SADC Climate Services Centre
P/ Bag 0095 ,
Gaborone ,
Botswana
Tel : + 267 - 3951863, 3953411/13
Fax + 267 - 3972848 / 3181070
E-Mail : dmc@sadc.int
Web : www.sadc.int

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OUTLOOK FOR DECEMBER 2011 TO FEBRUARY 2012

HIGHLIGHTS

Inside this issue:

Outlook Highlights

- Normal to above – normal rainfall is expected over most of continental SADC.
- Eastern half of Tanzania and western half of Madagascar are expected to receive normal to below-normal total rainfall.
- Mauritius should experience mostly above-normal rains.

THE MONITORING OF CURRENT RAINY SEASON

- The rains have started in many parts of the SADC region, but with a decreased amount compared with the long term average.
- This rainfall pattern is largely in agreement with SARCOF 15 outlook for OND 2011. Meantime, the December 2011 to February 2012 rainfall projections for SADC are mostly normal to above normal conditions. Details of the forecast are on pages 3 and 4.

EL-NIÑO /LA NIÑA UPDATE

- Persistence of negative SST anomalies in the tropical Pacific.
- Models project persistent weak La Nina condition during the remainder of 2011 and into the early 2012.

El Nino -Southern Oscillation

Weak La Niña conditions have been re-established over the tropical Pacific since August 2011, after a brief interlude of neutral conditions from May to August following the dissipation of the significant La Niña event of 2010-11. Model forecasts and expert interpretation suggest persistence of these weak La Niña conditions, probably strengthening to moderate intensity for the remainder of 2011 and into early 2012. .

Between August and early November the global atmospheric circulation, convection patterns, sea surface temperature, and subsurface ocean temperature generally indicated slowly strengthening, but still weak, La Niña conditions. Meantime, the east-central tropical Pacific has already cooled to about 1.0°C below average during the last week of October (Fig.1).

A large set of forecast models indicates a range of possible strength and duration scenarios for the remainder of 2011 (Fig.2). Significantly there is greater proportion of models projecting below-average conditions.

The current La Niña event is expected to contribute to the shifting the rainfall conditions into the normal to above normal conditions for most of the contiguous SADC region. However some parts, particularly the northeastern portions, should get below normal rainfall.

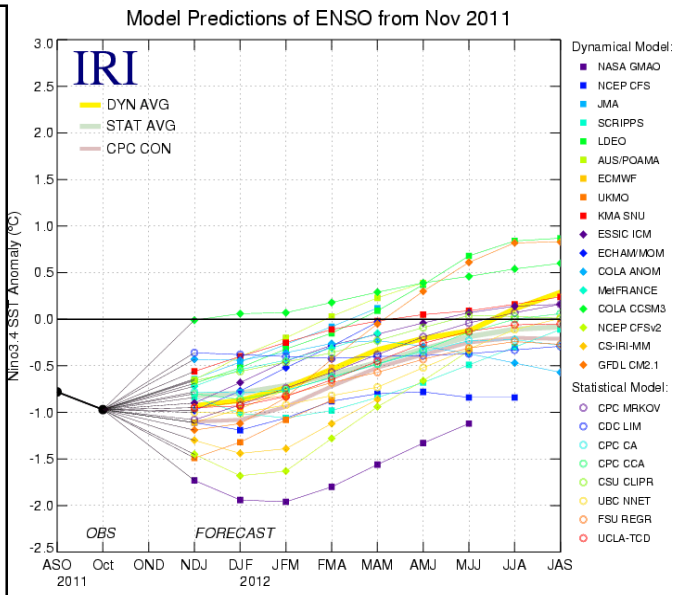

Fig.2: Model forecasts for La-Niña event
(Source: IRI)

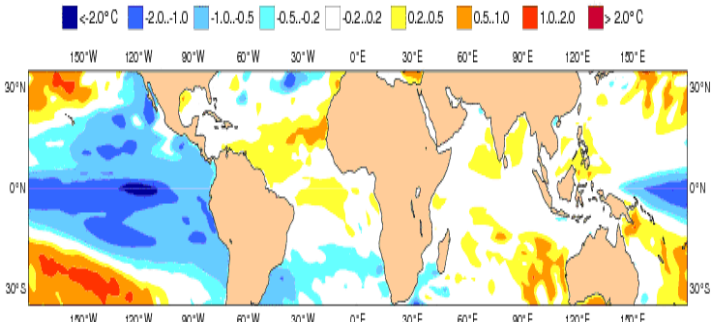

Fig 1. Mean global oceans SST anomalies for DJF 2011/2012 period (Source: ECMWF)

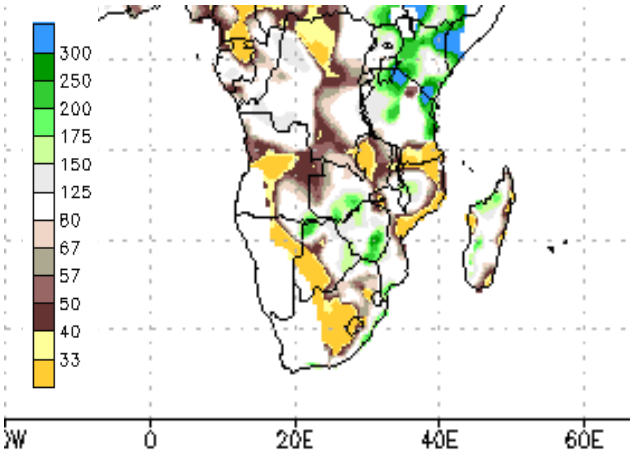

Fig. 3. Precipitation (percent of normal) from 25 October 2011 to 26 November 2011 (Source: CPC/NOAA)

THE MONITORING OF RAINY SEASON

The analysis of the departure of rainfall for the 30-day accumulated precipitation percent of the normal indicated a decrease of the amount received during the onset phase of the season. Most of the SADC region received less than 80% of the long term average. Some parts of subregion received about 33% of the Normal (Fig.3). These suppressed rainfall conditions should gradually improve across many areas except the easternmost during the beginning of December 2011.

LA NINA 2011 ANALOGUE YEAR

The atmosphere is a dynamic system that works by following the movement of the earth around the sun, which is known to be repetitive. But because of chaotic nature of atmospheric circulation, these cycles are not always identical.

However, this variability gives an indication of the atmosphere state expected when the conditions are similar. The analogue year analysis gives an idea about the distribution in time of the evolution of the parameter being monitored.

Figure 4 shows the years corresponding to have the similar variation in time with the current conditions. Considering the forecast trend of La Niña, which should be low to moderate conditions closely approximates the one in **1974-75** period (Fig.5).

This 1974-75 analogue year provides an indication of the likely distribution of precipitation for DJF 2011/2012 period. The similarities are depicted, especially in the northern part of the SADC region, coastal area of Tanzania and the central zone covered by Botswana Zimbabwe and much of South Africa where the rains were normal, below-normal and above-normal respectively.

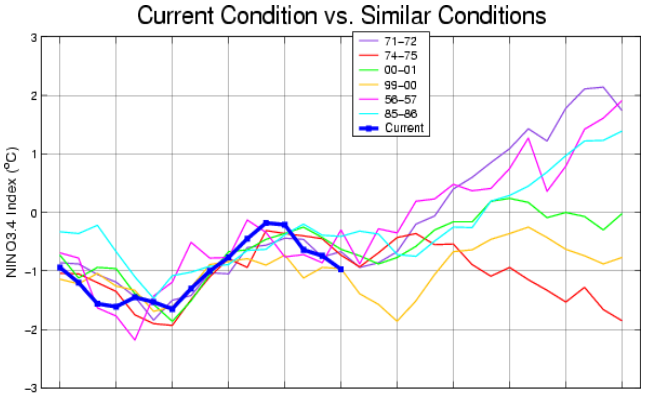

Fig 4. Analogue year of La Niña 2011 conditions (source:IRI)

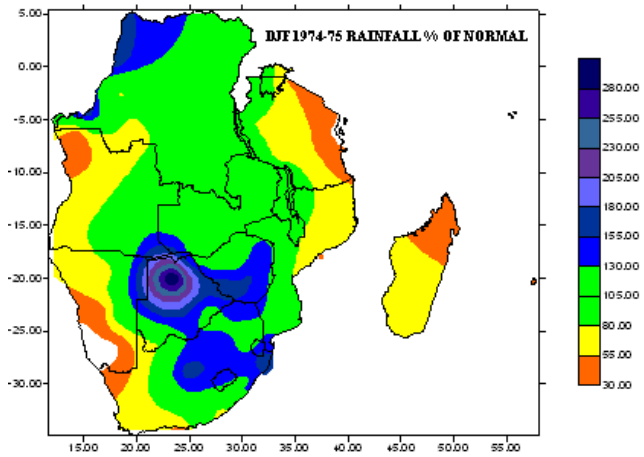

Fig. 5. Analogue year DJF 1974-75 precipitation % of Normal rainfall for SADC countries

December 2011 to February2012 Outlook

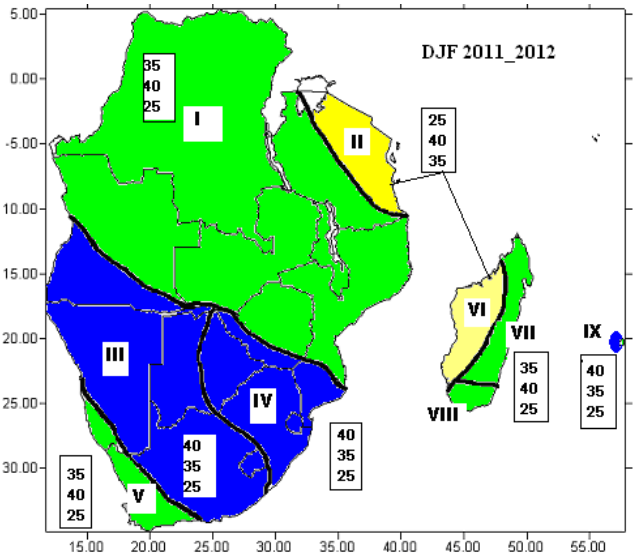

Fig 6. SADC rainfall outlook for December 2011 to February 2012

RAINFALL FORECAST (DECEMBER 2011—FEBRUARY 2012)

FORECAST DETAILS

Zone I: (DRC, Zambia, northeastern half of Angola, southwestern half of Tanzania, Malawi, most of Mozambique and most of Zimbabwe).

Increased chances of normal to above-normal rainfall

Zone II: (Northern half of Tanzania).

Increased chances of normal to below-normal rainfall

Zone III: (Southwestern half of Angola, most of Namibia, western half of Botswana, Lesotho and Central South Africa,).

Increased chances of above-normal to normal rainfall

Zone IV: (Eastern half of Botswana, extreme southwestern of Zimbabwe, extreme south of Mozambique, northern part of South Africa and Swaziland).

Increased chances of above normal to normal rainfall

Zone V: (Extreme southwestern of South Africa and extreme south of Namibia).

Increased chances of normal to above normal rainfall

Zone VI: (Western half of Madagascar)

Increased chances of normal to below normal rainfall

Zone VII: (Eastern half of Madagascar).

Increased chances of normal to above-normal rainfall

Zone VIII: (Extreme south of Madagascar).

Increased chances of normal to above normal rainfall

Zone IX: Mauritius.

Increased chances of above-normal to normal rainfall

Map caption

The number for each zone indicate the probabilities of rainfall in each of the three categories: Above normal, Normal and Below normal (Fig. 7). The top number indicates the probability of rainfall occurring in the Above-normal category, the middle number for Normal and the bottom number for Below-normal. For example, in the case of Zone IV there is a 35% probability for rainfall occurring in the above-normal category; a 40% probability for rainfall in the normal category; and 25% probability for rainfall for a below-normal category. It is emphasized that boundaries between zones should be considered as transition zones.

Note: This update is relevant only for three monthly time scales and relatively large areas. Local to month to month variations may occur.

The users are strongly advised to contact their NMHSs and SADC Climate Services Centre for interpretation of this Outlook, finer details, updates and additional guidance.

Acknowledgements:

SADC NMHSs, Global climate monitoring and prediction centres and WMO.

SADC CSC in conjunction with other partners will continue to closely monitor the status