FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

ETHIOPIAN METEOROLOGICAL INSTITUTE

METEOROLOGICLA DATA AND CLIMATOLOGY LEAD EXECUTIVE

REMOTE SENSING AND CLIMATOLOGICAL DESK

MONTHLY CLIMATE BULLETIN

July2024

Some Applications of Climate Information

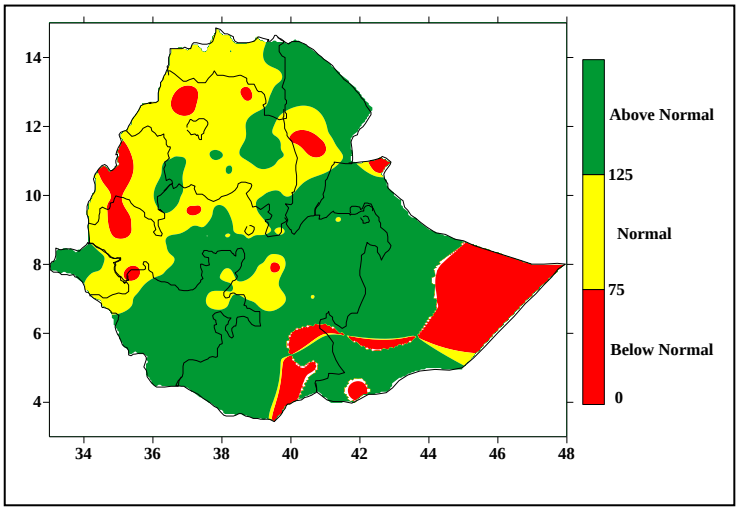
HIGHLIGHTS

During July 2024, days were remained warm over several parts of Ethiopian lowlands, such as Gambella, Somali, and Afar regions. Specifically, the extreme maximum temperature values were as high as 40.4, 39.2, 40, 41, 43.6, 37.5, 38.0, 43.8, and 37.8°C at Gode, Metehara, Awash arba, Aysha, Elidar, Fugnido, Nazreth, Semera and Shewarobit stations, respectively.

On the other hand, the extreme minimum temperature values of below 5°C were recorded in some highland areas of Amhara, Central Ethiopia and Tigray regions. Specifically, the extreme minimum temperature values were 6.0, 5.2, 4.4, 6.5, 6.6, 4.0, and 3.1°C for Debrezeit, Alemketema, Ambamariam, Amdework, Bui, Nefasmewuch and Sholagebeya stations, respectively.

During July 2024, the monthly rainfall amount exceeded 400 mm or heavier rainfall was occurring over Amhara, Tigray, Gambella, Benshangul Giumz, Central Ethiopia, South West Ethiopia, and Western and Central Oromia regions.

In particular, the monthly total rainfall values of July 2024 were as high as 496.3, 465.3, 675.1, 515.3, 481.1, 496.1, 498.8, 477.4, 487.8, and 495.4 mm at Bahir Dar, Jimma, Ambamariam, Chagini, Dangla, Debre Brehan, Debre Tabor, Enewari, Gidaayana, and Imdiber stations, respectively. The daily rainfall more than 70mm values was observed over Algie, Atsebi, Enewari, Gambella, Gidaayana, Lalibela, and Lare stations was 80.0, 112.0, 118.2, 75.6, 78.3, 86.0 and 78.0 mm, respectively. In general, the monthly total rainfall amount of July 2024 was below normal in Benshangul Giumz, some pocket areas of Amhara, Tigray, Oromia, Afar and Somali regions. On the other hand, it was above normal in Central Ethiopia, South West Ethiopia, South Ethiopia, Sidam, Afar, Somali and most part of Oromia regions. The rainfall was normal in Amhara, Tigray, and some pocket areas of Oromia, Afar, Gambella and Benishangul Gumuz regions.



Percent of normal rainfall of July2024

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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 and giving some highlights about major synoptic situations.

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 Institute, 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 Institute 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.

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1. Synoptic Situation

1.1 Surface

The Mascarene high with a mean central pressure value of above 1020hPa was centered at about 25°S, 85°E.

The St. Helena high with a mean central pressure value of above 1020hPa was centered at about 28°S, 2°E.

The Azores high with a mean central pressure value of 1020hPa was centered at about 35°N, 45°W.

1.2 Lower Troposphere (850 hPa vector wind)

Easterly flow with below 4 - 8m/s mean vector wind flow was originating from Mediterranean Sea and Indian Ocean.

2. Tropical Oceanic and Atmospheric Highlights

During July 2024, sea surface temperatures (SSTs) remained near average across the east-central and eastern equatorial Pacific. The latest monthly Nino indices were -0.4C for the Nino 1+2 region, +0.2C for the Nino 3.4 region and +0.6C for the Nino 4 region. The depth of the oceanic thermocline (measured by the depth of the 20C isotherm) was below-average across the equatorial Pacific. The corresponding sub-surface temperatures were 1-4C below-average in the eastern equatorial Pacific.

Reference: NOAA, climate diagnostic bulletin of July2024

3. Weather

3.1 Temperature

During July 2024, days were remained warm over several parts of Ethiopian lowlands, such as Gambella, Somali, and Afar regions (Fig. 3.1.2). Specifically, the extreme maximum temperature values were as high as 40.4, 39.2, 40, 41, 43.6, 37.5, 38.0, 43.8, and 37.8°C at Gode, Metehara, Awash arba, Aysha, Elidar, Fugnido, Nazreth, Semera and Shewarobit stations, respectively (Table 3.1.1).

On the other hand, the extreme minimum temperature values of below 5°C were recorded in some highland areas of Amhara, Central Ethiopia and Tigray regions (Fig. 3.1.1). Specifically, the extreme minimum temperature values were 6.0, 5.2, 4.4, 6.5, 6.6, 4.0, and 3.1°C for Debrezeit, Alemketema, Ambamariam, Amdework, Bui, Nefasmewuch and Sholagebeya stations, respectively (Table 3.1.2).

In General, the July 2024 Mean monthly temperature values were partially cooler than normal in Amhara, Somali, Afar and some pocket areas of Oromia and Tigray regions. On the other hand, warmer than normal over Gambella, Dire Dawa, Western Oromia, and pocket areas of Somali and South West Ethiopia regions (Fig. 3.1.3).

Table 3.1.1 Stations with extreme maximum temperature values of greater than or equal to 37˚C during July 2024

Stations	Extreme maximum temperature (°c)	Date
Gode	40.4	8
Metehara	39.2	6
Awash Arba	40	6
Aysha	41	3
Elidar	43.6	3
Fugnuido	37.5	4
Nazreth	38	22
Semera	43.8	2
Shewarobit	37.8	3

Table 3.1.2 Stations with extreme minimum temperature values of below or equal to 7.0^{o}C during July 2024

Stations	Extreme minimum temperature (˚C)	Date
Debrezeit	6	10
Alemketema	5.2	19
Ambamariam	4.4	24
Amdework	6.5	6
Bui	6.6	11
Nefasmewucha	4	16
Sholagebaya	3.1	24

3.2 Rainfall

July is one of the months of the main rainy season of Kiremt (JJAS) for most part of the country. The mean monthly rainfall amount exceeds 400 mm in the northern, west and central parts of the country.

During July 2024, the monthly rainfall amount exceeded 400 mm or heavier rainfall was occurring over Amhara, Tigray, Gambella, Benshangul Giumz, Central Ethiopia, South West Ethiopia, and Western and Central Oromia regions (Fig 3.2.1).

In particular, the monthly total rainfall values of July 2024 were as high as 496.3, 465.3, 675.1, 515.3, 481.1, 496.1, 498.8, 477.4, 487.8, and 495.4 mm at Bahir Dar, Jimma, Ambamariam, Chagini, Dangla, Debre Brehan, Debre Tabor, Enewari, Gidaayana, and Imdiber stations, respectively (Table 3.2.2). The daily rainfall more than 70mm values was observed over Algie, Atsebi, Enewari, Gambella, Gidaayana, Lalibela, and Lare stations was 80.0, 112.0, 118.2, 75.6, 78.3, 86.0 and 78.0 mm, respectively (Table 3.2.1).

In general, the monthly total rainfall amount of July 2024 was below normal in Benshangul Giumz, some pocket areas of Amhara, Tigray, Oromia, Afar and Somali regions. On the other hand, it was above normal in Central Ethiopia, South West Ethiopia, South Ethiopia, Sidam, Afar, Somali and most part of Oromia regions. The rainfall was normal in Amhara, Tigray, and some pocket areas of Oromia, Afar, Gambella and Benishangul Gumuz regions (Fig. 3.2.2).

South Ethiopia, South West Ethiopia, Central Ethiopia, Dire Dawa, Harari, Tigray, some parts of Amhara, Afar, and Southern Oromia regions were wetter than July 2023 rainfall. On the other hand, in Benishangul Gumuz, Amhara, Gmbella, Somali, Tigray and most of Oromia regions, July 2024 was dryer than July 2023 rainfall. No change on the rest part of the country (Fig. 3.2.3).

Table 3.2.1. Stations with more than 70.0 mm of rainfall in 24 hours during July 2024

Stations	Amount (mm)	Date
Algie	80	18
Atsebi	112	16
Enewari	118.2	28
Gambella	75.6	27
Gidaayana	78.3	30
Lalibela	86	21
Lare	78	6

Table 3.2.2. Stations with more than 465.0mm of monthly total rainfall during July 2024

Station	Amount
Bahir Dar	496.3
Jimma	465.3
Ambamariam	675.1
Chagini	515.3
Dangla	481.1
D/Brehan	496.1
D/Tabor	498.8
Enewari	477.4
Gidaayana	487.8
Imdiber	495.4

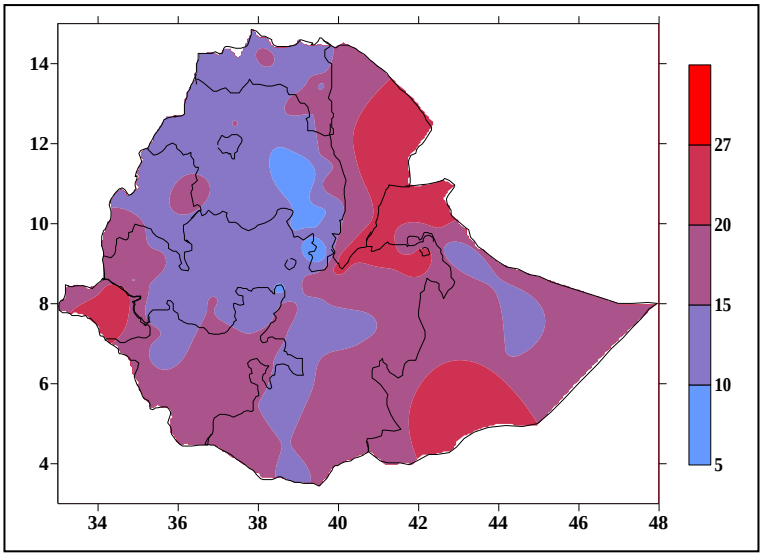

Fig. 3.1.1. Mean minimum temperature in ^{o}C during July 2024

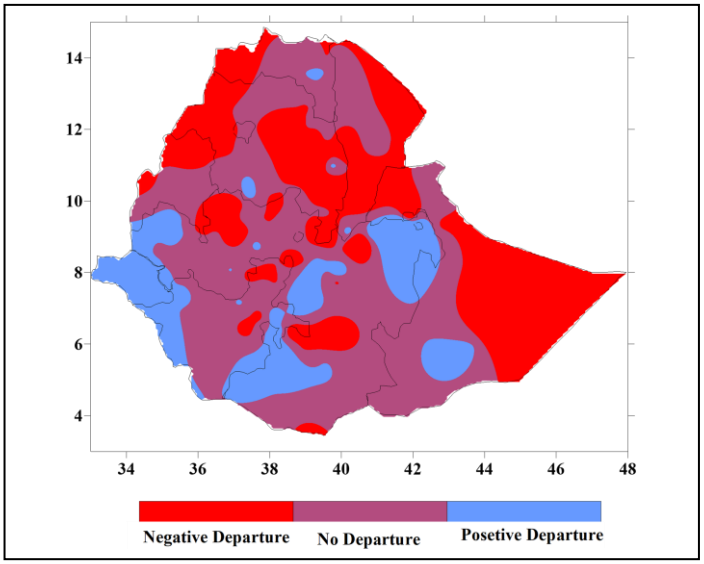

Fig.3.1.3. Departure of monthly average temperature from normal during July 2024

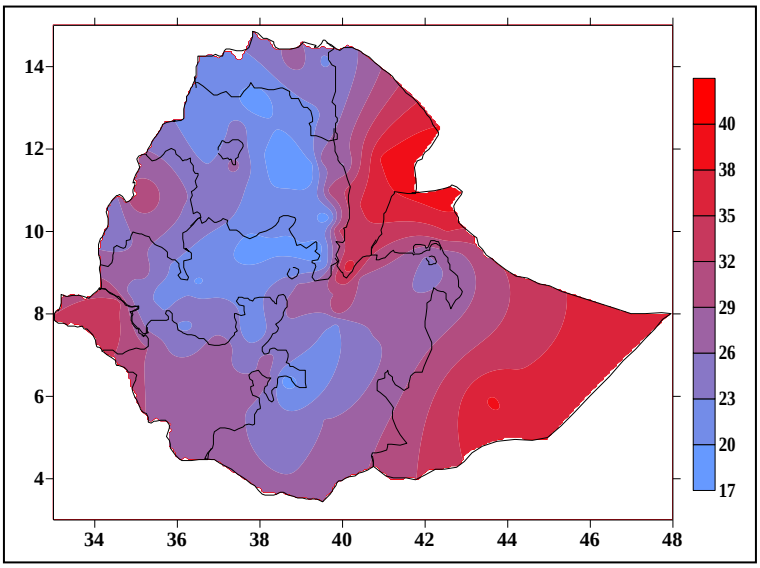

Fig. 3.1.2. Mean maximum temperature in ^{o}c during July 2024

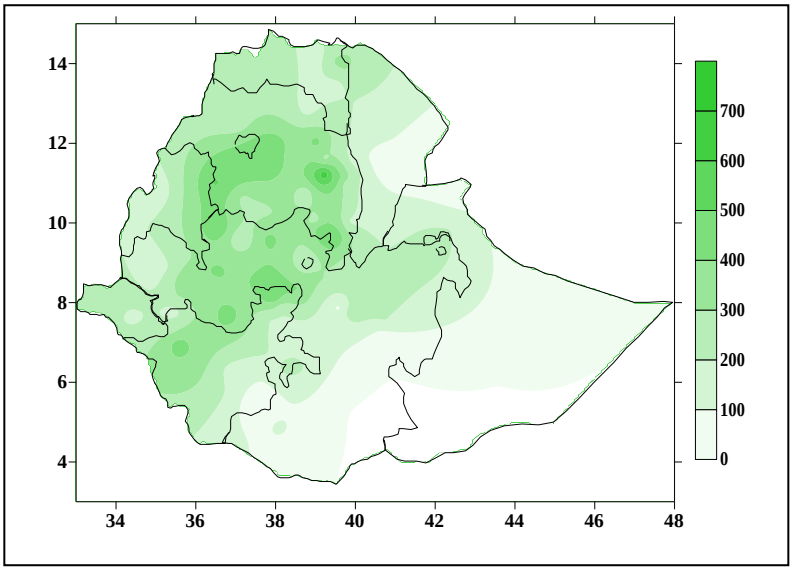

Fig.3.2.1. Monthly total rainfall in mm during July 2024

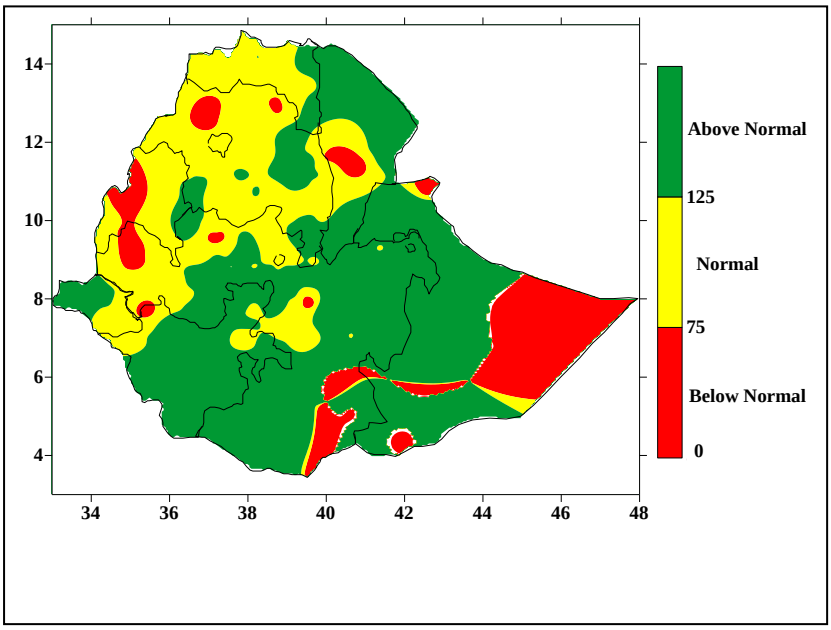

Fig. 3.2.2. Percent of normal rainfall during July 2024

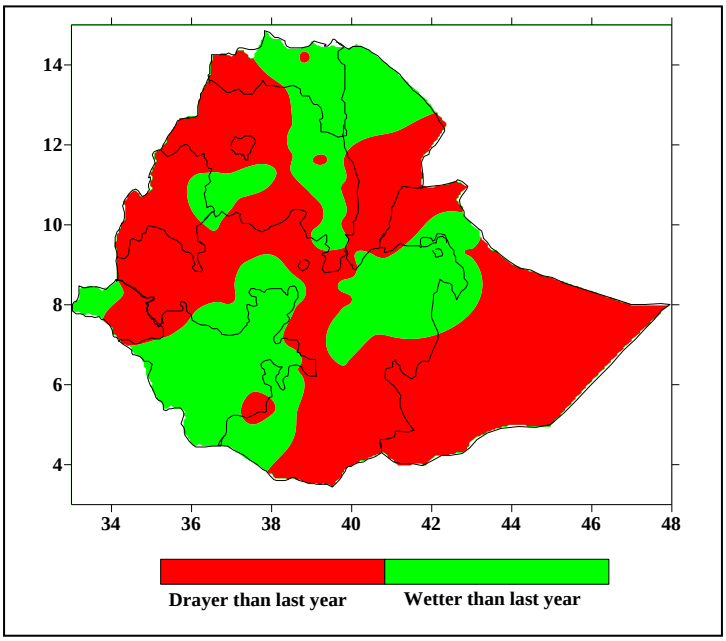

Fig. 3.2.3. Monthly total rainfall of July2024 minus monthly total rainfall of July2023