


FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
ETHIOPIAN METEOROLOGICAL INSTITUTE
METEOROLOGICAL DATA AND CLIMATOLOGY LEAD EXECUTIVE
REMOTE SENSING AND CLIMATOLOGICAL DESK


Some Applications of Climate Information

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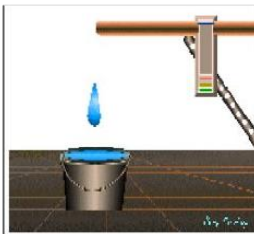
Disaster management



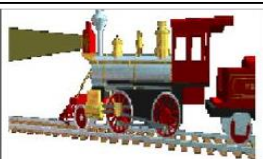
Constriction




Water resource management




Transportation



Sport



Recreation & Tourism



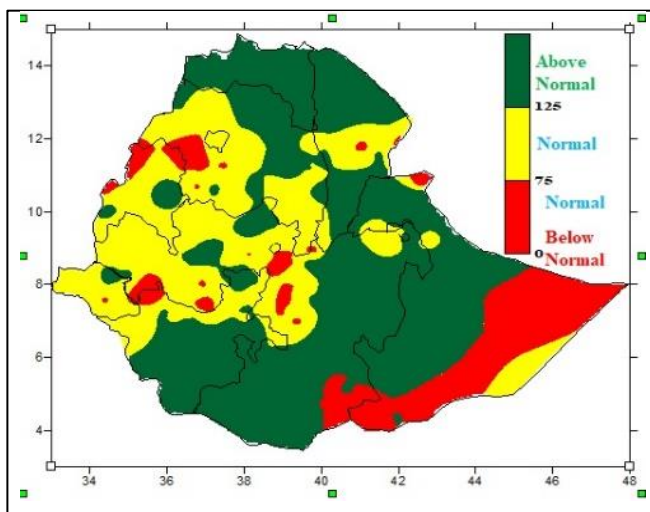
HIGHLIGHTS

During August 2024, days somehow remained warm over several portions of the lowlands of Ethiopia, particularly over most of Afar, Somali, Gambela, western Amhara, some areas of and Benishangul Gumuz regions. Specifically, the extreme maximum temperature values were as high 35, 35.4, 36, 36, 36, 37, 39.5, 40.4, 42, and 43.8 °C over Gambella, Metema, Metehara (NMSA), Dalifagi, Kibridahar, Awash Arba, Aysha, Semera, Gode, and Elidar respectively.

During August 2024, the monthly rainfall amount exceeded 400 mm or heavier rainfall was occurring over some parts of western Oromia and some parts of Amhara, pocket areas of Tigray regions. In particular, the monthly total rainfall values of August 2024 were as high as 400.6, 408.9, 419.1, 420.3, 430, 436, 440.6, 453.4, 468.8, 480, 481.1, 490.7, 503.6, 556.4 And 595.2mm over Debark, Maichew, Tsitsika, Lalibela, Kachise, Imdiber, Ejaji, Wegeltena, Fiche, Majete, Amdework, Arejo, Atsebi, Ambamariam, and Bullene respectively. The daily rainfall values were recorded more than 70 mm within 24 hours during August 2024 over Algje, Wegeltena, Metema, Atsebi, Chefa, Laiber, Majete, Maichew, Harer, Fiche, Chifra, Bullen, Tepi, Hageremariam, and Gelemso stations was 70, 70, 73.6, 74, 75.6, 76, 79.4, 80, 80.3, 80.8, 84.4, 84.6, 84.8, 86, and 95 mm respectively.

During August 2024 most parts of the country experienced above-normal rainfall conditions particularly most of Tigray, northeast and eastern Amhara some parts of central, southern, and eastern Oromia, north and northwestern Somalia south and northern afar central, eastern, and southwestern parts of SNNPR pocket areas of Gambela and Benishangul gumuz.

During the August month, some parts of the country's normal weather conditions were experienced such as most parts of Amhara. Some western, central Oromia, most parts of Benishangul and Gambela, Central Afar, and Pocket areas of Somalia. finally, the areas with below-normal weather conditions experienced some pocket areas of Oromia Amhara Gambelia Benishangul Gumuz and afar regions. Most of Tigray Amhara, Benishangul Gumuz, Afar, and Oromia, north and northwest Somali, most parts of SNNPR, and a few areas of Gambella, were wetter than climatological normal. On the other hand, in some parts of Amhara, Afar, SNNPR, and Oromia, most of Gambella and Somalia regions were Dryer than climatological normal.



Percent of normal rainfall of August 2024

Foreword

This climate bulletin is prepared and disseminated by the Ethiopia Meteorological Institute (EMI). It is aimed at providing climatological information to different services of the community involved in various socio-economic activities.

The information contained in this bulletin is believed to assist planners, decision-makers and the community at large by providing details of the climatic conditions of the nation in a given period.

This bulletin differs from the other real time and near real time bulletins issued by the Agency, which for their input depend only on meteorological stations equipped with single side band radio for data transmission. Though this bulletin is not real time, published with a delay of at least two months, the information contained in this bulletin is based on data coming from a much larger number of meteorological stations. Moreover, the information contained in this bulletin is not sector-specific and a wide range of users can benefit from it. The Agency disseminates monthly, seasonal and annual climatological bulletins in which all-necessary climatological information and significant climatic anomalies are highlighted.

We have a strong belief that various socio-economic activities related to planning disaster mitigation, water resources management, construction, environmental protection, transportation, recreation, tourism and others will be benefited most by the careful and continuous use of this bulletin. Meanwhile, your comments and constructive suggestions are highly appreciated to make the objectives of this bulletin success.

Director General

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1. Synoptic Situation

1.1 Surface

The Mascarene high with a mean central pressure value of above 1020 hPa was centered at about 32°S, 60°E.

The St. Helena high with a mean central pressure value of above 1020hPa was centered at about 34°S, 5°W.

The Azores high with a mean central pressure value of 1020hPa was centered at about 36°N, 15°W.

1.2 Lower Troposphere (850 hPa vector wind)

The strong cross-equatorial and northeasterly flow of below 0 to 16 m/s was observed over the northern and western Indian Ocean and southwesterly flow was dominant over the Arabian Peninsula.

1.3 Middle Troposphere (500-hPa Geopotential height)

. When analyzing the geopotential height from the Climate Diagnostics Bulletin in August 2024, the fluctuation 500-hPa Geo- -potential height values over central and eastern Africa was 3 to 9 pm.

1.4 Upper Troposphere (200 hPa vector wind)

Equatorial stronger easterly winds 0-30 m/s were dominant in most parts of the horn of Africa. The subtropical easterly jet had strengthened further, while the upper-level westerly flow, associated with the tropical westerly jet weakened further.

2. Tropical Oceanic and Atmospheric Highlights

During August 2024, sea surface temperatures (SSTs) remained near average across most of the equatorial Pacific the latest monthly Niño indices

were -0.3°C for the Niño 1+2region, -0.1°C for the Niño 3.4 region and +0.5°C for the Niño 4 region. The depth of the oceanic thermocline (measured by the depth of the 20°C isotherm) was below-average across the equatorial Pacific, the corresponding sub-surface temperatures were 1-4°C below-average in the eastern equatorial Pacific.

Reference: NOAA, climate diagnostic bulletin of August 2023

3. Weather

3.1 Temperature

During August 2024, days somehow remained warm over several portions of the lowlands of Ethiopia, particularly over most of Afar, Somali, Gambela, western Amhara, some areas of and Benishangul Gumuz regions (Fig. 3.1.2). Specifically, the extreme maximum temperature values were as high 35, 35.4, 36, 36, 36, 37, 39.5, 40.4, 42, and 43.8 oC over Gambella, Metema, Metehara (NMSA), Dalifagi, Kibridahar, Awash Arba, Aysha, Semera, Gode, and Elidar respectively. (Table 3.1.1).

On the other hand, the extreme minimum temperature values were below 7°C over some highland parts of Amhara and a few parts of the Oromia region. In particular, Sholagebaya, Alemketema, Ambamariam, Bui, Mehalmeda, Wegeltena, and Amdework had extreme minimum temperature values of below 7 oC during August 2024 (Table 3.1.2).

The monthly average temperature readings were generally above normal throughout southeast, some part of north, northwest. central Ethiopia Gambela and wester parts SNNPR and finally below normal experiencing over eastern. South eastern enteral and northern Afar most of Amhara and eastern Oromia. (Fig. 3.1.3).

Table 3.1.1 Stations with extreme maximum Temperature values of greater than or equal to 35 0 c during August 2024.

Station	Extreme maximum temperature (oc)	Date
Gambella	35	29
Lare	35.2	29
Metema	35.4	9
Metehara (NMSA)	36	26
Dalifagi	36	14
Kibridahar	36	9
Awash Arba	37	27
Aysha	39.5	19
Semera	40.4	15
Gode	42	27
Elidar	43.8	8

Table 3.1.2 Stations with extreme minimum temperature values of below or equal to 7oc during August 2024.

Name	Extreme minimum temperature oc	Date
Sholagebaya	4	27
Alemketema	4.7	24
Ambamariam	4.8	18
Bui	5.8	23
Mehalmeda	6.5	7
Wegeltena	6.7	30
Amdework	7	4

3.2 Rainfall

During August 2024, the monthly rainfall amount exceeded 400 mm or heavier rainfall was occurring over some parts of western Oromia and some parts of Amhara, pocket areas of Tigray regions. In particular, the monthly total rainfall values of August 2024 were as high as 400.6, 408.9, 419.1, 420.3, 430, 436, 440.6, 453.4, 468.8, 480, 481.1, 490.7, 503.6, 556.4, and 595.2mm over Debarq,

Maichew, Tsitsika, Lalibela, Kachise, Imdiber, Ejaji, Wegeltena, Fiche, Majete, Amdework, Arejo, Atsebi, Ambamariam, and Bullene respectively.

The daily rainfall values were recorded more than 70 mm within 24 hours during August 2024 over Algie, Wegeltena, Metema, Atsebi, Chefa, Laiber, Majete, Maichew, Harer, Fiche, Chifra, Bullen, Tepi, Hageremariam, and Gelemso stations was 70, 70, 73.6, 74, 75.6, 76, 79.4, 80, 80.3, 80.8, 84.4, 84.6, 84.8, 86, and 95 mm respectively.

During the August month, some parts of the country's normal weather conditions were experienced such as most parts of Amhara. Some western, central Oromia, most parts of Benishangul and Gambela, Central Afar, and Pocket areas of Somalia. finally, the areas that below-normal weather conditions experienced some pocket areas of Oromia Amhara Gambelia Benishangul Gumuz and afar regions. Most of Tigray Amhara, Benishangul Gumuz, Afar, and Oromia, north and northwest Somali, most parts of SNNPR, and a few areas of Gambella, were wetter than climatological normal. On the other hand, in some parts of Amhara, Afar, SNNPR, and Oromia, most of Gambella and Somalia regions were Dryer than climatological normal.

Table 3.2.1. Stations with more than 700 mm of rainfall in 24 hours during August 2024

Name	Amount	Date
Algie	70	3
Wegeltena	70	9
Metema	73.6	11
Atsebi	74	22
Chefa	75.6	5
Laiber	76	1
Majete	79.4	79.4
Maichew	80	30
Harer	80.3	20
Fiche	80.8	19
Chifra	84.4	5
Bullen	84.6	24
Tepi	84.8	8
Hageremariam	86	25
Gelemso	95	12

Table 3.2.2. Stations with more than 400 mm of monthly total rainfall during August 2024.

Station	Amount
Debark	400.6
Maichew	408.9
Tsitsika	419.1
Lalibela	420.3
Kachise	430
Imdiber	436
Ejaji	440.6
Wegeltena	453.4
Fiche	468.8
Majete	480
Amdework	481.1
Arejo	490.7
Atsebi	503.6
Ambamariam	556.4
Bullen	595.2

4.1. Stations extrema ever recorded in 24 hours during August 2024.

Stations extremer minimum temperature, maximum temperature, and rainfall was recorded at different station compare with ever recorded in 24 hours during August 2024 ‘In particular, the daily total rainfall values of August 2024 were as high as ever recorded 75.6, 84.4, 80.8, 95, 86, 80.3, 84.8, and 70 in mm over Chefa, Chifra, Fiche, Gelemso, Hageremariam, Harer, and Tepi respectively(Table.4.1.1.).the daily extreme maximum values of August 2024 were as high as ever recorded 23.8,22.5,28.4, 24.8, 26, and 21.5 °C over Arjo, Bore , Hosana, Masha, and Nefas Mewcha respectively (Table 4.1.2). the daily extremer minimum values of August 2024 were as high as ever recorded in °C over Chifra, and Kebri Dehar respectively (Table 4.1.3).

Table 4.1.1. Stations extrema rainfall ever recorded in 24 hours during August 2024.

Station Name	Previous Record	New Record	Data
Chefa	40	75.6	23
Chifra	62.5	84.4	31
Fiche	69.4	80.8	26
Gelemso	78.3	95	08
Hageremariam	56.7	86	29
Harer	43.1	80.3	02
Tepi	68.7	84.8	27
Wegeltena	54	70	26

Table 4.1.2. Stations with extreme maximum temperature ever recorded values during August 2024.

Name	Previous Record	New Record	Date
Arjo	23.2	23.8	10
Bore	20.6	22.5	17
Hosana	27	28.4	11
Masha	25.6	26	24
Nefas Mewcha	20	21.5	3

Table 4.1.3. Stations extrema minimum temperature ever recording 24 hours during August 2024

Station Name	Previous record	New record	Date
Chifra	18	10	19
Kebri Dehar	13.4	13	31

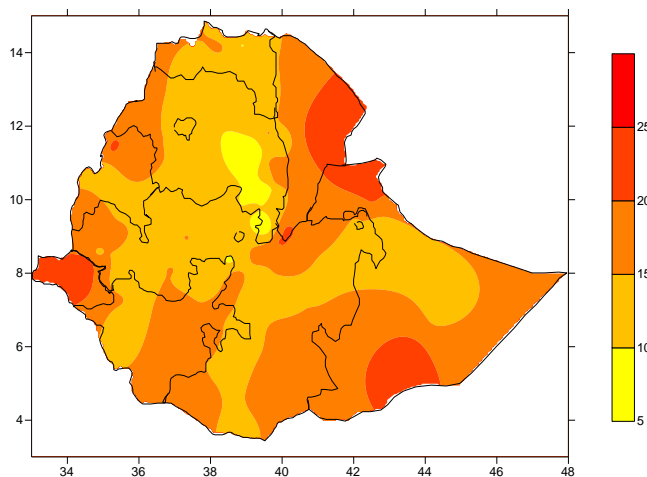


Fig. 3.1.1. Mean minimum temperature in °C during August 2024

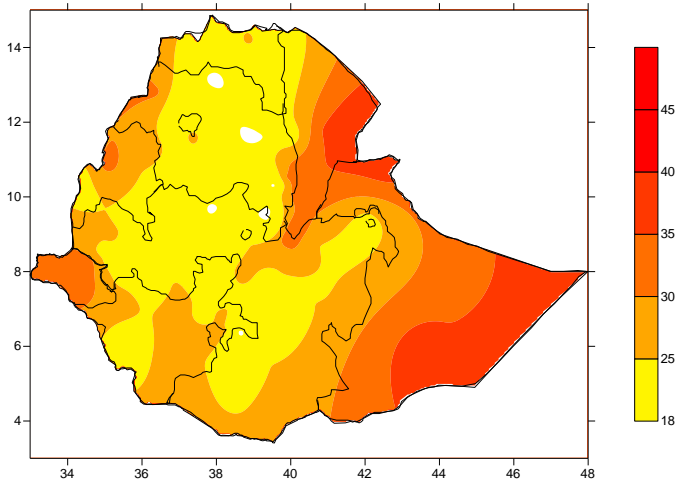


Fig. 3.1.2. Mean maximum temperature in °C during August 2024

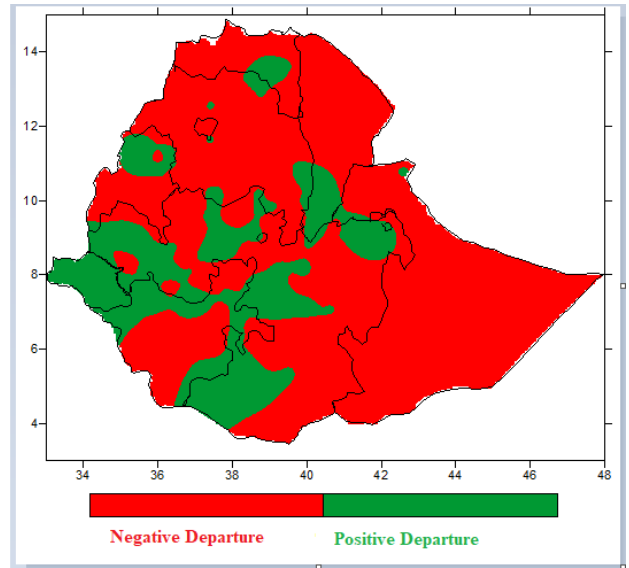


Fig.3.1.3. Departure of August2024Average temperature from August 2023 Average temperature

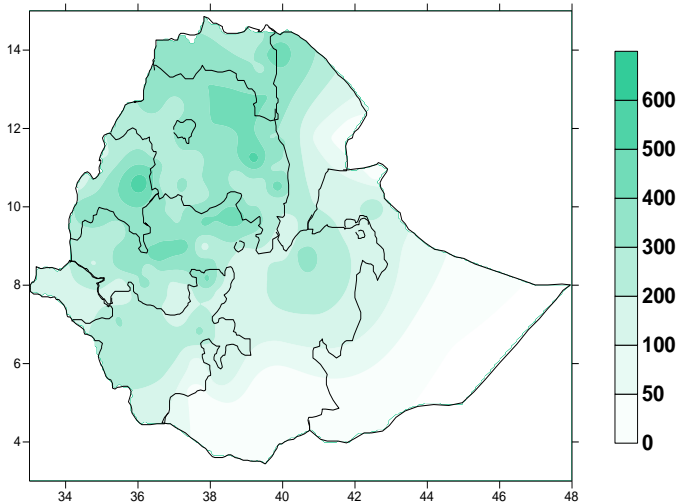


Fig.3.2.1. Monthly total rainfall in mm during August 2024

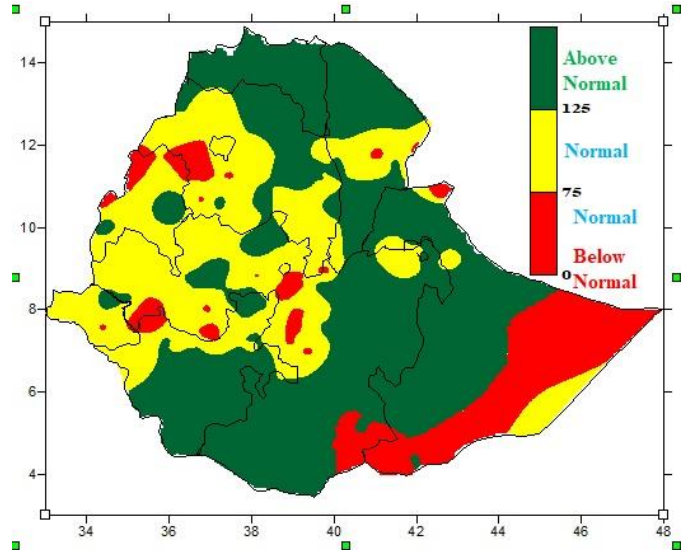


Fig. 3.2.2. Percent of normal rainfall during August

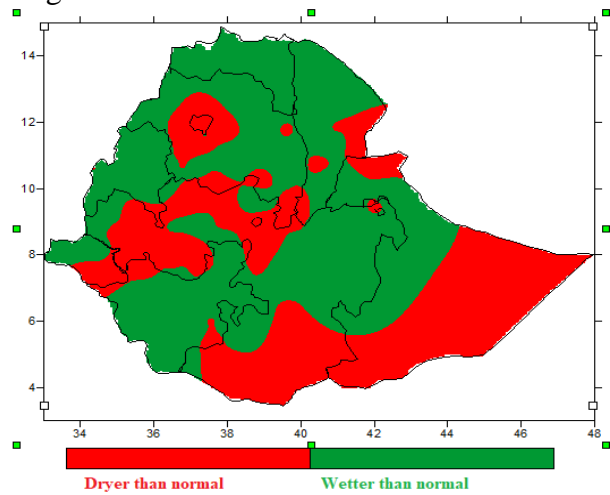


Fig. 3.2.3. Monthly total rainfall of August 2024 minus August normal rainfall

