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SWIOCOF - TC

Seasonal outlook for cyclone activity in SWIO region (2021-2022 season)

Météo France – Direction Interrégionale Océan Indien

RSMC La Réunion

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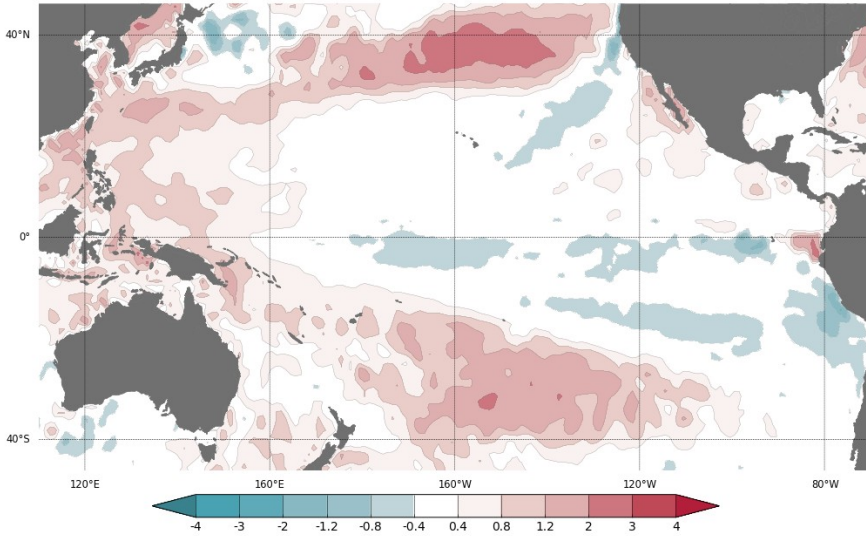
Regional Outlook Forum for South-West Indian Ocean countries

28 October 2021

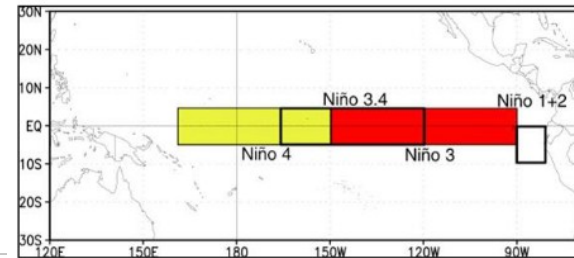
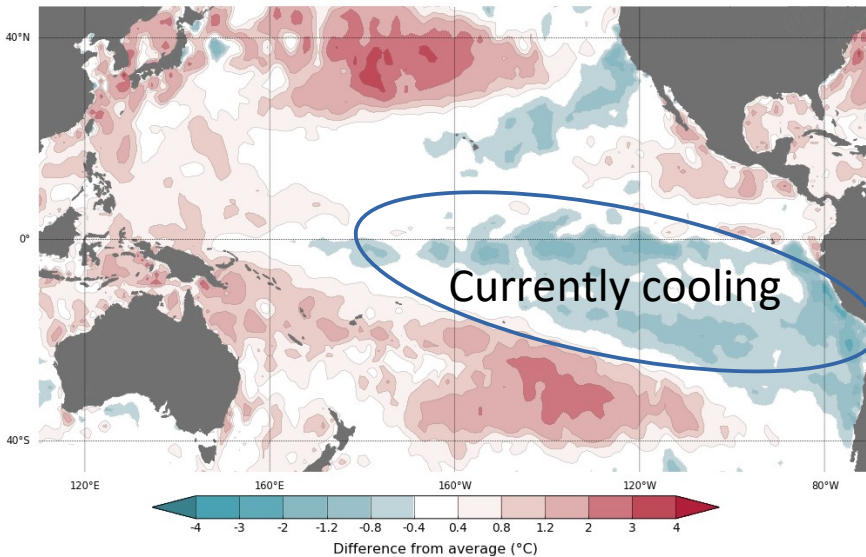
- WebConference -

Large scale background : ENSO

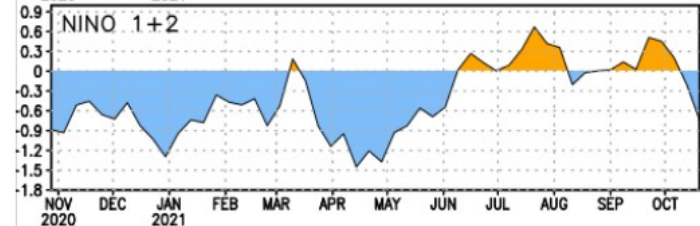
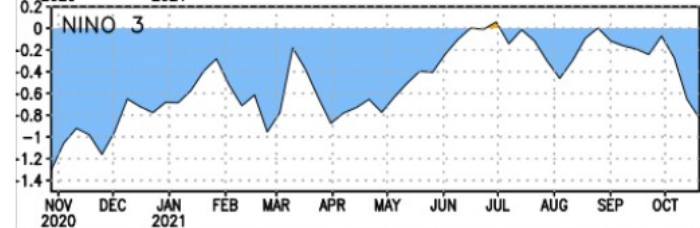
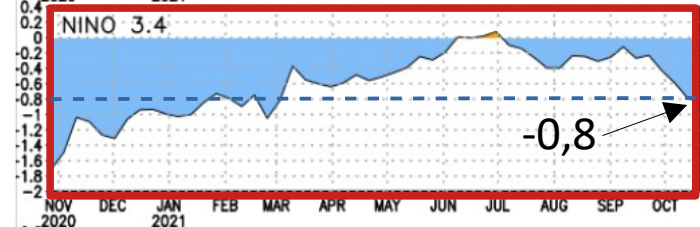
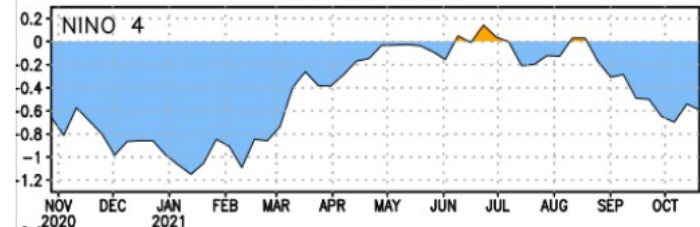
Difference from average sea surface temperature observations
September 2021



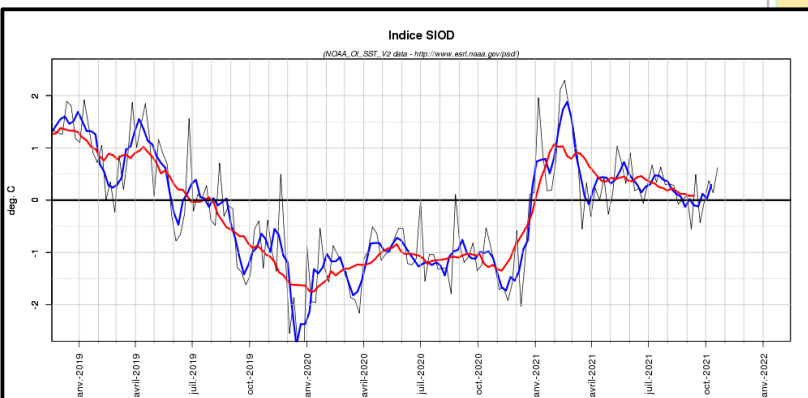
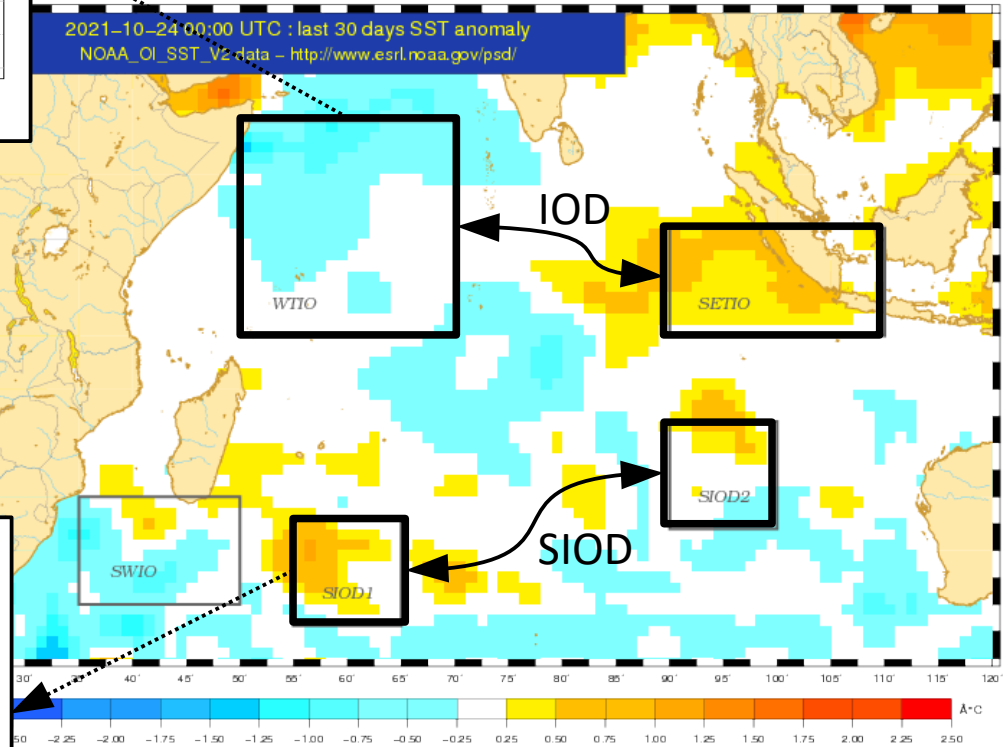
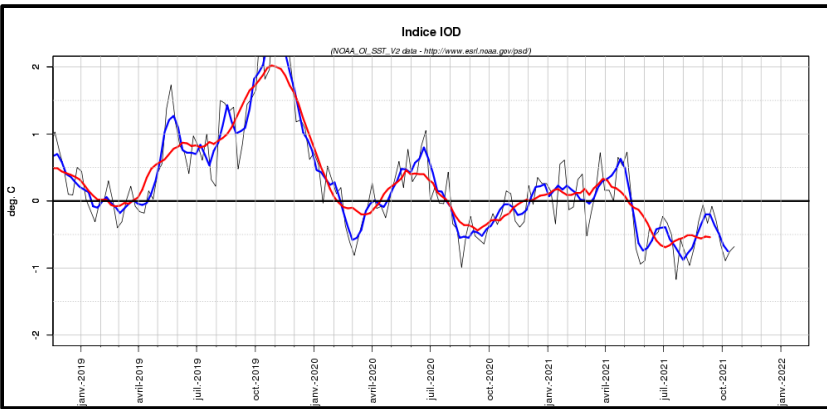
Difference from average sea surface temperature observations
18 October to 24 October 2021



SST Anomalies

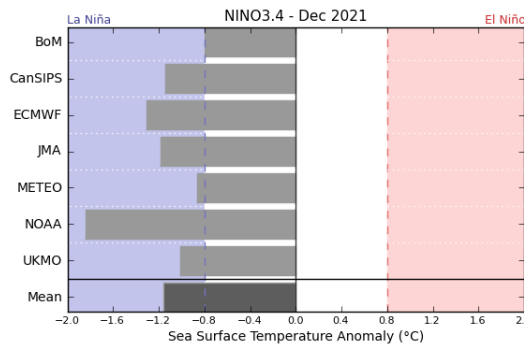
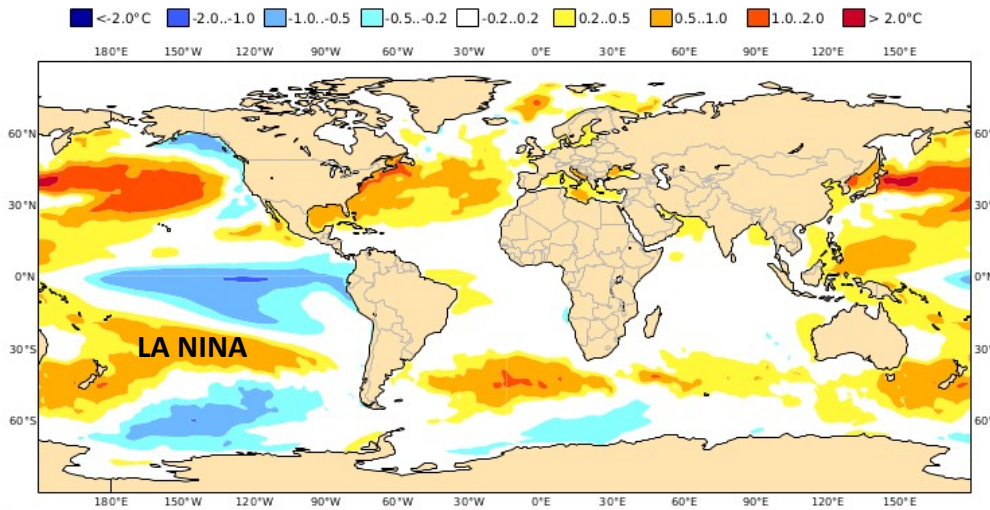


Large scale background : Indian Ocean drivers

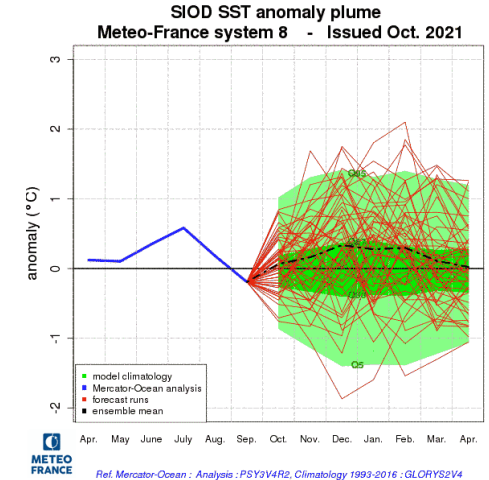


Large scale evolution of SST patterns

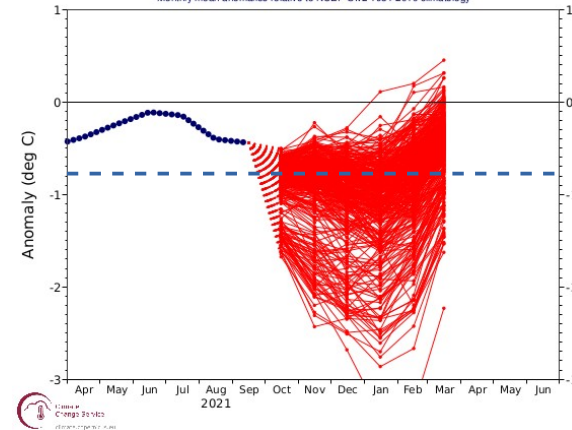
C3S multi-system seasonal forecast ECMWF/Met Office/Météo-France/CMCC/DWD/NCEP/JMA/ECCC
 Mean forecast SST anomaly JFM 2022
 Nominal forecast start: 01/10/21
 Variance-standardized mean



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NINO3.4 SST anomaly plume
 C3S multi-system forecast from 1 Oct 2021
 ECMWF, Met Office, Météo-France, CMCC, DWD, NCEP, JMA, ECCC
 Monthly mean anomalies relative to NCEP OI2 1981-2010 climatology



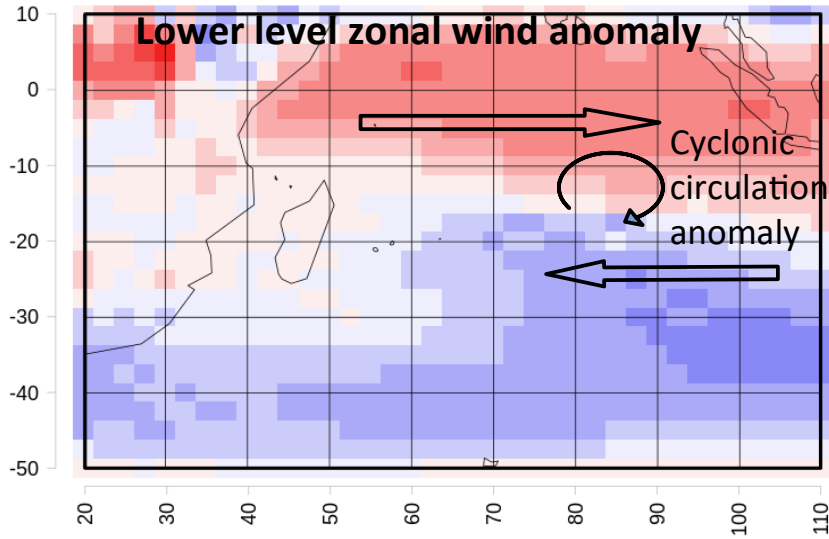
Consensus on ENSO : moderate La Nina very likely over the next TC season
Not so clear over the Indian Ocean : some uncertainty on the SIOD evolution → likely positive or neutral at that stage.

Seasonal forecast:

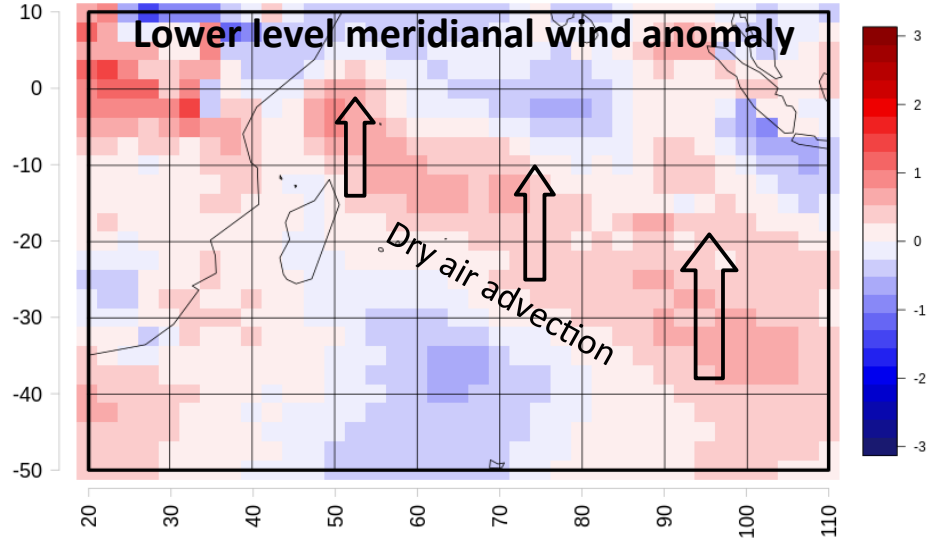
JFM 2022

Large scale forecast – base : oct. 2021

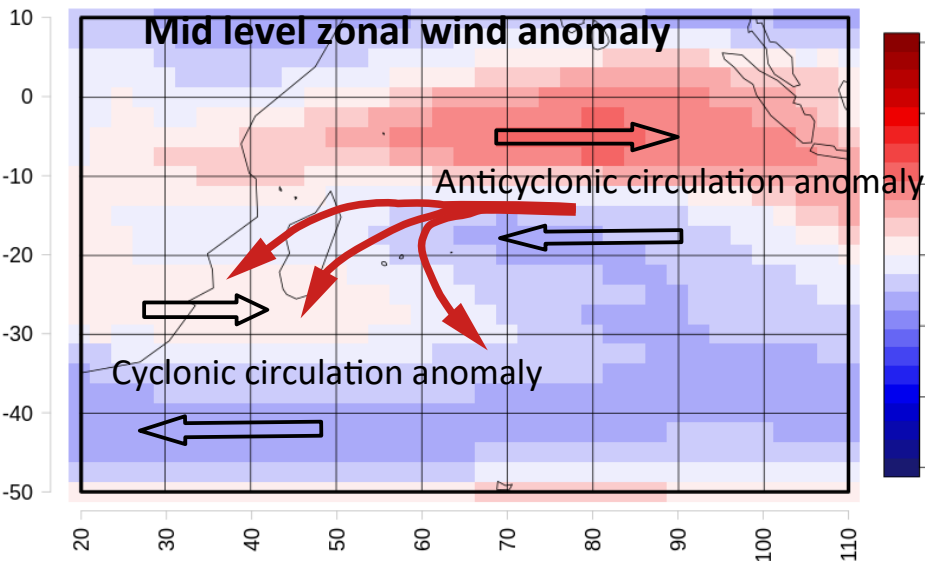
Prevision CEP U850 10 JFM 2022



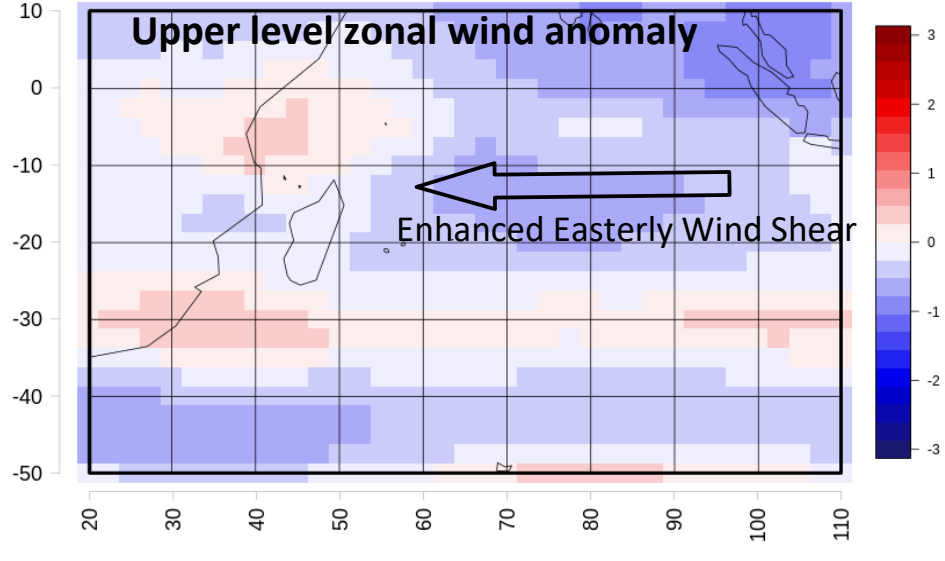
Prevision CEP V850 10 JFM 2022



Prevision CEP U500 10 JFM 2022



Prevision CEP U200 10 JFM 2022

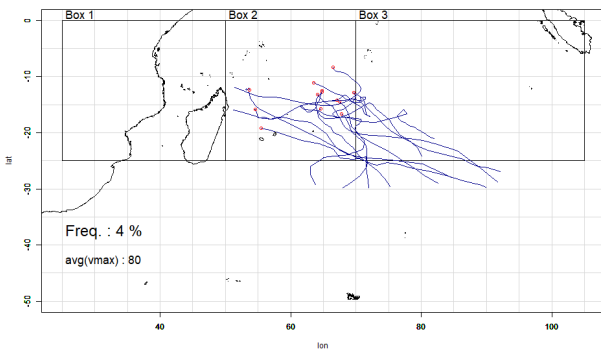


Track typologie

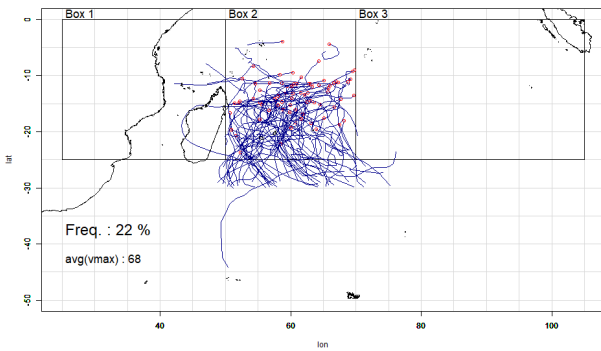
Considering historical tracks during La Nina events and most recent large scale predictions from several climate models

Below normal frequency

CLUSTER 223

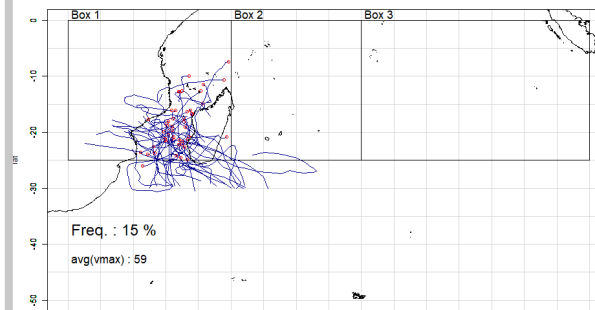


CLUSTER 222

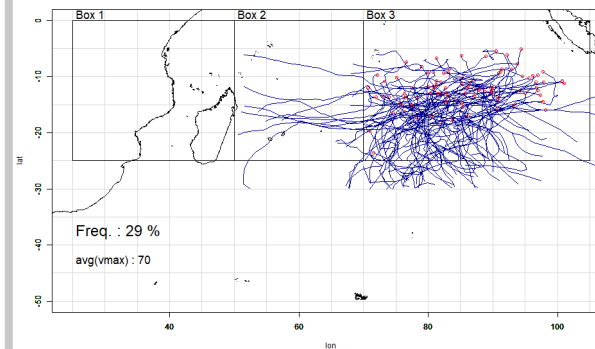


Normal frequency (will depend on SIOD evolution)

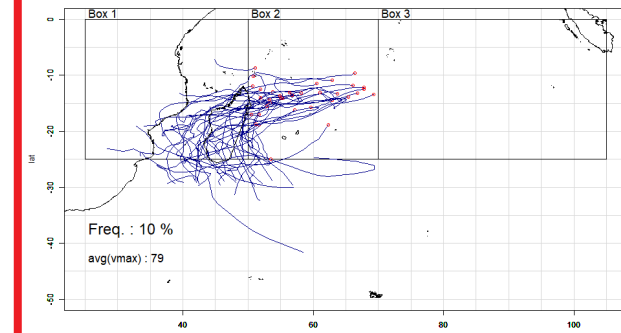
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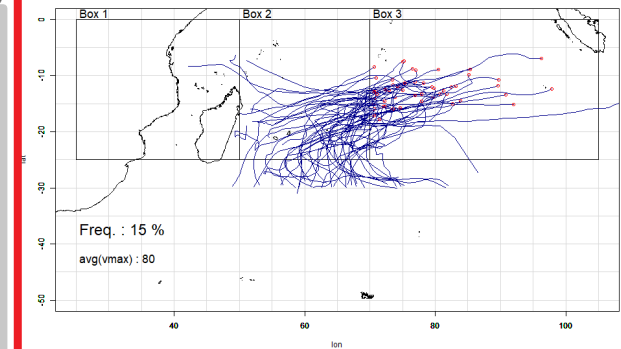
CLUSTER 333



CLUSTER 212

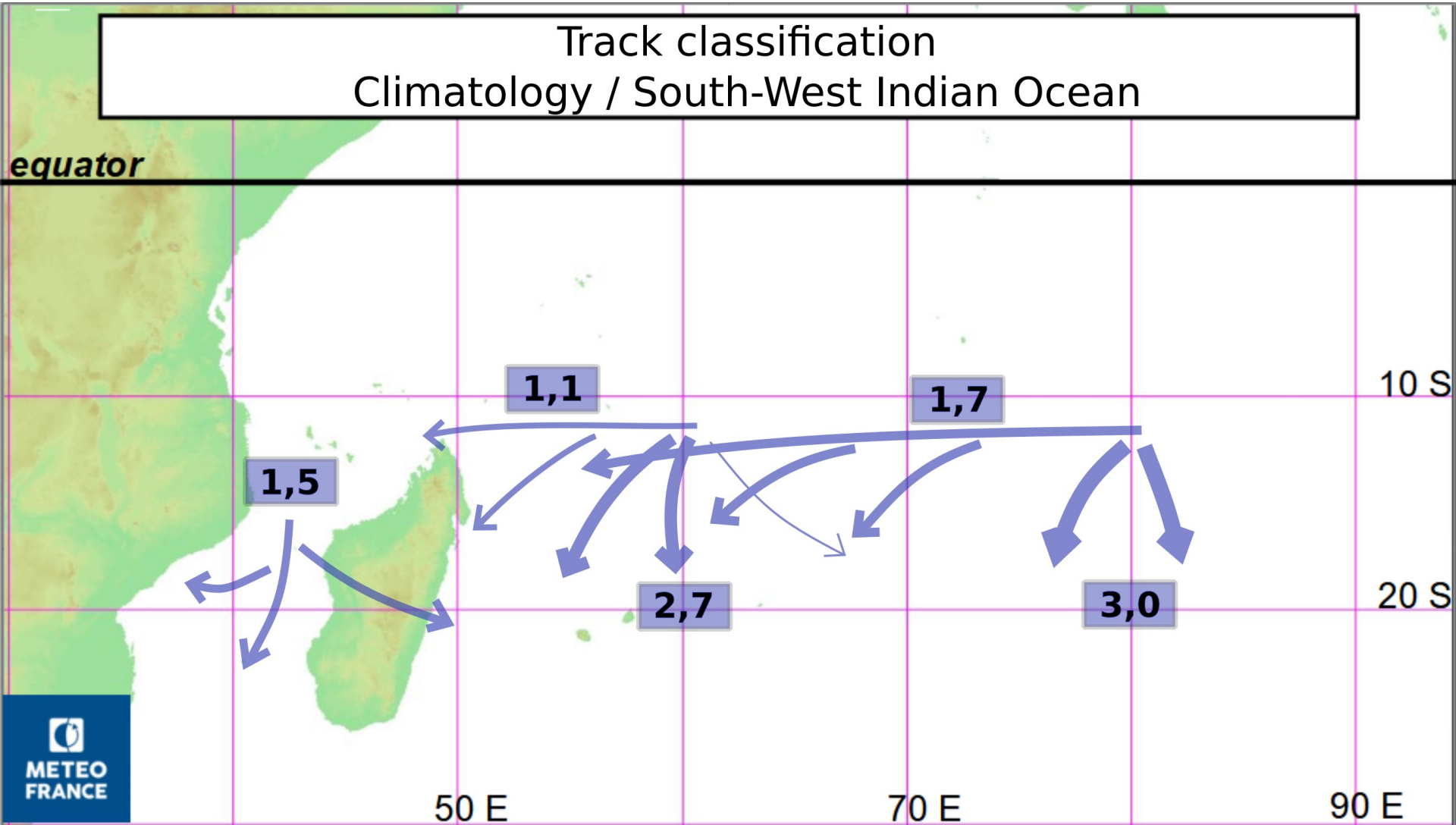


CLUSTER 323



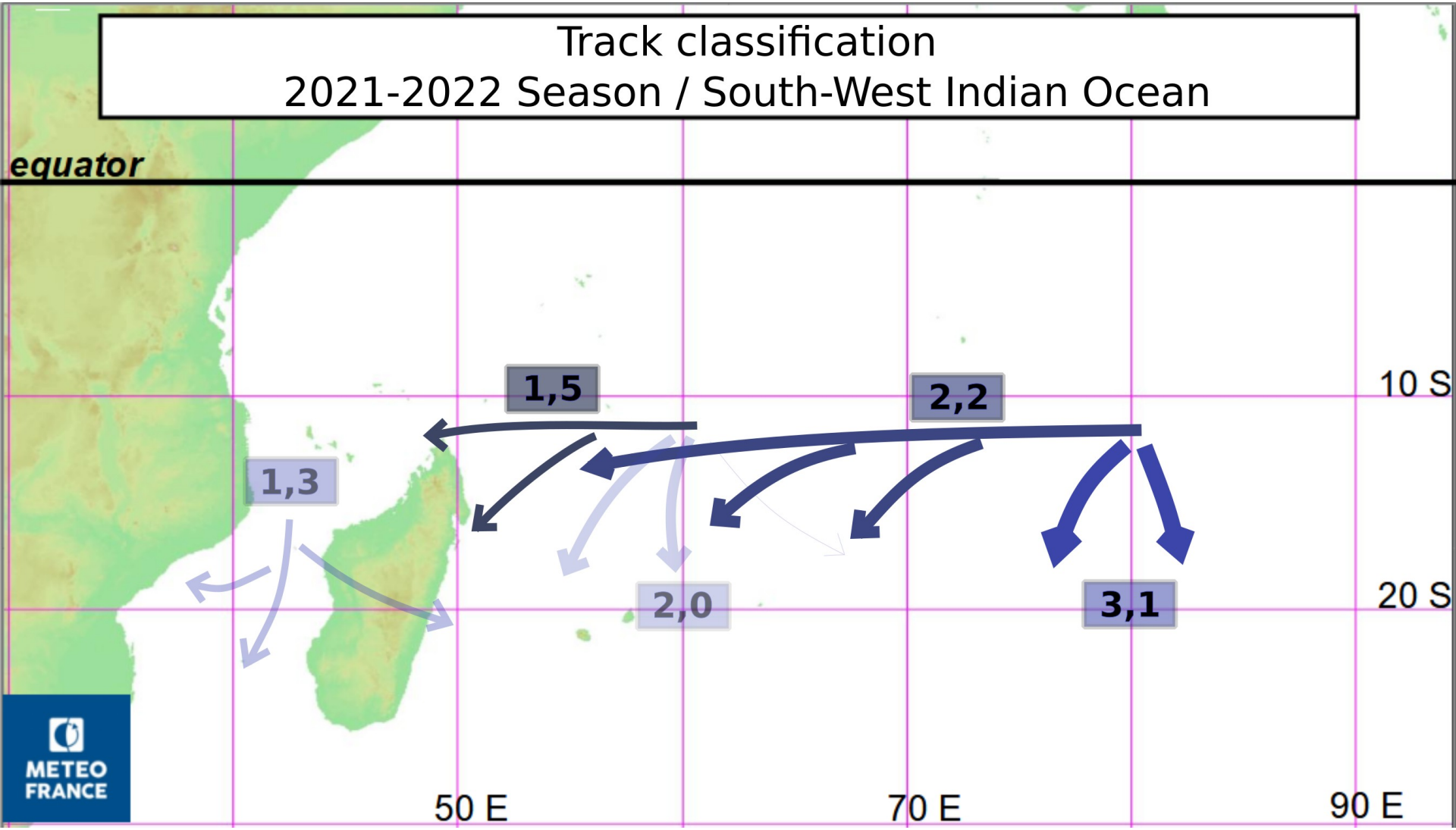
Above normal frequency

Synthesis activity map : climatology

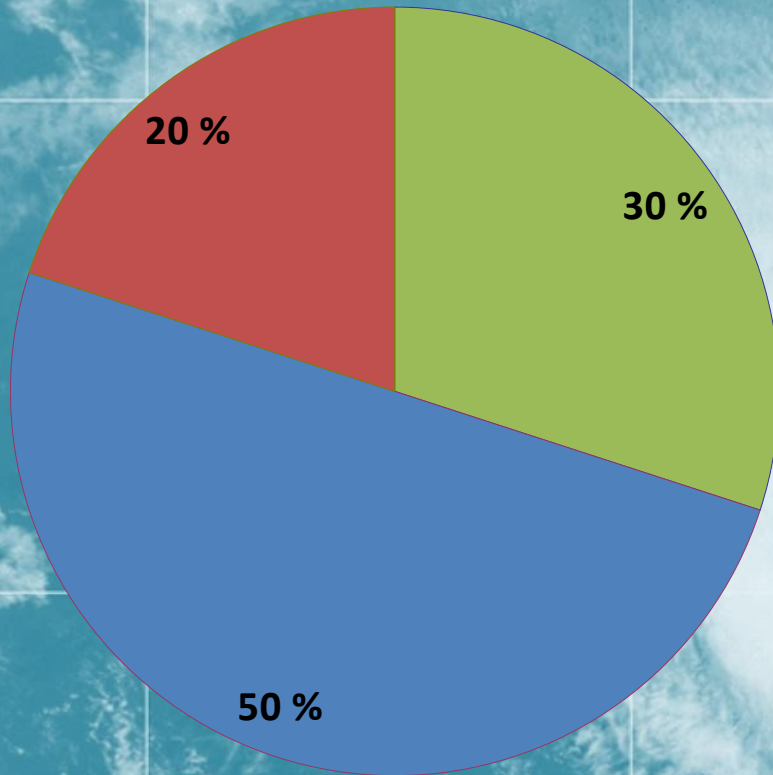


Synthesis activity map : 2021-2022 season

Track classification
2021-2022 Season / South-West Indian Ocean



Seasonal outlook for Tropical cyclones season 2021-2022



Named storms
8-12 (average 10)

Tropical cyclones
4-6 (average 5)

■ Below normal ■ Near normal ■ Above normal

Outlook probabilities



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Be prepared:

Visit http://www.meteo.fr/temps/domtom/La_Reunion/webcmrs9.0/anglais/index.html

Tropical cyclone distribution 2021-2022 season / South-West Indian Ocean

equator

Enhanced
likelihood
for genesis

10 S

Main expected tracks

20 S

50 E

70 E

90 E



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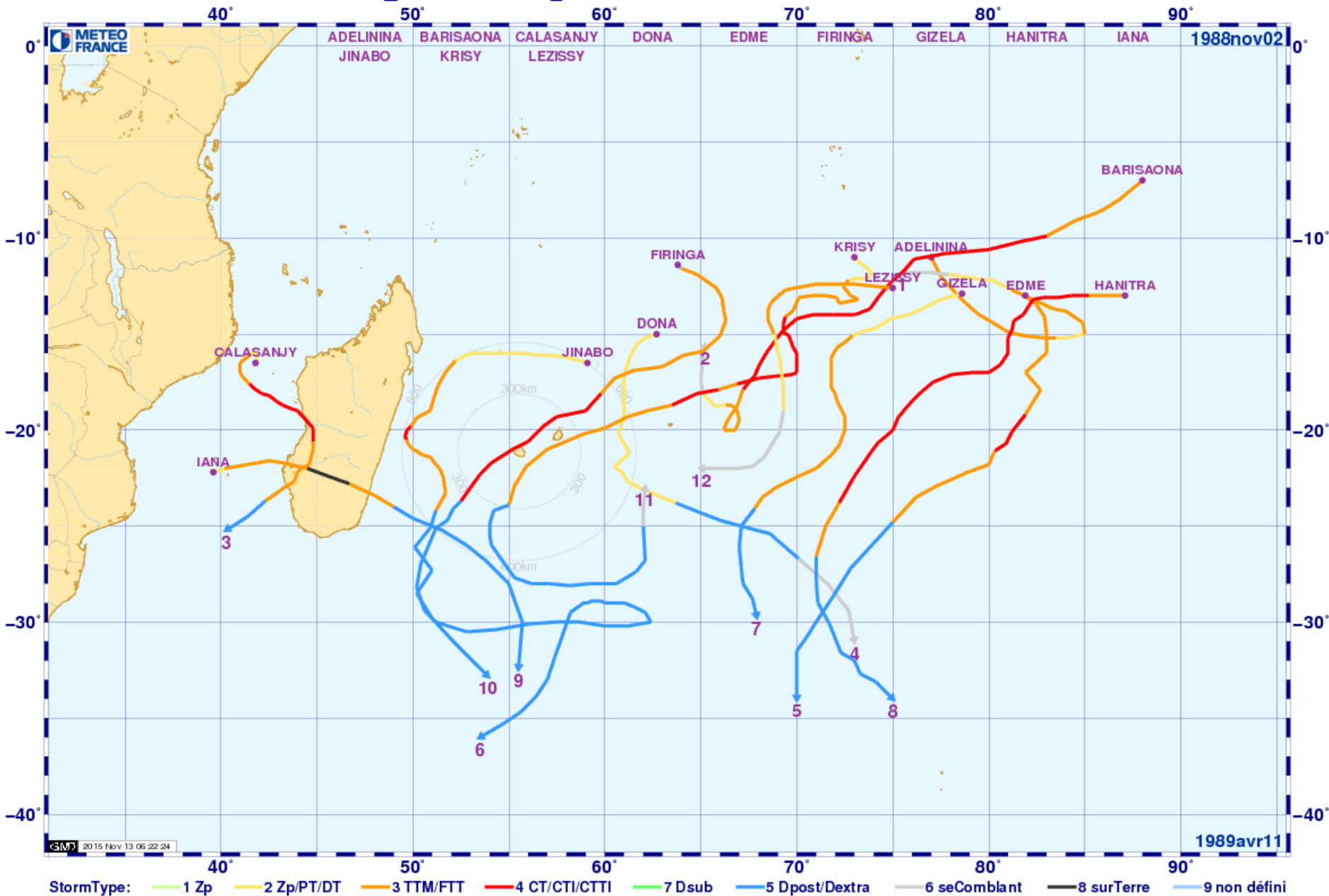
30E 40E 50E 60E 70E 80E 90E

Summary

- A season mainly influenced by coming La Nina conditions (some similarities with previous season)
- Near average TC season (8 to 12 named systems), 4 to 6 reaching tropical cyclone intensity. Quite high uncertainty on this information due to La Nina context
- Zonal or parabolic tracks favored during the coming season
- Austral spring (Nov-Dec): TC activity expected mainly over the eastern part of the basin, most of the systems should remain far from land
- Core of the season (Jan and beyond) : activity may develop further west and closer to inhabited lands but will largely depend on how SIOD+/La Nina develop.
- Areas with most risks of direct impact : east coast of Madagascar, Mascarene Islands and Mozambique (associated with systems coming from the Indian Ocean and crossing Madagascar).
- If SIOD evolves in a clear positive phase, conditions may be more favorable for genesis in the Mozambic Chanel

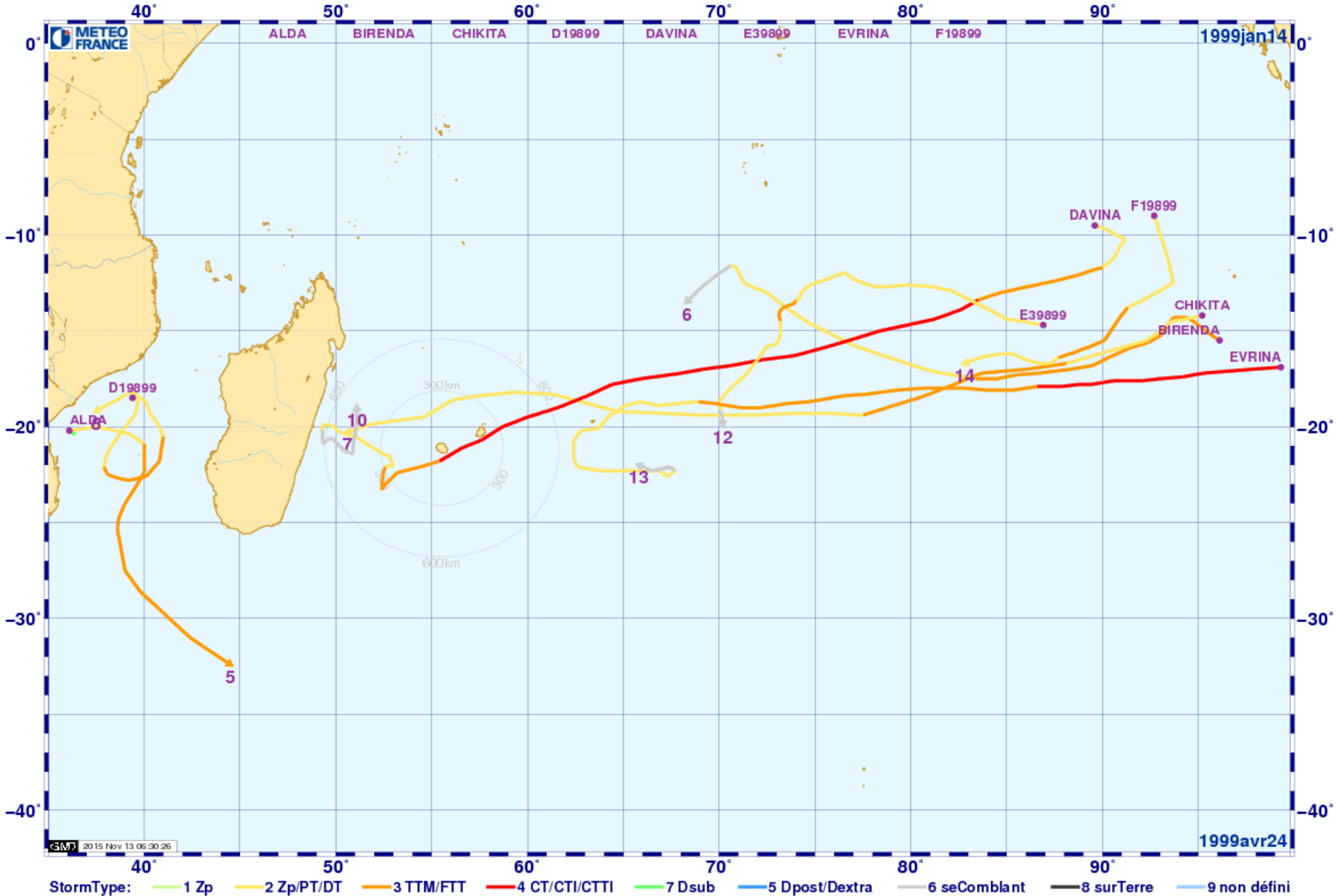
THE END

activité cyclonique de la saison 1988-1989



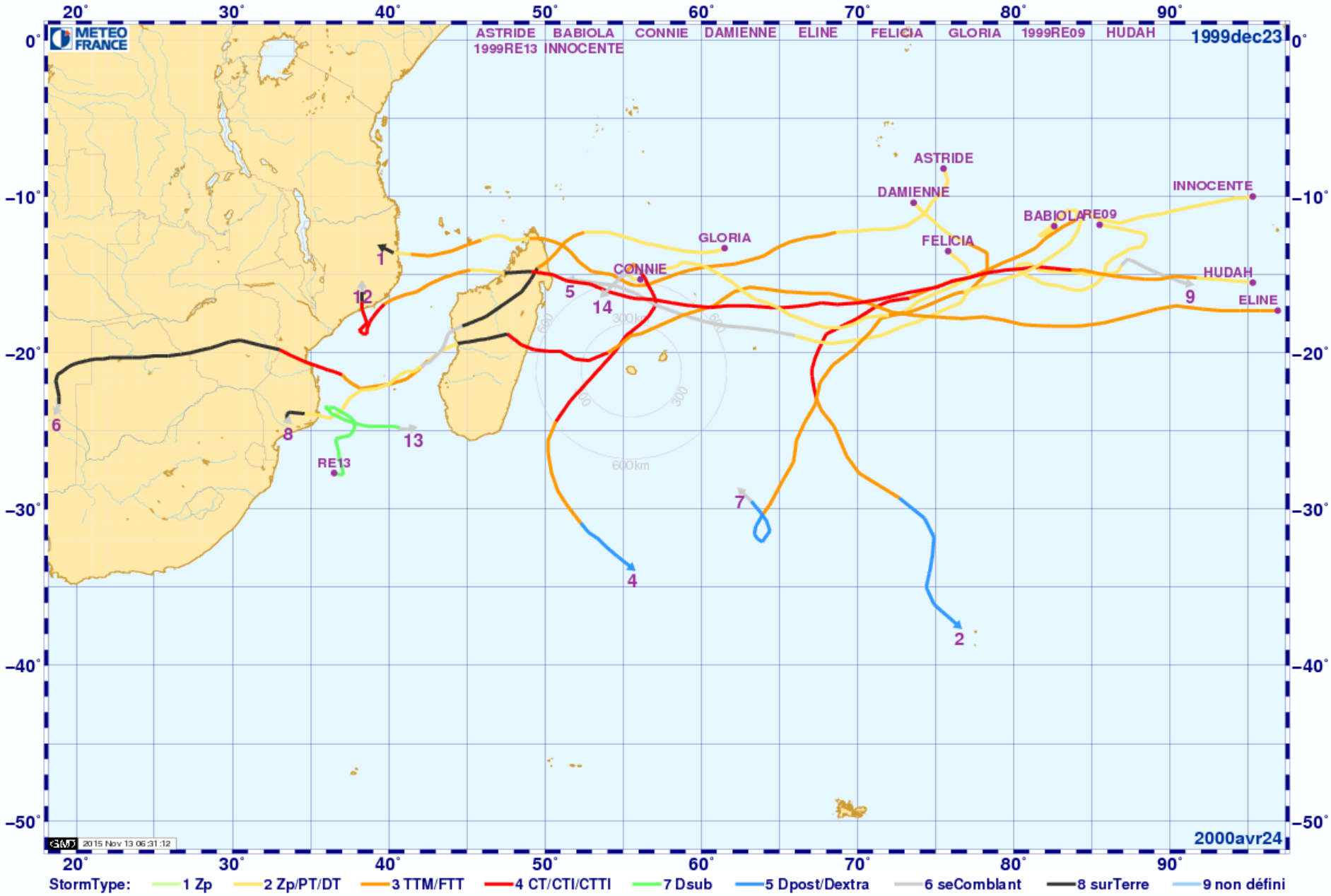
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activité cyclonique de la saison 1998-1999

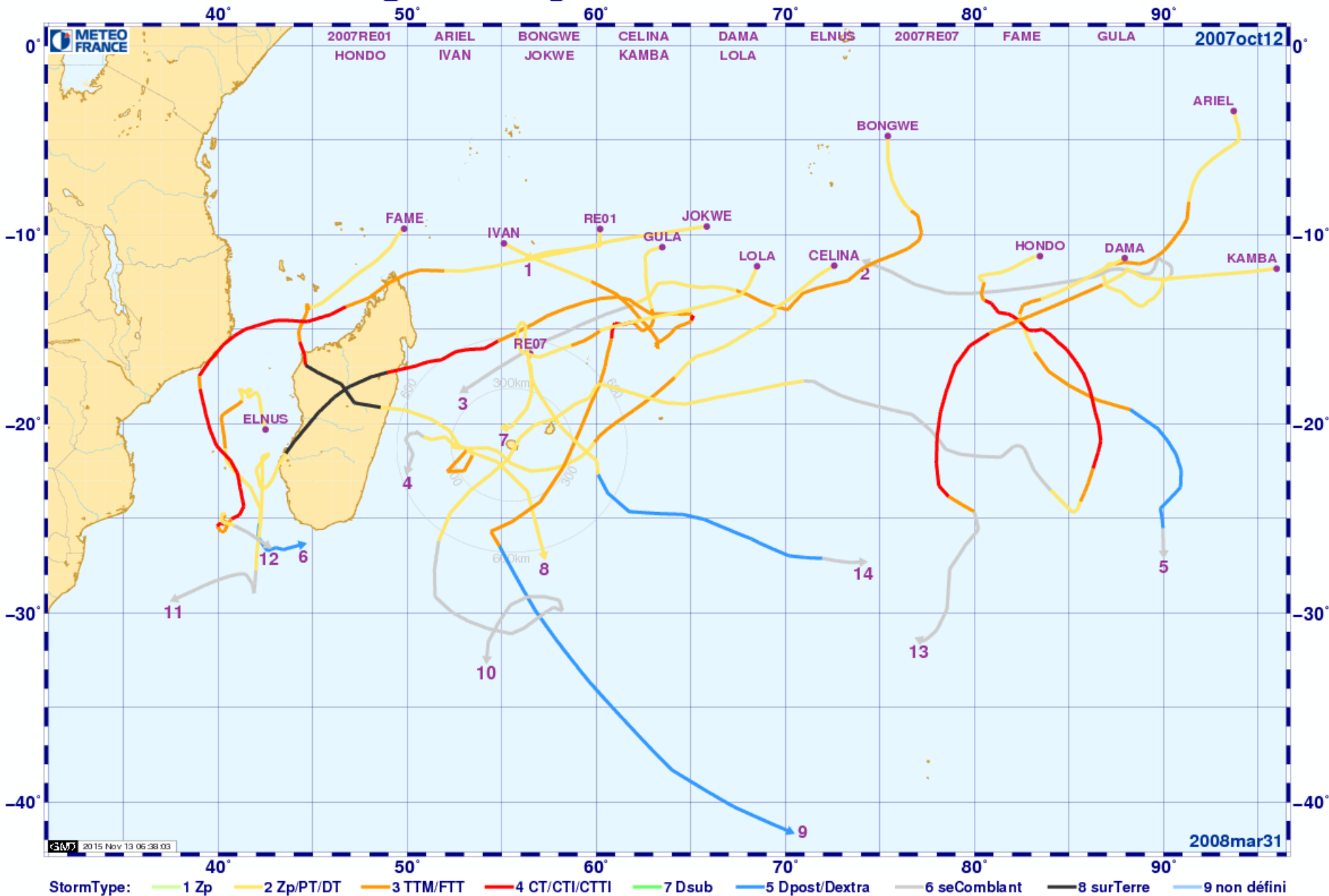


StormType: 1 Zp 2 Zp/PT/DT 3 TTM/FTT 4 CT/CTI/CTTI 7 Dsub 5 Dpost/Dextra 6 seComblant 8 surTerre 9 non défini

activité cyclonique de la saison 1999-2000

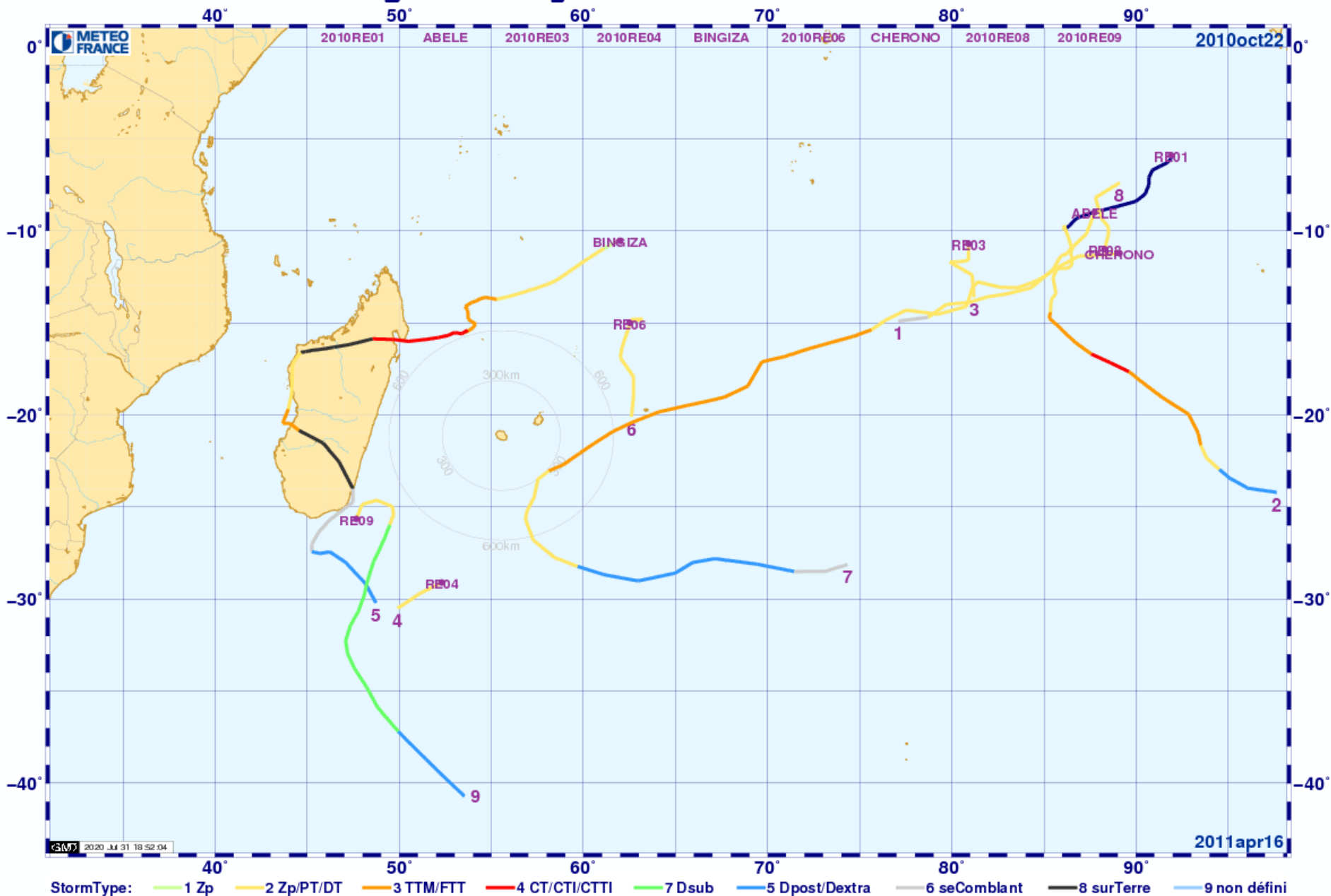


activité cyclonique de la saison 2007-2008



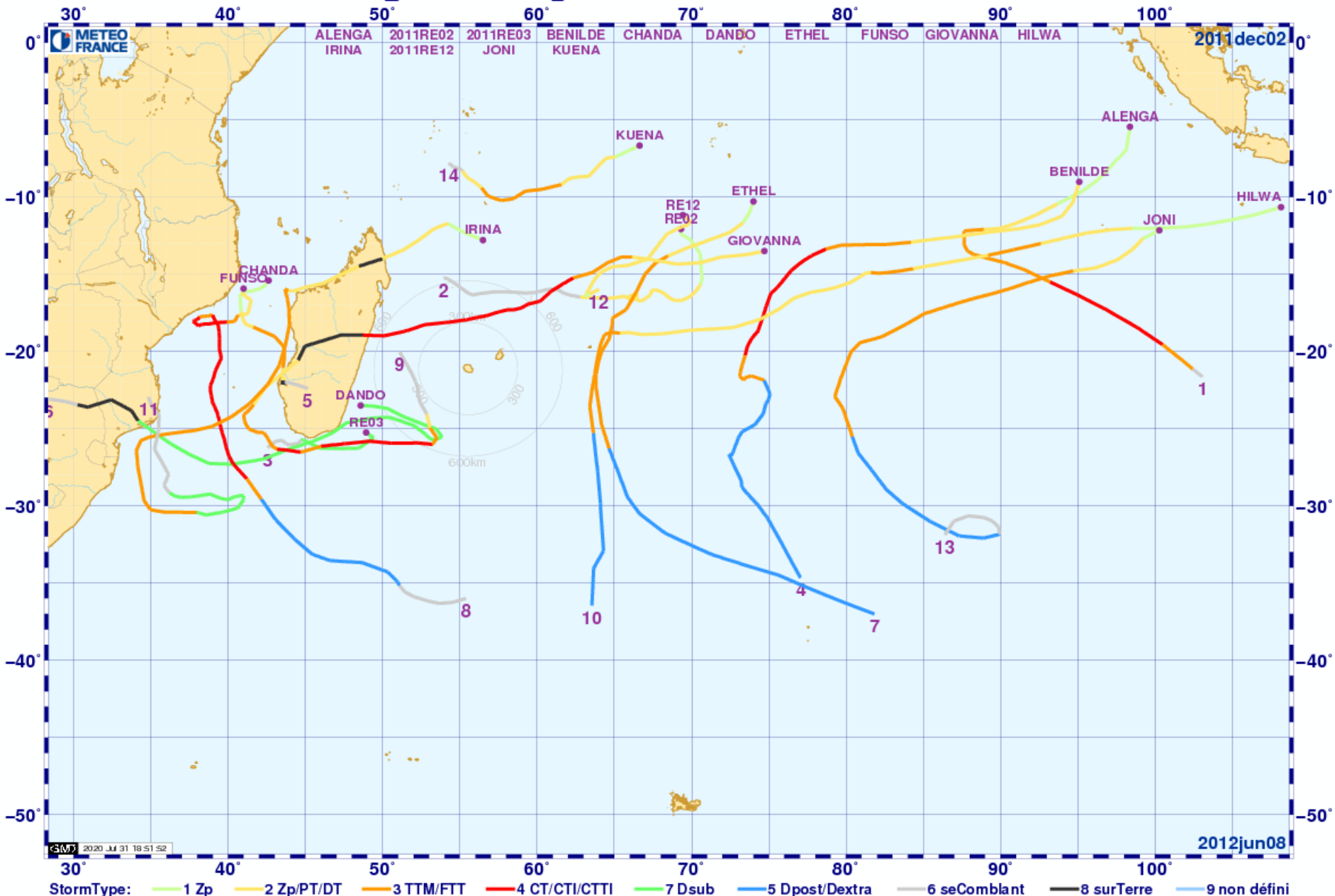
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activité cyclonique de la saison 2010-2011



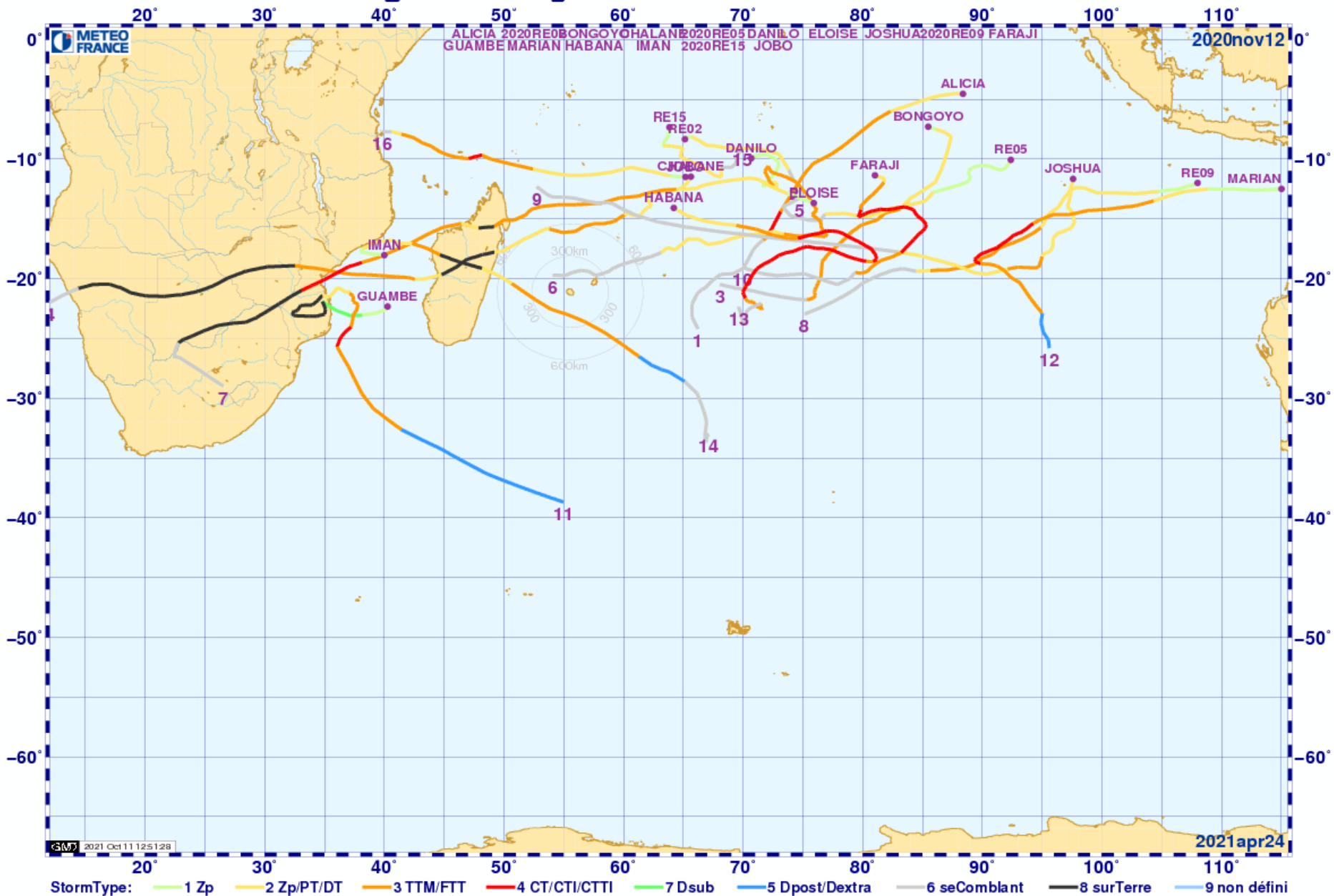
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activité cyclonique de la saison 2011-2012



StormType: 1 Zp 2 Zp/PT/DT 3 TTM/FTT 4 CT/CTI/CTTI 7 Dsub 5 Dpost/Dextra 6 seComblant 8 surTerre 9 non défini

activité cyclonique de la saison 2020-2021



Storm Type: 1 Zp 2 Zp/PT/DT 3 TTM/FTT 4 CT/CTI/CTTI 7 Dsub 5 Dpost/Dextra 6 seComblant 8 surTerre 9 non défini