

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

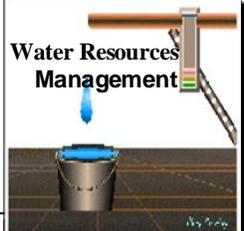
MONTHLY CLIMATE BULLETIN
June 2023

*Some Applications of
Climate Information*

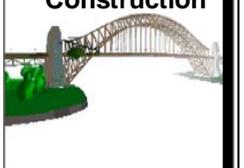
Disaster Management



Water Resources Management



Construction



Environment & Health



Transport



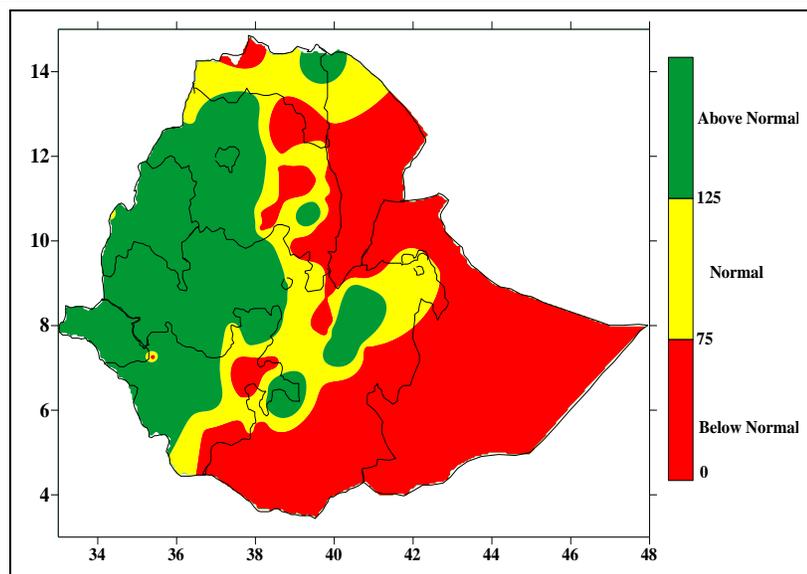
Recreation & Tourism



HIGHLIGHTS

During June 2023, days were remained warm over several portions of the lowlands of Ethiopia. In particular, warm temperatures were recorded over most part of Afar, Somalia, Gambela and some part of Amhara regions. Specifically, the extreme maximum temperature values were as high as 45.5, 45, 44.0, 44.0 and 43.8°C over Dubti, Awash Arba, Mille, Semera and Elidar respectively. During June 2023, the monthly rainfall amount exceeded 400 mm or heavier rainfall was occurring over some parts of western Oromia and Gambella areas.

During June 2023, the monthly rainfall amount exceeded 400 mm or heavier rainfall was occurring over some parts of western Oromia and Gambella areas. The monthly total rainfall values of June 2023 were as high as 500.0, 425.9, 388.4, 348.8, 348.0, 332.1, 322.7, 312.6 and 307.5 mm over Nekemte, Shambu, Algie, Bure, Kachise, Chagini, Bedelle, Arjo and Lare. The daily rainfall values over Bure, Nekemte, Algie, Gore, Aman, Lare, Lalber and Fugnuldo stations were 95.7, 89.1, 80, 72, 68.7, 67.5, 64 and 60.9mm respectively. In general, the monthly total rainfall amount of June 2023 was below normal over parts of Somali, Afar, Oromia, few areas SNNPR and Amhara regions. On the other hand, it is above normal over Gambella, Benishangul Gumuz, most part of Amhara, western part of Oromia and some part of SNNPR regions. Gambella, most part of SNNPR, northern half of Afar, most of Oromia, few areas of Amhara and Benishangul Gumuz regions were wetter than last year. On the other hand, Somali, most part of Tigray, some part of Oromia, Amhara, Benishangul Gumuz, and few areas of Afar regions June 2023 was dryer than June 2022.



Percent of normal rainfall of June 2023

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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Addis Ababa

1. Synoptic Situation

1.1 Surface

The Mascarene high with a mean central pressure value of above 1020hPa was centered at about 31°S, 92°E.

The St. Helena high with a mean central pressure value of above 1020hPa was centered at about 28°S, 0°E.

The Azores high with a mean central pressure value of 1018hPa was centered at about 29°N, 45°W.

1.2 Lower Troposphere (850 hPa vector wind)

Strong cross-equatorial and northeasterly flow of below 4m/s was observed over northern and western Indian Ocean and southwesterly flow was dominant over the Arabian Peninsula

1.3 Middle Troposphere (500-hPa Geopotential height)

The 500-hPa circulation during June featured a strong ridge over much of Canada and Scandinavia and moderate troughing over both U.S. coasts, western Alaska, and Siberia. The main land-surface temperature signals during June were above-average temperatures across much of North America, Europe, Russia, and parts of Asia.

1.4 Upper Troposphere (200 hPa vector wind)

Equatorial stronger easterly wind 15-30 m/s were dominate in most part 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 June 2023, sea surface temperatures (SSTs) were above-average in much of the equatorial Pacific. The latest monthly Niño indices were +2.6°C for the Niño 1+2 region, +0.9°C for the Niño 3.4 region and +1.2°C for the Niño 3 region. The depth of the oceanic thermocline (measured by the depth of the 20°C isotherm) was above-average across the equatorial Pacific. The corresponding subsurface temperatures were 1-6°C above-average in the far eastern equatorial Pacific.

Reference: NOAA, climate diagnostic bulletin of June 2023

3. Weather

3.1 Temperature

During June 2023, days were remained warm over several portions of lowlands of Ethiopia, in particularly over most part of Afar, Somalia, Gambela and some part of Amhara regions (Fig. 3.1.2). Specifically, the extreme maximum temperature values were as high as 45.5, 45, 44.0, 44.0 and 43.8°C over Dubti, Awash Arba, Mille, Semera and Elidar respectively (Table 3.1.1).

On the other hand, the extreme minimum temperature values were below 6°C over some highland parts of Amhara, some part of Oromia and central Ethiopia.

In particular, Ayehu, Ghion, Ambamariam, Arba minch and Wegeltena had extreme minimum temperature values of below 5°C during the month of June 2023 (Table 3.1.2).

In General, the monthly average temperature values were partially below normal and partially above normal over most parts of the country (Fig. 3.1.3).

Table 3.1.1 Stations with extreme maximum temperature values of greater than or equal to 40°C during June 2023

Stations	Extreme maximum temperature (°c)	Date
Gode	40.9	16
Metehara (NMSA)	41.6	26
Awash arba	45	24
Aysha	43	29,30
Chifra	42	27
Dubti	45.5	27
Ejaji	42.5	6
Elidar	43.8	25
Fugnuido	40	3
Gewane	43.4	26
Mille	44	26,27
Semera	44	27,25

Table 3.1.2 Stations with extreme minimum temperature values of below or equal to 6°C during June 2023

Stations	Extreme minimum temperature (°c)	Date
Ambamariam	4	26
Arba Minch	4.8	26
Ayehu	0.5	8
Ghion	3.6	2
Wegeltena	5.8	26

3.2 Rainfall

Normally, June is one of the months of the rainy season of Kiremt (JJAS) rain-benefiting areas of the country. The mean monthly rainfall amount exceeds 340 mm over much areas of North and northeast part of the country.

During June 2023, the monthly rainfall amount exceeded 400 mm or heavier rainfall was occurring over some parts of western Oromia and Gambella areas.

In particular, the monthly total rainfall values of June 2023 were as high as 500.0, 425.9, 388.4, 348.8, 348.0, 332.1, 322.7, 312.6 and 307.5 mm over Nekemte, Shambu, Algie, Bure, Kachise, Chagini, Bedelle, Arejo and Lare. The daily rainfall values over Bure, Nekemte, Algie, Gore, Aman, Lare, Lalber and Fugnuldo stations was 95.7, 89.1, 80, 72, 68.7, 67.5, 64 and 60.9mm respectively (Tables 3.2.1).

In general, the monthly total rainfall amount of June 2023 was below normal over part of Somali, Afar, Oromia, few areas SNNPR and Amhara regions. On the other hand, it was above normal over Gambella, Benishangul Gumuz, most part of Amhara, western part of Oromia and some part of SNNPR regions (Fig. 3.2.2).

Gambella, most part of SNNPR, northern half of Afar, most of Oromia, few areas of Amhara and Benishangul Gumuz regions were wetter than last year. On the other hand, Somali, most part of Tigray, some part of Oromia, Amhara, Benishangul Gumuz, and few areas of Afar regions June 2023 was dryer than June 2022 (Fig. 3.2.2).

Table 3.2.1. Stations with more than 60mm of rainfall in 24 hours during June 2023

Stations	Amount (mm)	Date
Gore	72	16
Nekemte	89.1	10
Algie	80	30
Aman	68.7	17
Bure	95.7	22
Fugnuido	60.9	20
LAIBER	64	20
LARE	67.5	23

Table 3.2.2. Stations with more than 300mm of monthly total rainfall during June 2023

Station	Amount
Nekemte	500
Shambu	425.9
Algie	388.4
Bure	348.8
Kachise	348
Chagini	332.1
Bedelle	322.7
Arejo	312.6
Lare	307.5

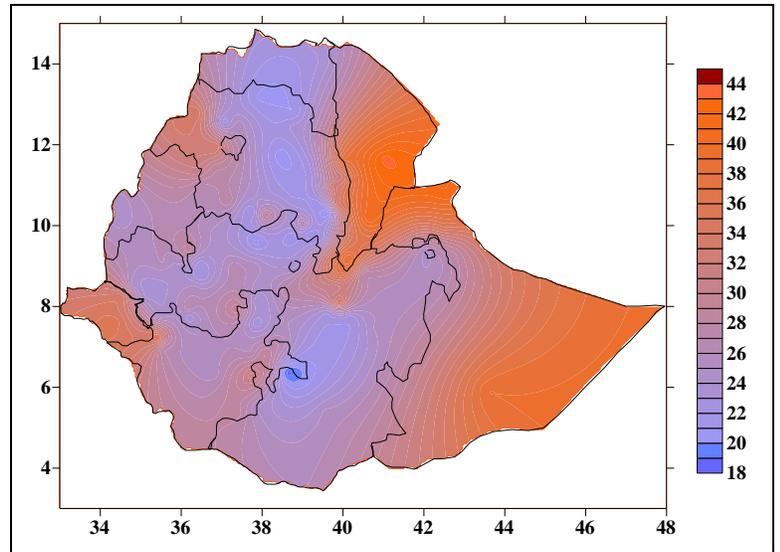


Fig. 3.1.2. Mean maximum temperature in °c during June 2023

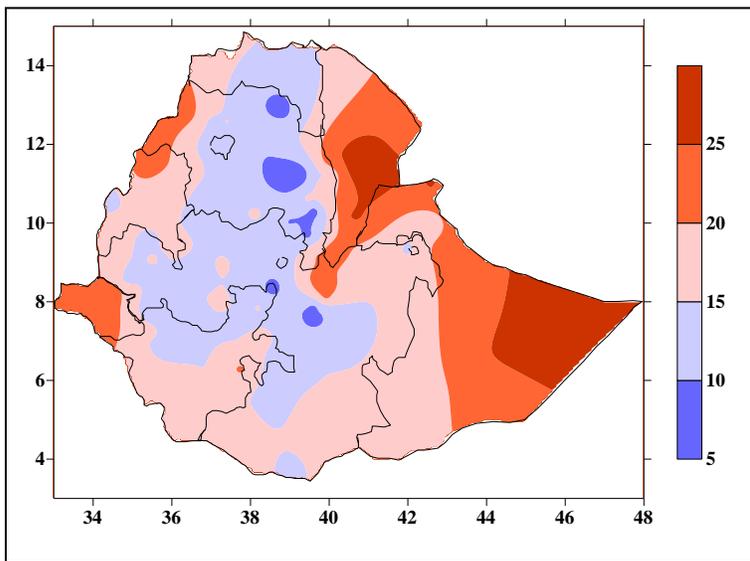


Fig. 3.1.1. Mean minimum temperature in °c during

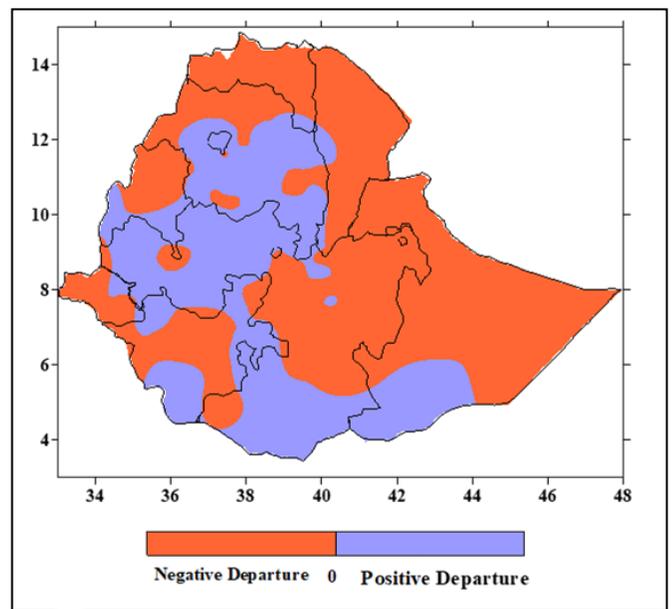


Fig.3.1.3. Departure of monthly average temperature from normal during June 2023

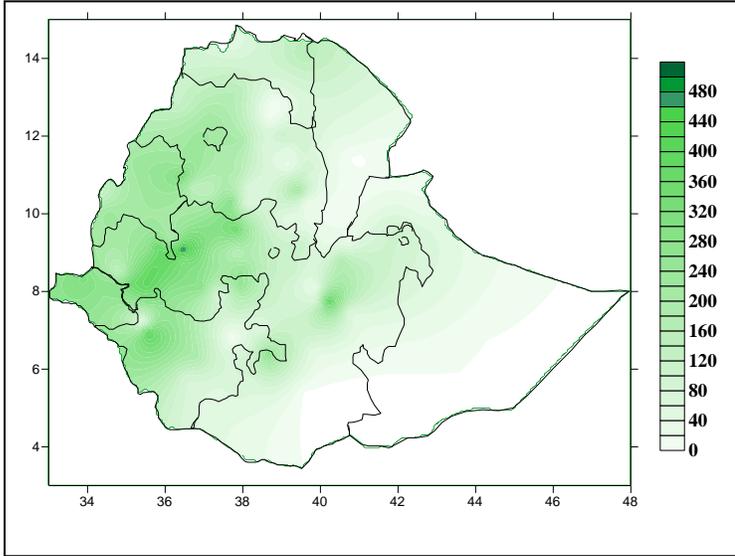


Fig.3.2.1. Monthly total rainfall in mm during June 2023

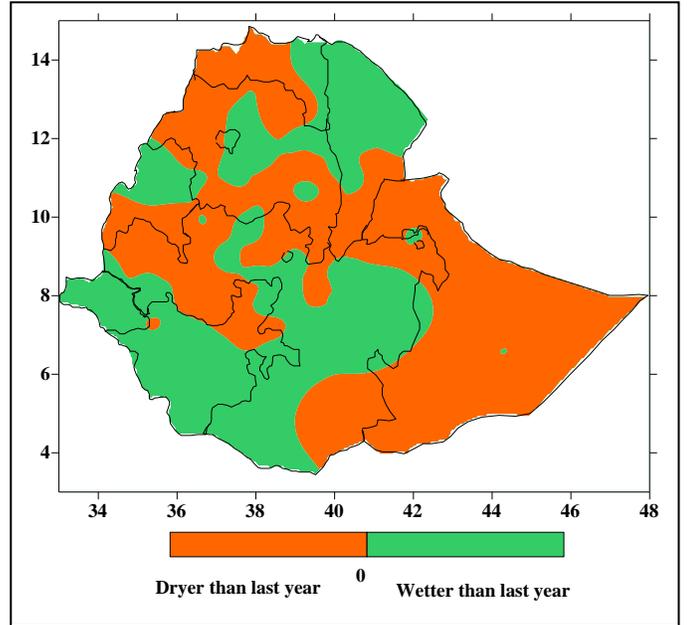


Fig. 3.2.3. Monthly total rainfall of June 2023 minus monthly total rainfall of June 2022

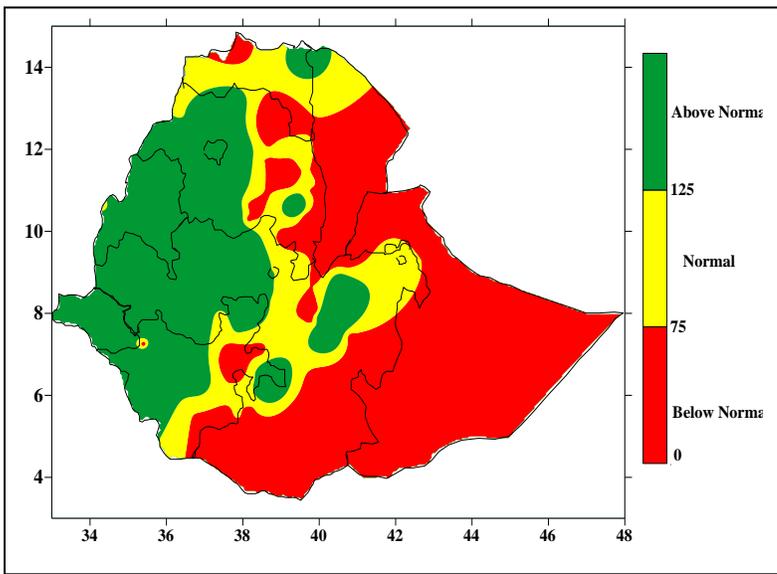


Fig. 3.2.2. Percent of normal rainfall during June 2023