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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አህፅሮት

እ.ኤ.አ ጁላይ 2008

እ.ኤ.አ በጁላይ 2008 በመጀመሪያው አስርተ ቀናት የክረምቱ ዝናብ የወቅቱን ዝናብ የሚያገኙትን አካባቢዎች ያዳረሰ ነበር። ይህም ሁኔታ እየተካሄደ ላለው የወቅቱ የእርሻ እንቅስቃሴ እንዲሁም በተለያየ የዕድገት ደረጃ ላይ ለሚገኙ ሰብሎችና ለቋሚ ሰብሎች የጎላ ጠቀሜታ እንደነበረው ይታመናል። ከመረጃ ክፍላችን ባገኘነው ሪፖርትም ከ(30-72ሚ.ሜ) መካከል የሚገኝ ከባድ ዝናብ በሰሜን ምዕራብ፣ በምዕራብና በመካከለኛው የሀገሪቱ ክፍሎች ላይ ተመዝግቧል። ከዚህ ዝናብ ጋር በተያያዘም በአንዳንድ ጣቢያዎች በሰብሎች ላይ ጉዳት ደርሷል። ለመጥቀስም ያህል በሻምቡ በረዶ ቀላቅሎ የጣለው ሀይለኛ ዝናብ በበቆሎና በሽንኩርት ማሳ ላይ ጉዳት አድርሷል። በአዋሳና በጎንደር ንፋስ ቀላቅሎ የጣለው ዝናብ በዛፎችና በዛፍ ቅርንጫፎች ላይ ጉዳት ሲያደርስ በዝዋይ አካባቢ ጎርፍ ያስከተለው ከባድ ዝናብ በከብቶች ላይ ጉዳት ማድረሱን ከስፍራው በደረሰን መረጃ ማወቅ ተችሏል።

እ.ኤ.አ በጁላይ 2008 ሁለተኛው አስርተ ቀናት መደበኛና ከመደበኛ በላይ ዝናብ በአብዛኛው መኸር አብቃይ የሀገሪቱ ክፍሎች ላይ ተስተውሏል። ይህም ሁኔታ ለመኸር እርሻ እንቅስቃሴ ጠቀሜታ የነበረው ሲሆን ለአርብቶና ከፊል አርብቶ አደሩ አካባቢም ለመጠጥ ውሃና ለግጦሽ ሳር አቅርቦት የጎላ አስተዋፅየ ነበረው።በሌላ በኩል በአንዳንድ ስፍራዎች ከከባድ ዝናብ ጋር በተያያዘ ጉዳት ደርሷል። በቻግኒ፣ በበደሌና በሽሬ በ16 እና 17 ጁላይ በረዶና ንፋስ ቀላቅሎ የጣለው ከባድ ዝናብ በንብረትና በሰብሎች (በበቆሎና በማሽላ) ላይ ከፍተኛ ጉዳት አድርሷል።

እ.ኤ.አ በጁላይ 2008 በሶስተኛው አስርተ ቀናት የነበረው የዝናብ መጠን ከመደበኛው ጋር ሲነፃፀር አብዛኛው ኦሮሚያ፣ አማራ፣ ቤንሻንጉል ጉሙዝ፣ ጋምቤላ እና ምዕራብና ምስራቅ ትግራይ፣ የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል ምዕራብና ጥቂት የደቡብ ክፍል፣ ሰሜን አፋርና የምስራቅ የሀገሪቱ ክፍል መደበኛና ከመደበኛ በላይ ዝናብ ነበራቸው። ይህም ሁኔታ ለመኸር እርሻ እንቅስቃሴና ለአጠቃላይ የእርሻ እንቅስቃሴ እንዲሁም ለአርብቶ አደሩና ከፊል አርብቶ አደሩ ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አዎንታዊ ተፅዕኖ ነበረው። በሌላ በኩል የተቀሩት የወቅቱ ዝናብ ተጠቃሚ አካባቢዎች ያገኙት ዝናብ ከመደበኛ በታች መሆኑ በነዚህ አካባቢ ለሚካሄደው የመኸር እርሻ እንቅስቃሴና ለአጠቃላይ የእርሻ እንቅስቃሴ በተወሰነ መልኩ አሉታዊ ተፅዕኖ እንደነበረው ይታመናል።

ጠቅለል ባለ መልኩ ከጁላይ ወር 2008 ወቅታዊ ዝናብ መካከለኛው ኢትዮጵያን ጨምሮ በአገሪቱ ምዕራባዊ አጋማሽ ላይ በተጠናከረ መልኩ ተስተውሏል። ይህም የዝናብ ሁኔታ ቀደም ሲል ከሰኔ በፊት ለተዘሩ የረጅም ጊዜ ሰብሎች (በቆሎ ፣ ማሽላ) ላሉት የተመቻቸ ሁኔታን የሚፈጥር ሲሆን በተጨማሪ ለብርዕ ሰብሎች (ስንዴ፣ ገብስ፣ እጃ) ለመሳሰሉት የዘር ጊዜና በአጠቃላይ ለመኸር የእርሻ እንቅስቃሴ አወንታዊ ጎን እንደነበረው ይታመናል። በተጨማሪም በአንዳንድ አማራና ትግራይ፣ ቤንሻንጉል ጉሙዝ፣ ጋምቤላ፣ ምዕራብ ኦሮሚያ፣ የደቡብ ብሔር ብሔረሰቦች ክልል ምዕራባዊ አጋማሽና መካከለኛው ኢትዮጵያ አካባቢዎች አልፎ አልፎ ከባድ ዝናብ መዝግበዋል። ከተጠቀሰው ከባድ ዝናብ ጋር በተያያዘም ከመረጃ ክፍላችን ባገኘነው ሪፖርት በሻምቡ በሸንኩርት ማሳ ላይ፣ በአዋሳና በጎንደር በዛፍ ቅርንጫፎች ላይ፣ በዝዋይ በከብቶች ላይ፣ በቻግኒና በመካነ ሰላም በሰብሎች ላይ፣ በበደሌ በበቆሎና ማሽላ አዝመራ ላይ፣ በሸሬ በቡቃያ ደረጃ ላይ ባሉ ሰብሎች እንዲሁም በአምቦሳ በጤፍ ሰብል ላይ በረዶና ንፋስ ቀላቅሎ በጣለው ዝናብ ምክንያት ፣ ጉዳት መድረሱ ከጣቢያው ሠራተኛ ሪፖርት ማወቅ ተችሏል።

SUMMARY

JULY 2008

During the first dekad of July 2008, better rainfall distribution was observed over most parts of seasonal rainfall benefiting areas. The situation could have a significant contribution for meher agricultural activities and crops which were at different phenological stages. Some areas of northwestern, western, central parts of Ethiopia exhibited heavy fall ranging from 30-73 mm in one rainy day. To mention some of them which recorded above 40.0 mm. Dilla, Gonder, Aykel, Bullen, KibreMengist, Dangla, Bui and Gimbi exhibited 40.2, 41.0, 42.4, 43.2, 48.4, 48.8, 53.5 and 72.9 mm of rainfall respectively in one rainy day. Thus the condition resulted in crop damage in some areas. Shambu recorded damage on crop field of maize crops and onion due to heavy fall. Awassa and Gonder reported damage on trees due to heavy fall and Ziway reported damage on livestock due to floods.

During the second dekad of July 2008, most of meher growing of the country observed normal and above normal rainfall. The condition might have positive impact for the on going Meher agricultural activities, for availability of pasture & drinking water over pastoral & agro-pastoral areas. On the other hand, the observed heavy fall over some areas of the country caused damage on properties and crops. Reportedly heavy fall have caused crop damage over Chani, Bedelle and Shire on July 16 and 17, 2008 on properties, maize and sorghum crops.

During the third dekad of July 2008, normal and above normal rainfall dominated over much of Oromia, Amhara, Benshangul-Gumuz, Gambela, western and eastern Tigray, western and southern SNNPR, northern Afar and eastern parts of the country. The situation might have a positive impact for meher agricultural activities and availabilities of pasture and drinking water over pastoral and agropastoral areas. According to crop phenological report Maize was at ninth leaf stage and Teff was at third leaf stage and slight water logging in some areas of Adelle, Beans was at budding stage and slight hail damage in some areas of Mekane Selam during the third dekad of July.

Generally during the month of July, season's rainfall strengthened over central and western half of the country. This situation could create positive contribution for early sown long cycle crops (Maize, sorghum) and crops like wheat and barely. The rainfall performance might have a positive impact for meher agricultural activities. On the other hand, occasional heavy fall observed over some areas of Amhara and Tigray, Benshangul-Gumuz, Gambela, western Oromia, western half of SNNPR and central Ethiopia, as a result crop damage was reported over Shambu on onion, Awassa and Gonder on trees, Ziwzy on livestock, Bedelle report damage on maize and sorghum crops, Shire report damage on crops which were at vegetative stage and Abomsa report damage on Teff due to heavy fall accompanied with hail respectively.

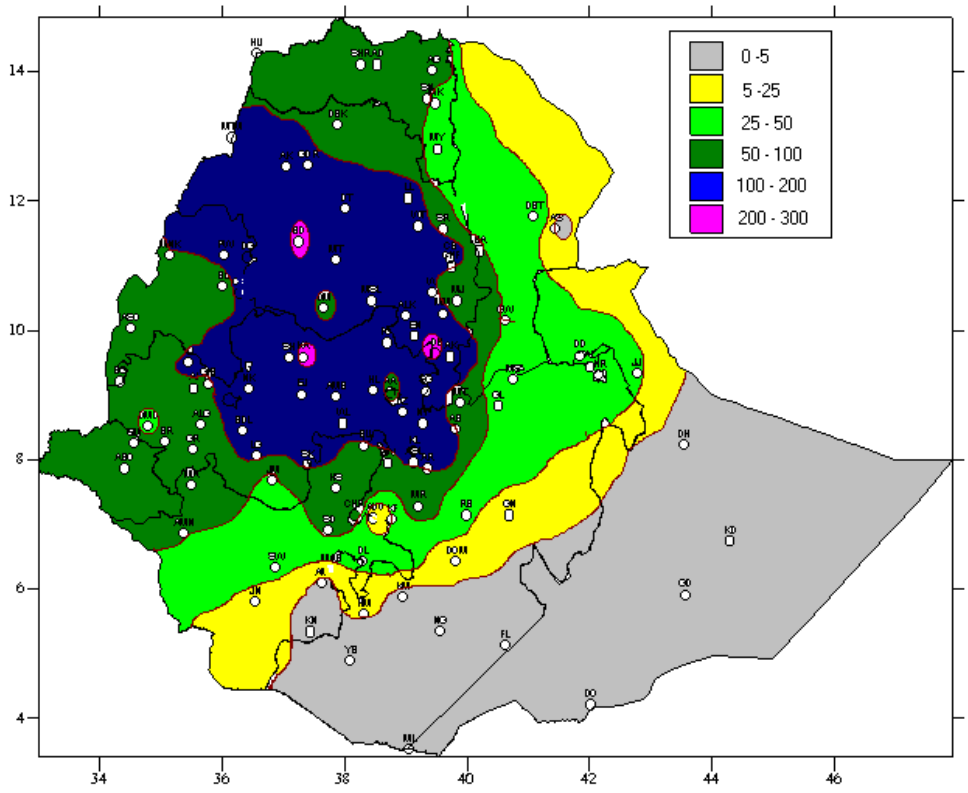


Fig 1. Rainfall distribution in mm (21 – 31 July, 2008)

1. WEATHER ASSESSMENT

1.1 (21- 31 July, 2008)

1.1.1 Rainfall amount (Fig.1)

Pocket areas of central Oromia, central and eastern Amhara received 200-300 mm rainfall. Most of Amhara and parts of central and western Oromia experienced 100-200 mm rainfall. Gambela, most of Tigray, southern half of Benshangul-Gumuz, parts of eastern, southern and western Oromia, western and northern SNNPR and northern and eastern Amhara exhibited 50-100 mm rainfall. Parts of eastern Tigray, western and southern Afar, northern Somali, eastern and southern Oromia and western and eastern SNNPR received 25-50 mm rainfall. Half of eastern Afar, parts of northern Somali, eastern and southern Oromia and southern SNNPR experienced 5-25 mm rainfall. The rest parts of the country exhibited little or no rainfall.

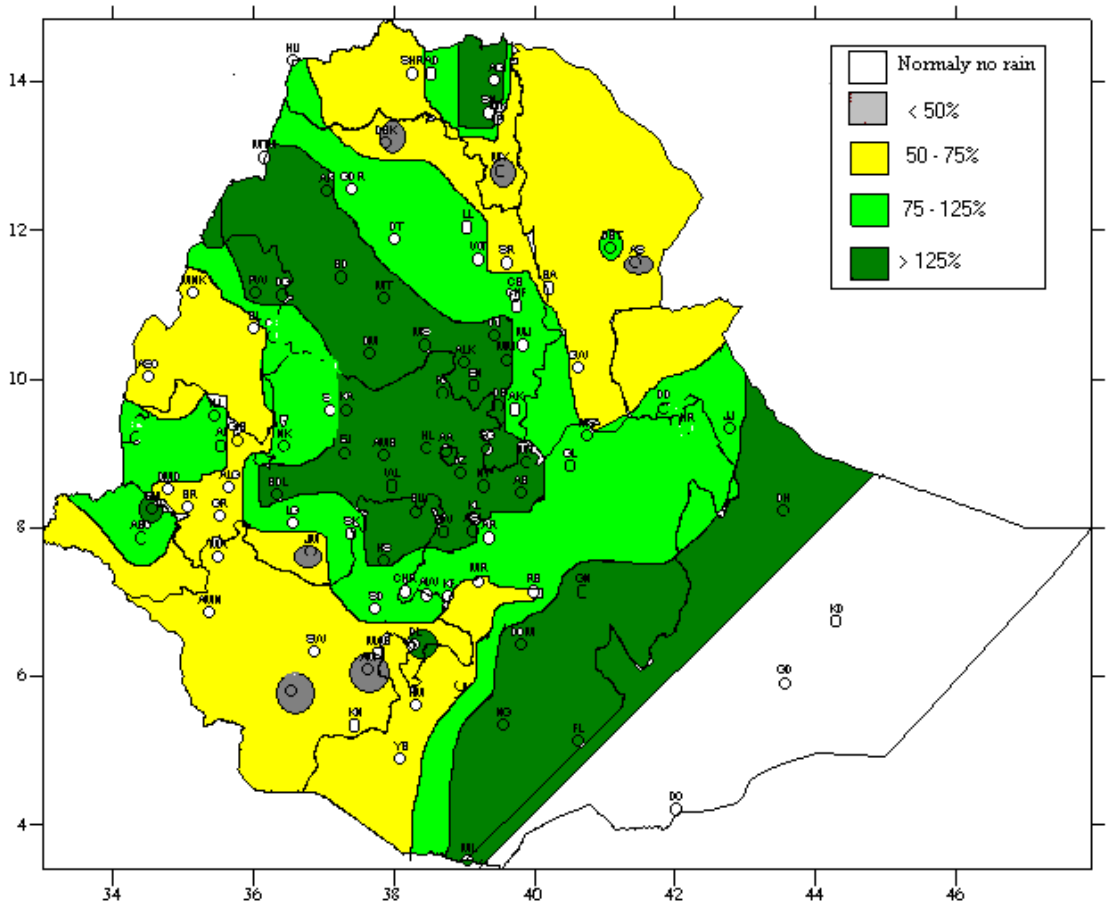


Fig. 2 Percent of normal rainfall distribution (21-31 July, 2008)

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)

Much of Amhara, Oromia, north eastern parts of Tigray, northern parts of Gambela, north eastern margin of SNNPR, pocket area of eastern Afar and some areas of Somali received normal to above normal rainfall. The rest parts of the country exhibited below normal to much below normal rainfall.

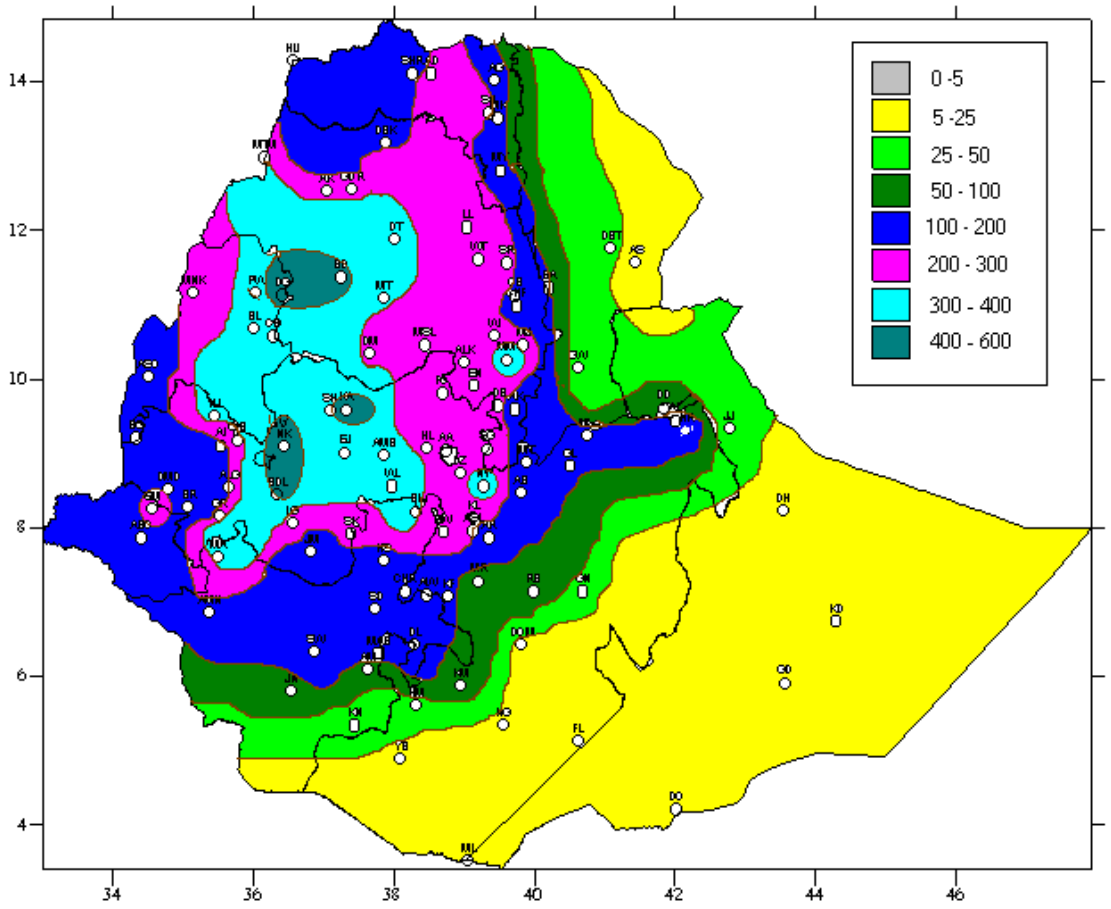


Fig. 3 Rainfall distribution in mm for the month of July, 2008

1.2 July, 2008

1.2.1 Rainfall distribution (Fig.3)

Pocket areas of western Amhara and western Oromia received 400-600mm of rainfall. Some areas of western Amhara, eastern half of Benshangul-Gumuz, some areas of western Oromia received 300-400mm of rainfall. Parts of northern Tigray, much of eastern Amhara, central Oromia and western Tip of Benshangul-Gumuz and parts of western Oromia received 200-300 mm of rainfall. Western Tip of Tigray, eastern tip of Amhara, parts of eastern Oromia parts of Arsi Bale zone and northern half of SNNPR, parts of western Tip of Oromia and Gambela exhibited 100-200mm of rainfall. Western tip of Afar, parts of northern Somali and eastern Oromia, southern SNNPR exhibited 50-100mm of rainfall. Western half of Afar, Parts of northern Somali, parts of eastern and western Somali and parts of southeastern SNNPR exhibited 25-50 mm of rainfall while the rest parts of eastern Afar and much of Somali exhibited 5-25 mm of rainfall.

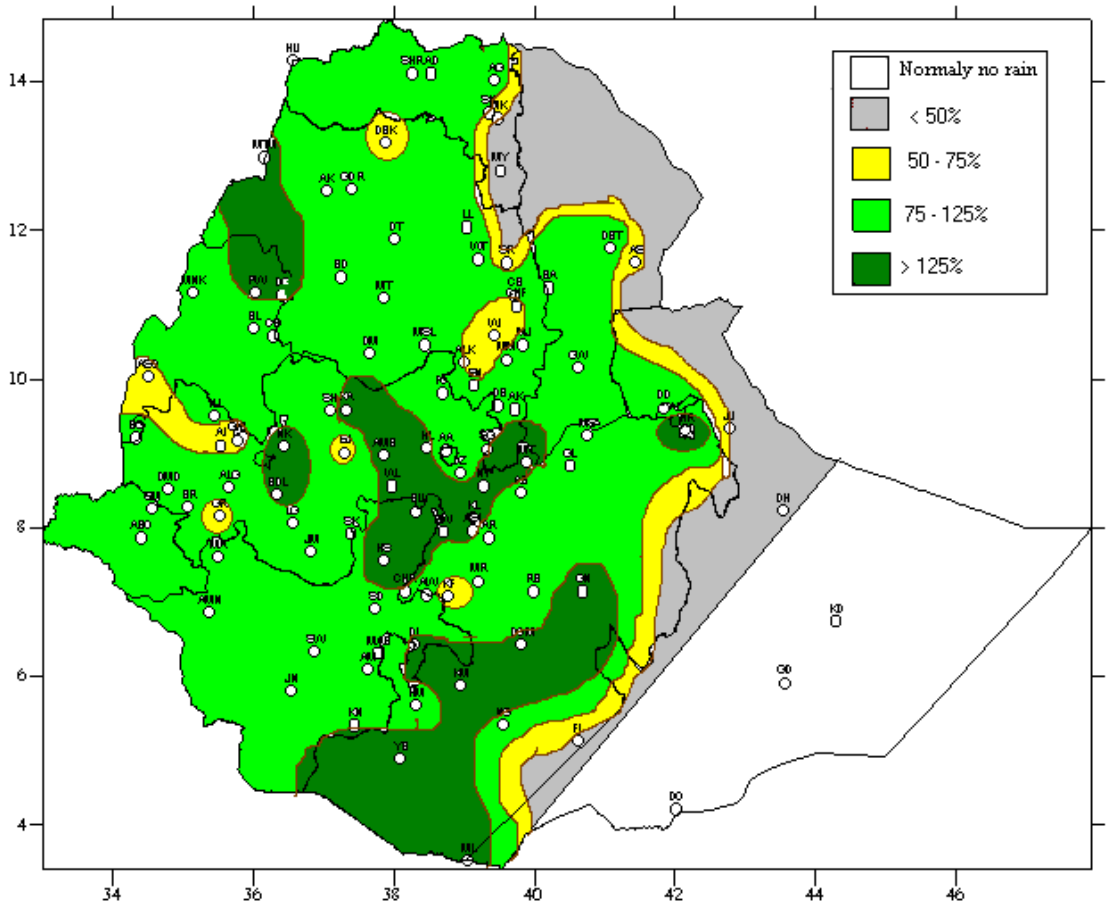


Fig. 4 Percent of Normal Rainfall distribution for the month of July, 2008

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)

With the exception of pocket area of northern and southern eastern Amhara, western Tip of Oromia, much of Afar and much of Somali, the rest parts of the country exibited normal to above normal rain fall.

1.3 TEMPERATURE ANOMALY

During the month under review some areas exhibited extreme maximum air temperature above 35 ^{0}C. Among the recording stations Gambela, Cheffa, Shewa Robit, DireDawa, Methara, Awash Arba, Humera, Mille, Assayta, Semera, Dubti, Gewane, and Elidar recorded extreme maximum temperature as high as 36.5, 36.5, 38.0, 38.0, 38.5, 40.5, 41.0, 44.0, 44.0, 45.0, 45.0, 46.3, and 48.0 ^{0} C respectively.

2. WEATHER OUTLOOK

2.1 For the first dekad of August 2008

For the coming ten days, the rain-producing systems are expected to have better strength over various the seasonal rein benefiting areas. Hence, much of Tigray, Amhara, Benshangul-Gumuz, Gambela, western and central Oromiya and SNNPR northern portions will get normal to above normal rainfall. Besides, Afar, eastern Oromia, DireDawa, Harari, SNNPR, southern portions and northern Somali will have better rainfall compared with the previous time and the amount will be closed to normal. The rest southern Oromia and southern Somali will be under partly cloudy condition.

2.2 For the month of August 2008

For the coming month, analyzed and forecasted meteorological conditions indicated that the seasonal rain continue in well organized manner and favor much of the Kiremt rain benefiting areas. As a result, Gambela, SNNPRwestern half, western and central Oromia, Benshangul-Gumuz, much of Amhara and Tigray will are likely to have normal to above n normal rainfall. Moreover, eastern border of Amhara and Tigray, Afar, eastern Oromia northern half of Somali, Dire Dawa, Harari and eastern portion so SNNPR will receive close to normal rainfall, while some pocket places will be below normal. On the other hand, even if some rainfall is expected over southern Oromia partly cloudy condition will dominate over the area of southern Somali as well.

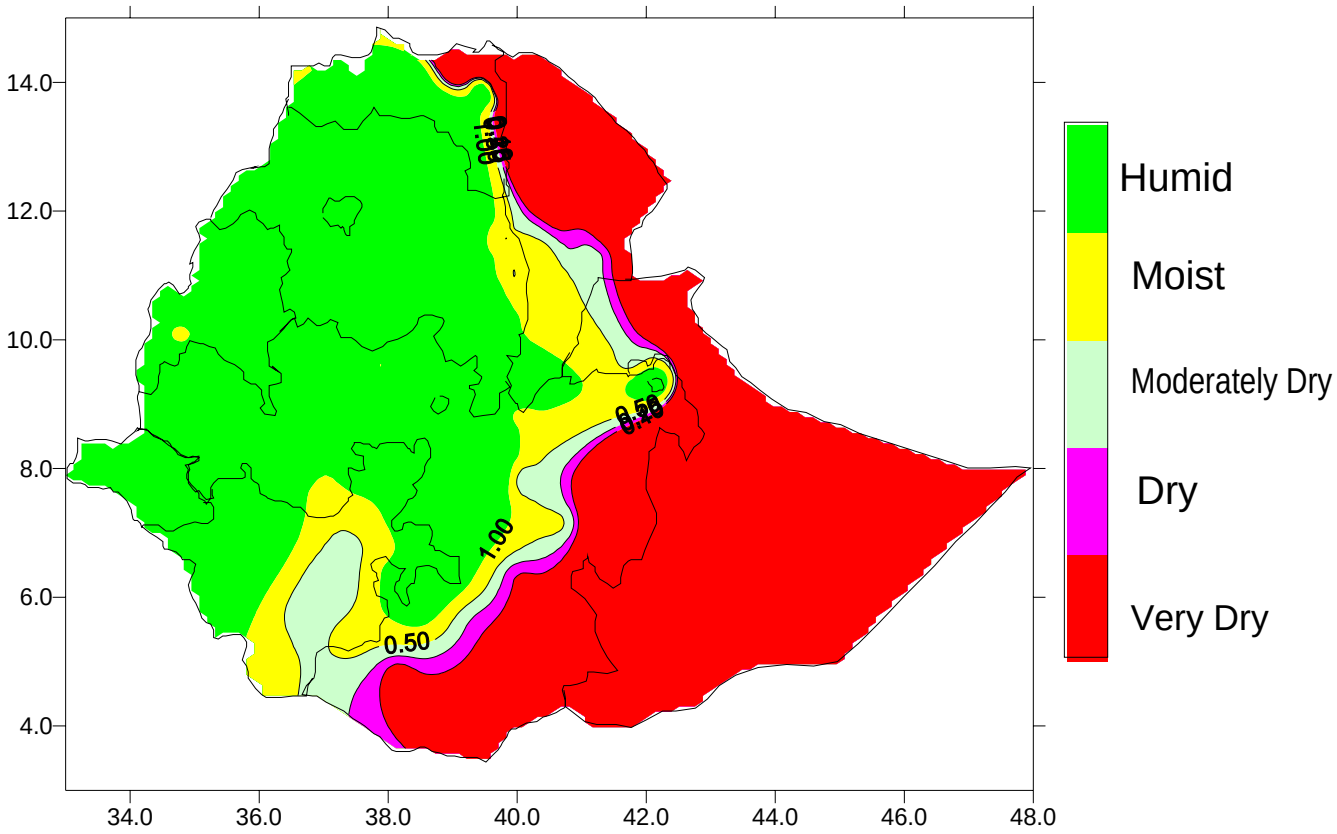
3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally during the month of July, season's rainfall strengthens over central and western half of the country. This situation could create positive contribution for early sown long cycle crops (Maize, sorghum) and crops like wheat and barely. Generally it might have a positive impact for meher agricultural activities. Moreover, occasional heavy fall observed over some areas of Amhara and Tigray, Benshangul-Gumuz, Gambela, western Oromia, western half of SNNPR and central Ethiopia. As a result, in accordance with the report, Shambu report damage on onion land , Awassa and Gonder report damage on trees, Ziway report damage on livestock, Bedelle report damage on maize and sorghum crops , Shire report damage on crops which were at vegetative stage and Abomsa report damage on Teff due to heavy fall accompanied with hail respectively. For more detail please refer table1.

In addition, analysis of moisture status (the relationship between total monthly rainfall and the month total reference evapotranspiration) during the third dekad 2008 indicated that (see Fig 5). With the exception of southern Oromia, few areas of northern Tigray, pocket areas of eastern tip of Amhara, better moisture condition has been observed and fulfill crop satisfaction interms of water requirement in most parts of meher growing areas.

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



3.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

The anticipated normal to above normal rainfall over most parts of western half of the country, like Gambela, western half of SNNPR, central and western Oromia, Benshangul-Gumuz, and much of Amhara and Tigray will have a positive impact for the ongoing meter agricultural activities over the aforementioned areas. However, the expected occasional heavy rainfall would have a negative impact for crops and croplands particularly over low-lying areas and near river banks. Thus, farmer should take proper attention in order to minimize the expected excess moisture condition. Moreover, the anticipated near normal rainfall over some areas of eastern tip of Tigray and Amhara, Afar, eastern Oromia, northern half of Somali, Dire Dawa and eastern half of SNNPR would favor for the availability of pasture and drinking water for pastoral and agropastoral areas. Besides, the expected little rainfall over southern Oromia would have a positive impact for long cycle crops.

Table 1. Crop Phenological report for the first dekad of July 2008

Station name	Region	Zone	Woreda	Major Crops			Phases		
				1	2	3	1	2	3
Aira	Oromia	Wellega		-	-	-	-	-*	-
Aris Robe	Oromia	Mirab Arsi	Robe	-	-	-	-	-	-
Alemkema	Amahara	Semen Shoa	Alemkema	Teff	-	-	S	-	-
Assosa	Benishagul	Assosa	Assosa	-	-	-	-	-	-
Adelle				Maize	Barley	Teff	Nl	Ti	Tl
Ayehu	Amahara	Mirab Gojam	Ankosha	Maize	pepper	wheat	Fl	Sl	Em
Aykel				Teff	-	-	Tl	-	-
Bedelle	Oromia	Illubabor	Bedlle	Maize	-	-	Fl	-	-
Bullen	Benishagul	Metekel	Bullen	Maize	Millet	-	Em	Ti	-
Bui	SNNPR	Guarage	Sodo	-	-	-	-	-	-
Chagni	Amahara	Awi	Guagnua	Maize	Millet	-	Ta	Em	-
Chira	Oromia	Jimma	Gera	-	-	-	-	-	-
Dangila	Benishagul	Awi	Dangila	Wheat	Teff	-	S	Em	
Debre Tabor	Amahara	Dabub Gonder	Debre Tabor	-	-	-	-	-	-
Debre Birhan	Amahara			Barley	-	-	Tl	-	-
Dolomena	Oromia	Bale	Mena	Maize	Teff	-	Fr	Ta	-
Dilla	SNNPR			Coffee	Maize	-	Be	Wr	-
Enewary	Amahara	Semen Shoa	Mortenajiru	-	-	-	-	-	-
Fitche	Oromia	Semen Shoa	Girarjarso	-	-	-	-	-	-
Gelemeso	Oromia	Mira Haraghe	Habro	Maize	-	-	Wr	-	-
Ghion				-	-	-	-	-	-
Gimbi	Oromia			Maize	Teff	-	Fl	Em	-
Hossaina	SNNPR	SNNPR	Lemu	Maize	Wheat	-	Fl	S	-
Kachise	Oromia	Mirab Shoa	Gindeberet	Teff	-	-	S	-	-
Lalibela	Amahara	Semen Wollo	Lasta	Teff	-	-	Em	-	-
Limugent	Oromia	Jimma	Limukosa	Teff	-	-	S	-	-
Majate	Amahara	Semen Shoa	Mizan antakiya	-	-	-	-*	-	-
Mehal Meda	Amahara	Semen Shoa	Gira mider	Wheat	Barley	Beans	S	S	S
Nedjo	Oromia	Mira Wollega	Nedjo	Maize	Sorghum	Millet	Fl	Sh	Ti
Mekane Selam				Wheat	Teff	Beans	Tl	S	Bu
Pawe	Benishagul	Metekele	Pawe liyu	-	-	-	-	-	-
Shaura	Amahara	SemenGonder	ALEF.T	-	-	-	-	-	-
Shambu	Oromia	HoroWollega	Horo	Teff	-	-	S	-	-
Shire	Tigiray	Mirab Tigray	Endasilasie	-	-	-	-	-	-
Sirinka	Amahara	Semen Wollo	Habru	-	-	-	-	-	-
Sokoru	Oromia	Jimma	Sokoru	Maize	-	-	Ta	-	-
Shola Gebeya	Amahara	Semen Shoa	Hagaramariam	-	-	-	-	-	-
Wagel Tena	Amahara	Semen Wollo	Delanta	Wheat	Barley	Beans	S	S	S
Ziway	Oromia	Misrak Shoa	Jidocombolcha	Maize	-	-	Nl	-	-

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 of July 2008

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture Status
1	**Adwa**	**TIGRAI**	216.3	205.1	105.5	3.47	107.57	H
3	**Humera**		173.6	170.9	101.6	NA	NA	NA
4	**Maichew**		56.8	159.9	35.5	4.03	124.93	MD
5	**Mekele**		96.8	199	48.6	3.7	114.7	M
6	**Senkata**		275.5	236.7	116.4	NA	NA	NA
7	**Shire**		224.9	291.1	77.3	5.36	166.16	H
1	**Assayta**	**AFAR**	23.9	34.1	70.1	NA	NA	NA
2	**Dubti**		36.1	43.4	83.2	6.9	213.9	D
3	**Gewane**		30	NA	NA	6.9	213.9	D
1	**A. Ketema**	**AMHARA**	240.1	303.4	79.1	2.92	90.52	H
2	**A.Robe**		194.7	180.5	107.9	NA	NA	NA
3	**Aykel**		295.5	376.3	78.5	NA	NA	NA
4	**Bahirdar**		491.5	422.5	116.3	2.82	87.42	H
5	**Bati**		163.7	174.3	93.9	4.27	132.37	H
6	**Bullen**		301.1	361	83.4	2.77	85.87	H
7	**Combolcha**		286.9	260.6	110.1	4.19	129.89	H
8	**Chefa**		130.7	197	66.3	4.43	137.33	M
9	**Dangila**		434.7	250.3	173.7	3.04	94.24	H
10	**Debarke**		187	331.4	56.4	NA	NA	NA
11	**D.Birhan**		393.3	264.3	148.8	2.8	86.8	H
12	**D.Markos**		264.1	297.3	88.8	2.84	88.04	H
13	**D.Tabor**		360.2	448.7	80.3	NA	NA	NA
14	**Enwary**		153.4	223.5	68.6	3.01	93.31	H
15	**Gondar**		336.4	323.7	103.9	NA	NA	NA
16	**M.Meda**		302.5	282.9	106.9	NA	NA	NA
17	**Majete**		188.6	189	99.8	3.99	123.69	H
18	**Mota**		361.8	306.6	118.0	3.35	103.85	H
19	**Metema**		340.3	219.9	154.8	4.1	127.1	H
20	**Lalibela**		237.7	245	97.0	2.78	86.18	H
21	**S. Gebeya**		230.1	271.5	84.8	3.17	98.27	H
22	**Sirinka**		112.5	202.5	55.6	4.12	127.72	M
23	**W.tena**		198.4	232.2	85.4	3.17	98.27	H
24	**Wereilu**		168	NA	NA	3.4	105.4	H
1	**Abomsa**	**OROMIYA**	121.8	161.8	75.3	3.13	97.03	H
2	**Aira**		175.3	301.9	58.1	NA	NA	NA
3	**Alemaya**		130.8	101	129.5	3.14	97.34	H
4	**Alge**		271.1	306.1	88.6	NA	NA	NA
5	**Ambo**		308	226.3	136.1	2.99	92.69	H
6	**Arjo**		298	314	94.9	2.63	81.53	H
7	**Bedelle**		409.2	316.6	129.2	NA	NA	NA
8	**Begi**		175.9	190	92.6	NA	NA	NA
9	**Bui**		327.3	83.7	391.0	NA	NA	NA
10	**Chira**		286.6	252.2	113.6	NA	NA	NA
11	**D.Dollo**		124.1	165.6	74.9	2.87	88.97	H
12	**D.Mena**		19.5	13.7	142.3	3.09	95.79	D
13	**D.Zeit**		223.5	219.2	102.0	3.47	107.57	H
14	**Ejaji**		86.4	160.6	53.8	2.66	82.46	H
17	**Gimbi**		219.8	355.3	61.9	NA	NA	NA

18	**Ginir**		40.5	22	184.1	NA	NA	NA
1	**Gore**		191.8	329.2	58.3	2.46	76.26	H
2	**H. Mariam**		37.1	39.5	93.9	2.33	72.23	M
3	**Jimma**		170.3	210.9	80.7	2.76	85.56	H
4	**K.Mengist**		66	28.8	229.2	2.22	68.82	M
5	**Kachisa**		546.8	420.7	130.0	2.82	87.42	H
6	**Koffele**		91.3	140.4	65.0	2.53	78.43	H
7	**Limugenet**		257.1	294.1	87.4	2.78	86.18	H
8	**Metehara**		197	120	164.2	5.59	173.29	H
9	**Mi'eso**		103.6	129.5	80.0	NA	NA	NA
10	**Moyale**		8.5	6.7	126.9	2.86	88.66	D
11	**Nazreth**		352.3	214.3	164.4	4.83	149.73	H
12	**Neghele**		6.9	7.1	97.2	3.81	118.11	VD
13	**Nedjo**		338.7	316.6	107.0	3.06	94.86	H
14	**Nekemte**		416.6	389.5	107.0	2.63	81.53	H
15	**Robe(Bale)**		75.2	88	85.5	3.7	114.7	M
16	**Sekoru**		242.8	216.4	112.2	2.65	82.15	H
17	**Shambu**		379.5	369.1	102.8	2.98	92.38	H
18	**Shewrobit**		211.2	169.9	124.3	NA	NA	NA
19	**Woliso**		326.2	280	116.5	NA	NA	NA
20	**Yabello**		16.9	13.4	126.1	2.73	84.63	D
21	**Ziway**		268.3	142.8	187.9	3.69	114.39	H
1	**Jijiga**	**SOMALI**	31.5	74.4	42.3	NA	NA	NA
1	**A.Minch**	**SNNPR**	49.7	47.9	103.8	3.57	110.67	MD
2	**Awassa**		150.5	123.3	122.1	3.24	100.44	H
3	**Dilla**		140	111.1	126.0	2.66	82.46	H
4	**Hosaina**		192.5	153.7	125.2	2.73	84.63	H
5	**Jinka**		80.5	103.4	77.9	2.42	75.02	H
6	**Konso**		43.6	21.8	200.0	3.17	98.27	MD
8	**Masha**		302.3	293	103.2	2.15	66.65	H
9	**Sawla**		101.3	100.9	100.4	2.76	85.56	H
1	**Assosa**	**B/GUMUZ**	119.6	234.8	50.9	2.97	92.07	H
2	**Chagni**		312.1	342.8	91.0	3.29	101.99	H
4	**Gambela**	**Gambela**	214	201.9	106.0	NA	NA	NA
1	**A.A.Obs.**	**A.A**	250.4	259.2	96.6	2.97	92.07	H
2	**A.A. Bole**		272	239.7	113.5	3.47	107.57	H
1	**Diredawa**	**D.D**	80.9	92.5	87.5	5.94	184.14	MD
1	**Harar**	**Harai**	137.5	93.7	146.7	3.15	97.65	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

	Reference
ETo	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.

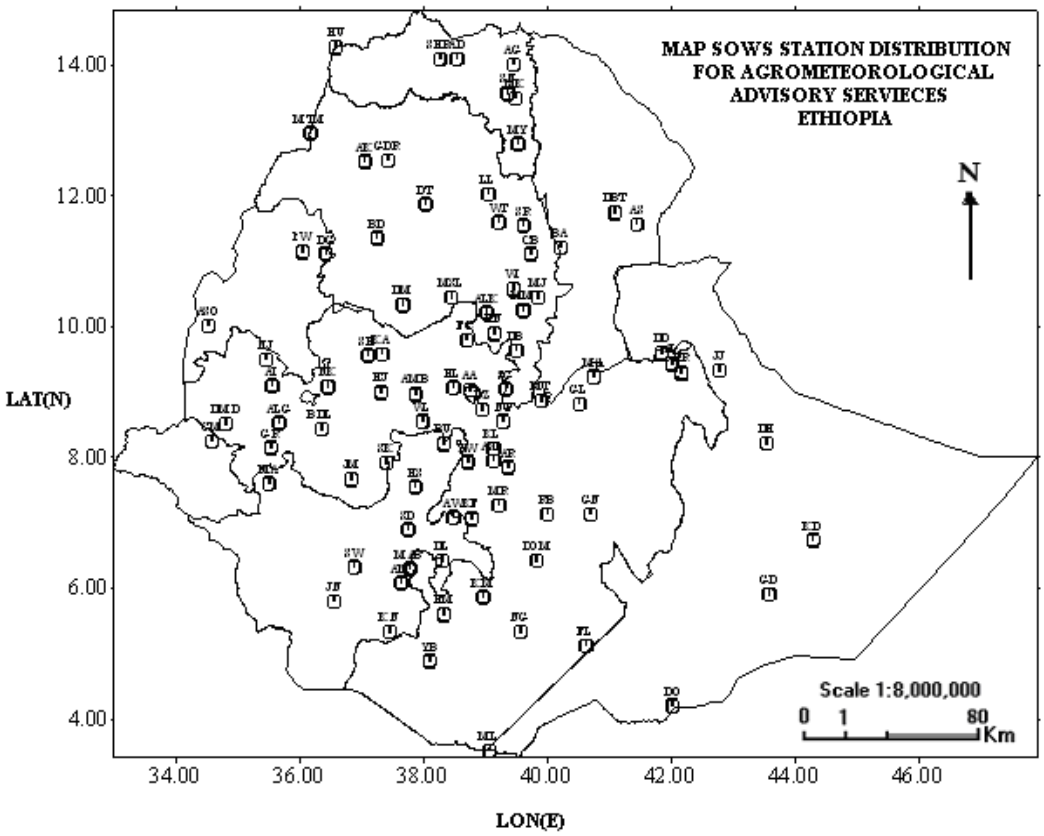
DEKAD: - First or second ten days or the remaining days of a month.

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