

Experimental Climate Monitoring and Prediction for the Maldives –June 2012

Prepared by Staff from Foundation for Environment, Climate and Technology, Sri Lanka and USA, Maldivian Meteorological Service, International Research Institute for Climate and Society

27 June 2012

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PACIFIC SEAS STATE

June 7, 2012

Slightly more than half of the ENSO prediction models predict El Nino conditions developing around the July-September season, continuing through the rest of 2012. However, 40-45% of the models indicate persistence of ENSO-neutral conditions. Currently, no models indicate a re-emergence of La Nina conditions.

(Text Courtesy IRI)

Summary² CLIMATOLOGY

Monthly Climatology: Relatively high rainfall (200 mm – 300 mm) are expected in June, July and August followed by lower rainfall (less than 150 - 200 mm) in September for Northern islands. For the Central islands, rainfall shall be relatively high in June and July and diminish in August & September. Lower rainfall is normally for the Southern islands during this four months period. The wind over the Northern & Central islands shall be strongly westerly (from West to East). For Southern islands, the wind speeds are usually lower during this season.

MONITORING

Weekly Monitoring: No rainfall was observed on 10th & 11th of June. A cloud system moved across Northern & Central Maldives leading to heavy rainfall up to 40 mm during 12- 14th of June. Less rain fell on 15th of June as the cloud system moved away from Maldives.

Monthly Rainfall Maps: Overall rainfall during February, March, April & May reached up to a maximum of 15 mm. In February & May, the South received more rainfall while Northern & Central islands received rainfall not exceeding 10 mm during these four months.

Monthly and Seasonal Monitoring: Compared to past 10 years rainfall has been significantly low for all of Maldives this year, particularly from February to May. Rainfall in the past 365 days has been less compared to the average of rainfall during the year for the past 8 years with the exception of the period October 2011 to January 2012. In Northern Maldives, the cumulative rainfall deficit has been about 15% of the annual. The deficit has been particularly high in Central Maldives (by about 25%). The reduction in Southern Maldives is about 10%.

Sea Surface Temperatures and ENSO state: In the Pacific Ocean, the ENSO state is neutral with some models indicating a transition to El Nino conditions after July-September 2012. In the Indian Ocean, weak warm conditions persist in the Western equatorial Indian Ocean.

PREDICTIONS

Weekly Precipitation Forecast: Heavy rainfall expected for Northernmost Islands of Maldives.

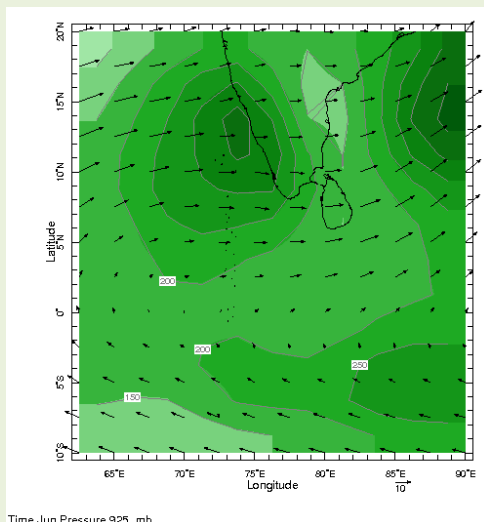
Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for June 2012 to August 2012, issued on May 2012, the rainfall is expected to be climatological. However, there is 40% probability for Temperature to be near-normal in the next months as expected from the warm seas around Maldives. No deviations from climatology are predicted for the August-October period as well. Note, the 3-5 month forecasts are less skillful than the 0-2 month forecast.

Inside this Issue

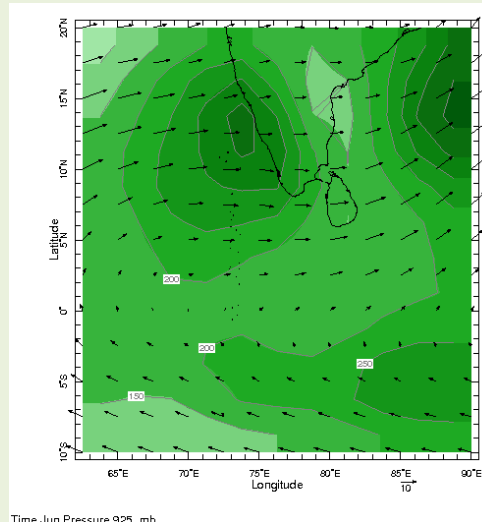
1. Monthly Climatology
2. Rainfall Monitoring
 - a. Daily Satellite derived Rainfall Estimates
 - b. Monthly Rainfall derived from Satellite Rainfall Estimate
 - c. Monthly and Seasonal Monitoring
 - d. Weekly Average SST Anomalies
3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI

1). Monthly Climatology (CAM5-OPI):

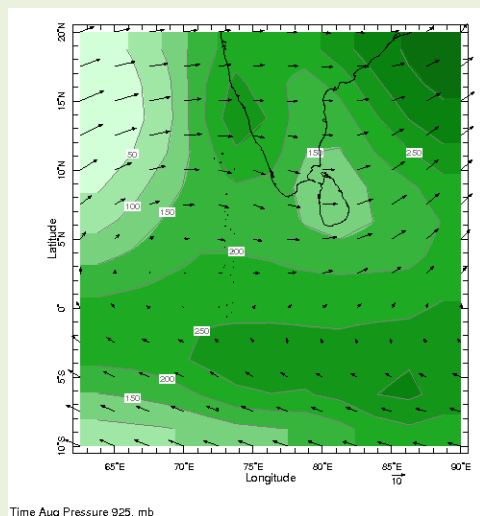
a) Rainfall: Maps: June, July, August and September (Left-Right)



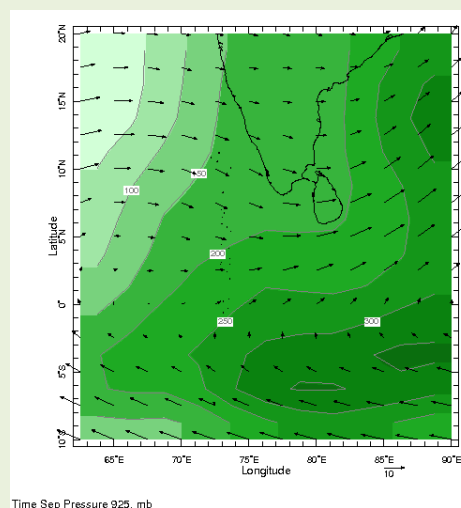
June



July



August



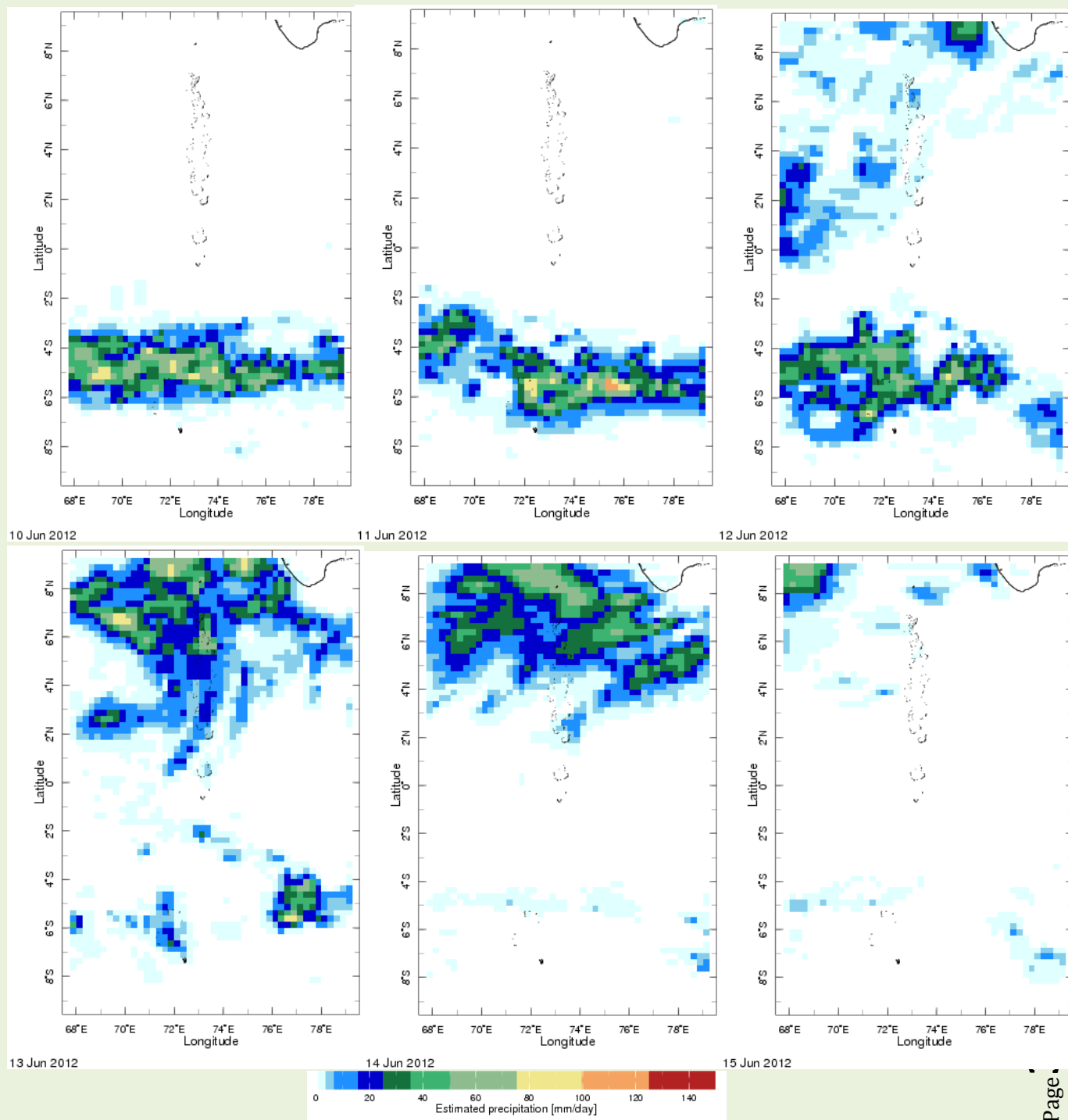
September



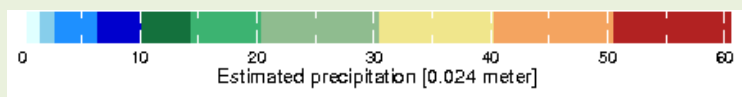
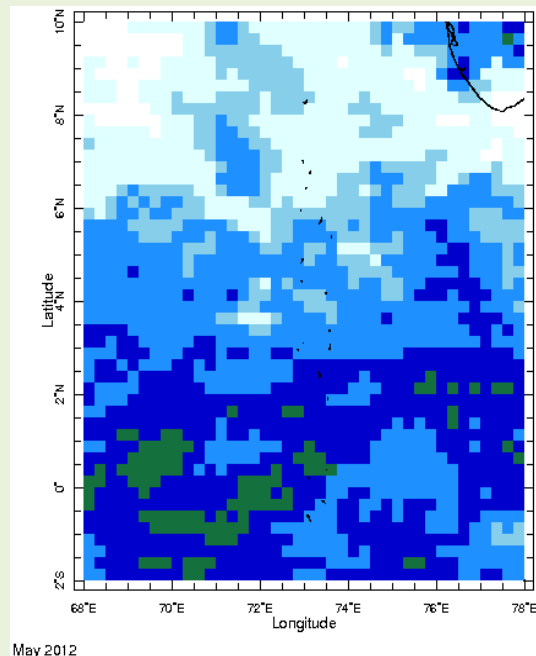
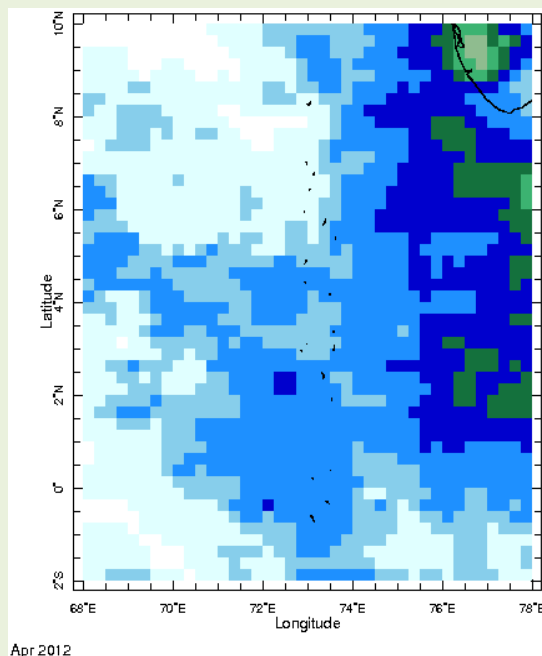
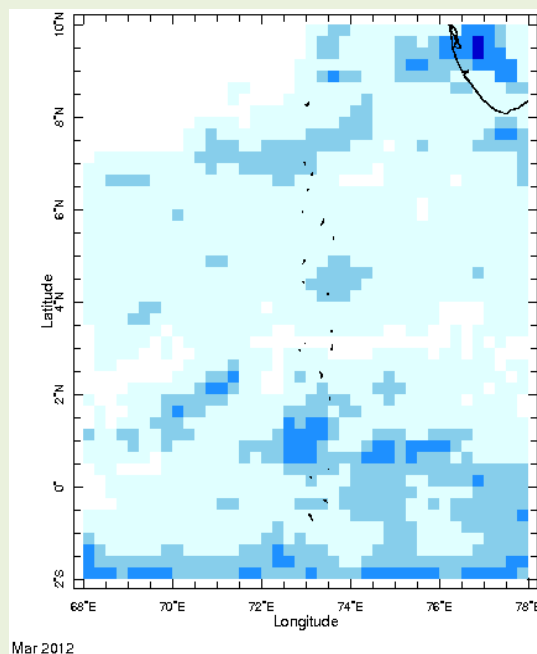
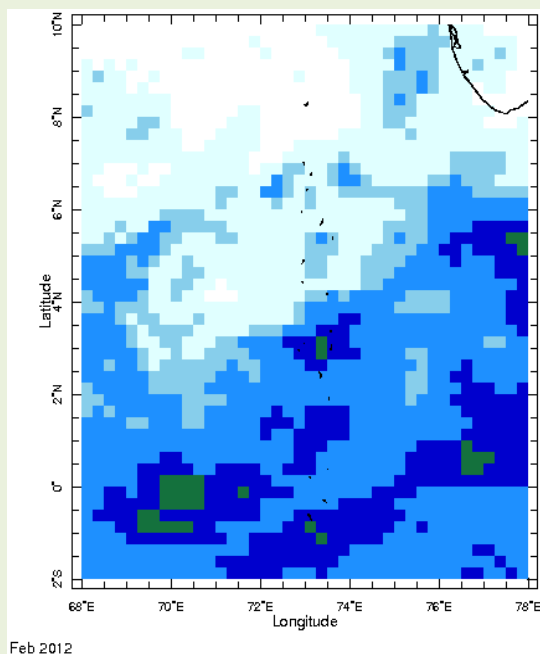
Rainfall Climatology for Maldives Islands for the duration of June, July, August and September 2012. Islands on the Top, Middle and Bottom are roughly assumed as Northern, Central and Southern Respectively.

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 10th June – 15th June, 2012 (Left-Right, Top-Bottom)



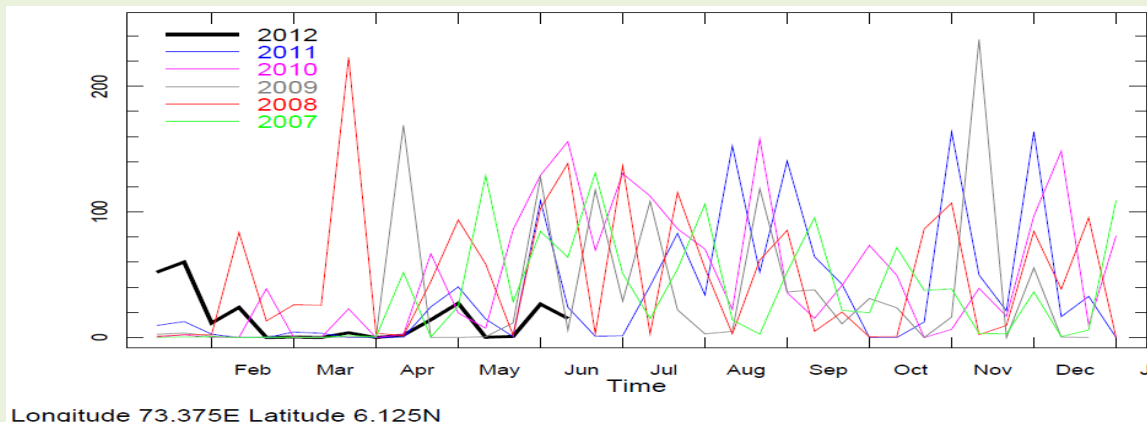
b) Monthly Rainfall (February to May 2012), Derived from Satellite Rainfall Estimates



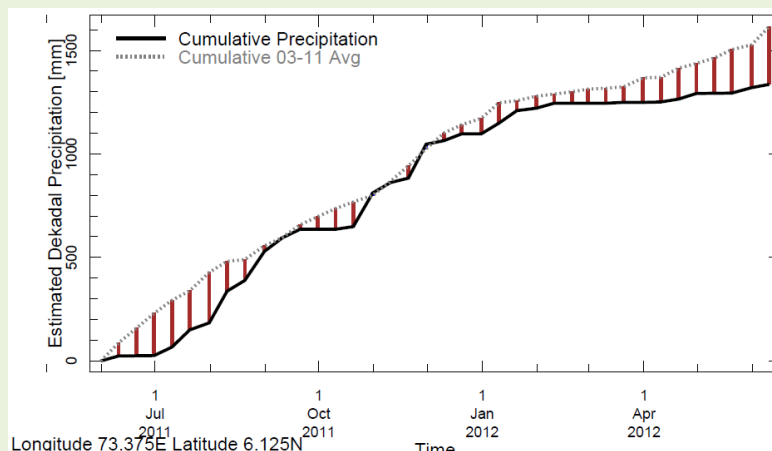
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

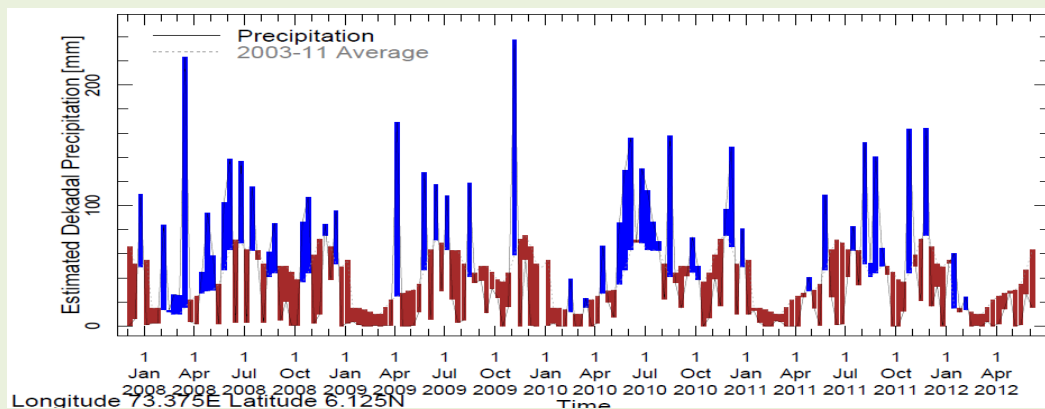
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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

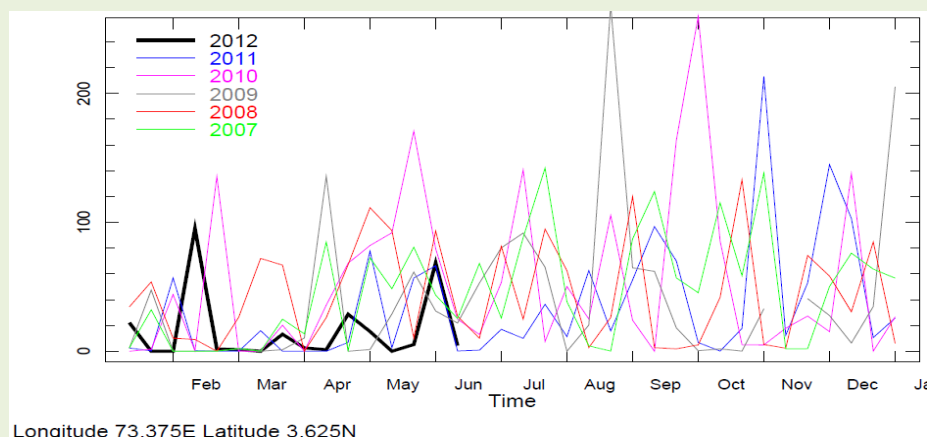


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

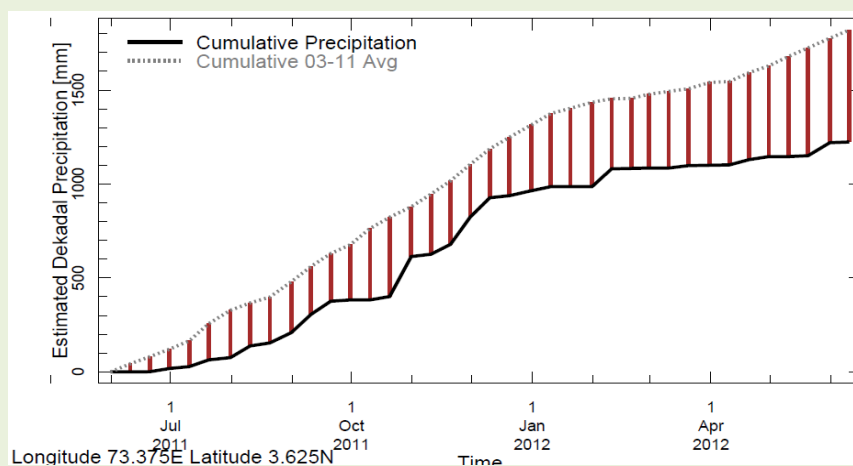


ii) For Central Maldives

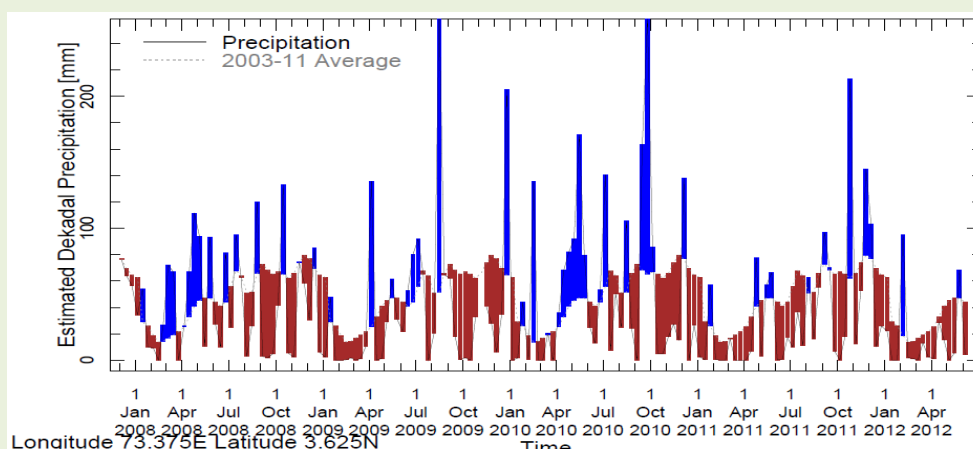
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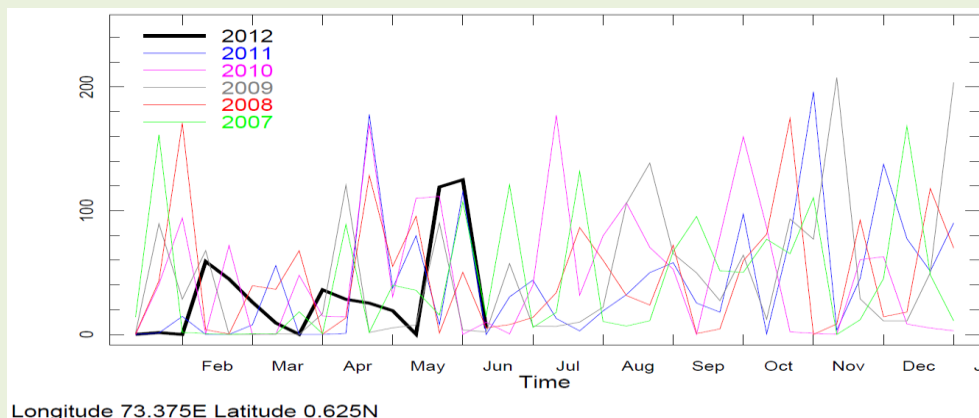


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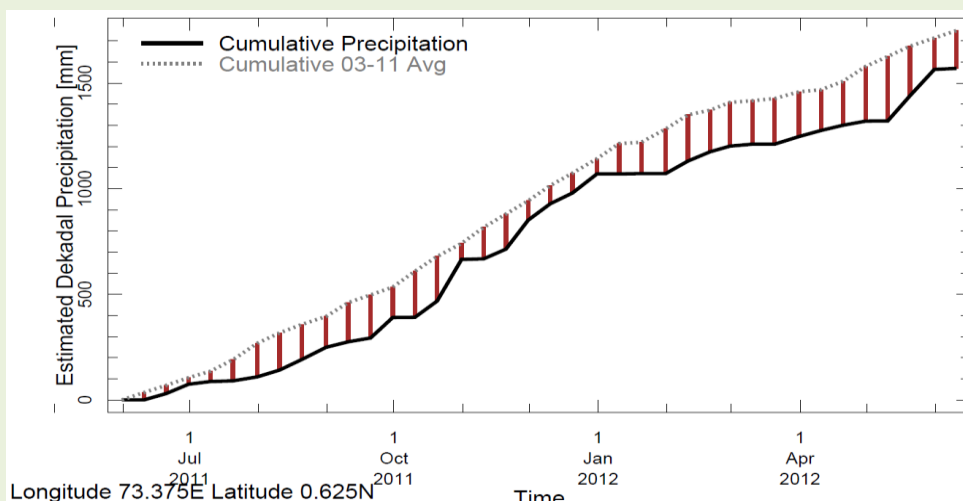


iii) For Southern Maldives

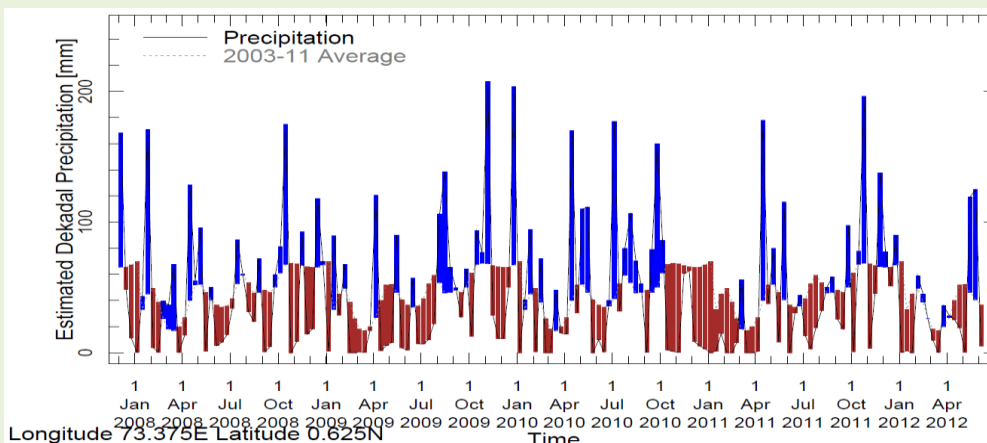
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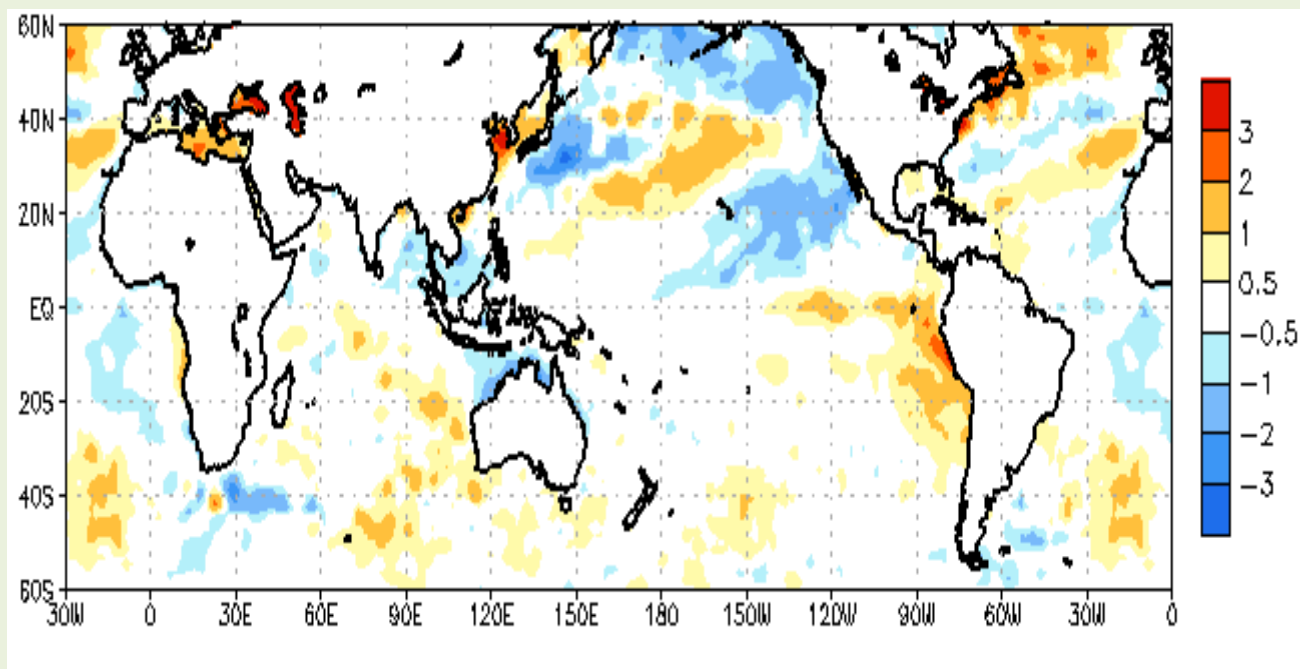
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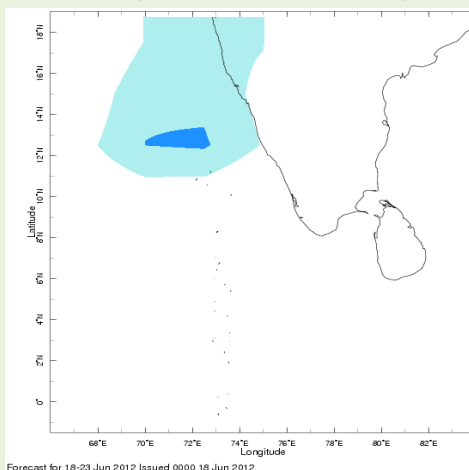
d) Weekly Average SST Anomalies ($^{\circ}$ C), 18th June, 2012



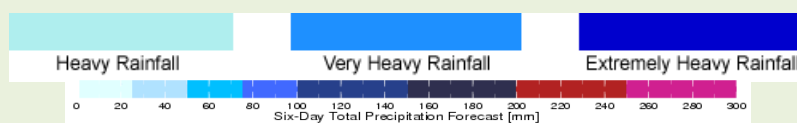
Data Source: NCEP global Sea Surface Temperature Analyses Climatology (1981- 2010)

3). Predictions

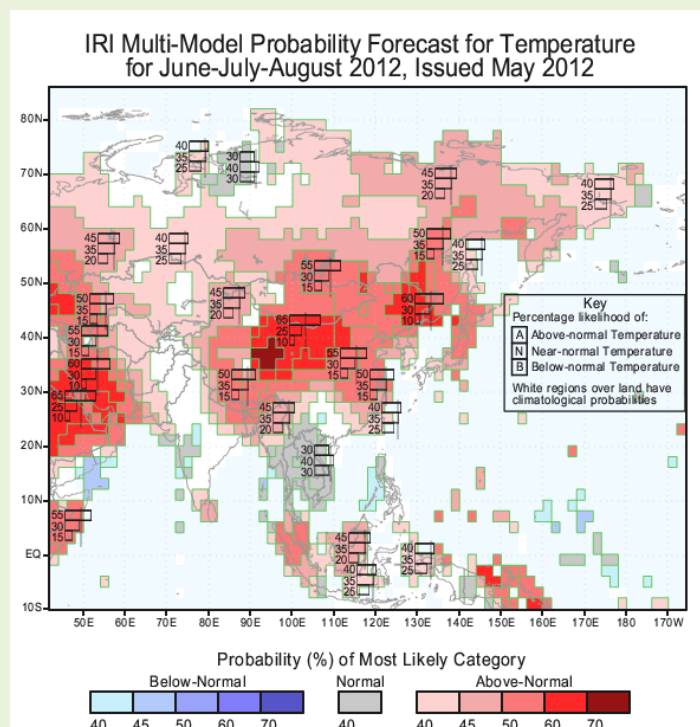
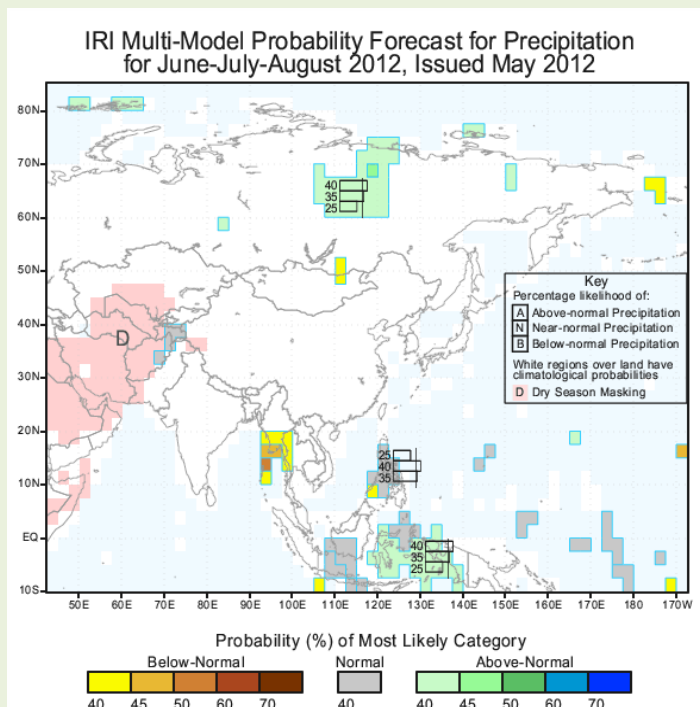
a) Weekly Precipitation Forecast for 18-23 Jun, 2012: Issued 18th Jun, 2012



Forecast for 18-23 Jun 2012 Issued 0000 18 Jun 2012



b) Seasonal Rainfall and Temperature Predictions from IRI



b) Seasonal Climate Predictions (IRI) continued

