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.

Director General NMA P.O.Box 1090 Tel: 011661-57-79 FAX 00251-11-6625292 E-mail nmsa@ethionet.et Addis Ababa

んりもピオ

እ.ኤ.አ ዲሴምበር 2011

እ.ኤ.አ በዲሴምበር የመጀመሪያው አሥር ቀናት ደረቅ፤ ፀሐያማና ነፋሻማ የአየር ሁኔታ ለመኸር ሰብል ስብሰባና ደህረ ሰብል ስብሰባ አመቺ ሁኔታን የፌጠረ ሲሆን በአንዳንድ የሰሜን ምሰራቅ፣ የምስራቅ፣ የመካከለኛውና የደቡብ ከፍተኛ ቦታዎች ላይ የሌሊቱና የማለዳው ቅዝቃዜ መጨመሩ ገና በመድረስ ላይና ፍሬ በመሙላት ላይ ላሉት የዋራዋሬ እህሎች እንዲሁም በአካባቢው ለሚኖሩ እንሰሳትና የእንሰሳት ምርት ላይ አሉታዊ ተፅዕኖ ነበረው ሆኖም ግን የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል፣ ምዕራብና ፣የደቡብ ኦሮምያ እና ደቡብ ሶማሌ ያገኙት ዝናብ ቋሚ ተክሎችና በአካባቢው ለሚኖሩት አርብቶ አደሮችና ክፌል አርብቶ አደሮች ለመጠዋ ውሃና ግጦሽ ሳር አቅርቦት አወንታዊ ተፅዕኖ ነበረው።

እ.ኤ.አ በዲሴምበር 2011 ሁለተኛ አስር ቀናት የበጋው ደረቅ ወሐያማና ነፋሻማ የአየር ሁኔታ በአብዛኛው የአገሩቱ አካባቢዎች ላይ ተስተውሷል። ይህም ሁኔታ የመኸር ሰብል ስብሰባና ድህረ ሰብል ስብሰባ አመቺ ሁኔታን የፌጠረ ሲሆን በተለይም በሴሜናዊ አጋማሽ ፣በደቡብ፣ በምስራቅና በመካከለኛው የአገሪቱ ደጋማ አካበባቢ ላይ የቀኑ ዝቅተኛ የአየር ሙቀት ከ5 ዲግሪ ሴልሼየስ በታች ሆኖ ተስተውሷል። ይህም ሁኔታ አንዳንድ በመድረስ ላይና ፍሬ በመሙላት ላይ ላሉት የዋራዋሬ አህሎች እንዲሁም በአካባቢው ለሚኖሩ እንሰሳትና የእንሰሳት ላይ አሉታዊ ተፅዕኖ ነበረው ሆኖም ግን የምዕራብና የደቡብ ምዕራብ ኢትዮጵያ አካባቢዎች ላይ ከተፌጠረው ደመና በዋቂት የደቡብ ብሔር ብሔረሰቦችና ህዝቦች ክልል ፣ምዕራብ ኦሮምያ ፣የደቡብ ምዕራባዊ አማራ፣ የደቡብ ቤንሻንጉል ጉምዝ ስፍራዎች ከቀላል እስከ መካከለኛ መጠን ያለው ዝናብ አግኝተዋል ይህም ሁኔታ ለቋሚ ተክሎችና በአካባቢው ለሚኖሩት አርብቶ አደሮችና ከፊል አርብቶ አደሮች ለመጠዋ ውሃና ግጦሽ ሳር አቅርቦት አወንታዊ ተፅዕኖ ነበረው ።

በእ.ኤ.አ በዲሴምበር ሶስተኛ አሥር ቀናት የበጋው ደረቅ ወሐያማና ነፋሻማ የአየር ሁኔታ በአብዛኛው የሃገሩቱ አካባቢዎች ላይ አመዝኖ ተስተውሷል ከዚህም ጋር ተያይዞ የሌሊቱና የማለዳው ቅዝቃዜ በብዙ ስፍራዎች ላይ ከ5ዲግሪ ሴሊሽየስ በታች ነበር። በተለይ በመካከለኛውና በምስራቅ የሃገሪቱ ክፍሎች ላይ ቅዝቃዜው ጠንከር ያለ ነበር (በኮፌሌ-3.6 በደብረ ብርሃን-2.8 በአለማያ-2.5 እና በደብረዘይት-1.0)ዝቅተኛ ሙቀት ተስተውሷል። ይኽም ሁኔታ በአብዛኛው የሀገሪቱ ክፍሎች ላይ እየተካሄደ ያለውን ድህረ ሰብል ስብሰባ እንዲሁም አንዳንድ አካባቢዎች ላይ ለሰብል ስብሰባ በደረሱ ሰብሎች ላይ በተጨማሪም አካባቢ ለሚኖሩ እንስሳትና የእንስሳት ተዋፅኦ ላይ አሉታዊ ተፅፅኖ ነበረው ።

በአጠቃላይ በዲሴምበር ወር በብዙ የሃገሪቱ ስፍራዎች ላይ የለሊቱና የማለዳው ቅዝቃዜ በመጠናከሩ በተለይም በሰሜን ምስራቅ፣በመካከለኛውና በአንዳንድ የሰሜንና የደቡብ ደጋማ ቦታዎች ከ5 ዲግሪ ሴልሽየስ በታች ዝቅተኛ የአየር ሙቀት ተስተውሎባቸዋል። በመሆኑም በተለይ ከላይ በተጠቀሱት ሰብሎች ዘግይተው በሚደርሱበት በሃገሪቱ ደጋማ አካባቢዎች በመድረስ ላይ ላሉ አዝዕርቶች ለውርቄ ተጋለቄ ሲሆኑ በሰብሎቹና በእንስሳቶች ጤና ላይ አሉታዊ ተፅዕኖ ይኖረዋል። በሌላም በኩል በዲሴምበር አንደኛውና ሁለተኛው አስር ቀን በምዕራብና በደቡብ ኦሮሚያ፣በደቡብ ብሄር ብሔረሰቦችና ህዝቦች ክልል፣ በጋምቤላ ፣በደቡብ ሶማሌ እንዲሁም በጥቂት በደቡብ አማራ አካባቢዎች የተለየ መጠን ያለው ዝናብ አግኝተዋል። በመሆኑም ከላይ በተጠቀሱት አካባቢዎች ለሚገኙ አርብቶ አደሮችና ክፊል አርብቶ አደሮች ለመጠጥ ውሃና ለግጦሽ እንዲሁም በቋሚ ተክሎች በጎ ጎን ነበረው።

SUMMARY

December 2011

During the first dekad of December2011, Bega, dry, windy and sunny weather condition was prevailed over most parts of the country. In line to this cool night and early mornings were dominated over northeastern, eastern, central and southern high lands. The situation might have favored harvest and post harvest activities of matured Meher crops. On the other hand, cool night and early mornings would have a negative impact late sown plus crops and live stock and livestock products. Whereas, Bega rain benefiting areas of SNNPR, southern and south western Oromia and southern Somalia would have 5.2-35.5 mm of rainfall for 2-7 days. The situation might have a positive impact on pasture and drinking water availability and perennial plants.

During the second dekad of December 2011, Bega, dry, windy and sunny weather condition was prevailed over most parts of the country. The situation might have favored harvest and post harvest activities of matured Meher crops. Bega cool night and early morning was dominated especially over northern portion of the country, southern, eastern and central high lands of the country. The situation would have a negative impact on late sown plus crops, perennial palnts, live stock and livestock products. Normal to above normal rainfall was observed over SNNPR, western Oromia and southern Amhara, ranging from 5.-73 mm for 1-9 days. The situation might have a positive impact on pasture and drinking water availability and perennial plants.

During the third of December 2011 dry, windy and sunny Bega weather condition was prevailed over most parts of the country. The situation might have favored harvest and post harvest activities. More over, Bega cool weather condition was dominated especially over central and eastern high lands of the country. Besides Koffele, Debre Brehan, Alemaya and Debre Zite reported a minimum temperature as low as -3.6, -2.8, -2.5 and -1.0°C. The situation would have a negative impact on late sown pulse crops, perennial plants, livestock and livestock products.

Generally, during the month of December 2011, dry, windy and sunny Bega weather condition was prevailed over most parts of the country. The situation might have favored harvest and post harvest activities. Night and early morning Bega cool weather condition was dominated especially over northern and southern high lands of the country. Some reported station recorded a minimum temperature below 5°C. The situation would have a negative impact over frost prone areas of the country on late sown pulse crops, perennial plants, livestock and livestock products. On the other hand western and southern Oromia, SNNPR, Gambela, southern Somalia and few places of southern Amhara received different amount of rainfall for 1 to12 days on the first and second deked of the month. The situation might have a positive impact on pasture and drinking water availability, land preparation for early starting Belg agricultural activity and perennial plants.

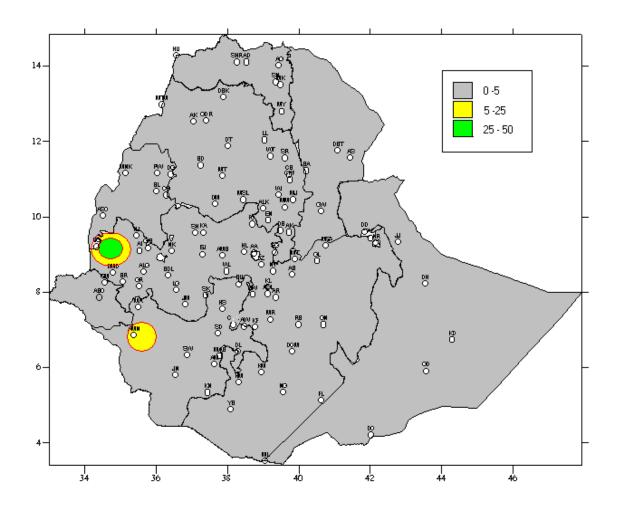


Fig 1. Rainfall distribution in mm (21 – 31 December, 2011)

1. WEATHER ASSESSMENT

1.1 (21-31 December, 2011)

1.1.1 Rainfall amount (Fig.1)

Pocket areas of western Oromia received 25-50 mm of rainfall. Pocket areas of western SNNPR and western Oromia experienced 5-25 mm of rainfall. The rest parts of the country exhibited little or no rainfall.

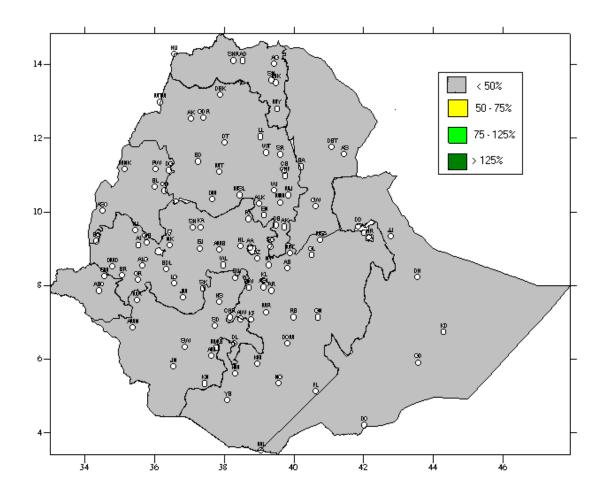
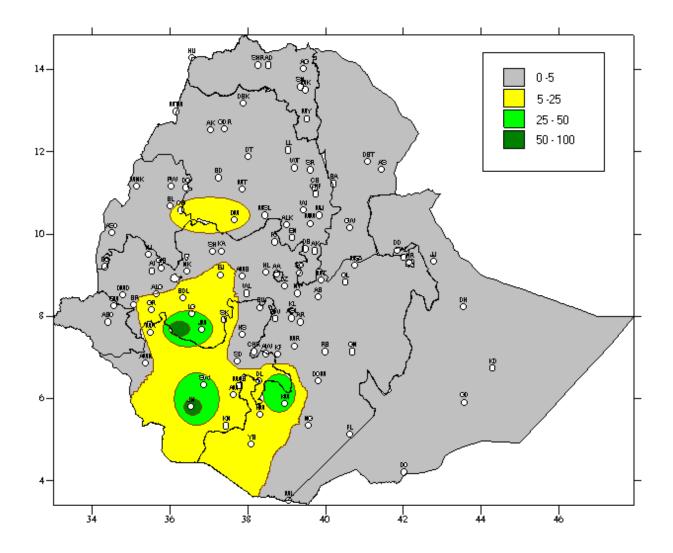


Fig. 2 Percent of normal rainfall distribution (21-31 December, 2011)

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)

Most parts of country experienced much below normal rainfall.



Rainfall distribution in mm for the month of December, 2011

1.2 December, 2011

1.1.2 Rainfall amount (Fig.3)

Pocket area of western Oromia and southern part of SNNPR received 50-100 mm of rainfall. Some parts of western Oromia and SNNPR received 25-50 mm of rainfall. Parts of western and southern Oromia , SNNPR and southwest Amhara received 5-25 mm of rainfall. The rest parts of the country exhibited little or no rainfall.

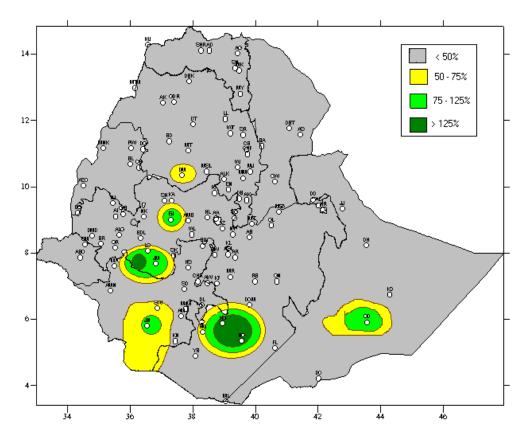


Fig. 4 Percent of Normal Rainfall distribution for the month of December, 2011

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)

Parts of southern and western Oromia and pocket areas of southern Somali and southern part of SNNPR experienced normal to above normal rainfall. The rest parts of the country experienced below normal to much below normal rainfall

1.3 TEMPERATURE ANOMALY

Some stations over the lowlands parts of the country recorded extreme maximum temperature greater than 35°C. Among the reporting stations: Awash Arba, Pawe and Sirba Abaya recorded 35.5, 36.6 and 36.2°C respectively. On the other hand A.A.Bole, Bale Robe, Aman, Adigrat, Adwa, Aider, Alemaya, Amba Mariam, Arjo, Arsi Robe, Assosa, Begi, Chagni, Dangla, Debark, Debre Berhan, Enwari, Fiche, Jijiga, Kobbo, Koffle, Konso, Kulumsa, Maichw, Niblet, Mehal Meda, Meso, Mota, Shire, Sheraro, Shola Gebeya and Wegel Tena recorded a minimum temperature as low as 4.5, -2.5, 1.0, -0.5, 2.5, 3.5, -2.5, 1.4, 2.5, 0.5, 0.4, 0.0, 4.0, 0.0, 4.4, -4.5, 4.5, 1.0, 2.4, -3.6, -3.5, 3.0, 1.7, 1.5, 3.0, 0.8, 4.0, 4.5, 3.6, 4.8, 2.3 and 0.2°C respectively. The situation might have a negative impact on the normal growth and development of plants and livestock.

2. AGROMETEOROLOGICAL CONDITIONS AND MPACT ON AGRICULTURE

2.1 VEGETATION CONDITION AND IMPACT ON AGRICULTURE

December 2011, dry, windy and sunny Bega weather condition was prevailed over most parts of the country. The situation might have favored harvest and post harvest activities. Night and early morning Bega cool weather condition was dominated especially over northern and southern high lands of the country. Some reported station recorded a minimum temperature below 5°C. The situation would have a negative impact over frost prone areas of the country on late sown pulse crops, perennial plants, livestock and livestock products. On the other hand western and southern Oromia, SNNPR, Gambela, southern Somalia and few places of southern Amhara received different amount of rainfall for 1 to12 days on the first and second deked of the month. The situation might have a positive impact on pasture and drinking water availability, land preparation for early starting Belg agricultural activity and perennial plants.

2.2 EXPECTED WEATHER IMPACT ON AGRICULTURE DURING THE COMING MONTH

In the coming January 2012, dry, sunny and windy Bega weather condition dominate over most parts of the country. The situation will favor harvest and post harvest activist. Night and early morning Bega cool weather condition will expect over the high lands of the country some station will Perivale a minimum temperature below 5°C over. This might cause unfavorable situation for the normal growth of perennial plants and livestock and livestock product so the concerned body must take appropriate major to minimize the risk. On the other hand at the end of January 2012 eastern Tigray and Amhara, southwestern Oromia will receive near normal rainfall while, few places of southern Oromia and SNNPR will expect little amount of rainfall. The situation will favor pasture and drinking water availability, land preparation for early starting Belg agricultural activity and perennial plants.

Table 2. Climatic and Agro-Climatic elements of different stations for the month of December, 2011

| able 2. Climatic and Agro-Climatic elements of different stations for the month of December, 2011 | | | | | | | | | | |
|---|-------------------|------------|--------|--------|--------|--------|---------|----------|--|--|
| No | Stations | | R/fall | Normal | % of | Eto | Eto | Moisture | | |
| | | | | | Normal | mm/day | monthly | statues | | |
| 1 | Adigrat | 1 | 0.0 | 13.1 | 0.0 | 2.89 | 89.59 | VD | | |
| 2 | Adwa | | 0.0 | 1.6 | 0.0 | 3.18 | 98.58 | VD | | |
| 3 | Chercher | . . | 0.0 | 15.2 | 0.0 | 3.42 | 106.02 | VD | | |
| 4 | Humera | Region | 0.0 | 8.0 | 0.0 | 3.33 | 103.23 | VD | | |
| 5 | Maichew | | 0.0 | 19.9 | 0.0 | 3.22 | 99.82 | VD | | |
| 6 | Mekele | | 0.0 | 0.5 | 0.0 | 4.48 | 138.88 | VD | | |
| 7 | Senkata | | 0.0 | 18.1 | 0.0 | 3.94 | 122.14 | VD | | |
| 8 | Shire | 1 | 0.0 | 2.2 | 0.0 | 3.44 | 106.64 | VD | | |
| | Omic | | 0.0 | 2.2 | 0.0 | 0.44 | 100.04 | 10 | | |
| 1 | Awash 40 | - | 0.0 | 0.0 | 0.0 | 4.85 | 150.35 | VD | | |
| 2 | Gewane | AFAR | 0.0 | 6.6 | 0.0 | 4.31 | 133.61 | VD | | |
| 3 | Dubti | | 0.0 | 4.8 | 0.0 | 4.09 | 126.79 | VD | | |
| 3 | | | | | | | | | | |
| - | Semera | | 0.0 | 5.6 | 0.0 | 5.5 | 170.5 | VD | | |
| 1 | A /1/2 . 4 | | 0.0 | | | 2.04 | 00.54 | 1/5 | | |
| 1 | A/Ketema | - | 0.0 | 9.2 | 0.00 | 3.21 | 99.51 | VD | | |
| 2 | Aykel | | 0.0 | 4.3 | 0.00 | 4.24 | 131.44 | VD | | |
| 3 | Amba Mariam | | 0.0 | 0.0 | 0.00 | 3.52 | 109.12 | VD | | |
| 4 | B. Dar | | 0.2 | 3.6 | 5.56 | 3.34 | 103.54 | VD | | |
| 5 | Bati | | 0.0 | 55.2 | 0.00 | 3.15 | 97.65 | VD | | |
| 6 | Chagni | | 5.8 | 12.8 | 45.31 | 2.93 | 90.83 | D | | |
| 7 | Combolcha | | 0.0 | 18.9 | 0.00 | 3.12 | 96.72 | VD | | |
| 8 | D.Berehan | | 0.0 | 3.4 | 0.00 | 3.59 | 111.29 | VD | | |
| 9 | D.Markos | | 11.5 | 21.7 | 53.00 | 3.68 | 114.08 | D | | |
| 10 | D.Tabor | | 0.0 | 11.9 | 0.00 | 3.12 | 96.72 | VD | | |
| 12 | Dangila | | 0.0 | 9.3 | 0.00 | 2.91 | 90.21 | VD | | |
| 13 | Debark | | 0.0 | 9.5 | 0.00 | 3.15 | 97.65 | VD | | |
| 14 | Ejaji | AMHARA | 14.9 | 13.6 | 109.56 | 3.85 | 119.35 | D | | |
| 15 | Enewari | 1 | 0.0 | 4.6 | 0.00 | 4.2 | 130.2 | VD | | |
| 16 | Gondar | 1 | 0.0 | 10.9 | 0.00 | 3.82 | 118.42 | VD | | |
| 17 | Lalibela | | 0.0 | 6.2 | 0.00 | 3.52 | 109.12 | VD | | |
| 18 | M.Meda | | 0.0 | 6.8 | 0.00 | 3.81 | 118.11 | VD | | |
| 19 | Majete | - | 0.2 | 26 | 0.77 | 3.7 | 114.7 | VD | | |
| 20 | Mota | - | 0.0 | 9.7 | 0.00 | 3.6 | 111.6 | VD | | |
| 21 | M/ Selam | - | 0.0 | 0.0 | 0.00 | 3.67 | 113.77 | VD | | |
| 22 | S.Gebeya | 1 | 0.0 | 3.3 | 0.00 | 3.09 | 95.79 | VD | | |
| 23 | | 1 | 0.0 | 35.5 | 0.00 | 2.97 | 92.07 | VD | | |
| 24 | Sirinka W Tona | | | | | | | | | |
| <u> </u> | W.Tena | 1 | 0.0 | 7.2 | 0.00 | 3.52 | 109.12 | VD | | |
| 1 | A Dobs | | 0.0 | 47.0 | | 2.2 | 400.0 | VD | | |
| 1 | A. Robe | - | 0.0 | 17.6 | 0.0 | 3.3 | 102.3 | VD | | |
| 2 | Abomsa | - | 0.0 | 15.5 | 0.0 | 3.57 | 110.67 | VD | | |
| 3 | Aira | | 0.0 | 13.9 | 0.0 | 3.08 | 95.48 | VD | | |
| 4 | Alemaya | | 0.0 | 9.9 | 0.0 | 3.94 | 122.14 | VD | | |
| 5 | Alge | | 0.0 | 14.2 | 0.0 | 3.3 | 102.3 | VD | | |
| 6 | Ambo | | 0.0 | 12.7 | 0.0 | 4.27 | 132.37 | VD | | |
| 7 | Arjo | | 12.7 | 44.3 | 28.7 | 3.65 | 113.15 | D | | |
| 8 | Bedelle | OROMIA | 0.4 | 22.2 | 1.8 | 3.49 | 108.19 | VD | | |
| 9 | Begi | | 1.2 | 3.0 | 40.0 | 3.56 | 110.36 | VD | | |
| 10 | Bui | _ | 0.0 | 9.7 | 0.0 | 3.96 | 122.76 | VD | | |
| 11 | Chria | | 82.7 | 49.8 | 166.1 | 3.43 | 106.33 | М | | |
| 12 | D.Zeit | | 0.0 | 3.3 | 0.0 | 4.09 | 126.79 | VD | | |
| 13 | D/mena |] | 1.9 | 23.9 | 7.9 | 3.53 | 109.43 | VD | | |
| 14 | Fiche | | 0.0 | 9.0 | 0.0 | 3.48 | 107.88 | VD | | |
| 15 | Gelemso | | 0.0 | 13.7 | 0.0 | 3.07 | 95.17 | VD | | |
| 16 | Gimbi | | 0.0 | 3.9 | 0.0 | 3.64 | 112.84 | VD | | |
| | | | | | | | | | | |

| 17 | Ginir | İ | 0.0 | 20.9 | 0.0 | 4.07 | 126.17 | VD |
|----------|------------|-------------|------|------|-----------|------|---------|---------------------------------------|
| 18 | Gore | | 16.6 | 42.6 | 39.0 | 3.34 | 103.54 | MD |
| 19 | Jimma | | 26.0 | 35.0 | 74.3 | 3.03 | 93.93 | MD |
| 20 | Kachise | | 0.0 | 27.9 | 0.0 | 3.53 | 109.43 | VD |
| 21 | koffele | | 0.0 | 27.2 | 0.0 | 3.32 | 102.92 | VD |
| 22 | Kulumsa | | 0.0 | 9.5 | 0.0 | 4.45 | 137.95 | VD |
| 23 | Limugent | | 0.0 | 30.9 | 0.0 | 3.22 | 99.82 | VD |
| 24 | Metehara | | 0.0 | 5.6 | 0.0 | 4.12 | 127.72 | VD |
| 25 | Mieso | | 0.0 | 11.5 | 0.0 | 4.04 | 125.24 | VD |
| 26 | Moyale | | 0.0 | 27.2 | 0.0 | 5.08 | 157.48 | VD |
| 27 | Nazereth | | 0.0 | 5.9 | 0.0 | 5.08 | 157.48 | VD |
| 28 | Nedjo | | 0.0 | 5.1 | 0.0 | 3.17 | 98.27 | VD |
| 29 | Negelle | | 19.6 | 12.7 | 154.3 | 4.12 | 127.72 | D |
| 30 | Nekemte | | 1.7 | 20.4 | 8.3 | 3.22 | 99.82 | VD |
| 31 | Nuraera | | 0.0 | 14.0 | 0.0 | 3.81 | 118.11 | VD |
| 32 | Robe | | 0.0 | 17.4 | 0.0 | 3.25 | 100.75 | VD |
| 33 | Sekoru | | 0.0 | 21.8 | 0.0 | 3.49 | 108.19 | VD |
| 34 | Shambu | | 1.9 | 15.4 | 12.3 | 3.56 | 110.36 | VD |
| 35 | Woliso | | 0.0 | 7.3 | 0.0 | 5.33 | 165.23 | VD |
| 36 | Yabello | | 0.0 | 22.9 | 0.0 | 3.37 | 104.47 | VD |
| 37 | Ziway | | 0.0 | 3.1 | 0.0 | 4.67 | 144.77 | VD |
| 37 | Ziway | | 0.0 | 3.1 | 0.0 | 4.07 | 177.77 | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| 1 | Arba minch | | 11.6 | 26 | 44.62 | 3.71 | 115.01 | D |
| 2 | Awassa | | 0.2 | 26 | 0.77 | 3.52 | 109.12 | VD |
| 3 | Bilate | | 0.0 | 26.3 | 0.00 | 3.86 | 119.66 | VD |
| 4 | H.Mariyam | | 4.3 | 16.3 | 26.38 | NA | NA | NA |
| 5 | Hossaina | SNNPR | 0.0 | 22.7 | 0.00 | 3.38 | 104.78 | VD |
| 6 | Jinka | DI (1 12 22 | 58.0 | 72.3 | 80.22 | 2.6 | 80.6 | M |
| 7 | Konso | | 5.8 | 52.7 | 11.01 | 3.68 | 114.08 | VD |
| 8 | K/Mingist | | 27.5 | 19.2 | 143.23 | 3.04 | 94.24 | MD |
| 9 | Mirababaya | | 0.0 | 31.7 | 0.00 | 4.3 | 133.3 | VD |
| 10 | Sawla | | 26.4 | 54.4 | 48.53 | 3.5 | 108.5 | D |
| -10 | Jawia | | 20.4 | 34.4 | 40.00 | 3.3 | 100.5 | <u> </u> |
| 1 | Asossa | B/Gumuz | 0.4 | 1.6 | 25.00 | 4.11 | 127.41 | VD |
| 2 | Dangila | | 0.0 | 9.3 | 0.00 | 2.91 | 90.21 | VD |
| 3 | Mankush | 1 | 0.0 | 0 | 0.00 | 3.94 | 122.14 | VD |
| 4 | Pawe | 1 | 0.0 | 1.2 | 0.00 | 3.94 | 122.14 | VD |
| <u> </u> | | 1 | 3.0 | 1.2 | 3.00 | 3.37 | 122.17 | |
| 1 | Aysha | | 0.0 | 0 | 0 | 3.5 | 108.5 | VD |
| 2 | Gode | SOMALIA | 5.4 | 5.4 | 100.00 | 4.26 | 132.06 | VD |
| 3 | Jiiiga | | 0.0 | 17.9 | 0.00 | 4.61 | 142.91 | VD |
| <u> </u> | - Jingu | | 0.0 | 17.5 | 0.00 | 7.01 | 1:72.01 | |
| 1 | Harar | HARAR | 0.0 | 9.3 | 0.00 | 4.51 | 139.81 | VD |
| | | | 3.0 | 3.0 | 3.00 | | | |
| 1 | D/Dawa | D/DAWA | 0.0 | 9.7 | 0.00 | 3.42 | 106.02 | VD |
| | | · · · · · | 3.5 | | 2.00 | | | |
| 1 | A.A. Bole | A.A | 0.0 | 4.9 | 0.00 | 3.84 | 119.04 | VD |
| | A.A. Obs | - | 0.0 | 10.2 | 0.00 | 3.37 | 104.47 | VD |
| | | a | | | | | | |
| 1 | Gambella | Gambella | 2.9 | 15.1 | 19.21 | 3.66 | 113.46 | VD |
| | | l | | | · • · - • | | | l |

Explanatory Note
Reference Evapo-transpiration (mm)
H Humid > 1
M Moist 0.5
VD Very Dry < 0.
D Dry 0.1
MD Moderately Dry 0 0.5 - 1 < 0.1 0.1 - 0.250.25 - 0.5

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 evapo-transpiration of a disease free crop, growing under non-restricting soil conditions including soil water and fertility.

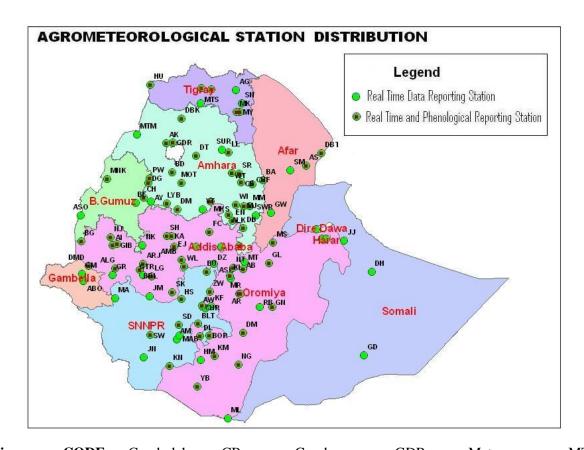
DEKAD: - First or second ten days or the remaining days of a month.

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