

FORE WARD

This Agro met Bulletin is prepared and disseminated by the National Meteorological Agency (NMA). 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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አህፅዮት

እ.ኤ.አ ዲሴምበር 2009

እ.ኤ.አ ዲሴምበር 2009 የመጀመሪያው አስር ቀናት በምዕራብ፣ በደቡብ ምዕራብ፣ በደቡብ፣ በመካከለኛው፣ በምሥራቅና በሰሜን ምሥራቅ የሀገሪቱ ክፍሎች ላይ ዝናብ ነበር። ሆኖም በአንዳንድ የምዕራብና የደቡብ ምዕራብ አካባቢዎች የነበረው ዝናብ መጠኑ ከባድ ያለ ነበር። ይህም ሁኔታ በደረሱ ሰብሎች ላይ፣ ዘግይተው ተዘርተው ፍሬ በመሙላትና በአበባ ላይ ላሉት የመኸር ሰብሎች እንዲሁም ለመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ እንቅስቃሴ ላይ አዎንታዊ ተፅዕኖ እንደነበረው ይገመታል። በተቃራኒው ለቋሚ ተክሎች፣ በአርብቶ አደሮችና ከፊል አርብቶ አደሮች አካባቢ ለውሃና ግጦሽ ሣር አቅርቦት ጠቀሜታው የጎላ ነበር። በሌላ በኩል በሀገሪቱ ሰሜን ምሥራቅ፣ መካከለኛው፣ ምዕራብና ምሥራቅ አካባቢዎች ወቅቱን ያልጠበቀ ዝናብ ተሰተውሏል። ይህም ሁኔታ በአብዛኛው የአገሪቱ ቆላማ አካባቢዎች ላይ በደረሱ ሰብሎች አሰባሰብ እና ድህረ ሰብል ስብሰባ ላይ አሉታዊ ተፅዕኖ እንደሚኖረው ይታመናል። ሆኖም በአብዛኛዎቹ ቀናት በአብዛኛው የሀገሪቱ ክፍሎች ላይ ደረቅና ፀሐያማ የአየር ሁኔታ ተስተውሎባቸዋል። ይህም ሁኔታ ለደረሱት የመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ እንቅስቃሴ ጠቃሚ ነበር።

እ.ኤ.አ ዲሴምበር 2009 ሁለተኛው አስር ቀናት ወቅቱን ያልጠበቀ ዝናብ በሰሜን ምዕራቅ ክፍተኛ ቦታዎች፣ በመካከለኛው፣ በምዕራቅና በስምጥ ሸለቆ አካባቢዎች ነበር። በተለይም በአስሩ ቀናት መጀመሪያና መጨረሻ አካባቢ ምዕራቅ ትግራይ፣ ምዕራቅና መካከለኛው አማራ እንዲሁም አጎራባች የአፋር አካባቢዎች ምዕራብና ደቡብ ኦሮሚያ፣ አብዛኛው የደቡብ ብሔር ብሔሰቦች ህዝቦች ክልል፣ መካከለኛውና ምዕራቅ የሀገሪቱ ክፍሎችና የስምጥ ሸለቆ አካባቢዎች ዝናብ አግኝተዋል። ይህም ሁኔታ እንደአካባቢው ሁኔታ ለመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ አሉታዊ ተፅዕኖ የነበረው ቢሆንም ለቋሚ ተክሎች ለአጠቃላይ የእርሻ እንቅስቃሴ እና ለአርብቶ አደሩና ለከፊል አርብቶ አደሩ ለግጦሽ ሳር ልምላሜና ለመጠጥ ውሃ አቅርቦት አመቺ ሁኔታ እንደነበረው እሙን ነው። እንዲሁም በአንዳንድ የመካከለኛውና የደቡብ ኢትዮጵያ አካባቢዎች ላይ ከባድ ዝናብ ተመዝግቧል ሆኖም በሰብሎች ላይ ያደረሰው ጉዳት እንደሌለ ከአዝርዕት መረጃ ክፍላችን ለማወቅ ተችሏል። በሌላ በኩል በአብዛኛው የምዕራብ አጋማሽ፣ የሰሜን ምዕራቅ ዝቅተኛ ቦታዎችና የደቡብ ምዕራቅ ቆላማ አካባቢዎች ደረቅና ፀሐያማ የአየር ሁኔታ አመዝኖ ተስተውሏል። ይህም ሁኔታ ለመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታ የነበረው ቢሆን ለአርብቶ አደሩና ለከፊል አርብቶ አደሩ ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አሉታዊ ተፅዕኖ ነበረው።

እ.ኤ.አ ዲሴምበር 2009 የመጨረሻ አስር ቀናት ዝናብ ሰጪ የሚቲዎሮሎጂ ክስተቶች ተጠናክረው በመገኘታቸው በሰሜን ምስራቅ፣ በምዕራብ፣ በደቡብ ምዕራብ፣ መካከለኛውና በምስራቅ፣ እንዲሁም በስምጥ ሸለቆ አካባቢዎች ወቅቱን ያልጠበቀ ዝናብ እንዲኖር ምክንያት ሆነዋል። ስለሆነም ደቡብና ምስራቅ ትግራይ፣ የደቡብና ምስራቅ አማራ፣ የምዕራብና የደቡብ ኦሮሚያ አካባቢዎች፣ የመካከለኛው የሀገሪቱ ክፍል፣ ምስራቅ ኢትዮጵያ፣ የባሌና የአርሲ አካባቢዎችን ጨምሮ ወቅታዊ ያልሆነ ዝናብ የነበራቸው ሲሆን እንዲሁም በአብዛኛው ደቡብ አጋማሽ የሀገሪቱ ክፍሎች ላይ የደመና ሽፋን መጨመርና ደመናማ የአየር ሁኔታ አመዝኖ ነበር የቆየው። ይህም ሁኔታ እንደአካባቢው ሁኔታ ለመኸር ሰብል ስብሰባና ድህረሰብል ስብሰባ አሉታዊ ተፅዕኖ የነበረው ሲሆን ለቋሚ ተክሎች እና ለአርብቶ አደሩና ከፊል አርብቶ አደሩ ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት አመቺ ሁኔታ እንደፈጠረ ይታመናል። በሌላ በኩል የሰሜን ምዕራብ፣ የሰሜን ምስራቅ ዝቅተኛ ቦታዎችና የደቡብ ምስራቅ አካባቢዎች በአብዛኛው ደረቅ የአየር ሁኔታ ተዘውትሮባቸዋል። በመሆኑም ለመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታ ነበረው።

በአቃላይ ባለፈው ዲሴምበር ወር ወቅቱን ላልጠበቀ ዝናብ መፈጠር አመቺ የሆኑ የአየር ገጽታዎች (ክስተቶች) በመፈጠራቸው ምክንያት በተለያዩ የሀገሪቱ ክፍሎች ወቅቱን ያልጠበቀ ዝናብ እንዲኖር መንስኤ ሆኖዋል። በመሆኑም የሰሜን ምስራቅ ክፍተኛ ቦታዎች፣ የምዕራብና የደቡብ ምዕራብ አካባቢዎች፣ የመካከለኛውና የምስራቅ ኢትዮጵያ ክፍሎች፣ እንዲሁም የስምጥ ሸለቆ ሥፍራዎች ወቅታዊ ያልሆነ ዝናብ ነበራቸው። የዝናቡ መጠንም በአንዳንድ አካባቢዎች ላይ በአንድ የዝናብ ቀን ብቻ ከ30 ሚ.ሜ የበለጠ ከባድ ዝናብ አግኝተዋል። ከባድ ዝናብ ከመዘገቡት ጣቢያዎች መካከል በጨፋ፣ በሳውላ፣ በደሎመና፣ በአዲስ አበባ፣ በጊደሌ፣ በአርባምንጭ፣ በጨርጨር፣ በደምቢደሎና በጊምቢ 73.2፣ 51.7፣ 51.6፣ 51.2፣ 45.0፣ 36.9፣ 32.0፣ 30፣ 30ሚ.ሜ እንደየቅደም ተከተላቸው መዝግቧል። ይህም ሁኔታ በተለይም የዝናብ ወቅታቸው ላልሆነው አካባቢዎች ባልተሰበሰቡና ተሰብስበው በአግባቡ ላልተከመሩ የመኸር ሰብሎች፣ እንዲሁም ለድህረ ሰብል ስብሰባ እንቅስቃሴ ላይ አሉታዊ ተፅዕኖ እንደነበረው ይገመታል። በሌላ በኩል ደግሞ ለቋሚ ተክሎች፣ ዘግይቶ ተዘርተው በተለያዩ ዕድገትና ፍሬ መሙላት ላይ ለሚገኙ ሰብሎች ለግጦሽ ሳር እና ለመጠጥ ውሃ አቅርቦት የጎላ ጠቀሜታ እንደነበረው እሙን ነው።

SUMMARY DECEMBER 2009

During the first dekad of December 2009, western, southwestern southern, central, eastern and northeastern portions of the country received normal to above normal rainfall. The situation might have favored perennial crops and availability of pasture and drinking water over pastoral and agro pastoral area of the country. However, some stations over some parts of the country reported heavy falls that exceed 30 mm. Dolo Mana, Ghimbi, Mieso and Sawla recoded 51.6, 30.0, and 49.0 and 51.7 mm of rainfall in one rainy day, respectively, the situation caused a negative impact on Matured Meher crops, harvest and post-harvest activities.

During the second dekad of December 2009, un seasonal rainfall was observed over northeastern highland, central, eastern and Rift valley areas. Moreover, in the first and last days of the dekad over eastern Tigray, eastern and central Amhara, Afra, western and southern Oromia, much of SNNPR, central and eastern parts of the country and Rift valley areas received above normal to above normal rainfall. The situation might have a negative impact on Meher harvest and post harvest activities. On the contrary, the situation might have favored perennial crops, general agricultural activities, and availability of pasture and drinking water over pastoral and agro pastoral area of the country. Central and southern parts of Ethiopia recorded heavy fall, however, in line with it no significant crop damage were reported. On other hand, over western half of the country and southeastern lowlands dry and windy weather condition dominated. The situation might have favored Meher harvest and post harvest activities; on the contrary the situation might have a negative impact on perennial crops and availability of pasture and drinking water over pastoral and agro pastoral area of the country.

During the third dekad of December 2009, due to strengthen of rain bearing meteorological phenomenon i.e warming of the Indian and Atlantic Oceans and Arabian and Mediterranean Seas starting from the last dekad of November 2009. Un seasonal rainfall activities prevailed over the northeastern, western, southwestern central portions of the country and adjoining areas of rift valley, As a result, southern and eastern Tigray, southern and eastern Amhara, western and southern Oromia including Bale and Arsi zones, SNNPR and eastern and central parts of the country received normal to above normal rainfall while, increasing cloud coverage and cloudy weather condition was dominated over much parts of southern half parts of the country. The situation had negative impact on mature meher crops, harvest and post harvest activities based on specifications of given area, while, it might have favored perennial crops, late sown Meher crops, availability of pasture and drinking water particularly for pastoral and agro pastoral areas of the country. On the contrary, much of north western ,north eastern low lands and south eastern parts of the country were experienced dry weather condition which is conducive for meher crops harvest and post harvest activities

Generally during the month of December 2009, due to occurrence of rain bearing meteorological phenomena over Indian and Atlantic Oceans and Arabian and Mediterranean Seas Un seasonal rainfall activities experienced over north eastern high lands, western, south western, central, eastern, rift valley and adjoining areas of the country. In some these areas the rain was heavy and its amount was greater than 30mm. To mention some of the stations recorded heavy falls equal to or greater than 30 mm in one rainy day. Cheffa, Sawla, Dolo Mana, Addis Ababa ,Gidole, Arbaminich, Chercher, Dembi Dolo and Ghimbi recorded 73.2, 51.7, 51.6, 51.2, 45.0, 36.9, 32.0, 30.0, 30.0 mm. respectively. This situation might have a negative impact on Meher crops those are not yet harvested and post-harvests activities. On the other hand, it might have a positive impact on lately sown crops and found at different phases, perennial crops, water harvest and improvement of pasture and water over agro pastoral and pastoral areas.

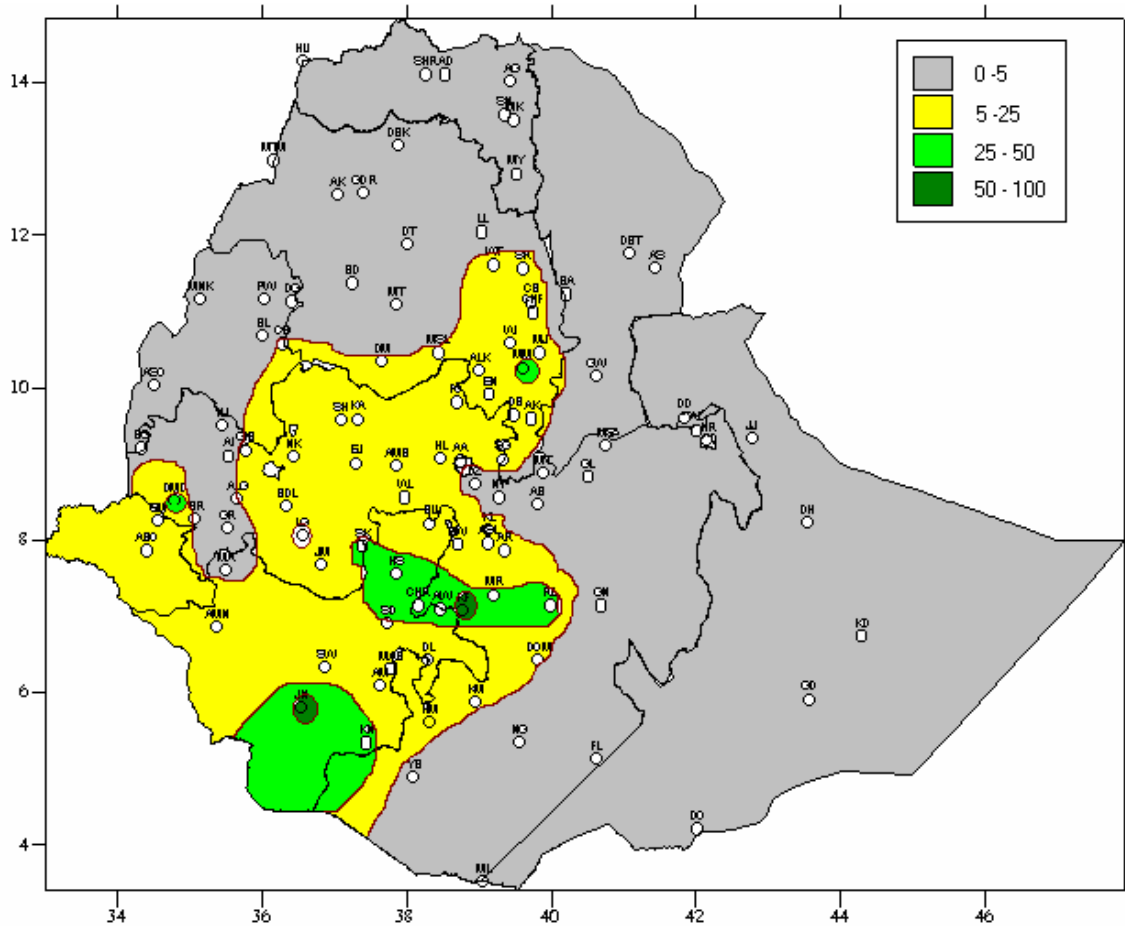


Fig 1 Rainfall distribution in mm (21 – 31 December, 2009)

1. WEATHER ASSESSMENT

1.1 (21 – 31 December, 2009)

1.1.1 Rainfall amount (Fig.1)

Pocket areas of southern and northern SNNPR received 50-100 mm rainfall. Parts of southern and northern SNNPR and pocket areas of western and southern Oromia and eastern Amhara exhibited 25-50 mm rainfall. Gambela, much of SNNPR, parts of western, central and southern Oromia and eastern Amhara received 5-25 mm rainfall. The rest parts of the country exhibited little or no rainfall.

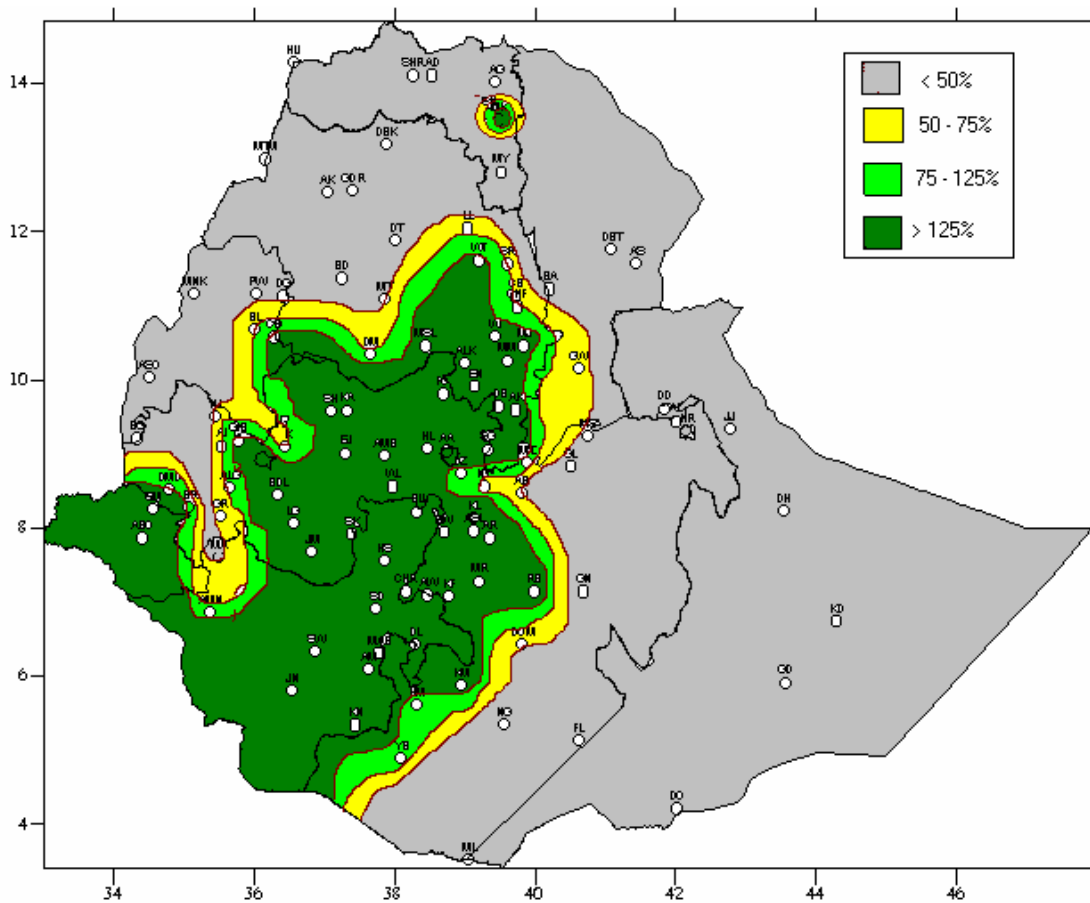


Fig. 2 Percent of normal rainfall distribution (21 – 31 December, 2009)

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)

Gambela, SNNPR, parts of western, central and southern Oromia and eastern Amhara and pocket area of southern Tigray experienced normal to above normal rainfall. The rest parts of the country exhibited below normal to much below normal rainfall.

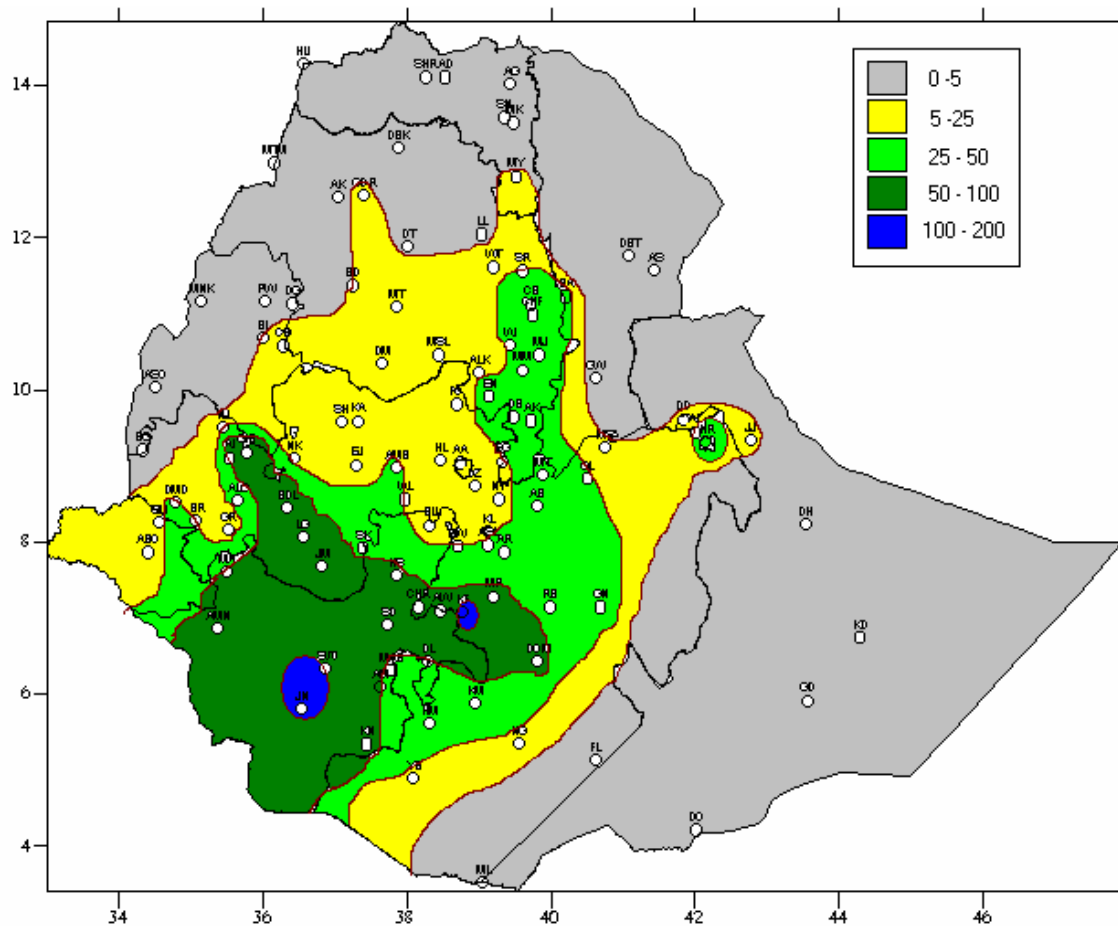


Fig. 3 Rainfall distribution in mm for the month of December, 2009

1.2 December, 2009

1.2.1 Rainfall distribution (Fig.3)

Pocket areas of southern and eastern SNNPR received 100- 200 mm rainfall. Much of SNNPR and parts of western and southern Oromia experienced 50-100 mm rainfall. Parts of southern and northern SNNPR, eastern Gambela, parts of western, central and southern and pocket area of eastern Oromia and part of eastern Amhara received 25-50 mm rainfall. Much of Gambela, parts of eastern Benshangul-Gumuz, western, central, eastern and southern Oromia and southern and eastern Amhara received 5-25 mm rainfall. The rest parts of the country exhibited little or no rainfall.

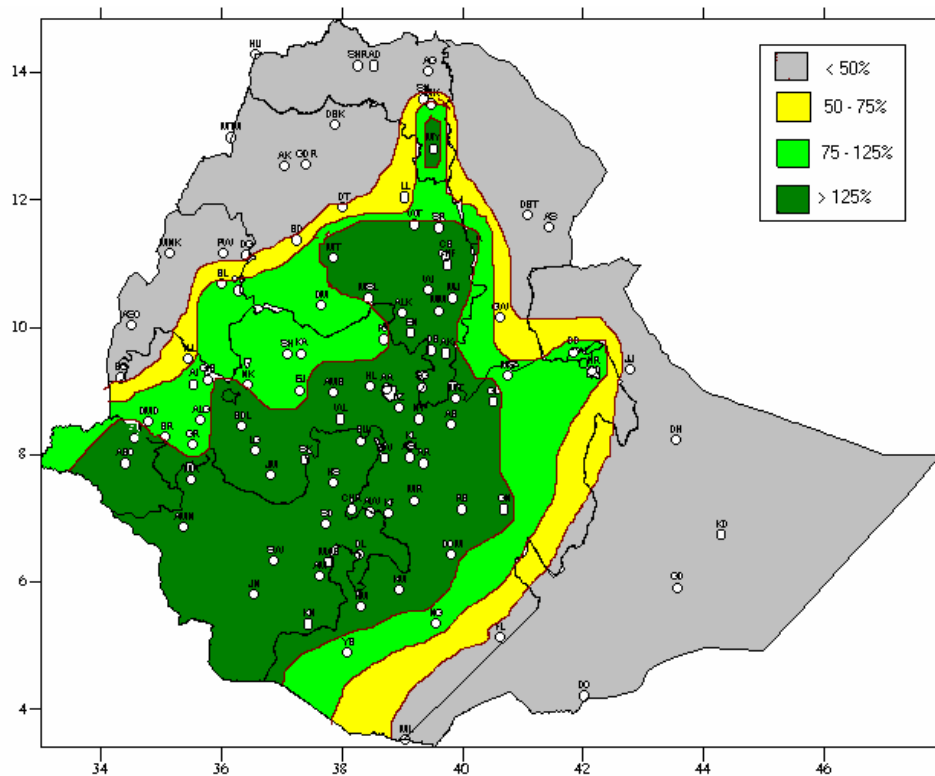


Fig. 4 Percent of Normal Rainfall distribution for the month of December, 2009

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)

Gambela, SNNPR, much of Oromia and parts of southern and eastern Amhara, eastern Benshangul-Gumuz and southern Tigray experienced normal to above normal rainfall. The rest parts of the country exhibited below normal to much below normal rainfall.

1.3 TEMPERATURE ANOMALY

During the month of December 2009, some stations exhibited extreme maximum air temperature above 35 °C. Among some of these stations; Gambella, Humera, Mankush, Gode, Sirba abaya, Semera, Assayta, Metehara and Pawe recorded extreme maximum temperature of 40.9, 40.0, 37.4, 36.0, 36.0, 35.3, 35.0 and 35.0°C respectively. On the other hand, some stations reported minimum temperature below 5°C. Among these; Alemaya, Dangla Wegel Tena, Koffle, Arsi Robe, Motta, Kulumsa Debretabor, Debre Brihan, Mehal Meda, Adet, Atsbi, Debra work, Ambamariam and Jijiga reported extreme minimum temperature of 1.5, 2.2, 3.0, 3.2, 3.5, 3.5, 3.5, 3.7, 3.8, 4.2, 5.0, 5.0, 5.0, 5.0, and 5.0, respectively. These extreme hot and cool temperature conditions might have a negative impact on crops and livestock.

2. AGROMETEOROLOGICAL CONDITIONS AND IMPACT ON AGRICULTURE

2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

Generally during the month of December 2009, due to occurrence of rain bearing meteorological phenomena over Indian and Atlantic Oceans and Arabian and Mediterranean Seas Un seasonal rainfall activities experienced over north eastern high lands, western, south western, central, eastern, rift valley and adjoining areas of the country. In some these areas the rain was heavy and its amount was greater than 30mm. To mention some of the stations recorded heavy falls equal to or greater than 30 mm in one rainy day. Cheffa, Sawla, Dolo Mana, Addis Ababa ,Gidole, Arbaminich, Chercher, Dembi Dolo and Ghimbi recorded 73.2, 51.7, 51.6, 51.2, 45.0, 36.9, 32.0, 30.0, 30.0 mm. respectively. This situation might have a negative impact on Meher crops those are not yet harvested and post-harvests activities. On the other hand, it might have a positive impact on lately sown crops and found at different phases, perennial crops, water harvest and improvement of pasture and water over agro pastoral and pastoral areas.

2.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

Unseasonal rain bearing weather condition expected to prevail in the coming January 2010, from Indian and Atlantic Oceans and Arabian and Mediterranean Seas. Due to this conducive rain bearing favorable condition, eastern and southern Tigray, western and southern Oromia, Gambella, and SNNPR will expected to receive normal to above the normal rain fall activities. This situation expected to have negative impact on Meher harvest and post harvest activities, while it will have a positive impact on early land preparation for Belg growing areas, perennial crops and availability of water and pasture over argo pastoral and pastoral areas. Contrary to this, the expected sunny dry weather condition over northwestern, western, northern and eastern lowlands and Somali will favore post-harvest activities.

Table 2. Climatic and Agro-Climatic elements of different stations for the month of December 2009

No	Stations	Region	Rainfall	Normal	% of Normal	ETo mm/day	Eto monthly	Moisture	Moisture statuses
1	Ayder		0.0	NA	NA	3.42	106.0	0.0	VD
2	Atsbi		1.0	NA	NA	3.14	97.3	0.0	VD
3	Humera	TIGRAY	0.0	NA	NA	5.5	169.9	0.0	VD
4	Maichew		30.8	19.9	154	2.8	88.0	0.3	MD
5	Maytsermi		0.0	0.0	NA	NA	NA	NA	NA
6	Mekele		2.6	0.5	520	4.2	131.1	0.0	VD
7	Senkata		1.4	18.1	8	3.8	117.8	0.0	VD
1	Assayta	AFAR	0	2.5	0	6.19	185.7	0	VD
2	Elidar		0	3.7	0	6.0	0.0	0	VD
3	semera		0	0	0	6.27	188.1	0	VD
1	A/Ketema	AMHAR A	55.7	9.2	605	3.21	99.5	0.6	M
2	Amba Mariam		26.1	NA	NA	NA	NA	NA	NA
3	Adet		15	NA	NA	2.97	92.1	0.2	D
4	Ayehu		14.9	NA	NA	NA	NA	NA	NA
5	Bati		8.1	55	15	2.9	89.9	0.1	D
6	B. Dar		0.0	3.6	0	3.29	102.0	0.0	VD
9	Cheffa		135	85	160	3.13	97.0	1.4	H
10	Combolcha		32.3	19	170	2.78	86.2	0.4	MD
12	D.Berehan		24.7	3.4	726	3.1	96.1	0.3	MD
13	D.Markos		22.1	22	102	3.3	102.3	0.3	MD
14	D.Tabor		2	12	17	3.11	96.4	0.0	VD
15	Enewari		33.7	4.6	733	3.23	100.1	0.3	MD
16	D/work		16.3	25	65	3.61	111.9	0.8	M
18	Lalibela		0.0	6.2	0	3.18	98.6	0.0	VD
19	Layber		15.0	NA	NA	3.26	101.1	0.2	D
20	Gondar		14.8	11	134	3.69	114.4	0.1	D
21	M.Meda		37.1	6.8	546	2.98	92.4	0.4	MD
22	Majete		55.7	26	214	3.05	94.6	0.6	M
23	Mekane Selam		38.0	NA	NA	3.07	95.2	0.4	MD
24	Mota		15.2	9.7	157	3.48	107.9	0.1	D
25	W.Tena		12.8	7.2	178	2.81	87.1	0.1	D
26	w/lllu	24.2	9.1	266	3.14	97.3	0.2	D	
1	A. Robe	OROMI A	42.9	17.6	245	2.64	81.8	0.5	MD
2	Addele		39.2	NA	NA	NA	NA	NA	NA
3	Alemaya		26.2	9.9	265	2.51	77.8	0.3	MD
4	Alge		15.5	14.2	110	3.52	109.1	0.1	D
5	Ambo		40.9	12.7	322	3.81	118.1	0.3	MD
6	Aira		10.9	13.9	78	NA	NA	NA	NA
7	Bedelle		43.9	22.2	1977	3.04	94.2	0.5	MD
8	Bui		11.0	9.7	113	3.58	111.0	0.1	D
9	Chria		75.3	49.8	151	2.86	88.7	0.8	M
10	D.Zeit		20.9	3.3	633	3.46	107.3	0.2	D
11	Dm.Dolo		40.5	19	213	3.16	98.0	0.4	MD
12	D/mena		84.6	23.9	353	NA	NA	NA	NA
13	Fiche		6.3	9.0	70	2.76	85.6	0.1	D
14	Gelemso		34.6	13.7	252	3.42	106.0	0.3	MD
15	Gimbi		59.2	3.9	1517	3.31	102.6	0.6	M

16	Ginir		34.5	20.9	165	3.42	106.0	0.4	MD
17	Gore		27.5	42.6	64	2.96	91.8	0.3	MD
18	Woliso		21.6	7.3	295	4.18	129.6	0.2	D
19	Kachise		15.1	27.9	54	2.96	91.8	0.2	D
20	koffele		196	27.2	720	2.66	82.5	2.4	H
21	Jimma		67.9	35	194	2.68	83.1	0.8	M
22	Kulumsa		28.3	9.5	297	3.23	100.1	0.3	MD
23	Limugent		50.5	30.9	163	2.93	90.8	0.6	M
24	Metehara		37.3	5.6	666	4.01	124.3	0.3	MD
25	Masha		89.8	75	120	2.31	71.6	1.3	H
26	Mieso		10.0	11.5	86	3.87	120.0	0.5	M
27	Nazereth		12.5	5.9	211	4.4	136.4	0.6	M
28	Negelle		12.9	12.7	101	4.81	149.1	0.1	D
29	Nekemte		18.8	20.4	92	3.08	95.5	0.3	MD
30	Nuraera		20.0	NA	NA	NA	NA	NA	NA
31	Robe		38.3	17.4	220	2.91	90.2	0.4	MD
32	Sekoru		55.9	21.8	256	2.59	80.3	0.7	M
33	Shambu		11.0	15.4	71	NA	NA	NA	NA
34	Ziway		29.1	3.1	938	3.65	113.2	0.3	MD
1	Arbaminch	SNNPR	86.4	26	332	3.4	105.4	1.0	H
2	Awassa		65.5	26	251	3.51	108.8	0.7	M
3	Bilate		54.0	26	205	3.55	110.1	0.5	M
4	Hossaina		66.3	23	292	2.86	88.7	0.7	M
5	H.Mariyam		38.5	16	236	2.79	86.5	0.4	MD
6	Indibir		16.7	NA	NA	NA	NA	NA	NA
7	Jinka		141.0	72	199	2.94	91.1	1.6	H
8	K/Mingist		33.0	19	172	2.96	91.8	0.4	MD
9	Konso		56.6	53	107	4.02	124.6	0.3	MD
	Mirababaya		5.1	31.7	16	NA	NA	NA	NA
	Sawla		158.5	54.4	291	3.1	96.1	1.6	H
1	BULLEN	B/GUMU Z	3.5	0.7	500	2.9	89.9	0.0	VD
2	CHAGINI		11.2	13	88	3.48	107.9	0.0	VD
3	DANGLA		0.3	9.3	3	2.95	91.5	0.0	VD
4	PAWE		0.0	1.2	0.0	3.9	120.9	0.0	VD
5	MANKUSH		1.0	NA	NA	NA	NA	NA	NA
1	Gode	SOMALI A	0.0	5.4	0	5.5	170.5	0.0	VD
2	Jiiiga		13.0	17.9	73	3.88	120.3	0.1	D
1	Harar	HARAR	10.4	9.3	112	3.3	102.3	0.1	D
1	D/Dawa	D/DAWA	9.3	9.7	96	3.47	107.6	0.1	D
1	A.A. Bole	A.A	77.6	4.9	159	3.8	117.8	0.7	M
2	A.A. Obs		63.0	10	617	2.88	89.3	0.5	M

Explanatory Note: ET_o: Reference Evapo-transpiration (mm)

VD Very Dry < 0.1
D Dry 0.1 – 0.25
MD Moderately Dry 0.25 - 0.5
M Moist 0.5 - 1
H Humid > 1

DEFINITION 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.

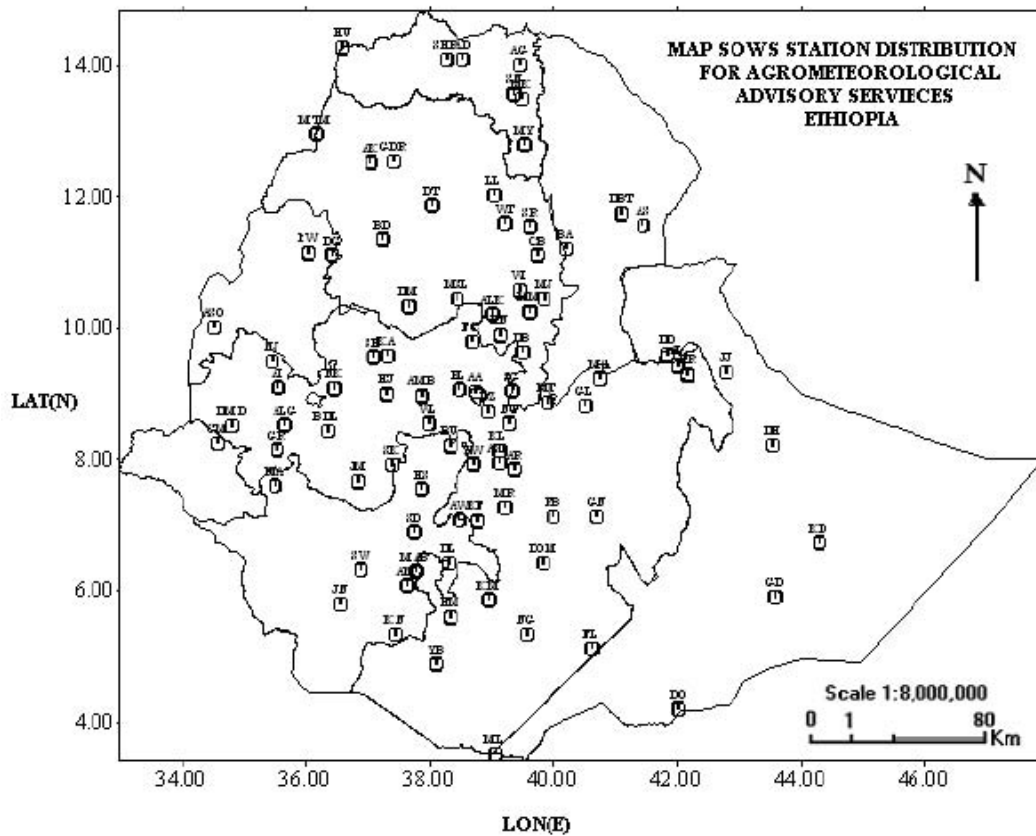
DEKAD: - First or second ten days or the remaining days of a month.

EXTREME TEMPERATURE: - The highest or the lowest temperature among the recorded maximum or minimum temperatures respectively.

ITCZ: - Inter tropical 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
Arba Minch	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		