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.

Director General
NMA
P.O.Box 1090
Tel: 011661-57-79
FAX 00251-11-6625292
E-mail nmsa@ethionet.et
Addis Ababa

አህፅሮት
ኖቬምበር 2008

እ.ኤ.አ በኖቬምበር 2008 በመጀመሪያው አስር ቀናት የተመዘገበው ወቅታዊ ያልሆነ ከባድ ዝናብ በተለያዩ የሀገሪቱ ክፍሎች ላይ አሉታዊና አዎንታዊ ተፅዕኖ ነበረው። ከመካከለኛው (ዝዋይ፣ አዳሚ ቱሉ)፣ ከምስራቅ (አለማያ፣ ጅጅጋ)፣ ከምዕራብ (አልጌ)፣ ከደቡብ (ደሎመና) ባሉ ጣቢያዎች ከ(62ሚ.ሜ-143) ሚ.ሜ የሚደርስ ከባድ ዝናብ ተመዝግቦባቸው ነበር። ይህም የዝናብ ሁኔታ ምንም እንኳን ዘግይተው ለተዘሩና በተለያየ የዕድገት ደረጃ ላይ ላሉ ሰብሎች ጠቀሜታ ሊኖረው ቢችልም ከመረጃ ክፍላችን ባገኘነው ሪፖርት መሠረት በተለያዩ ሰብሎች ላይ ጉዳት ደርሷል። የጥቂቶቹን ጣቢያ ለመጥቀስ ባበቲ ፣በሆሳዕና እንዲሁም በማጀቴ በከባድ ዝናብ ምክንያት በደረሱና በመሰብሰብ ላይ ባሉ የጤፍ ሰብሎች ላይ ጉዳት ደርሷል። በተጨማሪም በአልጌ በከባድ ዝናብ ምክንያት በደረሱ ኑግና ጤፍ ሰብል ላይ ጉዳት ደርሷል። በአለማያ በቦሎአቄ፣ በአተር ሰብሎች ላይ ጉዳት ደርሷል። እንዲሁም በወገልጤና በደረሱ የገብስ፣ ስንዴና ባቄላ ሰብሎች ላይ ጉዳት መድረሱን ከመረጃ ክፍላችን ባገኘነው ሪፖርት ማወቅ ተችሏል። በሌላ በኩል ደግሞ በአፋር ክልል የነበረው (ከ20-40) ሚ.ሜ መካከል የሚደርስ ከባድ ዝናብ በአካባቢው ለሚገኙ ጥምር ግብርና ለሚካሄድባቸው አካባቢ ለመጠጥ ውሀ አቅርቦት ለግጦሽ ሳር የጎላ ጠቀሜታ ነበረው።

እ.ኤ.አ በኖቬምበር 2008 በሁለተኛው አስር ቀናት በኖቬምበር የመጀመሪያው ሳምንት በተለያዩ የሀገሪቱ ክፍሎች ላይ ሰፍኖ የነበረው ወቅታዊ ያልሆነ ዝናብ ባለፉት አስር ቀናት ውስጥ ሙሉ ለሙሉ በመቆሙ በመላው ሀገሪቱ ላይ ደረቅ ነፋሻማና ፀሐያማ የአየር ሁኔታ አመዝኖ ቆይቷል። ይህም ሁኔታ ለመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ አዎንታዊ ተፅዕኖ ነበረው። ሆኖም በበርካታ ስፍራዎች ላይ የሌሊትና የማለዳው ቅዝቃዜ እያየለ ከመምጣቱ በተጨማሪ በሰሜን ምስራቅ በመካከለኛው በምስራቅና በደቡብ ደጋማ ቦታዎች ላይ ውርጭው አስከትሏል። ይህም ሁኔታ ለቋሚ ሰብሎችና ለደረሱ የመኸር ሰብሎች አሉታዊ ተፅዕኖ እንደሚኖረው ይታመናል። የቅዝቃዜ መጠናቸው ከ5^{0}C በታች ከሆነባቸው አካባቢዎች መካከል የሰሜንና፣ ምዕራብ ሸዋ፣ ምስራቅ ሐረረጌ፣ የአርሲና የባሌ ደጋማ ቦታዎች የሚጠቀሙ ሲሆን ከዚህ ጋር በተያያዘ በፍቼ ውርጭው በደረሱ ሰብሎች ላይ መጠነኛ ጉዳት ማድረሱን ከመረጃ ክፍላችን ለማወቅ ተችሏል።

እ.ኤ.አ በኖቬምበር 2008 በሶስተኛው አስርተ ቀናት በከባቢ አየር ውስጥ የነበረው እርጥበት በጎላ መልኩ በመቀነሱ የተነሳ በአብዛኛው የሀገሪቱ ክፍል ላይ ደረቅ ፀሐያማና ነፋሻማ የአየር ሁኔታ አመዝኖ ቆይቷል። በተለይም በደጋማው የሀገሪቱ አካባቢዎች ላይ የሌሊትና የማለዳ ቅዝቃዜ ሊስተዋል ችሏል። ይህም ደረቅ ሁኔታ ለመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ እንቅስቃሴ አዎንታዊ ተፅዕኖ ነበረው። እንዲሁም በሰሜን ምስራቅ መካከለኛው በምስራቅና በደቡብ ደጋማ ቦታዎች ላይ የሌሊት ቅዝቃዜ ከ5^{0}C በታች የተመዘገበ ሲሆን በአዝርዕቶች ላይ ያደረሰው ጉዳት አንደሌለ ከመረጃ ክፍላችን ለማወቅ ተችሏል። በአጠቃላይ ባለፈው አስር ቀናት በጥቂት የደቡብና ደቡብ ምዕራብ ኪስ ቦታዎች ላይ ከታየው አነስተኛ ዝናብ በስተቀር ዝናብ አልተመዘገበም። በዚህም መሠረት በደቡብና ደቡብ ምስራቅ አካባቢ ለሚኖረው አጠቃላይ የእርሻ ስራ እንቅስቃሴና ለአርብቶ አደሩና ለከፊል አርብቶ አደሩ ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አዎንታዊ ተፅዕኖ ነበረው።

ባጠቃላይ በኖቬምበር ወር 2008 ወቅታዊ ያልሆነ ከባድ ዝናብ (ከ30-142.8) ሚ.ሜ መካከል የሚገኝ በደቡብ ምዕራብ በስምጥ ሸለቆ እና በአጎራባች በደቡብ ምዕራብና በደቡብ ምስራቅ የሀገሪቱ ክፍሎች ላይ ተከስቶ ነበር። የጥቂቶችን ከ50 ሚ.ሜ በላይ ዝናብ የመዘገቡትን ለመጥቀስ ማይጨው፣ ደሎመና፣ ጊኒር፣ ኢጃጂ፣ ጅጅጋ፣ ሀገረማርያም፣ ያቤሎ፣ አለማያ እና ዝዋይ 58.8፣ 62.0፣ 68.2፣ 69.6፣ 73.2፣ 76.8፣ 80.8 ፣100.1 እና142.8 ሚ.ሜ እንደየቅደምተከተላቸው በአንድ የዝናብ ቀናት ብቻ ተመዝግቦባቸዋል ከዚህ ጋር በተያያዘ በተለያዩ ጣቢያዎች ላይ የሰብል ጉዳት ደርሶ ነበር። የጥቂቶቹን ጣቢያ ለመጥቀስ ያህል ከመካከለኛው በጊኒር በደረሱ ሰብሎች ላይና በቤት እንሰሳት ላይ፣ በሆሳዕና በስንዴና በጤፍ አዝመራ ላይ፣ በዝዋይ በዛፎችና በተለያዩ አዝመራ ላይ ከምዕራብ በአልጌ በደረሱ የጤፍና የቡና ሰብል ላይ፣ በሰሜን ምስራቅ በባቲ በጤፍ ሰብል ላይ፣ እንዲሁም በወገልጤና በደረሱ የገብስና የስንዴ ባቄላ ሰብሎች ላይ ጉዳት መድረሱን ከስፍራው በደረሰን መረጃ ማወቅ ተችሏል። ይሁን እንጂ ከወሩ ከመጀመሪያው ሳምንት በኋላ የበጋው ደረቅ የአየር ሁኔታ በአብዛኛው የሀገሪቱ ክፍል ከመስፈኑ ጋር በተያያዘ በአብዛኛው የሀገሪቱ ክፍሎች ላይ ዝናብ አልነበረም። ይህም ሁኔታ ለሰብል ስብሰባውና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን ፈጥሮ ነበር በተጨማሪም በጥቂት የደቡብ ምዕራብና የደቡብ ኢትዮጵያ ኪስ ቦታዎች ላይ የነበረው አነስተኛ ዝናብ በተለያየ የዕድገት ደረጃ ላይ ላሉ ሰብሎችና በሀገሪቱ ደቡብ ቆላማ አካባቢዎች ለሚገኙ አርብቶ አደርና ከፊል አርብቶ አደር ለግጦሽ ሳርና ለመጠጥ ውሀ አቅርቦት አወንታዊ ተፅዕኖ እንደነበረው ይታመናል።

SUMMARY
November 2008

During the first dekad of November 2008, the observed heavy and unseasonal rainfall might have a negative and a positive impact on different parts of the country. Regarding heavy fall, from central Oromia (Zway & Adami Tulu), eastern Oromia (Alemaya & Jijiga), western Oromia (Alge) and southern Oromia (Dolo Mena) observed within the range of 62-143 mm. in one rainy day. The situation has a positive impact for early sown crops which were at different phenological stages. On the other hand, the aforementioned heavy fall might have a negative impact on Meher crops which were at ripening and full ripening stages. In relation to crop phenological report, some station observed crop damage due to heavy fall. Bati, Hosanna, Majete reported damage on Teff, Alge reported damage on Nug and Teff, Shambu reported damage on Teff, Maize & Pea crops and Wegel Tena reported damage on wheat, Barely and Beans which were at full ripeness stage. Besides, the exhibited heavy fall within the range of (20-40mm) in some areas of Afar would have significant contribution for the availability of pasture and drinking water over pastoral and agropastoral areas.

During the second dekad of November 2008, dry, windy and sunny weather condition observed over most parts of country. This situation could have a positive impact for Meher harvesting and post harvesting activities. However, mid night and early morning coldness observed over most of the country which caused frost over northeastern, central & eastern highlands of the country. This situation might have a negative impact on crops not yet attained full maturity and perennial crops as well. Some areas like northern and western Shawa, western Harargi, Arsi and Bale high lands recorded extreme minimum temperature below 5^{o} C. In relation to phenological report, slightly crop damage was observed due to frost over Fitche.

During the third dekad of Nonvember2008, the Bega's dry and sunny weather condition observed over most parts of the country due to the decreased moisture condition in the atmosphere. Thus the coldness of temperature during mid night and early morning observed over the highlands of the country. The aforementioned dry and sunny weather condition would have a positive contribution for harvest and post harvest activities of meher crops. Moreover, according to crop phenlogical report no crop damage due to the observed extreme minimum temperature below 5^{0}C over some areas of northeastern central and eastern and southern highlands of the country. In general with the exception of little rainfall observed over pocket areas of south and southwestern parts of the country, no rainfall exhibited over the rest parts of the country. Thus this situation would have a positive impact for agricultural activities of south and southeastern parts of the country and for pasture and drinking water for pastoral and agropstoral areas of the country.

Generally during the month of November 2008, unseasonal heavy fall within the range of (30-142.8) mm observed over south western, rift valley and the adjoining areas of south western and southeastern parts of the country .To mention some station which observed above 50 mm of rainfall, Michew, Dolomena, Ginir, Ejaji, Jijiga, HagerMariam, Yabello, Alemya, and Zway reported 58.8, 62.0, 68.2, 69.6, 73.2, 76.8, 80.8, 100.1, and 142.8 mm respectively in one rainy days. As a result, crop damage observed over some areas of the country. According to the report, from central Ginir reported damage on crops which attains full maturity and live stock; Hosanna reported damage on wheat and teff crop, zway reported on trees and different crops due to the aformentioned unseasonal rainfall. However, starting from the second dekad of the month the Beg's dry, sunny and windy weather condition observed over most parts of the country. In relation with this dry weather condition no rainfall exhibited over most parts of the country. This situation creates favorable condition for meher agricultural activities like harvest and post harvest activities. Besides, the observed little rainfall over pocket areas of southwestern and southern parts of the country favored early sown crops and which were at different pehnological stage and for the availability of pasture and drinking water for pastoral and agropsotroal areas of some areas of southern lowlands of the country. Moreover, due to the increase in cloud coverage over some areas of the county, the coldness of mid night and early morning temperature was not strong during this month.

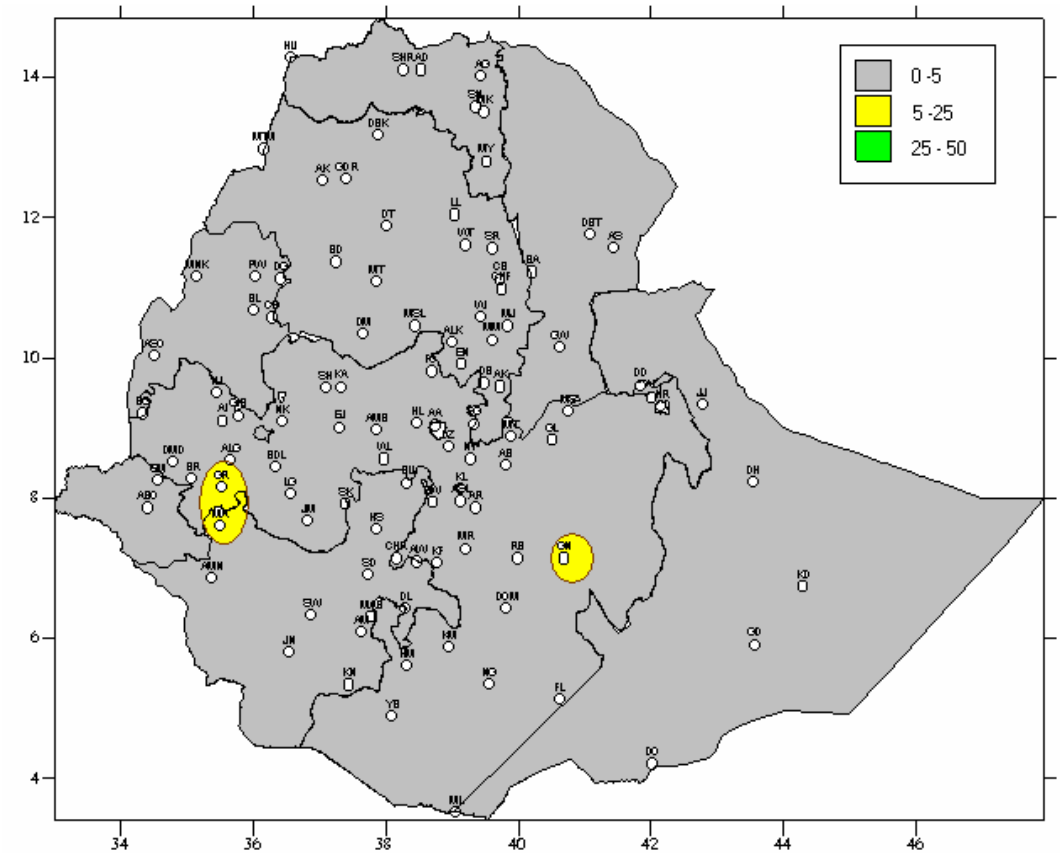


Fig 1. Rainfall distribution in mm (21-30 November 2008)

1. WEATHER ASSESSMENT

1.1 (21- 30 November, 2008)

1.1.1 Rainfall amount (Fig.1)

Pocket areas of western and southeastern Oromia received 5-25 mm rainfall. The rest parts of the country exhibited little or no rainfall.

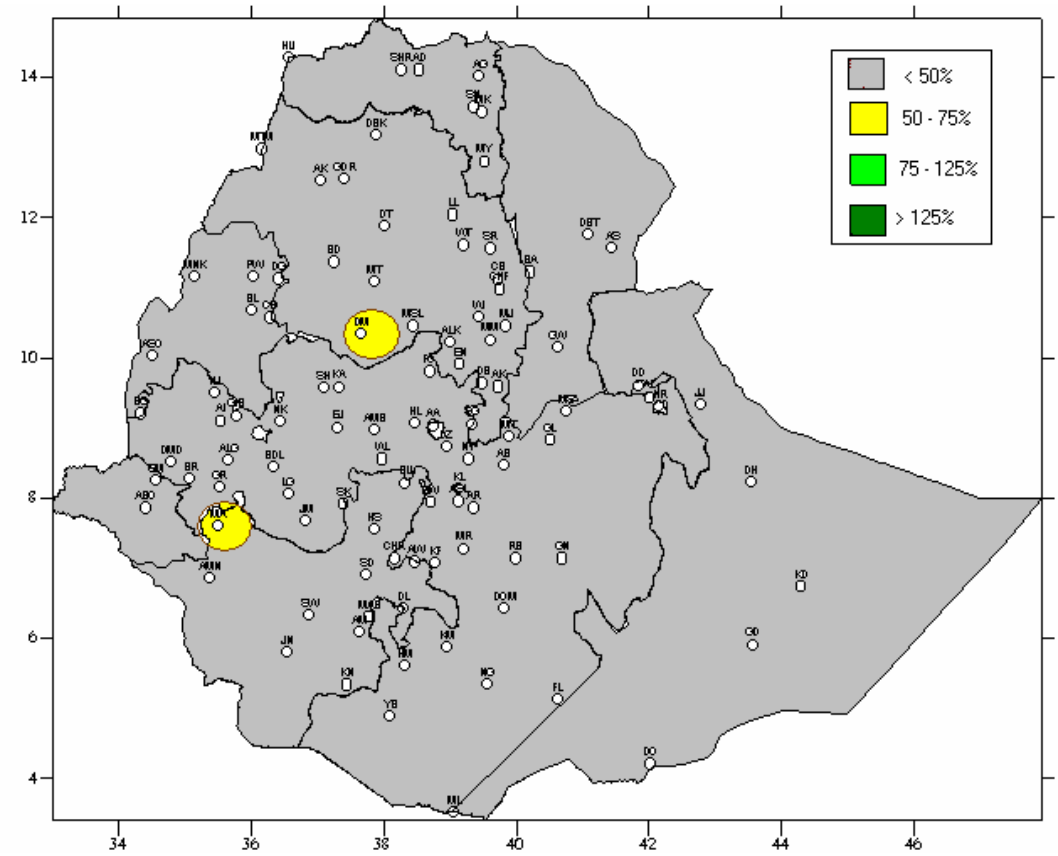


Fig. 2 Percent of normal rainfall distribution (21-30 November, 2008)

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

1.1.1 Rainfall Anomaly (Fig. 2)

Pocket areas of southern Amhara and western tip of SNNPR received below normal rainfall while the rest parts of the country exhibited much below normal rainfall.

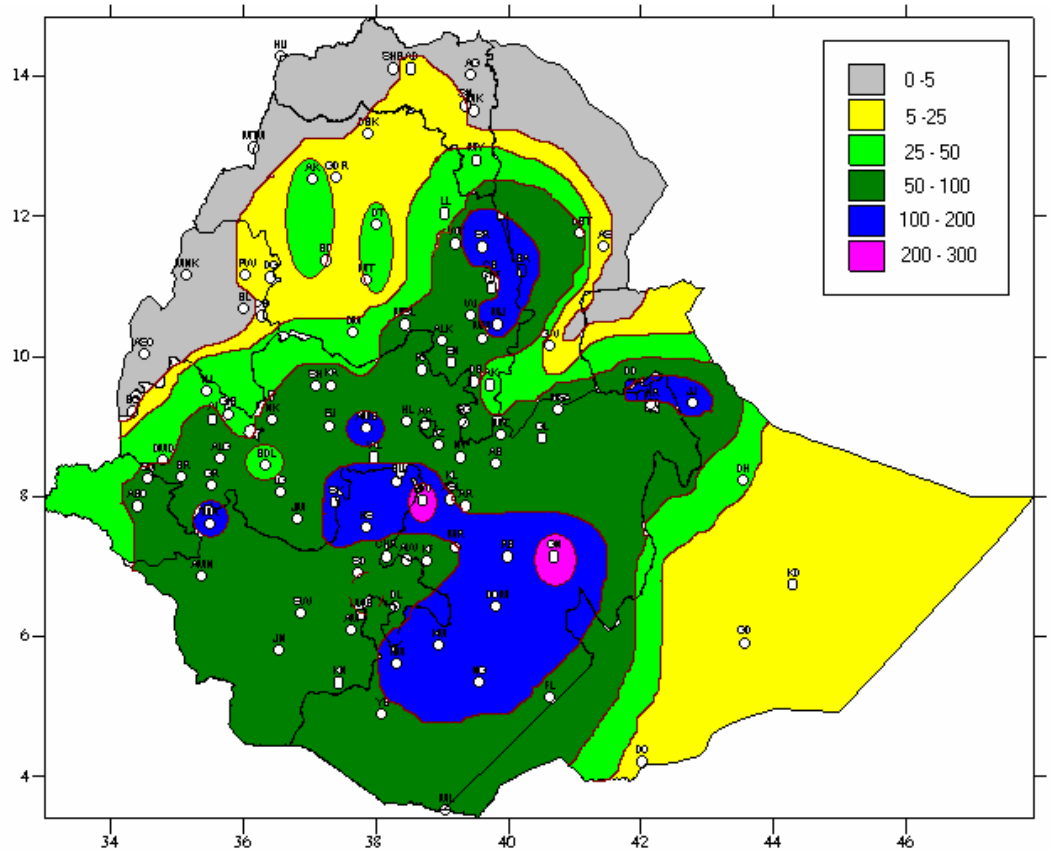


Fig. 3 Rainfall distribution in mm for the month of November 2008

1.2 October 2008

1.2.1 Rainfall distribution (Fig.3)

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

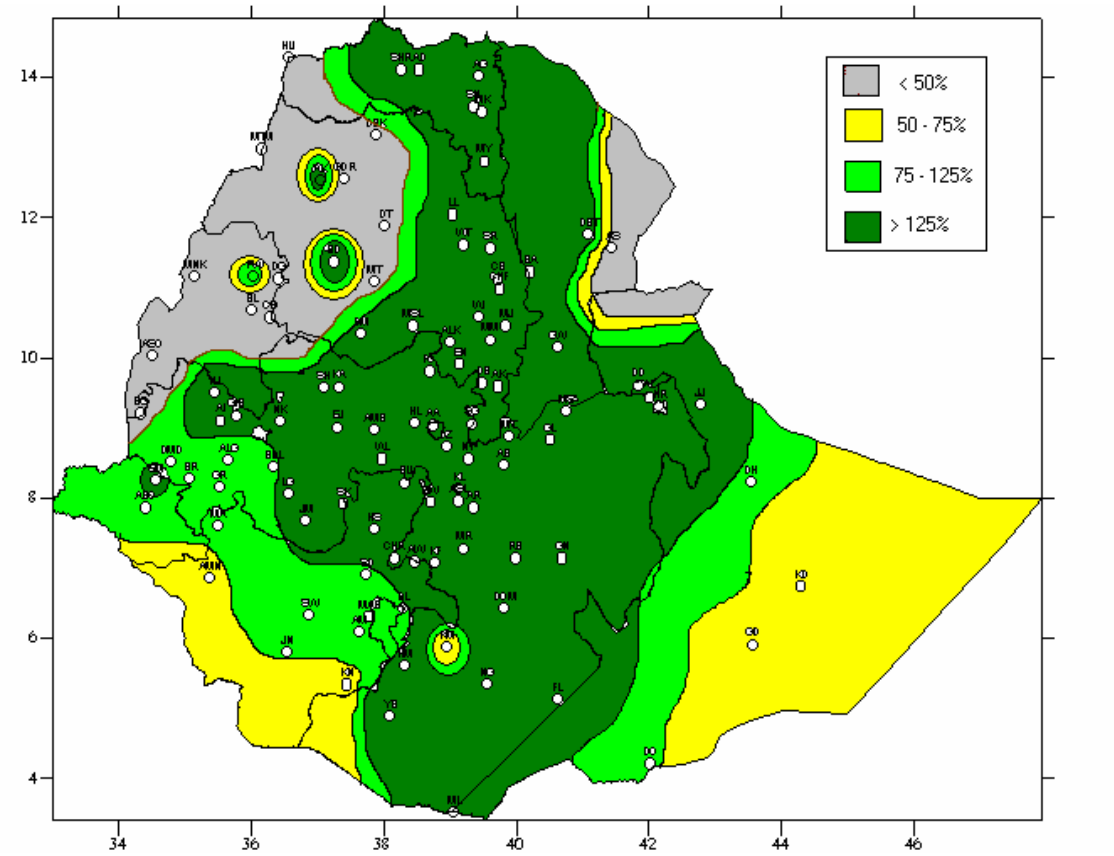


Fig. 4 Percent of Normal Rainfall distribution for the month of November 2008

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)\

Much of Tigray, parts of western Afar, eastern half and pocket areas of western Amhara, much of central ,eastern, southern and western Oromia, much of SNNPR parts of southeastern Benshangul-Gumuz, Gambela and some areas of northern and western Somali exhibited normal to above normal rainfall. While the rest parts of the country received below to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

With regard to extreme maximum Air temperature Gambela, Dubti, Metema, Gewane, Gode, Semera, Humera and Assayta reported extreme maximum temperature as high as 37.5, 37.5, 37.7, 38.2, 38.3, 39.5, 40.5, and 44.0 ^{0} C respectively.

On the other hand, some areas of central, eastern, northeastern and northern highlands recorded extreme minimum temperature below 5^{o} C for 2-5 consecutive days. To mention some of them whose extreme minimum temperature is lowering up below 0^{o} C, Wegel Tena, Alemaya, Debre Brhan and Mehal Meda, recorded extreme minimum temperature -1.5, -1.5, 0.5, -2.5 ^{o} C respectively. This situation might have a negative impact for normal growth and development of plants.

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally during the month of November 2008, unseasonal heavy fall within the range of (30-142.8) mm observed over south western, rift valley and the adjoining areas of south western and southeastern parts of the country .To mention some station which observed above 50 mm of rainfall, Michew, Dolomena, Ginir, Ejaji, Jijiga, HagerMariam, Yabello, Alemya, and Zway reported 58.8, 62.0, 68.2, 69.6, 73.2, 76.8, 80.8, 100.1, and 142.8 mm respectively in one rainy days. As a result, crop damage observed over some areas of the country. According to the report, from central Ginir reported damage on crops which attains full maturity and live stock; Hosanna reported damage on wheat and teff crop, zway reported on trees and different crops due to the aformentioned unseasonal rainfall. However, starting from the second dekad of the month the Beg's dry, sunny and windy weather condition observed over most parts of the country. In relation with this dry weather condition no rainfall exhibited over most parts of the country. This situation creates favorable condition for meher agricultural activities like harvest and post harvest activities. Besides, the observed little rainfall over pocket areas of southwestern and southern parts of the country favored early sown crops and which were at different pehnological stage and for the availability of pasture and drinking water for pastoral and agropsotroal areas of some areas of southern lowlands of the country. Moreover, due to the increase in cloud coverage over some areas of the county, the coldness of mid night and early morning temperature was not strong during this month.

2.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING MONTH

The Bega's dry, sunny and windy weather condition will dominate over most parts of the country due to the intensification of weather system which is responsible for the Bega's dry weather condition. Therefore, this situation will have a significant contribution for harvest and post harvest activities of meher crops. Thus farmer should have harvested-matured crops on time. Besides, after harvesting, the harvested crops must be placed in proper way in order to minimize post harvest losses. Besides, little rainfall is expected over some pocket areas of central, eastern, southwestern and southern parts of the country. This condition will have a positive impact for crops which are at different phenological stage and which are not attains maturity. moreover, the aformentioned little rainfall will have positive contribution for the availability of pasture and drinking water for pastoral and agropastoral areas of southern lowland of the country

Table1. Crop Phonological report for 21-30 November 2008

Station name	Region	Zone	Woreda	Three Major Crops of given area			Growth Phases		
				1	2	3	1	2	3
A/Robe	Oromia			Teff	Wheat	-	R	Er	-
Aykel	Amhara			Barely	Teff	-	H	Fl	-
chagni				Maize	Millet	Nug	Fr	Fl	Gr
Dollo Mena				Maize	Seasame	-	Ta	R	-
Fich	Oromia	Semen Shao	Girarjarso	Teff	Wheat	Beans	H	Wr	R
						Teff	H	H	Fl
Gelemso	Oromia					Teff	-	-	Fl
Kachisie	Oromia	Mirab Shoa	Gend beret	Teff	-	-	Ri	-	-
Mel. Meda	Amahara	Semen Shoa	Gira mider	Wheat	Barely	Beans	Fl	-	-
Nedjo	Oromia	Mb wellega	Nedjo	Maize	Sorghum	Millet	-	-	H
Pawe	Benishagu	Metekal	Pawe Liyu	-	Sorghum	-	-	R	-
M/Selame	Amhara			-	Teff	-	-	R	-
Shambu	Oromia	HoroWolleg	Horo	Teff	Millet	Peas	Fl	Ri	H
Sirinka	Amhara	Semen Wello	Habru	Teff	Maize	Millet	H	-	-
WegelTena	Amhara	Semen Woll	Delenta	Wheat	Barely	Beans	Fl		
Woliso	Oromia	DM.Shoa	Woliso	Maize	Nug	Teff	H	H	Fl

Key:

P/S= Plant/Sow
Em= Emerge
Tl= Third leaf
Fl= Fifth leaf
Sl= Seventh leaf
Yr= Yellow ripe
Nl= Ninth leaf
El= Elongation
Ta = Tassel
Ti= Tiller
Sh= Shoot
Bs= Berry soft
Bh= Berry hard

Fl= Flower
Ph= Pin heading
Ea= Earing
He= Heading
Bu= Budding R =Ripeness
Cr= Consumer ripeness
Gr= Green ripeness

Wr= Wax ripeness
Ygr= yellow green ripeness
Lgr = light green ripeness
Dr= Dark ripeness
Fr= Full ripeness
H = Harvested
- = Data not available

Table1. Climatic and Agro-Climatic elements of different stations for the month of November 2008

No.	Stations	Region	A/ rainfall	Normal	%of Normal	ETo mm/day	ETo/month	Moisture
1	Adigrat	TIGRAIY	*	*	*	*	*	*
2	Adwa		14.3	8.0	179	3.2	97.4	D
3	Humera		*	*	*	*	*	*
4	Maichew		39.8	25.1	159	2.6	77.4	M
5	Mekele		5.0	6.0	83	4.5	136.4	VD
6	Senkata		47.5	17.1	278	3.4	102.2	M
7	Shire		4.0	1.8	222	3.8	113.4	VD
8	Assayta	AFAR	1.2	3.6	33	5.8	174.3	VD
1	Dubti		49.8	10.4	479	4.6	136.5	MD
2	A.Ketema	AMHARA	47.2	10.3	458	2.3	70.2	M
3	Aykel		33.8	18.9	179	*	*	*
4	B.Dar		33.1	21.0	158	3.5	106.4	MD
1	Bati		119.2	16.6	718	3.6	108.8	H
2	Bullen		0.0	18.6	0	3.0	89.6	VD
3	Combolcha		175.6	19.7	891	3.6	107.1	H
4	Chefa		51.7	33.1	156	3.5	103.8	M
5	D.Birhan		54.6	6.8	803	3.3	99.7	M
6	D.Markos		39.1	23.7	165	3.2	95.7	MD
7	Dangla		6.8	31.8	21	3.1	94.1	D
8	Debark		*	*	*	*	*	*
9	Enwary		0.0	7.2	0	*	*	*
10	Gonder		17.9	24.3	74	3.9	116.7	D
11	M.Meda		71.8	5.3	1355	2.9	87.5	M
12	Majete		113.4	27.5	412	*	*	*
13	Metema		0.0	2.6	0	3.3	100.4	VD
14	Mota		0.9	34.3	3	3.8	112.8	VD
15	Lalibela		38.8	13.3	292	3.6	106.6	MD
16	S.Gebeya		*	*	*	*	*	*
17	Sirinka		132.7	26.8	495	2.9	85.8	H
18	Wegletena		78.1	13.0	601	2.8	83.5	M
19	Wereilu		74.8	9.1	822	2.1	62.1	H
20	Abomsa	OROMIA	49.1	21.0	234	3.1	93.3	M
21	Aira		*	*	*	*	*	*
22	Alemaya		120.4	19.1		2.3	70.0	H
23	Alge		87.3	37.1	235	*	*	*
24	Ambo		101.8	5.3	1921	3.9	117.8	M
1	Arjo		167.2	51.7	323	3.2	94.9	H
2	Arsi Robe		88.1	22.0	400	3.2	96.9	M
3	Bedelle		27.6	26.8	103	3.4	101.2	MD
4	Begi		4.3	47.2	9	*	*	*
5	Chira		83.7	73.4	114	*	*	*
6	D.dollo		0.0	36.5	0	*	*	*
7	D.Mena		180.5	52.5	344	3.8	113.9	H
8	D.Zeit		43.7	5.0	874	3.8	112.9	MD
9	Ejaji		89.5	23.1	387	2.9	87.2	H
10	Fiche		52.6	8.4	626	2.8	85.4	M
11	Gimbi		27.4	19.1	143	*	*	*
12	Ginri		202.6	60.4	335	2.5	73.8	H
13	Gore		70.8	93.9	75	3.2	96.9	M
14	H.Mariam		140.9	35.9	392	3.0	91.4	H
15	Jimma		92.9	58.6	159	2.8	84.1	H
16	K.mengist		21.2	69.5	31	3.1	94.1	D
17	Kachise		74.0	32.0	231	3.0	89.6	M

18	Koffele		77.4	44.2	175	3.2	97.3	M
19	Kulumsa		65.9	12.8	515	3.6	107.5	M
20	Lumugenet		56.9	40.6	140	3.2	96.0	M
21	Meiso		96.2	20.6	467	2.5	76.1	H
22	Moyale		*	*	*	*	*	*
23	Nazreth		66.0	7.8	846	4.0	120.5	M
24	Negele		99.7	48.5	206	4.8	144.0	M
25	Nedjo		44.0	23.4	188	3.1	91.8	M
26	Nekemte		82.0	52.5	156	3.2	95.4	M
27	Robe(Blae)		106.3	50.2	212	3.7	111.4	M
28	Sambu		92.8	23.9	388	*	*	*
29	Wolliso		88.3	6.6	1338	*	*	*
30	Ziway		224.2	4.0	5605	3.7	112.2	H
32	Gewane	SOMALI	0.0	6.2	0	4.0	120.7	VD
33	Gode		19.0	29.2	65	5.1	153.3	D
34	Jijiga		108.9	18.7	582	3.6	107.7	H
35	A.Minch	SNNPR	67.7	61.7	110	3.8	112.9	M
36	Awasssa		96.5	40.9	236	3.7	112.1	M
37	Bilate		123.6	27.5	449	*	*	*
38	Hosaina		116.5	17.3	673	3.1	94.3	H
39	Jinka		76.6	104.2	74	2.9	87.8	M
40	Konso		27.9	48.3	58	4.1	122.0	MD
41	M.Abaya		27.9	48.3	58	4.1	122.0	MD
42	Sawla		63.5	72.9	87	3.5	104.2	M
1	Assosa	B/GUMUZ	0.0	21.0	0	3.9	118.3	VD
2	Chagni		4.5	27.9	16	3.5	105.1	VD
1	Mankush		*	*	*	*	*	*
2	Pawe		13.0	12.8	102	4.2	126.7	D
3	Gambela	GAMBELA	55.2	35.5	155	3.7	111.1	M
4	A.A,Obs	A.A	77.9	8.4	927	3.1	92.0	M
5	A.A Bole		53.1	6.3	843	4.1	123.4	MD
6	Dire Dawa	D.DAWA	27.6	15.6	177	3.4	100.9	MD
7	Harar	Harai	73.3	11.6	632	3.1	93.6	M

Legend

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

Explanatory Note

ETo: Reference Evapo-transpiration (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.

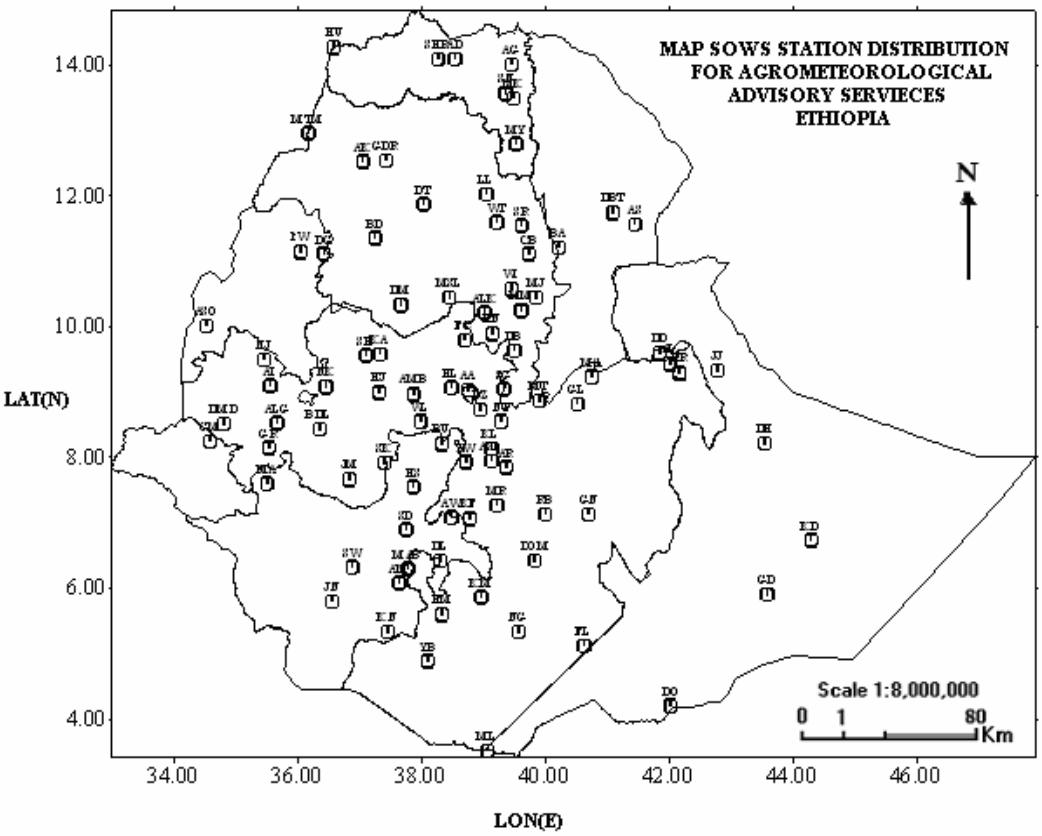
DEKAD: - First or second ten days or the remaining days of a month.

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