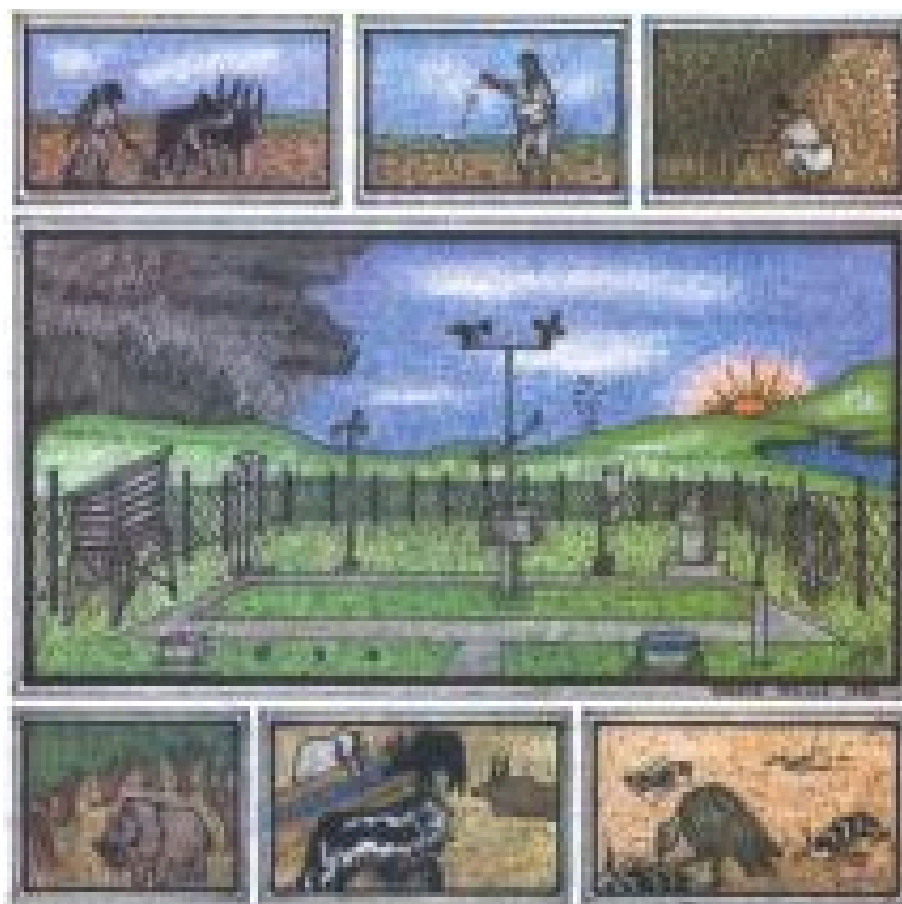


**NATIONAL METEOROLOGICAL SERVICES AGENCY AGROMETEOROLOGICAL
BULLETIN**

**MONTHLY AGROMETEOROLOGICAL BULLETIN
NOVEMBER 2005
VOLUME 15 No. 33
DATE OF ISSUE: - December 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

November 2005

During the first dekad of November 2005 the observed dry Bega weather condition could favor the on going harvest and post harvest activities in most parts of Meher growing areas. As the result harvest and post harvest activities were under way in most parts of Meher growing areas. On the other hand the observed rainfall amount ranging from 5-25 mm could have significant contribution on crops, which are at flowering and grain filling stages. However the occasional falls observed in some pocket areas could have negative influence on harvest and post harvest activities. With regard to extreme temperatures central highlands like Debre Zeit, Fiche, Enewary, Koffele, Debre Birhan and Mehal Meda, northern highlands like Adigrat including eastern highlands like Alemaya and Jijiga exhibited extreme minimum temperature less than 5°C. Moreover Debre Bihan experienced minimum temperature below 0°C lowering up to -3°C for three consecutive days. Thus this condition could have negative influence on the normal growth and development of plants. Shambu reported weed infestation on wheat crop. Limu Genet reported slight wilting due to moisture stress on cereal crop like millet as well as oil crop like nug.

During the second dekad of November 2005, Much of Oromya, Northern Somali, eastern half of SNNPR, eastern half of Amhara, southern half of Afar, some parts of southern, central and western Tigray as well as pocket areas of eastern Benshangul –Gumuz experienced normal to above normal rainfall distribution while the rest parts of the country received below normal rainfall. Among some of the reporting stations, Cheffa, Jijiga, Sirinka, Hosaina, Bedelle, Bui, Mirab Abya, Dolo Mena, Kibre Mengist, and Harar Recorded 81.6, 47.0, 42.8, 38.4, 30.0, 30.0 29.0, 28.6, 26.9 and 23.9 mm of heavy rainfall in one rainy days respectively. The observed unseasonable rainfall over Meher growing areas of central, eastern, northern and southern parts of the country could have negative impact on crops that were at ripeness and harvesting stages. It may have negative impact on crops that were previously harvested and not placed appropriately. Thus there were reports of crop damage over the above-mentioned areas. On the other hand, the prevailed rainfall situation over southern lowland areas where agro pastoral activities are practiced and over western parts of Afar the rainfall could have significant contribution for the availability of pasture. Regarding crop phenological report Hosaina, Majete, Bedele and Alge reported crop damage. This situation may result in yield loss over the aforementioned areas. Regarding air temperature, central highlands (Kofelle, Debre Zeit, fitche, Mehal Meda), northern highlands (Wegeltena and Adigrat) and eastern highlands (Jijiga and Almaya) recorded extreme minimum temperature ranging from - 1.0 to 4.9 °C for two to four consecutive days.

During the third dekad of November 2005 most parts of the country exhibited dry and sunny Bega's weather condition. As a result harvest and post harvest activities were going on effectively in most parts of Meher growing areas of the country. With regard to air temperature most parts of the central like Addis Ababa (Bole), Debre Zeit, Bui, Debre Birhan and Fitcha; northeastern Ethiopia like Kombolcha, Amba Mariam, Chefa, Enewary, Mehal Meda and Wegel Tena; northern like Adigrat, Sinkata and Mychew; northwestern like Dangila, Debre Tabor and Mota including eastern highlands like Alemaya and Jijiga experienced extreme minimum temperature less than 5°C. Some areas like Adigrat, Alemaya, Amba Mariam, Dangila and Debre Birhan recorded extreme minimum temperature less than 5°C for 6-10 consecutive days. Besides, some areas like Debre Birhan and Alemaya recorded -2.6 and -3.5° extreme minimum temperature respectively. Thus this condition could affect crops that are at early maturing stags there by negatively affecting the seed quality. It could also have negative impact on the normal growth and development of perennial crops.

Generally harvest and post harvest activities were under way in most parts of the country as per normal condition. Nevertheless the observed occasional falls particularly over most parts of central highlands resulted in crop damage in some areas like Hosaina, Majete, Chefa, Bedelle and Alge. It could also have negative impact on post harvest activities in areas where there is no proper storage facilities and appropriate post harvest management by causing post harvest pests. On the other hand the wet condition could have positive contribution in areas where crops are not attaining maturity and the availability of pasture and drinking water as well. Regarding the situation of southern and southeastern pastoral and agro pastoral areas the cumulative condition was deficient particularly in southern parts of Somali in terms of the availability of pasture and drinking water. In case of extreme minimum temperature the intensification of cold weather got strengthen towards the last week of the month. As the result some areas exhibited extreme minimum temperature lowering up to -3.5° (Alemaya) during the third dekad of the month. Besides, some areas of central highlands experienced extreme minimum temperature less than 5°C for 6-10 consecutive days which can cause crop damage in terms of optimal temperature requirement of the plant.

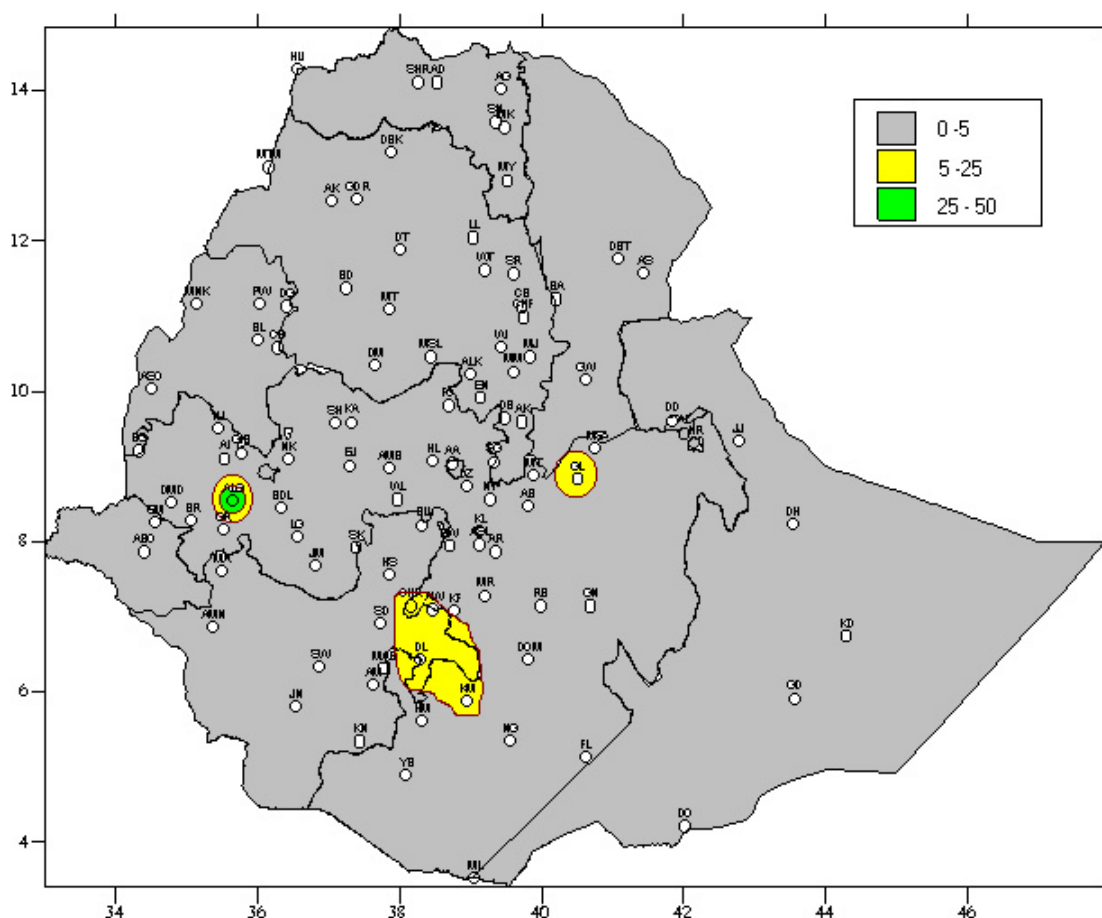


Fig 1. Rainfall distribution in mm (21-30 November, 2005)

1. WEATHER ASSESSMENT

1.1 (21 - 30 November, 2005)

1.1.1 Rainfall amount (Fig.1)

During the third dekad of November, some pocket areas of western, eastern and southern Oromya as well as southeastern parts of SNNPR received 5 – 25 mm of rainfall. There was little or no rainfall for the rest parts of the country.

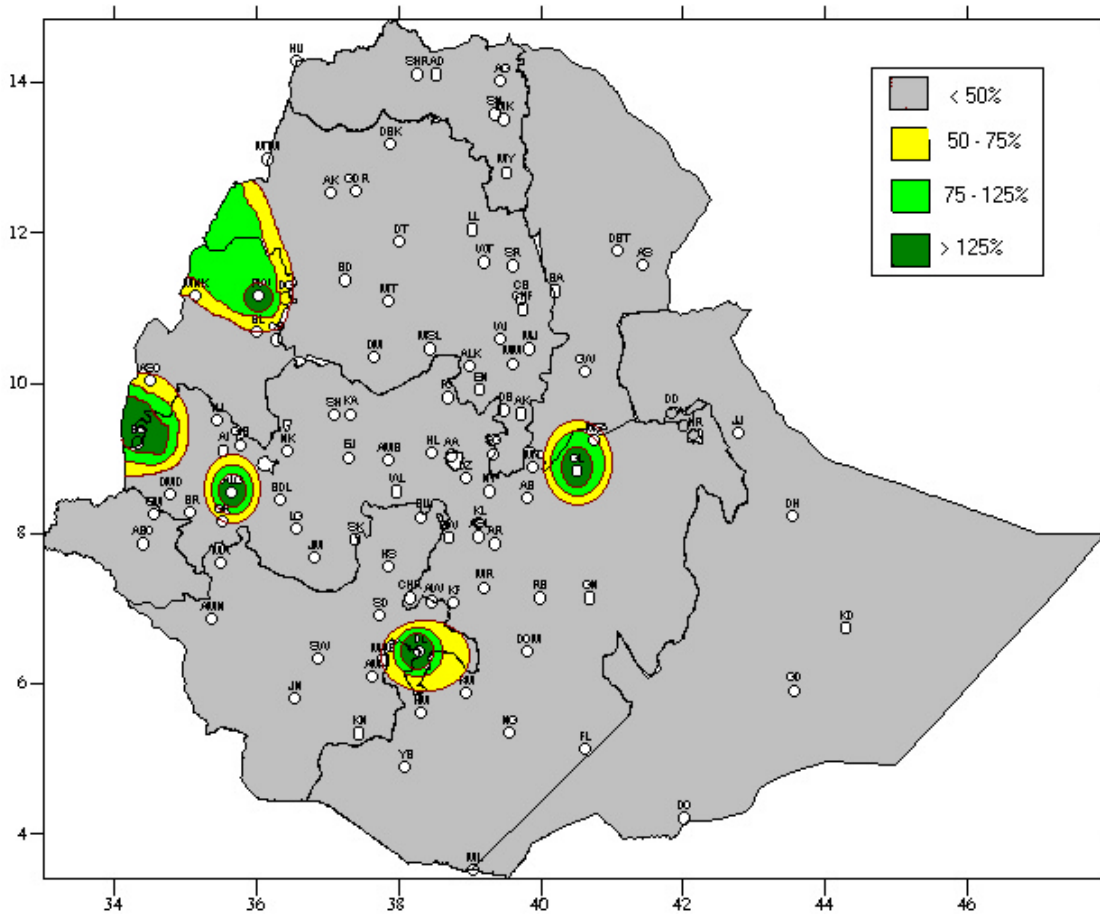


Fig. 2 Percent of normal rainfall (21-30 November, 2005)

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)

Northern tip of Bensahngul – Gumuz, Pocket areas of western and eastern Oromya, Pocket areas of southeastern SNNPR experienced normal to above normal rainfall distribution. Below to much below normal rainfall has been observed over most parts of the country.

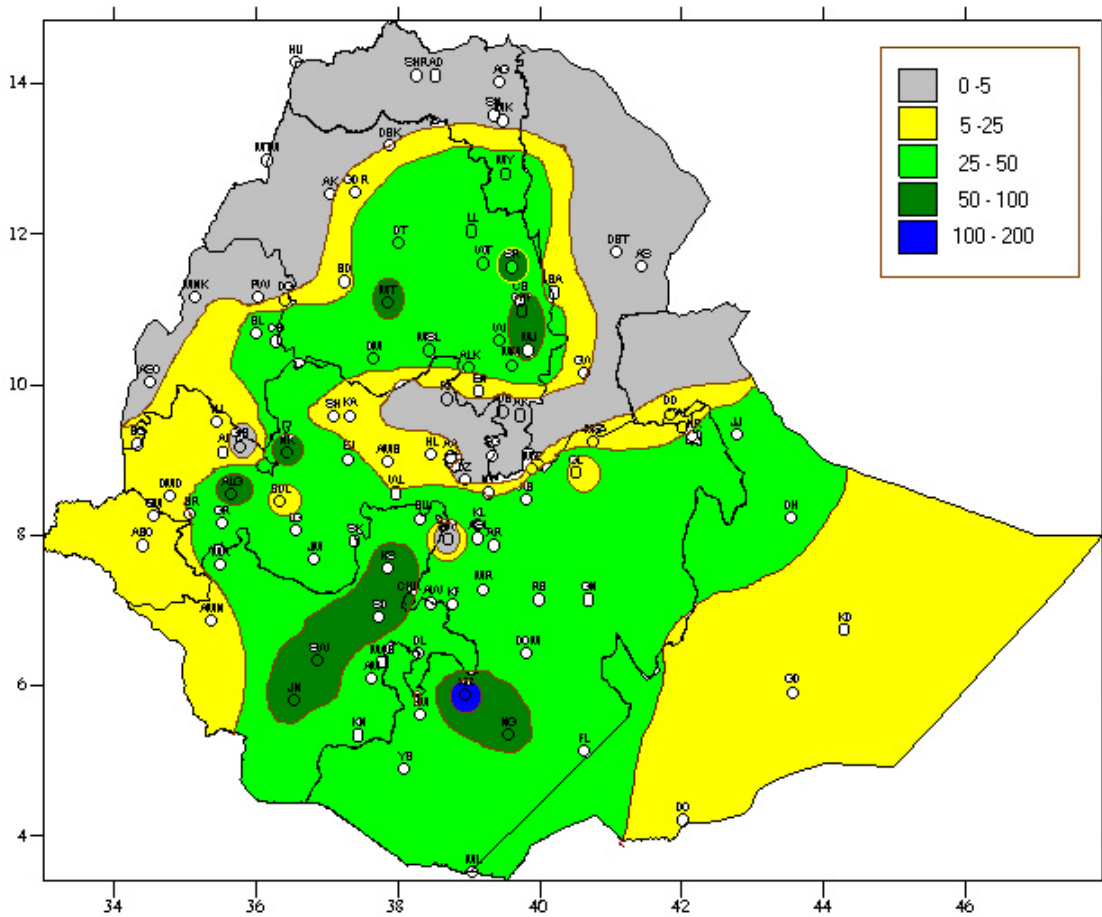


Fig. 3 Rainfall distribution in mm for the month of November 2005

1.2 November 2005

1.2.1 Rainfall distribution (Fig.3)

Pocket areas of southern Oromya received falls 100 –200 mm . Some pocket areas of western and southern Oromya, pocket areas of southwestern and southeastern Amhara, most parts of SNNPR, received falls 50 – 100 mm. Most parts of Amhara, Oromya, SNNPR, some areas of north and south western Afar, Tigray, Benshangul – Gumuz, received falls 25 – 50 mm. Gambella, parts of western and central Oromya, south eastern parts of Benshangul - Gumuz, western tip of SNNPR, much of Somali received falls 5 – 25 mm. There was little or no rainfall for the rest of the country.

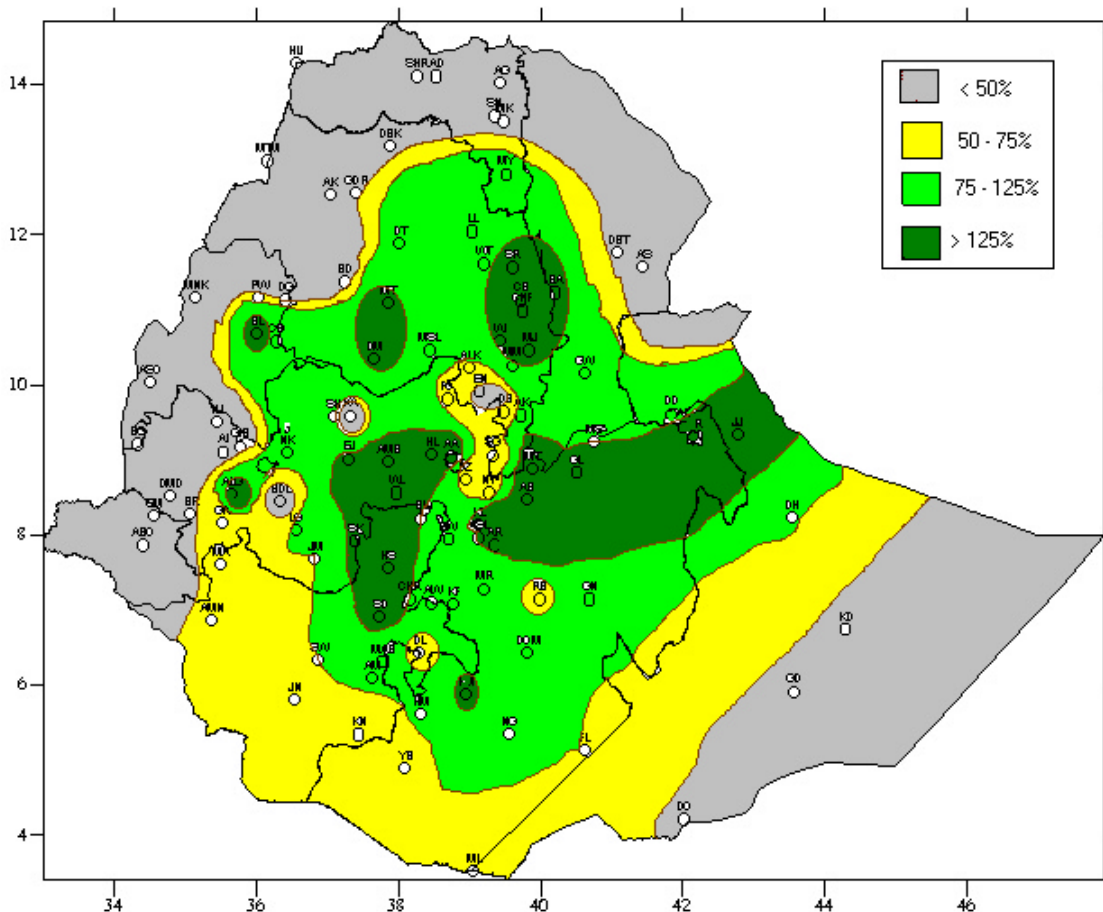


Fig. 4 Percent of Normal Rainfall for the month of November 2005

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)

Eastern half of Amhara, much of Oromya, some parts of eastern Benshangul – Gumuz northern parts of SNNPR, some areas of northern Somali and Afar received normal to above normal rainfall. The rest parts of the country exhibited below to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

Some areas like Adigrat, Alemaya, Amba Mariam, Dangila and Debre Birhan recorded extreme minimum temperature less than 5°C for 6-10 consecutive days. Besides, some areas like Debre Birhan and Alemaya recorded -2.6 and -3.5° extreme minimum temperature respectively

2. WEATHER OUTLOOK

2.1 For the first dekad of December 2005

The Bega's dry and windy conditions are highly likely to dominate much portions of the country. As a result, some places of northern, northeastern, central east and south highlands will experience chilly weather conditions especially during nighttime and early mornings. However, with the presence of moist air across south and southwestern regions, few areas of western and southern Oromya, SNNPR and Gambella regions will receive light rainy showers.

2.2 For the month of December 2005

December is generally characterized by dry, windy and cool weather conditions that normally prevailing across the major parts of Ethiopia. However, in some years, as a result of incursion of moist air in conjunction with interactive westerly frontal system, some places along the rift valley and the adjoining regions receive unseasonal rain that usually stay only for few days. In the coming December, most prediction centres are anticipated the dominance of Bega's dry weather across the nation. As a result, much of Tigray, Amhara, Oromiya Benshangul – Gumuz and Somali regions will experience dry weather with a possibility of frost occurrences at few places of the highland regions. However, occasional rain showers are highly likely to occur at few places of northeastern, central and eastern Ethiopia for few days. Furthermore, southwestern, southern and southeastern parts of Ethiopia, including southern highland will receive light rain showers for some days of the month.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Harvest and post harvest activities were under way in most parts of the country as per normal condition. Nevertheless the observed occasional falls particularly over most parts of central highlands resulted in crop damage in some areas like Hosaina, Majete, Chefa, Bedelle and Alge. It could also have negative impact on post harvest activities in areas where there is no proper storage facilities and appropriate post harvest management by causing post harvest pests. On the other hand the wet condition could have positive contribution in areas where crops are not attaining maturity and the availability of pasture and drinking water as well. Regarding the situation of southern and southeastern pastoral and agro pastoral areas the cumulative condition was deficient particularly in southern parts of Somali in terms of the availability of pasture and drinking water. In case of extreme minimum temperature the intensification of cold weather got strengthened towards the last week of the month. As the result some areas exhibited extreme minimum temperature lowering up to -3.5° (Alemaya) during the third dekad of the month. Besides, some areas of central highlands experienced extreme minimum temperature less than 5°C for 6-10 consecutive days which can cause crop damage in terms of optimal temperature requirement of the plant. In accordance with the crop phenological report maize was at full ripeness stage in some areas of western Amhara. Sorghum was at ripeness stage in some areas of western Oromiya like Assosa, Nedjo, Gimbi, Aira and Dembi Dollo and eastern Amhara like Majete. Teff was at ripeness stage in some areas of southwestern Benishangul Gumuz like Assosa, western Amhara like Dangila, northeastern SNNPR (Hosaina) including some areas of Oromiya like Kachice and Fitcha. Wheat was at full ripeness stage in western Oromiya like Shambu and Gimbi while at flowering stage in some areas of eastern Amhara like Wegel Tena. Millet was at flowering stage in some areas of western Oromiya and western Amhara like Nedjo and Chagni. Nug was at yellow ripeness in some areas of Benishangul Gumuz like Bullen and Assosa including western Oromiya like Limu Genet while at dark ripeness stage in some areas of southeastern Amhara like Alem Ketema. Barley was at flowering stage in western Oromiya (Shambu). Assosa reported slight bird damage on sorghum crop. Shambu reported medium field condition on wheat crop due to severe weed infestation.

3.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING DEKAD

The anticipated dry and sunny weather over much of Tigray, Amhara, Oromiya, Benishangul Gumuz and Somali would favour the on going harvest and post harvest activities in the areas. Nevertheless the expected frost hazard in some pocket areas would have negative impact on the existing perennial plants and on crops, which are at early maturing stage. Thus the concerned personnel should carry out appropriate measure to minimize the risk due to frost occurrence. On the other hand the expected unseasonable rainfall over few areas of northeastern, central and eastern Ethiopia may have negative impact on crops, which were being harvested during the previous dekads, and not placed properly.

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

	Stations	Region	A/ rainfall	Normal	%of Normal	Eto mm/day	Monthly Eto	Moisture status
1	Adigrat	TIGRAI	0.8	23	3.5	3.26	97.8	VD
2	Mekele		1.3	6	21.7	4.87	146.1	VD
3	Michew		29.2	25.1	116.3	NA	NA	NA
4	Senkata		0	37.2	0.0	NA	NA	NA
5	Shire		3.4	3.9	87.2	4.44	133.2	VD
1	Assayta	AFAR	0.9	3.5	25.7	5.74	172.2	VD
2	Dubti		0	2.4	0.0	5.57	167.1	VD
1	Bahirdar	AMHARA	7.3	21	34.8	4.05	121.5	VD
2	Bati		23.1	11.2	206.3	3.9	117	D
3	Bullen		37.3	18.6	200.5	3.22	96.6	MD
4	Combolcha		6.7	20.9	32.1	3.37	101.1	VD
5	Chefa		81.6	26.6	306.8	4.11	123.3	M
6	D.Birhan		2.5	6.8	36.8	3.82	114.6	VD
7	D.Markos		41.5	23.7	175.1	3.72	111.6	MD
8	D.Tabor		29.7	33	90.0	NA	NA	NA
9	Dangla		7.3	42.2	17.3	3.34	100.2	VD
10	Enwary		0.4	6.4	6.3	4.38	131.4	VD
11	Gonder		17.4	24.3	71.6	3.97	119.1	D
12	M.Meda		29	5.3	547.2	NA	NA	NA
13	Majete		62.4	17	367.1	NA	NA	NA
14	Metema		0	2.6	0.0	4.24	127.2	VD
15	Motta		61.4	34.3	179.0	NA	NA	NA
16	Lalibela			13.3	0.0	4	120	VD
17	S. Gebeya		0.7	7.3	9.6	3.66	109.8	VD
18	Sirinka		71.1	26.2	271.4	3.67	110.1	M
19	Wegeltena		14.2	12.6	112.7	3.55	106.5	D
1	Abomsa	OROMIYA	47.9	21	228.1	3.47	104.1	MD
2	Aira		8.2	66.9	12.3	3.39	101.7	VD
3	Alemaya		11.9	19.1	62.3	4.09	122.7	VD
4	Alge		80	37.1	215.6	NA	NA	NA
5	Ambo		12.4	5.3	234.0	NA	NA	NA
6	Bedelle		12	33.7	35.6	NA	NA	NA
7	Begi		14.6	36.6	39.9	NA	NA	NA
8	Bui		36.7	0	NA	4.71	141.3	MD
9	chira		68.8	73.4	93.7	NA	NA	NA
10	D.Dollo		10.8	36.5	29.6	NA	NA	NA
11	D.Mena		47.4	52.5	90.3	3.91	117.3	MD
12	D.Zeit		2.9	5.1	56.9	4.76	142.8	VD
13	Ejaji		37.6	30.2	124.5	NA	NA	NA
14	Fitche		4.4	8.4	52.4	3.38	101.4	VD
15	Gelemso		94	34.5	272.5	4.28	128.4	M
16	Gimbi		1.6	19.1	8.4	3.74	112.2	VD
17	Gore		49.2	93.9	52.4	3.51	105.3	MD
18	H. Mariam		47.3	57.5	82.3	2.95	88.5	M
19	Jimma		29.7	58.6	50.7	3.08	92.4	MD
20	K.Mengist		106.5	69.5	153.2	3.3	99	H
21	Kachise		6.7	31.9	21.0	NA	NA	NA
22	Kulumsa		25.8	12.8	201.6	4.91	147.3	D

23	Lumugenet		32.9	40.6	81.0	3.53	105.9	MD
24	Meisso		18.1	16.3	111.0	4.55	136.5	D
25	Metehara		5.2	3.9	133.3	4.94	148.2	VD
26	Moyale		36.9	70.7	52.2	NA	NA	NA
27	Nazreth		5.6	7.8	71.8	5.38	161.4	VD
28	Neghele		54.6	48.5	112.6	4.76	142.8	MD
29	Nedjo		4.9	23.4	20.9	3.21	96.3	VD
30	Nekemte		61	52.5	116.2	3.38	101.4	M
31	Robe(Bale)		35.7	50.2	71.1	3.66	109.8	MD
32	Sekoru		33.9	15.7	215.9	3.52	105.6	MD
33	Shambu		21.1	23.9	88.3	3.47	104.1	D
34	Zeway		1.4	2	70.0	4.63	138.9	VD
1	Jijiga	SOMALI	48.4	18.7	258.8	4.31	129.3	MD
1	A.Minch	SNNPR	47.1	61.7	76.3	4.03	120.9	MD
2	Awassa		36	40.9	88.0	3.72	111.6	MD
3	Dilla		34.8	66.6	52.3	3.57	107.1	MD
4	Hosaina		67.7	17.3	391.3	3.99	119.7	M
5	Jinka		67.2	104.2	64.5	3.75	112.5	M
6	M.Abay		38.1	50.7	75.1	NA	NA	NA
7	Sawla		84.4	72.9	115.8	3.54	106.2	M
8	Sodo		94.2	40.8	230.9	NA	NA	NA
1	Assosa	B/GUMUZ	0	20.9	0.0	4.18	125.4	VD
2	Pawe		3.2	12.8	25.0	3.67	110.1	VD
3	Chagni		27.6	28	98.6	3.49	104.7	MD
4	Mankush		NA	NA	NA	3.87	116.1	VD
1	Gambela	Gambela	4.9	35.4	13.8	NA	NA	NA
1	A.A.Obs.	A.A	20.7	8.3	249.4	3.27	98.1	D
2	A.A. Bole		7.2	6.2	116.1	NA	NA	NA
1	Diredawa	D.D	13.8	15.6	88.5	4.12	123.6	D
1	Harar	Harai	33.6	11.6	289.7	4.04	121.2	MD

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 covers southern, central, eastern and northeastern parts of the country.

CROP WATER REQUIREMENTS: - The amount of water needed to meet the water loss through evapotranspiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

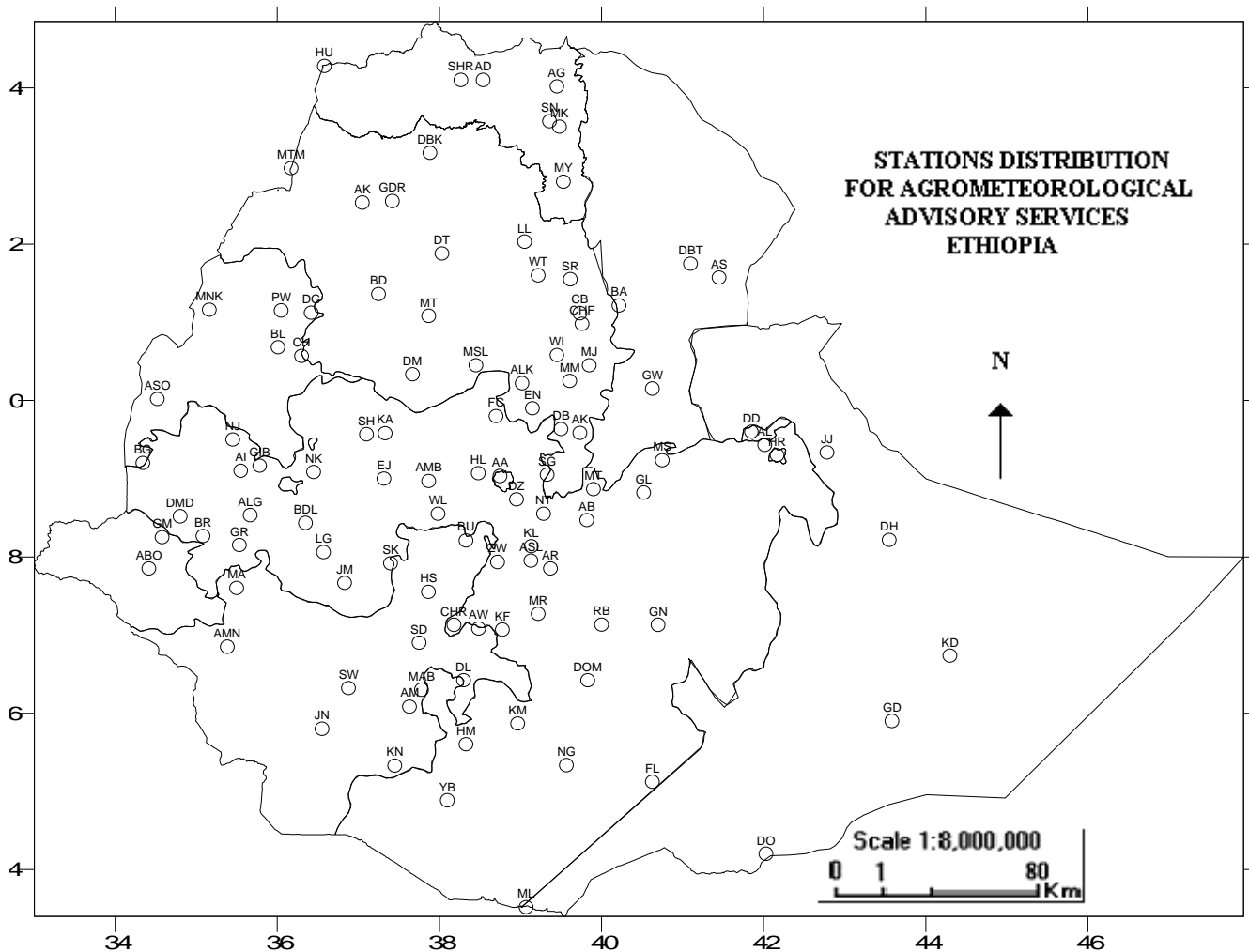
DEKAD: - First or second ten days or the remaining days of a month.

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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