



INTRA-ACP CLIMATE SERVICES AND RELATED APPLICATIONS PROGRAMME

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

CLIMATE SERVICES CENTRE (SADC-CSC)

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A. HIGHLIGHTS

- **Rainfall during the month of November 2024 was well above the monthly long-term average** over most of the contiguous SADC region, except over the extreme southwest covering south Angola, Namibia, Botswana and west South Africa.
 - **Persistent long term drought conditions continued** over most of the sub-continent, specifically over the western side of the sub-continent. However, most parts of Tanzania experienced moderately wet conditions.
 - **Dry days** less than 4 consecutive dry days were observed in most of the central parts of the subcontinent located DRC, Angola, northeastern South Afrina and central Madagascar.
 - The **minimum temperature anomalies** of above **3°C** were recorded everywhere including in Madagascar, but not within the central parts of the DRC, where null anomalies were recorded.
 - Positive **maximum temperatures anomalies of above 3°C above**, were recorded almost everywhere within the subcontinent, during the month of November 2024, except within the Angolan territory, and everywhere within the region where null anomalies were conspicuous.
 - Day time heat waves were less than 10 days in most of the region except within the central DRC, west of Madagascar and parts of Tanzania where above 20 **days of daytime heat wave conditions were observed** in November. Night-time heat waves were mainly in DRC, and northwestern Angola where more than 27 days were recorded.
 - Rainfall and temperature outlook: Most of the subcontinent expected above normal rainfall. Temperature outlook shows that most of the region will record high average temperatures in December, except parts of north of Namibia, south Angola, east Zambia and west Tanzania.
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1. REGIONAL RAINFALL PERFORMANCE

The rainfall during the month of November 2024 was still above the monthly long-term average over most of the of the SADC region, including the islands, but not the southwestern side of the subcontinent covering west South Africa, Namibia and Botswana. except over most parts of the of the DRC and north Angola where above normal rainfall was observed. Other areas of poor precipitation were also noted elsewhere within the whole region and within the island states, [Figure 1 right]. This relative increase of precipitation in comparison with the previous month, is natural considering the typical weather patterns in summertime. In another hand, this wetness seems to reflect the forecasted neutral La Niña phase, described to tend to a manured phase associated with stronger precipitation within the region.

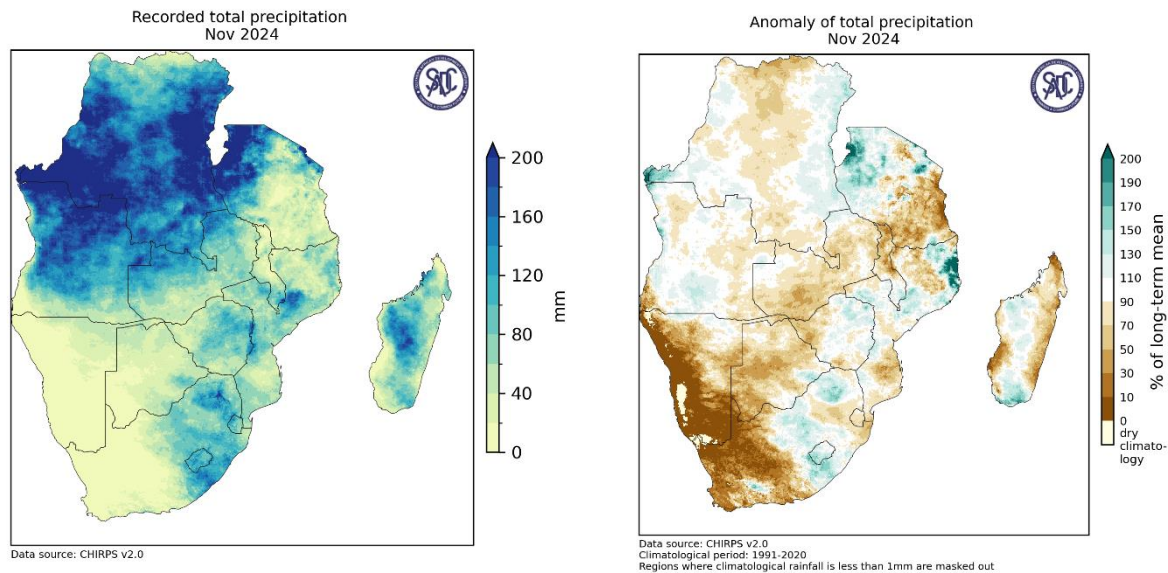


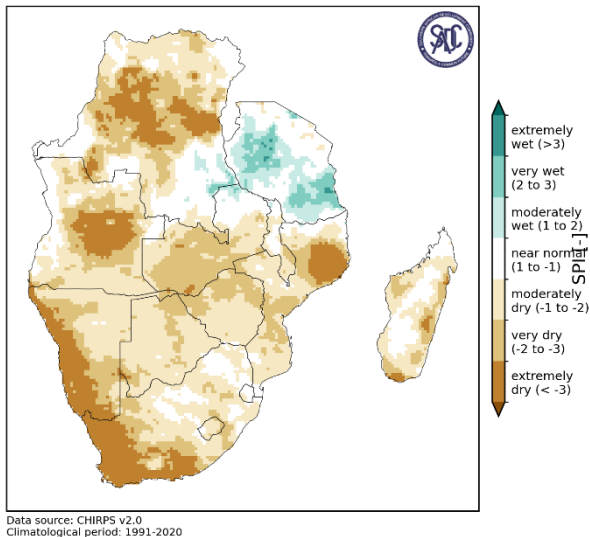
Figure 1: Observed rainfall (left) and rainfall anomaly (right) for the month of November 2024

1.1 Drought Monitoring

1.1.1 Seasonal and Annual Drought Assessment

Despite improvement in precipitation by comparison with the previous months, drought conditions defined by 12-month SPI (SPI-12), show that extremely dry conditions were prevalent over the whole region, except over Tanzania, where extremely wet conditions were recorded. Extremely very dry weather was noted within the western fringes of the region located in Namibia and RSA, parts of central Angola and Mozambique. Most of the areas within the region varied from normal to moderately dry conditions, whereas the wet conditions were prevalent in Tanzania, [Figure 2 left].

Recorded 12-month Standardized Precipitation-Evapotranspiration Index (SPEI)
Nov 2024



Recorded 3-month Standardized Precipitation Index (SPI)
Nov 2024

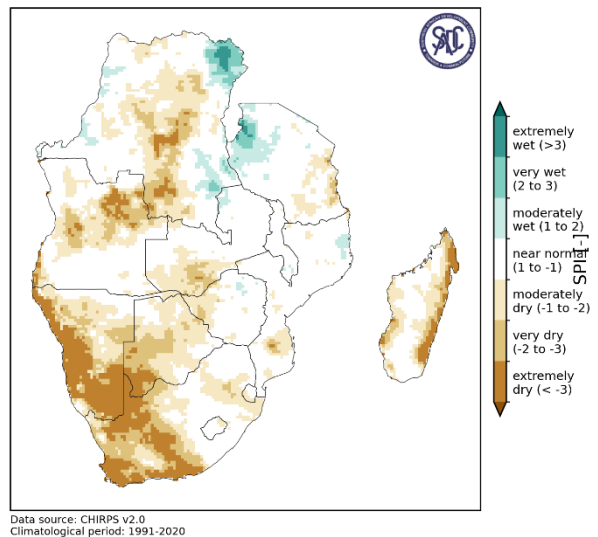


Figure 2: Drought assessment: SPI for 12-months (left) and 3-months SPI (right)

The recorded 3-month SPI also shows that most of the southwestern fringes of the sub-continent, located in South Africa and Namibia, were characterized by extremely dry conditions, whereas moderately dry to normal conditions were spread everywhere within the subcontinent, except the east DRC and west Tanzania [Figure 2 right]. The Island of Madagascar observed very dry conditions over its central parts, but not within its continental parts where the conditions were close to normal.

1.1.2 Short term drought (dry spells)

Consecutive number of dry days ranging from 25 to 30 were recorded over most of the southwestern parts of the subcontinent located in west Namibia western and southwest South Africa. This is also true within the bulk of the eastern Tanzania and inconspicuous parts of northern Mozambique and Botswana. The rest of the subcontinent located in DRC bulk of central Angola, northeastern South Africa, Zambia, west Tanzania and central Madagascar, [Figure 3].

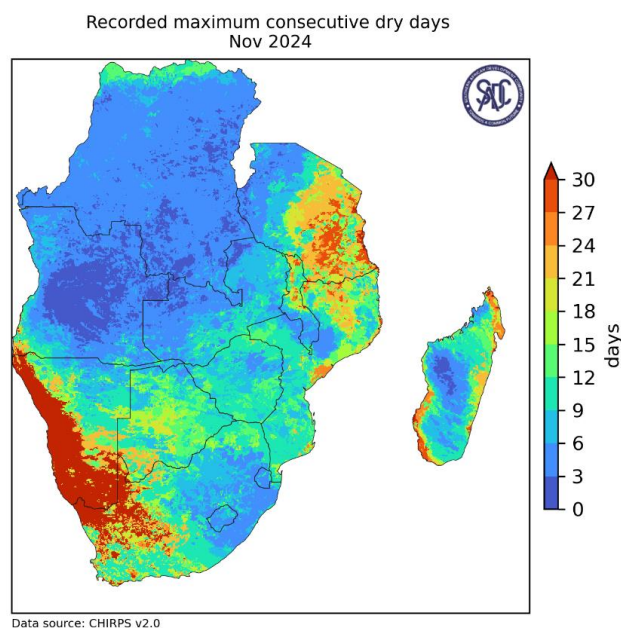


Figure 3: Dry spells prevalence during the month of November 2024

1.2 Extreme Rainfall

The whole subcontinent recorded no extreme precipitation in one day period, except in isolated areas within the west of the DRC, parts of Tanzania and South Africa. Patchy areas within south Africa, DRC, Tanzania, South Africa, Mozambique, and even Madagascar recorded precipitation between 25 and 50mm in one day. The whole subcontinent recorded null precipitation [Figure 4].

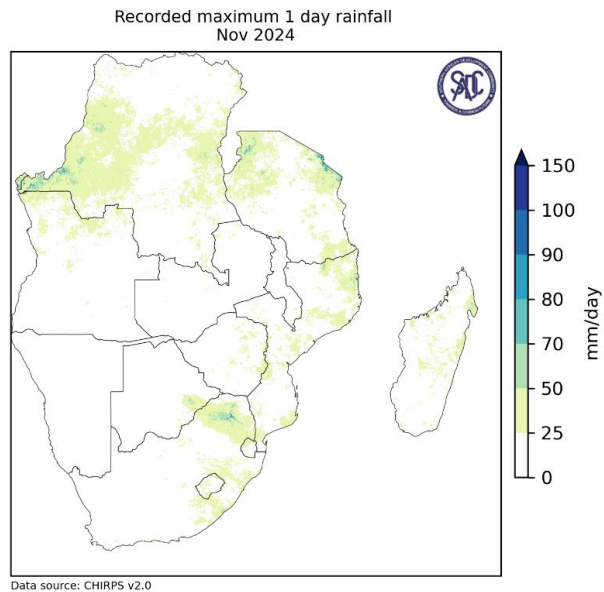


Figure 4: Maximum rainfall recorded over a one-day period during the month of November 2024

2. REGIONAL TEMPERATURE

2.1 Minimum Temperature

Average minimum of daily temperatures of above 25°C were recorded within most of the region except within most of South Africa, and the southwestern part of Namibia, where the minimum temperatures below 12°C persisted, [Figure 5 left].

The absolute anomaly of minimum temperatures shows that in November there were positive signals above 4°C over most of the region including the island of Madagascar. Nevertheless, inconspicuous isolated areas with null minimum temperature anomalies were found everywhere in the subcontinent. Most of the central and western parts of the DRC, recorded null minimum temperature anomalies, indicative of prevalence of minimums close to the average [Figure 5 right].

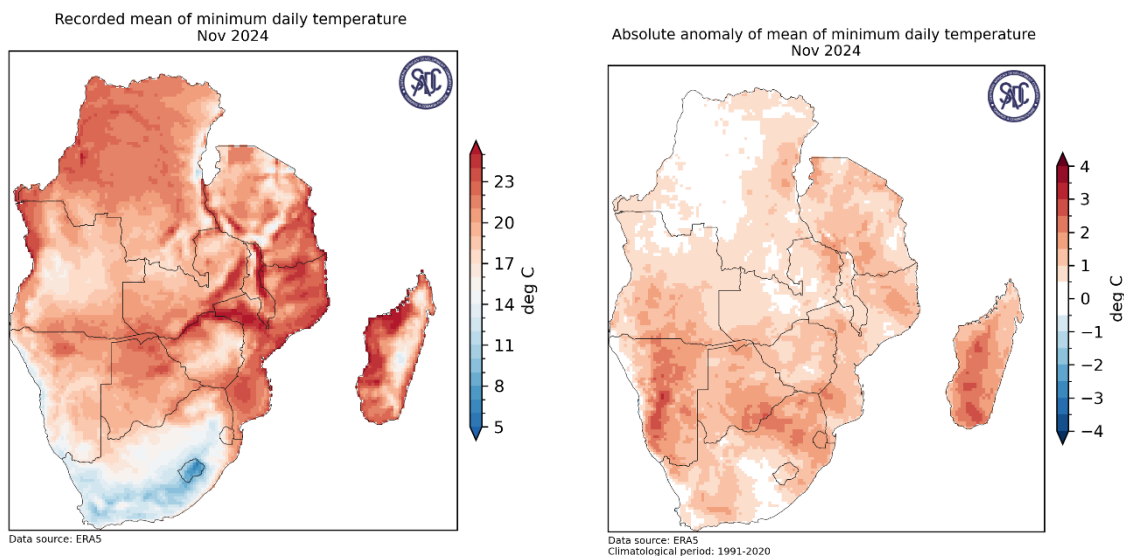


Figure 5: Observed average minimum temperature (left) and anomalies (right) for November 2024

2.2 Maximum Temperature

The average of maximum temperatures in November, peaked to above 35°C over the whole sub-continent except southeast South Africa and parts of central Angola where the averages of the maximum temperatures were close to 24°C. Patchy and isolated areas with average maximum temperatures of 25°C [Figure 6 left].

Positive absolute of maximum temperatures anomalies above 3°C were recorded over most of the subcontinent, but not in most of the Angolan territory. Regions of null anomalies of maximum temperatures on the south and east of DRC, which are also found everywhere were noted, indicative of poor variability in relation to the average in those area, [Figure 6 right].

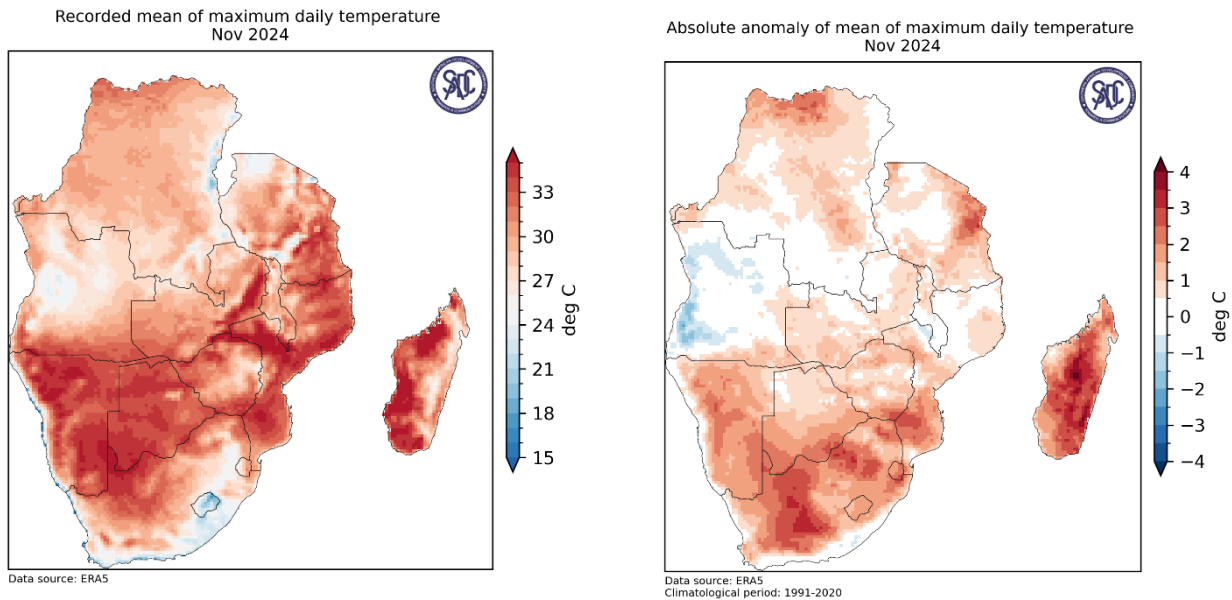


Figure 6: Observed maximum average temperature (left) and anomalies (right) for November 2024

2.3 Heatwaves

We distinguish here two types of heatwaves which differ in economic and human health impacts – daytime defined based on maximum temperature recorded during daytime, and night-time, defined based on minimum temperature recorded during nighttime.

Daytime heat waves of below 03 days (whitish on map) were recorded over most of region but not in Madagascar whereby the daytime heat waves of 25 days were captured, [Figure 7 left].

Night-time heatwaves of around 25-30 days were recorded within parts of the eastern DRC, the western Madagascar and central Angola. The whole subcontinent recorded nighttime heat waves less than 03 days, [Figure 7 right].

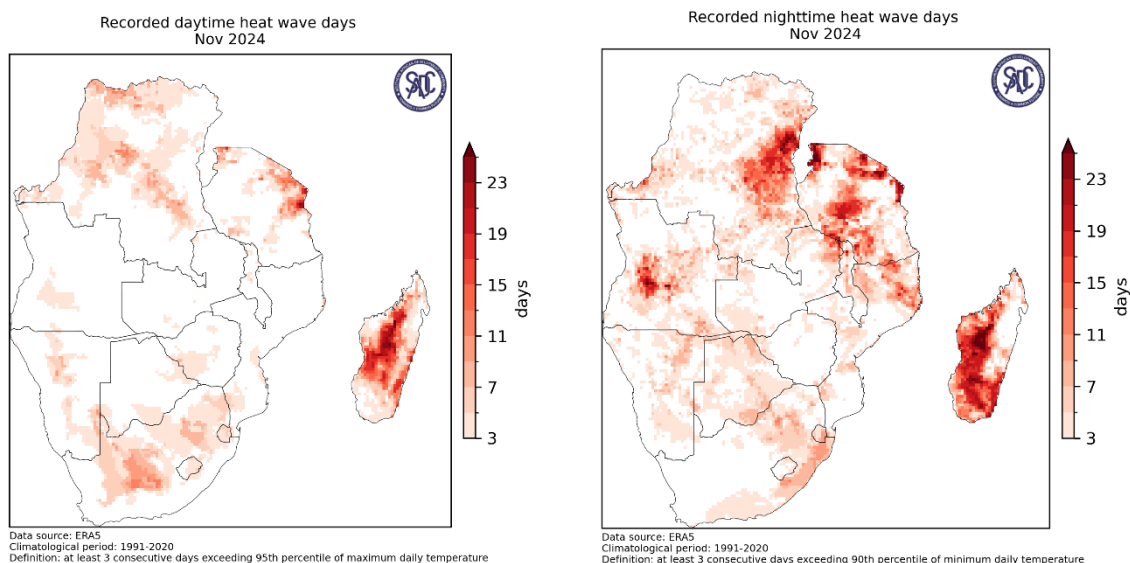


Figure 7: Heatwaves detected during the month of November 2024

3. REGIONAL MONTHLY OUTLOOKS

3.1 Rainfall Outlook

There is an increased probability for above normal rainfall over eastern Botswana, southwestern and southeastern DRC. Above normal rainfall is also further expected in most of Tanzania, Mozambique, Malawi, Zimbabwe, Namibia, southern half of Angola, northern parts of South Africa including Lesotho and northern Madagascar, [Figure 8].

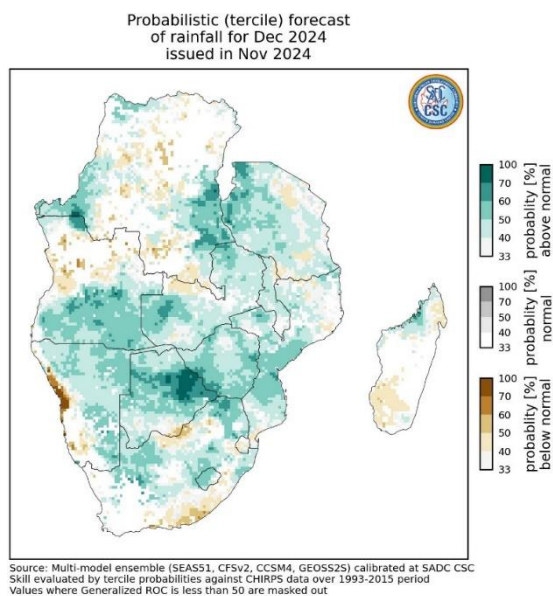


Figure 8: Rainfall probabilistic forecast for December 2024

3.2 Temperature Outlook

Much above normal temperatures are expected over most of DRC, Madagascar, parts of northern Mozambique and eastern Zimbabwe. Most of SADC region will experience above normal temperatures except for parts of northern Namibia, southern Angola, northern Botswana and northern Zambia together with southwestern parts of Tanzania and southeastern DRC where below normal temperatures can be expected, [Figure 9].

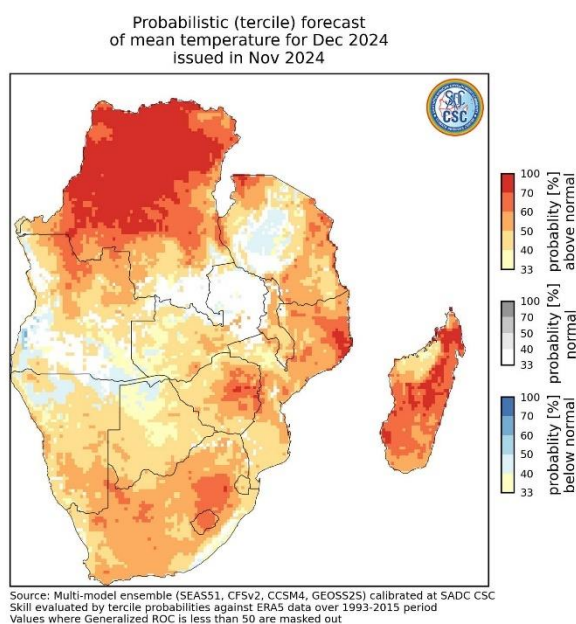


Figure 9: Temperature probabilistic forecast for December 2024

NOTE:

This bulletin used CHIRPS and ERA5 data. While these datasets are considered broadly representative to local conditions over the SADC region, the results presented here may differ from those derived using local observations from Member States.

Users are therefore, urged to consult the local National Meteorological and Hydrological Services (NMHSs) for local conditions and detailed interpretation of the contents of this bulletin.



ClimSA

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