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RSMC / TROPICAL CYCLONE CENTER / LA REUNION
TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 19/2/20192020
1.A TROPICAL CYCLONE 2 (BELNA)

2.A POSITION 2019/12/08 AT 0600 UTC:
WITHIN 20 NM RADIUS OF POINT 11.9 S / 46.5 E
(ELEVEN DECIMAL NINE DEGREES SOUTH AND
FORTY SIX DECIMAL FIVE DEGREES EAST)
MOVEMENT: SOUTH-SOUTH-WEST 6 KT

3.A DVORAK ANALYSIS: 4.0/4.5/W 0.5/6 H

4.A CENTRAL PRESSURE: 977 HPA
5.A MAX AVERAGE WIND SPEED (10 MN): 70 KT
RADIUS OF MAXIMUM WINDS (RMW): 19 KM

6.A EXTENSION OF WIND BY QUADRANTS (KM):
28 KT NE: 110 SE: 90 SW: 90 NW: 90
34 KT NE: 90 SE: 70 SW: 70 NW: 70
48 KT NE: 50 SE: 50 SW: 50 NW: 50
64 KT NE: 30 SE: 30 SW: 30 NW: 30

7.A FIRST CLOSED ISOBAR (PRESSURE / AVERAGE DIAM): 1007 HPA / 400 KM
8.A VERTICAL EXTENSION OF CYCLONE CIRCULATION: DEEP

1.B FORECASTS:
12H: 2019/12/08 18 UTC: 13.3 S / 45.9 E, VENT MAX= 080 KT, TROPICAL CYCLONE
24H: 2019/12/09 06 UTC: 15.0 S / 45.2 E, VENT MAX= 090 KT, INTENSE TROPICAL CYCLONE
36H: 2019/12/09 18 UTC: 16.5 S / 44.8 E, VENT MAX= 065 KT, TROPICAL CYCLONE
48H: 2019/12/10 06 UTC: 18.4 S / 44.5 E, VENT MAX= 030 KT, OVERLAND DEPRESSION
60H: 2019/12/10 18 UTC: 20.1 S / 44.6 E, VENT MAX= 030 KT, OVERLAND DEPRESSION
72H: 2019/12/11 06 UTC: 21.6 S / 45.7 E, VENT MAX= 025 KT, OVERLAND DEPRESSION

2.B LONGER-RANGE OUTLOOK:
NIL

2.C ADDITIONAL INFORMATION:
T=4.0 CI=4.5

BELNA SHOW A CDO PATTERN ON VIS IMAGERY ASSOCIATED WITH VERY COLD CLOUD TOPS. MW IMAGERY REVEALS THAT A BUILDING BANDING EYE. THE INTENSITY IS LOWERED TO 70 KT IN BEST AGREEMENT WITH THE LATEST

OBJECTIVE GUIDANCE (ADT AND SATCON).

BELNA SHOULD KEEP TRACKING SOUTH-SOUTHWESTWARD OVER THE NEXT HOURS, WITH A MID-LEVEL RIDGE BUILDING IN THE EAST OF THE SYSTEM WHILE A WEAKNESS IN THE SUBTROPICAL RIDGE ARRIVES IN THE SOUTH. THE CURRENT FORECAST TRACK LIES NEAR THE WESTERN EDGE OF THE AVAILABLE RELIABLE GUIDANCE (IFS/GFS/ARO) FOR THE FIRST 24 HOURS OF FORECAST, TO TAKE INTO ACCOUNT THE OBSERVED TRACK.
MONDAY, A LANDFALL ON MADAGASCAR IS EXPECTED BETWEEN MAHAJANGA AND CAPE SAINT-ANDRE. THEN, THE UNCERTAINTY SIGNIFICANTLY INCREASES DUE TO THE PASSAGE OVER LAND.

A NORTHERLY CONSTRAINT AT 300 HPA, SEEN ON WV IMAGERY, SEEMS THE BEST EXPLANATION TO THE WEAKENING TREND OBSERVED LAST NIGHT. AS THIS CONSTRAINT SEEMS TO ABATE TODAY AND ENVIRONMENTAL CONDITIONS REMAIN CONDUCIVE FOR DEVELOPMENT IN THE NEXT HOURS, INTENSIFICATION SHOULD RESUME SHORTLY AND KEEP ON UNTIL ITS LIKELY LANDFALL ON MADAGASCAR. IT SHOULD SO SUCCEED IN REACHING INTENSE TROPICAL CYCLONE STATUS. THIS CURRENT FORECAST IS VERY UNCERTAIN HOWEVER DUE TO THE SMALL SIZE, MAKING BELNA VERY SENSITIVE TO ITS ENVIRONMENT. MOREOVER IT DOES NOT TAKE INTO ACCOUNT A POTENTIAL EYEWALL REPLACEMENT CYCLE THAT COULD WEAKEN BELNA. FROM MONDAY EVENING, THE INTENSITY FORECAST IS MUCH MORE UNCERTAIN FOLLOWING THE POTENTIAL LANDFALL.

LATER TODAY, BELNA SHOULD PASS AROUND 80 KM EAST OF MAYOTTE, ACCORDING TO THE CURRENT FORECAST. DURING MONDAY AFTERNOON OR EVENING, A LANDFALL AT THE STAGE OF INTENSE TROPICAL CYCLONE IS STILL FORECAST ON THE NORTH-WESTERN MADAGASCAN COAST, WHICH IS PARTICULARLY VULNERABLE TO THE STORM SURGE. DEPENDING ON THE LOCATION OF LANDFALL, THE MAX STORM SURGE COULD REACH 3M NEAR THE IMPACT POINT. ADDITIONALLY, TORRENTIAL RAINS ARE AWAITED ON THE REGIONS OF THE LANDFALL, LOCALLY EXCEEDING 300MM.

INHABITANTS FROM THE NORTHERN AND WESTERN MALAGASY COASTS ARE INVITED TO MONITOR CLOSELY THE EVOLUTION OF BELNA. THE INHABITANTS OF THE NORTH-WESTERN MADAGASCAN COAST SHOULD BEGIN PREPARATION FOR A POSSIBLE LANDFALL