

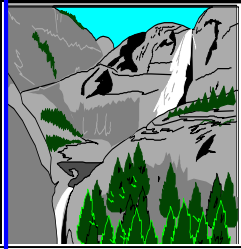
FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA
MINISTRY OF WATER AND ENERGY
NATIONAL METEOROLOGICAL AGENCY
CLIMATOLOGICAL SERVICES TEAM

MONTHLY CLIMATE BULLETIN
February 2017

Some Applications of Climate Information



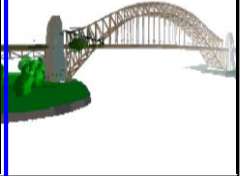
Disaster Management



Water Resources Management



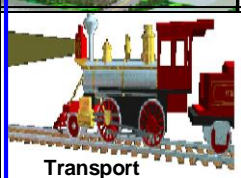
Construction



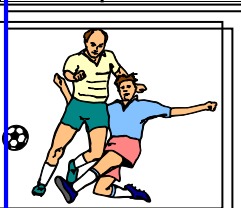
Environment & Health



Transport



Recreation & Tourism

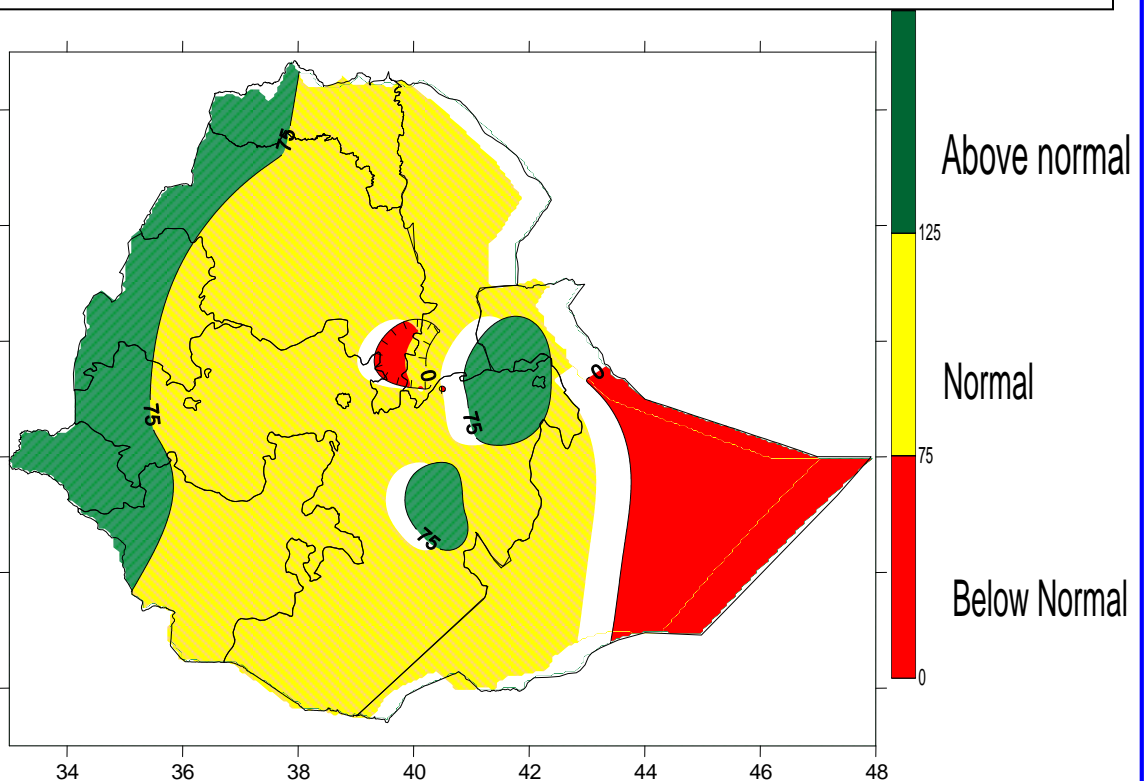


In February 2017, Monthly total rainfall recorded was below normal over pocket areas of South East Amhara and Eastern parts of Ethio-Somalia. SNNPR, Oromiya, Western Ethio-Somalia, Central Amahara, Eastern Tigray and Afar regions had got Normal rainfall.

On the other hand, some areas of Eastern and western Oromiya, Southwest SNNPR, Gambella, Western parts of Benishangul_gumuz, Western Amahara and Western Tigray Poket areas had got Above Normal rainfall.

In general, the total amount of rainfall recorded in February 2017 was less than of February 2016.

Sea surface temperatures (SSTs) remained near-average over the central equatorial Pacific and above-average in the eastern equatorial Pacific during February 2017.



Percent of Normal Rainfall of February 2017

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 a year, 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 90°E, 35°S.

The St. Helena high with a mean central pressure value of 1020hpa was centered at about 10°W, 30°S.

The Azores high with a mean central pressure value of 1020hpa was centered at about 20° W,30°N.

The cross equatorial flow, which is associated with the Low Level Jet had exceeded 6m/s over western Indian Ocean and 6m/s over the adjoining areas of eastern Africa, while south westerly flow exceed 6 m/s over

western Indian Ocean, Arabian Sea and the adjoining areas of the Horn of Africa.

1.2 Lower Troposphere (850hpa vector wind)

Mean (top) and anomalous (bottom) 850hpa vector wind or February 2017 contour interval for isotachs is m/s (top) and 2 m/s (bottom).

1.3 Middle Troposphere (500hpa Geopotential Height)

The 500-hPa circulation during February featured above-average heights over the high latitudes of the central North Pacific.

1.4 Upper Troposphere (200 hpa vector wind)

A pronounced westward retraction of the mean subtropical ridge over Australasia, along with amplified mid-Pacific troughs in both hemispheres. This pattern is consistent with the lingering La Niña-related pattern of enhanced convection over Indonesia and suppressed convection across the central equatorial Pacific.

2. Tropical Oceanic and Atmospheric Highlights

During February 2017, the sea surface temperatures (SSTs) remained near average across the central Equatorial Pacific and above-average in the eastern equatorial Pacific.

The latest monthly Niño indices were -0.1°C for the Niño 4 region, +0.1°C for the Niño 3.4 region, and +1.6°C for the Niño 1+2 region. The depth of the oceanic thermo-cline (measured by the depth of the 20°C isotherm) was slightly above-average over the far eastern equatorial Pacific and the corresponding sub-surface temperatures were 1-2°C above average.

Also during February, the lower-level winds were near-average over the central equatorial Pacific and slightly enhanced over the western equatorial Pacific. Meanwhile, convection was suppressed over the central equatorial Pacific and enhanced over Indonesia. Collectively, these oceanic and atmospheric anomalies are consistent with ENSO-neutral conditions.

**Reference: Climate Diagnostic Bulletin of
February 2017**

3. Weather

3.1. Temperature

In February 2017, days remained hot over the Benishangul Gumuz, Western Oromiya and Northern parts of SNNPR (Figure 2).

With similar condition all parts of the country was under hot weather condition (Figure 2). Hence, the extreme maximum temperature values were as high as 40.5, 41.0, 41.5, 41.5, 41.8, 42.0, and 43.5 °C over Dansha, Omorate, Hana (Salamago), Melkasedi, Teferi Ber, Dima and Darimu (Dopa) continuatively (Refer table 1).

On the other hand, the extreme minimum temperature values were below or equal to 3.4, 2.9, 2.0, 2.0, 2.0, 2.0, 1.5, and -6.0 °C

Over Meraro, Arsi-Robe, Bedele, Dinsho, Robe, Habe, Hunte and Belle continuatively. In General, monthly average temperature values was 30.0-40.0 °c over central (Oromiya, Amahara, Tigry) whereas most parts of the country was 10.0-30.0 °c.

Table 1. Stations with extreme maximum temperature values of 40.2°C and above during February 2017

Station	Extreme Max.Temp . (°C)	Date
Hana (Salamago)	41.5	3
Omorate	41.0	24
Dansha	40.5	10
Melka Sedi	41.5	24&25
Teferi Ber	41.8	24
Darimu (Dopa)	43.5	3
Dima	42.0	13

Table 2. Stations with extreme minimum temperature values of less than 3.4°C during February 2017

Station	Extreme Minimum Temp. (°C)	Date
Belle	-6.0	22
Habe	2.0	1
Meraro	3.4	23
Aris- Robe	2.9	22
Robe	2.0	22
Dinsho	2.0	7
Hunte	1.5	10
Bedele	2.0	1,2,3,

3.2 Rainfall

Normally, February is one of the dry seasons for which there is no expectation of rain fall for most Parts of the country, except places which receive some amount of rainfall. Such as Western (Tigray, Amahara and Oromiya) and some places of Eastern Oromiya.

Normally, the total rainfall amount of February 2017 at stations was 0-100mm. The February total rainfall amount exceeded 100.0mm was recorded over tip of Eastern Oromiya (Figure 5).

In general, the monthly total rainfall amount of February 2017 was Normal over much of the parts of the country. Moreover, February 2017 was wetter than February 2016 over most parts of rainfall benefiting areas.

Table 3. Station(s) with rainfall amount of 10.0 mm and above in 24 hours during February 2017

Station	Amount(mm)	Date
Arba Minch	10.0	5
Bure	29.0	5
Dire Dawa	66.6	26
Harar	15.4	17
Haro	11.5	17
Jinka	15.2	27
Meiso	21.8	25
Mirab Abaya	12.2	25
Robe	15.0	13
Aris-Robe	15.6	13
Ticho	16	14

Table 4. Station(s) with monthly total rainfall amount 15.0mm and above during February 2017

Station	Amount (mm)
Bure	29.0
Dire Dawa	66.6
Harar	15.4
Jinka	15.2
Meiso	21.8
Meiso Mission	20.4
Robe	15.0
Robe-Aris	15.6
Ticho	16.0

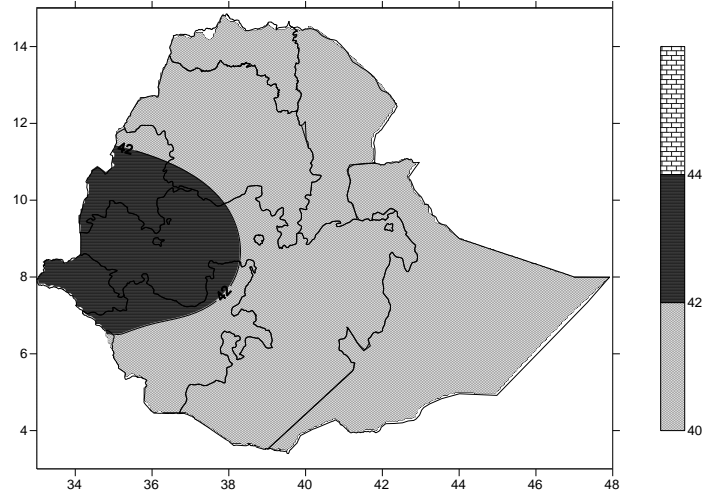


Figure 2. Extreme maximum temperature in $^{\circ}\text{C}$ during February 2017

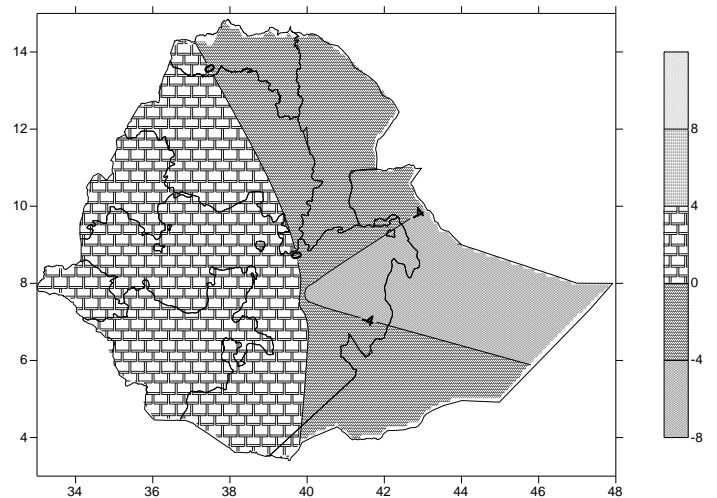


Figure 3. Extreme minimum temperature in $^{\circ}\text{C}$ in February 2017

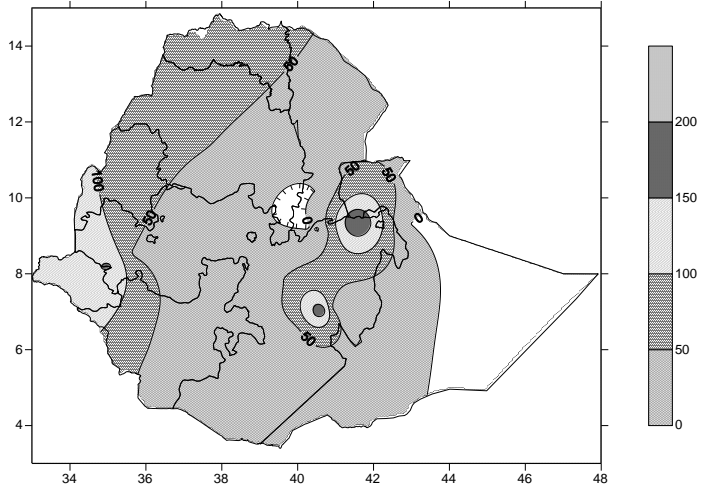


Figure 4. Monthly total rainfall in mm during February 2017

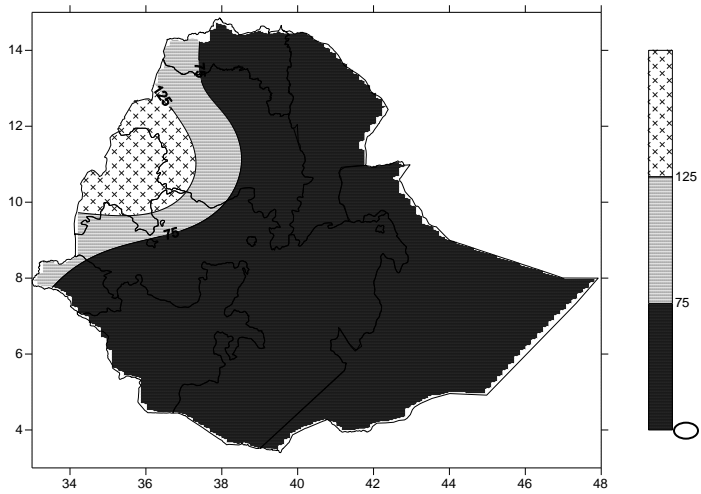


Figure 5. Percent of normal rainfall in mm during February 2017