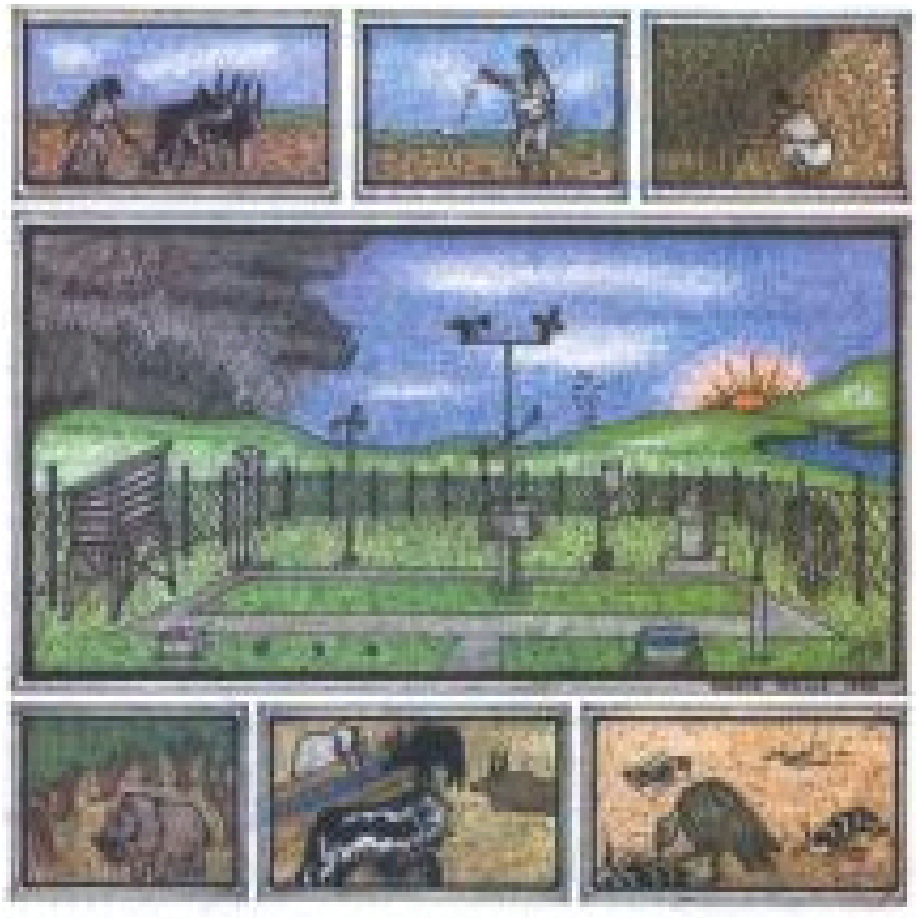
NATIONAL METEOROLOGICAL SERVICES AGENCY AGROMETEOROLOGICAL BULLETIN

MONTHLY AGROMETEOROLOGICAL BULLETIN
DECEMBER 2005
VOLUME 15 No. 36
DATE OF ISSUE: -January 4, 2006



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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

During the first dekad of December 2005 the observed dry Bega weather condition over most parts of the country could have significant contribution on the ongoing harvest and post harvest activities. Regarding crop phenological report, harvest activities over western and central Oromya, northern parts of SNNPR, much of Amhara and post harvest activities in most parts of Meher growing areas were underway. On the other hand, some areas of southwestern highland like (Kibre Mengist, Ayra, Nedgo) Wheat, Barely, Teff, Sorghum was at early maturity stage. Regarding air temperature, from central like (Addis Ababa, Debre Zeit, Bui, Fitche, Kulumsa and Mehal Meda) from western like (Jimma, and Nedgo) from northeastern like (Kombolcha) from northern like (Adigrat and Michew) as well as northwestern like (Dangla, Mota and Debre Markos) experienced minimum temperature below 5^0C. Moreover, Debre Brehan exhibited minimum temperature below 0 ^{0}C lowering up to -2^0C.

During the second dekad of December 2005 the observed dry and windy weather condition over most parts of the country could create favorable condition in the areas where harvest and post harvest activities are under question. As a result harvest and post harvest activities were under way in most parts of the country. The observed below normal rainfall condition over most parts of the country could exacerbate the prolonged dry situation which persisted particularly over the lowlands of pastoral and agro pastoral areas there by negatively affecting the availability of pasture and drinking water in the areas. With regard to air temperature, with the exception of some areas of central (Debre Zeit and Kulmsa), western (Jima) and eastern (Alemaya) a rise in minimum temperature has been observed in most parts of the country relatively as compared to that of the preceding dekad. Among the reporting stations some areas like Debre Zeit, Fithce, Kulumsa, Cheffa, Dangla, Adigrat, Michew, Kofelle Nedjo Robe, Hagre Mariam, and Jijiga, recorded extreme minimum temperature less than 5 ^{0}C for 2-9 consecutive days. Besides, some areas like Wegel Tena, Debre Brehan, Jimma, Alemaya and Mehal Meda recorded -0.1, -0.8, -1.0, -3.2, and –3.2 extreme minimum temperature respectively.

During the third dekad of December 2005, the observed dry and sunny condition over most parts of the country could have a positive impact for the on going harvest and post harvest activities. On the other hand, the observed shortage of moisture particularly over northern and northeastern high lands like Sirinka, Bati and Cheffa in areas which are supposed to get 9 – 30 mm of rainfall at this time of the year under normal circumstances, could have a negative impact on season's agricultural activities like land preparation and sowing in some pocket areas. With regard to extreme minimum air temperature, in some areas like Adigrat, Michew, WegelTena, Alemya, Fitche and MehalMeda recoded extreme minimum temperature below 5^0C throughout the dekad. Besides, Alemya recorded below 0^0C lowering up to -2.5^0C. This situation could exacerbate the persisted stress condition on plants due to frost during the preceding dekads in some areas like Alemya and Debre Brehan.

Generally the dry and windy Bega's weather condition favored harvest and post harvest activities in most parts of the country where the activities are under question. On the other hand the observed deficient moisture particularly during the third dekad of the month in some areas of western and northeastern highlands could have negative impact on land preparation to some extent. Moreover it could affect the water requirements of perennial crops and bushes including affecting the availability of drinking water in pastoral areas. Concerning to the extreme minimum temperature some areas of northern, central, southern and eastern highlands exhibited extreme minimum temperature less than 5^{o}C for 20- 28 days. Among the reporting stations Addis Ababa (BES), Fitche, Adigrat, Dangla, Wegel Tena and Alemya exhibited less than 5^{o} C for 24, 24, 26, 26, 27 and 28 days respectively during the month. Thus this condition could have negative impact on the normal growth and development of existing plants.

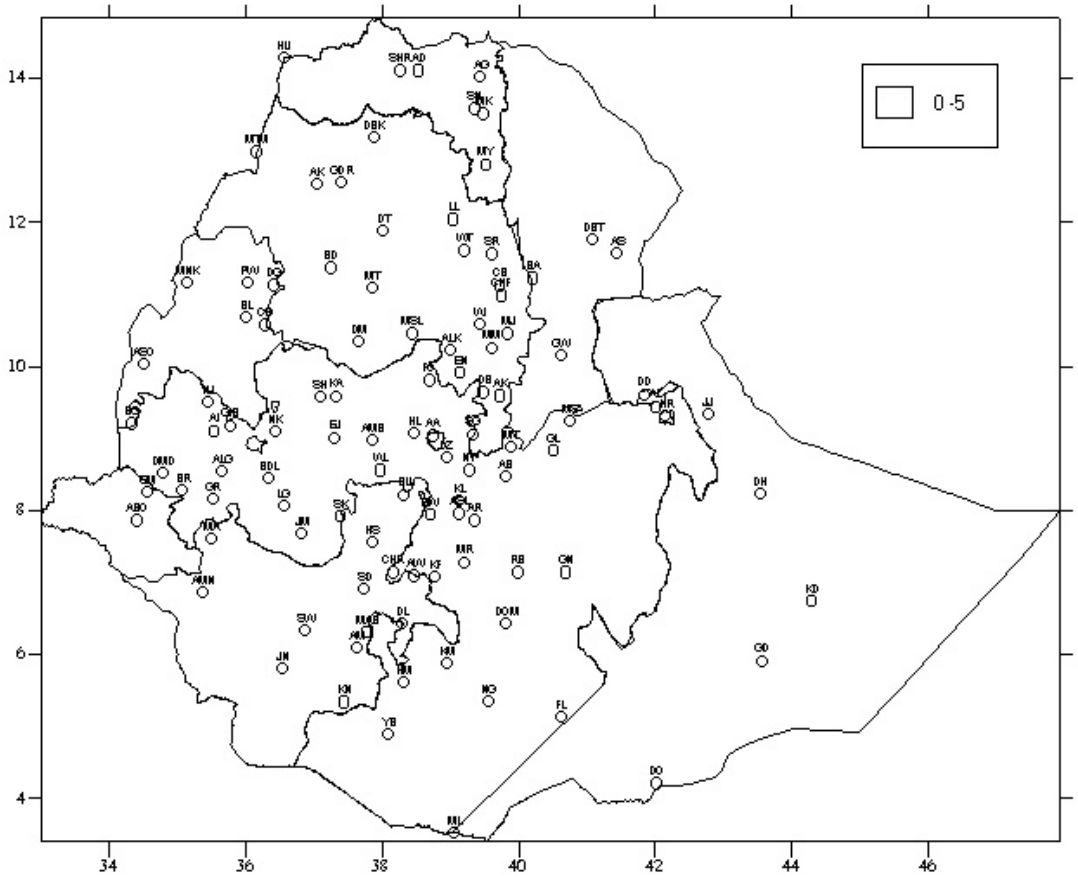


Fig1. Rainfall distribution in mm (21-31 December, 2005)

1. WEATHER ASSESSMENT

1.1 21-31 December, 2005

1.1.1 Rainfall Amount (Fig. 1)

There was little or no rainfall was observed over much portion of the country.

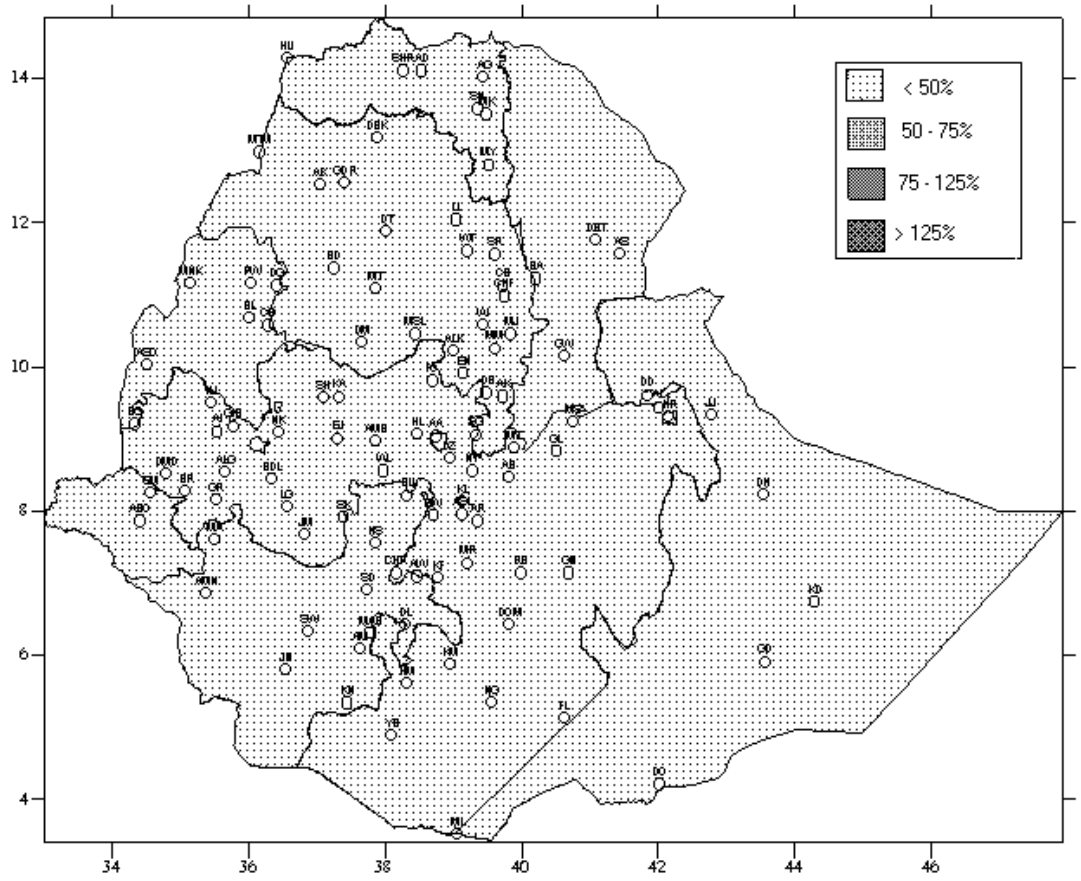


Fig.2 Percent of normal rainfall (21-31 December 2005)

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)

Below normal rainfall distribution was observed over much portion of the country.

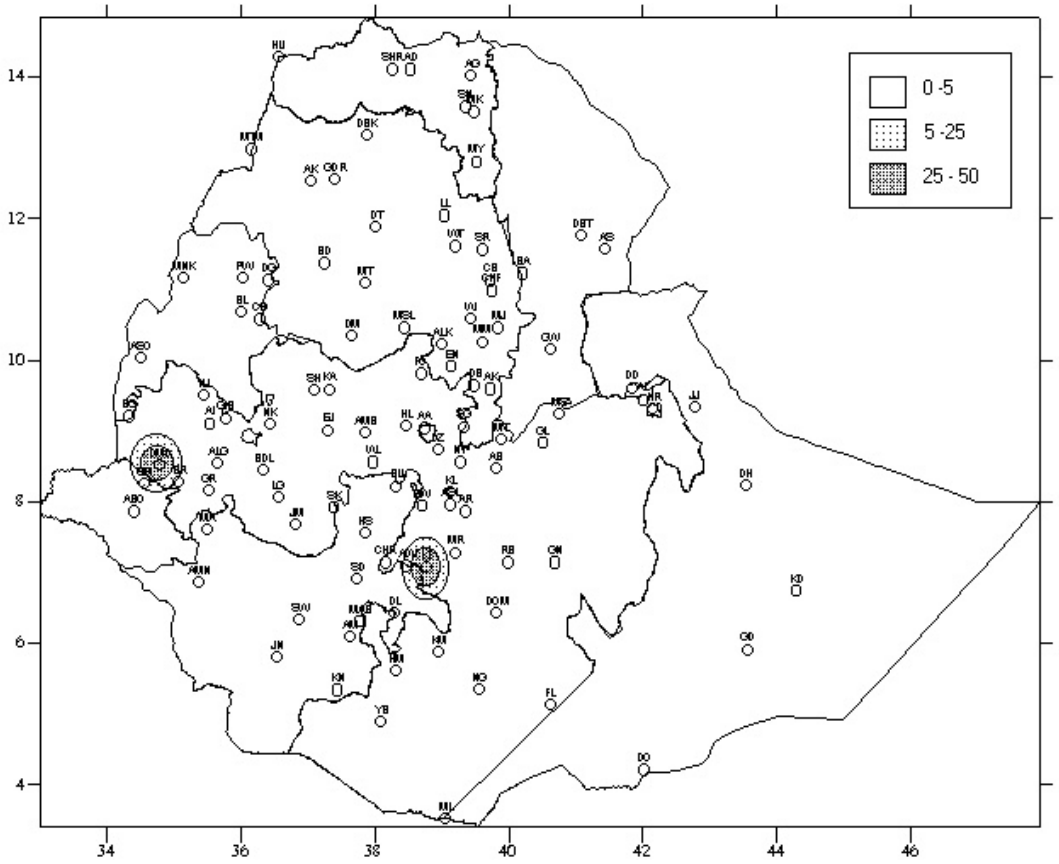


Fig 3. Rainfall distribution in mm for the month of December 2005

1.2 December 2005

1.2.1 Rainfall distribution (Fig.3)

Some pocket areas of western and southern Oromya received falls 5-50 mm. There was little or no rainfall over most parts of the country.

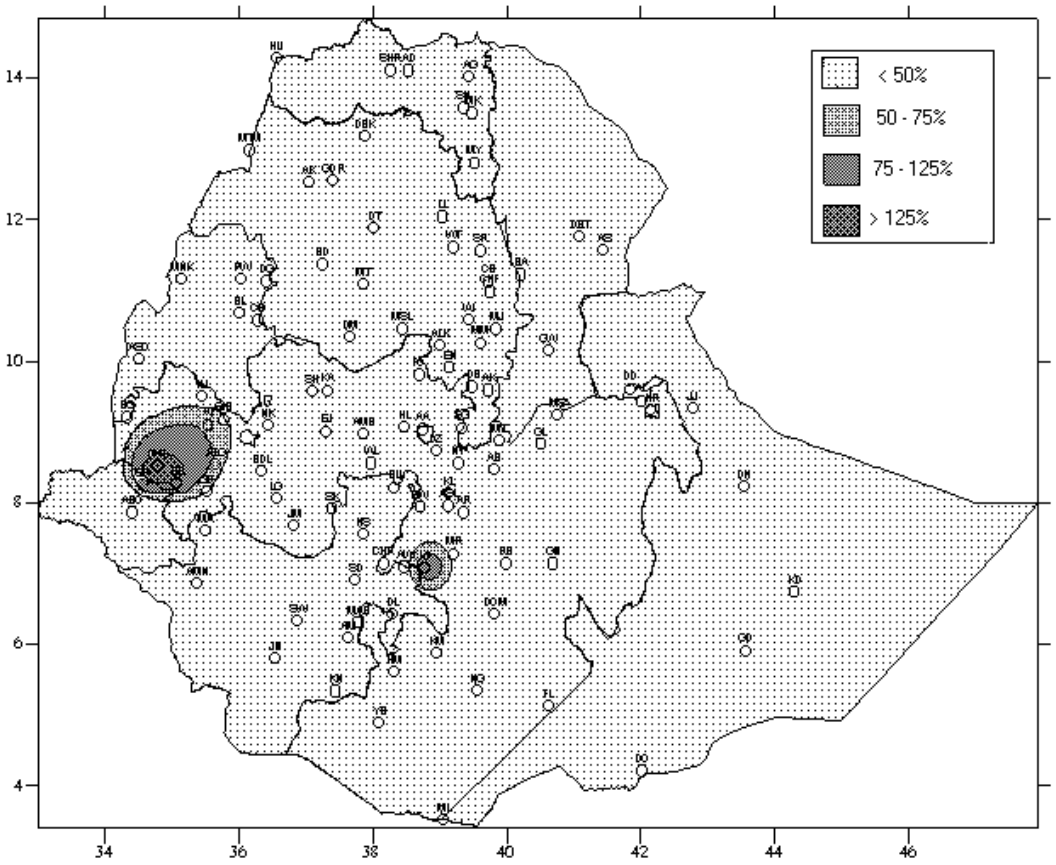


Fig.4 Percent of normal rainfall for the month of December 2005

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)

Some pocket areas of western and southern Oromya exhibited normal to above normal rainfall .The rest and most parts of the country experienced below to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

Some areas like Addis Ababa, Debre Zeit, Bui, Fitche, Kulumsa, and Mehal Meda, Jimma, Nedjo, Kombolcha, Kofelle, Robe (Bale), HagreMariam, Jijiga, Adigrat, and Michew recorded extreme minimum temperature less than 5^0 C for 2 – 11 consecutive days. Besides, DebreBrhan, Jimma, Alemya, WegelTena, MehalMeda and Debre Zeit recorded extreme minimum temperature below 0^0c lowering up to –3.2 ^{0}C(Alemaya).

2. WEATHER OUTLOOK

2.1 FOR THE FIRST DEKAD OF JANUARY 2006

In the coming dekad dry and sunny weather condition will prevail across many portion of the country. As a result, daytime will be more windy and hot while nighttime and early morning will mostly be chilly particularly over the highland regions. There will be light frost weather that could likely occur over few places of northeast central and eastern highlands.

2.2 FOR THE MONTH OF JANUARY 2006

During the month of January, The Beg's dry, windy and wide range of temperature change dominates over the major portion of the country. In the first half of the month the aforementioned dry weather conditions are highly likely to prevail across the nation while more chilly night will be dominated over the highland. However, the prevailing dry weather condition will be changed towards relatively pleasant weather as moist air is expected to intrude towards various portion of the country. Inview of this some places of the Rift valley and the adjoining highland as well as southern and southeastern Ethiopian will have cloud coverage and light rains for few days.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

The dry and windy Bega's weather condition favored harvest and post harvest activities in most parts of the country where the activities are under question during the month under review. On the other hand the observed deficient moisture particularly during the third dekad of the month in some areas of western and northeastern highlands could have negative impact on land preparation to some extent. Moreover it could affect the water requirements of perennial crops and bushes including affecting the availability of drinking water in pastoral areas. Concerning to the extreme minimum temperature some areas of northern, central, southern and eastern highlands exhibited extreme minimum temperature less than 5^{o}C for 20- 28 days. Among the reporting stations Addis Ababa (BES), Fitche, Adigrat, Dangla, Wegel Tena and Alemya exhibited less than 5^{o} C for 24, 24, 26, 26, 27 and 28 days respectively during the month. Thus this condition could have negative impact on the normal growth and development of existing plants.

3.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

The anticipated dry and windy Bega's weather condition would facilitate the on going harvest and post harvest activities. However proper precaution should be undertaken at the time of using fire near the harvested crops, the dried crops which are ready to harvest and near the barn. Besides proper attention and monitoring is desirable in areas where the grasses and bushes are being present at dried condition at this time of the year in order to avoid the spread of fire in relation to the illegal production of charcoal and using fire at the time of honey harvesting in the forest. Even though light rains is expected in some places of the Rift Valley and adjoining highlands as well as southern and southwestern Ethiopia there would be stressful condition in areas where land preparation and sowing activities are the major activities in the coming month. The expected dominant chilly nights over the highlands would have negative impact on the normal growth and developments of existing plants and perennial plants like enset, coffee and other horticultural crops. Thus proper protection measures should be taken judiciously to avoid unexpected risk.

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

	Stations	Region	A/ rainfall	Normal	%of Normal	ETo mm/day	Monthly ETo	Moisture status
1	Adigrat	TIGRAI	0	13	0.0	3.16	97.96	VD
2	Adwa		0	1.6	0.0	NA	NA	NA
3	Mekele		0	0.3	0.0	5.4	167.4	VD
4	Michew		0	19.9	0.0	3.22	99.82	VD
5	Senkata		0	18.1	0.0	NA	NA	NA
6	Shire		0	2.2	0.0	4.01	124.31	VD
1	Dubti	AFAR	0	4.8	0.0	NA	NA	NA
1	Bahirdar	AMHARA	0	3.7	0.0	3.72	115.32	VD
2	Bati		0	21.8	0.0	3.51	108.81	VD
3	Bilata		14.2	18.7	75.9	NA	NA	NA
4	Bullen		0	0.7	0.0	3.21	99.51	VD
5	Combolcha		0	14.5	0.0	3.21	99.51	VD
6	Chefa		0	84.6	0.0	4.01	124.31	VD
7	D.Markos		0	17.4	0.0	3.87	119.97	VD
8	D.Tabor		0	11.9	0.0	NA	NA	NA
9	Dangla		0	9.3	0.0	3.12	96.72	VD
10	Enwary		0	4.6	0.0	4.47	138.57	VD
11	Gonder		0	10.9	0.0	4.01	124.31	VD
12	M.Meda		0	6.8	0.0	NA	NA	NA
13	Majete		NA	NA	NA	3.9	120.9	VD
14	Metema		NA	NA	NA	3.98	123.38	VD
15	Motta		NA	NA	NA	3.69	114.39	VD
16	Lalibela		0	6.2	0.0	3.7	114.7	VD
17	S. Gebeya		0	3.4	0.0	3.61	111.91	VD
18	Sirinka		0	35.5	0.0	3.67	113.77	VD
19	Wegeltena		0	7.3	0.0	3.51	108.81	VD
1	Abomsa	OROMIYA	0	15.5	0.0	3.46	107.26	VD
2	Aira		4.7	4.7	100.0	NA	NA	NA
3	Alemaya		0	10	0.0	4	124	VD
4	Alge		0	14.3	0.0	NA	NA	NA
5	Bedelle		2	8.8	22.7	NA	NA	NA
6	Begi		0	1.6	0.0	NA	NA	NA
7	Bui		0	0.7	0.0	NA	NA	NA
8	Chira		0	16.9	0.0	NA	NA	NA
9	D.Dollo		42.1	19.4	217.0	3.15	97.65	MD
10	D.Mena		0	23.9	0.0	4.13	128.03	VD
11	D.Zeit		0	3.3	0.0	4.42	137.02	VD
12	Ejaji		0	7.6	0.0	NA	NA	NA
13	Fitche		0	9	0.0	3.35	103.85	VD
14	Gelemso		0	13.7	0.0	NA	NA	NA
15	Gimbi		2.3	3.9	59.0	NA	NA	NA
16	Gore		0.7	42.5	1.6	3.74	115.94	VD
17	H. Mariam		0	16.3	0.0	NA	NA	NA
18	Jimma		0	34.9	0.0	3	93	VD
19	K.Mengist		0	19.2	0.0	3.47	107.57	VD
20	Kachise		0	27.9	0.0	3.65	113.15	VD
21	Koffele		25.6	27.2	94.1	3.74	115.94	D
22	Kulumsa		0.3	9.6	3.1	4.76	147.56	VD
23	Lumugenet		0	30.9	0.0	3.3	102.3	VD
24	Meisso		0	12.3	0.0	4.44	137.64	VD
25	Metehara		0	5.5	0.0	4.7	145.7	VD
26	Moyale		0	27.1	0.0	NA	NA	NA

27	**Nazreth**		0	6	0.0	5.43	168.33	VD
28	**Neghele**		0	12.7	0.0	6.19	191.89	VD
29	**Nedjo**		0	5.1	0.0	3.11	96.41	VD
30	**Nekemte**		0	20.4	0.0	3.23	100.13	VD
31	**Robe(Bale)**		0	17.4	0.0	4.15	128.65	VD
32	**Sekoru**		0	21.8	0.0	3.48	107.88	VD
33	**Shambu**		0	15.4	0.0	3.5	108.5	VD
1	**Jijiga**	**SOMALI**	0	8.8	0.0	4.41	136.71	VD
1	**A.Minch**	**SNNPR**	4.1	39.1	10.5	4.09	126.79	VD
2	**Awassa**		10.4	29.7	35.0	3.95	122.45	VD
3	**Dilla**		4	36.6	10.9	3.05	94.55	VD
4	**Hosaina**		0	22.7	0.0	4.09	126.79	VD
5	**Jinka**		0	72.3	0.0	4	124	VD
6	**M.Abay**		NA	NA	NA	4.9	151.9	VD
7	**Sawla**		0	54.4	0.0	4.2	130.2	VD
1	**Assosa**	**B/GUMUZ**	0	1.6	0.0	4.7	145.7	VD
2	**Pawe**		0	1.1	0.0	3.05	94.55	VD
3	**Chagni**		0	12.9	0.0	3.8	117.8	VD
1	**Gambela**	**Gambela**	1	15.1	6.6	NA	NA	NA
1	**A.A.Obs.**	**A.A**	0	10.2	0.0	3.14	97.34	VD
2	**A.A. Bole**		0	4.9	0.0	4.67	144.77	VD
1	**Diredawa**	**D.D**	0	9.6	0.0	3.74	115.94	VD
1	**Harar**	**Harai**	0	9.4	0.0	4.44	137.64	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

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.

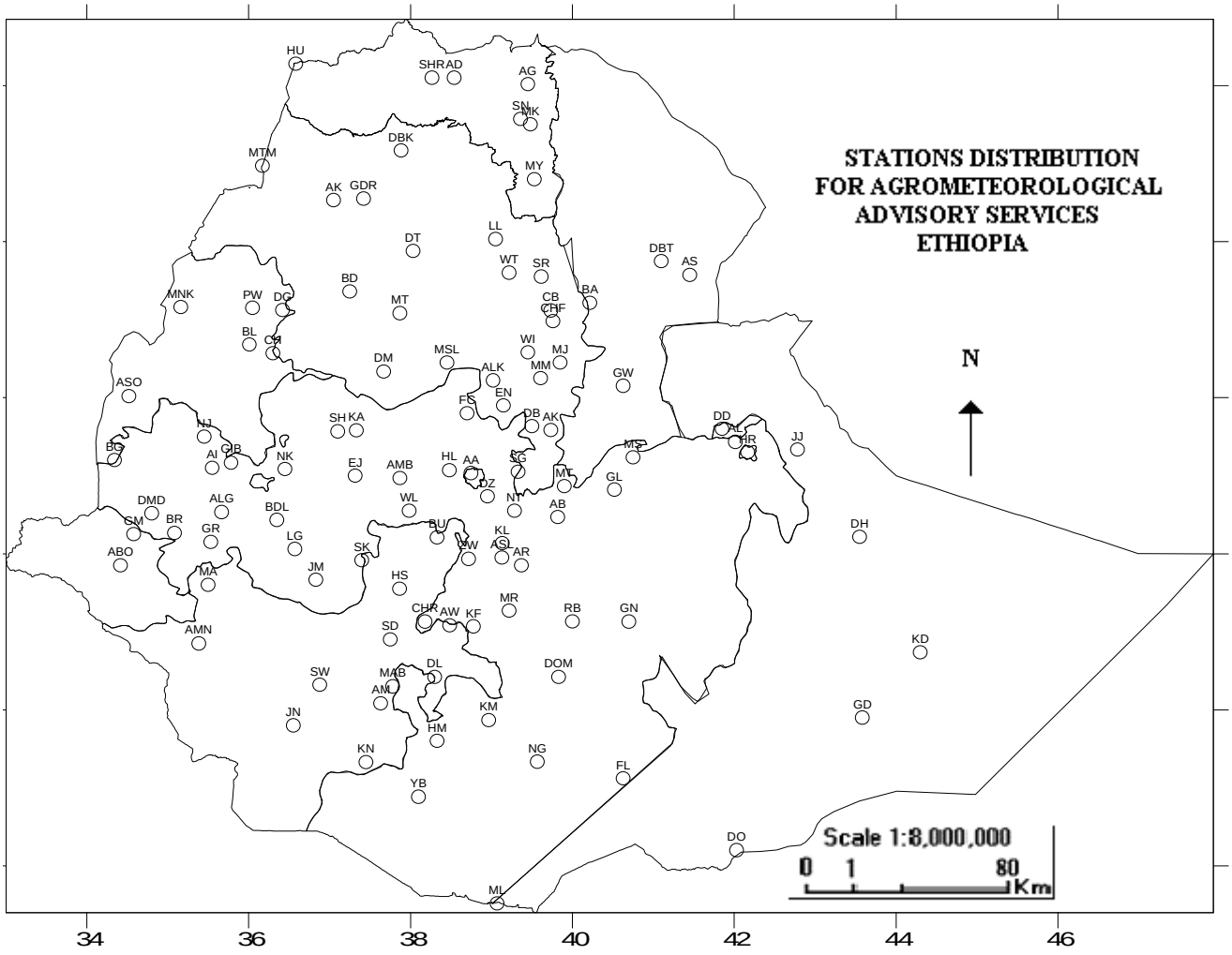
DEKAD: - First or second ten days or the remaining days of a month.

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**	Combolcha	CB	Gonder	GDR	Metema	MTM
A. Robe	AR	Chagni	CH	Gore	GR	Mieso	MS
A.A. Bole	AA	Cheffa	CHF	H/Mariam	HM	Moyale	ML
Abomsa	AB	Chira	CHR	Harer	HR	Motta	MT
Abobo	ABO	D.Berehan	DB	Holleta	HL	M/Selam	MSL
Adigrat	AG	D.Habour	DH	Hossaina	HS	Nazereth	NT
Adwa	AD	D.Markos	DM	Humera	HU	Nedjo	NJ
Aira	AI	D.Zeit	DZ	Jijiga	JJ	Negelle	NG
Alemaya	AL	Debark	DBK	Jimma	JM	Nekemte	NK
Alem Ketema	ALK	D/Dawa	DD	Jinka	JN	Pawe	PW
Alge	ALG	D/Mena	DOM	K.Dehar	KD	Robe	RB
Ambo	AMB	D/Odo	DO	K/Mingist	KM	Sawla	SW
Aman	AMN	D/Tabor	DT	Kachise	KA	Sekoru	SK
Ankober	AK	Dangla	DG	Koffele	KF	Senkata	SN
Arbaminch	AM	Dilla	DL	Konso	KN	Shambu	SH
Asaita	AS	Dm.Dolo	DMD	Kulumsa	KL	Shire	SHR
Asela	ASL	Dubti	DBT	Lalibela	LL	Shola Gebeya	SG
Assosa	ASO	Ejaji	EJ	Limugent	LG	Sirinka	SR
Awassa	AW	Enwary	EN	M.Meda	MM	Sodo	SD
Aykel	AK	Fiche	FC	M/Abaya	MAB	Wegel Tena	WT
B. Dar	BD	Filtu	FL	Maichew	MY	Woliso	WL
Bati	BA	Gambela	GM	Majete	MJ	Woreilu	WI
Bedelle	BDL	Gelemso	GL	Masha	MA	Yabello	YB
Begi	BG	Gewane	GW	Mankush	MNK	Ziway	ZW
BUI	BU	Ginir	GN	Mekele	MK		
Bullen	BL	Gimbi	GIB	Merraro	MR		
Bure	BR	Gode	GD	Metehara	MT		