

Some Applications of Climate Information



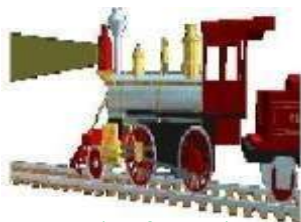
Disaster Management



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FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
 MINISTRY OF WATER AND ENERGY
 ETHIOPIAN METEOROLOGY INSTITUTE
 METEOROLOGICAL DATA AND CLIMATOLOGY LEAD EXECUTIVE
 SEASONAL CLIMATE BULLETIN BEGA 2025/26

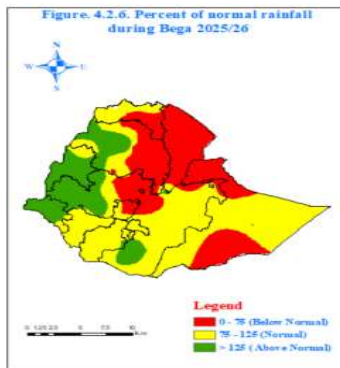
HIGHLIGHTS

During Bega 2025/2026, days remained hot over the North West, North East, West, And South East parts of the Country (Fig, 4.2.2). Extreme maximum temperature values exceeded 38 °C over Semera, Fugnuido. Elidar, Metema. Metema, Gambella, Metema, Aysha, Metema, Lare, GewaneElidar, Gewan, Gode, Fugnuido, Gode, Aysha, Gambella, Semera, Aysha, Gambella with values of 42.6, 42.5, 41.8, 41.7, 41.7, 40.8, 40.7, 40.5, 40.4, 40, 39.8, 39.6, 39.4, 39, 38.5, 38.4, 38.4, 38, 38, 3838 (Table 4.1.1).

On the other hand, the northern, west-central, and western parts of the country experienced extremely low temperatures during the reporting period Hence, The Extreme Minimum Temperature Values Were As Low -3.4, -2.2, -0.4, 0, 0, 0.2, 0.2, 0.5, 0.5, 0.6, 1.2, 1.2, 1.6, 1.6, 2, 2, 2, 2, 2. 2.4. 2.5. 2.5. 2.5. 2.5, 2.5, 2.8 °C Over Alemaya, Debrezeit(Af), D/Brehan, Sholagebaya, Arise Robe, Bui, Bui, Jijiga, Wegeltena, Robe, MehalmedaWerabe, Debrezeit(Af), Jijiga, Arise Robe, Wegeltena, Alemaya, Bui, Bati, D/Brehan, Enewari, Arise Robe, Jijiga, Wegeltena, Alemketema, Alemketema, respectively

The Bega (October–January) season is generally characterized by hot, dry weather with limited rainfall over most parts of Ethiopia. During the 2025/26 Bega season, the mean seasonal rainfall was less than 400 mm across much of the Bega rainfall-benefiting areas. However, seasonal total rainfall exceeded 400 mm in the western and southwestern parts of the country, including most of Benishangul-Gumuz and localized areas in the Somali Region. In contrast, seasonal rainfall remained below 400 mm over most parts of the Amhara and Oromia regions, as well as the southern and southwestern parts of the country.

In general, the 2025/26 Bega seasonal rainfall conditions ranged from below-normal to above-normal across most parts of Ethiopia, indicating considerable spatial variability in rainfall distribution during the season.. The Overall Pattern. The country experienced mixed rainfall conditions, with a strong dominance of below-normal rainfall in many areas. There is a clear west–east contrast. Below-Normal Rainfall (0–75%), such as large parts of Eastern Ethiopia (Somali region) and the Northeastern and central highlands (Afar, eastern Amhara, parts of Oromia). These areas faced significant rainfall deficits, indicating near-normal conditions. Near-Normal Rainfall (75–125%) covers a broad central and southern belt, including parts of Oromia and the southern regions. This indicates average seasonal conditions. Above-Normal Rainfall (>125%) is concentrated in Western Ethiopia (Benishangul-Gumuz, Gambella, western Oromia) and small pockets in the south. These areas likely experienced good moisture conditions and better outcomes for agriculture and water availability.



Foreword

The Ethiopian Meteorological Institute (EMI) prepares and disseminates this climate bulletin. It aims to provide climatological information to various community services 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 each 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 benefit 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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eastern parts of the Somali region

1. Introduction

1.1. General

This climate bulletin contains a summary of climatic conditions that prevailed over the country during Bega 2025/2026.

Bega is the period from October to January and is a harvesting season in many parts of Ethiopia. It is generally a dry season, characterized by cool nights and early mornings over the highlands of northern, northeastern, central, and eastern Ethiopia, and hot days over many parts of the country.

However, Bega also serves as a short rainy season for areas in southern, southeastern, and southwestern Ethiopia. Depending on the influence of mid-latitude rain-bearing systems, some locations in central, northern, and northeastern Ethiopia may occasionally receive light showers.

Despite this, except for areas such as North and South Wollo and North Shewa and their surrounding areas, the long-term mean seasonal rainfall in most parts of central, northern, and northeastern Ethiopia is less than 100 mm. In contrast, the mean seasonal rainfall exceeds 100 mm in the western, southwestern, southern, and southeastern parts of Ethiopia, where seasonal rains are more significant...

1.2. Summary of Bega 2025/2026

On the other hand, the Northern, Central, and Western parts of the country experienced extremely low temperatures. Hence, The extreme minimum temperature values were as low as -1.8, 1, 1.2, 1.5, 2, 2, -2.8, -2, -0.4, 0, 0.2, 1, 1, 1, 2, 2, 2, 2, 2, -2, -1, -0.4, and 0.2 °C Over D/Brehan, jijiga, Sholagebaya, Wegeltena, Ambamariam, Bui, D/Brehan, Mehalmeda, Wegeltena, Jijiga, Alemaya, Debrezeit(Af), Bui, Sholagebaya, Adigrat, Arise Robe, Dangla, Debrawrek, Enewari, D/Brehan, Wegeltena, Alemaya, and Jijiga respectively.

The climate of this season is characterized by hot and dry days. The mean seasonal rainfall amount of this season is less than 450mm over much of the Bega-rain-benefiting areas. The seasonal total rainfall amount of Bega 2024/25 exceeded 450mm over the western and South-Western parts of the country, such as Benishangul, and some tip areas of the Somalia region. And below 4500m in most parts of Afar, Tigray, Amhara, central Oromia, and the

Synoptic Situation

1.3. Surface

During October 2025, the Mascarene High, with a mean central pressure exceeding 1020 hPa, was centered near 32°S, 75°E. In November 2025, the system maintained a mean central pressure above 1020 hPa and shifted southeastward to approximately 35°S, 95°E. In December 2025, the Mascarene High remained strong (above 1020 hPa) and was located around 35°S, 5°E. Finally, in January 2026, during the Bega season 2025/2026, the system persisted with a mean central pressure above 1020 hPa and was centered near 35°S, 10°E.

During October 2025, St. Helena's high with a mean central pressure value of above 1020hPa was centered at about 38°S, 8°W. In the next month of the season November 2025, the mean central pressure was situated at about 33°S, 5°E and in the following next month' the mean central pressure value of above 1020hPa was centered at about 33°S, 2°W and finally, during the last month of the Bega 2025/2026C the mean central pressure value of above 1020hPa was centered at about 30°S, 5°W.

During October 2025, the Azores' high with a mean central pressure value of 1010hPa was centered at about 33°N, 10°W, and in the next month of the season November 2025 the mean central pressure value of above 1020hPa was centered at about 33° N, 10 E and in the next month' the mean central pressure value of above 1020hPa was centered at about 32°N, 10°W and finally in the last month of Bega 2025/20265 the mean central pressure value of above 1020hPa was centered at about 30°N, 12°E..

1.4. Lower troposphere (850 hPa vector wind)

During the first month of Bega, 2025/2026, the cross-equatorial and easterly flow of below 0 to 8m/s was observed over the western Indian Ocean and easterly flow was dominant over the Arabian Peninsula. In the next month, November the cross-equatorial and westerly flow of below also 0 to 8m/s was flowing from the Arabian Peninsula to the Africa continent. Then in the month of December,

the northeasterly flow of below 8 m/s was observed over the western Indian

Ocean, and easterly and northeasterly flows were dominant over the Arabian Peninsula. In the last month, the northeasterly flow of below 0–12 m/s was observed over the western Indian Ocean, and easterly flow was dominant over the Arabian Peninsula

1.5 Middle Troposphere (500-hpa Geopotential Height)

During October 2025, the variation of Geopotential height values was 3 to 15 gpm over central and eastern Africa. During November 2025, Geopotential height values were 3 to 9 gpm. During December 2025, also Geopotential height values were 3 to 9 gpm. In January 2026, it's the last month of the season, the variation of Geopotential height values was 3 to 18 gpm over central and eastern Africa.

1.6 Upper Troposphere (200 hp a vector wind)

During October 2025, Easterly flow associated with the Subtropical Northerly flow had a speed of the core 0-15 m/s along 5 to 15 °N latitude. During November 2025, it was the same as the previous month, In the next month, December 2025, Easterly flow associated with the Subtropical Northerly flow had also 0-15 m/s along 0 to 10 °N. January 2026 is the last month of the season the Easterly flow associated with the Subtropical Northerly flow had a speed of the core 0-15 m/s along 0 to 10°N latitude

2. Atmospheric Highlights

During October 2025, sea surface temperatures (SSTs) were below average across the central and eastern equatorial Pacific. The latest monthly Niño indices were 0.0°C for the Niño 1+2 region and -0.5°C for the Niño 3.4 region. The depth of the oceanic thermocline (Measured by the depth of the 20°C isotherm) was below-average across the east-central and eastern equatorial Pacific. The corresponding sub-surface temperatures were 1-4°C below-average in the eastern equatorial Pacific

During November 2025, sea surface temperatures (SSTs) were below average

across the central and eastern equatorial Pacific. The latest monthly Niño indices were -0.3°C for the Niño 1+2 region and -0.7°C for the Niño 3.4 region. The depth of the oceanic thermocline (measured by

The depth of the 20°C isotherm) was below-average across the east-central and eastern equatorial Pacific. The corresponding sub-surface temperatures were 1-3°C below-average in the eastern equatorial Pacific..

During December 2025, sea surface temperatures (SSTs) were below average across the east central and eastern equatorial Pacific. The latest monthly Niño indices were -0.4°C for the Niño 1+2 region and -0.6°C for the Niño 3.4 region. The depth of the oceanic thermocline (measured by the depth of the 20°C isotherm) was below-average across the east-central and eastern equatorial Pacific. The corresponding sub-surface temperatures were 1-3°C below-average in the eastern equatorial Pacific.

During January 2026, sea surface temperatures (SSTs) were below average across the east central and eastern equatorial Pacific. The depth of the oceanic thermocline (measured by the depth of the 20°C isotherm) was above-average across much of the equatorial Pacific. The corresponding sub-surface temperatures were 1-2°C above-average in the east-central equatorial Pacific.

Reference: NOAA, Climate Diagnostic Bulletin

Table 4.1.1 Stations with extreme maximum temperature values of greater than 38 °C during Bega 2025/2026

Name	Month	Date	mount
Semera	Oct-25	2	42.6
Fugnuido	Jan-26	26	42.5
Elidar	Jan-26	14	41.8
Metema	Dec-25	18	41.7
Metema	Dec-25	18	41.7
Gambella	Jan-26	8	40.8
Metema	Nov-25	11	40.7
Aysha	Oct-25	7	40.5
Metema	Jan-26	20	40.4
Lare	Nov-25	26	40
Gewane	Oct-25	28	39.8
Elidar	Dec-25	26	39.6
Gewane	Nov-25	2	39.4
Gode	Dec-25	25	39
Fugnuido	Dec-25	27	38.5
Gode	Oct-25		38.4
Aysha	Jan-26	17	38.4
Gambella	Nov-25	17	38
Semera	Nov-25	1	38
Aysha	Dec-25	30	38
Gambella	Dec-25	25 /26/27/28	38

3. Weather

3.1. Temperature

During Bega 2025/2026, days remained hot over the North West, North East, West, And South East parts of the Country (Fig, 4.2.2). Extreme maximum temperature values exceeded 38 °C over Semera, Fugnuido. Elidar, Metema. Metema, Gambella, Metema, Aysha, Metema, Lare, Gewane Elidar, Gewan, Gode, Fugnuido, Gode, Aysha, Gambella, Semera, Aysha, Gambella with values of 42.6, 42.5, 41.8, 41.7, 41.7, 40.8, 40.7, 40.5, 40.4, 40, 39.8, 39.6, 39.4, 39, 38.5, 38.4, 38.4, 38, 38, 3838 (Table 4.1.1).

On the other hand, the northern, west-central, and western parts of the country experienced extremely low temperatures during the reporting period Hence, The Extreme Minimum Temperature Values Were As Low -3.4, -2.2, -0.4, 0, 0, 0.2, 0.2, 0.5, 0.5, 0.6, 1.2, 1.2, 1.6, 1.6, 2, 2, 2, 2, 2. 2.4. 2.5. 2.5. 2.5. 2.5, 2.8 °C Over Alemaya, Debrezeit(Af), D/Brehan, Sholagebaya, Arise Robe, Bui, Bui, Jijiga, Wegeltena, Robe, MehalmedaWerabe, Debrezeit(Af), Jijiga, Arise Robe, Wegeltena, Alemaya, Bui, Bati, D/Brehan, Enewari, Arise Robe, Jijiga, Wegeltena, Alemketema, Alemketema, respectively.

during the Bega 2025/26 season, most parts of Ethiopia experienced above-normal temperatures. However, localized areas in the northern, western, central-western, eastern, and southeastern parts of the country recorded below-normal temperatures. These negative temperature anomalies indicate relatively cooler-than-average seasonal conditions in those areas compared to the long-term mean (LTM).in the other hand, localized areas across the northern, west-central, western, eastern, and southeastern parts of the country experienced below-normal seasonal temperatures, while the majority of the country recorded warmer-than-normal conditions durinthe Bega 2025/26 season.(Fig. 4.2.5)

4.1. Rainfal

Normally, Bega is a dry season in most parts of the country. During this time, scattered and sporadic rainfall may occur over northeastern, eastern, central, and southern lowlands s. This period is marked by heavy fog and external disturbances in some parts of the country.

The Bega (October–January) season is generally characterized by hot, dry weather with limited rainfall over most parts of Ethiopia. During the 2025/26 Bega season, the mean seasonal rainfall was less than 400 mm across much of the Bega rainfall-benefiting areas. However, seasonal total rainfall exceeded 400 mm in the western and southwestern parts of the country, including most of Benishangul-Gumuz and localized areas in the Somali Region. In contrast, seasonal rainfall remained below 400 mm over most parts of the Amhara and Oromia regions, as well as the southern and southwestern parts of the country.

n particular, the seasonal total rainfall exceeds 400 mm in Gatira, Arjo, Aman, Chira, Chagini, Masha, Bure, Sawula, Bullen, and

Bore, with amounts of 459.8, 361.4, 386, 474.5, 355, 473.9, 354.7, and 354, respectively. On the other hand The daily rainfall of more than 40mm values observed Gambella, Aman, Tepi, Gore, Limugenet, YabeloBure

Nekemte, D/Tabor, Masha, Assossa, MajjiJimma, Limugenet, Masha, Jinka, Jara, Awassa, Arba Minch, and Deberemarkos stations was 51.8, 54.6, 54.8, 55.6, 57.5, 66.4, 70.7, 76, 81, 90.2, 54.2, 50.8, 59.2, 54, 50.4, 48.8, 48, 45, 43., and 40.7 respectively (Tables 3.2.1).

In general, the 2025/26 Bega seasonal rainfall conditions ranged from below-normal to above-normal across most parts of Ethiopia, indicating considerable spatial variability in rainfall distribution during the season.. The Overall Pattern. The country experienced mixed rainfall conditions, with a strong dominance of below-normal rainfall in many areas. There is a clear west–east contrast. Below-Normal Rainfall (0–75%), such as large parts of Eastern Ethiopia (Somali region) and the Northeastern and central highlands (Afar, eastern Amhara, parts of Oromia). These areas faced significant rainfall deficits, indicating near-normal conditions. Near-Normal Rainfall (75–125%) covers a broad central and southern belt, including parts of Oromia and the southern regions. This indicates average seasonal conditions. Above-Normal Rainfall (>125%) is concentrated in Western Ethiopia (Benishangul-Gumuz, Gambella, western Oromia) and small pockets in the south. These areas likely experienced good moisture conditions and better outcomes for agriculture and water availability. The seasonal total rainfall during Bega 2025/26 was generally higher than that of Bega 2024/25 across most parts of Ethiopia. Positive rainfall differences were observed over large areas of the central, northern, eastern, and northwestern parts of the country. In contrast, lower seasonal rainfall than the previous Bega season was recorded over much of the Somali Region, parts of the southern and southwestern areas, and a few localized pockets in the western and central parts of the country.

Table 4.2.1. Station(s) with more than or equal to 400 mm of total rainfall during Bega 2025/26

Name	Amount
AMAN	459.8
BORE	361.4
BULLEN	386
BURE	474.5
Gatira	355
Gore	473.9
Jinka	354.7
MASHA	354.2

Table 4.2.2. Station(s) with more than or equal to 40 mm of rainfall in 24 hours during Bega 2025/26

Name	Amount	Date	Month
Gambella	51.8	20	Oct-25
Aman	54.6	31	Oct-25
Tepi	54.8	3	Oct-25
Gore	55.6	11	Oct-25
Limugenet	57.5	8	Oct-25
Yabelo	66.4	15	Oct-25
Bure	70.7	22	Oct-25
Nekemte	76	10	Oct-25
D/Tabor	81	21	Oct-25
Masha	90.2	16	Oct-25
Assossa	54.2	1	Nov-25
Majji	50.8	7	Nov-25
Jimma	59.2	19	Dec-25
Limugenet	54	15	Dec-25
Masha	50.4	50.4	Dec-25
Jinka	48.8	18	Dec-25
Jara	48	17	Dec-25
Awassa	45	28	Dec-25
Arba Minch	43.8	28	Dec-25
Deberemarkos	40.7	22	Dec-25

Fig. 4.2.1. Seasonal total rainfall in mm during Bega 2025/26.

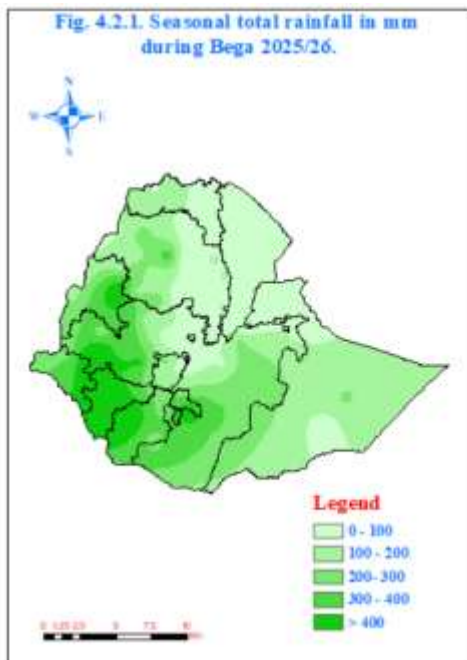


Fig. 4.2.3 Seasonal total rainfall of Bega 2025/26 minus seasonal total rainfall of Bega 2023/24/2025



Fig. 4.2.2. Mean maximum temperature in °C During Bega 2026/26.

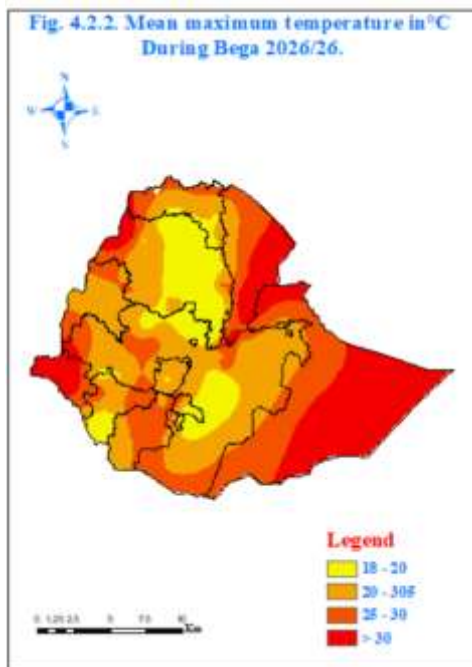


Fig. 4.2.4 Mean minimum temperature in °C during Bega 2025/2026.

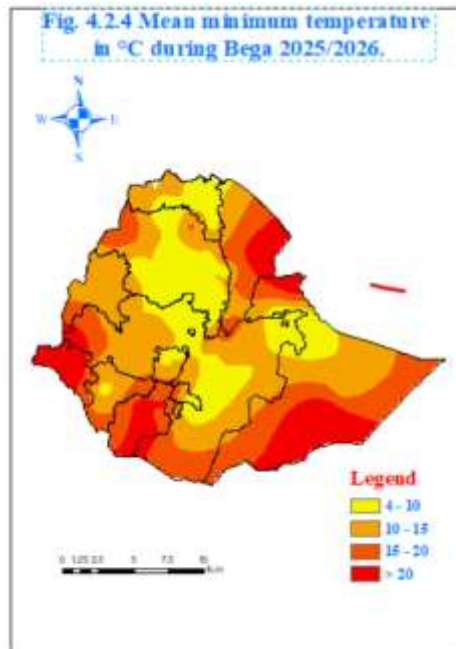


Fig 4.2.5. Seasonal temperature of Bega 2026/2025 minus seasonal LTM of Bega.

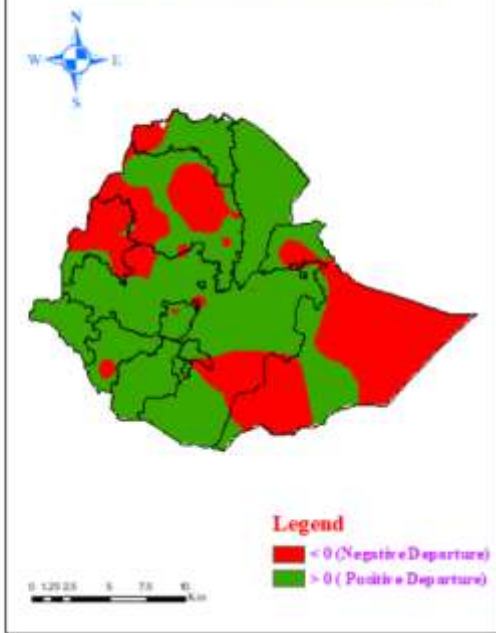


Figure. 4.2.6. Percent of normal rainfall during Bega 2025/26

