

FAMINE EARLY WARNING SYSTEMS NETWORK

Mozambique

Monthly Climate and Weather

20 February 2025

Highlights

- La Niña conditions continued during January 2025 as indicated by below-average sea-surface-temperatures (SSTs) across the central and east-central equatorial Pacific Ocean. La Niña is expected to persist in the near-term, with a transition to El Niño Southern Oscillation (ENSO)-neutral conditions during March – May 2025 with a 66% chance, according to the latest ENSO outlook.
- During November 2024 - January 2025, rainfall was 20-50% below average across much of Mozambique, while rainfall was 20-100% above average in the central portions of Gaza and coastal Sofala. During March – May 2025, rainfall forecasts indicate that there is a slight tilt in the odds to favor above-average rainfall over pocket areas of northern and western Mozambique, but call for an increased chance for below-average rainfall over Gaza and Maputo.
- During November 2024 - January 2025, maximum temperatures were 1-5°C above average across Mozambique. Minimum temperatures were 1-3°C above average over the southern provinces and parts of Tete, Manica, Zambézia, and Nampula, but were 1-3°C below average over the western parts of Niassa and Tete. During March – May 2025, forecasts call for above average temperatures across much of Mozambique, with increased probabilities over the northern and southern provinces.
- During November 2024 - January 2025, drier-than-average conditions dominated over Mozambique. During the next four weeks, drought forecasts suggest that drier-than-average conditions will persist over Mozambique.
- As of late January 2025, below-average vegetation conditions were observed over central Mozambique and parts of Gaza and Inhambane, whereas above-average vegetation conditions were depicted over southern and northeastern Mozambique.

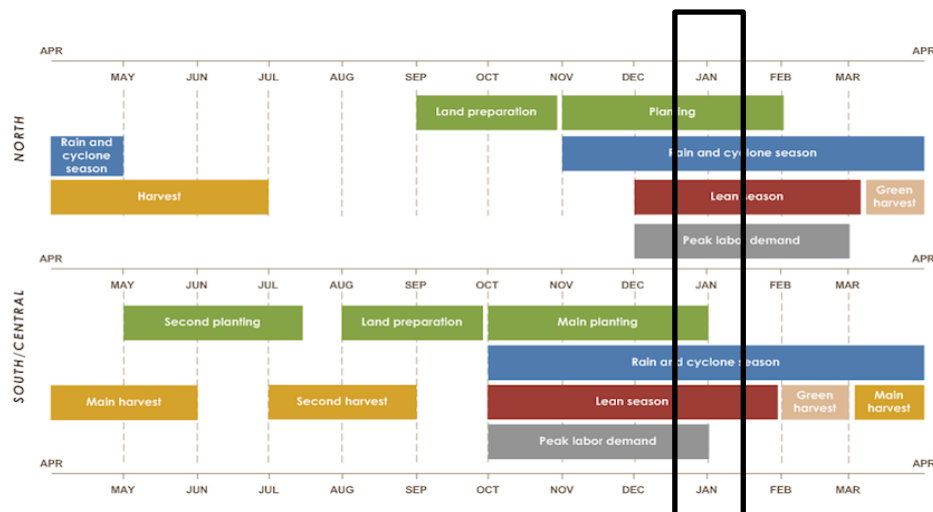


Figure 1: Seasonal calendar for Mozambique. **Source:** FEWS NET

Current Climate Modes and Teleconnections

- La Niña conditions continued during January 2025. Below-average SSTs persisted across the central and east-central equatorial Pacific Ocean. Subsurface temperatures were below-average across the central and eastern equatorial Pacific Ocean. Low-level wind anomalies remained easterly over the western and central Pacific, while upper-level wind anomalies were westerly over the central Pacific.
- The latest ENSO outlook anticipates La Niña conditions to persist in the near-term, with a transition to ENSO-neutral conditions during March – May 2025 with a 66% chance (**Fig. 2**). The latest update of the NOAA Climate Prediction Center's ENSO diagnostic discussion can be found [here](#).

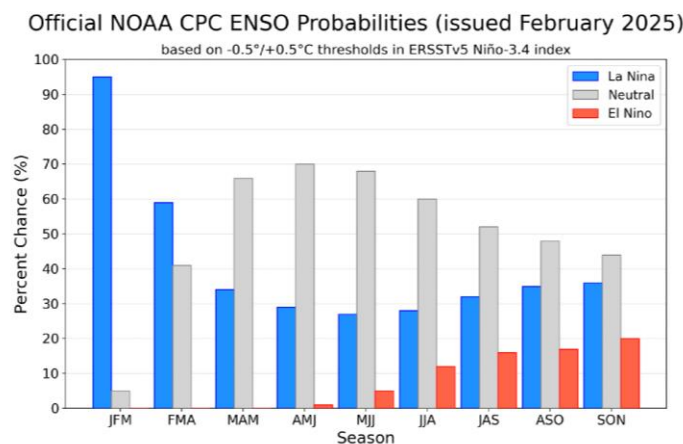


Figure 2: Official CPC ENSO probabilities outlook. **Source:** NOAA/NCEP

- Based on historical record, La Niña conditions are associated with above-average rainfall and below-average mean temperatures in north-central Mozambique during March – May.

Extreme Events

- Tropical Cyclone DIKELEDI made landfall over the coastal areas of Nampula on 13 January and influenced the eastern coasts of the Province during 13 – 14 January, causing 11 deaths, affecting nearly 250,000 people, and damaging infrastructure, according to media reports.
- The Limpopo River has overflowed its banks in Gaza, affecting nearly 27,000 people, according to [reports](#).
- Over the past four weeks, Cabo Delgado experienced an [unusually high](#) number of fire alerts compared to the number of fire alerts during the same period going back to 2012.

Rainfall/Precipitation

Past 3 months (November 2024 - January 2025):

- **Totals:** During November 2024 - January 2025, a large part of Mozambique registered rainfall amounts between 300-500 mm (**Fig. 3a**). However, the central portion of coastal Sofala recorded rainfall total over 750 mm.
- **Anomalies:** During November 2024 - January 2025, rainfall was 20-50% below average across much of Mozambique, while rainfall was 20-100% above average in the central portions of Gaza and coastal Sofala (**Fig. 3b**).

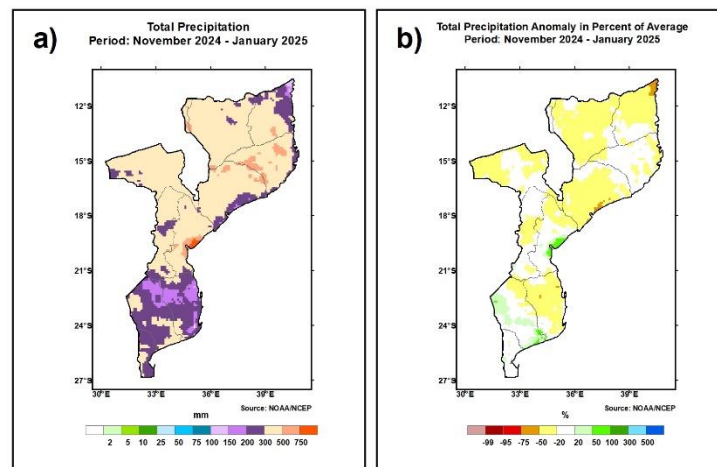


Figure 3: Spatial distribution for November 2024 - January 2025 (a) total precipitation and (b) total precipitation anomaly in percent of average. **Source: NOAA/NCEP**

Past 1 month (January 2025):

- **Totals:** During January, rainfall varied between 100-500 mm across Mozambique, with Nampula, coastal Sofala, southeastern Gaza, and southern Inhambane receiving the highest rainfall amounts (**Fig. 4a**). However, rainfall amounts below 75 mm were received in northeastern Cabo Delgado.
- **Anomalies:** During January, while rainfall was near-average across much of central, western, and northern Mozambique, rainfall was 20-300% above-average in coastal Sofala, Gaza, Maputo, southern Inhambane, and pocket areas of Manica and Nampula(**Fig. 4b**). In contrast, rainfall was 20-75% below-average in local areas of Tete, Gaza, Manica, Inhambane, Zambézia, Niassa, Nampula, and Cabo Delgado. Over Maputo, rainfall was 54% above average (**Table 1**).

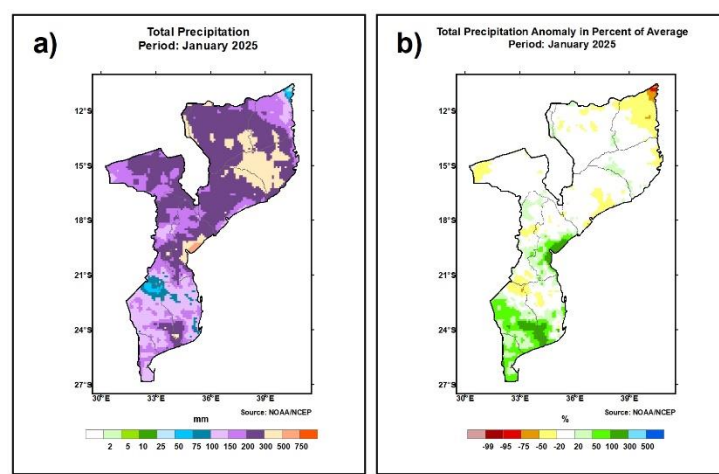


Figure 4: Spatial distribution for January 2025 (a) total precipitation and (b) total precipitation anomaly in percent of average. **Source: NOAA/NCEP**

Monthly and Seasonal Forecasts (March 2025 and March – May 2025):

- **Monthly:** During March 2025, [forecasts](#) call for an increased chance for above-average rainfall over pocket areas of Niassa, Nampula, Zambézia, Tete, and Manica. In contrast, precipitation forecasts favor below-average rainfall over areas of Gaza and Maputo.
- **Seasonal:** During March – May 2025, forecasts indicate a slight tilt in the odds to favor above-average rainfall over local areas of Niassa, Cabo Delgado, Nampula, Zambézia, and Manica, but favor below-average rainfall over part of Gaza and Maputo (**Fig. 5**). Probabilities for below-average rainfall exceed 40% over western Gaza.

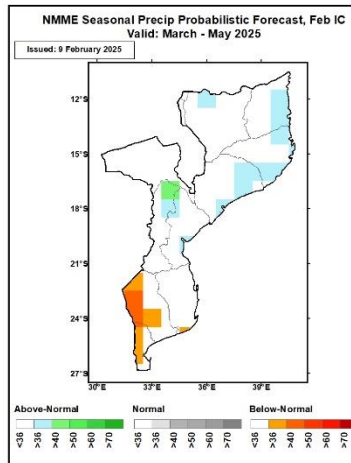


Figure 5: Rainfall forecast for March – May 2025. **Source:** NOAA/NCEP

Table 1: Total rainfall and anomalies for the past three months and one month and seasonal rainfall climatology and anomaly forecast over provinces of Mozambique.

Location	Past 3-Month		Past 1-Month		Seasonal Forecast	
	Total (mm)	Anomaly (%)	Total (mm)	Anomaly (%)	Climatology (mm)	Anomaly (mm)
Cabo Delgado province	334	-27	199	-23	395	33
Gaza province	264	6	144	48	126	-5
Inhambane province	231	-25	140	19	147	8
Manica province	363	-13	184	6	172	22
Maputo province	277	3	146	54		
Nampula province	426	-15	300	0	364	41
Niassa province	377	-25	255	-6	307	36
Sofala province	412	-4	251	35	176	29
Tete province	372	-22	205	-5	161	25
Zambézia province	381	-26	245	-5	307	33

Temperature

Past 3 months (November 2024 - January 2025):

- **Maximums:** During November 2024 - January 2025, maximum temperatures were 1-5°C above average across Mozambique, with Tete experiencing the hottest conditions (**Fig. 6a**). Over Tete, maximum temperatures were 4°C above average (**Table 2**).
- **Minimums:** During November 2024 - January 2025, minimum temperatures were 1-3°C above average over southern Mozambique and parts of Tete, Manica, Zambézia, and Nampula, but were 1-3°C below average over western Niassa and western Tete (**Fig. 6b**).

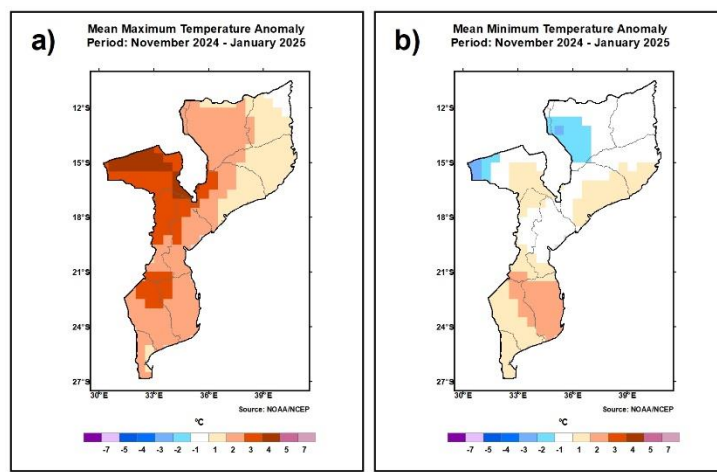


Figure 6: Spatial map for November 2024 - January 2025 (a) mean maximum temperature anomaly and (b) mean minimum temperature anomaly. **Source:** NOAA/NCEP

Past 1 month (January 2025):

- **Maximums:** During January, maximum temperatures were 1-4°C above average across Mozambique, with the western and central provinces experiencing the hottest conditions (**Fig. 7a**).
- **Minimums:** During January, the southern, western, and north-central parts of Mozambique experienced above-average minimum temperatures, with positive anomalies between 1-3°C (**Fig. 7b**). In contrast, western Niassa and local areas of western Tete experienced minimum temperatures ranging between 1-2°C below average.

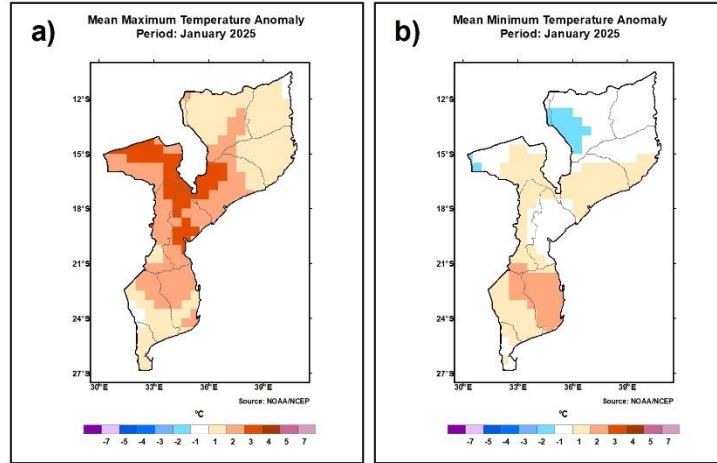


Figure 7: Spatial map for January 2025 (a) mean maximum temperature anomaly and (b) mean minimum temperature anomaly. **Source:** NOAA/NCEP

Monthly and Seasonal Forecasts (March 2025 and March – May 2025):

- **Monthly:** During March 2025, [forecasts](#) suggest a moderate to high tilt in the odds to favor above-average temperatures over the northern and southern provinces of Mozambique.
- **Seasonal:** During March – May 2025, forecasts suggest above-average temperatures across much of Mozambique. Probabilities for above average temperatures exceed 50% over the northern and southern provinces of Mozambique (**Fig. 8**).

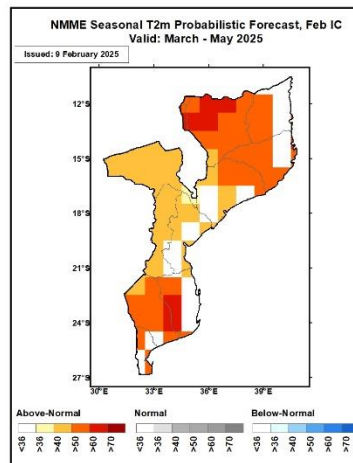


Figure 8: Spatial map for March – May 2025 mean temperatures forecast. **Source:** NOAA/NCEP

Table 2: Maximum temperature and minimum temperature and anomaly for the past three months and one month and seasonal mean temperatures and anomaly forecast over provinces of Mozambique.

Location	Past 3-Month		Past 1-Month		Seasonal Forecast	
	Max/Min Temp (°C)	Max/Min Anomaly (°C)	Max/Min Temp (°C)	Max/Min Anomaly (°C)	Temp (°C)	Above/Below-average (°C)
Cabo Delgado province	32/23	1.4/0.6	31/23	1.4/0.7	24	0.4
Gaza province	34/23	2.6/1.8	34/24	1.8/1.7	24	0.8
Inhambane province	32/25	2.5/2.4	33/25	2.1/2.3	25	0.6
Manica province	33/22	3.3/1.2	32/23	2.6/1.5	22	0.6
Maputo province	33/23	2.1/1.2	33/23	1.3/1		
Nampula province	33/23	1.6/0.9	32/23	1.4/0.9	24	0.4
Niassa province	31/20	2.3/-0.8	29/20	1.8/-0.5	22	0.4
Sofala province	34/23	3/0.6	34/24	3/0.7	24	0.4
Tete province	34/22	4/0.3	32/22	3/0.8	23	0.6
Zambézia province	33/23	2.2/1	33/23	2.6/1.1	24	0.4

Flooding and Areas of Inundation

- Currently, flooding has occurred along coastal areas of southern Nampula, Zambézia, Sofala, and riverine areas of Inhambane, Gaza, and Maputo, based on [satellite-derived products](#).
- Over the next 30 days, moderate to high risks of flooding exist for northern and central Mozambique as heavy and above-average rainfall is forecast in the region.

Drought and Dryness

The Standardized Precipitation Index (SPI) is used to characterize meteorological drought. SPI compares the precipitation over a specific period of time with the climatology from that same period. Therefore, the SPI values can be thought of as the number of standard deviations that the observed anomaly deviates from the climatology. The 1-month SPI values are a good representation of the monthly precipitation anomaly as well as the soil moisture and vegetation health. The 3-month SPI values are a good representation of seasonal precipitation anomalies. The Standardized Precipitation Evapotranspiration Index (SPEI) is similar to the SPI, but it also takes evapotranspiration into account (and therefore the impact of temperatures on water demand).

Past 3 months (November 2024 – January 2025):

- During November 2024 - January 2025, drier-than-average conditions dominated over Mozambique, except for local areas of Manica, Gaza, and Nampula, which experienced wetter-than-average conditions (**Fig. 9a**).

Past 1 month (January 2025):

- During January, northern and central Mozambique experienced drier-than-average conditions, while southern and pocket areas of western and north-central Mozambique experienced wetter-than-average conditions (**Fig. 9b**).

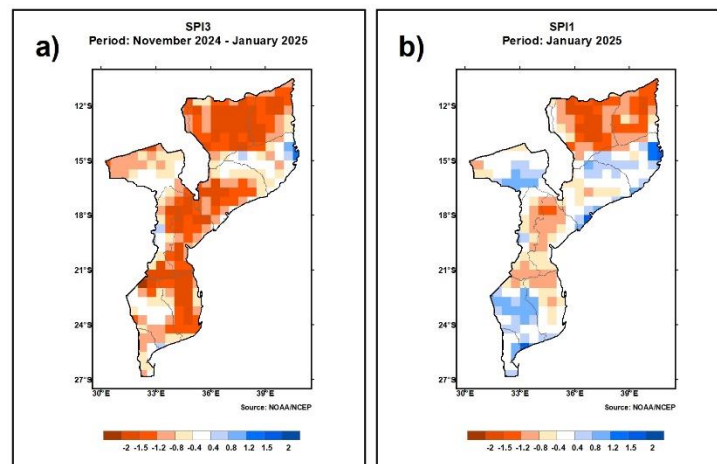


Figure 9: Spatial structure of (a) November 2024 - January 2025 Standardized Precipitation Index (SPI) and (b) January 2025 SPI. **Source: NOAA/NCEP**

Current/Forecast (3 December 2024 – 2 March 2025):

- SPI forecast, which is constructed from observed precipitation from 3 December 2024 to 2 February 2025 and forecasted rainfall data from 3 February to 2 March 2025 suggests that drier-than-average conditions will persist in Mozambique over the next four weeks (**Fig. 10**).

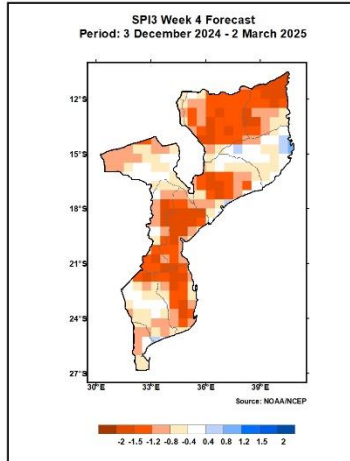


Figure 10: Spatial structure of SPI constructed from observations for 3 December 2024 to 2 February 2025 and 4 weeks forecast ending on 2 March 2025. **Source:** NOAA/NCEP

Normalized Difference Vegetation Index (NDVI)

NDVI is a measure of vegetation health, where high NDVI values are indicative of healthy, dense vegetation, and low NDVI values are indicative of less or no vegetation. Therefore, negative NDVI anomalies suggest deteriorated vegetation health relative to the long-term average.

Current (21 – 31 January 2025):

- During 21 – 31 January, below-average vegetation conditions (NDVI values < 80% of the average) concentrated over central Mozambique and parts of Gaza and Inhambane (**Fig. 11**). In contrast, above-average vegetation conditions (NDVI values > 120% of the average) were observed over southern and northeastern Mozambique.

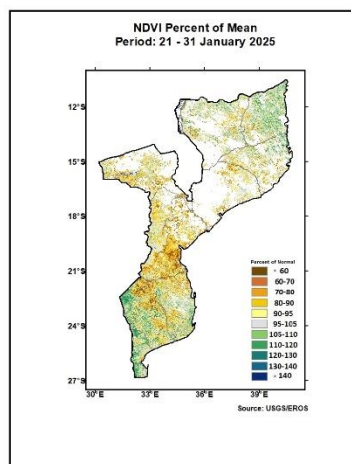


Figure 11: Spatial structure of NDVI anomaly for 21 – 31 January 2025. **Source:** USGS/EROS

Water Requirement Satisfaction Index (WRSI)

- Maize crop conditions were poor, with WRSI between 50-90% of the median values, over central and pocket areas of western Mozambique, while maize conditions were favorable, with WRSI over 110% of the median values, over the southern provinces, based on the latest [WRSI](#).

GEOGLAM Crop Monitor

- Main season cereals are under *Watch* conditions over parts of Mozambique, with dry concerns in the central and southern regions of the country.

Additional Resources

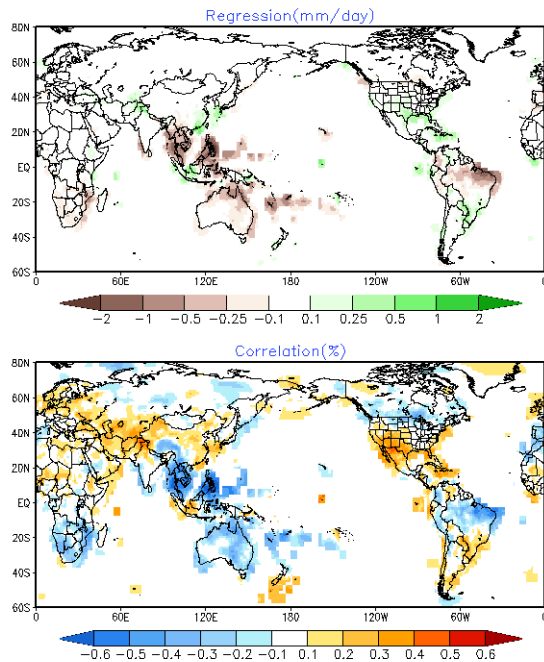
<https://www.inam.gov.mz/index.php/pt/>

<https://www.sadc.int/pillars/meteorology>

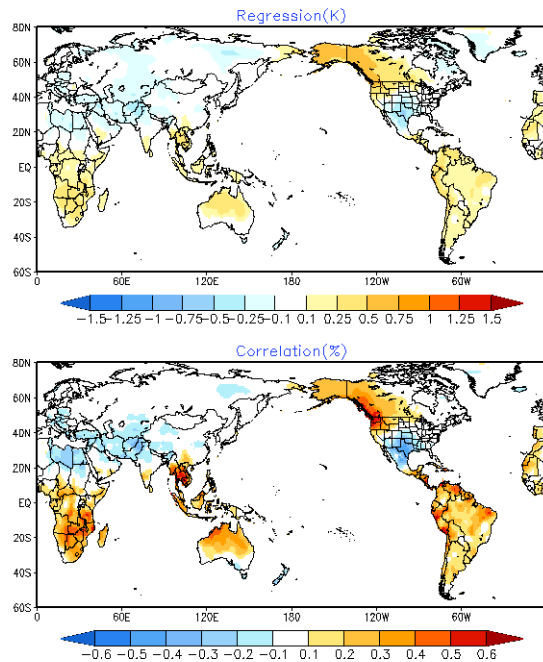
<https://fews.net/southern-africa/mozambique>

Annex

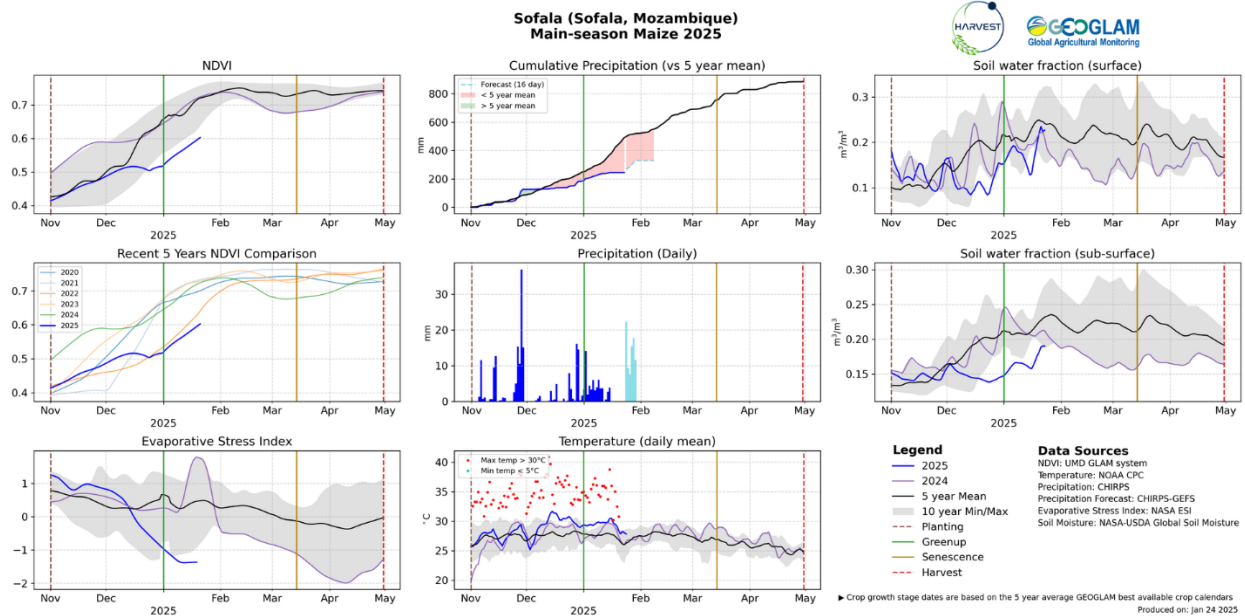
ENSO Teleconnection: MAM Precip



ENSO Teleconnection: MAM Temp



GEOGLAM Agro-meteorological Earth Observation Indicators:



[Crop Type] Maize
[Location]: Sofala