FAMINE EARLY WARNING SYSTEMS NETWORK

Mozambique

Monthly Climate and Weather

17 April 2025

Highlights

- El Niño Southern Oscillation (ENSO)-neutral conditions returned during March 2025. Below-average sea-surface-temperatures (SSTs) weakened in the central and east-central equatorial Pacific, while near to above-average SSTs persisted in the eastern and far western Pacific. ENSO-neutral is anticipated during the Northern Hemisphere summer, with over 50% chance through August – October 2025, according to the latest ENSO outlook.
- During March 2025, northeastern Mozambique received between 200-500 mm of rainfall, which was 50-300% above-average. In contrast, southern Mozambique registered less than 25 mm of rainfall, which was 20-95% below-average. Rainfall forecasts call for below-average rainfall in southeastern and part of central Mozambique during May – July 2025.
- Maximum temperatures were 1-3°C above average in western and parts of central and southern Mozambique during March 2025. Minimum temperatures were 1-2°C above average over Inhambane and neighboring Gaza and Manica, while minimum temperatures were 1-3°C below average over Niassa. Above-average temperatures are predicted for Mozambique during May – July 2025.
- According to the Standardized Precipitation Index, drier-than-average conditions returned in southern Mozambique and persisted over local areas of the western and central provinces, while wetter-than-average conditions occurred in the northeastern and central regions during March 2025.
- Harvesting of main season cereals is underway in Mozambique. *Favourable* conditions were observed over areas of southern, central, and northwestern Mozambique, whereas crops were under *watch* across the northeastern provinces due to recent excessive rainfall and ongoing conflict.

The FEWS NET Monthly Climate and Weather information bulletin is based on current weather and climate information and monthly and seasonal outlooks from the NOAA CPC. Information on crops, soil moisture, flooding, and evapotranspiration data were produced by FEWS NET, USGS, NASA and USDA. Various sources were used to assess impacts of extreme conditions. Questions or comments about this product may be directed to Dr. Wassila Thiaw, Head, International Desks/NOAA, wassila.thiaw@noaa.gov. Questions about the USAID FEWS NET activity may be directed to Dr. James Verdin, Program Manager, FEWS NET/USAID, jverdin@usaid.gov.

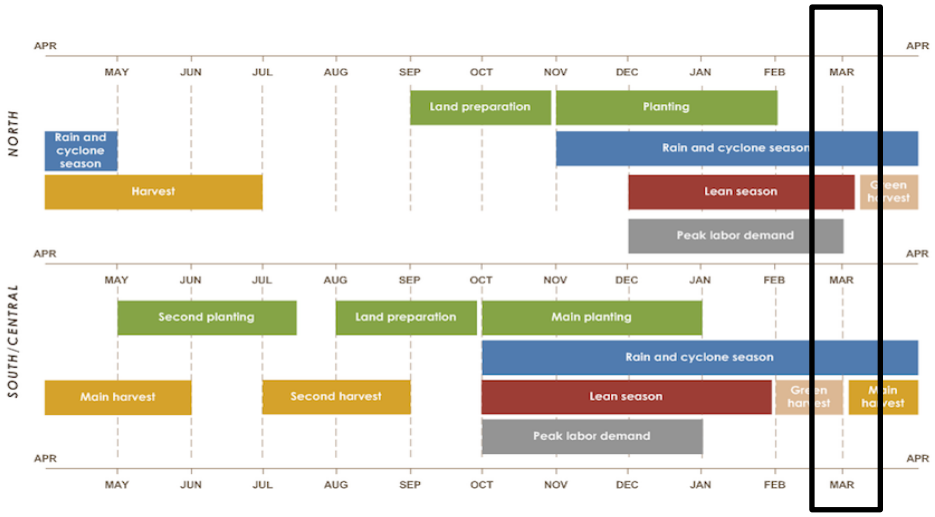


Figure 1: Seasonal calendar for Mozambique. **Source: FEWS NET**

Current Climate Modes and Teleconnections

- During March 2025, ENSO-neutral conditions returned over the equatorial Pacific Ocean, with weakening below-average SSTs in the central and east-central Pacific and persisting near to above-average SSTs in the eastern and far western Pacific.
- The ENSO outlook anticipates ENSO-neutral conditions during the Northern Hemisphere summer, with over 50% chance through August – October 2025 (**Fig. 2**). The latest update of the NOAA Climate Prediction Center's ENSO diagnostic discussion can be found here.

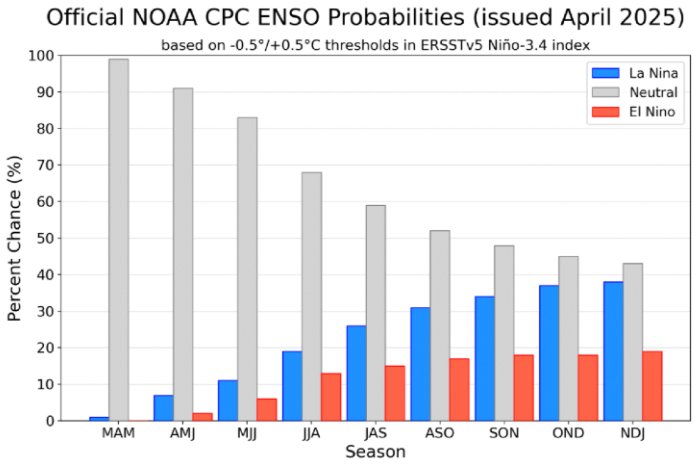


Figure 2: Official CPC ENSO probabilities outlook. **Source: NOAA/NCEP**

Extreme Events

- During 10-12 March, Tropical Cyclone JUDE traversed across northern and central Mozambique, bringing heavy rainfall that resulted in floods, many casualties, and

widespread damages. Recently, a cholera outbreak has been reported in Mozambique, with Nampula and Zambézia being the most affected provinces. Unfortunately, the impacts of JUDE have made access to health facilities and essential services difficult, according to media.

- Over the past 30 days, stronger-than-average low-level southerly winds were observed over Mozambique.

Rainfall/Precipitation

Past 3 months (January - March 2025):

- **Totals:** During January - March 2025, cumulative rainfall varied between 200-750 mm across Mozambique, with the northern provinces and parts of the western and central regions receiving more than 500 mm of total rainfall (**Fig. 3a**).
- **Anomalies:** Total rainfall was near-average over most areas of Mozambique. However, rainfall was 20-300% above average over local areas of Tete, Niassa, Cabo Delgado, Nampula, Sofala, Manica, Gaza, and Inhambane (**Fig. 3b**).

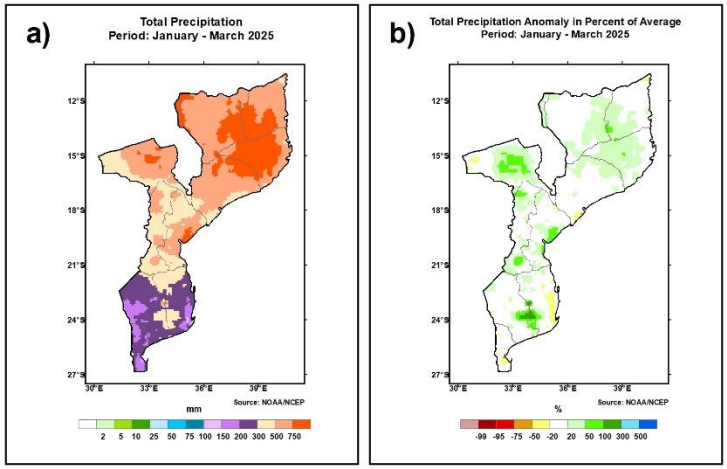


Figure 3: Spatial distribution for January - March 2025 (a) total precipitation and (b) total precipitation anomaly in percent of average. **Source: NOAA/NCEP**

Past 1 month (March 2025):

- **Totals:** During March, Mozambique received rainfall totals between 25-500 mm, with Nampula, Cabo Delgado, and pocket areas of Niassa, Sofala, and Manica observing over 200 mm of rainfall (**Fig. 4a**).
- **Anomalies:** Rainfall was 50-300% above average over Nampula and areas of Cabo Delgado, Niassa, Sofala, Manica, Tete, and Inhambane, while rainfall was 20-95% below

average over parts of Tete, Zambézia, Manica, Inhambane, Gaza, and Maputo (**Fig. 4b**). Rainfall was 66% above-average over Nampula, while it was 68% below average over Maputo (**Table 1**).

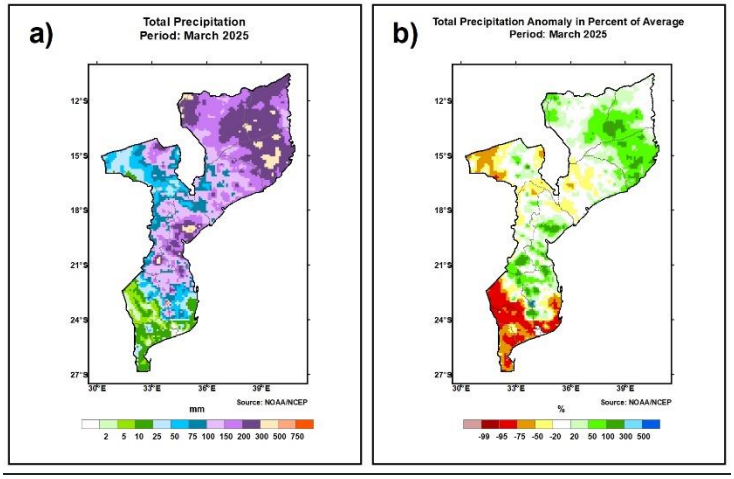


Figure 4: Spatial distribution for March 2025 (a) total precipitation and (b) total precipitation anomaly in percent of average. **Source: NOAA/NCEP**

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

- **Monthly:** Rainfall forecasts call for below-average rainfall in southwestern Mozambique and pocket areas of the central provinces during May 2025.
- **Seasonal:** Rainfall forecasts favor below-average rainfall over areas of southern Mozambique and over local areas of Tete, Sofala, and Zambézia (**Fig. 5b**). Probabilities for below-average rainfall exceed 40% over parts of Gaza, Maputo, Sofala, and Inhambane.

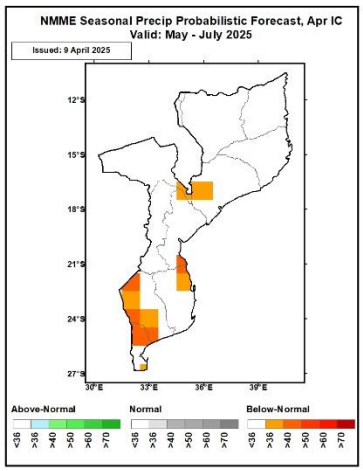


Figure 5: Rainfall forecast for May – July 2025. **Source: NOAA/NCEP**

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	708	14	226	40	103	9
Gaza province	245	13	29	-48	49	-7
Inhambane province	291	6	82	12	72	-5
Manica province	460	19	111	17	65	-6
Maputo province	210	-2	18	-68		
Nampula province	792	21	242	66	124	10
Niassa province	709	15	195	33	54	1
Sofala province	518	13	169	31	74	-5
Tete province	560	21	82	-17	39	-2
Zambézia province	622	8	137	0	127	5

Temperature

Past 3 months (January - March 2025):

- **Maximums:** During January - March 2025, much of Mozambique experienced above-average maximum temperatures, with local areas of Tete recording maximum temperatures between 3-4°C above average (**Fig. 6a**). Over Tete, maximum temperatures were 2.2°C above average (**Table 2**).
- **Minimums:** Minimum temperatures were 1-2°C above average over southern Mozambique and parts of the western and central provinces, but dropped 1-2°C below average over western Niassa (**Fig. 6b**).

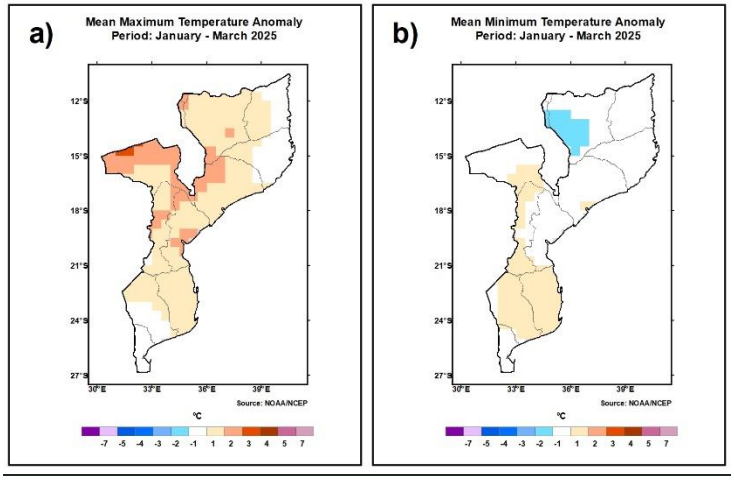


Figure 6: Spatial map for January - March 2025 (a) mean maximum temperature anomaly and (b) mean minimum temperature anomaly. **Source: NOAA/NCEP**

Past 1 month (March 2025):

- **Maximums:** Maximum temperatures were 1-3°C above average over western, northwestern, and pocket areas of southern Mozambique, with western Tete experiencing the largest departures from the long-term average (**Fig. 7a**).
- **Minimums:** Minimum temperatures rose 1-2°C above average over south-central Mozambique, but dropped 1-3°C below average over Niassa (**Fig. 7b**).

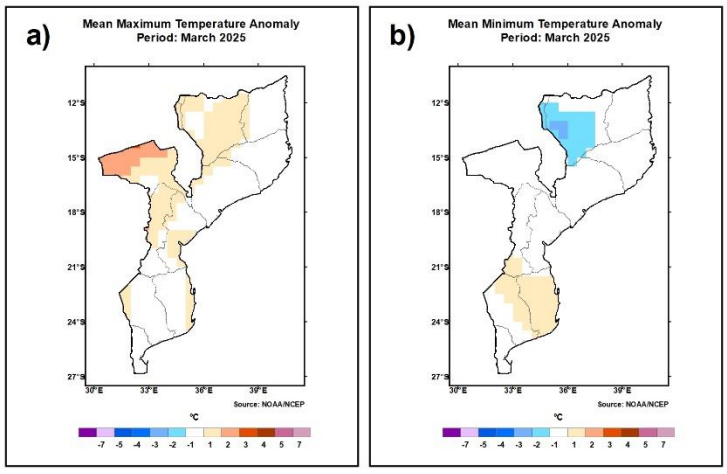


Figure 7: Spatial map for March 2025 (a) mean maximum temperature anomaly and (b) mean minimum temperature anomaly. **Source: NOAA/NCEP**

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

- **Monthly:** Temperature forecasts indicate above-average temperatures for Mozambique during May 2025. Probabilities for above-average temperatures exceed 50% in northern Mozambique and local areas of the southern regions.
- **Seasonal:** There are moderate to strong tilt in the odds to favor above-average temperatures across Mozambique, particularly the northern provinces during May-July 2025 (**Fig. 8b**).

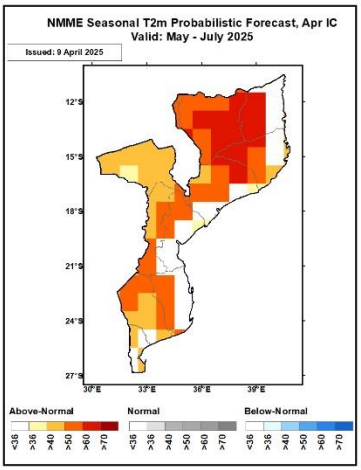


Figure 8: Spatial map for May – July 2025 mean temperatures forecast. **Source: NOAA/NCEP**

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	31/23	1/0.5	30/22	0.7/0.2	22	0.4
Gaza province	33/23	0.9/1.2	32/22	0.5/0.9	19	0.6
Inhambane province	32/24	1.3/1.7	31/23	0.8/1.4	21	0.5

Manica province	31/22	1.7/1.1	30/21	1/0.7	18	0.5
Maputo province	32/23	0.5/0.8	31/22	0.1/0.5		
Nampula province	31/23	0.9/0.5	30/22	0.3/0	22	0.5
Niassa province	29/20	1.7/-0.6	29/19	1.2/-1.1	19	0.5
Sofala province	32/23	1.9/0.5	31/22	0.8/0	20	0.5
Tete province	31/21	2.2/0.6	31/21	1.9/0.4	18	0.5
Zambézia province	32/23	1.6/0.6	30/22	0.3/0.2	20	0.4

Flooding and Areas of Inundation

- Currently, there is no major flooding in Mozambique. However, above-average rainfall during March has oversaturated many local areas of northern and central Mozambique.
- Over the next 30 days, potential for flooding remains over northeastern and north-central Mozambique as above-average heavy 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 (January – March 2025):

- During January – March 2025, drier-than-average conditions persisted over most areas of northern Mozambique and pocket areas of the western, central, and southeastern

provinces. In contrast, wetter-than-average conditions were observed over areas of Nampula, Zambézia, Tete, Gaza, and Maputo (**Fig. 9a**).

Past 1 month (February 2025):

- Drier-than-average conditions returned in southern Mozambique and persisted over local areas of western and northern Mozambique during March 2025. Meanwhile, wetter-than-average conditions occurred over Nampula and parts of Cabo Delgado, Niassa, Sofala, and Inhambane (**Fig. 9b**).

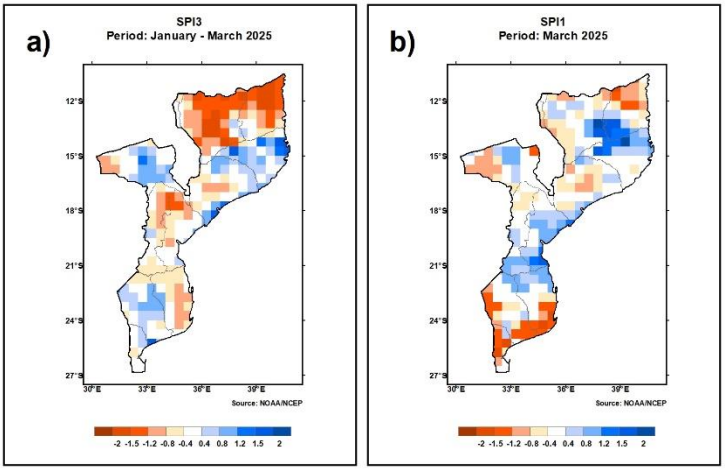


Figure 9: Spatial structure of (a) January - March 2025 Standardized Precipitation Index (SPI) and (b) March 2025 SPI. **Source: NOAA/NCEP**

Current/Forecast (29 January – 28 April 2025):

- SPI forecast, which is constructed from observed precipitation from 29 January to 31 March 2025 and forecasted rainfall data from 1 April to 28 April 2025 suggests that drier-than-average conditions may ease in central Mozambique, but will develop in the south and will persist in the northern provinces (**Fig. 10**).

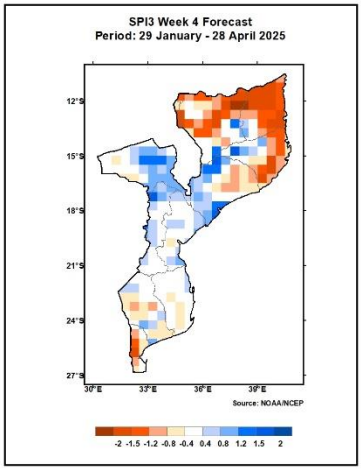


Figure 10: Spatial structure of SPI constructed from observations for 29 January to 31 March 2025 and 4 weeks forecast ending on 28 April 2025. **Source: NOAA/NCEP**

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 March 2025):

- Vegetation conditions were above-average (NDVI values greater than 110% of the long-term average) in southern Mozambique and parts of the western and central provinces, while vegetation conditions were below-average (NDVI values less than 90% of the long-term average) across the northern and areas of the central and western regions (**Fig. 11**).

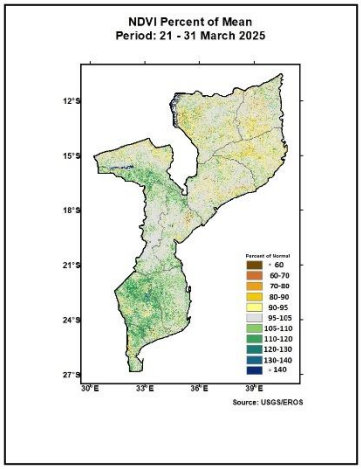


Figure 11: Spatial structure of NDVI anomaly for 21 – 31 March 2025. **Source: USGS/EROS**

Water Requirement Satisfaction Index (WRSI)

- The WRSI analysis during late March 2025 indicates *average* to *good* maize crop conditions over the northern two-thirds of Mozambique, but depicts *mediocre* to *failure* conditions over its southern tier, particularly in the southeast region.

GEOGLAM Crop Monitor

- Harvesting of main season cereals is now in progress in Mozambique. While *favourable* conditions were observed over areas in southern, central, and northwestern Mozambique, crop conditions were under *watch* in Zambézia, Nampula, and part of Cabo Delgado due to the recent passage of Tropical Cyclone JUDE and ongoing conflict.

Additional Resources

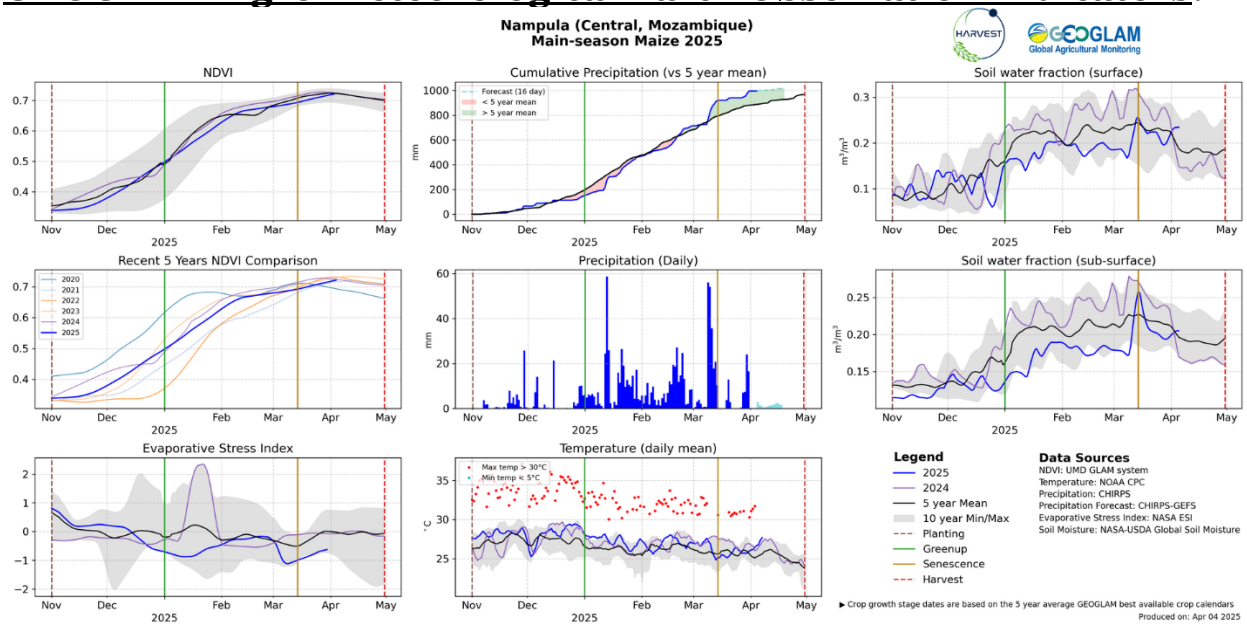
https://www.inam.gov.mz/index.php/pt/

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

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

Annex

GEOGLAM Agro-meteorological Earth Observation Indicators:



[Crop Type] Maize
[Location]: Nampula