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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 ክረምት 2014

የክረምቱ ወቅት ዝናብ በሚያዚያና በግንቦት ወር ለሚዘሩት የረዥም ጊዜ ሰብሎች የውሃ ፍላጎት የሚኖረው አስተዋፅየ ከፍተኛ ሲሆን በበጋው ወቅት እድገታቸውን ለሚያጠናቅቁ የመኸር አዝርዕቶች ያለው ጠቀሜታ ከፍተኛ ነው። በተጨማሪ ከክረምቱ ዝናብ ባሻገር የበልግ ወቅት ዝናብ በተለይም በሚያዚያና በግንቦት ወር የሚኖረው ዝናብ በመጠንም ሆነ በስርጭት ረገድ ለረጅም ጊዜ ሰብሎች እንደ ዳጉሳ፣ በቆሎና ማሽላ ላሉት አዝርዕቶች የዕድገት ሁኔታ አስተዋፅየ የጎላ ነው።።

እ.ኤ.አ ጁን 2014 ወር የክረምት ዝናብ ከመጠናከሩ ጋር ተያይዞ ከጁን ሁለተኛ አስር ቀናት ጀምሮ በደቡብ ምዕራብና በምዕራብ የሀገሪቱ ክፍሎች ላይ ተወስኖ የነበረው ዝናብ ወደ አብዛኛው የክረምት ዝናብ ተጠቃሚ የሀገሪቱ ክፍሎች ተስፈፍቶ ታይቷል። ከዚህም የተነሳ ባሳለፍነው የሰኔ ወር አማራ፣ ትግራይ፣ አብዛኛው ኦሮሚያ፣ ጋምቤላ፣ ቤንሻንጉል ጉምዝ እና በደቡብ ብሔር ብሔረሰቦች እና ህዝቦች ክልል ከቀላል እስከ ከባድ መጠን ያለው ዝናብ አግኝተዋል። የዝናብም መጠን በአንዳንድ በታዎቻቸው ላይ ከ35.0-58.6 ሚሊ ሜትር የሚደርስ ከባድ ዝናብ በአንድ የዝናብ ቀን ነበራቸው። የዝናቡ አጀማመር በአብዛኛው መልኩ መደበኛ ፈሩን የተከተለ እና በመጠንም ሆነ በስርጭት ረገድ ጥሩ ስለነበረ ለወቅቱ የእርሻ ስራ እንቅስቃሴ ለማሳ ዝግጅትና ለዘር እንዲሁም በበልግ ወቅት ተዘርቶ በተለያየ የዕድገት ደረጃ ላይ ለሚገኙ የረጅም ጊዜ የመኸር ሰብሎችና ለቋሚ ተክሎች የውሃ ፍላጎት መሟላትና ለአርብቶ አደሩና ከፊል አርብቶ አደሩ አካባቢ ለግጦሽና ለመጠጥ ውሃ አቅርቦት የጎላ ጠቀሜታ ነበረው። በሌላ በኩል አንዳንድ ቦታዎች ላይ የጣለው ከባድ ዝናብ ምንም እንኳን የደረሰ ሪፖርት ባይኖርም የአፈር መሸርሸር እና በሰብሎች ላይ መጠነኛ ጉዳት እንደሚያደርስ ይታመናል ።

እ.ኤ.አ ጁላይ 2014 ወር በአብዛኛው የክረምት ዝናብ ተጠቀሚ አካባቢዎች ላይ ዝናቡ መደበኛውን ፈሩን የተከተለ ከመሆኑ ጋር ተያይዞ በአብዛኛው ትግራይ፣ አማራ፣ ቤንሻንጉል-ጉሙዝ፣ ጋምቤላ፣ ኦሮሚያ፣ የደቡብ ኦሮሚያ ከፍተኛ ስፍራዎች፣ ደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል፣ አፋር፣ ድሬዳዋ፣ ሐረሪ፣ በሰሜን ሱማሌ እንዲሁም በመካከለኛውና በምዕራብ

የሀገሪቱ አጋማሽ አካባቢዎች ከክረምት መግቢያ ጀምሮ ዝናቡ እምብዛም ሳይቋረጥባቸው ቀጥሎባቸው የሰነበተ ሲሆን በአንዳንድ ስፍራዎቻቸው ላይም የጣለው ከፍተኛ ዝናብ ቅፅበታዊ ጎርፍ በማስከተሉ ምክንያት በእንሰሳትና በአዝርዕት ላይ ጉዳት ማስከተሉ ከመረጃ ክፍላችን ለማወቀ ተችሏል።ሆኖም ግን በመደበኛ ሁኔታ ዝናብ ያገኙ አካባቢዎች ላይ የተገኘው ዝናብ በተለያየ የእድገት ደረጃ ላይ ለሚገኙ የረጅም ጊዜ የአገዳ ሰብሎች እንደ ዳጉሳ፣ ማሽላና በቆሎ ለመሳሰሉት እንዲሁም ለቋሚ ሰብሎች የውሃ ፍላጎት መሟላት፣ ለመኸር ሰብሎች የዘር የእርሻ ስራ እንቅስቃሴና ለአርብቶ አደሩና ከፊል አርብቶ አደሩ ለግጦሽ ሣር ልምላሜና ለመጠጥ ውሃ አቅርቦት ጠቀሜታ ነበረው። በአንዳንድ የሰሜን ምሥራቅና የምሥራቅ የሀገሪቱ አካባቢዎች ላይ ዝናቡ ተከታታይነት ባይኖረውም የተገኘው መጠነኛ እርጥበት በአሁኑ ሰአት ለሚካሄደው የእርሻ ስራ እንቅስቃሴና ለግጦሽ ሳር ልምላሜ ጠቀሜታው የጎላ ነበር ።

እ.ኤ.አ በኦገስት 2014 ለክረምት ዝናብ መኖር መንስኤ የሚሆኑ የአየር ሁኔታ ክስተቶች ተመቻችተው የነበሩ በመሆኑ ዝናቡ በስርጭትም ሆነ በመጠን ረገድ የተስፋፋና የተጠናከረ ነበረ። ከዚሁ ጋር ተያይዞ በትግራይ፣ በአማራ፣ በቤንሻንጉል-ጉሙዝ፣ በጋምቤላ፣ በደቡብ ብሔር ብሔረሰቦች ህዝቦች ክልል፣ በአብዛኛው ኦሮሚያ፣ በአፋር፣ በድሬዳዋ፣ በሐሪሪ እና በሰሜን ሶማሌ ከ50.0 እስከ 538.0 ሚ.ሜ መጠን ያለው ዝናብ ከ10 እስከ 28 ቀናት በተከታታይ ነበራቸው። በአንዳንድ ስፍራዎቻቸውም ላይ 30 እስከ 100.5 ሚ.ሜ ዝናብ በ አንድ ቀን ውስጥ አግኝተዋል። በአጠቃላይ በኦገስት 2014 በመደበኛው ሁኔታ ደረቅ ሆነው ከሚቆዩት የሀገሪቱ የደቡብና የደቡብ ምሥራቅ ውጪ ጥቂት የደቡብ ኦሮሚያና የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልልና የምዕራብ አማራአካባቢዎች ከመደበኛ በታች የሆነ ዝናብ የነበራቸው ሲሆን የተቀሩት የሀገሪቱ አካባቢዎች መደበኛና ከመደበኛው በላይ ዝናብ አግኝተዋል። ይህም የተገኘው ዝናብ በወቅቱ ለሚካሄደው የግብርና ሥራ እንቅስቃሴ አመቺ ሁኔታን እንደፈጠረ ግልጽ ነው። በተጨማሪም በአንዳንድ ሥፍራዎች የጣለው ከባድ ዝናብ አሉታዊ ተጽዕኖ እንደ ነበረው ይገመታል።

እ.ኤ.አ በሴፕቴምበር 2014 የመጀመሪያውና ሁለተኛው አሥር ቀናት ለዝናብ መኖር መንስኤ የሆኑ የአየር ሁኔታ ክስተቶች በአብዛኛዎቹ የሀገሪቱ ክፍሎች ላይ የተሻለ ጥንካሬ ነበራቸው። ይሁን እንጂ በሶስተኛው አሥር ቀናት የክረምት ዝናብ መደበኛውን ፈር በተከተለ መልኩ በሰሜን ምሥራቅ የአገሪቱ አካባቢዎች ላይ በመጠንም ሆነ በስርጭት ረገድ ከሰሜን፣ ከሰሜን ምሥራቅና ከምስራቅ የሀገሪቱ ክፍሎች ቀንሶ ተስተውሏል። ሆኖም ግን በአፋር፣ በምሥራቅ ትግራይና በሰመራን ዝናብ ማግኘታቸውን የቀጥሏል።

ዘንድሮው የክረምት ወቅት ዝናብ ከሞላ ጎደል መደበኛውን ፈር በተከተለ መልኩ የመወጣት አዝማሚያ ያሣየ ሲሆን በተለይ የዝናቡ ሁኔታ የሀገሪቱ ምዕራባዊ አጋማሽን ጨምሮ በመካከለኛውና ምሥራቅ ኢትዮጵያ ላይ ጥንካሬ ነበረው። ከዚሁ ጋር ተያይዞ በትግራይ፣ በአማራ፣ በቤንሻንጉል-ጉሙዝ፣ በጋምቤላ፣ በአብዛኛው ኦሮሚያ፣ በደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል፣ በአፋር፣ በድሬዳዋ፣ በሐረሪ እና በሰሜን ሶማሌ ከቀላል እስከ ከባድ መጠን ያለው ዝናብ አግኝቷል። ይህም የተገኘው ዝናብ ከአንዳንድ የምስራቅና የመካከለኛው የአገሪቱ ኪስ ቦታዎች ግን ለተወሰኑ ቀናት ዝናብ ከመዘግየቱ በስተቀር በአብዛኛው የመኸር እብቃይ በሆኑት አካባቢዎች የተገኘው እርጥበት በሚያዚያና በግንቦት ወር ተዘርተው በክረምት ወቅት በተለያየ የዕድገት ደረጃ ላይ ለሚገኙ የረዥም ጊዜ ሰብሎች እንደ በቆሎ፣ ማሽላና ዳጉሳ ለመሳሰሉት እና ለቋሚ ተክሎች የውሃ ፍላጎት መሟላት እንዲሁም ለመኸር እርሻ ስራ እንቅስቃሴና ለአርብቶ አደሮችና ከፊል አርብቶ አደሮች ለመጠጥ ውሃና ለግጦስ ሳር አቅርቦት የጎላ ጠቀሚታ ነበረው። ሆኖም ግን በ 24 ሰአት ውስጥ 30.0-96.0 ሚ.ሜ የሚደርስ ከባድ ዝናብ በአጽቢ፣ በአይከል፣ በቡለን፣ በአዲስ አበባ፣ በበደሌ፣ በጅግጅጋ፣ በኢጀጂ፣ በሊሙገነት፣ በሐረርና በካቺሲ በአዝርእትና በእንሰሳት ላይ ጉዳት መድረሱ ከመረጃ ክፍላችን ለማወቅ ተችሏል።

የአዝርእት የውሃ ፍላጎትና ሽፋን የሚያሳዩት ምስሎችም እደሚያሳዩት የዘንድሮ ክረምት ከላይ ከተጠቀሱት ኪስ ቦታዎች በስተቀር የተገኘው እርጥበት የክረምት ዝናብ ተጠቃሚ በሆኑት አካባቢዎች ምቹ ሁኔታ የፈጠረ ነበር።

KIREMT 2014/15

SUMMARY

Normally central and northern highlands, eastern highlands, parts of central, southwestern and southern Ethiopia are known as Kiremt growing areas. Kiremt is the season that fulfills the water requirement of long cycle crops which are planted in the months of April- May and Meher crops that achieve maturity during the Bega season. In addition to the Kiremt rain, the Belg seasonal rainfall, the rainfall amount and distribution during the months of April and May has significant impact on the performance of long cycle crops (maize and sorghum).

During the month of June 2014 During the previous month June 2014 the first ten days the rainfall activity are concentrate over western and southwestern parts of the country. While during the second and third decade of the month Kerimt rain bearing meteorological phenomena was strengthened in amount and distribution over Kiremt rain benefiting of northern, western and central Ethiopia received heavy rainfall ranging 50-333.0mm for 8 to 28 days. Northeastern and eastern parts of the country exhibited light rainfall rainging from 5to 50.0mm for 3 to 14 days. In general western Tigray, western Amhara, Benshangulu-Gumuz, high land of southern and western Oromia and SNNPR exhibited normal to above normal rainfall while the rest parts of the country receive below normal rainfall. Thus, the situation might have favored Meher agricultural activities such as land preparation and sowing Meher crops, water requirement for long cycle crops that are found at different growing phase, perennial plants, improvement of pasture and drinking water availability over pastoral and agro pastoral areas of the country.

During the month of July 2014, Kiremt rain bearing meteorological phenomena was strengthened and covered much of kiremt rain benefiting areas of the country. In line with is much of Tigray, Amhara, Benishangul-Gumuz, and Gambella, western, central and eastern and high lands of southern Oromia, SNNPR, Afar, Dire Dawa, Harari and northern Somali experienced light to heavy rainfall. This might have favor ongoing seasonal agricultural activities, abaliblity of drinking water and pasture over pastoral and agro pastoral areas of the country and water requirement for perennial plants. Some station reported heavy fall ranging from 30 to 112.0 mm

in one rainy day this situation might have cause water logging, soil erosion and crop and livestock damage.

During the month of August 2014, strengthen further expanded, good in amount and even in distribution .To sum up, the rain fall performance of the month under review favored over all seasonal agricultural activities. As a result Tigray, Amhara, Much of Oromia, Afar, Dire Dewa, and Northern Somali received light to heavy rainfall. The situation favored ongoing seasonal agricultural activities. The heavy falls ranging from 50-100mm in one rainy day might have certain negative impact.

During the month of September 2014, under normal circumstance the rainfall activity was slightly decreasing from Kiremt rain benefitting areas of the country. However, due to the strength of rain bearing meteorological phenomena most parts of the country received better rainfall in amount and distribution. This situation might have significantly contributed Kiremt crops that were at different phenological stage, perennial plants and long cycle Meher crops. The analysis of moisture status indicated that there was significant increase in moisture condition over most parts of SNNPR, Gambela, Benishangul-Gumuz, most of Oromia and southern and eastern Amhara. The situation favored the general agricultural activities and availability of pasture and drinking water over southern and southeastern lowlands of the country. Some station reported heavy fall raining from 30.2 to 79.2 mm of rainfall in one rainy day.

Generally, Kiremt rain had significantly contribute and favored sowing activities of Meher crops like, Teff, Wheat, Oats, Barely, pulses: haricot bean, peas, beans and oil crops like sesame, also helped the availability of pasture and drinking water over pastoral and agro pastoral areas of northeastern low lands. The observed moisture condition over most Kiremt rain benefiting areas of the country showed month by month improvement over most Meher crop growing areas. In the month of June 2014 moisture deficit might have seen over northeastern, central and eastern parts of the country, which might have affected early sown Meher crops. The Moisture condition observed at the end of June 2014 has favored sowing of Mehre crops and availability of sufficient moisture for long cycle crops. On the other hand, heavy falls ranging from 30.5– 100.5 mm of rainfall in one rainy day was reported over highlands of northern, northwest, central, eastern and southern parts of the country.

Kiremt 2014 Moisture Statues

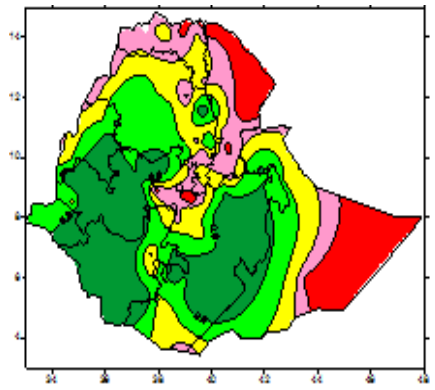


Fig 1. Moisture status for the month of April 2014

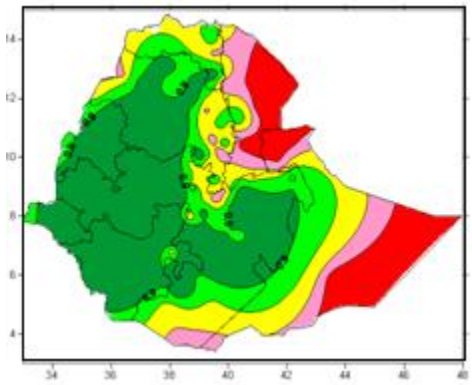


Fig 2. Moisture status for the month of May 2014

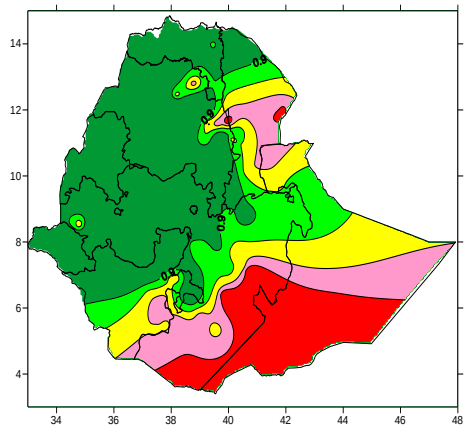
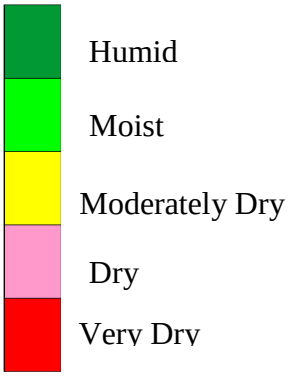


Fig 3. Moisture status for the month of June 2014



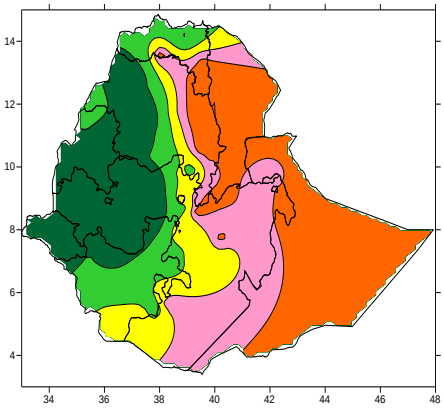


Fig 4. Moisture status for the month of July 2014

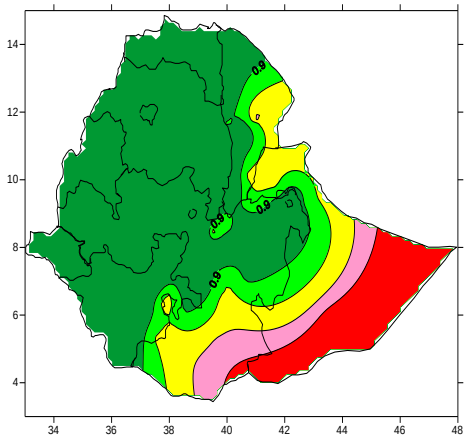


Fig 5. Moisture status for the month of August 2014

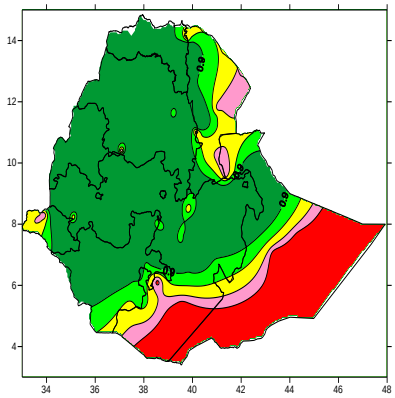


Fig 6. Moisture status for the month of September2014

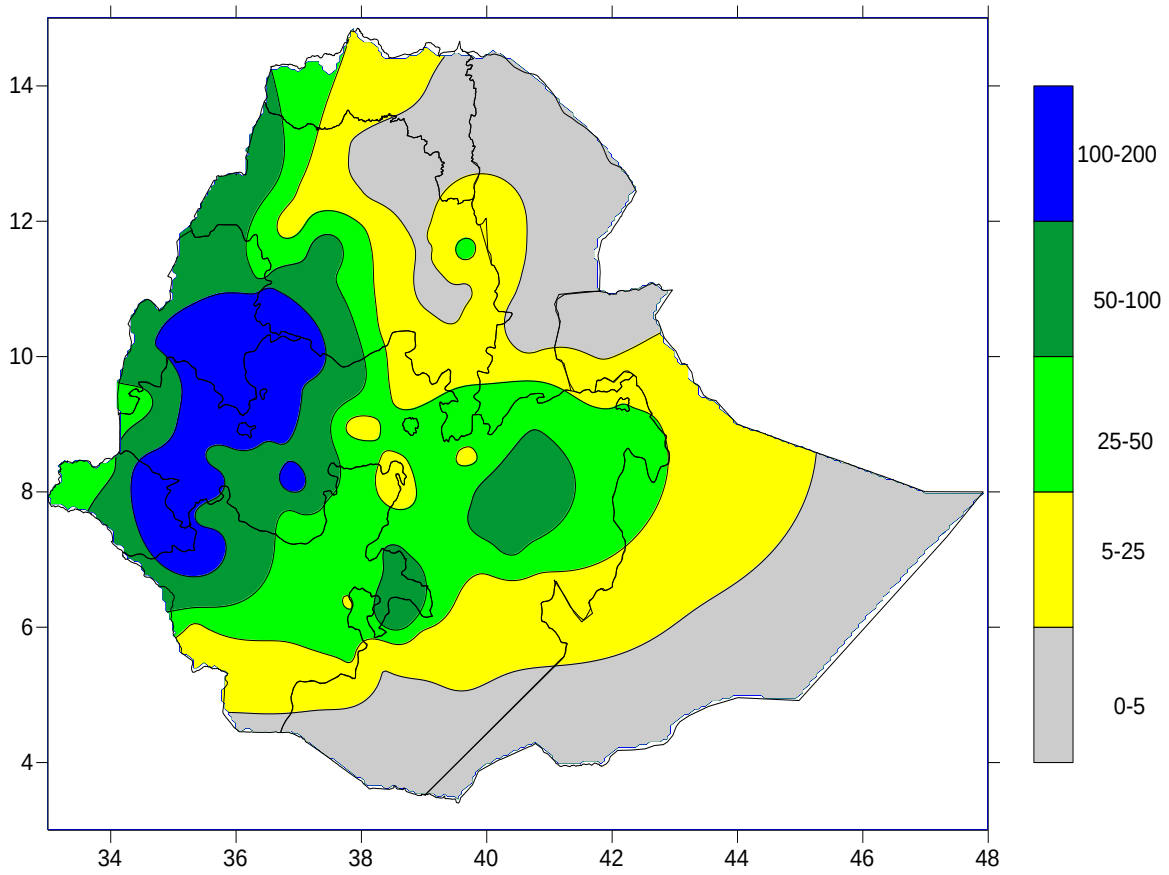


Fig. 7 Rainfall distribution in mm (21-30 September 2014)

1. WEATHER ASSESSMENT

1.1 21-30 September 2014

1.1.1 RAINFALL AMOUNT (Fig.5)

Some places of south western Oromia, eastern Gambela, southern half of Beshangul–Gumuz and southwestern of Amhara exhibited 100-200 mm of rainfall. Pocket areas of Tigray, some places of western, southern Amhara, much of Benshangul-Gumuz, western and southeastern Oromia, some places of western and southeastern SNNPR and northern and central Gambela received 50-100 mm of rainfall. Some places of western Tigray, western and southwestern Amhara, eastern, western and central Oromia, western Gambela, northern, central and eastern SNNPR and pocket areas of western Somalia received 25- 50 mm of rainfall. Some places of central and northern Tigray, much of central Amhara, eastern half of Oromia, few places of southern SNNPR and western half of Somali and pocket area of Afar received 5-25 mm of rainfall. The rest parts of the country exhibited little or no rainfall.

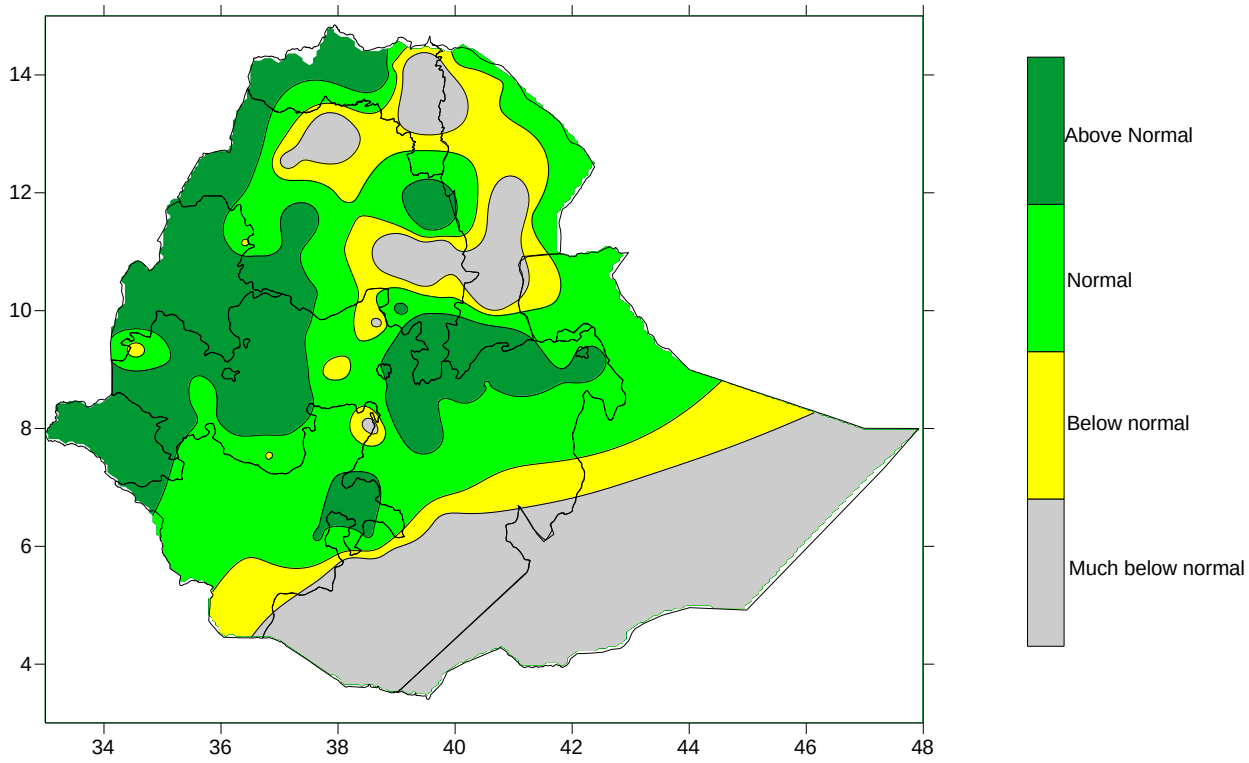


Fig. 8 Percent of normal rainfall (21-30 September 2014)

Explanatory notes for the Legend:
< 50-Much below normal
50-75%-Below normal
75-125%- Normal
> 125% - Above normal

1.1.2 RAINFALL ANOMALY (Fig. 6)

Much of Gambella, Benshangul-Gumuz, Oromia, western parts of Tigray and Amhara, SNNPR central Somalia and eastern margin of Afar exhibited normal to above normal rainfall. The rest parts of the country received below normal too much below normal rainfall.

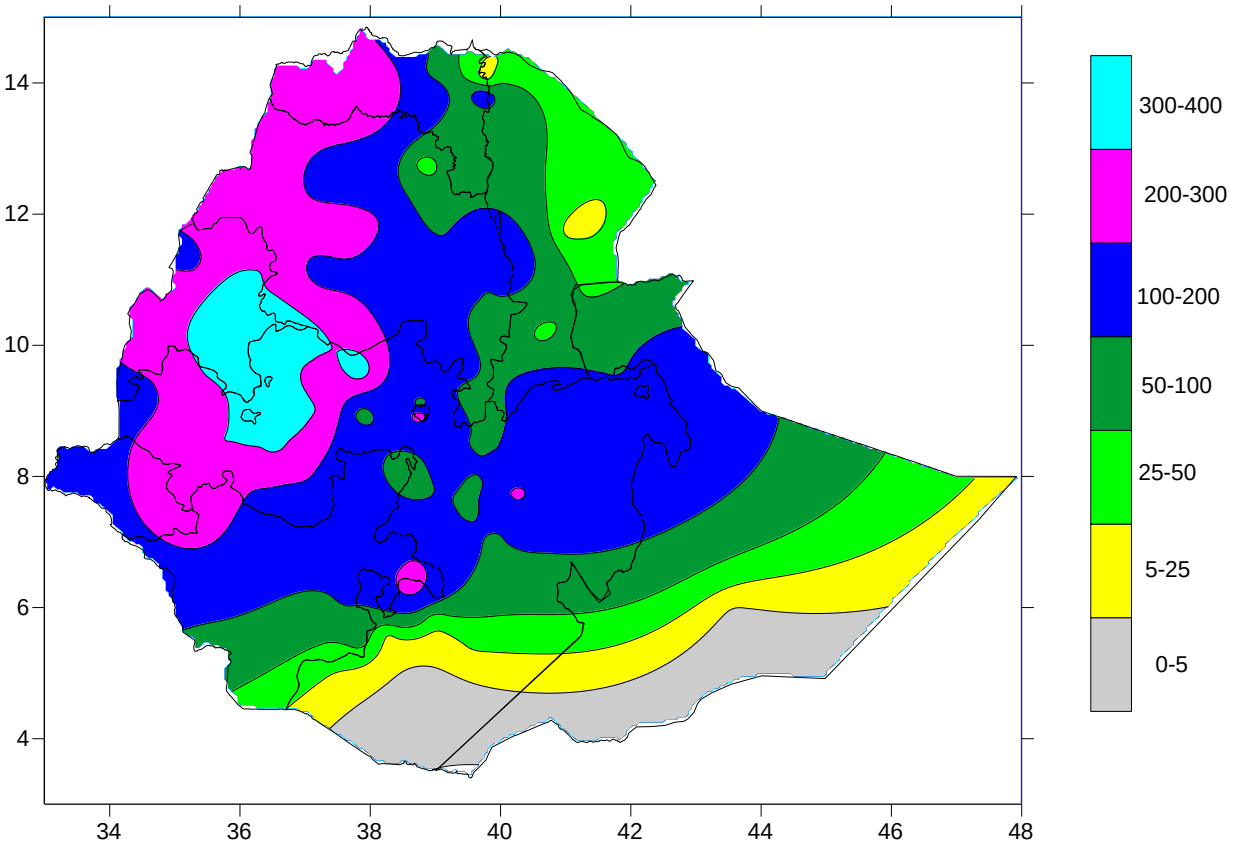


Fig. 9 Rainfall Distribution in mm for the month of September **2014**

1.2 September 2014

1.2.1 Rainfall Amount (Fig.7)

Much of southeastern Benshangul- Gumuz and northwestern Oromia received 300-400 mm of rainfall. Much of western Tigray, Amhara, Beshangul–Gumuz, and eastern Gambela and western Oromia received 200-300 mm of rainfall. Much of northern and eastern Tigray, Amhara, central and southern Oromia, Dire Dawa, Harari, southern SNNPR received 100-200 mm of rainfall. Pocket areas of central Oromia, southern SNNPR, central and northern Somali, western Afar, northern and eastern Amhara, southern and central Tigray received 50-100 mm of rainfall. Much of Afar, southern and central Somali, parts of southern and northern Afar pocket areas of western and southeastern SNNPR, eastern Amhara, parts of western, central and southern Tigray received 25-50 mm of rainfall. Much of Afar, southern Oromia, and southern Somali received 5-25 mm of rainfall. The rest parts of the country, were exhibited little or no rainfall.

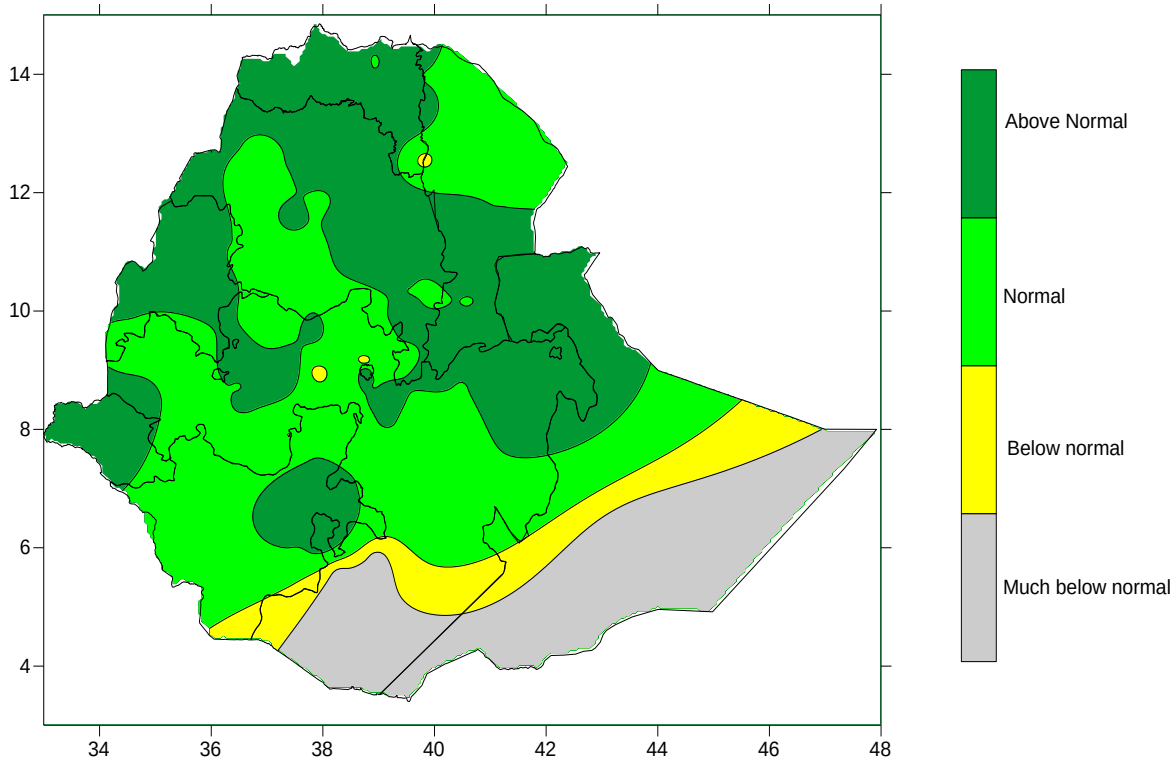


Fig. 10 Percent of Normal Rainfall for the month of September 2014

Explanatory notes for the Legend:

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

1.2.2 Rainfall Anomaly for the month of September 2014 (Fig. 8)

Much of Tigray, Afar, Amhar, Benshangul-Gumuz, SNNPR, Gambella, northern half of Somali and Oromia exhibited normal to above normal rainfall. The rest parts of the country received below normal too much below normal rainfall.

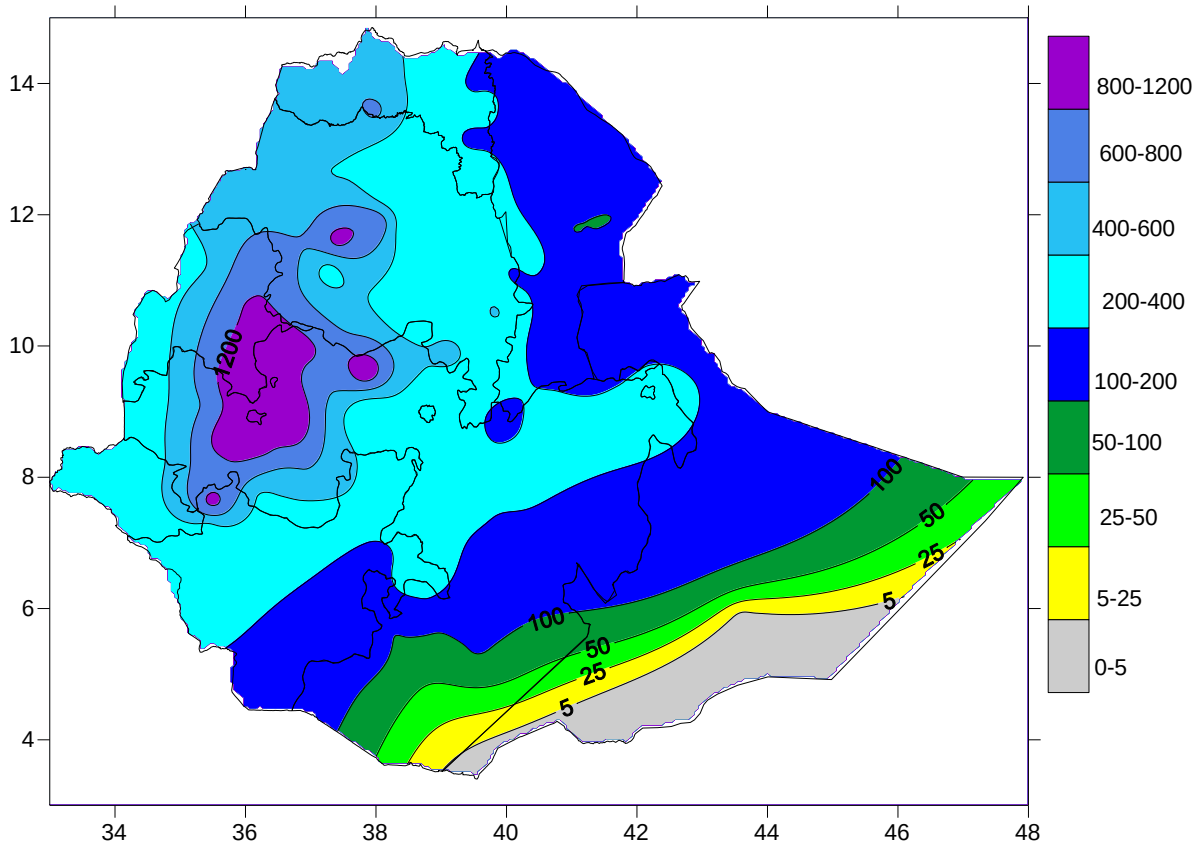


Fig. 11 Rainfall Distribution in mm for Kiremt 2014

1.3 KIREMT 2014

1.3.1 RAINFALL AMOUNT FOR KIREMT 2014 (Fig. 9)

Much of southeastern Beshangul–Gumuz and southwestern Oromia and pocket areas of western Amhara and western Oromia exhibited 1000 to 1200 mm of rainfall. Some places of western Amhara, central and eastern Beshangul–Gumuz and western Oromia exhibited 600-800 mm of rainfall. Much of northern and southern Tigray, Amhara, Gambela western margin of Benshangul-Gumuz, and eastern, central and southwestern Oromia and western and southwestern SNNPR received 200-400 mm of rainfall. Much of Afar, northern and central Somalia southeastern SNNPR and southern Oromai received 100-200 mm of rainfall. Much of southern Somali and southern Oromia received 50 -100mm, southern Somalia and southern Oromia received 25-50 mm of rainfall. While south and southeastern pastorals areas of the country were exhibited below 25 mm of rainfall.

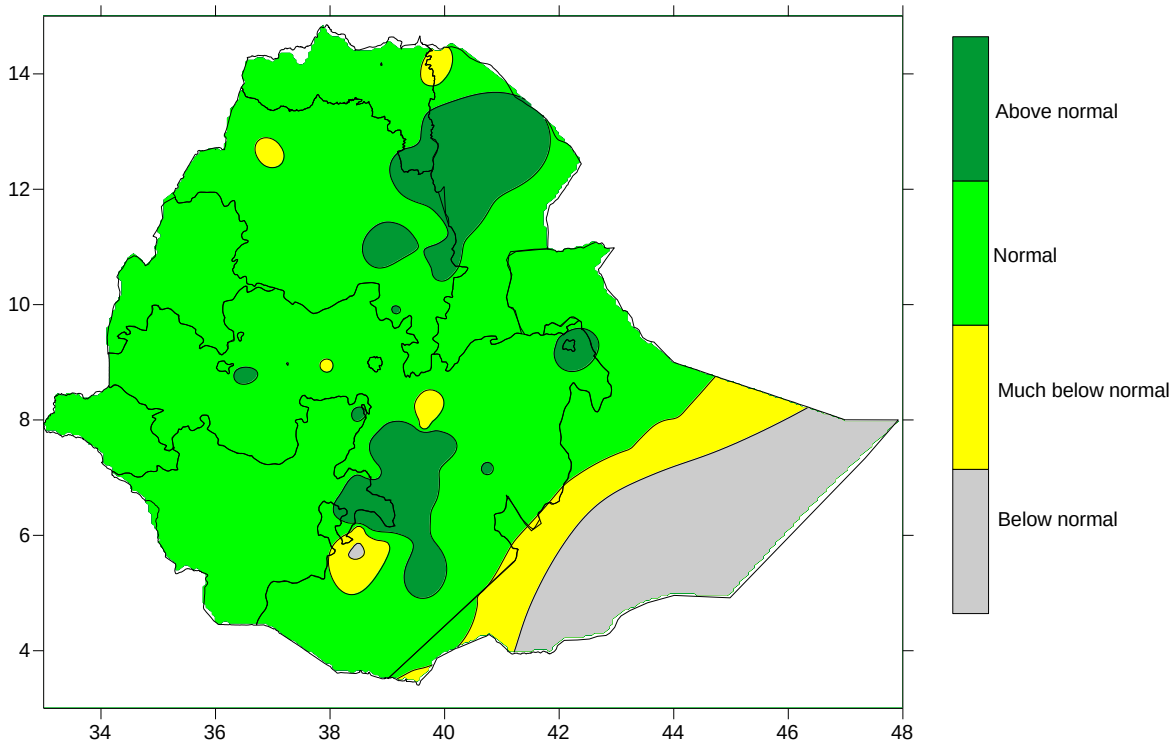


Fig. 12 Percent of normal rainfall for Kiremt 2014

Explanatory notes for the Legend:

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

1.3.2 RAINFALL ANOMALY FOR KIREMT 2014(Fig. 12)

With the exception of southern Somali and pocket areas of western Ahara, Afar, southern and southwestern Oromia most parts of the country exhibited normal to above normal rainfall.

1.4 TEMPERATURE ANOMALY

During September 2014 some areas exhibited extreme maximum temperature above 35^{o}C. Among the reporting stations: Tistsika, Gode, Metahara, Dubti, Errer, Gambela, Gewan, Mile, Semera, Lare, Elidar, Aysha and Awash Arba recorded 35.0, 37.5, 36.4, 42.5, 35.5, 35.5, 40.4, 41.0, 42.0, 35.5, 42.5, 38.0, and 39.5 °c respectively. The situation might have a negative impact on the normal growth and development of plants and livestock.

2. AGROMETEOROLOGICAL CONDTIONS AND IMPACT ON AGRICULTURE

2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING KIREMT 2014

During Kiremt 2014, the observed moisture condition throughout the months benefited Meher agricultural activities, availability of pasture and drinking water over pastoral and agro-pastoral areas, without considerable late onset of Kiremet rain and slight moisture stress observed over some low lands of eastern half and central parts of the country .

The computed WRSI for Meher Maize, Barley, Teff and Wheat indicates that Meher rain performed well. Deficit WRSI is located particularly over some parts of eastern half of Meher producing areas of the country; it indicates a good prospect for good Meher crop production.

The range land index based on WRSI and NDVI computed for Meher 2014 Month to Month shows good improvement. The situation might have highly favorable for availability of pasture and water over eastern and northeastern pastoral and agro-pastoral areas.

Generally with the exception of the observed Moisture stressed at the beginning of the season and crops affected due to heavy fall in some areas the overall situation was favorable for season's agricultural activities. Besides the field report from DRMFSS stated that, 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 IMPACTS ON AGRICULTURE DURING THE COMING BEGA 2014/15 SEASON

The indicated good moisture status and increase in vegetation cover and Rangeland index based on WRSI on the selected analogue years particularly on the month of October and November expected to favor not fully matured Meher crops, late sown pulses and Oil crops, perennial plants and availability of pasture and water. the situation confirmed by seasonal probabilistic forecast by given Bega 2014/15 is highly likely to be under normal climate with tending to moderately wetter than the normal condition

As the kiremt rain is continued to extending, there will be rains over northwestern, western, central and southern highlands. Moreover, Northeast, central and eastern Ethiopia are highly likely to receive near normal, with the possibility of above normal rainfall at some places of the country will create favourable condition for general agricultural activities and availability of pasture and water.

The expected probability of Normal to above normal rainfall distribution/amount across the south and southeastern regions where Bega is the secondary rain will have a positive impact for the availability of pasture and drinking water over pastoral and agro pastoral areas.

The expected Unseasonal rains are likely to occur northeastern, eastern and central portion of the nation over seasonally dry sectors in areas where crops are ready to harvest of the country would have negative impact on harvest and post harvest activities. Thus, harvest and post harvest activities should be undertaken on time in order to avoid unnecessary harvest and post harvest loses. Moreover, The expected unseasonable rainfall would favor the occurrence of crop pests and

disease. Therefore, farmers are advised properly and regularly visit their farm fields for monitoring pest and diseases for proper precaution should be undertaken ahead of time to minimize loses.

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

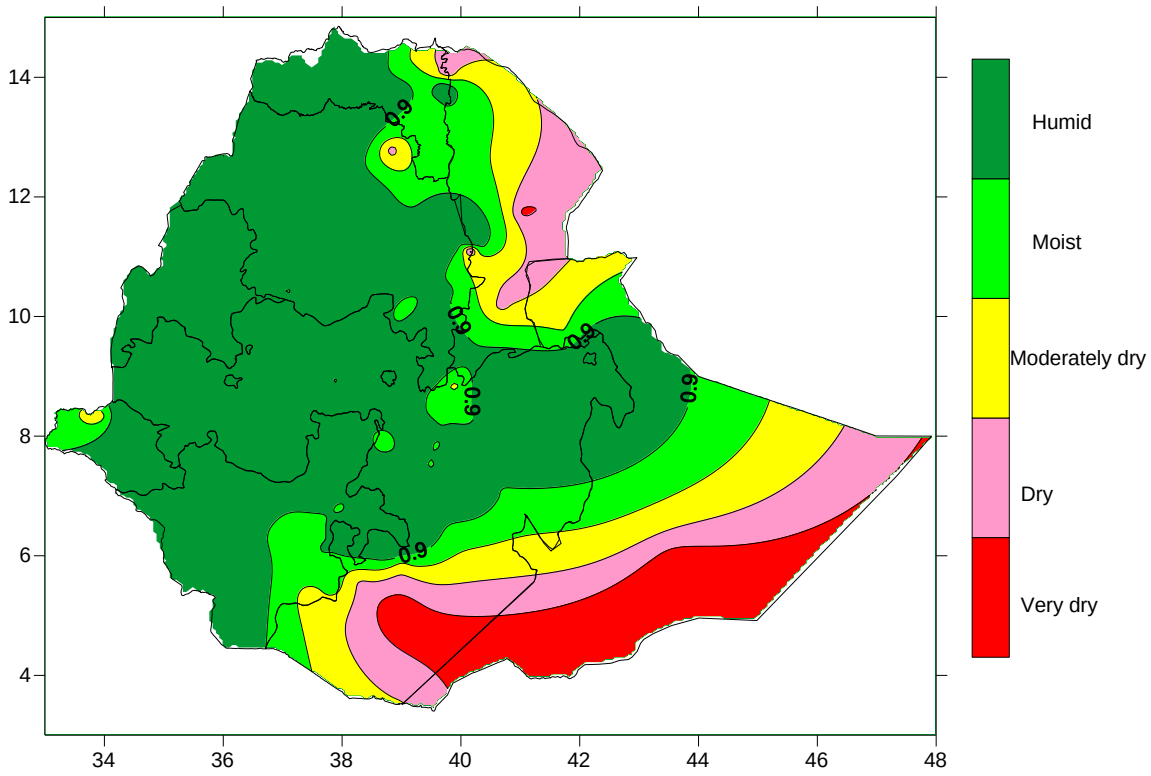


Fig. 12 Moisture status for the month of September 2014

As indicated the moisture status map above, most of Gambela, Benishagul–Gumuz, SNNPR, Oromia, Amhara, Tigray, western Afar and northern and central Somali experienced moist to humid moisture condition. While, much of Afar, some places of southern Oromia and southern and southeastern Somali and pocket areas of eastern Amhara exhibited moderately dry condition, which might have favored the availability of drinking water and pasture over pastoral and agro pastoral areas of the country. While the rest parts of the country prevailed dry to very dry moisture condition.

DEFNITION 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.

KIREMT: - 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 southeastern lowlands under normal condition. During the season, morning and night times are colder and daytime is warmer.

KIREMT: - Small Rainy season that extends from February to May and cover s southern, central, eastern and northeastern parts of the country.

CROP WATER REQUIREMENTS: - The amount of water needed to meet the water loss through evapo-transpiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

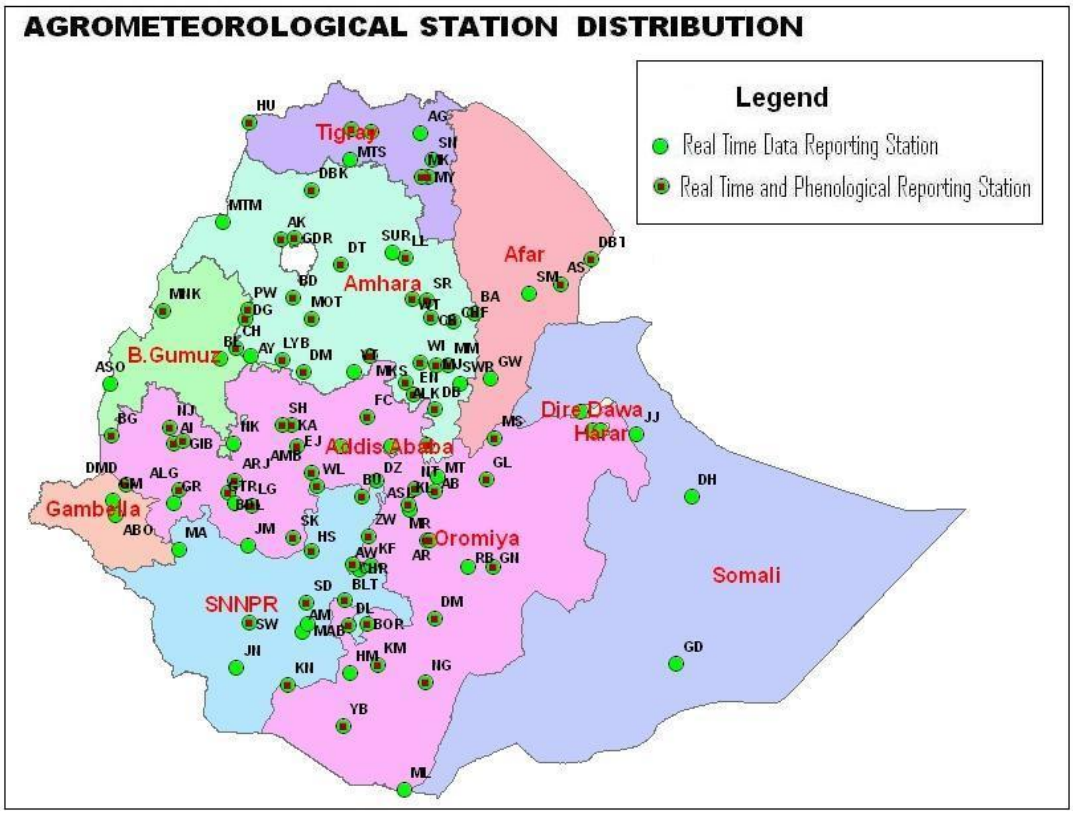
DEKAD: - First or second ten days or the remaining days of a month.

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 southeastern lowlands of the country.

RAINY DAY: - A day with 1 or more mm of rainfall amount.



Station	CODE	Combolcha	CB	Gonder	GDR	Metema	MTM
A. Robe	AR	Chagni	CH	Gore	GR	Mieso	MS
A.A. Bole	AA	Cheffa	CHF	H/Mariam	HM	Moyale	ML
Abomsa	AB	Chira	CHR	Harar	HR	Motta	MT
Abobo	ABO	D.Berehan	DB	Holleta	HL	M/Selam	MSL
Adigrat	AG	D.Habour	DH	Hossaina	HS	Nazereth	NT
Adwa	AD	D.Markos	DM	Humera	HU	Nedjo	NJ
Aira	AI	D.Zeit	DZ	Jijiga	JJ	Negelle	NG
Alemaya	AL	Debark	DBK	Jimma	JM	Nekemte	NK
Alem Ketema	ALK	D/Dawa	DD	Jinka	JN	Pawe	PW
Alge	ALG	D/Mena	DOM	K.Dehar	KD	Robe	RB
Ambo	AMB	D/Odo	DO	K/Mingist	KM	Sawla	SW
Aman	AMN	D/Tabor	DT	Kachise	KA	Sekoru	SK
Ankober	AK	Dangla	DG	Koffele	KF	Senkata	SN
Arbaminch	AM	Dilla	DL	Konso	KN	Shambu	SH
Asaita	AS	Dm.Dolo	DMD	Kulumsa	KL	Shire	SHR
Asela	ASL	Dubti	DBT	Lalibela	LL	Shola Gebeya	SG
Assosa	ASO	Ejaji	EJ	Limugent	LG	Sirinka	SR
Awassa	AW	Enwary	EN	M.Meda	MM	Sodo	SD
Aykel	AK	Fiche	FC	M/Abaya	MAB	Wegel Tena	WT
B. Dar	BD	Filtu	FL	Maichew	MY	Woliso	WL
Bati	BA	Gambela	GM	Majete	MJ	Woreilu	WI
Bedelle	BDL	Gelemso	GL	Masha	MA	Yabello	YB
Begi	BG	Gewane	GW	Mankush	MNK	Ziway	ZW
BUI	BU	Ginir	GN	Mekele	MK		
Bullen	BL	Gimbi	GIB	Merraro	MR		
Bure	BR	Gode	GD	Metehara	MT		