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
እ.ኤ.አ ማርች 2009

እ.ኤ.አ በማርች 2009 በመጀመሪያው አስር ቀናት በአብዛኛው የሀገሪቱ ክፍሎች ደረቅና ፀሐያማ ሁኔታ ከማየቱም ባሻገር ጥቂትና ምንም ደመና ያልተፈጠረበት ሁኔታ ነበር የተስተዋለው። ይህም ሁኔታ ለቋሚ ተክሎች የአርጥበት እጥረት ከማስከተሉም በተጨማሪ በመዘራት ላይ ላሉና በቡቃያ ደረጃ ላይ ላሉ የበልግ ሰብሎች ላይ አሉታዊ ተፅዕኖ እንደሚያሳድር እሙን ነው። በሌላም በኩል በደቡብ ምዕራብ፣ በምዕራብ በመካከለኛውና በሰሜን ምስራቅ የሀገሪቱ ክፍሎች ከመካከለኛ እስከ አነስተኛ መጠን ያለው ዝናብ አግኝተዋል። ይህም ሁኔታ ለበልግ ማሳ ዝግጅት ለቋሚ ሰብሎች በቡቃያ ደረጃ ላይ ላሉ የበልግ ሰብሎች እንዲሁም ለግጦሽ ሳርና ለመጠጥ ውሃ ፍላጎት በጎ ጎን እንደሚኖረው እሙን ነው።

እ.ኤ.አ በማርች 2009 በሁለተኛው አስር ቀናት በአብዛኛው የሀገሪቱ ክፍሎች ደረቅ፣ ፀሐያማና ሞቃት ሁኔታ ተስተውሏል። ይህም ሁኔታ ለቋሚ ተክሎች የውሃ እጥረት ከማስተከተሉም በተጨማሪ በመዘራትና በቡቃያ ደረጃ ላይ ላሉ ሰብሎች አሉታዊ ተፅዕኖ ነበረው። በሌላም በኩል በመጨረሻዎቹ ሁለተኛ አስር ቀናት እርጥበት አዘል አየር በተለይ በምዕራብ ኦሮሚያ፣ ጋምቤላ፣ በመካከለኛው ምስራቅና በደቡብ አማራ፣ በምስራቅ ቤንሻንጉል ጉሙዝ ጥቂት ቦታዎች በመካከለኛውና ምስራቅ ትግራይ እንዲሁም በምስራቅ ኦሮሚያና በሶማሌ ከፍተኛ ቦታዎች ከመደበኛ ጋር የተቀራረበ ዝናብ አግኝተዋል። ይህም ሁኔታ ለበልግ እርሻ ማሳ ዝግጅትና ለቋሚ ተክሎችና ቡቃያ ደረጃ ላይ ለሚገኙ ሰብሎች እንዲሁም ለመጠጥ ውሃና ለግጦሽ ጥሩ ጎን ነበረው።

እ.ኤ.አ በማርች 2009 በሶስተኛው አስር ቀናት እስከ አስሩ ቀን አጋማሽ በምዕራብና በደቡብ ምዕራብ ተወስኖ የነበረው የዝናብ ሁኔታ የበልግ ተጠቃሚ አካባቢዎችን ያዳረሰ ነበር ባጠቃላይ በመካከለኛውና ምስራቅ ትግራይ አብዛኛው አማራ፣ አብዛኛው ኦሮሚያ፣ ጋምቤላና የደቡብ ብሔር ብሔረሰቦች ህዝቦች ክልል፣ ድሬዳዋና ሰሜን ሱማሌ እንዲሁም አዲስ አበባ ዝናብ አግኝተዋል። ይህም ወደ በልግ አብቃይ አካባቢ እየተስፋፋ ያለው ዝናብ የበልግ እርሻ እንቅስቃሴ ቀድመው ለጀመሩና በቡቃያና በመብቀል ደረጃ ላይ ላሉት አዝርዕቶች በጎ ጎን ሲኖረው እንዲሁም ለቋሚ ሰብሎች (ቡና ለመሳሰሉት) እና ለረጅም ጊዜ ሰብሎች የማሣ ዝግጅት ጠቀሜታው የጎላ እንደነበር ይታመናል። በተጨማሪም የተገኘው ዝናብ ለግጦሽና ለመጠጥ ውሃ አቅርቦት አሉታዊ ተፅዕኖ ነበረው።

ባጠቃላይ እ.ኤ.አ በማርች 2009 በተለይ በወረ በመጀመሪያው አጋማሽ በአብዛኞቹ በልግ አብቃይ አካባቢዎች ደረቅና ፀሐያማ የአየር ሁኔታ ነበር የተዘወተረው በመሆኑም በተለይ ቀደም ብለው የዘር ጊዜያቸውን

ባደረጉት አካባቢዎች በአዝርዕት ላይ የውሃ እጥረት ያስከተለ ነበር። ይሁንና ከወሩ ሁለተኛ አጋማሽ ጀምሮ በመጠጥም ሆነ በስርጭት በተለይ በደቡብ ምዕራብ እና በምዕራብ ሰሜን ምስራቅ እና በምስራቅ የሀገሪቱ ክፍሎች እየታየ የመጣው መደበኛና ከመደበኛ በላይ ዝናብ በተለያየ የአድገት ደረጃ ላይ ላሉ የበልግ ሰብሎች እንዲሁም ለቋሚ ሰብሎችና በሃገሪቱ ዝቅተኛ ቦታዎች ለሚገኙ ለአርብቶ አደሩና ለከፊል አርብቶ አደሩ ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት በጎ ጎን እንደነበረው ይታመናል። በተጨማሪም በሃገሪቱ ዝቅተኛ ቦታዎች በተለይም ሰሜን ምስራቅ፣ የደቡብ ምስራቅ ዝቅተኛ ቦታዎች የተገኘው ከፍተኛ ሙቀት የአካባቢውን የትነት መጠን እንደሚጨምረው ይታመናል።

SUMMARY

MARCH 2009

During the first dekad of March 2009 in most parts of the country there is little or no cloud coverage, as a result dry, sunny and hot weather condition were prevailed, the satiation might have a water stress impact on perennial crops as well as crops that are sown and found at early vegetative stages. On the other hand, southwestern, western, central and northeastern portions of the country received little to moderate rains. The condition might have favored Belg land preparation, perennial crops, and crops at early vegetative stages as well as availability of pasture and water.

During the second dekad of March 2009, dry, sunny and hot weather condition were prevailed in most parts of the country, this satiation might have a water stress impact on perennial crops as well as crops that are sown and found at early vegetative stages. On the other hand, on the last days of the dekad moisture carrying meteorological phenomena which inter into the country produced rainfall on western Oromiya Gambella, Central, eastern and southern Amhara, some places of eastern Benshangul- Gumuz, and eastern Tigray and on the high lands of eastern Oromiya and Somalia would receive better distribution. This condition favored for Belg land preparation and agricultural activities, perennial crops, and crops at early vegetative stages as well as availability of drinking water and pasture.

During the third dekad of March 2009, the rainfall activities extended over most Belg growing areas of central and eastern Tigray,much parts of Amhara, much of Oromia, Gambela, SNNPR, Dire Dawa and northern Somali. The situation might have favored over Belg growing areas Belg crops that are found at early vegetative stage, perennial crops and land preparation and sowing of long cycle crops. Moreover the observed rainfall might have a significant contribution for the development of pasture and availability of drinking water over pastoral and agro pastoral areas.

Generally, during the month of March 2008, sunny and dry weather condition has been observed during the first half of the month, the situation might have negative impact on areas where Belg agricultural activity starts earlier. During the second half of march the seasonal rainfall activities intensified in terms of distribution and amount due to the intensification of rain bearing system, particularly south western, western, north eastern and eastern parts of the country where received normal to above normal rainfall. Besides the widely observed distributed rainfall situation might have positive contribution on the development of Belg crops which were at different growing stages, perennial crops and availability of pasture and drinking water over pastoral and agro pastoral areas of the country. On the other hand, the observed extreme maximum temperature over lowland parts of the country particularly over northwestern, southeastern and northeastern lowland parts of the country might have increased the rate evapo-transpiration.

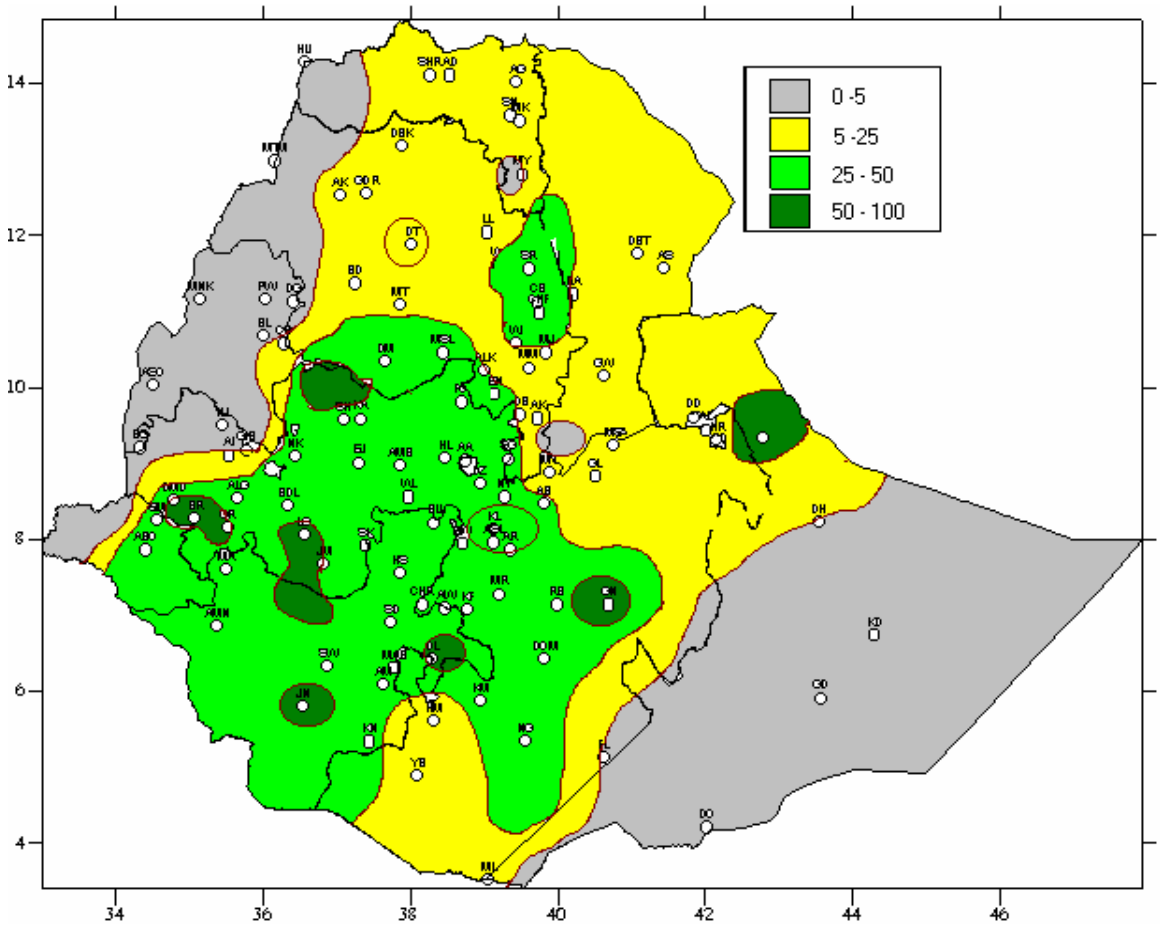


Fig 1. Rainfall distribution in mm (21 – 31 March, 2009)

1. WEATHER ASSESSMENT

1.1 (21- 31 March, 2009)

1.1.1 Rainfall amount (Fig.1)

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

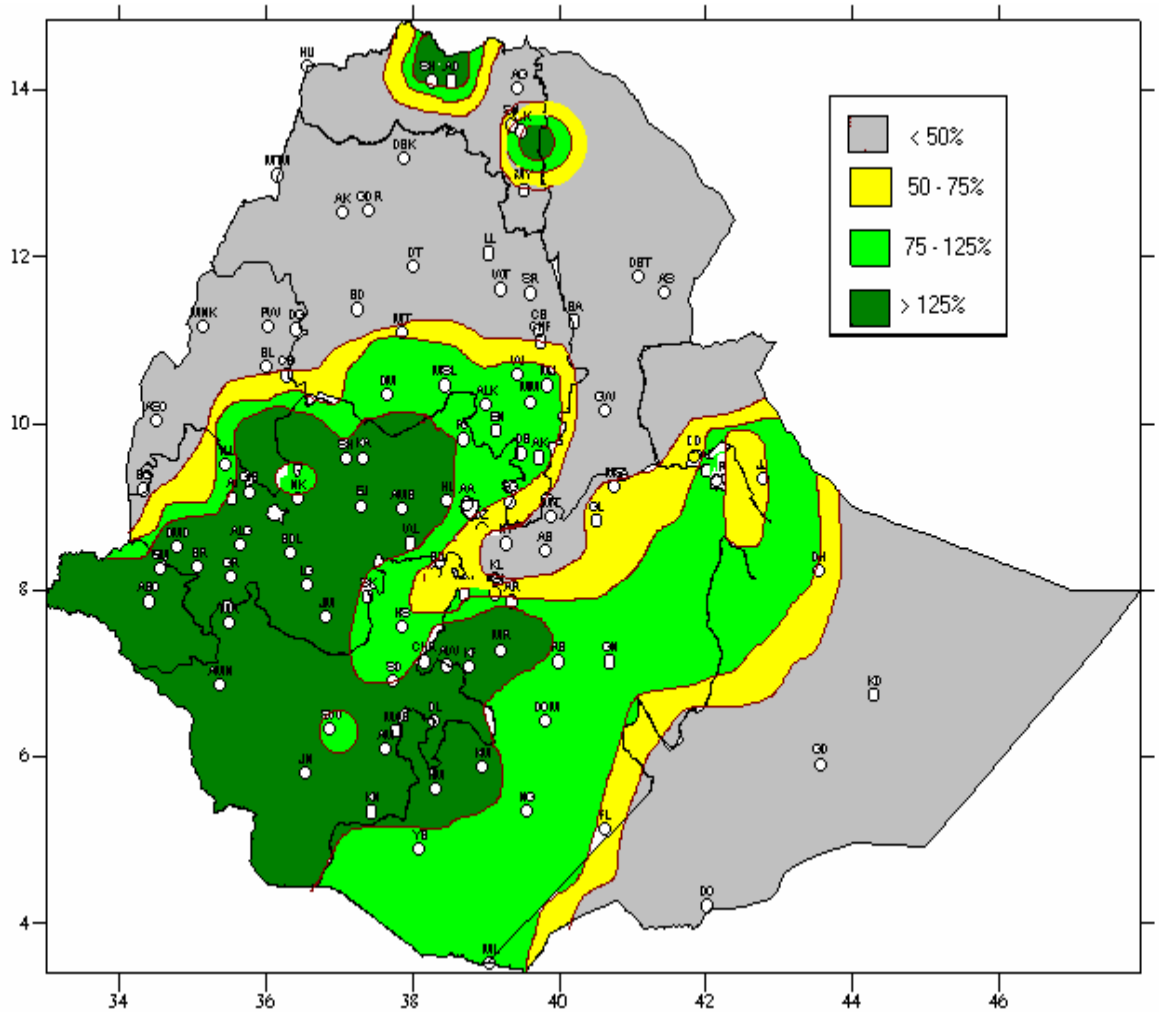


Fig. 2 Percent of normal rainfall distribution (21-31 March, 2009)

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 Afar, and Benshangul-Gumuz, northern half of Amhara, parts of eastern Oromia, southern, southeastern and northern Somali and western and eastern Tigray received below normal to much below normal rainfall. The rest parts of the country exhibited normal to above normal rainfall.

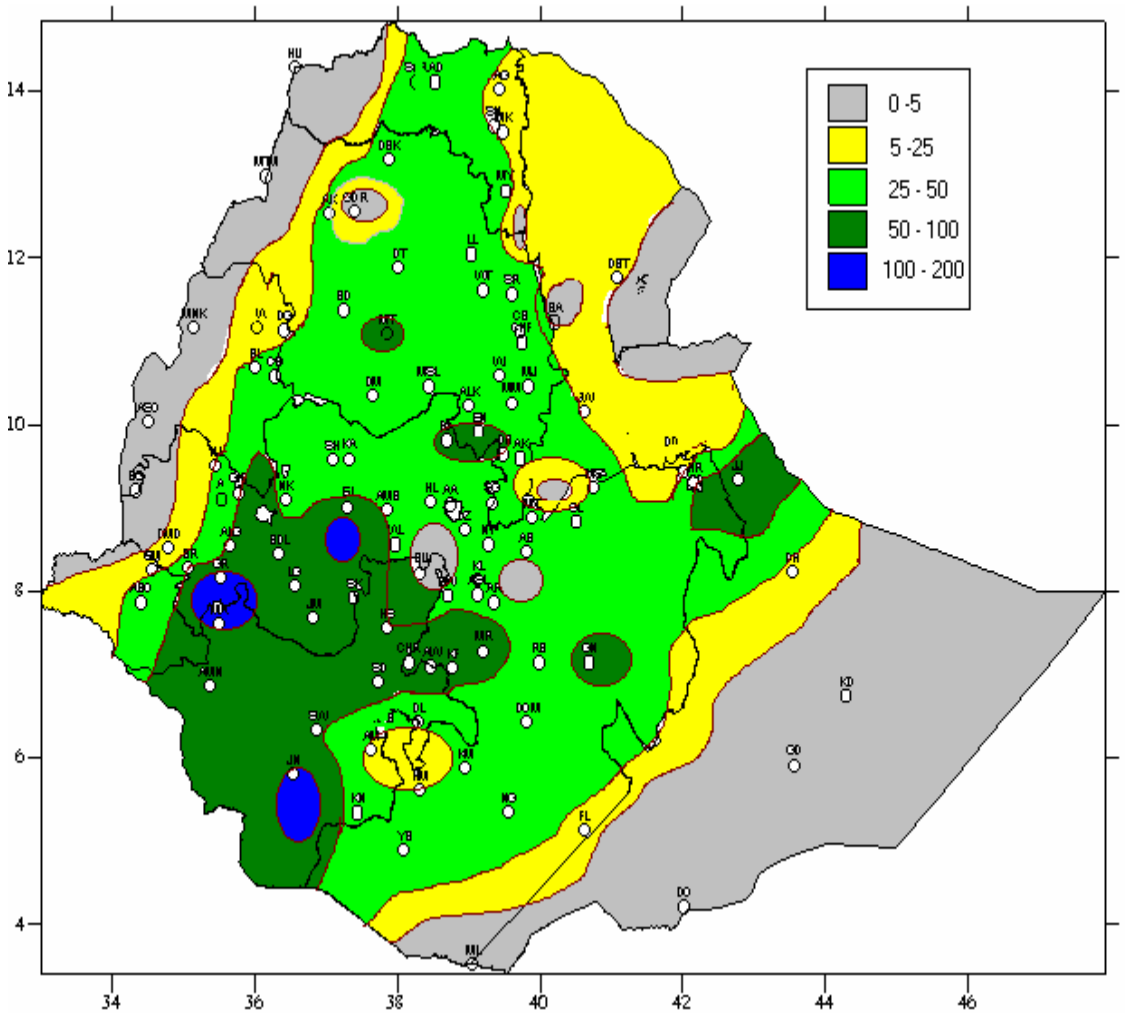


Fig. 3 Rainfall distribution in mm for the month of March 2009

1.2 March, 2009

1.2.1 Rainfall distribution (Fig.3)

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

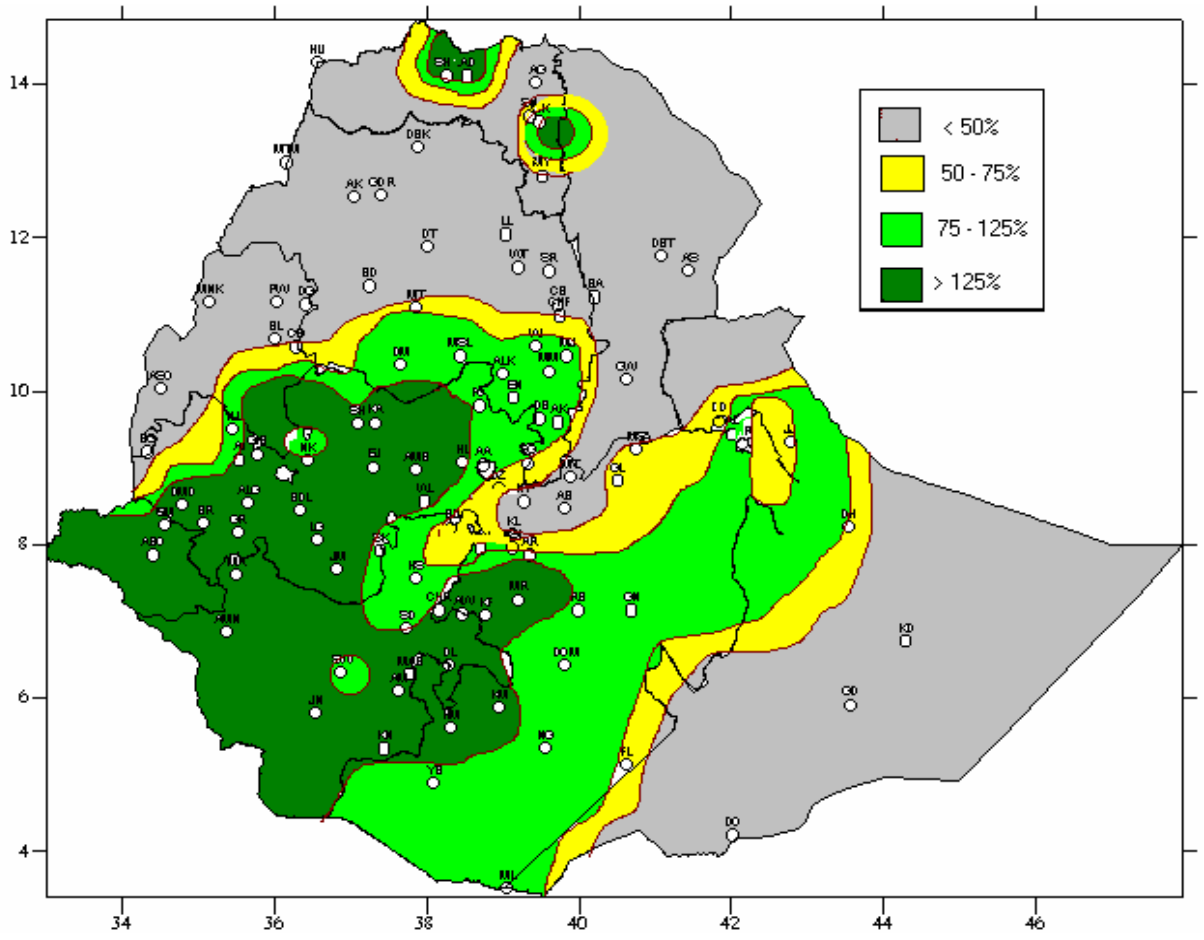


Fig. 4 Percent of Normal Rainfall distribution for the month of March, 2009

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)

Gambela, most of Oromia, western half of SNNPR, southern Amhara, parts of southern and northern Tigray, and northern Somali received normal to above normal rainfall. The rest parts of the country experienced below normal to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

Some stations recorded extreme Maximum temperature above 35 ^{o}C for 3-11 consecutive days. Arbaminch, Blate, Dire Dawa, Maytsemri, Mille, Methara, Dubti, Pawe, Mankush, Gambella, Metema, Humera, Cheffa, Elidar, Dollo Mena, Laiber, Meiso, Semera and Shewarobit recorded extreme maximum temperature as high as 36.9, 37.0, 37.8, 38.6, 41.0, 40.0, 41.5, 40.0, 42.4, 43.5, 43.0, 44.5, 38.5, 40.5, 35.5, 35.0, 36.3, 41.0, and 37.3 respectively. The condition might have affected the normal situation of crops as well as living livestock over the aforementioned areas.

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally, during the month of March 2008, sunny and dry weather condition has been observed during the first half of the month, the situation might have negative impact on areas where Belg agricultural activity starts earlier. During the second half of march the seasonal rainfall activities intensified in terms of distribution and amount due to the intensification of rain bearing system, particularly south western, western, north eastern and eastern parts of the country where received normal to above normal rainfall. Besides the widely observed distributed rainfall situation might have positive contribution on the development of Belg crops which were at different growing stages, perennial crops and availability of pasture and drinking water over pastoral and agro pastoral areas of the country. On the other hand, the observed extreme maximum temperature over lowland parts of the country particularly over northwestern, southeastern and northeastern lowland parts of the country might have increased the rate evapo-transpiration.

2.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

Under normal circumstance, April is the month when Belg rains covers most Belg growing areas of the country. The expected normal rainfall condition during the month of April will have positive impact on Belg agricultural activities as a result will favor the sowing of long cycle crops over western parts of the country, perennial crops, and availability of pasture and drinking water over pastoral and agro-pastoral areas, especially over southern portion of the country.

Moreover, the expected near normal rainfall over Bale, Borena, Guji, Gedeo zone of SNNPR, Arsi, Harerge, Harari, SNNPR, southern and Eastern Tigray, will have positive impact on Belg agricultural activities, development of pasture and availability of water.

Table 1. Climatic and Agro-Climatic elements of different stations for the month of March 2009

Stations	Region	Amount of rainfall	Normal	Percent of Normal	ETo mm/day	Monthly ETo	Moisture status
Adigrat							
Mekele		24.8	24.6	100.8	185.1	6.0	D
Michew	**TIGRAI**	8.7	55.5	15.7	121.5	3.9	D
Senkata		20.5	69.3	29.6	157.5	5.1	D
Shire		24.8	1.3	1907.7	164.3	5.3	D
Assayta	**AFAR**	24.8	1.3	1907.7	164.3	5.3	D
Dubti		5.4	24.7	21.9	0.0	0.0	
A. Ketema		25.2	55.3	45.6	151.0	4.9	D
Abomsa		49.3	104.9	47.0	165.5	5.3	MD
Aykel		36.7	11.1	330.6	NA	NA	NA
Bahirdar		11.1	8	138.8	155.0	5.0	D
Bati		25.6	67.3	38.0	118.1	3.8	D
Bullen		4.8	13.3	36.1	129.0	4.2	VD
Combolcha		17	75.7	22.5	132.1	4.3	D
D.Birhan		8.2	34.4	23.8	143.8	4.6	D
D.Markos		28.4	46.6	60.9	152.2	4.9	D
D.Tabor		63.2	33	191.5	NA	NA	NA
Gonder		9	17.6	51.1	NA	NA	NA
M.Meda	**AMHARA**	77.8	71.8	108.4	136.7	4.4	M
Majete		56.8	72.4	78.5	138.6	4.5	MD
Metema		0	6.6	0.0	165.2	5.3	VD
Motta		37.9	28	135.4	146.3	4.7	MD
Lalibela		29.8	50.2	59.4	146.9	4.7	D
S. Gebeya		17.9	47.1	38.0	147.6	4.8	D
Sirinka		42.2	97.6	43.2	138.3	4.5	MD
Wereilu		11.8	63.6	18.6	160.3	5.2	D
Arsi Robe		12.8	106.1	12.1	142.0	4.6	D
Alemaya		5.7	69.8	8.2	101.7	3.3	D
Alge		87.2	57	153.0	NA	NA	NA
Ambo		28.7	46.3	62.0	166.5	5.4	D
Arjo		104.8	88.5	118.4	136.1	4.4	M
Bedelle		97.8	76.9	127.2	134.9	4.4	M
Begi		6	41	14.6	NA	NA	NA
Chira		197.9	119.1	166.2	NA	NA	NA
D.Mena		33.4	94.4	35.4	160.9	5.2	D
D.Zeit		4.2	45.8	9.2	174.2	5.6	VD
Fitche		38	62.3	61.0	127.1	4.1	MD
Gelemso		0.8	75	1.1	160.6	5.2	VD
Gimbi	**OROMIYA**	28.4	22.7	125.1	151.6	4.9	D
Gore		96.7	96.1	100.6	133.9	4.3	M
H. Mariam		36.5	74	49.3	124.0	4.0	MD
Jimma		79.8	90.7	88.0	117.2	3.8	M
K.Mengist		18.3	93.7	19.5	126.8	4.1	D
Kachise		105.8	80.6	131.3	135.8	4.4	M
Koffele		76.5	125.3	61.1	129.0	4.2	M
Kulumsa		35.5	86.8	40.9	160.6	5.2	D
Lumugenet		58	85.9	67.5	129.3	4.2	MD
Meisso		29.6	77.7	38.1	168.3	5.4	D
Metehara		11.4	49.4	23.1	187.6	6.1	D
Moyale		22.9	47.3	48.4	208.3	6.7	D
Nazreth		3.1	47.9	6.5	201.8	6.5	VD
Neghele		31.8	59.8	53.2	202.1	6.5	D
Nedjo		2.0	38.5	5.2	134.2	4.3	VD

Nekemte		27.8	57.8	48.1	129.9	4.2	D
Robe(Bale)		31.6	62.4	50.6	146.9	4.7	D
Sekoru		24.4	73.3	33.3	129.9	4.2	D
Woliso		42.8	35.5	120.6	177.3	5.7	D
Jijiga		84.0	47.3	177.6	120.9	3.9	M
Gode	**SOMALI**						
A.Minch		20.7	56.2	36.8	208.3	6.7	D
Awassa		60.3	76.9	78.4	146.3	4.7	MD
Billate		29.2	68.5	42.6	0.0	0.0	
Dilla	**SNNPR**	6.2	105.4	5.9	147.9	4.8	VD
Hosaina		73.4	96.8	75.8	142.3	4.6	M
Jinka		110.7	112.2	98.7	138.6	4.5	M
Konso		61.5	85.5	71.9	182.9	5.9	MD
Masha		156	117.6	132.7	104.8	3.4	H
Sawla		64.6	135	47.9	137.6	4.4	M
Pawe		3.2	6.6	48.5	158.4	5.1	VD
Chagni		18.5	14.8	125.0	142.9	4.6	D
Gambela	**Gambela**	26.4	27.6	95.7	151.3	4.9	D
A.A. Bole.		12.4	69.2	17.9	187.2	6.0	VD
A.A. Obs	**A.A**	28.1	68.2	41.2	137.6	4.4	D
Diredawa	**D.D**	33.3	71.1	46.8	156.9	5.1	D
Harar	**Harai**	69.4	65.2	106.4	143.5	4.6	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 Evapotranspiration (mm)

NA Data not available

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

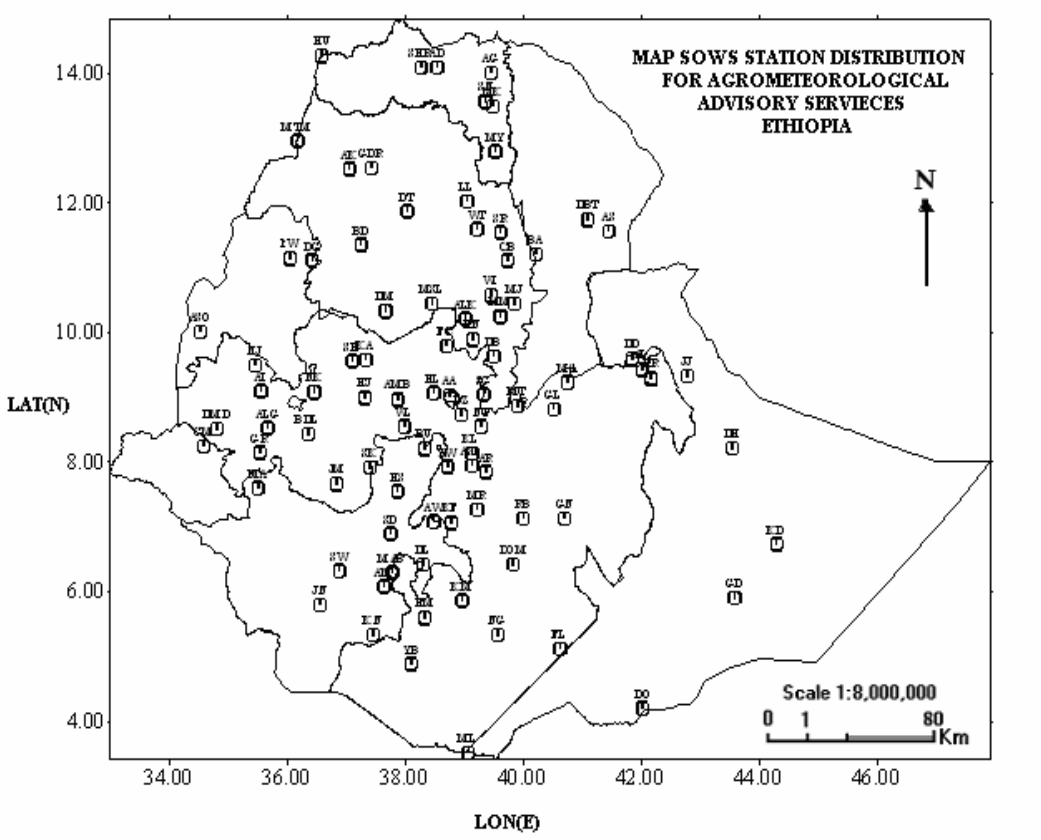
DEKAD: - First or second ten days or the remaining days of a month.

Extreme Temperature: -The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

ITCZ: - Inter-tropical 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		