

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

MINISTRY OF WATER AND ENERGY

Ethiopia Meteorological Institute Meteorological  
Data and Climatology Directorate

MONTHLY CLIMATE BULLETIN

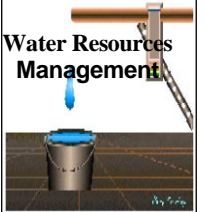
February 2022

Some Applications of  
Climate Information

Disaster Management



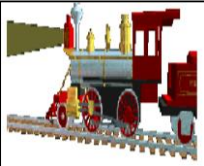
Water Resources  
Management



Construction



Environment & Health



Transport



**HIGHLIGHTS**

During February 2022, days remained hot Almost all over the country Except over central Amhara, Western Oromia, Western Gambela and SNPR.

In particular, the extreme maximum temperature values exceeded 37 °c over Abobo, Aman, Awash Arba, Aysha, Dalifagi, Dubti, Fugnido, Gambela, Gewane, Gode, Kebri dehar, Lare, Metema, Pawe, Semera and Sherkole.

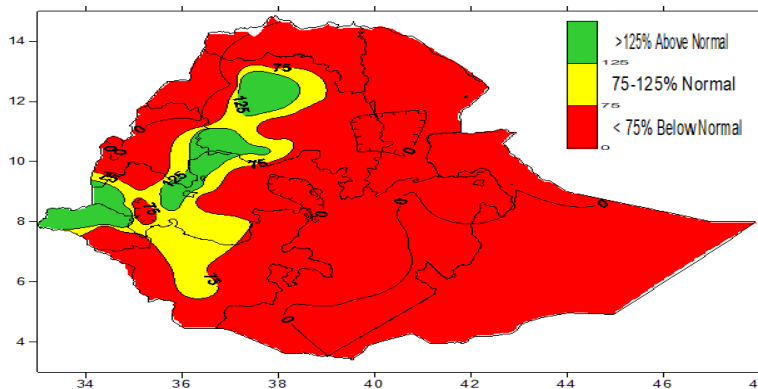
On the other hand, Central and Western Amhara, Southern Oromia, North Eastern Benishangul Gumuz. And Western Gambela had recorded minimum temperature values of less than 3.5°c.

In general, the percent of normal rainfall distribution during February 2022 was below normal over Eastern, central, Northern, Southern and some pocket Areas of Western parts of the country.

In February 2022 over Eastern Somali, Southern and central Oromia, Eastern, Southern and Western SNNPR, Amhara and Western Tigray get positive departure of monthly average temperature from the long-term mean.

Rainfall distribution at February 2022 is less than 2021 February in amount and spatial resolution.

During February 2022, sea surface temperatures (SSTs) remained below-average across the east-central and eastern equatorial Pacific.



Percent of normal rainfall during February 2022

## **Foreword**

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

The information contained in the 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 some 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 a success.

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# 1. Synoptic Situation

## 1.1 Surface

The Mascarene high with a mean central pressure value of 1020hPa was centered at about 30°S, 65°E. Its central pressure value was below normal by up to -1hPa.

The St. Helena high with a mean central pressure value of 1030hPa was centered at about 35°N, 0°E. The central pressure value was normal.

The Azores high with a mean central pressure value of 1020hPa was centered at about 30°S, 15°W. Its central pressure value was below normal by up to -1hPa.

## 1.2 Lower Troposphere (850hPa vector wind)

North Westerly wind speed from 4 to 8 m/s was dominant over east Africa and the adjoining areas.

## 1.3 Middle Troposphere (500hPa Geopotential Height)

The 500-hPa circulation during February featured an amplified anomalous wave pattern, and was strongly influenced by La Niña, the Tropical/Northern Hemisphere pattern (TNH), and the North Atlantic Oscillation (NAO). Above-average heights were observed over the North Pacific and North Atlantic Oceans as well as across Europe and northern Russia and below-average heights over the Hudson Bay, Greenland, and Scandinavia. The main land-

surface temperature signals during February included above-average temperatures for Alaska and much of Eurasia and below-average temperatures across both central Canada and the central U.S.

## 1.4 Upper Troposphere (200hPa vector wind)

The core speed of the westerly wind was 0m/s to 15m/s from 5°S to 15°N north.

# 2. Tropical Oceanic and Atmospheric Highlights

During February 2022, sea surface temperatures (SSTs) remained below-average across the east-central and eastern equatorial Pacific. The latest monthly Niño indices based on OISSTV2.1 were -1.4°C for the Niño 1+2 region, -0.7°C for the Niño 3.4 region and -0.2°C for the Niño 4 region. The depth of the oceanic thermocline (measured by the depth of the 20°C isotherm) was above-average across much of the equatorial Pacific and below-average in the far eastern equatorial Pacific. The corresponding sub-surface temperatures were 1-3°C below-averages in the far eastern equatorial Pacific.

Also, during February, the lower-level easterly winds were above-average across the equatorial Pacific and the upper-level westerly winds were above-average across the east-central and eastern equatorial Pacific.

Meanwhile, tropical convection was suppressed over the central equatorial Pacific and enhanced near Indonesia.

Collectively, these oceanic and atmospheric anomalies were consistent with La Niña conditions.

**Reference: Climate Diagnostic Bulletin of February 2022.**

### 3. Weather

#### 3.1 Temperature

During February 2022, days remained hot Almost all over the country Except over central Amhara, Western Oromia, Western Gambela and SNPR (Fig. 3.1.1).

In particular, the extreme maximum temperature values exceeded 37°C over Abobo, Aman, Awash Arba, Aysha, Dalifagi, Dubti, Fugnido, Gambela, Gewane, Gode, Kebri Dehar, Lare, Metehara, Pawe, Semera and Sherkole. (Table 3.1.1)

**Table 3.1.1 Stations with extreme maximum temperature values of greater than or equal to 37°C during February 2022**

Station Name	Extreme maximum temp(°c)	Date
Abobo	42.0	27
Aman	37.6	19
Awash Arba	39.0	27
Aysha	39.0	17
Dalifagi	37.2	19
Dubti	37.0	7
Fugnido	42.0	21
Gambella	41.6	27
Gewane	38.4	16
Gode	43.0	28
Kibridahar	38.6	25
Lare	39.4	28
Metehara (NMSA)	37.0	19
Pawe	37.5	28
Semera	37.8	26
Sherkole	39.0	29

On the other hand, the highlands of Central and Southern Amhara, Western Oromia and Western Benishangul Gumuz had recorded minimum temperature values of less than 3.6°C (Table 3.1.2).

In General, the monthly average temperature values were Above normal except over Western and some pocket areas of the Country (Fig.3.2.3).

**Table 3.1.2 Stations with extreme minimum temperature values less than or equal to 3.6°C during February 2022**

Station name	Extreme minimum Temp(°c)	Date
Adelle	1.5	21
Alemaya	1	28
Ambamariam	2	3
Bui	3.6	6
Chefa	3.2	5
D/Brehan	-2.4	5
Debrezeit(Af)	3	5
Mehalmeda	3.5	4
Robe	0	27
Wegeltena	2.3	14

### 3.2 Rainfall

February is the 1st month of the Belg Season of Ethiopia. Hence, the monthly total rainfall exceeds 50mm over few parts of the country and the rest is dry compare to long term. The monthly total rainfall amount of February 2022 exceeded 50mm over some pocket areas of Western parts of the country. (Table 3.2.2)

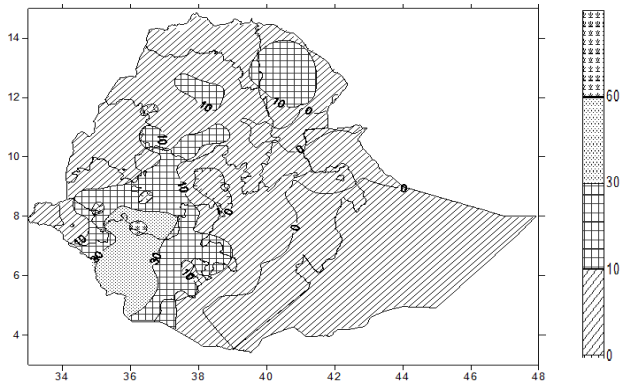
In general, the monthly total rainfall amount of February 2022 was Below Normal over most parts of the country except over some pocket Areas of Western and North Western Ethiopia (Fig.3.2.1).

**Table 3.2.1 Station(s) with Equal or greater than 14mm of rainfall in 24 hours during February 2022**

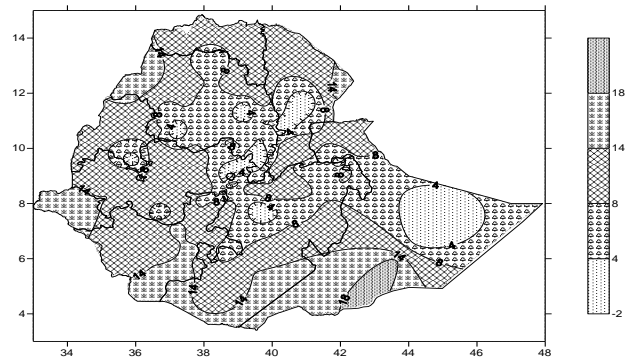
Station Name	Amount(mm)	Date
Chewka	15.6	28
Chira	18.9	28
Dilla	14.4	26
Gambella	17.6	28
Gatira	17.2	28
Jimma	29.0	16
Majji	21.1	12
Masha	38.4	28
Nekemte	18.6	27
Sekoru	14.2	1
Semera	24.0	28

**Table 3.2.2 Station(s) with greater than or equal to 30 mm of monthly total rainfall during February 2022**

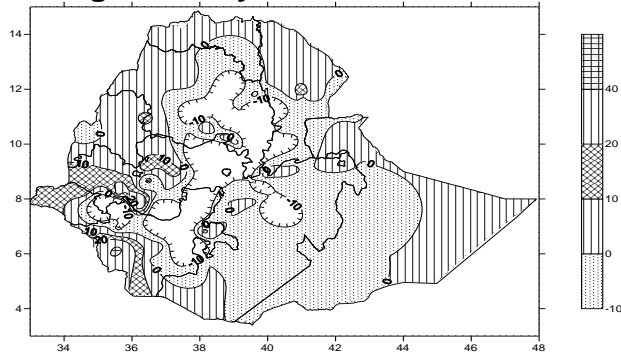
Station name	Rainfall(mm)
Aman	48.9
Chira	70.3
Gatira	47
Gore	32.23
Jimma	51.2
Jinka	43.1
Limugenet	32.5
Majji	52.3
Masha	52
Sekoru	30.2



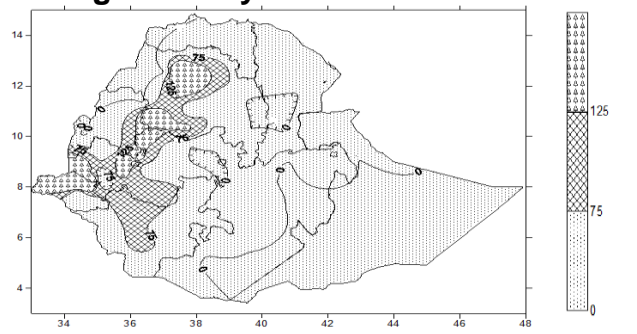
**Figure. 3.2.1 Monthly total rainfall in mm during February 2022**



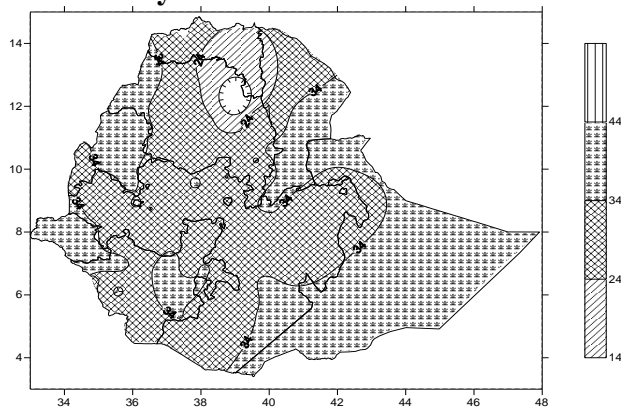
**Figure 3.2.4 Minimum temperature in °C during February 2022**



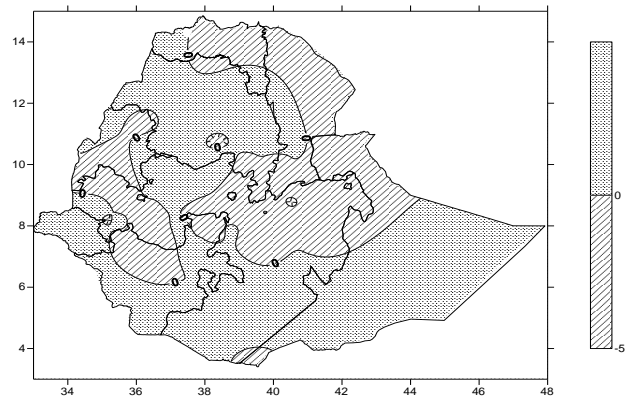
**Figure 3.2.2 Monthly total rainfall of February 2022 minus monthly total rainfall of February 2021**



**Figure 3.2.5 Percent of Normal during February 2022**



**Figure 3.2.3 maximum temperature in °C during February 2022**



**Figure 3.2.6 Departure of monthly average temperature from normal during February 2022**