SOUTHERN AFRICAN DEVELOPMENT COMMUNITY

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ClimSA
INTRA-ACP CLIMATE SERVICES AND RELATED APPLICATIONS PROGRAMME
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BENEFICIARIES

A. HIGHLIGHTS

- February 2025 recorded above-average rainfall across most of the SADC region, particularly in eastern DRC, Angola, Botswana, Zimbabwe, northern South Africa, Mozambique, and Madagascar. The wet conditions align with the La Niña phase, known for enhancing regional precipitation. In contrast, central Angola, most of DRC, Zambia, Tanzania, western Namibia, and northern Madagascar experienced below-average rainfall, indicating dry conditions in those areas.
- **Persistent long term drought conditions:** Despite improved rainfall, long-term drought persisted across much of the SADC region, particularly in DRC, Angola, Namibia, South Africa, northeast Zambia, and northern Mozambique. While near-normal soil moisture was observed in central areas of the subcontinent, extreme dryness remained in southwestern South Africa and Namibia. Madagascar experienced severe drought in its central and northern regions, with near-normal conditions in the southwest.
- **Dry days:** The western fringes of the subcontinent, including southwestern Angola, western Namibia, western South Africa, and eastern Tanzania, experienced 15 to 30 consecutive dry days. In contrast, most of the SADC region, including Madagascar, recorded fewer than 10 dry days, indicating a low likelihood of prolonged dry spells.
- The **minimum temperature anomalies** of above **3ºC** 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 3ºC above,** were recorded almost everywhere within the subcontinent, during the month of February 2025, except within the Angolan territory, and everywhere within the region where null anomalies were conspicuous.
- **Rainfall and temperature outlook**: In March 2025, above-normal rainfall was likely across most of the sub-continent and Madagascar, except in northern Angola, southern Namibia, and much of South Africa, where below-normal rainfall was expected.

1. Regional Rainfall Performance

The observed rainfall during the month of February 2025 was still above the monthly long-term average over most of the of the SADC region. This included mostly the eastern parts of DRC, minor areas of western Tanzania, most of Angola, Botswana, Zimbabwe, north South Africa, Mozambique and most of Madagascar. The immediate consequence of this will be the was the higher risk of flooding in those areas. This level of precipitation likely enhanced soil moisture and boosted crop yields but may have also led to flooding, waterlogging, and soil erosion across the SADC region. Flood risks were higher in low-lying and urban areas with poor drainage, while prolonged wet conditions could increase the likelihood of future crop diseases, [Figure 1, left and right]. This is concomitant with the La Niña phase, described to tend to a manured phase associated with stronger precipitation within the region.

By contrast, areas within central Angola, most of DRC, Zambia, Tanzania, west Namibia and most of South Africa and north of Madagascar, recorded negative anomalies indicative of dry condition in those areas, [Figure 1 right].

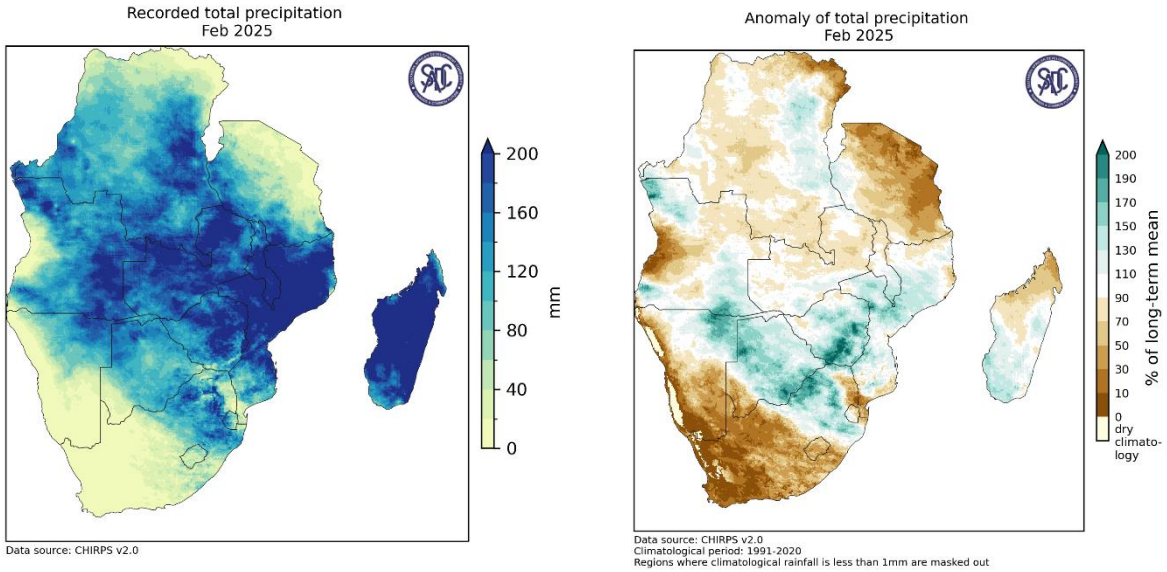

Figure 1: Observed rainfall (left) and rainfall anomaly (right) for the month of February 2025

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 most of the sub-region, especially within areas of DRC, Angola, Namibia, South Africa, northeast of Zambia and north Mozambique, and within isolated area in Tanzania. Most of the areas within DRC, minor areas of western Tanzania, most of Angola, Botswana, Zimbabwe, north of South Africa, Mozambique and most of southeast of Madagascar recorded near normal soil wet conditions, except for minor areas inside of Botswana and Zimbabwe where the conditions were moderately wet [Figure 2 left].

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 within most of Botswana, parts of north South Africa and Zimbabwe where very wet conditions were recorded. The Island of Madagascar observed very dry conditions over most of its central and norther parts, but not within its southwestern parts where the conditions were close to normal, [Figure 2 right].

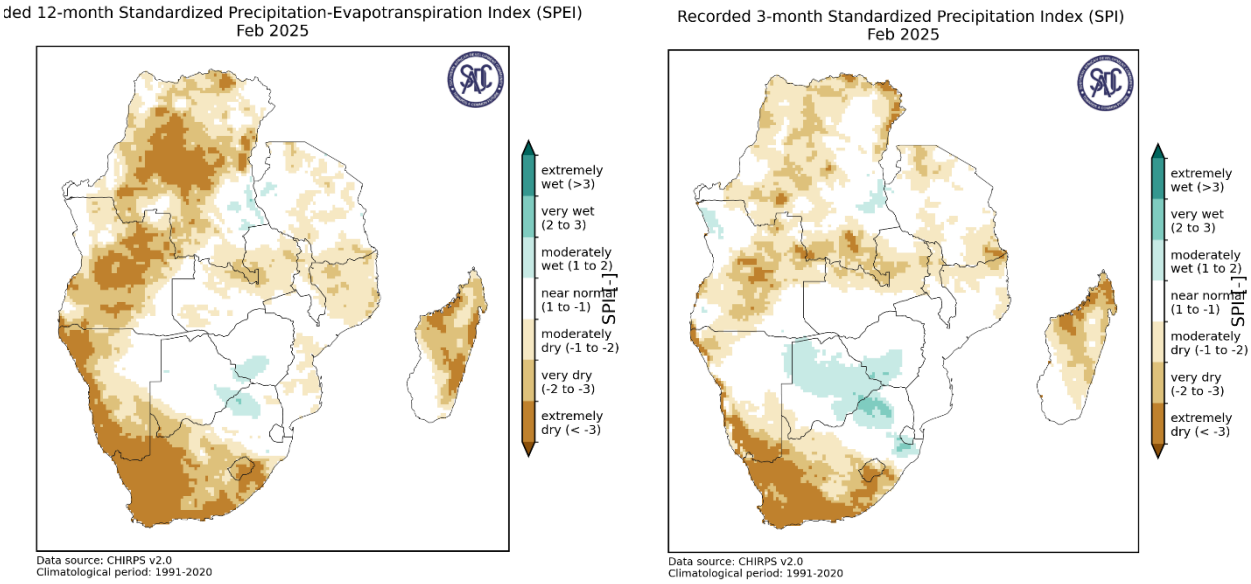

Figure 2: Drought assessment: SPI for 12-months (left) and 3-months SPI (right)

1.1.2 Short term drought (dry spells)

Consecutive number of dry days ranging from 55 to 30 were recorded over the western fringes of the sub-continent lying mostly in southwestern Angola, west Namibia and west of South Africa, and over east Tanzania. The whole SADC region including Madagascar, recorded dry days between 0 to 9 days, indicative of relatively low likelihood of days without precipitation in most of the countries [Figure 3].

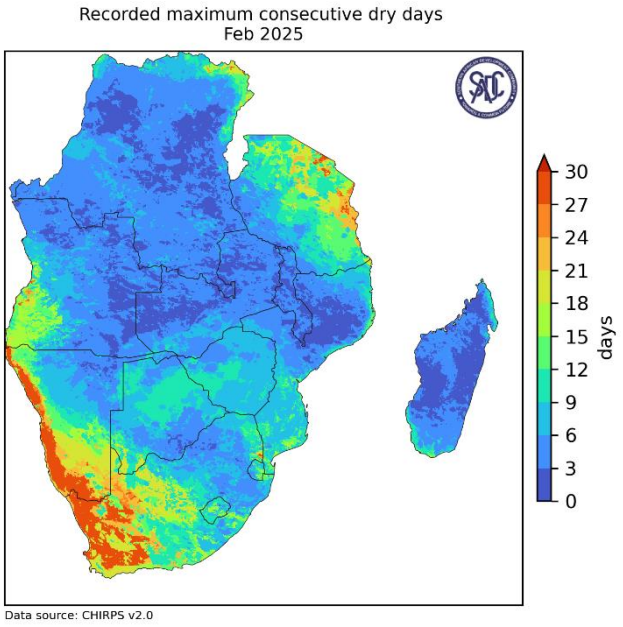

Figure 3: Dry spells prevalence during the month of February 2025

1.2 Extreme Rainfall

There were found a few areas within the subcontinent that recorded extreme precipitation of around 100mm in one day period. These are in isolated areas of central Zimbabwe, western and northern Mozambique, northern South Africa and within coastal areas in Madagascar. Other areas located in the central parts of the region, namely in isolated areas of Angola, DRC, Zambia, most of Mozambique and Madagascar recorded precipitation less that 50mm in a single day. The whole

subcontinent recorded null precipitation [Figure 4].

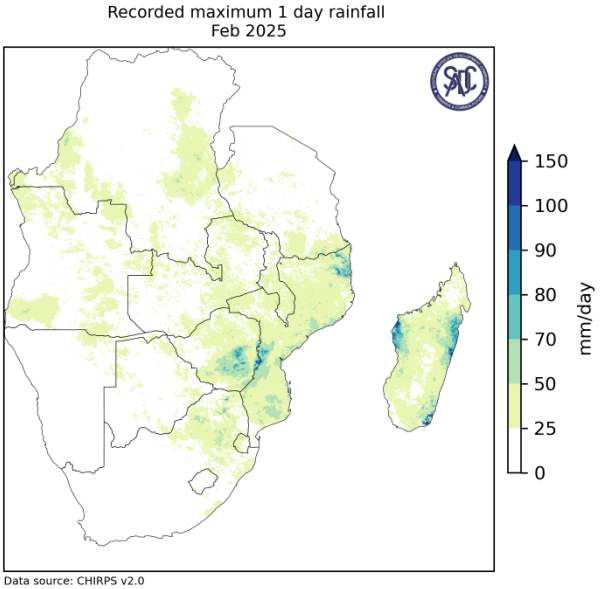

Figure 4: Maximum rainfall recorded over a one-day period during the month of February 2025

2. REGIONAL TEMPERATURE

2.1 Minimum Temperature

Average minimum of daily temperatures of above 25^{0}C were recorded within most of the region except within parts of southern South Africa, where the minimum temperatures below 12^{0}C persisted, [Figure 5 left].
The absolute anomaly of minimum temperatures shows that in February there were positive signals of above 4^{0}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, mainly within the west DRC, Tanzania and the tip of the region, [Figure 5 right].

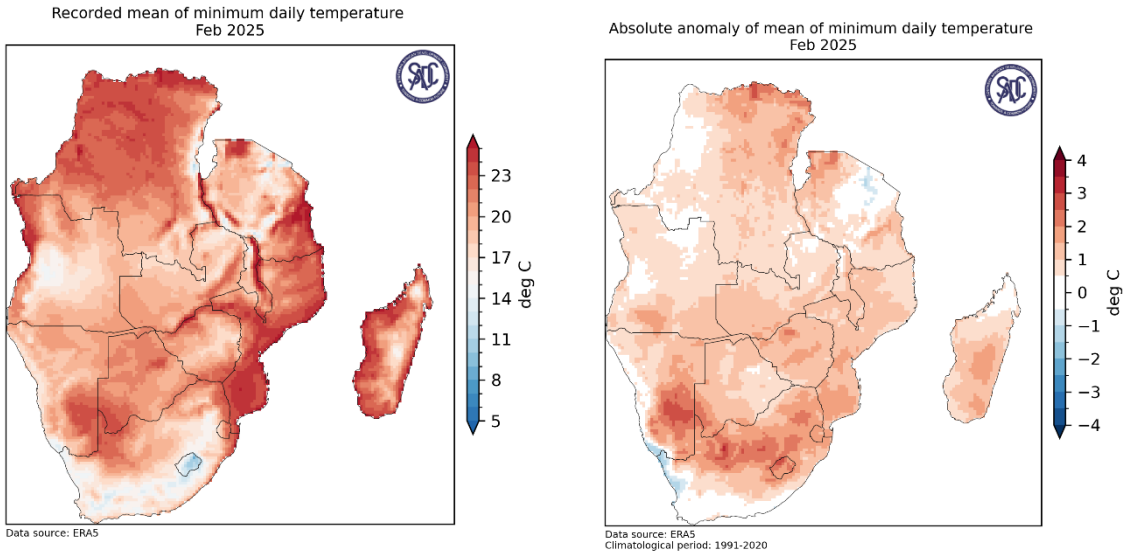

Figure 5: Observed average minimum temperature (left) and anomalies (right) for February 2025

2.2 Maximum Temperature

The average of maximum temperatures in February, peaked to above 35^{0}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^{0}C. Patchy and isolated areas with average maximum

temperatures of 25^{0}C have also been noted, [Figure 6 left].

Positive absolute of maximum temperatures anomalies above 3^{o}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 northeast of DRC, most of Angola, isolated areas of south Africa and the southwest Madagascar were recorded. Most of Botswana territory recorded negative anomalies of the maximum daily anomalies in February. This is also true for the southwestern fringes of the sub-region, [Figure 6 right].

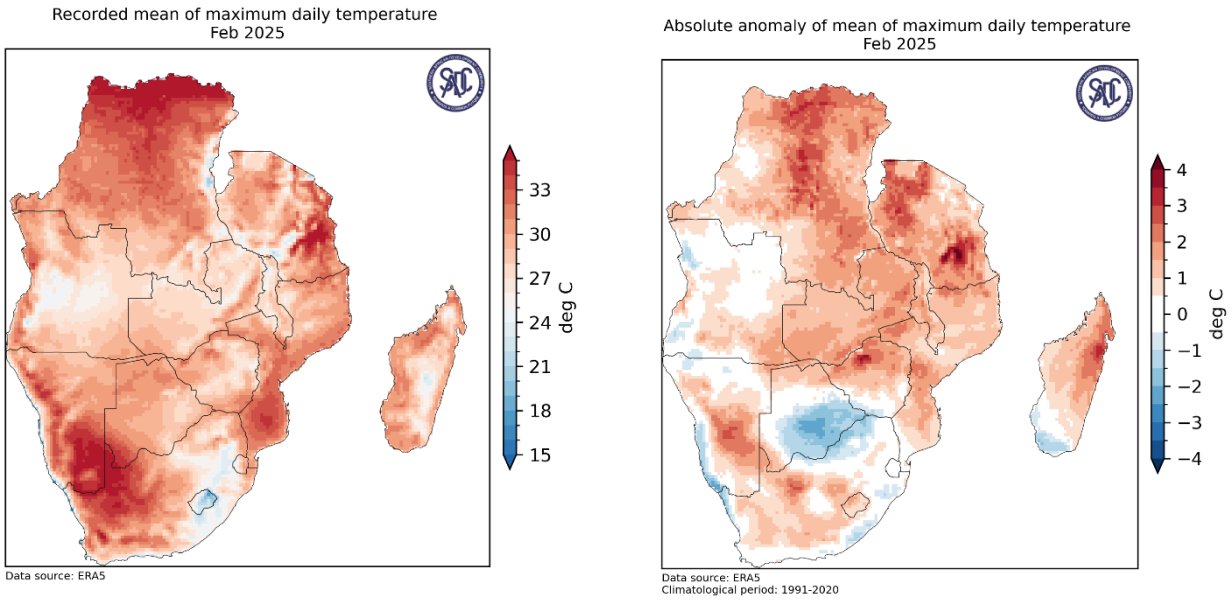

Figure 6: Observed maximum average temperature (left) and anomalies (right) for February 2025

3. REGIONAL MONTHLY OUTLOOKS

3.1 Rainfall Outlook

There was an increased probability for above normal rainfall in March 2025 over the whole sub-continent including the island of Madagascar, but not on the northern Angola, south of Namibia and most of South Africa, where below normal rainfall were expected, [Figure 8].

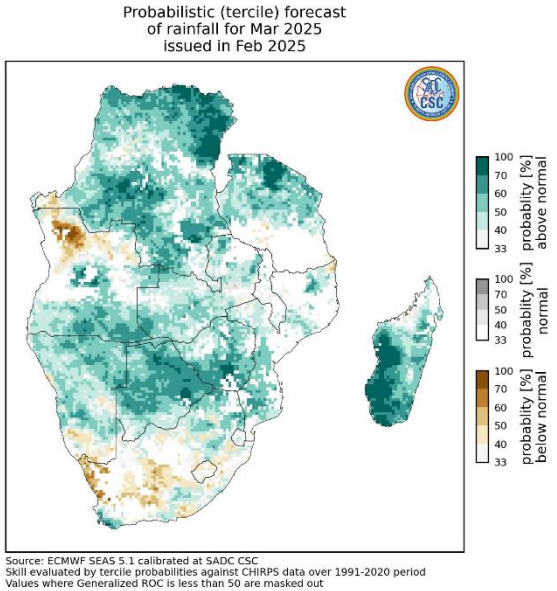

Figure 8: Rainfall probabilistic forecast for March 2025

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.

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