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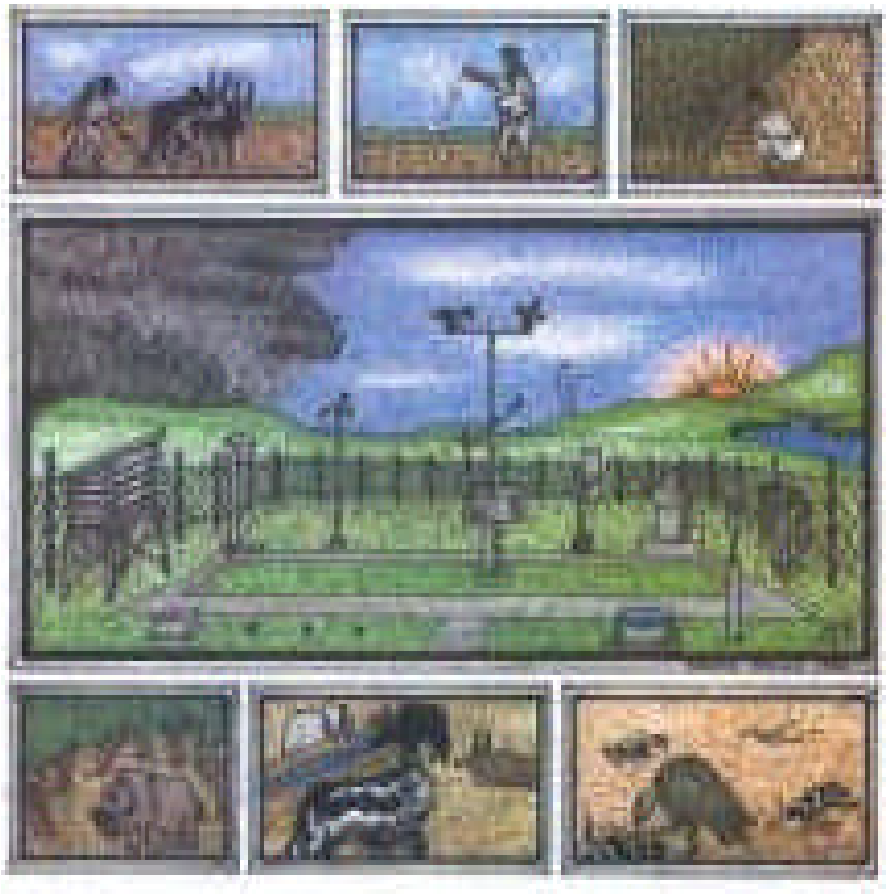

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FORE WARD

This Agro met Bulletin is prepared and disseminated by the National Meteorological Services Agency (NMSA). 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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SUMMARY
February 2005

During the first dekad of February 2005 most parts of the country were under below normal rainfall condition. Though the normal onset of Belg season is mid February in most parts of the country the observed below normal rainfall could have negative impact on the early season Belg agricultural activities in areas like southern Tigray and parts of eastern Amhara where their Belg agricultural activities normally start earlier than other places(December/January). With regard to air temperature, Gode, Assaita, Dubti, Mankush and Humera registered extreme maximum air temperature above 35°C for three to ten consecutive days.

During the second dekad of February 2005, the observed little or no rainfall in most parts of Belg growing areas could have negative impact in areas where their Belg agricultural activities start earlier like South Tigray and parts of eastern Amhara. Moreover it could exacerbate the prolonged dry spell persisted as of 21 -31 January, 2005 in case of South Tigray while as of first dekad of February in case of eastern Amhara. With regard to extreme maximum temperature Mierab Abaya, Assayta, Methara, Dubti, Gewane, Gode, Pawe, Metema and Mankush recorded extreme maximum temperature greater than 35°C for four to ten consecutive days during the ten days period. A rise in extreme maximum temperatures by 4.9 - 5°C was observed in some areas like Gewane, Methara and Pawe as compare to that of the long term mean during the ten days period.

During the third dekad of February 2005, with the exception of some areas of central and parts of southern Ethiopia most parts of Belg growing areas exhibited below to much below normal rainfall. This condition could have significant negative effect on Belg growing areas of South Tigray like Enda Mehoni, Korem, Raya Azebo and Alamata including parts of eastern Amhara like Wegel Tena, Sirinka, Bati and Mehal Meda areas where the duration of agricultural activities of the Belg season extends from December/January to May. Thus, it could shorten the growing season and result in shift in sowing date thereby shifting harvesting time and affecting early Kiremt season's agricultural activities like land preparation and sowing. On the other hand the observed better rainfall activities over Belg growing areas of central and parts of southern Oromiya including parts of eastern and southern parts of SNNPR could favour season's agricultural activities. With regard to air temperature, Chagni, Sawulla, Ejaji, Assossa, Dire Dawa, Arba Minch, Meisso, Merab Abaya, Gode, Assayta, Dupti, Metehara, Pawe, Metema and Mankush recorded 35.5, 35.6, 35.9, 36.0, 36.3, 36.8, 36.8, 37.4, 37.5, 37.6, 38.5, 40.0, 41.5, 42.0, and 42.7 °C extreme maximum temperatures, respectively during the third dekad. Besides a rise in maximum temperature by 1.3 - 6.07 °C has been observed in some areas like Gode, Assayta, Arba Minch, Dubti, Sawulla, Pawe, Dire Dawa, Assossa and Metahara as compared to that of long term mean.

Generally, the prolonged dry spell observed over South Tigray and parts of eastern Amhara continued up to the third dekad of February 2005. Thus this situation could affect early season's agricultural activities, there by delaying sowing date in some areas of the aforementioned areas. Besides, the delayed sowing date may lead to extend the harvesting time of Belg crops which would result in shifting the early Kiremt season's agricultural activities in the areas. Hence, proper alternate strategies should be applied in terms of crop variety selection like using short season variety and drought resistance crops to cope with the effect of water stress particularly over drought prone areas where the Belg rainfall is erratic in most cases. A rise in extreme maximum temperatures by 1.3 - 6.07°C has been observed over some lowland areas of northeastern, northwestern, eastern, central and southeastern parts of Ethiopia as compared to that of long term mean during the month under review. Thus this condition could have negative impact on the normal growth and development of the plants in terms of thermal requirements.

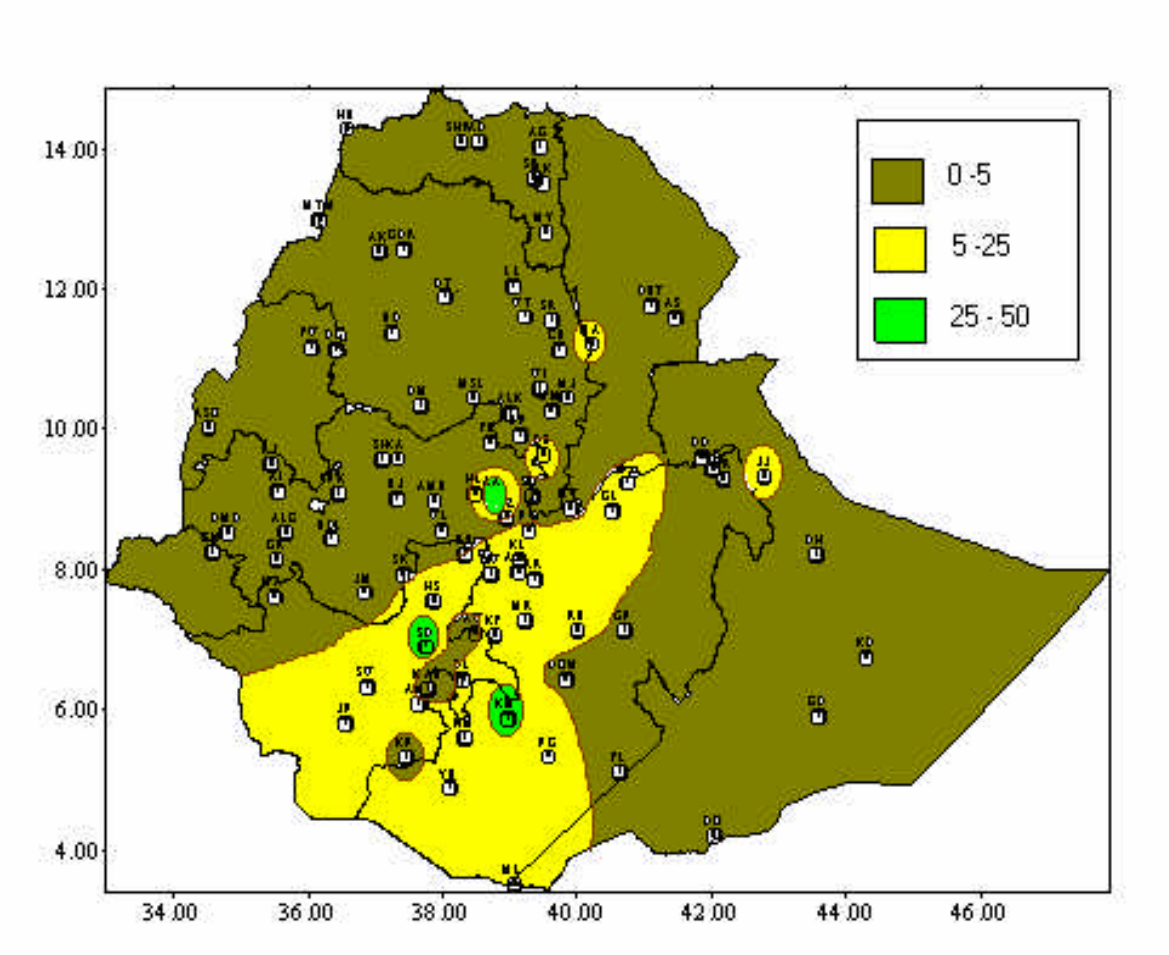


Fig 1. Rainfall distribution in mm (21-28 February, 2005)

1. WEATHER ASSESSMENT

1.1 21-28 February, 2005

1.1.1 Rainfall amount (Fig.1)

Some pocket areas of central and southern Ethiopia received falls up to 31.7 mm. Among the reporting stations Addis Ababa Observatory, Sodo and Kibre Mengist reported 29.8, 30 and 31.7 mm of rainfall, respectively.

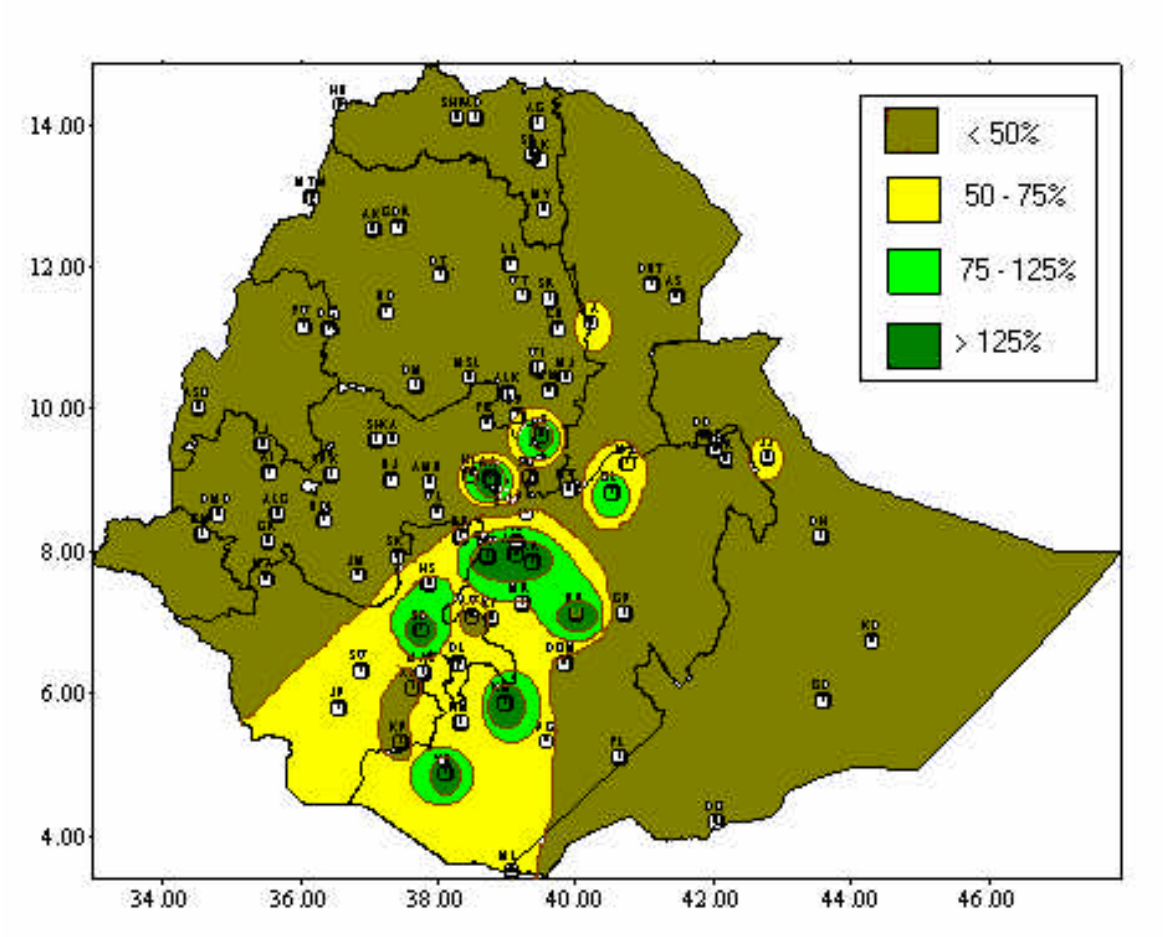


Fig. 2 Percent of normal rainfall (21-28 February, 2005)

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)

Parts of central Oromiya including pocket areas of southern and eastern parts of the same region, pocket areas of northeastern SNNP and pocket areas of eastern Amhara received normal to above normal rainfall. The rest and most parts of the country exhibited below to much below normal rianfall.

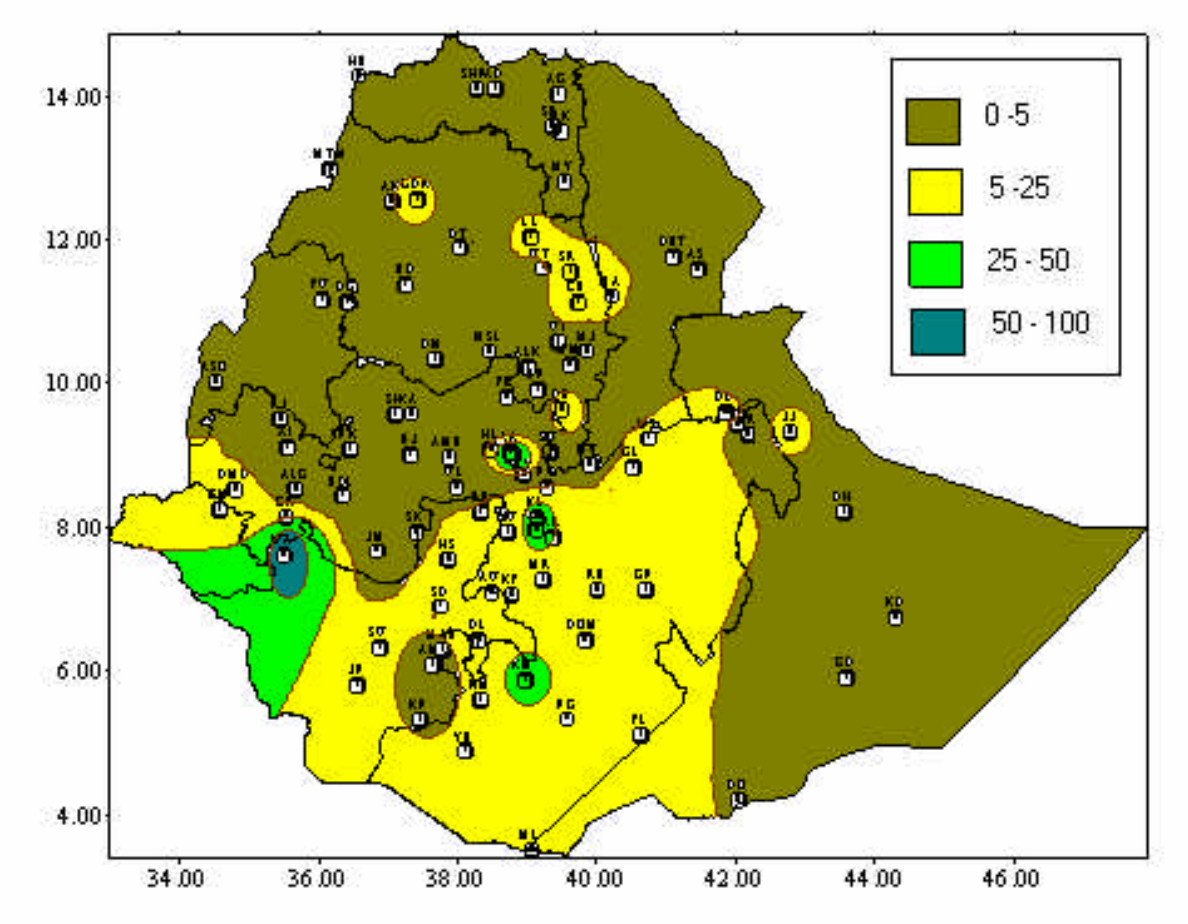


Fig. 3 Rainfall Distribution in mm for the month of February, 2005

1.2 February, 2005

1.2.1 Rainfall Amount (Fig.3)

Southern half of Gambela, western and pocket areas of northeastern SNNPR including pocket areas of central and southern Oromiya received falls above 25 mm. Most parts of western half, parts of central and southern Oromiya, western half of SNNPR, few areas of northern, northeastern and southern tip of Amhara received 5-25 mm of rainfall. There was little or no rainfall for the rest of Belg growing areas of the country.

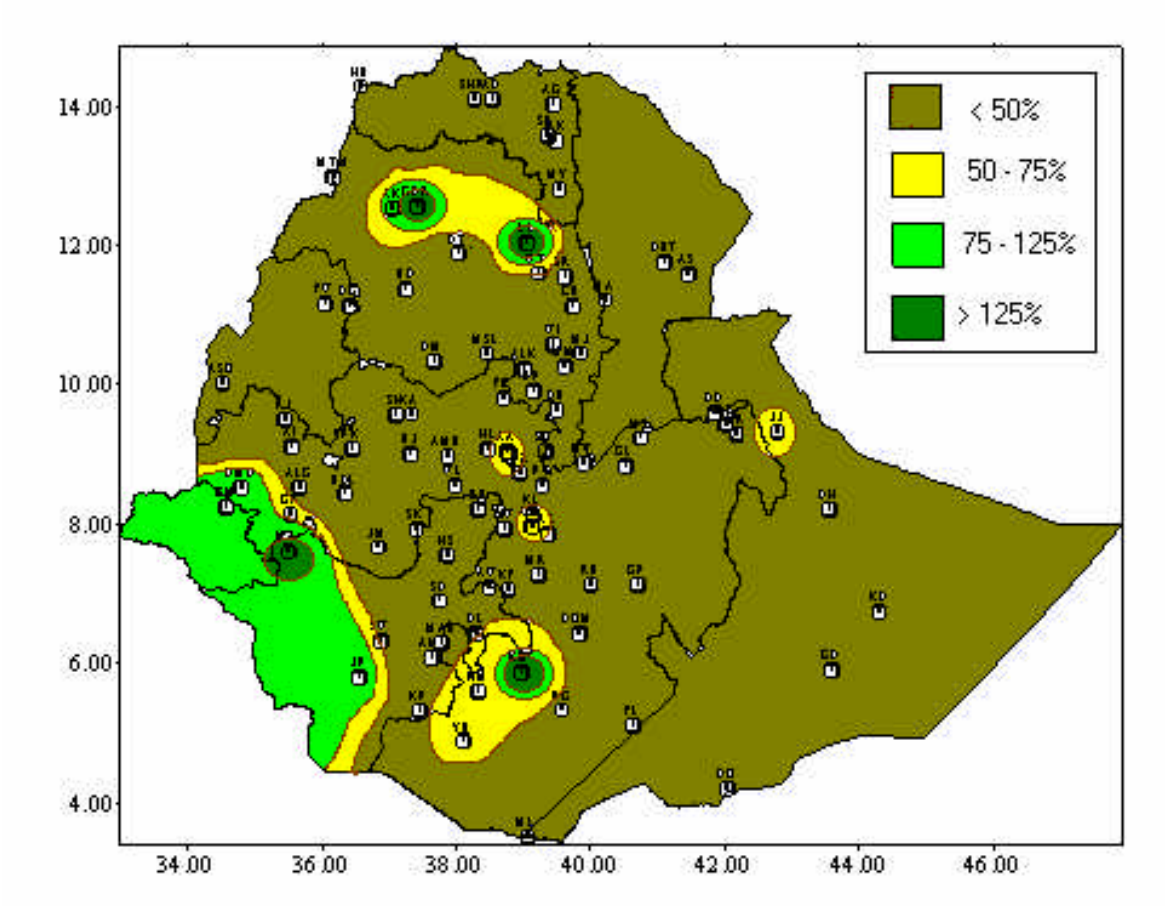


Fig. 4 Percent of Normal Rainfall for the month of February, 2005

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 parts of northern Amhara and few areas of southern tip of Amhara, pocket area of South Oromiya, western SNNPR and most parts of Gambela, the rest and most parts of Belg growing areas of the country under below normal condition.

1.3 TEMPERATURE ANOMALY

A rise in extreme maximum temperatures by 1.3 - 6.07°C has been observed over some lowland areas of northeastern, northwestern, eastern, central and southeastern parts of Ethiopia as compared to that of long term mean during the month under review.

2. WEATHER OUTLOOK

2.1 For the first dekad of March 2005

For the coming ten days, the incursion of moisture is expected to continue over various parts of the country. Hence, Rift-valley and escarpments of eastern half of the country will have better rainfall activity. However, dry weather condition will prevail over western portion of the country.In general, eastern Tigray and Amhara, as well as adjoining areas Afar, central and eastern Oromiya, Most parts of SNNPR, northern Somali, Bale highlands and Southern Oromiya are anticipated to have normal to above normal rains. Where as western Oromiya and Gambela will have a chance of below normal rains from the prevailing clouds. The remaining portions of northwestern Ethiopia, however, will be under dry weather condition

2.2 For the month of March 2005

The Belg rain-bearing systems are expected to strengthen gradually over eastern half of the country including Belg-growing areas. In general eastern Tigray and Amhara, central, southern and eastern Oromiya, most parts of SNNPR and western Afar are anticipated to get near normal rains. On the other hand western Tigray and Amhara, Benshangul Gumuz, Gambela, most parts of western Oromiya, Somali and eastern Afar will have bellow normal rains.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally, the prolonged dry spell observed over South Tigray and parts of eastern Amhara continued up to the third dekad of February 2005. Thus this situation could affect early season's agricultural activities, there by delaying sowing date in some areas of the aforementioned areas. Besides, the delayed sowing date leads to extend the harvesting time of Belg crops and this would result in shifting the early Kiremt season's agricultural activities in the areas. Hence, proper alternate strategies should be applied in terms of crop variety selection like using short season variety and drought resistance crops to cope with the effect of water stress particularly over drought prone areas where the Belg rainfall is erratic in most cases. With regard to air temperature, a rise in extreme maximum temperatures by 4.9 - 5°C was observed in some areas like Gewane, Methara and Pawe during the second dekad while 1.3 - 6.07°C over Gode, Assayta, Arba Minch, Dubti, Sawulla, Pawe, Dire Dawa, Assossa and Metahara during the third dekad of the month as compared to that of long term mean. Thus this condition could negatively affect the normal growth and development of the plants in terms of thermal requirements.

3.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING MONTH

The anticipated near normal rainfall over eastern Tigray and Amhara, central and eastern Oromiya, most parts of SNNPR and western Afar would ease the persisted dry weather situation over Belg growing areas of South Tigray and eastern Amhara. Besides, the expected near normal rainfall over most parts of SNNPR, central and eastern Oromiya including western Afar would facilitate early season's agricultural activities like land preparation and sowing. In case of South Oromiya it would help for land preparation for the locally called "Gena" season, which is the normal activities of the area at this time of the year, in fact the sowing activities normally will start during the month of April. In addition to that it would have positive impact on the availability of pasture and drinking water over pastoral areas. Hence, farmers are advised to prepare them selves to exploit the suitable wet conditions in the areas where near normal rainfall is anticipated. More over, attention should be given for proper water harvesting techniques and soil water conservations over drought prone areas where erratic rainfall is the normal phenomenon during the Belg season.

Table 1 Climatic and Agro-Climatic elements of different stations for the month of February 2005

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture status
1	Adigrat	TIGRAI	0.3	7.7	3.9	4.19	129.89	VD
2	Adwa		0	1.2	0.0	4.51	139.81	VD
3	Mekele		1.4	8.5	16.5	6.54	202.74	VD
4	Michew		2.6	6.5	40.0	3.88	120.28	VD
5	Shire		0	0.5	0.0	NA	NA	NA
6	Senkata		2.8	24.5	11.4	NA	NA	NA
1	Assayta	AFAR	0	9.2	0.0	7.09	219.79	VD
2	Dubti		0	2.7	0.0	5.53	171.43	VD
3	Gewane		0	37.4	0.0	NA	NA	NA
1	BahirDar	AMHARA	0	2.2	0.0	4.5	139.5	VD
2	Bati		6.7	10.3	65.0	4.08	126.48	VD
3	Combolcha		4.9	26.4	18.6	4.92	152.52	VD
4	Bullen		0	0.3	0.0	NA	NA	NA
5	Chagni		0.4	7	5.7	NA	NA	NA
6	Chefa					5.02	155.62	VD
7	D.Birhan		13.3	5.6	237.5	5.09	157.79	VD
8	D.Markos		0.6	20.4	2.9	4.51	139.81	VD
9	D.Tabor		0	3.6	0.0	NA	NA	NA
10	Dangila		0.5	0.5	100.0	4.1	127.1	VD
11	Enwary		2.6	12.6	20.6	NA	NA	NA
12	Gonder		11.2	5.4	207.4	5.03	155.93	VD
13	M.Meda		1	34.1	2.9	NA	NA	NA
14	Majete		0	54.4	0.0	4.79	148.49	VD
15	Metema		0	0	0.0	5.24	162.44	VD
16	Mota		4.5	12.5	36.0	NA	NA	NA
17	Lalibela		21.4	9	237.8	4.68	145.08	D
18	Sirinka		7.8	37.4	20.9	4.5	139.5	VD
19	Woreilu		0	30.4	0.0	5.29	163.99	VD
20	Wegeltena		0	11.4	0.0	4.46	138.26	VD
1	Aira	OROMIYA	0.5	6	8.3	3.98	123.38	VD
2	Alge		1.3	27.8	4.7	NA	NA	NA
3	Alemaya		2	30.9	6.5	5.05	156.55	VD
4	Bedelle		2.2	13	16.9	NA	NA	NA
5	Begi		0	7.5	0.0	NA	NA	NA
6	DembiDollo		16.4	17.5	93.7	NA	NA	NA
7	DoloMena		3.8	34.6	11.0	4.83	149.73	VD
8	DebreZeit		0.2	25.3	0.8	5.26	163.06	VD
9	Ejaji		0.4	14.7	2.7	5.27	163.37	VD
10	Fitche		1	40	2.5	4.14	128.34	VD
11	Gelemso		11	34.5	31.9	5.57	172.67	VD
12	Gimbi		1.3	4	32.5	NA	NA	NA
13	Gore		3.7	12.6	29.4	NA	NA	NA
14	HagerMariam		8	13.5	59.3	NA	NA	NA
15	Jimma		0.5	54.1	0.9	3.57	110.67	VD
16	Kachissei		3.9	27.3	14.3	NA	NA	NA
17	KibreMengist		31.7	23.5	134.9	4.17	129.27	D
18	Kulumsa		44.9	51.1	87.9	NA	NA	NA
19	LimuGenet		0.5	36.6	1.4	NA	NA	NA
20	Masha		55.2	29.5	187.1	NA	NA	NA

22	**Metehara**		0	32.1	0.0	5.49	170.19	VD
23	**Nazreth**		6.5	31.6	20.6	3.39	105.09	VD
24	**Neghele**		7.5	28.8	26.0	5.65	175.15	VD
25	**Nedjo**		0	10	0.0	3.81	118.11	VD
26	**Nekemte**		0	24.9	0.0	4.06	125.86	VD
27	**Robe(Bale)**		12.5	27.7	45.1	4.7	145.7	VD
28	**Sekoru**		1.4	49	2.9	3.97	123.07	VD
29	**Shambu**		3	44.8	6.7	NA	NA	NA
30	**Woliso**		0	36.8	0.0	NA	NA	NA
31	**Yabello**		22.8	42.5	53.6	NA	NA	NA
32	**Zeway**		14.3	41.7	34.3	NA	NA	NA
1	**Gode**	**SOMALI**	0	3	0.0	6.8	210.8	VD
2	**Jijiga**		6.2	9.3	66.7	4.99	154.69	VD
1	**ArbaMinch**	**SNNPR**	1.4	29.4	4.8	4.8	148.8	VD
2	**Awassa**		7.7	46	16.7	4.33	134.23	VD
3	**Bui**		17	24.6	69.1	5.47	169.57	D
4	**Hosaina**		19	47.5	40.0	4.65	144.15	D
5	**Konso**		0.6	39.8	1.5	5.96	184.76	VD
6	**Jinka**		12.5	16.1	77.6	4.51	139.81	VD
7	**M/ Abaya**		4.2	32.3	13.0	NA	NA	NA
8	**Sodo**		30.7	52.2	58.8	6.1	189.1	D
9	**Lumu Genet**		0.5	36.6	NA	NA	NA	NA
10	**Chira**		8.5	56	NA	NA	NA	NA
1	**Pawe**	**B/GUMUZ**	0	1.7	0.0	NA	NA	NA
2	**Asossa**		0	2.9	0.0	6.13	190.03	VD
3	**Bullen**		0	0.3	0.0	NA	NA	NA
1	**Addis Ababa(Bole)**	**A.A**	14.1	38.8	36.3	NA	NA	NA
2	**Addis Ababa(Obs)**		29.8	39.5		3.55	110.05	MD
1	**Diredawa**	**D.D**	5.2	36	14.4	4.79	148.49	VD
1	**Harar**	**Harai**	0.7	1.6	43.8	4.8	148.8	VD

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

ETo	Reference 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 evapotransipiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

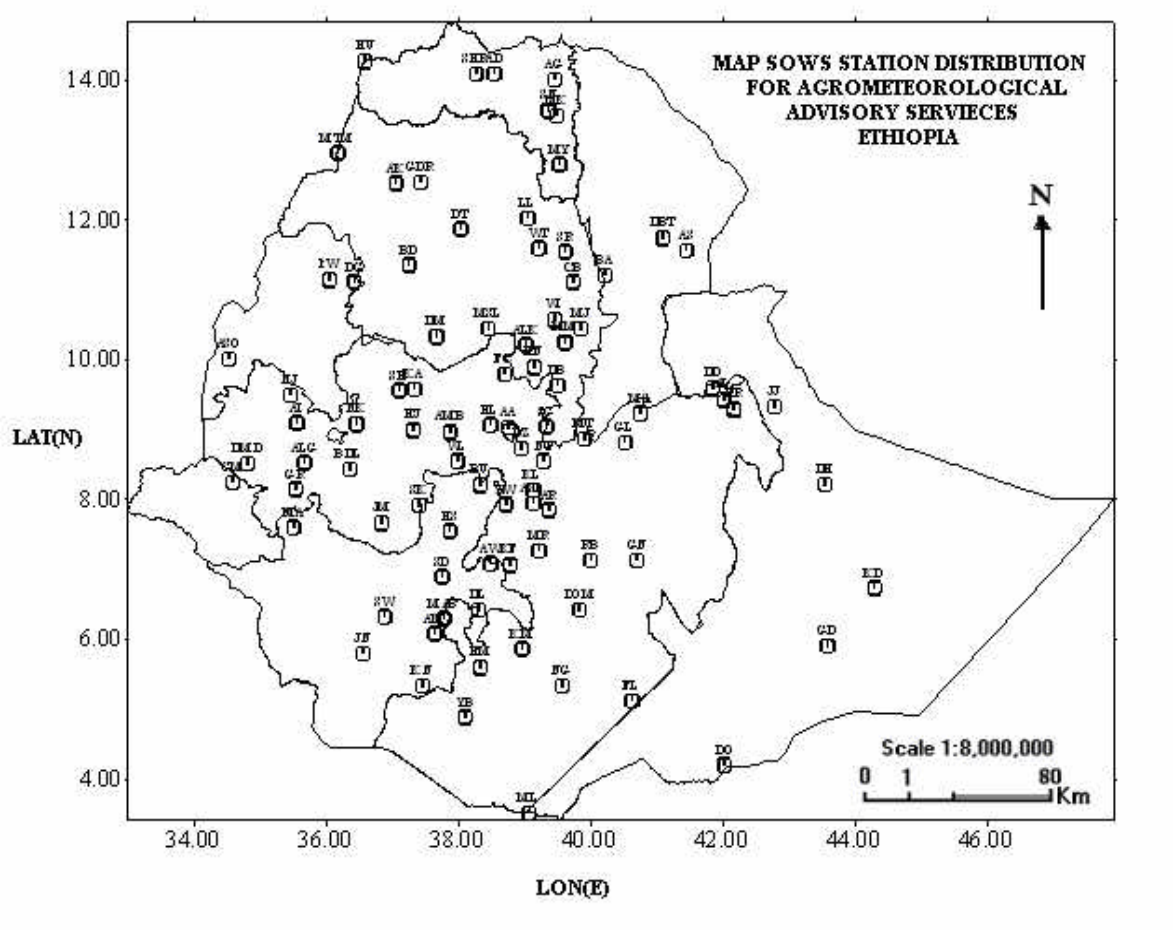
DEKAD: - First or second ten days or the remaining days of a month.

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
Arbaminch	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