

LESOTHO METEOROLOGICAL SERVICES (LEKALA LA TSA BOLEPI)



Ten-Day Agrometeorological Bulletin

11th – 20th December 2004



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Vol.3

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

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Highlights

- ❑ Above normal rains at some places recorded.
- ❑ High temperatures prevailed during the dekad countrywide.
- ❑ The Lowlands have not received adequate cumulative rains.
- ❑ Vegetation low in the Lowlands and the Senqu River Valley.
- ❑ Weeding of crops in progress over some places.
- ❑ The next ten days expected to be dry and hot.
- ❑ Drier conditions expected to persist in the next year.

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WEATHER SUMMARY

The second dekad of December was generally dominated by a shallow surface trough, which was situated over the central interior. As a result, most part of the country received only traces and light isolated thundershowers. However the surface trough deepened during the second half of the dekad and its combination with the frontal system, which traversed over the country on the 7th, resulted in an influx of moisture into the central interior. This caused isolated to scattered thundershowers to occur.

RAINFALL SITUATION

The Lowlands were very dry during the second dekad of December, except for Butha-Buthe in the north, Quthing in the south and Mohale’s Hoek in the southwestern parts of the country which received above normal dekadal rainfalls. Leribe and Mafeteng recorded near normal dekadal rainfall. Mokhotlong and Semonkong in the Highlands had above normal dekadal rainfalls of 55.9mm and 66.3mm respectively and these were the highest rainfalls of the dekad in the country (see table1). The lowest dekadal rainfall amounts were recorded at Moshoeshoe 1, Maseru Airport and Phuthiatsana in the northwestern part of the country. Most parts of the Lowlands had soil water deficit and that had negative impacts on the crops.

Cumulative percentage rainfall departure from Normal

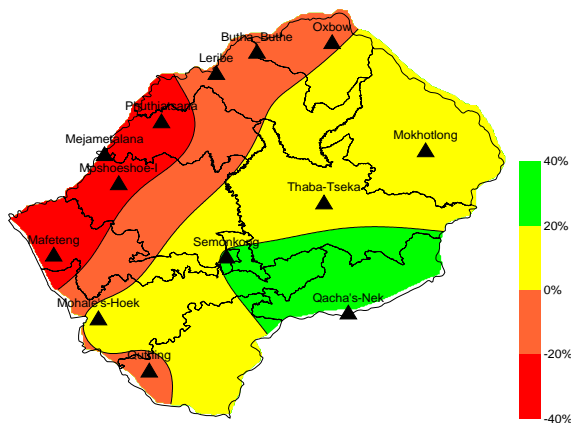


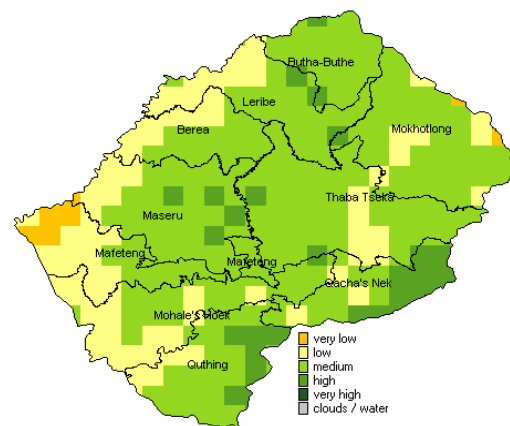
Fig.1: Cumulative rainfall departure from normal since 1st September to 20th December 2004.

Cumulative rainfall (1st September to 20th December 2004) is normal to below normal (Table 1 & Fig 4). Mafeteng, Phuthiatsana and Maseru Airport have only had 62%, 61% and 73% of their normal cumulative rainfall respectively. They have received less than 200mm of cumulative rainfall. Ox-Bow and Qacha’s Nek have received the highest cumulative rainfalls of 434.6mm and 323.3mm respectively (see table 1).

TEMPERATURE

Above normal temperatures were experienced over the entire country. Butha-Buthe with 29.5°C is the only station in the Lowlands to record maximum temperature below 30.0°C. Phuthiatsana experienced the highest maximum of 32.3°C followed by Quthing and Mohale’s Hoek with 32.2°C. In the Highlands, Mokhotlong had the highest maximum temperature of 27.6°C. Temperature deviations range between 0.9°C of Butha-Buthe and 2.7°C of Quthing and Phuthiatsana (see table1). Due to high temperatures and less rain, the soil water content is rapidly depleted and the crops and vegetation in general are badly affected.

VEGETATION



The vegetation index (NOAA NDVI satellite image) for the second dekad of December 2004 reflect that the level of greenness is still low as was the first dekad. The Lowlands and the Senqu river valley maintain the low vegetation meaning that the crops have had no major significant growth. The western tip of Mafeteng show the

lowest greenness of the vegetation cover. The Highlands and the Foothills maintain the medium level of vegetation greenness.

CROP STAGE AND CONDITION

The erratic rains experienced in the Lowlands since the start of the cropping season, have affected the planting of the cereals of maize and sorghum. The spatial distribution and the dry spells experienced had negative consequences to the present Summer cropping. However, the cereal crops in the Lowlands are mostly at vegetative stage and there are few farmers that have started weeding and weeding is much stronger in the Highlands. Due to excess heat and small amounts of rain experienced, crops find it difficult to survive as water is rapidly lost through evapotranspiration.

The harvesting of Winter wheat is in progress and below average harvest is anticipated.

See page 4 for some Graphs

Dekad Number axis: January first dekad is normally considered as the first dekad of the year and January second dekad is the second dekad of the year. The series continues and September first dekad should be dekad number 25, September second dekad is 26.

DEKADAL OUTLOOK

21st – 31st December 2004

The third dekad of December is anticipated to be generally dry and hot especially during the first

half. The rainfall situation is expected to improve slightly towards the end of the period as the interior trough is anticipated to dominate during this period.

DROUGHT CONDITION

Due to the erratic rains that the country has experienced, the entire Lowlands are severely affected. This is depicted by the cumulative rainfall departure from normal map and the NOAA NDVI satellite image (both in page 1). Even though some rains were received, they were very erratic and therefore promoted a number of dry spells which tempered with major farming practices. As a result, a small fraction of the fields planted in the Lowlands are performing adequately.

The weak El Nino which redeveloped at the beginning of the year is still prevailing. It is expected to continue prevailing for the rest of this Summer agricultural year. This phenomenon results in drier conditions over Southern Africa. Hence, this implies that drier conditions are still expected to continue during this season. Temperatures are expected to be above normal.

Table 1

Rainfall and Temperature Summaries												
		Rainfall (mm)						Temperature (°C)				
						Total From Sept 04 to 2nd Dek Dec 04		11 - 20 Dec 2004				
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	43.7	36.6	4	237.3	255.6	-7	7.0(16)	29.5 (13)	20.4	19.5	0.9
Leribe	1740	19.0	25.4	3	213.8	214.3	0	12.0 (11)	31.4 (14)	21.5	19.8	1.7
Mafeteng	1610	20.4	24.3	5	126.8	205.6	-38	9.8 (11)	31.2 (14)	21.1	19.9	1.2
Maseru Airport	1530	7.9	22.9	4	171.2	233.0	-27	13.6 (16)	31.7 (14)	22.9	20.5	2.4
Mohale's hoek	1600	33.7	28.3	3	250.5	234.3	7	12.0 (11)	32.2 (13)	22.1	20.4	1.7
Mokhotlong	2200	55.9	26.6	7	238.4	213.6	12	8.6 (11)	27.6(13)	17.6	16.3	1.3
Moshoeshoe I	1628	6.7	34.0	3	203.6	273.2	-25	13.2(18)	31.4 (14)	22.3	N/A	N/A
Ox-Bow	2600	26.0	51.6	4	434.6	440.1	-1	4.8 (11)	21.2 (14)	12.8	11.5	1.3
Phuthiatsana	1750	10.3	30.3	4	148.8	243.2	-39	13.0 (16)	32.3 (14)	22.8	20.1	2.7
Qacha's Nek	1970	27.4	40.6	7	323.3	254.0	27	9.6 (11)	30.0 (13)	18.7	17.6	1.1
Quthing	1740	50.0	26.1	4	226.0	237.6	-5	13.0 (11)	32.2 (13)	22.1	19.4	2.7
Semonkong	2458	66.3	22.9	6	268.1	220.1	22	5.5 (11)	25.2 (14)	16.3	15.1	1.2

Fig.4

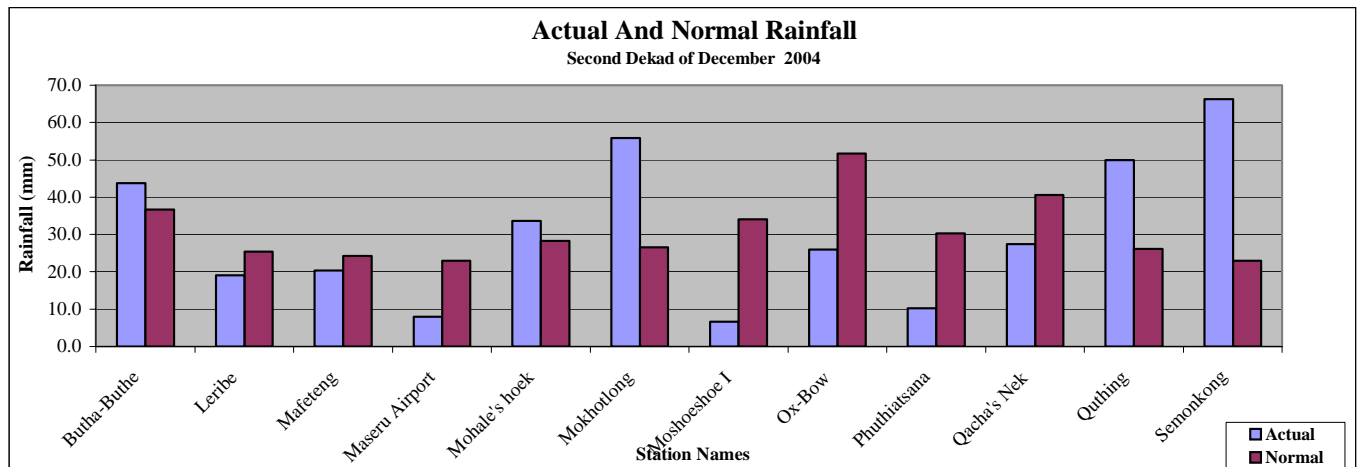
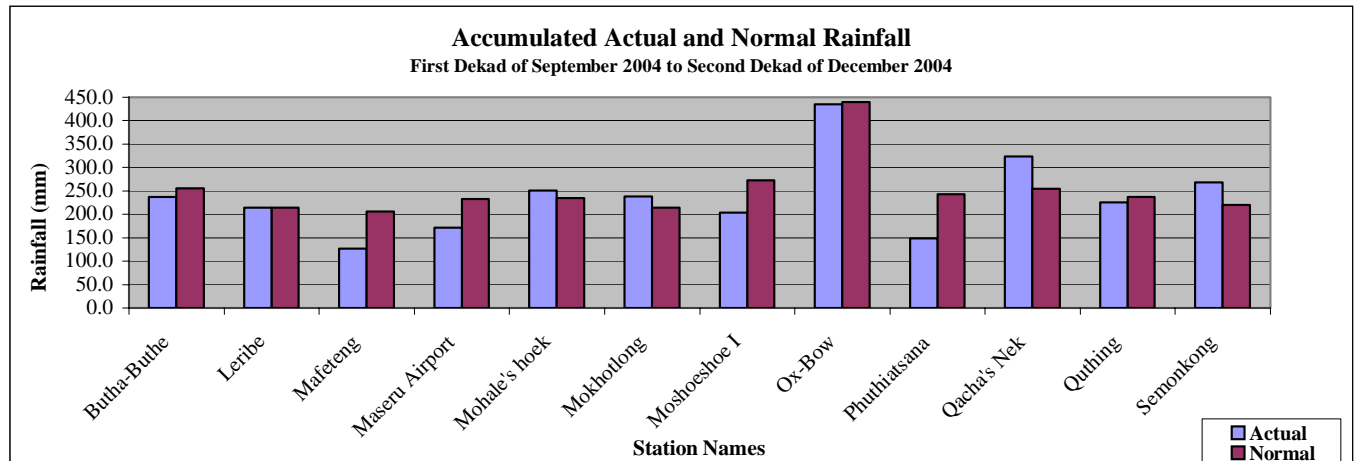
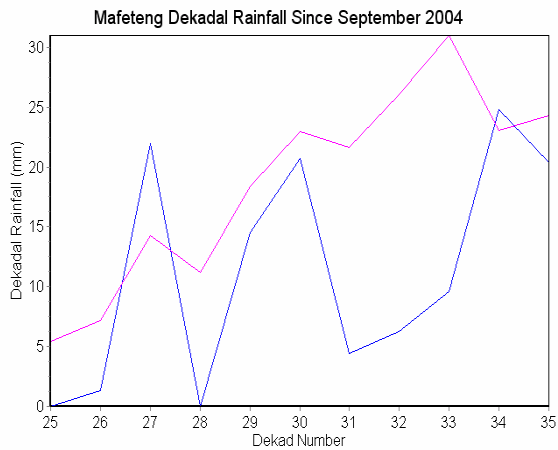
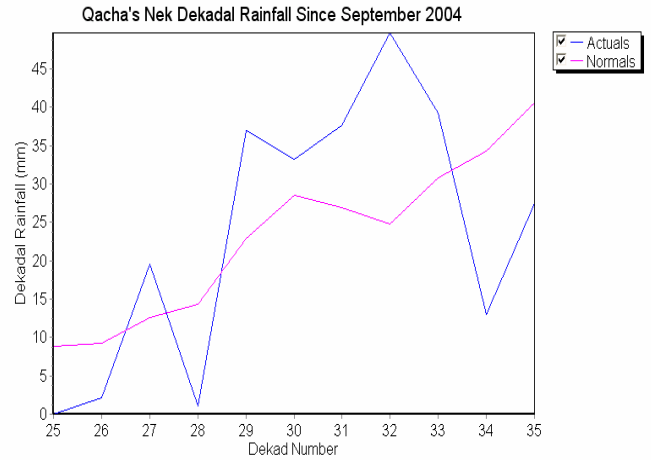


Fig.5

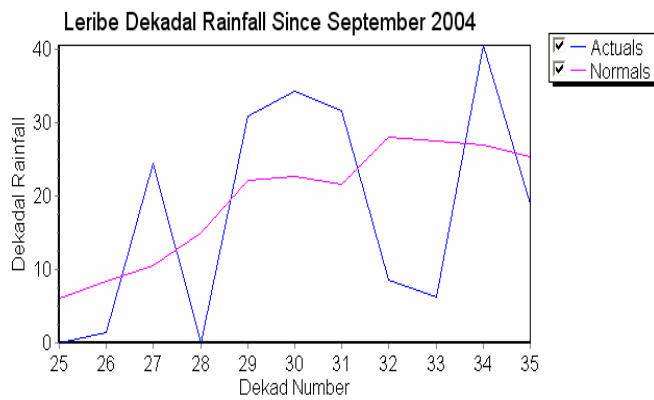




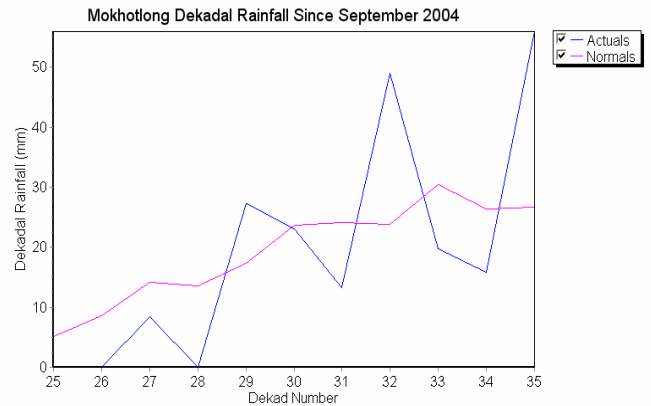
Dekad number 25 is September first dekad, 26 is September second dekad..., and 35 is December second dekad



Dekad Number 25 is September first dekad, 26 is September second dekad..., and 35 is December second dekad



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Dekad Number 25 is September first dekad, 26 is September second dekad..., and 35 is December second dekad.

GLOSSARY

Dekad : Ten day period

Normal: Average figure over a specific time period.

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

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

And it is

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The Unit is coordinated by the Disaster Management Authority in the

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Comments and Contributions would be highly appreciated.