

AWIO20 FMEE 171254

TROPICAL CYCLONE CENTER / RSMC LA REUNION / METEO-FRANCE

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

DATE: 2024/01/17 AT 1200 UTC

PART 1:

WARNING SUMMARY:

Warnings WTIO20 025/02 and WTIO30 025/02 issued at 06UTC on Severe Tropical Storm  
BELAL.

PART 2 :

TROPICAL WEATHER DISCUSSION:

With a trans-equatorial flow established across the entire width of the Indian Ocean, the basin is in a Monsoon Trough (MT) pattern across its entire width. Its discontinuous axis undulates between 3 low-pressure zones : a low over Madagascar, tropical storm BELAL off the south-east of the Mascarene archipelago and tropical storm ANGGREK in the Australian area of responsibility near the Cocos Islands.

Convection is moderate to strong in the vicinity of these low-pressure centers, but also within a vast convergence area on the northern edge of the MT in the central part of the basin. The Malagasy low contributes to marked activity over the northern Mozambique Channel, a large part of Madagascar (locally heavy rainfall over the next few days, regardless of the risk of cyclogenesis), and may also spread to the east of the island by the end of the week. Tropical storm BELAL is on a weakening trend and should gradually fill in as a remnant low at the southern edge of the MT over the next few days.

In terms of equatorial wave activity, the current rear end of the MJO's wet phase favors a strong westerly wind anomaly around 10°S. Added to this is the passage of an Equatorial Rossby wave over the western half of the basin between this weekend and early next week, thus boosting the monsoon flow and increasing vorticity within the MT between 50 and 70°E, to the north and northeast of the Mascarenes. This could favor the development of cyclogenesis precursors by early next week.

**Moderate Tropical Storm BELAL :**

Informations at 09:30UTC

Location : 23.9°S / 63.4°E

Motion : east-southeast 6kt

Max wind averaged over 10min : 45kt

Estimated central pressure : 987hPa

*For more information, please refer to bulletins WTIO20 and WTIO30 to come at 12UTC.*

**East of 90E (Tropical storm ANGGREK) :**

Moderate tropical storm ANGGREK is currently being tracked by the Australian BOM, and is located around 10°S/94°E this Wednesday with an analyzed intensity of 45kt. Most models forecast a slow west-southwestward drift of the system, bringing it more or less close to 90°E. Some deterministic scenarios (especially GFS) and a fairly significant proportion of EPS members suggest that this system could end up entering our area of responsibility by early next week, but with a wide dispersion on the intensity and timing of the crossing of the 90°E meridian. Compared with yesterday, the overall forecast has increased the likelihood of this system crossing into our area of responsibility.

**There is a moderate risk of tropical storm ANGGREK entering from the east of the basin from Sunday 21st onwards.**

**Northeast of the Mascarene archipelago :**

From this weekend onwards, a strong surge of monsoon flow could enable the development of one or more vorticity precursors to the north and northeast of the Mascarene Islands. While convergence looks set to be excellent on the equatorial side, it could be lacking on the polar side due to the presence of the remnants of BELAL, which are partly blocking the supply of trade winds to the south of the MT. For the time being, the preferred scenario is the formation of a fairly wide monsoon low that will have difficulty concentrating its vorticity. Nevertheless, some deterministic (including GFS) and ensemblist scenarios manage to deepen a more compact low to tropical storm stage. Probabilities remain relatively low in the ensemble forecast from now until Monday 22nd. However, they could increase beyond the next 5 days. Regardless of the risk of cyclogenesis, this low-pressure area could bring disturbed conditions to Rodrigues early next week.

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

<i>Very low:</i>	<i>less than 10%</i>	<i>Moderate:</i>	<i>30% to 60%</i>	<i>Very high:</i>	<i>over 90%</i>
<i>Low:</i>	<i>10% to 30%</i>	<i>High:</i>	<i>60% to 90%</i>		

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