Forecast Customization System
SWIO 2024 Review

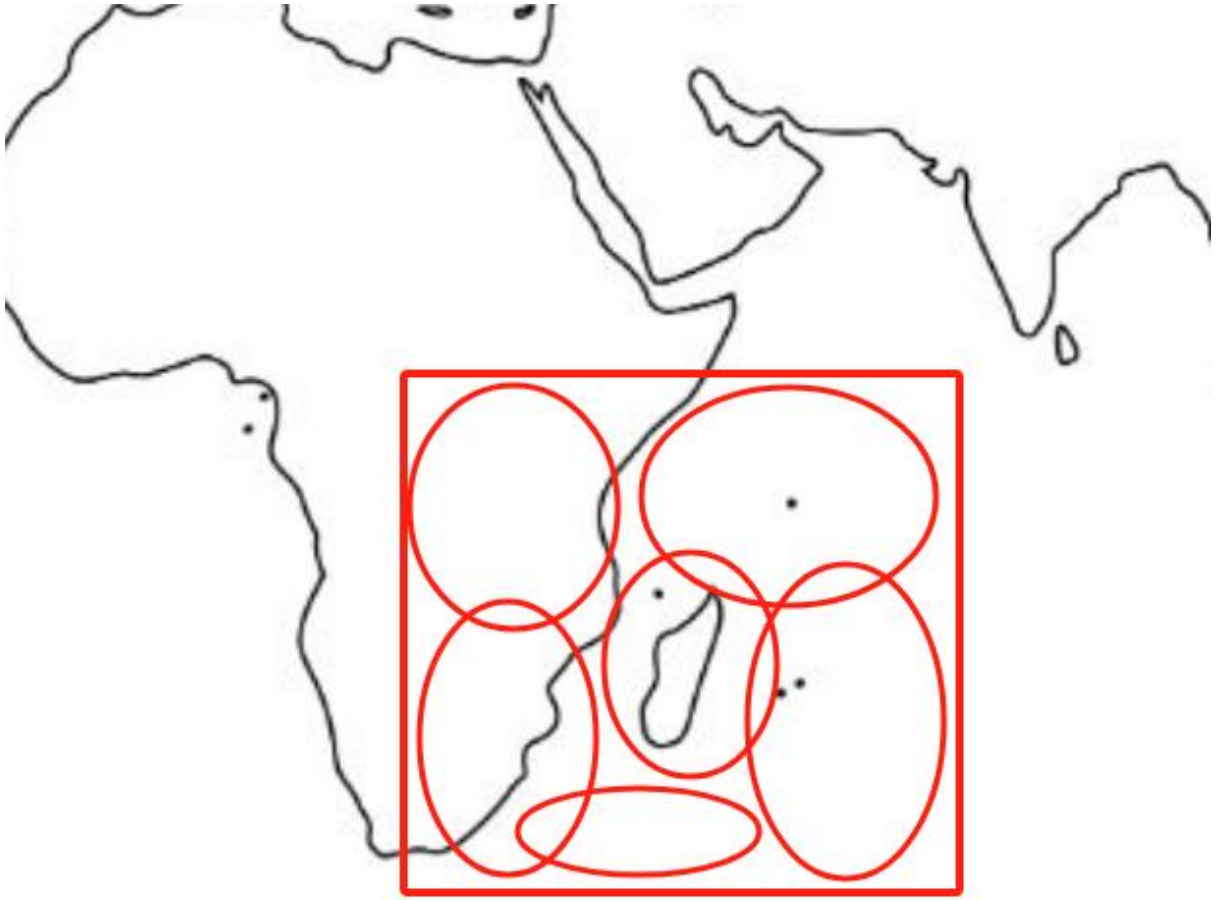
Mr. Jie Qiu

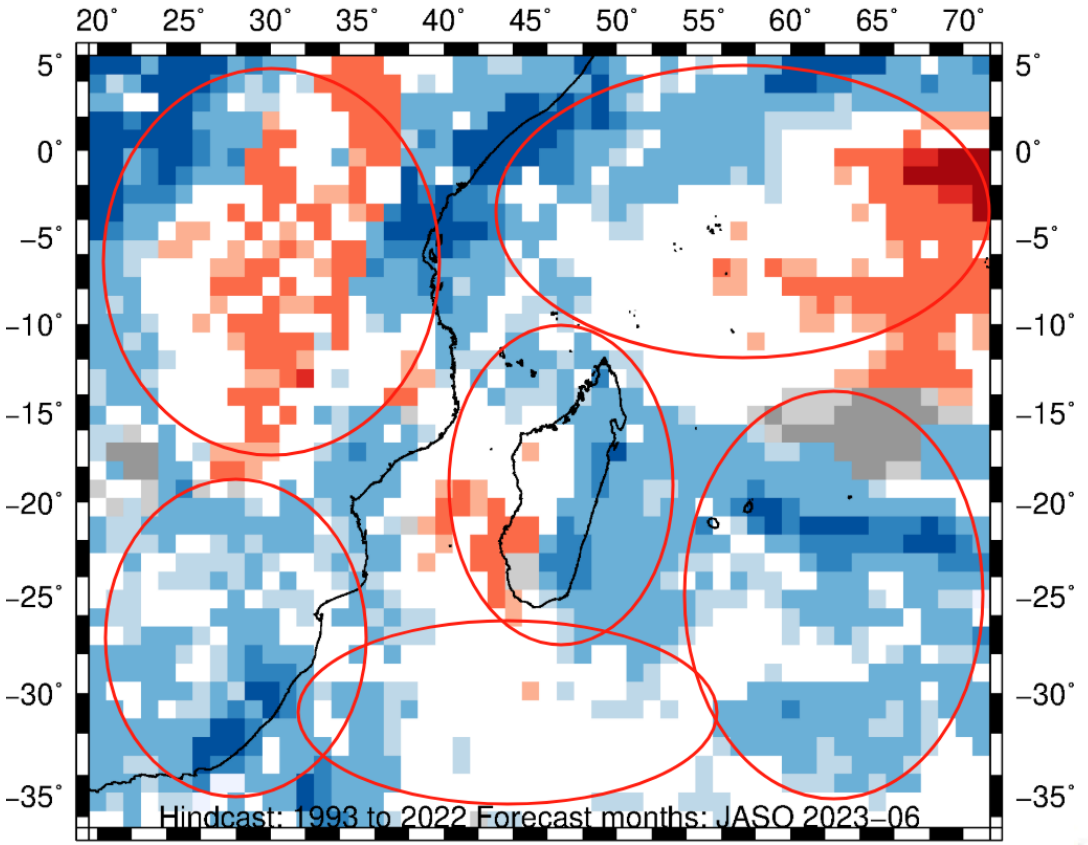
June 2025, Mauritius

Preliminary Analysis

Initial Condition:	2024 | 09-September / 12-December
Models:	CanSIPS-IC4 NASA-GEOSS2S NCAR-RSMAS-CCSM4 UKMO Meteo-France DWD CMCC GEM5.2-NEMO ECMWF
Observation:	ERA5
Hindcast:	1993 to 2023 (Except: 2017,2018)
Forecast Months:	OND / JFM

Sub-regions of SWIO



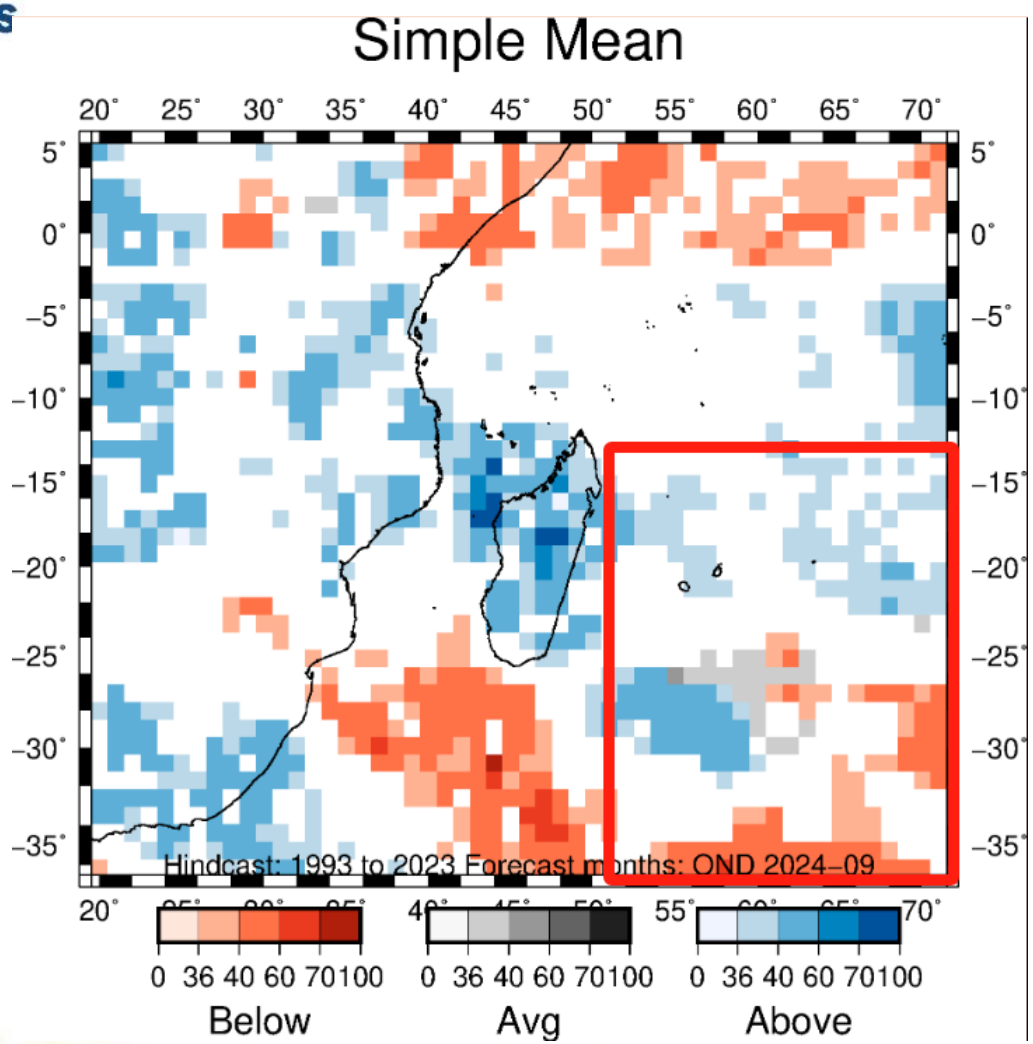


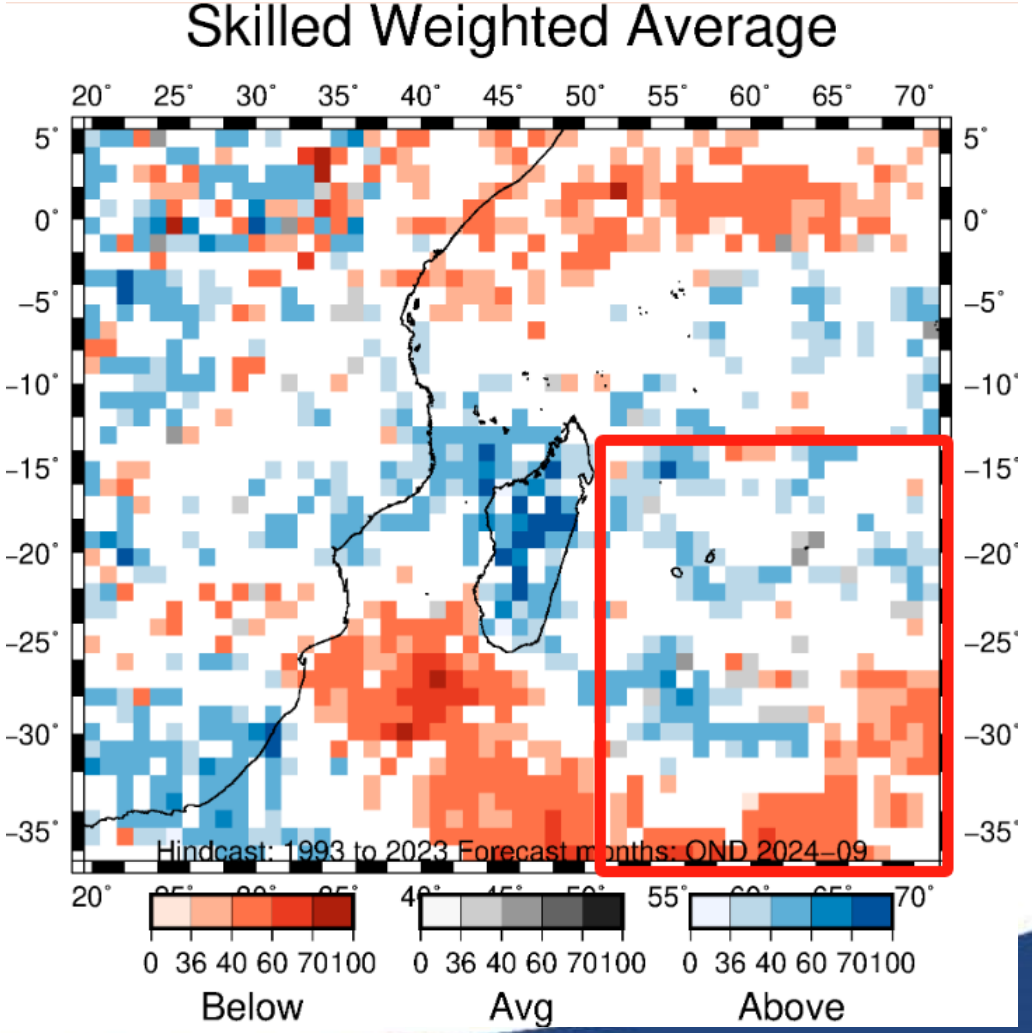
SWIO SR Models Suggestion

NE of SWIO

- CanSIP-IC4
- CCSM4
- UKMO
- Meteo-France
- DWD
- GEM5.2-NEMO

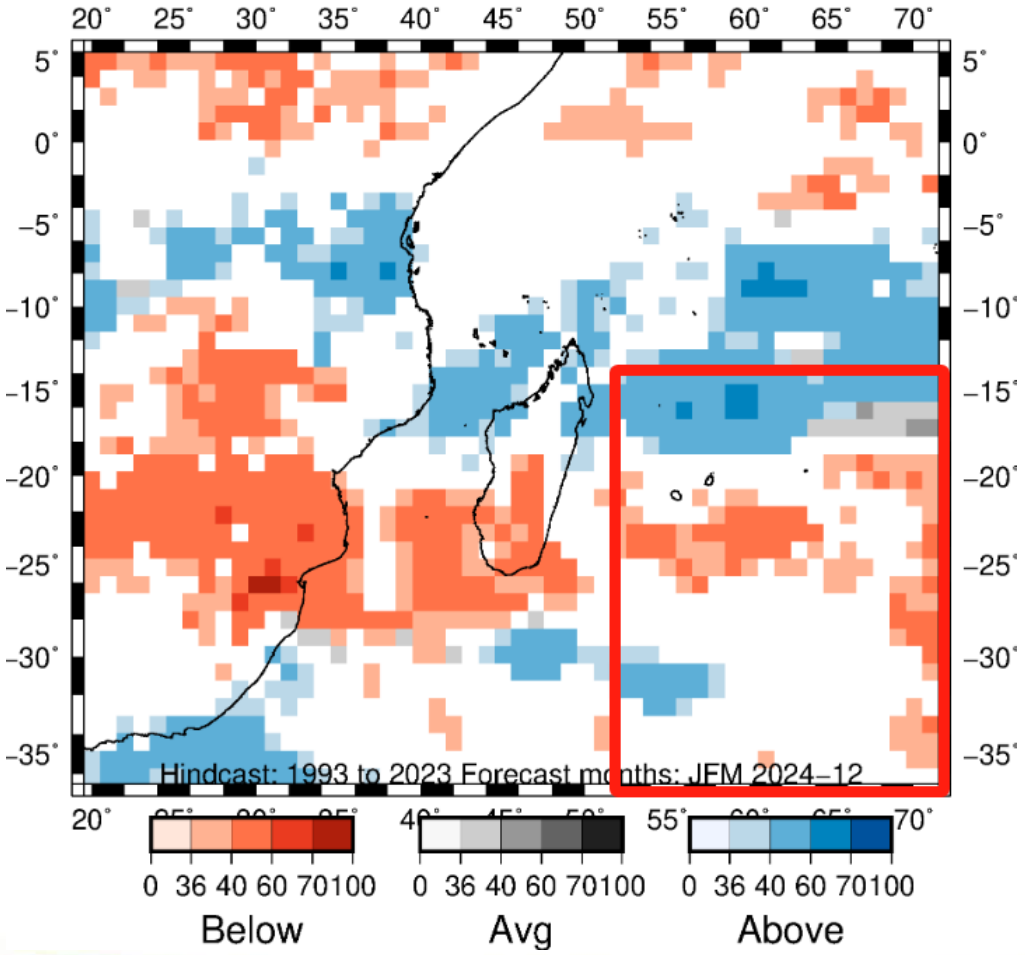
SWIO-SE 2024 OND



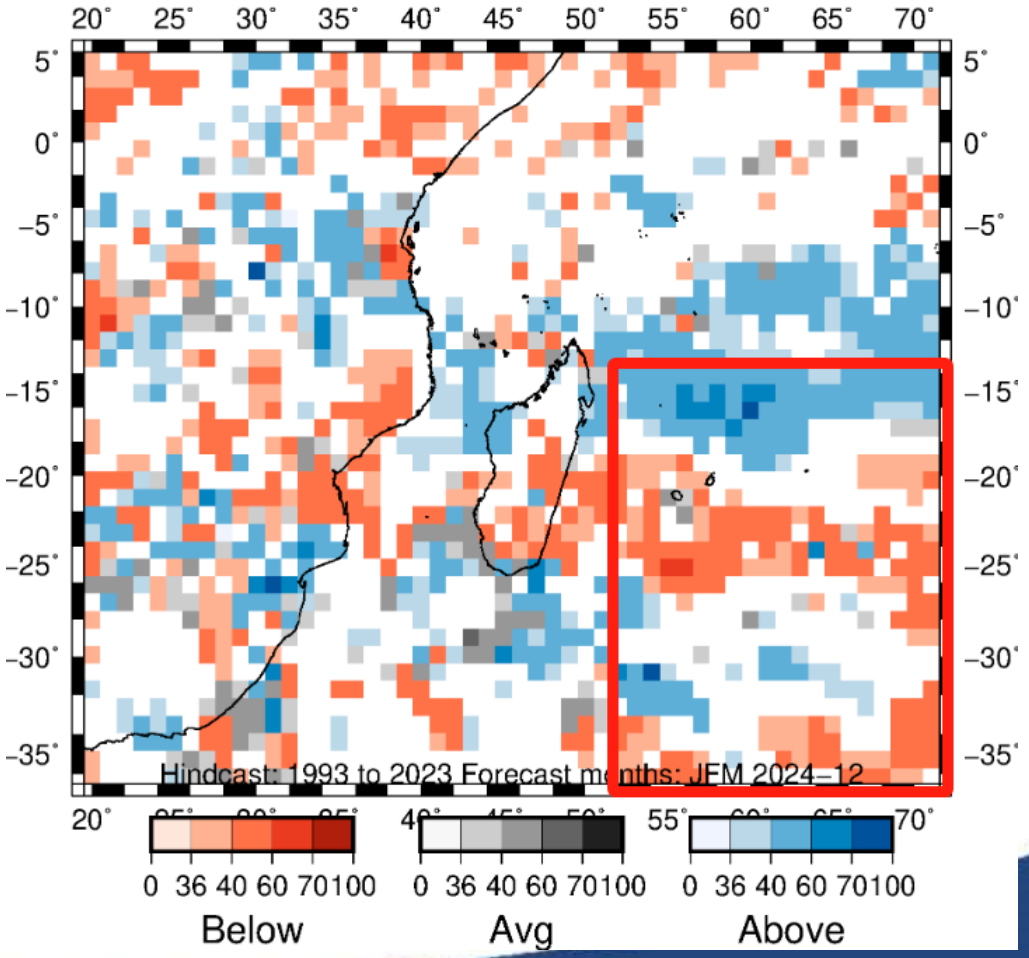


SWIO-SE 2025 JFM

Simple Mean



Skilled Weighted Average



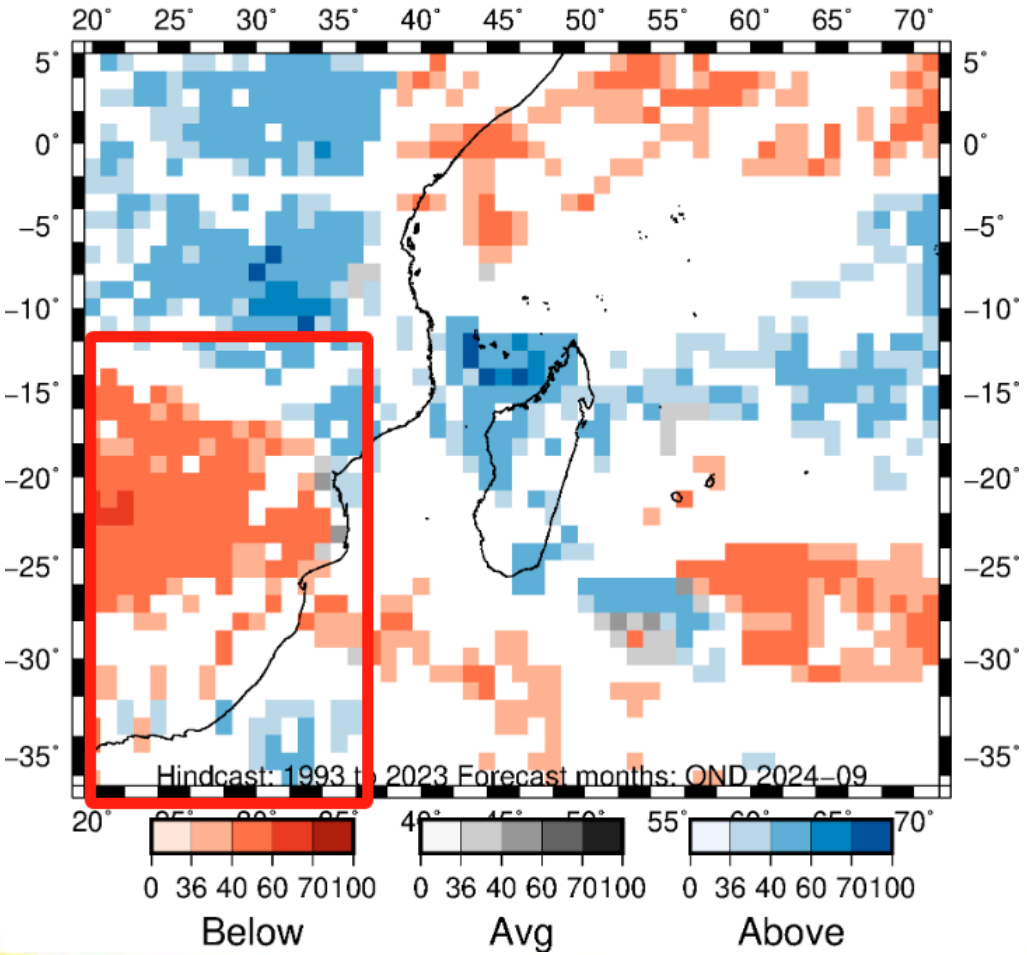
SWIO SR Model Suggestion

NW of SWIO

- ECMWF
- UKMO
- Meteo-France
- DWD
- CMCC

SWIO-SW 2024 OND

Simple Mean



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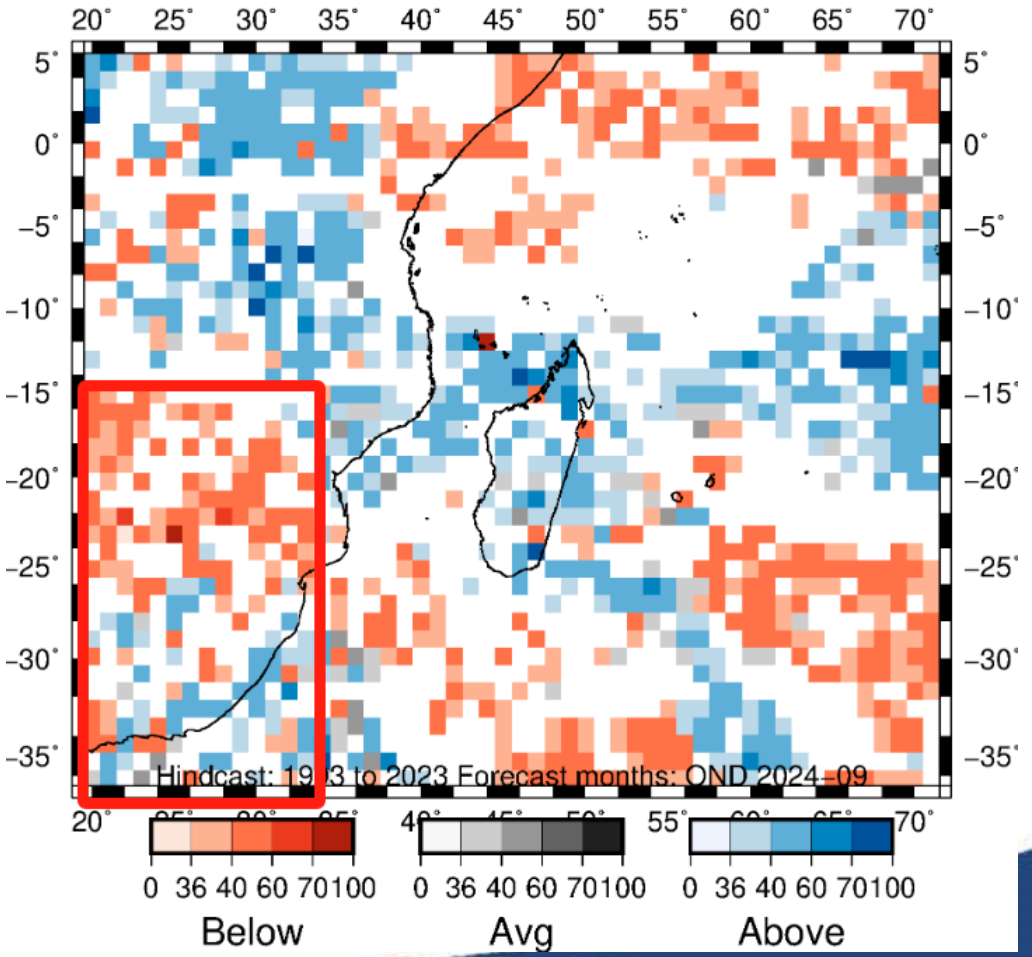
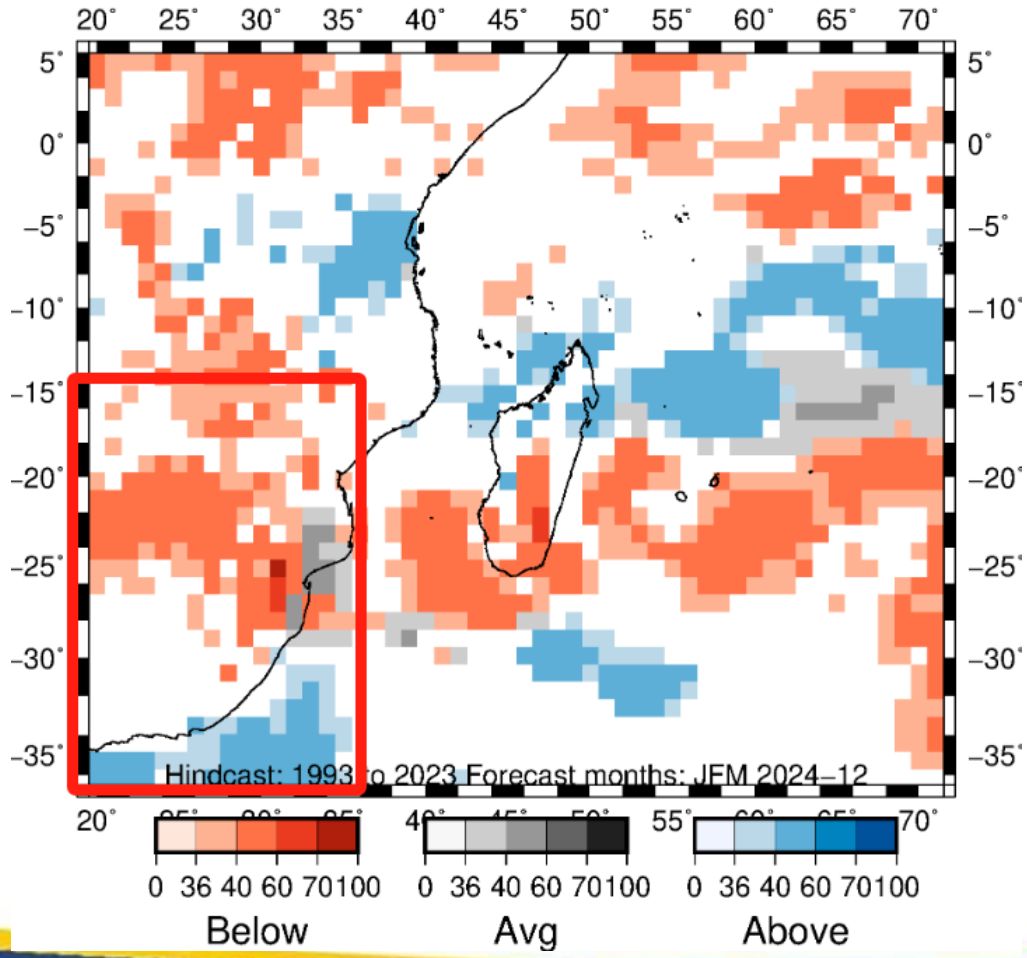


SWIO-SW 2025 JFM

Simple Mean



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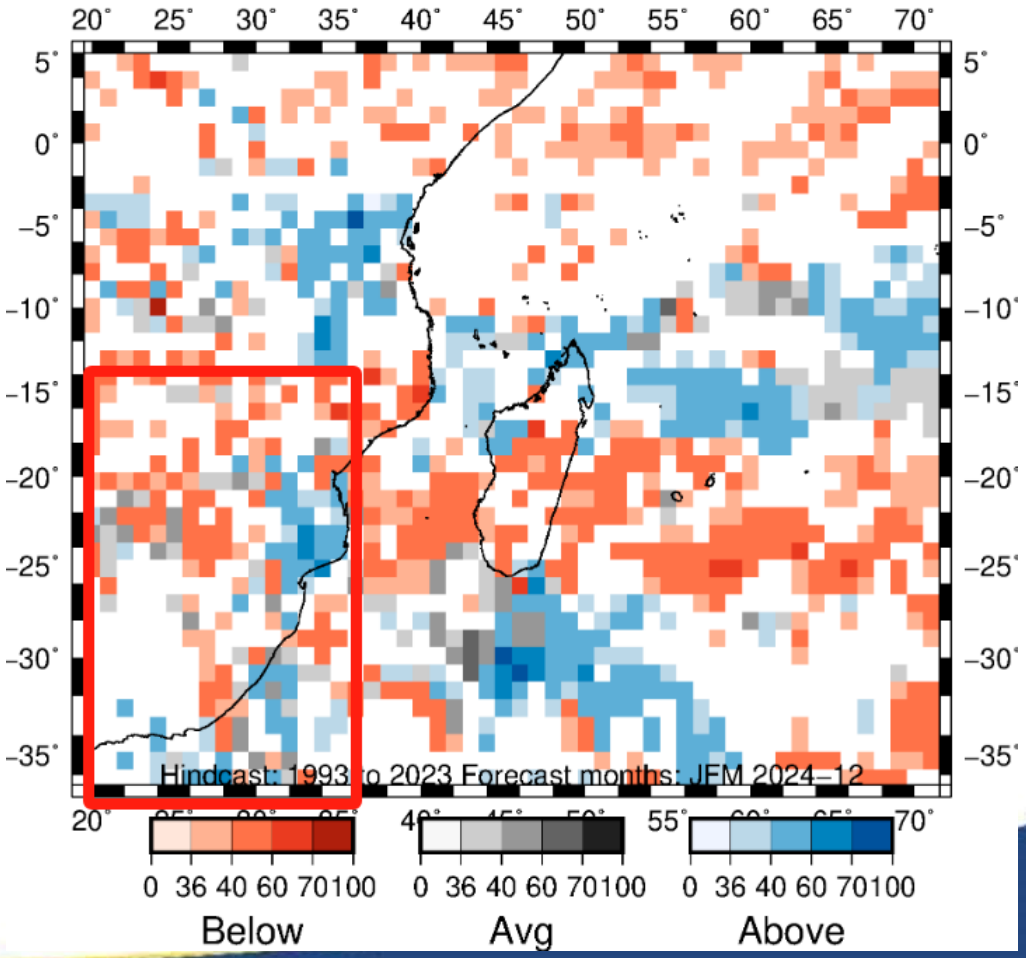

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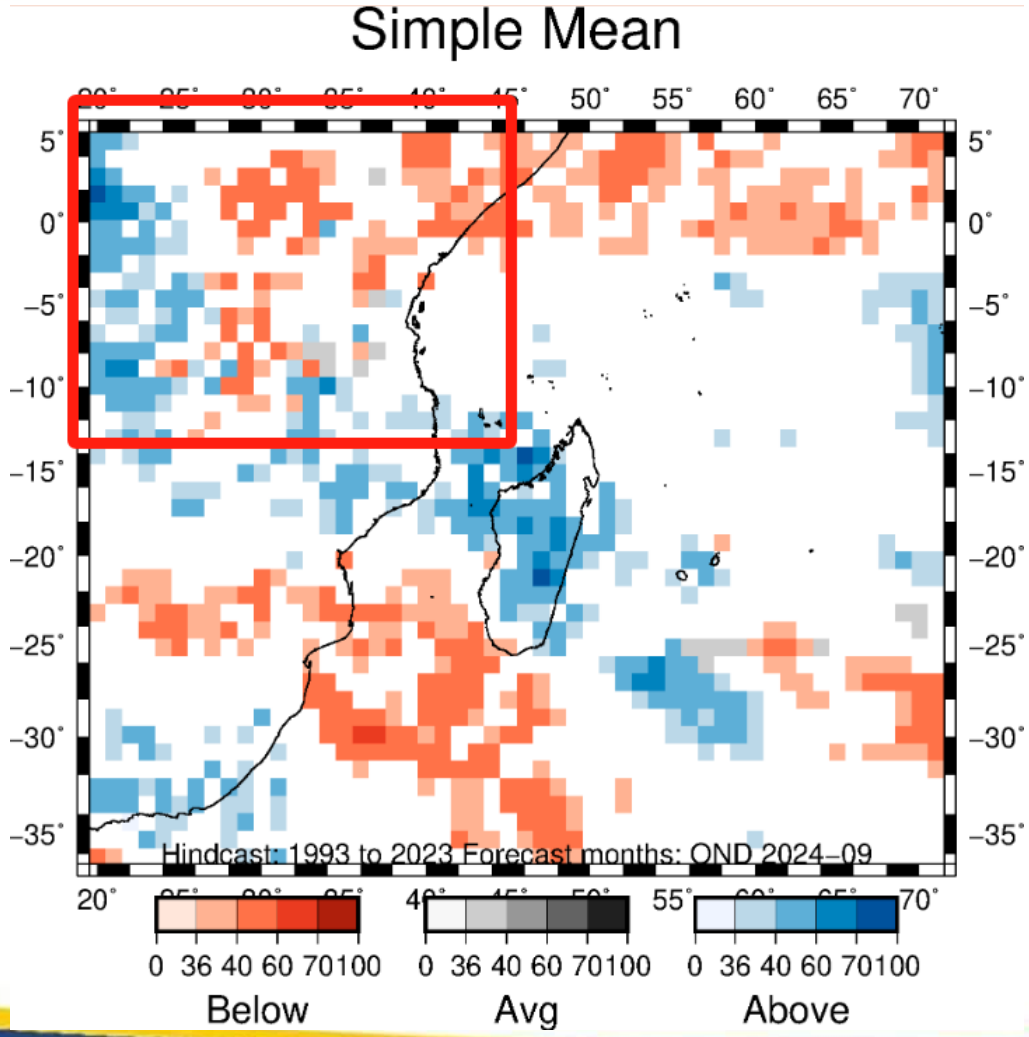
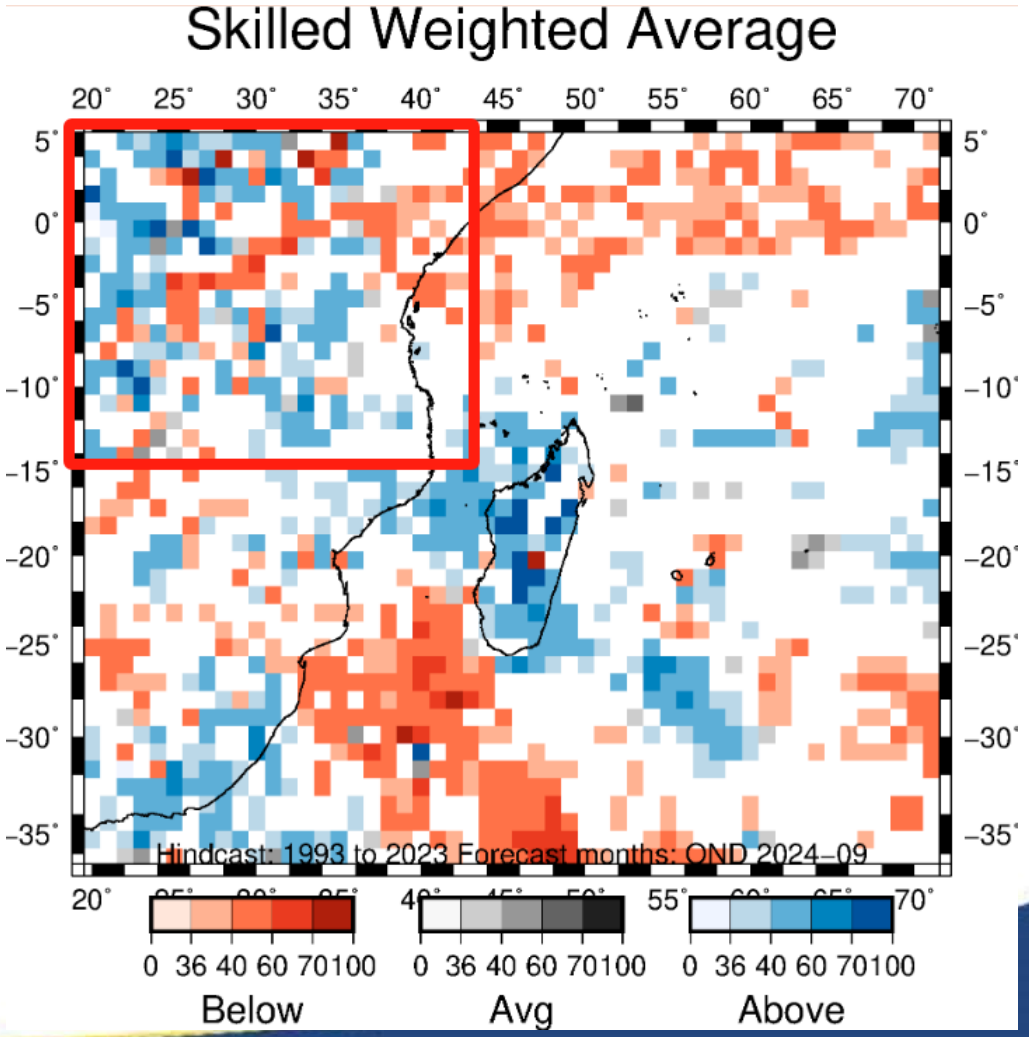
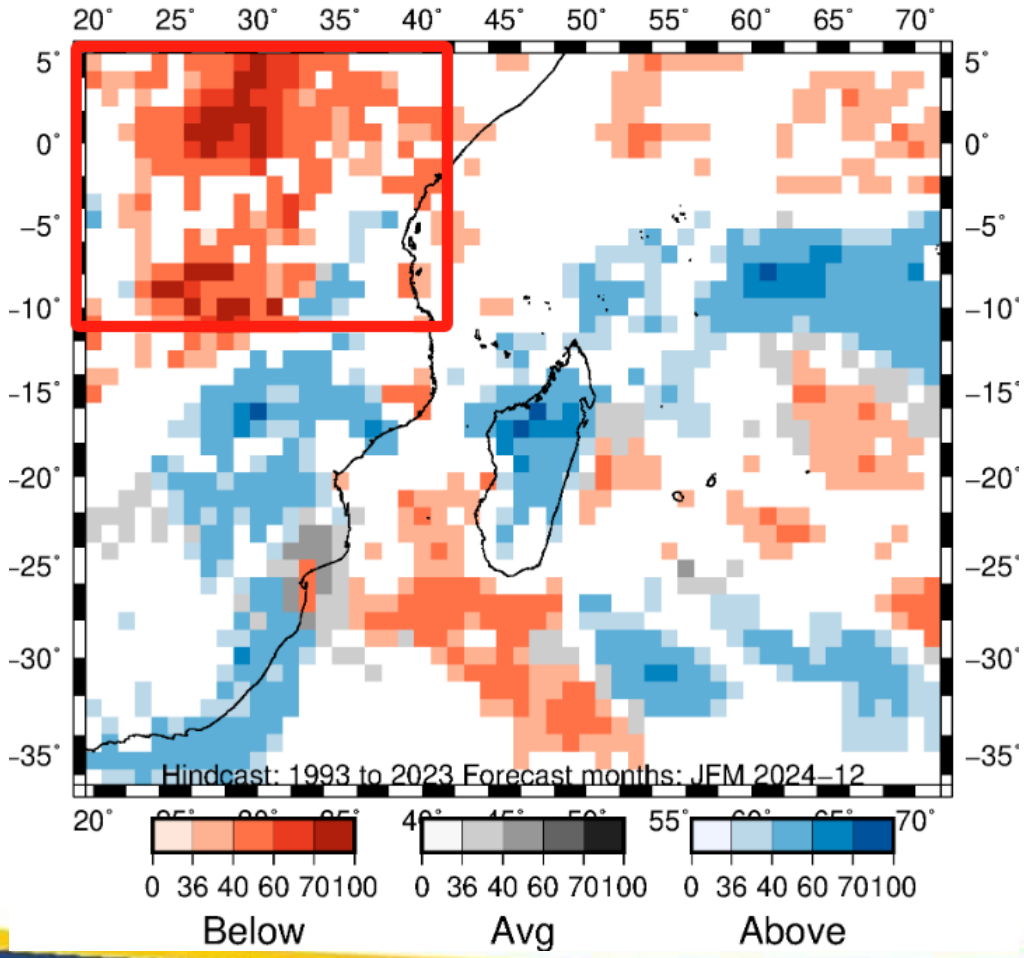
SWIO-NW 2024 OND





SWIO-NW 2025 JFM

Simple Mean



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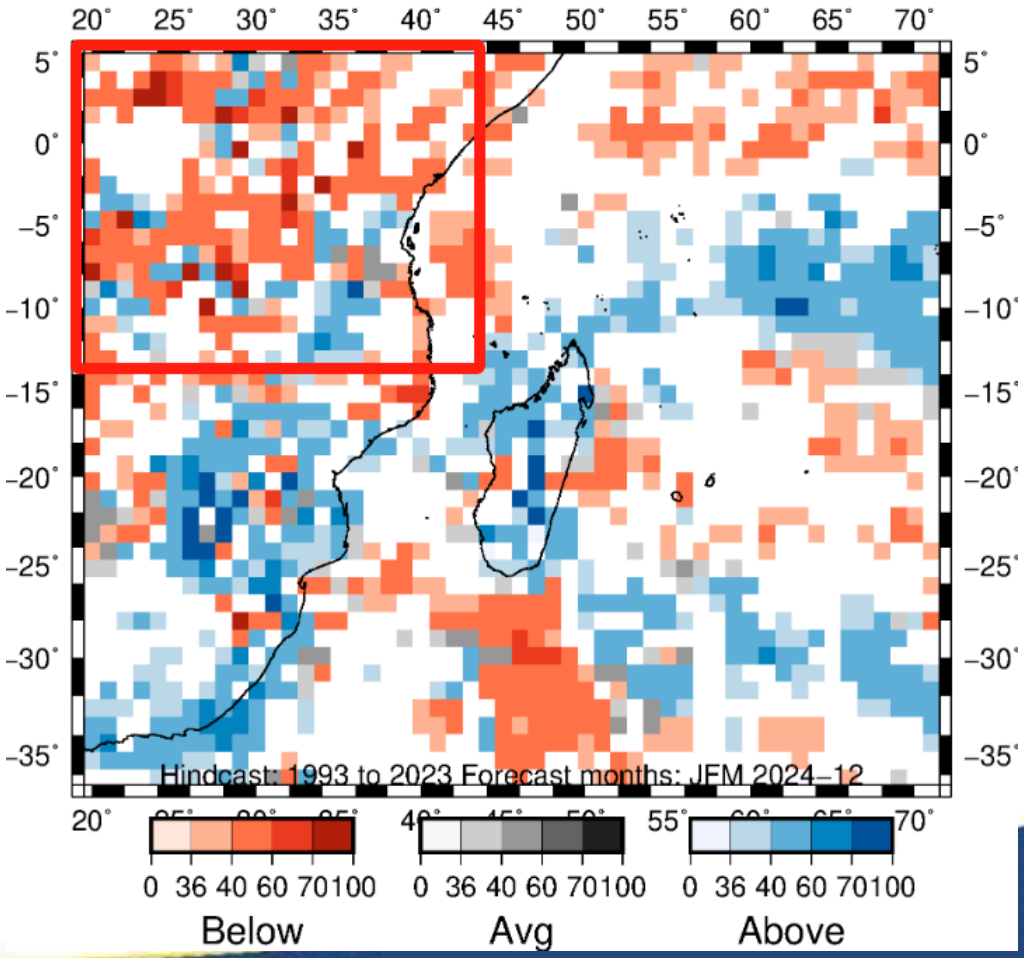

SWIO SR Model Suggestion

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SWIO-NW 2024 OND

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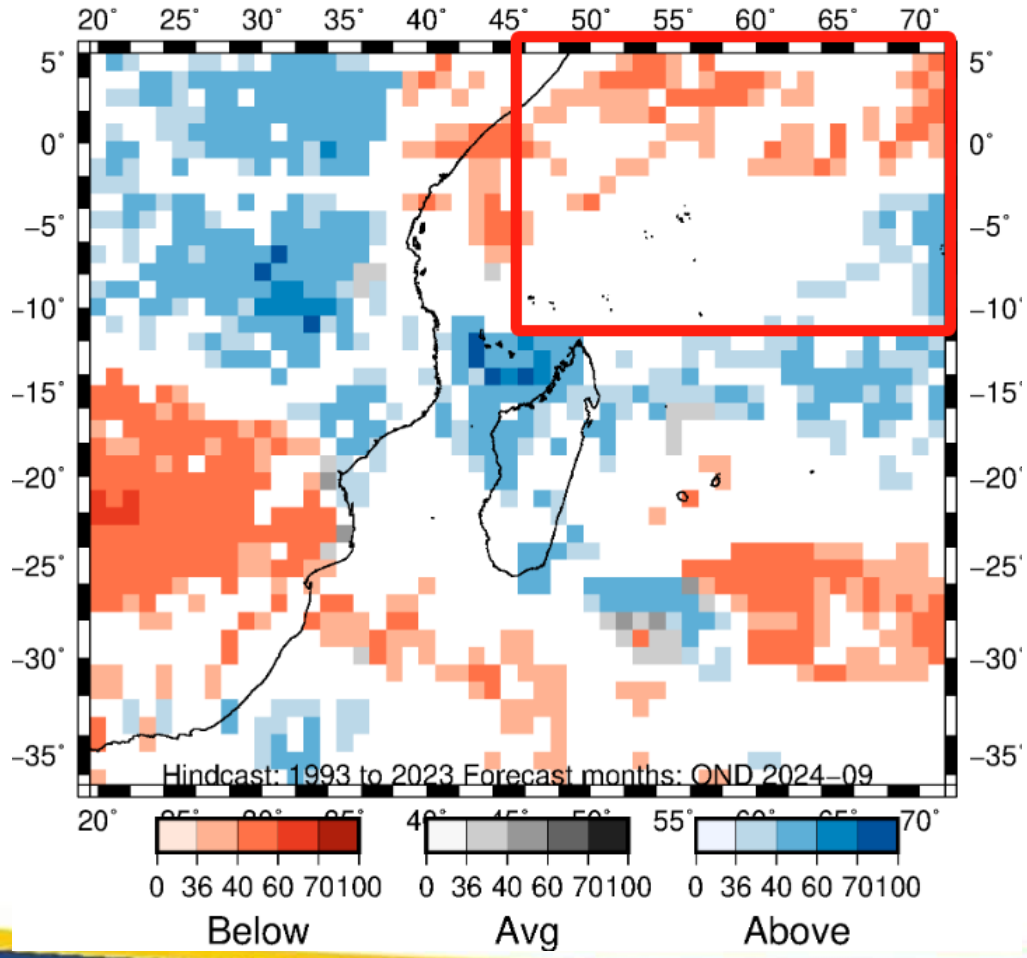

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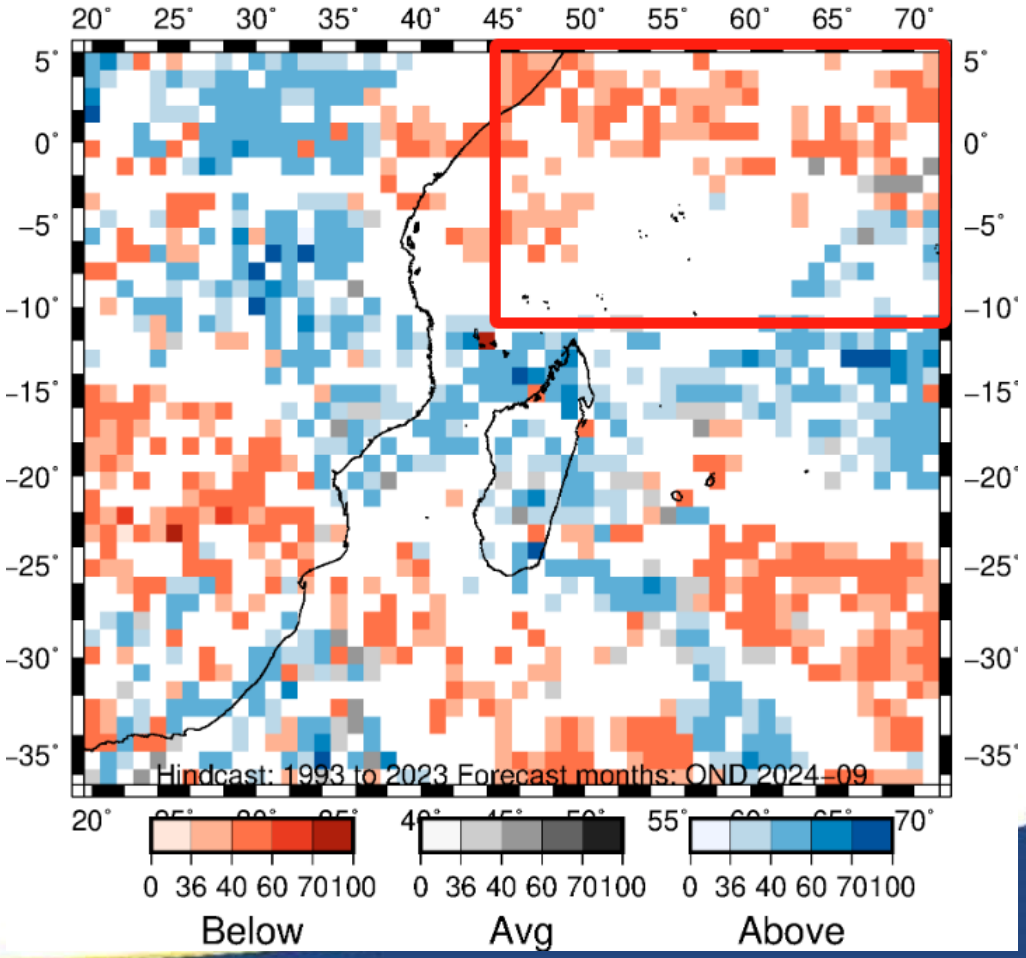
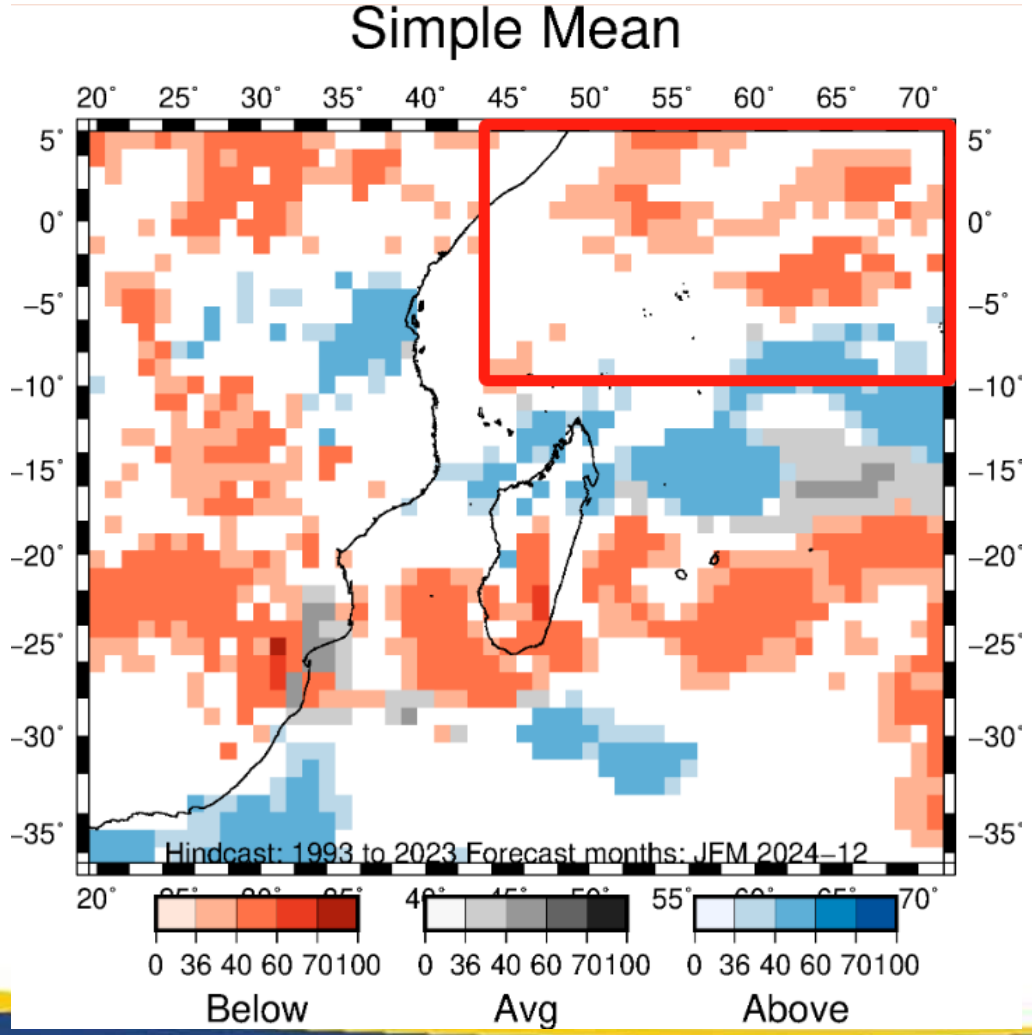


SWIO-NW 2025 JFM

Simple Mean



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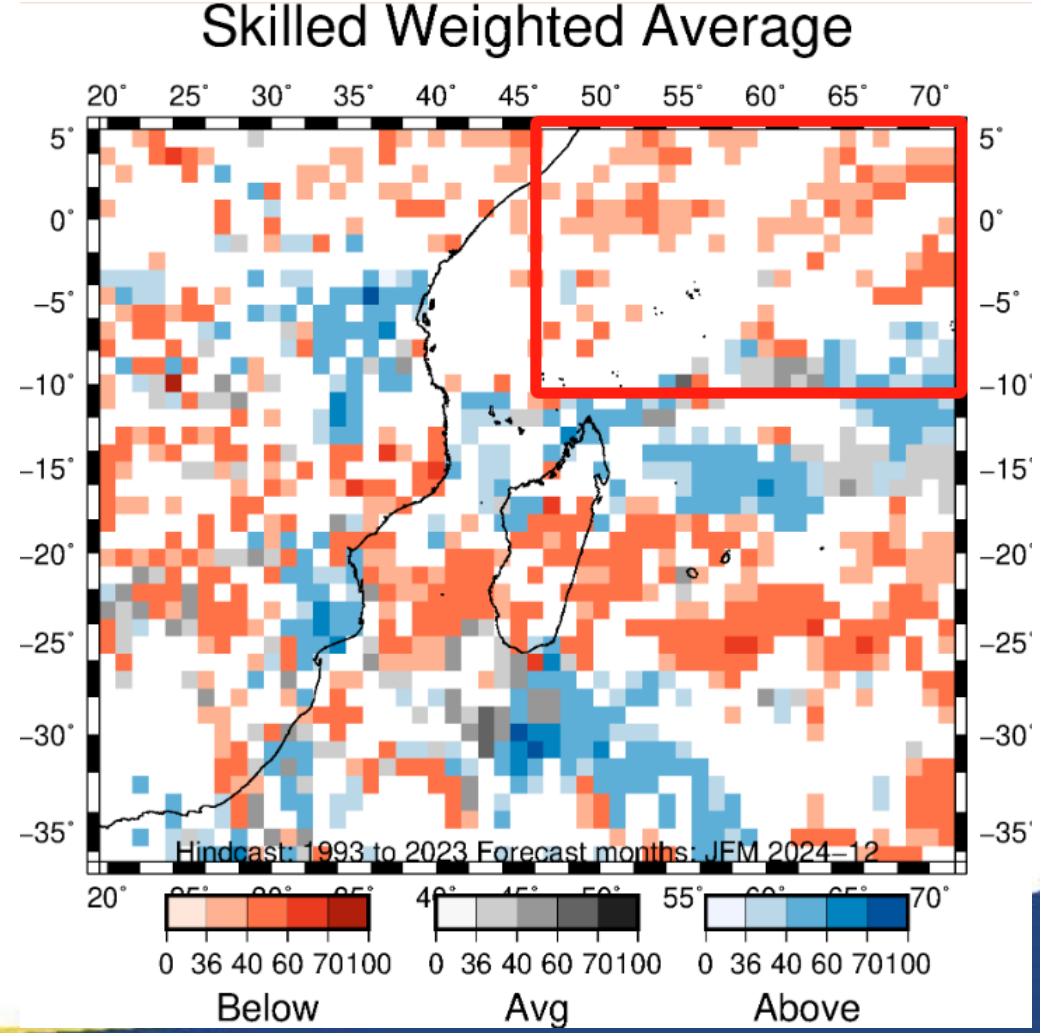


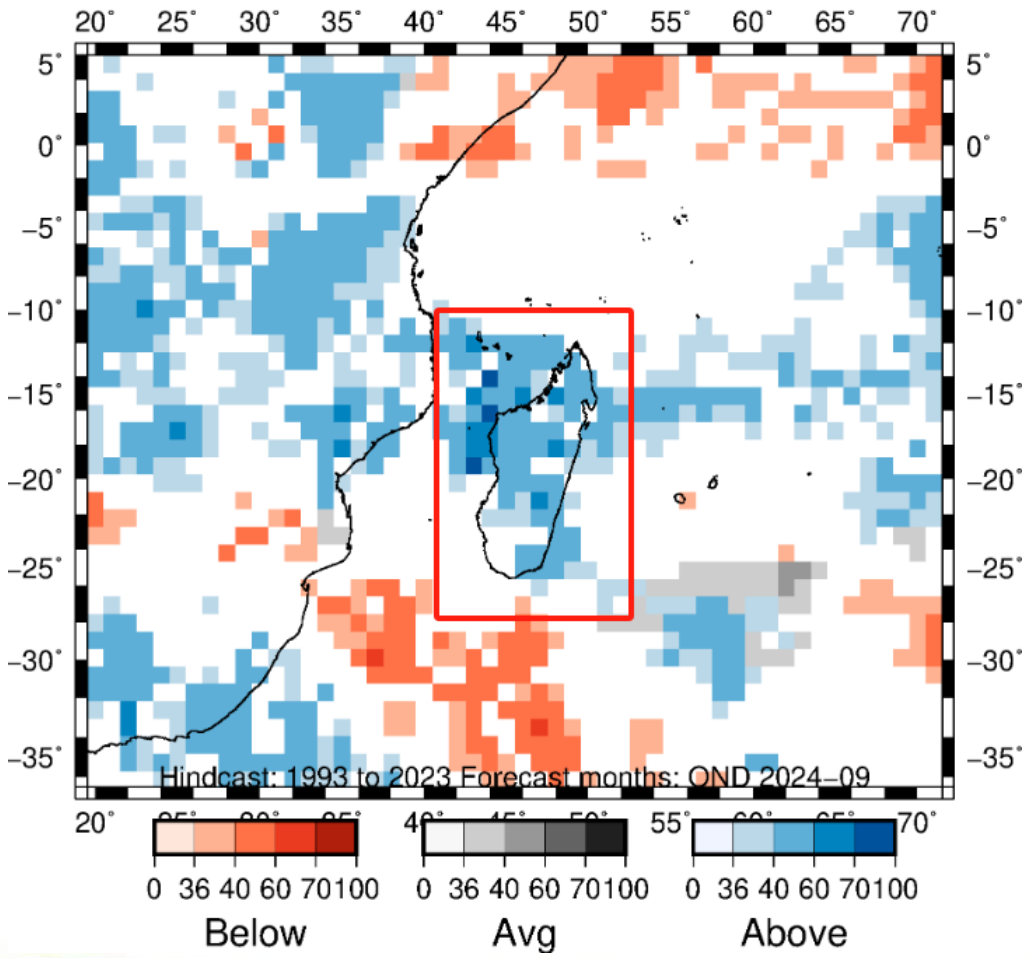
SWIO SR Model Suggestion

Madagascar area

- All models

SWIO-Madagascar 2024 OND

Simple Mean



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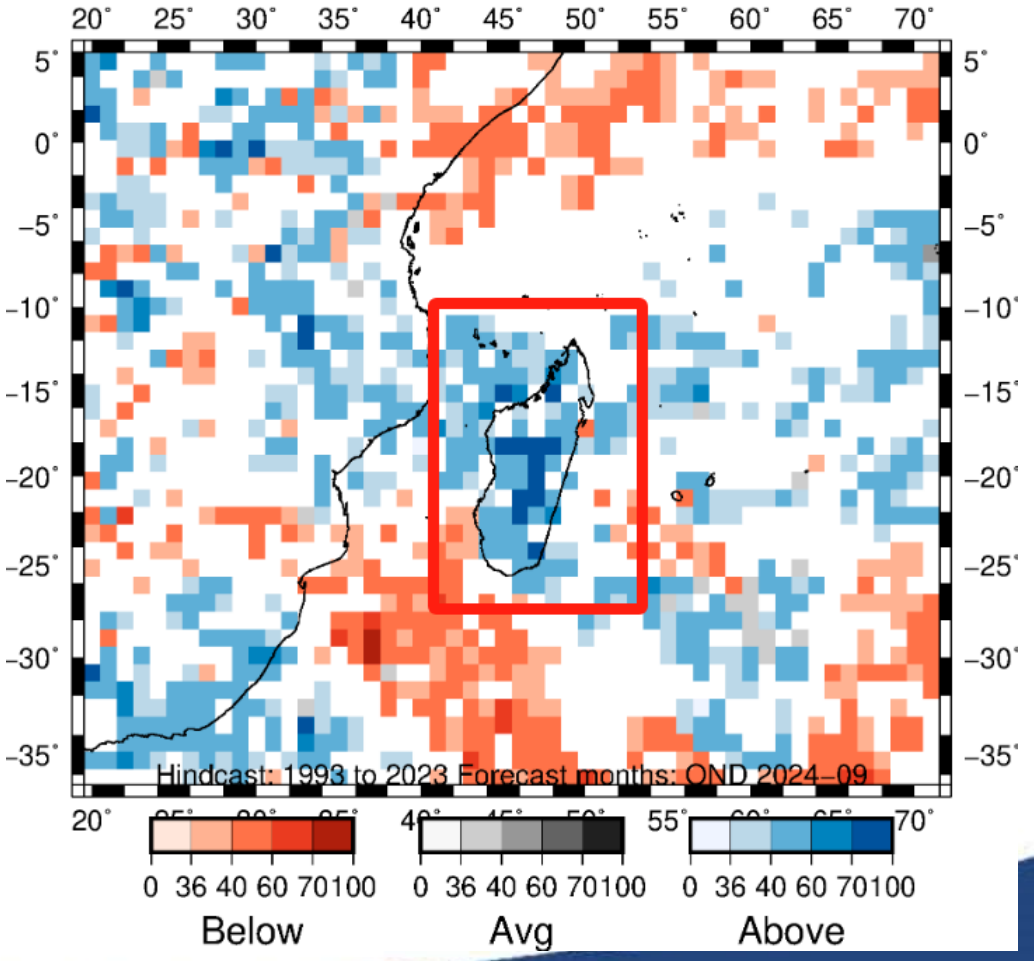
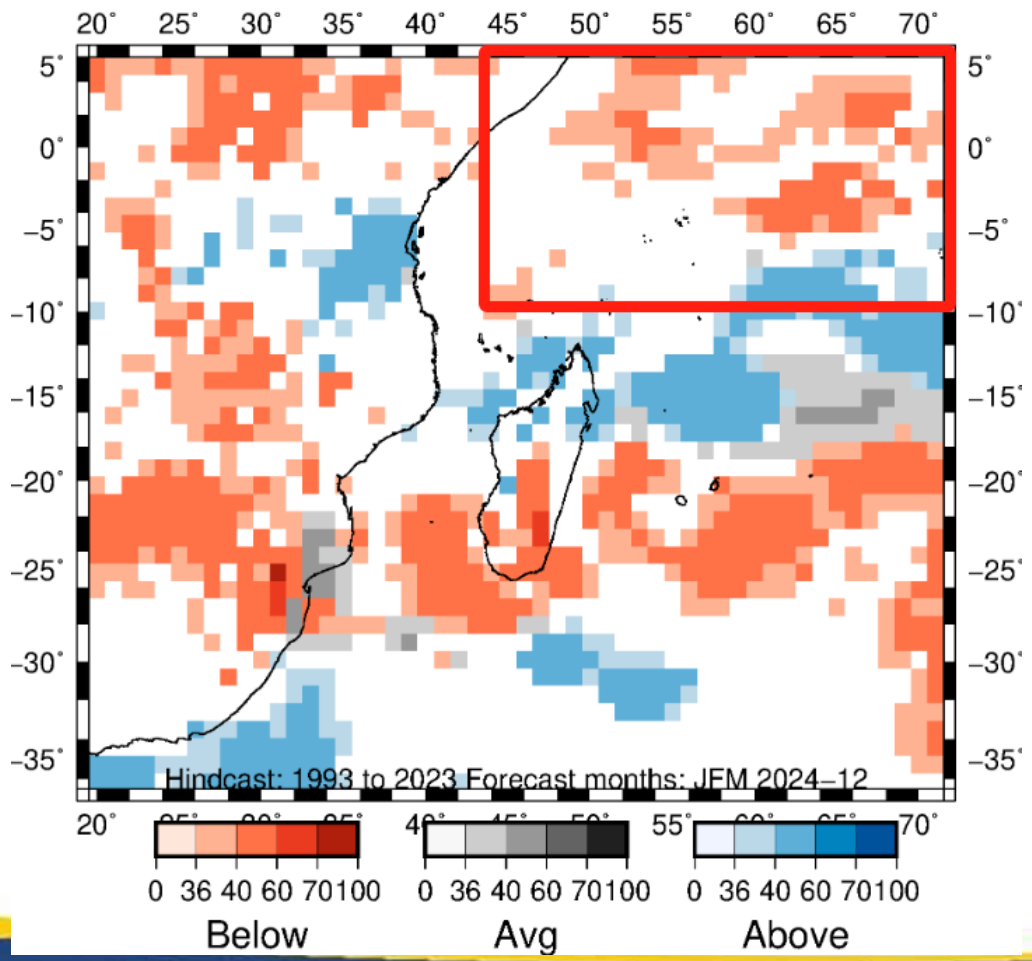


SWIO-Madagascar 2025 JFM

Simple Mean



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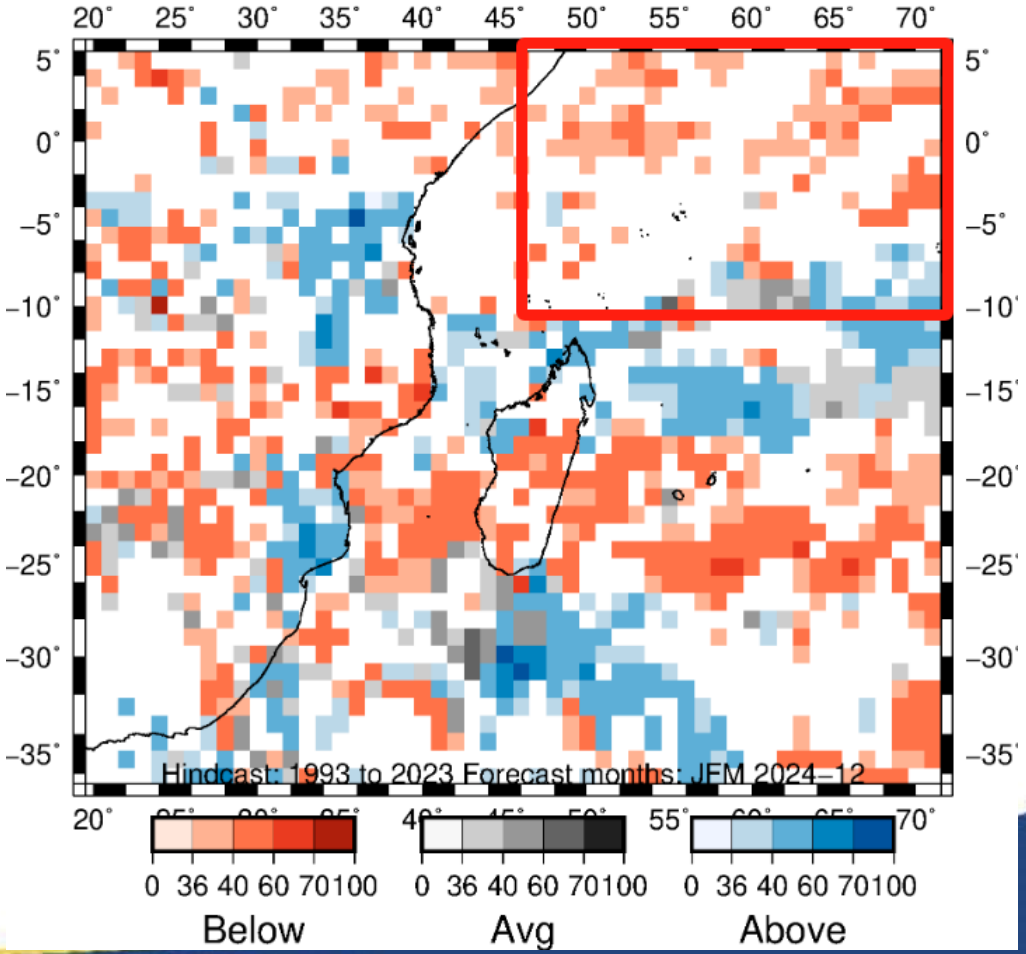

Performance Verification

Brier Score (BS):

- **Formula (for binary outcomes):** $BS = N1 \sum i=1N(pi - oi)2$
  - pi: forecasted probability for event i
  - oi: observed outcome for event i (1 if event occurred, 0 if not)
  - 0 (Zero): Perfect Forecast
  - 1 (One): Worst Possible Forecast
    - Ex: Antananarivo 70% above normal
    - If event occurred: 0.3x0.3 = 0.09
    - If not: 0.7x0.7=0.49

Regional Integrated Multi-Hazard Early Warning System
RIMES

Thank You !