

BULLETIN FOR CYCLONIC ACTIVITY AND SIGNIFICANT TROPICAL WEATHER  
IN THE SOUTHWEST INDIAN OCEAN

DATE: 11/11/2024 AT 1200 UTC

## PART 1: WARNING SUMMARY

Nil.

## PART 2 : TROPICAL WEATHER DISCUSSION

The basin has a Near Equatorial Thalweg (NET) pattern to the east of 50°E, undulating between 5 and 7°S. Three (3) tropical lows are currently present within this NET. The first, at around 87.30E/8.15S, to the northeast of Agalega, is showing moderate to strong convective activity along the southern edge of the NET, slightly down compared with yesterday. The second, at around 77.10E/5.20S, to the northeast of Diego-Garcia, concentrated sparser convective activity in the western semicircle of the low level circulation. Electrical intensity remained unchanged from the previous day. Lastly, the third, at around 84.20E/8.6S, over the easternmost part of the basin, had much less convective activity, concentrated mainly in the feeder of the converging flow, located in the Australian area.

The basin has a Near Equatorial Thalweg (NET) pattern east of 50°E, undulating between 5 and 7°S. Convective activity is concentrated around three (3) low-pressure circulations currently present within this TPE. The first, around 56E/6S north of Agalega, has maintained moderate convective activity over the past 24 hours. The second, around 65E/6S, has intensified but remains moderate. Finally, the third, towards 81.5E/9.5S, to the east of the basin, continues to show moderate convective activity.

This NET pattern is supported by the low-frequency anomaly linked to the weakly negative IOD phase, coupled with the arrival of an equatorial Rossby wave from the east. Over the next few days, this structure will strengthen with the progression of the Rossby wave over the eastern part of the basin, to which will be added the arrival of the wet phase of the MJO and the passage of a Kelvin wave from the west early next week. The crossing of the equatorial waves reaches its peak next week around November 13/14. The anomaly favors a westerly surge, which will then be at its strongest, with winds converging on the tropical minimum furthest east of our basin.

The simultaneous presence of several suspect zones suggested that a significant development of one zone would be unfavorable to the development of the others. It would appear that the most easterly suspect zone in our area of responsibility is now the only one likely to see cyclogenesis in the next few days.

**Suspect area on the far eastern side of the basin:**

The ASCAT-C pass at 0330Z has a low-level circulation still elongated towards 81.5E/9.5S, with mean winds of 10-15kt and maximum winds under convection of 20-25kt, and a gradient effect in the southern semicircle.

This precursor still benefits from a rather mixed environment for its development. Indeed, CIMSS products indicate a low-level supply limited to the trade winds, as well as the presence of dry air rolling in the northern semicircle of the circulation.

Nevertheless, cyclogenesis will be favored mid-week by an exceptional equatorial wave crossing over the north of the basin. This precursor should benefit from good divergence on the western side (counterbalanced by the still-present easterly shear), a clear improvement in deep convection near the center, and the supply of the monsoon flow which should begin to supply the system tomorrow. The GFS deterministic model suggests a deepening to tropical storm level on Thursday, while IFS does not suggest such a significant deepening. Nevertheless, a large proportion of the members of the EPS and GEFS ensemble models suggest a deepening to the storm stage within the next 5 days, despite the timing differences inherent in this type of model.

The risk of a tropical storm forming over the eastern part of the basin is estimated at low on Tuesday, moderate on Wednesday and then high from Thursday onwards.

*NOTA BENE: The likelihood is an estimate of the chance of genesis of a moderate tropical storm over the basin within the next five days:*

*Very low: less than 10%    Moderate: 30% to 60%    Very high: over 90%*  
*Low: 10% to 30%            High: 60% to 90%*

*The Southwestern Indian ocean basin extends from the Equator to 40S and from the african coastlines to 90E.*