



Food Security Early Warning System

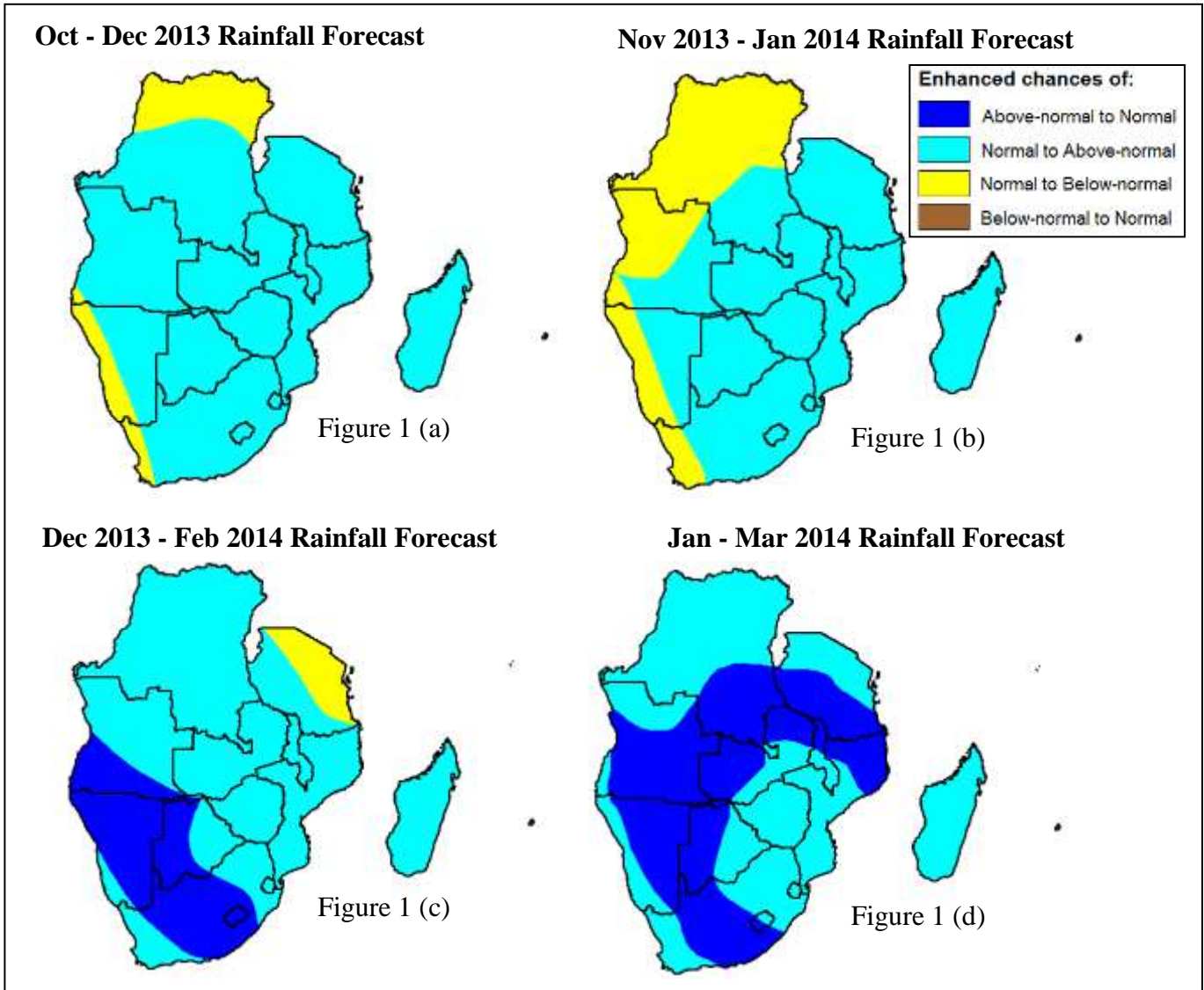
Agromet Update

2013/2014 Agricultural Season



Issue 01 Month: October Season: 2013-2014 Release date: 31-10-2013

Rainfall Forecast for the 2013/2014 Agricultural Season



Source: Forecast graphics derived from forecast issued by SARCOF.

The Seventeenth Southern Africa Climate Outlook Forum (SARCOF-17) was convened from 28 to 30 August 2013 in Harare, Zimbabwe by the SADC Climate Services Centre (CSC) to formulate consensus guidance for the 2013/2014 rainfall season over the SADC region. A series of rainfall outlooks covering the period October 2013 to March 2014 were prepared by climate scientists from

the National Meteorological and/or Hydrological Services (NMHSs) of the SADC region, the CSC, and well as international cooperating partners.

SARCOF Forecast for October to December (OND) 2013

Four seasonal forecasts were issued at the SARCOF, covering the periods October to December 2013 (figure 1a), November 2013 to January 2014 (figure 1b), December 2013 to February 2014 (figure 1c), and January to March 2014 (figure 1d). Most of the SADC region is tipped as likely to experience either normal to above-normal rainfall (light blue colours) or above normal to normal rainfall (dark blue colours) throughout the forecast periods. The exception is the south-western parts and the northern parts of the region between October 2013 and January 2014, which are tipped to have enhanced chances of normal to below-normal rainfall during that time period, and northern Tanzania, which is also tipped to have enhanced chances of normal to below-normal rainfall during the December 2013 to February 2014 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; and current food security status in the different areas where the forecast is being applied.

The forecast generally suggests an increase in the probability of above normal rains as the season progresses, as shown by figure 1c and 1d. For some areas, particularly eastern Botswana, northern South Africa, southern Malawi, southern and central Mozambique, Swaziland, southern Zambia, and Zimbabwe, the probabilities of normal to above-normal rainfall are consistent throughout the forecast period. Some of these areas have experienced significant below average rains over the last one to two seasons. As such, though forecasts are for normal to above-normal rains, these areas face an enhanced risk for poor seasonal performance should the less likely outcome of below-normal rainfall materialise. Poor rainfall performance 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

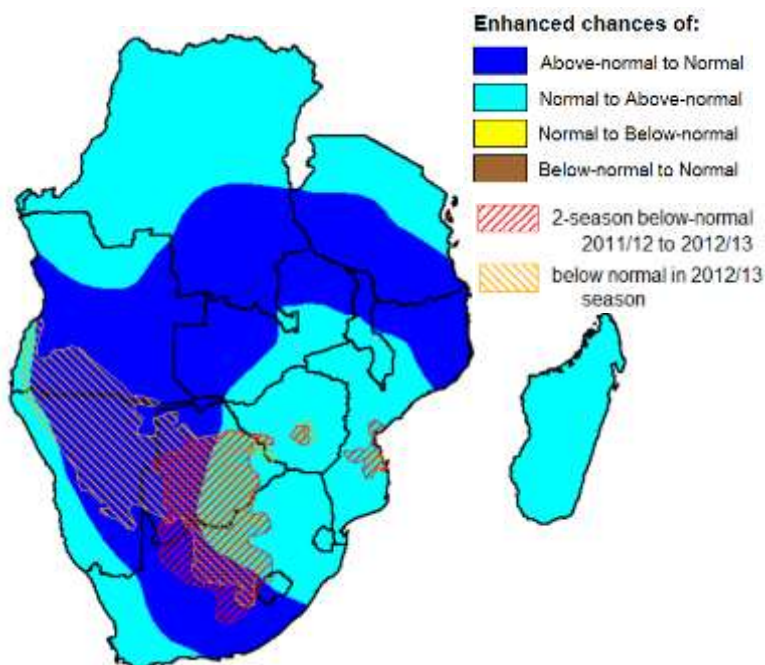


Figure 2. Jan-Mar 2014 Rainfall Forecast, overlaid by areas which experienced below normal rains in the last 2 seasons.

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. The current OND forecast augers well for areas that will receive normal to above normal rains, but is less positive for areas, where a likelihood of below average rainfall 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.

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 OND and JFM 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 an update on the JFM forecast towards the end of December.


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 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 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 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 chances that it can occur.

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

Interpretation of Forecast in the Context of Current Conditions



Figure 3. Vegetation greenness index anomaly (NDVI) between 21-30 September 2013

Most parts of the region are currently experiencing below average vegetation conditions (Figure 3). As such, pastures are likely to be in poor condition, particularly in areas where low rainfall was received during the 2011/2012 and the 2012/2013 seasons. Poor rains have affected several parts of the region in the last two seasons, especially those in the southern half of the region. In addition, the below average rainfall over the last two seasons has also resulted in poor hydrological conditions in several countries, including south-east Botswana, north-western South Africa, and southern Zimbabwe. In Botswana, water restrictions and water rationing has been implemented due to the low water levels in reservoirs. In South Africa’s North West Province, an official declaration of drought was made in September 2013, thereby enabling emergency relief to be provided. In Zimbabwe, reports indicate that many reservoirs in the

southern parts of the country are at very low levels. Northern Namibia, southern Angola and Zambia also experienced droughts during the 2012/2013 season, with negative impacts, including crop failure and cattle deaths. Normal to above-normal rainfall is required this season in most of these areas to offset the prevailing drought conditions