

Volume 5: Issue 1

October 2019

Department of Meteorological
Services Agro-met Office

P.O. Box 10100, Gaborone

Tel: 3612200

Fax: 3956282/140

Corner Maaloso-Metsimothaba
Road

Gaborone Village

BOTSWANA AGROMETEOROLOGICAL MONTHLY BULLETIN

Highlights:

- **Stressed Vegetation (Extreme Drought Continues)**
- **Above normal temperatures & Heatwaves.**
- **Below normal rainfall**

Inside this issue:

1. Weather Summary (Synopsis) (1)
2. Vegetation condition (1)
3. Temperature situation (2-3)
4. Rainfall situation (3)
5. Weather Outlook (4)

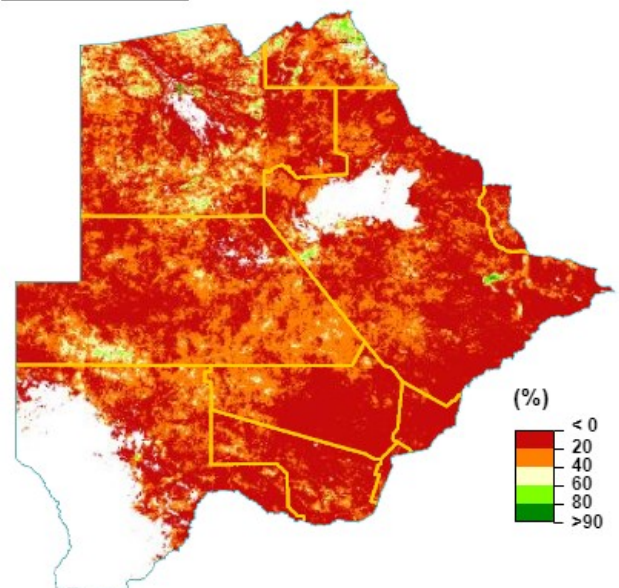
SYNOPSIS:

A trough was the dominant system at the surface resulting in mainly a northerly flow over Botswana. At upper levels, an anticyclone was the main feature, suppressing convective developments. As such October was a rather dry and hot month on average and having experienced a heatwave at the beginning of the 2nd dekad.

The vegetation condition shows stressed and deteriorating vegetation over the whole country. This is an indication of extreme drought which continued throughout the season.

Vegetative Condition Index (VCI) map shows healthiness of the vegetation; the value 0 (red) shows stressed vegetation, 100 (green) is healthy. Anything below 36% is extreme drought.

Vegetation Condition Index for 3rd Dekad October 2019

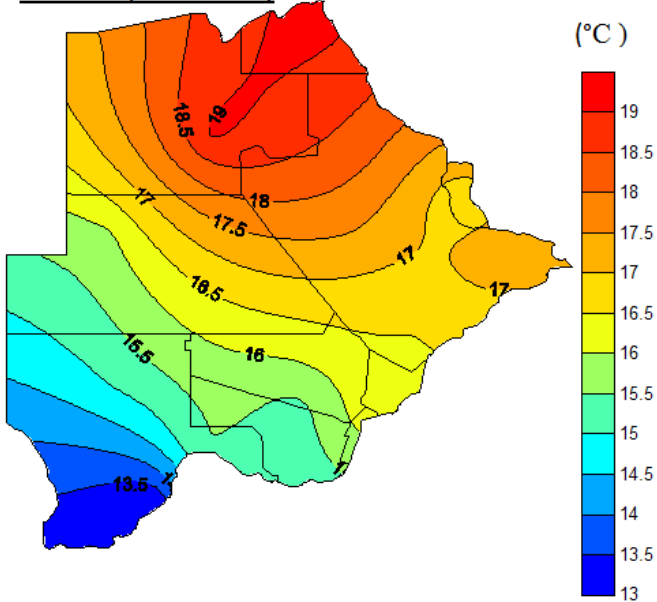


Map 1: Vegetation Condition Index for 3rd Dekad October 2019

TEMPERATURE SITUATION

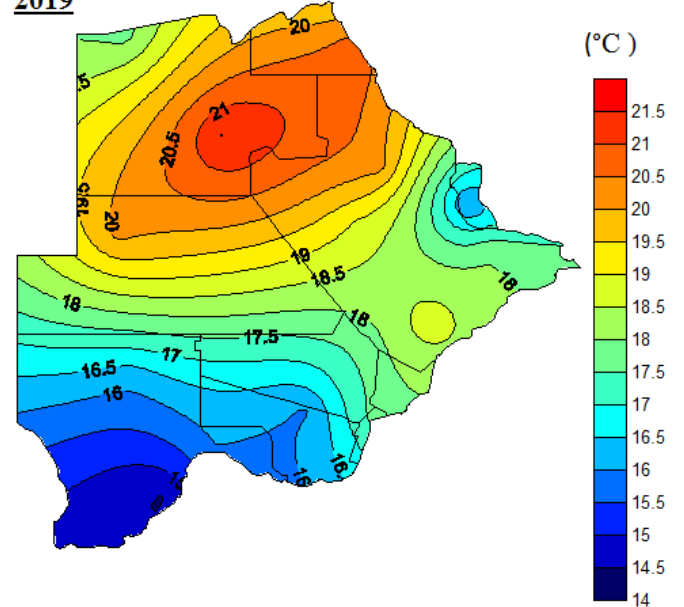
The mean minimum temperatures for the month of October were above normal. The spatially distribution was relatively normal i.e. temperatures increased from the south to the north of Botswana. Maun had the highest mean minimum of 21.5°C followed by Pandamatenga at 20.8°C and Sua Pan and Gantsi at 20.1°C each. These temperatures were mostly due to the unyielding dominance of a surface trough that persisted for much of the month.

Longterm Average Minimum Temperatures for October (1971-2000)



Map 2: Average Minimum Temperatures for October (1971-2000).

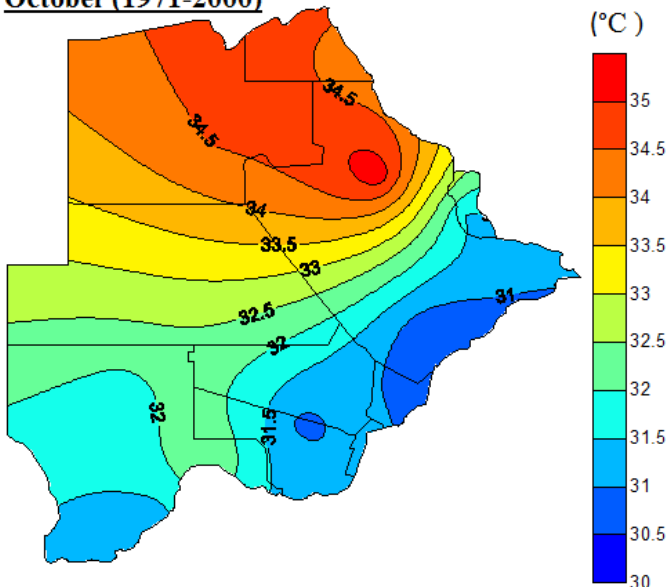
Monthly Mean Minimum Temperatures for October 2019



Map 3: October 2019 monthly mean Minimum Temperatures.

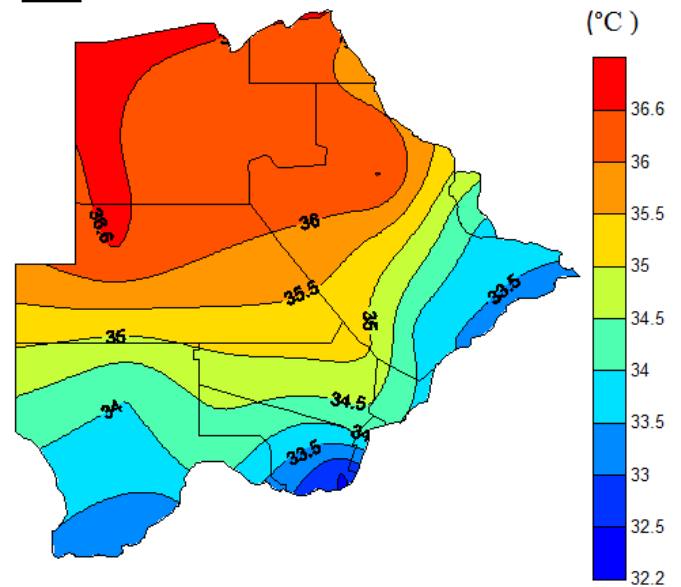
During October 2019 mean maximum temperatures were also above normal as compared to the longterm. Spatial distribution was normal i.e. temperatures increased from the south to the north however, the average hottest area was to the northwest of the country rather than the northeast as it's the norm . Kasane had the highest mean maximum temperatures of 36.7°C followed by Gantsi and Shakawe at 36.6°C .

Longterm Average Maximum Temperatures for October (1971-2000)



Map 4: Average Maximum Temperatures for October (1971-2000).

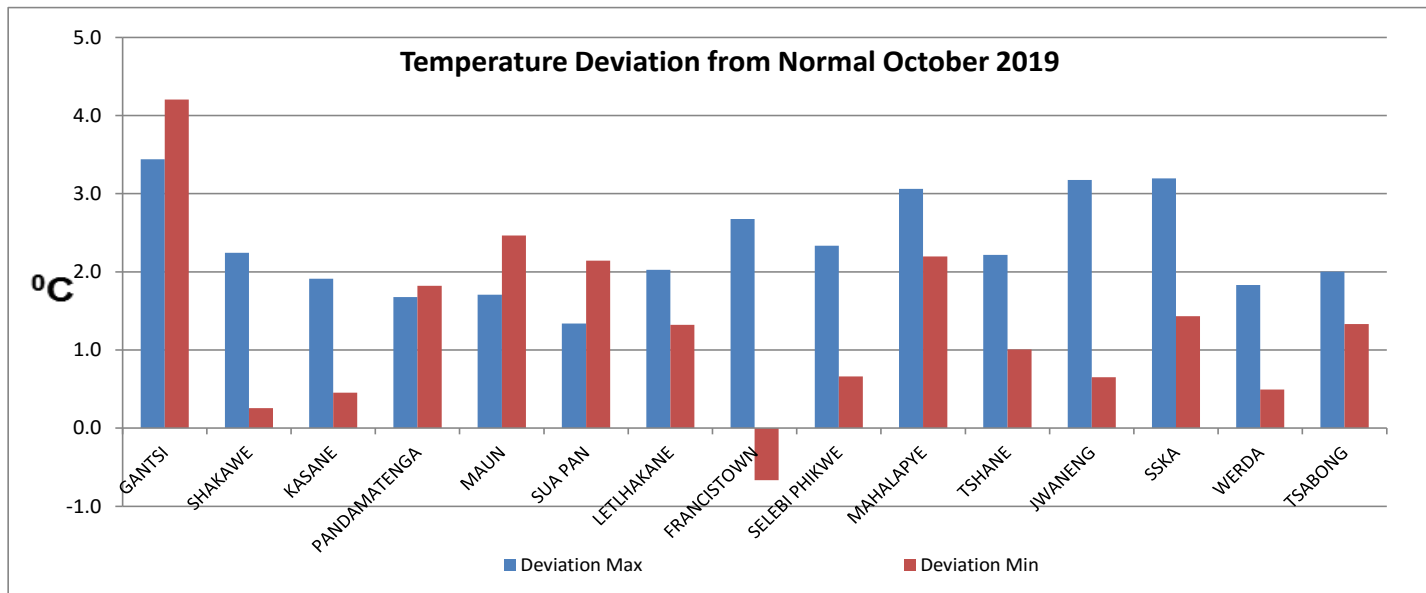
Monthly Mean Maximum Temperatures for October 2019



Map 5: October 2019 monthly mean Maximum Temperature.

Graph 1. October 2019 was a relatively warmer than normal month for both minimum and maximum temperatures on average. This can mostly be attributed to the persistent surface trough. Gantsi had the highest mean minimum and maximum temperature deviation from normal of +3.4°C and +4.2°C respectively. Regarding maximum temperatures Jwaneng and SSKA had the 2nd highest at a deviation of 3.2°C.

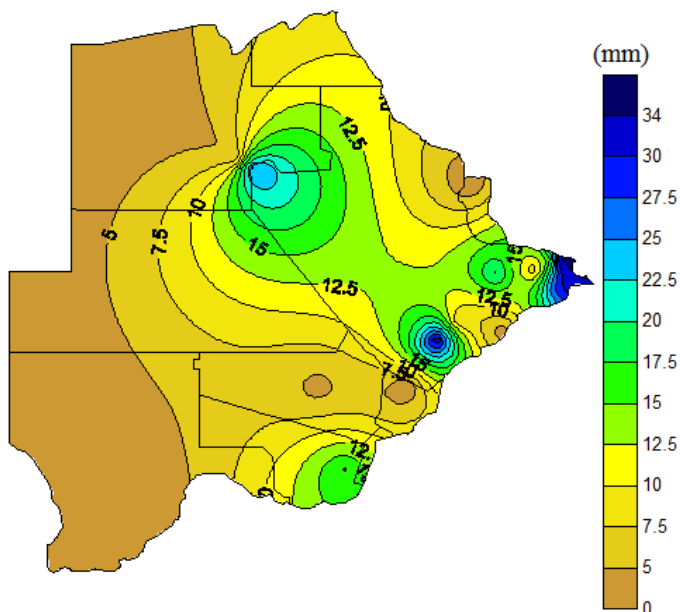
Minimum temperatures too were above normal Maun had the 2nd highest deviation of 2.5°C and Mahalapye of 3rd highest deviation of 2.2°C.



Graph 1: Temperature deviation from normal for October 2019.

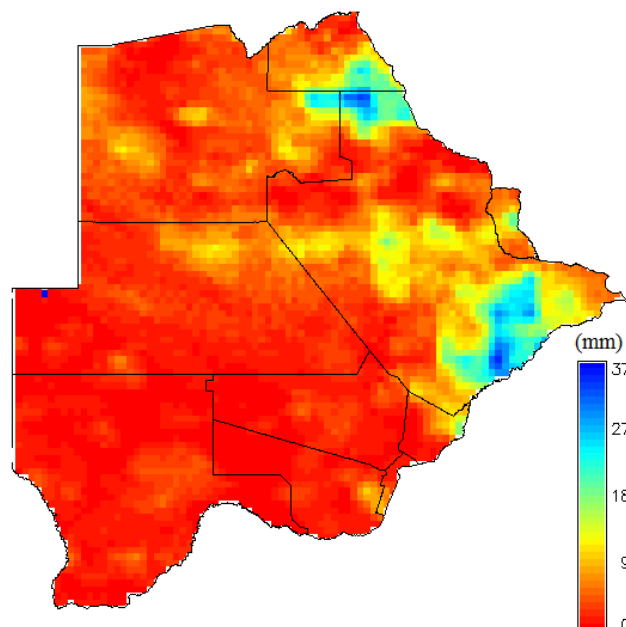
RAINFALL SITUATION

Accumulated Rainfall for October 2019



Map 6: Cumulative rainfall for October 2019 (mm)

October Cummulative Rainfall 2019

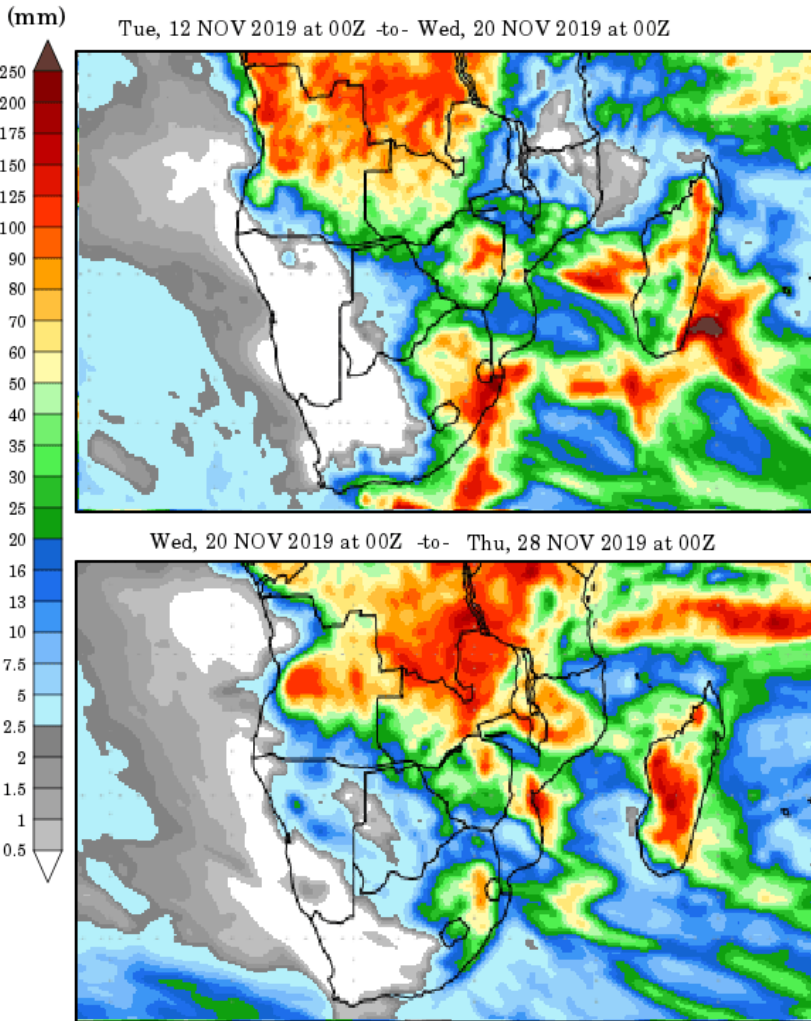


Map 7: RFE (satellite estimate) for October 2019.

Rainfall was received mostly to the east of Botswana, having places such as Mabolwe Primary School receiving the highest total accumulation of 34.2mm in a single day on 10th October 2019, followed by Mahalapye at 33.5mm, Mathathane Primary School 28.0mm. Rainfall was generally much below normal for the month and its distribution was poor both in space and time.

WEATHER AND CLIMATE OUTLOOK

Precipitation Forecasts



Farmers tips:

- *Farmers to prepare for the planting season*
- *Farmers to take advantage of rainwater harvesting*
- *Farmers to liaise with extension workers for advice on weather and crop related issues*

Users are advised to contact the DMS for further interpretation, updates and additional guidance.

Department of Meteorological Services
P.O. Box 10100, Gaborone
Tel: 3612200
Corner Maaloso - Metsimothaba Road
Gaborone Village

Our Vision: *A modern weather service that nurtures and harbours innovation and creativity in the provision of quality weather and climate information*

Weather Outlook (12-28th November 2019)

For the first week (12th– 20th November 2019) its highly probable that rainfall will be received over much of the country except the southwest. The same prospects are expected for the second week of the outlook period (20th– 28th November 2019). Temperatures are expected to range from warm to very hot..

Terms and Meaning:

Dekad: 10 day rainfall measuring period

Day: 24 hours

Normal Rainfall: Between -20% and 20 % of the average

Below Normal Rainfall: Rainfall below -21% to -30% of the average

Above Normal Rainfall: Rainfall in excess of 30% of the average

Much below Normal Rainfall: Rainfall below 30% of the average

Much above Normal Rainfall: Rainfall above 30% of the average

Scanty Rainfall: Less than 1 –10 mm (Relatively dry day)

Moderate Rainfall: 10 –25 mm (Relatively wet day)

Heavy Rainfall: 25-50 mm (Wet day)

Very heavy Rainfall: Greater than 50 mm (Excessively wet day)

Probability of 30 %: Isolated (Low Chance)

Probability of 40-60 %: Scattered (Moderate Chance)

Probability greater than 70%: Widespread (High Chance)