SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

CLIMATE SERVICES CENTRE

REGIONAL CLIMATE WATCH

Dekad 1: 01 – 10 SEPTEMBER 2018

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INTRODUCTION

This bulletin provides a dekadal overview of the climate and forecast over the Southern Africa region for each ten-day in a month including a rainfall and temperature forecasts for the coming dekad.

Highlights

- ***Above to well above average precipitation were observed over northern, central and southern parts of DRC and north-eastern Angola otherwise the rest of the region was relatively dry.***
- ***Moderate to heavy precipitation is likely over northern and eastern DRC while northernmost of DRC will likely experience heavy precipitation during the outlook period***
- ***Slightly warmer than average temperatures were observed during the reporting period***
- ***Warmer than average temperatures expected over most of the contiguous SADC region***

Contents

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1.0 CLIMATE DRIVERS

1.1 ATMOSPHERIC PRESSURE TENDENCIES

The strength of the surface pressure systems show strengthening of the Azores High (1024) by 2hPa when compared to the climatological period of 1981-2010, while St Helena High (1023) over the South Atlantic Ocean strengthened by 1hPa and the Mascarena High (1023hPa) over the South Indian Ocean weakened by 2hPa compared to the climatological period of 1981-2010. The Azores High position was north-east of its climatological position over the North Atlantic Ocean, the St Helena High was located East of its climatological position and the Mascarena High was also east of its climatological position during the reporting period (Figure 1)

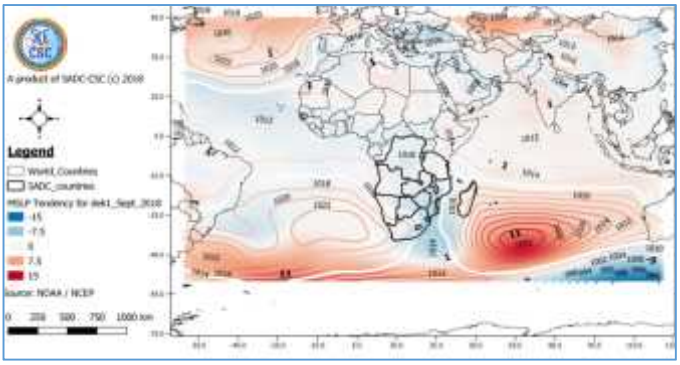

Figure 1: Observed Mean Sea Level Pressure (Contour) and anomaly (shaded) during the period from 1st to 10th September, 2018 (Source: NOAA/ NCEP)

1.2 INTER-TROPICAL CONVERGENCE ZONE (ITCZ) AND CONGO AIR BOUNDARY (CAB)

The CAB moved east ward over border of eastern DRC and Uganda, while the ITCZ remained stationery over western central subtropical part of the Indian Ocean (Figure 2).

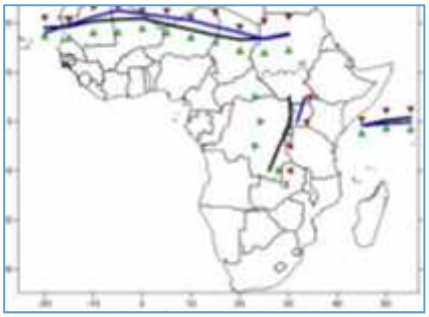

Figure 2: The mean position of ITD, CAB and ITCZ for the 1st dekad (black) of September and 3rd dekad (blue) of August 2018 (Source: ACMAD)

1.3 WIND TRENDS

Much of Southern Africa experienced strong westerlies in the 200hPa level and moderate winds on the 700hPa level during the 1st to 10 September 2018 (Figure 3).

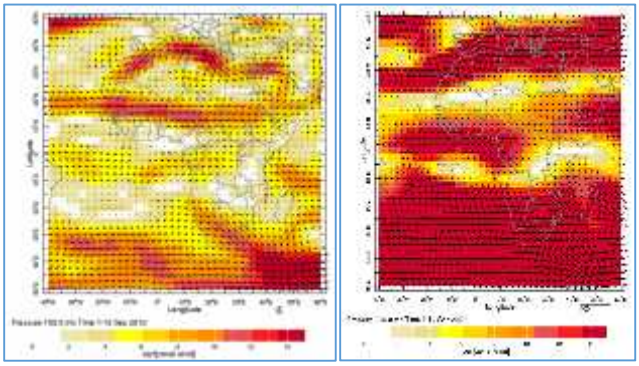

Figure 3: Winds at 700hPa and 200hPa during the 1st dekad September 2018 (Source: NOAA/NCEP)

1.4 ATMOSPHERIC MOISTURE (RH) AVAILABILITY

At 850hPa level, higher RH values (≥60%) were observed over Southern Africa regions during the first dekad of September 2018. The RH anomalies for the first dekad of September 2018 (Figure 4) were positive over most of the region. And the, negative anomalies of RH were observed over much of DRC, Tanzania, Zambia, eastern Angola, most part of Zimbabwe, eastern South Africa, eastern Lesotho, eSwatini, Seychelles and southern Mozambique.

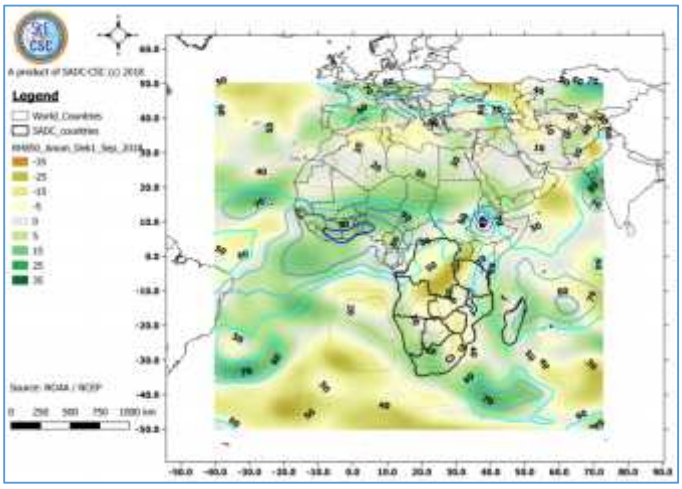

Figure 4: RH (%) at 850hPa (contour) and anomaly (shaded) during the period from 1st to 10th September, 2018 (Data Source: NOAA/.NCEP-CAR/.CDAS1)

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High RH with values ≥60% at 700 hPa in were observed over northern Mozambique much of Madagascar, and Comoros Island. The RH anomalies for the first dekad of September 2018 (Figure 5) were positive over most eastern parts of region. Negative anomalies were recorded over Namibia, Angola, DRC, northern Botswana, Zambia, Seychelles and Tanzania.

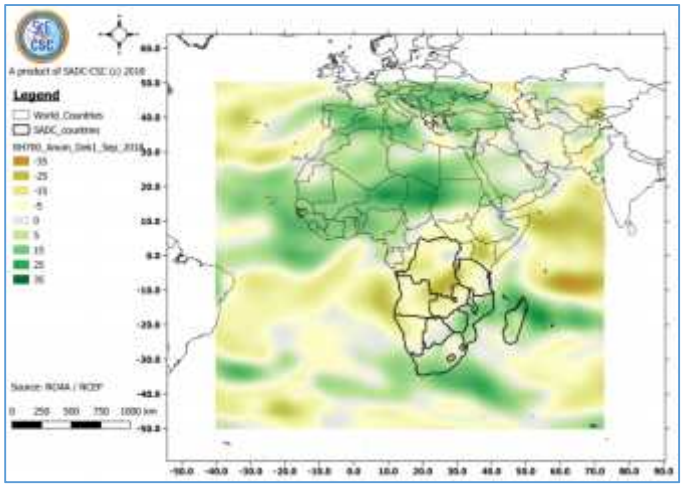

Figure 5: RH (%) at 700hPa (contour) and anomaly (shaded) during the period from 1st to 10th September, 2018 (Data Source: NOAA/.NCEP-CAR/.CDAS1)

2.0 CURRENT CLIMATE

2.1 PRECIPITATION

A bulk of the region was relatively dry with significant rains observed over Comoros, most of Democratic Republic of Congo (DRC) and north eastern Angola and along the east coast of South Africa in parts of the Eastern Cape Province and Kwazulu Natal Province (Figure 1). Southern Madagascar, north-most Tanzania, southern-most Mozambique and southeast of eSwatini received moderate rainfall.

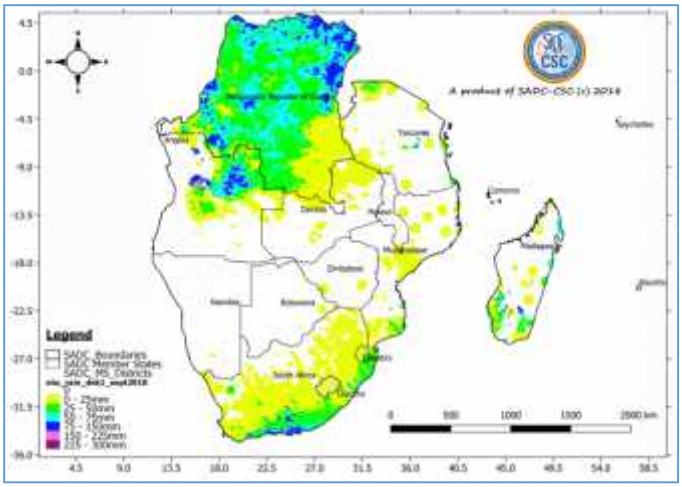

Figure 6: Observed rainfall over the SADC region during 1-10 September2018 period (Data Source: ARC2)

These rains were slightly above the long-term mean for the same period over central-western DRC and most of the northern parts, otherwise rains in the central part of DRC were slightly below the long-term mean (Figure 2). Unseasonal rain episodes were also experienced in central-eastern South Africa, eSwatini and some parts of Lesotho were above the long-term mean. Mediterranean type of weather over Western Cape also resulted in above average rainfall over south-western South Africa. Below average rains were recorded in the extreme north of Tanzania and extreme western coast of South Africa.

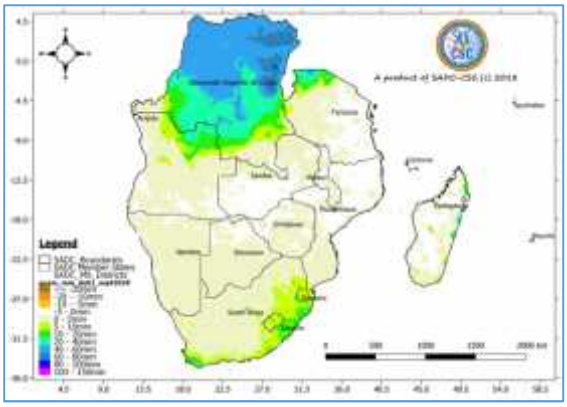

Figure 7: Anomaly rainfall over the SADC region during 1-10 September2018 period (Data Source: ARC2)

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2.2 SURFACE TEMPERATURE

2.2.1 Maximum Temperature

Warmer than average temperatures were recorded in parts of northeastern and southern Angola, eastern Lesotho, central Madagascar and central-and eastern South Africa during the reporting period, while parts of western Cape in South Africa observed below average maximum temperatures. The remainder of the region experienced relatively average maximum temperatures.

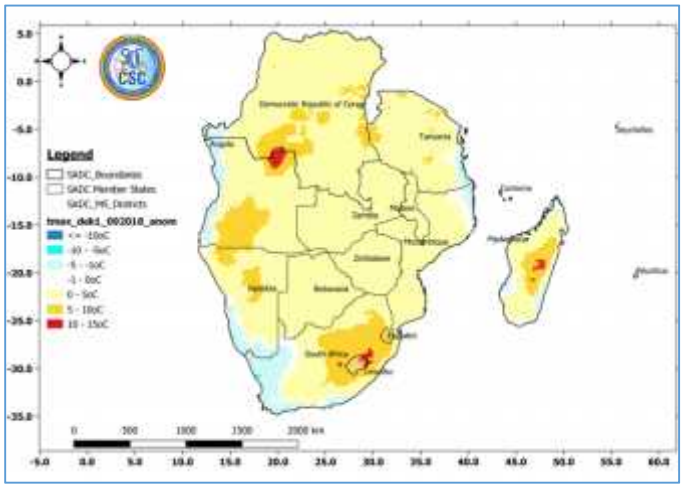

Figure 8: Maximum temperature anomaly for 01 - 10 September 2018 (Data Source: AFDM)

Highest maximum temperatures were recorded mostly over bulk of Angola, southern half of DRC, northern Botswana, north-eastern Namibia and western parts of Tanzania along Lake Victoria.

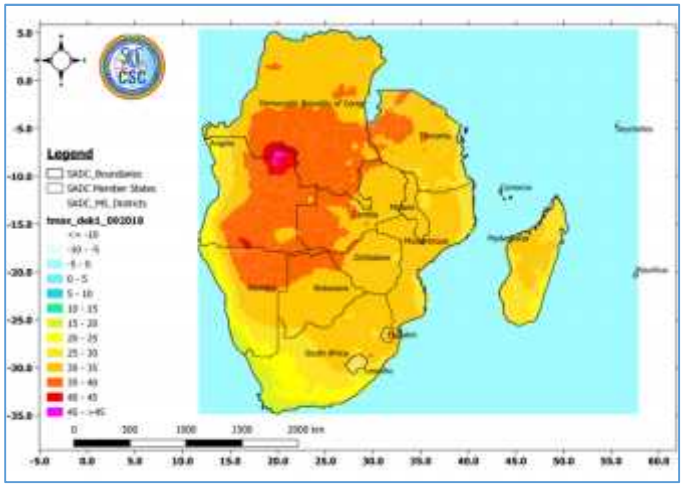

Figure 9: Observed maximum temperatures for 01 - 10 September 2018 (Data Source: AFDM)

2.2.2 Minimum Temperature

Southern Angola and central Namibia together with northern parts of Botswana, south-western fringes of Zambia and a few places in Zimbabwe experienced minimum temperature anomalies in the range of +10°c to +15°C while a bulk of the region recorded anomalies in the range of +5°C to +10°C.

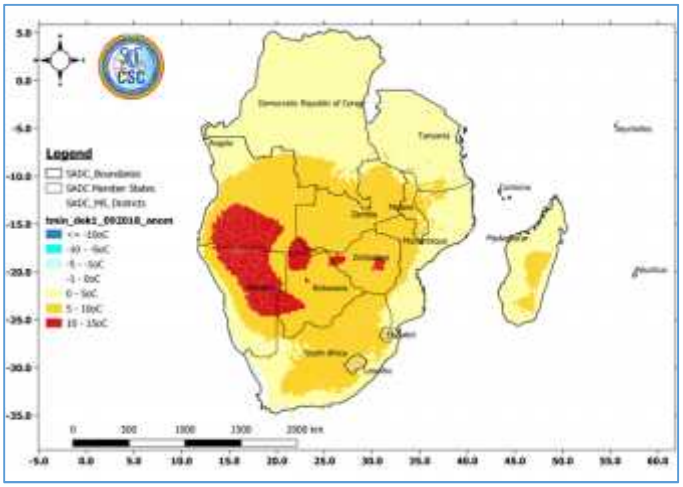

Figure 10: Minimum temperature anomaly for the period 01 - 10 September 2018 (Data Source: AFDM)

Most of the region recorded minimum temperatures ranging from 15°C to 30°C as most of western South Africa and Lesotho experienced cooler minimum temperatures ranging from 5°C to 15°C

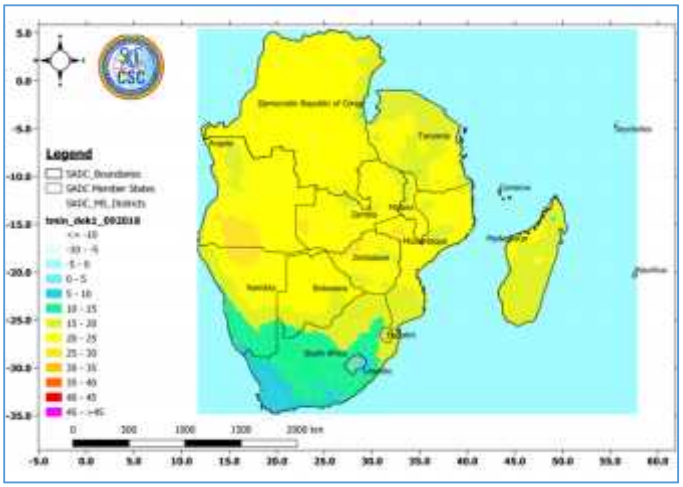

Figure 11: Recorded minimum temperatures during 01 - 10 September 2018 (Data Source: AFDM)

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3.0 CLIMATE OUTLOOK

3.1 PRECIPITATION

Moderate to heavy precipitation is likely to be experienced over the extreme northern DRC during the period from 15th to 24th September 2018, and the bulk of DRC and northern Angola will experience low to moderate rainfall, while other parts of the region will remain dry.

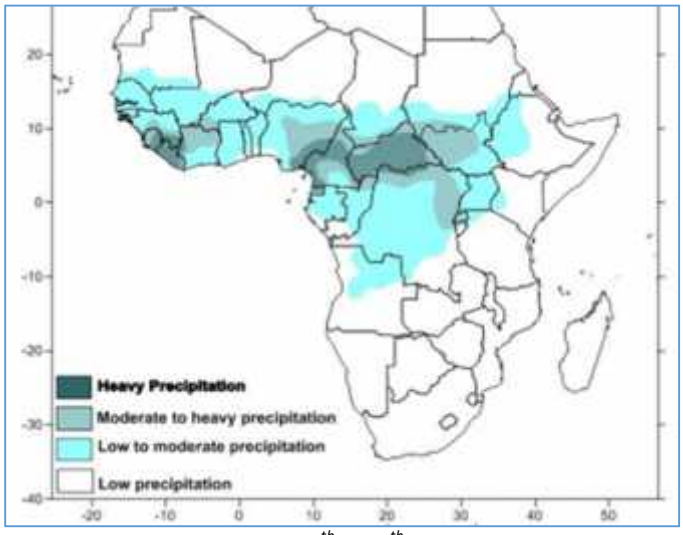

Figure 12: Rainfall outlook for 15th to 24th July 2018 (Source: ACMAD)

3.2 TEMPERATURE

The bulk of the contiguous SADC will be warmer than average during the coming dekad (figure 9) otherwise cooler than average temperatures will be experienced in some parts of Western Cape in South Africa, eastern Madagascar, and coastal areas of Mozambique, Tanzania and northern DRC.

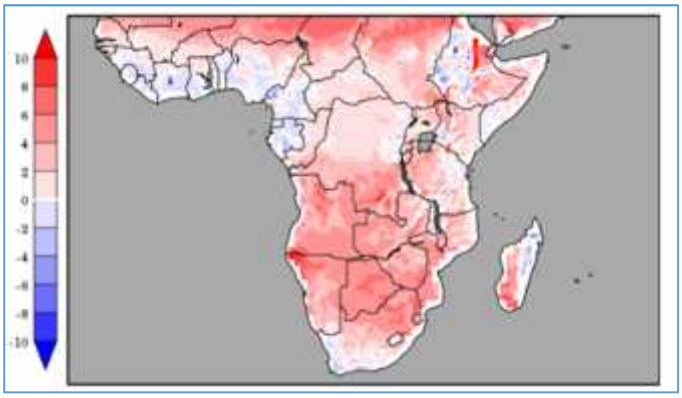

Figure 13: Mean Temperature outlook for the period 15th to 24th September 2018 (Source: COLA)

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