

## Experimental Climate Monitoring and Prediction for the Maldives

–July 2014

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

14 July 2014

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### PACIFIC SEAS STATE

**July 9, 2014**

During June through early-July the observed ENSO conditions remained near the borderline of a weak El Niño condition in the ocean, but the atmosphere so far has shown little involvement. Most of the ENSO prediction models indicate more warming coming in the months ahead, leading to sustained El Niño conditions by the middle of northern summer.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

**July 5, 2014**

Warmer than average SST conditions are observed around Maldives particularly away from the Southern tip. Overall there is a warming tendency in the Central Indian Ocean.

### Highlights<sup>2</sup>

Lower than average rainfall conditions were observed in entire Maldives in the month of June. The cumulative deficit of rainfall over the last 12 months has increased to an amount around 700 mm in Northern and Central islands. Southern islands continues to show a much smaller rainfall deficit over the last year. The temperatures are predicted to be warmer than expected in the next three months and the rainfall below normal in the Southern islands.

### Summary<sup>2</sup>

#### CLIMATOLOGY

**Monthly Climatology:** During July and August Northernmost as well as Southern islands receive rainfall up to 200 mm while other regions of Maldives receive rainfall up to 150 mm. During September and October Northern islands receive rainfall up to 100 mm and the rainfall increases towards Southern islands of the country which receive up to 250 mm of rainfall.

#### MONITORING

**Weekly Monitoring:** During 7<sup>th</sup> of July to 12<sup>th</sup> of July rainfall was only observed on the 8<sup>th</sup> and 9<sup>th</sup>. On the 8<sup>th</sup> Northern and Central islands received rainfall up to 30 mm and on the 9<sup>th</sup> the entire country received rainfall up to 60 mm. except these two days, no rainfall was observed during this 6 day period anywhere in Maldives.

**Monthly and Seasonal Monitoring:** Less than average rainfall was observed during June in the entire Maldives. As a result the deficit in rainfall compared to the average of 8 previous years has increased significantly. In Northern and Central islands this deficit has grown to around 700 mm. The Southern islands too continue to show a rainfall deficit.

#### PREDICTIONS

**Weekly Rainfall Forecast:** Heavy rainfall events are not expected during 13<sup>th</sup>- 18<sup>th</sup> July 2014.

**Seasonal Rainfall and Temperature Prediction:** As per IRI Multi Model Probability Forecast for July to September 2014, rainfall shall tend towards near-climatological for Northern and Central Maldives and tend towards below climatology for Southern Maldives while the seasonal temperature this season shall tend towards the above normal tercile across the Maldives.

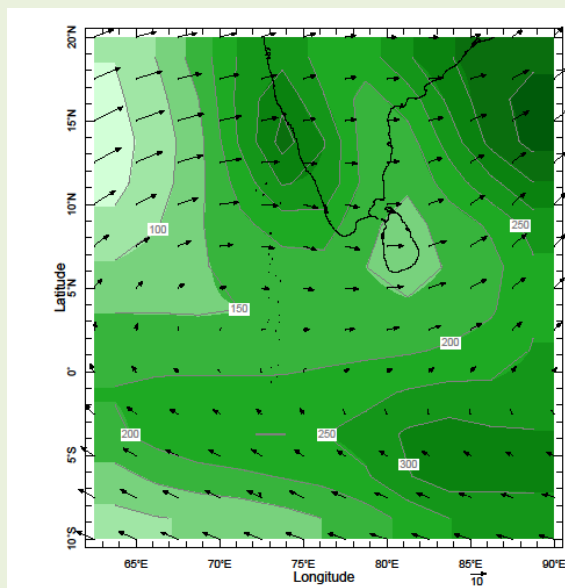
### Inside this Issue

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  - a. Weekly Predictions from NOAA/NCEP
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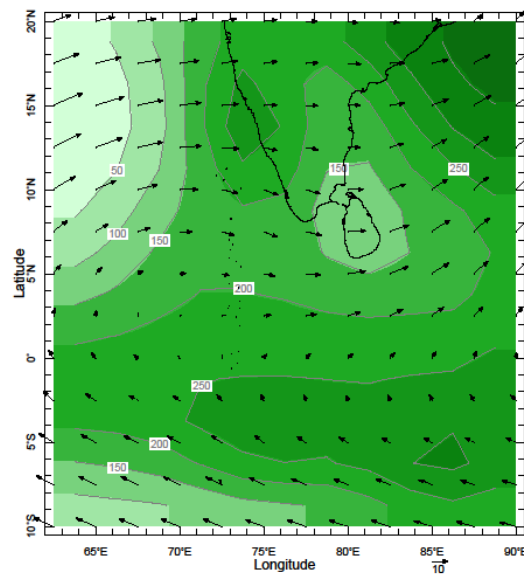
<sup>1</sup> International Research Institute for Climate and Society.

## 1). Monthly Climatology (CAM5-OPI):

### a) Rainfall: Maps: July, August, September and October



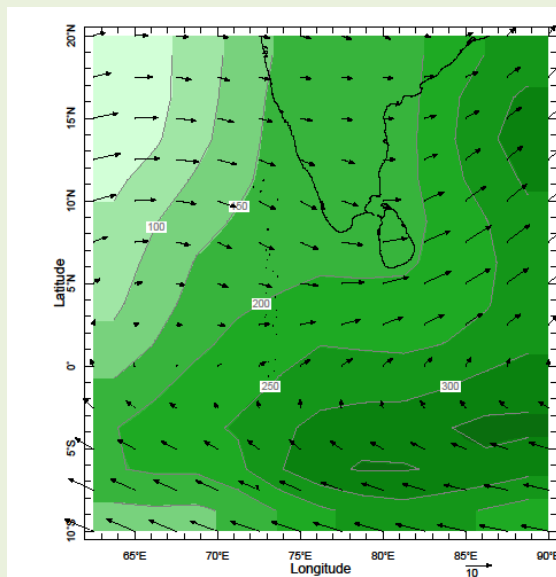
Time Jul Pressure 925.0 mb



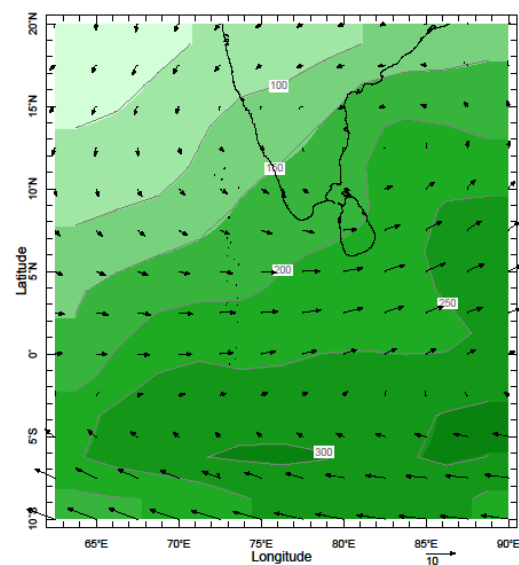
Time Aug Pressure 925.0 mb

July

August



Time Sep Pressure 925.0 mb



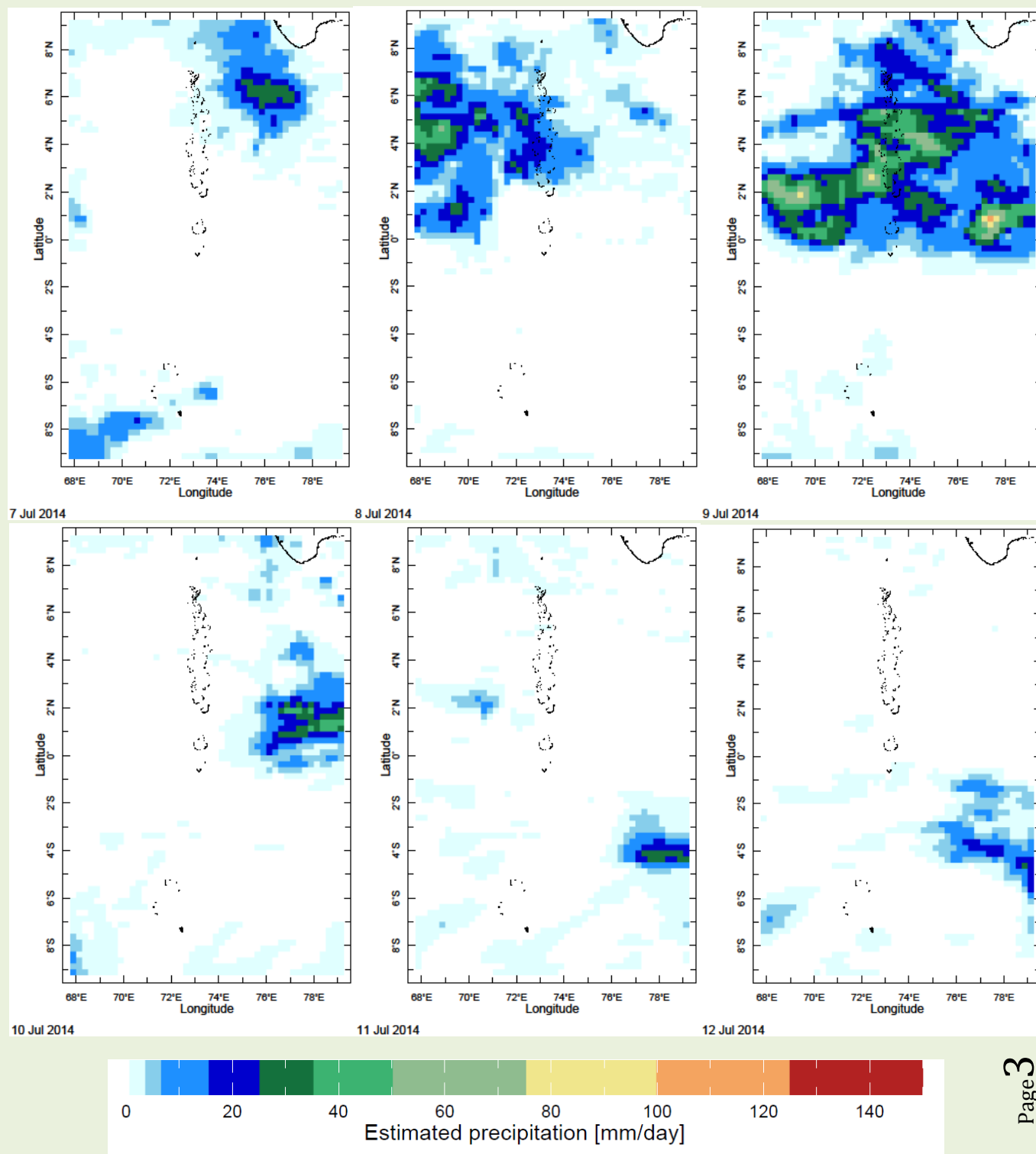
Time Oct Pressure 925.0 mb

September

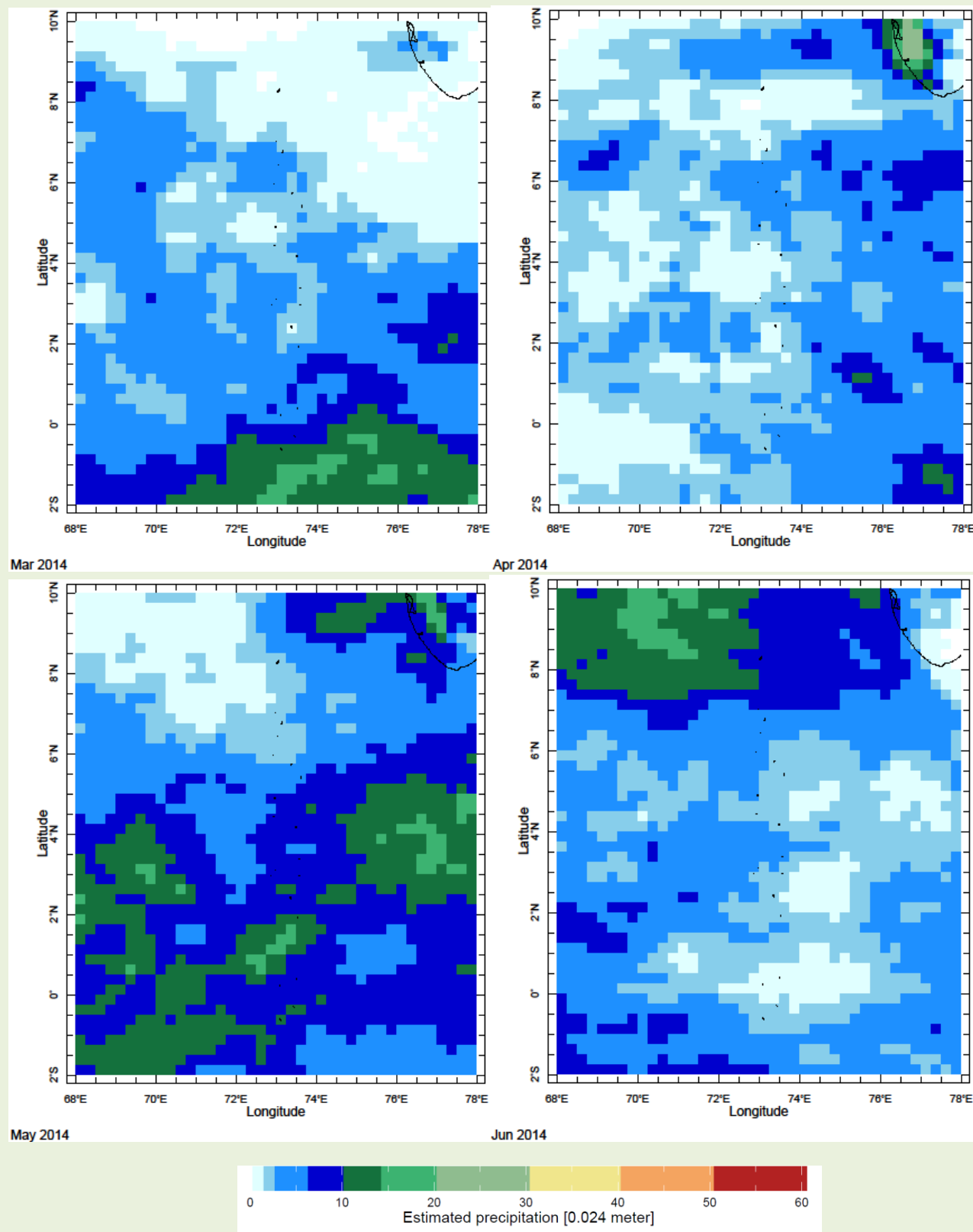
October

## 2) Rainfall Monitoring

### a) Daily Satellite Derived Rainfall Estimate Maps: 7<sup>th</sup> – 12<sup>th</sup> July, 2014 (Left-Right, Top-Bottom)



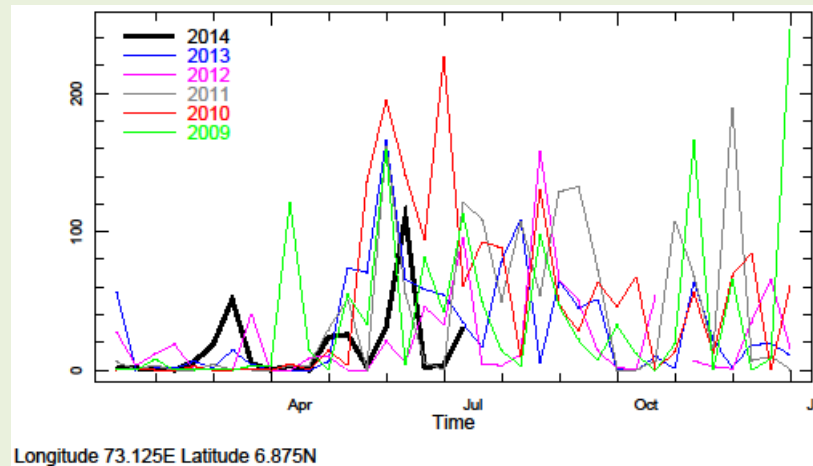
**b) Monthly Rainfall (March- June 2014), Derived from Satellite Rainfall Estimates**



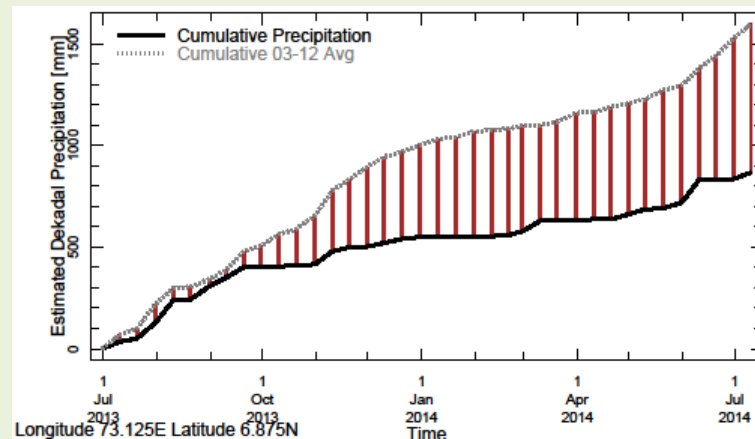
## c) Seasonal to Annual Rainfall Monitoring

### i) For Northern Maldives

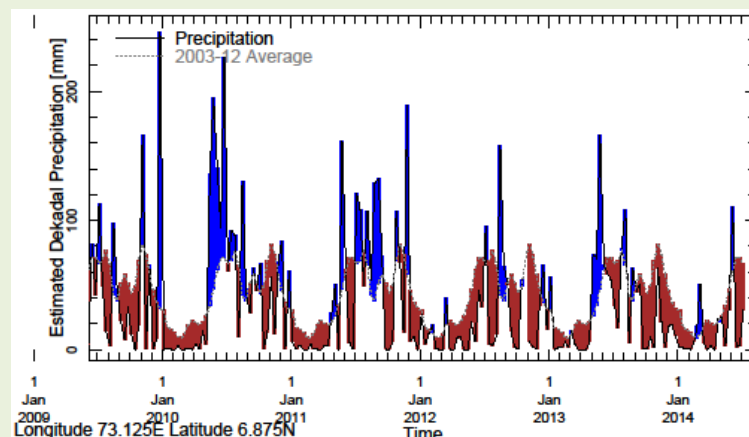
#### 1) Rainfall in 2014 (black) compared to rainfall in previous 5 years



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

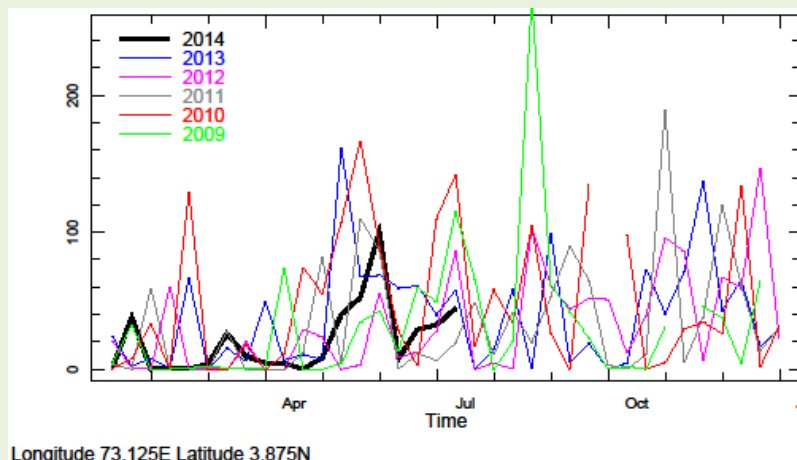


#### 3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

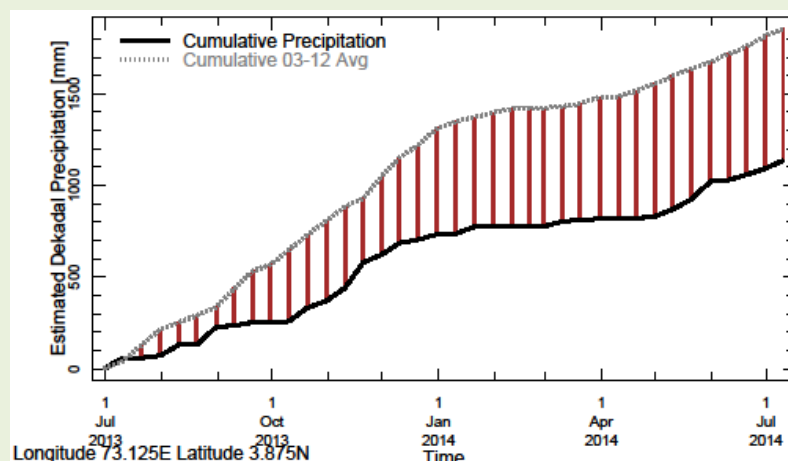


## ii) For Central Maldives

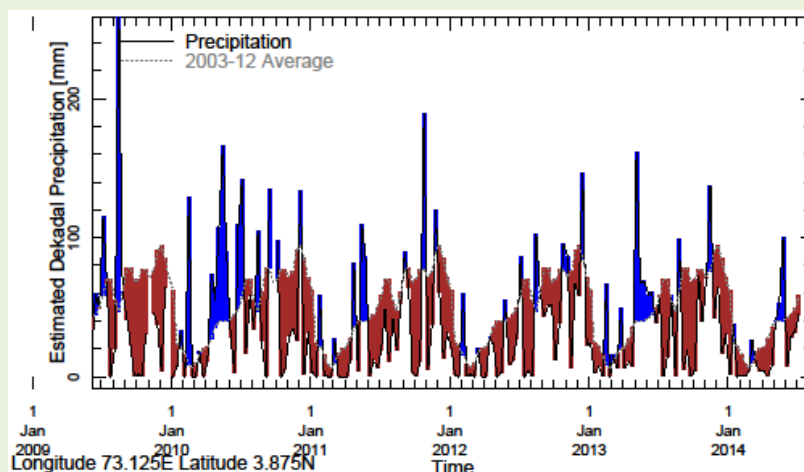
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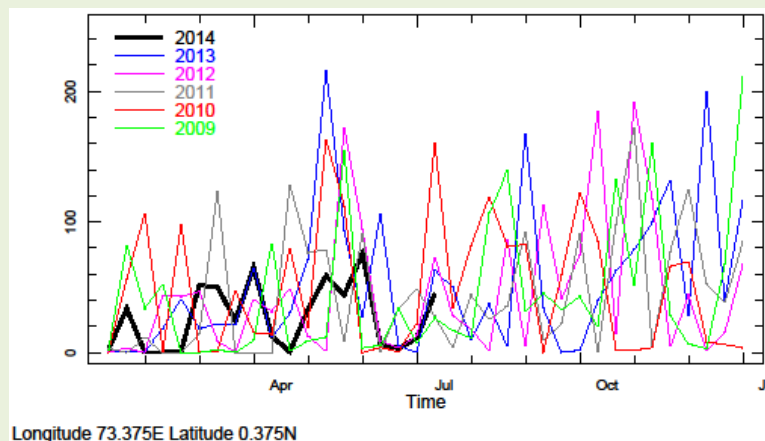


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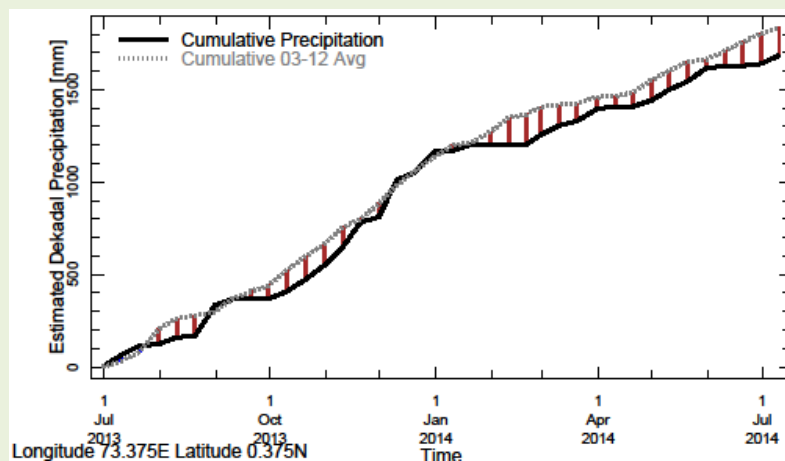


## iii) For Southern Maldives

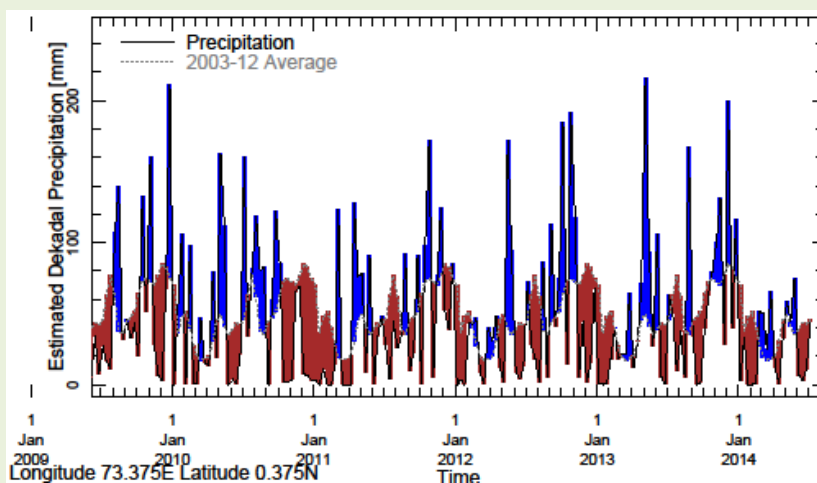
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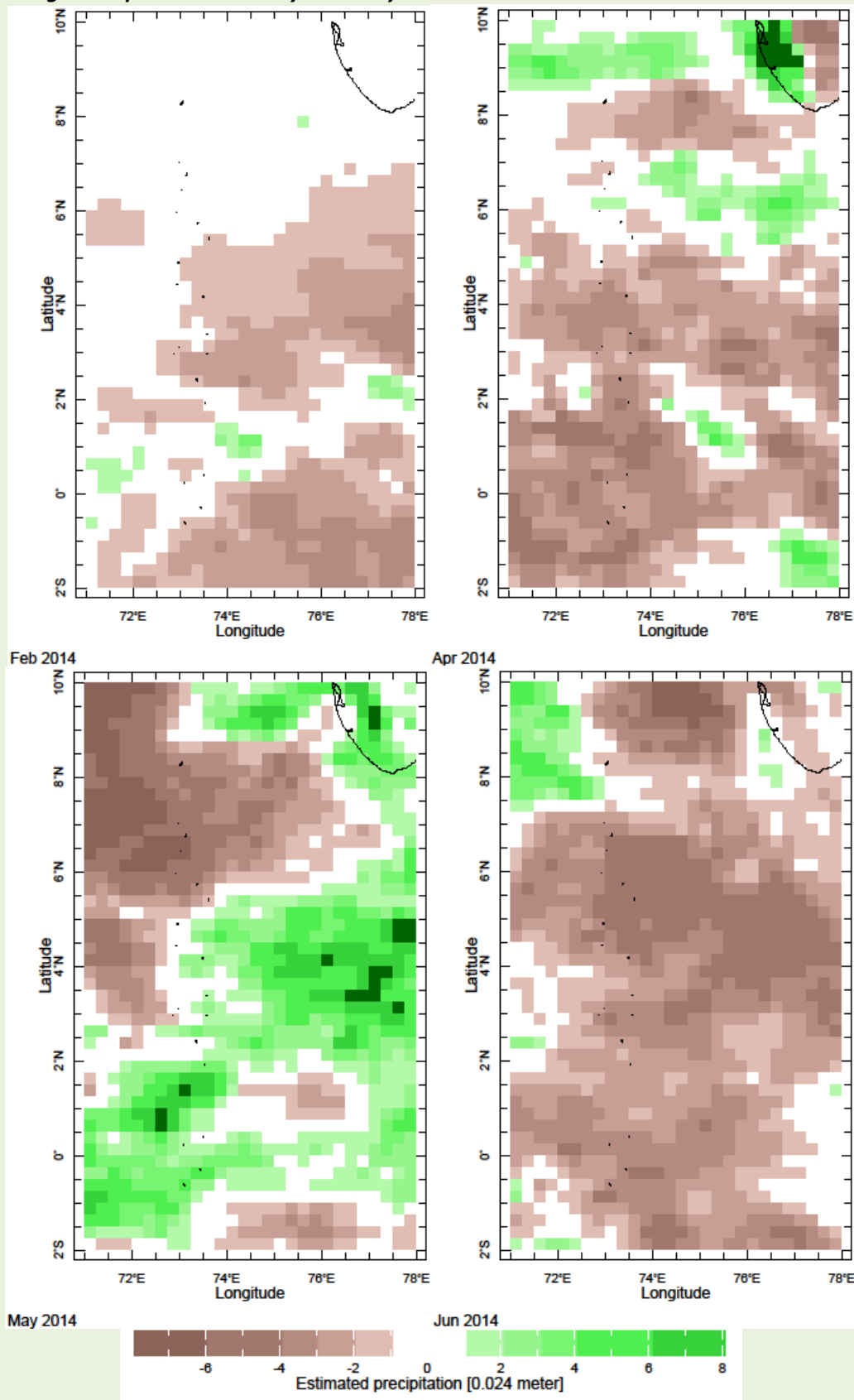
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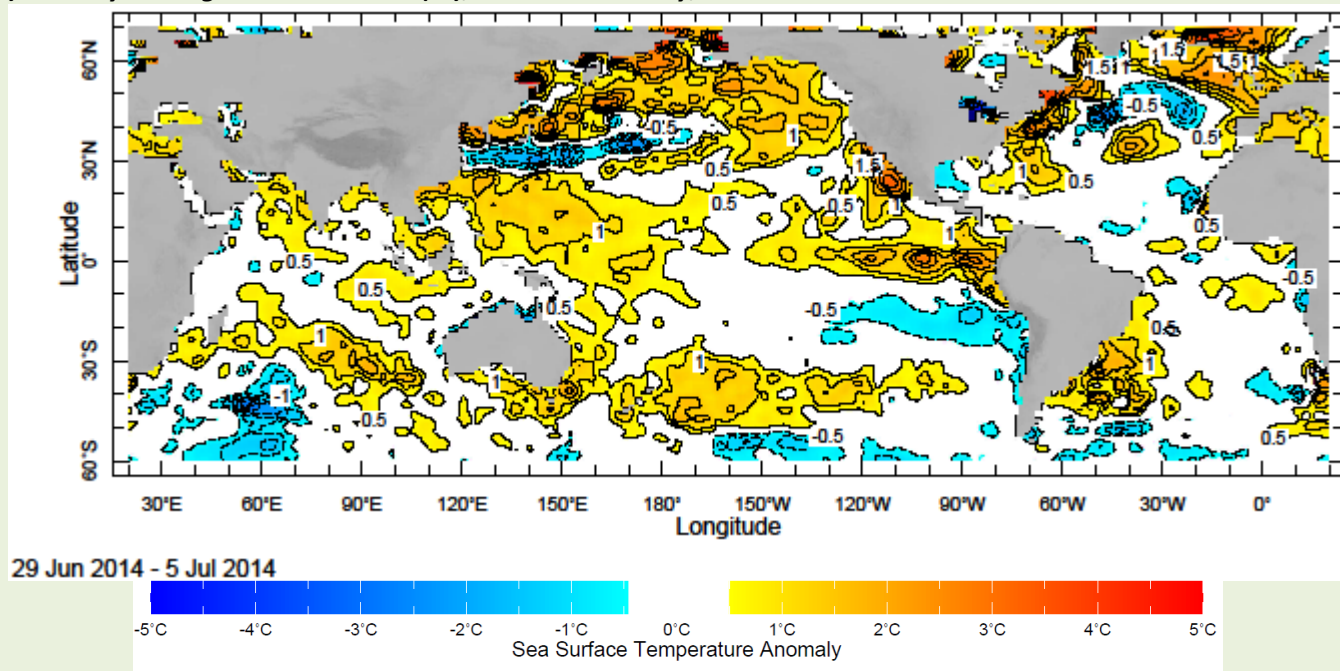


## d) Monthly Average Precipitation Anomaly-February- June 2014





**e) Weekly Average SST Anomalies ( $^{\circ}\text{C}$ ), 29<sup>th</sup> June – 5<sup>th</sup> July, 2014**

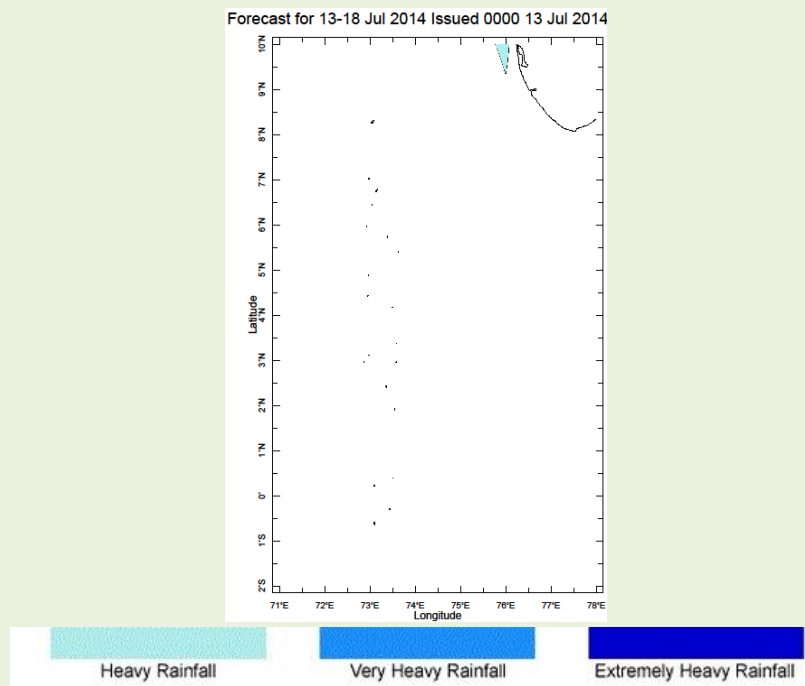


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

### 3). Predictions

**a) Weekly Precipitation Forecast for 13<sup>th</sup> – 18<sup>th</sup> July, 2014: Issued 13<sup>th</sup> July, 2014**



## b) Seasonal Rainfall and Temperature Predictions from IRI

