FECT Foundation for Environment Climate and Technology
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Experimental Climate Monitoring and Prediction for the Maldives –September 2012

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

21 September

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PACIFIC SEAS STATE

September 20, 2012

More than 80% of the ENSO prediction models predict El Nino SST conditions during the September-November season, continuing into Northern winter 2012-13. Among those predicting El Nino, very few predict more than a weak event.

(Text Courtesy IRI)

Highlights[2]

Heavier than expected rainfall was observed over the Northern and Central islands of Maldives in the second half of August and the rainfall was diminished in the first two weeks of September. However, these rainfall has not compensated for the sustained drought persisting over the Northern and Central Islands. Warming sea surfaces around Maldives and the tropical Eastern Pacific Oceans have contributed towards these conditions. But in South Maldives, where the rainfall deficit over the last year was smaller, the heavier than expected rainfall compensated for the drought conditions to some extent.

Summary[2]

CLIMATOLOGY

Monthly Climatology: The climatology refers to the average conditions experienced historically for a given month. Usually the climatology is a good guide to what one may expect in a given month absent other information. The historical average rainfall for the Northern islands is high in July (200-250 mm), higher in August (250- 300 mm) and drops in September & October (100- 200 mm). In the Central islands rainfall is usually moderate (150- 200 mm) during the August – October period. Heavy rainfall is typical for the Southern islands during these four months. The winds over the Northern & Central islands are usually westerly (from West to East) and wind speeds are expected to be high. For Southern islands, low wind speeds are expected for July and August but stronger westerly winds in September and October.

MONITORING

Weekly Monitoring: 0- 20 mm rainfall was estimated to have fallen over Northern and Central islands of Maldives on the 10th of September. For the 11-15th of September, very little rainfall was observed over all of Maldives.

Monthly and Seasonal Monitoring: The rainfall this August has been higher than that during the previous 5 Augusts. But by September, the rainfall gradually decreased this year. In Central islands, high rainfall was observed in mid August which is also the highest amount of rainfall observed in this region for this year. High rainfall was observed in South islands in August as well, which diminished by the start of September. Afterwards a gradual increase in rainfall is observed for the first two weeks of September. Despite high rainfall in Maldives in the past month the deficit of cumulative precipitation compared to past 8 years continues to increase. Even in islands in the South of Maldives where cumulative precipitation has been almost equal to the average, this deficit has become significant.

Sea Surface Temperatures and ENSO state: In the Pacific Ocean, the ENSO state is moving towards an El Nino state. Most models predict a transition in the coming months. The unusually warmer sea surfaces of the Central Western Indian Ocean are stronger than normal during El Nino periods. Past work has shown that these conditions lead to lower than average rainfall in Sri Lanka and Northern Maldives upto September. Thereafter the rainfall is likely to be higher than average for October to December.

PREDICTIONS

Weekly Rainfall Forecast: Dry conditions are expected for Maldives for the period of 19th -24th of September 2012.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for September 2012 to January 2013, there is a 40- 50% probability for precipitation to be above normal. Furthermore, there is 50% probability for Temperature to be above-normal.

Inside this Issue

[1] 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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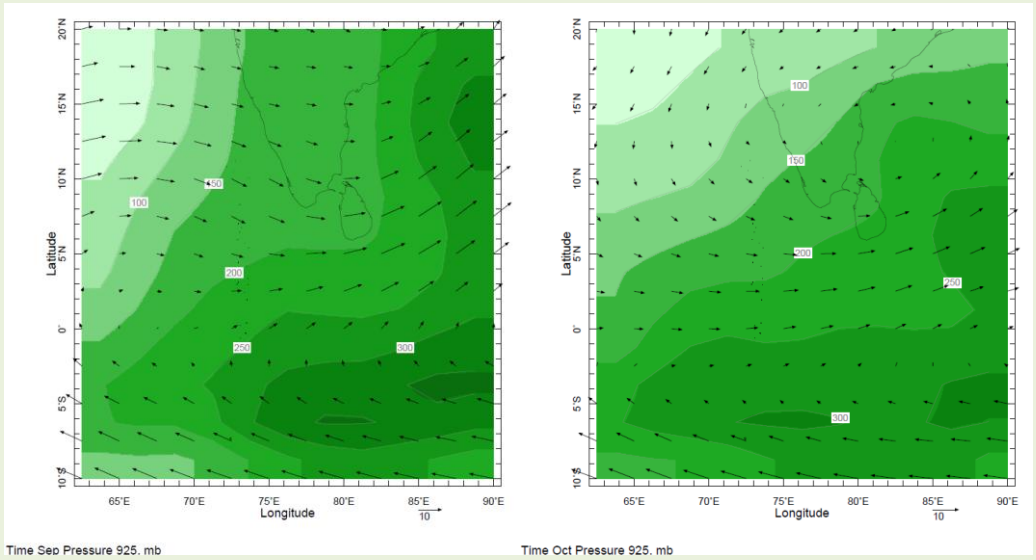
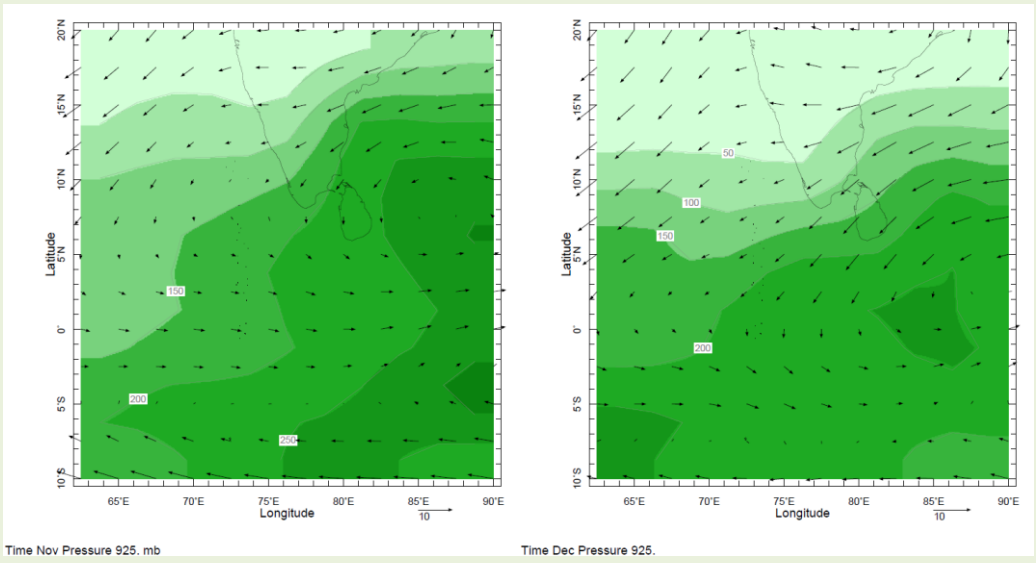
1). Monthly Climatology (CAMS-OPI):

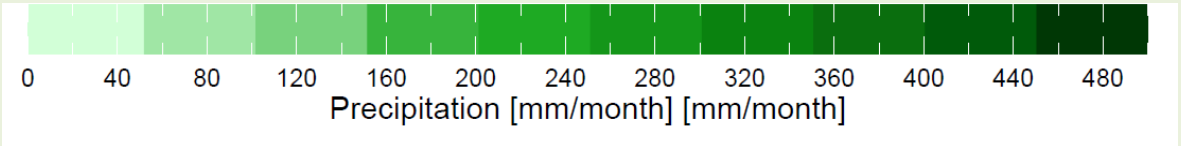
a) Rainfall**: Maps*: ***September, October, November, December (Left-Right)



September **October**



November **December**



Rainfall Climatology for Maldives Islands for September, October, November and December 2012. Islands on the Top, Middle and Bottom are roughly assumed as Northern, Central and Southern Respectively.

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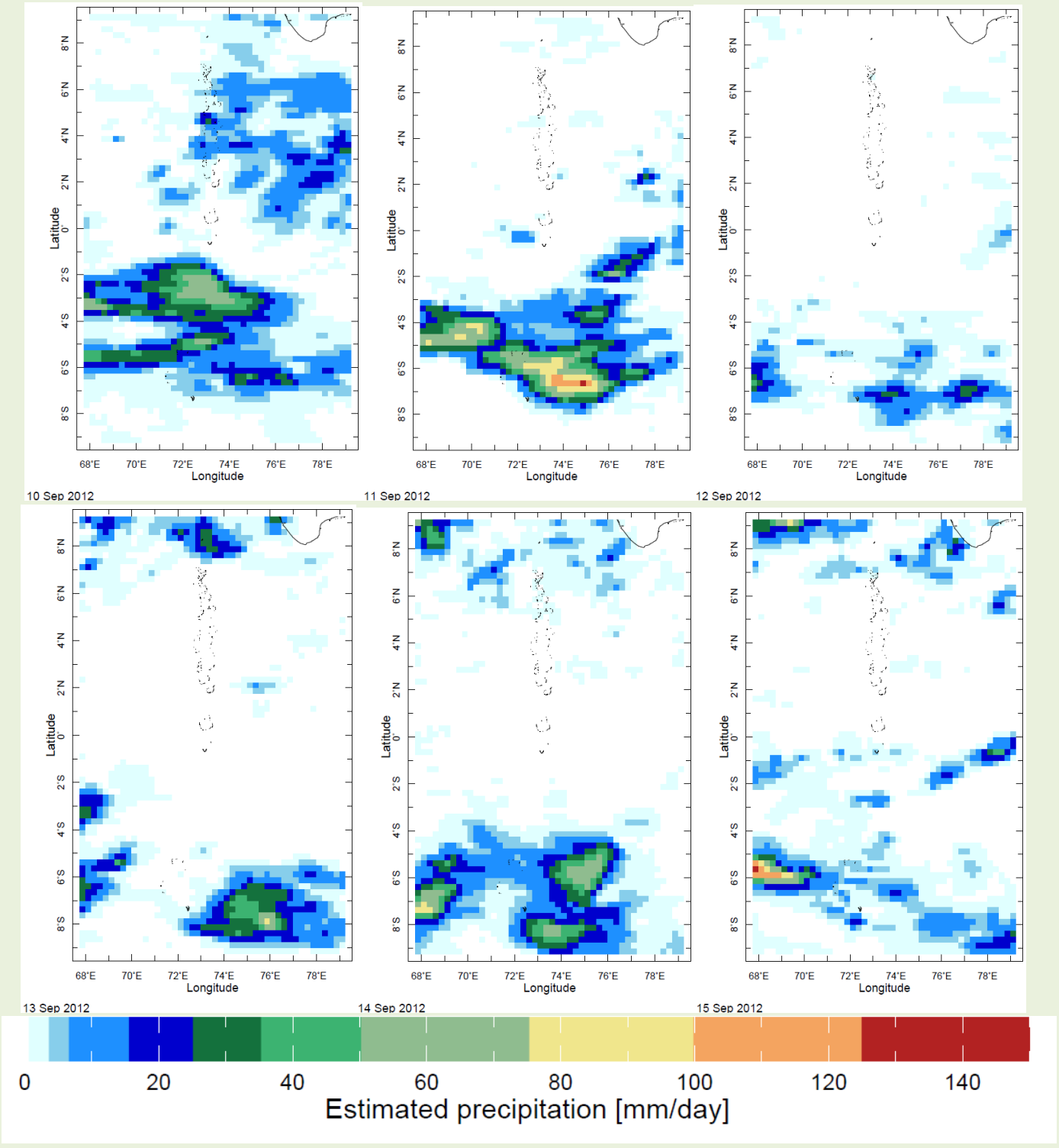
2) Rainfall Monitoring

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



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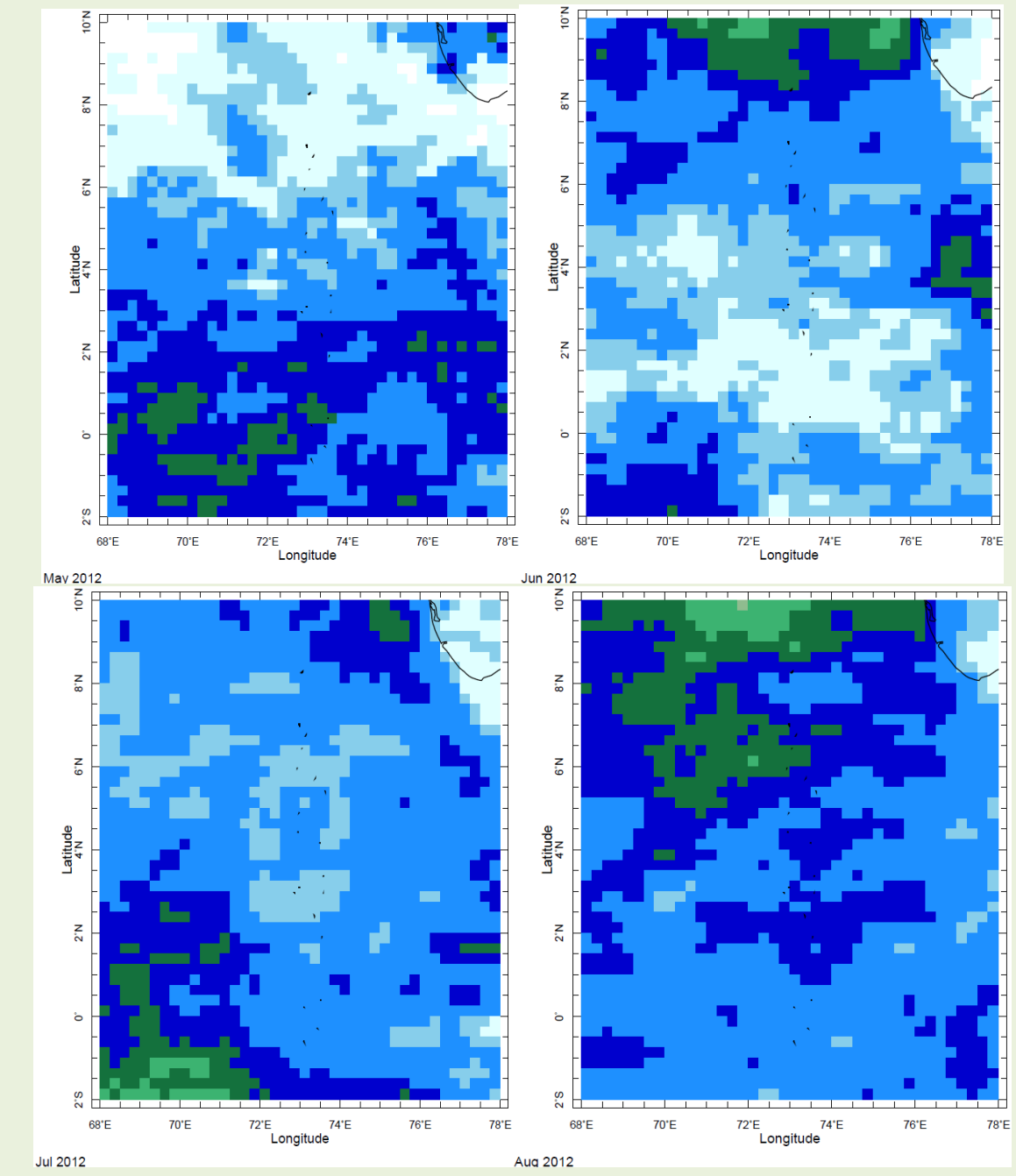
b) Monthly Rainfall* (May to August 2012), *Derived from Satellite Rainfall Estimates



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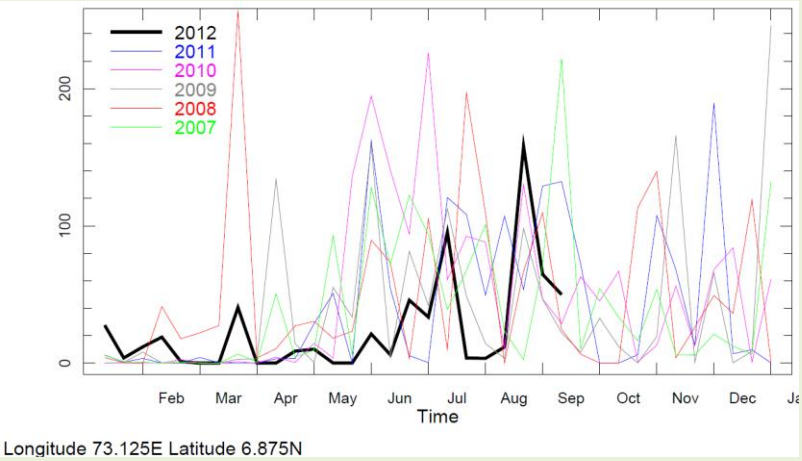
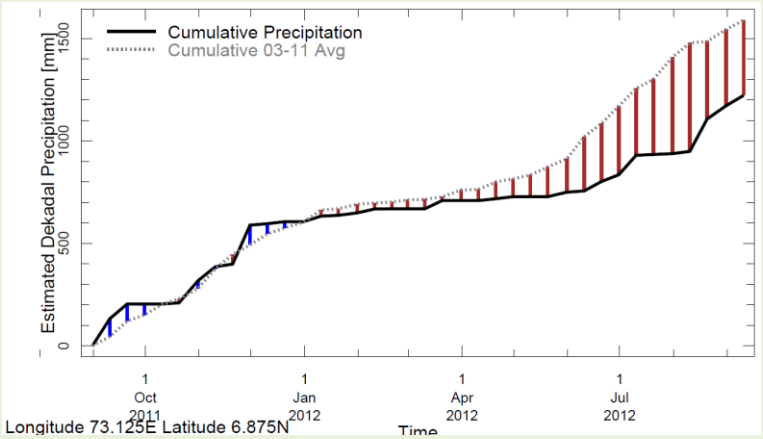
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

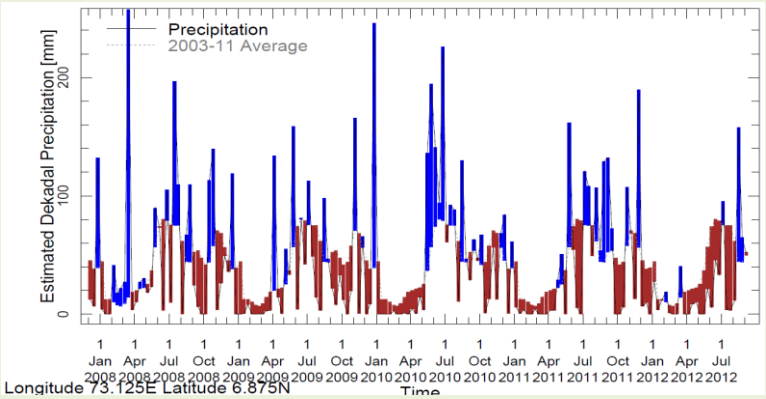
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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.



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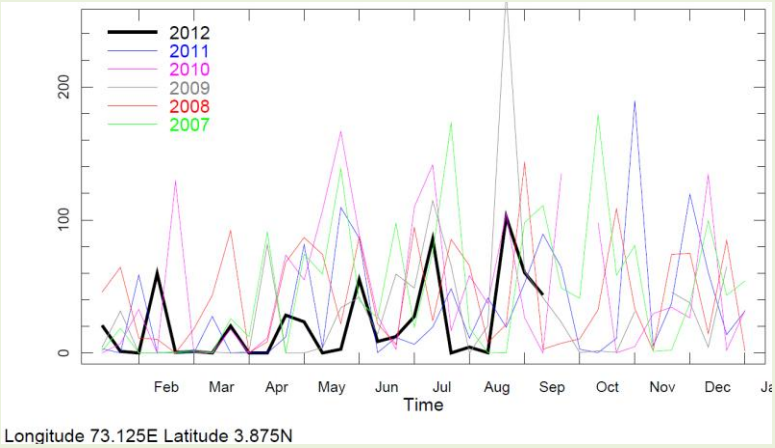
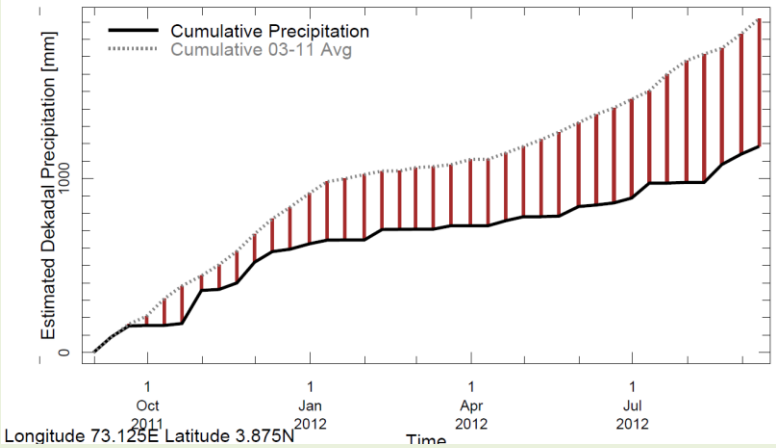
ii) For Central Maldives

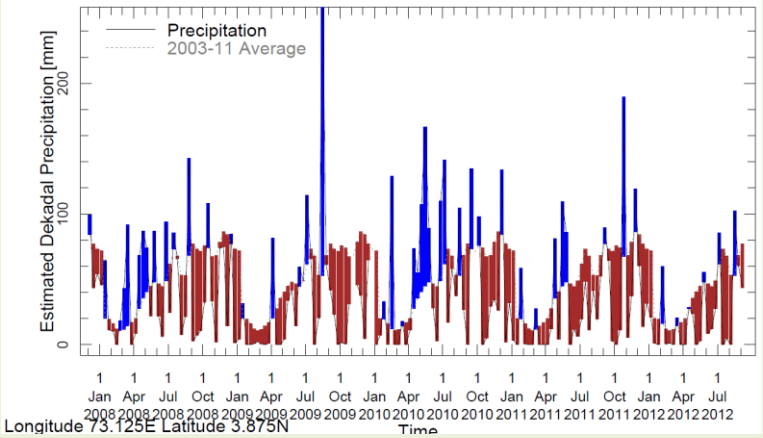
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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.



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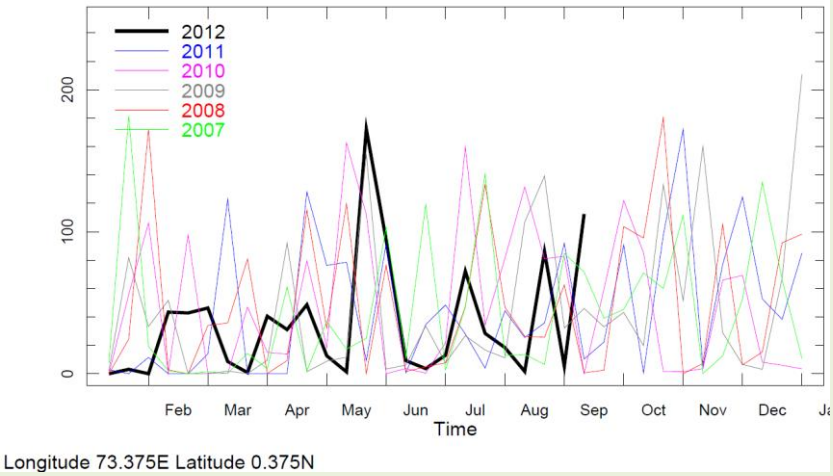
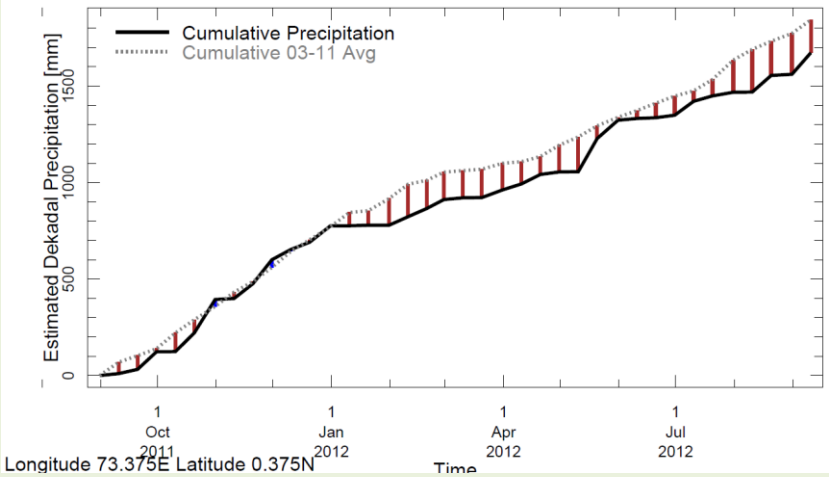
iii) For Southern Maldives

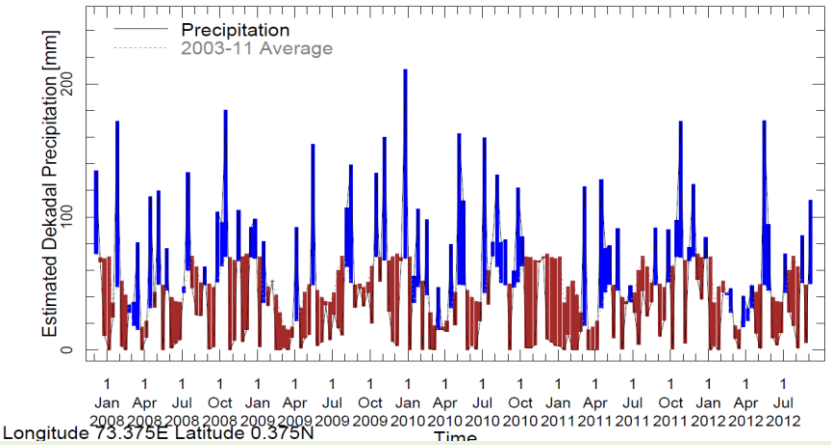
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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.



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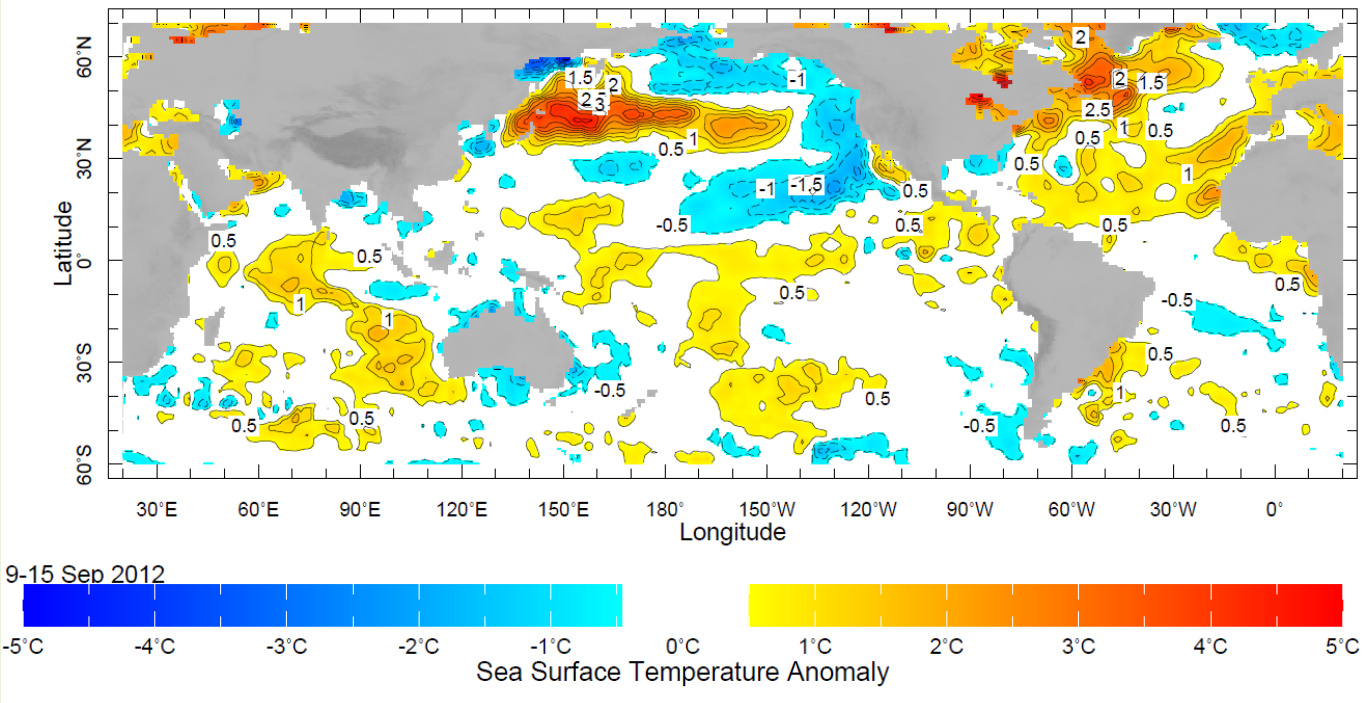
d) Weekly Average SST Anomalies (^{0}C), 9th -15th September, 2012

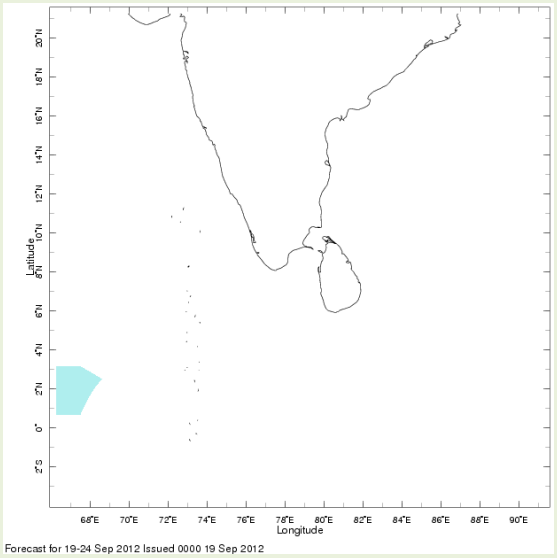


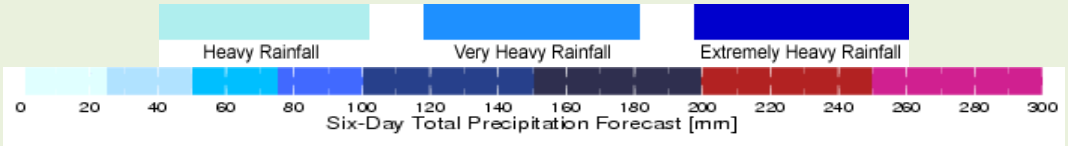
Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 19th -24th September, 2012: Issued 19th September, 2012





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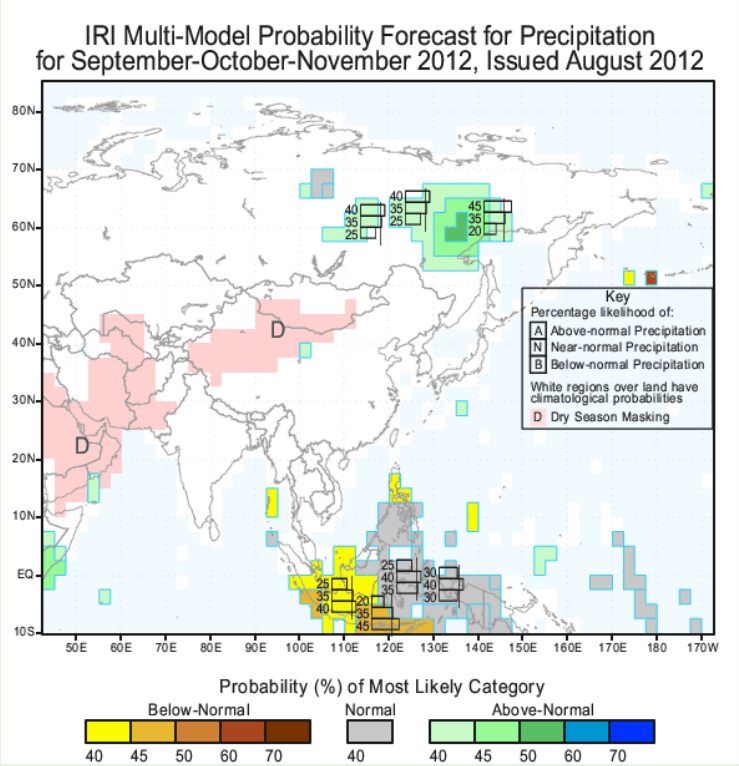
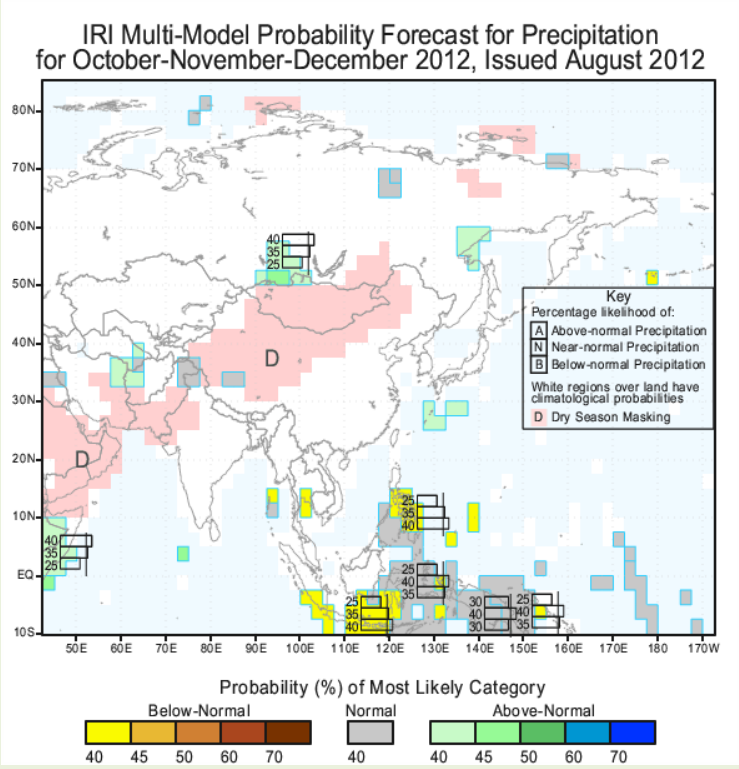
b) Seasonal Rainfall and Temperature Predictions from IRI





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b) Seasonal Climate Predictions (IRI) continued