

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

MINISTRY OF WATER AND ENERGY

Ethiopian Meteorology Institute
Meteorological Data and Climatology Directorate

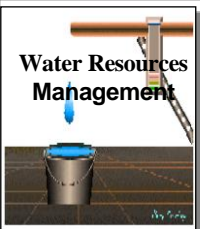
SEASONAL CLIMATE BULLETIN
Belg 2022

Some Applications of
Climate Information

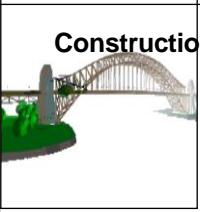
Disaster Management



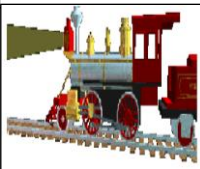
Water Resources
Management



Construction



Environment & Health



Transport

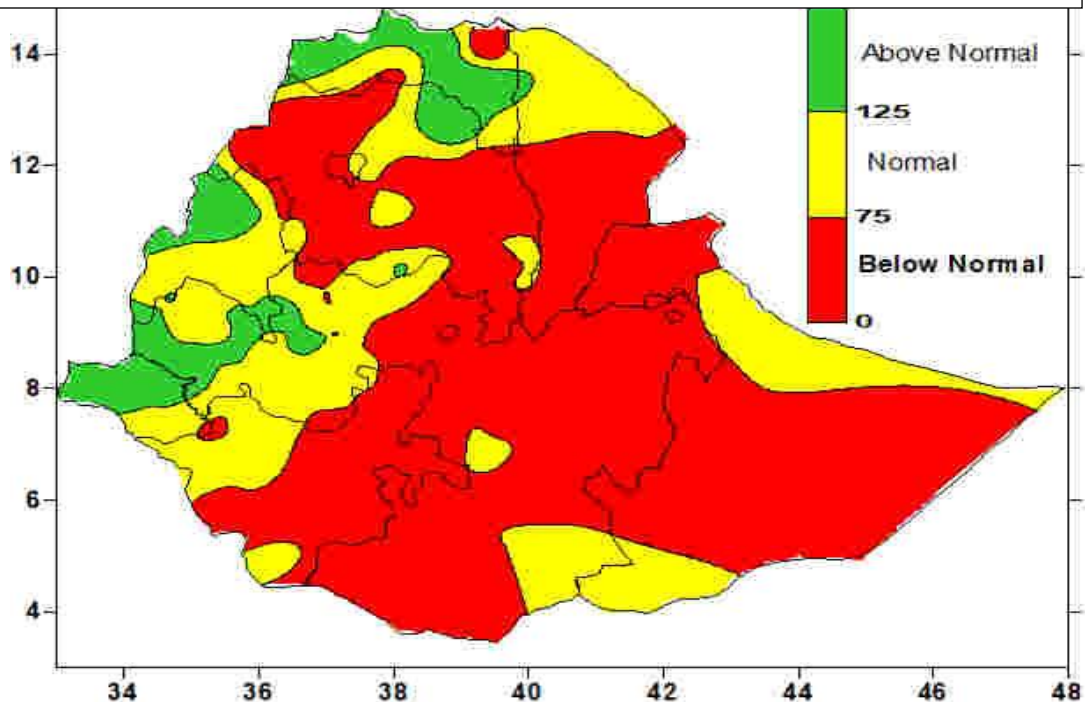


HIGHLIGHTS

During Belg seasons the maximum temperature was greater than 30°C over the lowlands of Eastern, Central, Southern and Northern Ethiopia. In particular, the extreme minimum temperature values less than 3.0°C over Debera Birhan, Addis Ababa, Adelle, Alamaya, Amaba mariam, Bale roba, and Wegeltena.

In general, the percent of normal rainfall distribution during Belg 2022 was normal to below normal over most parts of the country. On the other hand central Amhara, most part of western Oromia, Benshangule, Tigray and also western SNNPR had experienced normal to Above normal rainfall during this month.

During Belg 2022 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 °C for the Nino 1+2 region, -0.9 °C for the Nino 3.4 region and -0.2 °C 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.



Percent of normal rainfall during Belg 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 seasonal, 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 1025hPa was centered at about 35°S, 70°W. Its central pressure value was below normal by up to -1hPa.

The St. Helena high with a mean central pressure value of 1020hPa was centered at about 30°S, 45°E. The central pressure value was normal.

The Azores high with a mean central pressure value of 1025hPa was centered at about 30°S, 45°W. Its central pressure value was above normal by up to 1hPa.

1.2 Lower Troposphere (850hPa 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 (500hPa Geopotential Height)

The 500-hPa circulation during Belg(February to May)2022 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 (200hPa vector wind)

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

2. Tropical Oceanic and Atmospheric Highlights

During Belg 2022 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 Niño indices based on OISSTV2.1 were -1.23 °C for the Niño 1+2 region, -0.9 °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 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 Niña conditions.

Reference: Climate Diagnostic Bulletin of Belg(February to May) 2022.

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 of the had recorded extreme maximum temperature values of more than 35 °C (Table 3.1.2) and Fig 3.2.3.

In particular, the extreme minimum temperature values less than 3.0°C over Debera Birhan, Addis Ababa, Adelle, Alamaya, Amabamariam, Bale roba, and Wegeltena. (Table 3.1.2)

Table 3.1.1 Stations with extreme maximum temperature values of greater than or equal to 38°C during Belg 2022

Station	Max temperature	date	Month
Awash Arba	43.5	22	may
Aysha	43	29	may
Dubti	43.5	22	may
Fugnuido	44	10	march
Fugnuido	43.5	2	April
Gewane	44	23	may
Gode	43	20	February
Gode	44	24	march
Gode	43.4	4	April
Metema	43.6	10	march
Metema	42.7	6	April
Mille	43.5	23	may
Semera	44.6	31	may
Sherkole	43	3	April

Table 3.1.2 Stations with extreme minimum temperature values less than or equal to 3.0°C during Belg 2022

Station	Min temperature	date	month
Addis Ababa	0	21	February
Adelle	1.5	27	February
Alemaya	1	1	February
Ambamariam	2	3	February
Debra brehan	-2.4	4	February
Bale Robe	0	27	February
Wegeltena	2.3	14	February
Debra brehan	-0.2	15	March
Debra brehan	1.4	16	May

3.2 Rainfall

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

In general, the percent of normal rainfall distribution during Belg 2022 was normal to below normal over most parts of the country. On the other hand central Amhara, most part of western Oromia, Benshangule, Tigray and also western SNNPR had experienced normal to Above normal rainfall during this month. (Fig.3.2.2).

Table 3.2.1 Station(s) with Equal or greater than 30mm of rainfall in 24 hours during Belg 2022

Station	max rainfall	Date	Month
Aman	65	25	May
Bati	63	24	March
Bati	63.6	25	April
Blate	66	21	March
Dolomena	70.5	23	March
Ejaji	63	17	May
Jinka	67.8	15	April
Kachise	60	1	March
Limugenet	65.5	15	April
Majji	96	25	April
Masha	60.4	29	May
Moyale	97.7	17	April
Negele	77	16	April
Nejo	62	30	May
Sekoru	82	12	April

Figure. 3.2.1 Seasonal total rainfall in mm during Belg 2022

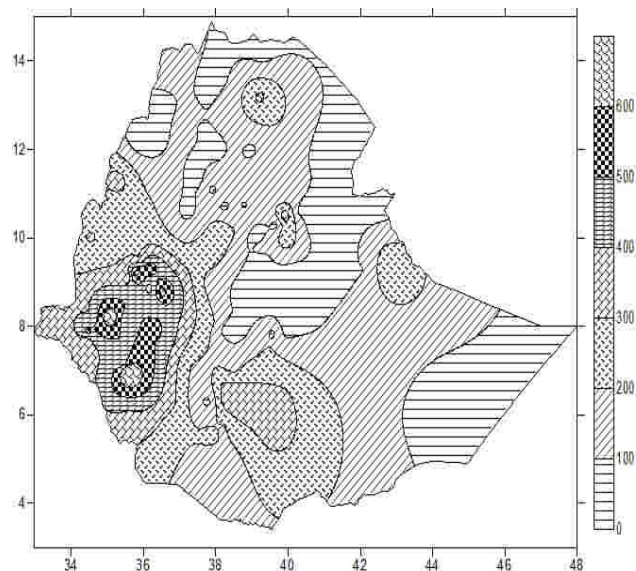


Table 3.2.2 Station(s) with greater than or equal to 45 mm of seasonal total rainfall during Belg 2022

Station	Belg Total Rainfall
Abobo	305.2
Aira	261.2
Algie	306.4
Aman	345.7
Arejo	256.8
Bure	419.2
Chewka	226.0
Chira	208.7
Gatira	289.8
Gimbi	338.0
Gore	202.3
Masha	286.0
Nejo	289.6
Nekemte	336.6

Figure 3.2.2 Minimum temperature in °C during Belg 2022

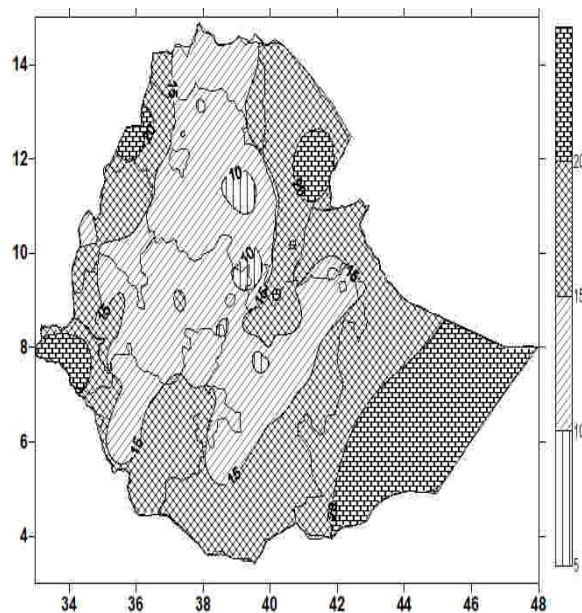


Figure. 3.2.3 maximum temperature in °C during Belg 2022

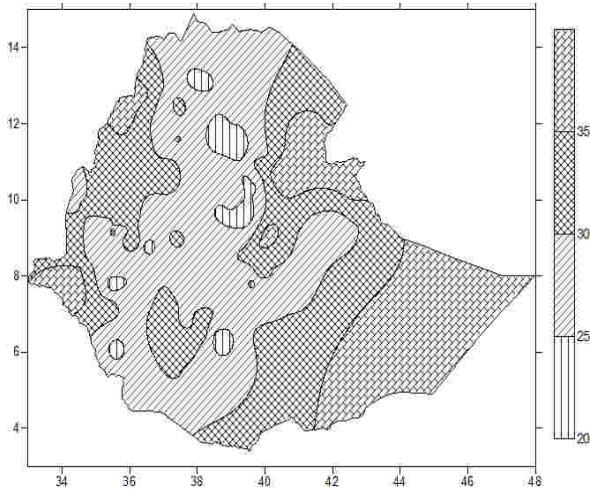


Figure 3.2.5 Departure of seasonal average temperature from normal during Belg 2021

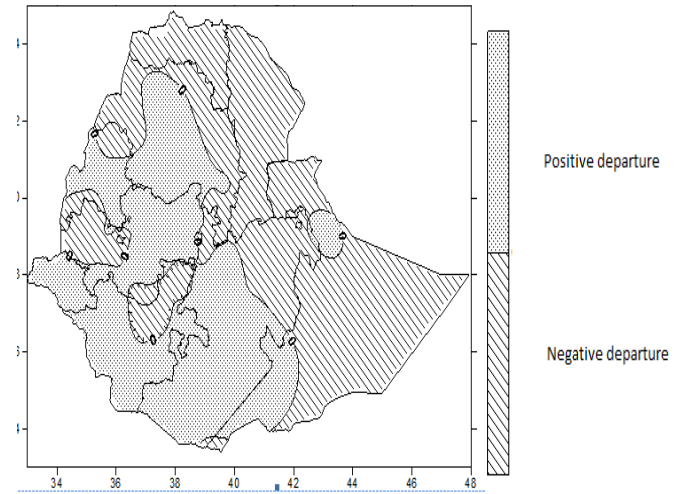


Figure 3.2.4. Percent of Normal during Belg 2022

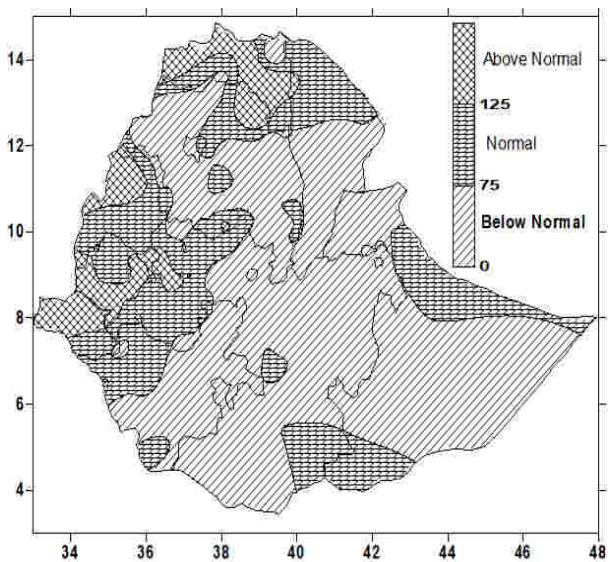


Figure 3.2.6 total Belg 2022 rainfall minus total rainfall of Belg 2021

