

WTIO30 FMEE 290649

RSMC / TROPICAL CYCLONE CENTER / LA REUNION

TROPICAL CYCLONE FORECAST WARNING (SOUTH-WEST INDIAN OCEAN)

0.A WARNING NUMBER: 23/4/20202021

1.A SEVERE TROPICAL STORM 4 (CHALANE)

2.A POSITION 2020/12/29 AT 0600 UTC:

WITHIN 20 NM RADIUS OF POINT 19.8 S / 39.6 E

(NINETEEN DECIMAL EIGHT DEGREES SOUTH AND
THIRTY NINE DECIMAL SIX DEGREES EAST)

MOVEMENT: WEST 13 KT

3.A DVORAK ANALYSIS: 3.5/3.5/D 1.5/24 H

4.A CENTRAL PRESSURE: 990 HPA

5.A MAX AVERAGE WIND SPEED (10 MN): 50 KT

RADIUS OF MAXIMUM WINDS (RMW): 22 KM

6.A EXTENSION OF WIND BY QUADRANTS (KM):

28 KT NE: 165 SE: 165 SW: 130 NW: 95

34 KT NE: 85 SE: 120 SW: 95 NW: 65

48 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 (WINDS RADII IN KM):

12H: 2020/12/29 18 UTC: 19.7 S / 36.9 E, VENT MAX= 065 KT, TROPICAL CYCLONE

28 KT NE: 120 SE: 175 SW: 155 NW: 95

34 KT NE: 95 SE: 95 SW: 110 NW: 75

48 KT NE: 65 SE: 75 SW: 65 NW: 65

64 KT NE: 45 SE: 55 SW: 45 NW: 55

24H: 2020/12/30 06 UTC: 19.7 S / 34.3 E, VENT MAX= 050 KT, SEVERE TROPICAL STORM

28 KT NE: 100 SE: 175 SW: 75 NW: 85

34 KT NE: 75 SE: 100 SW: 65 NW: 65

48 KT NE: 55 SE: 55 SW: 45 NW: 45

36H: 2020/12/30 18 UTC: 19.8 S / 31.9 E, VENT MAX= 030 KT, OVERLAND DEPRESSION

48H: 2020/12/31 06 UTC: 20.3 S / 28.6 E, VENT MAX= 025 KT, OVERLAND DEPRESSION

60H: 2020/12/31 18 UTC: 21.2 S / 25.4 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

72H: 2021/01/01 06 UTC: 21.9 S / 23.3 E, VENT MAX= 020 KT, OVERLAND DEPRESSION

2.B LONGER-RANGE OUTLOOK:

NIL

2.C ADDITIONAL INFORMATION:

T=CI=3.5

CHALANE CONTINUES TO SHOW AN IMPROVED BANDED CLOUD PATTERN WITH A BANDING EYE THAT APPEARED ON THIS MORNING'S MICROWAVE IMAGERY. INTENSITY IS ESTIMATED AT 50 KT WITHIN THE UPPER LIMIT OF AVAILABLE OBJECTIVE AND SUBJECTIVE ESTIMATES.

CHALANE WILL THEREFORE CONTINUE ITS WESTWARD MOVEMENT AND WILL EVENTUALLY REACH MOZAMBIQUE. CHALANE HAS BEEN ACCELERATING SINCE LATE NIGHT AND THE TIMING OF THE ARRIVAL ON LAND HAS BEEN ADJUSTED IN ACCORDANCE WITH THE FASTEST GUIDANCE. CHALANE SHOULD REACH THE COAST LATE NEXT NIGHT OR EARLY IN THE MORNING.

THE ENVIRONMENTAL CONDITIONS ARE RATHER FAVORABLE FOR THE DEVELOPMENT OF THE SYSTEM: MODERATE SHEAR, FAVORABLE OCEANIC POTENTIAL, GOOD FEEDING OF THE MONSOON FLOW WHICH GOES DOWN TO THE MIDDLE OF THE CHANNEL. HOWEVER, WE NOTE THE PRESENCE OF A LOT OF DRY AIR IN THE IMMEDIATE ENVIRONMENT OF THE SYSTEM WHICH COULD SLOW DOWN THE RATE OF INTENSIFICATION BY THE TIME OF THE ARRIVAL ON LAND, ESPECIALLY AS A SMALL SOUTHEASTERLY SHEAR CONSTRAINT COULD ALSO BE IN PLACE. THE INTENSITY FORECAST IS CLOSE TO THE SCENARIO PROPOSED BY THE LAST RUN OF THE AROME BUT REMAINS LESS AGGRESSIVE THAN HWRF.

ACCORDING TO THIS SCENARIO, THE THREAT REPRESENTED BY CHALANE IS VERY REAL FOR THE BEIRA REGION:

- IN TERMS OF WINDS, DESTRUCTIVE GUSTS (EXCEEDING 150 KM/H) ARE POSSIBLE AT LESS THAN 60 KM FROM THE CENTER. (CHALANE IS A RATHER COMPACT SYSTEM).
- IN TERMS OF PRECIPITATION, ACCUMULATIONS OF MORE THAN 100 MM IN 24 HOURS ARE POSSIBLE. THESE RAINS, WHICH CAN CAUSE FLASH FLOODS AND FLOODS, WILL SPREAD FAR INLAND OVER ZIMBABWE ON 31 DECEMBER AND BOTSWANA ON 01 JANUARY.
- A STORM SURGE OF ABOUT 2M IS POSSIBLE NEAR AND JUST SOUTH OF THE LANDING ZONE. COUPLED WITH CYCLONIC SWELL AND HIGH WATER (IN LINE WITH THE TIMING OF THE LANDING ON THE CURRENT FORECAST), THIS SURGE WILL BE ASSOCIATED WITH COASTAL FLOODINGS.