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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እ.ኤ.አ ማርች 2008

እ.ኤ.አ በማርች 2008 የመጀመሪያው አስርተ ቀናት ደረቅና ፀሐያማ ሁኔታ አመዝኖ የታየበትና ከዚሁ የአየር ሁኔታ ክስተት ጋር በመያያዝ የማለዳና የሌሊት የሙቀት ሁኔታ በደጋማ የአገሪቱ አካባቢዎች ቀንሱ ታይቷል፡ በተቃራኒው በአገሪቱ ቆላማ አካባቢዎች ላይ የቀኑ ሙቀት በጣም ጨምሮ ተሰተውሏል። ይኸም ሁኔታ የነበረውን ደረቅ ሁኔታ በማባባስ ትነት በጣም እንዲጨምር ያደርጋል ከዚህም ጋር ተያይዞ በቋሚ ሰብሎች፣ በግጦሽ ሣርና መጠጥ ውሃ አቅርቦት ላይ አሉታዊ ተፅዕኖ እንደነበረው እሙን ነው። በአንጻሩ ከአስሩ ቀን አጋማሽ በኋላ በደቡብ፣ በምዕራብ፣ በደቡብ ምዕራብና በደቡብ ብሄረ ብሄረሰቦችና ሕዝቦች ክልል ጥቂት ስፍራዎች ላይ የነበረው አነስተኛ ዝናብ በአካባቢው ላሉ ቋሚ ሰብሎች፣ ለግጦሽ ሣርና መጠጥ ውሃ አቅርቦትና በተጨማሪም በአገሪቱ ምዕራብ አጋማሽ ላሉ በልግ አብቃይ አካባቢዎች ለበልግ የእርሻ ሥራ ማሣ ዝግጅት የጎላ ጠቀሜታ ይኖረዋል። በሌላ በኩል በአብዛኛው የአገሪቱ ክፍሎች ላይ የነበረው ደረቅና ፀሐያማ ሁኔታ ለቋሚ ሰብሎች፣ በአርብቶ አደር እና ከፊል አርብቶ አደር አካባቢዎች ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አሉታዊ ተፅዕኖ ይኖረዋል።

እ.ኤ.አ በማርች 2008 በሁለተኛው አስርተ ቀናት በደቡብ ምዕራብ እና በደቡብ የሀገሪቷ አከባቢዎች ላይ አልፎ አልፎ ሲታይ ከነበረው መጠነኛ ዝናብ በስተቀር በአብዛኛዎቹ የሀገሪቱ አካባቢዎች ደረቅና ሞቃታማ የአየር ሁኔታ ለጥቂት ቀናት ሲዘወተር የነበረ ቢሆንም በምዕራብ የሀገሪቱ አጋማሽ መካከለኛውን ኢትዮጵያን መጠነኛ የደመና ሽፋን ተስተውሎባቸዋል። በደቡብ ምዕራብና በደቡብ የሀገሪቱ ክፍሎች በሚገኙ ጣቢያዎች ላይ የነበረው የዝናብ ሁኔታ ከ10 ሚ.ሜ እስከ 30.2 ሚ.ሜ የሚደርስ ዝናብ በአንድ የዝናብ ቀን ተመዝግቦባቸዋል። ይህም የዝናብ ሁኔታ ምንም እንኳን ለበልጉ የእርሻ እንቅስቀሴ በቂ ባይሆንም በተከታታይ ሲታይ የነበረውን ደረቅና ፀሐያማ የአየር ሁኔታ ከማርገቡም ባሻገር የበልጉን የእርሻ እንቅስቃሴ ዘግይተው ለሚጀምሩ አከባቢዎች ለማሳ ዝግጅትና ለዘር ጊዜ አወንታዊ ተፅዕኖ እንደሚኖረው ይታመናል። ከፍተኛ የአየር ሙቀትን ስንመለከት ባለፉት አስር ቀናት በአብዛኛው በሀገሪቱ ቆላማ ሥፍራዎች ላይ የቀኑ ከፍተኛ ሙቀት ከ35^{o}C በላይ እስከ 42.1የሚደርስ ሙቀት ነበር የተስተዋለው ይህም የሙቀት መጨመር ትነትን በጣም ከማባባሱም ባሻገር በቋሚ ሰብሎች፣ ላይ ጥምር ግብርና በሚካሄዱ አከባቢዎች ለግጦሽ ሳርና ለመጠጥ ውሀ አቅርቦት አሉታዊ ተፅዕኖ እንዳሳደረ ዕሙን ነው። አጠቃላይ የእርጥበት ደረጃ ጠቋሚ ገፅታ (አጠቃላይ የዝናብ መጠን ሲካፈል ለአጠቃላይ ትነት) ከጥቂት የደቡብና የደቡብ ምዕራብ አከባቢዎች መጠነኛ እርጥበት የነበራቸው ሲሆን የተቀሩት የሀገሪቱ ክፍሎች ደረቅ የአየር ሁኔታ ነበራቸው። ይህም ሁኔታ በአጠቃላይ ለበልግ የእርሻ ሥራ እንቅስቃሴ ማሳ ዝግጅትና የዘር ጊዜ በቂ አለመሆኑን ያመላክተናል።

እ.ኤ.አ በማርች 2008 በሶስተኛው አስርተ ቀናት በተለያዩ የአገሪቱ ክፍሎች ላይ የደመና ሽፋን መጨመር የታየ ከመሆኑም ባሻገር የበልግ ወቅት ከጀመረ ጀምሮ ለበርካታ ቀናት ደረቅ ሆነው በታዩት የሀገሪቱ በልግ አብቃይ አከባቢዎች ላይ ደመናማ የአየር ሁኔታ ተስተውሏል። ከዚህ ጋር በተያያዘ በጥቂት አከባቢዎች ላይ አነስተኛ መጠን ያለው ዝናብ ጥሏል። ይህም ሁኔታ ለበልግ እርሻ እንቅስቃሴ ለሚካሄድባቸው አከባቢዎች በጎ ጎን ሁኔታ ነበረው። በሌላ በኩል የዝናብ ጊዜያቸው የሆኑት የደቡብ ምዕራብ የሀገሪቱ አከባቢዎች በዚህ ሳምንት የመጨረሻ ቀናት እስከ 30 ሚ.ሜ መጠን ያለው ዝናብ አግኝተዋል። በተጨማሪም የምዕራብ ኢትዮጵያ አንዳንድ ስፍራዎች ቀላል ዝናብ ነበራቸው። ይህም ሁኔታ በደቡብ ምዕራብ ለሚካሄደው የበልግ እርሻ እንቅስቃሴ ማለትም ለማሳ ዝግጅት አልፎም ለዘር ጊዜ አዎታዊ ተፅዕኖ ነበረው በተጨማሪምበምዕራብ ኢትዮጵያ ለሚኖረው ለቋሚ ሰብል እንዲሁም አርብቶ አደርና ከፊል አርብቶ አደር ለሳር ግጦሽ እና ለመጠጥ ውሃ አቅርቦት አመቺ ሁኔታን ነበረው። እንዲሁም መካከለኛውና ምስራቅ ኢትዮጵያ የምዕራብና ምስራቅ አማራና ምስራቅ ትግራይ በጥቂት ስፍራዎቻቸው ላይ አነስተኛ ዝናብ አግኝተዋል። ይህም ሁኔታ የበልግ እርሻ እንቅስቃሴ ለሚካሄድባቸው አካባቢዎች እንዲሁም ለቋሚ ሰብሎችና አርብቶ አደርና ከፊል አርብቶ አደር ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አዎንታዊ ተፅዕኖ ነበረው። በሌላ በኩል በምዕራብ በደቡብ ምዕራብና ሰሜን ምስራቅ የሀገሪቱ ቆላማ አከባቢዎች ላይ የተመዘገበው ከፍተኛ የሙቀት መጠን እስከ 44 ዲ.ሴ ያህል ደርሶ ነበር። ይህም ሁኔታ በዚህ አከባቢ ለሚኖረው አርብቶ አደርና ከፊል አርብቶ አደር ለሳር ግጦሽ እና ለመጠጥ ውሃ አቅርቦት አሉታዊ ተፅዕኖ ነበረው።

በተጨማሪም እ.ኤ.አ ከማርች 21 - 31/2008 የነበረው የእርጥበት ደረጃ ጠቃሚ (ካርታ1) (አጠቃላይ የዝናብ መጠን ሲካፈል ለአጠቃላይ ትነት) እንደሚያሳየው ደቡብ ምዕራብና ደቡብ አንዳንድ የሀገሪቱ ክፍሎች ላይ በተለይ በደቡብ ብሔር ብሔረሰቦች ህዝቦች ክልል ለይ እርጥበቱ በመጠን ጨምሮ ታይቷል። ከ moist እስከ Humid የእርጥበት ደረጃ የነበራቸው ሲሆን የተቀሩት የሀገሪቱ ክፍሎች ላይ ግን ደረቅና በጣም ደረቅ መሆኑን ያሳያል። ይህም ሁኔታ ለበልግ ማሳ ዝግጅትና አልፎም ዘርን በማሳ ላይ ለመዝራት በቂ የእርጥበት መጠን ሰለላ አመቺ ሁኔታ ነበረው። የእርጥበት ደረጃ ጠቋሚ (አጠቃላይ የዝናብ መጠን ሲካፈል ለአጠቃላይ ትነት) ከ0.5 በታች መሆኑ ደግሞ ሰብሎችን ለመዝራት በቂ አለመሆኑን ይገልፃል። በዚህ ሳቢያ የነበረው ደረቅ ሁኔታ ለእርሻው ስራ እንቅስቃሴ አሉታዊ ተፅዕኖ ነበረው።

በአጠቃላይ እ.ኤ.አ ማርች 2008 በአብዛኛው የሀገሪቱ ክፍሎች ላይ ደረቅ ፀሐያማና ሞቃታማ የአየር ሁኔታ አመዝኖ የታየ ቢሆንም የደቡብ ምዕራብ የሀገሪቱ አካባቢዎች ከወሩ ሁለተኛ አስርተ ቀናት ጀምሮ ዝናብ ማግኘታቸውን የቀጠሉ ሲሆን ደረቅ ሆነው የሰነበቱና የዝናብ ወቅታቸው የሆኑት የደቡብ ኦሮሚያ አከባቢዎች በዚሁ ወር ዝናብ ማግኘት ጀምረዋል። በተጨማሪም የዝናቡ

ሁኔታ አልፎ አልፎ በጥቂት የምሥራቅ የትግራይ የቤንሻንጉል ጉሙዝ እና የአማራ ምዕራባዊና ምስራቃዊ ክፍሎች ላይ ተስተውሎ ነበር። በመሆኑም ታይቶ የነበረው መጠነኛ ዝናብ በተለይም በወሩ መጨረሻ የማሳ ዝግጅትና የረሹም ጊዜ ሰበሎች የዘር ጊዜያቸውን ለሚያካሄዱ አከባቢዎች ከመካከለኛው እንደ አዳማ፣ ዝዋይ፣ መራሮ፣ ቡኢና ወሊሶ፣ ከምስራቅ እንደ መኢሶ፣ገለምሶ፣ ጅጅጋና አለማያ፣ ከሰሜን ምስራቅ እንደ ማጀቴ፣ ጨፋና ባቲ ባሉት አከባቢዎች በተወሰነ መልኩ አመቺ ሁኔታን እንደሚፈጥር እሙን ነው።

ከዚህም ባሻገር በወሩ የመጨረሻ ቀናት ለበልግ ዝናብ መኖር አስተዋፅዖ የሚኖራቸው የአየር ሁኔታ ገጽታዎች ቀስ በቀስ መጠናከር በመጀመራቸው የደመና ሽፋን በተለያዩ የሀገሪቱ ክፍሎች ላይ የጨመረ ሲሆን በደቡብ እና በደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ የዝናቡ ሁኔታ የተስፋፋ መልክ ነበረው ። ስለሆነም በደቡብ የሀገሪቱ ክፍሎች አካባቢ ላሉት የአርብቶ አደሩና ከፊል የአርብቶ አደሩ አከባቢ ለግጦሽ ሳር ብቅለት መሻሻልና ለውሃ አቅርቦት አመቺ ሁኔታን እንደሚፈጥር ይታመናል። በሌላ በኩል የቀኑ ከፍተኛ የሙቀት መጠን ሀሀገሪቱ ቆላማ አከባቢዎች በተለይ በሰሜን ምዕራብ በደቡብ ምዕራብና በሰሜን ምሥራቅ የሀገሪቱ ቆላማ አከባቢዎች ከፍተኛ የሙቀት መጠን የተመዘገበ ሲሆን ሁኔታውም የአካባቢዎቹን የትነት መጠን እንደሚጨምር ይገመታል።

በአጠቃላይ በወሩ ውስጥ የነበረውን የእርጥበት ደረጃ ጠቋሚ (አጠቃላይ የዝናብ መጠን ሲካፈል ለአጠቃላይ ትነት) ስንመለከት በተለይ ከሁለተኛ አስርተ ቀናት ጀምሮ የነበረው እርጥበት በደቡብና ደቡብ ምዕራብ የሀገሪቱ ክፍሎች ላይ በሶስተኛው አስርተ ቀናትም ቀጥሎ ጥሩ የሆነ የእርጥበት ሁኔታ (moist to humid) አግኝተው ነበር። ይህም ሁኔታ ለአጠቃላይ የእርሻ እንቅስቃሴ አመቺ ከመሆኑም ባሻገር በአካባቢው የበልግ አዝርዕቶችን ለመዝራት በቂ ነበር።

SUMMARY

MARCH 2008

During the first dekad of March 2008, dry and sunny condition was dominated over most parts of the country, in line with this observed an increase in maximum temperature over lowlands of the country that have an impact on the rate of evapo-transpiration to increase, hence, the condition might have caused moisture stress on perennial crops, availability of pasture and drinking water. Little rain was received over areas of southern, southwestern and SNNPR and might have benefited perennial crops, availability of pasture and drinking water.

During the second dekad of March 2008, rainfall activities observed over some areas of southwestern and southern parts of the country, on the other hand, most parts of the country exhibited sunny and dry weather condition. The rainfall observed over some station in south and southwestern parts of the country was with in the range of (10-30.2) mm in one rainy day. The condition helped minimize the moisture stress persisted. Besides, it should favor areas where Belg agricultural activities were started earlier. The exhibited extreme high temperature could increase the rate of evapo-transpiration as result could cause a negative impact on the availability of pasture and drinking water and for perennial crops. The (RF/ETo) Rainfall divided by reference evapo-transpiration map showed that with the exception of south and southwestern parts of the country experienced very dry moisture situation. This moisture condition is not enough in terms of crops' water requirement for Belg agricultural activities.

During the third dekad of March 2008, observed cloud coverage increasing over most parts of the country. This situation might have favored Belg agricultural activities. On other hand, over southwestern parts of the country recorded up to 30.0 mm rainfall in the last day of the dekad. In addition, over western part of the country exhibited light rainfall. Moreover, parts of central and eastern Ethiopia, western and eastern Amhara and eastern Tigray experienced little rainfall This situation might have positive impact for Belg agricultural activities like land preparation over southwestern parts of the country and availability of pasture and drinking water. On other hand maximum temperature recorded up to 44.0 ^{0}c over low lands of southwestern and northeastern of the country, which might have negative impact on pasture and drinking water availabilities over postural and agro pastoral areas.

Generally, during the month of March 2008, sunny and dry weather condition has been observed over most parts of the country. However, southwestern parts of the country and southern Oromia received rainfall since the second dekad of the month. In addition to this, the observed rainfall over some areas of eastern Tigray, Benshangul–Gumuz, western and eastern Amhara might have a favored areas which start their land preparation and sowing of long cycle crops from central parts of the country like Adama, Ziway, Meraro, Bui and Wolliso. From eastern parts of the country, Miesso, Gelemso, Jijiga and Alemaya from northeastern like Majete, Cheffa and Bati during the end of this month. Moreover, the observed wide distribution of rainfall since the third dekad of the month over south and southwestern parts of the country might have a significant contribution for the development of pasture and availability of drinking water over pastoral and agro pastoral areas. On the other hand, the observed extreme maximum temperature over lowland parts of the country particularly over northwestern, southwestern and northeastern lowland parts of the country might increase the evapotranspiration of the areas.

The analysis of moisture status (the relationship between total decadal rainfall and the decadal total reference evapo transpiration) of the month indicated that starting from the second dekad of the month southern and southwestern parts of the country exhibited moist to humid moisture status. This good moisture condition might have a significant contribution for Belg agricultural activity, so that it was good for sowing of Belg crops.

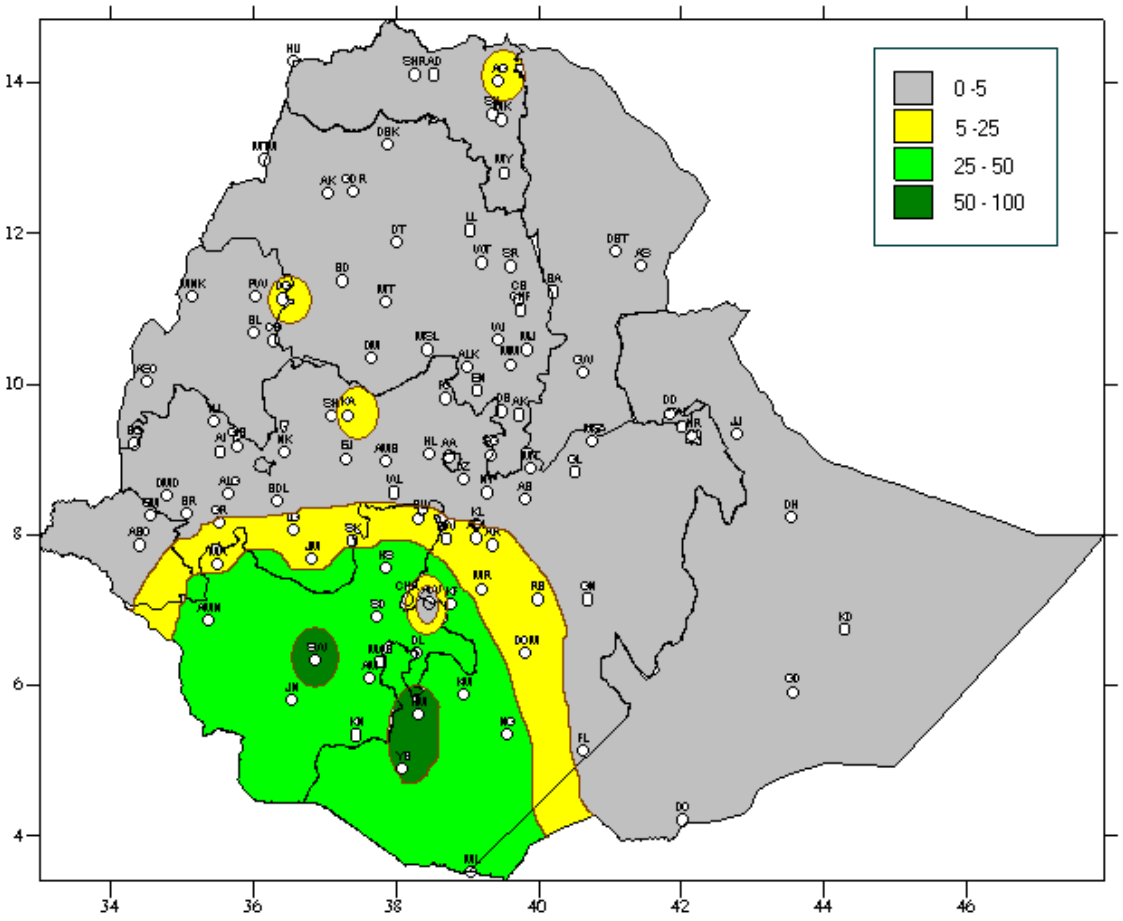


Fig 1. Rainfall distribution in mm (21 – 31 March, 2008)

1. WEATHER ASSESSMENT

1.1 (21- 31 March, 2008)

1.1.1 Rainfall amount (Fig.1)

Pocket area of southern Oromia and central SNNPR experienced 50-100 mm rainfall. Most parts of SNNPR and southern parts of Oromia received 25-50 mm rainfall. Southern Gambela, parts of western, central and southern Oromia and pocket area of western Amhara and eastern Tigray received 5-25 mm rainfall. The rest parts of the country exhibited little or no rainfall.

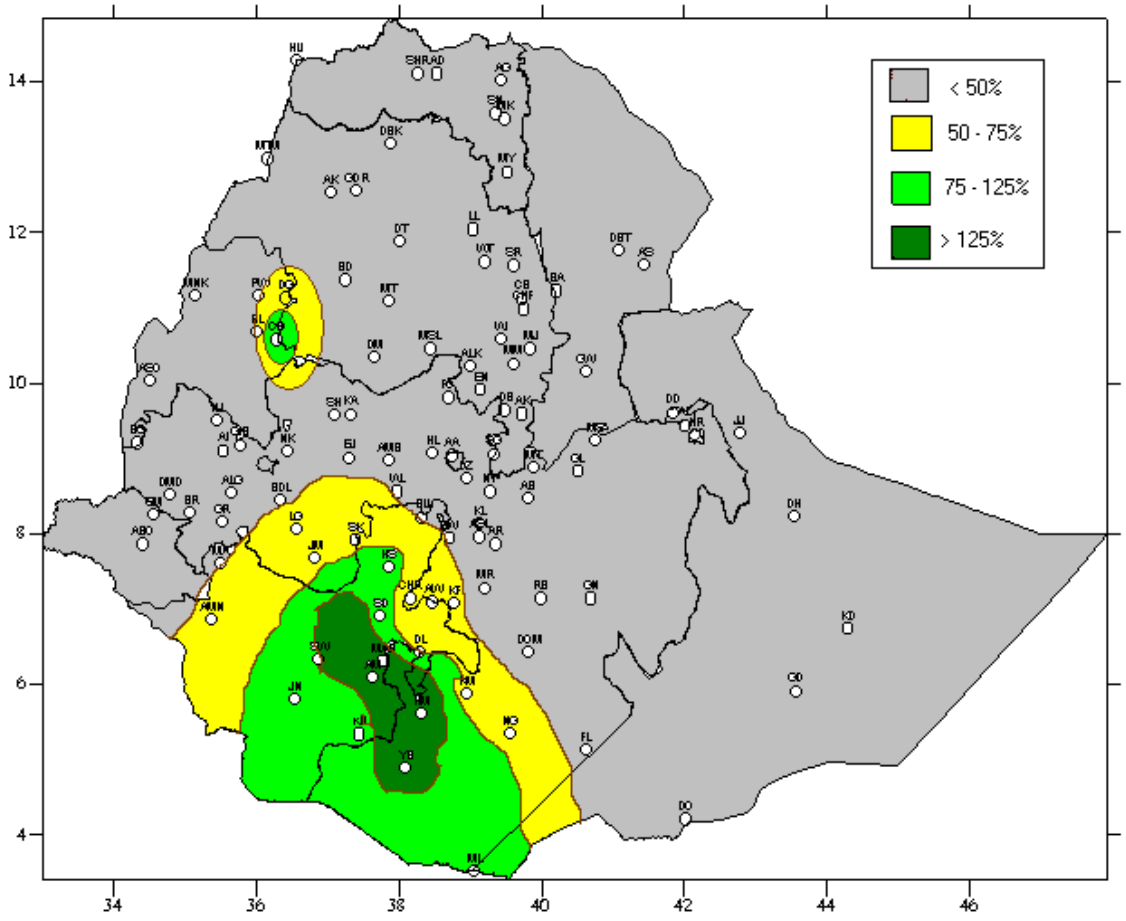


Fig. 2 Percent of normal rainfall distribution (21-31 March, 2008)

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. 2)

Southern parts of Oromia and parts of SNNPR received normal to above normal rainfall. The rest parts of the country exhibited below normal to much below normal rainfall.

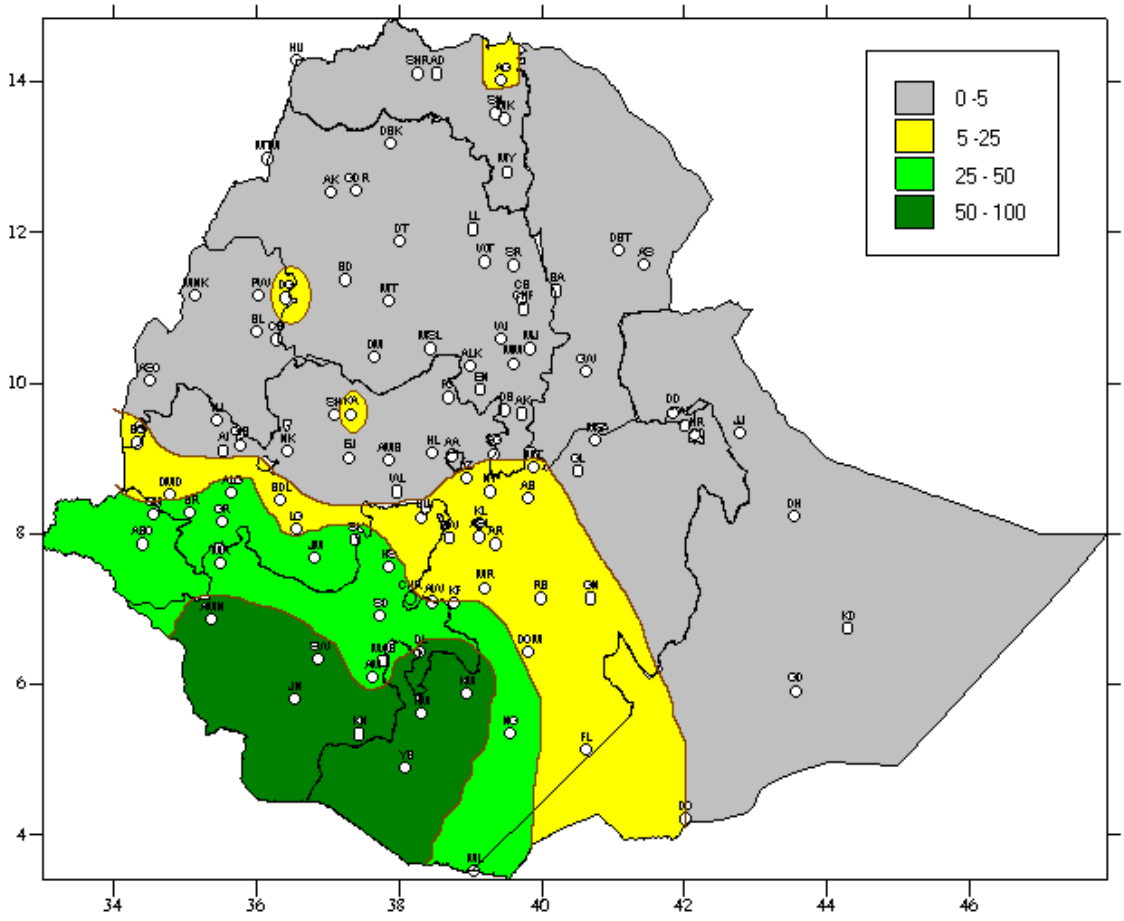


Fig. 3 Rainfall distribution in mm for the month of March 2008

1.2 March, 2008

1.2.1 Rainfall distribution (Fig.3)

Part of south Oromia and southern parts of SNNPR received 50-100 mm rainfall. Gambela, Parts of southern and western Oromia and most parts of northern SNNPR 25-50 mm rainfall. Parts of southern, western central Oromia and pocket area of northern Oromia, western Amhara and eastern Tigray received 5-25 mm rainfall. The rest parts of the country experienced little or no rainfall.

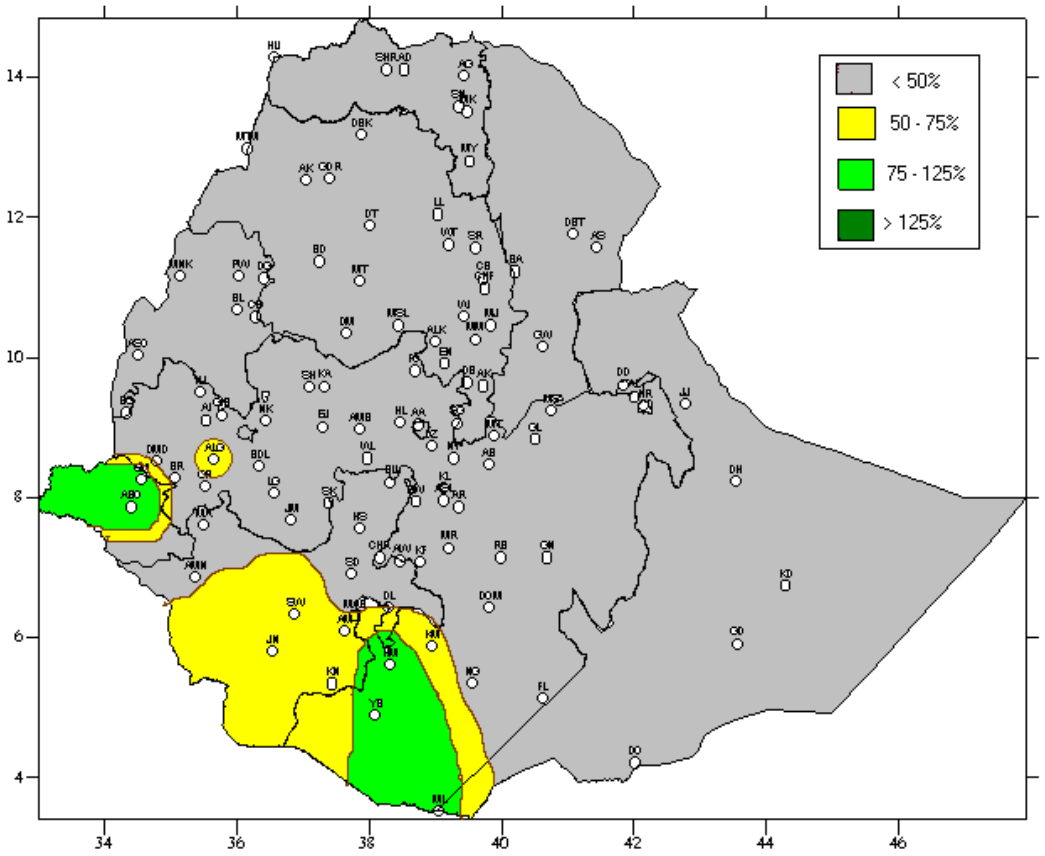


Fig. 4 Percent of Normal Rainfall distribution for the month of March, 2008

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. 4)

Most parts of Gambela and southern Oromia received normal rainfall. The rest Parts of the country exhibited below normal to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

Some stations recorded extreme Maximum temperature above 35^{o} C for 3-11 consecutive days. Arbaminch, Mirab Abaya, Blate, Aysha, Dire Dawa, Maytsemri, Gode, Chagni, Mille, Assayta, Methara, Dubti, Pawe, Mankush, Gambella, Metema, Gewane and Humera recorded extreme maximum temperature as high as 35.4, 36.0, 36.0, 36.5, 36.5, 37.5, 38.3, 38.5, 39.0, 39.0, 39.0, 40.0, 40, 41.4, 42.0, 42.0, 42.2 and 44.5 respectively. The condition might have affected the normal situation of crops as well as living livestock over the aforementioned areas.

2. WEATHER OUTLOOK

2.1 For the first dekad of April 2008

In the first decade of April, the Belg rain bearing systems cover much of the current rain benefiting areas. The rainfall distribution and amount is better over the main Belg growing regions like southern and southeastern Ethiopia. In the coming ten days, favorable rain-producing systems will nourish better wet weather that can result in rains over various portions of the country. Generally, west and south Oromia, Gambella, Benshangul-Gumuz and SNNPR will get normal rainfall while east Tigray and Amhara, highlands of west Tigray and Amhara, east and central Ethiopia, Bale, Arsi and Hararge high grounds as well as northern Somali are expected to receive nearly normal rainfall with a possibility of below standard rainfall pattern at some places. Similarly west Tigray and Amhara lowlands, west Afar and south Somali are likely to have patches of clouds with chance of light rain at pocket places. Otherwise, dry weather dominates the remaining parts of the country.

2.2 For the month of April 2008

During April, Belg rain satisfyingly benefits most of the Belg growing regions. Therefore, the rain we receive during this time of the year is sufficient and play significant role in economical activities of the country. In particular, southern and eastern Ethiopia receives comparably better rainfall. Climatologically, in April, Bale, Borena, Guji and SNNPR regions receive 175-200 mm of rain with in 15-20 days. Likewise, Belg rain getting areas of Tigray and Amhara, Arsi and Hararge obtain 100-175 mm in 5-10 days. In some year, however rain-bearing systems become weak and rainfall deficit occurs. In this April, a day- to- day intensification of rain-producing systems are expected over various portions of the country.

In general, Gambella, west and south Oromia, Benshangul-Gumuz and SNNPR will get normal rainfall. Moreover, east Tigray and Amhara, east and central Oromia as well as Somali are likely to receive rain showers and it is nearly normal at highland places. Western half of Tigray and Amhara are also anticipated to get nearly normal rainfall. Nevertheless, Afar remains dry with a possibility of light rain at few places.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

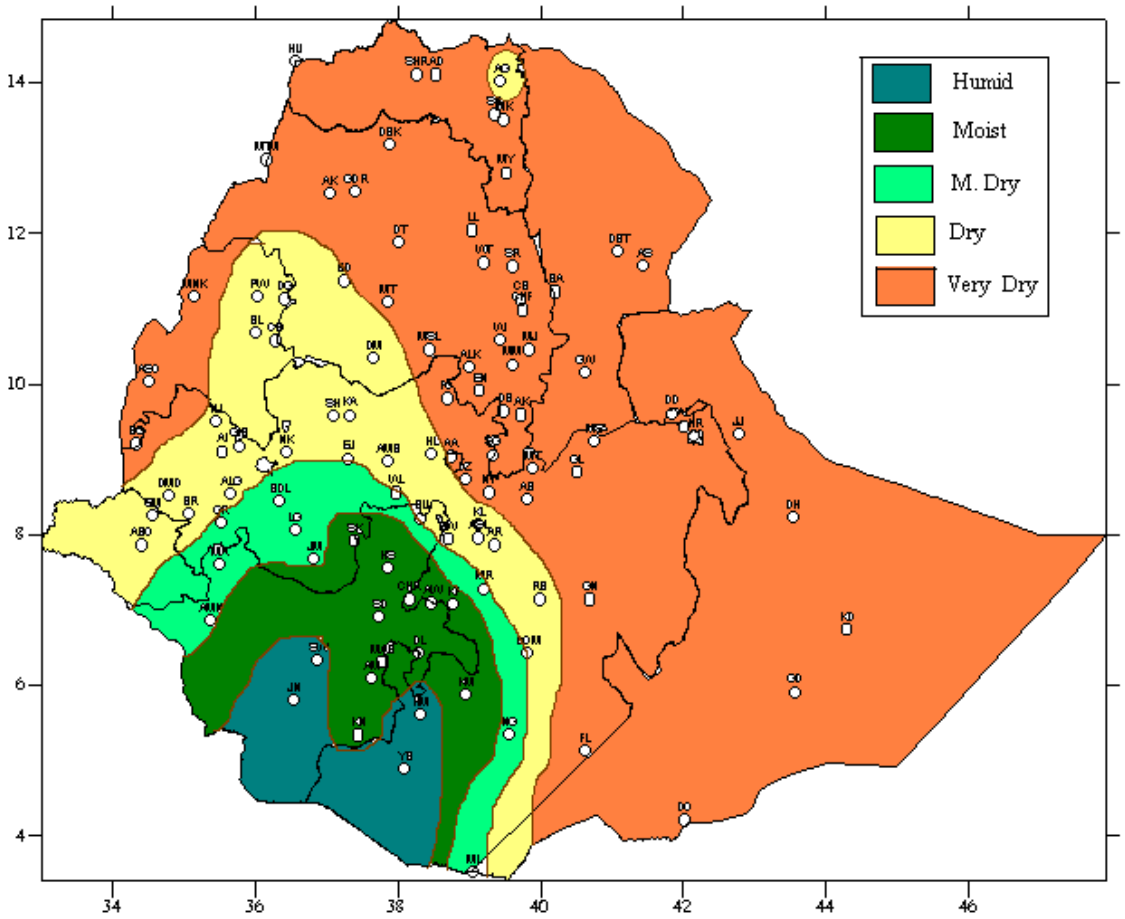
Generally, during the month of March 2008, sunny and dry weather condition has been observed over most parts of the country. However, southwestern parts of the country and southern Oromia received rainfall since the second dekad of the month. In addition to this, the observed rainfall over some areas of eastern Tigray, Benshangul–Gumuz, western and eastern Amhara might have a favored areas which start their land preparation and sowing of long cycle crops from central parts of the country like Adama, Ziway, Meraro, Bui and Wolliso. From eastern parts of the country, Miesso, Gelemso, Jijiga and Alemaya from northeastern like Majete, Cheffa and Bati during the end of this month. Moreover, the observed wide distribution of rainfall since the third dekad of the month over south and southwestern parts of the country might have a significant contribution for the development of pasture and availability of drinking water over pastoral and agro pastoral areas. On the other hand, the observed extreme maximum temperature over lowland parts of the country particularly over northwestern, southwestern and northeastern lowland parts of the country might increase the evapotranspiration of the areas.

The analysis of moisture status (the relationship between total decadal rainfall and the decadal total reference evapo transpiration) of the month indicated that starting from the second dekad of the month southern and southwestern parts of the country exhibited moist to humid moisture status. This good moisture condition might have a significant contribution for Belg agricultural activity, so that it was good

for sowing of Belg crops.

In addition, during the third dekad of March 2008, the analysis of moisture status (the relation between total decadal rainfall and total decadal evapotranspiration) as indicates on figure 5 below was moist to humid over southwestern and southern parts of the country, which have positive impact for Belg agricultural activities like land preparation and sowing period and also for perennial crops. The rest parts of the country were dry to very dry moisture condition. This situation might have negative impact on general agricultural activities.

Fig.5. Moisture status for 21-31 March 2008



3.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

For the coming month meteorological weather phenomena's indicated that increment of cloud cover, strong and widely spread of rainfall will expected after mid of April over most parts of the country. Generally Gambella, western and southern Oromia and SNNPR will receive near normal rainfall where as eastern Tigray and Amhara, central and eastern Oromia and Somali anticipated to have near normal rainfall in some highland areas but in most parts of the aforementioned areas expected to have below the usual condition. Thus this expected rainfall condition could bee favorable for areas which start their sowing activities of Belg crops in this month areas like Abomsa, Ziway, Hosanna, Kofelle, Bui, Miesso, Ejaji and Kachise from south like yabello, Negelle, Moyale, Kibre Mengist and Awassa from western like Alge, Bedelle and Limu Genet from eastern like Harar areas will be benefited. Moreover, Benshangul-Gumuz, western half of Tigray and Amhara anticipated to have little amount of rainfall over some areas where as Afar and adjoining areas will have dry weather condition. Therefore this situation would have a positive impact for water requirement of planted long cycle crops like maize and sorghum. In the contrary it would have a negative impact for livestock pasture and availability of drinking water over Afar and adjoining areas.

Table 1. Climatic and Agro-Climatic elements of different stations for the month of March 2008

	Stations	Region	Total Rainfall	Normal	% of Normal	ETo mm/day	Monthly ETo	Moisture status
1	**Adigrat**	**TIGRAY**	**8.6**	**49**	**17.6**	4.26	**132.1**	VD
2	**Mekele**		0	24.6	0	5.28	**163.6**	VD
3	**Senkata**		0	69.3	0	5.77	**178.9**	VD
4	**Shire**		0	1.3	0	5.84	**181.0**	VD
1	**Assayta**	**AFAR**	0	19.5	0	6.01	**186.3**	VD
1	**A. Ketema**	**AMHARA**	0	55.3	0	5.7	**176.7**	VD
2	**Aykel**		1.1	11.1	9.9	6.31	**195.6**	VD
3	**Bahirdar**		0	8	0	5.16	**160.0**	VD
4	**Bati**		0	67.3	0	4.74	**146.9**	VD
5	**Bullen**		0	13.3	0	4.69	**145.4**	VD
6	**Combolcha**		0	75.7	0	4.61	**142.9**	VD
7	**Chefa**		0	0		5.7	**176.7**	VD
8	**Dangila**		4.8	19.8	24.1	4.64	**143.8**	VD
9	**D.Birhan**		0	34.4	0	5.24	**162.4**	VD
10	**D.Markos**		0	46.6	0	5.35	**165.9**	VD
11	**D.Tabor**		0	33	0	5.32	**164.9**	VD
12	**Enwary**		0	56	0	5.83	**180.7**	VD
13	**Gondar**		1.8	17.6	10.2	5.64	**174.8**	VD
14	**M.Meda**		0	71.8	0	5.35	**165.9**	VD
15	**Majete**		0	72.4	0	5.11	**158.4**	VD
16	**Lalibela**		0.9	50.2	1.8	4.69	**145.4**	VD
17	**S. Gebeya**		0	47.1	0	5.28	**163.7**	VD
18	**Sirinka**		0	97.6	0	5.29	**164.0**	VD
19	**Wereilu**		0	63.6	0	5.98	**185.4**	VD
		OROMIYA						
1	**Abomsa**		0.1	104.9	0	4.66	**144.5**	VD
2	**Ambo Agri.**		1	46.3	2.2	6.24	**193.4**	VD
3	**Aira**		3.1	9.3	33.3	4.75	**147.3**	VD
4	**Alemaya**		0.2	69.8	0.3	3.55	**110.1**	VD
5	**Alge**		30.2	57	53	4.51	**139.8**	D
6	**Arjo**		2.8	88.5	3.2	4.77	**147.9**	VD
7	**Bedelle**		8.4	76.9	10.9	4.38	**135.8**	VD
8	**Begi**		16.1	41	39.3	4.79	**148.5**	D
9	**Bui**		0	67.9	0	5.68	**176.1**	VD
10	**Chira**		43.3	119.1	36.4	4.18	**129.6**	MD
11	**D.Dollo**		16.4	58.3	28.1	4.34	**134.5**	D
12	**D.Mena**		14.8	94.4	15.7	5.26	**163.1**	VD
13	**D.Zeit**		0	17.9	0	5.96	**184.8**	VD
14	**Ejaji**		0	71.5	0	4	**124.0**	VD
15	**Fitche**		0	62.3	0	3.83	**118.7**	VD
16	**Gelemso**		3.7	75	4.9	5.73	**177.6**	VD
17	**Gimbi**		0	22.7	0	5.57	**172.7**	VD
18	**Ginir**		0	89.8	0	4.81	**149.1**	VD
19	**H. Mariam**		89.3	74	120.7	3.41	**105.7**	M

20	**Jimma**		39.4	90.7	43.4	3.78	**117.2**	MD
21	**K.Mengist**		58.8	93.7	62.8	4.12	**127.7**	MD
22	**Kachisa**		9.7	80.6	12	4.86	**150.7**	VD
23	**Koffele**		40.7	125.3	32.5	4.35	**134.9**	MD
24	**Kulumsa**		0.2	86.8	0.2	5.68	**176.1**	VD
25	**Limugenet**		21.9	85.9	25.5	4.47	**138.6**	D
26	**Metehara**		0	49.4	0	5.82	**180.4**	VD
27	**Mi'eso**		0	77.7	0	5.51	**170.8**	VD
28	**Moyale**		28.1	47.3	59.4	4.82	**149.4**	D
29	**Nazreth**		0	47.9	0	6.56	**203.4**	VD
30	**Neghele**		0			6.16	**191.0**	VD
31	**Nedjo**		0.3	38.5	0.8	4.5	**139.5**	VD
32	**Nekemte**		0.3	57.8	0.5	4.49	**139.2**	VD
33	**Robe(Bale)**		11.7	62.4	18.8	4.8	**148.8**	VD
34	**Sekoru**		27.8	73.3	37.9	4.18	**129.6**	D
35	**Shambu**		0	56.9	0	3.83	**118.7**	VD
36	**Yabello**		72.9	77.1	94.6	5.23	**162.1**	MD
37	**Ziway**		8.7	53.2	16.4	5.45	**169.0**	VD
1	**Jijiga**	**SOMALI**	0.6	47.3	1.3	4.49	**139.2**	VD
1	**A.Minch**	**SNNPR**	40.6	56.2	72.2	4.91	**152.2**	MD
2	**Awassa**		3.4	76.9	4.4	4.9	**151.9**	VD
3	**Blate**		0.4	68.5	0.6	5.4	**167.4**	VD
4	**Hosaina**		43	96.8	44.4	4.77	**147.9**	MD
5	**Jinka**		77	112.2	68.6	3.88	**120.3**	M
6	**Konso**		43	85.5	50.3	5.45	**169.0**	MD
7	**M.Abay**		4.4	51	8.6	5.43	**168.3**	VD
8	**Masha**		49.2	117.6	41.8	3.43	**106.3**	MD
9	**Sawla**		94	135	69.6	4.41	**136.7**	M
1	**Assosa**	**B/GUMUZ**	0	22.6	0	5.95	**184.5**	VD
2	**Chagni**		4.2	14.8	28.4	5.1	**158.1**	VD
3	**Pawe**		0	6.8	0	5.9	**182.9**	VD
1	**Gambela**	**Gambela**	0			4.87	**151.0**	VD
1	**A.A.Obs.**	**A.A**	0	68.2	0	4.83	**149.7**	VD
2	**A.A. Bole**		0	69.2	0	6.24	**193.4**	VD
1	**Diredawa**	**D.D**	2.1	71.1	3	5.19	**160.9**	VD
1	**Harar**	**Harai**	1.2	65.2	1.8	5.01	**155.3**	VD

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

ETo **Reference Evapotranspiration (mm)**

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.

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 southeastern 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 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 evapotranspiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

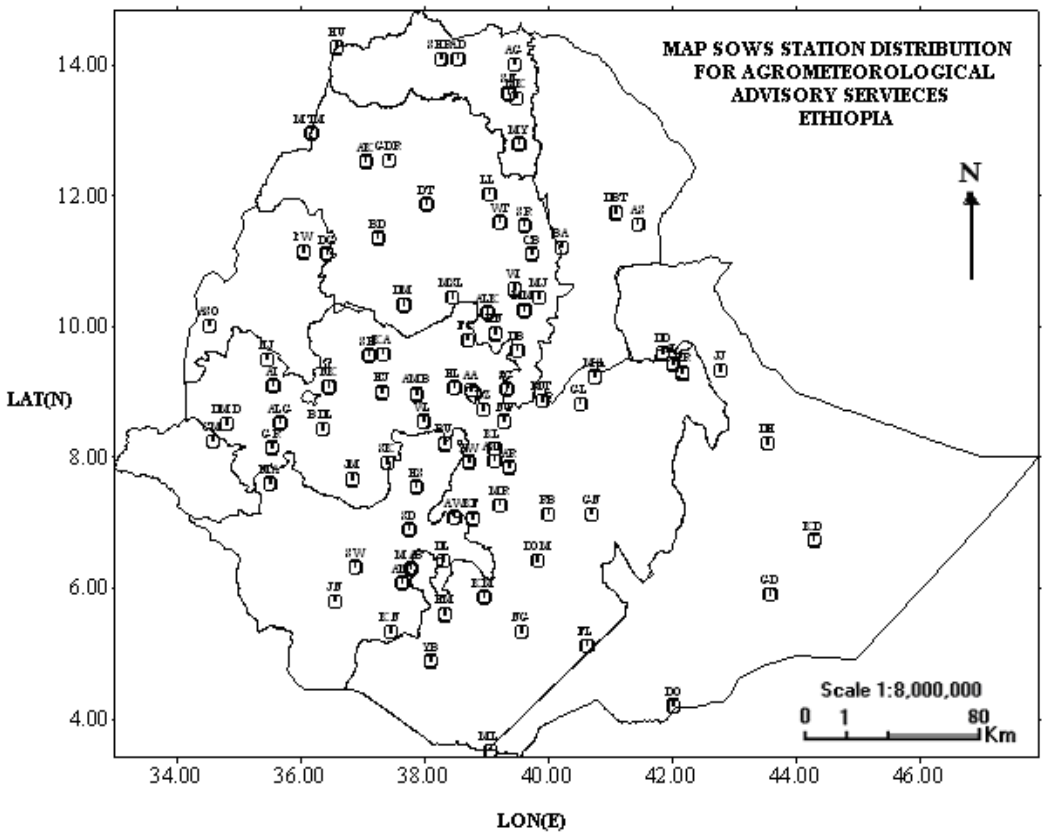
DEKAD: - First or second ten days or the remaining days of a month.

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

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