

## **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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አህዕርጉ  
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በመደበኛ ሁኔታ መካከለኛው የሰሜን ከፍተኛ ቦታዎች የምስራቅ ከፍተኛ ቦታዎች ከፊል የመካከለኛው የደቡብ ምዕራብና የደቡብ ኢትዮጵያ በልግ አቃይ በመባል ይታወቃሉ። በሰሜን ፣ በሰሜን ምሥራቅና በምስራቅ ከአመታዊው ምርት የበልግ ምርት አስተዋፅዖ ከ5-30% በደቡብና ደቡብ ምዕራብ ከ30-60% ይደርሳል። ሰሜን ሸዋ ፣ ምስራቅና ምዕራብ ሐረርጌ፣ አርሲ፣ ባሌ፣ ሰሜንና ደቡብ ወሎ፣ ቦረናና የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል (ከምባታ፣ ሀድያ፣ ወላይታ፣ ከፋና ቤንች) የማሣ 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።

በአጠቃላይ መልኩ ሲታይ በፌብራሪ የነበረው የዝናብ መጠን ከመደበኛው ጋር ሲነጻጸር አብዛኛው የበልግ ዝናብ ተጠቃሚ አካባቢዎች፣ ቤንሻንጉል-ጉሙዝ፣ ጋምቤላና የምዕራብ ኦሮሚያ አብዛኛዎቹ አካባቢዎች እንዲሁም ደቡብ ትግራይ፣ አማራ የትግራይ አዋሃኝ የሆነው የአፋር ክልል፣ ጥቂት የምዕራብ ኦሮሚያና የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል፣ ኪስ ቦታዎች እንዲሁም የሶማሌ ደቡባዊ እና አብዛኛው የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል፣ መካከለኛውና ምሥራቃዊ የሀገሪቱ ክፍሎች፣ ምሥራቅና ደቡብ አማራ፣ ምዕራብና ደቡብ ኦሮሚያ፣ መካከለኛውና ደቡብ ሶማሌ ምሥራቅ ትግራይና የቤንሻንጉል-ጉሙዝ አካባቢዎች ዝናብ አግኝተዋል። ይህም ሁኔታ በአካባቢው ለሚበቅሉ ቋሚ ተክሎችና በአካባቢው ለሚኖሩ አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት፣ ለበልጉ የእርሻ እንቅስቃሴ እና ለመኸሩ እርሻ ማሳ ዝግጅት አዎንታዊ ተፅዕኖ እንደሚኖረው እሙን ነው።

በማርች ወር 2010 ለበልግ ዝናብ መፈጠር መንስኤ የሆነ የአየር ሁኔታ ክስተቶች ምቹ ሆነው በመገኘታቸው አብዛኛው የምሥራቅ አጋማሽ የሀገሪቱ አካባቢዎችን የሸፈነና የተስፋፋ ዝናብ አግኝተዋል። ይኸም አብዛኛውን የበልግ ዝናብ ተጠቃሚ አካባቢዎች የሸፈነ እርጥበት የበልግ እርሻ ሥራ እንቅስቃሴን ቀድመው ለጀመሩትም ሆነ ዘግይተው ለዘሩ አካባቢዎች" ለቋሚ ተክሎች እንዲሁም በሰሜን ምሥራቅ፣ በደቡብ ምሥራቅና በምስራቅ ለሚገኙ አርብቶ አደሮችና ከፊል አርብቶ አደሮች አካባቢ ጠቀሜታው የጎላ ነበር። በሌላም በኩል በተለይም በአብዛኛው በወሩ የመጀመሪያውና የሦስተኛው አስር ቀናት በስምጥ ሸለቆና በምሥራቅ የሀገሪቱ ክፍሎች ላይ ብዙ ቦታዎችን የሸፈነና ከባድ ዝናብ በአንድ ቀን ከ60-162 በሚ.ሜ. በአንዳንድ ጣቢያዎቹ ላይ ተመዝግቧል። ምንም እንኳን የተገኘው እርጥበት ለበልግ እርሻ እንቅስቃሴ እንዲሁም በዚህ አካባቢ ለሚገኙ አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለውሃ አቅርቦትና ለግጦሽ ጠቀሜታ ቢኖረውም የተመዘገበው ከፍተኛ ዝናብ በአንዳንድ አካባቢዎቹ ላይ አሉታዊ ተፅዕኖ ነበረው። ከጣቢያዎቻችን በደረሰን ሪፖርት መሠረት የጣለው ከባድ ዝናብ በመኤሶና በኑራኤራ አካባቢዎች በአዝርዕቶች ላይ የውሃ መተኛትና ጉዳት አስከትሏል።

እ.ኤ.አ በኤፕሪል ወር መካከለኛውና ደቡብ ኦሮሚያ" ምስራቃዊ የሀገሪቱ ክፍሎችና ምስራቅ አማራ በአብዛኛው ስፍራዎች ላይ ለብዙ ቀናት ዝናብ ነበረባቸው። ይህም ሁኔታ ለወቅቱ የእርሻ ሥራ እንቅስቃሴ ለአርብቶ አደሩ አካባቢዎች የግጦሽ ሳር እና የመጠጥ ውሃ አቅርቦት የጎላ ጠቀሜታ ነበረው። በአጠቃላይ በወሩ ውስጥ የነበረው የዝናብ መጠን በአብዛኛው ትግራይ፣ አማራ፣ ደቡብና መካከለኛው ኦሮሚያ" ምስራቃዊ የሀገሪቱ ክፍል "ሶማሌ እና ምስራቃዊ የደቡብ ብሔር ብሔረሰቦችና ሕዝቦች ክልል እንደሁም ጥቂት የምዕራብ ኦሮሚያ አካባቢዎችን ጨምሮ መደበኛና ከመደበኛ በላይ በማግኘታቸው ለበልግም ሆነ ለመኸር የእርሻ ሥራ እንቅስቃሴ በጣም አመቺ ሁኔታ የፈጠረ መሆኑ ግልጽ ነው። በተቀሩ የሀገሪቱ ክፍል ከመደበኛ በታች ዝናብ ተመዝግቧል።

ይህም ሁኔታ ለረጅም ጊዜ ዝናብ ሳያገኙ ለቆዩት አንዳንድ ቦታዎች ላይ አሉታዊ ተፅዕኖ እንደነበረው ይታመናል።

እኔ እኔ በሜይ ወር 2010 እርጥበታማው የአየር ሁኔታ ገፅታዎች በአብዛኛው የሀገሪቱ ክፍሎች ላይ የተስፋፉ ገፅታ ነበረው። በአጠቃላይ በሜይ ወር ምዕራብ አሮሚያ፣ ቤንሻንጉል ጉሙዝ፣ የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል፣ ጋምቤላ፣ የደቡብ የመካከለኛውና ምስራቅ ኢትዮጵያ አካባቢዎች ለበርካታ ቀናት ዝናብ የነበራቸው ሲሆን ትግራይና ሶማሌ ለጥቂት ቀናት ዝናብ ነበራቸው። ይህም ሁኔታ እድገታቸውን ላልጨረሱ ለበልግ ሰብሎች በኤፕሪልና በሜይ ለሚዘሩ ለረጅም ጊዜ ለመክር ሰብሎች፣ ለቋሚ ተክሎች እና ለአርብቶ አደሩና ከፊል አርብቶ አደሩ ለግጦሽ ሳር ልምላሜ እና ለመጠጥ ውሃ አቅርቦት በጎ ጎን ነበረው።

በአጠቃላይ ያለፈው የበልግ ዝናብ በወቀቱ የጀመረ ከመሆኑም ባሻገር በቦታ፣ በስርጭት እንዲሁም በመጠን የተስተካከለና በተለይም በበልግ አብቃዮችና በበልግ ዝናብ ተጠቃሚ አካባቢዎች ላይ መደበኛና ከመደበኛ በላይ ነበር። ይኸም ሁኔታ የበልግ አብቃይ ለሆኑ አካባቢዎች ካለፉት ዓመታት ጋር ሲነፃፀር እጅግ የተሻለና ለበልግ ሰብሎች እጅግ የጎላ አስተዋፅዖ ነበረው ##

በበልግ አብቃዮችና በበልግ ዝናብ ተጠቃሚ አካባቢዎች ላይ የተስተዋለው ዝናብ ከመደበኛ በላይ ስለነበረ በአንዳንድ ቦታዎች በማሳዎች ላይ የውሃ መተኛት አስከትሏል። ይኸም ሁኔታ በአንዳንድ ኪስ ቦታዎች በበልግ የእርሻ ሥራ እንቅስቃሴ ላይ መጠነኛ አሉታዊ ተጽዕኖ አስከትሏል። በሌላ በኩል እ.ኤ.አ የኤፕሪልና ሜይ ዝናብ የረጅም ጊዜ ሰብል ለሆኑት በቆሎና ማሽላ ለማሳ ዝግጅት፣ ለዘርና ለሰብሎች ዕድገት ጠቀሜታው የጎላ ነበር ##

የበልግ ዝናብ ለተለያዩ የበልግ ሰብሎች ዕድገት የውሃ ፍላጎት እርካታ፣ ለግጦሽና ለመጠጥ ውሀ አቅርቦት የጎላ አስተዋጽዖ ነበረው ## ይሁንና በደቡብ ትግራይ፣ በደቡብና ምሥራቅ አማራ በልግ አብቃይ አካባቢዎች ኪስ ቦታዎች ላይ በመጠኑም ቢሆን ያለመስተካከል ሁኔታ ታ

## **BELG 2010 SUMMARY**

Normally central, northern highlands, eastern highlands, parts of central, southwestern and southern Ethiopia are known as Belg growing areas. The contribution of Belg raion is ranging from 5-30% over north, northeastern, and eastern highlands, where as 30-60% over south and southwestern parts of the country from the total annual crop production. North Shewa, East and West Hararge, Arsi, Bale, north and south Wello, Borena and SNNPR (Kembata, Hadiya and Wolaita, 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 southeastern Ethiopia.

During the month of February 2010, normal Belg rains prevailed over Belg rain benefiting areas of the country. Belg rain favored over much of Benshangul-Gumuz, Gambela, western portions of Oromia, southern Tigrya and adjoining areas of Afar, Amhara and few places of western Oromia and pocket areas of SNNPR, southern portions of Somalia and much of SNNPR, central and eastern portions of the country, eastern and southern Amahra, western and southern Oromia, central and southern Somalia, eastern Tigrya, Benshangul-Gumuz. The situation was conducive for Belg agricultural activities, perennial crops and availability of pasture and drinking water over pastoral and agro pastoral areas.

During during the month of March 2010, the rainfall activity covered much of eastern half of the country. The situation might have favored Belg crops that were found at emergence and early vegetative stages, the water supply of perennial crops, land preparation and sowing of long cycle crops, improvement of pasture and availability of water over pastoral and agro pastoral areas. On the other hand, during the first and third decade of the month adjoining areas of rift valley and eastern parts of the country received normal to above normal rainfall. The situation contributed soil moisture to recharge, agricultural activities, perennial crops, crops at different phase of development and availability of pasture and water. On the contrary, the heavy fall at some pocket areas negatively affected Belg crops performances. In line with this, some areas like Meiso and Nura era reported water logging on crop fields.

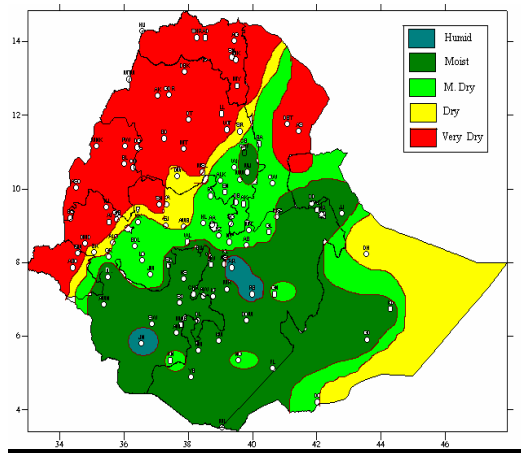
During the month of April 2010, the rainfall activity covered much of central and southern Oromia, eastern parts of the country and eastern Amhara for several days. Therefore, the rainfall amount in the month is normal to above normal over much of Tigray, Amhara, south and central Oromia, eastern parts of the country, Somali and eastern parts of SNNPR, including some parts of western Oromia. The situation had positive impact and might have favored seasonal agriculture activities, such as land preparation and sowing of long cycle crops, water supply for Belg crops found at different phases of growth, perennial crops, improvement of pasture and availability of water over pastoral and agro pastoral areas of the country. The rest parts of the country recorded below normal rainfall. This situation might have a negative impact on agricultural activities particularly over areas where experienced prolonged dry spells.

Under normal circumstance the rainfall activity would have been decreased from Belg growing areas of the country. However, during the first dekad of May 2010 better rainfall amount and distribution observed over western Oromia, Benshangul-Gumuz, SNNPR, Gambela, and southern, central and eastern parts of Ethiopia. This situation had significant contribution for Belg crops that were at different phonological stage, Perennial crops and Meher long cycle crops and pasture and drinking water over postural and agro postural area of the country.

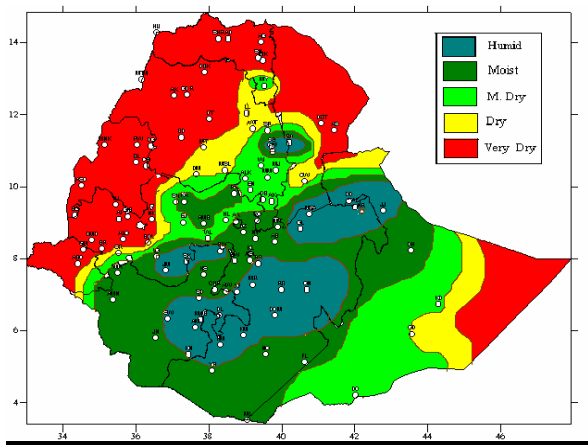
During Belg 2010, both moisture status and water balance analysis shows the overall crop condition over

most of Belg growing areas was in a good shape, thus, expected better of crops yield would be better as compared to the previous years. However, occasionally obtained excess moisture might have slightly caused water logging over pocket areas. The situation was conducive for the general agricultural activities and availability of pasture and drinking water over southern, southeastern and Somali portions of the country. On other hand, the good moisture conditions in April and May over western and north western parts of the country was favorable for long cycle crops.

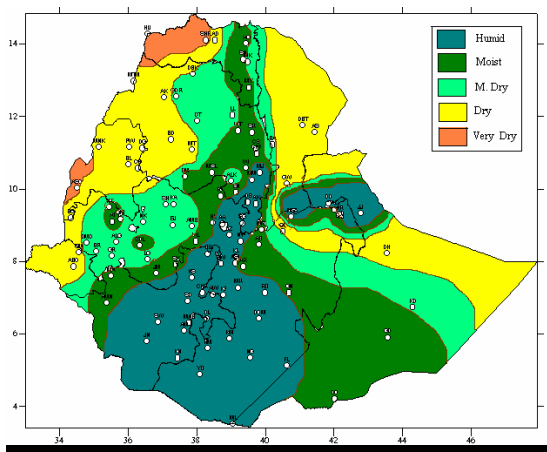
Generally with the exception of the observed deficit moisture condition in some pocket areas of south Tigray and eastern Amhara the over all situations were favorable for the season's agricultural activities.



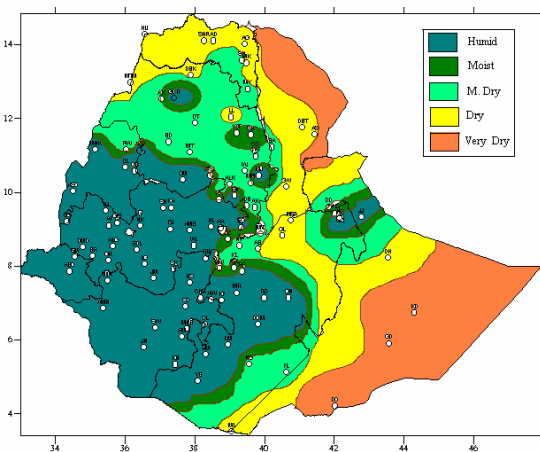
**Fig.1 Moisture status for February 2010**



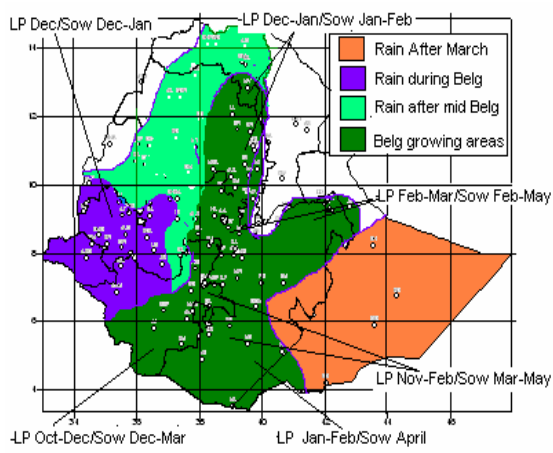
**Fig.2 Moisture status for March 2010**



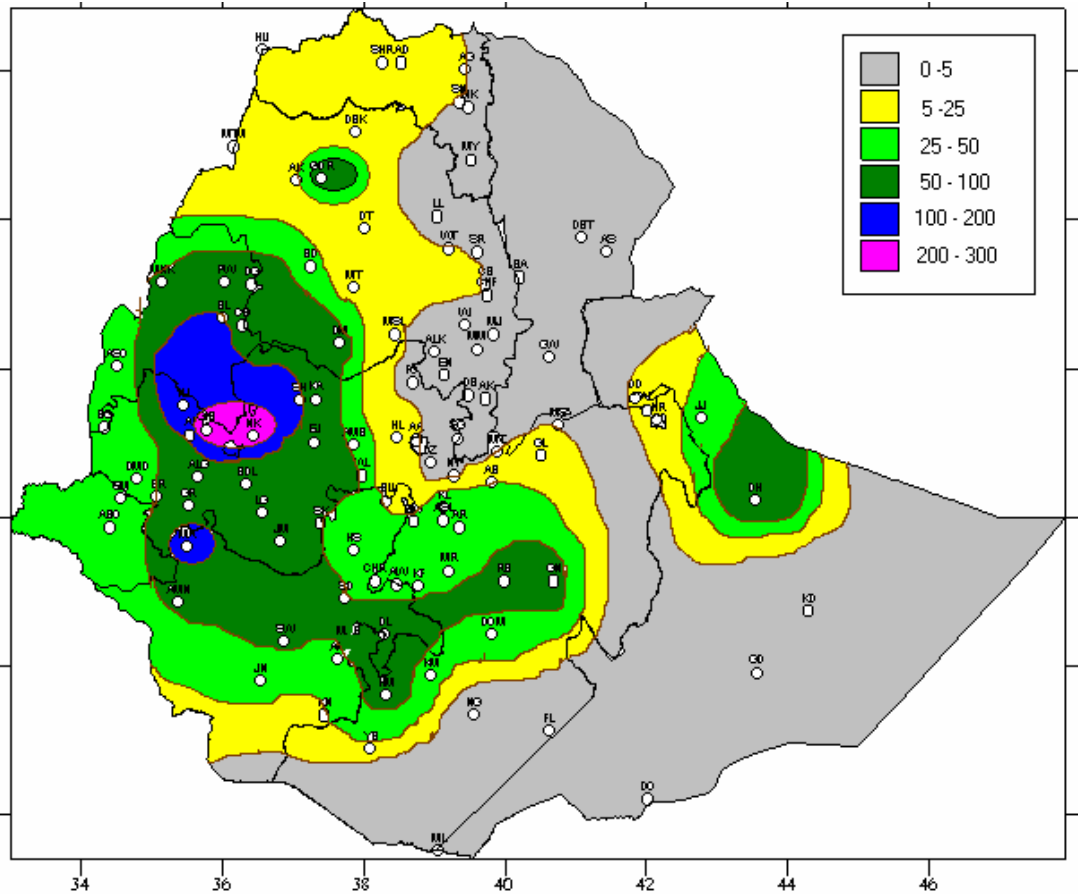
**Fig. 3 Moisture status for April 2010**



**Fig. 4 Moisture status for May 2010**



**Fig.5 Belg growing areas of the country (The Green shaded areas)**



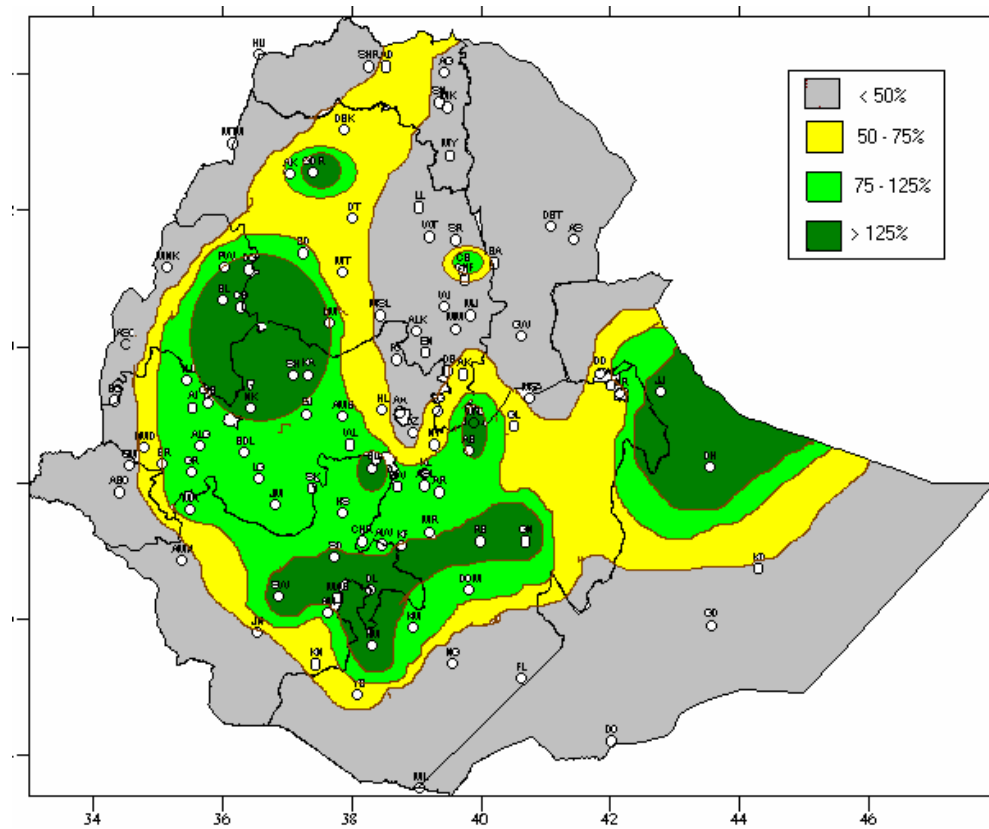
**Fig. 6 Rainfall distribution in mm (21-31 May, 2010)**

## **1. WEATHER ASSESSMENT**

### **1.1 May 21-31, 2010**

#### **1.1.1 Rainfall Amount (Fig 6)**

Pocket area of western Oromia and southern Benishangul–Gumuz received 200-300 mm rainfall. Parts of western Oromia, Benishangul–Gumuz and pocket area of western SNNPR received 100-200 mm rainfall. Much of Benishangul–Gumuz, much of western, parts of central and southern Oromia, parts of SNNPR, parts of southwestern and pocket area of northern Amhara and northern parts of Somali received 50-100 mm of rainfall. Much of Gambela, part of western Oromia, parts of western and northern Benishangul–Gumuz, pocket area of Amhara, parts of SNNPR parts of central and southern Oromia and eastern part of the country received 25-50 mm of rainfall. Much of Tigray and Amhara, parts of central, eastern, and southern Oromia, southern tip of SNNPR and eastern part of the country received 5-25mm of rainfall. The rest parts of the country exhibited little or no rainfall.



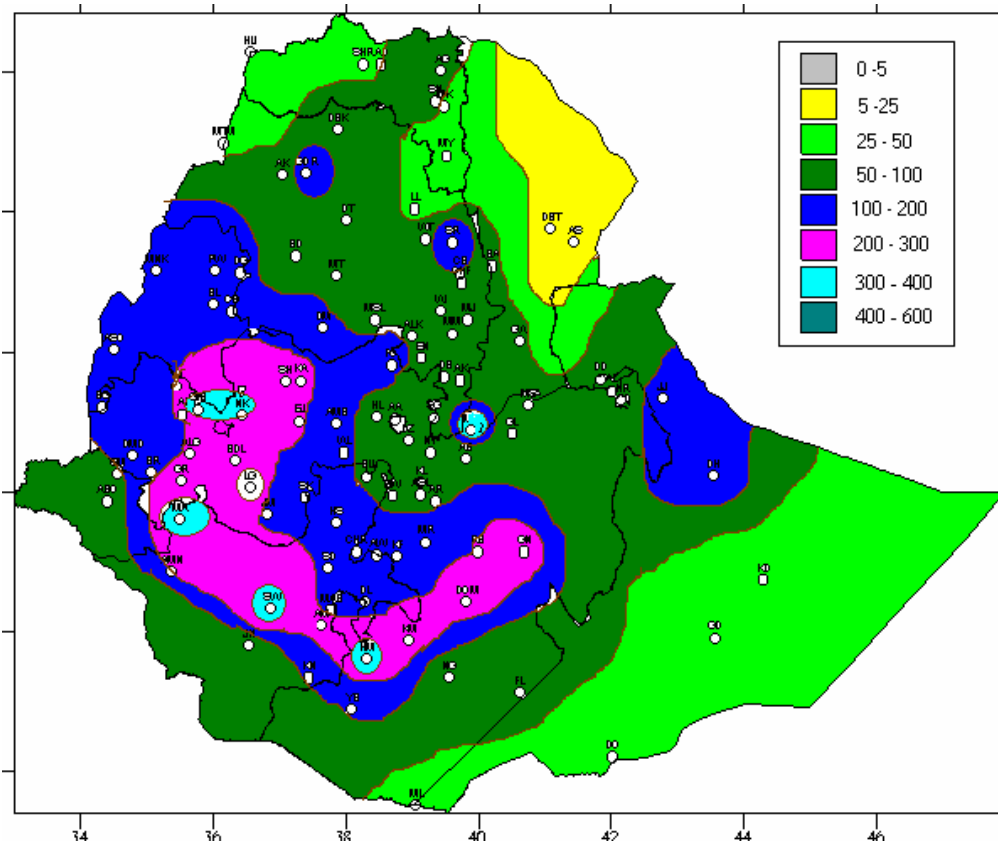
**Fig. 7 Percent of normal (21-31 May 2010)**

**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 7)**

Much Tigray, Amhara, Afar, Gambela and Somali, western parts of Benishangul–Gumz, southwestern SNNPR, western, southern and eastern Oromia, received much below normal to below normal rainfall. The rest parts of the country exhibited normal to above normal rainfall.

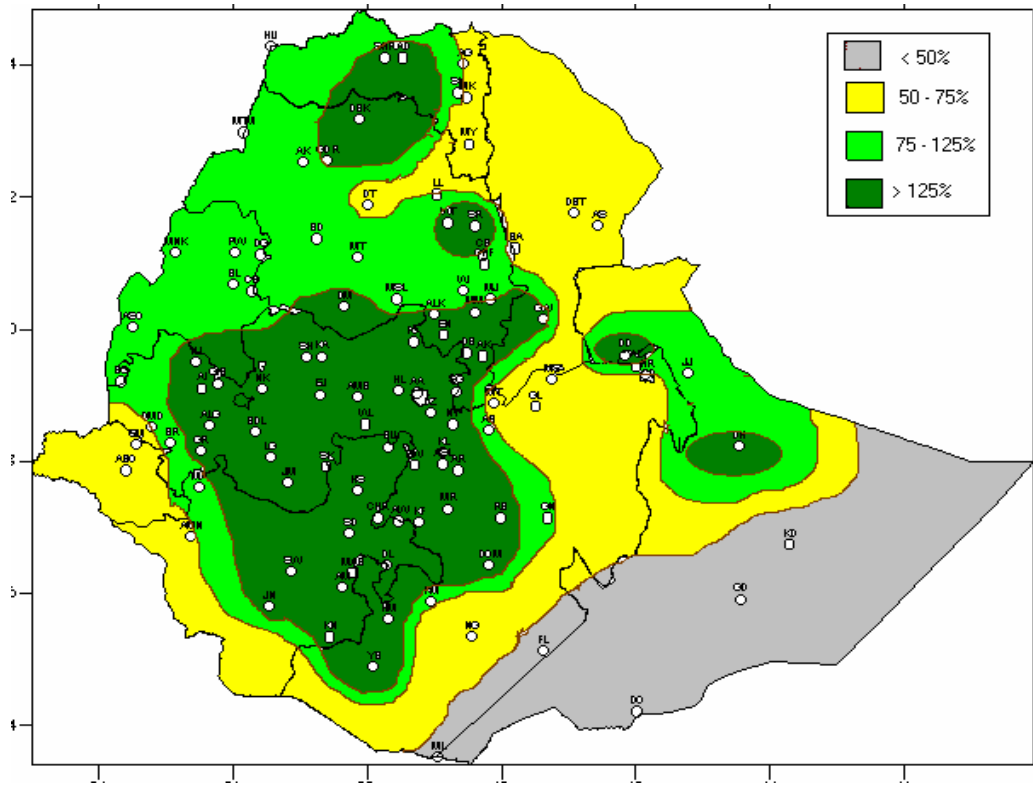


**Fig. 8 Rainfall Distribution in mm for the month of May 2010**

**1.2 May 2010**

**1.2.1 Rainfall Amount (Fig. 8)**

Pocket areas of SNNPR, western and eastern Oromia and southern Benishangul–Gumuz received 300-400 mm of rainfall. Parts of western and southern Oromia, southern Benishangul–Gumuz and central SNNPR received 200-300 mm of rainfall. Much of Benishangul–Gumuz, parts of southwestern, pocket areas of northern and eastern Amhara, parts of western, southwestern, central and southern Oromia, parts of SNNPR, eastern Gambela and parts of northern Somali received 100-200 mm of rainfall. Much of southern and eastern Oromia, much of Amhara and Gambela, northern half of Somali, parts of central Tigray, south and western margin of Afar and southwestern SNNPR, received 50-100 mm of rainfall. Southern half of Somali, northern part of Tigray, northern tips and northeastern Amhara, southern tip of Oromia and western half of Afar received 25-50 mm of rainfall and eastern half of Afar received 5-25 mm of rainfall.



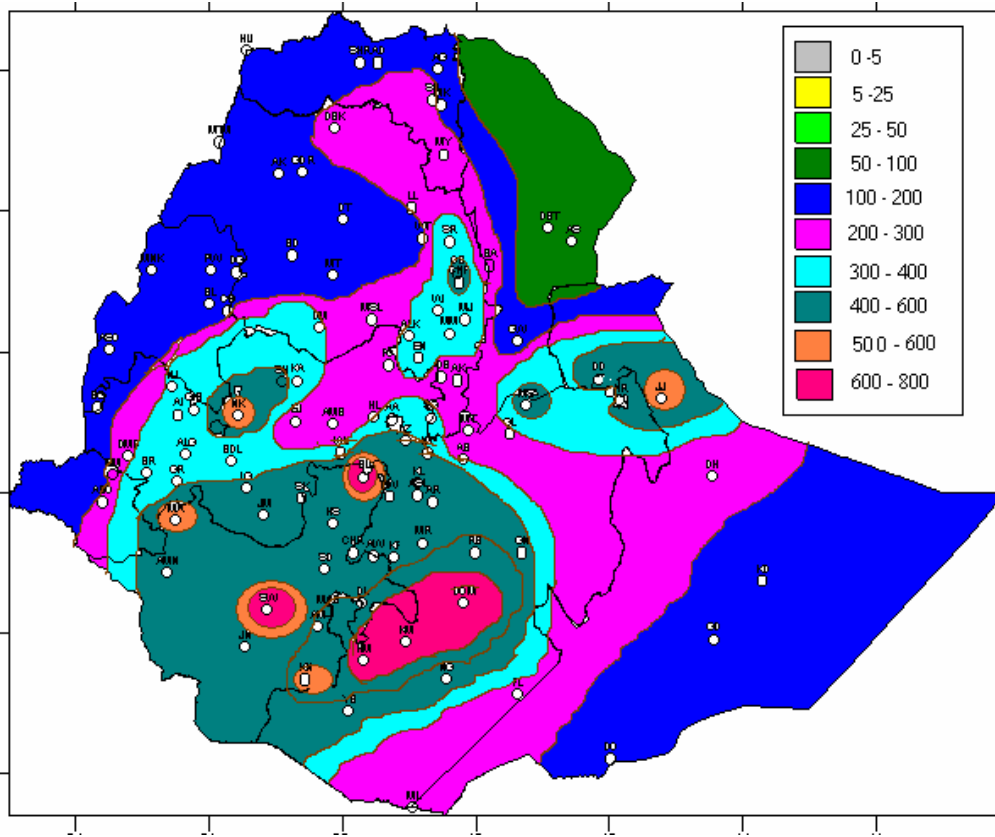
**Fig. 9 Percent of Normal Rainfall for the month of May 2010**

**Explanatory notes for the Legend:**

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

**1.2.2 Rainfall Anomaly (Fig. 9)**

Afar, Gambela, much of Somali, parts of eastern Tigray and Amhara, southwestern parts of SNNPR, southern Oromia, and eastern part of the country received much below normal to below normal rainfall. The rest parts of the country exhibited normal to above normal rainfall.



**Fig. 10 Rainfall Distribution in mm for Belg 2010**

### 1.3 Belg 2010

#### 1.3.1 Rainfall Amount (Fig. 10)

Pocket areas of southern and central Oromia and pocket areas of central SNNPR received 600-700 mm of rainfall. Pocket areas of western, southern, central and northern Oromia, pocket areas SNNPR and pocket area of northern Somali received 500-600 mm of rainfall. Much of SNNPR, parts of central, southwestern, southern, pocket areas of northern and eastern Oromia, eastern tip of Gambela and eastern part of the country received 400-500 mm of rainfall. Parts of western, central and northern Oromia, parts of southern and eastern Amhara, parts of southeastern Benishangul–Gumuz, eastern Gambela, western tip of SNNPR and eastern parts of the country received 300-400 mm of rainfall. Parts of central, eastern and southern Oromia, parts of eastern Amhara, Somali, southern Afar and southern Tigray, eastern Benishangul–Gumuz and Gambela received 200-300 mm of rainfall. Much of Tigray, Amhara, Benishangul–Gumuz, western part of Gambela, eastern part of Somali, part of Afar and Dire Dawa received 100-200 mm of rainfall and much of Afar received 50-100 mm of rainfall.

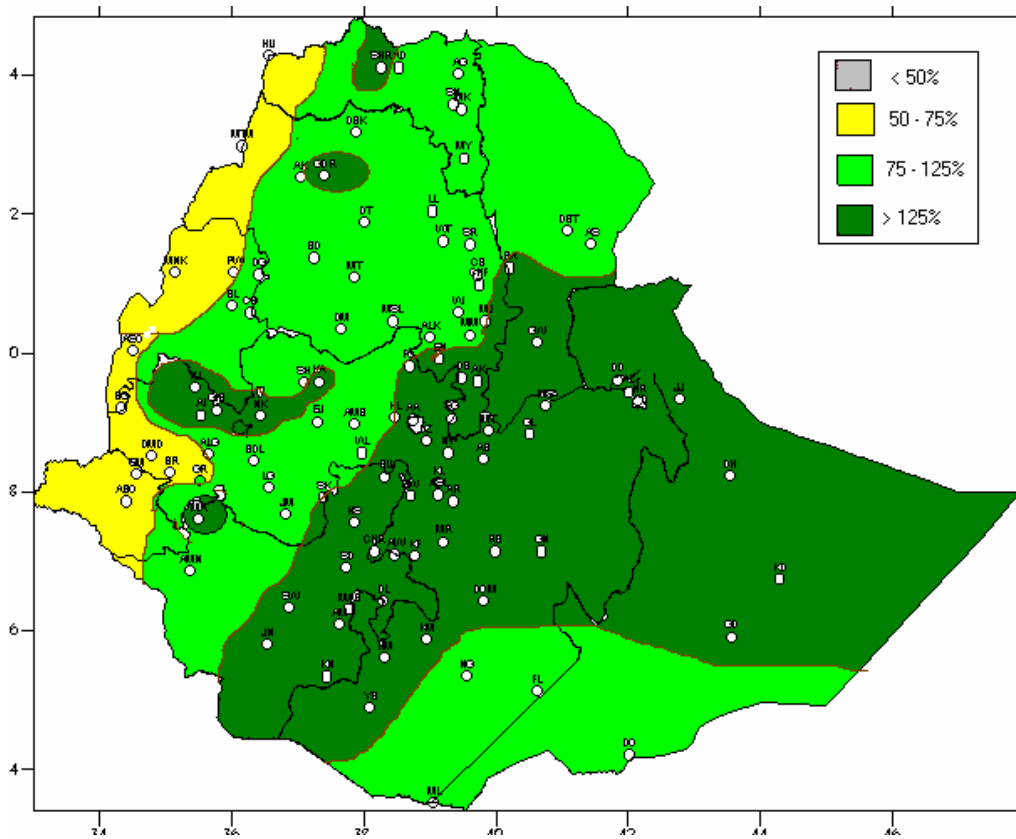


Fig. 11 Percent of Normal Rainfall for Belg 2010

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

### 1.3.2 Rainfall Anomaly (Fig. 11)

Much of Gambela, parts of western Oromia, Benishangul–Gumz, Amhara and Tigray, received below normal rainfall. The rest parts of the country exhibited normal to above normal rainfall.

### 1.4 TEMPERATURE ANOMALY

Some stations recorded extreme maximum temperature exceeding 35<sup>o</sup> C. Among them Dire dawa, Gode, Ayisha, Methara, Assayita, Chagni, Dubti, Elidar, Gambela, Gewane, Mankus, Mytsemr, Mille, Nura Era, Pawe, Semera, Sirba Abaya, Shire, Blate and Hagre Mariam recorded, 35.5, 38.2, 37.0, 38.5, 40.0, 36.7, 41.2, 41.0, 44.5, 41.3, 42.5, 36.5, 41.2, 36.5, 40.0, 42.0, 39.5, 38.0, 36.7 and 38.0 °C respectively. The condition might have affected the normal growth and development of plants as well as livestock over the aforementioned areas.

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

### **2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE DURING BELG 2010**

Generally Belg 2010, both moisture status and water balance analysis shows the overall crop condition over most of Belg growing areas was in a good shape, thus, expected better of crops yield would be better as compared to the previous years. However, occasionally obtained excess moisture might have slightly caused water logging over pocket areas. The situation was conducive for the general agricultural activities and availability of pasture and drinking water over southern, southeastern and Somali portions of the country. On other hand, the good moisture conditions in April and May over western and north western parts of the country was favorable for long cycle crops. Generally with the exception of the observed deficit moisture condition in some pocket areas of south Tigray and eastern Amhara the over all situations were favorable for the season's agricultural activities.

### **2.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING KIREMT SEASON**

Normally central, northern highlands, eastern highlands, parts of central, southwestern and southern Ethiopia are known as Belg growing areas. The contribution of Belg raion is ranging from 5-30% over north, northeastern, and eastern highlands, where as 30-60% over south and southwestern parts of the country from the total annual crop production. North Shewa, East and West Hararge, Arsi, Bale, north and south Wello, Borena and SNNPR (Kembata, Hadiya and Wolaita, 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 southeastern Ethiopia.

In the coming season, the anticipated probability of normal to above normal rainfall distribution over Southwestern, Western,, central, and eastern Ethiopia will favor the season's agricultural activities. Thus, farmers are advised to use the excepted good opportunity wisely. Moreover, Northwestern & northeaster Ethiopia will expect a probability of near normal availability of moisture, which will be conducive for Meher agricultural activities, perennial crops, pasture and drinking water availability over pastoral and agro-pastoral areas. On other hand, parts of southern and southeastern lowlands will have a probability of normal to below normal moisture condition, which will have a negative impact on Meher agricultural activities, perennial crops and availability of pastor & water over pastoral and agro pastoral areas. Thus, we advice farmers and concerned agricultural personnel take appropriate measures to minimize the risk.

The seasonal rain will follow normal on-set, which is favorable for land preparation and sowing activities of Meher crops over areas like central, western, northwestern, northern and northeastern highland. Moreover the normal cessation of Kiremt rainfall will also favor fully maturity of Meher crops.

The analyzed moisture status and WRSI of all selected analogue years expected to favor Meher agricultural activities over Meher growing areas of the country and availability of pasture and water over pastoral and agro-pastoral areas of the Country.

Occasional heavy rainfall activity over some highland areas, can lead to water logging over low-lying areas characterized with verity soil type. Thus, farmers advised to make small water channel on their plot of lands and to strengthen soil conservation structure over hilly and sloppy places, where agriculture farming activities take place.

Table 2. Climatic and Agro-Climatic elements of different stations for the month of May 2010

No	Stations	Region	Rainfall	Normal	% of Normal	ETo mm/day	Eto monthly	Moisture	Moisture statuses	
1	Adigrat	TIGRAY	0.8	56.3	1.4	NA	NA	NA	NA	
2	Adwa		3.2	38.1	8.4	NA	NA	NA	NA	
3	Atsbi		42	NA	NA	5	153.8	0.3	MD	
4	Chercher		107.1	NA	NA	NA	NA	NA	NA	
5	Maichew		11.4	73	15.6	4.1	72.9	0.2	D	
6	Mekele		15.6	30.1	51.8	5.7	165	0.1	D	
7	Maytsermi		54.6	NA	NA	7.8	226.2	0.2	D	
8	Senkata		97.7	62.3	156.8	5.4	161.7	0.6	M	
9	Shire		36.7	30.2	121.5	NA	NA	NA	NA	
1	Assayta	AFAR	5	9.9	50.5	NA	NA	NA	NA	
	Dubti		0	13.5	0	NA	NA	NA	NA	
2	Elidar		26.6	13	204.6	8.1	203.5	0.1	D	
3	Semera		0	62.3	0	7.9	198.3	0	VD	
4	Gewane	15.1	36	41.9	6.6	111.5	0.1	D		
	A/Ketema	AMHARA	57.7	70.9	81.4	4.4	135.8	0.4	MD	
2	Adet		78.6	NA	NA	3.6	107.4	0.7	M	
3	B. Dar		72.8	84.7	86	4.7	141.3	0.5	MD	
4	Bati		37.9	62.9	60.3	4.1	127.1	0.3	MD	
5	Chagni		117.2	146.3	80.1	4.1	113.7	1.6	H	
6	Cheffa		39.1	104.6	37.4	4.7	98.7	0.3	MD	
9	Combolcha		107.6	58.8	183	3.9	120.3	0.9	M	
10	D.Berehan		51.2	34.9	146.7	3.8	116.9	0.4	MD	
12	D.Markos		153.4	94.9	161.6	3.7	115.3	1.3	H	
13	Dangila		142.4	138.7	102.7	3.8	116.6	1.2	H	
14	D.Tabor		65.3	92	71	3.8	113.7	0.6	M	
15	D/work		165.5	63.7	259.8	4.5	139.2	1.2	H	
16	D.Zeit		42	51.6	81.4	3.8	118.4	0.4	MD	
18	D/mena		298.1	190	156.9	3.6	108.9	2.7	H	
19	Enewari		152.2	51.6	295	3.9	81.7	1.8	H	
20	Gondar		158.4	88.8	164.5	4.4	132.3	1.2	H	
21	Lalibela		18.9	34.6	132.1	3.9	81.5	0.2	D	
22	Layber		140.2	NA	102.8	4.3	106.3	1.1	H	
23	M.Meda		64.5	35.9	54.6	4.1	127.1	0.5	MD	
24	M/ Selam		133.5	NA	59.6	3.6	112.2	1.2	H	
25	Majete		133.3	85.2	179.7	4.3	132.7	1	H	
26	Mota		67.2	81.5	348.9	4.5	139.5	0.5	MD	
27	S.Gebeya		75.5	48.8	NA	3.5	109.4	1.3	H	
28	Sirinka		103.4	70.4	151.1	4.3	127.5	0.8	M	
29	W.Tena		45.8	40.9	NA	3.6	75	0.6	M	
30	w/Illu		45.6	41.6	NA	4	123.7	0.3	MD	
1	A. Robe		OROMIA	177.2	119.9	147.8	3.6	110.1	1.6	H
2	Addele			80	NA	NA	3.7	113.8	0.7	M
3	Alemaya			73	103.9	NA	3.5	107	0.7	M
4	Alge			286	211.6	NA	3.8	119	2.4	H
5	Ambo	118.2		78.3	NA	4.2	118.2	1	H	
6	Aira	181.3		60.7	298.7	NA	NA	NA	NA	
7	Bedelle	234.7		226.1	103.8	3.5	107	2.2	H	
8	Bui	107.9		25.1	429.9	4.1	126.2	0.9	M	
9	Chria	274.6		230.5	119.1	3.2	89	3.1	H	
10	Woliso	133.8		93.5	NA	3.8	117.5	1.1	H	
11	Fiche	109.8		55.8	196.8	3.9	121.5	0.9	M	
12	Gimbi	301.7		183.4	NA	NA	NA	NA	NA	

13	Ginir		239.8	211.3	NA	3.5	70.6	6.2	H
14	Gore		238.9	240.2	113.5	3	93.9	2.5	H
15	Jimma		197.4	170.9	131.9	3.3	102.9	1.9	H
16	Kachise		295.2	128.3	55.8	3.6	107.7	2.7	H
17	koffele		151.2	114.5	NA	2.8	85.9	1.8	H
18	Kulumsa		94	91.4	230.1	3.3	102	0.9	M
19	Limugent		325	214.1	174.4	3.4	95.8	3.4	H
20	Metehara		123.5	35.4	NA	5.3	165.2	0.7	M
21	Mieso		34.9	58.6	51.8	5	150.6	0.2	D
22	Nazereth		68.1	56.7	NA	5	155.6	0.4	MD
23	Nedjo		261.1	186.7	NA	3.2	99.8	2.6	H
24	Nekemte		532.8	237.8	120.1	3.2	98.3	5.4	H
25	Nuraera		17.3	NA	139.9	5.1	91.4	0.2	D
26	Negelle		52	147.2	NA	5.7	177.6	0.3	D
27	Robe		111.8	93.4	224.1	3.6	104.4	1.1	H
28	Shambu		293.6	194.3	NA	NA	NA	NA	NA
29	S/ robit		98.4	93.4	156.8	NA	NA	NA	NA
30	Ziway		124.2	76.9	143.1	3.7	114.4	1.5	H
1	Awassa		220	153.2	143.6	3.8	118.4	1.9	H
	Bilate		175.5	123.3	142.3	4.4	133.2	1.3	H
2	H.Mariam		143.5	195	73.6	3.8	119	1.2	H
3	Hossaina		369.5	187.6	10.9	2.9	88.7	4.2	H
4	Jinka		172.8	131	99.5	3.3	59.4	2.5	H
5	K/Mingist		88.2	158	NA	2.2	44	2	H
6	Konso		241.8	220.1	115.5	3	78.8	3.1	H
7	Masha		172	98.6	109.9	3.5	99.1	1.7	H
8	M/abaya		979	278.7	15.6	2.6	74.5	4.3	H
9	Sawla		119	125.7	151.8	4.2	104.3	1.1	H
10	Sekoru	SNNPR	325.5	167.9	30.1	3.2	98.9	3.3	H
	Asossa		125.3	134.2	93.4	3.8	117.2	1.1	H
2	Bullen		137.5	167.7	82	3.7	113.2	1.2	H
3	Mankush		150.4	NA	NA	4.5	140.7	1.1	H
4	Pawe	B/GUMUZ	36.4	120.9	30.1	4.6	105.3	0.3	MD
1	D.Habour		177.1	91.3	194	NA	NA	NA	NA
2	Gode		5.8	53.4	10.9	6.3	176.4	0	VD
3	Jiiga	SOMALIA	103.4	103.1	100.3	4.3	78.1	1.3	H
1	Harar	HARAR	89.7	114.7	78.2	3.4	105.4	1.2	H
1	D/Dawa	D/DAWA	80.8	46.8	172.6	4.9	132.6	0.6	M
1	A.A. Bole		87.4	78.5	111.3	4	114.6	0.7	M
2	A.A. Obs	A.A	69.2	76	91.1	3.2	89.6	1.2	H

#### Legend

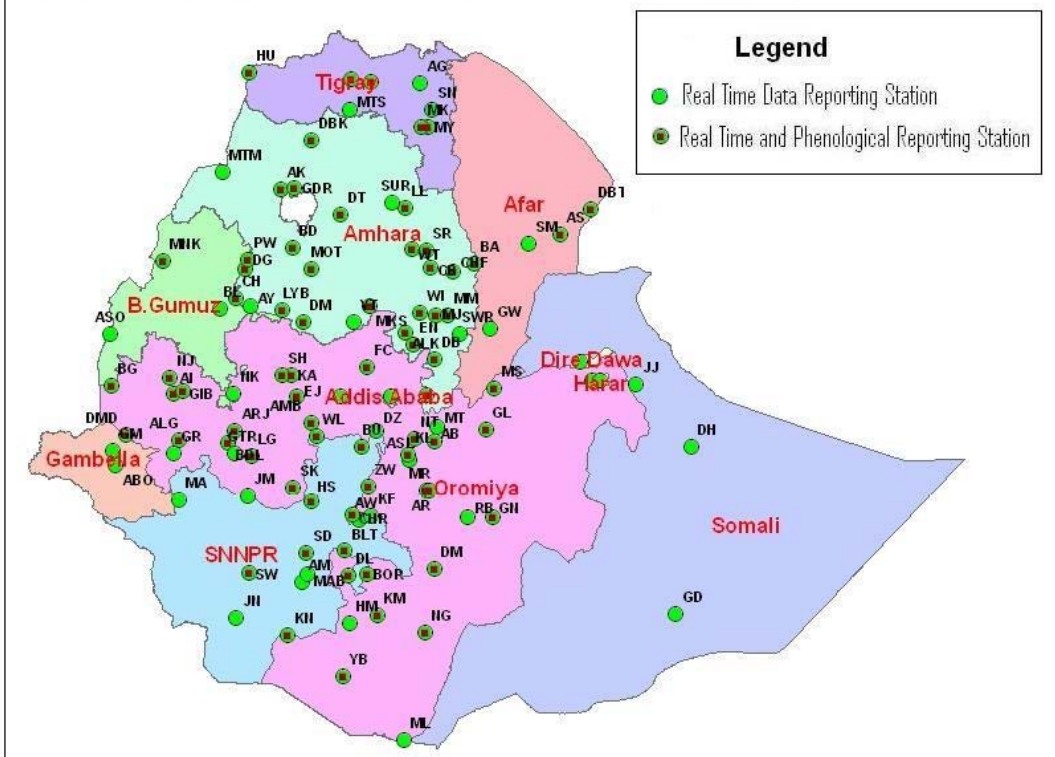
VD	Very Dry	< 0.1
D	Dry	0.1 - 0.25
MD	Moderately Dry	0.25 - 0.5
M	Moist	0.5 - 1
H	Humid	>1

#### Explanatory Note:

ET<sub>o</sub> = Reference Evapo-transpiration (mm)

NA = Data not available

## 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		