FECT Foundation for Environment Climate and Technology
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Experimental Climate Monitoring and Prediction for the Maldives –November 2011

by: Lareef Zubair, , Madhura Weerasekera, Sanjaya Ratnayake, Sewwandhi Chandrasekara, Zeenas Yahiya, Shaky Sherpas, Michael Bell (FECT and IRI) and Aishath Shimana, Ahmed Muslim and Ali Shareef (Maldives Meteorological Services)

22 November 2011

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PACIFIC SEAS STATE

17 November 2011

Weak La Niña conditions re-emerged in August after a brief period of ENSO-neutral conditions following the ending of the significant 2010-11 La Niña. The current event has slowly strengthened and is currently of weak to moderate strength. For the November-January season currently in progress, there is an approximately 74% probability for continuing La Niña conditions, a 26% probability for returning to neutral conditions, and virtually no chance for the development of El Niño conditions. Weak to moderate La Niña conditions are the most likely scenario for the remainder of 2011, into the first couple of months of 2012.

(Text Courtesy IRI)

Summary[2]

CLIMATOLOGY

Monthly Climatology: November and December are relatively wet periods for all Islands except those in the far North while January and February are relatively dry except in the Southern islands. The wind over the Northern islands is westerly (from West to East) particularly across southern islands in November, but it shifts to North-Easterlies in December. November and December is also relatively cooler across the Maldives.

MONITORING

Weekly Monitoring: Rainfall ranged between 0-20mm per day between 13-15 Nov. A cloud system moved across Southern Maldives leading to heavy rainfall up to 40mm.

Monthly Rainfall Maps: Overall during July, August, September and October rainfall reached up to a maximum of 15 mm. In July and August, the North received more rainfall while some islands in the South received more rainfall in October. The rainfall in the central islands did not exceed 10mm with few exceptions in October.

Monthly and Seasonal Monitoring: Rainfall over *Northern Maldives* has been low in comparison to recent years except for some weeks in April and November. The heavy rainfall in these peaks was not sufficient to overcome a prolonged deficit over the last year. The rainfall deficit for the last 365 days was about 400 mm when compared to the average for the previous 8 years of 1900 mm.

Sea Surface Temperatures and ENSO state: In the Pacific Ocean, there has been a transition to La Nina state in August which is likely to persist until spring 2012. In the Indian Ocean, close to Maldives, the surface temperatures are warmer than average by up to 2 ^{0}C. This is atypical for La Nina conditions. Usually La Nina leads to drier than normal conditions in the Central and Northern islands.

PREDICTIONS

Weekly Precipitation Forecast: Heavy rainfall is predicted by NOAA NCEP over Addu and the sea area to the South-East of it for November 21-26 period.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for December 2011 to February 2012, issued on November 2011, there is no significant shift in rainfall totals for the December to February. However, there is 50% probability for Temperature to be below normal.

In the longer lead predictions, the models predict a wetter than normal tendency for the Northern and Central Islands for January to March for the Northern Islands and February to April period for the Central Islands while other regions show normal tendency.

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International Research Institute for Climate and Society.

[2] These interpretations of climatic conditions are an experimental product. Please consult with the Maldives Meteorological Services for advice on interpretation.

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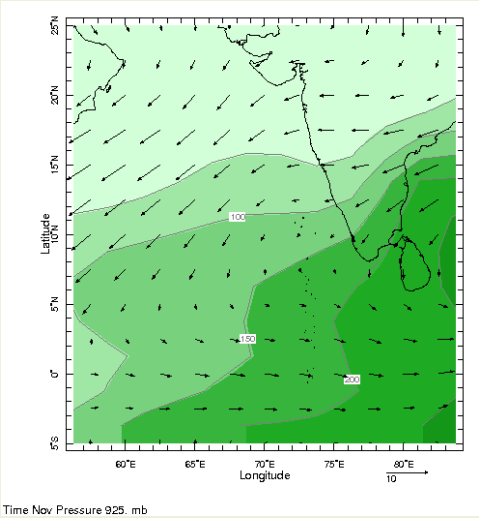
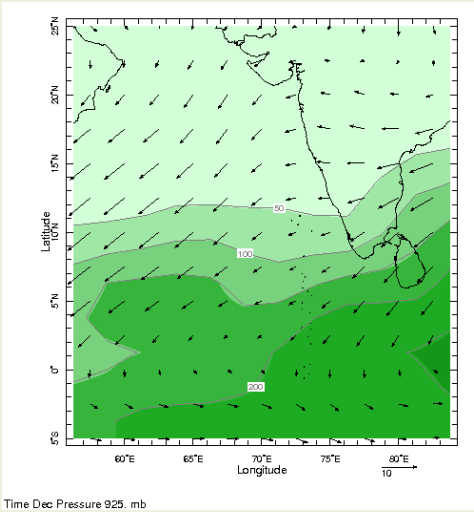
1). Monthly Climatology (CAMS-OPI):

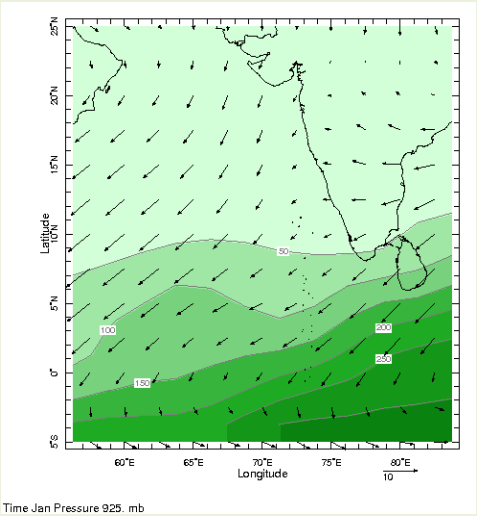
a) Rainfall**: Maps*: ***November, December, 2011 January and February, 2012 (Left-Right)



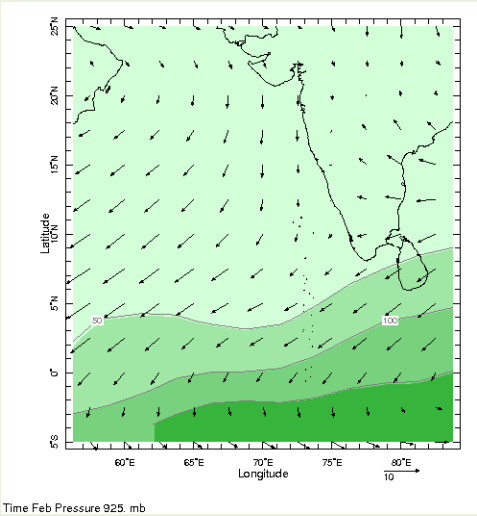
November



December



January



February

Part	Rainfall (mm)			
	Nov	Dec	Jan	Feb
Northern	100-150	50-150	0-50	0-40
Central	150-200	100-200	50-150	40-100
Sothern	150-200	200/+	150-250	100-150

Rainfall Climatologies in November, December, January and February for Maldives Islands. Islands on the Top, Middle and Bottom are roughly assumed as Northern, Central and Southern Respectively.

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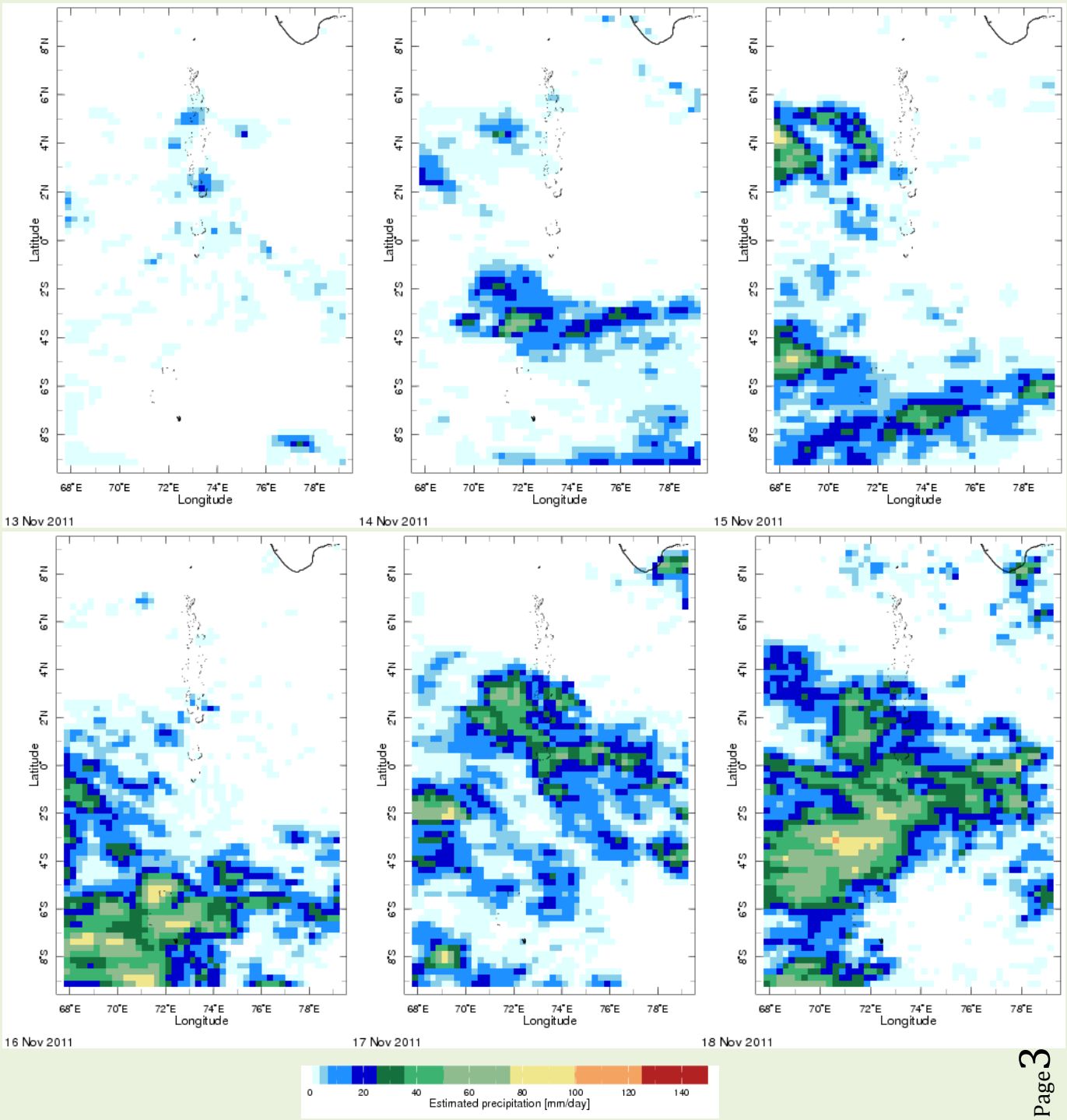
2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: *13th Nov – 18th Nov, 2011 (Left-Right, Top-Bottom)*



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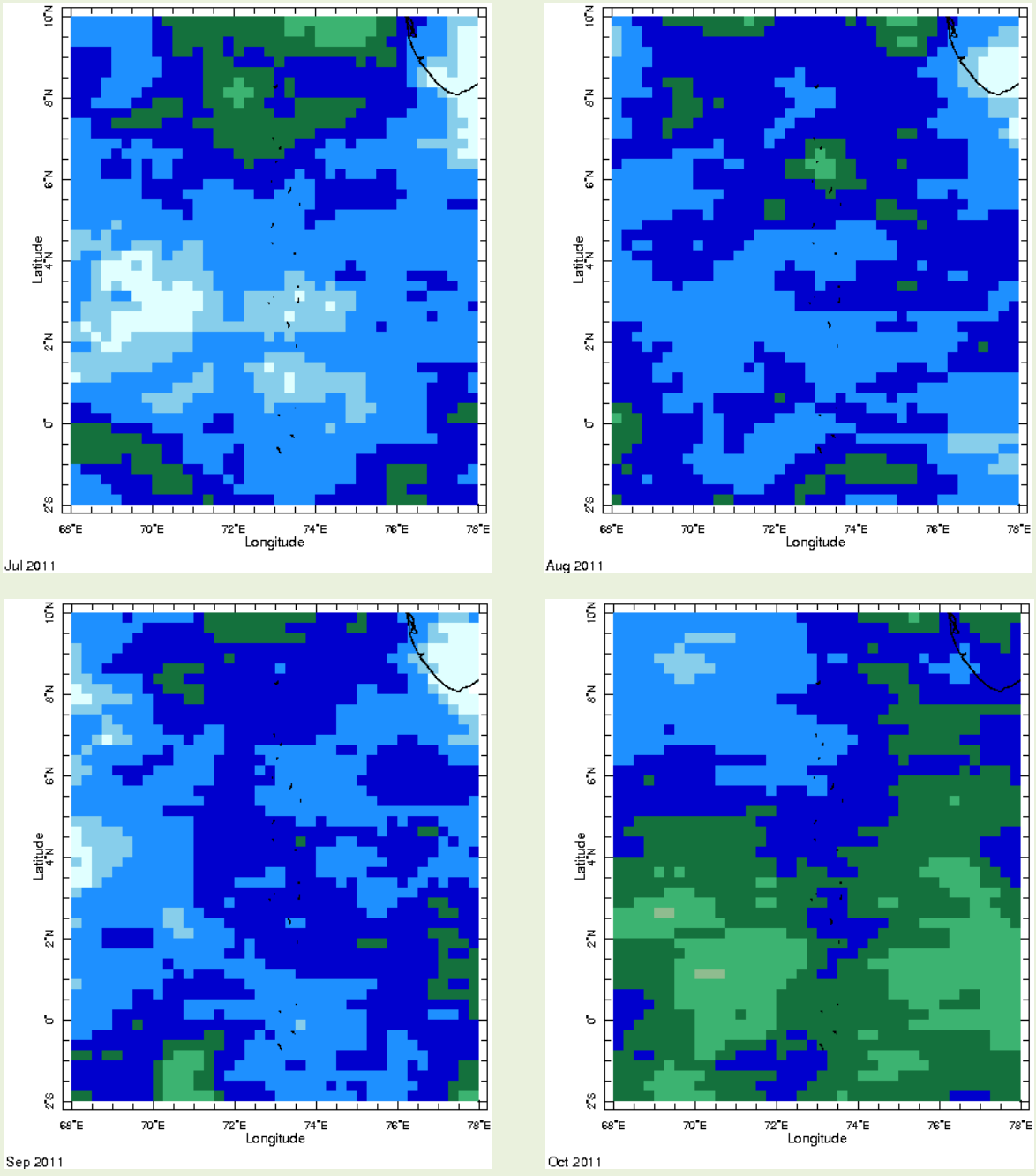
b) Monthly Rainfall* (July to October 2011), *Derived from Satellite Rainfall Estimates



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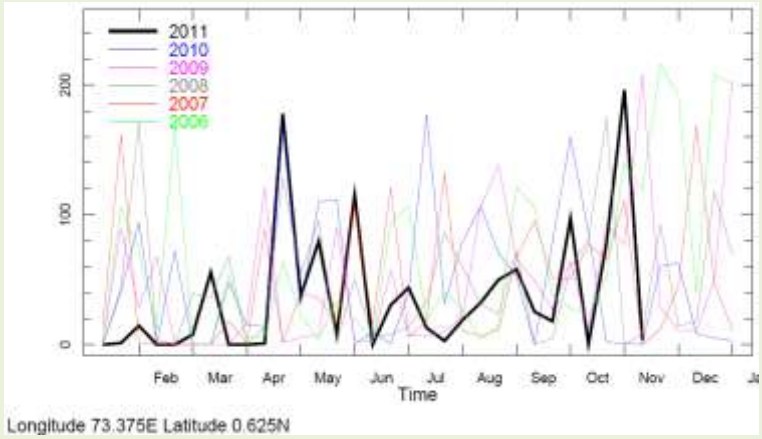
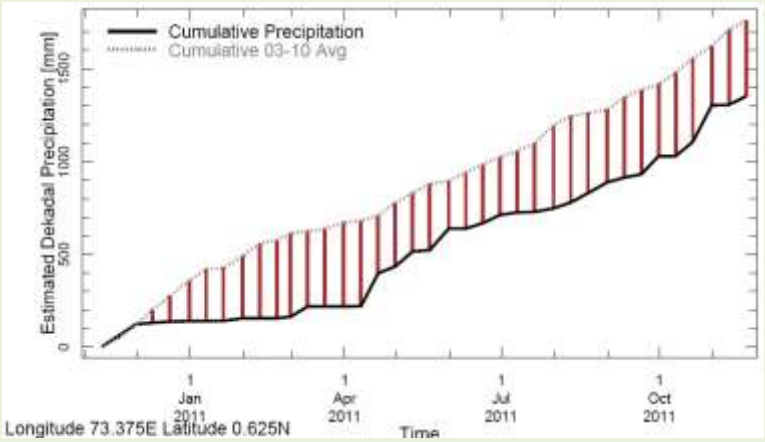
c) Seasonal to Annual Rainfall Monitoring (for Northern Maldives)

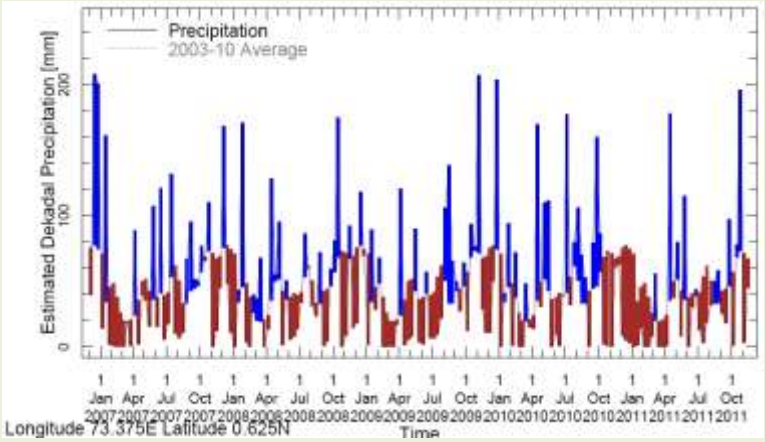
1) Rainfall in 2011 (black) compared to rainfall in previous 5 years



2) Rainfall the past 365 days (black) compared to average rainfall in previous 8 years.



3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



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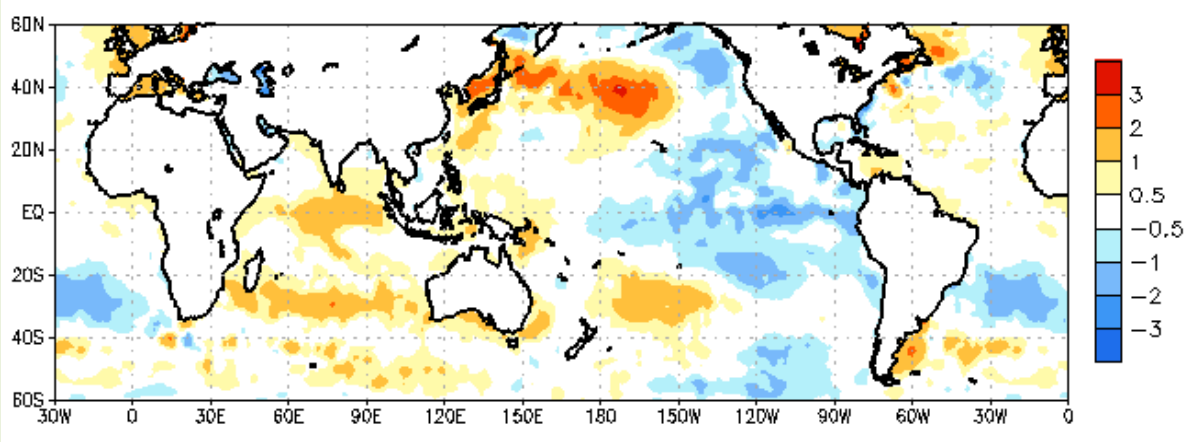
d) Weekly Average SST Anomalies

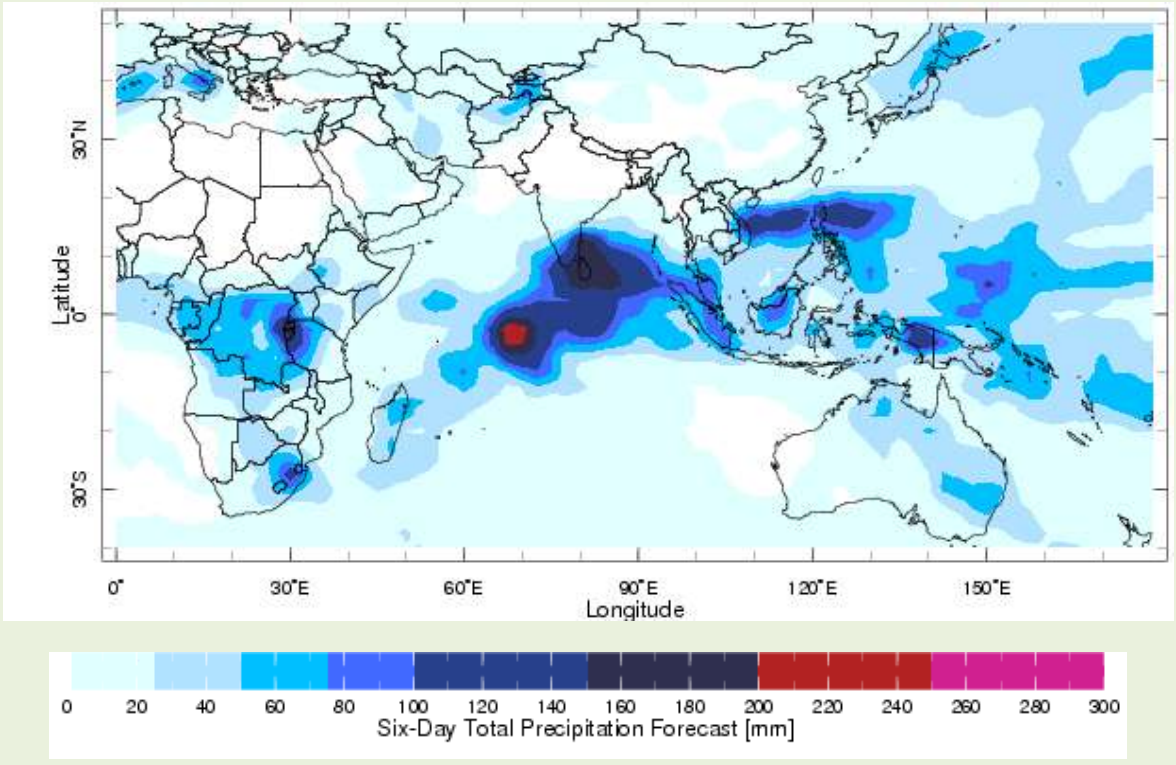


Average SST Anomalies (^{0}C), 16th November, 2011

Data Source: NCEP Global Sea Surface Temperature Analysis (Climatology 1979-1995)

3). Predictions

a) Weekly Precipitation Forecast for 21-26 Nov, 2011: Issued 21 Nov, 2011



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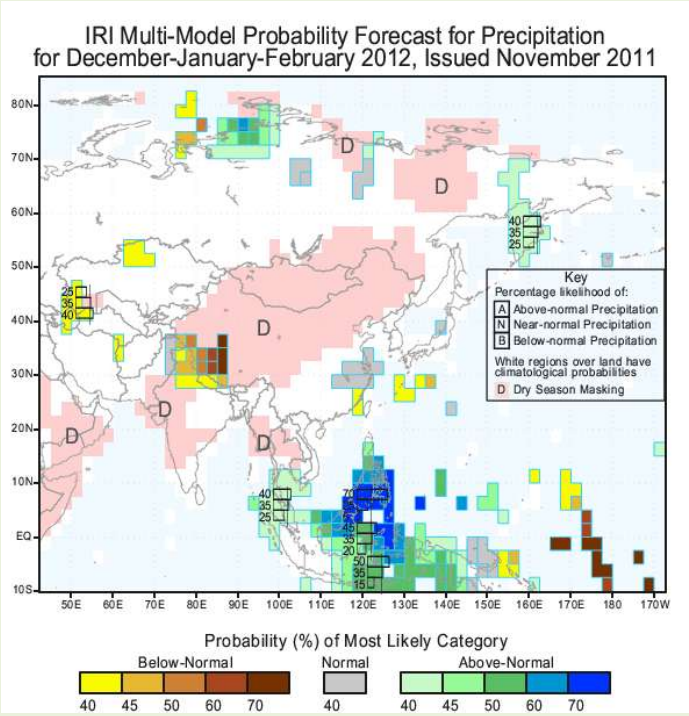
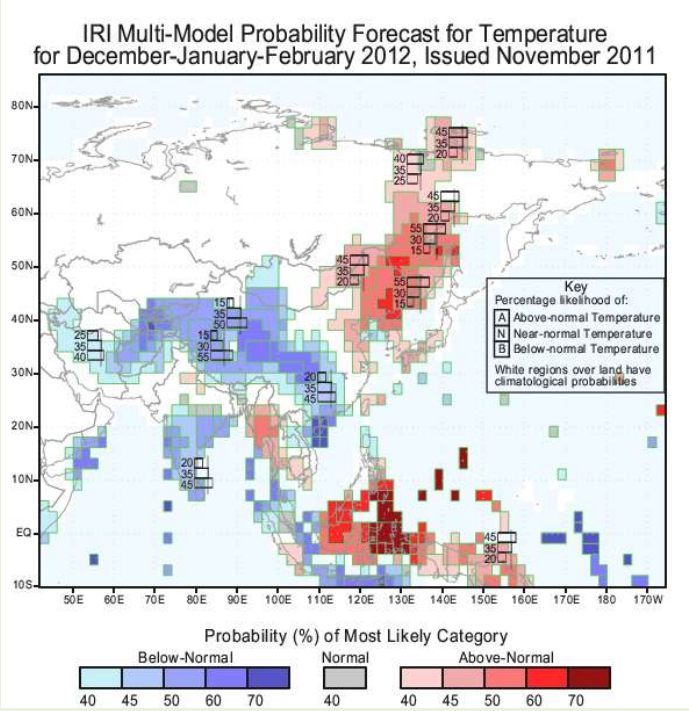
b) Seasonal Rainfall and Temperature Predictions from IRI





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b) Seasonal Climate Predictions (IRI) continued