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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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BELG 2005
SUMMARY

Normally central parts of northern high lands, eastern highlands, parts of central, southwestern and southern Ethiopia are known as Belg growing areas. The contribution of Belg rainfall is ranging from 5-30% over the north, northeastern and eastern highlands where as 30-60% over south and southwestern parts of the country from annual total crop production of the areas. North Shewa, East and west Harargie, Arsi, Bale, North and South Wello, Borena and SNNPR (Kembata, Hadiya, Wolayta, Gurage, Keffa and Bench) start their land preparation and sowing activities during December to February. It is the time for water harvesting over pastoral and agro pastoral areas of southern and southeastern Ethiopia.

During the month of February 2005, most parts of the country exhibited dry to very dry moisture status and the prolonged dry spell observed over South Tigray and parts of eastern Amhara throughout the preceding month continued up to the third dekad of February 2005. Under normal circumstance, sowing of cereals, pulses and oil crops like flax is a normal practice over some areas of central, northern, south western and eastern highlands at this time of the year. The persisted dry spell over South Tigray and parts of eastern Amhara could affect early Belg season's agricultural activities like land preparation and sowing activities. As indicated in A Joint Government and Humanitarian Partner's Appeal (JGHP)(May 4, 2005) an unfavourable Meher season(2004) together with the deficient rainfall observed during the month of January(2005) followed by a complete failure of rains in February has resulted in serious food and water shortages in central, southern and eastern Tigray. Moreover, the deficient fall has delayed sowing activity over Belg growing areas of eastern Amhara, central and eastern Oromiya including Harari. With regard to temperature anomalies a rise in dekadal mean maximum temperatures by 3.2- 5.6°C has been observed over some lowland areas of northeastern, northwestern, eastern, central and southeastern parts of Ethiopia as compared to that of long term dekadal mean maximum temperature during the third dekad of February 2005. Thus, this condition exacerbates the negative effect of deficient moisture on crops by increasing the rate of evapotranspiration.

During the month of March 2005 with the exception of South Tigray and northern parts of eastern Amhara most parts of Belg rain benefiting areas experienced moist to humid moisture status. Normally land preparation is the normal practice over some areas of central and southern Oromiya. Sowing of cereals like maize, sorghum and others, including pulses is the major activities over most parts of SNNPR, eastern and mid lands of southern Oromiya and some areas of eastern Amhara. Major "Gu" rains expected to start over northern region of Somali in March. Due to the improvement in moisture status particularly during the first and second dekad of March 2005, sowing of long cycle crops like maize and sorghum was underway in most places. The wet condition also favoured Belg crops that were sown earlier in some highland areas of eastern Amhara like Guguftu and Tebasit. The abundant falls observed over the lowlands of southern Oromiya, SNNPR and mid lands of Somali have helped to alleviate the severe prolonged water shortage to some extent. Nevertheless, because of the persisted deficient rainfall during

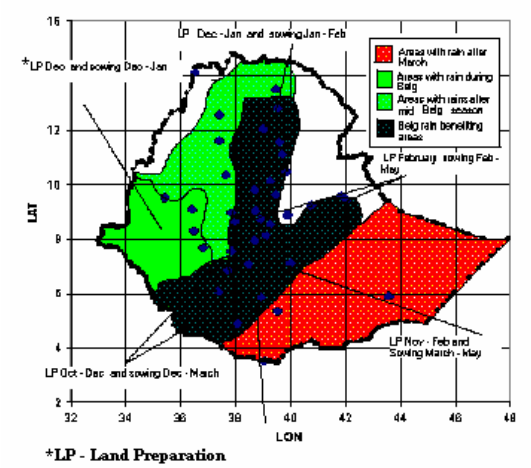
the third dekad of March in most parts of the country, crops suffered from water stress in some Belg growing areas of central and north eastern highlands. With regard to temperature anomalies, there was a slight increase in mean dekadal maximum temperature in some areas of northeastern and southeastern lowlands like Gode, and Dubti by 1.4 and 2.9°C, respectively.

During the month of April 2005, the over all moisture situations particularly observed during the second and third dekad of the month has paramount importance for season's agricultural activities and land preparation for the coming Kiremt season. Normally it is time for sowing of long cycle crops like maize and sorghum including pulse crops like haricot bean over most parts of crop growing areas. Moreover, it is also time to harvest water for pasture and drinking water over the lowlands of southern and south-eastern pastoral and agro pastoral areas. During April 2005 moist to humid moisture status has been observed in most parts of long cycle crop growing areas. On the other hand long cycle crop growing areas of western parts of Gambela, parts of western and few areas of eastern Oromiya, western and southeastern Amhara exhibited moderately dry to dry moisture condition. The dry situation during the first dekad of April 2005 over most parts of the country could exacerbate the moisture stress of Belg crops observed during the preceding dekad (March 21-31, 2005). Besides, it has negative impact on the normal sowing activities of long cycle crops in areas where sowing activities were under question like Arsi Robe, Kulumsa, Ziway, Kibre Mengist, Robe, Limu Genet, Aman, Tepi, Sekoru, Wenago, Yirga Chefe, Kochere, Bule and Sirinka. Pursuant to the crop phenological report some areas of northern SNNPR (Hosaina), western Oromiya (Alge) and eastern Amhara (Majete) reported medium field condition due to water stress during the first dekad of April 2005. The rainfall condition particularly during the second and third dekad of April have helped to lighten the severe long-existing water shortage in pastoral areas like Afder, Liben, Gode, Dege Bur and Jijiga. However, the availability of pasture and drinking water has not yet fully improved in some areas of Afar and Somali (JGHP Appeal May 4, 2005). Besides the regeneration of pasture is poor in most parts of pastoral areas of Afar and Somali but the situation favoured the browsers rather. Generally tthough the persisted deficient condition was observed during the third dekad of March followed by first dekad of April the over all moisture situation particularly observed during the second and third dekad of April has paramount importance for season's agricultural activities (sowing of long cycle crops) and land preparation for the coming Kiremt season.

During the month of May 2005, moist to humid moisture status has been observed over most parts of Belg and Meher growing areas while dry to moderately dry moisture status has been observed over Meher growing areas of western Amhra and Tigray. The crops condition were in a good shape over most parts of Belg growing and Meher growing areas as well due to the observed normal to above normal rainfall during the month of May. Nevertheless, some areas of central and southern Ethiopia exhibited heavy falls during the month repeatedly. Thus, some areas like Kibre Mengist, Hagere Mariam, Aira, Sodo and Burji reported crop damage and livestock losses due to heavy fall. On the contrary, the observed deficient falls over most parts of western half of the country resulted in wilting on recently sown cereal crops like maize and sorghum in some areas

(Debre Markos and Ghimbi) during the second dekad of May 2005. As the NDVI picture (USGS) indicates, there was an improvement of vegetation cover dekad by dekad over eastern highlands, southern and southeastern lowlands during the month of May 2005. With regard to adverse Weather conditions, Sodo reported bad and medium field condition due to severe and slight water logging on maize and peas crop fields caused by heavy falls. Aira reported maize crop damage due to heavy fall with strong wind. On the contrary, Debre Markos and Ziway reported medium field condition due to water stress during the third dekad of May.

Generally, though the cumulative percent of normal Belg rainfall amount is normal to above normal over most parts of Belg growing areas the erratic rainfall distribution over South Tigray and some low land areas of eastern Amhara resulted in poor performance of Belg crop production over the areas. The rainfall condition observed as of the second dekad of April has favoured Belg crops as well as sowing of long cycle crops over central, western, eastern and southern parts of the country. It has significant contribution for pastoral and agro pastoral areas of southern low lands for the availability of pasture and drinking water. Besides, it could favour sowing activities of "Gena" season's crops like maize, haricot bean, teff, sorghum and wheat. On the other hand, heavy falls observed during the third dekad of April, first and second dekad of May 2005 (31.5-90.3 mm of rainfall in one rainy day) over pocket areas of north-eastern, central, eastern and southern parts of the country resulted in crop damage and livestock losses. Moreover the heavy falls causing over flow of rivers and resulted in crop damage and livestock losses over the lowlands of pastoral areas like Gode, West and East Imi, Kelafo and Mustahil. The observed rise in mean maximum temperature particularly during the third dekad of February (by 3.2-5.6°C) and first dekad of April (by 1.8-4.1°C) over some lowland areas of northeastern, northwestern, western eastern, central, southwestern and southeastern parts of the country as well as along the Rift valley and its adjoining areas could exacerbates the negative effect of deficient moisture on crops by increasing the rate of evapotranspiration.



*LP - Land Preparation

Figure 1. Belg growing areas of Ethiopia(Dark green hatched areas)

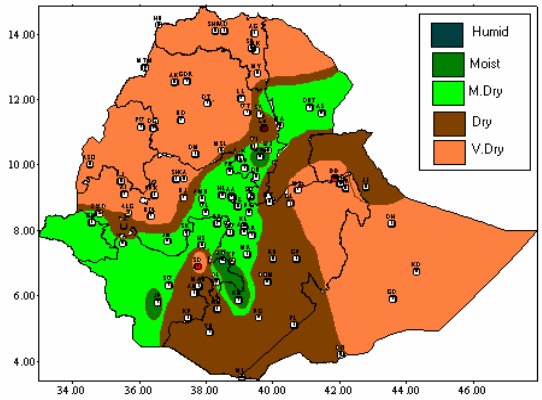


Figure 2. Moisture Status for January 2005

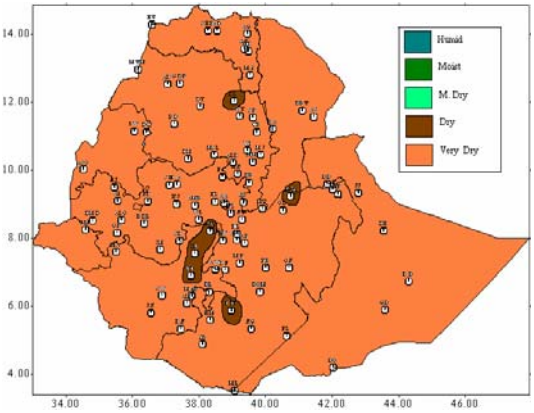


Figure 3 Moisture Status for February 2005

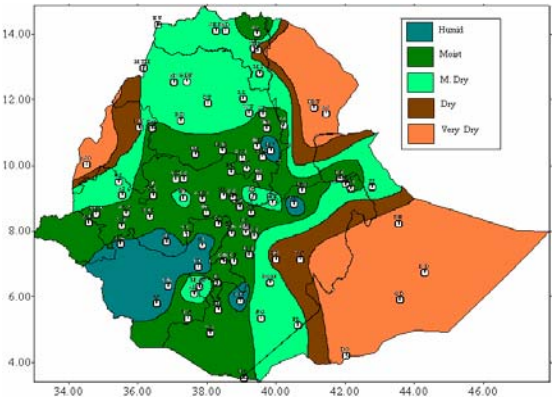


Figure 4 Moisture Status for March 2005

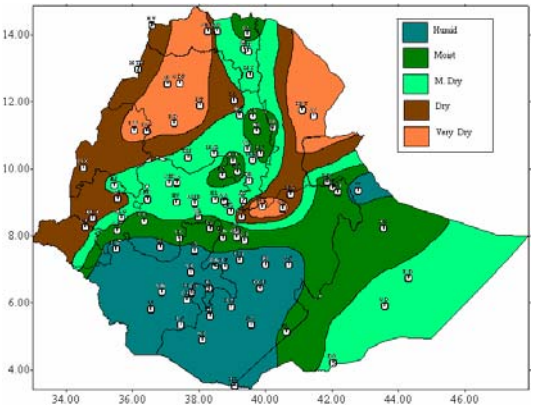


Figure 5 Moisture Status for April 2005

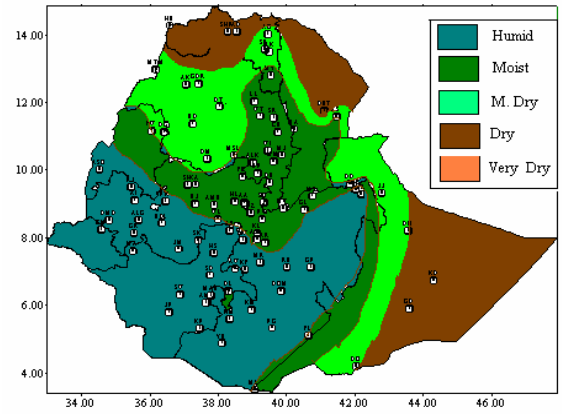


Figure 6 Moisture Status for May 2005

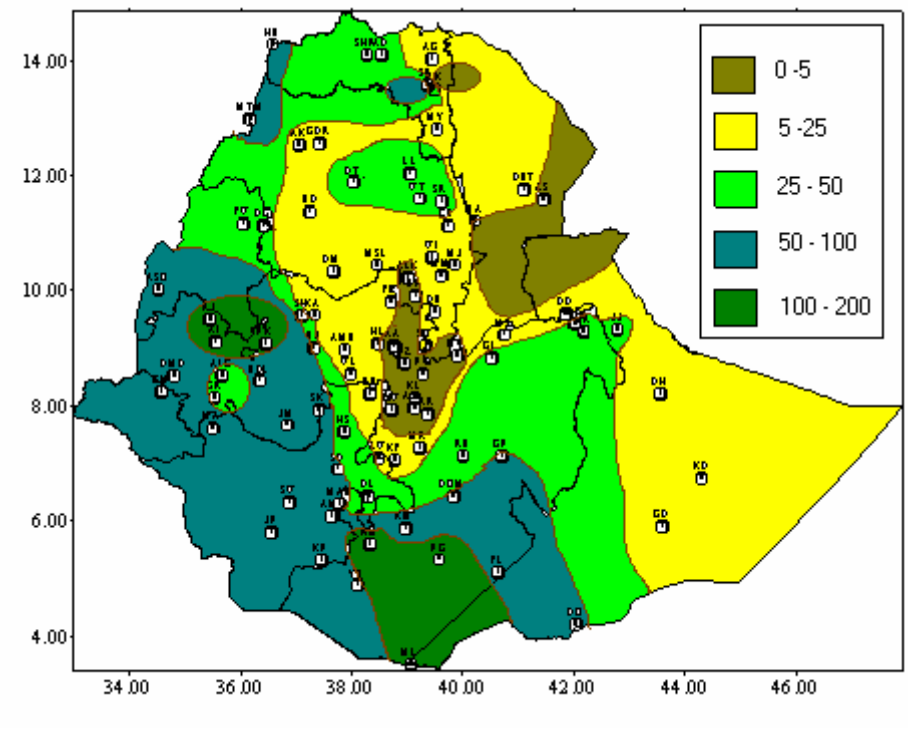


Fig. 7 Rainfall distribution in mm (21- 31 May 2005)

1. WEATHER ASSESSMENT

1.1 May 21-31, 2005

1.1.1 Rainfall Amount (Fig7)

Part of Southern Oromia, pocket areas of Southwestern Somali, Southern Benishngul Gumuz and Western Oromia received greater than 100mm of rainfall. Much of SNNPR, Western and Southern Oromia, Southern half of Benishngul Gumuz, part of Southwestern Somali received 50 – 100mm of rainfall. Much of Tigray, Northern and Eastern Amhara, Eastern and pocket areas of Central Oromia, Southwestern Oromia received 25 – 50mm of rainfall. Northern Afar, South and eastern margin of Amhara, most part of central Oromia and Southern and eastern Somali received 5 – 25mm of rainfall. While the rest portion of the country received little or no rainfall.

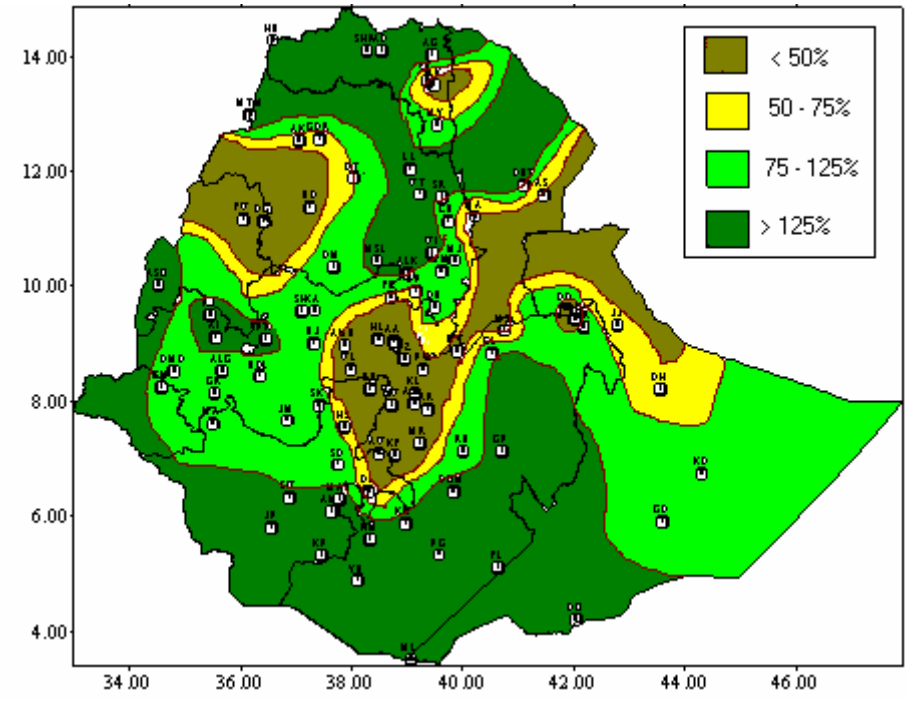


Fig. 8 Percent of normal rainfall (21-31 May 2005)

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. 8)

Gambela, most parts of Tigray and SNNPR, parts of central and eastern Amhara, western, eastern and southern Oromiya, most parts of northern half of Afar, southern and southeastern Somalia and South Western Benshangul Gumuz experienced normal to above normal rainfall, while the rest part of the country received below normal rainfall.

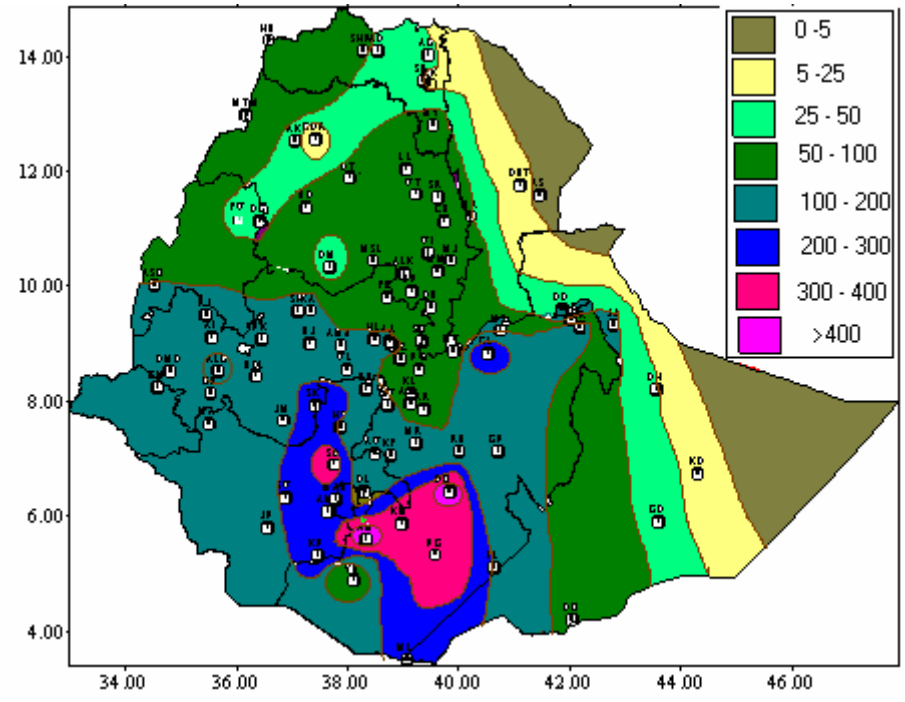


Fig. 9 Rainfall distribution in mm for the month of May 2005

1.2 May 2005

1.2.1 Rainfall Amount (Fig. 9)

Pocket areas of southern Oromia received greater than 400 mm of rainfall. Part of southern Oromia, pocket area of northern SNNPR received 300 – 400 mm of rainfall. Gambela, most part of Oromia and SNNPR, parts of southwestern Somali and southern Benishngul Gumuz received 100 – 300 mm of rainfall, while the rest part of the country received less than 100 mm of rainfall.

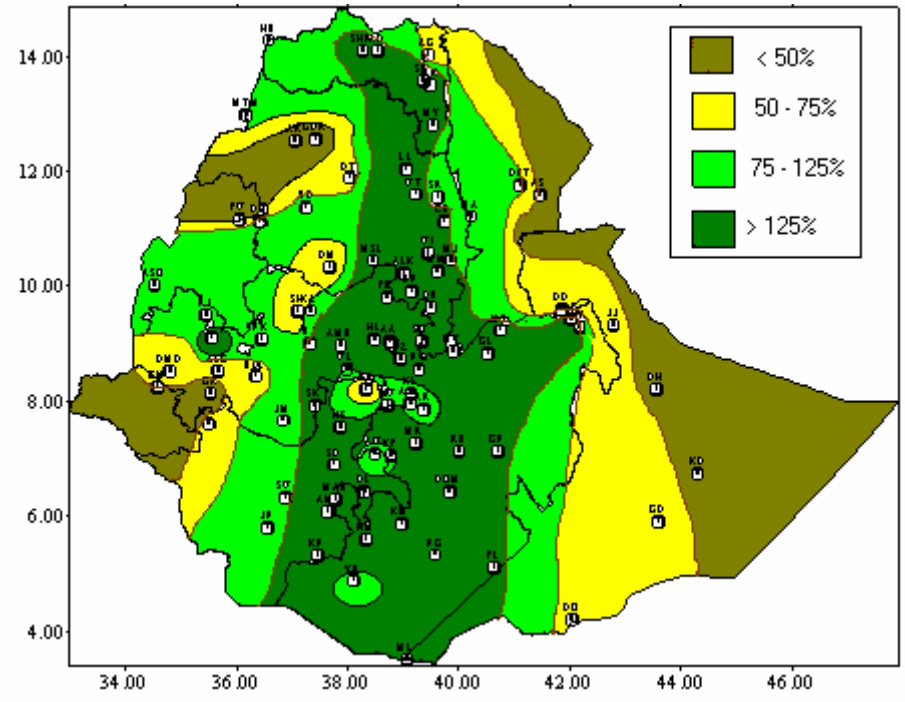


Fig. 10 Percent of normal rainfall for the month of May 2005

Explanatory notes for legend
< 50 -- Much below normal
50 –75% --- Below normal
75 – 125% --- Normal
> 125% ---- Above normal

1.2.2 Rainfall Anomaly (Fig.10)

Most parts of Tigray, much of Oromia and SNNPR, Amhara and Benishngul Gumuz, most parts of western half of Afar and part of southwestern Somali experienced normal to above normal rainfall. While the rest portions of the country were below normal rainfall.

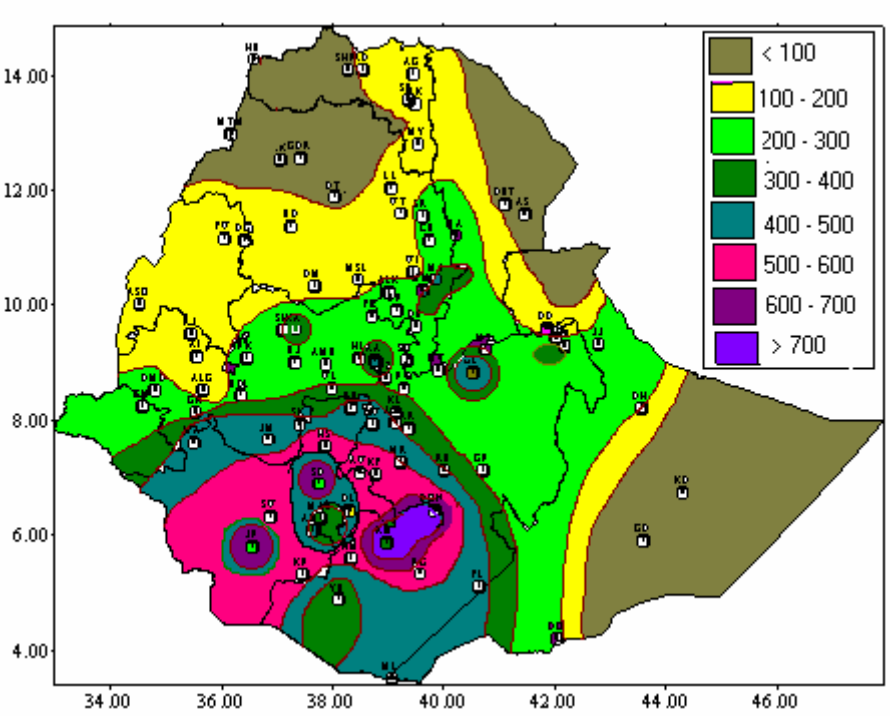


Fig. 11 Rainfall distribution in mm for Belg 2005

1.3 Belg 2005

1.3.1 Rainfall Amount (Fig. 11)

Debre Markos, Kibre Mengist, Sodo, Jinka, Hagere Mariam, Arbaminch, Konso, Negelle, Hossaina, Gelemso, Jinka, Masha, Bui and Chira recorded 739.2, 737.2, 698.6, 602.0, 588.4, 568.2, 554.4, 530.3, 505.3, 471.0, 457.4, 434.3, 424.3 and 404.5 mm of seasonal rainfall respectively. With the exception of western half of Tigray, north and northwestern Amhara, parts of northern, most parts of northern half of Afar, southern and eastern Somali most part of the country exhibited greater than 100mm of seasonal rainfall.

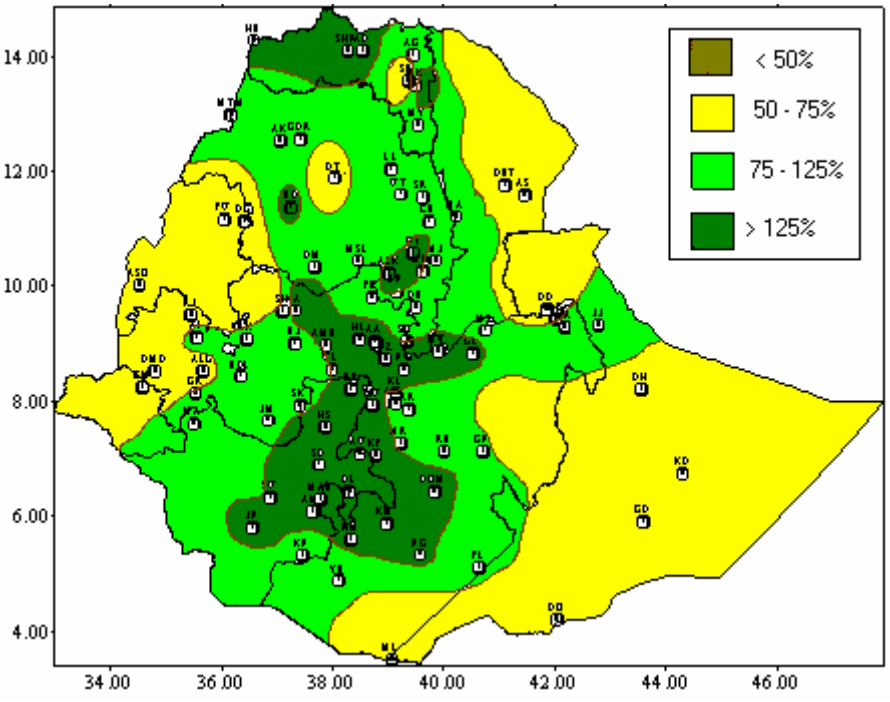


Fig. 12 Percent of Normal rainfall for Belg season, 2005

Legend

<50 --- Much below normal
50-75% ----Below normal
75 –125% -- Normal
>125% -- Above normal

1.3.2 Rainfall Anomaly (Fig. 12)

SNNPR, most part of Amhara, most parts Tigray and Oromai, part of Northern Somali, Southern and Western margin of Afar and southeastern Gambella exhibited normal to above normal rainfall while the rest part of the country exhibited below normal rainfall.

1.4 TEMPERATURE ANOMALY

A rise in mean maximum temperature particularly during the third dekad of February (by 3.2-5.6°C) and first dekad of April (by 1.8-4.1°C) over some lowland areas of northeastern, northwestern, western eastern, central, southwestern and southeastern parts of the country as well as along the Rift valley and its adjoining areas during the season under review.

2. WEATHER OUTLOOK

2.1 For the month of June 2005

For the coming month of June, normal to above normal rain is anticipated over Gambela, western and central Oromya, SNNPR, and Benshangu-Gummuze, as well as western parts of Amhara and Tigray. Besides, eastern Tigray, eastern Amhara as well as eastern and southern Oromiya and the adjoining areas of eastern part of SNNP are mostly expected to have close to normal Rainfall. However, some places will have a chance of getting below normal rain. On the other hand, Afar and its adjoining areas however will be dominated by dry weather condition. Few places will have isolated rain showers.

2.3 For the Kiremt season, 2005

The seasonal rain is expected to start within the normal onset periods. There are enhanced probabilities of getting better rainfall activities in July and August. Heavy rains are likely to occur frequently over the highlands. These phenomena are anticipated to induce flood catastrophes preferably along the riverbanks and low-lying areas of the country. The seasonal rains are predicted to perform better over western half than eastern sectors of the country. In addition to the natural rainfall variability, below normal rains are predicted at pocket areas of northeast, east and southern highlands and the Rift Valley regions. Dry weather conditions are expected to dominate south and southeast Ethiopia throughout the season. The season rain will retreat west as well as southward within the normal cessation period.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally, the erratic rainfall distribution over South Tigray and some low land areas of eastern Amhara resulted in poor performance of Belg crop production over the areas. The rainfall condition observed during the first and second dekad of March favored Belg crops particularly over the highlands of eastern Amhara, eastern and midlands of southern Oromiya and most parts of SNNPR. Besides, it could favour land preparation in agro pastoral areas of southern Oromiya like Yabello, Mega and Moyale. The deficient falls persisted during the third dekad of March and first dekad of April negatively affected the normal growth and development of the crops in most parts of Belg crops dependent areas. The rainfall condition observed as of the second dekad of April has favoured Belg crops as well as sowing of long cycle crops over central, western, eastern and southern parts of the country. It has significant contribution for pastoral and agro pastoral areas of southern low lands for the availability of pasture and drinking water. Besides, it could favour sowing activities of “Gena” season’s crops like maize, haricot bean, teff, sorghum and wheat. On the other hand, heavy falls observed during the third

dekad of April, first and second dekad of May 2005 (31.5-90.3 mm of rainfall in one rainy day) over pocket areas of northeastern, central, eastern and southern parts of the country resulted in crop damage. Moreover the heavy falls causing over flow of rivers and resulted in crop damage and livestock losses over the lowlands of pastoral areas like Gode, West and East Imi, Kelafo and Mustahil. The wet weather condition observed during the month of May 2005 could favour Belg crops, which were sown, delayed by two to three weeks in some areas of northeastern and eastern highlands. Even though the erratic rainfall situation, which is one of the conducive factors for the outbreak of pests, observed over some areas of northeaster, southern, southeastern and eastern, mid land and lowlands of Ethiopia, there was no serious pest outbreak beyond the normal circumstance. The observed rise in mean maximum temperature particularly during the third dekad of February (by 3.2-5.6°C) and first dekad of April (by 1.8-4.1°C) over some lowland areas of northeastern, northwestern, western eastern, central, southwestern and southeastern parts of the country as well as along the Rift valley and its adjoining areas could exacerbates the negative effect of deficient moisture on crops by increasing the rate of evapotranspiration.

Pursuant the crop phenological report (21-31 May, 2005) sowing of maize was under way over some areas of western and northwestern parts of the country like Chagni and Limu Genet. It was at early vegetative stage over some areas of western and north-western parts of the country like Nedjo, Sekoru, Debre Markos and Assosa while at tasseling and flowering stages over some areas of eastern and western Oromiya (Gelemso, Bedelle and Dembi Dolo) and north-eastern SNNPR including some areas of midlands of Oromiya (Dolo Mena), western Oromiya (Chira) and north-western Benishangul-Gumuz (Mankush). Sowing of Sorghum was under way during the third dekad of May in some areas of eastern Amhara like Bati. It was at emergence stage in western Oromiya like Nedjo, Dembi Dolo and Assosa while at early vegetative stage in some areas of western Oromiya like Alge, Gimbi and Chira. Sowing of millet was under way during the third dekad of May in some areas of western Oromiya. Pulse crops were at flowering stage in some areas of northeastern SNNPR. Harvesting of teff was under way in some areas of south-eastern Amhara like Majete.

3.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING KIREMT SEASON

Under normal circumstance most parts of the highlands including southern and eastern midlands known as Kiremt growing areas. The Belg season rainfall particularly the rainfall amount and distribution during the months of April and May has significant impact on the performance of long cycle crops like maize and sorghum that are considered as Meher crops. Their contribution is about 35% of the total Meher production. The crops are mainly cereal crops like sorghum, maize, teff, millet, barley and wheat including pulse crops like beans, peas, lentil and chickpeas, vegetable crops like onion, potato and oil crops like nug, flax and sesame.Main rainy season (Karma –

July/August-September/October) for Afar. Little or no rain is the normal phenomenon of the season for southern and southeastern lowlands.

The anticipated 75-80% probability of normal to above normal rainfall distribution over most parts of northeastern, eastern, southern highlands and parts of central Ethiopia would favor season's agricultural activities. The normal on-set would be favorable for land preparation and sowing of cereals and pulses where the activities are under question during the month of June like central (Abomsa, Kulumsa, Meraro, Ziway, Bui, Woliso, Ambo, Kachise, Debre Birhan), northern and northwestern (Benishangul Gumuz, some areas of western Oromiya) and north and northeastern highlands (Adwa, Fiche, Enewary, Alem Ketema, Debre Birhan, Sola Gebeya, Mehal Meda, Chefa, Amba Mariam, Laibela,..). The June rainfall would also favour the existing Belg crops that are not attaining maturity and the recently sown long cycle crops. Nevertheless, the expected 20-25% probability of below normal rainfall condition would affect the water requirements of the crops particularly over the lowland areas, which are classified under drought prone areas. Thus, proper water harvesting techniques would be advisable over those areas. The anticipated better rainfall during the months of July and August would create favourable situation for the availability of pasture and drinking water over northeastern lowlands. Thus, attention should give for proper water harvesting techniques in order to avoid unnecessary water losses. The expected below normal rainfall (erratic) condition over pocket areas of eastern half of Kiremt benefiting areas including pocket areas of southern highlands and Rift Valley Region would favour the occurrence of pests. Thus, attention should be given for those areas in order to mitigate the effect of adverse situation below economic threshold level. The anticipated heavy falls over some areas of western and central Ethiopia would result in water logging and flooding in low-lying areas and in areas where the soil type is clay. Besides it would result in flood near the river Banks. Thus, proper attention should be given over sensitive areas. The anticipated abundant falls over some areas of western and central Ethiopia would enhance weed infestation. Hence, proper cultural practices should be applied according to the existing realty of the specific areas judiciously. The normal cessation of Kiremt rain would favour harvest and post harvest activities. Finally yet importantly, the onset, distribution and cessation of season's rainfall are very important in terms of agricultural activities. Thus, users should interpret the weather forecast in terms of their area of interest and the existing condition of the specific area.

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

	Stations	Region	A/ rainfall	Normal	%of Normal	ETo mm/day	Monthly ETo	Moisture status
1	**Adigrat**	**TIGRAI**	34.7	49.5	70.1	4.43	137.33	MD
2	**Adwa**		38.7	38.1	101.6	5.21	161.51	D
3	**Mekele**		55.3	31.6	175.0	5.81	180.11	MD
4	**Michew**		97	73.2	132.5	4.07	126.17	M
5	**Senkata**		11.6	53.9	21.5	NA	NA	NA
6	**Shire**		53.1	30.2	175.8	6.07	188.17	MD
1	**Dubti**	**AFAR**	10.7	11.7	91.5	6.68	207.08	VD
2	**Assayta**		0	8.5	0.0	NA	NA	NA
1	**Bahirdar**	**AMHARA**	74.6	82.2	90.8	5	155	MD
2	**Bati**		709	62.9	1127.2	4.51	139.81	H
3	**Bullen**		63.6	167.7	37.9	4.62	143.22	MD
4	**Chagni**		184.9	146.3	126.4	5	155	H
5	**Chefa**		95.9	21	456.7	4.95	153.45	M
6	**Combolcha**		89.8	65.1	137.9	4.27	132.37	M
7	**D.Birhan**		86	46.2	186.1	3.58	110.98	M
8	**D.Markos**		43	59.3	72.5	4.6	142.6	MD
9	**D.Tabor**		56.3	92.8	60.7	NA	NA	NA
10	**Enwary**		76.7	51.6	148.6	4.56	141.36	M
11	**Gonder**		17.4	92.7	18.8	5.35	165.85	D
12	**Lalibela**		65	39.6	164.1	4.4	136.4	MD
13	**M.Meda**		98.6	392	25.2	NA	NA	NA
14	**Majete**		82.9	85.2	97.3	4.63	143.53	M
15	**Metema**		62.9	65.7	95.7	6.64	205.84	MD
16	**Mota**		20.3	81.5	NA	NA	NA	NA
17	**S.Gebeya**		86.8	50.7	171.2	3.54	109.74	M
18	**Sirinka**		88.1	82.6	106.7	4.27	132.37	M
19	**Woreilu**		84.6	32.6	259.5	4.58	141.98	M
20	**Wegeltena**		83.4	39.9	209.0	3.9	120.9	M
1	**Alge**	**OROMIYA**	78.5	223.2	35.2	NA	NA	NA
2	**Aira**		186.2	90.6	205.5	4.06	125.86	H
3	**Alemaya**		198.3	109.7	180.8	3.81	118.11	H
4	**Bedelle**		155.5	226.1	68.8	3.42	106.02	H
5	**Begi**		138.1	230	60.0	NA	NA	NA
6	**Bui**		141.9	256.9	55.2	4.27	132.37	H
7	**D.Dolo**		135	208.9	64.6	3.65	113.15	H
8	**D.Mena**		431.3	127.5	338.3	3.55	110.05	H
9	**D.Zeit**		87.3	52.9	165.0	4.55	141.05	M
10	**Fitche**		82.1	58.7	139.9	4.03	124.93	M
11	**Gelemso**		230.3	129.7	177.6	3.67	113.77	H
12	**Gimbi**		176.5	195.1	90.5	4.72	146.32	H

13	**H.Mariyam**		429.9	207.5	207.2	NA	NA	NA
14	**Jimma**		179.2	162.3	110.4	3.31	102.61	H
15	**K.Mengist**		375.9	237.2	158.5	3.03	93.93	H
16	**Kachise**		127.3	86.3	147.5	NA	NA	NA
17	**Kulumsa**		69.6	85.5	81.4	3.49	108.19	M
18	**Masha**		148.6	251.9	59.0	3.04	94.24	H
19	**Meisso**		97	61.3	158.2	4.66	144.46	M
20	**Metehara**		83.8	29.5	284.1	5.2	161.2	M
21	**Nazreth**		77.6	56.4	137.6	4.8	148.8	M
22	**Neghele**		339.7	163.1	208.3	3.57	110.67	H
23	**Nedjo**		153.9	192.9	79.8	3.95	122.45	H
24	**Nekemte**		185.2	217.4	85.2	4.02	124.62	H
25	**Robe(Bale)**		135.8	80.8	168.1	3.42	106.02	H
26	**Sekoru**		229.3	168.9	135.8	3.65	113.15	H
27	**Shambu**		102.4	189.6	54.0	4.39	136.09	M
28	**Yabello**		95.1	109.4	86.9	NA	NA	NA
29	**Zeway**		197	81.5	241.7	4.34	134.54	H
1	**D.habur**	**SOMALI**	24.3	90.4	26.9	NA	NA	NA
2	**Gode**		32.1	58.3	55.1	5.81	180.11	D
3	**Jijiga**		52.7	98.8	53.3	4.41	136.71	MD
1	**A.Minch**	**SNNPR**	243.1	136.7	177.8	3.73	115.63	H
2	**Awassa**		144.7	121.6	119.0	3.48	107.88	H
3	**Hosaina**		201.6	134	150.4	3.39	105.09	H
4	**Jinka**		145.7	165.2	88.2	3.18	98.58	H
5	**Konso**		259	45.9	564.3	NA	NA	NA
6	**M.Abay**		234.2	105.8	221.4	NA	NA	NA
7	**Sodo**		323.2	181.3	178.3	3.39	105.09	H
1	**Pawe**	**B/GUMUZ**	27.3	116.6	23.4	NA	NA	NA
2	**Assossa**		100.7	118.5	85.0	5.17	160.27	M
1	**A.A.Obs.**	**A.A**	146.8	77.4	189.7	NA	NA	NA
1	**Diredawa**	**D.D**	28.3	45.9	61.7	5.1	158.1	D
1	**Harar**	**Harai**	154.4	123.7	124.8	3.35	103.85	H

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.

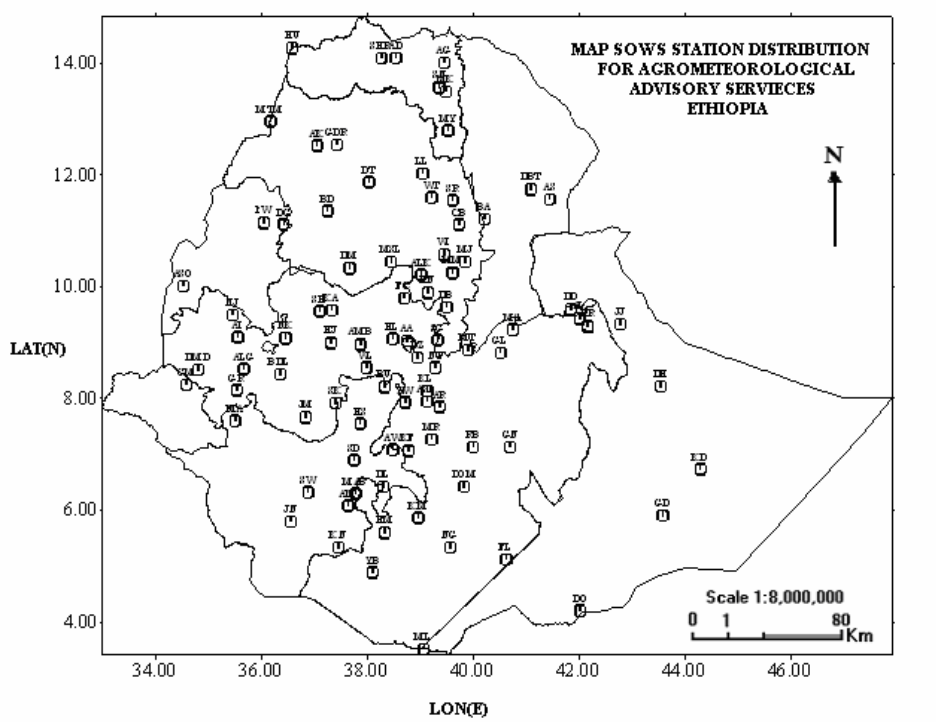
DEKAD: - First or second ten days or the remaining days of a month.

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.



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