SADC — SOUTHERN AFRICAN DEVELOPMENT COMMUNITY — TOWARDS A COMMON FUTURE

ClimSA
INTRA-ACP CLIMATE SERVICES AND RELATED APPLICATIONS PROGRAMME

South African Weather Service

European Union

TWENTY-SIXTH SOUTHERN AFRICA REGIONAL CLIMATE OUTLOOK FORUM (SARCOF-26) UPDATE STATEMENT

5-7 December 2022

TWENTY-SIXTH SOUTHERN AFRICA REGIONAL CLIMATE OUTLOOK FORUM (SARCOF-26) UPDATE STATEMENT
JOHANNESBURG, SOUTH AFRICA
HYBRID
05 – 07 DECEMBER 2022.

SUMMARY

Most of SADC region is expected to receive normal to above normal rainfall for the period December 2022 to May 2023. It should be noted that some areas such as eastern Madagascar, most of Tanzania, south Malawi and north Mozambique, are likely to receive normal to below normal rainfall during December-January-February. In addition, northern Democratic Republic of Congo (DRC), north eastern Tanzania and north and central Madagascar are expected to receive normal to below normal rainfall during January-February-March.

TWENTY-SIXTH SOUTHERN AFRICA REGIONAL CLIMATE OUTLOOK FORUM (SARCOF-26 UPDATE) STATEMENT

The Twenty-Sixth Southern Africa Regional Climate Outlook Forum (update) was preceded by the Climate Expert Meeting (CEM) and the latter was held in person in Johannesburg, South Africa from 28 November to 04 December 2022, whereby Climate Experts from the SADC National Meteorological and/or Hydrological Services (NMHSs) and the SADC Climate Services Centre (CSC) produced this Consensus Outlook.

SARCOF-26 Forum (update) took place from 05 to 07 December 2022 in hybrid format, to review and update the sectoral climate outlook advisories produced in August 2022 and present a consensus outlook for the period December 2022 to May 2023 rainfall season over the SADC region. The Outlook is presented in overlapping three-monthly periods as follows: December-January-February (DJF); and January-February-March (JFM), February-March-April (FMA) and March-April-May (MAM)

NOTE: This Outlook is relevant only to seasonal (overlapping three-months) 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). Additional inputs were acquired from various Global Producing Centres (GPCs).
Users are strongly advised to contact SADC CSC for regional guidance and the National Meteorological and Hydrological Services for the national outlook, additional guidance and updates.

METHODOLOGY

Using statistical analysis, climate prediction schemes and expert interpretation, the climate scientists determined likelihood of above-normal, normal and below-normal rainfall categories (Figures 1 to 4) for overlapping three-month periods i.e. December-January-February (DJF), January-February-March (JFM), February-March-April (FMA) and March-April-May (MAM). Above-normal rainfall is defined as rainfall lying within the wettest third of recorded (30 years, that is, 1981-2010 climatology) 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. Figures 5a, 5b, 5c and 5d, show the long-term mean (1981-2010) rainfall for December-January-February, January-February-March, February-March-April and March-April-May seasons respectively, 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 La Niña phase. The ENSO is projected to remain in La Niña phase during the December to January sub-season and then reach neutral phase from February 2023. The Indian Ocean Dipole which was negative during the start of the season is gradually decaying and it is expected to reach the neutral phase by the end of December 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 rest of the rainy season has been subdivided into four overlapping three-month periods (i.e. DJF, JFM, FMA and MAM)

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) represents 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 1 with the colour yellow, depicts that there is a probability of rainfall occurring in the normal-to-below-normal category.DECEMBER 2022-JANUARY-FEBRUARY 2023

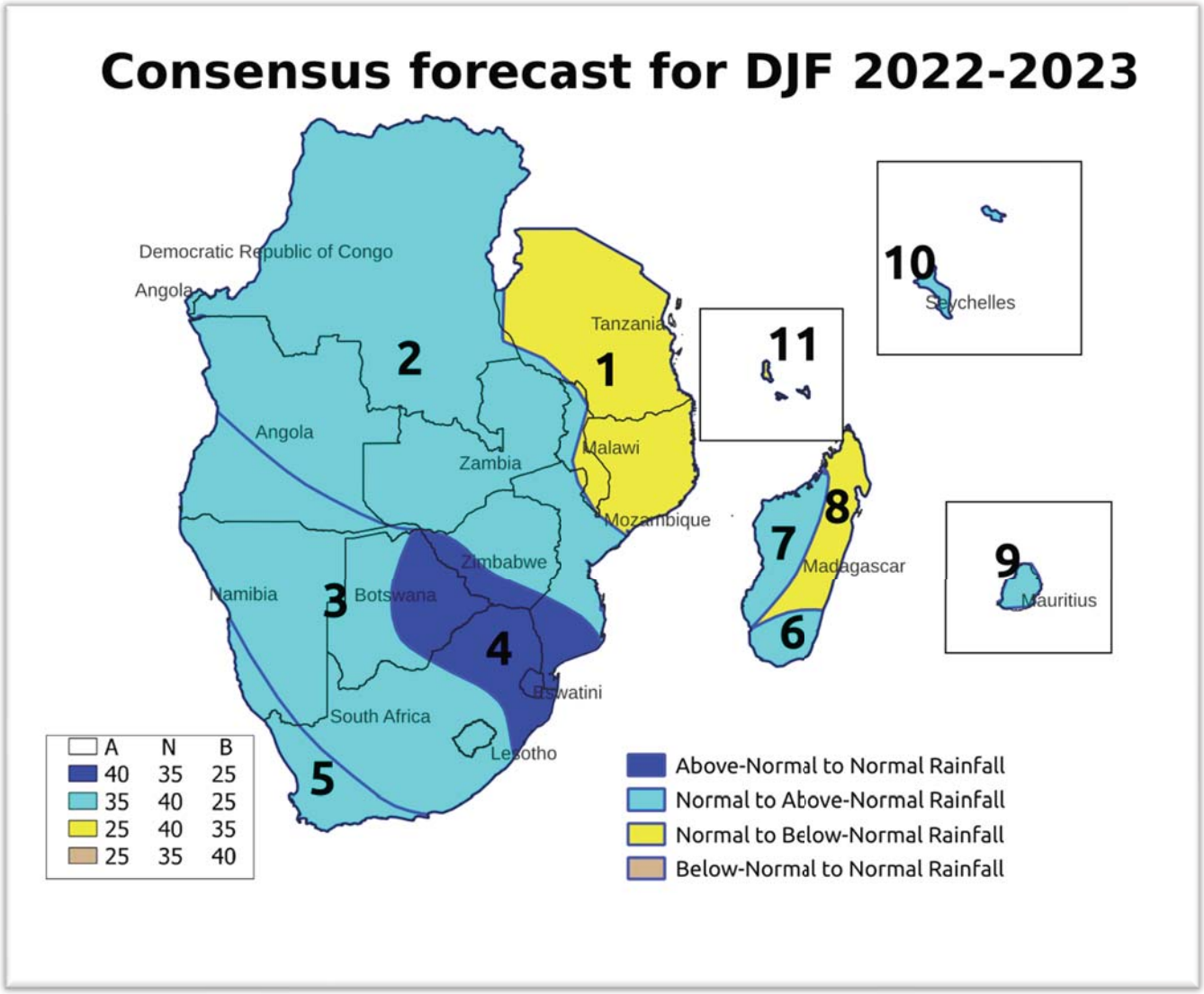

Figure 1: Rainfall forecast for December 2022-January-February 2023

Zone 1: Tanzania, south Malawi, and north Mozambique.
Increased chances of normal to below-normal rainfall.

Zone 2: DRC, north and eastern Angola, Zambia, Bulk of Zimbabwe, north Malawi and central Mozambique.
Increased chances of normal to above-normal rainfall.

Zone 3 and 5: South-western Angola, Namibia, western half of Botswana, central and western South Africa and Lesotho.
Increased chances of normal to above-normal rainfall.

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

Increased chances of above-normal to normal rainfall.

Zone 6 and 7: Western and southernmost Madagascar.
Increased chances of normal to above-normal rainfall.

Zone 8: Eastern Madagascar.
Increased chances of normal to below-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 below normal rainfall.

JANUARY-FEBRUARY-MARCH 2023

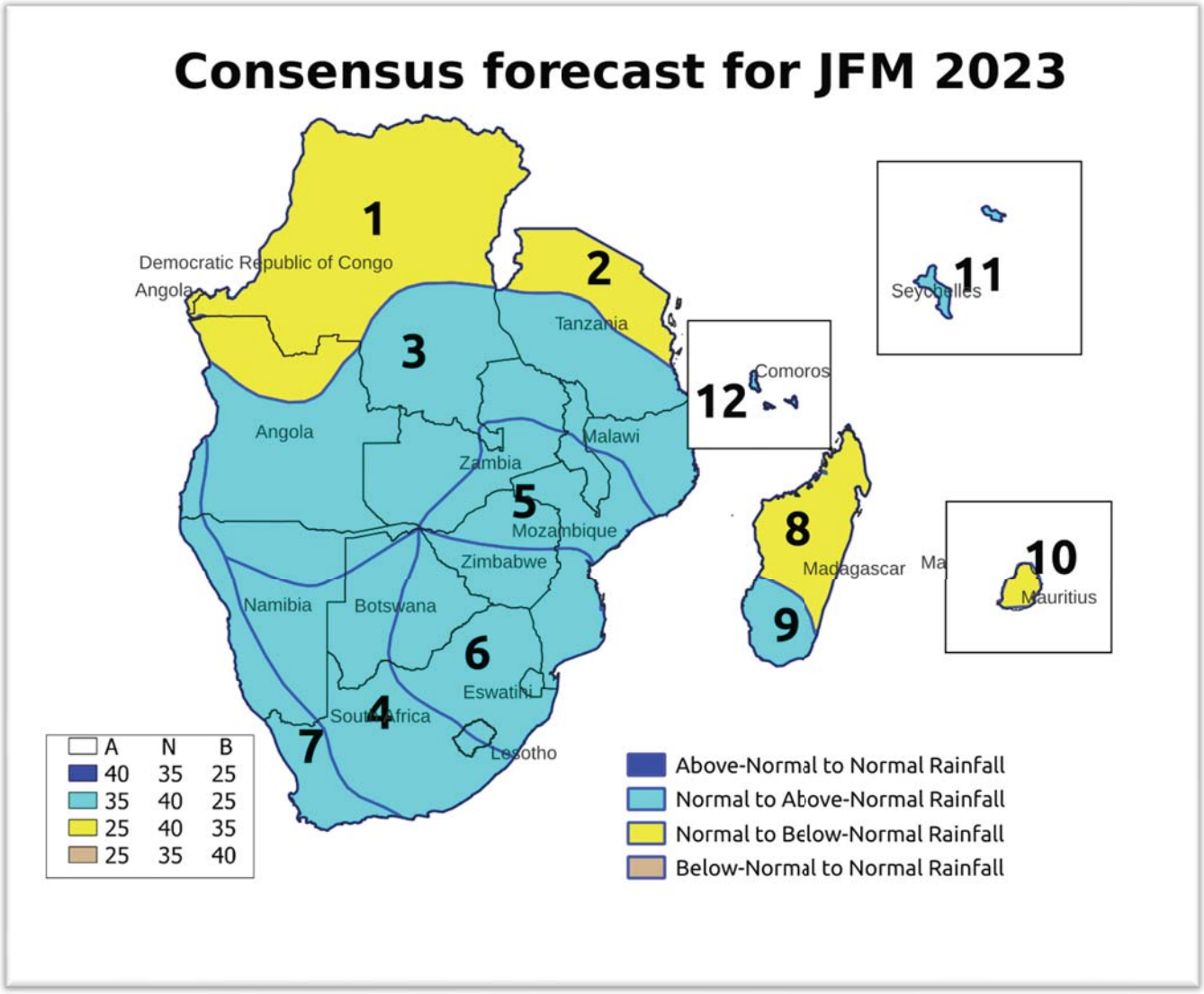

Figure 2: Rainfall forecast for January-February-March 2023

Zone 1: North and central DRC and northernmost Angola.
Increased chances of normal to below-normal rainfall

Zone 2: Northern Tanzania.
Increased chances of normal to below-normal rainfall

Zones 3, 4, 5, 6, 7: Bulk of Tanzania, Malawi, south DRC, bulk of Angola, Namibia, Zambia, Botswana, Zimbabwe, Mozambique, Eswatini, Lesotho and South Africa.
Increased chances of normal to above-normal rainfall

Zone 8: Central and Northernmost Madagascar.

Increased chances of normal to below-normal rainfall

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

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

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

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

FEBRUARY-MARCH-APRIL 2023

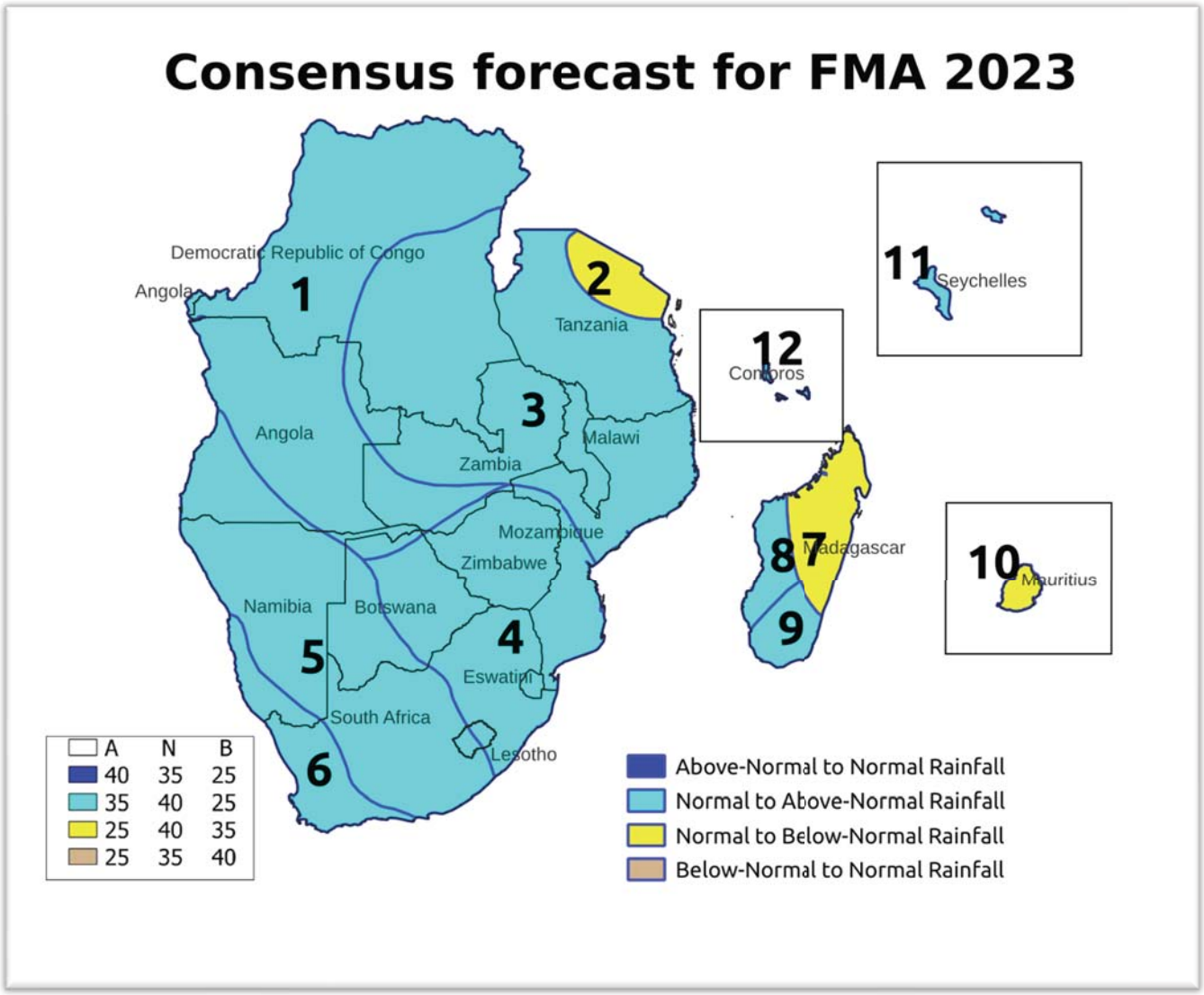

Figure 3: Rainfall forecast for February-March-April 2023

Zone 1, 3, 4, 5 and 6: DRC, bulk of Tanzania, Malawi, Zambia, Angola, Namibia, Botswana, Zimbabwe, Mozambique, Eswatini, Lesotho, South Africa
Increased chances of normal to above-normal rainfall

Zone 2: North east Tanzania.
Increased chances of normal to below-normal rainfall

Zone 7: North and East Madagascar.
Increased chances of normal to below-normal rainfall

Zone 8 and 9: West and South Madagascar
Increased chances of normal to above-normal rainfall

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

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

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

MARCH-APRIL-MAY 2023

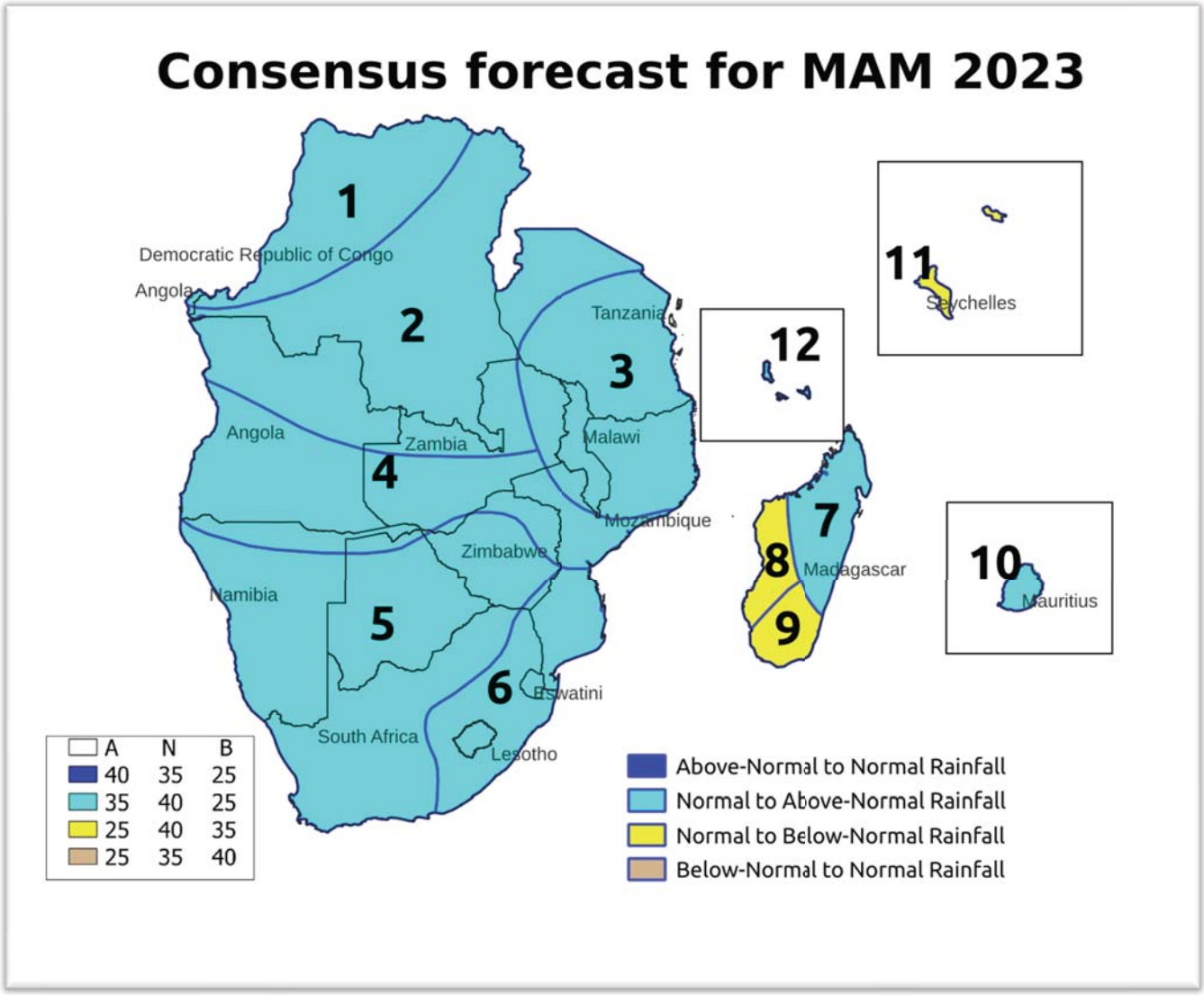

Figure 4: Rainfall forecast for March-April-May 2023

Zones 1, 2, 3, 4, 5 and 6: DRC, Tanzania, Zambia, Angola, Namibia, Botswana, Zimbabwe, Malawi, Mozambique, Eswatini, Lesotho, South Africa
Increased chances of normal to above normal rainfall

Zone 7: Eastern Madagascar
Increased chances of normal to above normal rainfall

Zone 8: Western Madagascar.
Increased chances of normal to below-normal rainfall

Zone 9: Southernmost 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 below-normal rainfall

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

Rainfall Climatology of the SADC region based on the 1981-2010

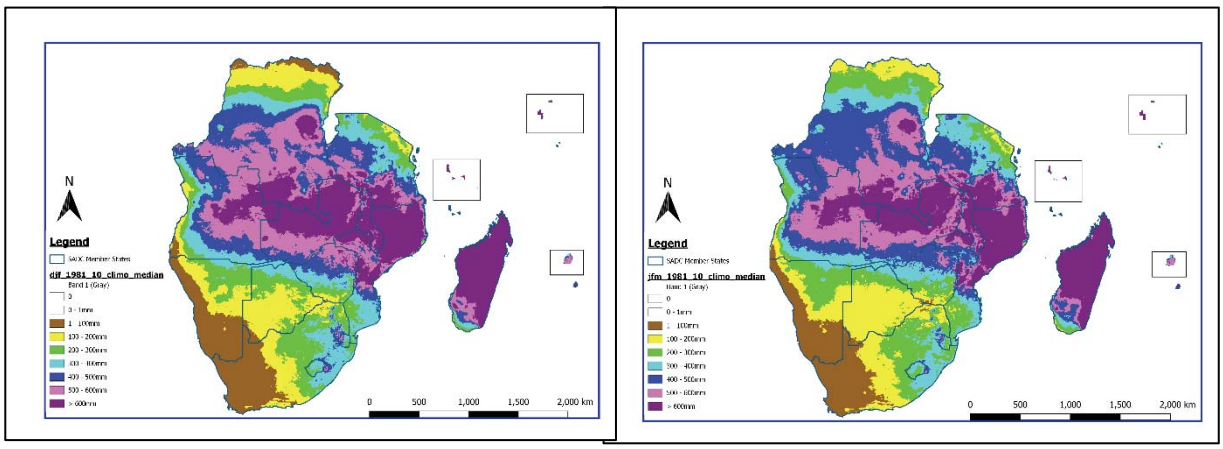

Figure 5a (Left), Long-term mean over SADC countries December-January-February and 5b(Right) January-February-March

The long-term mean rainfall for December-January-February 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 normal rainfall is below 100 millimetres. The January-February-March rainfall map shows a significant reduction in the rainfall received in most of the southern part of the region with the central and eastern parts remaining wet. Comoros, Seychelles and Mauritius shows sustained rainfall pattern, while Madagascar shows an increase of rainfall in most parts except the extreme south western part of the country.

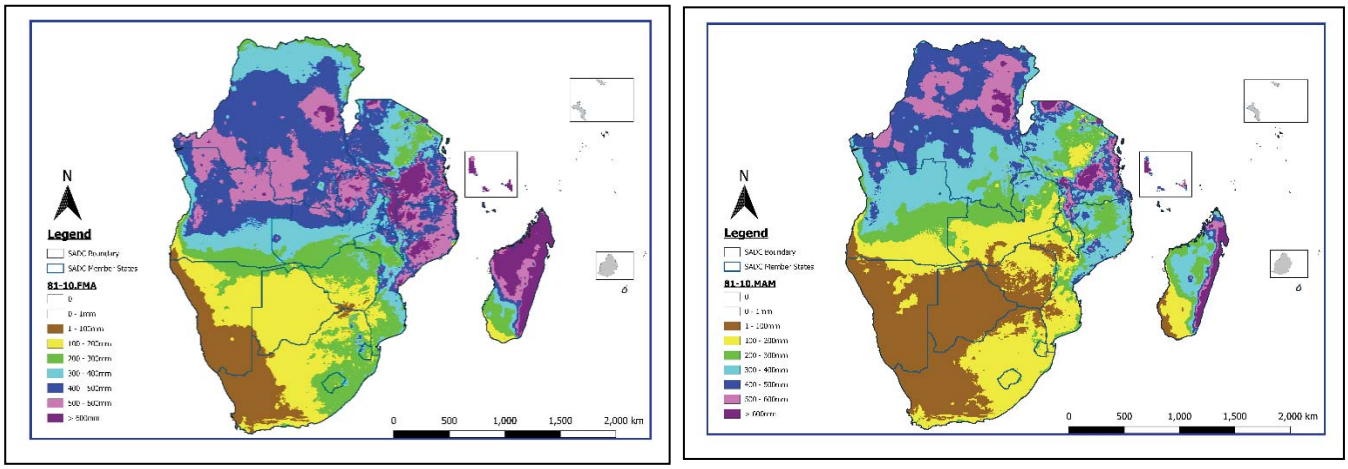

Figure 5c(Left), Long-term mean rainfall over SADC countries for February-March-April and 5d(Right) for March-April-May

The long-term mean for February-March-April rainfall shows maxima of above 600 millimetres over much of Malawi, Angola, northern Zambia, southern half of DRC, southern Tanzania, central and northern Mozambique as well as Madagascar. The remainder of the region receives less than 400 millimetres of rainfall that gradually decreases south-westwards to southwest South Africa and Namibia where the mean rainfall is below 100 millimetres.

For the season March-April-May the rainfall map shows maxima of 600 millimetres in the region of North DRC and the eastern fringes of Tanzania and eastern coast of Madagascar. Over the remaining continental SADC region the rainfall decreases southwards to reach a minima of less than 100 mm over most of Zimbabwe, Botswana, Namibia and western South-Africa

SPONSORSHIP

The Twenty-Sixth Southern Africa Climate Outlook Forum (update) was hosted with support from SADC Member States, the European Union through the Intra-ACP Climate Services and related Applications project, and other partners.