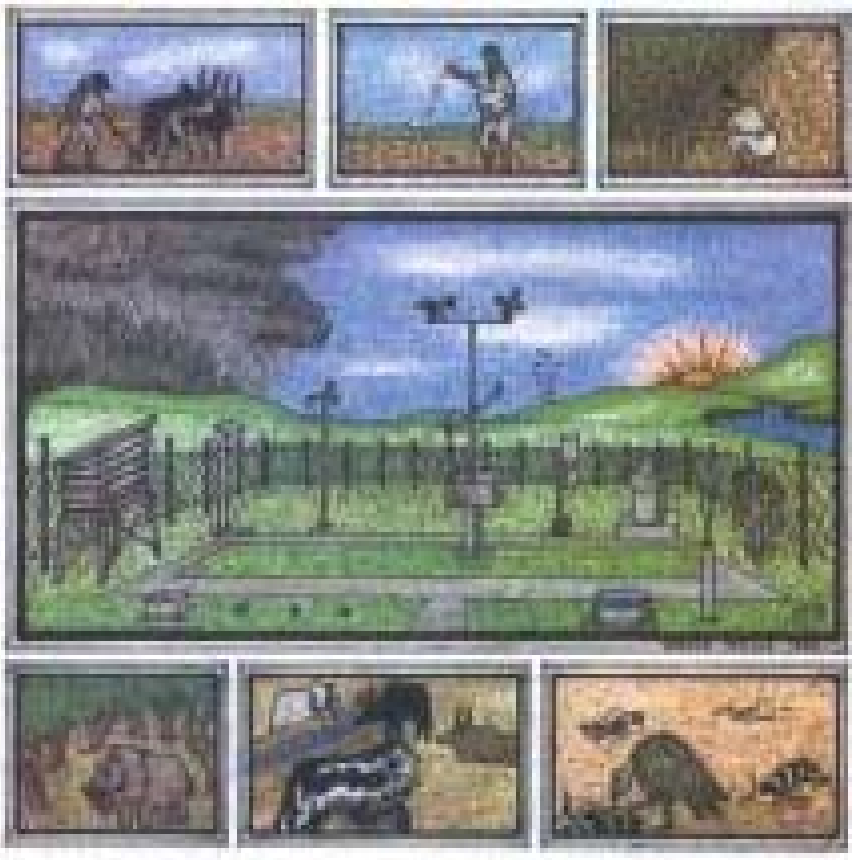
NATIONAL METEOROLOGICAL SERVICES AGENCY AGROMETEOROLOGICAL BULLETIN

MONTHLY AGROMETEOROLOGICAL BULLETIN
DECEMBE 2004
VOLUME 14 No. 36
DATE OF ISSUE: - JANUARY 5, 2005



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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
December 2004

During the first dekad of December 2004, eastern, parts of southern and pocket areas of central and western Oromiya, parts of southern Amhara, pocket areas of eastern Benishangul-Gumuz, pocket areas of northern Somali, western half of SNNPR as well as southeastern Gambela received normal to above normal rainfall while most parts of the country experienced below normal rainfall. The observed normal to above normal rainfall over western Oromiya, eastern and western Hararge, parts of southern Amhara negatively affected the on going harvest and post harvest activities of long and medium cycle crops over the aforementioned areas. With regard to air temperature, the highlands of western, eastern and central Oromiya, southern and northeastern Amhara as well as southern Tigray exhibited extreme minimum air temperature below 5^0C for two to seven consecutive days.

During the second dekad of December 2004, the prevailing dry weather situation favoured the on going harvest and post harvest activities over much of Meher growing areas of the country. As a result, harvest and post harvest activities were under way in most places. With regard to air temperature, the highlands of eastern Oromiya (Alemaya), southeastern Amhara (Debre Birhan), eastern Amhara (Wegel Tena) and western Amhara (Dangila) exhibited extreme air temperature below 5^0C for two to seven consecutive days. Thus, this condition would affect the normal growth and development of the exciting crops like horticultural and perennial crops.

During the third dekad of December 2004, most parts of SNNPR, parts of eastern, western and southeastern Oromiya, eastern Amhara as well as parts of southwestern Somali experienced normal to above normal rainfall while the rest portions of the country were under below normal rainfall. The pronounced dry spells over much of the country favored the on going harvest and post harvest activities over much of Meher growing areas of the country. On the other hand, the observed better rainfall condition over southern, southeastern and parts of western Oromiya, SNNPR and southwestern Somali could have indispensable contribution to perennial plants, the availability pasture and drinking water over the above mentioned pastorals and agro pastorals areas. However, the observed wet weather condition over some areas of southern Oromiya like Dolo Mena and Kibre Mengist could have negative impact on the on going harvest and post harvest activities. Regarding air temperature, eastern Oromiya(Alemaya), some areas of the highlands of eastern Tigray (Adigrat), southern Amhara (Mehal Meda) and eastern Amhara(Wegel Tena) as well as western Amhara (Dangla), exhibited extreme minimum air temperature below 5^0C for two to seven consecutive days. This situation resulted in frost, which affected the normal growth and development of the existing plants. Pursuant to crop phenological report, harvest and post harvest activities of cereals and oil crops were being performed over central Oromiya (Kachisei, Fitche, Shambu, and Woliso), southern Oromiya (Dolo Mena and Kibre Mengist) as well as eastern Benishangul-Gumuz (Chagni).

Generally, during the month of December, the over all dry weather situation favored the on going harvest and post harvest activities. As a result, harvest and post harvest activities like harvesting, collecting harvested crops in the field, threshing and storing harvested crops to the barn, were under way in most parts of Meher growing areas during the month under review. Nevertheless the observed occasional falls particularly during the first dekad of the month over western Oromiya, eastern and western Hararge, parts of southern Amhara resulted in crop damage and negatively affected the on going harvest and post harvest activities. With regard to air temperature, some areas of northwestern, northeastern, central and eastern highlands like Dangla, Wegel Tenana, Debre Birhan and Alemaya exhibited extreme minimum temperature less than 5°C repeatedly (about 10 - 15 days) throughout the month. Hence, some areas reported crop damage due to frost.

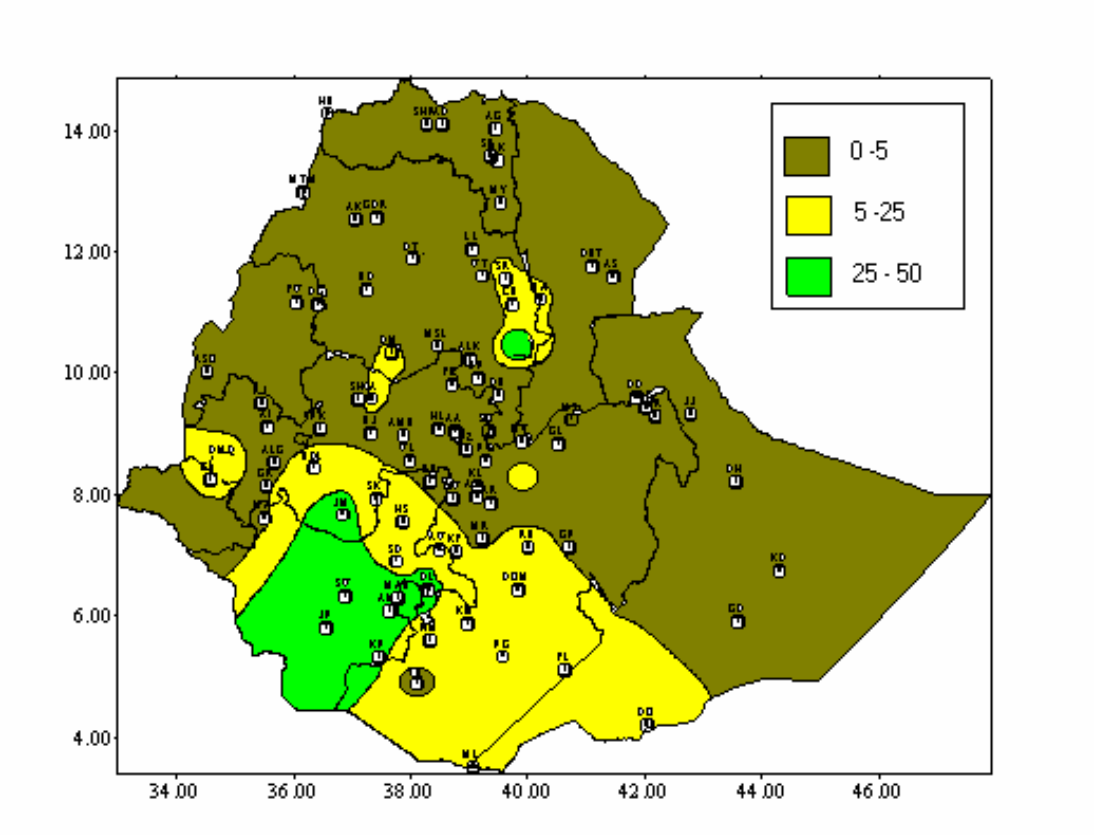

Fig 1. Rainfall distribution in mm (21-3l December, 2004)

1. WEATHER ASSESSMENT

1.1 21-31 December 2004

1.1.1 Rainfall amount (Fig.1)

Eastern Amhara, southern and parts of western Oromiya, SNNPR and southwestern Somli received falls 5 - 50 mm. Little or no rainfall for the rest of the country. Among the reporting station Jinka, Jimma, LimuGenet, Arba Minch, Konso, Majete, MirabAbaya, Dembi Dolo, Sodo and Sekoru received 42.8, 41.9, 35.7, 35.2, 30.4, 29.2, 26.4, 23.2, 22.9 and 21.8 mm of rainfall, respectively.

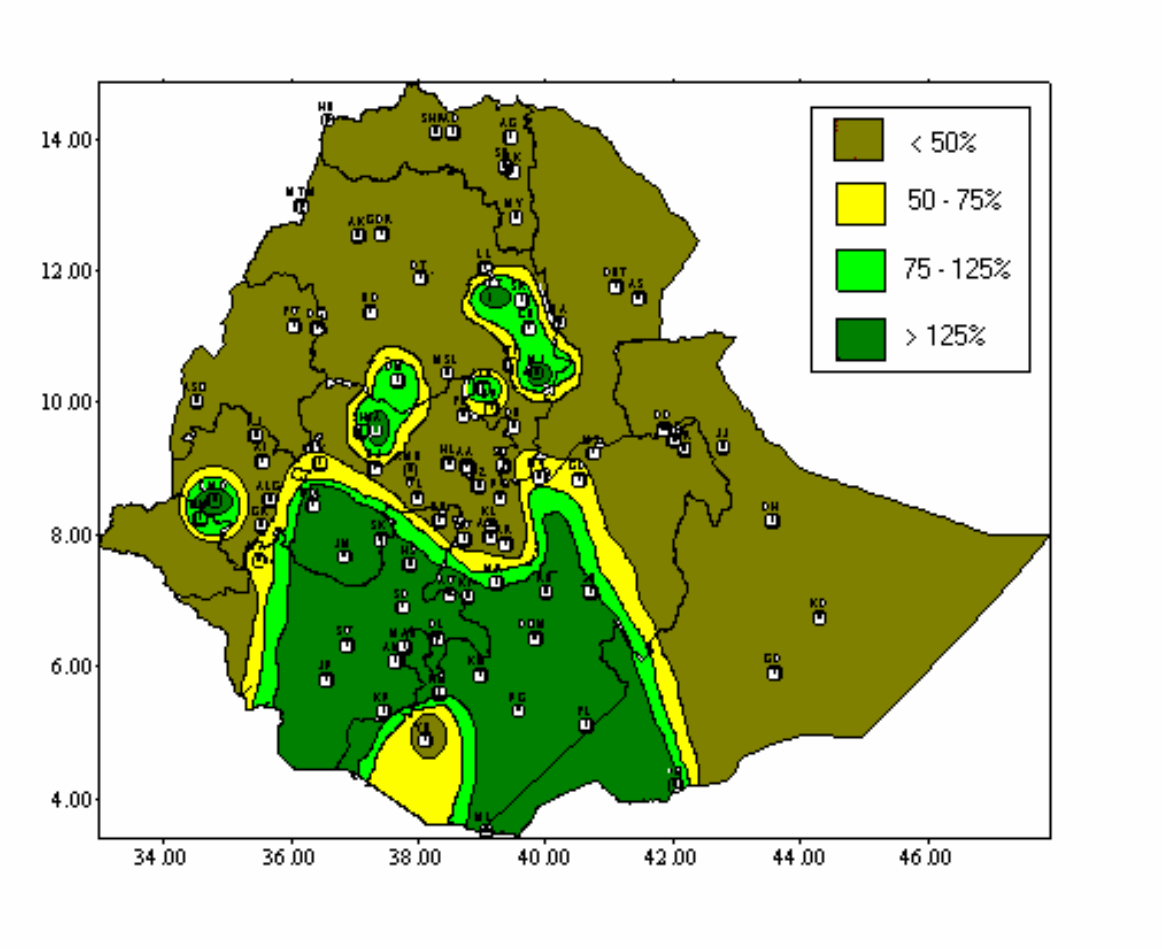

Fig. 2 Percent of normal rainfall (21-31 December 2004)

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 SNNPR, parts of eastern, western and southeastern Oromiya, eastern Amhara as well as parts of southwestern Somali experienced normal to above normal rainfall while the rest portions of the country received below normal rainfall.

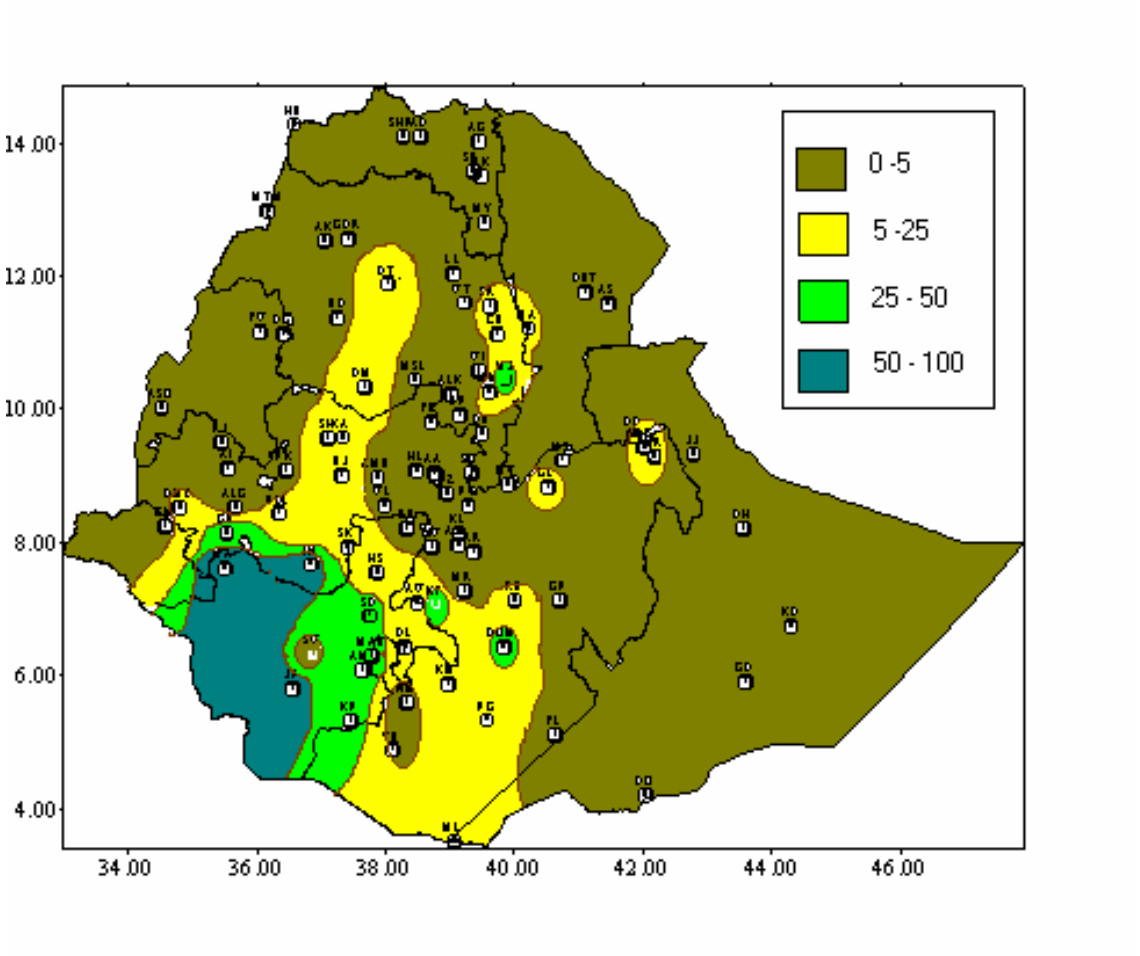

Fig. 3 Rainfall Distribution in mm for the month of December 2004

1.2 December 2004

1.2.1 Rainfall December (Fig.3)

During the month of December, Masha, Jinka, Jimma, Chira, LimuGenet, ArbaMinch, Konso, Abomsa, Gore and Majete received 95.4, 92.4, 76.5, 57.6, 51.8, 39.7, 33.2, 32.1, 29.9 and 29.2 mm of monthly rainfall, respectively.

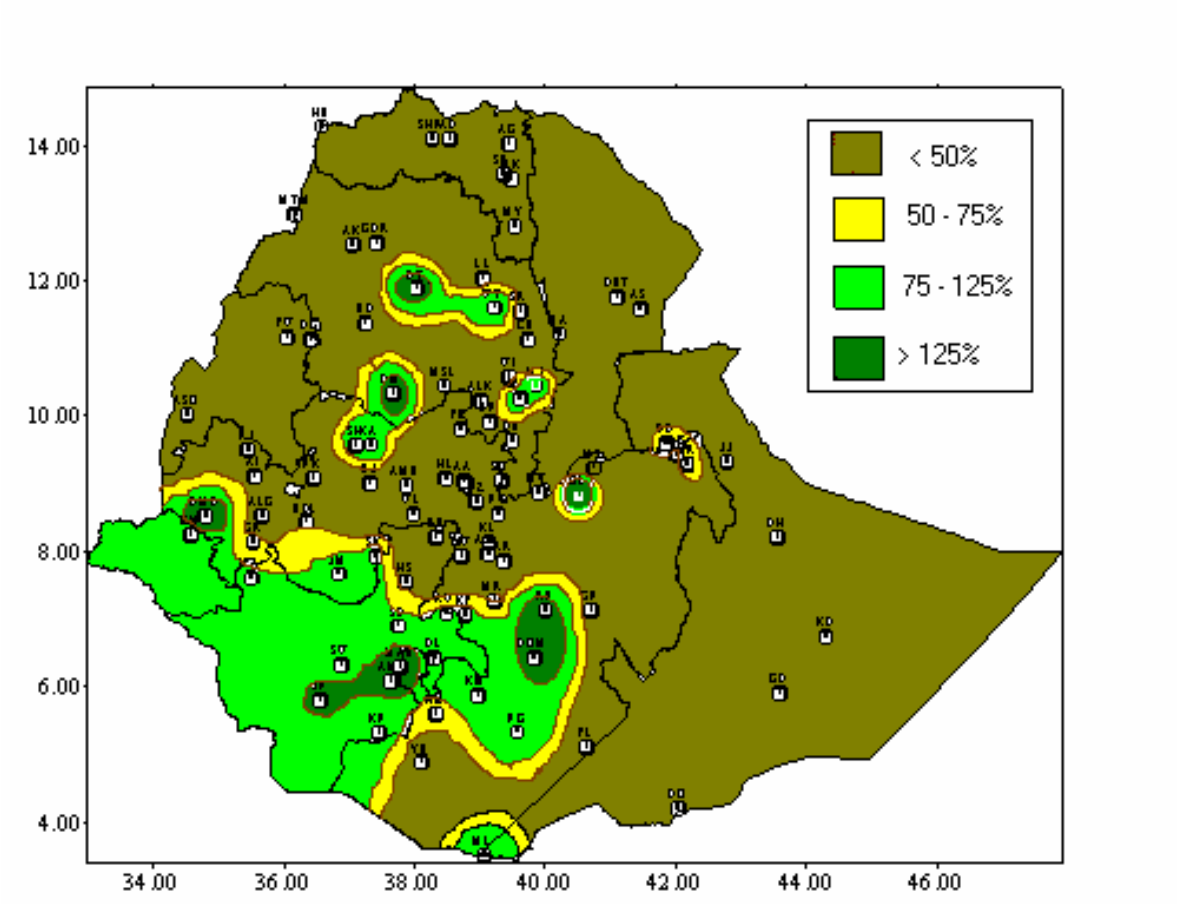

Fig. 4 Percent of Normal Rainfall for the month of December 2004

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)

SNNPR, Gambela, few areas of western and eastern Oromiya including parts of southern Oromiya, few areas of southern and central Amhara as well as some areas of southwestern Somali experienced normal to above normal rainfall while the rest parts of the country experienced below normal rainfall.

1.3 TEMPERATURE ANOMALY

Eastern Oromiya (Alemaya), some areas of the highlands of eastern Tigray (Aigrette), southern Amhara (Mehal Meda) and eastern Amhara (Wegel Tena) as well as western

Amhara (Dangla), exhibited extreme minimum air temperature below 5^0C for two to seven consecutive days.

2. WEATHER OUTLOOK

2.1 For the first dekad of January 2005

In the coming ten days, sunny weather condition is anticipated to dominate and a fall in nighttime and early morning temperature is expected in most parts of the country. However, few areas of Tigrai, eastern Amhara, northern parts of eastern Oromiya, few areas of western SNNPR, Gambela and western Oromiya will have isolated showers.

2.2 For the month of January 2005

In the coming month normal to above normal rainfall is anticipated over eastern Tigray, eastern Amhara, Afar, central and eastern Oromiya, northern Somali and eastern SNNPR. On the contrary normal dry weather condition will be dominant for the rest of the country.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

The over all dry weather situations observed during the month of December favored the on going harvest and post harvest activities. As a result, harvest and post harvest activities like harvesting, collecting harvested crops in the field, threshing and storing harvested crops to the barn, were under way in most parts of Meher growing areas during the month under review. Nevertheless the observed occasional falls particularly during the first dekad of the month over western Oromiya, eastern and western Hararge, parts of southern Amhara resulted in crop damage and negatively affected the on going harvest and post harvest activities. With regard to air temperature, some areas of northwestern, northeastern, central and eastern highlands like Dangla, Wegel Tenana, Debre Birhan and Alemaya exhibited extreme minimum temperature less than 5°C repeatedly (observed about 10 - 15 days) throughout the month. Hence, some areas reported crop damage due to frost.

3.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING MONTH

The expected normal dry weather condition over most parts of the country would favor the on going harvest and post harvest activities in most parts of the country. However, the dry and windy Bega's weather situation would create favourable condition for the expansion of fire. Thus, farmers should under take proper precaution when they use fir around the crop fields and the barn in places where the dried grains are collected in order to avoid the risk due to fire hazard. On the other hand, the anticipated normal to above normal rainfall over eastern Tigray, eastern Amhara, Afar, central and eastern Oromiya, northern Somali and eastern SNNPR would favor land preparation over those areas which would perform early Belg agricultural activities like some areas of southern Tigray and eastern Amhara. Besides, the expected normal to above normal rainfall over Afar and northern Somali would favor the availability of pasture and drinking water over pastoral and agro pastoral areas of the aforementioned areas.

Table 1 Climatic and Agro-Climatic elements of different stations for the month of December 2004

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture status
1	Adigrat	TIGRAI	1.8	14.7	12.2	3.11	96.4	VD
2	Adwa		NA	NA	NA	NA	NA	NA
3	Mekele		0	1.1	0.0	3.86	119.7	VD
4	Michew		0	14.8	0.0	2.89	89.6	VD
5	Senkata		0	18.1	0.0	NA	NA	NA
6	Shire		0	2.2	0.0	NA	NA	NA
								NA
1	Assayta	AFAR	0	1.6	0.0	5.28	163.7	VD
2	Dubti		0	2.1	0.0	3.83	118.7	VD
3	Gewane		13.9	4.4	315.9	4.89	151.6	VD
								NA
1	Alemketema	AMHARA	NA	NA	NA	NA	NA	NA
2	Aykel		0	5.4	0.0	NA	NA	NA
3	BahirDar		0	2.2	0.0	3.6	111.6	VD
4	Bati		12.9	55	23.5	3.03	93.9	D
5	Combolcha		5.7	19.7	28.9	3.46	107.3	VD
6	Chagni		16.5	12.9	127.9	3.83	118.7	D
7	Chefa		3.3	84.6	3.9	NA	NA	NA
8	D.Birhan		0	3.2	0.0	4.85	150.4	VD
9	D.Markos		21.1	14.7	143.5	3.53	109.4	D
10	D.Tabor		12.7	10.1	125.7	NA	NA	NA
11	Dangila		0	9.3	0.0	3.19	98.9	VD
12	Debark		0	1.1	0.0	NA	NA	NA
13	Enwary		1.1	4.6	23.9	NA	NA	NA
14	Gonder		0	10.7	0.0	4.3	133.3	VD
15	M.Meda		8.4	7	120.0	NA	NA	NA
16	Majete		29.2	26	112.3	3.2	99.2	MD
17	Mota		0	9.7	0.0	NA	NA	NA
18	NefasMewcha		0	30.7	0.0	NA	NA	NA
19	Lalibela		0	5.3	0.0	3.66	113.5	VD
20	Sirinka		15.4	34.9	44.1	3.12	96.7	D
21	SholaGebeya		0	4	0.0	NA	NA	NA
22	Woreilu		0	9.1	0.0	4.55	141.1	VD
23	Wegeltena		1.2	1.3	92.3	3.27	101.4	VD
24	Yetnora		0	27	0.0	NA	NA	NA

1	Aira	OROMIYA	0.7	13.6	5.1	3.04	94.2	VD
2	Abomssa		32.1	8.6	373.3	NA	NA	NA
3	Alge		0.3	8.9	3.4	NA	NA	NA
4	Alemaya		4.5	10.2	44.1	NA	NA	NA
5	Ambo		0	13.5	0.0	NA	NA	NA
6	Arsi Robe		0	12.7	0.0	NA	NA	NA
7	Asgori		0	4.8	0.0	NA	NA	NA
8	Assela		0	13.5	0.0	NA	NA	NA
9	Bedelle		14.5	22.2	65.3	4.04	125.2	D
10	Begi		1.8	3	60.0	NA	NA	NA
11	Bure		0	12	0.0	NA	NA	NA
12	Chira		57.6	49.6	116.1	NA	NA	NA
13	DembiDollo		23.5	17.9	131.3	3.29	102	D
14	DoloMena		27.8	21.8	127.5	NA	NA	NA
15	DebreZeit		0	3.4	0.0	4.49	139.4	VD
16	Ejaji		4.8	13.6	35.3	3.93	121.8	VD
17	Filtu		0	8.8	0.0	NA	NA	NA
18	Fitche		0	8.8	0.0	4.53	140.4	VD
19	Gatira		0	22.7	0.0	NA	NA	NA
20	Gelemso		22	16.5	133.3	4.19	129.9	D
21	Gimbi		0	2.6	0.0	NA	NA	NA
22	Ginir		0	19.2	0.0	NA	NA	NA
23	Gore		29.9	46.3	64.6	3.27	101.4	MD
24	HagerMariam		8.4	14.7	57.1	NA	NA	NA
25	Jimma		76.5	34.7	220.5	3.3	102.3	M
26	Kachissei		22	27.9	78.9	NA	NA	NA
27	KibreMengist		17.9	17.6	101.7	3.36	104.2	D
28	Koffele		28	32.3	86.7	NA	NA	NA
29	Kulumsa		0	11.5	0.0	NA	NA	NA
30	LimuGenet		51.8	35.5	145.9	NA	NA	NA
31	Masha		95.8	93.2	102.8	NA	NA	NA
32	Meisso		0	8.2	0.0	4.13	128	VD
33	Metehara		0	7.1	0.0	5	155	VD
34	Moyale		19.9	22.2	89.6	NA	NA	NA
35	Nazreth		1.6	6.4	25.0	NA	NA	NA
36	Neghele		13.4	11.2	119.6	5.62	174.2	VD
37	Nedjo		1.5	4.7	31.9	4.88	151.3	VD
38	Nekemte		1.5	18.2	8.2	3.63	112.5	VD
39	Robe(Bale)		13.7	10	137.0	3.58	111	D
40	Sekoru		21.8	23.1	94.4	3.46	107.3	D
41	Shambu		18	18.8	95.7	NA	NA	NA
42	Woliso		0	5.4	0.0	NA	NA	NA
43	Yabello		2.6	21.1	12.3	NA	NA	NA
44	Zeway		0	3.4	0.0	4.49	139.2	VD
1	DegeHabur	SOMALI	0	2.7	0.0	NA	NA	NA
2	DoloOdo		0	10.7	0.0	NA	NA	NA
3	Gode		0	3	0.0	5.43	168.3	VD
4	Jijiga		0	10.5	0.0	4.64	143.8	VD
5	KebriDehar		0	4.8	0.0	NA	NA	NA
1	ArbaMinch	SNNPR	39.7	23.9	166.1	3.41	105.7	MD
2	Awassa		15.6	33.9	46.0	3.9	120.9	D
3	Dilla		0	34.8	0.0	NA	NA	NA
4	Hosaina		14	20.3	69.0	3.78	117.2	D
5	Konso		33.2	29.5	112.5	4.46	138.3	D

6	Jinka		92.4	69.1	133.7	3.16	98	M
7	Sawla		0	54.4	0.0	NA	NA	NA
8	Sodo		26.9	29.7	90.6	4.89	151.6	D
1	Pawe	B/GUMUZ	0	0.4	0.0	3.51	108.8	VD
2	Asossa		0	22	0.0	3.58	111	VD
3	Bullen		0	0.7	0.0	NA	NA	NA
1	Addis Aababa.Obs	A.A	0	11	0.0	3.14	97.3	VD
1	Diredawa	D.D	5.7	10.5	54.3	3.92	121.5	VD
1	Harar	Harai	4.9	6.5	75.4	4.28	132.7	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.

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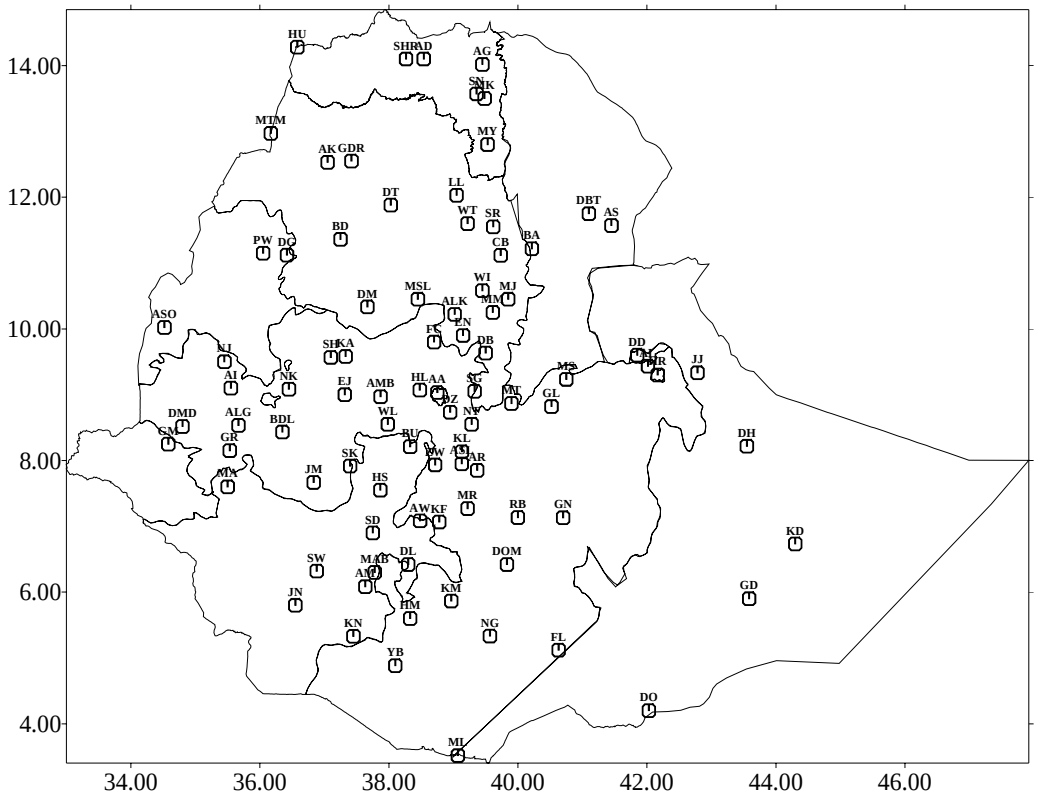

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Adigrat	AG	D/Odo	DO	K.Dehar	KD	Robe	RB
Adwa	AD	D/Tabor	DT	K/Mingist	KM	Sawla	SW
Aira	AI	Dangla	DG	Kachise	KA	Sekoru	SK
Alemaya	AL	Dilla	DL	Koffele	KF	Senkata	SN
Alem Ketema	ALK	Dm.Dolo	DMD	Konso	KN	Shambu	SH
Alge	ALG	Dubti	DBT	Kulumsa	KL	Shire	SHR
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Arbaminch	AM	Enwary	EN	M.Meda	MM	Sirinka	SR
Asaita	AS	Fiche	FC	M/Abaya	MAB	Sodo	SD
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Assosa	ASO	Gambela	GM	Majete	MJ	Woliso	WL
Awassa	AW	Gelemso	GL	Masha	MA	Woreilu	WI
Aykel	AK	Ginir	GN	Mekele	MK	Yabello	YB
B. Dar	BD	Gode	GD	Merraro	MR	Ziway	ZW
Bati	BA	Gonder	GDR	Metehara	MT		
Bedelle	BDL	Gore	GR	Metema	MTM		
BUI	BU	H/Mariam	HM	Mieso	MS		
Combolcha	CB	Harer	HR	Moyale	ML		
D.Berehan	DB	Holleta	HL	M/Selam	MSL		
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