MONTHLY AGROMETEOROLOGICAL BULLETIN
OCTOBER 2003
VOLUME 13 No. 30
DATE OF ISSUE: - November 5, 2003

FOREWARD

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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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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Generally the observed below to much below normal rainfall during the month of October over most parts of Meher growing areas could have negative impact on crops which are not attaining their maturity and on crops which were at early vegetative stage. As a result, some areas from western Oromiya and northern SNNPR reported medium field condition due to water stress. For instance, Dembi Dolo, Assosa and Hosaina reported persistent wilting, slight wilting and partial dry on crops field respectively during the third dekad of October. Besides, as the moisture status analysis indicates with the exception of pocket areas of western Amhara and Oromiya, most parts of the country exhibited dry to very dry moisture status. On the other hand, the dry weather condition could facilitate the harvest and post harvest activities in areas where harvest and post harvest activities are under question. Pursuant to the crop phonological report harvest and post harvest activities were underway in some areas of Meher growing areas. Thus, harvesting of cereal crops like maize and wheat was on progress in some areas of western and central Oromiya during the third dekad of the month. Maize was at wax and full ripeness stage in some areas of eastern Amhara, western and central Oromiya and northern SNNPR while at flowering stage over some areas of western Amhara. Sorghum was at flowering stage in most parts of Meher growing areas while at ripeness stage in western Oromiya. Wheat was at tillering stage in some areas of eastern Amhara and western Oromiya while at flowering and ripeness stages in central Oromiya, eastern Amhara and northern SNNPR. On the other hand, wheat was at early vegetative stage in some areas of southern Oromiya during the month under review. Pulse crops were at flowering and ripeness stages in some areas of eastern Amhara, central and western Oromiya. Harvesting of beans was being progressed in some areas of central Oromiya. Teff was at ripeness stage in eastern Amhara, western and central Oromiya. Nug was at early vegetative stage in some areas of western Amhara and southeast Oromiya while at yellow and green ripeness stage in some areas of western and central Oromiya. Flax was at light green ripeness stage in some areas of central Oromiya. Millet was at flowering stage in some areas of western Oromiya.

Despite the fact that the decreasing rainfall amount observed over most parts of Meher growing areas of the country during the first dekad of October 2003, the Meher crops were in a good shape in most parts of Meher growing areas due to the stored soil moisture accumulated during the preceding dekads.

Better rainfall activity was observed during the second dekad of October 2003 as compared to that of the preceding dekad. Nevertheless, Tigray, most parts of Afar, eastern margin of Benishangul – Gumuz, parts of central, eastern and southern Oromiya and most parts of Somali experienced below to much below normal rainfall. Harvesting of cereal crops like maize, tef and millet was under way in some areas of Tigray, eastern Amhara, western and southern Oromiya.

Most parts of the country experienced below normal rainfall distribution during the third dekad of October 2003. This situation favored harvest and post harvest activities in some Meher growing areas. On the other hand, it resulted in moisture stress on crops, which were at grain filling, flowering and early vegetative stages in some areas where frequent dry spell prevailed for long time during the previous dekads. With regard to air temperature, some highland areas of southern and southeastern Amhara, central and eastern Oromiya exhibited extreme minimum air temperature below 5^{o}C. Among the reporting stations Arsi Robe, Mehal Meda, Wegel Tena, Fitche and Alemaya recorded extreme minimum temperature below 5°C for six to eight consecutive days during the dekad. For instance, Debre Birhan reported extreme air temperature lowering up to – 1.5 ^{o}C. Thus, this condition could have negative impact on the normal growth and development of existing crops, pasture and other vegetations over the aforementioned areas.

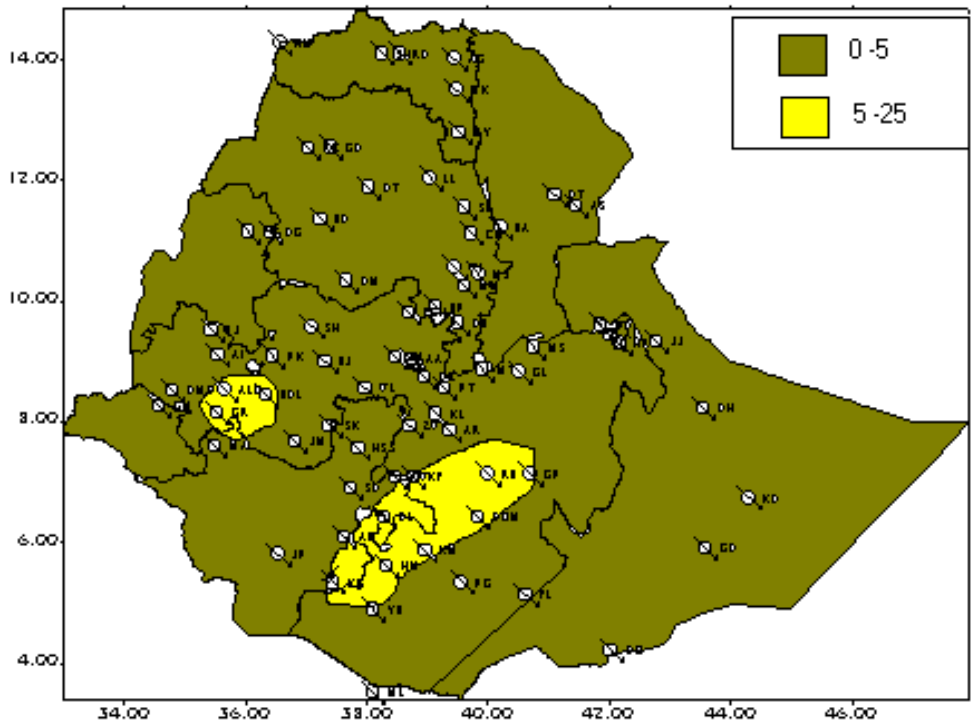


Fig 1. Rainfall distribution in mm (21-31 October, 2003)

1. WEATHER ASSESSMENT

1.1 21-31 October 2003

1.1.1 Rainfall amount (Fig.1)

Eastern margin of SNNPR, pocket areas of western and southern Oromiya received falls in the range of 5-25 mm while the rest of the country had little or no rain.

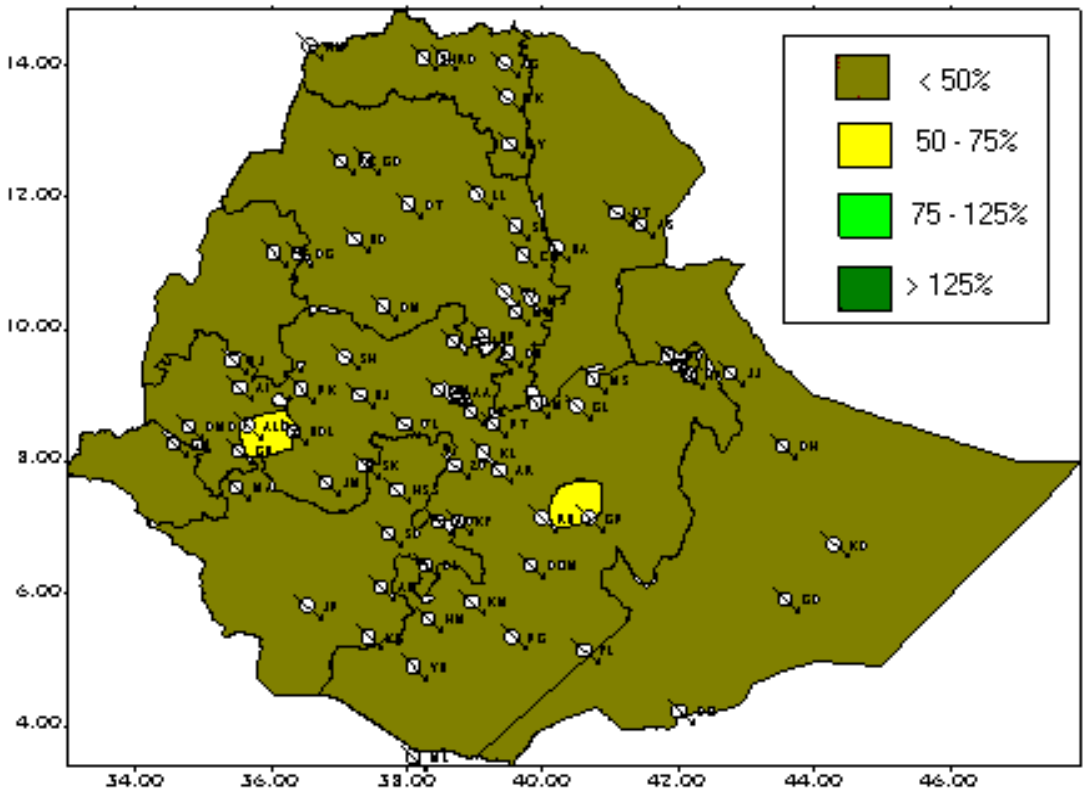


Fig. 2 Percent of normal rainfall (21-31 October, 2003)

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 the country experienced below to much below normal rainfall distribution.

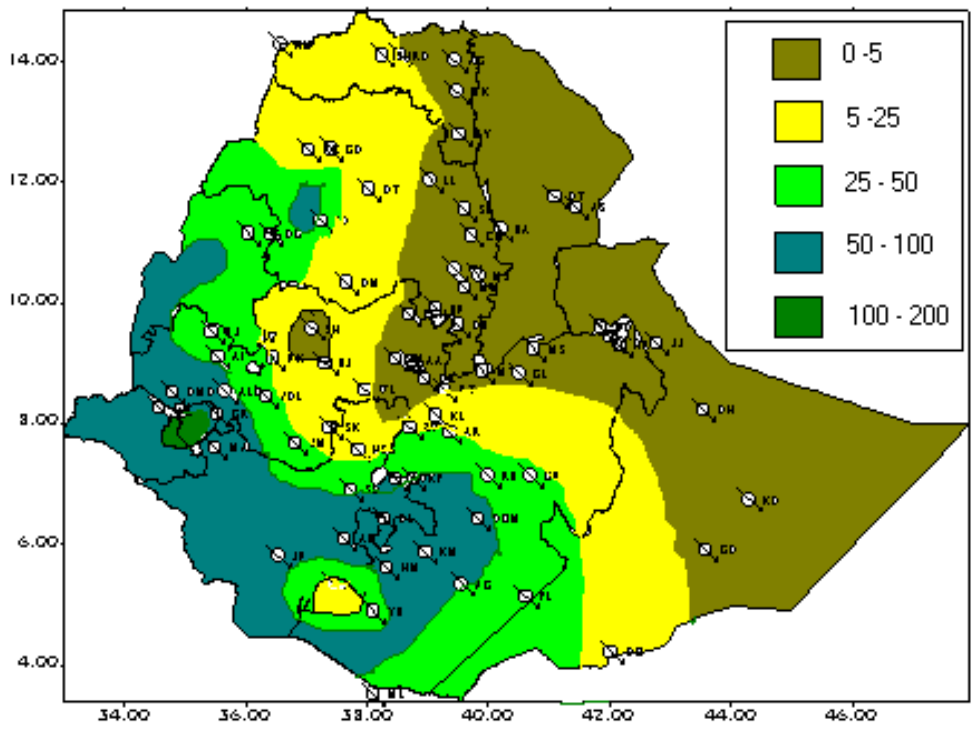


Fig. 3 Rainfall Distribution in mm for the month of October 2003

1.2 October 2003

1.2.1 Rainfall Amount (Fig.3)

Pocket areas of western Oromiya received above 100 mm; Gambela, most parts of SNNPR, parts of western and southern Oromiya, most parts of western Benishangul-Gumuz and pocket areas of western Amhara received falls in the range of 50-100 mm. Parts of southern and western Oromiya, northern and southern Benishangul-Gumuz, southwestern Somali, pocket areas of northern and southeastern SNNPR and parts of western Amhara received falls ranging from 25-50 mm while the rest of the country received below 25 mm of rainfall.

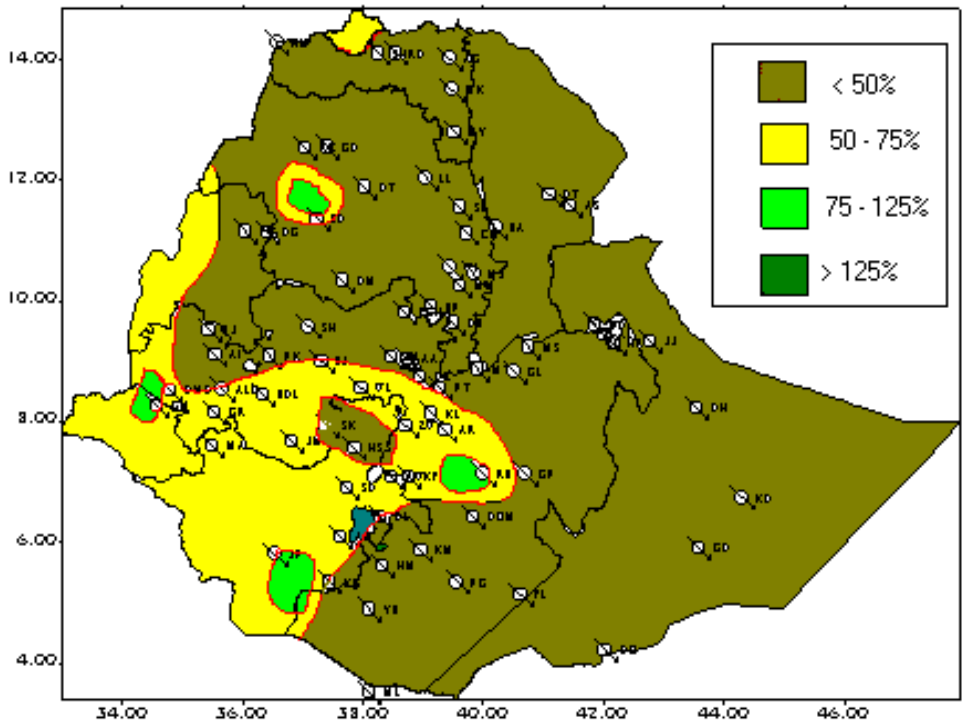


Fig. 4 Percent of Normal Rainfall for the month of October 2003

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 pocket areas of western Amhara, western and central Oromiya including pocket areas of southeastern SNNP most parts of the country experienced below to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

Some highland areas of southern and southeastern Amhara, central and eastern Oromiya exhibited extreme minimum air temperature below 5^{o}C. Among the reporting stations Arsi Robe, Mehal Meda, Wegel Tena, Fitch and Alemaya recorded extreme minimum temperature below 5°C for six to eight consecutive days during the dekad. For instance, Debre Birhan reported extreme air temperature lowering up to $-1.5\,^{o}$C. Thus, this condition could have negative impact on the normal growth and development of existing crops, pasture and other vegetations over the aforementioned areas.

2. WEATHER OUTLOOK

2.1 For the first dekad of November 2003

In the coming dekad southern and southwestern sectors of the country are likely to get occasional rain showers. Hence, southern and western Oromiya, SNNPR, Gambela and Benishangul-Gumuz will get some rain showers. Besides, southern Somali will get isolated rains. However, dry weather condition will persist over the remaining portions of the country.

2.2 For the month of November 2003

November is normally a dry month mainly for central and northern half of the country. For southern, southeastern and southwestern parts of the country, however, it is the period when they receive rains for some days. In the coming November, the rain bearing systems are likely to favor the occurrence of rain showers over southern half of the country. Further, more, occasional rain showers are expected to occur for few days over central and northern half of the country. Hence, southern and western Oromya, SNNPR, Gambela and Bensihangul-gumuz will receive better rain showers for some days. Occasional rain shower as well as patches clouds are expected to stabilize night and early morning temperature over the highlands of the country.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

The observed below to much below normal rainfall during the month of October over most parts of Meher growing areas could have negative impact on crops which are not attaining their maturity and on crops which were at early vegetative stage. As a result, some areas from western Oromiya and northern SNNPR reported medium field condition due to water stress. For instance, Dembi Dolo, Assosa and Hosaina reported persistent wilting, slight wilting and partial dry on crops field respectively during the third dekad of October. Besides, as the moisture status analysis indicates with the exception of pocket areas of western Amhara and Oromiya, most parts of the country exhibited dry to very dry moisture status. On the other hand, the dry weather condition could facilitate the harvest and post harvest activities in areas where harvest and post harvest activities are under question. Pursuant to the crop phonological report harvest and post harvest activities were underway in some areas of Meher growing areas. Thus, harvesting of cereal crops like maize and wheat was on progress in some areas of western and central Oromiya during the third dekad of the month. Maize was at wax and full ripeness stage in some areas of eastern Amhara, western and central Oromiya and northern SNNPR while at flowering stage over some areas of western Amhara. Sorghum was at flowering stage in most parts of Meher growing areas while at ripeness stage in western Oromiya. Wheat was at tillering stage in some areas of eastern Amhara and western Oromiya while at flowering and ripeness stages in central Oromiya, eastern Amhara and northern SNNPR. On the other hand, wheat was at early vegetative stage in some areas of southern Oromiya during the month under review. Pulse crops were at flowering and ripeness stages in some areas of eastern Amhara, central and western Oromiya. Harvesting of beans was being progressed in some areas of central Oromiya. Teff was at ripeness stage in eastern Amhara, western and central Oromiya. Nug was at early vegetative stage in some areas of western Amhara and southeast Oromiya while at yellow and green ripeness stage in some areas of western and central Oromiya. Flax was at light green ripeness stage in some areas of central Oromiya. Millet was at flowering stage in some areas of western Oromiya.

3.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING DEKAD

The expected occasional rain showers during the month of November 2003 over central and northern half of the country would have negative impact on harvest and post harvest activities. Thus, farmers are advised to take proper action as per their capacity by using the available sunny condition. Despite better rain shower is expected over southern and western Oromiya, SNNPR, Gambela and Benishangul – Gumuz attention should be given for proper water harvesting activities in order to make avail moisture for crops which are not attaining their maturity stage and the availability of drinking water and pasture.

Table 1 Climatic and Agro-Climatic elements of different stations for the month of October 2003

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture status
1	Adwa	TIGRAI	3.1	27.3	11.4	NA	NA	NA
2	Mekele		0.7	3.6	19.4	4.94	148.2	VD
3	Metema		11.1	44.5	24.9	NA	NA	NA
4	Michew		4.7	49.7	9.5	3.78	113.4	VD
5	Senkata		7.9	14.1	56.0	5.32	159.6	VD
6	Shire		16.7	29.6	56.4	4.67	140.1	D
1	Assayta	AFAR	0	73.3	0.0	6.49	194.7	VD
2	Dubti		0	3.8	0.0	5.1	153	VD
1	Alemketema	AMHARA	2.5	26.9	9.3	NA	NA	NA
2	Bahirdar		73.9	81.8	90.3	4.02	120.6	M
3	Bati		0	30.3	0.0	5.55	166.5	VD
4	Combolcha		0.2	32.8	0.6	3.84	115.2	VD
5	Chefa		0	41.8	0.0	4.46	133.8	VD
6	D.Birhan		0	21.4	0.0	NA	NA	NA
7	D.Markos		10.7	41.7	25.7	4.11	123.3	VD
9	Dangla		32	81.9	39.1	3.56	106.8	MD
12	Gonder		16.2	52.4	30.9	4.32	129.6	D
14	M.Meda		0.1	38.2	0.3	NA	NA	NA
15	Majete		3	41.6	7.2	4.09	122.7	VD
18	Sirinka		0	43.2	0.0	4.14	124.2	VD
19	Woreilu		0	14.3	0.0	4.98	149.4	VD
20	Wegeltena		0	11.9	0.0	4.34	130.2	VD
1	Aira	OROMIYA	66.8	135	49.5	3.54	106.2	M
2	Alemaya		0.2	40.8	0.5	4.53	135.9	VD
3	Ambo		0.8	28.3	2.8	NA	NA	NA
4	Arsi Robe		33.6	62.4	53.8	NA	NA	NA
5	Bedelle		86.5	129.3	66.9	4.34	130.2	M
6	Bui		0	129.2	0.0	4.94	148.2	VD
7	D.Dollo		78.3	94.1	83.2	3.86	115.8	M
8	D.Mena		78.6	69.8	112.6	NA	NA	NA
9	D.Zeit		0	16.7	0.0	4.96	148.8	VD
10	Gelemso		2.8	93.8	3.0	4.02	120.6	VD
11	Gimbi		61.9	114.3	54.2	4.06	121.8	M
12	Gore		102.1	186.2	54.8	NA	NA	NA
13	Jimma		89.9	88	102.2	3.55	106.5	M

14	K.Mengist		74.7	182.1	41.0	3.28	98.4	M

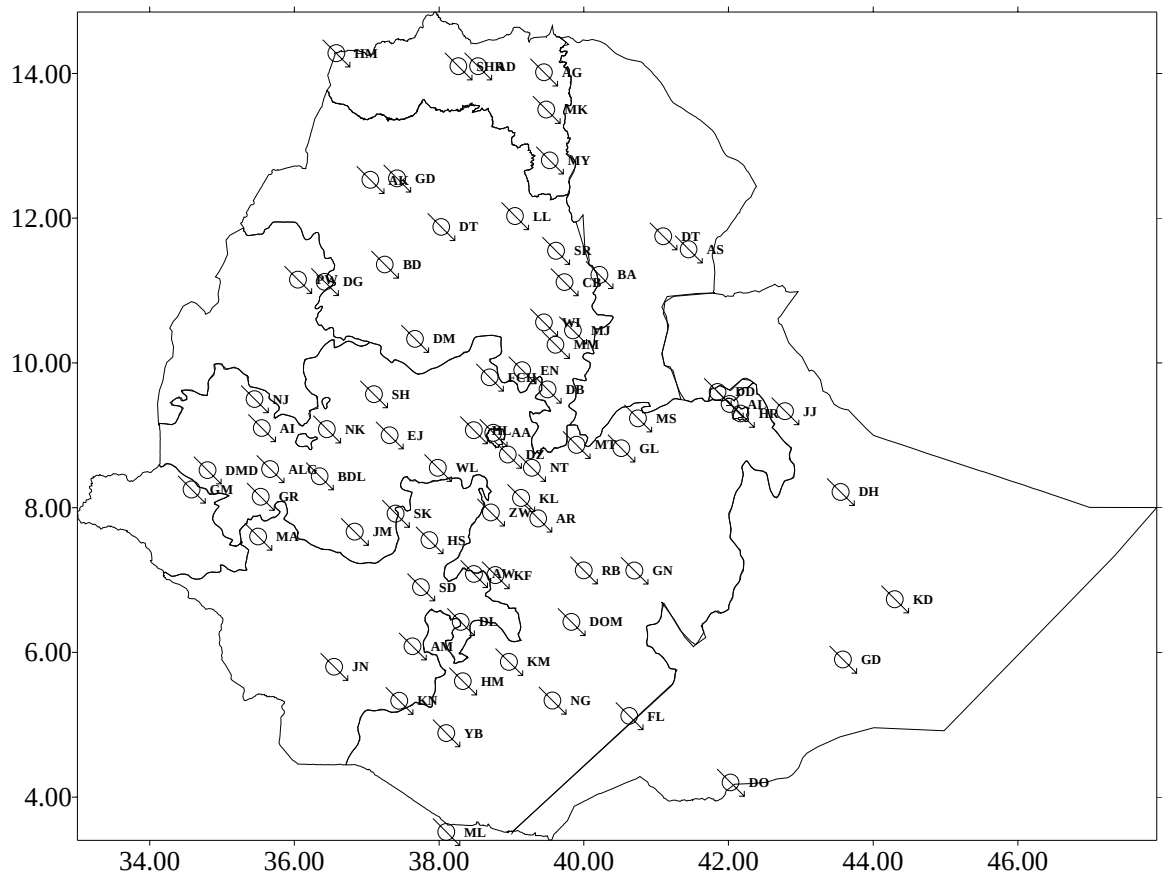
15	Kulumsa		17.8	33.2	53.6	5.16	154.8	D
16	Masha		65.4	188.4	34.7	3.37	101.1	M
17	Meisso		0	34	0.0	4.73	141.9	VD
18	Metehara		0	21.6	0.0	5.46	163.8	VD
19	Nazreth		0	25.2	0.0	NA	NA	NA
20	Neghele		50.5	163.6	30.9	4.67	140.1	MD
21	Nedjo		58.5	116	50.4	3.41	102.3	M
22	Nekemte		13.9	142.4	9.8	3.77	113.1	D
23	Robe(Bale)		49.2	75.7	65.0	NA	NA	NA
24	Sekoru		13.8	65.6	21.0	4.94	148.2	VD
25	Shambu		3.8	73.8	55.1	3.88	116.4	VD
26	Woliso		21.2	37.1	57.1	5.83	174.9	D
27	Yabello		23.9	90.7	26.4	4.55	136.5	D
28	Zeway		0	40.9	0.0	5.14	154.2	VD
2	Gode	SOMALI	10.7	47.7	22.4	NA	NA	NA
4	Jijiga		0	46	0.0	NA	NA	NA
1	A.Minch	SNNPR	84.4	98	86.1			
2	Awassa		53.4	80.8	66.1	3.9	117	MD
3	Hosaina		11.7	70	16.7	4.49	134.7	VD
4	Konso		41.9	36.6	114.5	NA	NA	NA
1	Pawe	B/GUMUZ	73.5	130.9	56.1	3.97	119.1	M
1	A.A.Obs.	A.A	0.8	35.5	2.3	3.92	117.6	VD
1	Diredawa	D.D	2.1	23.9	8.8	5.11	153.3	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)



Station	Symbol
A. Robe	AR
A.A. Bole	AAB
A.A. Obs	AAO
Adwa	AD
Adigrat	AG
Alemaya	AL
Alge	ALG
Aira	AI
Arba Minch	AM
Awassa	AW
B. Dar	BD
Bati	BA
Bedelle	BD
Combolcha	CB
D.Berehan	DB
D.Habour	DH
D.Markos	DM
D.Zeit	DZ
D/Dawa	DD
Dm.Dolo	DMD
Dubti	DB
Ejaji	EJ
enwary	EN
Fiche	FCH
Gode	GD
Gonder	GOR
Gore	GR
Harara	HR
Holleta	HL
Hossaina	HS
Jiiiga	JI
Jimma	JM
K.Dehar	KD
K/Mingist	KM
Koffele	KOF
Kulumsa	KL
M.Meda	MM
Maichew	MY
Majete	MJ
Mekele	MK
Metehara	MT
Mieso	MS
Moyale	ML
Nazereth	NT
Nedjo	NJ
Negelle	NG
Nekemte	NK
Robe	RB
sekoru	SK
Shambu	SH
Shire	SHR
S.Gebeya	SG
Sirinka	SR
Sodo	SD
Woreilu	WI
Woliso	WL
Yabello	YB
Ziway	ZW