

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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እ.ኤ.አ 2010

በማርች 2010 የመጀመሪያው አሥር ቀናት ለወቅቱ ዝናብ መፈጠር መንስኤ የሆኑ የሚቲዎሮሎጂ ክስተቶች በአብዛኛው የበልግ ዝናብ ተጠቃሚ የሆኑ የሀገሪቱ አካባቢዎች ላይ የተጠናከረ ገፅታ ነበረው። በአጠቃላይ አብዛኛው አሮሚያ፣ የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል፣ ሶማሌ፣ ሀረሪ፣ ምስራቅና መካከለኛው አማራ፣ ምስራቅና ደቡብ ትግራይ እንዲሁም አፋር ከቀላል እስከ መካከለኛ መጠን ያለው ዝናብ ያገኙ ሲሆን ይህም ሁኔታ በአሁኑ ወቅት እየተካሄደ ባለው የበልግ እርሻ ስራ እንቅስቃሴ ለቋሚ ተክሎች ለአርብቶ አደሩና ከፊል አርብቶ አደሩ ለግጦሽ ሳር ልምላሜና ለመጠጥ ውሃ አቅርቦት አመቺ ሁኔታ እንደነበረው ይታመናል።

በማርች 2010 ሁለተኛው አሥር ቀናት የወቅቱ ዝናብ ተጠቃሚ አካባቢዎች ዝናብ ነበራቸው። በዚህ መሠረት ምስራቅ ትግራይ፣ አማራ፣ አብዛኛው አሮሚያ፣ የደቡብ ብሔር ብሔረሰቦችና ሕዝቦች ክልል መደበኛና ከመደበኛ በላይ የሆነ ዝናብ ነበራቸው። ይህም ሁኔታ በአጠቃላይ ለወቅቱ እርሻ ሥራ እንቅስቃሴ ለግጦሽ ሳርና ለመጠጥ ውሃ አቅርቦት በተለይም ለአርብቶ አደሩና ከፊል አርብቶ አደር አካባቢዎች የላቀ ጠቀሜታ ነበረው። በአንዳንድ አካባቢዎች የነበረው ዝናብ በመጠኑ ከባድ ነበር በመሆኑም በቡለን፣ በሆሳዕና፣ በዝዋይ፣ በአልጌ፣ በበደሌ፣ በደሎመና፣ በኑራኤራ በተዘሩ ሰብሎችና በተለያዩ ዕድገት ደረጃ ላይ በሚገኙ ልዩ ልዩ ሰብሎች እንዲሁም በቤት እንሰሳት ላይ መጠነኛ ጉዳት አድርጏል። ቀሪዎቹ የሀገሪቱ አካባቢዎች ያገኙት ዝናብ ከመደበኛው ያነሰ ቢሆንም ለእርሻው ሥራ እንቅስቃሴ መጠነኛ ጠቀሜታ ነበረው።

በማርች በሦስተኛው አስር ቀናት ከአረብ ባህርና ከሰሜናዊ ህንድ ውቅያኖስ መጠነኛ እርጥበት አዘል አየር ወደ ሃገሪቱ በመጨረሻዎች አስር ቀናት በበለጠ በመጠነከሩና በመግባቱ የበልግ ዝናብ ተጠቃሚ አካባቢዎች መካከለኛው፣ የምሥራቅና የደቡብ አሮሚያ፣ የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል ምሥራቃዊ ክፍል፣ ሐረሪ፣ ሶማሌ፣ ምሥራቅ አማራና አፋር ከቀላል እስከ ከባድ ዝናብ አግኝተዋል። በመሆኑም ይህ በልግ አብቃይ አካባቢዎችን የሸፈነ ዝናብ ቀድመው ተዘርተው በመብቀልና በቡቃያ ደረጃ ላይ ላሉት አዝርዕቶች፣ ለቋሚ ሰብሎች እንዲሁም ለረጅም ጊዜ ሰብሎች ለማሳ ዝግጅት ጠቀሜታ የጎላ ነበር። በተጨማሪም በደቡብ ምስራቅና በሶማሌ አካባቢ ለሚገኙ አርብቶ አደሮች ና ከፊል አርብቶ አደሮች የተገኘው የተስፋፋ ዝናብ ለግጦሽና ለመጠጥ ውሃ አቅርቦት የጎላ ጠቀሜታው ነበረው።

በአጠቃላይ በማርች ወር 2010 ለበልግ ዝናብ መፈጠር መንስኤ የሆነ የአየር ሁኔታ ክስተቶች ምቹ ሆነው በመገኘታቸው አብዛኛው የምሥራቅ ኢጋማሽ የሃገሪቱ አካባቢዎችን የሸፈነና የተስፋፋ ዝናብ አግኝተዋል። ይኸም አብዛኛውን የበልግ ዝናብ ተጠቃሚ አካባቢዎች የሸፈነ እርጥበት የበልግ እርሻ ሥራ እንቅስቃሴን ቀድመው ለጀመሩትም ሆነ ዘግይተው ለዘሩ አካባቢዎች፣ ለቋሚ ተክሎች እንዲሁም በሰሜን ምሥራቅ፣ በደቡብ ምሥራቅና በምስራቅ ለሚገኙ አርብቶ አደሮችና ከፊል አርብቶ አደሮች አካባቢ ጠቀሜታው የጎላ ነበር። በሌላም በኩል በተለይም በአብዛኛው በወሩ የመጀመሪያውና የሦስተኛው አስር ቀናት በስምጥ ሸለቆና በምሥራቅ የሃገሪቱ ክፍሎች ላይ ብዙ ቦታዎችን የሸፈነና ከባድ ዝናብ በአንድ ቀን ከ60-162 በሚ.ሜ. ዝናብ በአንዳንድ ጣቢያዎች ላይ ተመዝግቧል። ምንም እንኳን የተገኘው እርጥበት ለበልግ እርሻ እንቅስቃሴ እንዲሁም በዚህ አካባቢ ለሚገኙ አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለውሃ አቅርቦትና ለግጦሽ ጠቀሜታ ቢኖረውም የተመዘገበው ከፍተኛ ዝናብ በአንዳንድ አካባቢዎች ላይ አሉታዊ ተፅዕኖ ነበረው። ከጣቢያዎቻችን በደረሰን ሪፖርት መሠረት የጣለው ከባድ ዝናብ በመኤሶና በኑራኤራ አካባቢዎች በአዝርዕቶች ላይ የውሃ መተኛትና ጉዳት አስከትሏል።

SUMMARY

MARCH 2010

During the first dekad of March 2010, Belg rain bearing weather system was strengthened over most Belg growing areas of the country. As result, most of Oromia, SNNPR, Somali, Harari, eastern and central Amhara, eastern and southern Tigray and Afar observed light to moderate rainfall. The situation might have positive impact on Belg land preparation and sowing activities, perennial crops and availability of pasture and water over pastoral and agro-pastoral areas of the country.

During the second dekad the of March, 2010 much of Belg rain benefiting areas received rains in line with this, eastern Tigray, Amhara, much of Oromia and SNNPR received normal to above normal rainfall. The situation might have a positive impact generally on Belg agricultural activities; land preparation, sowing, crops at early vegetative stages, improvement of pasture and drinking water over pastoralist and agro pastoralist areas. Moreover, the rainfall activity was useful for land preparation and sowing of long cycle crops and perennial plants. The rest parts of the country received below normal rain, however, might have certain contribution seasonal agricultural activities.

During the third decade of March 2010, the rain producing system was active on Arabian see and Indian Ocean that give moisture to belg benefiting areas of the country. As the result on the end of the decade most of Belg benefiting areas, central eastern and southern Oromia, eastern parts of SNNPR, Harari, much of Somali, eastern Amhara and Afar received normal to above normal rainfall. The situation might have favored belg crops that are found in different phonological stages, water supply of perennial crops, agricultural activities such as land preparation and sowing of long cycle crops, improvement of pasture and availability of water over south eastern Somali pastoral and agro pastoral of the country.

Generally, the rainfall activity during the month of March 2010, covered much of eastern half of the country. The situation might have favored Belg crops that found at emergence and early vegetative stages, the water supply of perennial crops, land preparation and sowing of long cycle crops, improvement of pasture and availability of water over pastoral and agro pastoral areas.

On the other hand, during the first and third decade of the month adjoining areas of rift valley and eastern parts of the country received normal to above normal rainfall. The situation contributed soil moisture to recharge, agricultural activities, perennial crops, crops at different phase of development and availability of pasture and water. On the contrary, the heavy fall at some pocket areas negatively affected Belg crops performances. In line with this, some areas like Meiso and Nura era reported water logging on crop fields.

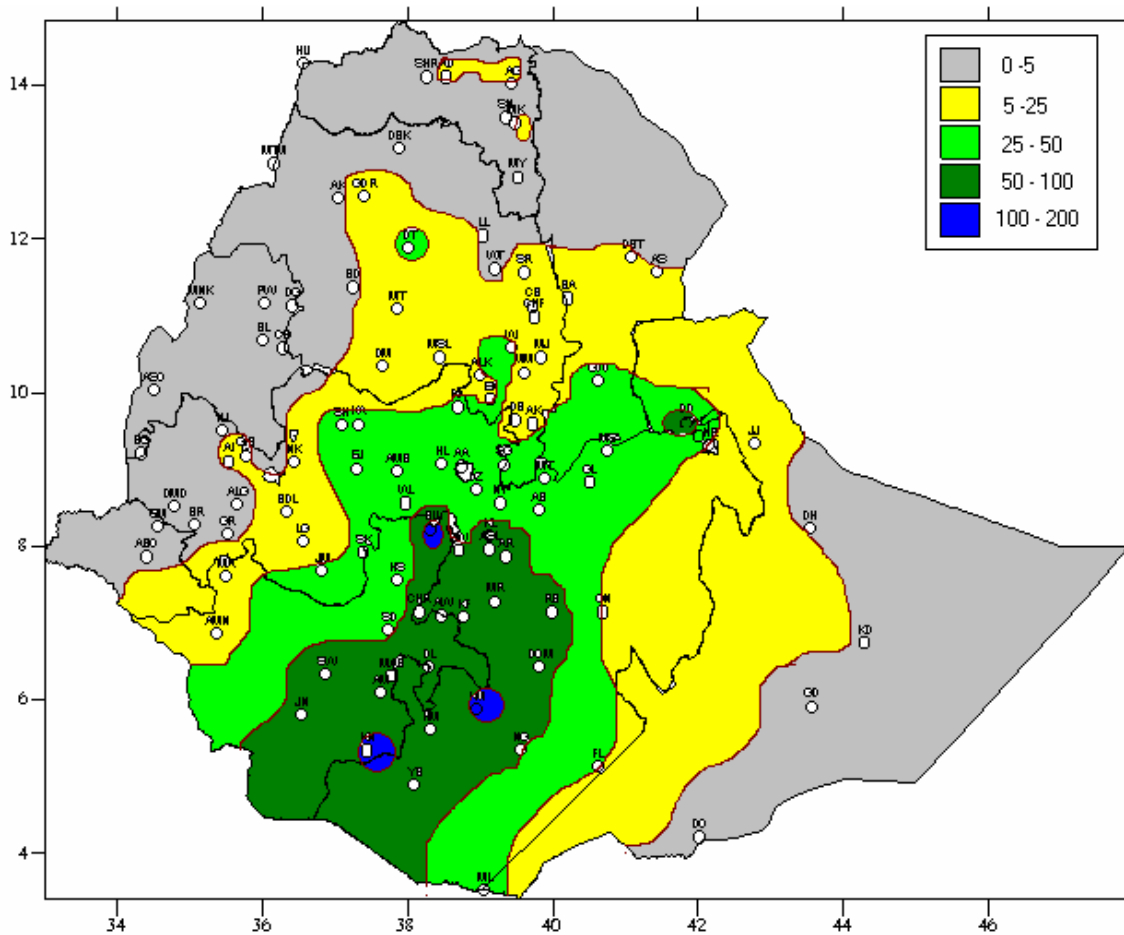


Fig 1. Rainfall distribution in mm (21 – 31 March 2010)

1. WEATHER ASSESSMENT

1.1 (21- 31 March, 2010)

1.1.1 Rainfall amount (Fig.1)

Pocket areas of southern SNNPR and southern Oromia received 100-200 mm rainfall. Eastern half of SNNPR and part of southern and pocket area of eastern Oromia received 50-100 mm rainfall. Parts of western, central, eastern and southern Oromia, western SNNPR, and southern Afar and pocket areas of southern and northern Amhara received 25-50 mm rainfall. Most of Somali, parts of western, eastern and southern Oromia, eastern Gambala, central, southern and eastern Amhara and, souther Somali and pocket area of northern Tigray received 5-25 mm rainfall. The rest parts of the country exhibited little or no rainfall.

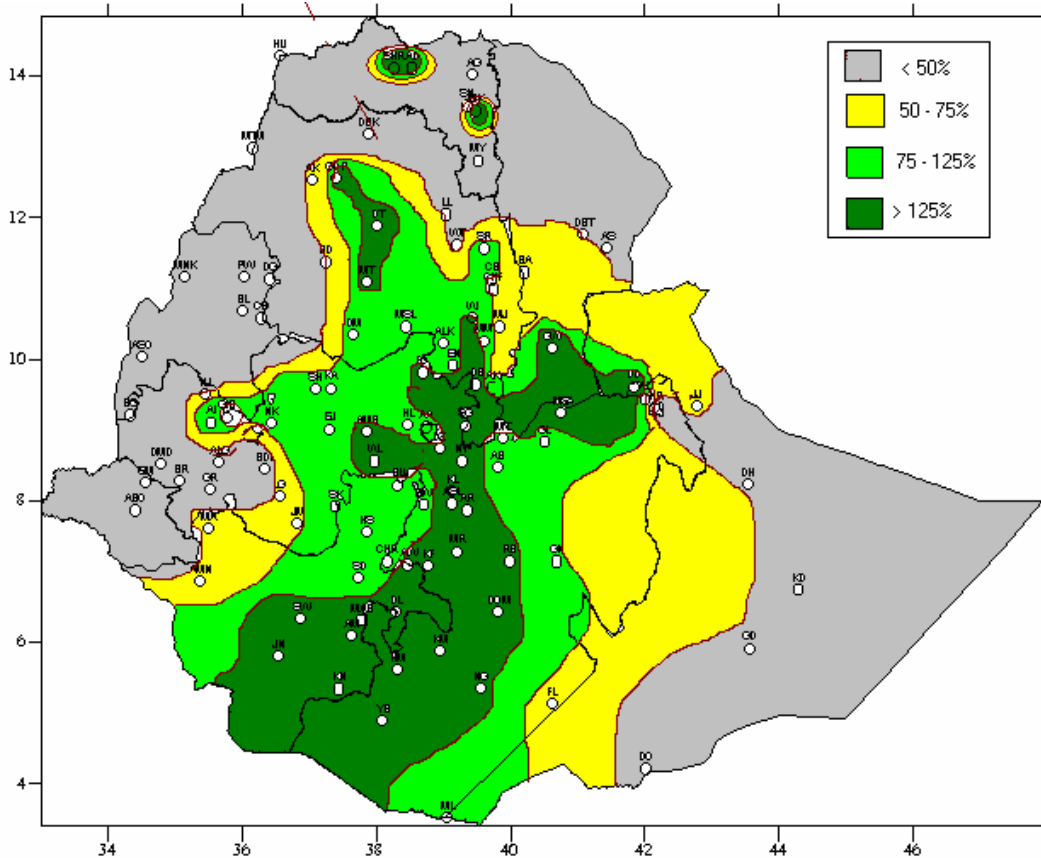


Fig. 2 Percent of normal rainfall distribution (21-31 March 2010)

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 Oromia and SNNPR, parts of central and southern Amhara and southern Afar and pocket areas of southern and northern Tigray received normal to above normal rainfall. The rest parts of the country experienced below normal to much below normal rainfall.

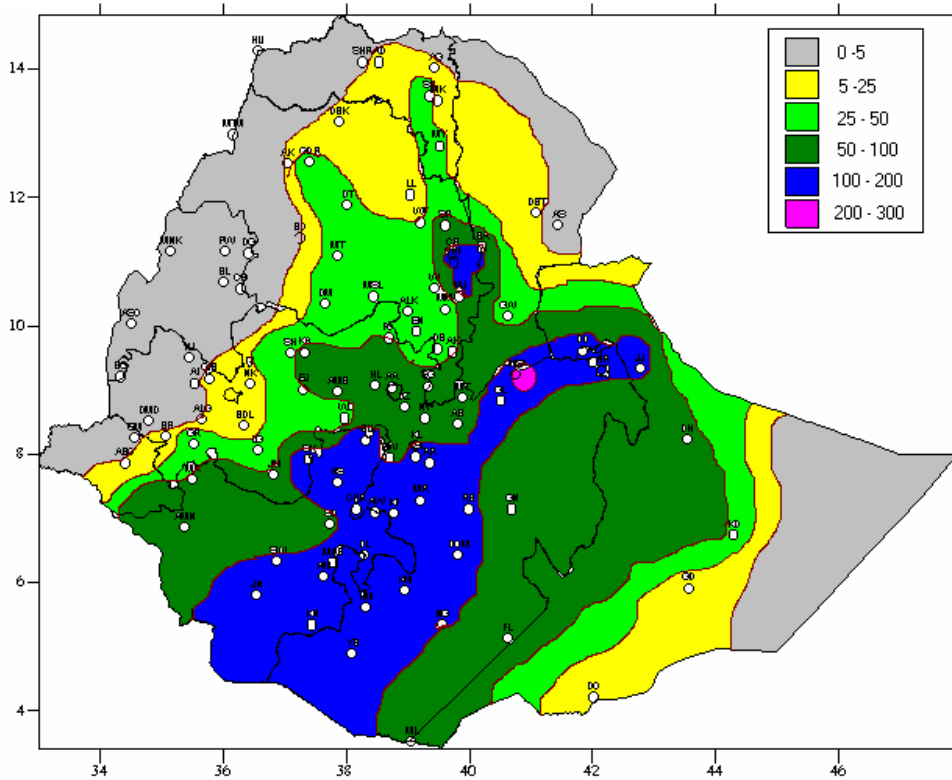


Fig. 3 Rainfall distribution in mm for the month of March 2010

1.2 March, 2010

1.2.1 Rainfall distribution (Fig.3)

Pocket area of eastern Oromia received 200-300 mm rainfall. Eastern half of SNNPR, parts of southern and eastern Oromia, pocket areas of northern Somali and eastern Amhara received 100-200 mm rainfall. Parts of western SNNPR, central, eastern and southern Oromia, northern and southwestern Somali, eastern Amahara, eastern Gambela and southern Afar received 50-100 mm rainfall. Parts of western Oromia, central, eastern and southern Amahara, southern Tigray, southern Afar, eastern Gambela and southeastern Somali received 25-50 mm rainfall. Parts of southern Gambela, western Oromia, western and northern Amhara, southern and eastern Tigray, western Afar and southern Somali received 5-25 mm rainfall. The rest parts of the country exhibited little or no rainfall.

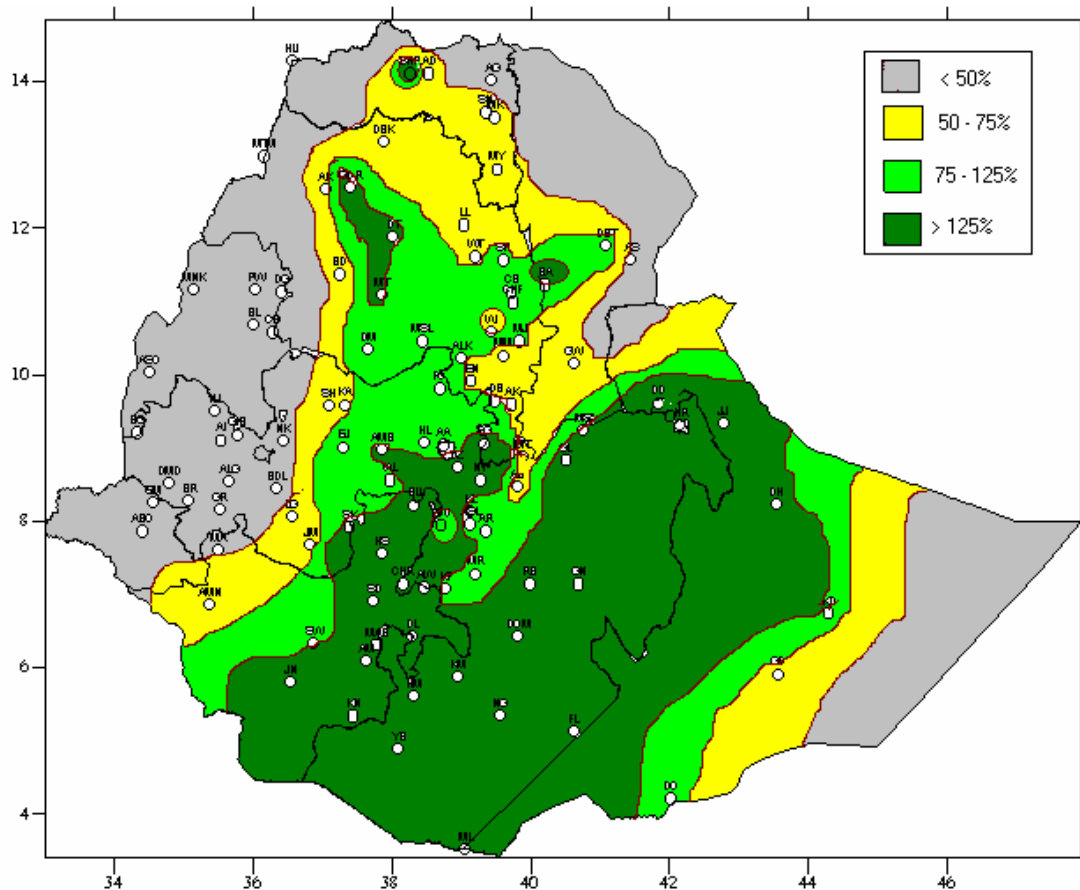


Fig. 4 Percent of Normal Rainfall distribution for the month of March 2010

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 SNNPR and Somali, Parts of central, southern and eastern Oromia, sothern and central Amhara, pocket areas of northern Tigray and southern Afar received normal to above normal rainfall.

1.3 TEMPERATURE ANOMALY

During the month under review, some stations found in the low lands of the country exhibited extreme maximum temperature above 35°C for about 10-31 consecutive days. Among reporting stations Humera, Dubti, Semera, Gambela, Mankush, Sirba Abaya, Pawe and Chagni recorded, 43.5, 39.5, 40.0, 44.5, 42.5, 40.0, 40.0 and 36.0 °C respectively. The condition might have affected the normal performances of various perennial crops and animals. In addition, the situation might have speed up the rate of evapo-transpiration that lead to moisture stress.

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally, the rainfall activity during the month of March 2010, covered much of eastern half of the country. The situation might have favored Belg crops that found at emergence and early vegetative stages, the water supply of perennial crops, land preparation and sowing of long cycle crops, improvement of pasture and availability of water over pastoral and agro pastoral areas.

On the other hand, during the first and third decade of the month adjoining areas of rift valley and eastern parts of the country received normal to above normal rainfall. The situation contributed soil moisture to recharge, agricultural activities, perennial crops, crops at different phase of development and availability of pasture and water. On the contrary, the heavy fall at some pocket areas negatively affected Belg crops performances. In line with this, some areas like Meiso and Nura era reported water logging on crop fields.

2.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

Under normal situation, April is the month when Belg growing areas of the country receive highest rainfall. In the coming month the Belg rain bearing system expected to developed and give rain over most parts of the country. Eastern Amhara, eastern and southern Tigray, most parts of Somali and SNNPR expected to have normal to above normal rainfall. The situation will be conducive for the seasonal agricultural activities, perennial crops, land preparation and sowing of long cycle crops and availability of pasture and water over pastoral and agro pastoral areas of the country.

Table 1. Climatic and Agro-Climatic elements of different stations for the month of March 2010

No.	Stations	Region	A/ rainfall	Mean	%of Normal	Eto mm/day	Eto Monthly	Moisture Moisture
1	Adigrat	TIGRAY	18	49		2.9	89.9	D
2	Adwa		22	14.6		3.9	120.9	D
3	Atsbi		25.2			NA	NA	NA
4	Humera		1.7	11.1		NA	NA	NA
5	Maichew		28	55.5	50.5	2.7	83.7	MD
6	Mekele		13.3	24.6	54.1	5.3	164.3	VD
7	Maytsermi		9.2	NA	NA	NA	NA	NA
8	Senkata		45.1	69.3	65.1	NA	NA	NA
9	Shire							
1	Elidar	AFAR	0	36.2	0.0	NA	NA	NA
2	Assayta		4	19.5	20.5	NA	NA	NA
3	semera		73.1	NA	NA	NA	NA	NA
1	A/Ketema	AMHARA	23.1	55.3	41.8	NA	NA	NA
2	Adet		50.0	NA	NA	NA	NA	NA
3	B. Dar		0	8	NA	4.3	133.3	VD
4	Bati		153.8	67.3	228.5	2.9	89.9	H
5	Cheffa		111.8	135.4	82.6	3	93	H
6	Combolcha		70.7	75.7	93.4	2.9	89.9	M
7	D.Berehan		39.7	34.4	115.4	3.7	114.7	MD
8	D.Markos		35.4	46.6	76.0	4.2	130.2	MD
9	D.Tabor		50.5	33	153.0	NA	NA	NA
10	D/work		32.4	41.9	77.3	NA	NA	NA
11	Enewari		40.8	56.2	72.6	3	93	MD
12	Gondar		27.9	17.6	158.5	4.5	139.5	MD
13	Layber		4.6	NA	NA	NA	NA	NA
14	M.Meda		56.6	71.8	54.2	NA	NA	NA
15	Majete		116.4	72.4	160.8	3.2	99.2	H
16	Mankush		0	0	NA	NA	NA	NA
18	Mekane Selam		35.7	NA	NA	3.9	120.9	D
19	Mota		27	28	96.4	4.3	133.3	D
20	S.Gebeya		72.0	47.1	152.9	3	93	M
21	w/Illu		105.5	63.6	165.0	3.7	114.7	M
1	Abomsa		OROMIA	64.9	104.9	61.9	3.4	105.4
2	A. Robe	137.6		106.1	129.6	2.8	86.8	H
3	Aira	0		9.3	0.0	NA	NA	NA
4	Alemaya	82.3		69.8	117.9	2.8	86.8	M
5	Alge	4.3		57	7.5	NA	NA	
6	Ambo	67.0		46.3	144.7	3.6	111.6	M
7	Addele	167		NA	NA	NA	NA	NA
8	Bedelle	13.5		76.9	17.6	NA	NA	NA
9	Bui	219.4		67.9	323.1	NA	NA	NA
10	Chria	68.6		119.1	57.6	NA	NA	NA
11	Dm.Dolo	0.0		58.3	NA	NA	NA	NA
12	D.Zeit	87.5		45.8	191.0	3.8	117.8	
13	D/mena	191.4		94.4	202.8	NA	NA	NA
14	Fiche	65.1		62.3	104.5	NA	NA	NA
15	Gelemso	191.4		75	255.2	3.6	111.6	H
16	Gimbi	17.9		22.7	78.9	2.9	89.9	D
17	Ginir	0		NA	89.8	NA	NA	NA
18	Gore	61.1		96.1	63.6	3.7	114.7	M
19	Kachise	67.2		80.6	83.4	3.4	105.4	M
20	Jimma	66.5		90.7	73.3	3.2	99.2	M

21	koffele		98.8	125.3	78.9	2.9	89.9	H
22	Kulumsa		95.7	86.8	110.3	2.9	89.9	H
23	Limugent		43.6	85.9	50.8	2.9	89.9	MD
24	Mieso		250.3	77.7	322.1	NA	NA	NA
25	Metehara		47.8	49.4	96.8	4.4	136.4	MD
26	Nazereth		88.8	47.9	185.4	NA	NA	NA
27	Nedjo		0	38.5	0	4	124.0	VD
28	Negelle		121.2	59.8	202.7	4.8	148.8	M
29	Nekemte		3.5	57.8	6.1	3.3	102.3	VD
30	Robe		194.1	62.4	311.1	3	93.0	H
31	Sekoru		170.3	73.3	232.3	3.4	105.4	H
32	Shambu		35	56.9	61.5	4	124.0	MD
33	Woliso		26.8	54.5	49.2	NA	NA	NA
34	Ziway		56	53.2	105.3	3.1	96.1	M
1	Awassa		110.1	76.9	143.2	3.7	114.7	M
2	Arbaminch		191	56.2	339.9	4.2	130.2	H
3	Bilate		123	NA	NA	NA	NA	NA
4	H.Mariyam		114.1	74	154.2	2.9	89.9	H
5	Hossaina		139.9	96.8	144.5	2.9	89.9	H
6	Jinka		172.7	112.2	153.9	2.5	77.5	H
7	K/Mingist		148.4	93.7	158.4	3.2	99.2	H
8	Konso		136.1	85.5	159.2	3.8	117.8	H
9	Mirababaya		155.7	51	305.3	3.9	120.9	H
10	Masha	SNNPR	67.9	117.6	57.7	3.3	102.3	M
11	Sawla		157.7	135	116.8	150.2	3.5	108.5
1	Asossa		0	22.6	0.0	4.9	151.9	VD
2	Bullen		0	13.3	0.0	3.4	105.4	VD
3	Chagni		0	14.8	0.0	4	124.0	VD
4	Dangila		0.5	19.9	2.5	3.5	108.5	VD
5	Pawe	B/GUMUZ	0	6.8	0.0	3.9	120.9	VD
1	Gode		0	16.2	0.0		6.9	213.9
2	Jiiiga	SOMALI	192.2	47.3	406.3	4.1	127.1	H
1	Harar	HARAR	153.3	65.2	235.1	NA	NA	
1	D/Dawa	D/DAWA	173.9	71.1	244.6	3.5	108.5	H
1	A.A. Bole		75.5	69.2	109.1	4.2	130.2	M
2	A.A. Obs	A.A	48.4	68.2	71.0	3.2	99.2	MD

Explanatory Note

Reference Evapo-transpiration (mm)

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

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.

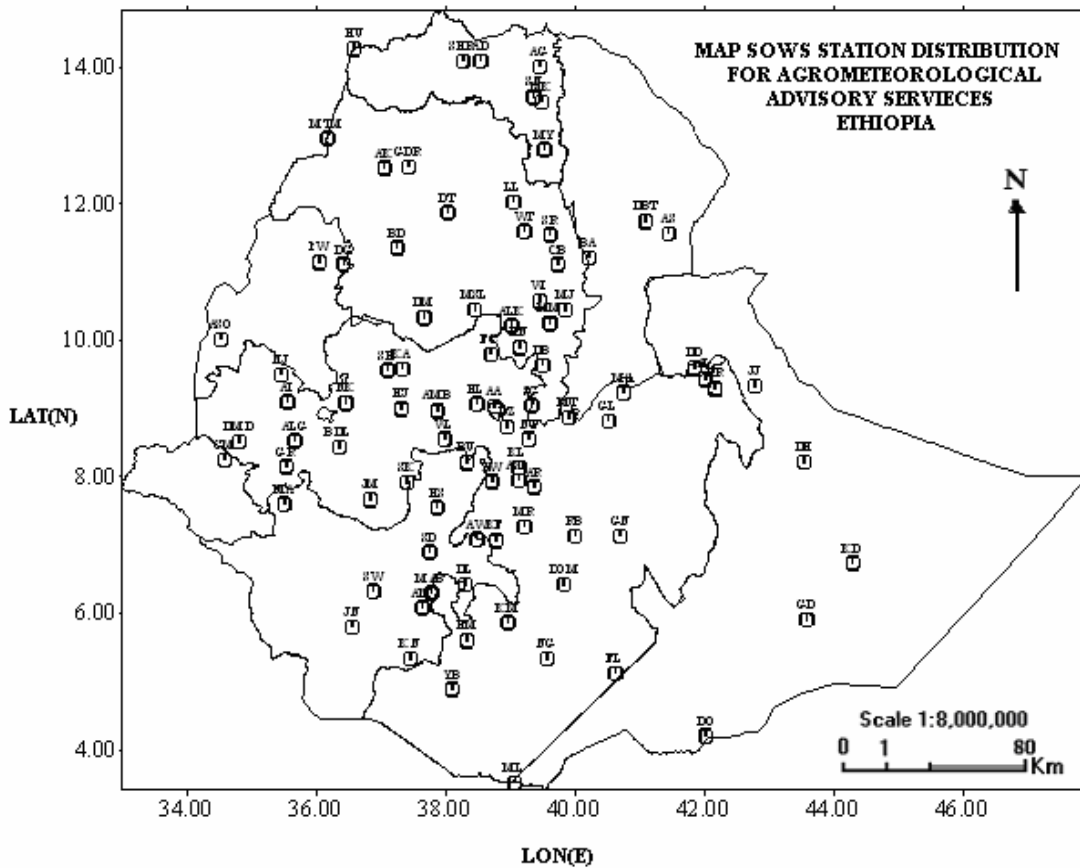
DEKAD: - First or second ten days or the remaining days of a month.

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	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		