

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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አህፅዮት

እ.ኤ.አ ኦገስት 2008

እ.ኤ.አ በኦገስት 2008 በመጀመሪያው አስርተ ቀናት የነበረው የዝናብ ሁኔታ አብዛኛው የሀገሪቱን ክፍሎች ከመሸፈኑ በተጨማሪ በአንዳንድ አካባቢዎች የዘነበው ዝናብ መጠኑ ከበድ ያለ ነበር። ይህም የዝናብ ሁኔታ ክረምት ዝናብ ተጠቃሚ በሆኑ አካባቢዎች በተለይ ውሀ ገብ በሆኑና ተዳፋት በሆኑ አካባቢዎች ጎርፍ ሊያስከትል ይችላል። ከዚህ ጋር በተያያዘም በተጠቀሱት አካባቢ በተለያዩ የዕድገት ደረጃ ላይ ላሉ ሰብሎች ላይ አሉታዊ ተፅዕኖ ሊያሳድር ይችላል። በመሆኑም በዛ አካባቢ የሚገኙ አርሶ አደሮች ተገቢውን ጥንቃቄ ማድረግ አለባቸው። ይሁን እንጂ ከላይ የተጠቀሰው ወቅታዊው ዝናብ ቀደም ብለው በሚያዝያ ወር ለተዘፋና በመካከለኛ ዕድገት ላሉ የረጅም ጊዜ ሰብሎች የውሀ ፍላጎት የጎላ ጠቀሜታ የሚኖረው ሲሆን ባጠቃላይ ለመኸሩ እርሻ እንቅስቃሴ ጥሩ ጎን እንደነበረው ይታመናል። ከዘጋቢ ጣቢያዎቻችን መካከል ከበድ ያለ ዝናብ ከ40 ሚ.ሜ በላይ የዘገቡትን ለመጥቀስ በገለምሶ 40.1፣ አርጆ 41.1፣ ዳንግላ 45.5፣ ቡኢ 49.5፣ ሻሁራ 53.7፣ ጎሬ 63.2፣ አይደር 55.0፣ አሰምሳ 73.0 እንዲሁም ካቺሴ 79.2 በሚ.ሜ ይገኝባቸዋል።

እ.ኤ.አ በኦገስት 2008 በሁለተኛው አስርተ ቀናት የነበረው የዝናብ ሁኔታ ከደቡብ ምስራቅ የሀገሪቱ አካባቢዎች በስተቀር በአብዛኛዎቹ የሀገሪቱ ክፍሎች ዝናብ ያገኙ ሲሆን የአፋር፣ የምሥራቅ ኦሮሚያ፣ የሐረሪ፣ የድሬደዋ፣ የሰሜን ሶማሌና የባሌ አካባቢዎች የተስፋፋ ዝናብ ነበራቸው። በመሆኑም ታይቶ የነበረው የተስፋፋ ዝናብ በአሁኑ ሰዓት እየተካሄደ ላለው የመኸር የእርሻ እንቅስቃሴ ጠቀሜታው የጎላ ሲሆን ተዘርተው በተለያዩ የእድገት ደረጃ ላይ ላሉ እንዲሁም ገና በመዘራት ላይ ለሚገኙ የመኸር አዝርዕቶች ለብቅለታቸውና ለቀጣዩ የእድገት ደረጃቸው የሚኖረው አስተዋፅዖ ከፍተኛ እንደሚሆን ይታመናል። ከዚህ ጋር በተያያዘ በጋምቤላ በአማራ በትግራይ በኦሮሚያና በቤንሻንጉል ጉሙዝ አንዳንድ አካባቢዎች ላይ ከበድ ያለ ዝናብ መጠኑም ከ30-112ሚ.ሜ የሚደርስ ከባድ ዝናብ ተመዝግቦባቸው ነበር። ይሁን እንጂ ይህ በአዝርዕት ላይ ያደረሰው ጉዳት እንደሌለ ከአዝርዕት መረጃ ክፍላችን ለማወቅ ተችሏል።

እ.ኤ.አ በኦገስት 2008 በሶስተኛው አስርተ ቀናት የወቅቱ ዝናብ በመጠንና በስርጭት ረገድ አብዛኛው የመኸር ተጠቃሚ አካባቢዎችን የሸፈነ ነበር። ይህም ሁኔታ በተለያዩ ዕድገት ደረጃ ላይ ለሚገኙ ሰብሎች ቀጣይ ዕድገት እንዲሁም ለረጅም ጊዜና ለቋሚ ሰብሎችም የጎላ አስተዋፅዖ

ነበረው። በሌላ በኩል ደግሞ ከሰሜን ከሰሜን ምስራቅ እንዲሁም ከምስራቅ የሀገሪቱ ክፍሎች ቀንሶ የተስተዋለው የወቅቱ ዝናብ በመድረስ ላይ ላሉ የመኸር ሰብሎች ጠቀሜታ እንደነበረው ይታመናል። በአንጻሩ ደግሞ ጥምር ግብርና ለሚካሄድባቸው አካባቢዎች ለግጦሽ ሳርና ለመጠጥ ውሀ አቅርቦት አሉታዊ ተፅዕኖ እንደሚኖረው ዕውቀት ነው። በሌላ በኩል ደግሞ ከ30-88.5 የሚደርስ በረዶ የቀላቀለ ከባድ ዝናብ በአንድ የዝናብ ቀናት ብቻ ተመዝግቧል። ከዚህ ጋር በተያያዘ በአንዳንድ ጣቢያዎች ላይ የሰብል ጉዳት ተከስቷል ለመጥቀስ ያህል በደባርቅ፣ በበደሌ፣ በጭራ እና በሸርኮሌ እንደየቅደም ተከተላቸው በሰብል፣ በአትክልትና በሰብል፣ በበቆሎና በጤፍ፣ በሰሊጥ፣ በበቆሎና በማሽላ ላይ ጉዳት ደርሷል። ከአዝርዕት መረጃ ክፍል ባገኘነው ሪፖርት መሠረት።

ጠቅለል ባለ መልኩ በዚህ ባሳለፍነው የኦገስት ወር ለክረምት ዝናብ መንስኤ በሆኑት የሚቲዎሮሎጂ ገፅታዎች ተመቻችተው ከመገኘታቸው ጋር በተያያዘ የወቅቱ ዝናብ በመጠንና በስርጭት ረገድ ተጠናክሮ ነበር የተስተዋለው። ይህም የዝናብ ሁኔታ አብዛኛው የሀገሪቱን ክፍሎች ከማዳረሱም ባሻገር በዚህ ወቅት ዝናብ ማግኘት የማይገባቸው እንደ ደቡብ ኦሮሚያና የደቡብ ብሔር ብሔረሰቦች ህዝቦች ክልል ደቡባዊ ክፍል ዝናብ አግኝተው ነበር። ይህም ዝናብ ለቋሚና ለረጅም ጊዜ ሰብሎች እንዲሁም በተለያዩ የዕድገት ደረጃ ለሚገኙ የመኸር ሰብሎች እንዲሁም ለግጦሽ ሳርና ለመጠጥ ውሀ አቅርቦት ጠቀሜታው የጎላ ነው። ከዚህም ጣቢያዎቻችን መካከል ብዙ ጣቢያዎች እስከ 112 ሚ.ሜ የደረሰ ከባድ ዝናብ በአንድ የዝናብ ቀናት ተመዝግቦባቸዋል። በዚህ ሳቢያ በዚህ ወር በተለያዩ ጊዜ በሰብሎች ላይ ጉዳት ደርሷል። ለመጥቀስ ያህል በሲርባ አባያ፣ በበደሌ፣ በደባርቅ፣ ጭራ እንዲሁም በሸርኮሎ በተለያዩ ሰብሎችና አትክልቶች ላይ ጉዳት ደርሷል።

SUMMARY

AUGUST 2008

During the first dekad of August 2008, the season's rainfall covered much of the country, hence, might have a favored fulfill crop water requirement that are at different phenological stages. However, the observed heavy rainfall in some parts of the country caused floods in low-lying of Kiremt rain benefiting areas. The situation resulted in crop damage, which were attaining different phenological stages. According to the reporting station, many stations observed heavy fall above 30mm. To mention some stations, which observed above 40 mm Gelemso, Arjo, Dangla, Bui, Shaura, Aider, Gore, Abomsa, and Kachise recorded 40.1, 41.1, 45.5, 49.5, 53.7, 55.0, 63.2, 73.0, and 79.2 respectively in one rainy days.

During the second dekad of August 2008, with the exception of southern and eastern parts of the country, most parts of Kiremt rain benefiting areas exhibited normal to above normal rainfall. Besides, the observed widely distributed rainfall condition over Afar, eastern Oromia, Harari, Dire Dawa, northern Somali and Bale zone might have positive impact for Meher crops which are found at different phenological stage and for crops which are sown at this time of the year. In line with this, Gambela, Amhara, Tigry, Oromia and Benshangul-Gumuz in some areas received heavyfall ranging from 30-112 mm in one rainy day. Nevertheless, crop phenological report indicated that, there was no crop damage due to heavy fall.

During the third dekad of August 2008, the seasonal rainfall covered most parts of Meher growing areas with fsir distribution. However, it decreased from eastern parts of the country. This rainfall situation would have a positive contribution for the development of crops, which were at different pehnological stages, and for perennial crops. The rainfall over northern, northeastern and eastern parts of the country favored crops at different stages of development. On the other hand, the deficient rainfall might have a negative impact on availability of pasture and drinking water over pastoral and agro pastoral areas of the country. Besides, the observed heavy rainfall together with hailstorm within the range of (30-88.5) mm over some areas of central, western and southern highlands resulted in crop damage. According to the report Debark Bedelle, Chira and Sherkole reported damage on crops, Vegetable and crops, maize and Teff, and sesame, maize and sorghum respectively.

Generally during the month of August 2008, the seasonal rainfall was intensified interms of distribution and amount due to the intensification of rain bearing systems. The observed wide spread rainfall during the first and the second deakd covered most parts of the country, even areas which are not supposed to get rainfall during this season like southern Oromia and southern parts of SNNPR. The situation had a positive impact for crops, which are at different phenological stage, perennial and long cycle crops and availability of drinking water and pasture. Moreover, according to the reporting stations, many stations observed heavy fall up to 112 mm in one rainy days. As a result Sirba Abya, Bedelle, Debark, Chira and Shrkole reported crop damage due to the observed heavy fall together with hailstorm according to the report.

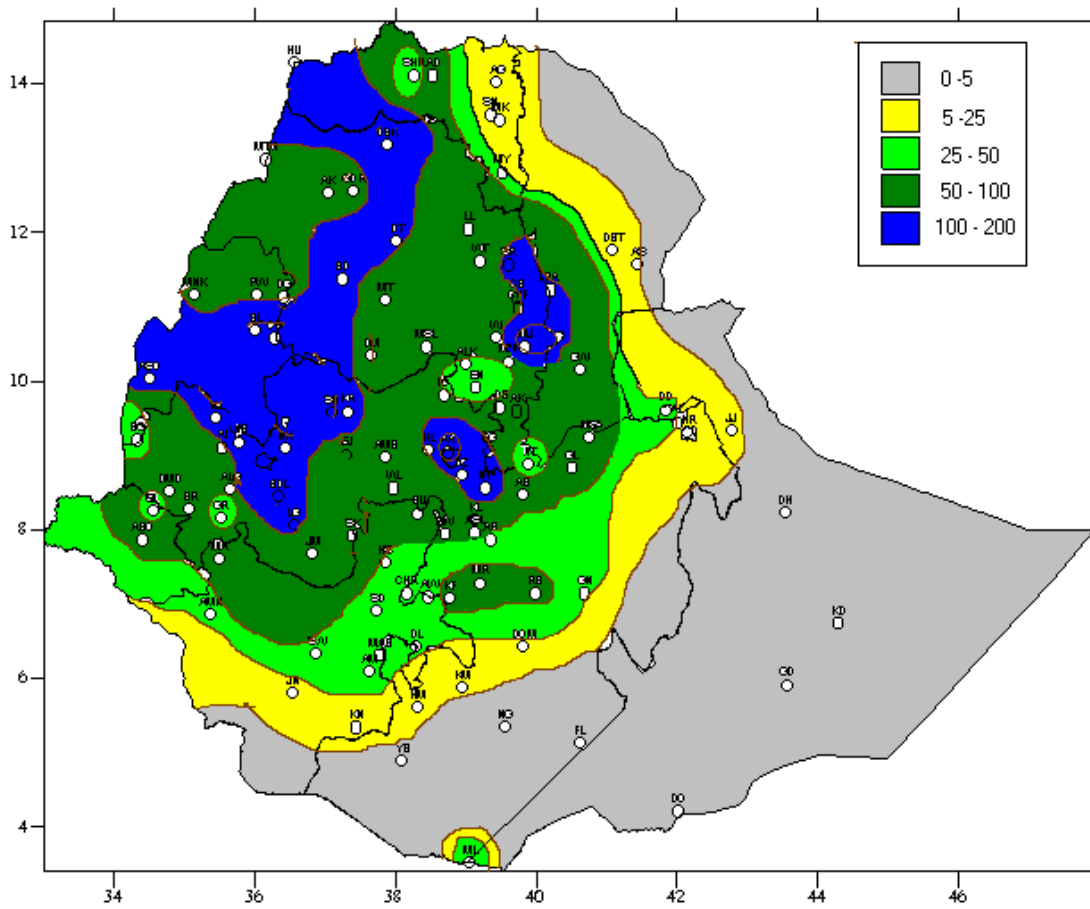


Fig 1. Rainfall distribution in mm (21–31 August, 2008)

1. WEATHER ASSESSMENT

1.1 (21-31 August, 2008)

1.1.1 Rainfall amount (Fig.1)

Most parts of Benshangul-Gumuze, parts of western and central Oromia, parts of western and southeastern Amhara, western parts of Tigrai received 100-200mm rainfall. Most parts of Amhara, western, central and eastern parts of Oromia, northern parts of Benshangul-Gumuze, northern Gambela, northern parts of SNNPR received 50-100 mm rainfall. Most parts of Gambela, parts of southern Oromia, eastern parts of SNNPR, exhibited 25-50 mm of rainfall. Parts of eastern Tigrai, southern and western parts of Afar, western and southern parts of Oromia, northern tip of Somali, southern parts SNNPR received 5-25 mm rainfall. The rest parts of the country received below 5 mm of rainfall.

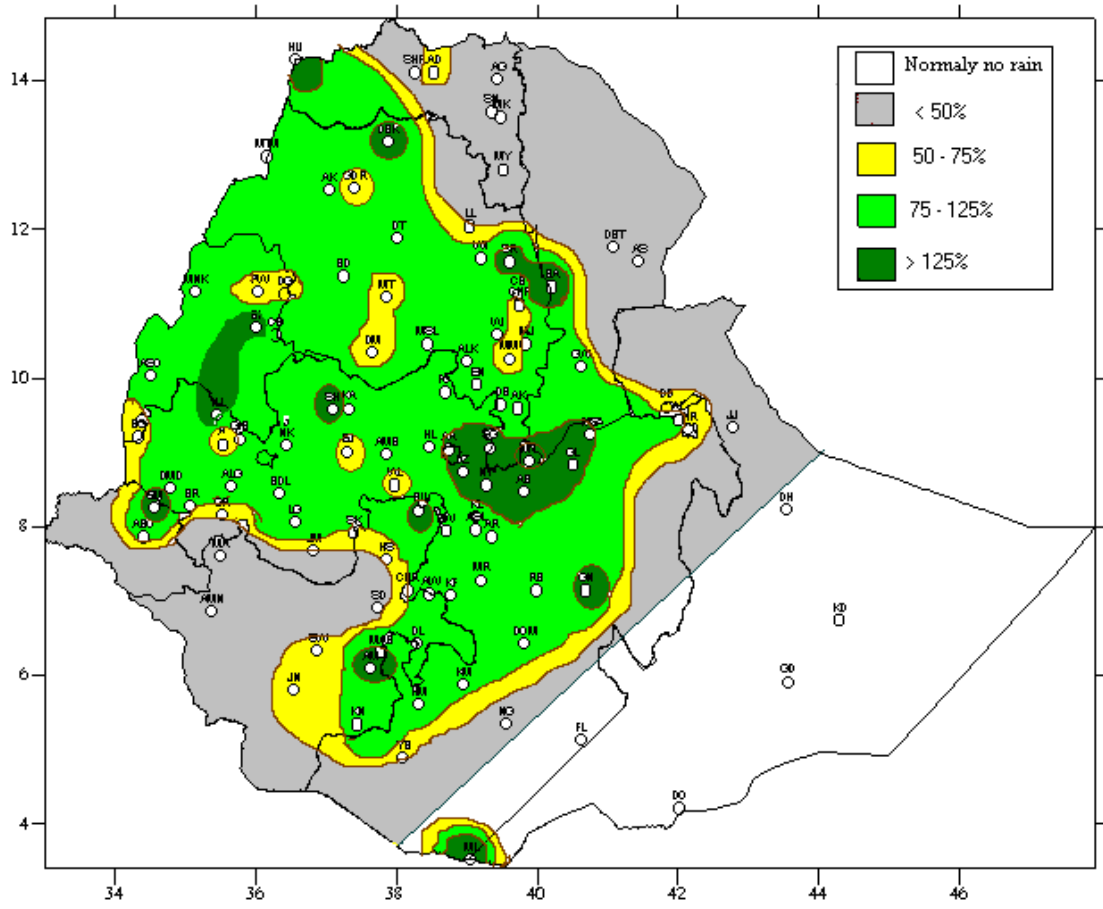


Fig. 2 Percent of normal rainfall distribution (21-31 August, 2008)

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)

Most of Oromia, Amhara, Benshangul-Gumuz, western Tigray, southeastern SNNPR and northern parts of Gambela received normal to above normal rainfall while, the rest parts of the country exhibited below normal to much below normal rainfall.

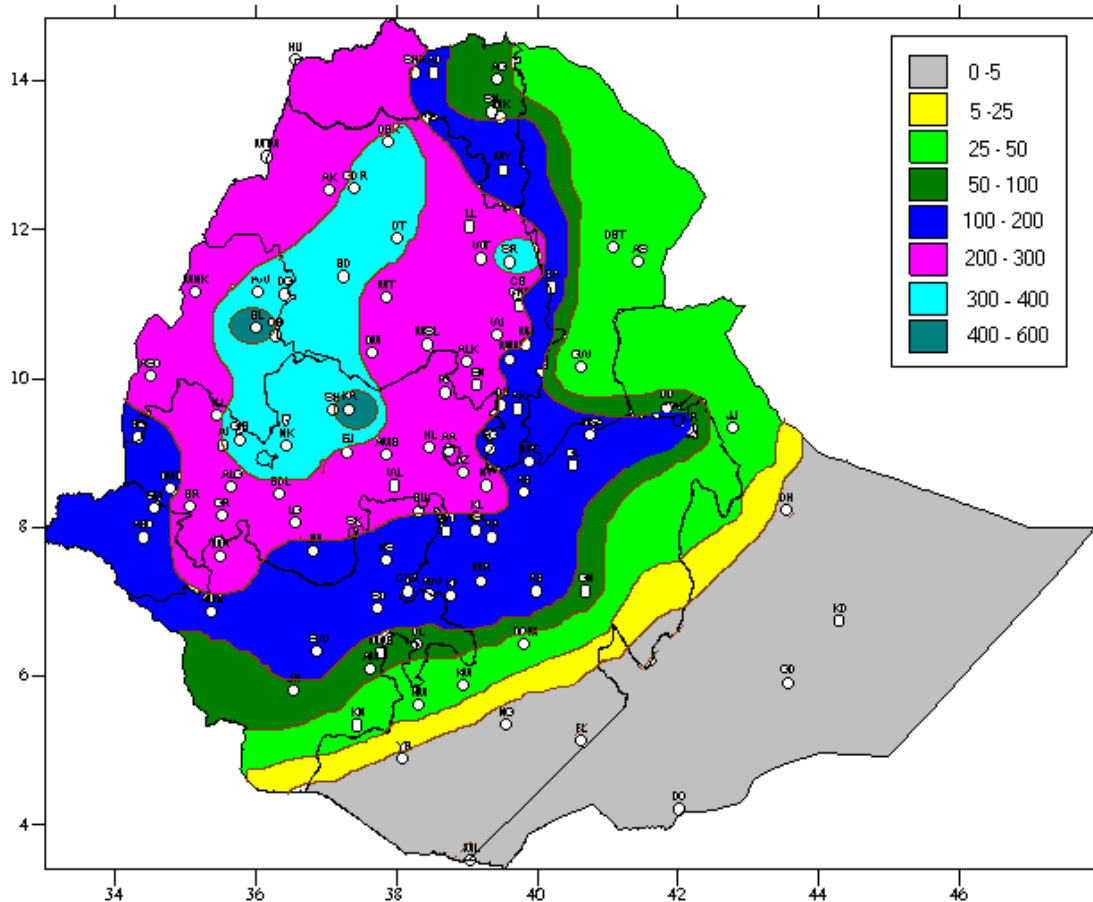


Fig. 3 Rainfall distribution in mm for the month of August, 2008

1.2 August, 2008

1.2.1 Rainfall distribution (Fig.3)

Pocket area of eastern Benshagul-Gumuz and western Oromia received 400-600 mm rainfall. Central Amhara, eastern half of Benshagul-Gumuz, and western Oromia experienced 300-400 mm of rainfall. Most parts of western Tigray, Amhara, western half of Benshagul-Gumuz, western and central Oromia and pocket areas of western SNNPR received 200-300 mm of rainfall. Most parts of Gambela, parts of eastern Tigray, and adjoining areas of Afar and some places of eastern and southeastern Amhara, eastern, western and central Oromia and northern half of SNNPR received 100-200 mm of rainfall. Parts of eastern Tigray, western margin of Afar, eastern and southern margin of Oromia experienced 50-100 mm of rainfall. While, the rest parts of the country experienced below 50 mm of rainfall.

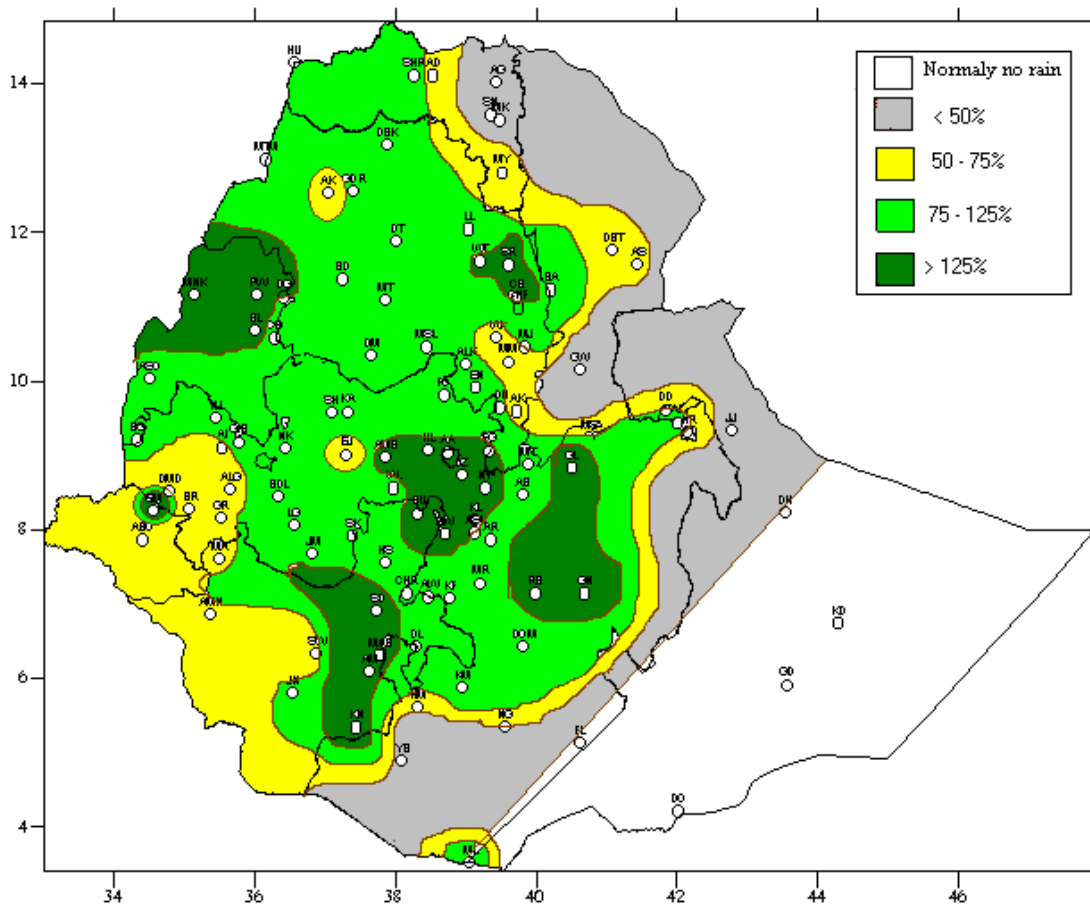


Fig. 4 Percent of Normal Rainfall distribution for the month of August, 2008

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)

Amhara, Benshangul-Gumuz, most parts of Oromia, western Tigray, pocket area of Gambel, northern half of SNNPR and western tip of Afar received normal to above normal rainfall. The rest part of the country exhibited below normal to much below normal Rainfall.

1.3 TEMPERATURE ANOMALY

During the month under review some areas exhibited extreme maximum air temperature above 35 °C. Among the reporting stations Dire Dawa, Humera, Gode, Miesso, Mille, Gewane, Assyta, Elidar, Dubti and Semera recorded extreme maximum temperature as high as 36.0, 36.0, 36.2, 38.0, 41.5, 41.5, 42.5, 42.5, 43.0, and 43.0 °C respectively.

2. WEATHER OUTLOOK

2.1 For the first dekad of September 2008

For the upcoming ten days, the seasonal rain-producing systems will continue more or less in similar manner over currently rain getting areas. As a result, eastern Tigray, Afar, eastern Amhara, southern half of SNNPR, eastern and southern Oromia, Dire Dawa, Harari and northern Somali will get normal to close to normal rainfall. Moreover, central and western Tigray, central and western Oromia, Benshangul Gumuz, Gambella and northern Somali will have near normal rain showers. Some places are likely to be above normal. Southern Somali will experience sunny weather condition.

2.2 For the month of September 2008

The coming month, the rain-bearing systems are expected to shift to wards south. Hence, the rainfall belt will concentrate mainly across south, southwest and western portions of the nation.

In general, western Tigray, western Amhara, Benshangul Gumuz, western and central Oromia, Gambela, much of SNNPR will receive normal to above normal rainfall. Eastern Tigray, eastern Amhara, eastern Oromia, northern Somali, Afar, Harari and Diredawa are likely to have close to normal rainfall. On the other hand, south and southeastern low lands are anticipated to begin the season rain at places.

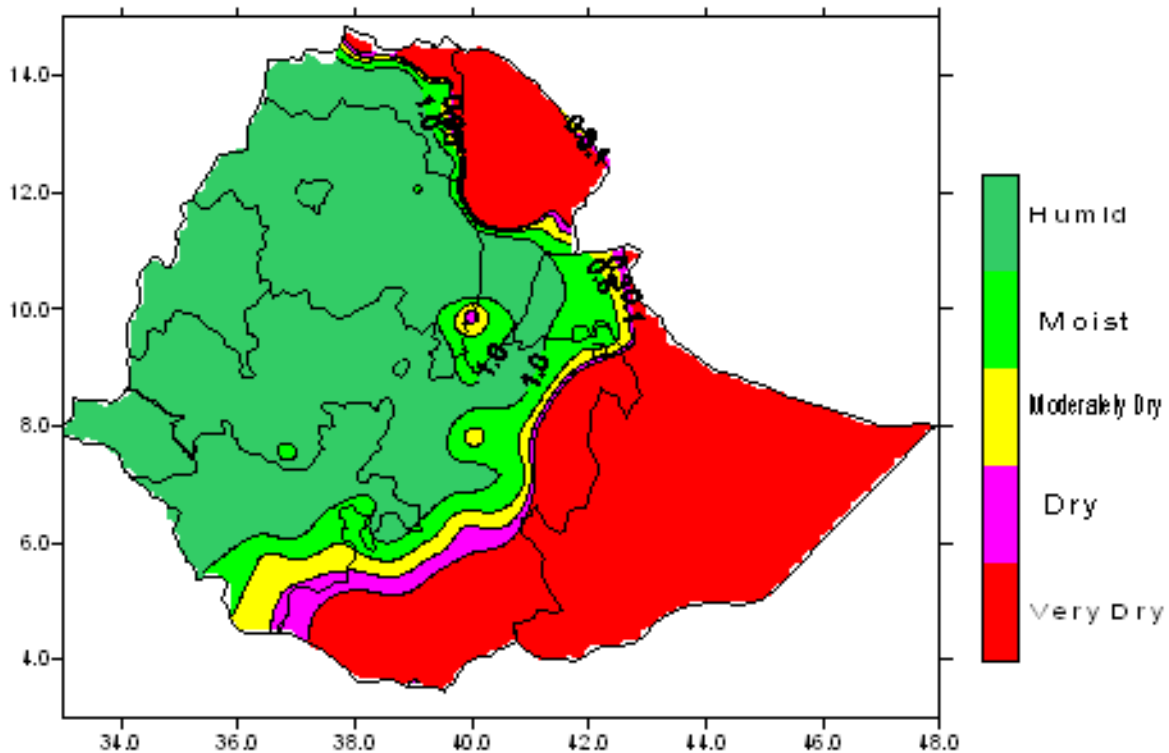
3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally during the month of August 2008, the seasonal rainfall was intensified in terms of distribution and amount due to the intensification of rain bearing systems. This observed wide spread rainfall during the first and the second dekad covers most parts of the country, even areas which are not supposed to get rainfall during the season like southern Oromia and southern parts of SNNPR. This situation had a positive impact for crops, which are at different phenological stage, perennial and long cycle crops and for the availability of drinking water and pasture as well. Moreover, according to the reporting stations, many stations observed heavy fall up to 112 mm in one rainy days. As a result Sirba Abya, Bedelle, Debark, Chira and Sherkole reported crop damage due to the observed heavy fall together with hailstorm according to the report.

In addition, analysis of moisture status (the relationship between total monthly rainfall and the month total reference evapotranspiration) during the third dekad of August 2008 indicated that (please refer fig 5). The moisture status indicated moist to humid condition, which fulfill crops' water requirement in most parts of Meher growing areas. The situation would have significant contribution for Meher agricultural activities, perennial crops and availability of pasture and drinking water.

Fig. 5 Moisture status for the third Dekad of August 2008



3.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

The anticipated near normal rainfall over most parts of the country and above normal rainfall over some parts of the country like western Tigray and Amhara, Benshangul-Gumuz, western and central Oromia and much of SNNPR will have a significant contribution for the on going Meher agricultural activities, crops which are at different phenological stages, perennial crops and availability of pasture and drinking water. However, the expected heavy fall together with hailstorm would have a negative impact on crops as well as livestock. Therefore, close monitoring and appropriate attention should be taken in order to minimize the adverse condition. On the other hand, the expected near normal rainfall over Tigray, eastern Amhara, eastern Oromia northern Somali, Afar, Harari and Dire Dawa will favor Meher agricultural activities, availability of pasture drinking water. Besides, the anticipated season rainfall over southeastern lowlands will create good condition over pastoral and agro pastoral areas on the availability of pasture and drinking water.

Table1. Crop Phenological report for the third dekad of August 2008

Station name	Region	Zone	Woreda	Major Crops			Phases		
				1	2	3	1	2	3
Adet				Maize	Barely	Teff	Fl	Fl	Ta
Ayehu	Amahara	Mirab Gojam	Ankosha	Maize	pepper	wheat	Fl	Fl	Ti
Aykel				Barely	Teff	-	Er	Em	-
Batti				-	Teff	Peas	-	Sh	-
Bedelle	Oromia	Illubabor	Bedlle	Maize	-	-	Fl	-	-
Bullen	Benishagul	Metekel	Bullen	Maize	Teff	-	-	-	-
Chagni	Amahara	Awi	Guagnua	Maize	Millet	Nug	Fl	-	-
Chira	Oromia	Jimma	Gera	Maize	Teff	-	H	Em	-
Dangila	Benishagul	Awi	Dangila	Maize	Teff	-	Ta	Tr	
Debark				Wheat	Beans	-	Tl	Bu	-
Debre Birhan	Amahara			Barley	-	-	Er	-	-
Gelemeso	Oromia	Mira Haraghe	Habro	Maize	-	Teff	Fr	-	Em
Ghion				Maize	Nug	Teff	Wr	Gr	Sh
Gimbi	Oromia			Maize	Teff	-	Fl	Tl	-
Kachise	Oromia	Mirab Shoa	Gindeberet	Teff	-	-	Tl	-	-
Lalibela	Amahara	Semen Wollo	Lasta	Barely	-	Sunflower	Sh	-	He
Majate	Amahara	Semen Shoa	Mizan antakiya	Teff	-	Maize	Sh	-	Nl-
Mehal Meda	Amahara	Semen Shoa	Gira mider	Wheat	Barley	Beans	Tl	Tl	Bu
Nedjo	Oromia	Mira Wollega	Nedjo	Maize	Sorghum	Millet	Wr	Ts	Sh
Mekane Selam				Wheat	Teff	Beans	-	Tl	Fl
Motta				Teff	-	-	Tl	-	-
Shaura	Amahara	SemenGonder	ALEF.T	Maize	Teff	-	Ta	Ti	-
Shambu	Oromia	HoroWollega	Horo	Teff	Barley	Peas	-	-	Em-
Sheraro				Seasema	Sorghum	Millet	Bu	Ti	Ti
Sirinka	Amahara	Semen Wollo	Habru	Teff-	Maize	Millet	Em	Nl	Em
Sokoru	Oromia	Jimma	Sokoru	Maize	Teff	-	Wr	Em	-
Wagel Tena	Amahara	Semen Wollo	Delanta	Wheat	Barley	Beans	-	-	Bu
Ziway	Oromia	Misrak Shoa	Jidocombolcha	Maize	Wheat	-	-	Ti	-

Key :

P/S= Plant/Sow
 Em=emerge
 Tl=Third leaf
 Sl=Seventh leaf
 Yr=Yellow ripe
 Nl= Ninth leaf
 El= Elongation
 Ta = Tassel
 Ti=Tiller
 Sh=shoot
 Bs= Berry soft
 Bh= Berry hard
 Ph= Pin heading
 Ea= Earing

He= Heading
 Bu= budding
 Fl=Flower
 R = ripeness
 Cr= Consumer ripeness
 Gr= Green ripeness
 Wr= Wax ripeness
 Yg r= yellow green ripeness
 Lgr =light green ripeness
 Dr= dark ripeness
 Fr= Full ripeness
 H =Harvested
 -Data not available

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

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture Status
1	Adwa	TIGRAI	153.99	251.7	62.1	3.81	118.11	H
2	Adigrat					2.35	72.85	
3	Humera		245.9	204.6	120.2	NA	NA	NA
4	Maichew		135.4	198.9	68.1	4.24	131.44	H
5	Mekele		103.2	201.6	51.2	3.49	108.19	M
6	Senkata		85.3	198.2	43.0	NA	NA	NA
7	Shire		225.6	286.3	78.8	3.71	115.01	H
1	Assayta	AFAR	24.5	36.3	67.5	6.51	201.81	D
2	Dubti		32.2	48	67.1	6.48	200.88	D
3	Gewane		39.3	100.3	39.2	8.11	251.41	D
							0	
1	Adet	AMHARA	320.4	33.8	948	NA	NA	NA
2	A. Ketema		313.9	347.5	90.3	NA	NA	NA
3	A.Robe		161.6	214.9	75.2	3.59	111.29	H
4	Aykel		184.1	354.5	51.9	NA	NA	NA
5	Bahirdar		339.6	381.8	88.9	3.17	98.27	H
6	Bati		149.9	193.6	77.4	4.34	134.54	H
7	Bullen		415.1	366.5	113.3	3.21	99.51	H
8	Combolcha		209.1	256.3	81.1	3.89	120.59	H
9	Chefa		133.1	263.4	50.5	4.61	142.91	M
10	Dangila		362.9	262.9	138.0	3.1	96.1	H
11	Debarke		364.1	294.1	123.8	NA	NA	NA
12	D.Birhan		238.8	261.6	91.3	3.71	115.01	H
13	D.Markos		269.2	305.4	88.1	2.86	88.66	H
14	D.Tabor		341.8	435.1	78.6	NA	NA	NA
15	Enwary		233.3	171.4	136.1	3.11	96.41	H
16	Gondar		302.8	299.3	101.2	3.58	110.98	H
17	M.Meda		187.5	259.6	72.2	3.64	112.84	H
18	Majete		253.6	301.3	84.2	4.11	127.41	H
19	Mota		275.2	285.1	96.5	3.93	121.83	H
20	Metema		222.4	234.4	94.9	NA	NA	NA
21	Lalibela		209.6	231.9	90.4	3.23	100.13	H
22	S. Gebeya		121.5	297.1	40.9	2.84	88.04	H
23	Sirinka		342	247.3	138.3	4.38	135.78	H
24	W.tena		276	231.2	119.4	3.5	108.5	H
25	Wereilu		253.7	341.8	74.2	3.68	114.08	H
1	Abomsa	OROMIYA	175.3	161.5	108.5	4.66	144.46	H
2	Aira			277.4	0.0	NA	NA	NA
3	Alemaya		107.6	155.1	69.4	3.48	107.88	M
4	Alge		174.8	329.5	53.1			
5	Ambo		260.2	203.2	128.1	3.01	93.31	H
6	Arjo		405.4	342.6	118.3	3.47	107.57	H
7	Bedelle		285.1	316.9	90.0	NA	NA	NA
8	Begi		197.7	218.4	90.5	NA	NA	NA
9	Bui		219.9	87.9	250.2	NA	NA	NA
10	Chira		313.5	224.5	139.6	NA	NA	NA
11	D.Dollo		81.3	167.1	48.7	2.44	75.64	H
12	D.Mena		32	27.2	117.6	3.42	106.02	MD
13	D.Zeit		286.3	219	130.7	3.38	104.78	H
14	Ejaji		138.1	221	62.5	2.74	84.94	H
15	Gelemso		267	172	155	3.7	114.7	H

16	Gimbi		330.4	332.1	99.5	NA	NA	NA
17	Ginir		52.2	36.8	141.8	NA	NA	NA
18	Gore		168.8	330.7	51.0	2.6	80.6	H
19	H. Mariam		18.6	41	45.4	3	93	D
20	Jimma		184.7	212.8	86.8	2.86	88.66	H
21	K.Mengist		35	31	112.9	2.89	89.59	MD
22	Kachisa		473.2	410.3	115.3	2.96	91.76	H
23	Koffele		131.1	161.2	81.3	2.89	89.59	H
24	Limugenet		224.3	277.6	80.8	2.9	89.9	H
25	Metehara		95.1	125	76.1	5.01	155.31	M
26	Mi'eso		128.1	166.2	77.1	5.39	167.09	M
27	Moyale		7	8.9	78.7	4.31	133.61	VD
28	Nazreth		296.8	214.2	138.6	4.98	154.38	H
29	Neghele		2.7	5.5	49.1	4.57	141.67	VD
30	Nedjo		291.4	312.2	93.3	3.01	93.31	H
31	Nekemte		388.8	376.6	103.2	2.57	79.67	H
32	Robe(Bale)		178.8	119.4	149.7	3.54	109.74	H
33	Sekoru		239.4	223.1	107.0	2.95	91.45	H
34	Shambu		344.9	376	92.0	2.99	92.69	H
35	Shewrobit		88.2	217.2	41.0	NA	NA	NA
36	Woliso		233	278.7	84.0	NA	NA	NA
37	Yabello		0.7	13.6	58.0	6.35	196.85	VD
38	Ziway		194	118.9	163.0	4.14	128.34	H
1	Jijiga	SOMALI	41.5	120.5	34.4	NA	NA	NA
1	A.Minch	SNNPR	56	44.1	127.0	3.8	117.8	MD
2	Awassa		100.3	125.7	80.0	3.05	94.55	H
3	Billate		79.8	67.3	119			
4	Dilla		89.6	100.3	89.0	2.94	91.14	D
5	Hosaina		147.4	184.4	80.0	3.18	98.58	H
6	Jinka		76.9	78.9	97.5	3.12	96.72	M
7	Konso		22.3	25.1	88.8	4.44	137.64	D
8	Masha		266.2	329.9	81.0	5.3	164.3	H
9	Sawla		171.9	302.5	57.0	3.09	95.79	H
10	W/sodo		48.8	201.5	24	3.15	97.65	MD
1	Assosa	B/GUMUZ	258.7	236.7	109.0	3.68	114.08	H
2	Chagni		337	354.2	95.0	NA	NA	NA
3	Pawe		78.9	388.3	20	2.66	82.46	VD
4	Gambela	Gambela	299.3	198.1	151.0	NA	NA	NA
1	A.A.Obs.	A.A	334.9	278	120.0	2.59	80.29	H
2	A.A. Bole		256.5	236.2	109.0	3.18	98.58	H
1	Diredawa	D.D	122.7	126	97.0	5.86	181.66	M
1	Harar	Harai	76.3	118.3	64.0	3.48	107.88	M

Legend

VD	Very Dry	< 0.1
D	Dry	0.1-0.25
MD	Moderately Dry	0.25-0.50
M	Moist	0.50-1.00
H	Humid	> 1.00

Explanatory Note

ETo: Reference Evapotranspiration in 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 covers 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.

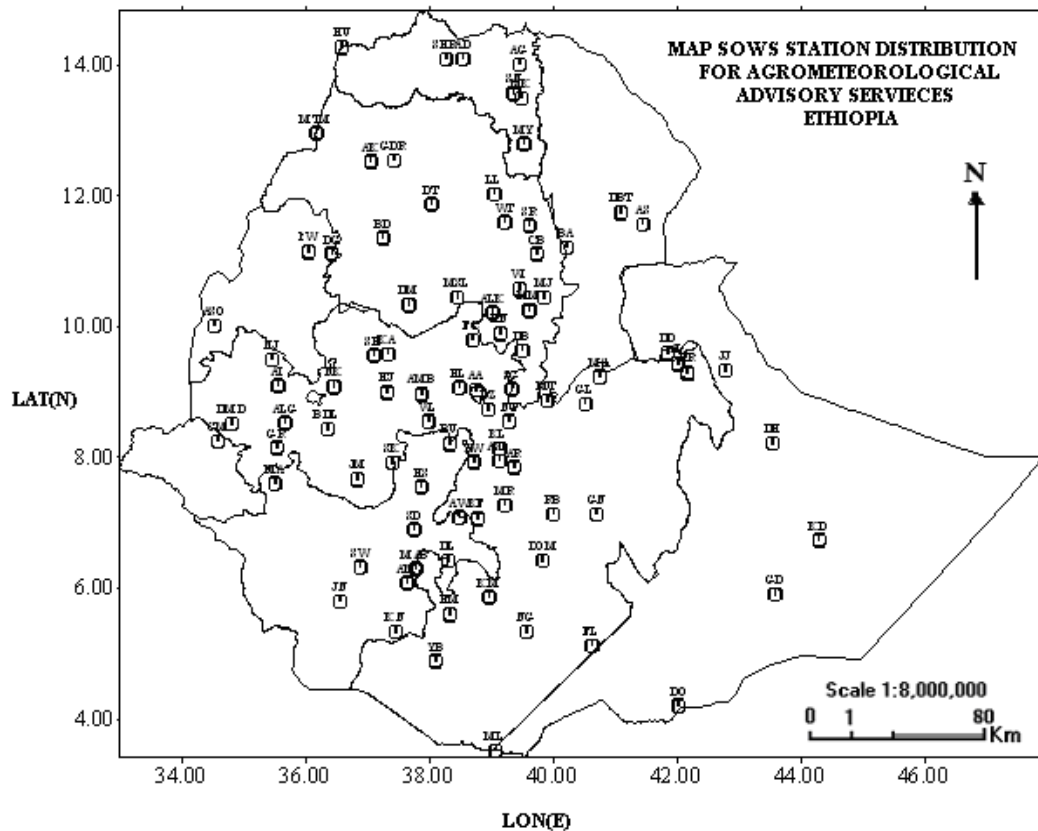
DEKAD: - First or second ten days or the remaining days of a month.

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