review. Looking into the per cent of normal rainfall (Figure) much of the western, Central and eastern Tigray, south Gonder, west and east Gojam, south Wello, north Shewa, Assosa, Gambella, all zones of SNNPR, all zones of Wellega, all zones of Shewa, Arsi, Bale, Guji, Borena, west and east Harerge, Guji, Borena, zone 1,3 & 5, in Afar region, Fafen and city zones exhibited normal to above normal rainfall. 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, sowing of Meher season crops, further growth of early planted Belg as well as Meher crops and improved water resources, soil moisture reservoirs. The received above normal rainfall over the pastoral and agro pastoral community particularly Guji, Borena, west and east Harerge, Fafen, City, Afar region zone 1,3 & 5, regions might play crucial role toward improving the availability of pasture and drinking water and regenerating natural and artificial ponds. 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. This situation might have positive impact toward improving soil moisture which was good for land preparation as well as planting of various crops and vegetables during the month. This condition is believed to be good enough to satisfy daily crop water requirement for various early planted Meher season crops as well as perennial plants. Moreover, the received moisture during the month might facilitate land preparation, sowing of medium cycle Meher season crops, encourage for the further growth of early planted long cycle Meher crops and improved water resources, soil moisture reservoirs. The received above normal rainfall over the pastoral and agro pastoral community particularly in the southern Oromia, afar and Somalia regions might play crucial role toward improving the availability of pasture and drinking water and regenerating natural and artificial ponds. 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.

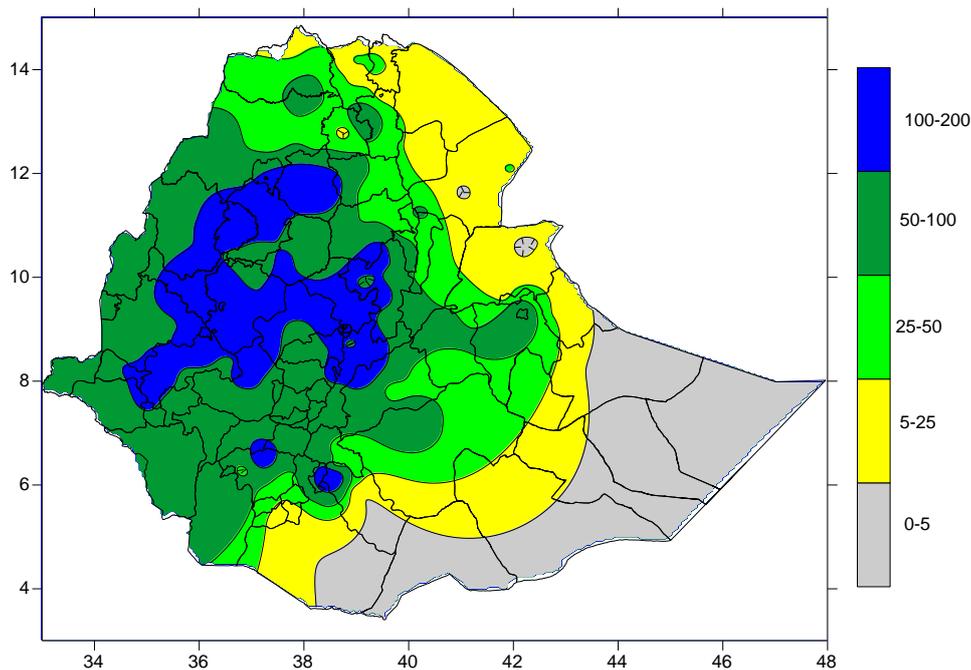


Fig 1. Rainfall distribution in mm (21 – 31) July 2019

1. WEATHER ASSESSMENT

1.1. Rainfall amount (21 – 31) July 2019

During the third dekad of July 2019 south Gonder, west Gojam, Agew-Awi, Kamashi, east Wellega, north, west and south west Shewa, Addis Ababa zone, Gamo gofa, Welayita, Dawro, and Gedeo received 100-200mm. south Tigray, north and south Wollo, Metekel, Assosa, Tongo, west Wellega, east Gojam, Afar zone 5, west and east Harergie, Gambela zone 1, 2 & 3, Godere, Sheka, Bench Maji, Harer, Keffa, Dawro, Jimma, YEM, KT, Gurage, Selti, Alaba, Hadiya, Welayita, Sidama, Basketo, Gamo gofa, South Omo, Derashe, Arsi and Bale received rain fall in the range of 50-100mm. west, east and central Tigray, north Gonder, W.Hamra, north Wollo, Oromia, Afar zone 3 & 5, Konso, Derashe, Bale and Fik received 25-50mm rain fall. east and central Tigray, Metekel, Afar zone 2 & 4, Shinele, Jijiga, Deghabur, Konso, Burji, Amaro, Borena, Guji, Afder and Gode received 5-25mm of rainfall. The rest parts of the country exhibited 0-5 amount of rainfall.

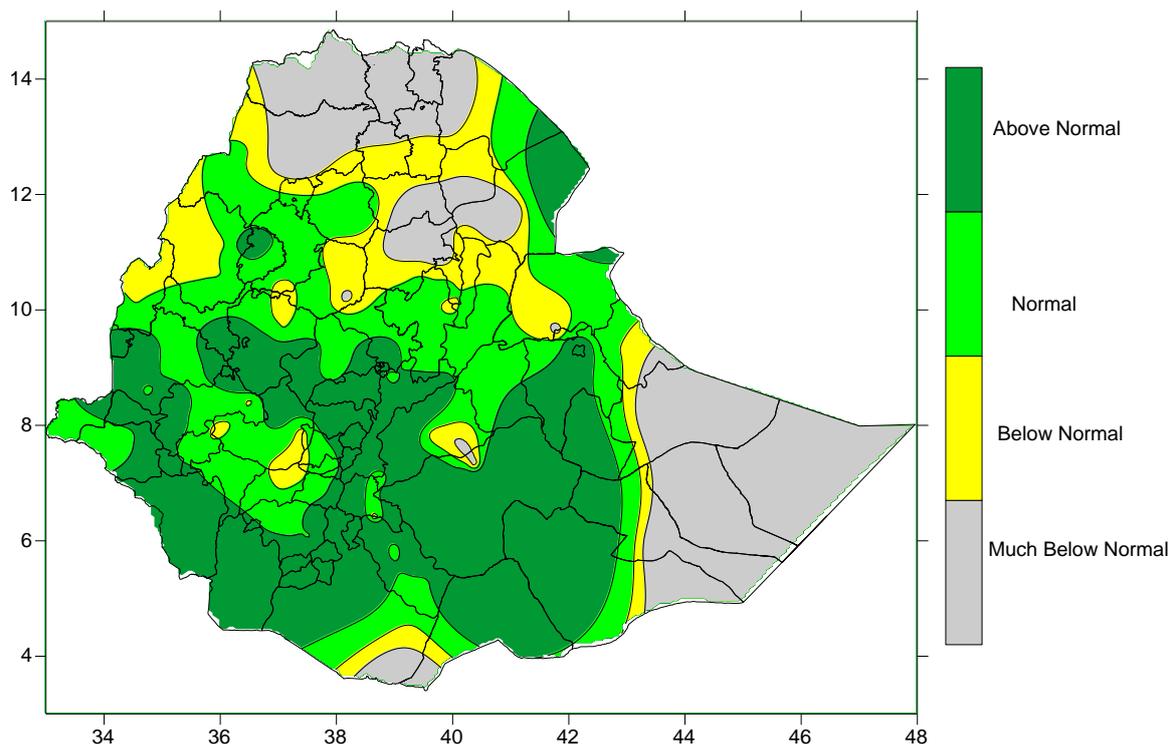


Fig. 2 Percent of normal rainfall distribution (21 – 31 July 2019)

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 July 2019)

Looking into the percent of normal rainfall condition during the last dekad of July over south Gonder, Bahir Dar, west and east Gojam, Agew-Awi, east and west Wellega, Kamashi, Tongo, Gambela zone 1, 2 &3, Godere, Sheka, Illubabur, Jimma, Keffa, Gurage, Selti, Alaba, Hadiya, Welayita, Sidama, north, south west and west Shewa, Addis Ababa zone, Arsi, Bale, Afar zone 2, 3 & 5, west and east Harergie, Harer, Jijiga, Fik, South Omo, Derashe, Konso, Burji, Amaro, Borena, Liben, Afder and Gode have exhibited normal to above normal amount of rainfall. The rest parts of country exhibited below to much below normal rainfall.

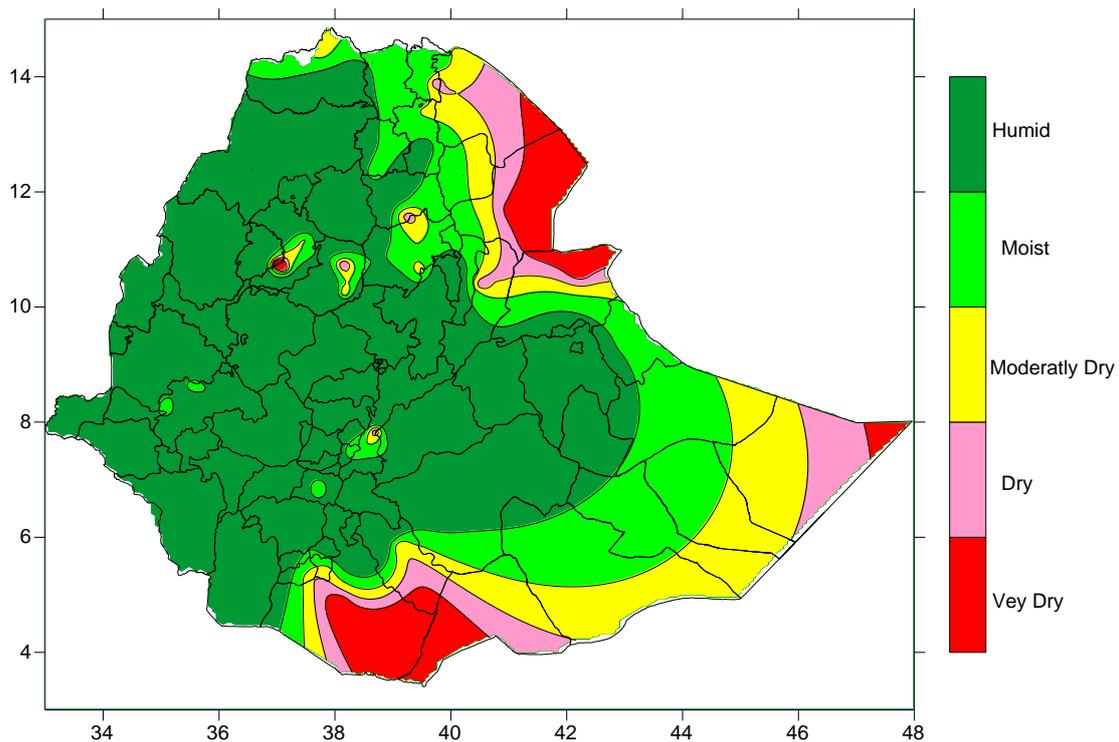


Fig. 3 Moisture Status (21-31 July 2019)

1.3. Moisture status (21 – 31 July 2019)

Central, west, east and south Tigray, north and south Gonder, southern Tigray, north and south Wollo, Oromia especial zone, Bahir Dar, central Tigray, Agew-Awi, west and east Gojam, Assosa, Tongo, Kamashi, west and east Wellega, north, west, south west and north south Shewa, Addis Ababa zone, Afar zone 3, 4 & 5, Tongo, Illubabur, west and east Harergie, Harer, Gurage, Arsi, Harer, Jijiga, Godere, Sheka, Keffa, Jimma, YEM, KT, Alaba, Hadiya, Dawro, Welayita, Sidama, Bench Maji, Basketo, Gamo gofa, Gedeo, Guji , South Omo, Amaro, Guji, Afder, Gode, Deghabur and Korrahe exhibited Humid to Moist moisture condition. The rest parts of the countries exhibited moderately dry to very dry.

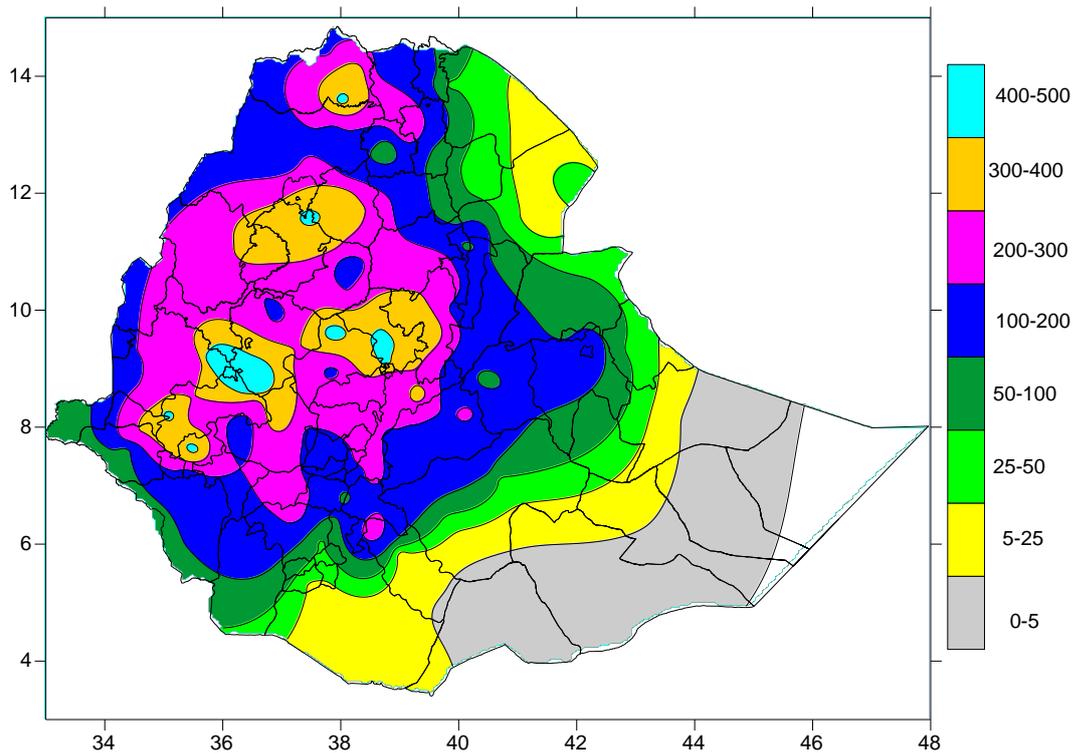


Fig. 4 Rainfall amount in mm for the month of July 2019

1.4. Rainfall amount on the month of July 2019

During July 2019 pocket area of south Gonder, Bahir Dar, west Gojam and north Shewa. received 400 – 500 mm of rainfall. Tip area of west Tigray W.Hamra, south Gonder, Bahir Dar, west Gojam, Addis, Agew-Awi, Kamashi, east Wellega, north and west Shewa, Ababa zone, Illubabur and Sheka 300-400mm of rainfall. west and south Tigray, Metekel, Assosa, west and east Wellega, east Gojam, south Wollo, Illubabur, Gambela zone 1&2, Godere, Jimma, Dawro, Gurage, Selti, Alaba and Gedeo received 200-300mm of rainfall. south Tigray, north and south Wollo, Metekel, Assosa, Tongo, west Wellega, east Gojam, Afar zone 5, west and east Harergie, Gambela zone 1, 2 & 3, Godere, Sheka, Bench Maji, Harer, Keffa, Dawro, Jimma, YEM, KT, Gurage, Selti, Alaba, Hadiya, Welayita, Sidama, Basketo, Gamo gofa, South Omo, Derashe, Arsi and Bale received 100-200mm of rainfall. Gambela zone 2&3, Bench Maji, east Tigray, Afar zone 4&1, Shinele, Jijiga, Konso, Derashe, Gamo gofa, Bale and Fik received rain fall in the range of 50-100mm. Afar zone 1,2 &4, Jijiga, Guji, Konso and Burji received 25-50mm rain fall. Afar zone 1&2, Degahabour, Gode, Amaro, Borena and Guji received 5-25mm of rainfall. The rest parts of the country exhibited 0-5 amount of rainfall.

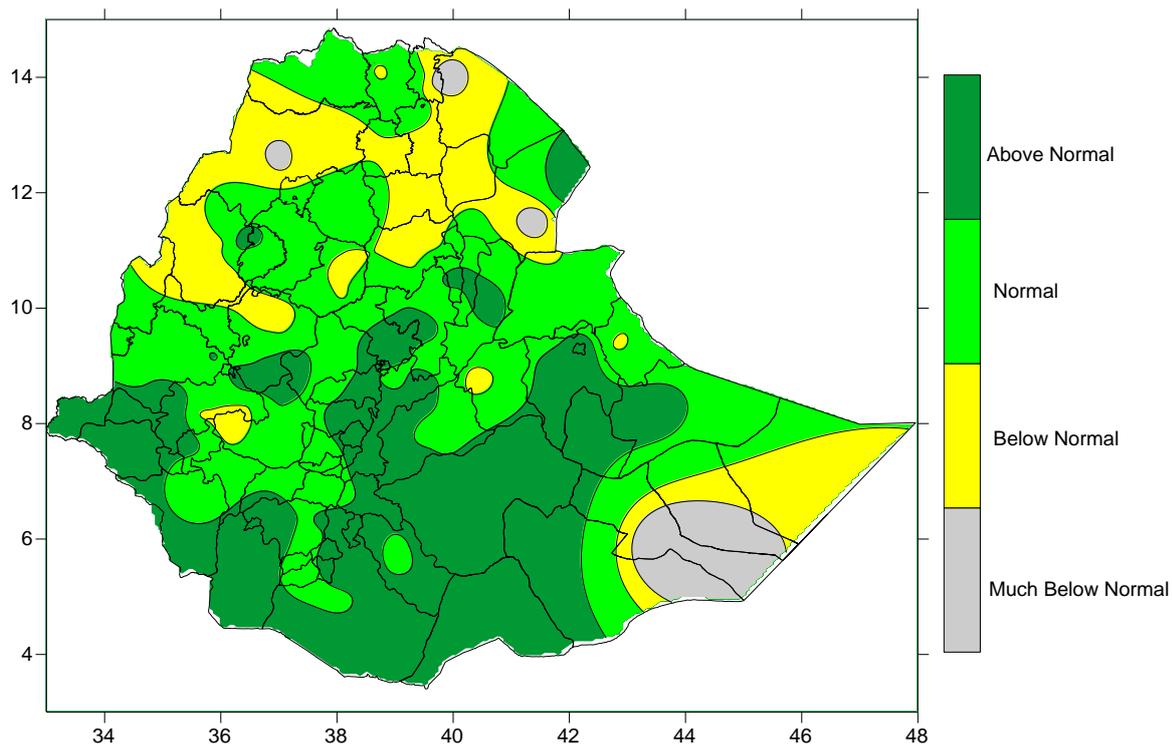


Fig. 5 Percent of Normal Rainfall for the month of July 2019

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 July 2019

During the month of July, South Gonder, Bahir Dar, west and east Gojam, Agew-Awi, east and west Wellega, Kamashi, Tongo, Gambela zone 1, 2 &3, Godere, Sheka, Illubabur, Jimma, Keffa, Gurage, Selti, Alaba, Hadiya, Welayita, Sidama, north, south west and west Shewa, Addis Ababa zone, Arsi, Bale, Afar zone 2, 3 & 5, west and east Harergie, Harer, Jijiga, Fik, South Omo, Derashe, Konso, Burji, Amaro, Borena, Liben, Afder and Gode have exhibited normal to above normal amount of rainfall. The rest parts of country exhibited below to much below normal rainfall.

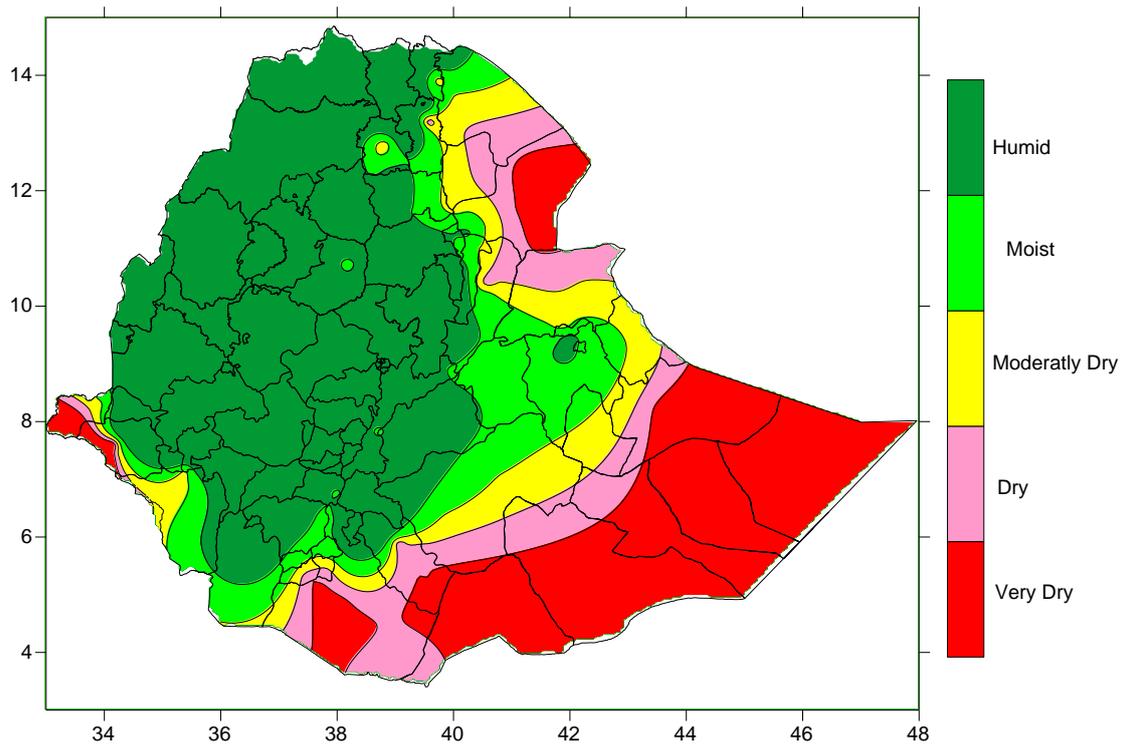


Fig. 6 moisture status for the month of July 2019

1.6. Moisture status on the month of July 2019

In accordance with the moisture status map above, Central, west, east and south Tigray, north and south Gonder, Mekele, north and south Wollo, Oromia especial zone, Bahir Dar, Metekel, Agew-Awi, west and east Gojam, Assosa, Tongo, Kamashi, west and east Wellega, north, west, south west and north south Shewa, Addis Ababa zone, Afar zone 3, 4 & 5, Tongo, Illubabur, west and east Harergie, Harer, Gurage, Arsi, Harer, Jijiga, Godere, Sheka, Keffa, Jimma, YEM, KT, Alaba, Hadiya, Dawro, Welayita, Sidama, Bench Maji, Basketo, Gamo gofa, Gedeo, Guji and South Omo exhibited Humid to Moist moisture condition. The rest parts of the countries exhibited moderately dry to very dry.

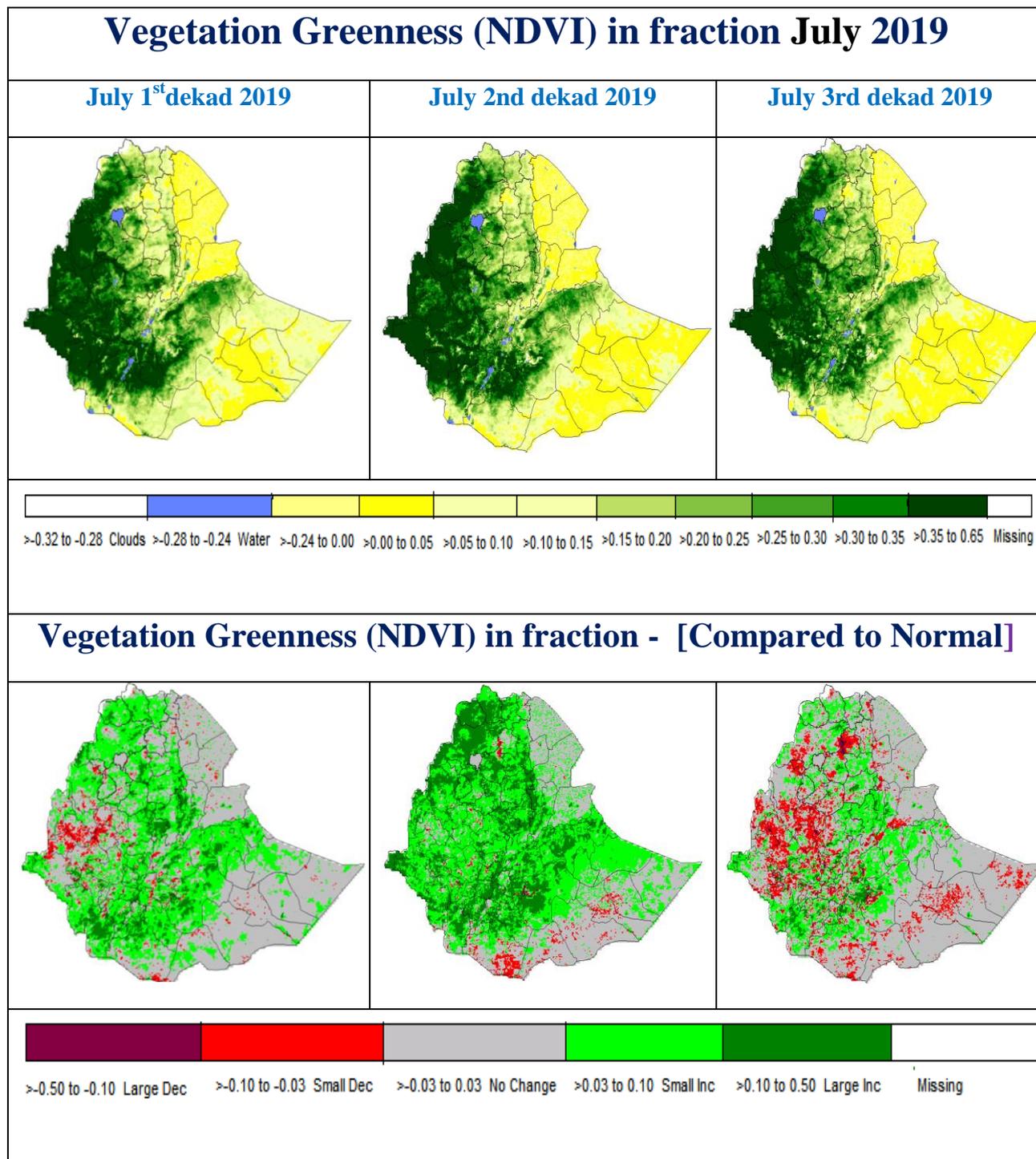


Fig.7 Vegetation Greenness (NDVI) in fraction and Compared to Normal July 2019

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1. Vegetation Condition And Impact On Agriculture On The Month Of July 2019

In general, When we review the month of July 2019, due to the relative strength of rain bearing meteorological systems, most of Meher season crop growing areas as well as some of Kiremt rain benefiting areas have experienced good moisture including southern and south-eastern low land areas which are climatologically dry in this time. In line with this, many parts of Kiremt rain benefiting areas experienced heavy fall (greater than 30 mm per day). Among, Addis Ababa, DebreSina, Abebo, Gambella, Fiche, Jimma, Majete, Mash, Mekansalam, Maytsemri, Sheraro, Arjio, Ayehu, Bahirdar, Bore, Chagni, Dilla, Gimbi, Ginir, Lemu Genet, MehalMeda, Nejo, Nekemt, SirbAbay, Tercha, chewaka, and Bure received heavy fall in the temporal time scale of 1 to 5 days during the month under review. Looking into the per cent of normal rainfall (Figure) much of the western, Central and eastern Tigray, south Gonder, west and east Gojam, south Wello, north Shewa, Assosa, Gambella, all zones of SNNPR, all zones of Wellega, all zones of Shewa, Arsi, Bale, Guji, Borena, west and east Harerge, Guji, Borena, zone 1,3 & 5, in Afar region, Fafen and city zones exhibited normal to above normal rainfall. 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, sowing of Meher season crops, further growth of early planted Belg as well as Meher crops and improved water resources, soil moisture reservoirs. The received above normal rainfall over the pastoral and agro pastoral community particularly Guji, Borena, west and east Harerge, Fafen, City, Afar region zone 1,3 & 5, regions might play crucial role toward improving the availability of pasture and drinking water and regenerating natural and artificial ponds. 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. This situation might have positive impact toward improving soil moisture which was good for land preparation as well as planting of various crops and vegetables during the month. This condition is believed to be good enough to satisfy daily crop water requirement for various early planted Meher season crops as well as perennial plants. Moreover, the received moisture during the month might facilitate land preparation, sowing of medium cycle Meher season crops, encourage for the

further growth of early planted long cycle Meher crops and improved water resources, soil moisture reservoirs. The received above normal rainfall over the pastoral and agro pastoral community particularly in the southern Oromia, afar and Somalia regions might play crucial role toward improving the availability of pasture and drinking water and regenerating natural and artificial ponds. 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.

2.2. Expected Weather Impact On Agriculture During The Coming Month Of August 2019

During the month of August, under normal circumstances, the rain producing systems are expected to be strengthening across Meher producing area of the country. Hence, the rainfall activities both in distribution and amount would be better over Kiremt rain benefiting areas. And north-eastern pastoral areas of the country experienced good moisture. Flood and Hailstorm expected some parts of the country.

In the coming month of August 2019, the meteorological forecast information indicates that the seasonal rainfall activity is expected to continue in distribution and amount over much of Meher and Kiremt rainfall benefiting area of the country. In line with this, Oromia region of eastern and western Wellega, Jimma, Ilubabor, all zones of Shewa, eastern and western Harerge, all zones of Arsi and Bale, Addis Ababa, Amhara region of western and eastern Gojam, north and south Gonder, Bahir dar zuria, north Shewa, north and south Wello, all zones of Tigray region, Benshangul-Gumuz and Gambella, SNNPR regions of Hadya, Gurage, Keffa, Bench Maji, Wolita, Dawero, Gamogofa and Sidama zones will experienced near normal to above normal rainfall. The situation will favor ongoing meher agricultural activities which are at different phenological stages in terms of crop water requirement such as water availability of perennial plants, long cycle Meher crops which found at grain filling and maturity stage, and availability of pasture and drinking water over pastoral and agro pastoral areas of the aforementioned areas. Besides Dire dewa and Harari, Afar region of zone 3 and 5 Jijiga and City zones, South Omo, Segen people and Borena and Guji zones will expected near normal rainfall. The expected moisture situation will favor for the improvement of pasture and drinking water availability particularly over eastern and north eastern pastoral and

agro pastoral low lands. However, the expected above normal rainfall over some areas may result in heavy falls it might lead to water logging and crop damage on crop fields found in low-lying areas and near riverbanks including in areas where the soil type is clay. In order to alleviate such adverse condition, prevention technique like channelling had better be strengthened over the flood prone areas. Moreover, the continuous and widespread rainfall over some parts might create conducive condition for weed infestation which can be aggressive at the time of excess moisture condition. Therefore proper attention should be taken to minimize the risk due to the expected excesses moisture condition. Nevertheless, the expected below normal rainfall over some places of the above-mentioned areas would affect the water requirement of crops and pasture as well. Hence we advise farmers wisely utilize the water obtained from the rain as well as use water harvesting techniques.

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.

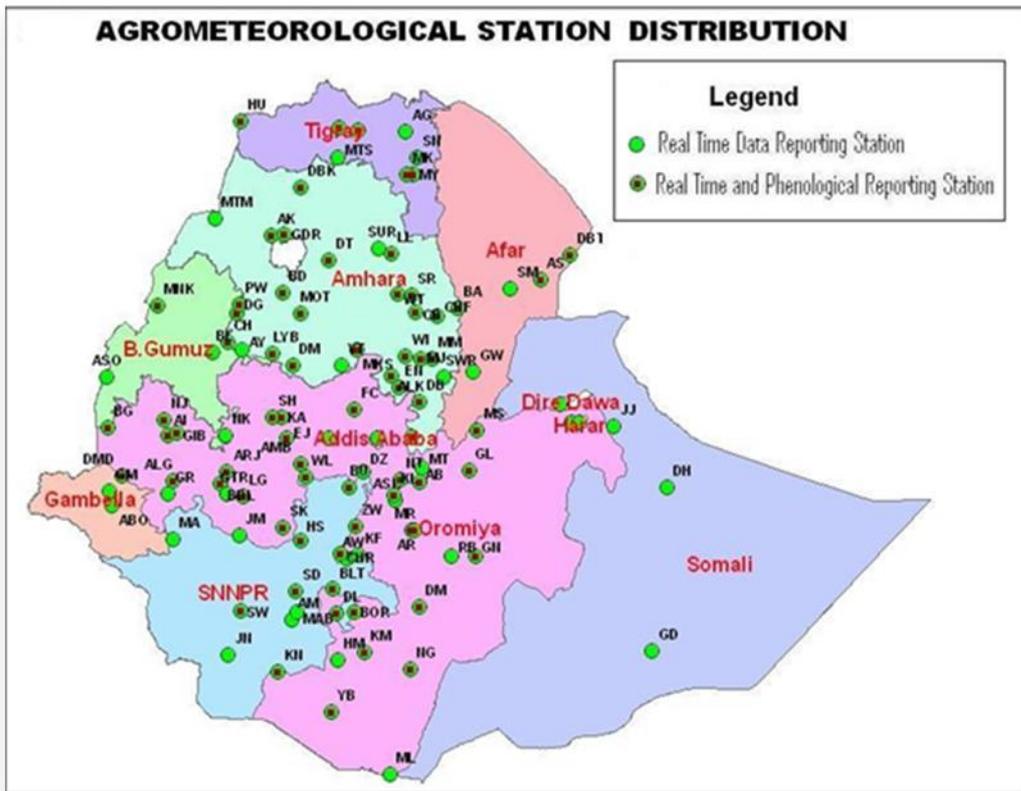
DEKAD: - First or second ten days or the remaining days of a month.

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	SR
Awassa	AW	Gambela	GM	Maichew	MY	Sirinka	SD
Aykel	AK	Gelemso	GL	Majete	MJ	Sodo	SD
B. Dar	BD	Ginir	GN	Masha	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		
D. Markos	DM	Hossaina	HS	Moyale	ML		
				M/Selam	MSL		