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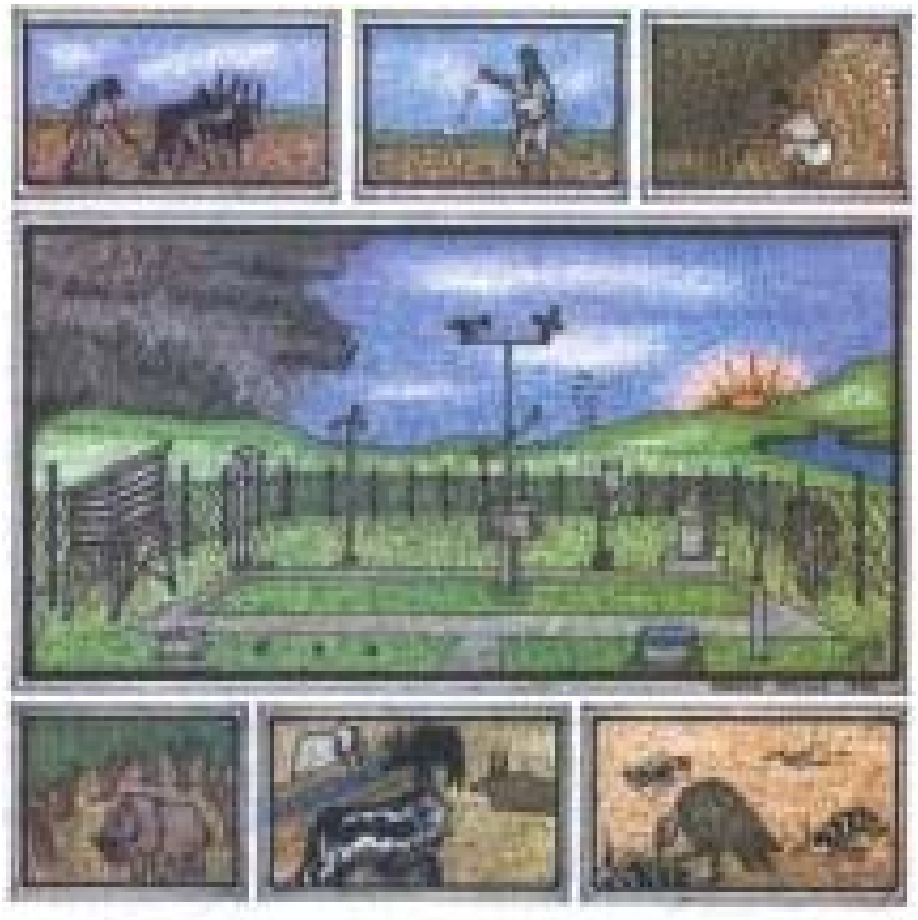


P.O.BOX 1090, ADDIS ABABA, ETHIOPIA
E.Mail: nmsa@telecom.net.et Fax 251-1-517066, Tel. 251-1-512299

FORE WARD

This Agro met Bulletin is prepared and disseminated by the National Meteorological Services Agency (NMSA). 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.

General Manager
NMSA
P.O.Box 1090
Tel: 51-22-99
Fax: 51-70-66
E-mail: nmsa@telecom.net.et
Addis Ababa

አህጽሮት

እ.ኤ.አ ኤፕሪል 2006

እ.ኤ.አ በኤፕሪል 2006 በመጀመሪያው አስር ቀናት በአብዛኛው የበልግ ዝናብ ተጠቃሚ በሆኑት የአገሪቱ አካባቢዎች የነበረው የዝናብ መጠንና ሥርጭት በመካሄድ ላይ ላለው የግብርና እንቅሥቃሴ አመቺ ሁኔታን እንደሚፈጥር ይታመናል። ነበር ይሁንና ከሰሜን በማይጨውና መቀሌ ከሰሜን ምሥራቅ በባቲ፣ ማጀቴና ሲሪንቃ፣ ከመካከለኛው በአርሲ ሮቤ፣ ቡኢ፣ ኩሉምሣና ዝዋይ ከደቡብ በአዋሳ፣ ዶሎ መና፣ ሞያሌ፣ ሶዶና ባሌ ሮቤ እንዲሁም ከምሥራቅ በአለማያ፣ ሐረርና ሚኤሶ በአንድ ቀን ብቻ መጠኑ ከ30-75 ሚ.ሜትር የሚደርስ ከባድ ዝናብ ተመዝግቦባቸው ነበር። ከተጠቀሱት ስፍራዎች በባቲ ለሁለት ቀናት፣ በሐረር ለሦስት ቀናት፣ በሚኤሶ ለሦስት ቀናት፣ በሞያሌ በሦስት ቀናት ይ,ው ከባድ ዝናብ ተመዝግቦ ነበር። ይህም ሁኔታ በተጠቀሱት አከባቢዎች በስርጭት ረገድ የነበረውን መዛባት የሚጠቁም ሲሆን፣ በአንዳንድ አካባቢዎችም እንደ ዝዋይና ጊኒር ባሉ ቦታዎች ጉዳት ማስከተሉ ከደረሰን ሪፖርት ማወቅ ተችሏል።

በሌላ በኩል በሶማሌ ደቡብና በደቡብ ምሥራቅ አካባቢዎች የታው ከመበደኛ በታች የሆነ ዝናብ በአካባቢው የግጦሽ ሳርና ውሃ አቅርቦት ላይ አሉታዊ ተፅዕኖ እንደሚያሳድር እሙን ነው። በተጨማሪም በጋምቤላና ምዕራብ ኦሮሚያ ላይ የነበረው እጥረት ከአለፉት አሥር ቀናት ጋር በተያያዘ መልኩ ለአዝርዕትም ሆነ በአካባቢው በሚገኙ ዕፅዋት ላይ አሉታዊ ጎን አንደሚኖረው እሙን ነው። የአዝርዕት መረጃን በተመለከተ በደቡብ ደጋማ ስፍራዎች እንደ ክብረመንግሥት ጣቢያ ባሉት አከባቢዎች ስንዴ በመዘራት ላይ ነው። የአየር ሙቀትን በተመለከተ አሳይታ፣ ዱብቲ፣ ማንኩሽ፣ መተማ፣ ፓዊ፣ እና ሰመራ (ከ35.5-40.5^{0}C) የሚደርስ ከፍተኛ ሙቀት ተመዝግቦባቸዋል።

እ.ኤ.አ በኤፕሪል 2006 ሁለተኛ አስር ቀናት በአብዛኛው ትግራይ፣ አማራ፣ ጥቂት የምዕራብ የመካከለኛውና የደቡብ ኦሮሚያ እንዲሁም የደቡብ ብሄር ብሄረሰቦችና ሕዝቦች በከፊል የታየው መደበኛና ከመደበኛ በላይ የሆነ ዝናብ ለወቅቱ የእርሻ እንቅስቃሴ አመቺ ሁኔታን እንደሚፈጥር ይታመናል። ሆኖም በአብዛኛው የአገሪቱ ክፍል ከመደበኛው በታች የዝናብ ሁኔታ የታየ ሲሆን ዝናብ ያገኙትም አካባቢዎች በአብዛኛው በአሥሩ ቀን ባሉት የመጨረሻ ሁለትና ሦስት ቀናት ነበር። በአንዳንድ አካባቢዎችም እንደ ሶዶ፣ መቀሌ፣ ጂንካ፣ ኮንሶ፣ እነዋሪ፣ ነገሌ፣ ነቀምቴ፣ ሆሣዕና፣ ጊንርና ሲሪንቃ ባሉት አካባቢዎች ከ30-83.4 ሚ.ሜትር ከባድ ዝናብ በአንድ ቀን ብቻ ተመዝግቦ ነበር። ይሁንና በሰብልም ሆነ በእንሰሳት ላይ የደረሰ የጉዳት ሪፖርት አልነበረም። ከዘጋቢ ጣቢያዎቻችን መካከል ድሬደዋ፣ መተሃራ፣ ጎዴ፣ ፓዌ፣ ማንኩሽ፣ አሳይታ፣ ዱብቲ፣ መተማና ሰመራ ከ35.5-40.8^{0}C የሚደርስ ከፍተኛ የሙቀት መጠን ተመዝግቦባቸዋል።

እ.ኤ.አ በኤፕሪል ወር 2006 በሶስተኛው አስርተ ቀናት አብዛኛው የአገሪቱን ክፍል ያዳረሰ የዝናብ ስርጭት የታየ ሲሆን በአብዛኛው ከ3-7 በሆነ የዝናብ ቀናት የተገኘ ሲሆን በደቡብ ደጋማና የወይና ደጋማ ሥፍራዎች ከአሥሩ ቀን በዘጠኙ ቀናት በተከታታይ ዝናብ ያገኙ ሥፍራዎች ነበሩ። ይህም ሁኔታ የአገዳ የብርዕና የጥራጥሬ አዝርዕት የዘር ጊዜያቸው ለሆነው ከመካከለኛው እንደ መራሮ፣ ወሊሶ፣ ዝዋይ፣ ካቺሴና ናዝሬት ከደቡብ እንደ ያቤሎ፣ ነገሌ፣ ሞያሌና አዋሳ ከምዕራብ እንደ በደሌ፣

አልጌና ሊሙ ገነት ከምሥራቅ እንደ ጂጂጋና ዓለማያ ከሰሜን ምሥራቅ እንደ ማጀቴ፣ ዓለም ከተማና ባቲ ላሉት አካባቢዎች አመቺ ሁኔታን እንደሚፈጥር እሙን ነው በተጨማሪም ቀደም ብለው ተዘርተው በማደግ ላይ ላሉ አዝርዕት የውሃ ፍለጎት ምቹ ሁኔታን ፈጥሮላቸው ነበር። ከዘጋቢ ጣቢያዎቻችን መካከል ያቤሎ፣ በደሌ፣ ሴኮሮ፣ ኮንሶ፣ ሳውላ፣ ጊንር፣ ሶዶ፣ ደምቢዶሎ፣ ገለምሶ፣ ብላቴ እና ሞያሌ 31.2፣ 32.0፣ 33.4፣ 33.7፣ 36.1፣ 38.3፣ 39.1፣ 41.5፣ 43.6 ፣48.0 እና 93.4 ሚ ሜ ከባድ ዝናብ በአንድ የዝናብ ቀን ብቻ እንደየቅደም ተከተላቸው መዝግበው ነበር። የአዝርዕትን እድገት በተመለከተ በአንዳንድ የምሥራቅ አማራ እንደ ማጀቴ ባሉ አከባቢዎች ጤፍ በማደግ ላይ የነበረ ሲሆን በደሎመና በአንዳንድ አከባቢዎች ሦስተኛ ቅጠል በማውጣት ላይ ነበር። ገብስ በምሥራቅ አማራ ማለትም እንደ ወገል ጤና እና ሲሪንቃ ባሉት አከባቢዎች ሦስተኛ ቅጠል በማውጣት ላይ ነበር። በቆሎ በደቡብ ኦሮሚያ አንዳንድ አከባቢዎች ማለትም በክብረመንግሥት በመብቀል ላይ ሲሆን በደሎመና ፍሬ በማውጣት ላይ ነበር። ሱፍ በመካከለኛው ኦሮሚያ እንደ አርሲ ሮቤ ባሉ አካበቢዎች እንቡጥ በማውጣት ደረጃ ላይ ነበር። የአየር ሙቀትን በተመለከተ መተማ፣ ማንኩሽ፣ ሰመራ፣ አሳይታ፣ መተሐራ፣ ጎዴ፣ ቻግኒ እና ድሬደዋ 42.5፣ 41.0፣ 40.5፣ 40.2፣ 39.3፣ 36.5፣ 35.0፣ እና 35.0 ^{O}C ከፍተኛ የአየር ሙቀት እንደየቅደም ተከተላቸው መዝግበው ነበር።

ጠቅለል ባለ መልኩ እ.ኤ.አ በኤፕሪል 2006 በአብዛኛዎቹ በልግ አብቃይ በሆኑት የአገሪቱ ክፍሎች የታየው መደበኛና ከመደበኛ በላይ የሆነ ዝናብ ቀደም ብለው በተዘሩትም ሆነ በወሩ በቡቃያ ላይ ለነበሩት አዝዕርት የውሃ ፍላጎት አመቺ ሁኔታን እንደሚፈጥር ይታመናል። በተለይ በአብዛኛው የደቡብ ብሄር ብሄርሰቦችና ሕዝቦች በመካከለኛውና ደቡብ ኦሮሚያ አንዳንድ የምሥራቅ ኦሮሚያ ኪስ ቦታዎችን ጨምሮ የተገኘው ዝናብ ከ15-22 የዝናብ ቀናት በመሆኑ የነበረው ሥርጭት ለአዝርዕት እድገት አመቺ ሁኔታ ሊፈጥር እንደሚችል አመላካች ነው። በተጨማሪም በተለይ በደቡብ ምዕራብ ኦሮሚያ የነበረው ጥሩ የዝናብ ሥርጭትና መጠን በአርብቶ አደሩና ከፊል አርብቶ አደሩ አካባቢ ለግጦሽ ሣርና የውሃ አቅርቦት አመቺ ሁኔታን እንደሚፈጥር ይታመናል። በአንፃሩ ምንም አንኳ በአፋር የአርብቶ አደሩ አካባቢ በመጀመሪያው አሥር ቀናት ከ 2-3 የዝናብ ቀናት በጣለው ዝናብ ሳቢያ በወሩ አጠቃላይ የዝናብ ሁኔታ ከመደበኛው ተነፃፅሮ በመቶኛ ሲሰላ ከመደበኛ በላይ እንደሆነ የሚጠቁም ቢሆንም (Figure 4) በሥርጭት እረገድ በሁለቱ ተከታታይ አሥር ቀናት እጥረት ታይቶበት ነበር። ይህም ሁኔታ በግጦሽ ሣርና ውሃ አቅርቦት ጫና ከማሣደሩም ባሻገር በአካባቢው ላሉ እፅዋት ልምላሜ ላይ አሉታዊ ተፅዕኖ ያሣድራል።

ከባድ ዝናብን በተመለከተ በብዙ ሥፍራዎች ላይ ከ30 ሚ.ሜትር በላይ ከባድ ዝናብ የተመዘገበ ሲሆን በቡኢ፣ በዝዋይ፣ በባቲ፣ በመቀሌ፣ በባቢሌ፣ በሲሪንቃ፣ በጉርሱምና በጊኒር ከ67-116 ሚ.ሜትር ከባድ ዝናብ በአንድ የዝናብ ቀን ብቻ ተመዝግቦባቸው ነበር። ይህም ሁኔታ ከዕፅዋት የውሃ ፍለጎት አንፃር ሲታይ የነበረውን ያልተስተካከለ የዝናብ ሥርጭት ይጠቁማል።

SUMMARY
APRIL 2006

During the first dekad of April 2006, the observed rainfall amount and distribution over most parts of Belg benefiting areas of the country could have significant positive contribution for the ongoing agricultural activities. Nevertheless in some areas like northern (Mekele, Michew), northeastern (Bati, Majete, Sirinka), central (Arsi Robe, Bui, kulumsa, Ziway), southern (Awassa, DoloMena, Moyale, Sodo, Bale Robe) and eastern (Alemya, Harar, Meiso) parts of the country exhibited heavy rainfall ranging from 30 – 75 mm in one rainy day. From the aforementioned areas, Bati, Harari, Meiso, and Moyale recorded heavy fall for 2- 3 days in the ten days period. This condition indicates the erratic nature of rainfall distribution observed in some areas. Besides, some areas like Ziway, and Ginir reported some damages due to heavy fall. On the other hand, the observed below normal rainfall over south and southeastern Somali could have a negative impact for the availability of pasture and drinking water in the areas. Moreover, the deficient moisture condition over Gambella, and western Oromia could exacerbate the moisture stress condition which persisted during the preceding dekads, therby negatively affecting the water requirement of the existing crops and other vegetation like perennial plants, grasses and bushes. Pursuant to the crop phenological report, sowing of wheat was underway in some areas of southern midlands of Oromia like KibreMengist. With regard to air temperature, Assayta, Dubti, Mankush, Metema, Pawe and Semera experienced extreme maximum temperature ranging from 35.0 – 40.5^0 C during the dekad under review.

During the second dekad of April the observed normal to above normal rainfall over most parts of Tigray,Amhara, few areas of western, central, and southern Oromia and SNNPR would have a conducive condition for Belg season agricultural activities. Although many parts of the country experienced below normal rainfall, some areas observed near normal rainfall at the end of the dekad for 2-3 days. Among the reporting stations, some areas like Sodo, Mekele, Jinka, Konso, Enewari, Negelle, Nekemte, Hosanna, Ginir and Sirinka recorded heavy rainfall ranging from 30 – 83.4 mm in one rainy day. We did not receive crop damage due to heavy fall. Regarding extreme maximum temperature, DireDawa, Methara, Gode Pawe, Mankush, Assayta, Dubti, Metema and Semera recorded extreme maximum temperature ranging from 35.5 – 40.8 ^{0}C.

During the third dekad of April 2006 the observed rainfall over most parts of Belg growing areas was in a good shape in terms of amount and distribution (observed in 3-7 rainy days in most areas). Besides, some midland and highlands of southern Ethiopia have exhibited falls in nine rainy days. Thus this condition could favor sowing activities of cereals and pulses in areas where sowing activity is under question like central (Meraro, Woliso, Ziway, Kachise and Adama), southern (Yabelo, Negele, Moyale and Awassa), western (Bedelle, Algea and Limu Genet), northeastern (Majete, Alem Ketema and Bati) and eastern highlands (Jijiga and Alemaya). Besides, the observed good rainfall amount and distribution favored crops, which were at different phonological stages. Among the reporting station Yabello, Bedelle, Sekoru, Konso, Sawela, Ginner, Sodo, Dembi Dolo, Gelemso, Belate, and Moyale received heavy rainfall 31.2, 32.0, 33.4, 33.7, 36.1, 38.3, 39.1, 41.5, 43.6, 48.0 and 93.4 mm in one rainy day, respectively.

Pursuant to crop phenological report, Teff was at shooting stage in some areas of eastern Amhara (Majete) and at third leaf stage in some areas of southern Oromiya (Dolo Mena); barely was at third leaf stage in some areas of eastern Amhara (Wegel Tena and Sirinka); maize was at emergence and wax ripeness stages in some areas of southern Oromia like Kibre Mengist and Dolo Mena, respectively; sunflower was at budding stage in some areas of central Oromia (Arsi Robe). With regard to air temperature, Metema, Mankush, Semera, Assayta, Metehara, Gode, Chagni and Dire Dawa recorded extreme maximum temperature as high as 42.5,41.0, 40.5,40.2, 39.3, 36.5, 35.0 and 35.0^0C respectively.

Generally, the observed normal to above normal rainfall over most parts of Belg growing areas could favor the existing crops in the field which are at different phenological stages. Particularly the well distributed rainfall amount i.e. falls in 15 – 22 days during the month over most parts of SNNPR and pocket areas of eastern Oromia could support the normal growth and development of crops, which are found in the field. Moreover good rainfall amount and distribution observed during the month over pastoral and agro pastoral areas of southwestern Oromiya could favor the availability of pasture and drinking water. On the contrary even though the monthly cumulative percent of normal rainfall analysis (Figure 4) shows above normal rainfall distribution over most parts of Afar region due to the abundant rainfall in 2-3 rainy days in the first dekad of April 2006, there were areas that experienced deficient rainfall situation during the two consecutive dekads. This deficient condition could negatively affect the availability of pasture and drinking water in the areas. With regard to the conditions of heavy falls, heavy fall greater than 30 mm has been observed in one rainy day over most places. Among the reporting station Bui, Ziway, Bati, Mekele, Babile, Sirinka, Gursum and Ginir recorded 67 – 116 mm of heavy fall in a rainy day. This condition indicates that the erratic nature of rainfall distribution in the areas in terms of the crop water requirements.

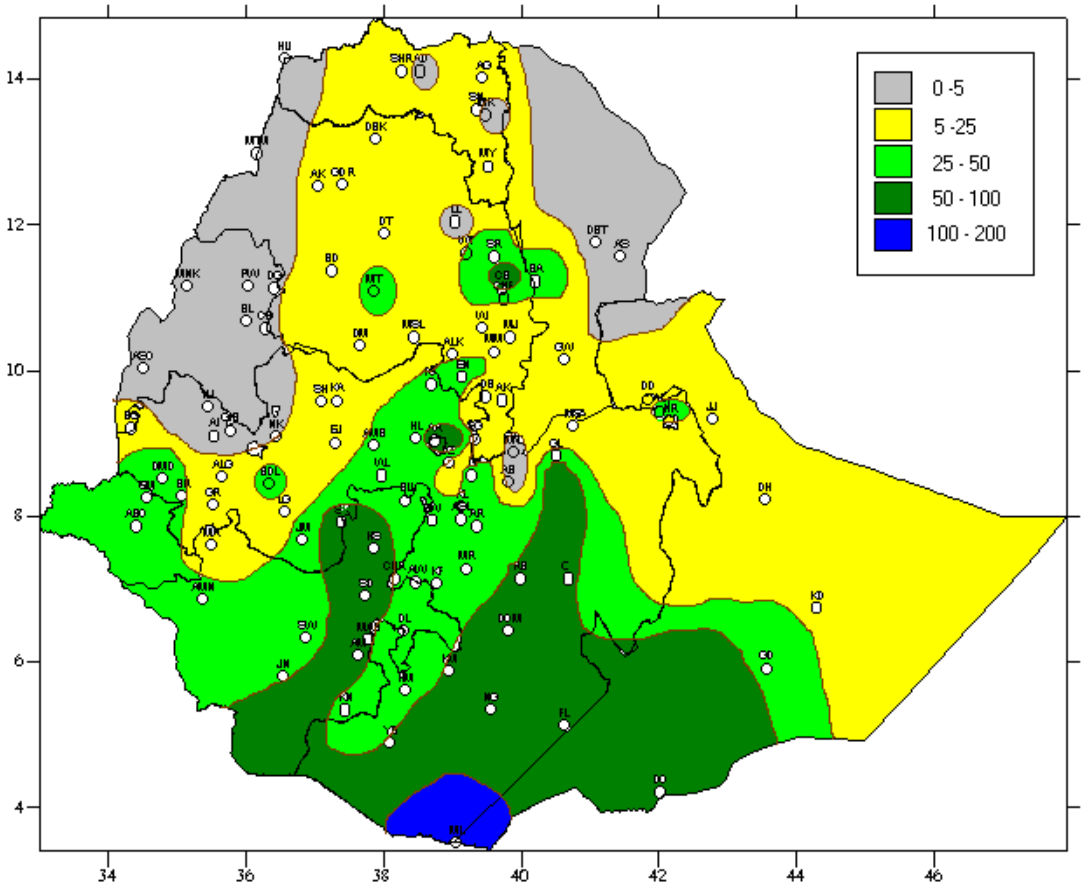


Fig 1. Rainfall distribution in mm (21 - 30 April, 2006)

1. WEATHER ASSESSMENT

1.1 (21- 30 April, 2006)

1.1.1 Rainfall amount (Fig.1)

Pocket areas of southern Oromia, received 100 – 200 mm of rainfall. Pocket areas of eastern Amhara, most parts of southern Oromia eastern and south eastern SNNPR and some areas of south western Somali experienced 50- 100 mm of rainfall. Pocket areas of central and eastern Amahra, and northern Somali, Gambela, most parts of western SNNPR ,central and southern Oromia, some areas of south western Somali received 25-50mm of rainfall. Much of Amhara, Tigray, western Oromia, pocket areas of western Afar, and much of eastern and southeastern Somali exhibited 5-25mm of rainfall amount while there was little or no rainfall for the rest parts of the country.

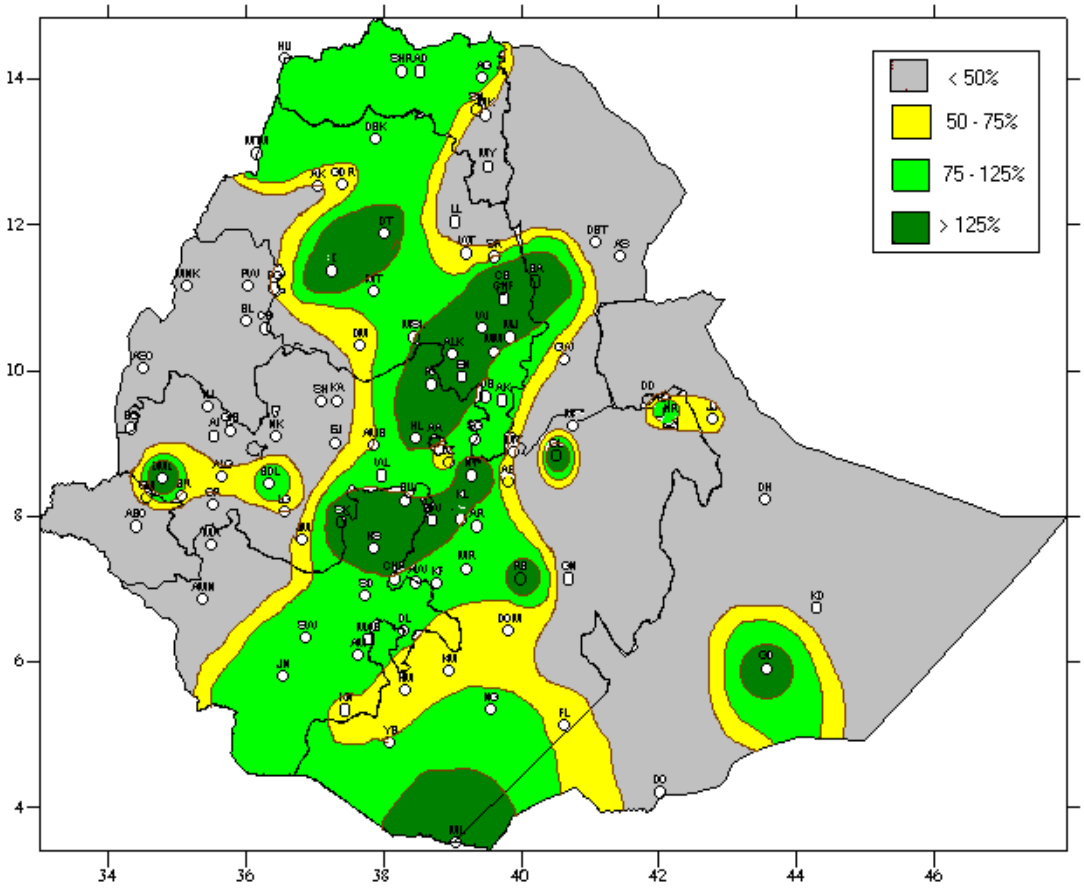


Fig. 2 Percent of normal rainfall distribution (21-30 April, 2006)

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)

Most parts of western Tigray, western and south eastern Amhara most parts of central and southern Oromia eastern SNNPR pocket areas of western Afar, Oromia ,northern and southern Somali exhibited normal to above normal rainfall while the rest parts of the country experienced below to much below normal rainfall.

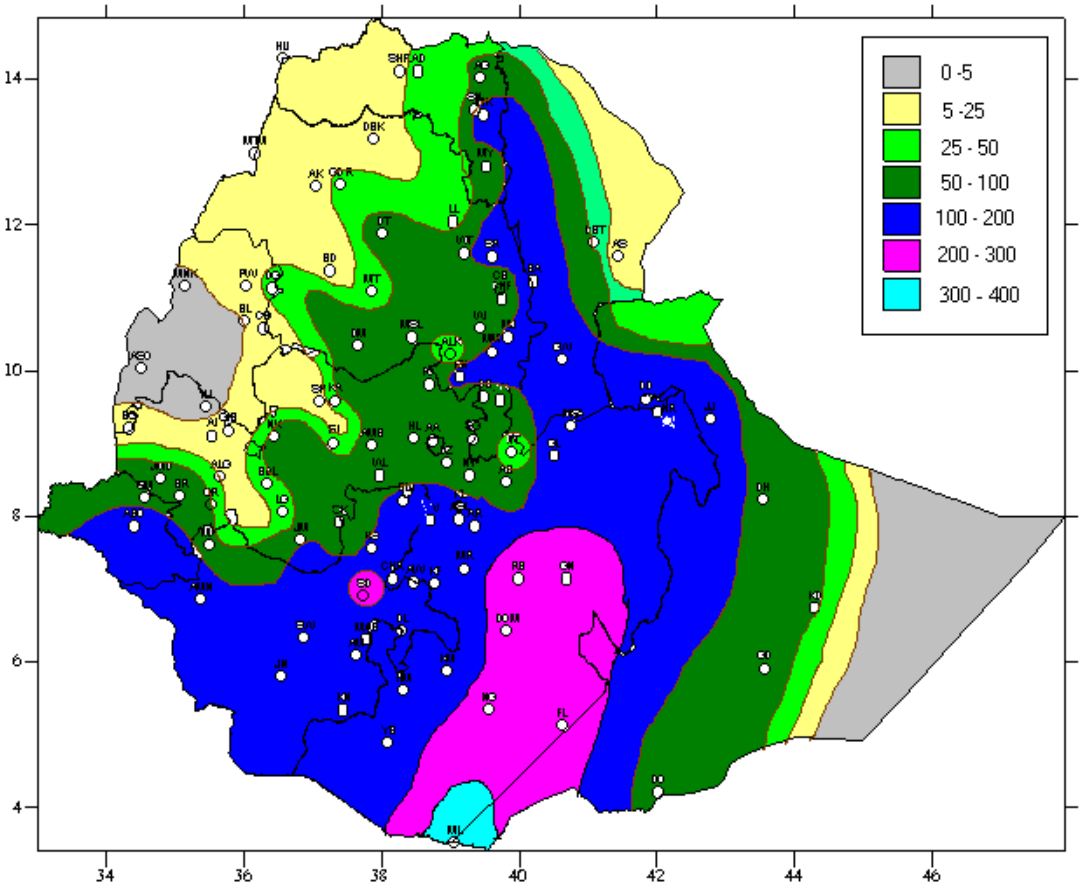


Fig. 3 Rainfall distribution in mm for the month of April 2006

1.2 April 2006

1.2.1 Rainfall distribution (Fig.3)

Pocket areas of southern Oromia received 300-400mm of rainfall. Southern Oromia and few areas of south western Somali and pocket areas of northern SNNPR exhibited 200-300mm of rainfall. Most parts of SNNPR, southern and eastern Oromia, some areas of eastern Amhara, western Afar, Gamblla and western and north western Somali experienced 100-200 mm of rainfall. Most parts of eastern Amhara, central Oromia, some areas of eastern Tigray, Gambella, western and northwestern Somali and Afar received 50-100mm of rainfall. Some areas of western Tigray, Amhara, Oromia and eastern Benshangul-Gumua, Afar and Somali experienced 5-25mm of rainfall amount. There was little or no rainfall for the rest parts of the country.

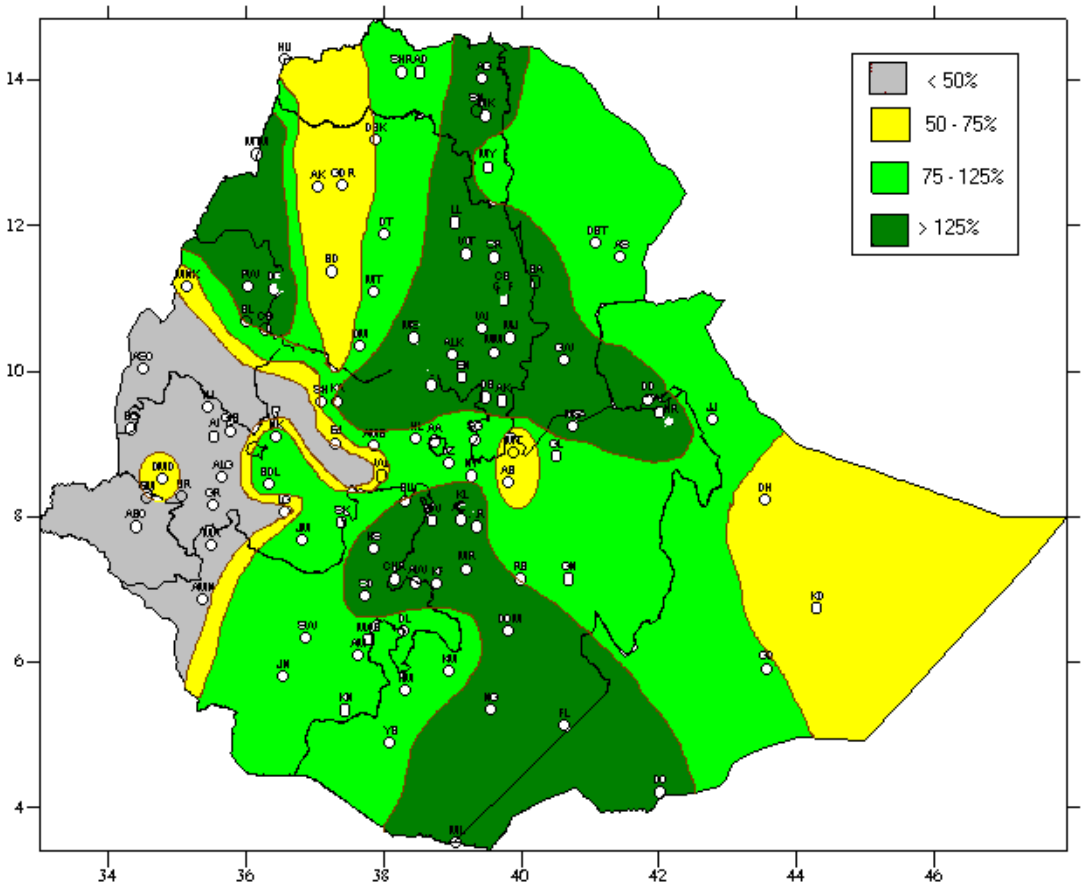


Fig. 4 Percent of Normal Rainfall distribution for the month of April 2006

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 Tigray, SNNPR, eastern half and parts of western Amhara, central, eastern and southern Oromia, most parts of Somali and Afar exhibited normal to above normal rainfall. The rest parts of the country received below to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

DireDawa, Gode, Methera, Assayta, Chagni, Dubti, Elidar, Mankush, Mirab Abaya, Metema, and Pawe exhibited extreme maximum temperature ranging from 35.0 – 42.0 ^{0}C.

2. WEATHER OUTLOOK

2.1 For the first dekad of May 2006

For the coming tens day's the rain producing system are expected to have a better strength over the western half of the country. Hence, the rainfall activity will be concentrated mainly over southwestern, western and central Ethiopia. In the contrary, in association with tropical system which is formed over the northern Indian Ocean and moving twards west, the rainfall activity that is expected over the Belg growing areas of the country is highly likely to be less. Hence, despite less rainfall distribution over most parts of Somali, the rainfall activity is expected to be close to normal. More over, eastern portion of Tigray and Amhara, central Oromia as well as northern Somali will have below normal rainfall whereas much of Oromia, western parts of Tigray and Amhara, Benshangul-Gumuz, SNNPR, and Gambella will have close to normal rainfall. Occasional heavy rain is expected over some places of central, southern and southwestern Ethiopia.

2.1 For the month of May 2006

During the coming May, under normal circumstances, the rain producing systems are expected to be weakening gradually from the Belg-growing areas whereas strengthening across western half and southern parts of the country. Hence, the rainfall activities both in distribution and amount would be better over western, southern and southwestern Ethiopia. Therefore, it will be increased gradually over the above mentioned portions of the country. The current prevailing rain-producing systems over most parts of the country more or less are expected to continue both in distribution and amount. Hence SNNPR, Gambella. Western and southern Oromia, including central Ethiopia as well as Benshagul-Gumuz and western portion of Tigray and Amhara will get close to normal rainfall where as the occurrence of above normal rain is high likely over some places. Moreover, eastern portion of Tigray, Amhara and Oromia, Hrari, DireDawa and Somali will have occasional rains and its amount is mostly expected to be below normal. However, a chance of near normal rainfall is highly likely over some places of the aforementioned areas. Dry and Sunny weather condition will dominate Afar region

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally, the observed normal to above normal rainfall over most parts of Belg growing areas could favor the existing crops in the field which are at different phenological stages. Particularly the well distributed rainfall amount i.e. falls in 15 – 22 days during the month over most parts of SNNPR and pocket areas of eastern Oromia could support the normal growth and development of crops, which are found in the field. Moreover good rainfall amount and distribution observed during the month over pastoral and agro pastoral areas of southwestern Oromia could favor the availability of pasture and drinking water. On the contrary even though the monthly cumulative percent of normal rainfall analysis (Figure 4) shows above normal rainfall distribution over most parts of Afar region due to the abundant rainfall in 2-3 rainy days in the first dekad of April 2006, there were areas that experienced deficient rainfall situation during the two consecutive dekads. This deficient condition could negatively affect the availability of pasture and drinking water in the areas. With regard to the conditions of heavy falls, heavy fall greater than 30 mm has been observed in one rainy day over most places. Among the reporting station Bui, Ziway, Bati, Mekele, Babile, Sirinka, Gursum and Ginir recorded 67 – 116 mm of heavy fall in a rainy day. This condition indicates that the erratic nature of rainfall distribution in the areas in terms of the crop water requirements.

3.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING DEKAD

The anticipated better rainfall distribution towards the western half of the country would favor sowing activities of cereal crops like maize and sorghum and land preparation for the coming Meher season as well. The expected near normal rainfall over SNNPR and Gambela including western Oromia would ease the deficient condition which persisted during the month of April 2006. Moreover it would favor the growth and development of annual and perennial crops growing in the areas. The anticipated near normal rainfall over central Ethiopia, Benishangul-Gumuz, western Amhara and Tigray would favor sowing activities of cereals and early pre Meher season's agricultural activities. Thus farmers are advised to prepare themselves to exploit the expected good opportunity. Nevertheless, heavy fall is expected in some isolated areas of central, south and southwestern parts of the country. Thus, attention should be given on crops field found in low-lying areas and near riverbanks. On the other hand below normal rainfall is expected over eastern Tigray, eastern Amhara, Harari, Dire Dawa and Somali. Therefore, this condition would exacerbate the deficient condition particularly over some areas in south and southeastern Somali thereby resulting poor performance of pasture and scarcity of drinking water. Thus, these areas need attention in terms of mitigating measures. Besides to minimize the adverse effect of deficient falls over eastern Tigray, eastern Amhara and eastern Oromia including Harare and Dire Dawa appropriate water harvesting techniques should be designed according to the objective realities of the areas. In addition to this attention should be given in the selection and using of drought resistance and short season variety of crops in order to minimize the risk. In areas where the deficient and erratic rainfall is anticipated there would be a possibility of pest outbreak since the expected weather condition is favorable for the event. Thus, attention should be given for sensitive areas ahead of time to control the possible risk below economic threshold level.

Table 1. Climatic and Agro-Climatic elements of different stations for the month of April 2006

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture status
1	**Adigrat**	**TIGRAI**	82.7	37.5	220.5	4.1	123	M
2	**Adwa**		24.7	29.6	83.4	NA	NA	NA
3	**Mekele**		114	34.5	330.4	5.86	175.8	M
4	**Michew**		79.4	72.5	109.5	3.9	117	M
5	**Senkata**		30.6	94.6	32.3	NA	NA	NA
6	**Shire**		23	26.5	86.8	NA	NA	NA
1	**Assayta**	**AFAR**	17.6	21.8	80.7	NA	NA	NA
2	**Semera**		20.5	NA	NA	NA	NA	NA
1	**A. Ketema**	**AMHARA**	NA	NA	NA	4.51	135.3	VD
2	**Bahirdar**		7	24	29.2	5.48	164.4	VD
3	**Bati**		185.1	77.2	239.8	4.19	125.7	H
4	**Bullen**		5.3	NA	NA	4.97	149.1	VD
5	**Combolcha**		86.3	94.9	90.9	4.06	121.8	M
6	**Chefa**		73.5	71.2	103.2	4.67	140.1	M
7	**D.Birhan**		56.1	NA	NA	3.8	114	MD
8	**D.Markos**		67.4	68.1	99.0	4.39	131.7	M
9	**D.Tabor**		53.2	43.2	123.1	NA	NA	NA
10	**Dangla**		47.9	26.5	180.8	4.63	138.9	MD
11	**Enwary**		105.8	23.5	450.2	4.54	136.2	M
12	**Gonder**		28.8	39.8	72.4	5.32	159.6	D
13	**M.Meda**		28.3	50.8	55.7	3.68	110.4	MD
14	**Majete**		147.3	89.4	164.8	4.24	127.2	H
15	**Metema**		18.6	8.2	226.8	NA	NA	NA
16	**Motta**		74.4	NA	NA	NA	NA	NA
17	**S. Gebeya**		56.6	62.3	90.9	3.73	111.9	M
18	**Sirinka**		244.2	110.8	220.4	NA	NA	NA
19	**Wegeltena**		85.3	58.4	146.1	3.9	117	M
20	**Wereilu**		58.1	NA	NA	4.23	126.9	MD
1	**Arjo**	**OROMIYA**	54.2	NA	NA	NA	NA	NA
2	**Arsi Robe**		160.4	158.6	101.1	NA	NA	NA
3	**Abomsa**		49.8	91.8	54.2	3.83	114.9	MD
4	**Aira**		14.1	29.8	47.3	NA	NA	NA
5	**Alemaya**		187.4	93.5	200.4	4.05	121.5	H
6	**Alge**		32.4	77.9	41.6	NA	NA	NA
7	**Bedelle**		75.3	89.6	84.0	NA	NA	NA
8	**Begi**		22	76.5	28.8	NA	NA	NA
9	**Bui**		161.8	NA	NA	NA	NA	NA
10	**Chira**		97.6	154	63.4	NA	NA	NA
11	**D.Dollo**		71.6	96.2	74.4	4.25	127.5	M
12	**D.Mena**		262.2	170.4	153.9	4.35	130.5	H
13	**D.Zeit**		57.5	57.7	99.7	4.62	138.6	MD
14	**Ejaji**		31.2	75.1	41.5	4.48	134.4	D
15	**Fitche**		72.9	57.9	125.9	3.92	117.6	M
16	**Gelemso**		154.8	155.8	99.4	4.04	121.2	H
17	**Gimbi**		10	64.8	15.4	NA	NA	NA
18	**Ginir**		211.9	NA	NA	NA	NA	NA
19	**Gore**		12.3	127	9.7	4.24	127.2	VD
20	**H. Mariam**		150.7	191.4	78.7	NA	NA	NA

21	**Jimma**		110.4	138.9	79.5	3.59	107.7	H
22	**K.Mengist**		152.3	219.4	69.4	3.67	110.1	H
23	**Kachise**		69.9	52.7	132.6	4.33	129.9	M
24	**Kulumsa**		131.4	30.4	432.2	3.82	114.6	H
25	**Lumugenet**		47.6	132.7	35.9	NA	NA	NA
26	**Meisso**		168.2	85.4	197.0	4.69	140.7	H
27	**Metehara**		32.9	46.8	70.3	5.54	166.2	D
28	**Moyale**		316.5	158	200.3	3.8	114	H
29	**Nazreth**		84.7	55.7	152.1	NA	NA	NA
30	**Neghele**		294.5	194.8	151.2	4.23	126.9	H
31	**Nedjo**		1.7	56.4	3.0	4.27	128.1	VD
32	**Nekemte**		71.3	85.4	83.5	3.97	119.1	M
33	**Robe(Bale)**		200.8	129.3	155.3	3.8	114	H
34	**Sekoru**		81.5	97.8	83.3	3.79	113.7	M
35	**Shambu**		21.1	90.5	23.3	4.23	126.9	D
36	**Yabello**		124.1	148.1	83.8	3.86	115.8	H
37	**Ziway**		197.5	70.4	280.5	4.76	142.8	H
1	**Jijiga**	**SOMALI**	103	107	96.3	NA	NA	NA
2	**Gode**		54.5	73.8	73.8	6.01	180.3	MD
1	**A.Minch**	**SNNPR**	124.1	146.9	84.5	4.07	122.1	H
2	**Awassa**		137.7	103.6	132.9	NA	NA	NA
3	**Billate**		124.2	NA	NA	NA	NA	NA
4	**Hosaina**		176.7	147.2	120.0	3.56	106.8	H
5	**Jinka**		188.8	171	110.4	3.34	100.2	H
6	**Konso**		162	173.7	93.3	4.02	120.6	H
7	**M.Abay**		86.3	88.9	97.1	4.54	136.2	M
8	**Sodo**		225.6	168.2	134.1	NA	NA	NA
1	**Assosa**	**B/GUMUZ**	0	60	0.0	6.27	188.1	VD
2	**Chagni**		14.3	NA	NA	5.33	159.9	VD
1	**A.A.Obs.**	**A.A**	78.9	93.2	84.7	3.48	104.4	M
2	**A.A. Bole**		95.4	88	108.4	4.58	137.4	M
1	**Diredawa**	**D.D**	145.4	102.8	141.4	NA	NA	NA
1	**Harar**	**Harai**	174.7	136.8	127.7	3.67	110.1	H

Legend

VD	Very Dry	< 0.1
D	Dry	0.1 - 0.25
MD	Moderatly 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.

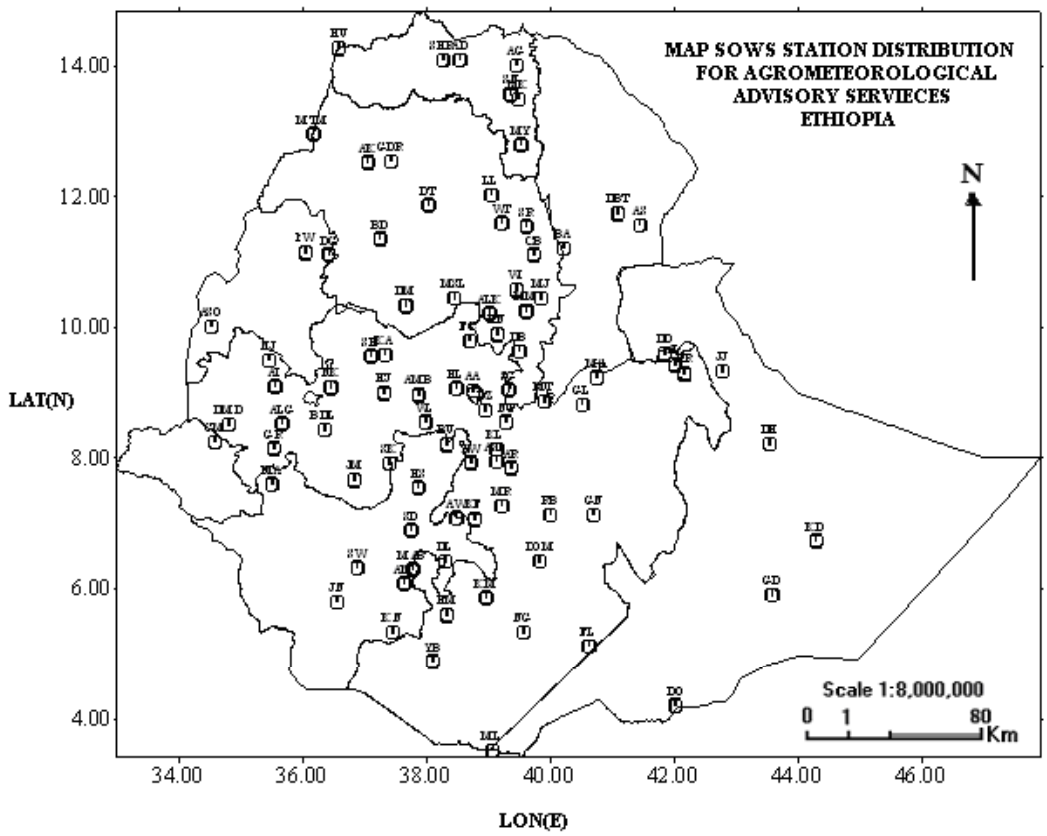
DEKAD: - First or second ten days or the remaining days of a month.

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