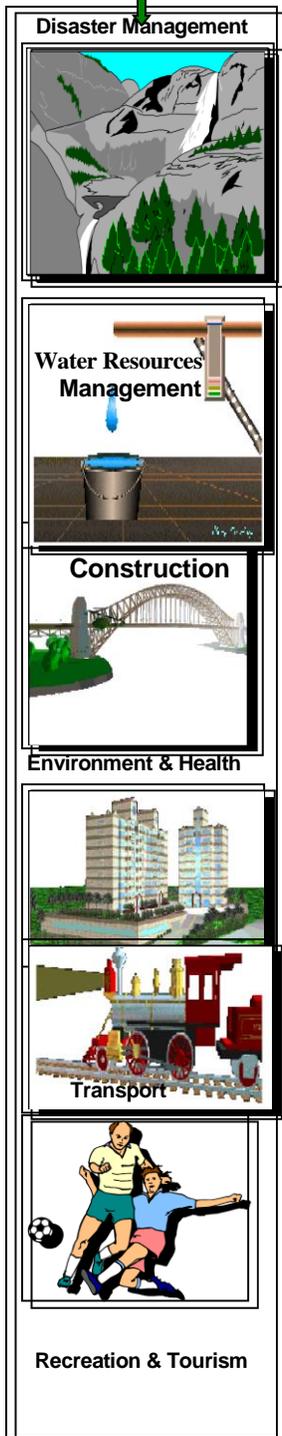


FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
ETHIOPIAN METEOROLOGICAL INSTITUTE
 METEOROLOGICAL DATA AND CLIMATOLOGY LEAD EXECUTIVE
REMOTE SENSING AND CLIMATOLOGICAL DESK
SEASONAL CLIMATE BULLETIN
BELG 2023

Some Applications of Climate Information

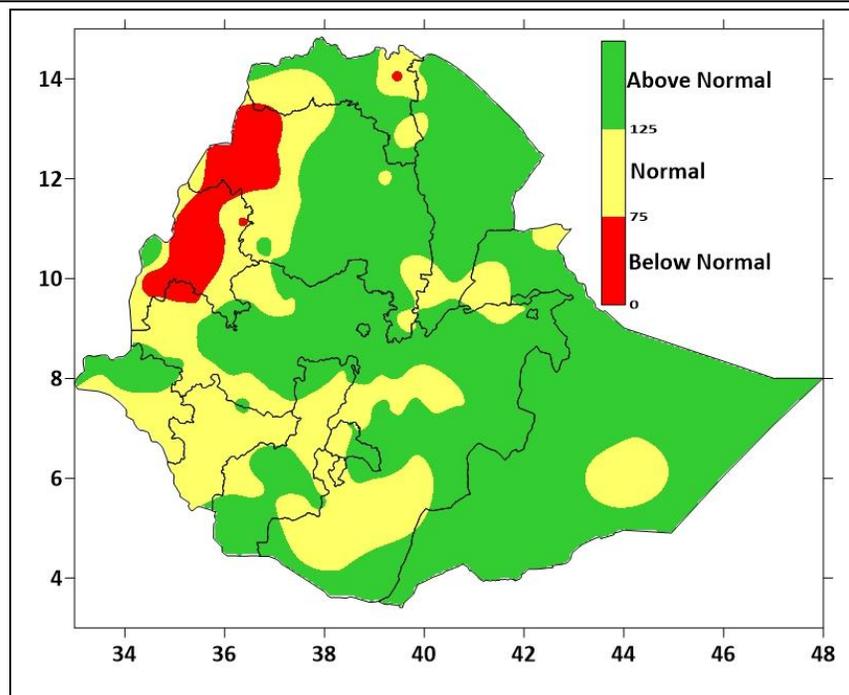


HIGHLIGHTS

During Belg On the other hand, the day remained hot over the lowland of north eastern, eastern and southeastern part the had recorded extreme maximum temperature values of more than 35 oC (Fig 3.1.2). In specific, the extreme maximum temperature values were as high as 46, 44.6, 43.0, and 42.5 OC over Metema, Goda, Gambella, Lare and Fugnuldo respectively.

Belg season in Ethiopia is the second rainy season. Hence, the seasonal total rainfall exceeds 300mm over most parts of the country. In particular, the seasonal total rainfall values of Belg 2023 were as 871.3, 806, 764.4, 754.7, 746.3, 710.6, 669.9, 655.0, and 652.8 mm over Bore, Arejo, Ambamariam, Sawula, Gelemso, Bui, Moyale, Sirinka , Masha and Dilla (Tables 3.2.2). The daily rainfall values over H/Mariam, Arsi Robe, Bore, inka, Gelemso, Dolomena and Nifasmewcha stations was 100.6, 85.3, 75, 72.8, 72, 70.5 and 70.0 mm respectively.

In general, the percent of normal rainfall distribution during Belg 2023 was normal to Above normal over most parts of the country except western Benishangulgumuz and western Amhara region.



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

EMI

P.O. Box 1090

Tel: 011-661 57 79/011-551 22 99

Fax : 011-6625292/011-551 70 66

E-mail: nma1@ethionet.gov.et

Addis Ababa

1. Synoptic Situation

1.1 Surface

The Mascarene high with a mean central pressure value of 1020hPa was centered at about 32°S, 2°W. Its central pressure value was below normal by up to -1hPa.

The St. Helena high with a mean central pressure value of 1022hPa was centered at about 34°S, 85°E. The central pressure value was normal.

The Azores high with a mean central pressure value of 1020hPa was centered at about 35°S, 10°W. Its central pressure value was above normal by up to 1hPa.

1.2 Lower Troposphere (850 hPa vector wind)

North Westerly wind speed from 0 to 5 m/s was dominant over east Africa and the adjoining areas

1.3 Middle Troposphere (500-hPa Geopotential height)

The 500-hPa circulation during Belg (February to May)2023 featured above- average heights over the North Pole, Sea of Okhotsk, Black Sea, North Atlantic Ocean, and western U.S., and below-average heights over the Gulf of Alaska, Arctic Ocean, Mediterranean Sea, and eastern. The main Land-surface temperature signals included above-average temperatures throughout much of central North America and Eurasia, and

below-average temperatures in Alaska and the eastern.

1.4 Upper Troposphere (200 hPa vector wind)

The core speed of the westerly wind, was 0m/s to 15m/s from 10oS to 20oN North.

2. Tropical Oceanic and Atmospheric Highlights

During Belg 2023 season, sea surface temperatures (SSTs) remained below and above average (February and March are dominated by below and April and May was above) across the east-central and eastern equatorial Pacific. The latest Nino indices based on OISSTV2.1 were - 1.23 oC for the Nino 1+2 region, +0.4 oC for the Nino 3.4 region and +0.2 oC for the Nino 4 region. The depth of the oceanic thermocline (measured by the depth of the 20C 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 1-3C below-average in the far eastern equatorial Pacific.

Also during Belg, 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 Nina conditions.

Reference: Climate Diagnostic Bulletin of Belg (February to May) 2023 (http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/index.html)

3. Weather

3.1 Temperature

During Belg On the other hand, the day remained hot over the lowland of north eastern, eastern and southeastern part the had recorded extreme maximum temperature values of more than 35 °C (Fig 3.1.2). In specific, the extreme maximum temperature values were as high as 46, 44.6, 43.0, and 42.5 °C over Metema, Goda, Gambella, Lare and Fugnuldo respectively (Table 3.1.1).

On the other hand, the highlands of Eastern & central Amhara, Central and Eastern Oromia have days with minimum temperature below 8 °C (Fig. 3.1.1). Specifically, days with minimum temperature values of less than 4.0oC were reported from Adelle, Alemaya, Arsi Robe, Bui, Dangla, Debre Birhan, Jimma, Mehalmeda, Robe and Wegeltena (See Table 3.1.2)

Table 3.1.1 Stations with extreme maximum temperature values of greater than or equal to 38oC during Belg 2023

Stations	Extreme maximum temperature (°c)	Date	Month
Gode	44.6	13	May
Abobo	42	9	May
Dubti	41.5	27	May
Fugnuido	42.5	3	May
Gambella	43	9	May
Lare	43	7	May
Metema	46	16	May

Table 3.1.2 Stations with extreme minimum temperature values less than or equal to 3.0oC during Belg 2023

Stations	Extreme minimum temperature (°c)	Date	Month
Adelle	3.4	20	Feb
Alemaya	-2.2	2	Feb
Arsi Robe	2.5	13, 20	Feb
Bui	3.4	20	Feb
Dangla	3.5	7, 13	Feb
Debre Birhan	-2	5	Feb
Jimma	2	5	Feb
Mehalmeda	1	6	Feb
Robe	3	13	Feb
Wegeltena	0.5	9	Feb

3.2 Rainfall

Belg season in Ethiopia is the second rainy season. Hence, the seasonal total rainfall exceeds 300mm over most parts of the country (Fig 3.2.2).

In particular, the seasonal total rainfall values of Belg 2023 were as 871.3, 806, 764.4, 754.7, 746.3, 710.6, 669.9, 655.0, and 652.8 mm over Bore, Arejo, Ambamariam, Sawula, Gelemso, Bui, Moyale, Sirinka , Masha and Dilla (Tables 3.2.2). The daily rainfall values over H/Mariam, Arsi Robe, Bore, inka, Gelemso, Dolomena and Nifasmewcha stations was 100.6, 85.3, 75, 72.8, 72, 70.5 and 70.0 mm respectively (Tables 3.2.1).

In general, the percent of normal rainfall distribution during Belg 2023 was normal to Above normal over most parts of the country except western Benishangulgamuz and western Amhara region. (Fig.3.2.2).

Table 3.2.1 Station(s) with Equal or greater than 30mm of rainfall in 24 hours during Belg 2023

Station	Value in mm	Day	Month
Ginir	160	30	Apr
H/mariam	100.6	4	May
Arise robe	85.3	29	Apr
Bore	75	4	Apr
Jinka	72.8	16	Apr
Gelemso	72	25	May
Dolomena	70.5	23	Mar
Nefasmewuch	70	7	Apr
Arejo	69	30	May
Blate	66	21	Mar
Bati	65	29	May
Bui	63.8	1	Apr
Ghion	63	29	Apr
Ambamariam	61.4	2	May
Dalifagi	60.8	19	Apr
Abomsa	60	2	Apr
Kachise	60	1	Mar

Awassa	58	27	Apr
Moyale	53	18	Apr
Gelemso	51.5	3	Apr
Motta	51.2	29	Apr
Gore	50	29	May
Dilla	49.5	15	May
Kulumsa	49	18	Mar
Shambu	44.3	20	Mar
D/markos	43	21	May
Chefa	42	24	Mar
Masha	40.6	20	May
Gimbi	36.9	31	May
Limugenet	34	26	Feb
Dire dawa	33	25	Feb
Aman	30.8	27	Feb

Table 3.2.2. Station(s) with greater than or equal to 45 mm of seasonal total rainfall during Belg 2023

Station	Amount
AMBAMARIAM	764.4
Arba Minch	618.8
AREJO	806
BORE	871.3
Bui	710.6
DILLA	652.8
DOLOMENA	622.8
Gelemso	746.3
MASHA	655
MOYALE	669.5
SAWULA	754.7
SIRINKA	668.9
TERCHA	601.4

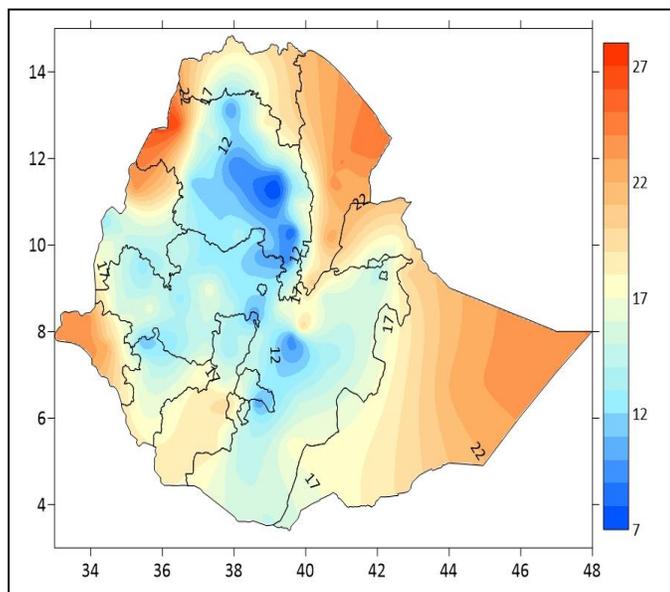


Fig. 3.1.1. Minimum temperature in °C during Belg 2023

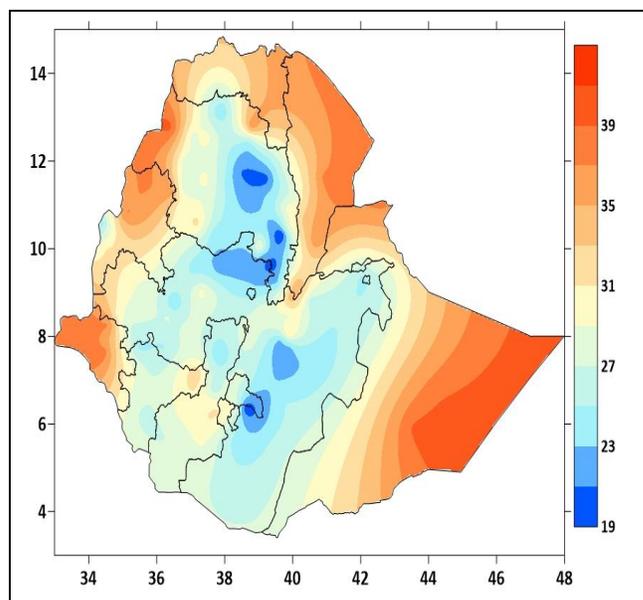


Fig. 3.1.2. maximum temperature in °C during Belg 2023

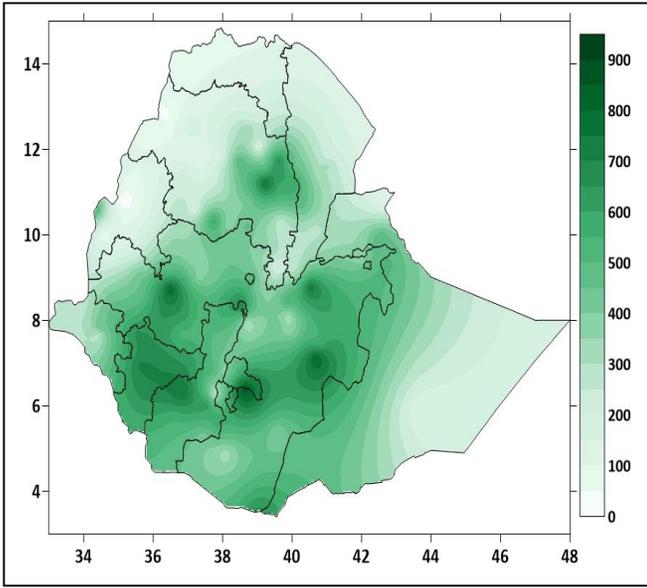


Fig.3.2.1. Seasonal total rainfall in mm during Belg 2023

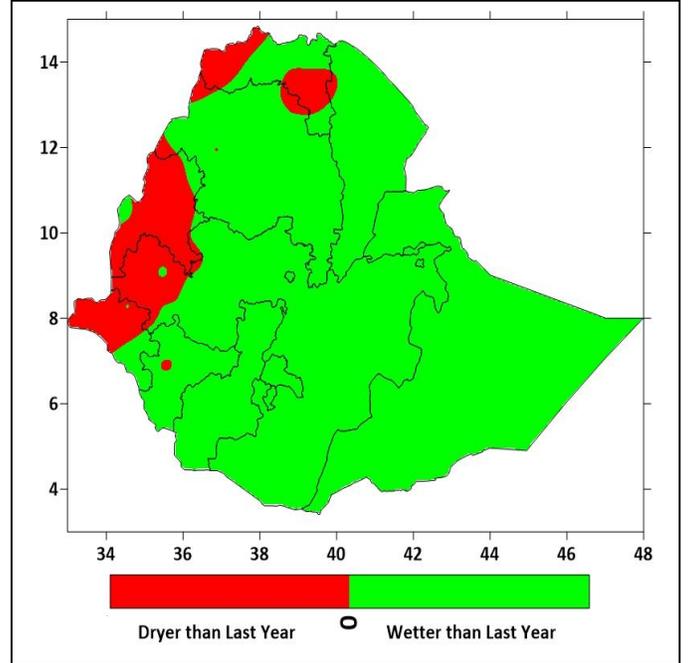


Fig. 3.2.3. Seasonal total rainfall of Be 2023 minus monthly total rainfall of June 2022

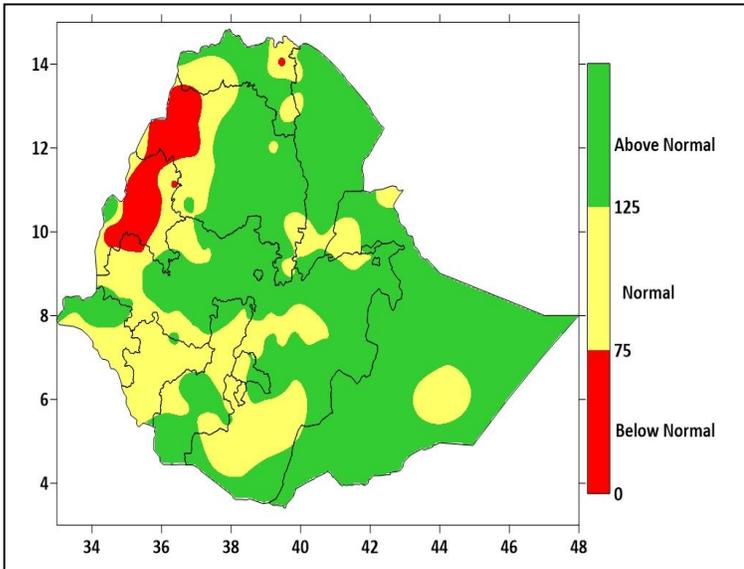


Fig. 3.2.2. Percent of normal rainfall during June 2023