

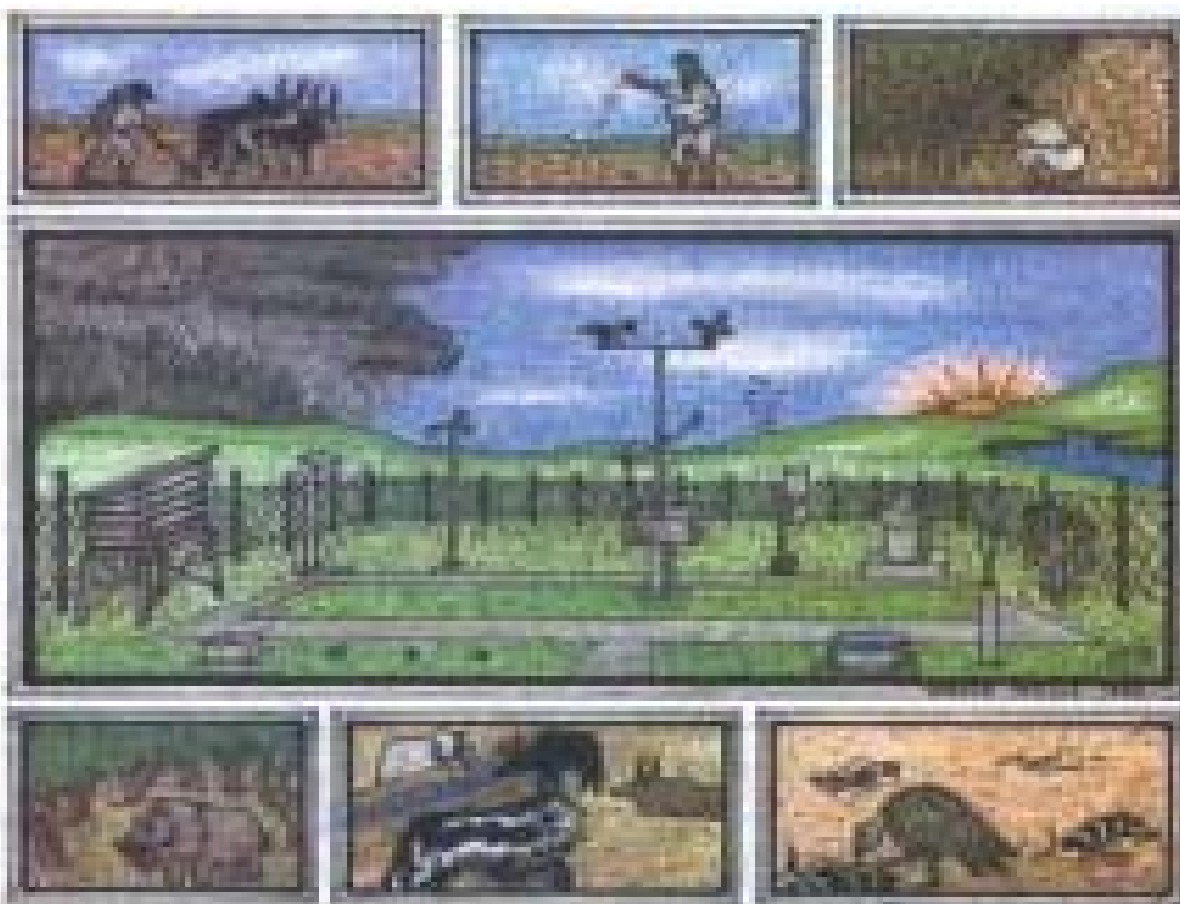
**NATIONAL METEOROLOGICAL AGENCY AGROMETEOROLOGICAL BULLETIN**

**SEASONAL AGROMETEOROLOGICAL BULLETIN**

**KIREMT 2013/14**

**VOLUME 24. No. 27**

**DATE OF ISSUE: -October 8, 2013**



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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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# አህጽራት

## እ.ኤ.አ ክረምት 2013

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

እ.ኤ.አ ጁን 2013 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 ተስፋፋቶ ታይቷል። ከዚህም የተነሳ ባላለፍነው 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 ቦታዎቻቸው 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 የአፈር መሸርሸር እና በሰብሎች ላይ መጠነኛ ጉዳት እንዳደረሰ ከመረጃዎች ለማወቅ ተችሏል።

እ.ኤ.አ ጁላይ 2013 ዝናብ ሰጭ ክስተቶች ከቀዳሚው ወር በተሻለ ሁኔታ አንፃራዊ ጥንካሬ ያሳዩበት ጊዜ ነበር። በትግራይ፣ በአማራ፣ ቤንሻንጉል ጉምዝ፣ የደቡብ ብሔር ብሔረሰቦችና ሕዝቦች ክልል፣ በጋምቤላ፣ በአብዛኛው ኦሮሚያ፣ በድሬዳዋና በሃረሪ፣ በአፋርና በሰሜን ሶማሌ አካባቢዎች የተስፋፋ ዝናብ አግኝተዋል። ይህም ሁኔታ ቀደም ሲል ለተዘሩት የረጅም ጊዜ ሰብሎች ምቹ ሁኔታ ከመፍጠሩም በተጨማሪ በክረምት መግቢያ አካባቢ ለተዘሩት የብርዕ ሰብሎች ማለትም እንደ ስንዴ፣ ገብስ፣ አጃ ለመሣሉትና ለጥራጥሬ እህሎች አመቺ ሁኔታ እንደነበረው እሙን ነው። ይሁንና በአንዳንድ አካባቢዎች ላይ በነበረው ከባድ ዝናብ ምክንያት በቻግኒ፣ በደባርቅ፣ በጎሎልቻ፣ በዳንግላ፣ በሻምቡ፣ በዝዋይና በአልጌ አካባቢዎች በተለያየ የዕድገት ደረጃ ላይ በሚገኙ ሰብሎች ላይ አሉታዊ ተፅዕኖ እንደነበረው ከመረጃዎች ለማወቅ ተችሏል።

እ.ኤ.አ በኦገስት 2013 የክረምት ዝናብ ከመጠናከሩ ጋር ተያይዞ ባለፉት የኦገስት የመጀመሪያ አሥር ቀናት ትግራይ ፣ አማራ ፣ ቤንሻንጉል-ጉምዝ ፣ ምዕራብ ፣ መካከለኛ እና ምስራቅ ኦሮሚያ እንዲሁም ደጋማ የደቡብ ኦሮሚያ ቦታዎችን ጨምሮ፣ የደቡብ ብሔር ብሔረሰቦችና ሕዝቦች ክልል፣ ድሬዳዋ፣ ሐረሪ፣ አፋርና ሰሜን ሶማሌ ከቀላል እስከ ከባድ መጠን ያለው ዝናብ አብዛኛ ቦታዎችን ያዳረሰ ዝናብ ነበራቸው ። ባለፉት የኦገስት ሁለተኛው አሥር ቀናት አብዛኛዎቹ የክረምት ተጠቃሚ የሀገሪቱ ክፍሎች የተስፋፋና በቂ የሆነ ዝናብ ነበራቸው። በአብዛኛው መልኩ መደበኛ ፈሩን የተከተለ እና በመጠንም ሆነ በስርጭት ረገድ ጥሩ ስለነበረ ለወቅቱ የእርሻ ስራ እንቅስቃሴ ለዘር እንዲሁም ተዘርቶ በተለያየ የዕድገት ደረጃ ላይ ለሚገኙ ሰብሎችና ለቋሚ ተክሎች የውሃ ፍላጎት መሟላትና ለአርብቶ አደሩና ከፊል አርብቶ አደሩ አካባቢ ለግጦሽና ለመጠጥ ውሃ አቅርቦት የጎላ ጠቀሜታ ነበረው።

እ.ኤ.አ በሴፕቴምበር 2013 የክረምት ዝናብ በምዕራብ ትግራይ፣ በምዕራብ አማራ፣ በቤንሻንጉል ጉሙዝ፣ በምዕራብና መካከለኛው ኦሮሚያ፣ በጋምቤላና በአብዛኛው የደቡብ ብሔር ብሔረሰቦችና ሕዝቦች ክልል ከመደበኛው ጋር የሚቀራረብና በአንዳንድ ቦታዎቻቸው ላይ ከመደበኛ እንደሚበልጥ የሚጠበቅ ሲሆን ይኸም ሁኔታ ለእርሻ ስራ እንቅስቃሴና በተለያዩ የዕድገት ደረጃ ላይ ለሚገኙ ልዩ ልዩ የመኸር ሰብሎች የውሃ ፍላጎት መሟላት የጎላ ጠቀሜታ እንደነበረው ይታመናል። በሌላ አንጻር፣ በምስራቅ ትግራይ፣ በምስራቅ አማራ፣ በምስራቅ ኦሮሚያ፣ በሶማሌ ሰሜናዊ አጋማሽ፣ በአፋር፣ በሐረሪና በድሬደዋ በብዙ ቦታዎቻቸው ላይ ከመደበኛው ጋር የሚቀራረብና በአንዳንድ ቦታዎቻቸው ላይ ከመደበኛው ያነሰ ዝናብ ይጠበቃል። ይህም ሁኔታ ባለፉት ወራት ከተገኘው ዝናብ የአፈር ውስጥ ዕርጥበት ጋር ተዳምሮ በተለያዩ የዕድገት ደረጃ ላይ ለሚገኙትን ልዩ ልዩ ሰብሎች የውሃ ፍላጎት እንደሚያሟላ ይገመታል። በሌላ በኩል በደቡብ ምስራቅ ቆላማ ስፍራዎች በመደበኛ ሁኔታ የሁለተኛ የዝናብ ወቅታቸው የሚጀምርበት ወቅት በመሆኑ ለአጠቃላይ ለእርሻ ስራ እንቅስቃሴ፣ ለመጠጥ ውሃ አቅርቦትና ለግጦሽ ሳር መሻሻል የጎላ ጠቀሜታ እንደሚኖረው ይታመናል።

የዘንድሮው የክረምት 2013 ዝናብ ወቅቱን ጠብቆ ከመግባቱ በተጨማሪ በመጠንና በሥርዓት ረገድ መደበኛና ከመደበኛ በላይ ነበር። ከዚህ ጋር ተያይዞ በአብዛኛው የመኸር አብቃይ በሆኑት አካባቢዎች፣ በባሌና በአርሲ ዞኖች እንዲሁም በደቡብ ኦሮሚያ የተገኘው እርጥበት በተለያዩ የእድገት ደረጃ ላይ ላሉት የመኸር ሰብሎች፣ በሚያዚያና በግንቦት ወር ተዘርተው በክረምት ወር በተለያዩ የእድገት ደረጃ ላይ ለሚገኙት የረጅም ጊዜ የአገዳ ሰብሎች፣ ለቋሚ ተክሎች፣ በክረምቱ መጨረሻ ላይ ለሚዘሩት የጥራጥሬ እህሎች፣ የቅባትና የብርዕ ሰብሎች የውሃ ፍላጎት መሟላትና በአካባቢው ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለግጦሽ ሳር ልምላሜና ለመጠጥ ውሃ አቅርቦት ከፍተኛ አስተዋጽኦ አድርጓል።

በአጠቃላይ የዘንድሮ ክረምት የተገኘው እርጥበት ከወር ወር ከመሻሻሉ ጋር ተያይዞ በአብዛኛው መኸር አብቃይ አካባቢዎች ላይ ጥሩ ቢሆንም በትግራይና በአማራ ሰሜን ምሥራቅና ደቡብ አንዳንድ አካባቢዎች ላይ ለረጅም ጊዜ የአገዳ ሰብሎች እንደ በቆሎና ማሻሻላ ለመሳሰሉት የውሃ ፍላጎት እርካታ አኳያ ሲታይ አጥጋቢ አልነበረም። ሆኖም ግን ከአጠቃላይ የመኸር ሰብሎች የውሃ ፍላጎት እርካታ አኳያ ሲታይ የተገኘው እርጥበት ለመኸር ሰብሎች እጅግ ተስማሚ ነበር። በተጨማሪም ምስራቅና በሰሜን ምስራቅ ለሚኖሩት አርብቶ አደሮችና ጥምር ግብርና ለሚያካሂዱት ከፊል አርብቶ አደሮች በክረምት ወቅት የነበረው የዝናብ ስርዓት ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት በጎ ጎን ነበረው ።

## **KIREMT 2013/14**

### **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 2013 the seasonal rainfall covered much of Kiremt rain benefiting areas of the country. In line with this, SNNPR, much of Oromia, Amhara, Tigray, Gambella, Benshangulu-Gumuz received light to heavy rainfall. Some of the aforementioned areas received heavy falls ranging from 35-59 mm in one rainy day. The situation might have favored Kiremt agricultural activities, fulfils water requirement of perennial plants, availability of pasture and drinking water over pastoral and agro pastoral areas.

During the month of July 2013, the season's rain was widely distributed over most parts of Kiremt rain benefiting areas of the country. In line with this, Tigray, Amhara, Benshangul-Gumuz, SNNPR, Gambela, much of Oromia, Dire Dawa, Harari, Afar and northern Somali received light to heavy rainfall. The situation might have positive impact on long cycle Meher crops sown in Belg season, perennial plants as well as cereal crops like (Barely, Wheat and Oat) and pulse crops which were found at different growing stage. On the other hand, occasional heavy fall accompanied with hail storm observed over some areas of western, central, northern and northeastern parts of the country, as a result crop damage was reported from Chagni, Debark, Gololcha, Dangila, Shambu, Ziway and Alge.

During the month of August 2013 most stations experienced normal to above normal rainfall. However, some stations recorded heavy falls ranging from 30 to 145 mm, in line with heavy falls flood and flash floods caused damage on crops, properties, loss of human and livestock. Much of central and western Tigray, much of Amhara, Benishangul-Gumuz western and central Oromia received 200-434 mm of rainfall for 18-31 days, while Gambella, southern high lands and eastern Oromia, eastern Tigray, SNNPR, Dire Dawa, Harari, Afar and north Somali received 25-200 mm of rainfall for 9-24 days. The situation might have favored the seasonal agricultural activities.

During the month of September 2013, under normal circumstance the rainfall activity was slightly decreasing from Kiremt rain benefiting 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 2013 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 2013 has favored sowing of Mehre crops and availability of sufficient moisture for long cycle crops. On the other hand, heavy falls ranging from 41.0– 140.0 mm of rainfall in one rainy day was reported over highlands of northern, northwest, central, eastern and southern parts of the country.

Moreover, heavy fall associated with hail and thunder storm caused rivers over flow and crop damage and livestock losses over HinTalo Wajirat, Dega Timben, Laelay Machiew, and Endamehoni Woredas, eastern Shewa, Bale, Illibabour, eastern Wellega, Liban and Semada Wereda, Derashi, Welayta, Gurge, Welkite, Meskan and Mkome Woredas. While army worm was reported over different Weredas of the country during the month of June (source DRMFSS Bulletin).Also some stations like Shambu, Ziway, Alage, Werababu, Amed work and Adamitulu reported heavy fall caused crop damage and animal lose.

## Kiremt 2013 Moisture Status

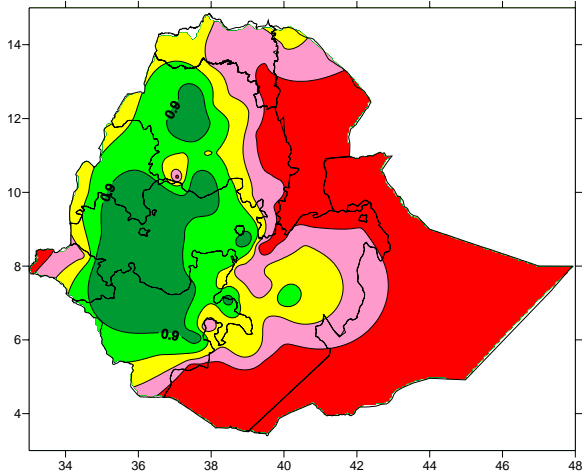


Fig 1. Moisture status for the month of June 2013

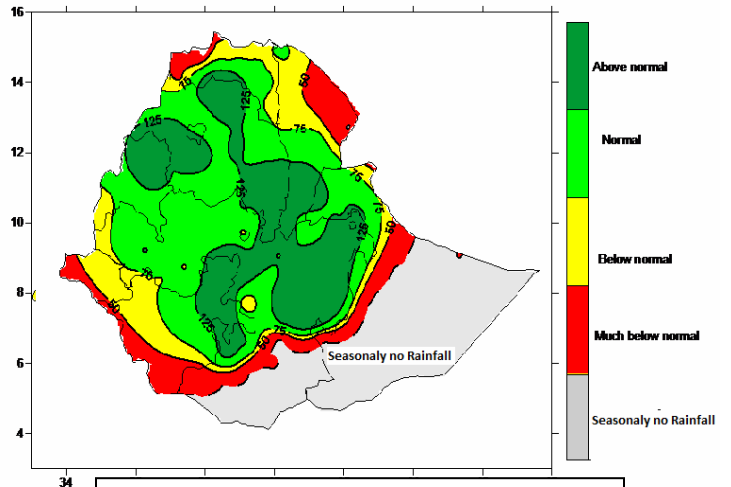


Fig 2. Moisture status for the month of July 2013

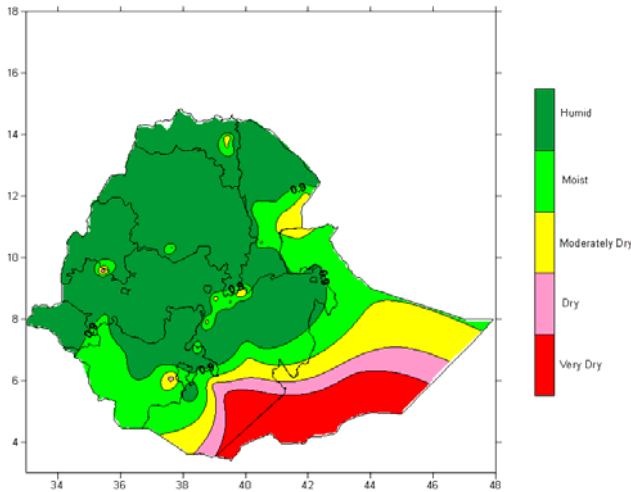


Fig 3. Moisture status for the month of August 2013

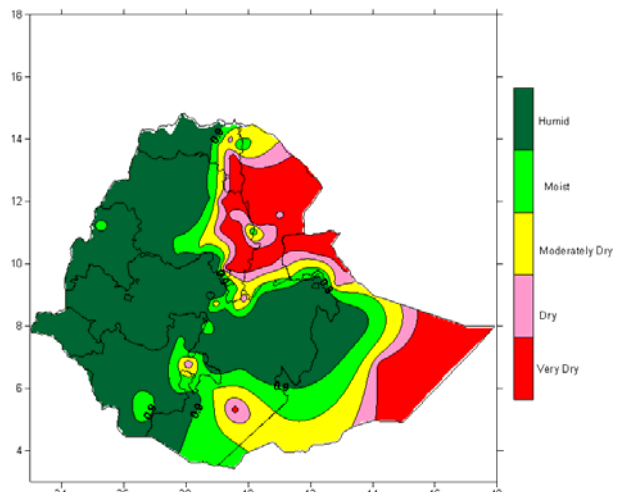
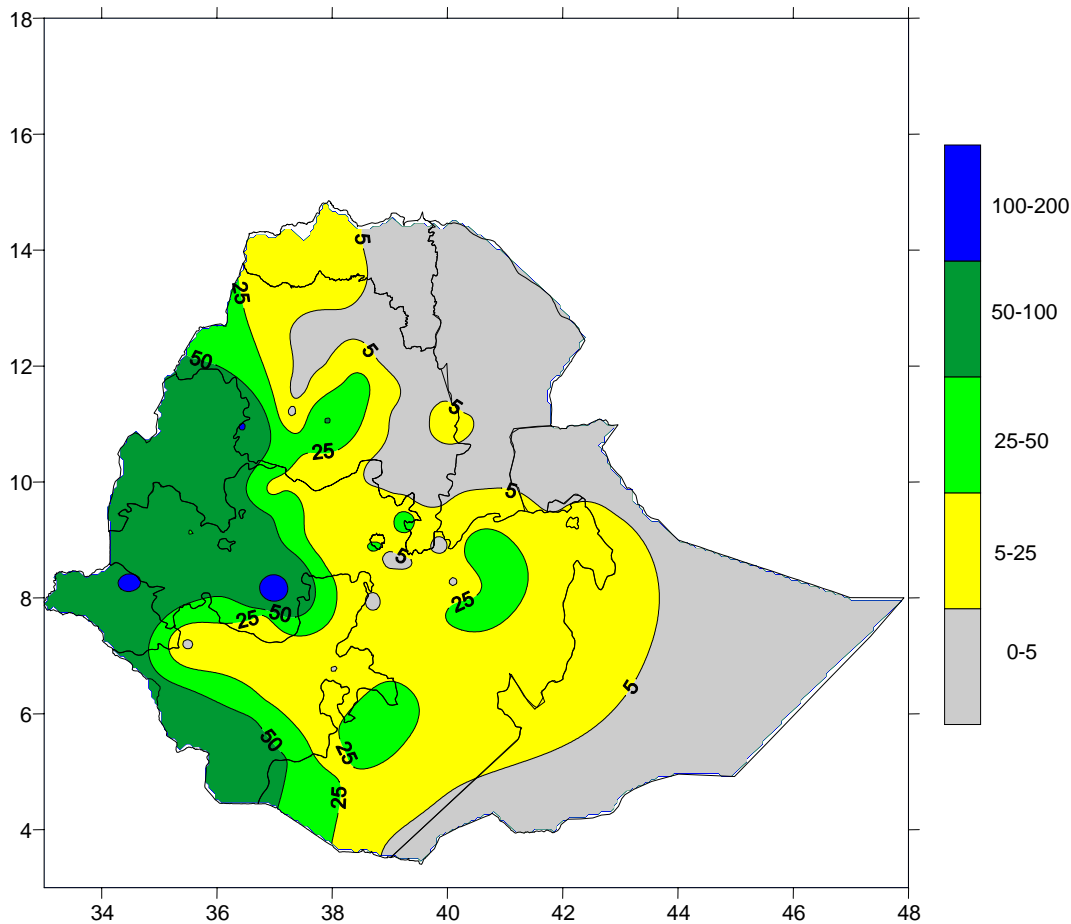


Fig 4. Moisture status for the month of September 2013



**Fig. 5 Rainfall distribution in mm (21-30 September 2013)**

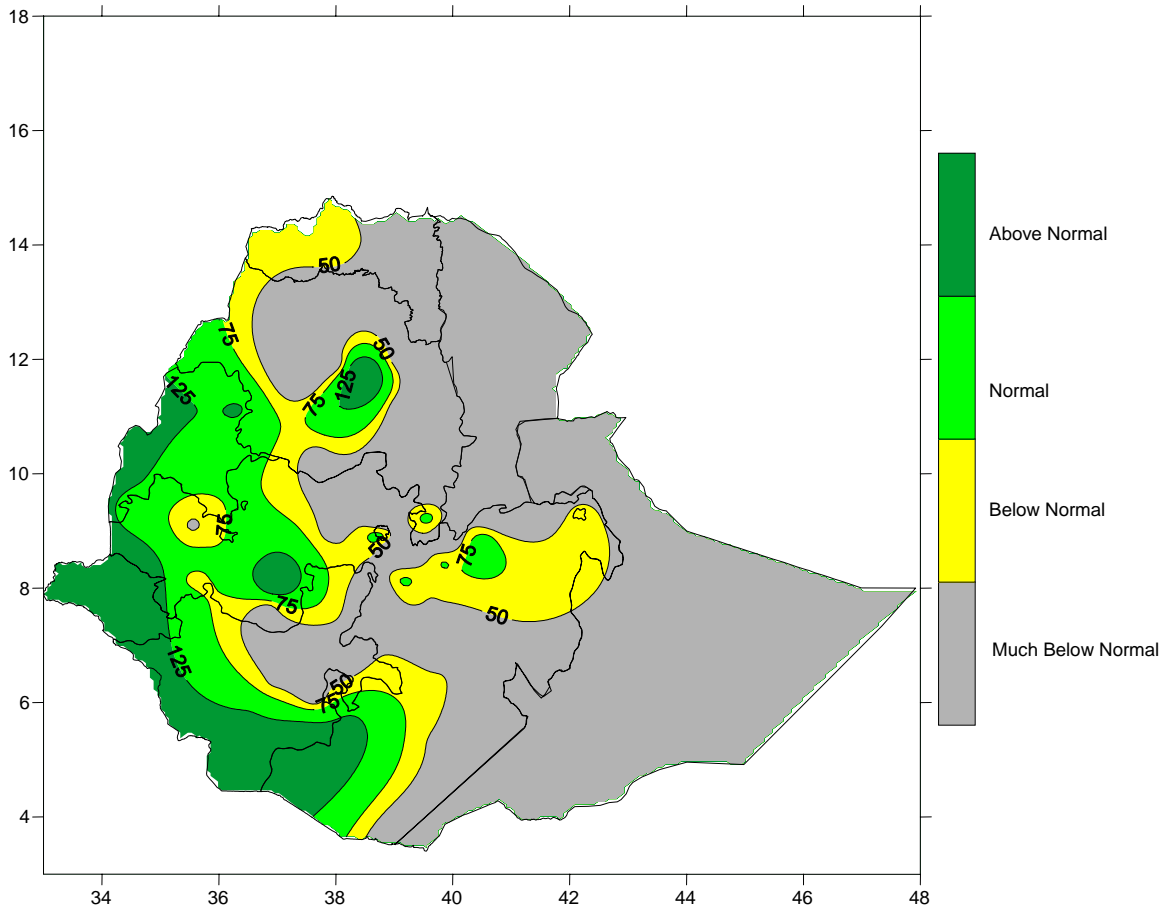
## **1. WEATHER ASSESSMENT**

### **1.1 21-30 September 2013**

#### **1.1.1 RAINFALL AMOUNT (Fig.5)**

Pocket areas of south western Oromia north and north eastern Gambela exhibited 100-200 mm of rainfall. Much of Beshangul–Gumuz and adjacent areas of Amhara, Gambela western Oromia western parts of southern and western SNNPR received 50-100 mm of rainfall. Parts of western and central Amhara parts of central, western, eastern and southern Oromia and northern and central, SNNPR received 25- 50 mm of rainfall. Much of Oromia and SNNPR western Somali, western, northern central and pocket area of Amhara, western Tigray, southern and pocket area of Afar received 5-25 mm of rainfall. The rest parts of the country, were exhibited little or no rainfall.





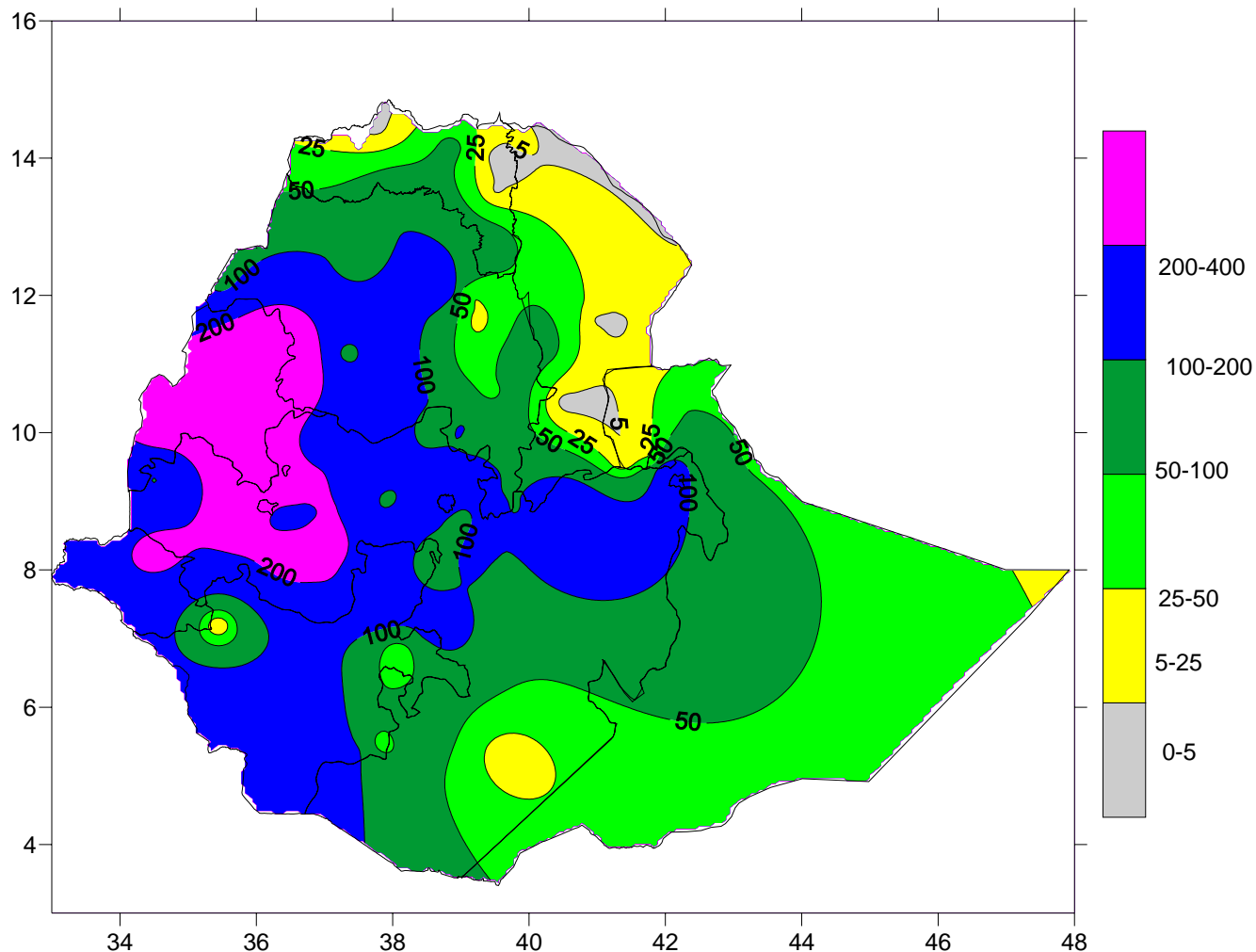
**Fig. 6 Percent of normal rainfall (21-30 September 2013)**

**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, western, parts of southern and pocket areas of central and eastern Oromia, parts of western, pocket areas central and southern Amhara and western half of SNNPR exhibited normal to above normal rainfall. The rest parts of the country received below normal too much below normal rainfall.



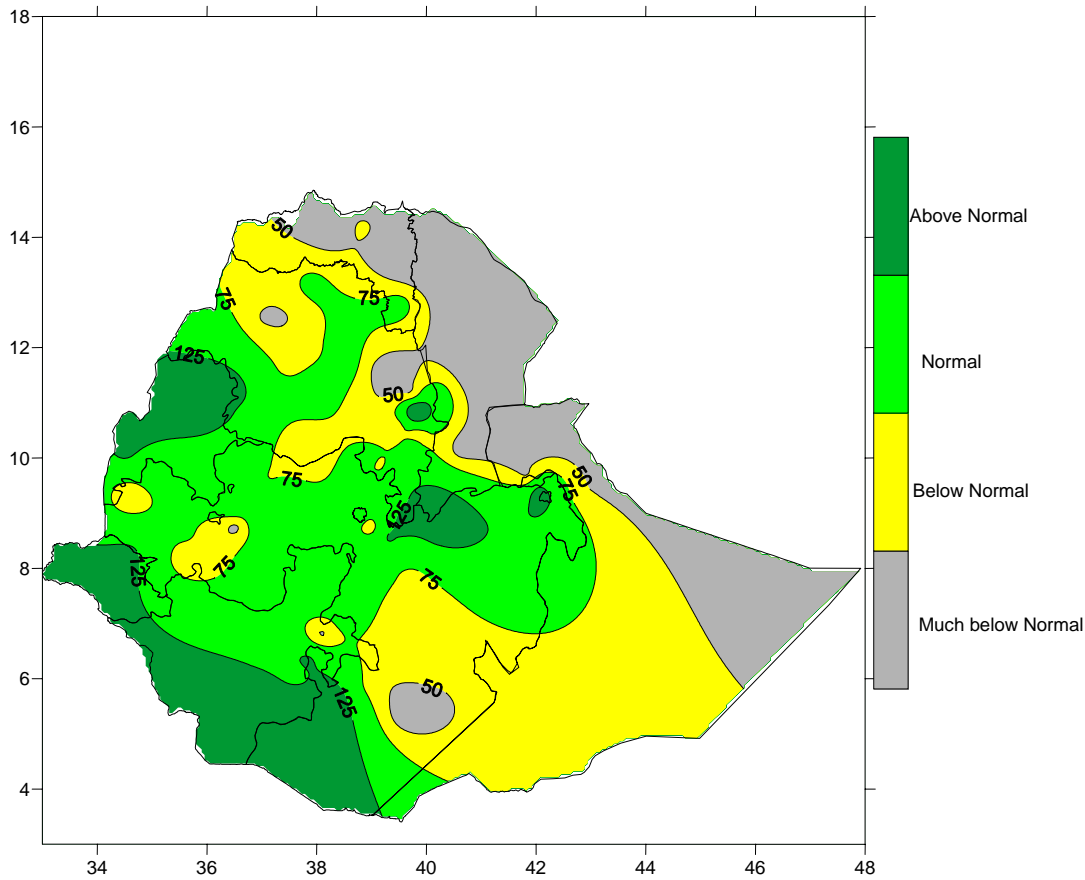
**Fig. 7 Rainfall Distribution in mm for the month of September 2013**

**1.2 September 2013**

**1.2.1 Rainfall Amount (Fig.7)**

Pocket area of eastern Beshangul –Gumuz and adjacent areas of Amhara received 300-400 mm of rainfall. Much of Beshangul–Gumuz and adjacent areas of Amhara, western Oromia parts of eastern Gambela received 200-300 mm of rainfall. Much of central Amhara, central, western, eastern and southern Oromia Dire Dawa, Harari, much of Gambella and SNNPR received 100-200 mm of rainfall. Much of southern and eastern Oromia eastern and pocket area of western SNNPR, western and northern Somali, southern and margin of western Afar western, northern, central and eastern Amhara, southern and central Tigray received 50-100 mm of rainfall. Much of southern and north tip of 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 northern and eastern Tigray, pocket areas of eastern Amhara,

southern Oromia, western SNNPR, eastern tip of Somali received 5-25 mm of rainfall. The rest parts of the country, were exhibited little or no rainfall.



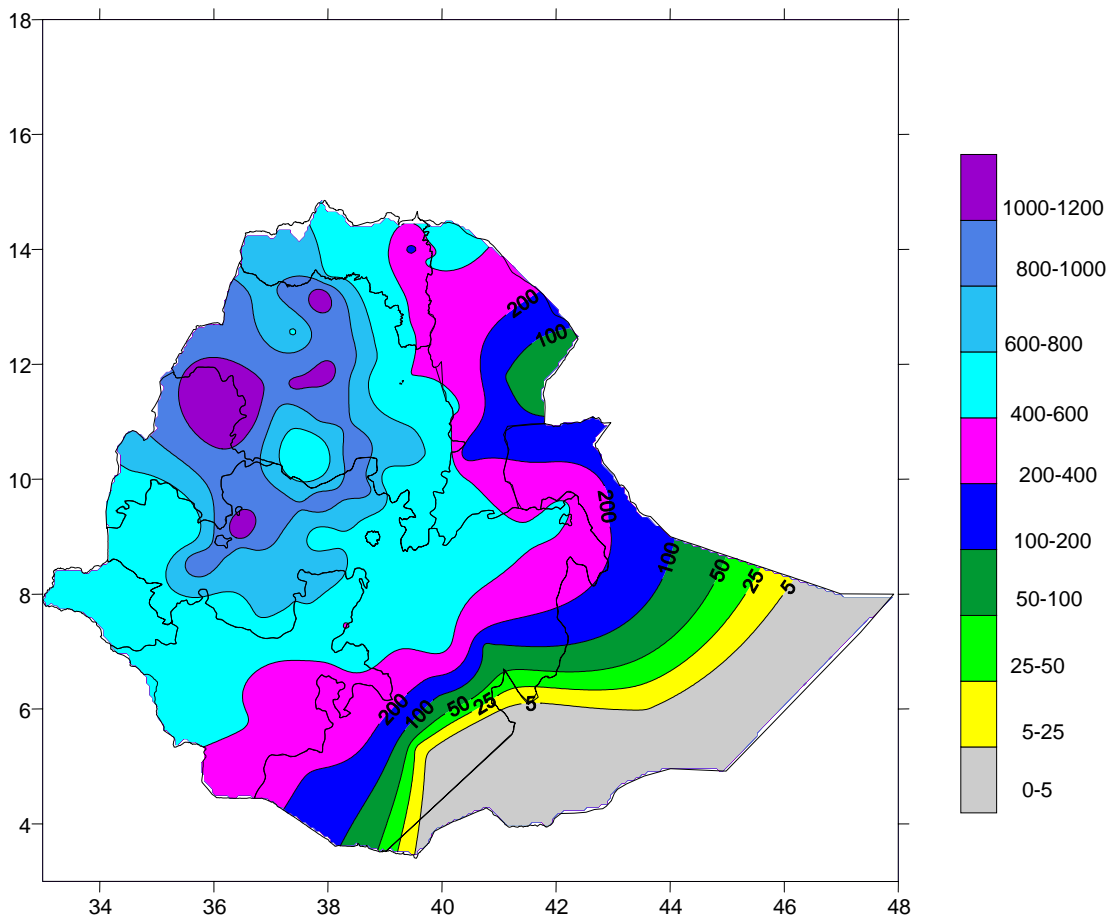
**Fig. 8 Percent of Normal Rainfall for the month of September 2013**

**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 2013 (Fig. 8)**

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

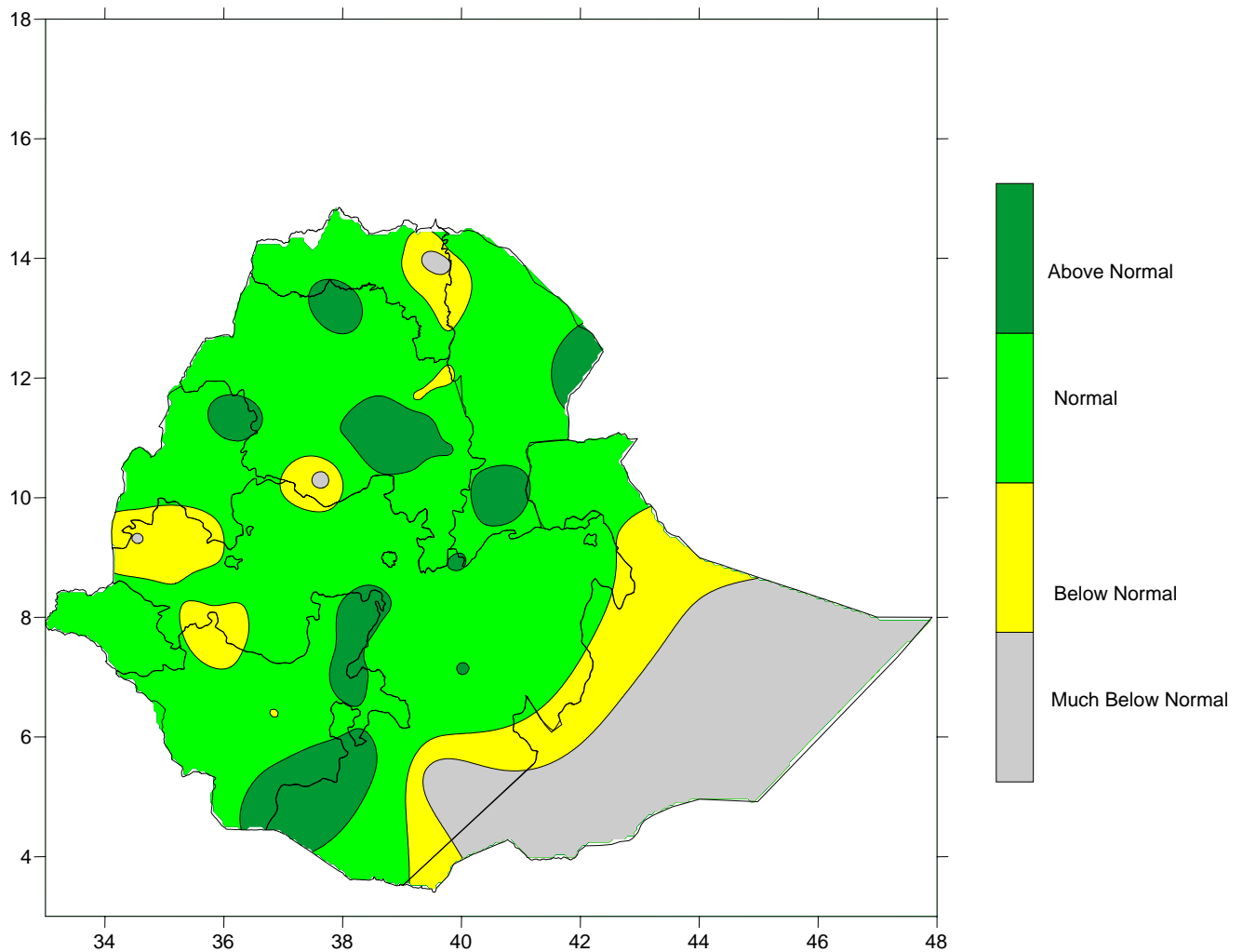


**Fig. 9 Rainfall Distribution in mm for Kiremt 2013**

### **1.3 KIREMT 2013**

#### **1.3.1 RAINFALL AMOUNT FOR KIREMT 2013 (Fig. 9)**

Pocket area of eastern Beshangul–Gumuz and adjacent areas of Amhara and western Oromia exhibited 1400 to 1000 mm of rainfall. Much of Beshangul–Gumuz, Amhara, and western Oromia exhibited 1000-800 mm of rainfall. Much of central western Tigray, Amhara, Benshangul-Gumuz, and western Oromia received 800-600 mm of rainfall. Much of Gambela, western and central Oromia, eastern and southern Amhara, SNNPR and pocket areas of southwestern Benshangulu-Gumuz received 600-400 mm of rainfall. Much of Afar, southeastern SNNPR, eastern and southern Tigray, eastern and southwestern Oromia and western Somalia exhibited 400-200 mm of rainfall. Much of Afar, northern and western Somali and southern Oromia received 200-100 mm of rainfall. Much of central Soamlia and southern Oromia received 100-50 mm, southern Somalia and southern Oromia received 25-25 mm of rainfall. While south and southeastern pastorals areas of the country were exhibited below 25 mm of rainfall.



**Fig. 10 Percent of normal rainfall for Kiremt 2013**

**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 2013(Fig. 12)**

Pocket areas of northeastern Tigray, southern Amhara, southwestern and southern Oromia, northwestern SNNPR and some parts of south and southeaster Somalia exhibited below normal to much below normal rainfall. The rest parts of the country received normal to above normal rainfall.

## **1.4 TEMPERATURE ANOMALY**

During September 2013 some areas exhibited extreme maximum temperature above 35°C. Among the reporting stations: Dire Dawa, Gode, Metahara, Dubti, Errer, Gambela, Gewan, Mile and Semera, recorded 37.0, 40.0, 36.8, 43.5, 43.0, 37.2, 39.6, 41.5 and 45.0 °c respectively. On the other hand, Adigrat and Koffele reported extreme minimum temperature as low as 2.6 and -0.2 °C respectively. The situation might have a negative impact on the normal growth and development of plants and livestock.

## **2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE**

### **2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING KIREMT 2013**

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 2013 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 2013 has favored sowing of Mehre crops and availability of sufficient moisture for long cycle crops. On the other hand, heavy falls ranging from 41.0– 140.0 mm of rainfall in one rainy day was reported over highlands of northern, northwest, central, eastern and southern parts of the country.

Moreover, heavy fall associated with hail and thunder storm caused rivers over flow and crop damage and livestock losses over HinTalo Wajirat, Dega Timben, Laelay Machiew, and Endamehoni Woredas, eastern Shewa, Bale, Illibabour, eastern Wellega, Liban and Semada Wereda, Derashi, Welayta, Gurge, Welkite, Meskan and Mkome Woredas. While army worm was reported over different Woredas of the country during the month of June (source DRMFSS Bulletin). Also some stations like Shambu, Ziway, Alage, Werababu, Amed work and Adamitulu reported heavy fall caused crop damage and animal lose.

### **2.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING BEGA 2013/14 SEASON**

Bega is a season were harvest and post harvest activities are the major practices over most parts of Meher growing areas and it is a short water-harvesting time for pastoral and agro pastoral areas of southern and southeastern lowlands and also perform small cropping as well. The Bega weather condition favor the outbreak of pests and disease particularly during the early months of the season, if there is cloudy condition and untimely rain which create moist, warm and humid environment favorable for harbor of pest and diseases is prevailed. Hence, farmers were advised to visit regularly their farm early in the morning and late in the afternoon when pests are easily seen on crops to take control measures on time to reduce loses. On the other hand, sunny, dry and windy Bega's weather condition is favorable for harvest and post harvest activities and the occurrence and spread of forest fire in some cases.

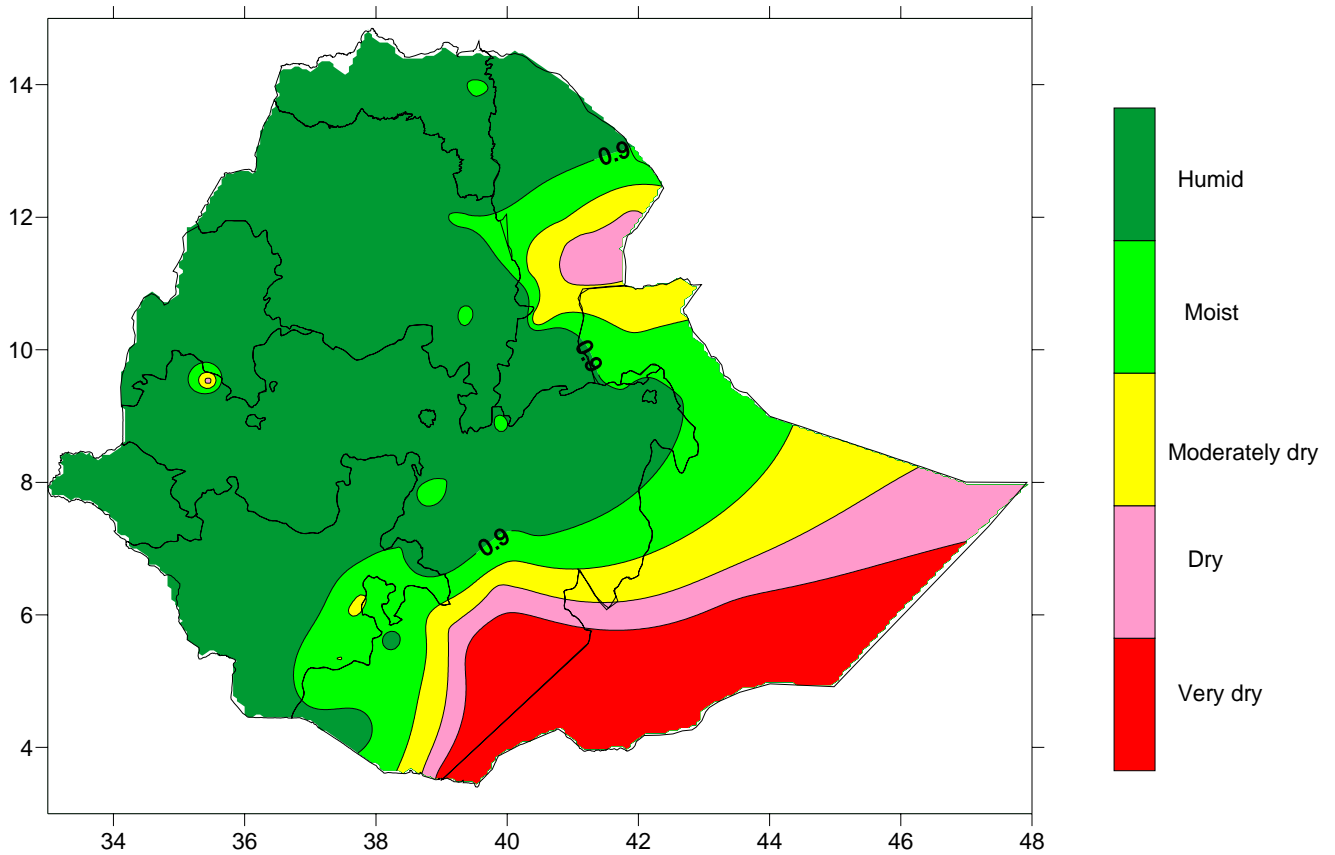
The analyzed moisture status of all selected analogue years particularly on the month of October indicated moist condition which may result an occasional rainfall over seasonally dry sectors of the country that may have negative impact on harvest and post harvest activities. Thus, we would like to advice harvest and post harvest activities should be undertaken on time in order to reduce unnecessary harvest and post harvest loses. Moreover, the indicated Moist to humid moisture condition of most analogue years of January over southwest and some other Meher benefiting areas may have slight negative impact in areas where harvest and post harvest activities is not yet completed particularly over high lands of the country. While is conducive for areas where Belg season land preparation start early and improve availability of pasture and water over pastoral and agro pastoral areas .

The anticipated probability of normal to above normal rainfall over most Meher growing areas will expect to favor Meher crops were not yet fully matured. Besides this, the extended rainfall condition over some place may cause a negative impact on the harvest and post harvest activities so proper attention should need to those crops which is fully matured. On the other hand, places which already finished harvest and post harvest activates will have a chance of cropping pulses using residual moisture.

The expected probability normal to above normal rainfall of Bega rain over postural and agro-postural low lands of southern and southeastern parts of the country, will have positive impact on pasture and drinking water availabilities.

The anticipated low probability of occurrence of frost over frost prone particularly high lands and some mid high lands will favor normal growth and development of plants.

Finally, we would like to advice appropriate care should be taken during harvest and post-harvest activities in order to minimize harvest losses due to excessive moisture. Also we advice to utilize the available moisture during October and November to minimize pasture and dirking water scarcity may occurs over some places of pastoral and agro-pastoral areas.



**Fig.11 Seasonal Moisture Status for Kiremt 2013**

As indicated the moisture status map above, most of Gambela, Benishagul–Gumuz, SNNPR, Oromia, Amhara, Tigray and northern and central Somali experienced moist to humid moisture condition. While, some places of eastern and central Afar, southern Oromia and southern and southeastern Somali exhibited moderately dry condition, which might have favored water availability of perennial plants and 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 during the season.

**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 covers 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.

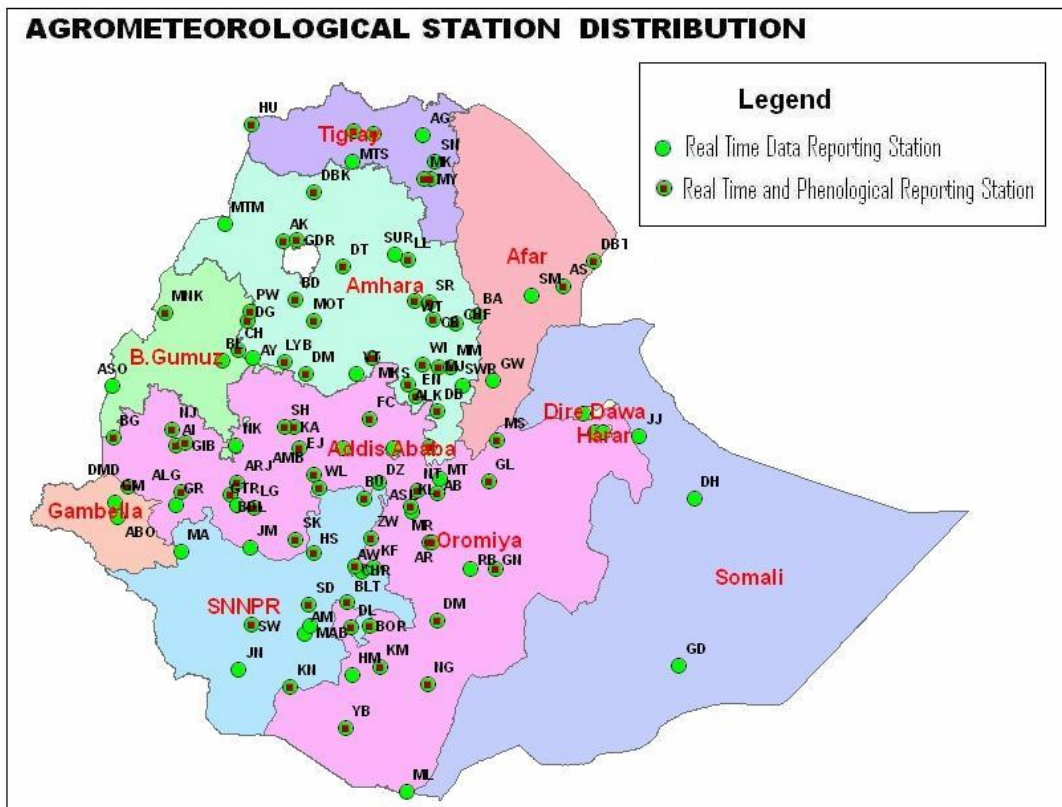
**EXTREME TEMPERATURE:** - The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

**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.

## AGROMETEOROLOGICAL STATION DISTRIBUTION



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		