



Food Security Early Warning System

Agromet Update

2014/2015 Agricultural Season

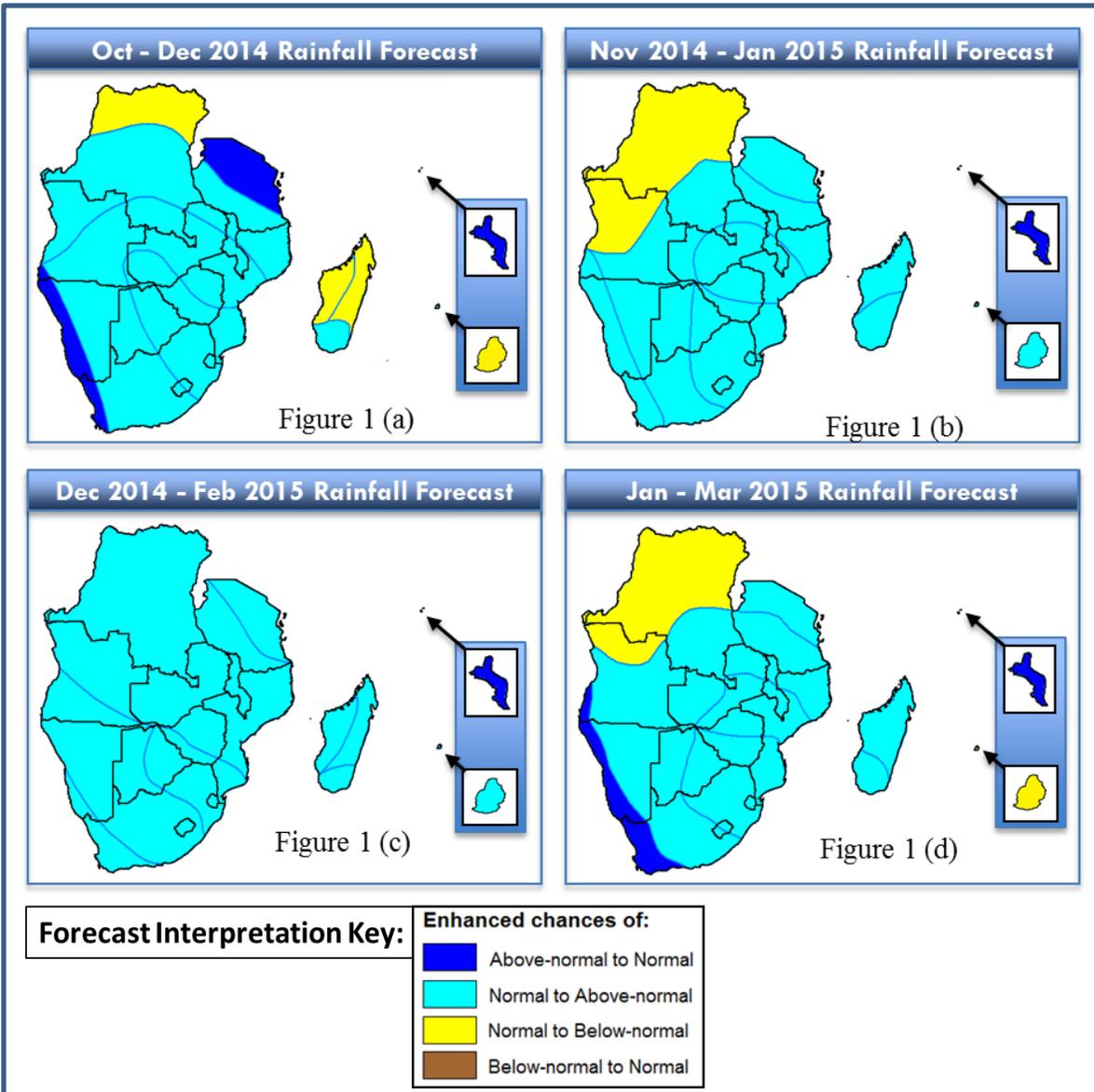


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Rainfall Forecast for the 2014/2015 Agricultural Season



Source: Forecast graphics derived from forecast issued by SARCOF.

The Eighteenth Southern Africa Climate Outlook Forum (SARCOF-18) was convened from 27 to 29 August 2014 in Windhoek, Namibia by the SADC Climate Services Centre (CSC) to formulate consensus guidance for the 2014/2015 rainfall season over the SADC region. A series of rainfall

outlooks covering the period October 2014 to March 2015 were prepared by climate scientists from the National Meteorological and/or Hydrological Services (NMHSs) of the SADC region and the SADC CSC.

Overview of the SARCOF Forecast

Four seasonal forecasts were issued at the SARCOF, covering the periods October to December 2014 (figure 1a), November 2014 to January 2015 (figure 1b), December 2014 to February 2015 (figure 1c), and January to March 2015 (figure 1d). According to the SARCOF, most of the SADC region is expected to receive normal to above-normal rainfall (light blue colours) throughout the forecast period. The exceptions are as follows:

1. South-western areas including south-western Angola, western Namibia and western South Africa were given higher chances of receiving above normal to normal rainfall in the October-December and January-March forecasts.
2. North-eastern Tanzania was determined to have higher chances of receiving above-normal to normal rainfall in the October-December period.
3. Northern DRC has enhanced chances of normal to below normal rainfall in October-December
4. Northern and central DRC, and northern Angola, have greater chances of receiving normal to below-normal rainfall in the November-to-January period and the January-to-March period.
5. Northern and central Madagascar have increased chances of receiving normal to below normal rainfall in January to March.
6. Seychelles has enhanced chances of receiving above-normal to normal rainfall throughout the October-March period
7. Mauritius was given higher chances of receiving normal to below-normal rainfall in the October-December period, and the January-March period.

The impacts of these most likely outcomes need to be considered in the context of normal rainfall amounts, rain bearing systems, soil moisture levels, water availability, grazing conditions; and current food security status in the different areas where the forecast is being applied.

Interpretation of Forecast Maps (Figure 1)

Figure 1 is a simplification of the SARCOF forecast. The figure represents chances of 3 different rainfall scenarios occurring, namely above normal, normal or below normal rainfall. The rainfall scenarios considered are focusing on 3-month rainfall totals (total rainfall for October to December; November to January; December to February, and January to March, for figures 1a, 1b, 1c and 1d respectively). The colours on the maps can be interpreted as follows:

: The dark blue areas (“Above-to-normal”) are areas where the highest likelihood is for above-normal rainfall, though there are significant chances of normal rainfall occurring. Below normal rainfall is less likely in these areas, though there are still some chances that it can occur.

: The light blue areas (“Normal-to-above”) are areas where the highest likelihood is for normal rainfall, though there are significant chances of above normal rainfall. Below normal rainfall is less likely in these areas, though there are still some chances that it can occur.

: The yellow areas (“Normal-to-below”) are areas where the highest likelihood is for normal rainfall, though there are significant chances of below normal rainfall occurring. Above normal rainfall is less likely in these areas, though there are still some chances that it can occur.

Using SARCOF Forecasts:

Users should note that the SARCOF forecast is a consensus forecast designed for a regional audience. Users requiring higher accuracy, national-level forecasts should contact the respective national

meteorological agencies for downscaled national seasonal forecasts, as well as updates to those forecasts, which can increase in accuracy as the lead time to the forecast decreases.

Users are advised when applying the forecast, to take into account the relative lead times associated with the different forecasts. Due to various factors, forecast models generally have lower accuracy for longer lead times, though this is not always the case. The SADC Climate Services Centre will issue updates throughout the rainfall season.

Selected National Forecasts

Several countries have already released their national seasonal forecasts. Of note are the January-March 2015 forecasts for Botswana, Namibia, Zambia and Zimbabwe (Figure 2). In general, shades of yellow represent enhanced chances of normal to below-normal rainfall, while the orange colour in Botswana shows enhanced chances of below normal to normal, and the grey area in Zambia is enhanced likelihood of normal rainfall. These four national forecasts highlight that there are enhanced chances of normal to below normal rainfall occurring in the January-March 2015 period in this part of the region, in particular the area around Botswana, northern Namibia, and southern Zimbabwe, with southern Zambia also having reduced chances for above normal rainfall during this time period. Some of these areas were affected by low rainfall and drought during the past several seasons.

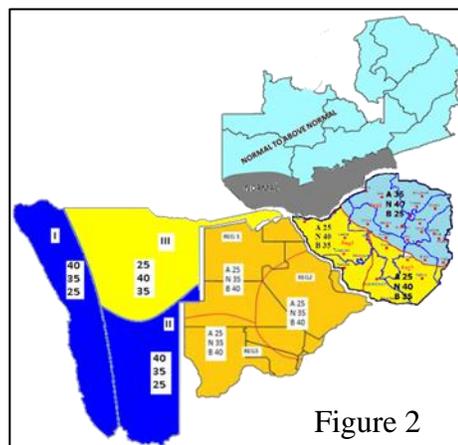


Figure 2

Agrometeorological Interpretation of Forecast in the Context of Current Conditions

The generally positive forecast in most parts of the region suggests good prospects for agriculture in the region. In general, most areas in the SADC region experience an onset of rains between October and December, and the OND forecast can therefore be associated with the start of the rainfall season. From this perspective, the current normal to above-normal OND forecast suggests better chances of a good onset of rains for most areas, but the forecast is less positive for areas with a higher likelihood of below normal rainfall, particularly northern DRC and much of Madagascar. In these areas, the expected normal to below-normal rains may be associated with a possibly slow or erratic start to the rainfall season. However, it should be noted that the forecast does not address the timing of the rains, but only rainfall totals, summed over the three-month period from October to December.

The positive SARCOF rainfall forecast suggests a good outlook for areas that have experienced significant below average rains over the last few seasons. These areas include parts of Angola, Botswana, Namibia and South Africa, where the cumulative rainfall over the last 3 to 4 seasons is well below average. The January-March 2015 national forecasts for these areas (Figure 2) however indicates that there is still an enhanced risk for poor seasonal performance. Poor rainfall performance in the 2014/2015 season could have a negative impact on livelihoods in areas which depend mainly on crop agriculture and agro pastoral activities. Water availability could also remain constrained as water levels are currently low in some of these areas. For example, Gaborone Dam, which supplies Botswana's capital city, was at 9.3% as of September 2014, representing 4 months of water supply with no new inflows. Satellite vegetation images also show that many of these areas have below average vegetation conditions as of early September, with negative implications for pasture. Seasonal preparedness and planning activities in these areas will need to take into account the distinct possibility for receiving low rainfall, without overlooking the potential for flooding in flood-prone areas.