

# LESOTHO METEOROLOGICAL SERVICES (LEKALA LA TSA BOLEPI)



## Ten-Day Agrometeorological Bulletin

21<sup>st</sup> – 31<sup>st</sup> January 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 experienced in most parts of the country.
- ❑ Hot weather conditions occurred.
- ❑ Deterioration in vegetation cover.
- ❑ Crops experienced large water deficits

### Next Dekad Preview

- ❑ Relatively hot temperatures expected.
- ❑ Isolated thundershowers anticipated over the north and northeast.

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## WEATHER SUMMARY

21<sup>st</sup> – 31<sup>st</sup> January 2007

Hot and dry conditions prevailed in the last ten days as the rain producing systems continued to be diffuse and less active over the interior of the subcontinent. Significant amount of rainfall was recorded on the 21<sup>st</sup> and on the 30<sup>th</sup> at some stations.

## RAINFALL SITUATION

The last dekad of January 2007 did not differ much from the two preceding dekads. The month of January experienced dry spells that had varying impacts. During dekad under review, some parts of the country recorded normal to near normal dekad rainfall. Areas that show significant departure from normal are in the west, south, east and northeast. Actual dekad rainfall at Mokhotlong (19mm) and Moshoeshoe 1 (23.7mm) had percentage departure from normal rainfall of -61% and -57% respectively. Mohale's Hoek, which did not have, even a drop last dekad accumulated 37.2mm in this dekad. Ox-Bow recorded the highest dekad rainfall of 72.5mm, which is equivalent to normal. Thaba-Tseka with dekad rainfall of 56.9mm got a surplus of 24% in this dekad. The low-lying areas in the northwest of the country experienced relatively good dekad rainfall (see table 1 & fig 4).

Rain in this dekad was often accompanied by hail of varying size and intensity, and that damaged some crops in most parts of the country.

Rain days range from the lowest value of 3 days at Maseru Airport to the highest value of 7 days at Semonkong and Ox-Bow.

## Cumulative percentage rainfall departure from Normal

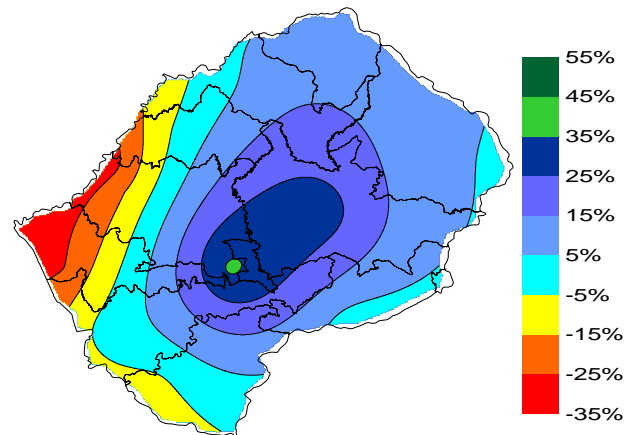


Fig.1: Cumulative rainfall departure from normal since 1<sup>st</sup> Sept to 31<sup>st</sup> January 2006.

Cumulative rainfall since the first dekad of September 2006 in simple terms gives the general idea of water availability to crops and water resources. However, the temporal distribution that show a series of dry spells cannot be represented in fig 5. *However, other stationwise representation of cumulative rainfall that gives an idea of dry spell distribution can be provided on request.*

Percentage departure from normal of cumulative rainfall has further decreased. Significant decrease in cumulative rainfall is observed at Mokhotlong and Moshoeshoe 1. Dry weather conditions have persistently prevailed for the major part of the season over western lowlands.

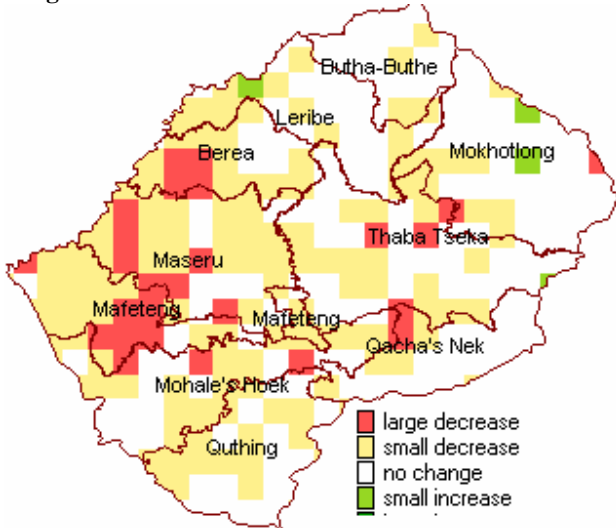
## TEMPERATURE

January is the hottest month in Lesotho. Any positive deviation in dekadal mean temperature can significantly increase evapotranspiration rate of crops, and rapidly deplete water resources through evaporation.

The highest mean temperature deviations were at Qacha's Nek and Mohale's Hoek (1.2°C). The highest daily maximum temperature of the dekad was 32.5°C at Mohale's Hoek on the 29<sup>th</sup>. The lowest minimum temperatures in this dekad were 6°C at Semonkong and 4.2°C at Ox-Bow on the 31<sup>st</sup> (see table 1).

**VEGETATION**

**Difference of normal NOAA NDVI image from NDVI image of the current dekad**



Difference image of two NOAA NDVI images – the last dekad of January 2007 and the normal image of this dekad. A large decrease in vegetation cover is seen mainly in the western areas and the Senqu river valley. However, when compared with the previous dekad, there has been a varying decrease in vegetation cover mostly in the high-lying areas. In other areas there is a small decrease or no decrease at all. Decrease in vegetation cover signal that the grazing lands deteriorated and that can impact livestock negatively.

**CROP STAGE AND CONDITION**

The summer crops are at varying stages. There are some that are still at vegetative stage while some are at flowering and grain filling stages. Summer crops in the southern lowlands and the Senqu river valley are reported to be in poor conditions due to lengthy dry spells and high temperatures. In the northern and northeastern parts of the country crops are reported to have not been affected as in the other regions. The AgrometShell tool shows that the water deficit experienced by the maize crop was high especially in the southern lowlands, Senqu river valley and the eastern parts of the country. Deficits were more in the flowering crops.

**DEKADAL OUTLOOK**

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

The first ten days are expected to be dry and relatively hot. Isolated thundershowers are anticipated mainly over the northern and northeastern parts of the country.



Table 1

Rainfall and Temperature Summaries												
		Rainfall (mm)						Temperature (°C)				
		Dekadal			Total From Sept 06 to 3rd Dek Jan 07			21 - 31 Jan 2007				
STATION	ALT.	Actual	Normal	Rain	%Dept. from		Minimum	Maximum	Dekadal	Dekadal		
NAME	(M)	R/Fall	R/Fall	Days	Actual	Normal	Normal	Lowest(Day)	Highest (Day)	Mean	Normal	Deviation
Butha-Buthe	1770	50.2	58	5	514.8	474.3	9	11.8(31)	30(23)	21.1	20	1.1
Leribe	1740	48	50.5	5	412.6	410.9	0	12(31)	30.5(23)	21.3	20.6	0.7
Mafeteng	1610	33.9	50.6	4	269.3	365.6	-26	-	-	21.4	20.7	0.7
Maseru Airport	1530	25.1	47.1	3	262.5	375.1	-30	13(22)	31.9(23)	22.5	21.6	0.9
Mohale's hoek	1600	37.2	47.9	4	380.9	383.8	-1	12(22,31)	32.5(29)	22.4	21.2	1.2
Mokhotlong	2200	19	48.2	6	398.2	372.0	7	8.6(23)	28.2(24,29)	18.0	17.8	0.2
Moshoeshoe I	1628	23.7	55.6	4	348.8	410.3	-15	12.8(31)	30.8(23)	21.8	21.3	0.5
OxBow	2600	72.5	72.5	7	705.4	697.1	1	4.2(31)	22(25)	13.2	12.8	0.4
Phuthiatsana	1750	48.3	58.2	5	399.2	429.8	-7	12.9(31)	32.1(23)	22.2	21.1	1.1
Qacha's Nek	1970	45.2	62	6	451.7	456.2	-1	10.4(31)	28.4(26)	19.6	18.4	1.2
Quthing	1740	30.8	51.3	4	385.9	422.3	-9	12.5(22)	31.5(23)	22.0	21	1.0
Semonkong	2458	39.6	46.2	7	505.3	367.8	37	6(31)	27(24)	16.4	16	0.4
Thaba-Tseka	2160	56.9	45.8	5	474	366	30	7.5(26)	27.7(24)	17.9	17.3	0.6

Fig.4

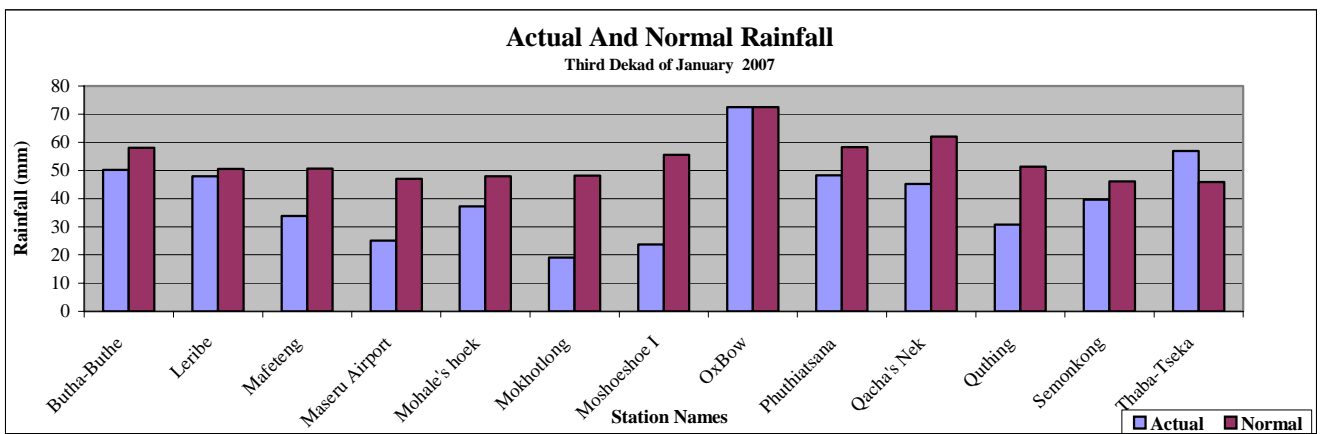
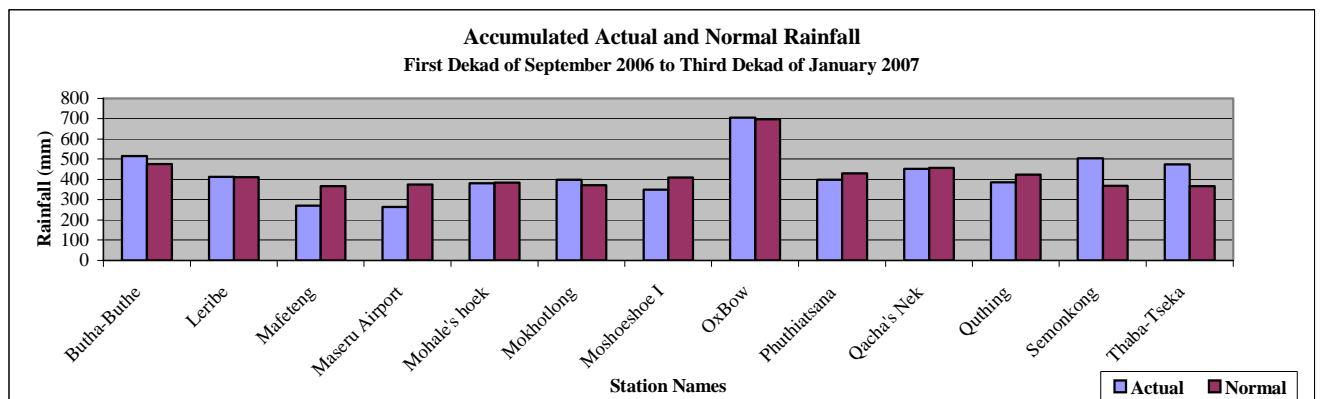


Fig.5



## **Glossary**

Dekad : Ten day period

Normal: Average figure over a specific time period.

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

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And it is

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Comments and Contributions would be highly appreciated.