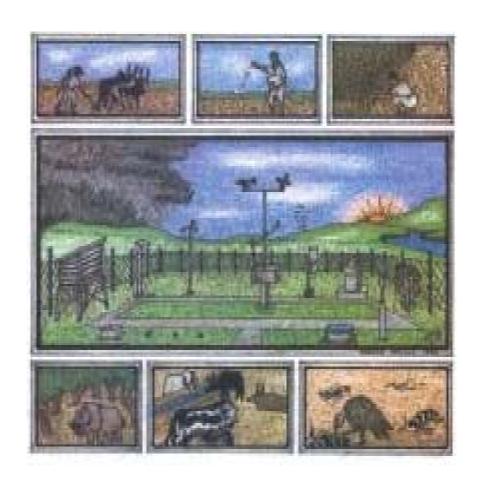
NATIONAL METEOROLOGICAL SERVICES AGENCY AGROMETEOROLOGICAL BULLETIN

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P.O.BOX 1090, ADDIS ABABA, ETHIOPIA E.Mail: nmsa@telecom.net.et Fax 251-1-517066, Tel. 251-1-512299

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.

General Manager NMSA P.O.Box 1090

Tel: 51-22-99 Fax: 51-70-66

E-mail: nmsa@telecom.net.et

Addis Ababa

SUMMARY July 2005

During the first dekad of July 2005, most parts of Meher growing areas received normal to above normal rainfall. Thus, the situation was conducive for season's agricultural activities in most places. Nevertheless, some areas of western, northwestern, northeastern, central and eastern pocket areas of Ethiopia exhibited heavy falls ranging from 30-70 mm in one rainy day, which can result in water logging and flooding in sensitive areas. Besides some areas like Bedelle, Kachise, Pawe, Metema and Sinkata received heavy fall 2-3 days in the ten days period, which can induce excess moisture in crops field, that have already saturated due to the abundant falls observed during the preceding dekads. In accordance with the crop phenological report (1-10 July 2005), sowing of cereals like maize, millet and wheat including pulses was underway over some areas of northern Oromiya (Fitche) and central Oromiya(Ziway) and eastern Amhara (Chefa, Majete and Shola Gebeya) and western Amhara (Chagni).

During the second dekad of July 2005, the over all crop condition was in a good shape in most parts of Meher growing area due the favourable rainfall situation. However, crop damage was reported in some pocket areas due to the observed heavy falls (32 - 100 mm) in some areas of central, northeastern, northwestern, western and southwestern parts of the country. Among the reporting station Bahir Dar, Aira and Kachise exhibited 87.1, 92.0 and 100mm of heavy falls in one rainy day, which can result in flooding and water logging on crops field. Fore instance Shola Gebeya, Dangla and Fitche reported cereal as well as pulse crops damage due to heavy fall accompanied with hailstorm. Pursuant to the crop phenological report sowing of maize, wheat, teff, beans, peas and pepper was under way in some areas of eastern Amhara like Bati and Wegel Tena, western Oromiya like Shambu, southern highlands of Oromiya like Chira and northern parts of Oromiya like Fitche. Gimbi and Fitche reported medium field condition on sorghum and beans fields due to slight weed infestation and hail damage, respectively. Generally, the over all crop condition was in a good shape over most parts of the reporting stations.

During the third dekad of 2005, the observed widespread rainfall over most parts of Meher crop producing areas favoured season's agricultural activities. However, some areas of northeastern, northern, parts of southern and western highlands exhibited heavy falls ranging from 30-100 mm in one rainy day. Besides some pocket areas like Sekoru, Sirinka, Wegel Tena, Bati and Debre Tabor received heavy falls repeatedly (2-3 days) during the ten days period. As the result Wegel Tena, Sodo, Sirinka, Dolomena, Harbu and Mehal Meda reported crop damage and livestock losses during the third dekad of July 2005. In accordence with the crop phenological report sowing of teff, maize, peas and Nug was under way in some areas of eastern Amhara like Wegel Tena, western Oromiya like Sekru and Shambu, southern midlands of Oromiya like Kibre Mengist, central and northwestern Benishangul Gumuz like Bullen and Mankush. Maize was at emergence stage in some areas of western Amhara like Dangila and Chagni including central Oromiya like Kulumsa. It was at tassling and ninth leaf stage in some areas of western Oromiya (Aira and Nedjo), eastern Oromiya (Gelemso) and eastern Amhara (Sirinka) while at flowering stage over some areas of western Oromiya like Alge, Gimbi, Sekoru and Bedelle. Moreover, it was at wax and full ripeness stage over southern highland of Ormiya like Chira, northwestern Benishangul-Gumuz (Mankush) in some areas of northeastern SNNPR like Hossaina and Sodo. Sorghum was at early vegetative stage in some areas of eastern Amhara like Kombolcha and Bati while at shooting and tillering stages in some areas of western and southern highlands of Oromiya like Dembi Dolo, Aira, Nedjo, and Chira. It was also at tasseling stage in some areas of western Oromiya like Gimbi. Millet was at third leaf stage in some areas of

western and northeastern Benishangul -Gumuz and western Amhara. Wheat was at emergence stage in some areas of western and central Oromiya like Shambu and Kulumsa including northern SNNPR like Hosaina while at third leaf stage in some areas of northern Oromiya (Fitche) and southeastern Amhara (Shola Gebeya). Beans were at budding stage in some areas of northern Oromiya (Fitche) and southeastern Amhara (Shola Gebeya). Pepper was at early vegetative stage in some areas of northwestern Benishangul-Gumuz (Mankush).

In General the overall rainfall situation observed during the month under review was in a good shape in terms of crop production and the availability of pasture and drinking water in most areas. As the result, humid moisture status has been observed in most parts of the country (Table 1). On the other hand, the observed erratic rainfall condition in some lowland areas of northwestern, northeastern and eastern Ethiopia resulted in pest out break. Moreover, the observed heavy falls (30-100 mm) over some pocket areas of northeastern, northwestern, northern, parts of southern, central and western highlands resulted in crop damage and livestock losses. In addition to that, the continuous wet condition and cloud cover induce excess moisture in crop fields and unnecessary vegetation growth, which can have negative impact in terms of normal growth and development of the plants.

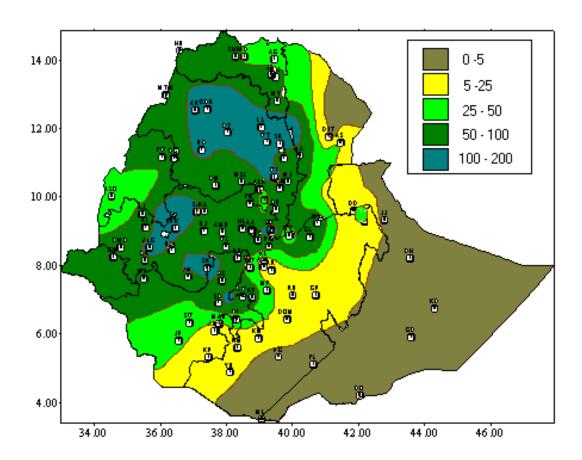


Fig 1. Rainfall distribution in mm (21-31 July, 2005)

1. WEATHER ASSESSMENT

1.1 (21-3l July, 2005)

1.1.1 Rainfall amount (Fig.1)

Debre Tabour, Bati, Sirinka, Combolcha, Wogel Tena, Sekoru, W/Illu, Nekemte, Bahir Dar, Chira, Lalibela, S/Gebeya, Gimbi, Shambu, Alge and Limugenet received 177.0, 176.0, 156.6, 154.3, 144.5, 134.8, 125.1,124.0, 115.4, 144.4, 111.9, 111.7, 108.8, 105.9, 105.0 and 100.6 mm of decadal rainfall, respectively.

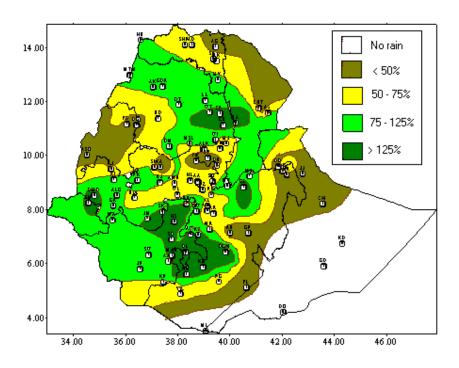


Fig. 2 Percent of normal rainfall (21-3l July, 2005)

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)

Gambella, SNNPR, southern and eastern Amhara, southern Afar, western parts of Oromiya including Arsi and Bale high lands as well as pocket areas of northern tip of Somali experienced normal to above normal rainfall distribution while most parts of eastern part of the country and Benishngul-Gumuz experienced below normal rainfall.

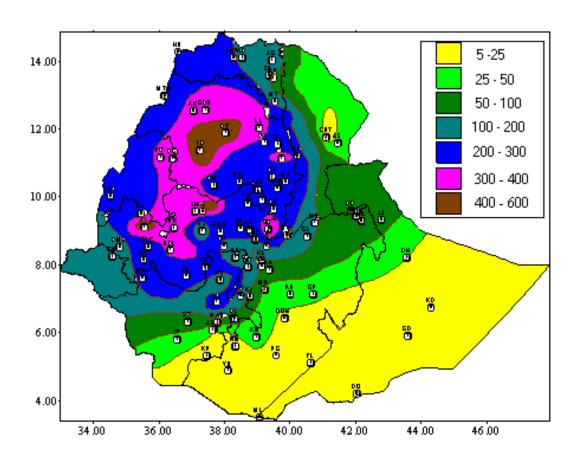


Fig. 3 Rainfall Distribution in mm for the month of July 2005

1.2 July 2005

1.2.1 Rainfall December (Fig.3)

Bahir Dar, Kachise, Debre Tabour, Aira, Gimbi, Combolcha, Pawe, Shola Gebeya, Nekemte, Sekoru, Bedelle, Chagni, Shambu, Lalibela, Gonder and Dangila registered 533.1, 485.7, 454.0, 419.4, 368.8, 356.9, 353.2, 351.0, 344.3, 331.7, 318.6, 316.0, 312.7 and 303.9 mm of monthly rainfall, respectively.

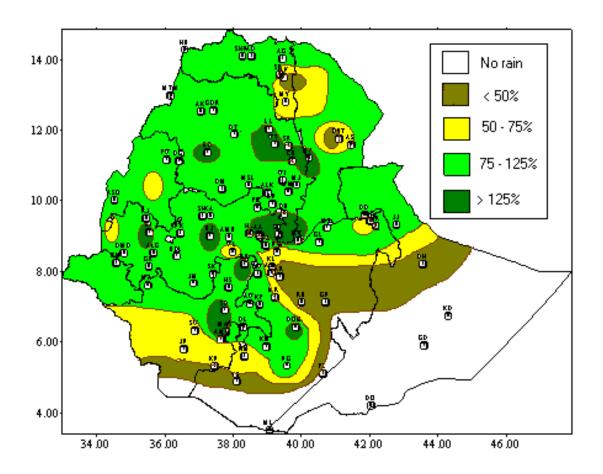


Fig. 4 Percent of Normal Rainfall for the month of July 2005 Explanatory notes for the Legend:

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

1.2.2 Rainfall Anomaly (Fig. 4)

Amhara, Gambella, much of Tigray and Afar, western and central Oromiya including Arsi and Bale high lands northern and northeastern part of SNNPR as well as pocket areas of northern tip of Somali experienced normal to above normal rainfall distribution while rest parts of the country experienced below normal rainfall.

1.3 TEMPERATURE ANOMALY

There was no significant temperature anomaly observed during the month under review.

2. WEATHER OUTLOOK

2.1 For the first dekad of August 2005

For the coming ten days, the rain bearing systems are expected to have a better strength over most parts of Kiremt rain benefiting areas of the country. In General, central and western Oromiya, much of Tigray, as well as much of Amhara and the adjoining areas of Benishangul-Gumuze will have a highest probability of getting normal to above normal rainfall. More over, Gambela, the western extreme parts of Benshangul-Gumuze, northern half of SNNPR and eastern portions of Tigray and Amhara are expected to get close to normal rainfall. Where as, eastern Oromya, Dire Dawa and northern half of Somali will have close to normal rainfall. However, some places will get below normal rainfall. On the other hand, despite dry and warm weather condition, light rain shower is anticipated over Afar region. Besides, southern and southeastern parts of the country will be under dry weather condition with patches of clouds.

2.2 For the month of August 2005

In the coming month (August 2005) Gambela, western half of SNNPR, Central and western portion of Oromya and Benshangul – Gumuze, most parts of Amhara and Tigray are anticipated to have normal to above normal rainfall. The extreme eastern protons of Tigray and Amhara, Afar, eastern Oromya, northern half of Somali, Dire Dawa and eastern protons of SNNPR are expected to get close to normal rainfall; however, a probability of getting below normal rainfall is very high at some places. On the other hand, southern portions of SNNPR and Oromya are anticipated to have occasional rains. Dry weather conditions will dominate southern half of Somali.

3. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

3.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally the overall rainfall situation observed during the month under review was in a good shape in terms of crop production and the availability of pasture and drinking water in most areas. As the result humid moisture status has been observed in most parts of the country (Table 1). On the other hand, the erratic rainfall condition observed in some lowland areas of northwestern, northeastern and eastern Ethiopia resulted in pest out break. Moreover, the observed heavy falls (30-100 mm) over some pocket areas of northeastern, northwestern, northern parts of southern, central and western highlands resulted in crop damage and livestock losses. In addition to that, the continuous wet condition and cloud cover induce excess moisture in crop fields and unnecessary vegetation growth, which can have negative impact in terms of normal growth and development of the plants. In accordence with the crop phenological report(21-31 July 2005) sowing of teff, maize, peas and Nug was under way in some areas of eastern Amhara like Wegel Tena, western Oromiya like Sekoru and Shambu, southern midlands of Oromiya like Kibre Mengist, central and northwestern Benishangul Gumuz like Bullen and Mankush. Maize was at emergence stage in some areas of western Amhara like Dangila and Chagni including central Oromiya like Kulumsa. It was at tassling and ninth leaf stage in some areas of western Oromiya (Aira and Nedjo), eastern Oromiya (Gelemso) and eastern Amhara (Sirinka) while at flowering stage over some areas of western Oromiya like Alge, Gimbi, Sekoru and Bedelle. Moreover, it was at wax and full ripeness stage over southern highland of Ormiya like Chira, northwestern Benishangul-Gumuz (Mankush) in some areas of northeastern SNNPR like Hossaina

and Sodo. Sorghum was at early vegetative stage in some areas of eastern Amhara like Kombolcha and Bati while at shooting and tillering stages in some areas of western and southern highlands of Oromiya like Dembi Dolo, Aira, Nedjo, and Chira. It was also at tasseling stage in some areas of western Oromiya like Gimbi. Millet was at third leaf stage in some areas of western northeastern Benishangul -Gumuz and western Amhara. Wheat was at emergence stage in some areas of western and central Oromiya like Shambu and Kulumsa including northern SNNPR like Hosaina while at third leaf stage in some areas of northern Oromiya (Fitche) and southeastern Amhara (Shola Gebeya). Beans were at budding stage in some areas of northern Oromiya (Fitche) and southeastern Amhara (Shola Gebeya). Pepper was at early vegetative stage in some areas of northwestern Benishangul-Gumuz (Mankush).

3.2 EXPECTED WEATHER IMPACTS ON AGRICULTURE DURING THE COMING MONTH

The anticipated widespread rainfall over western, southwestern, northern and central Ethiopia would favour season's agricultural activates. However, there is a probability of flash flood in some pocket areas of the aforementioned portion of the country. Thus, proper precaution should be under taken on crop fields found in low-lying areas and near riverbanks including in areas where the soil type is clay in order to minimize the possible risk. The expected near normal rainfall in some areas of extreme eastern portions of Tigray and Amhara, Afar, eastern Oromya, northern half of Somali, Dire Dawa and eastern portions of SNNPR would also have significant contribution in terms of crop production and the availability of moisture for pasture and drinking water over pastoral and agro pastoral areas. Nevertheless, the expected below normal rainfall over some places of the above-mentioned areas would affect the water requirement of crops and pasture as well. Besides, it would create favorable condition for the outbreak of pests. Therefore, proper action should be needed ahead of time in order to mitigate the effect of pest outbreak.

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

	Stations	Region	A/ rainfall	Normal	% of Normal	ETo mm/day	Monthly ETo	Moieturo
	Stations	Region	A/ Tallilali	NOTITIAL	7001 NOTITIAL	E 10 IIIII/day	Worthing E10	status
1	Adigrat	TIGRAI	119.9	157.8	76.0	3.64	112.84	
	Adwa	IIIOIXAI	47.1	205.1	23.0		112.04 NA	
	Mekele		96.7		48.8			
	Michew		109.4		68.4			
	Senkata		186.5					
	Shire		255.9		87.9			
- 6	Silite		255.9	291.1	07.9	3.29	101.99	П
1	Assayta	AFAR	29.4	34.1	86.2	4.11	127.41	D
	Assayta Dubti	AFAN	29.4					
	Dubli		21	43.4	40.4	7.13	221.03	۷۵
1	Bahirdar	AMHARA	533.1	422.5	126.2	3.1	96.1	Н
	Bati		286					
	Bullen		238.3		66.0			
	Chagni	-	318.6					
	Chefa	1	216.2					
	Combolcha	-	356.9					
	D.Birhan	-	154.6					
	D.Markos	-	292.1		98.3			
	D.Tabor		454					
-	Enwary	-	256.2					
	Gonder		303.9		93.9			
	Lalibela		312.7					
	M.Meda	•	230.5		78.1			
	Metema		255.3		116.0			
	Mota		261.3					
	S.Gebeya		351					
	Sirinka		263.8		125.5			
	Woreilu		298					
	Wegeltena		273.4	206.5			82.77	
1	Alge	OROMIYA	294.2	306	96.1	NA	NA	NA
2	Aira		419.4	301.9	138.9	2.75	85.25	Н
3	Alemaya		68.1	101	67.4	3.51	108.81	М
4	Bedelle		331.7	316.6	104.8	NA	NA	NA
5	Begi		119.3	166.8	71.5	NA	NA	NA
6	Bui		132.7	83.7	158.5	3.49	108.19	Н
7	D.Dolo		170.3	165.7	102.8	2.75	85.25	Н
8	D.Mena		20.6	13.6	151.5	2.67	82.77	
9	D.Zeit		155.3	219.1	70.9	3.3	102.3	Н
10	Ejaji		146.4	136.7	107.1	2.71	84.01	Н
11	Fitche		285.5	326.1	87.5	2.81	87.11	
12	Gelemso		162.9	136.4	119.4	3.63	112.53	
13	Gimbi		368.8			NA	NA	NA
14	H.Mariyam		20.8	39.5	52.7	2.27	70.37	MD
	Jimma		228.7	208.8	109.5	2.91	90.21	Н
16	K.Mengist		28.8	28.8	100.0	NA	NA	NA
17	Kachise		485.7	420.7	115.5	NA	NA	NA
18	Kulumsa		62.7	124.2	50.5	3.27	101.37	M

19	Limugenet		240.4	294	81.8	2.67	82.77	Н
20	Masha		275.9	304.7	90.5	2.41	74.71	Н
21	Meisso		111.8	129.5	86.3	5.4	167.4	М
22	Metehara		148.4	120	123.7	5.01	155.31	M
23	Nazreth		143.8	218.4	65.8	3.38	104.78	Н
24	Neghele		5.8	6.9	84.1	NA	NA	NA
25	Nedjo		246.6	317.5	77.7	2.66	82.46	Н
26	Nekemte		344.3	401.9	85.7	2.68	83.08	Н
27	Robe(Bale)		37.7	92.1	40.9	3.85	119.35	MD
28	Sekoru		241.1	213.6	112.9	2.93	90.83	Η
29	Shambu		316	366.5	86.2	2.74	84.94	Н
30	Weliso		208.8	281.5	74.2	2.85	88.35	Н
31	Zeway		51.3	146.1	35.1	NA	NA	NA
1	Gode	SOMALI			#DIV/0!	7.19	222.89	VD
2	Jijiga		71.1	74.4	95.6	4.74	146.94	MD
1	A.Minch	SNNPR	29	47.9	60.5	3.44	106.64	MD
2	Awassa		134.6	123.3	109.2	3.36	104.16	Н
3	Hosaina		158.6	153.7	103.2	2.75	85.25	Н
4	Jinka		59.2	103.4	57.3	3.04	94.24	M
5	Konso		0	21.9	0.0	NA	NA	NA
6	M.Abay		70.8	43.6	162.4	3.99	123.69	М
7	Sodo		200.7	154.9	129.6	2.75	85.25	Η
1	Pawe	B/GUMUZ	353.2	341	103.6	3.22	99.82	Н
2	Assossa		217.9	234.4	93.0	3.24	100.44	Н
3	Mankush	1	238.6		#DIV/0!	3.21	99.51	Н
1	A.A.Obs.	A.A	238.3	159.4	149.5	2.44	75.64	Н
1	Diredawa	D.D	79.1	92.6	85.4	6.43	199.33	MD
1	Harar	Harai	92.8	93.7	99.0	2.99	92.69	Н

Legend

 VD
 Very Dry
 < 0.1</th>

 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.

