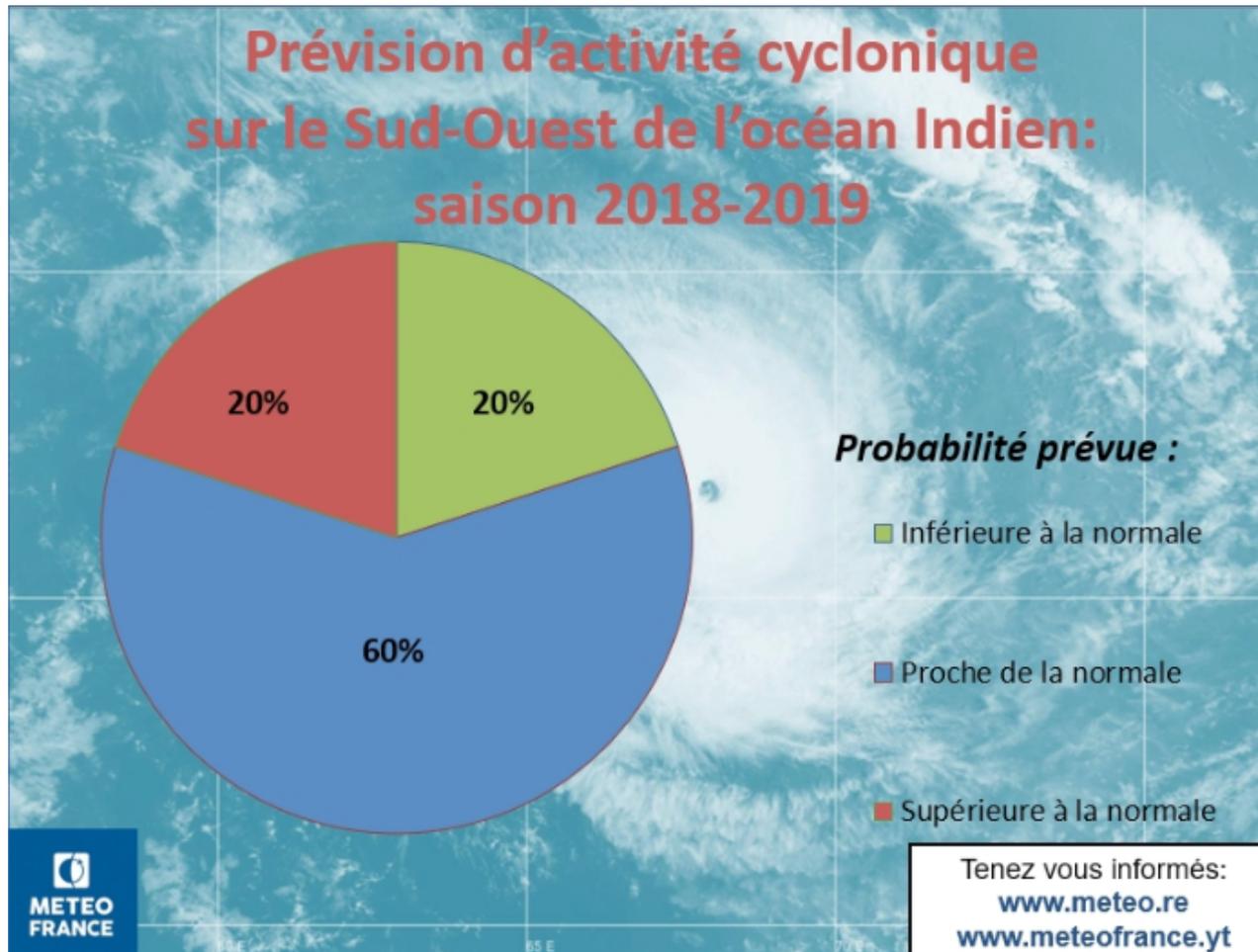




RSMC Products

Langlade Sébastien
RSMC La Reunion - 2019/11/06

SEASONAL TC OUTLOOK



- First outlook during SWIOCOF (end of September)
- RSMC official outlook issued before 15th November
- Update at the end of January for expected activity during second half of the season
- French / English
- Send by e-mail to all NWS

ITCZ Bulletin

Headers : AWIO20 FMEE (En) / AWIO21 FMEE (Fr)

Enhanced equatorial wave activity (involving a large set of equatorial waves) is gradually strengthening low level vorticity within the Monsoon Trough (MT) . This Monsoon Trough (MT) pattern is located with an axis still near 12°S North of Madagascar and now near 07-08°S East of 60°E. Three weak circulations are still located today within the MT.

North-East of Madagascar :

As expected, the low previously located near the north-eastern coasts of Madagascar has not intensified today due to poor environmental conditions (vicinity of landmass and moderate to strong east-southeasterly shear). Within the next 48 hours, the low level vorticity will shift west-southwestwards towards the Mozambique coastlines (near the coastal city of Angoche) that should be reached Friday night. Thunderstorm and heavy rainfall associated with this area will gradually abate over the northern part of Madagascar and the Comoros archipelago but will spread over part of Mozambique regions on Friday and Saturday.

Over the next 5 days, there is no risk of development of a moderate tropical storm over the Northern half of the Mozambique Channel.

Suspect area East of Agalega :

An area of low level enhanced vorticity still exist midway between Agalega and the Chagos archipelago with a rotation axis near 7.5°S and 64°E. The associated convective activity remains minimal at this time. Due to the development of the area located further east, the environment (mainly in the low levels) will gradually become not conducive for tropical development.

Over the next 5 days, there is no more risk of development of a moderate tropical storm East of Agalega.

Suspect area East of Diego-Garcia :

This area start to present some signs of organization (building deep convection, early signs of curvature) within a still broad low pressure area. The partial ascad data of this morning locate approximately a vorticity center near 8°S / 81°E. MSLP is estimated at 1005 hPa according to nearby buoys. Environmental conditions are already rather supportive for some development. They are expected to further improve tomorrow with increasing low level cross equatorial inflow likely due to combined mixed Rossby and equatorial Rossby wave contribution. Therefore within a very favorable environment, the development of a tropical storm is expected by the week-end. The expected track brings rapidly the system on a polewards forward motion away from the inhabited areas.

Over the next 5 days, the risk of development of a moderate tropical storm becomes high from Saturday South-East of Diego Garcia.

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:

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

Low level wind pattern discussion – Enhanced convective area localisation

Technical discussion for every current / expected low(s) regards to their potential to become a tropical storm within the next 5 days

5 classes of probabilities

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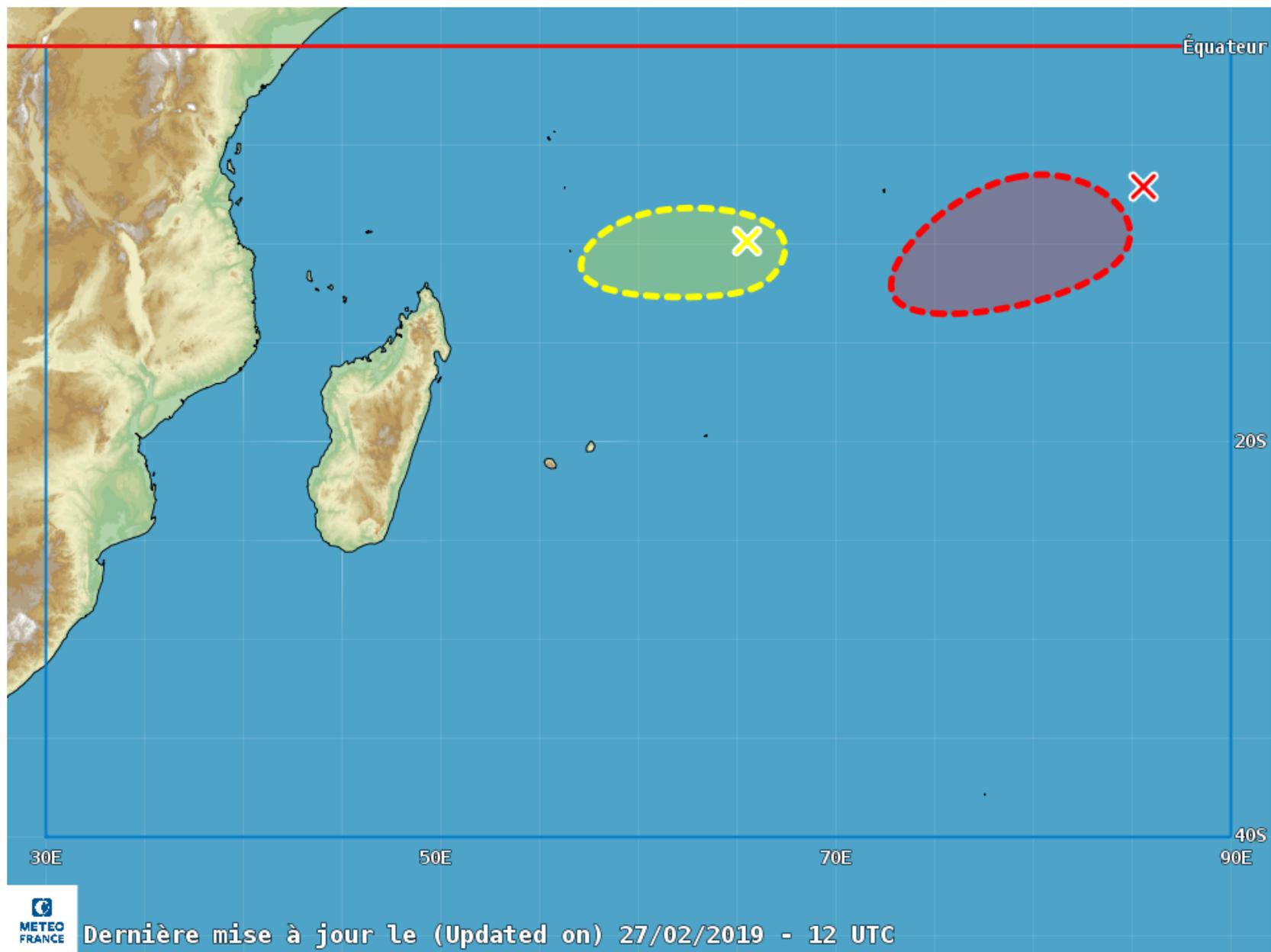
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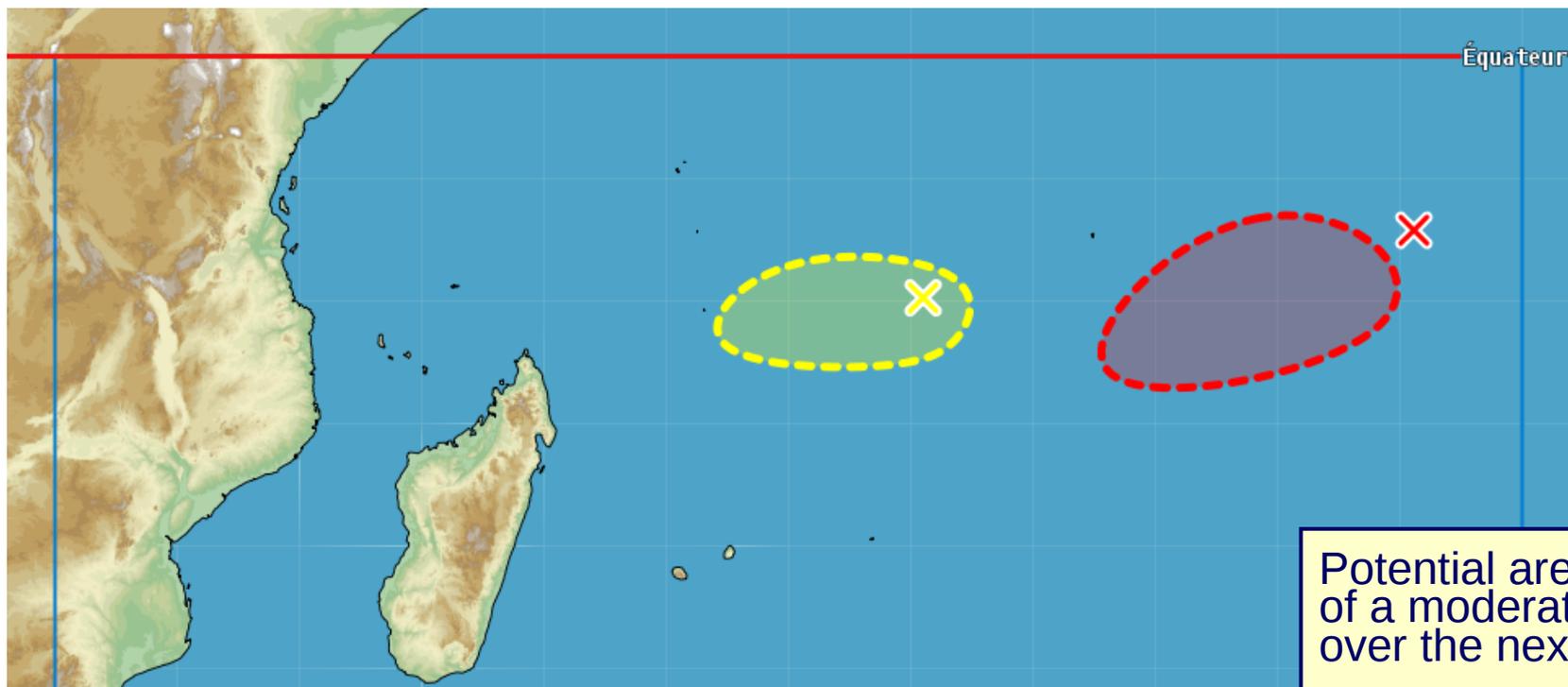
- Issued daily before 12Z
- Available via GTS (specific header) and RSMC website

5 classes of probabilities

CYCLOGENESIS MAP



CYCLOGENESIS MAP



LEGEND:



Area within which tropical storm formation is possible over the next 2-5 days.



Area within which tropical storm formation is possible over the next 2 days.



Low probability (< 30%)



Moderate probability (between 30% et 50%)



High probability (> 50%)



Initial position of a suspect area.
The number (optional) is indicative of the associated genesis area



Main general expected motion (optional)

Potential area(s) of formation of a moderate tropical storm over the next 5 days

→ Issued before 12 UTC

In line with the ITCZ bulletin

→ Available on RSMC websites

30E

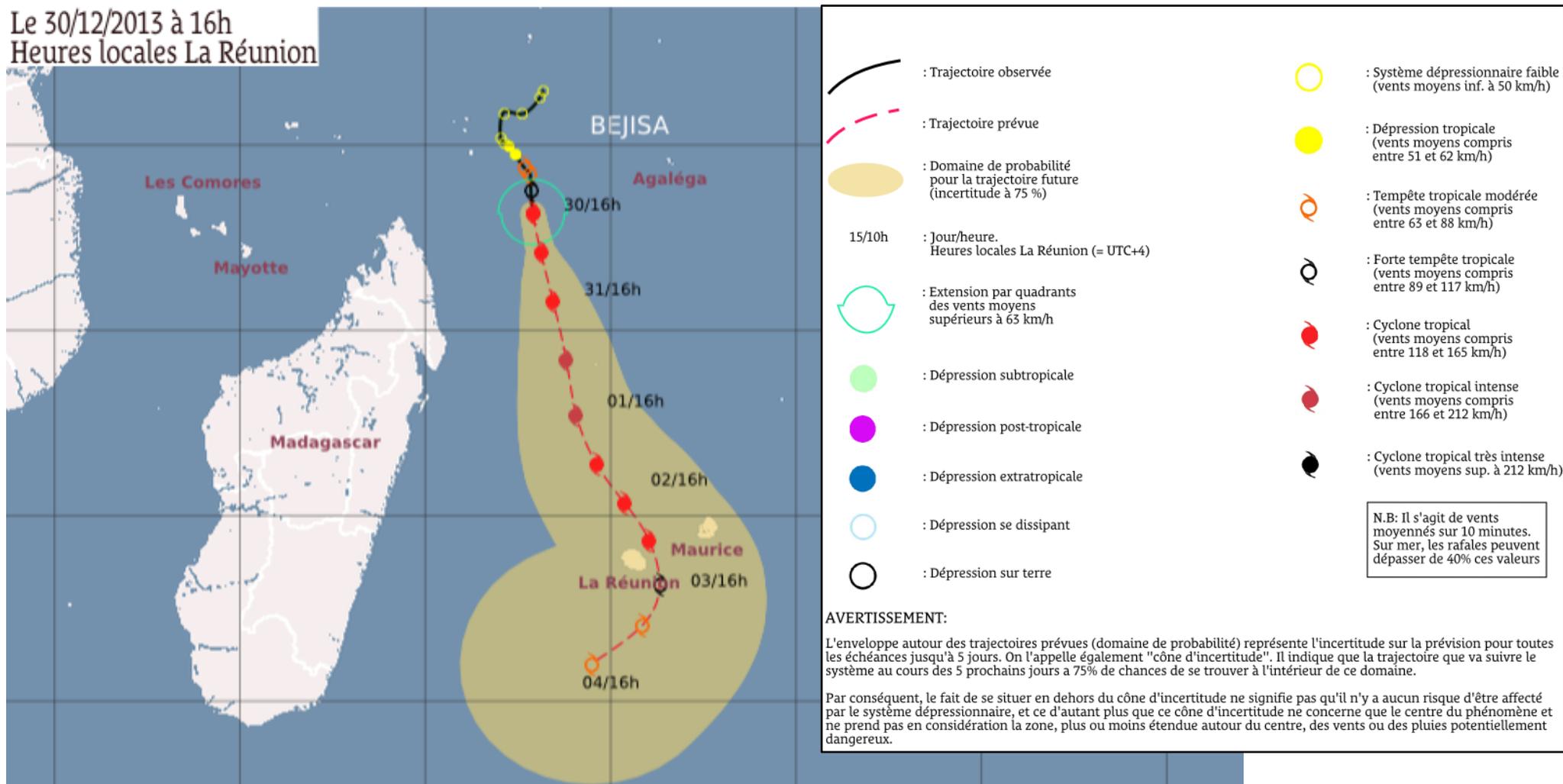
50E

70E

90E

MONITORING AN ACTIVE SYSTEM

Le 30/12/2013 à 16h
Heures locales La Réunion



- Issued every times RSMC is issuing advisories
- Available via RSMC website

MONITORING AN ACTIVE SYSTEM

Bulletins		Entête <i>Headline</i>	Heure de diffusion <i>Issuance Hours</i>
Avis spécialisé pour la marine (BMS) <i>Marine warning</i>	Français	WTIO21	SMT 00, 06, 12, 18 UTC (issued within 1 hour after synoptic time)
	<i>English</i>	<i>WTIO20, 22, 24, 26</i>	
Bulletin technique d'analyse et de prévision cyclonique CMRS <i>RSMC Tropical Cyclone Analysis and Forecast Bulletin</i>	Français	WTIO31	SMT 00, 06, 12, 18 UTC (issued within 1 hour after synoptic time)
	<i>English</i>	<i>WTIO30</i>	
Avis consultatif pour l'aéronautique (OACI) <i>Aviation Tropical Cyclone Advisory (ICAO)</i>	<i>English</i>	<i>FKIO20</i>	RSFTA 00, 06, 12, 18 UTC SMT 00, 06, 12, 18 UTC (issued within 1 hour after synoptic time)
Bulletin « BUFR » <i>BUFR bulletin</i>	-	ATIO01	SMT 00, 06, 12, 18 UTC (issued within 1 hour after synoptic time)

MONITORING AN ACTIVE SYSTEM

Avis pour la Marine BMS *Marine warning*

Système Mondial de Détresse et de Sécurité en Mer (SMDSM)

Global Maritime Distress and Safety System (GMDSS)

- Emis toutes les 6 heures à 00, 06, 12, 18 TU / *Issued every 6 hours*
- A destination des bateaux / *For boats*
- Prévisions jusqu'à 24h
- 24 hours forecasts*

Avertissement *Warning* (<28kt)

Grand frais *near gale* (28-33kt)

Coup de vent *gale* (34-47kt)

Tempête *storm* (48-63kt)

Ouragan *hurricane* (>64kt)

Précision de la position *Location accuracy* : de 20 MN à 90 MN

WTIO21 FMEE 221208

METEO-FRANCE/CENTRE DES CYCLONES TROPICAUX DE LA REUNION
BMS MARINE LE 22/03/2019 A 1200UTC.

NUMERO: 005/13 (SUD-OUEST DE L'OCEAN INDIEN)

VITESSES DU VENT MOYEN SUR 10 MINUTES EN NOEUDS (KT)
(LES RAFALES SUR MER PEUVENT EXCEDER D'ENVIRON 40% LA VALEUR DU VENT MOYEN).

PRESSION MINIMALE AU NIVEAU DE LA MER EN HECTOPASCALS (HPA)
(VALEUR INDICATIVE)

AVIS DE COUP DE VENT

DEBUT DE VALIDITE: VENDREDI 22/03/2019 A 1200 UTC.

PHENOMENE: TEMPETE TROPICALE MODEREE 13 (JOANINHA) 996 HPA

POSITION: DANS UN RAYON DE 20 MN AUTOUR DU POINT 15.0 S / 62.8 E

(QUINZE DEGRES ZERO SUD ET SOIXANTE DEUX DEGRES HUIT EST) A 1200 UTC

DEPLACEMENT: SUD 3 KT

ZONES MENACEES:

TEMPS A GRAIN DANS UN RAYON DE 100 MN AUTOUR DU CENTRE, S'ETENDANT JUSQU'A 350 MN DANS LE QUADRANT EST ET 500 MN DANS LE SECTEUR NORD.

COUP DE VENT 35 KT ET MER TRES FORTE A GROSSE S'ETENDANT JUSQUE 70 MN DANS LE QUADRANT NORD-EST ET JUSQUE 80 MN DANS LE QUADRANT SUD-EST. GRAND FRAIS 30 KT ET MER FORTE A TRES FORTE DANS UN RAYON DE 50 MN AUTOUR DU CENTRE, S'ETENDANT JUSQUE 120 MN DANS LE QUADRANT SUD-OUEST ET JUSQUE 150 MN DANS LE DEMI-CERCLE EST. FORTES RAFALES SOUS GRAINS.

PREVISIONS: POSITION ET INTENSITE PREVUES:

A 12H POUR LE 23/03/2019 A 00 UTC:

16.0 S / 62.2 E, VENT MAX = 45 KT, TEMPETE TROPICALE MODEREE

A 24H POUR LE 23/03/2019 A 12 UTC:

17.0 S / 61.6 E, VENT MAX = 55 KT, FORTE TEMPETE TROPICALE

INDICATIONS COMPLEMENTAIRES :

NEANT.

MONITORING AN ACTIVE SYSTEM

Bulletin CMRS

RSMC tropical cyclone advisory

- Emis toutes les 6 heures à 00, 06, 12, 18 TU
- *issued every 6 hours at 00, 06, 12, 18 UTC*
- Bulletin technique pour les services météo de la zone
- *Technical bulletin for meteorological services of the area*
- Prévisions toutes les 12h jusqu'à 120h
- *Forecasts each 12 h up to 120 h*

Précision position *Location accuracy* : de 20 MN à 90 MN

Analyse Dvorak *Dvorak analysis*

D : Developing

S : Stationary

W : Weakening

Extension des vents *Extension of winds*

Force du grand frais *Near Gale force winds (ref. 28kt)*

Force du coup de vent *Gale force winds (ref. 34kt)*

Force de la tempête *Storm force winds (ref. 48kt)*

Force de l'ouragan *Hurricane force winds (ref. 64kt)*

WTIO31 FMEE 110630

CMRS / CENTRE DES CYCLONES TROPICAUX DE LA REUNION

BULLETIN D'ANALYSE ET DE PREVISION CYCLONIQUE (SUD-OUEST OCEAN INDIEN)

0.A NUMERO DU BULLETIN : 11/11/20182019

1.A CYCLONE TROPICAL INTENSE 11 (IDAI)

2.A POSITION A 0600 UTC LE 11/03/2019 :

DANS UN RAYON DE 15 MN AUTOUR DU POINT 17.3 S / 43.0 E

(DIX-SEPT DEGRES TROIS SUD ET QUARANTE TROIS DEGRES ZERO EST)

DEPLACEMENT: QUASI-STATIONNAIRE.

3.A ANALYSE DE DVORAK: 5.5/5.5/D 2.5/24 H

4.A PRESSION AU CENTRE: 960 HPA

5.A VENT MAX (MOYEN/10 MN): 90 KT

RAYON DES VENTS MAXIMAUX (RVM): 19 KM

6.A EXTENSION DES VENTS PAR QUADRANTS (KM):

28 KT NE: 200 SE: 190 SO: 220 NO: 200

34 KT NE: 160 SE: 140 SO: 160 NO: 160

48 KT NE: 80 SE: 80 SO: 90 NO: 80

64 KT NE: 60 SE: 60 SO: 60 NO: 60

7.A COTE/DIAM PREMIERE ISOBARE FERMEE: 1010 HPA / 600 KM

8.A EXTENSION VERTICALE DE LA CIRCULATION CYCLONIQUE: PROFONDE

1.B PREVISIONS:

12H: 11/03/2019 18 UTC: 17.9 S / 42.6 E, VENT MAX= 100 KT, CYCLONE TROPICAL INTENSE

24H: 12/03/2019 06 UTC: 18.5 S / 42.1 E, VENT MAX= 105 KT, CYCLONE TROPICAL INTENSE

36H: 12/03/2019 18 UTC: 19.3 S / 41.3 E, VENT MAX= 115 KT, CYCLONE TROPICAL INTENSE

48H: 13/03/2019 06 UTC: 19.7 S / 40.2 E, VENT MAX= 115 KT, CYCLONE TROPICAL INTENSE

60H: 13/03/2019 18 UTC: 19.9 S / 39.0 E, VENT MAX= 110 KT, CYCLONE TROPICAL INTENSE

72H: 14/03/2019 06 UTC: 19.9 S / 37.6 E, VENT MAX= 105 KT, CYCLONE TROPICAL INTENSE

2.B TENDANCE ULTERIEURE:

96H: 15/03/2019 06 UTC: 18.8 S / 36.0 E, VENT MAX= 090 KT, CYCLONE TROPICAL INTENSE

120H: 16/03/2019 06 UTC: 17.5 S / 35.1 E, VENT MAX= 050 KT, DEPRESSION SUR TERRE

MONITORING AN ACTIVE SYSTEM

Bulletin CMRS

RSMC tropical cyclone advisory

Complete technical discussion including :

- 1 : TC intensity discussion
- 2 : Track forecast philosophy
- 3 : Intensity forecast philosophy
- 4 : Impact based if necessary

2.C COMMENTAIRES:

T=CI=5.5

AU COURS DES DERNIERES 6 HEURES, LA PRESENTATION NUAGEUSE A PEU CHANGE AVEC MEME TEMPORAIREMENT DES ESTIMATIONS DVORAK BRUTES A 6.0 MAIS AUSSI DES ASYMETRIES TEMPORAIRES DE L'OEIL. LES IMAGES MICRO-ONDES DES PASSES GMI 0436Z ET SSMIS 0047Z MONTRENT UNE STRUCTURE CENTRALE SOLIDE AVEC UN ANNEAU DE CONVECTION RELATIVEMENT LARGE. LES IMAGES GMI MONTRENT MEME UNE BANDE DE CONVECTION SECONDAIRE S'ENROULANT PAR L'OUEST. AVEC LA PHASE D'INTENSIFICATION RAPIDE EN COURS, CES ELEMENTS POURRAIENT ETRE LES INDICES DU DECLENCHEMENT DE LA PREMIERE PHASE D'UN CYCLE DE REMPLACEMENT DU MUR DE L'OEIL. EN ACCORD AVEC CETTE ANALYSE, LES PROBABILITES DU PRODUIT M-PERC DU CIMSS COMMENCENT A AUGMENTER.

IDAI A BIEN ENTAME SON DEMI-TOUR AU COURS DE LA NUIT DERNIERE. UNE TENDANCE DE DEPLACEMENT SUD-OUEST EST MONTREE SUR LES DERNIERES IMAGES DISPONIBLES, ALORS QUE LA DORSALE SUBTROPICALE, SITUÉE AU SUD-OUEST DU SYSTEME, PREND PEU A PEU LA MAIN SUR LE FLUX DIRECTEUR. IDAI DEVRAIT AINSI ACCELERER PROGRESSIVEMENT DANS LES PROCHAINES HEURES AVEC L'INFLUENCE GRANDISSANTE DE LA DORSALE. A PARTIR DE MERCREDI, LA TRAJECTOIRE DEVRAIT SE REDRESSER VERS L'OUEST. LES MODELES DISPONIBLES PROPOSENT EGALEMENT UNE POURSUITE DE CE RECOURBEMENT JEUDI, DONNANT UN CAP NORD-OUEST AU CYCLONE AU MOMENT DE L'ATTERRISAGE SUR LES COTES MOZAMBICAINES. CETTE PHILOSOPHIE DE TRAJECTOIRE EST PARTAGEE PAR PRATIQUEMENT TOUS LES MODELES, A L'EXCEPTION NOTABLE D'IFS QUI NE PREVOIT PAS LE VIRAGE FINAL VERS LE NORD-OUEST. LE TIMING ET LA LOCALISATION DU POINT D'ATTERRISAGE D'IDAI RESTENT AINSI RELATIVEMENT INCERTAINS.

SUR CETTE TRAJECTOIRE, LES CONDITIONS ENVIRONNEMENTALES SONT FAVORABLES POUR QUE LE SYSTEME PUISSE ENCORE SE RENFORCER, NOTAMMENT AU COURS DES PROCHAINES 48H AVEC UN PASSAGE PREVU SUR UNE GYRE OCEANIQUE CONCENTRANT UN CONTENU ENERGETIQUE ELEVE. LE SYSTEME EVOLUE SOUS UNE DORSALE D'ALTITUDE ET BENEFICIE D'UN CISAILLEMENT VERTICAL DE VENT FAIBLE AVEC UNE BONNE DIVERGENCE D'ALTITUDE NOTAMMENT DANS LE QUADRANT SUD. UN CYCLE DE REMPLACEMENT DU MUR DE L'OEIL POURRAIT EGALEMENT MODULER L'INTENSITE D'IDAI. A PARTIR DE MERCREDI, AVEC UNE BAISSSE NOTABLE DE LA DIVERGENCE COTE NORD, L'INTENSITE DU SYSTEME DEVRAIT PLAFONNER VOIRE MEME DIMINUER LEGEREMENT SELON LES DIFFERENTES GUIDANCES D'INTENSITE DISPONIBLES. IDAI DEVRAIT RESTER PENDANT UN CYCLONE TROPICAL INTENSE AU MOMENT DE SON ATERRISSAGE.

IDAI DEVRAIT ETRE UN SYSTEME TRES DANGEREUX LORS DE SON ATERRISSAGE, PREVU ACTUELLEMENT SUR LA COTE MOZAMBICAINE APPROXIMATIVEMENT ENTRE BEIRA ET QUELIMANE. LES PREMIERES ESTIMATIONS DE SURCOTE DEPASSENT LES 6M NOTAMMENT SUR LE DELTA DU ZAMBEZE.

1

2

3

4

MONITORING AN ACTIVE SYSTEM

- Centre Consultatif pour les Cyclones Tropicaux dans la région AFI (OACI) *Regional Tropical Cyclone Advisory Center designated by ICAO*

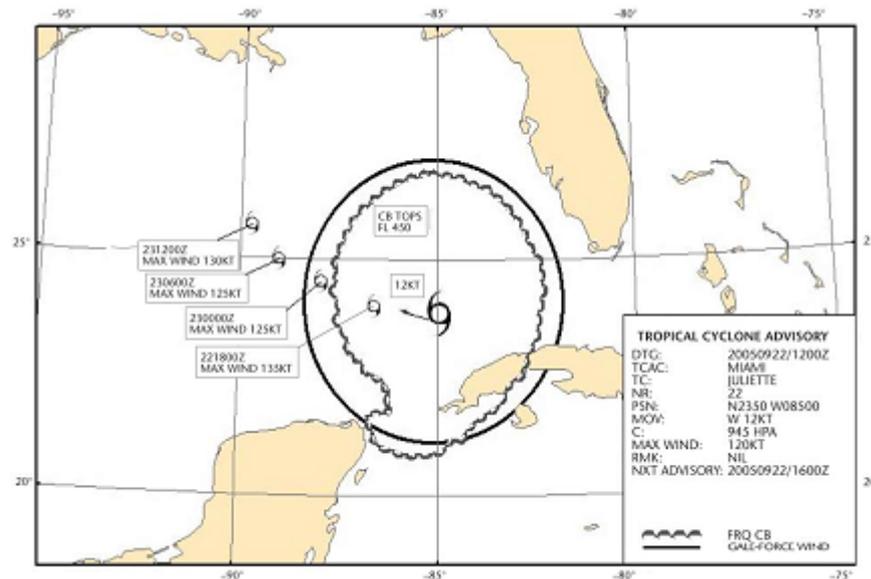
- Emis toutes les 6 h dès le coup de vent/ *issued every 6h when gale winds*

- A destination aéronautique / *For aeronautic services*

- Prévisions toutes les 6h de 12h à 24h / *Forecasts every 6h from 12h to 24h.*

Avis consultatif pour l'aéronautique (OACI)
Cyclone advisory for aeronautical purpose

FKIO20 FMEE 231844
TC ADVISORY
DTG: 20190423/1844Z
TCAC: REUNION
TC: LORNA
ADVISORY NR: 2019/01
OBS PSN: 23/1800Z S0934 E08252
CB: WI 200NM OF TC CENTRE TOP FL550
MOV: SSE 10KT
C: 995HPA
MAX WIND: 40KT
FCST PSN +6 HR: 24/0000Z S0955 E08258
FCST MAX WIND +6 HR: 43KT
FCST PSN +12 HR: 24/0600Z S1018 E08307
FCST MAX WIND +12 HR: 45KT
FCST PSN +18 HR: 24/1200Z S1043 E08321
FCST MAX WIND +18 HR: 48KT
FCST PSN +24 HR: 24/1800Z S1106 E08337
FCST MAX WIND +24 HR: 50KT
RMK: NIL
NXT MSG: 20190424/0000Z



Produit graphique en complément de l'avis consultatif/ *additional chart*

MONITORING AN ACTIVE SYSTEM

Messages pour les Centres de
prévision numérique (BUFR)
*Technical messages for NWP
centres*

```
BUFR39002570031002000110420
001033001025001027301011301012301023008012002041019001202129201131019005201000202000019006019008
008005010051008005010051019007008005008021202129201129011042201000202000019007008005109000031001
202129201129019003201000202000103004005021005021019009205082
001033125
001025201S
0010272ABAIMBA
00400112003
004002110
004003102
004004100
004005100
0050021-05.2
0060021067.0
00801211
00204110
```

- Emis toutes les 6 heures / *issued every 6 hours*
- A destination des centres de prévision numérique / *Destinated to NWP centers*
- Analyse du système avec extension des vents, pas de prévision / *Only analyse (no forecast)*

I
(.....)

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0050211360
0190091200000
019003124.5
00502110
005021190
01900914095000
005021190
0050211180
01900914095000
0050211180
0050211270
01900914095000
0050211270
0050211360
01900914095000
2050822BUFR/REUNION/ANALYSE/CYCLONEABAIMBA02/10/20030000UTCTEMPETE TROPICALE MODERE
1
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WEBSITE AND SOCIAL MEDIA

http://www.meteo.fr/temps/domtom/La_Reunion/webcmrs9.0/

Site internet du CMRS La Réunion (accès libre et anglais/français)

RSMC La Reunion Internet web site (free access – french & english version)

Centre de données Cyclone (Données publiques MF) – DCPC Cyclone

Cyclone Data Center (MF public data access) – DCPC Cyclone

<http://dcpc-cyclone.meteo.fr/openwis-user-portal/srv/en/main.home>

<http://www.meteo.re>

<http://www.meteofrance.yt>

Sites internet pour la prévision locales sur La Réunion et Mayotte (en français seulement) comportant aussi une rubrique Cyclone

Public website for the general public of La Réunion and Mayotte (in french only). Cyclone page also available.

[facebook](#) : [@MeteoFranceOceanIndien](#)