MONTHLY AGROMETEOROLOGICAL BULLETIN
NOVEMBER 2003
VOLUME 13 No. 33
DATE OF ISSUE: - December 3, 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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During the first dekad of November 2003 harvest and post harvest activities were under way in some areas of Meher growing areas. In accordance with the crop phonological report harvesting of cereals, oil crops and pulses were on progress over some areas of eastern Amhara like Lalibela, Wegel Tena and Mekane Selam, western and southern Oromiya. Besides, cotton picking was going on in some areas of central Afar (Dupti). The observed above normal rainfall distribution over Gambela and Benishangul-Gumuz resulted in crop damage and livestock loss. On the other hand, it has significant contribution for season's agricultural activities and the availability of pasture and drinking water over southern Oromiya like Yabello and Kibre Mengist including Borena Zones.

During the second dekad of November 2003 harvest and post harvest activities continued in most parts of Meher growing areas. However, occasional and heavy falls caused crop damage in some areas of western (Algie) and southern Oromiya (Moyale), respectively. Pursuant to the crop phonological report harvest of cereal crops like maize, sorghum, wheat and teff was underway in some areas of eastern Amhara, western and central Oromiya. Some pocket areas of southern Oromiya and Somlali exhibited heavy falls greater than 30 mm. However, this condition can help in moderating the water and pasture stress experienced over the area during the last dekades.

During the third dekad of November 2003, most parts of southern and southeastern lowlands of Ethiopia received normal to above normal rainfall. Thus, this condition could improve the deficient moisture condition over pastoral areas of lowlands of Oromiya and Somali. The prevailing dry and sunny condition over most parts of northern half of the country would favour harvest and post harvest activities in the areas. With regard to air temperature, some pocket areas of central highlands exhibited minimum temperature less than 5° C. For instance, Wegel Tena and Debre Birhan recorded minimum temperature less than 5°C for seven and eight consecutive days, respectively.

Generally, during the month of November, most parts of western and southern half of the country experienced normal to above normal rainfall. As a result, some areas of western and southwestern parts of the country experienced moist to humid moisture status during the month. South and southeastern parts of the country including areas mainly growing perennial crops could get benefits from the above mentioned moist situation while the reveres was true for the areas where harvest and post harvest activities were under question. Some areas from the south received heavy falls up to 64 mm in one rainy day like Gode. Thus, the erratic nature of rainfall could affect the vegetation condition of the areas. Besides, it could favour the outbreak of pests. In gross, the dry and sunny condition favored the harvest and post harvest activities in areas were the activities are under progress. As the moisture status analysis indicates most parts of the country are under dry to very dry moisture condition. Pursuant to the latest crop phonological report (21 – 30, November 2003) harvest of cereals and pulse was under way in some areas of western Oromiya and eastern Amhara. Sorghum is at ripeness stage in some areas of western and central Oromiya including eastern Amhara. Maize is at flowering stage in eastern parts of central Oromiya.

With regard to air temperature, some pocket highland areas of eastern and central Oromiya including eastern Amhara like Wegel Tena, Mehal Meda, Alemaya, Fitche and Bui exhibited extreme minimum air temperature below 5^{o}C repeatedly during the month under review. This situation could have negative impact on the normal growth and development of the plant.

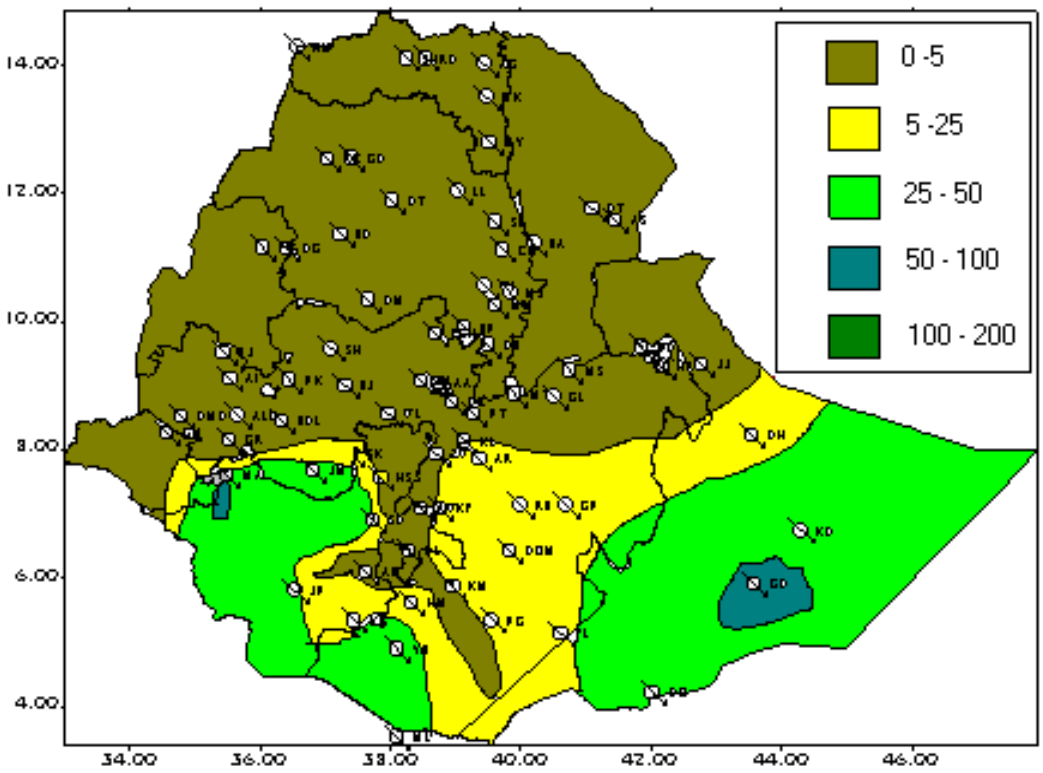


Fig 1. Rainfall distribution in mm (21-30 November, 2003)

1. WEATHER ASSESSMENT

1.1 21-30 November 2003

1.1.1 Rainfall amount (Fig.1)

Pocket areas of Somali experienced above 50 mm of rainfall. Parts of southern Somali, most parts of SNNP and few areas of southern Oromiya received falls in the range of 25 – 50 mm. Parts of eastern and southern Oromiya, few areas of SNNPR and Somali received falls ranging from 5 – 25 mm while there was little or no rainfall over the rest of the country.

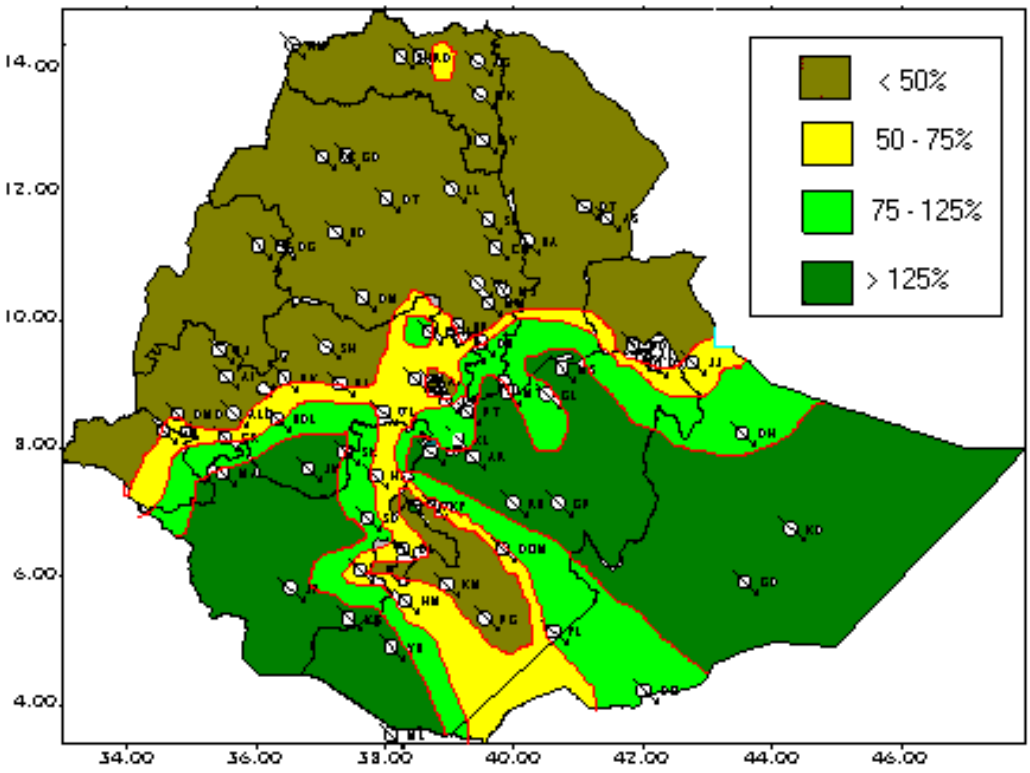


Fig. 2 Percent of normal rainfall (21-30 November, 2003)

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 southern half of the country exhibited normal to above normal rainfall distribution while the reverse was true for the northern half.

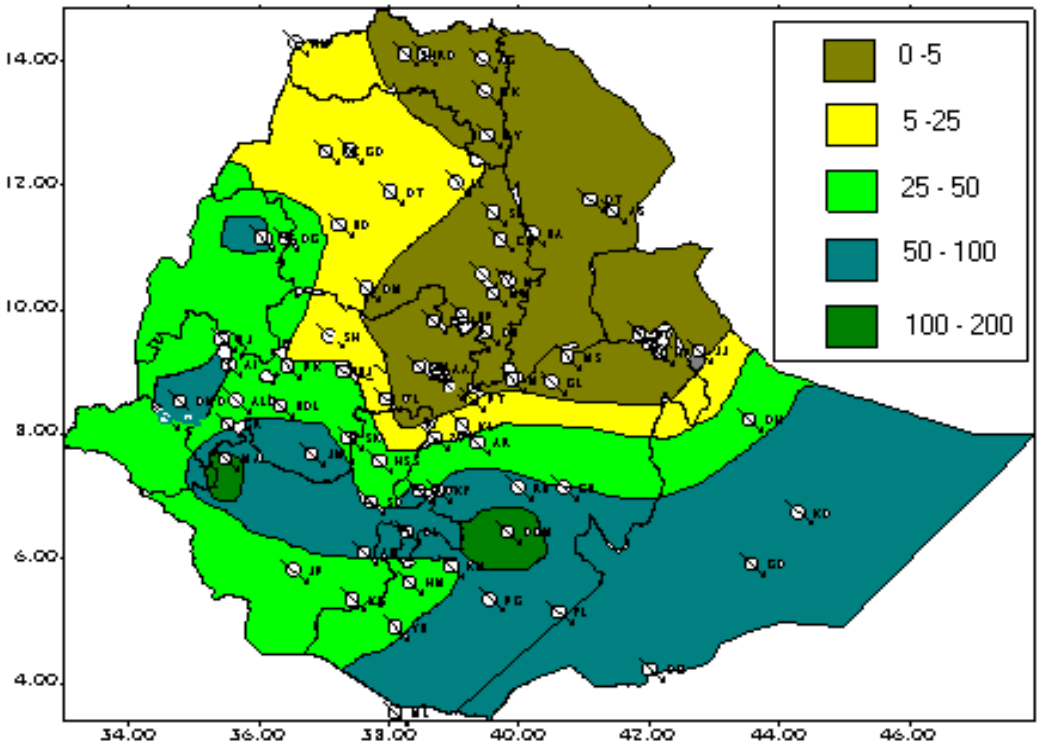


Fig. 3 Rainfall Distribution in mm for the month of November2003

1.2 November 2003

1.2.1 Rainfall Amount (Fig.3)

Most parts of Somali, southern and parts of eastern Oromiya, parts of northern SNNPR including few areas of western Oromiya and Benishangul – Gumuz experienced falls in the range of 50 – 100 mm. Most parts of Benishangul – Gumuz, Gambela, parts of Oromiya and southern half of SNNPR received falls ranging from 25 – 50 mm. The rest of the country experienced below 25 mm of rainfall.

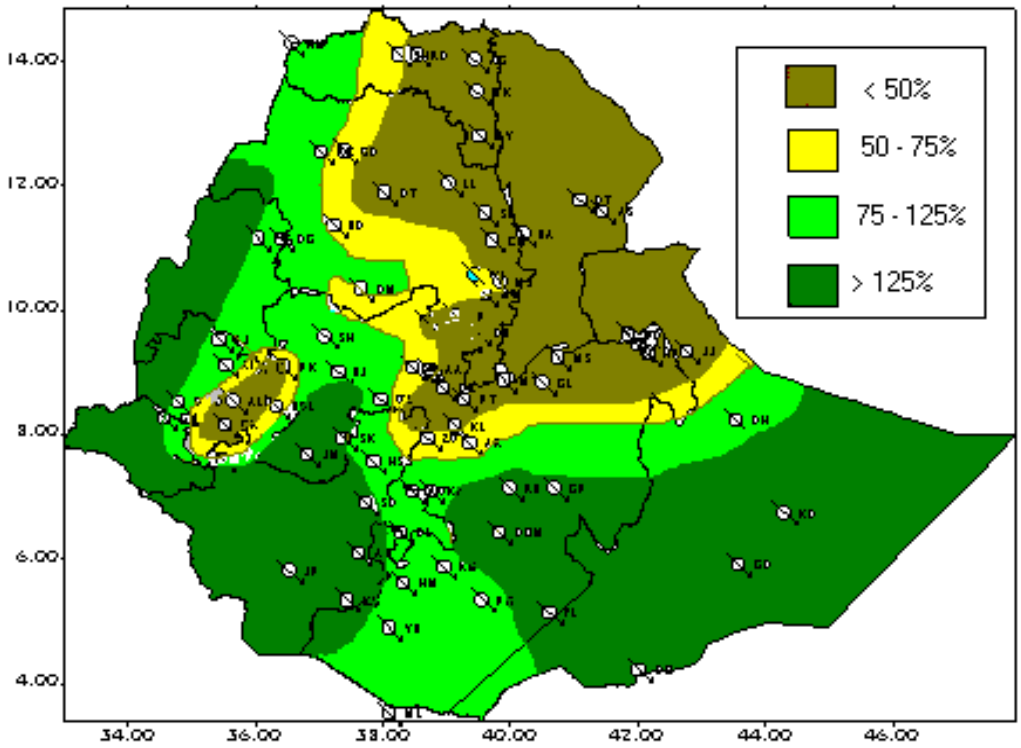


Fig. 4 Percent of Normal Rainfall for the month of November 2003

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)

Most parts of western and southern half of the country experienced normal to above normal rainfall. Below to much below normal rainfall was observed over eastern half of Tigray, eastern Amhara, eastern Oromiya and northern Somali.

1.3 TEMPERATURE ANOMALY

Some pocket area of highlands of eastern and central Oromiya including eastern Amhara exhibited extreme minimum air temperature below 5^{o}C. Among the reporting stations Wegen Tena, Mehal Meda, Alemaya, Fitch and Bui recorded extreme minimum air temperature below 5^{o}C repeatedly during the month under review.

2. WEATHER OUTLOOK

2.1 For the first dekad of December 2003

The rain Producing systems are expected to strengthen over various parts of the country. As a result, unseasonable rain is anticipated over northern half of the country, Furthermore the unseasonable rain will continue over southern half of Ethiopia.

Generally, much of Oromiya, Gambela, SNNPR, much of Somali and eastern Ethiopia, which is bordering Somali, expected to get normal to above normal rainfall. Southern and eastern half of Amhara, central and eastern Tigray will have an increase in cloud coverage, which results in unseasonable rain for a few days within the decade. On the other hand, Benhangul-Gumusz, western Amhara and Tigray are anticipated to be under dry weather conditions though light rain is expected over those areas.

2.1 For the month of December 2003

Under normal circumstance, December is one of the driest month over much of the country consequently, the Bega`s dry and sunny weather conditions dominate the country during this month. In particular, a fall in nighttime and early morning temperature is common phenomenon due to the strengthening of northeasterly winds. However, unseasonable rain occurs occasionally along the rift valley and adjoining areas

During the forecast period, unseasonable rain is anticipated over various parts of the country. Especially, areas along Rift valley and adjoining to it will have a better rainfall amount and distribution. As a result, the frequency of occurrence of frost will be reduced over highland parts of the country

In General, Gambela, much of Oromiya, SNNPR, Somali, southern Afar, southern and eastern half of Amhara, central and eastern Tigray are anticipated to have normal to above normal rainfall. Nevertheless, western, northwestern and northeastern lowlands of Ethiopia will be dry and sunny

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally, during the month of November, most parts of western and southern half of the country experienced normal to above normal rainfall. As a result, some areas of western and southwestern parts of the country experienced moist to humid moisture status during the month. South and southeastern parts of the country including areas mainly growing perennial crops could get benefits from the above mentioned moist situation while the reveres was true for the areas where harvest and post harvest activities were under question. Some areas from the south received heavy falls up to 64 mm in one rainy day like Gode. Thus, the erratic nature of rainfall could affect the vegetation condition of the areas. Besides, it could favour the outbreak of pests. In gross, the dry and sunny condition favored the harvest and post harvest activities in areas were the activities are under progress. As the moisture status analysis indicates most parts of the country are under dry to very dry moisture condition. Pursuant to the latest crop phonological report (21 – 30, November 2003) harvest of cereals and pulse was under way in some areas of western Oromiya and eastern Amhara. Sorghum is at ripeness stage in some areas of western and central Oromiya including eastern Amhara. Maize is at flowering stage in eastern parts of central Oromiya.

With regard to air temperature, some pocket highland areas of eastern and central Oromiya including eastern Amhara like Wegel Tena, Mehal Meda, Alemaya, Fitche and Bui exhibited extreme minimum air temperature below 5^{o}C repeatedly during the month under review. This situation could have negative impact on the normal growth and development of the plant.

3.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING DEKAD

The anticipated unseasonable rainfall over various parts of the country would have negative impact on harvest and post harvest activities. Thus, the concerned personnel should undertake proper action ahead of time according to the objective reality of the specific areas. The expected normal to above normal rainfall particularly over lowlands of Oromiya, SNNPR Somali and southern Afar would favour the availability of pasture and drinking water in the areas. However, proper attention should be give for the water harvesting techniques, since the areas are sensitive to moisture deficient.

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

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture status
1	Adigrat	TIGRAI	0.7	25.1	2.8	3.46	103.8	VD
2	Mekele		0	5.5	0.0	5.18	155.4	VD
3	Michew		5	25.6	19.5	3.46	103.8	VD
4	Senkata		4.8	37.2	12.9	5.29	158.7	VD
5	Shire		3.6	3.8	94.7	4.83	144.9	VD
1	Assayta	AFAR	0	4	0.0	NA	NA	NA
2	Dubti		0	5.3	0.0	NA	NA	NA
1	Alemketema	AMHARA	0	9.4	0.0	NA	NA	NA
2	Bahirdar		15.5	17.7	87.6	3.5	105	D
3	Bati		0	14.6	0.0	3.57	107.1	VD
4	Combolcha		0	20.9	0.0	3.52	105.6	VD
5	Chefa		0	80.1	0.0	NA	NA	NA
6	D.Birhan		0	3.5	0.0	4.04	121.2	VD
7	D.Markos		11.5	13.5	85.2	3.85	115.5	VD
8	D.Tabor		13.9	34.3	40.5	NA	NA	NA
9	Dangla		48.2	42.2	114.2	3.31	99.3	MD
10	Gonder		16.2	22.5	72.0	4.04	121.2	D
11	M.Meda		3.5	6.9	50.7	NA	NA	NA
12	Sirinka		0	25.9	0.0	3.81	114.3	VD
13	Wegeltena		3.3	11.8	28.0	3.93	117.9	VD
1	Aira	OROMIYA	69.6	66.9	104.0	3.29	98.7	M
2	Alemaya		0	15.6	0.0	4.13	123.9	VD
3	Ambo		0	9.6	0.0	NA	NA	NA
4	Arsi Robe		40.2	20.4	197.1	3.51	105.3	MD
5	Bedelle		55	33.7	163.2	3.55	106.5	M
6	D.Dollo		67.2	30	224.0	3.18	95.4	M
7	D.Mena		127.5	55.6	229.3	NA	NA	NA
8	D.Zeit		0.6	6.8	8.8	4.59	137.7	VD
9	Ejaji		30.9	30.2	102.3	NA	NA	NA
10	Fitche		0	9	0.0	NA	NA	NA
11	Gelemso		3.4	40.9	8.3	NA	NA	NA
12	Gimbi		71.8	24.6	291.9	3.71	111.3	M
13	Gore		17.6	104.9	16.8	NA	NA	NA
14	Jimma		94.4	56.3	167.7	3.45	103.5	M
15	K.Mengist		50.4	63.9	78.9	3.2	96	M
16	Koffele		92.4	49.1	188.2	4.1	123	M
17	Kulumsa		0	12.2	0.0	4.63	138.9	VD
18	Masha		132.2	91.8	144.0	3.77	113.1	H
19	Meisso		0	3.4	0.0	NA	NA	NA
20	Metehara		3.2	6.5	49.2	NA	NA	NA

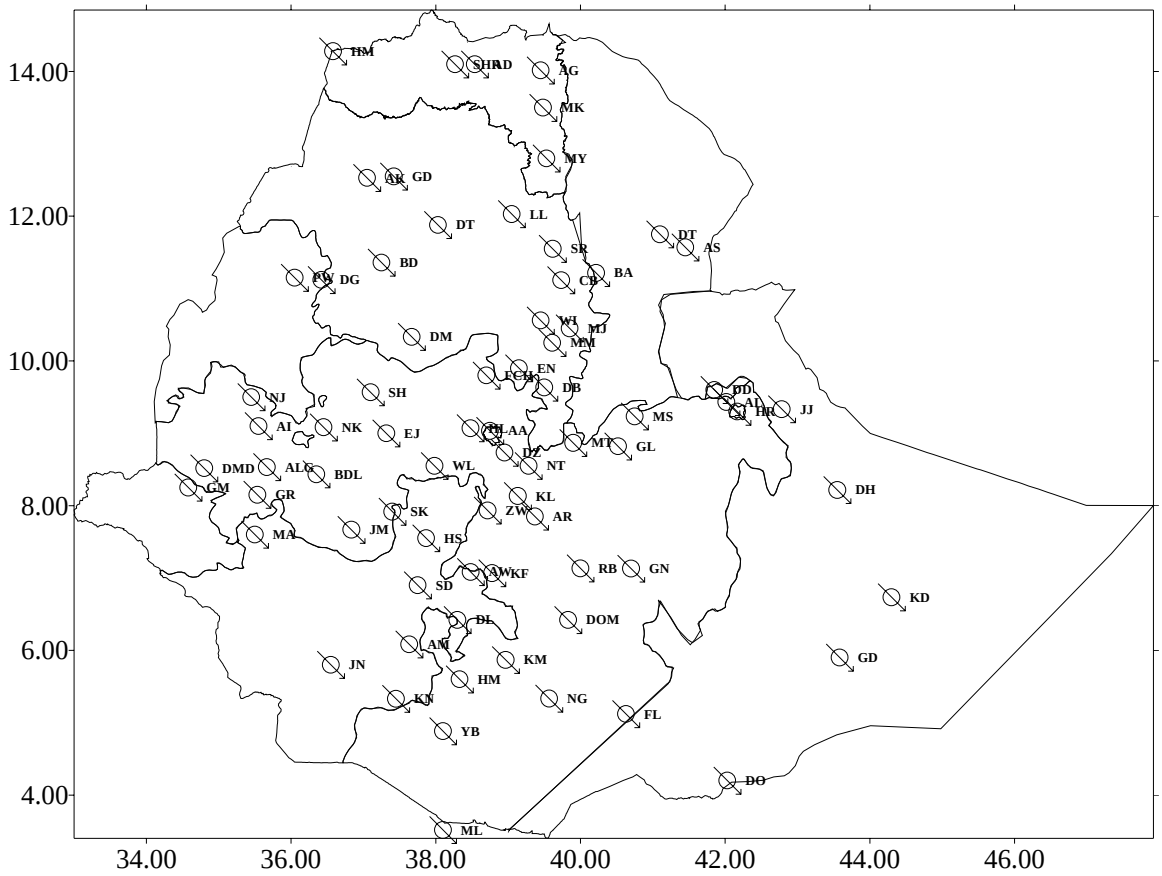
21	Moyale		61.3	74.8	82.0	NA	NA	NA
22	Nazreth		1.1	6.6	16.7	NA	NA	NA
23	Neghele		58.2	50.7	114.8	4.16	124.8	MD
24	Nedjo		34.5	25.1	137.5	3.24	97.2	MD
25	Nekemte		24.3	59.3	41.0	3.52	105.6	D
26	Robe(Bale)		70.8	29	244.1	3.17	95.1	M
27	Sekoru		65.8	19	346.3	3.48	104.4	M
28	Shambu		17.2	21.5	80.0	NA	NA	NA
29	Woliso		44.2	66	67.0	NA	NA	NA
30	Yabello		57.3	53.5	107.1	4.83	144.9	MD
31	Zeway		0	3	0.0	NA	NA	NA
1	Gode	SOMALI	13.5	31.3	43.1	NA	NA	NA
2	Jijiga		0	16.7	0.0	NA	NA	NA
						NA	NA	NA
1	A.Minch	SNNPR	74.5	50.4	147.8	NA	NA	NA
2	Awassa		44.3	49.3	89.9	3.64	109.2	MD
3	Hosaina		26	17.3	150.3	4.18	125.4	D
4	Konso		38.1	27.1	140.6	NA	NA	NA
5	Sodo		57.3	40.8	140.4	4.96	148.8	MD
1	Pawe	B/GUMUZ	58.1	11.6	500.9	3.68	110.4	M
								VD
1	A.A.Obs.	A.A	1.5	8.6	17.4	3.5	105	VD
1	Diredawa	D.D	0	89.4	0.0	4.76	142.8	VD
								VD
1	Harar	Harai	NA	NA	NA	NA	NA	NA

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