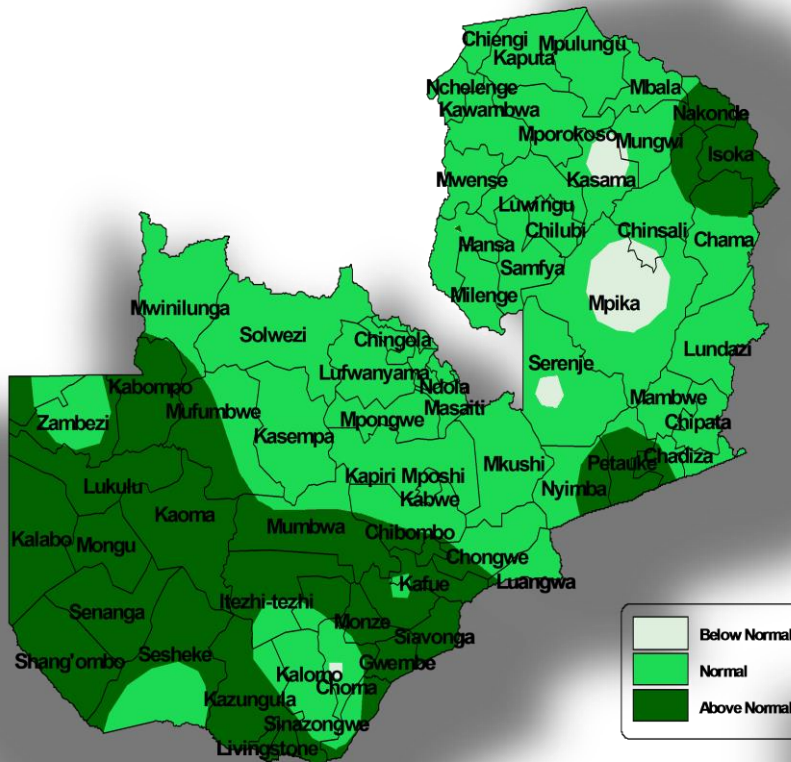




# Crop Weather Bulletin

## Highlights

- Inter Tropical Convergence Zone (ITCZ) continues to oscillate about the southern parts of Zambia;
- Western half of Zambia continues to receive significant rainfall amounts;
- Much of Zambia continues to record normal to above normal rainfall;
- Soil water index for maize indicates sufficient moisture for maize;

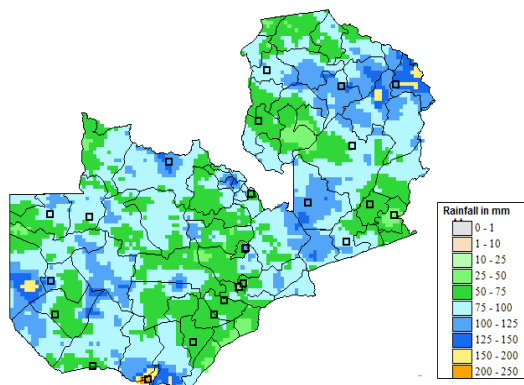


**Figure 1: Rainfall Departure Map**  
Period: 1<sup>st</sup> July 2016-to-10<sup>th</sup> January 2017

## RAINFALL DISTRIBUTION

The Inter Tropical Convergence Zone (ITCZ) which is our main rain bringing system over our Country was oscillating beyond the southern borders of Zambia at the beginning of the first dekad of January 2017. The ITCZ, coupled with the persistent Angola Low Pressure System brought significant rainfall amounts recorded during the first dekad of January over much of Zambia.

The highest rainfall amount recorded during the dekad was 205mm from Livingstone, followed by 147mm from Chipepo, both in Southern Province. Other stations that recorded significant rainfall amounts include, Isoka with 121mm, Solwezi and Kasama reporting 119mm, Mongu with 110mm, Serenje with 108mm and Kabwe with 105mm. The rest had rainfall amounts below 100mm; Chipata recorded the lowest dekadal rainfall of 35mm, Lusaka City had 44mm while Senanga and Kabwe reported 50mm of rainfall (See figures2, table1).



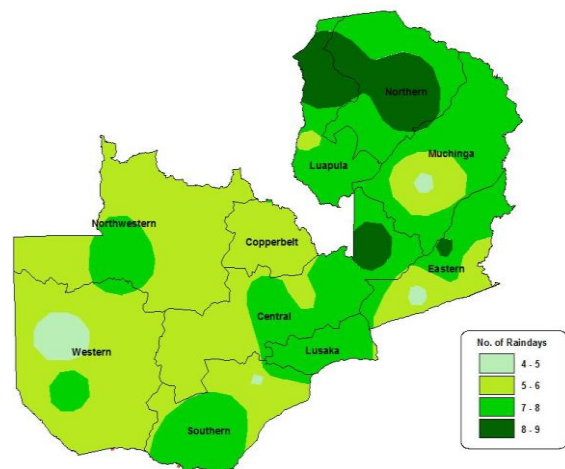
**Figure 2: Total Rainfall Map**

Period: 1<sup>st</sup>-10<sup>th</sup> January 2017

(satellite validated by station observations)

On average, the Eastern half of the country had 7-9 rain days with Kasama, Serenje and Kawambwa recording 9 rain days; a marked improvement compared to the last dekad of December 2016. On the other, the western half of the country had an average of 4-6 rain days with Mongu recording the

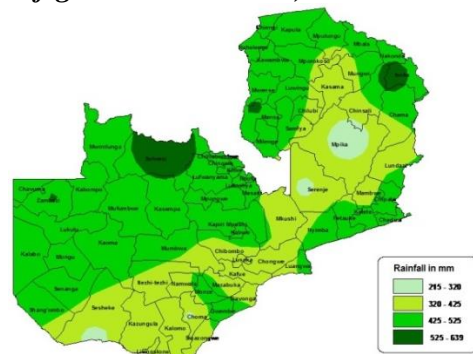
lowest number of 4 rain days (See figures3, table1).



**Figure 3: Number of Rain Days Map**

Period: 1<sup>st</sup> - 10<sup>th</sup> January 2017

Generally, records indicate a good rainfall performance over much of the country for the period 1<sup>st</sup> July, 2016 to 10<sup>th</sup> January, 2017. The highest cumulative amount recorded was 630mm in Solwezi, followed by 584mm in Mansa. In general Northwestern, Luapula, parts of Eastern, Western, Muchinga and Copperbelt Provinces have accumulated amounts exceeding 425mm. On the lower side, small portions in Western, Southern, Central and Muchinga Provinces had less than 320mm with the lowest cumulative amount of 215mm recorded in Mpika (See figure 4 and table 1)



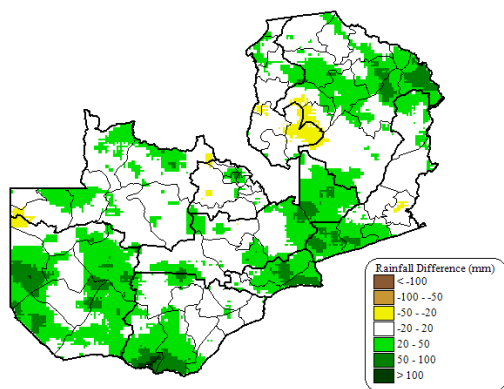
**Figure 4: Total Rainfall Map**

Period: 1<sup>st</sup>-10<sup>th</sup> January 2017

(satellite validated by station observations)

The departure from the 30 year average (1981-2010) indicate that much of Zambia continues to record normal to above normal rainfall as at 10<sup>th</sup> January, 2017. Below normal rainfall was recorded over small areas in Southern, Central, Muchinga and Northern Provinces (*See figure1, table1*).

A similar picture is revealed when a comparison between the rainfall recorded in this dekad with the 30 year rainfall dekad average (1<sup>st</sup> – 10<sup>th</sup> January) is done. Most of the country indicates normal to above normal average while small portions (indicated in yellow on figure 5) in Luapula, Eastern and Northwestern Province show rainfall deficits for this dekad (*See figure 5*)



**Figure 5: Rainfall Dekadal Average Difference Map**

*Period: 1<sup>st</sup>- 10<sup>th</sup> January 2017*

## SEVEN DAYS WEATHER FORECAST

**16<sup>th</sup>– 22<sup>nd</sup> January, 2017**

### General situation:

The Inter Tropical Convergence Zone (ITCZ) will continue oscillating beyond the southern borders of Zambia from 16-17<sup>th</sup> January, 2017. However a deep low Pressure system over Mozambique will be drawing much of the moist and unstable North-westerly airflow from Congo, leaving Western Province under stable and cool westerly airflow. This is expected to give temporal reduction in rainfall activities over this area.

For the period from 18-21<sup>st</sup> January, 2017, the high Pressure system from the south-East of South Africa will be moving north ward therefore, pushing the ITCZ to the Southern parts of Zambia where it is expected to oscillate between southern and central parts of the country with a significant likelihood to increase rainfall activities over Western, Southern Lusaka and Central Provinces. On 22<sup>nd</sup> January, 2017, the high pressure system will withdraw south wards, allowing the ITCZ to oscillate about the southern border of Zambia thereby increasing rainfall activities across the country.

In view of the general situation, from Forecast for the period 16-17<sup>th</sup> January, 2017, **Western, Luapula, Northern and Muchinga Province** are expected to be partly cloudy to cloudy with a chance of morning rain, afternoon showers and thunderstorms in few places. **The Rest of Zambia:** Mainly cloudy with outbreaks of rain and occasional thunder in places.

For the period 18-21<sup>st</sup> January, 2017, **North-western, Copperbelt, Luapula and Northern Province;** have a likelihood to be partly cloudy to cloudy with morning rain in few places, afternoon showers and thunderstorms in places. **The Rest of Zambia** is expected to be mainly cloudy with morning rain, afternoon thundershowers in places.

Forecast for 22<sup>nd</sup> January, 2017; **All Areas** have likelihood to be mainly cloudy with thundershowers in many places.

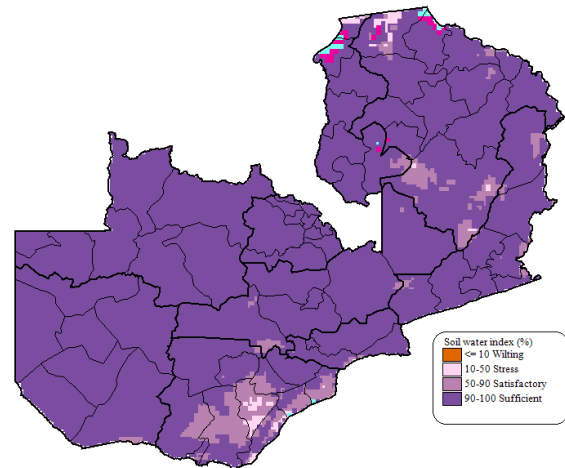
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## AGROMETEOROLOGICAL CONDITIONS

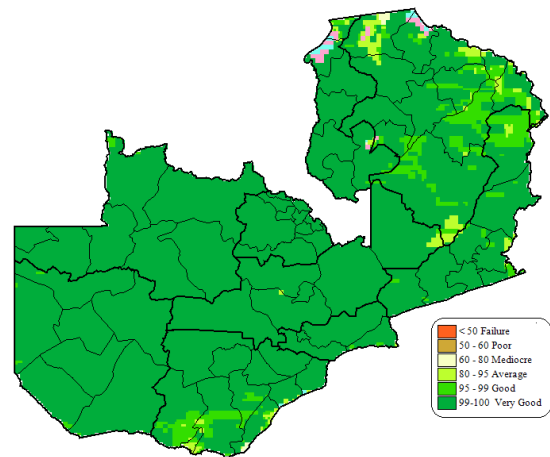
Rainfall activities experienced in most parts of Zambia may have disrupted the application of Basal and top dressing fertilizer application in some parts of the Country.

The soil water index image indicates sufficient soil moisture across Zambia. This available soil moisture is calculated based on the soil moisture requirements for maize and therefore sufficient to support the maize crop. There has been an improvement over northeastern Zambia in soil moisture from the previous dekad (21<sup>st</sup> – 31<sup>st</sup> December, 2016 *see figure 6*).

The Water Requirement Satisfaction Index; an indicator of crop performance based on the availability of water during a growing season (WRSI) shows that water requirements for maize have been met over much of the Country which may attain excess moisture as rainfall activities are expected to continue over much of Zambia in the next dekad (*see figure 7*).



**Figure 6: Soil Water Index Maize**  
As at 10<sup>th</sup> January 2017



**Figure 7: Water Requirement Satisfaction Index (WRSI) for Maize**  
at 10<sup>th</sup> January 2017

Table 1

Dekad rainfall and Rain days Summary										
Period:	01 - 10 January, 2017			Issue No:	03			Season	2016/17	
Station	Observed		Normal	Total Since 1 July 2016						
	Rainfall	Rain days	Rainfall	Cumulative	Normal	Rainfall	Percentage			
				Rainfall		Departure	Departure			
	mm	(>=1mm)	mm	mm	mm	mm	%			
<i>Zambezi</i>	86	6	71	526	451	75	17			
<i>Solwezi</i>	119	6	89	630	579	51	9			
<i>Kabompo</i>	86	7	64	514	403	111	27			
<i>Kawambwa</i>	89	9	72	501	532	-31	-6			
<i>Mansa</i>	55	6	83	584	473	111	23			
<i>Mansa Agro</i>	94	7	83	425	473	-48	-10			
<i>Kasama</i>	119	9	88	380	511	-131	-26			
<i>Mpika</i>	75	5	88	215	426	-211	-50			
<i>Isoka</i>	121	7	76	557	371	186	50			
<i>Ndola</i>	74	6	85	431	502	-71	-14			
<i>Mongu</i>	110	4	75	523	383	140	37			
<i>Senenga</i>	50	7	55	447	311	136	44			
<i>Sesheke</i>	69	6	39	292	269	23	9			
<i>Kabwe</i>	50	8	61	427	385	42	11			
<i>Kabwe Agro</i>	105	5	61	442	385	57	15			
<i>Serenje</i>	108	9	80	298	394	-96	-24			
<i>Lusaka C. Airport</i>	44	7	68	417	337	80	24			
<i>Chipata</i>	35	6	78	504	444	60	13			
<i>Mfuwe</i>	53	8	64	371	316	55	17			
<i>Petauke</i>	86	5	69	508	361	147	41			
<i>Choma</i>	59	7	50	242	319	-77	-24			
<i>Kafue Polder</i>	60	7	44	313	275	38	14			
<i>Chipepo</i>	147	6	44	472	283	189	67			
<i>Livingstone</i>	205	7	45	376	274	102	37			
<i>Magoye</i>	73	5	52	511	316	195	61			