

# LESOTHO METEOROLOGICAL SERVICES (LEKALA LA TSA BOLEPI)



## Ten-Day Agrometeorological Bulletin

21<sup>st</sup> – 30<sup>th</sup> April 2007



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*...dedicated to the agricultural community  
... aimed at harmonizing agricultural activities with weather and climate*

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## Highlights

### Last Dekad Review

- ❑ Dry weather conditions prevailed in most places.
- ❑ Light snowfall occurred.
- ❑ Frost occurred countrywide.
- ❑ Low cereal production estimates projected.

### Next Dekad Preview

- ❑ Dry weather anticipated.
- ❑ Warm temperatures expected.

### May – July 2007 Outlook

Likelihood of below normal rainfall forecasted.

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**WEATHER SUMMARY**

21<sup>st</sup> - 30<sup>th</sup> April 2007

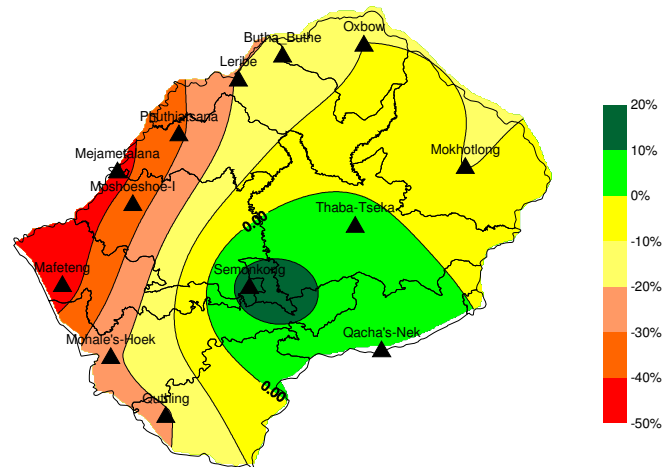
On the 21<sup>st</sup> a Low pressure from the west deepened extending eastwards over our area and at the same time the surface interior trough became active and deepened extending its trough southwards over the southern interior in the wake of the advancing Low pressure from the west. As a result isolated to scattered thundershowers were observed. On the 26<sup>th</sup> a pre-frontal cloud band approached the country from the west ahead of a cold front inducing moist air from the north resulting in scattered rain showers and thundershowers over the country. The cold front passed the country on the 28<sup>th</sup> with the Atlantic Ocean Anticyclone ridging strongly behind it bringing very cold and dry southerly winds. Very cold conditions were experienced throughout the country with light snowfall occurring at some highlands.

**RAINFALL SITUATION**

Dry weather conditions prevailed in most places. Spatial distribution of rainfall was very variable during the last dekad of April 2007. Only Leribe and Mohale’s Hoek in the lowlands received normal rainfall while other low-lying areas were dry. Relatively no rainfall was received in Maseru. The highlands recorded near normal, to normal rainfall during the dekad under review. Semonkong (22.3mm) recorded highest dekad rainfall (see *table 1* & *fig 2*).

The decreasing dekad rainfall amounts from one dekad to the next reflect that the country is fast approaching the dry season. The rainfall received in the last dekad was quite low although it may be normal at some places, therefore already stressed agricultural and water activities can be expected to continue in that state.

**% Departure from Normal**



**Fig.1: Cumulative rainfall departure from normal since 1<sup>st</sup> Sept 2006 to 30<sup>th</sup> April 2007.**

Cumulative rainfall since September 2006 up to present is below normal at most places and normal at few places. The largest deficit in cumulative rainfall is in the western and southern lowlands. The highlands have normal cumulative rainfall (see *fig 1*, *fig 3* & *table 1*). There have been very little accumulated rainfall in the previous seasons of summer and autumn, thus the water tables have not been improved. With very little precipitation expected in the dry season of winter, water resources are not expected to improve.

**TEMPERATURE**

Below normal mean dekadal temperatures were recorded mainly in the southern and eastern parts of the country. While the highlands experienced below normal mean dekadal temperature, Mokhotlong became an exception with normal mean dekadal temperature. Most of the lowlands observed warmer temperatures during the previous dekad (see *table 1*).

Lowest daily minimum temperatures dropped significantly on the 29<sup>th</sup> all over the country. They drop was due to the passing of the cold front over the country on the 28<sup>th</sup> with the Atlantic Ocean Anticyclone ridging strongly behind it bringing very cold and dry southerly winds. As a result, very cold weather conditions that were conclusive for frost were experienced throughout the country

with light snowfall occurring in most parts of the highlands during the night. The lowest daily temperatures of  $-10.5^{\circ}\text{C}$  and  $-8.5^{\circ}\text{C}$  were registered at Ox-Bow and Semonkong respectively on the same day.

### **CROP STAGE AND CONDITION**

Harvesting of summer crops may have started at some places. According to the DMA\* Rapid Pre-Harvest Assessment of Maize and Sorghum 2006/07, significantly low cereals production is anticipated in this harvest.

There was frost attack to crops that may have escaped previous frost(s). The frost resulted from lowest daily minimum temperatures of the 29<sup>th</sup> and 30<sup>th</sup>.

Presently, summer crops are at poor conditions and some crops are ready for harvest.

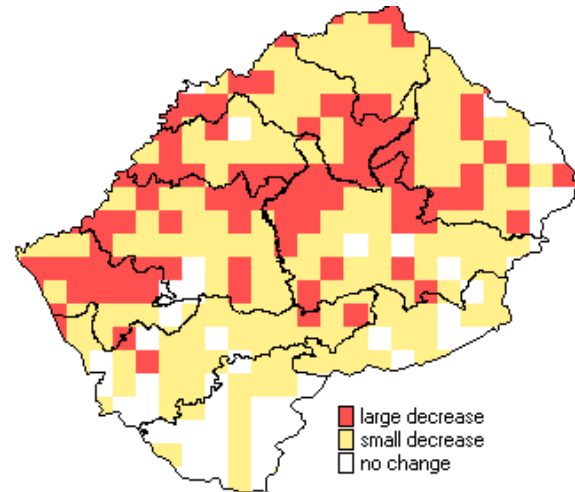
Little available soil moisture together with expected dry weather in winter threatens winter cropping.

### **WATER SITUATION**

The recent rains that the country received could not improve the water tables. The prominent drought that prevailed in summer and autumn months depleted surface water resources while very little accumulated rainfall could not recharge underground aquifers

As a result, the prevailing potable water stress will continue into winter. More water availability stress is likely to continue with more severity in spring.

### **VEGETATION**



NOAA NDVI Difference Imagery for April Third Dekad.

The difference in NDVI satellite imagery of the dekad under review and the normal imagery above depicts that there was a large decrease in vegetation cover during the dekad under discussion when compared to normal. The large decrease is seen in most parts of the lowlands and parts of the highlands. The poor vegetation cover may reflect bad rangelands.

### **DEKADAL OUTLOOK**

1<sup>st</sup> – 10<sup>th</sup> May 2007

The period is expected to be mainly fine and warm becoming partly cloudy and mild to cold with a passage of cold fronts.

### **MAY – JULY 2007 WEATHER OUTLOOK**

There is a high likelihood of below average rainfall during this season. However, the El-Nino conditions that were prevailing since the second half of 2006 into this year have now dissipated. Temperatures are expected to be above average. The high likelihood of below normal winter precipitation and above average mean temperatures implies that winter is expected to be dry and warm, therefore it would be risky to engage in expensive agricultural activities.

Table 1

Rainfall and Temperature Summaries												
STATION	ALT. (M)	Rainfall (mm)						Temperature (°C)				
		21 - 31 April 2007			Total From Sept06 to 3rd Dek April 07			21 - 31 April 2007				
		Actual	Normal	Rain	Actual	Normal	%Dept. from Normal	Minimum Lowest(Day)	Maximum Highest (Day)	Dekadal Mean	Dekadal Normal	Deviation
Butha-Buthe	1770	9.4	14.0	1	637.8	777.6	-18	-1.9 (29)	23.5 (25)	13.4	13.2	0.2
Lenbe	1740	18.2	16.2	2	545.3	674.7	-19	-1.7 (29)	24.5 (25)	13.6	13.4	0.2
Mafeteng	1610	2.7	15.0	2	341.7	627.1	-46	-3.9 (29)	N/A	N/A	13.5	N/A
Maseru Airport	1530	0.0	12.6	0	348.9	624.5	-44	-1.1 (29)	25.5 (26)	14.4	14.1	0.3
Mohale's hoek	1600	15.0	13.8	3	507.6	644.7	-21	1.0 (29)	25.5 (26)	13.5	14.0	-0.5
Mokhotlong	2200	6.6	7.6	1	507.6	565.6	-10	-5.0 (29)	21.6 (26)	10.7	10.7	0.0
Moshoeshoe I	1628	0.1	14.0	1	445.9	683.6	-35	-1.6 (29)	25.1 (25)	14.0	14.2	-0.2
Oxbow	2600	17.7	20.4	1	973.3	1081.1	-10	-10.5 (29)	N/A	N/A	5.9	N/A
Phuthiatsana	1750	2.9	13.3	2	467.4	692.4	-32	-1.5 (29)	25.2 (25)	14.3	14.2	0.1
Qacha's Nek	1970	N/A	8.8	1	N/A	715.3	N/A	-1.4 (30)	23.9 (26)	13.9	15.6	-1.7
Quthing	1740	3.0	21.9	2	566.8	719.9	-21	3.4 (30)	25.5 (26)	13.9	13.7	0.2
Semonkong	2458	22.3	11.5	4	673.7	582.5	16	-8.5 (29)	20.1 (26)	8.5	8.9	-0.4
ThabaTseka	2160	7.3	11.4	3	592.6	571.4	4	-3.8 (29)	20.9 (25)	10.7	11.0	-0.3

Fig.3

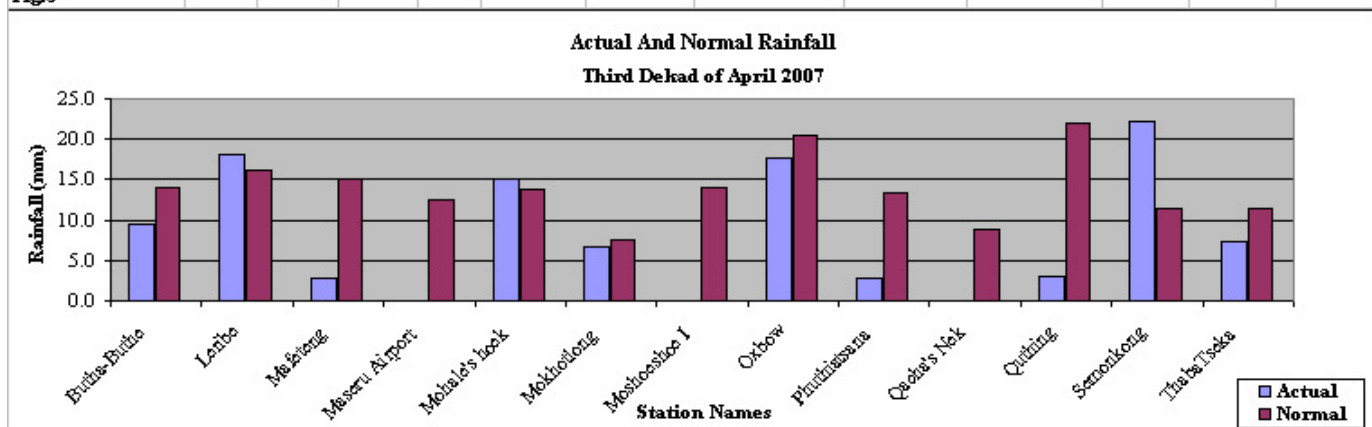
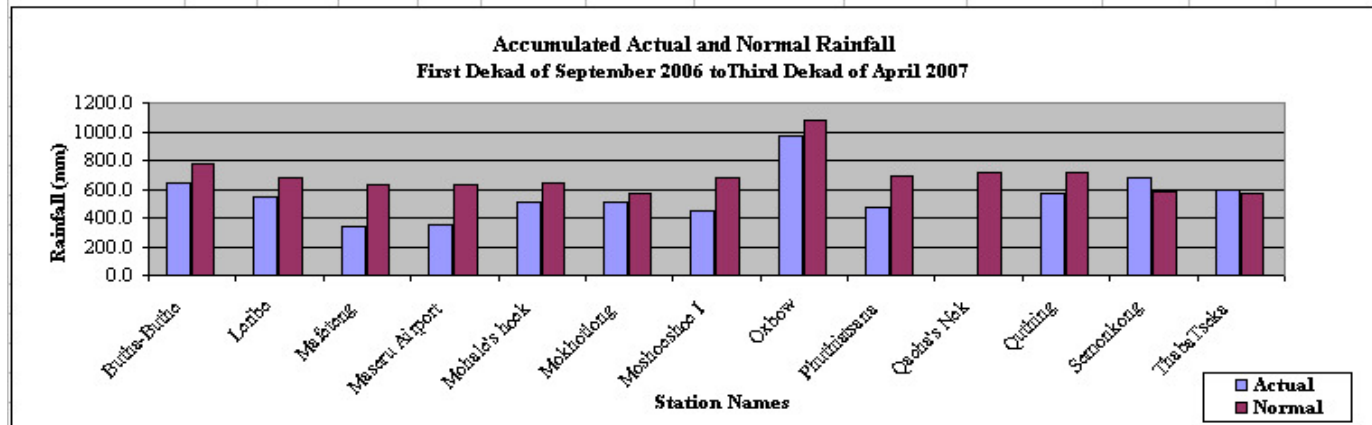


Fig.4



## **Glossary:**

\* Disaster Management Authority.

Dekad : Ten day period.

Normal: Average figure over a specific time period.

% Rainfall Departure from Normal:  $(\text{Actual Rainfall} - \text{Normal Rainfall}) / \text{Normal Rainfall} \times 100$ .

This Bulletin is issued during the Summer Cropping Season (October – April).

And it is

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Comments and Contributions would be highly appreciated.