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# STATEMENT FROM THE TWENTY-FIFTH VIRTUAL SOUTHERN AFRICA REGIONAL CLIMATE OUTLOOK FORUM (SARCOF-25)

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**30 to 31 August 2021**



## STATEMENT FROM THE TWENTY-FIFTH ANNUAL SOUTHERN AFRICA REGIONAL CLIMATE OUTLOOK FORUM (SARCOF-25) HELD VIRTUALLY, 30 – 31 AUGUST 2021.

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### SUMMARY

Bulk of SADC is likely to receive normal to above-normal rainfall for most of the period October to December (OND) 2021, whilst north-western part of Angola, bulk of Democratic Republic of Congo, western and southern Madagascar, northern Malawi, northern Mozambique, western fringes of Namibia and South Africa, south-western United Republic of Tanzania and north-eastern Zambia where normal to below-normal rains are expected.

The January to March (JFM) 2022 period is expected to have normal to above normal rainfall for most of the region except for, south-western fringes of Angola, western fringes of Namibia and South Africa.

### STATEMENT FOR THE TWENTY-FIFTH ANNUAL SOUTHERN AFRICA REGIONAL CLIMATE OUTLOOK FORUM (SARCOF-25)

The Twenty-Fifth Annual Southern Africa Regional Climate Outlook Forum (SARCOF-25) was held virtually from 30 to 31 August 2021 to present a consensus outlook for the 2021/2022 rainfall season over the SADC region. Climate scientists from the SADC National Meteorological and/or Hydrological Services (NMHSs), the SADC Climate Services Centre (CSC) formulated this Outlook. Additional inputs were acquired from African Centre for Meteorological Application for Development (ACMAD) and Global Producing Centres (GPCs) namely, European Centre for Medium Range Weather Forecast (ECMWF), South African Weather Service (SAWS), National Oceanic and Atmospheric Administration (NOAA), Beijing Climate Centre (BCC), Météo-France, Australian Bureau of Meteorology (BoM), UK Met Office, Japan Meteorological Agency (JMA) and Korea Meteorological Agency (KMA). Inputs from International Research Institute for Climate and Society (IRI) and National Centre for Atmospheric Research (NCAR) were also used in this work. This Outlook covers the major rainfall season from October 2021 to March 2022. The Outlook is presented in overlapping three-monthly periods as follows: October-November-December (OND); November-December-January (NDJ); December-January-February (DJF); and January- February-March (JFM).

**DISCLAIMER:** This Outlook is relevant only to seasonal (overlapping three-monthly) time-scales and relatively large areas and may not fully account for all factors that influence regional and national climate variability, such as local and month-to-month variations (intra-seasonal).

***Users are strongly advised to contact the National Meteorological and Hydrological Services for interpretation of this Outlook, additional guidance and updates.***

## **METHODOLOGY**

Using statistical analysis, other climate prediction schemes and expert interpretation, the climate scientists determined likelihoods of above-normal, normal and below-normal rainfall for each area (Figures 1 to 4) for overlapping three-monthly periods i.e. October-November-December (OND), November-December-January (NDJ); December-January-February (DJF); and January- February-March (JFM). Above-normal rainfall is defined as rainfall lying within the wettest third of recorded (30 years, that is, 1981-2010 mean) rainfall amounts; below-normal is defined as within the driest third of rainfall amounts and normal is the middle third, centred on the climatological median. Figure 5(a), 5(b), 5(c) and 5(d) show the Long-term (1971-2000) mean rainfall October-November-December, November-December-January, December-January-February and January-February-March season over SADC countries.

The climate scientists took into account oceanic and atmospheric factors that influence the climate over the SADC region, including the El Niño-Southern Oscillation (ENSO), which is currently in its neutral phase. The ENSO is projected to evolve into a weak La Niña phase during the forecast period. There is also an increased chance of a negative Indian Ocean Dipole (IOD) and a neutral Subtropical Indian Ocean (SIOD) by the end of the March 2022.

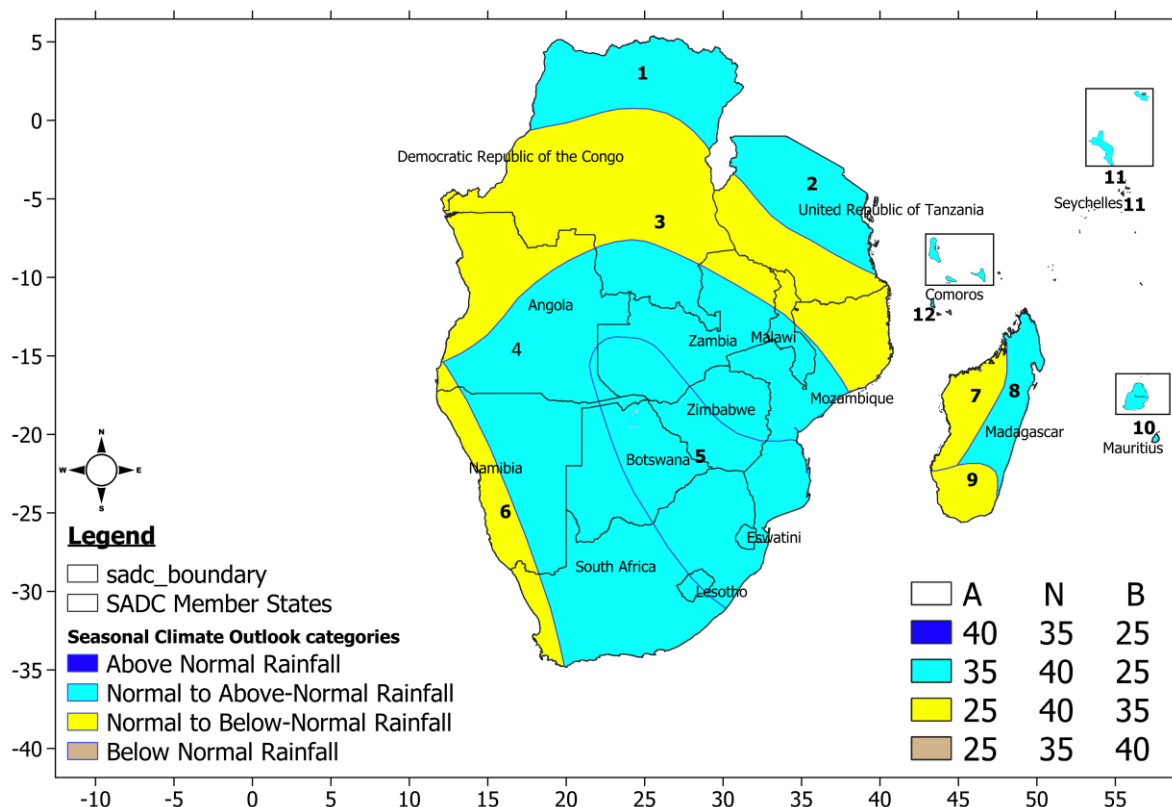
## **OUTLOOK**

The period October to March is the main rainfall season over most of Southern Africa. Owing to the differences and evolution patterns in the predominant rainfall-bearing systems, the rainy season has been subdivided into four overlapping three-month periods (i.e. OND, NDJ, DJF and JFM as defined below)

## **FIGURE CAPTION**

It is emphasized that boundaries between zones should be considered as transition areas. Outlook information is provided only for countries that comprise the Southern Africa Development Community (SADC) region. The colours for each zone indicate the probabilities of rainfall in each of the four categories, above normal, normal to above, normal to below and below normal. The first colour (blue) indicates the probability of rainfall occurring in the above-normal category, the second colour (cyan) is for normal to above-normal rainfall, while the third colour (yellow) represent the probability for normal to below-normal rainfall and the last colour (brown) is for below-normal rainfall. For example in Figure 1, for Zone 3 with the colour yellow, depicts that there is a probability of rainfall occurring in the normal to below-normal category.

## OCTOBER-NOVEMBER-DECEMBER 2021



**Figure 1: Rainfall forecast for October-November-December 2021**

**Zone 1:** Northern Democratic Republic of Congo (DRC)

**Increased chances of normal to above-normal rainfall**

**Zone 2:** Northern Tanzania

**Increased chances of normal to above-normal rainfall**

**Zone 3:** Northern Mozambique, Southern Tanzania, northern Malawi, northernmost Zambia, bulk of DRC and north-western part of Angola.

**Increased chances of normal to below-normal rainfall**

**Zone 4:** Central Mozambique, southern Malawi, northern half of Zimbabwe, most of Zambia, southernmost DRC, south-eastern half of Angola, bulk of Namibia, western half of Botswana, most of central and western parts of South Africa, western parts of Lesotho.

**Increased chances of normal to above-normal rainfall**

**Zone 5:** Extreme south-western Zambia, Caprivi area, south-easternmost Angola, south-western half of Zimbabwe, eastern half of Botswana, most of northern South Africa, eastern Lesotho, Eswatini, and southern Mozambique.

**Increased chances of normal to above-normal rainfall**

**Zone 6:** South-western most Angola and western coastal areas of Namibia and western fringes of South Africa.

**Increased chances of normal to below-normal rainfall**

**Zone 7:** Western Madagascar.

**Increased chances of normal to below-normal rainfall**

**Zone 8:** Eastern Madagascar.

**Increased chances of normal to above-normal rainfall**

**Zone 9:** Southern Madagascar

**Increased chances of normal to below-normal rainfall**

**Zone 10:** Mauritius.

**Increased chances of normal to above-normal rainfall**

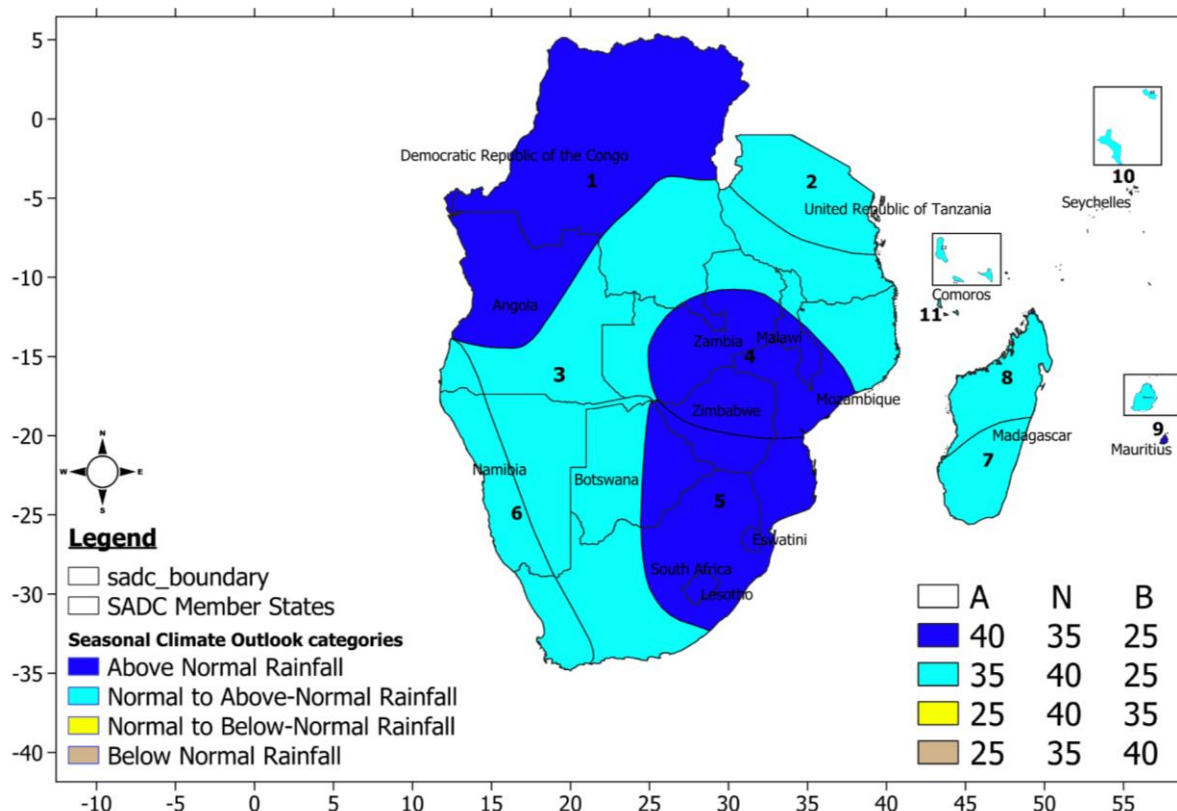
**Zone 11:** Seychelles.

**Increased chances of normal to above-normal rainfall**

**Zone 12:** Comoros.

**Increased chances of normal to above-normal rainfall**

## NOVEMBER-DECEMBER 2021-JANUARY 2022



**Figure 2: Rainfall forecast for November-December 2021-January 2022**

**Zone 1:** Bulk of DRC and northwestern Angola.

**Increased chances of above-normal to normal rainfall**

**Zone 2:** Northern half of Tanzania.

**Increased chances of normal to above-normal rainfall**

**Zone 3:** Northern Mozambique, southern half Tanzania, northern Malawi, northern and eastern Zambia, southernmost DRC, bulk of Angola, eastern half of Namibia, western half of Botswana, most of central South Africa.

**Increased chances of normal to above-normal rainfall**

**Zone 4:** Central parts of Zambia, southern Malawi, northern half of Zimbabwe and central parts of Mozambique.

**Increased chances of above-normal to normal rainfall**

**Zone 5:** Southern half of Zimbabwe, eastern half of Botswana, north and central South Africa, Lesotho, Eswatini and southern Mozambique.

**Increased chances of above-normal to normal rainfall**

**Zone 6:** South-westernmost Angola, western fringes of Namibia and western fringes of South Africa.

**Increased chances of normal to above-normal rainfall**

**Zone 7:** Southern Madagascar.

**Increased chances of normal to above-normal rainfall**

**Zone 8:** Northern Madagascar.

**Increased chances of normal to above-normal rainfall**

**Zone 9:** Mauritius.

**Increased chances of above-normal to normal rainfall**

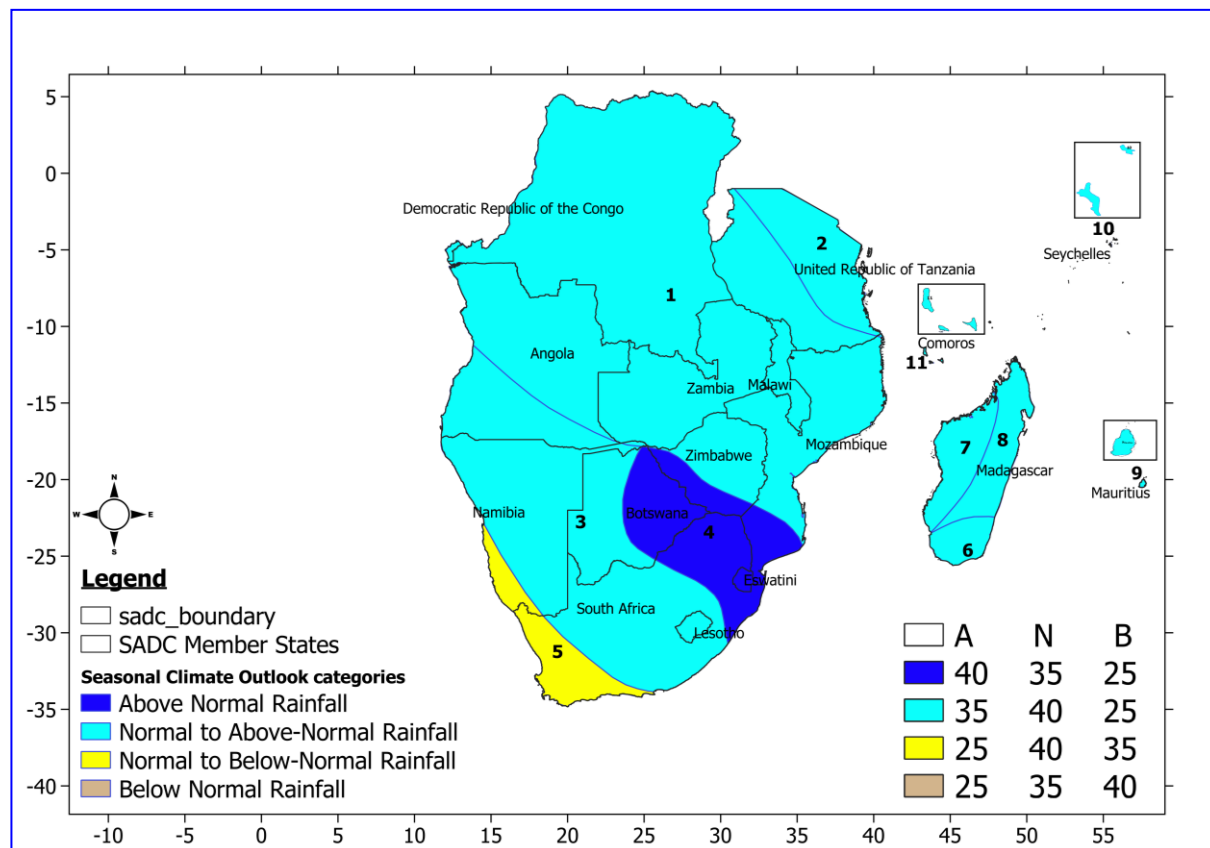
**Zone 10:** Seychelles.

**Increased chances of normal to above-normal rainfall**

**Zone 11:** Comoros.

**Increased chances of normal to above-normal rainfall**

## DECEMBER 2021-JANUARY-FEBRUARY 2022



**Figure 3: Rainfall forecast for December 2021-January-February 2022**

**Zone 1:** DRC, Zambia, Malawi, bulk of Angola, most of Zimbabwe, greater part of Mozambique and western half of Tanzania.

**Increased chances of normal to above-normal rainfall**

**Zone 2:** Eastern half of Tanzania.

**Increased chances of normal to above-normal rainfall**

**Zone 3:** South-western Angola, most of Namibia, western half of Botswana, central South Africa and Lesotho.

**Increased chances of normal to above-normal rainfall**

**Zone 4:** Southern part of Zimbabwe, eastern half of Botswana, northern South Africa, Eswatini and southern Mozambique.

**Increased chances of above-normal to normal rainfall**

**Zone 5:** South-western fringe of Namibia and south-western South Africa.

**Increased chances of normal to below-normal rainfall**

**Zone 6:** Southernmost Madagascar.

**Increased chances of normal to above-normal rainfall**

**Zone 7:** western Madagascar.

**Increased chances of normal to above-normal rainfall**



**Zone 8:** eastern-most of Madagascar.

**Increased chances of normal to above-normal rainfall**

**Zone 9:** Mauritius.

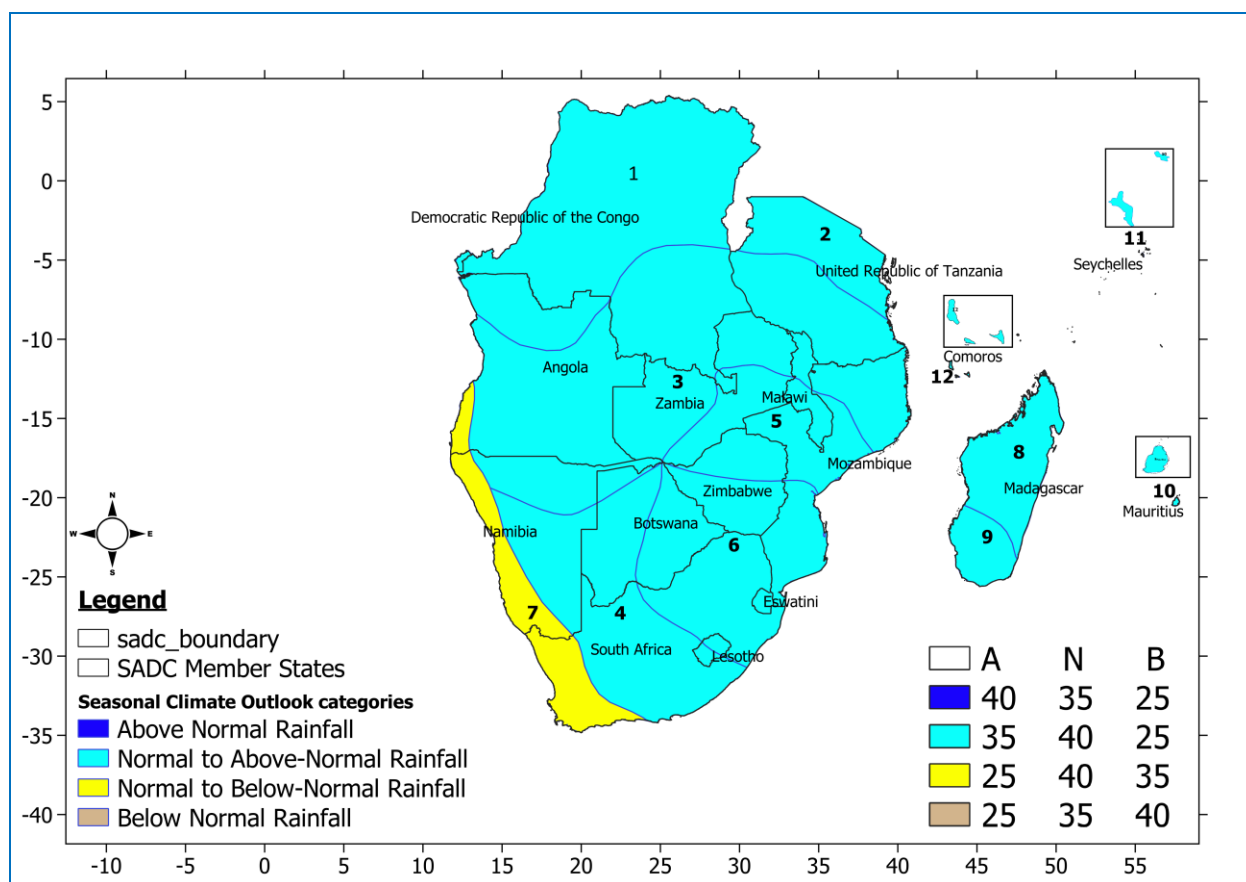
**Increased chances of normal to above-normal rainfall**

**Zone 10:** Seychelles.

**Increased chances of normal to above-normal rainfall**

**Zone 11:** Comoros.

**Increased chances of normal to above-normal rainfall**



**Figure 4: Rainfall forecast for January-February-March 2022**

**Zone 1:** Bulk of DRC and northernmost Angola.

**Increased chances of normal to above-normal rainfall**

**Zone 2:** Northernmost Tanzania.

**Increased chances of normal to above-normal rainfall**

**Zone 3:** Northern Mozambique, bulk of Tanzania, northern Malawi, northern and western Zambia, bulk of Angola, south eastern DRC, north-western tip of Botswana and northernmost Namibia.

**Increased chances of normal to above-normal rainfall**

**Zone 4:** Western half of Botswana, central to southern Namibia, western Lesotho and central South Africa.

**Increased chances of normal to above-normal rainfall**

**Zone 5:** Central Mozambique, southern Malawi, central Zambia and northern half of Zimbabwe.

**Increased chances of normal to above-normal rainfall**

**Zone 6:** Southern Mozambique, southern half of Zimbabwe, eastern half of Botswana, central and northern South Africa, Eswatini and eastern Lesotho.

**Increased chances of normal to above-normal rainfall**

**Zone 7:** South-western tip of Angola, western fringes of Namibia and South-western South Africa.  
**Increased chances of normal to below-normal rainfall**

**Zone 8:** Central and Northernmost Madagascar.  
**Increased chances of normal to above-normal rainfall**

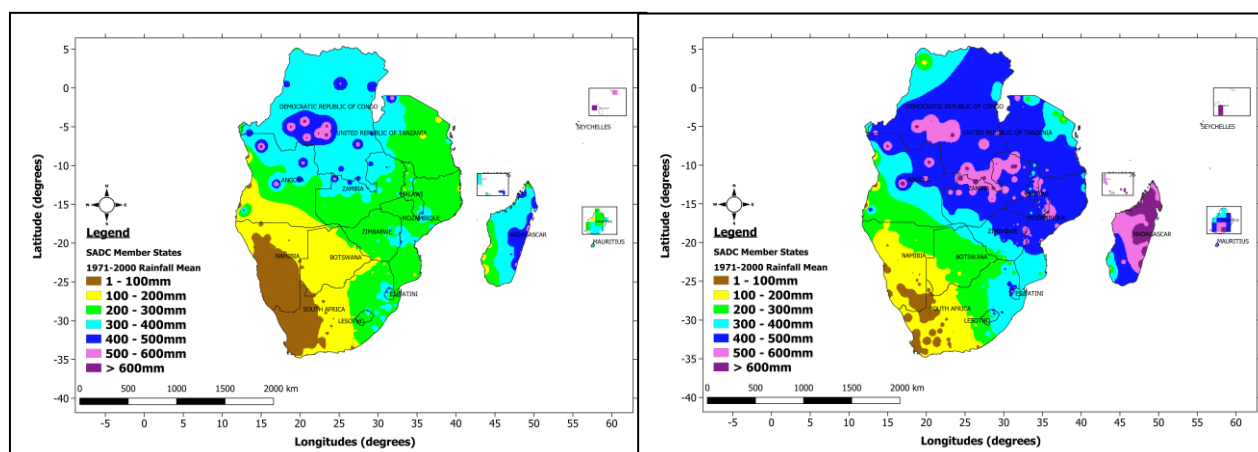
**Zone 9:** Southernmost Madagascar.  
**Increased chances of normal to above-normal rainfall**

**Zone 10:** Mauritius.  
**Increased chances of normal to above-normal rainfall**

**Zone 11:** Seychelles.  
**Increased chances of normal to above-normal rainfall**

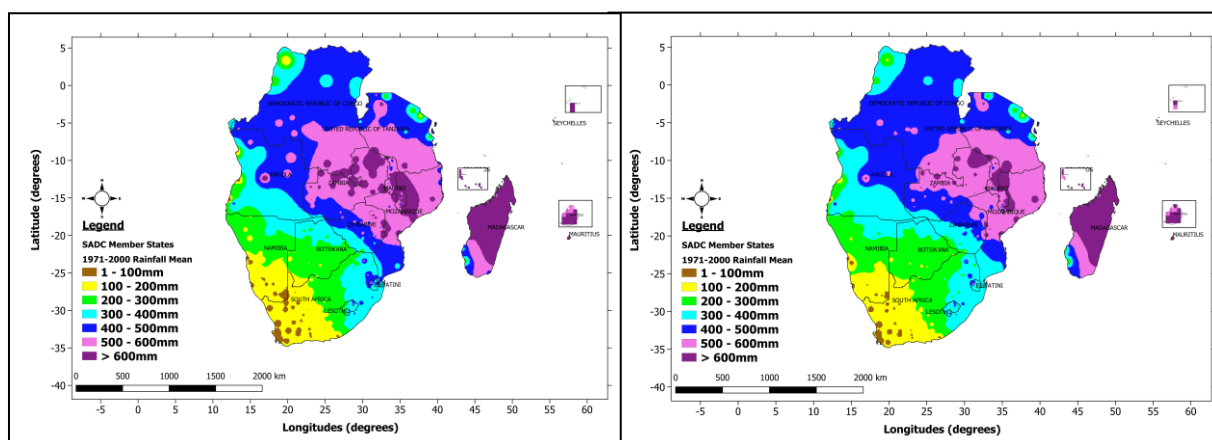
**Zone 12:** Comoros.  
**Increased chances of normal to above-normal rainfall**

## LONG-TERM MEAN RAINFALL (1971-2000)



**Figure 5, Long-term mean rainfall over SADC countries (a) October-November-December (1971-2000), (b) November-December-January (1971-2000)**

The long-term mean rainfall for October-November-December (Figure 5(a)), increases from Southwest to Northeast over contiguous SADC in either case. Over Madagascar the rains increase from West to East, while the rains are more uniformly distributed in Comoros, Mauritius and Seychelles. The November- December-January long-term mean total rainfall (Figure 5(b)) shows maxima of above 500 millimetres over much of Malawi, Zambia, Angola, southern half of DRC, central and Northern Mozambique as well as Mauritius, Madagascar and Seychelles. The remainder of the region receives rainfall less than 400 millimetres gradually decreasing South-westwards to Southwest of South Africa and Namibia where the mean rainfall is below 100 millimetres. The legend shows the amounts



**Figure 5, Long-term mean rainfall over SADC countries (c) December-January-February (1971-2000) and (d) January-February-March (1971-2000)**

The long-term mean for December-January-February rainfall (Figure 5(c)) shows maxima of above 600 millimetres over much of Malawi, Zambia, Angola, southern half of DRC, central and northern Mozambique as well as Mauritius, Madagascar and Seychelles. The remainder of the region receives rainfall less than 400 millimetres gradually decreasing south-westwards to southwest South Africa and Namibia where the mean rainfall is below 100 millimetres. The January-February-March (Figure 5(d)) shows a significant reduction in the rainfall received in most of the southern parts of the region with the central and eastern parts remaining wet. Mauritius shows sustained rainfall pattern, while Madagascar shows an increase of rainfall in most parts except the extreme south western parts of the country.

**SPONSORSHIP**

The Twenty-Fifth Annual Southern Africa Climate Outlook Forum was hosted virtually with support from SADC Member States, European Union through the Intra-ACP Climate Services and related Applications Programme, and other partners.