

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

**MONTHLY CLIMATE BULLETIN**

**February 2024**

*Some Applications of  
Climate Information*

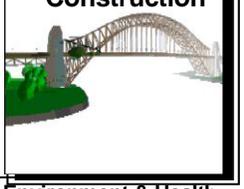
**Disaster Management**



**Water Resources Management**



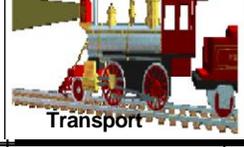
**Construction**



**Environment & Health**



**Transport**



**Recreation & Tourism**

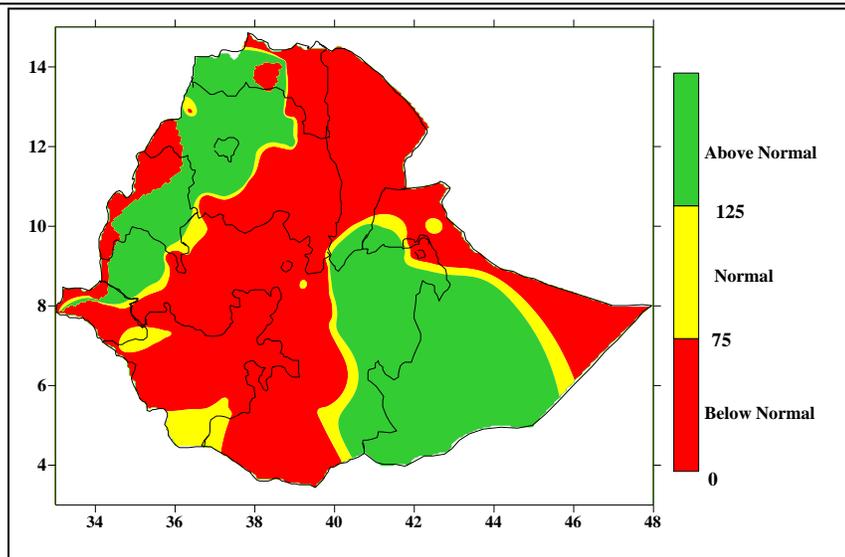


**HIGHLIGHTS**

During February 2024, days were remained warm over several portions of lowlands of Ethiopia, in particularly over Gambella, Somali, Afar, Benishangul Gumuz, Southern Oromia, some part of Southern Ethiopia and Sidama regions. Specifically, the extreme maximum temperature values were as high as 39, 39.8, 39.8, 39.8, 41, 41.4, 41.6, 42.6, 42.6 and 43°C over Awash Arba, Elidar, Gewane, Pawe, Lare, Gambella, Abobo, Gode, Metema and Fugnuido station respectively.

On the other hand, the extreme minimum temperature values were below 5° OC cover some highland parts of Amhara, adjoining areas of Oromia and Amhara regions. Specifically, the extreme minimum temperature values were 2.5, 4, 4, 4.8 and 5°C over Wereilu, Alemaya, Mehalmeda, D/Brihan and Debrezeit(AF) respectively.

During February 2024, the monthly rainfall amount exceeded 90 mm or heavier rainfall was occurring over Southwest Ethiopia, South Ethiopia and pocket areas of Oromia regions. In particular, the monthly total rainfall values of February 2024 were as high as 102, 104, 104.1, 108.1, 108.646, 113.5, 122.3, 123, 198.1 and 281mm over Arejo, Masha Sawula Limugenet, A.A. Bole, Jinka, Kulumsa, Alegie, Majji and Gatira stations respectively. The daily rainfall more than 30mm values was observed over Abomsa, Jimma, Gatira, Limugenet, Sirinka, Kulumsa, A.A. Bole, Masha and Majji stations was 36.6, 37.1, 38.6, 40, 49.4, 49.7, 56.2, 57.5 and 70.5mm respectively. In general, the monthly total rainfall amount of February 2024 was below normal over part of Afar, Somali, Tigray, Oromia, Gambella, Benishangul Gumuz and most part of Amhara regions. On the other hand, it was above normal over Southwest Ethiopia, South Ethiopia, most of Amhara and some part of Oromia regions. Rainfall normal in some parts of Oromia, pocket areas of Amhara, Gambella, Southern Ethiopia and Sidama regions.



**Percent of normal rainfall of February 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 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.

Director General

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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 35°S, 70°E.

The St. Helena high with a mean central pressure value of above 1020hPa was centered at about 31°S, 2°W.

The Azores high with a mean central pressure value of 1020hPa was centered at about 35°N, 10°W.

## 1.2 Lower Troposphere (850 hPa vector wind)

North easterly flow of below 4 - 8m/s mean vector wind flow from Indian Ocean and Arabian Peninsula was observed.

# 2. Tropical Oceanic and Atmospheric Highlights

During February 2024, sea surface temperatures (SSTs) continued to decrease but remained well above-average across the equatorial Pacific. The latest monthly Niño indices were +0.9°C for the Niño 1+2 region, +1.5°C for the Niño 3.4 region and +1.5°C for the Niño 3 region. The depth of the oceanic thermocline (measured by the depth of the 20°C isotherm) was below-average across most of the equatorial Pacific. The corresponding subsurface temperatures were 1-5°C below-average in the eastern equatorial Pacific. **Reference: NOAA, climate diagnostic bulletin of February2024**

# 3. Weather

## 3.1 Temperature

During February 2024, days were remained warm over several portions of lowlands of Ethiopia, in particularly over Gambella, Somali,

Afar, Benishangul Gumuz, Southern Oromia, some part of Southern Ethiopia and Sidama regions (Fig. 3.1.2). Specifically, the extreme maximum temperature values were as high as 39, 39.8, 39.8, 39.8, 41, 41.4, 41.6, 42.6, 42.6 and 43 °C over Awash Arba, Elidar, Gewane, Pawe, Lare, Gambella, Abobo, Gode, Metema and Fugnido station respectively (Table 3.1.1).

On the other hand, the extreme minimum temperature values were below 5°C cover some highland parts of Amhara, Adjoining areas of Oromia and Amhara regions. Specifically, the extreme minimum temperature values were 2.5, 4, 4, 4.8 and 5°C over Wereilu, Alemaya, Mehalmeda, D/Brihan and Debrezeit (AF) respectively (Table 3.1.2).

In General, the monthly average temperature values were partially cooler than normal and partially warmer than 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 36°C during February2024

Stations	Extreme maximum temperature (°c)	Date
Awash Arba	39	26
Elidar	39.8	25
Gewane	39.8	26
Pawe	39.8	23
Lare	41	16
Gambella	41.4	13
Abobo	41.6	24
Gode	42.6	24
Metema	42.6	23
Fugnido	43.5	23

Table 3.1.2 Stations with extreme minimum temperature values of below or equal to 5°C during February 2024

Stations	Extreme minimum temperature (°C)	Date
WEREILU	2.5	2
ALEMAYA	4	26
MEHALMEDA	4	6
D/BREHAN	4.8	6
DEBREZEIT(AF)	5	26

### 3.2 Rainfall

Normally, February is one of the months of the second rainy season of Belg (FMAM) for most part of the country except north and northwest. The mean monthly rainfall amount exceeds 60 mm over much areas of south, southwest and southeast part of the country.

During February 2024, the monthly rainfall amount exceeded 90 mm or heavier rainfall was occurring over Southwest Ethiopia, South Ethiopia and pocket areas of Oromia regions. In particular, the monthly total rainfall values of February 2024 were as high as 102, 104, 104.1, 108.1, 108.6, 113.5, 122.3, 123, 198.1 and 281mm over Arjo, Masha Sawula Limugenet, A.A. Bole, Jinka, Kulumsa, Alegie, Majji and Gatira stations respectively. The daily rainfall more than 30mm values was observed over Abomsa, Jimma, Gatira, Limugenet, Sirinka, Kulumsa, A.A. Bole, Masha and Majji stations was 36.6, 37.1, 38.6, 40, 49.4, 49.7, 56.2, 57.5 and 70.5mm respectively (Tables 3.2.1).

In general, the monthly total rainfall amount of February 2024 was below normal over part of Afar, Somali, Tigray, Oromia, Gambella, Benishangul Gumuz and most part of Amhara regions. On the other hand, it was above normal over Southwest Ethiopia, South Ethiopia, most

of Amhara and some part of Oromia regions. The rainfall was normal in some parts of Oromia, pocket areas of Amhara, Gambella, Southern Ethiopia and Sidama regions (Fig. 3.2.2).

Southern Ethiopia, southwest Ethiopia, Central Ethiopia, most part of Amhara, Oromia, Benishangul Gumuz and Gambella regions were wetter than February 2023 rainfall. On the other hand, over Tigray, Afar, most part of Somali and some part of Oromia regions, February 2024 was dryer than February 2023 rainfall. No change on the rest part of the country (Fig. 3.2.3).

Table 3.2.1. Stations with more than 35mm of rainfall in 24 hours during February 2024

Stations	Amount (mm)	Date
Abomsa	36.6	29
Jimma	37.1	1
Gatira	38.6	9
Limugenet	40	1
Sirinka	49.4	49.4
Kulumsa	49.7	13
A.A. Bole	56.2	29
Masha	57.5	1
Majji	70.5	1

Table 3.2.2. Stations with more than 100mm of monthly total rainfall during February 2024

Station	Amount
Arjo	102
Masha	104
Sawula	104.1
Limugenet	108.1
A.A. BOLE	108.646
Jinka	113.5
Kulumsa	122.3
Algie	123
Majji	198.1
Gatira	281

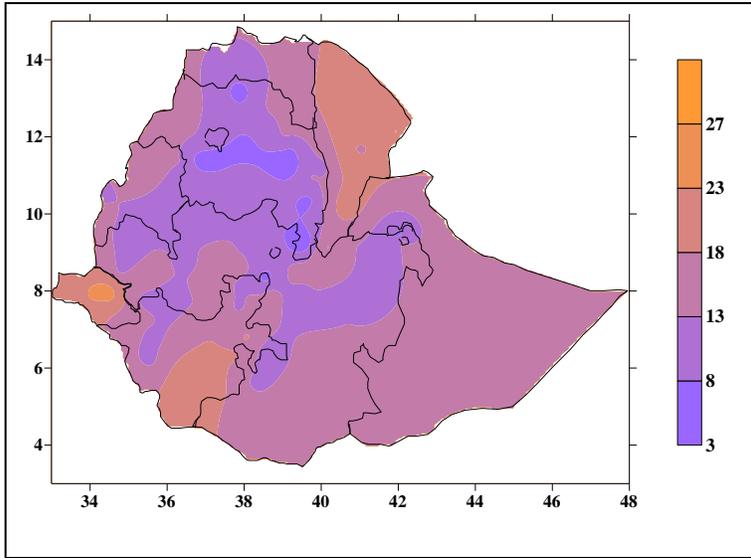


Fig. 3.1.1. Mean minimum temperature in °C during February 2024

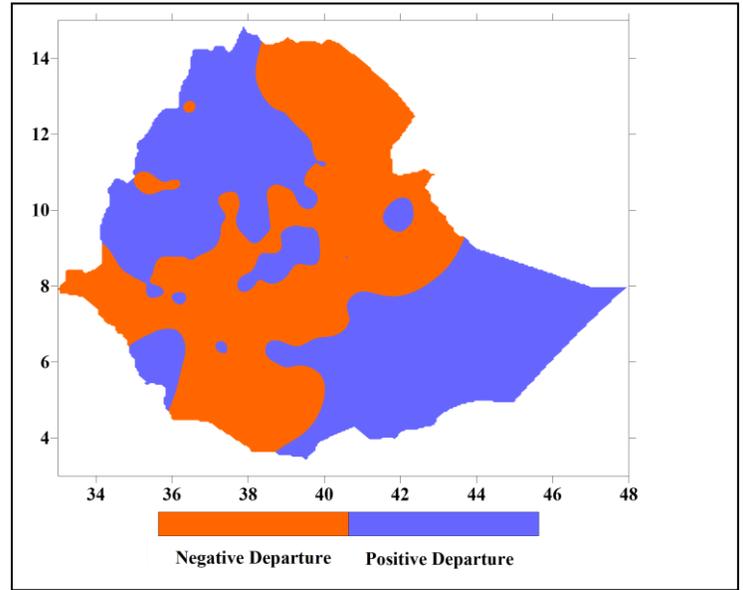


Fig.3.1.3. Departure of monthly average temperature from normal during February 2024

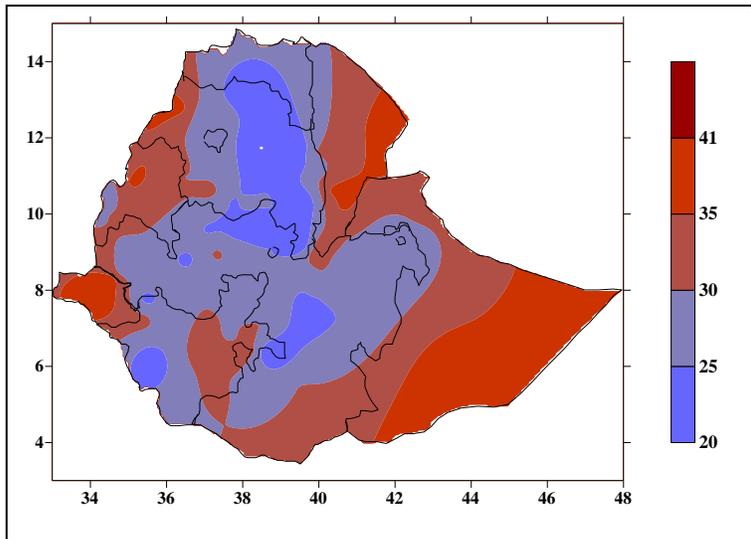


Fig. 3.1.2. Mean maximum temperature in °C during February 2024

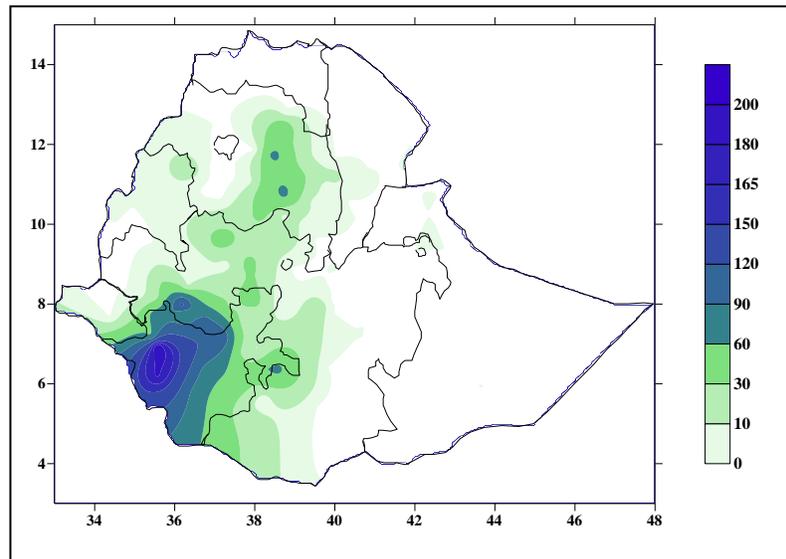


Fig.3.2.1. Monthly total rainfall in mm during February 2024

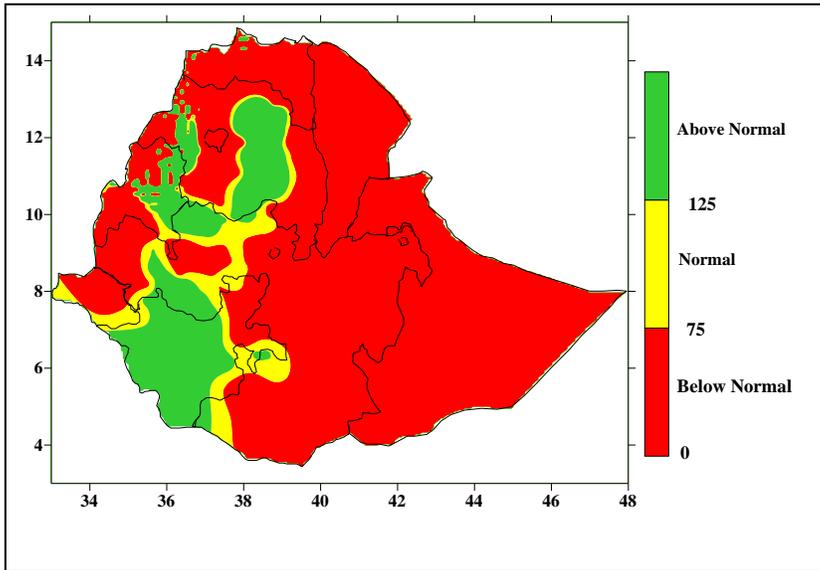


Fig. 3.2.2. Percent of normal rainfall during February 2024

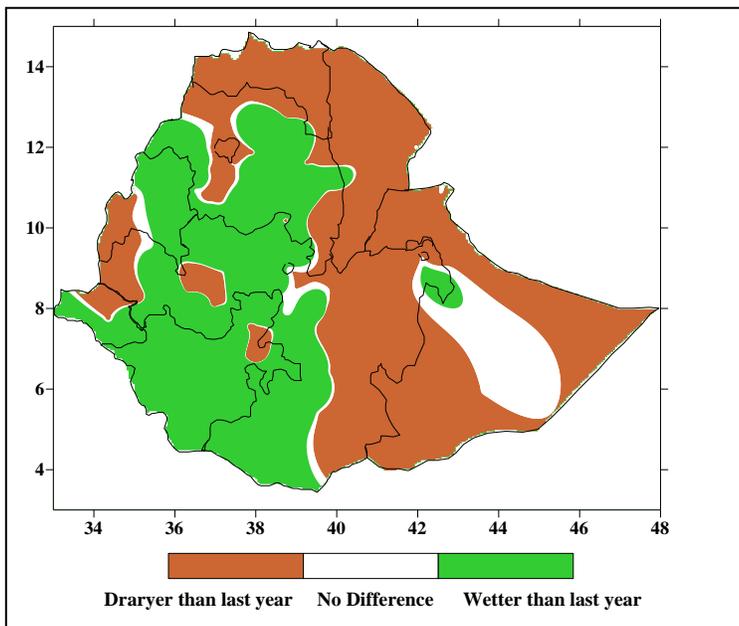


Fig. 3.2.3. Monthly total rainfall of February 2024 minus monthly total rainfall of February 2023