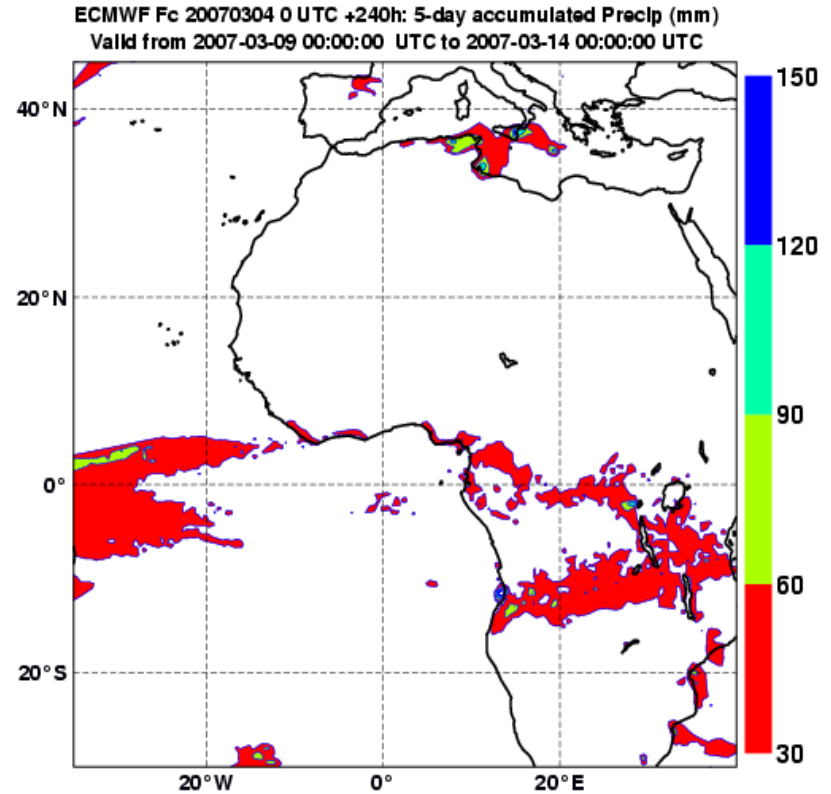
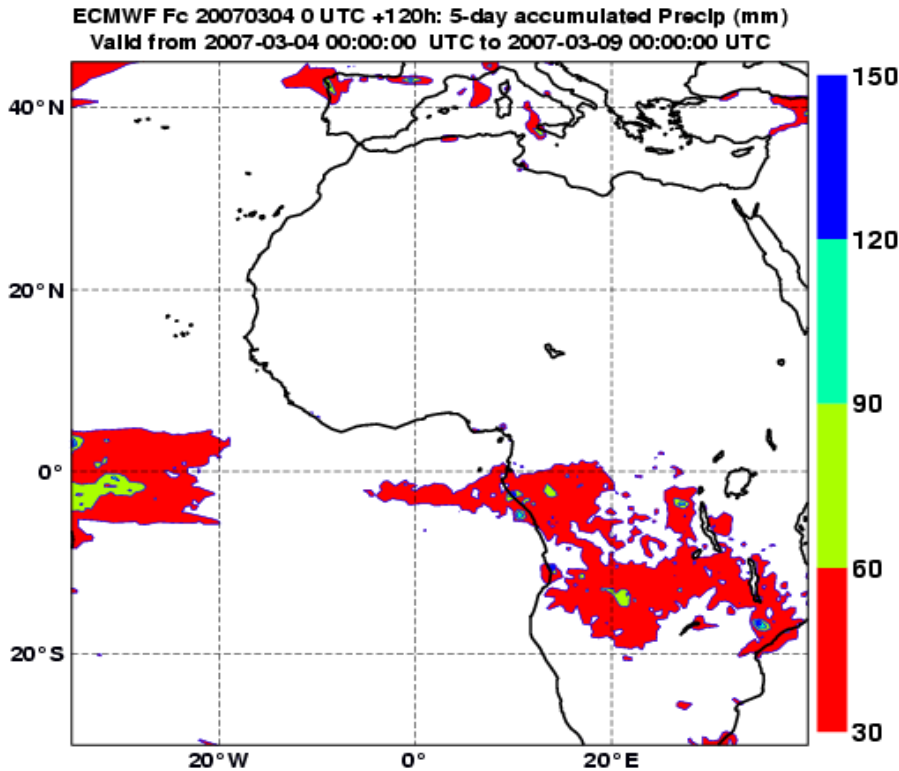


ECMWF Products use

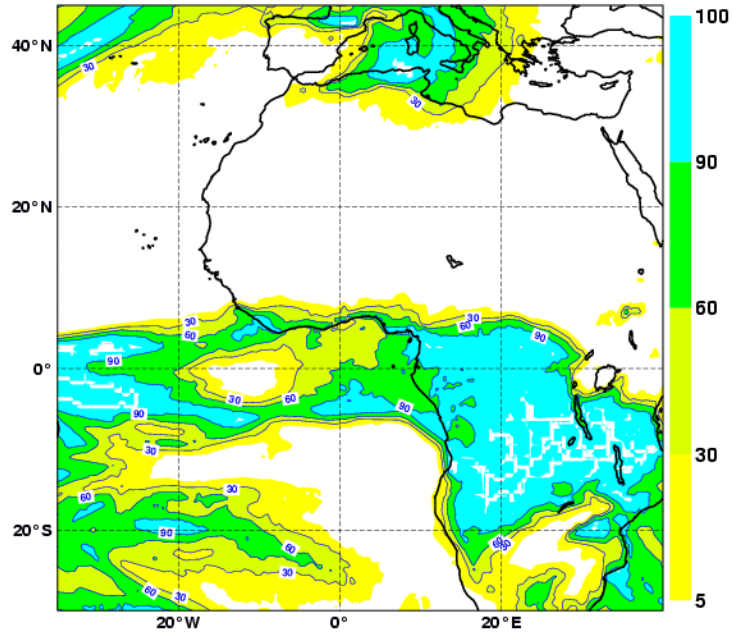
Andre KAMGA F.

Forecast Verifications and
demonstrations

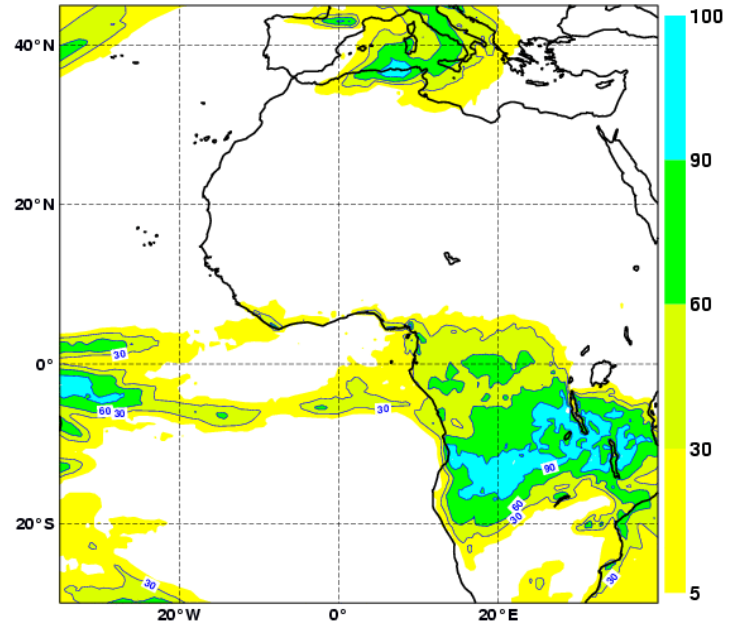


The intertropical convergence zone (ITCZ) is expected to begin a northward migration around March 10 2007. The forecast based on March 03, 2007 is quite consistent for this event.

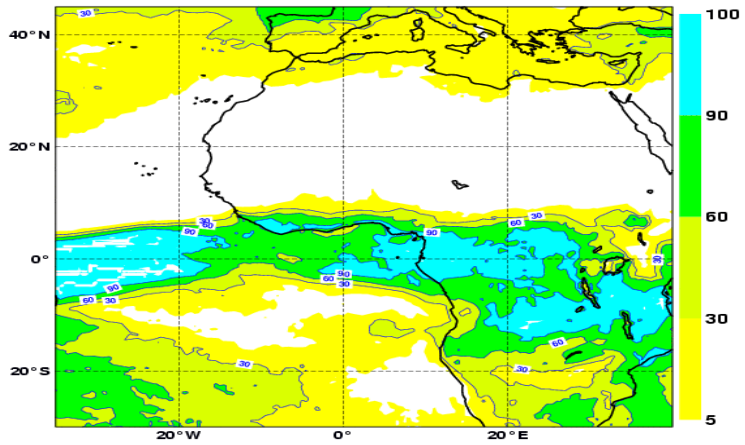
Sunday 4 March 2007 00UTC ECMWF Forecast probability 1-(96-120) VT: Friday 9 March 2007 00UTC
Surface: Total precipitation probability > 1 mm
(accumulated daily)



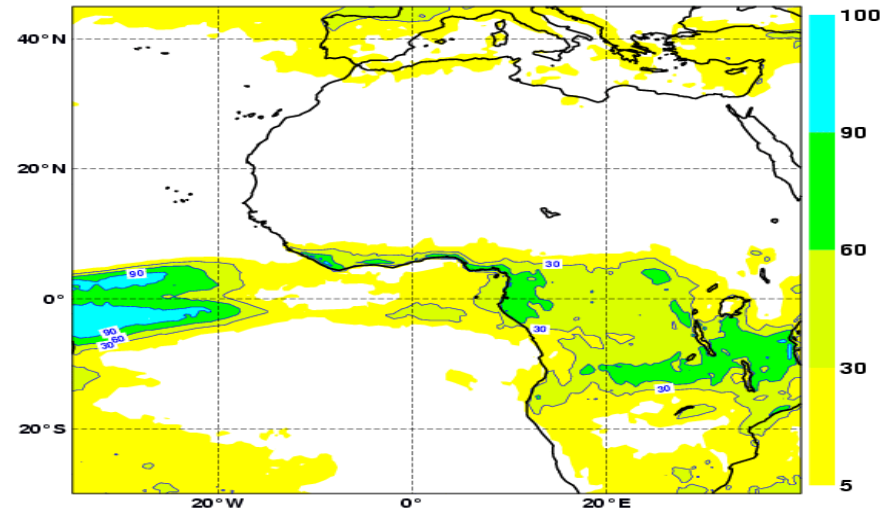
Sunday 4 March 2007 00UTC ECMWF Forecast probability 1-(96-120) VT: Friday 9 March 2007 00UTC
Surface: Total precipitation probability > 5 mm
(accumulated daily)



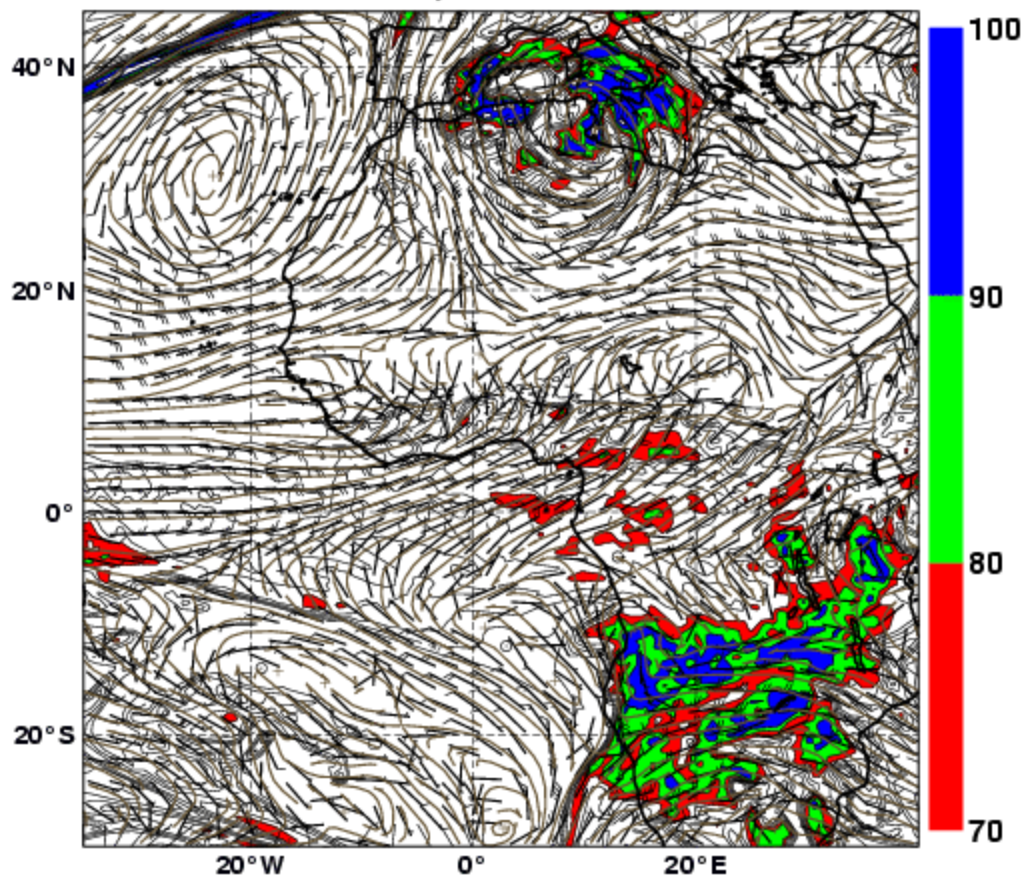
Sunday 4 March 2007 00UTC ECMWF Forecast probability 1-(216-240) VT: Wednesday 14 March 2007 00UTC
Surface: Total precipitation probability > 1 mm
(accumulated daily)

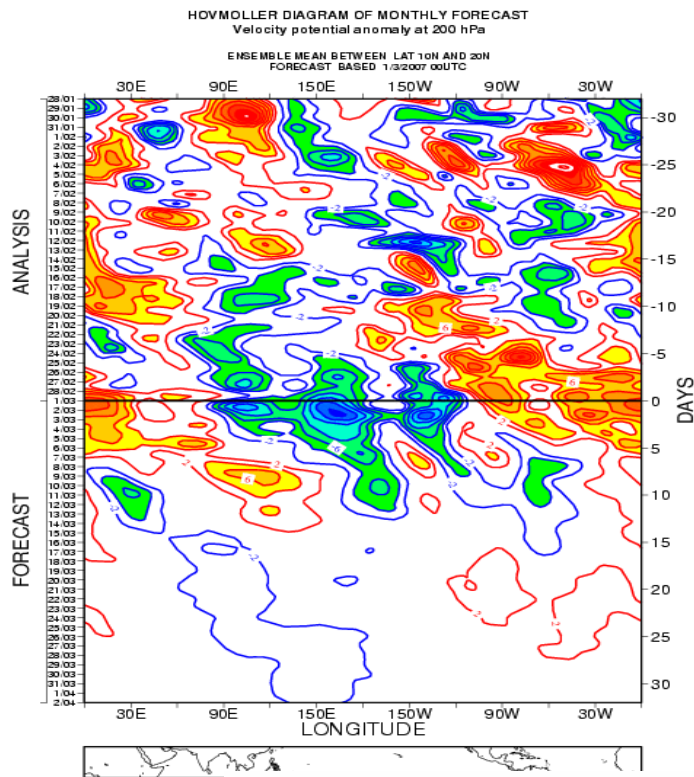


Sunday 4 March 2007 00UTC ECMWF Forecast probability 1-(216-240) VT: Wednesday 14 March 2007 00UTC
Surface: Total precipitation probability > 5 mm
(accumulated daily)



ECMWF Fc 20070304 0 UTC +120h: 700 hPa streamlines and RH (%) at 700 hPa
VT: Friday 9 March 2007 0 UTC





Activity around 150^E and 150^W

ECMWF Monthly Forecasting System

Velocity potential at 200 hPa ($1.E6 \text{ m}^2/\text{s}$)

Forecast start reference is 01-03-2007

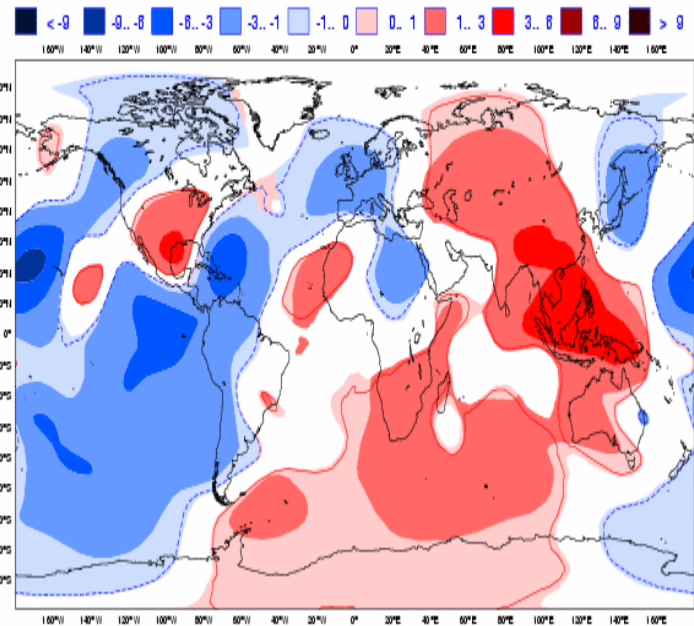
ensemble size = 51 , climate size = 60

Day 5-11

05-03-2007/TO/11-03-2007

Shaded areas above 90% significance

Solid contour at 95% significance



ECMWF Monthly Forecasting System
Velocity potential at 200 hPa ($1.E6 \text{ m}^2/\text{s}$)

Forecast start reference is 01-03-2007

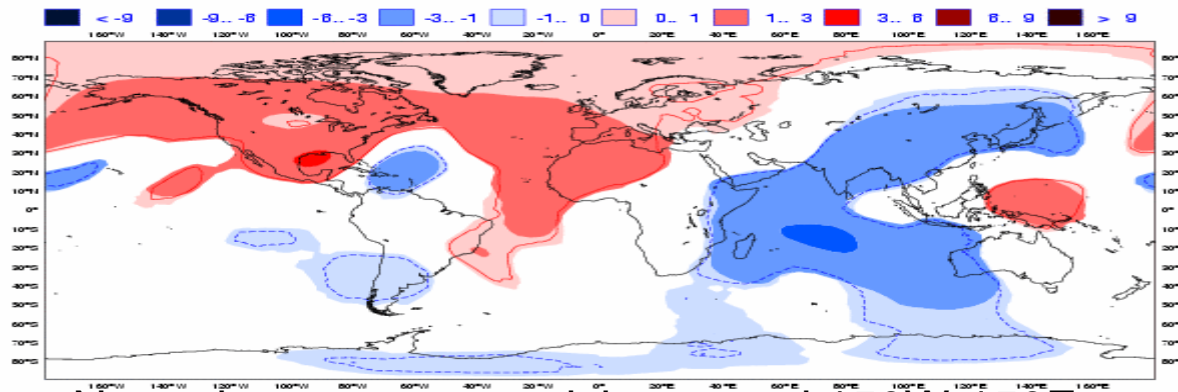
ensemble size = 51 , climate size = 60

Day 12-18

12-03-2007/TO/18-03-2007

Shaded areas above 90% significance

Solid contour at 95% significance



Normal to suppress activity around 150^W-150^E

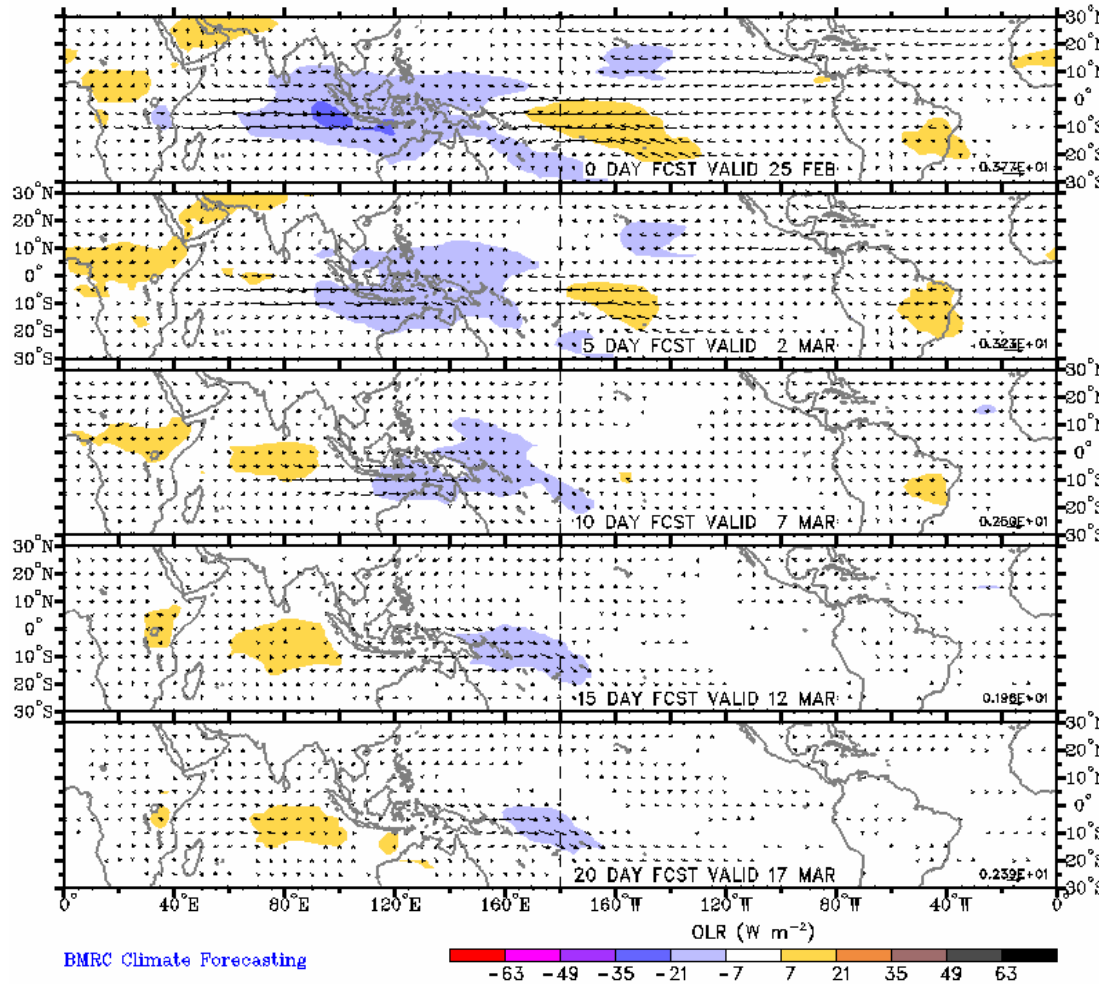
- Late february early march tropical cyclone GAmede and Favio over south west indian ocean

Statistical OLR MJO Forecast

Prediction of MJO-associated anomalies using lagged linear regression

Predictors are RMM1 and RMM2 on 25 Feb 2007

Shading for OLR anomalies (scale below). Vectors for 850-hPa wind



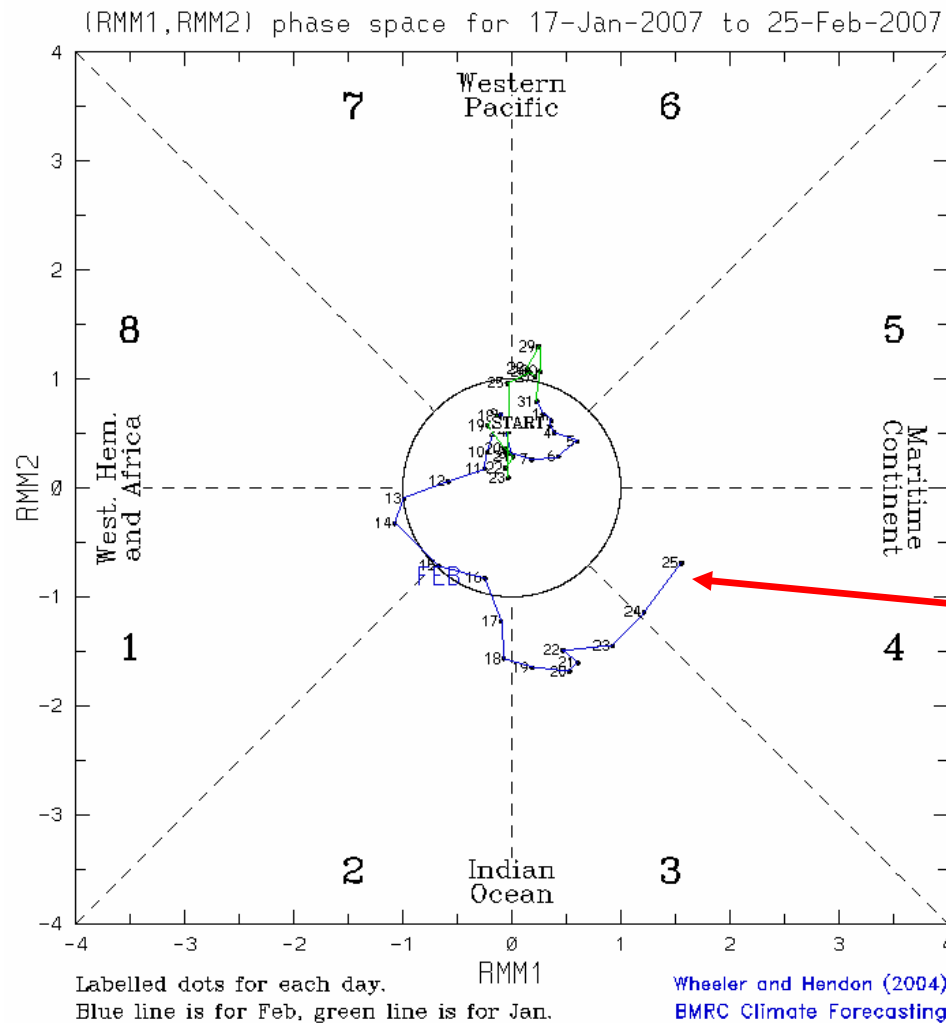
BMRC Climate Forecasting

The forecast indicates enhanced convection in the Indian Ocean and Maritime Continent during the next 5-10 days.

MJO Index (Magnitude and Phase)

The current state of the MJO as determined by an index based on Empirical Orthogonal Function (EOF) analysis using combined fields of near-equatorially-averaged 850-hPa zonal wind, 200- hPa zonal wind, and satellite-observed outgoing longwave radiation (OLR) (Wheeler and Hendon, 2004).

The axes represent the time series of the two leading modes of variability and are used to measure the amplitude while the triangular areas indicate the phase or location of the enhanced phase of the MJO. The farther away from the center of the circle the stronger the MJO. Different color lines indicate different months.



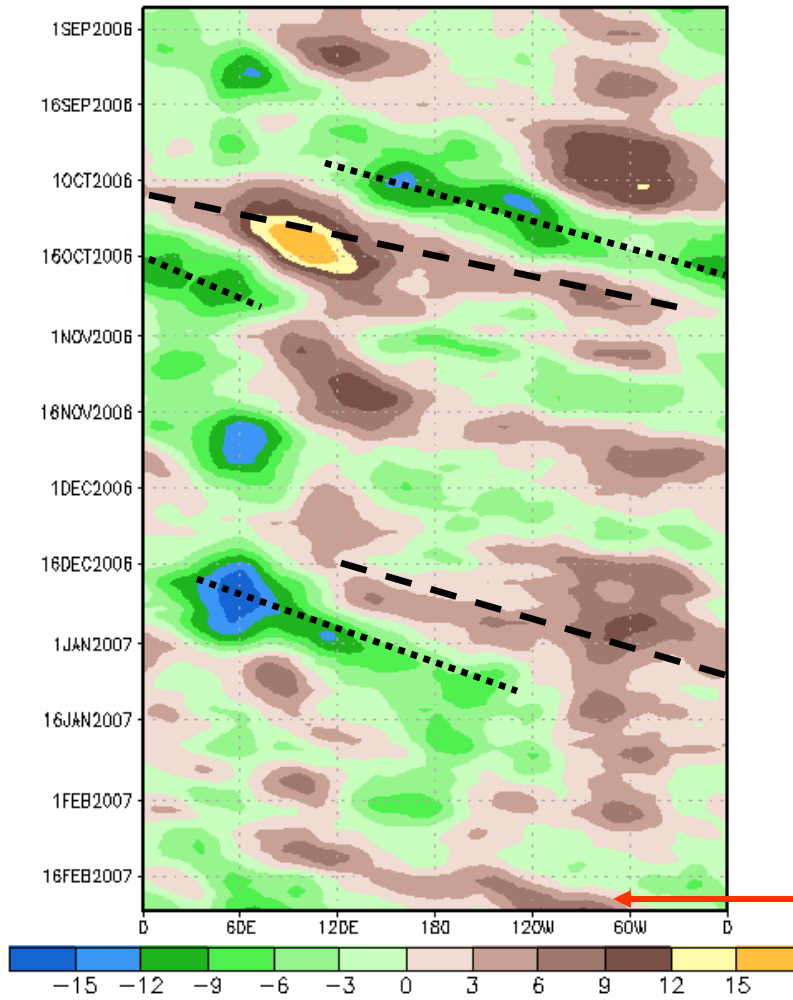
The MJO index indicates weak MJO activity.

200-hPa Velocity Potential Anomalies (5°S-5°N)

Positive anomalies (brown shading) indicate unfavorable conditions for precipitation.

Negative anomalies (green shading) indicate favorable conditions for precipitation.

200-hPa Velocity Potential Anomaly: 5N-5S
5-day Running Mean

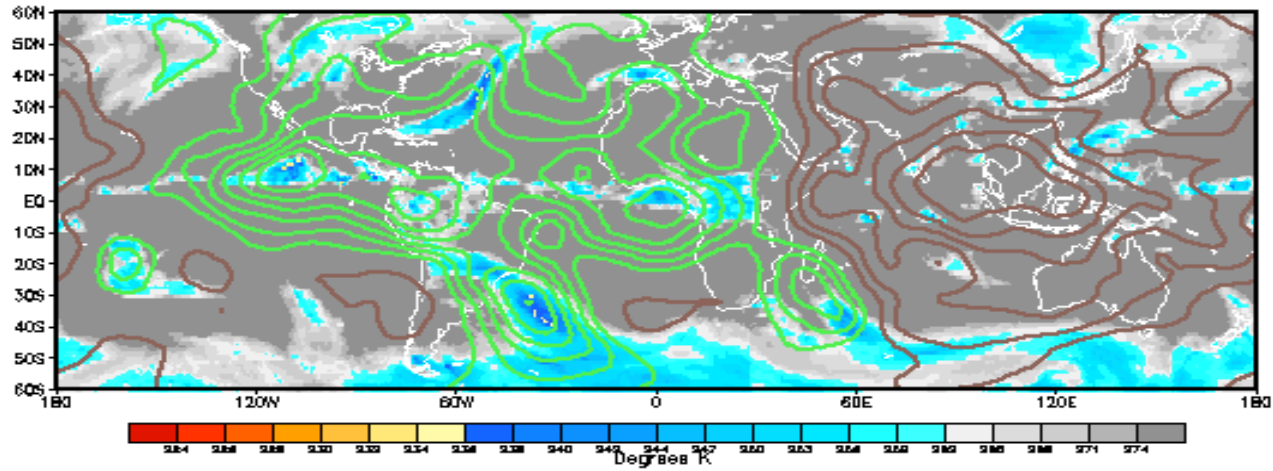


Moderate to strong MJO activity was observed from late-September to mid-October.

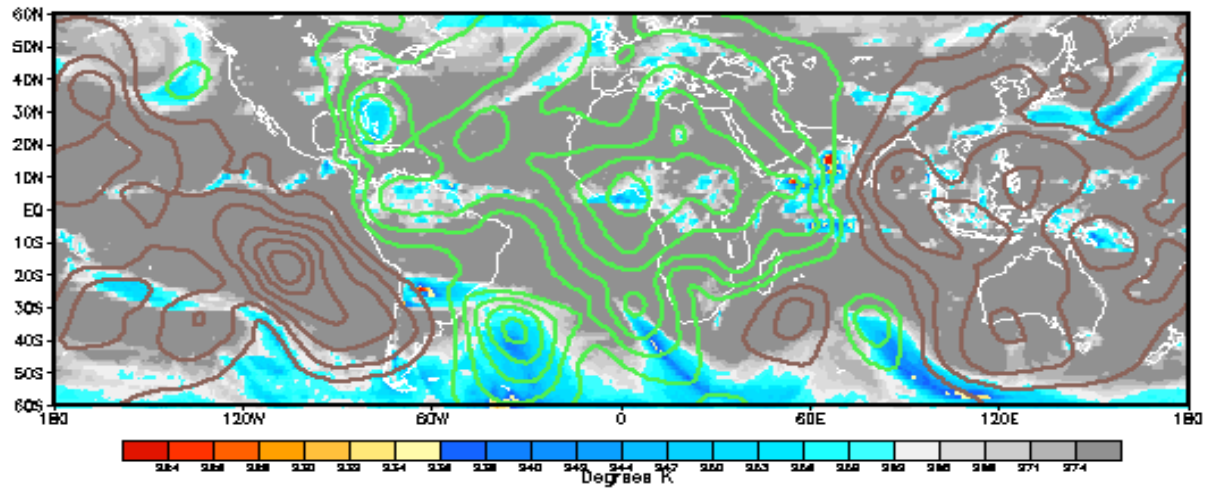
The MJO intensified in late December 2006, as negative OLR anomalies shifted eastward from the Maritime continent into the central tropical Pacific.

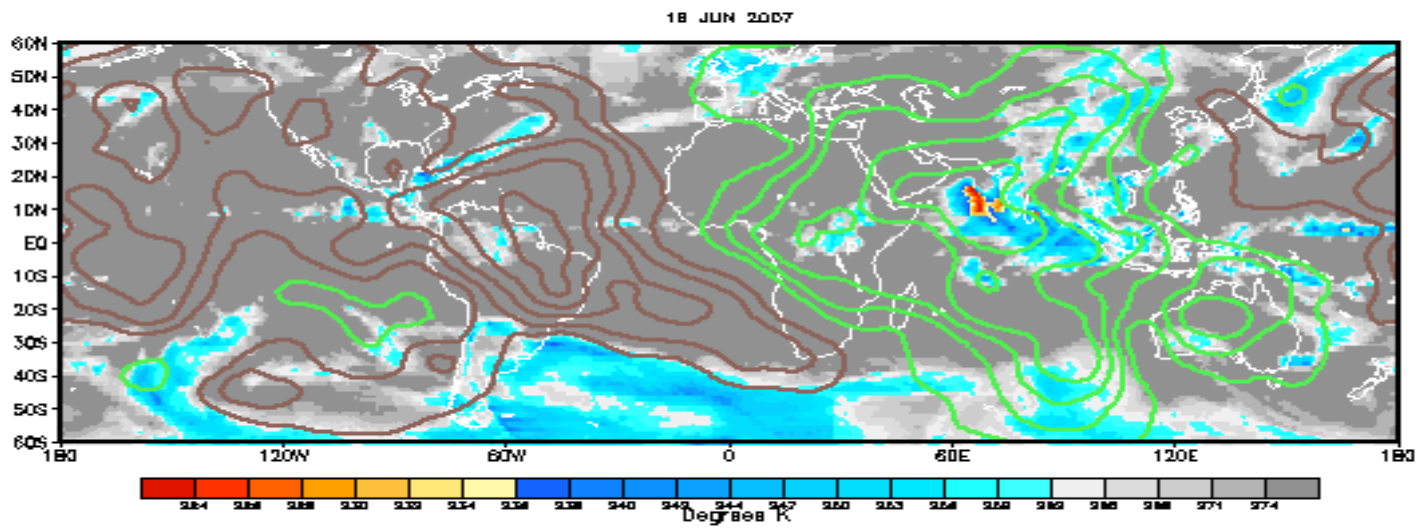
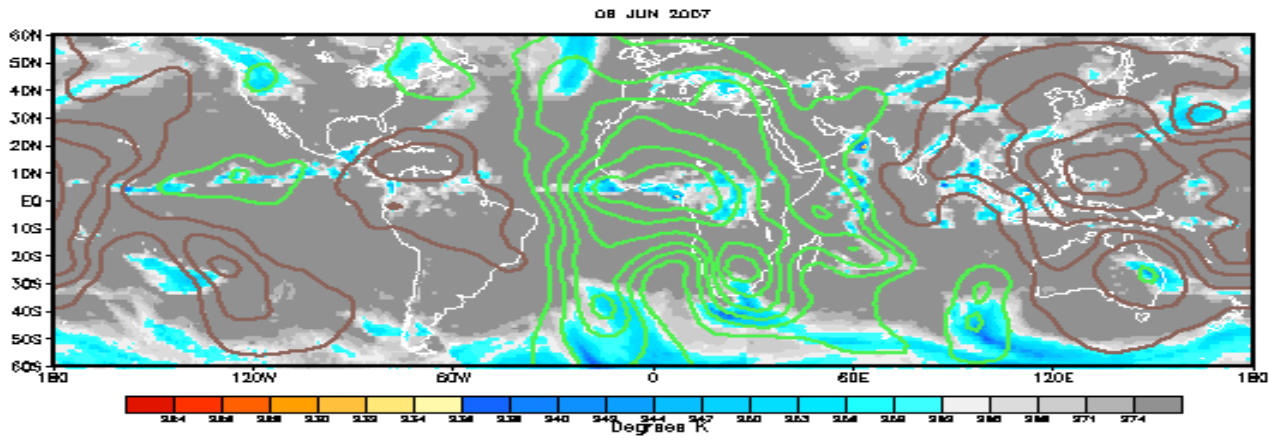
Recently, there has been an eastward shift of weak velocity potential anomalies.

24 MAY 2007

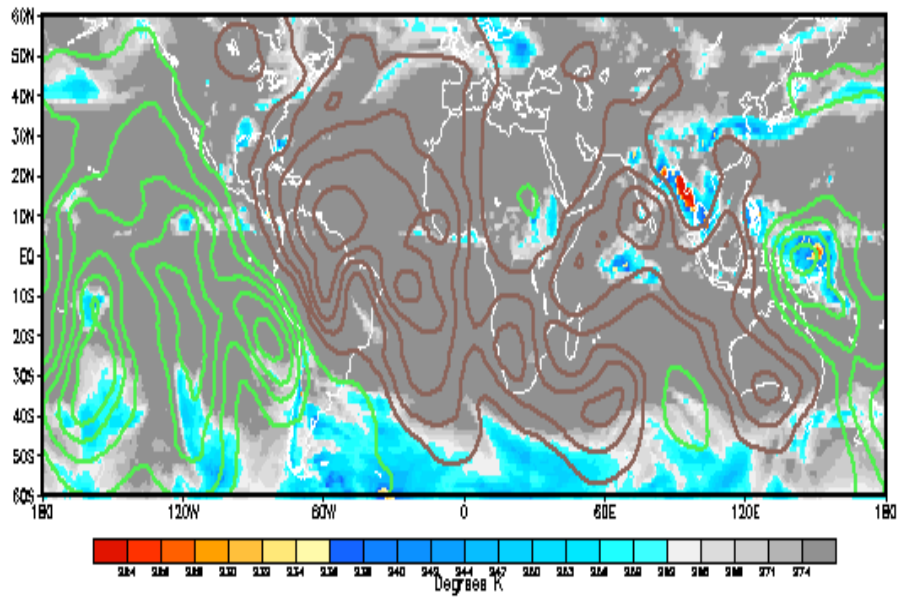


03 JUN 2007

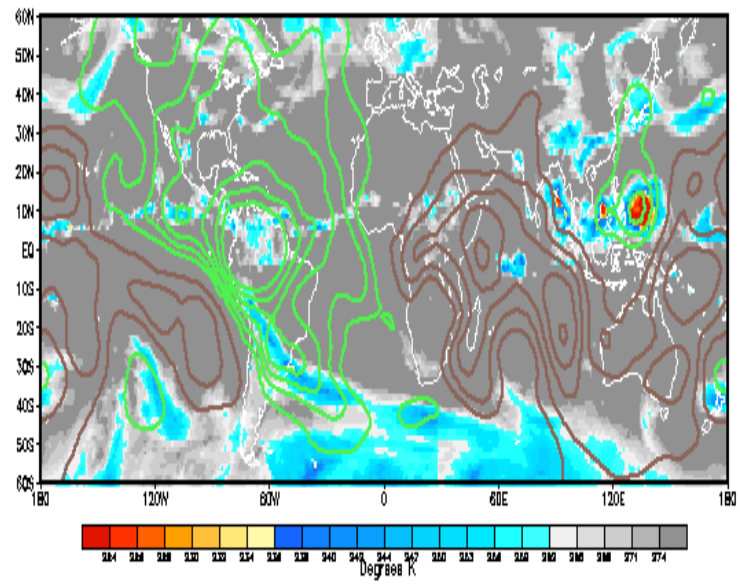




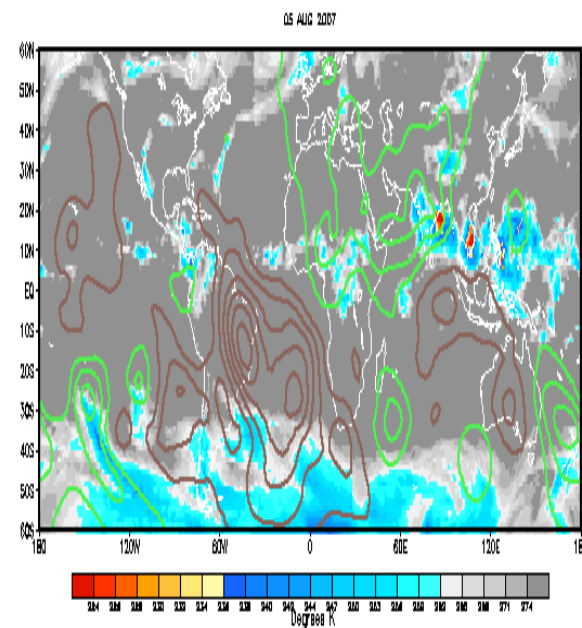
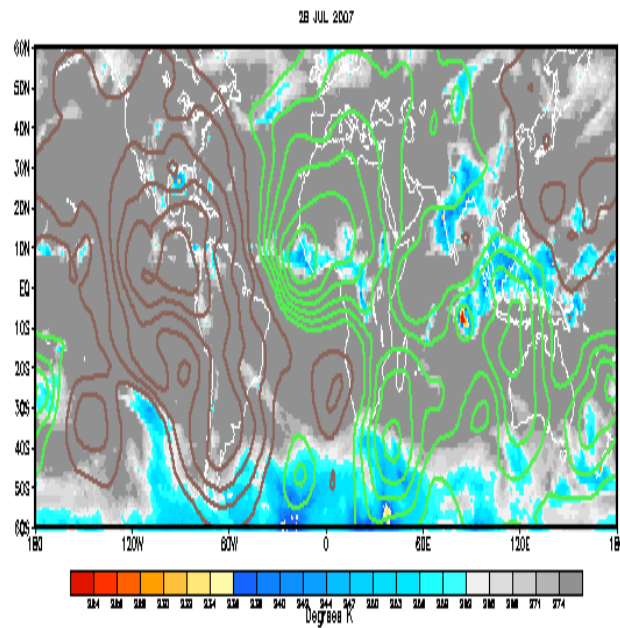
08 JUL 2007



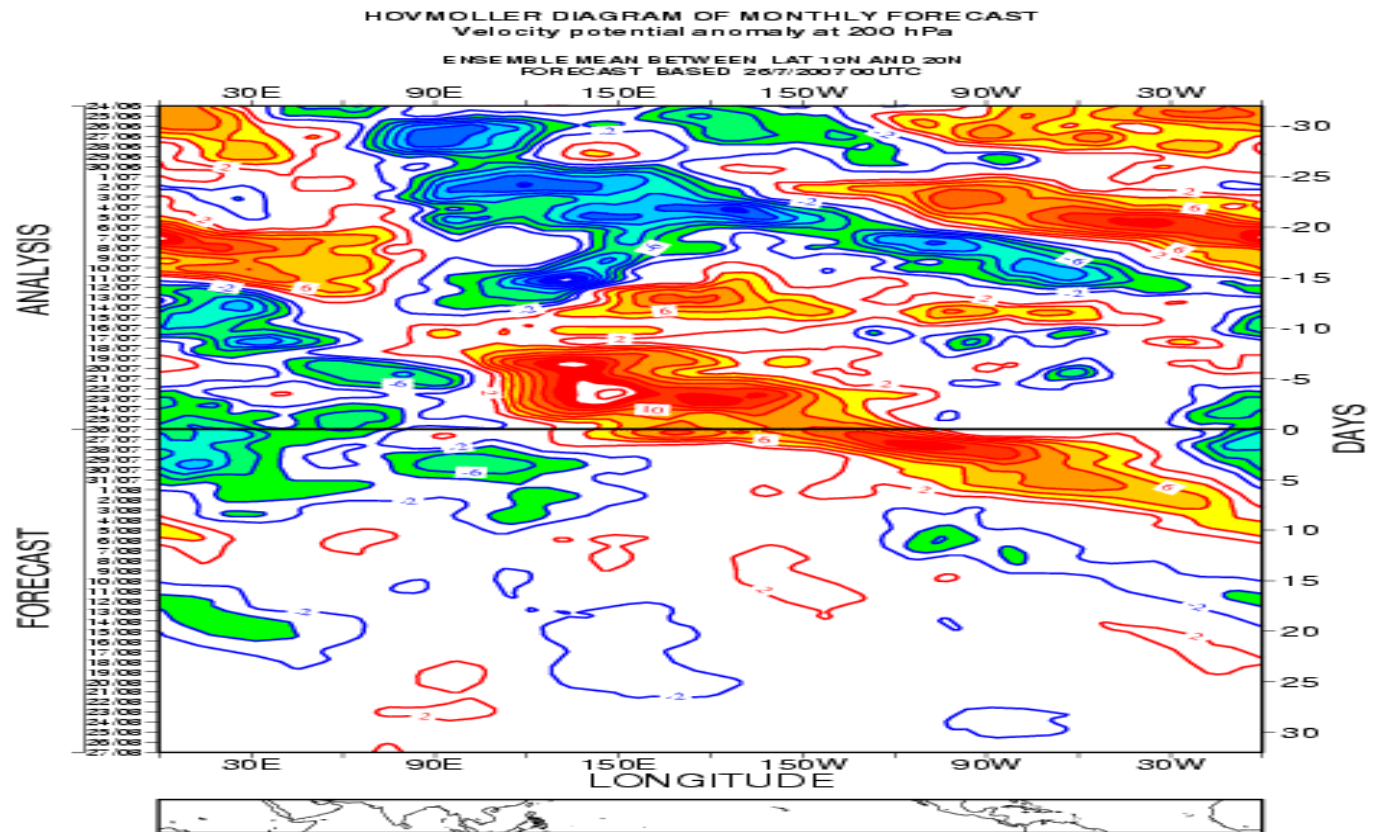
11 JUL 2007



During this period mid to late July 2007, significant activity of The African and Asian monsson was noted with Heavy rains And flooding



The ECMWF did show skill in capturing MJO phase and intensity with approximately a 2 week lead time with moderate to strong activity in the African and Asian monsoon region. Beyond two weeks a reduction in the strength of the monsoon system is expected



Moderate to strong activity of the African and Indian monsoon For late July predicted by the Monthly EPS

ECMWF Monthly Forecasting System

Velocity potential at 200 hPa ($1 \cdot 10^6 \text{ m}^2/\text{s}$)

Forecast start reference is 19-07-2007

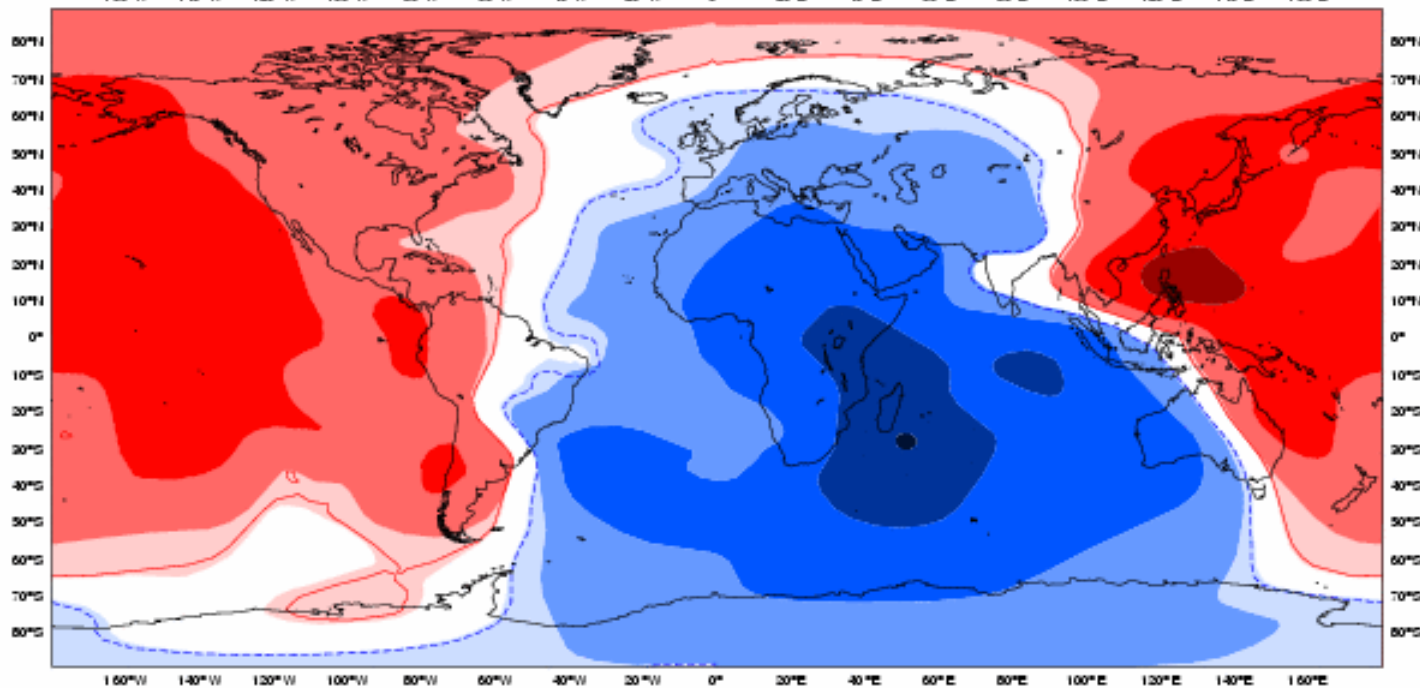
ensemble size = 51, climate size = 60

Day 5-11

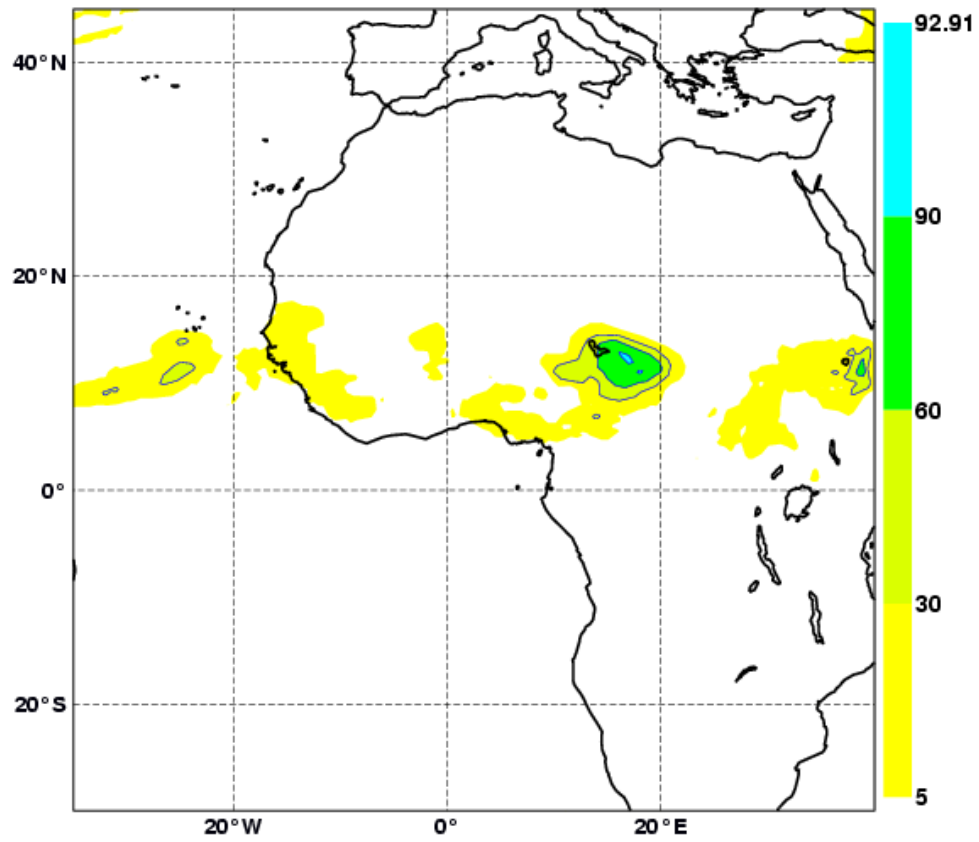
23-07-2007/TO/29-07-2007

Shaded areas above 90% significance

Solid contour at 95% significance



Tuesday 31 July 2007 12UTC ECMWF EPS Probability Forecast 1-(60-84) VT: Saturday 4 August 2007 00UTC
Surface: Total precipitation of at least 20 mm
(accumulated daily)



Thousands of Mauritians have been forced from their homes by floods in the southeastern town of Tintane with water levels reaching two metres in some areas.

Two people are known to have died and 25 others are missing and feared drowned, Nicole Jacquet, deputy country director for the World Food Programme (WFP) in Mauritania, told IRIN on 9 August 2007.

"When the rain falls from the hills there is nothing to stop it. No trees, nothing," Jacquet said of Tintane, a Sahelian town in a valley at the foot of the El-Aguer mountain chain in Mauritania's Hodh El-Gharbi region. "It falls very, very abruptly and very strongly and it gets into these lowlands," she said.

Jacquet said the town received 81.5 mm of rain in a 24-hour period starting 7 August, the most anyone in the area can remember.

Studies had shown that heavy rainfall could cause flooding in this area, she said; however the degree of downpour was unexpected.

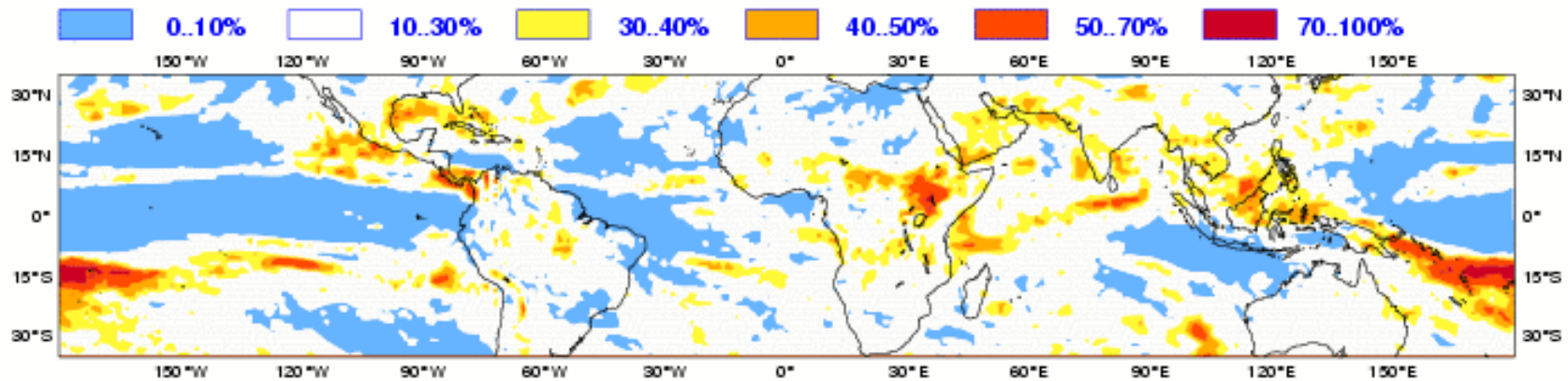
"It's incredible for this country to get so much rain in one day," Jacquet said. In late July, Mauritania's president Sidi Mohamed Ould Cheikh Abdallahi had called on religious leaders to pray for rain because of fears of drought.

ECMWF Seasonal Forecast
Prob(highest 20% of climatology) - precipitation

Forecast start reference is 01/07/07
Ensemble size = 41, climate size = 275

System 3
ASO 2007

No significance test applied



Forecast issue date: 15/07/2007



Who's helping?

To assist in the relief effort, local and regional authorities, the WFP and other organisations were providing boats and trucks to transport people to dry land. Many people were still arriving at temporary centres seeking refuge, Jacquet said. She said that WFP would provide food to as many as 2,000 displaced families sleeping on mattresses in three public schools and centres. Up to two-thirds of the town's population of about 15,000 people have been affected, most of whom were living around the central market, which was home to traders and shopkeepers.

Mauritanian authorities have already provided emergency food provisions to the stranded people.

Houses made of dried mud in Tintane have collapsed under the heavy rainfall, Jacquet said. According to local press, the rains have also destroyed a dam and knocked over more than 1,000 date palm trees.

By 9 August the rain had eased and people lined up along dry paths heading back to their homes to try to collect their belongings.

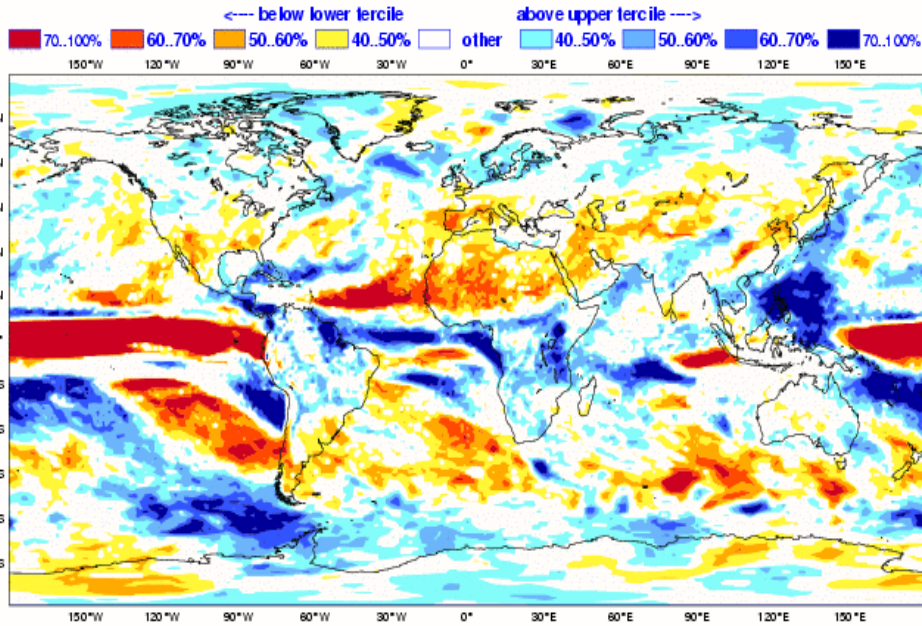
Logistical problems

President Abdallahi went to Tintane on 9 August and met with government ministers and humanitarian workers there to decide on a strategy to cope with the flood.

Almost all the dwellings of the town had been damaged and were no longer suitable for habitation, he said in a statement to the press.

ECMWF Seasonal Forecast
 Prob(most likely category of precipitation)
 Forecast start reference is 01/09/07
 Ensemble size = 41, climate size = 275

Lead: 1 month System 3
 OND 2007
 No significance test applied



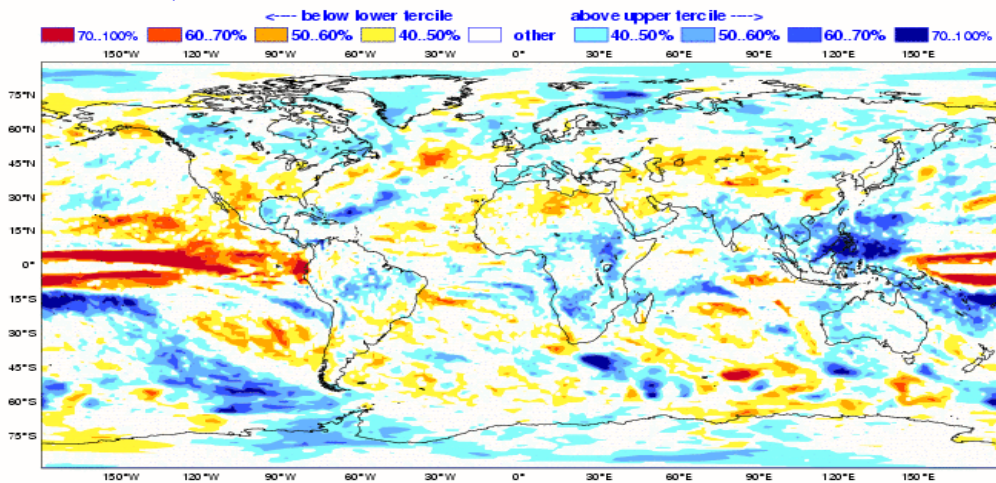
Forecast issue date: 15/09/2007

ECMWF Seasonal Forecast
 Prob(most likely category of precipitation)
 Forecast start reference is 01/07/07
 Ensemble size = 41, climate size = 275

Lead: 3 months System 3
 OND 2007
 No significance test applied



System 3
 OND 2007
 No significance test applied



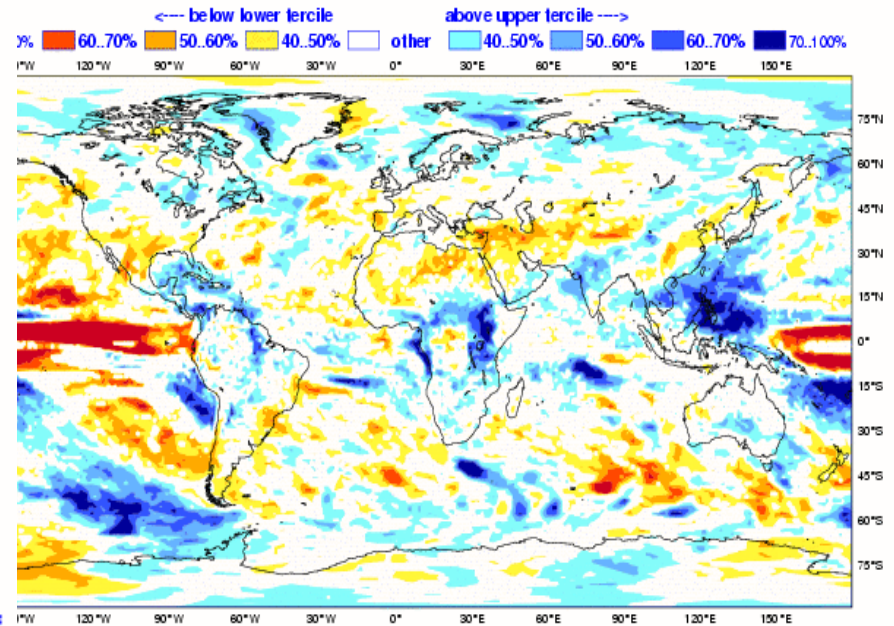
Forecast issue date: 15/07/2007



Lead: 2 months

F Seasonal Forecast
 Prob(most likely category of precipitation)
 Forecast start reference is 01/08/07
 Ensemble size = 41, climate size = 275

System 3
 OND 2007
 No significance test applied



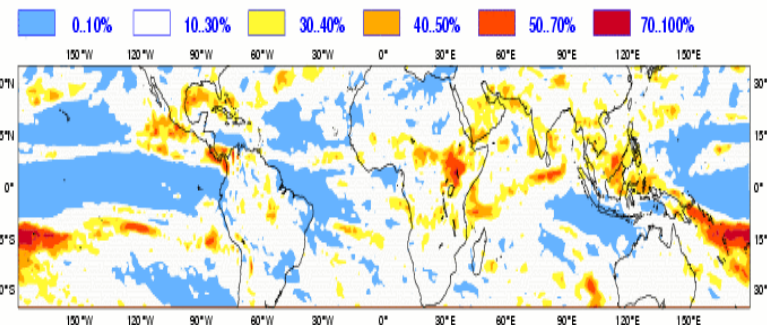
Forecast issue date: 15/07/2007

Prob(highest 20% of climatology) - precipitation

Forecast start reference is 01/07/07
 Ensemble size = 41, climate size = 275

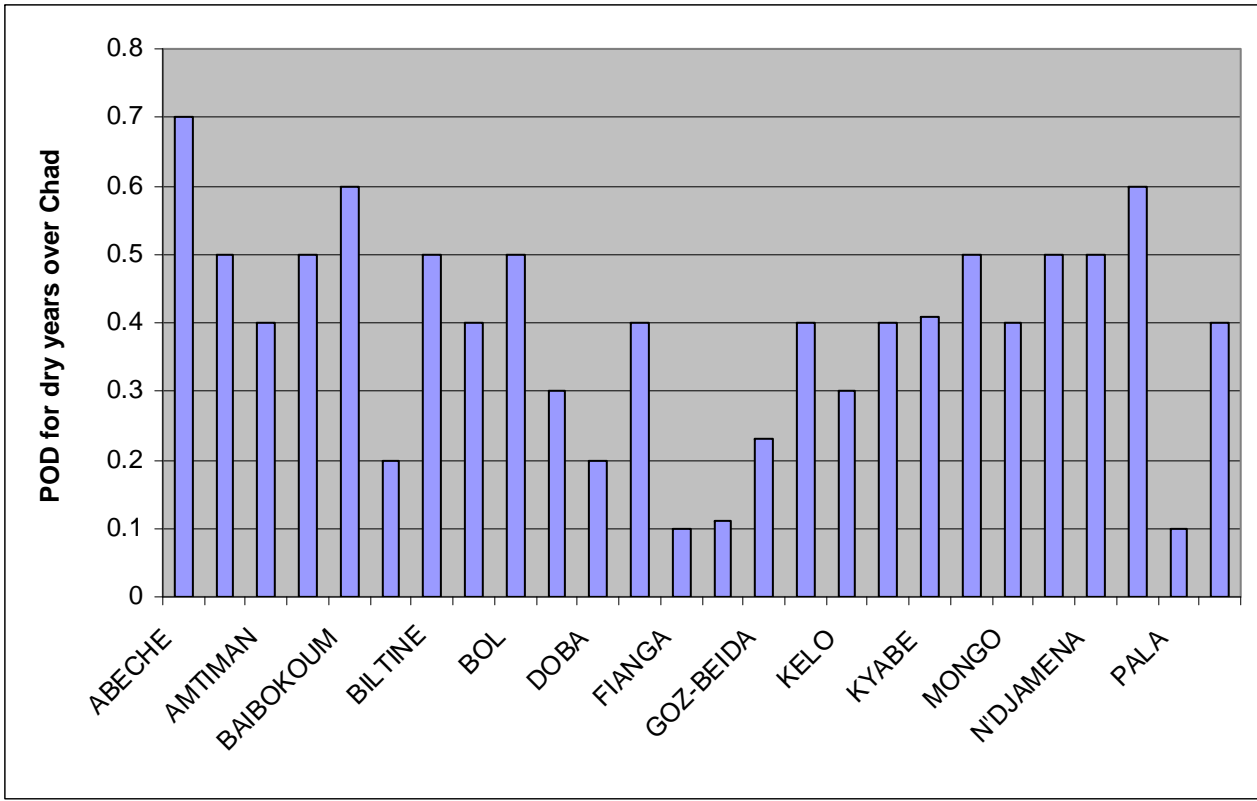
ASO 2007

No significance test applied



Forecast issue date: 15/07/2007

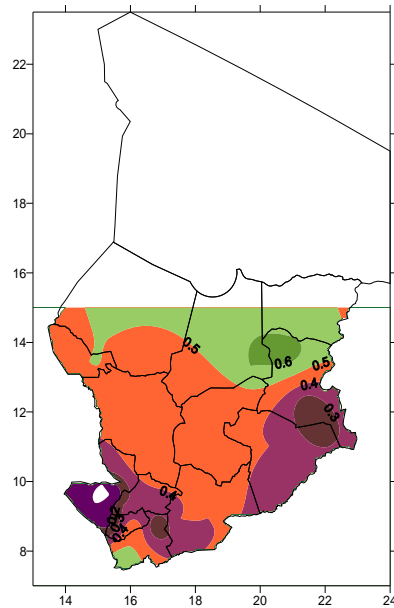




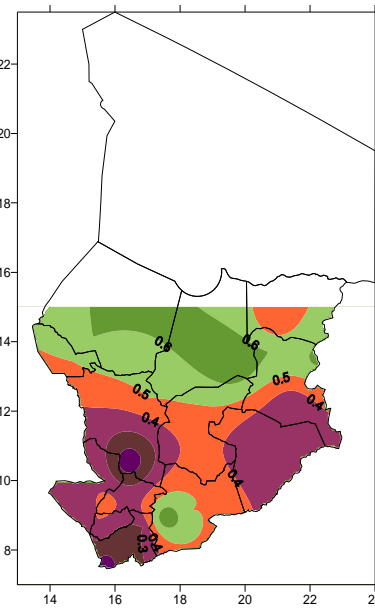
Résultats et discussions

- Evaluation of HadRM3

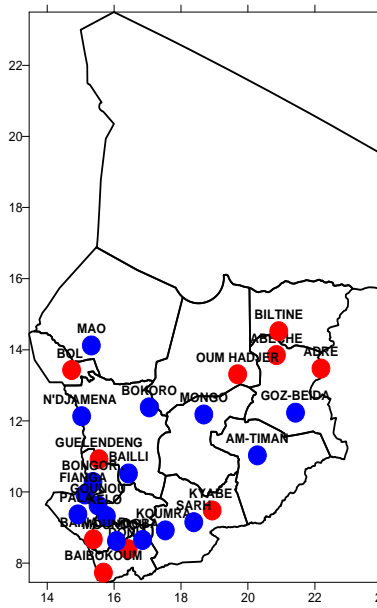
Probability Of Detection (POD) for Dry and Wet years



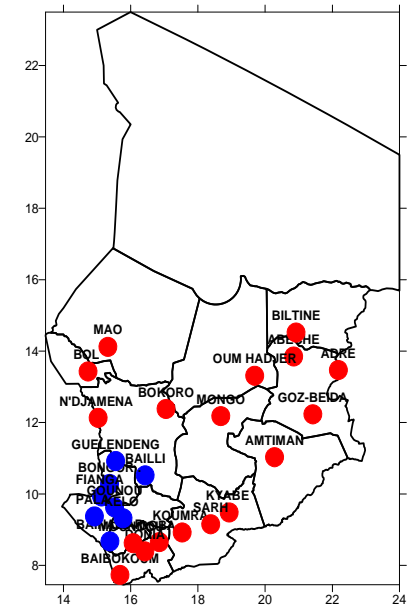
POD for dry years



POD for wet years

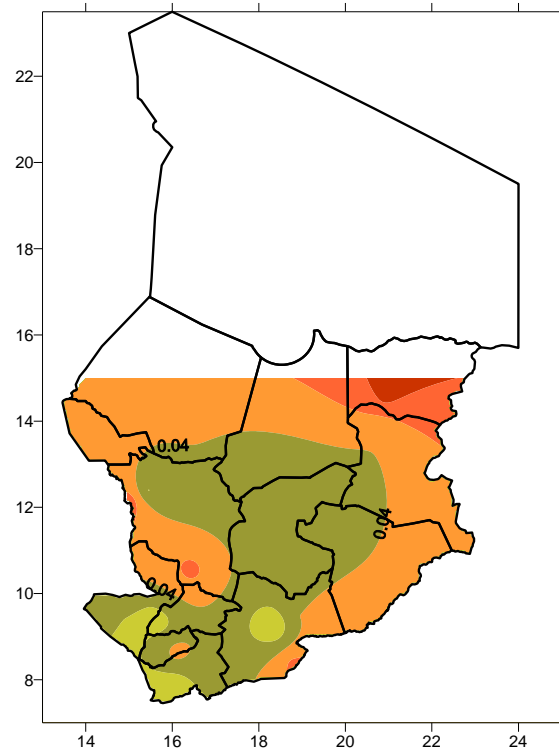


Detection of the
1972 drought =
42%

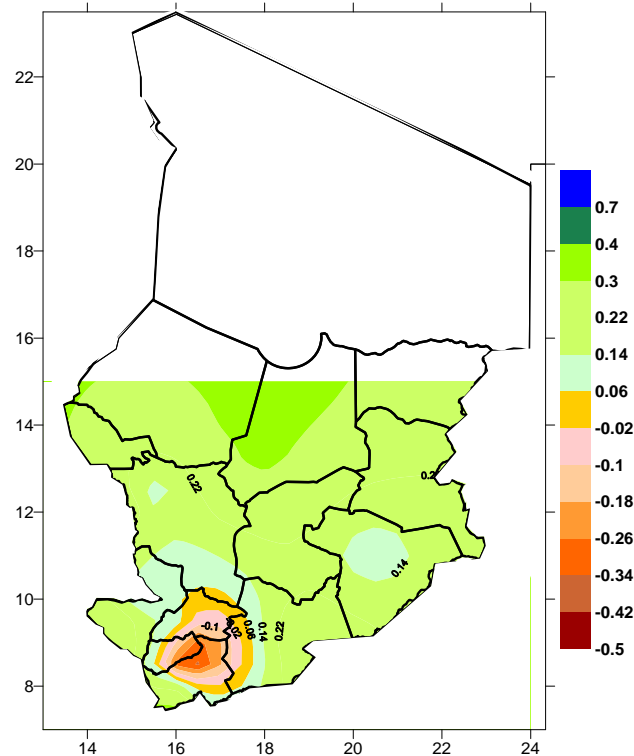


Detection of the
driest year in the
record (1984) = 78%

- Verification of seasonal forecast over Chad



Mean RPSS 1998 - 2005



RPSS 1999

The wettest year of the period exhibits predictability well above the mean