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OUTLOOK FOR APRIL—MAY—JUNE 2015

HIGHLIGHTS

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GLOBAL SST FORECAST

- Weaken El Nino-like state continued through in March 2015.
- Positive SST anomalies persisted over the central and southern Indian Ocean.
- Currently an active MJO is located over equatorial Indian Ocean

JANUARY 2015– MARCH 2015 RAINFALL HIGHLIGHTS

- The southern African summer monsoon continued to be very active in the northern part of DRC, Island States and on the vicinity of eastern parts of SADC region.
- The region received mostly normal to below normal rainfall conditions;
- Normal to above normal rainfall conditions were observed over DRC, Tanzania, northern Mozambique, Madagascar, Mauritius and Seychelles;
- During March 2015, a favorable distribution in rainfall was observed across western sub-region.

AMJ 2015 RAINFALL OUTLOOK SUMMARY

For the period April to June 2015, there is a high likelihood of:

- **normal to below-normal rainfall conditions to continue in the bulk of continental SADC region, as well as in island States.**
- **Normal to above normal rainfall in the eastern parts, most northern DRC, Northern Tanzania .**

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Four main climate driven forces are active over the global scale, mostly modes of tropical convective variability, including Equatorial Rossby Wave activity over the central Pacific and a weak El Niño background state, continue to influence the pattern, now destructively interfering with MJO signal.

There is still about a 50% chance of El Niño developing in 2015. Sea surface temperatures (SSTs) in the far eastern Pacific Ocean have warmed for the second consecutive week.

Currently an active MJO phase 3 is located over western equatorial Indian Ocean enhancing tropical activity in this region (Fig.1).

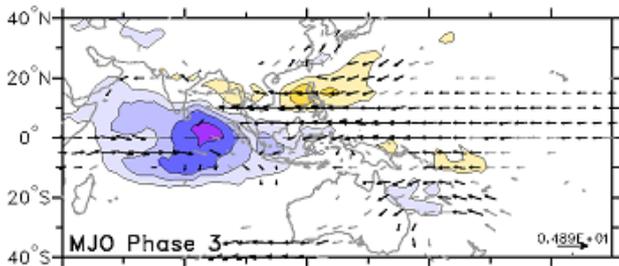
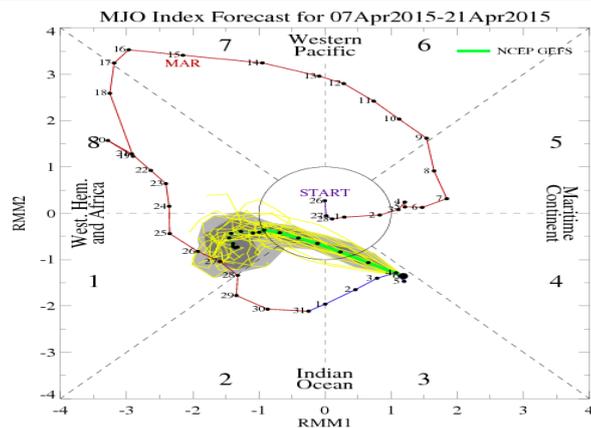


Fig. 1. AMJ average OLR and winds (1979-1998) [Source: BoM]



The most recent 40 days and forecast from the ensemble Global Forecast System (GEFS) for the next 15 days foresees a continued eastward propagation of the MJO signal over the Indian Ocean during the next weeks, with a likely chance to revert an enhanced convective pattern over Africa (phase1) (Fig. 2).

Fig.2. Multi-model MJO forecasts for 07 April–21 April 2015 (Source: NCEP)

RAINFALL REVIEW

06 January 2015 – 05 April 2015

The active southern Africa monsoon which was mostly located over the central Indian Ocean has hindered the favoured pluviogenic conditions over the south-western parts of the region. Global map of Outgoing Longwave Radiation (OLR) highlights regions experiencing more or less cloudiness. In the Figure (3), negative values (blue shading) represent above normal cloudiness implying an active convective pattern with above rainfall condition, while the positive values (brown shading) depict below normal cloudiness (with below rainfall condition). It also shows two main anomalous zones over southern Africa. Below normal conditions were observed in central parts of the SADC region and above rainfall conditions were concentrated over the islands and Indian Ocean. Despite an increase in rainfall during the last week of March 2015, below normal rainfall conditions remain across several parts of the region. (Fig.4).

There is still, therefore, risk of drought conditions to be expected in north-eastern Namibia, western Angola and southwestern DRC.

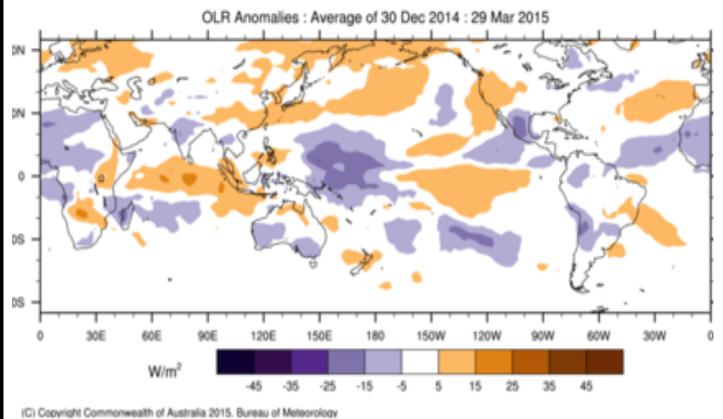


Fig.3. Global map OLR departure of long average of 30 Dec2014 –29 Mar 2015 (1979-1998)wm-2-Source: BoM

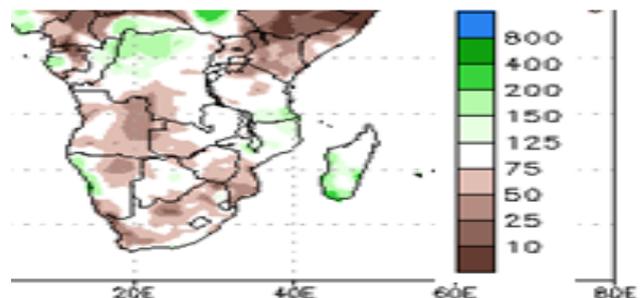


Fig. 4. Precipitation departure from normal (%) , 02 January 2015 – 01 April 2015 [Source: CPC]

MEDIUM-TERM FORECAST (07 to 25 April 2015)

The Madden Julian Oscillation (MJO) may modulate the likelihood of the enhanced convection over parts of Africa and the Indian Ocean. The current state of MJO reveals that moisture flux are directed away from Africa. The predicted phase-1 (one) may enhance the moisture flux advection towards Africa, although uncertainty increases during Week-2 (Fig.2).

The persistence of Inter-Tropical Convergence Zone (ITCZ) northward will enhance rainfall mechanism over most parts of the northern sub-region. This fact, will lead with some wet conditions in the next two weeks ahead (Fig.5a.b). However, south-eastern parts and Island States will be under suppression rainfall conditions. (Fig.6).

SADC mean rainfall for AMJ for 1961-1990

The long-term mean for April—May—June rainfall shows maxima of 300 millimetres over much of Angola, DRC, Tanzania, Mozambique as well as Mauritius and eastern Madagascar, Fig. 7. The remainder of the region receives rainfall less than 100 millimetres.

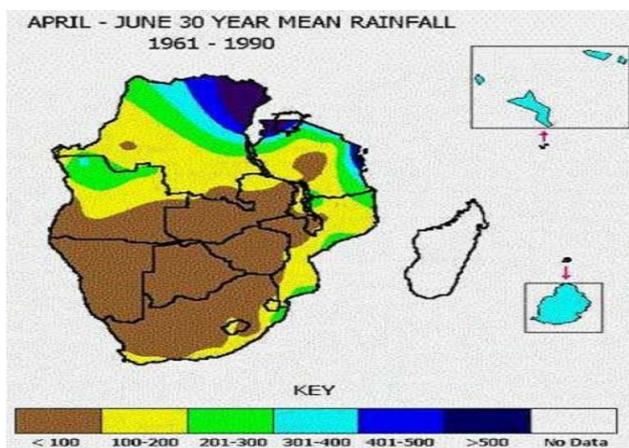


Fig. 7. SADC mean rainfall (mm) for April—May—June season for the period 1961– 1990

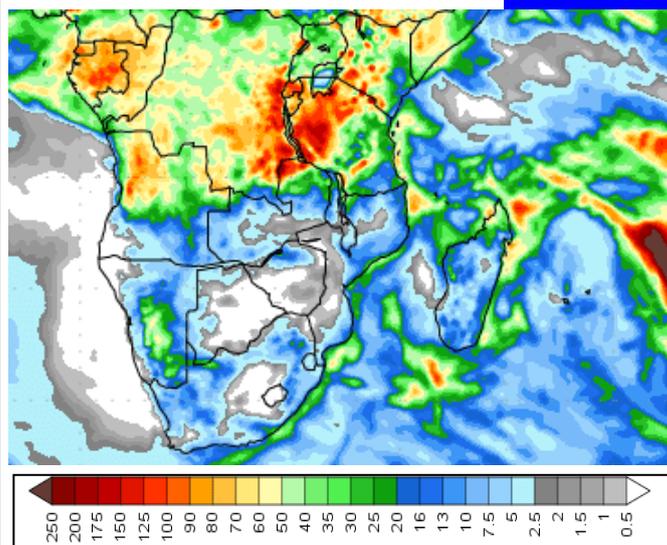


Fig.5.a: Precipitation (mm) forecast for 08 - 16 April, 2015 (source: IGES/COLA)

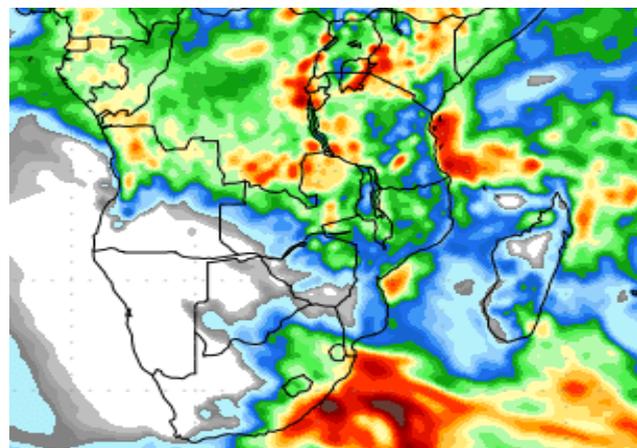


Fig.5.b: Precipitation (mm) forecast for 16 - 24 April, 2015 (source: IGES/COLA)

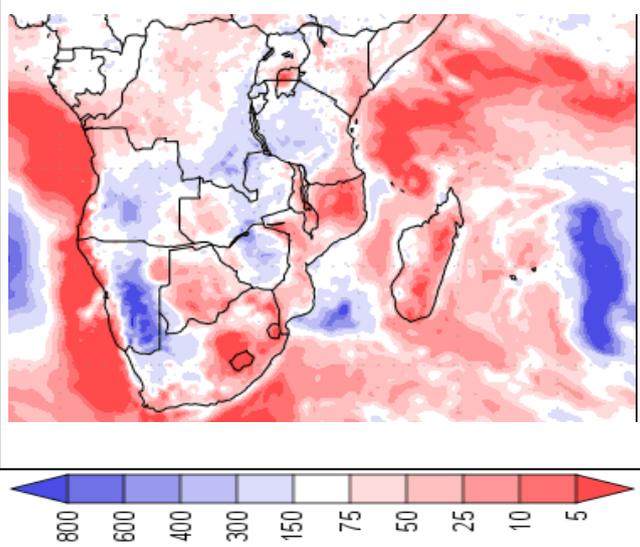


Fig.6. Precipitation (% of normal) forecast for 08–16 April, 2015 (source: IGES/COLA)

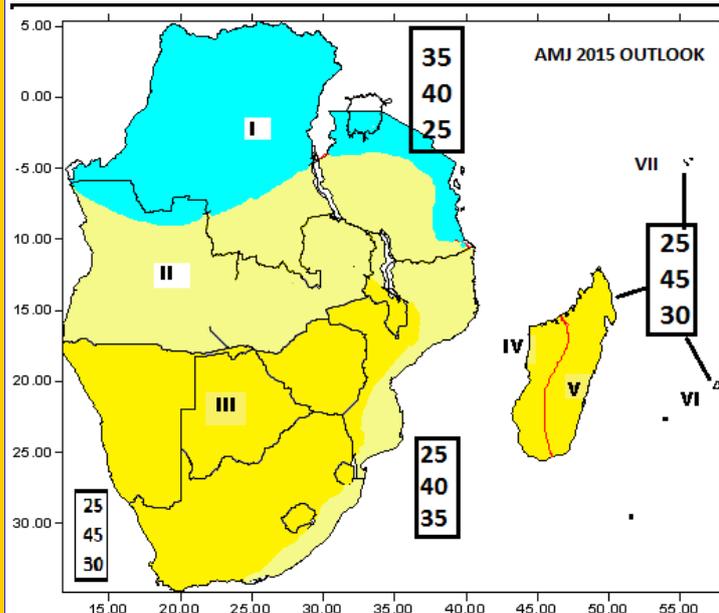


Fig. 8: April to June 2015 Rainfall Outlook

AMJ FORECAST DETAILS

For April to June, 2015, most parts of the continental and islands of SADC region are expected to receive normal to below-normal rainfall. The exception are for northern parts of the region which are to be normal to above-normal rainfall conditions.

Zone 1: (bulk of DRC, northern fringes of Angola and northern to the northern-most Tanzania).

Increased chances of normal to above-normal rainfall

Zone 2: (Central Angola, south-eastern DRC, northern Zambia, most of Tanzania, northern Malawi, eastern Mozambique and eastern flank of South Africa).

Increased chances of normal to below-normal rainfall

Zone 3: (southern Malawi, most of Zambia, southern Angola, south-eastern tip of DRC, western Mozambique, Namibia, Botswana, Zimbabwe, Lesotho, Swaziland and most of South Africa).

Increased chances of normal to below-normal rainfall

Zone 4: (western Madagascar).

Increased chances of normal to below-normal rainfall

Zone 5: (eastern Madagascar).

Increased chances of normal to below-normal rainfall

Zone 6: (Mauritius)

Increased chances of normal to below normal rainfall

Zone 7: Seychelles

Increased change of normal to below-normal rainfall

Notes:

- 1. The season is expected to have normal rainfall over the bulk of SADC Region.**
- The numbers associated with color in the legend (Fig. 7) indicate the probabilities of each of the three categories: Above-normal, Normal and Below-normal relative to the 1961-1990 climatological baseline (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 category.
- The users are strongly advised to contact their NMHSs for interpretation of this Outlook, finer details, updates and additional guidance.
- 4. Acknowledgements:**
 - SADC NMHSs,
 - Global climate monitoring and prediction centres
 - WMO