

Experimental Climate Monitoring and Prediction for the Maldives

–June 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

17 June 2014

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PACIFIC SEAS STATE

June 5, 2014

During May through mid-June 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 hemisphere summer...
(Text Courtesy IRI)

INDIAN OCEAN STATE

June 14, 2014

Neutral SST conditions are observed around Maldives except in the South. The Southern tropical Indian Ocean has a warm anomaly of greater than 0.5°C from the seasonal average.

Highlights²

Above average rainfall was observed during the month of May in Central to Southern islands in Maldives. This rainfall condition diminished during the first two weeks of June. The drought in the Northern Islands persisted during the last month. The entire country shows a rainfall deficit during this year compared to what was observed during past eight years. There is a 60% probability of El Niño conditions emerging starting from the Pacific Ocean in the next months. If it emerges then, greater tendency to drier than average is expected in the Northern and Central Islands until September. Models however are suggesting that rainfall from July to August shall be climatological while temperature shall be biased to warmer conditions in the Southern Islands and cooler than average in the Northern islands.

Summary²

CLIMATOLOGY

Monthly Climatology: During June to September, Northern islands in Maldives receive more rainfall than the islands in the south. Northern islands receive rainfall up to 250 mm while southern islands receive rainfall up to 150 mm. Wind is Westerly during this four month period.

MONITORING

Weekly Monitoring: During 9th to 11th June 2014 rainfall was observed in Northern islands of the country. Thereafter on the 12th and 13th no rainfall was observed in the entire country but on the 13th very high rainfall (140 mm+) was observed in the sea towards south west of the country. By the 14th this high rainfall condition progressed towards the north resulting very high rainfall in sea west of the country and rainfall up to 20 mm in Southern and Central islands of The Maldives.

Monthly and Seasonal Monitoring: Relatively higher rainfall compared to previous 3 months was observed during May in Maldives particularly in Central to Southern islands. These islands received much higher rainfall, which is above than the average, during this month. During the first two weeks of June, the rainfall receded in the entire country.

PREDICTIONS

Weekly Rainfall Forecast: Heavy rainfall events are not expected during 19th- 24th June 2014.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for April to June 2014, rainfall shall remain climatological while temperature this season shall have a 40- 45% probability of being in the above normal tercile in the Southern Islands and climatological in the Central Islands.

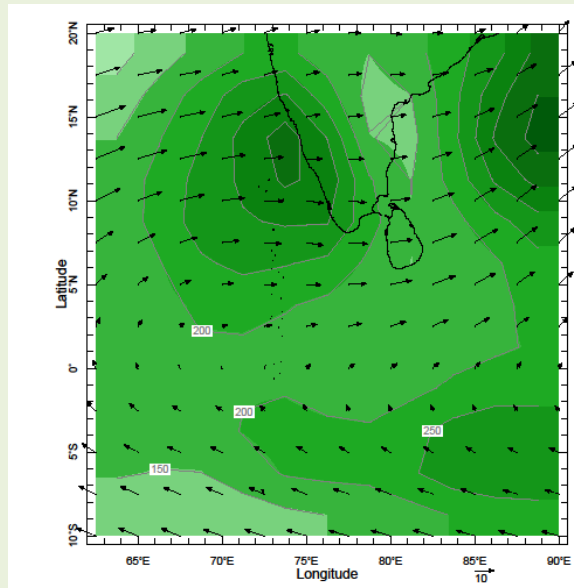
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 - d. Weekly Average SST Anomalies
3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

¹ International Research Institute for Climate and Society.

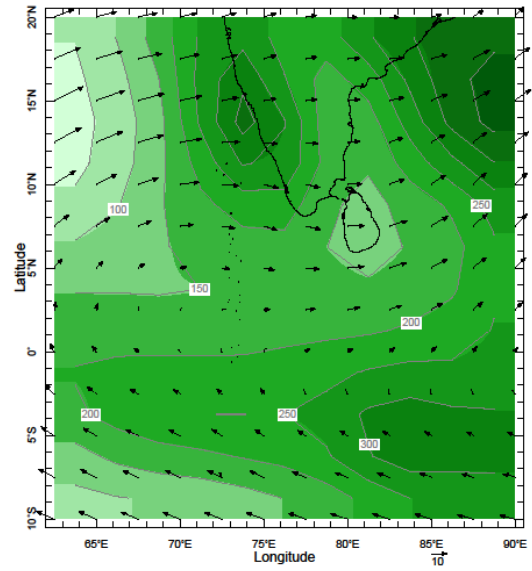
1). Monthly Climatology (CAM5-OPI):

a) Rainfall: Maps: June, July, August and September



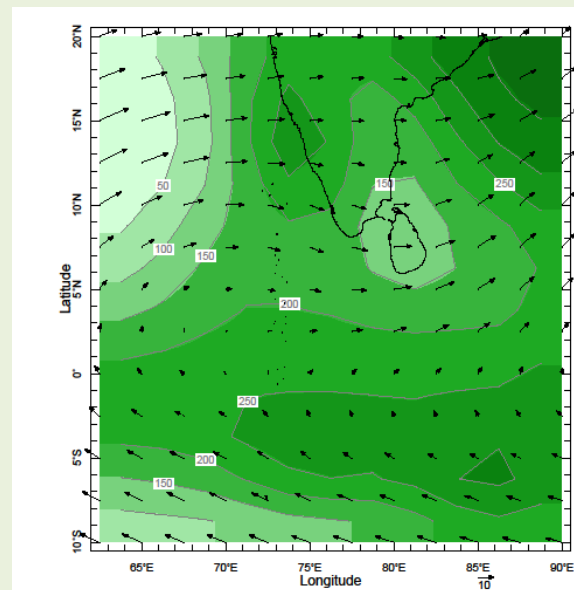
Time Jun Pressure 925.0 mb

June



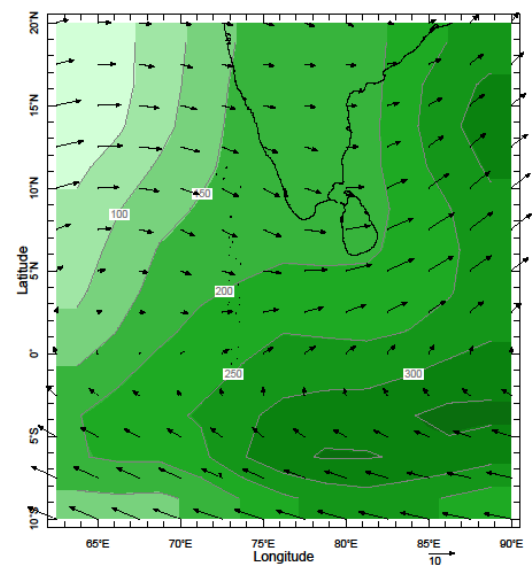
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July



Time Aug Pressure 925.0 mb

August

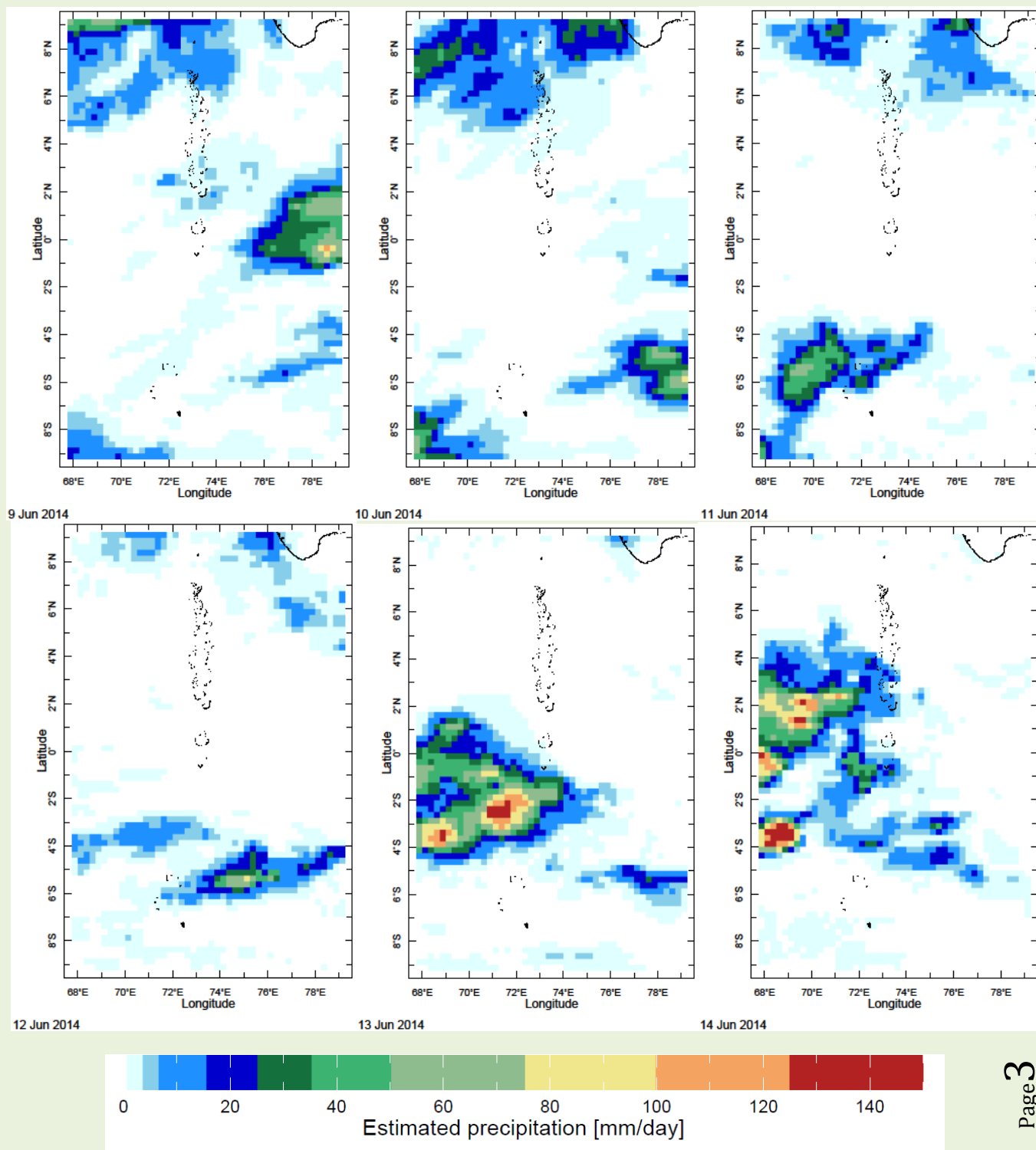


Time Sep Pressure 925.0 mb

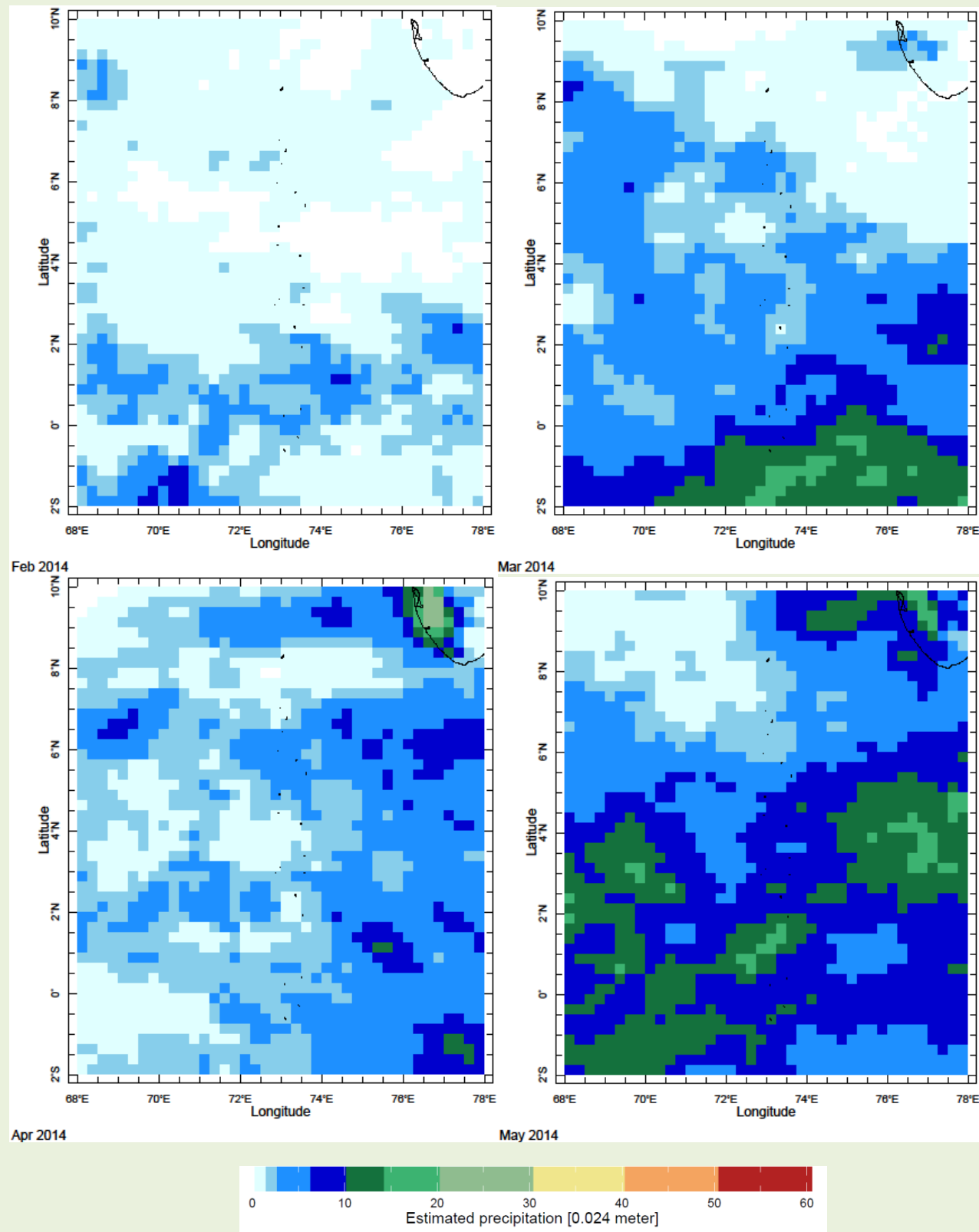
September

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 9th – 14th June, 2014 (Left-Right, Top-Bottom)



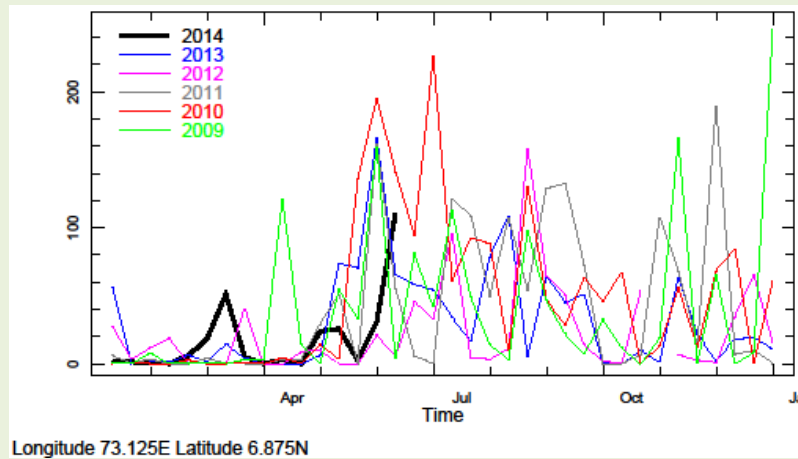
b) Monthly Rainfall (February- May 2014), Derived from Satellite Rainfall Estimates



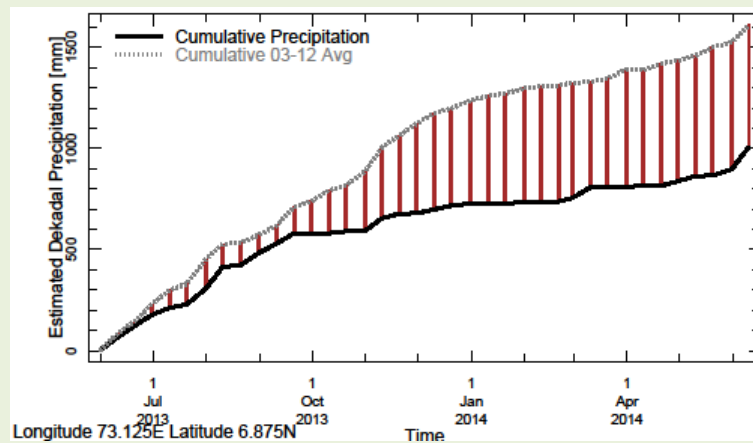
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

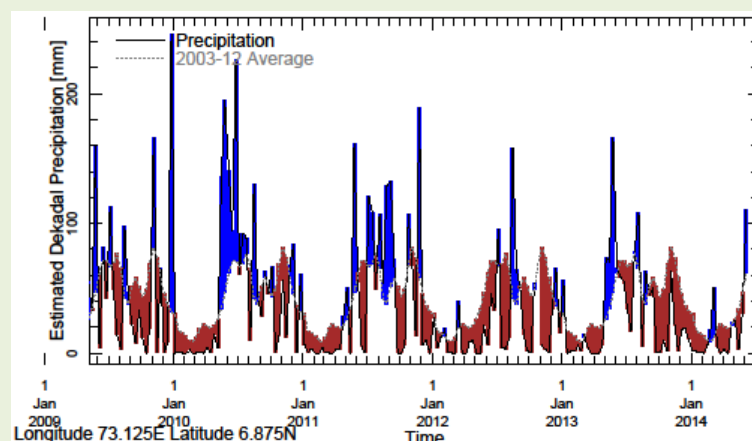
1) Rainfall in 2014 (black) compared to rainfall in previous 5 years



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

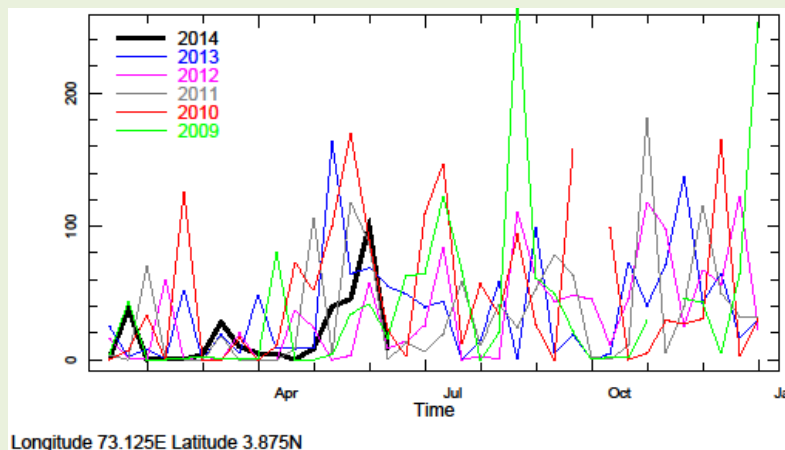


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

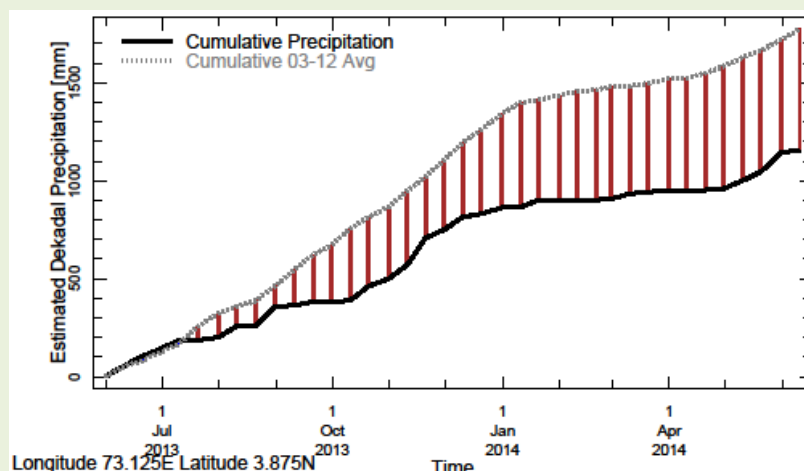


ii) For Central Maldives

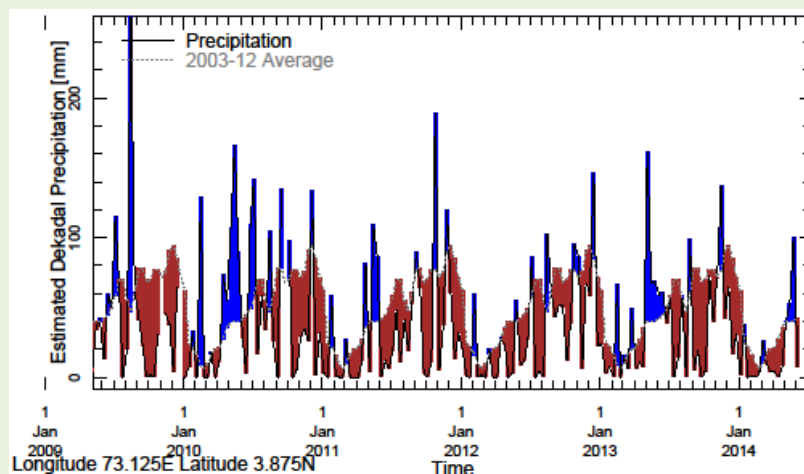
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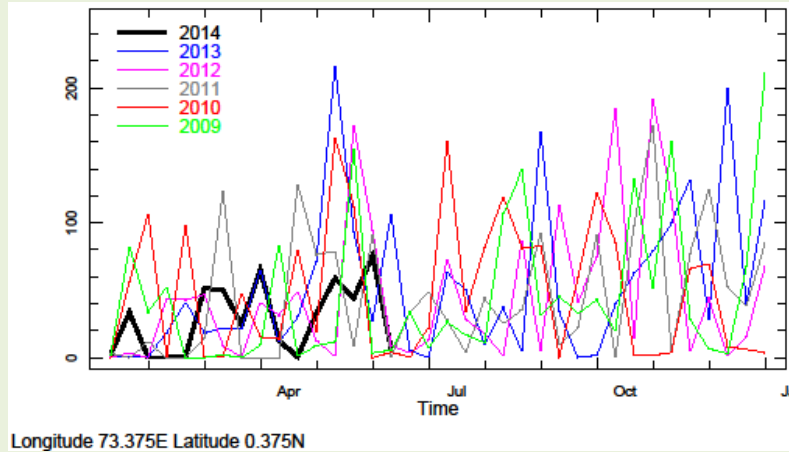


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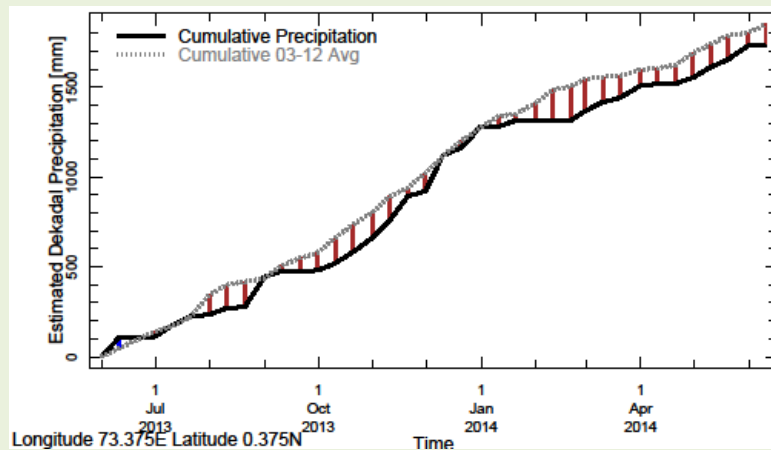


iii) For Southern Maldives

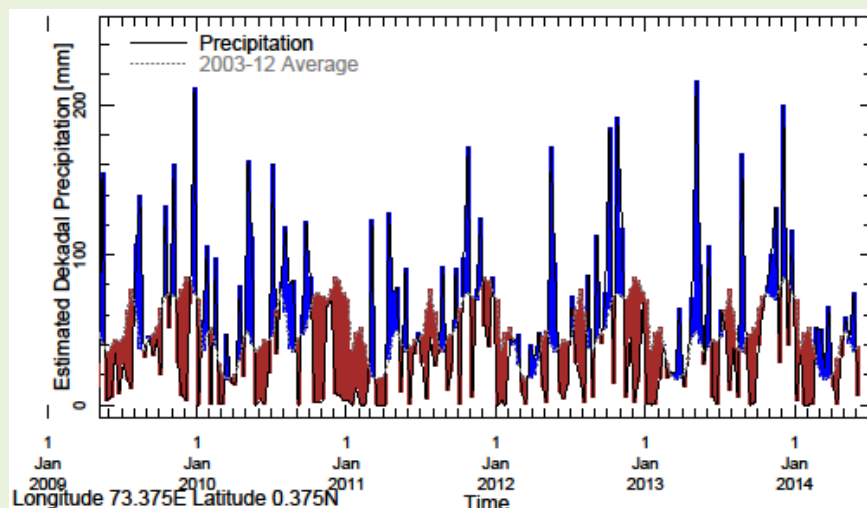
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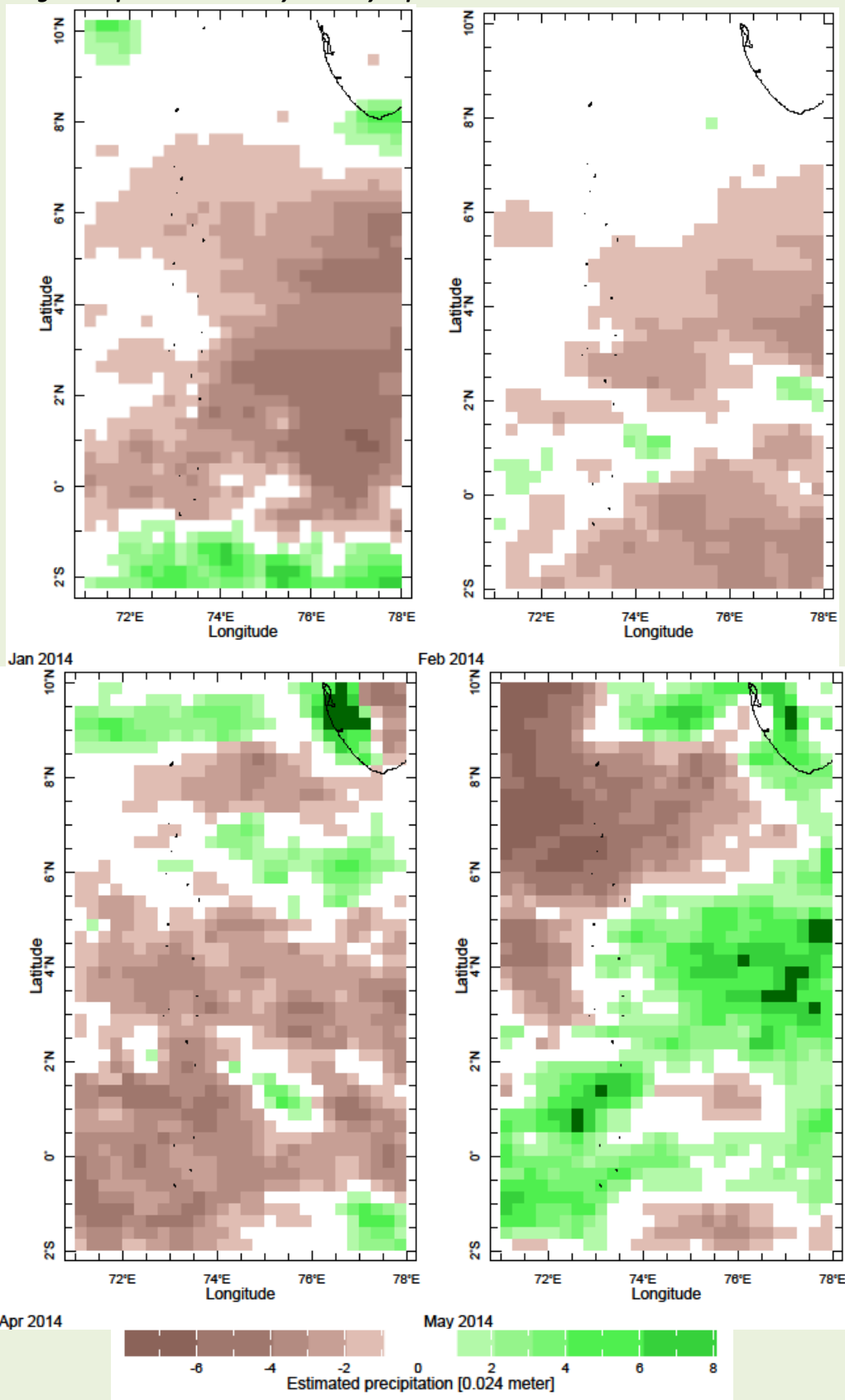
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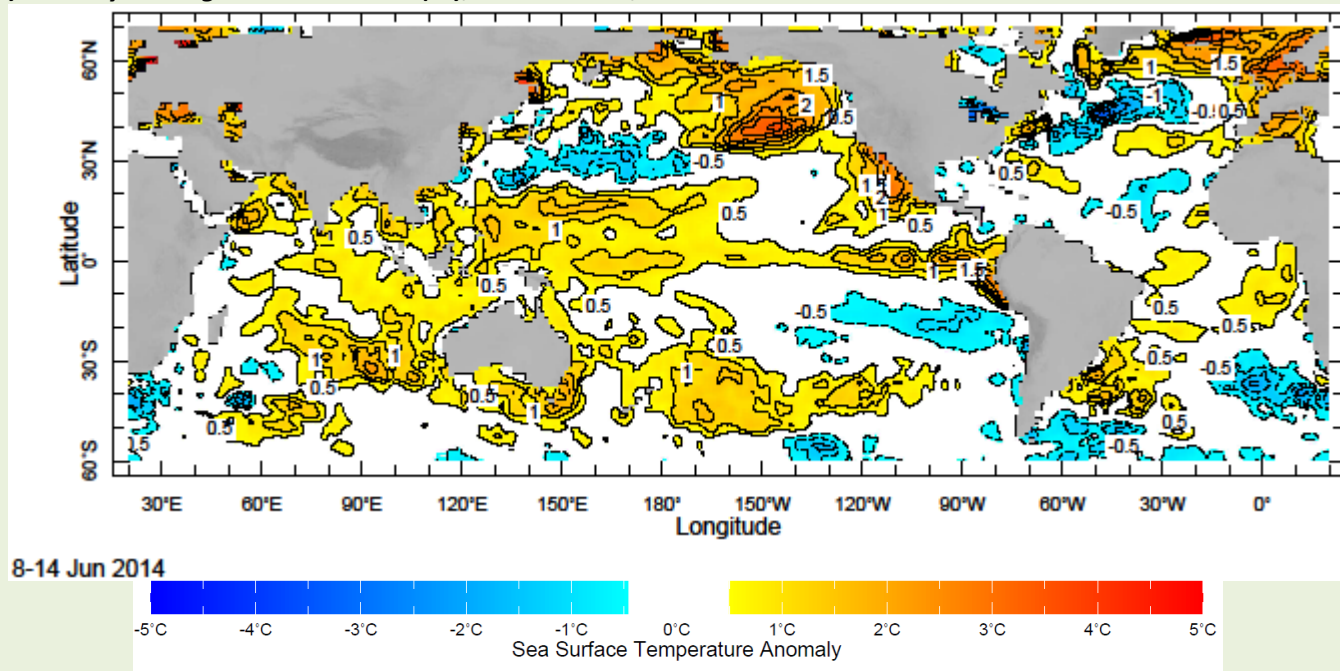
3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



d) Monthly Average Precipitation Anomaly-January- April 2014



e) Weekly Average SST Anomalies ($^{\circ}\text{C}$), 8th - 14th June, 2014

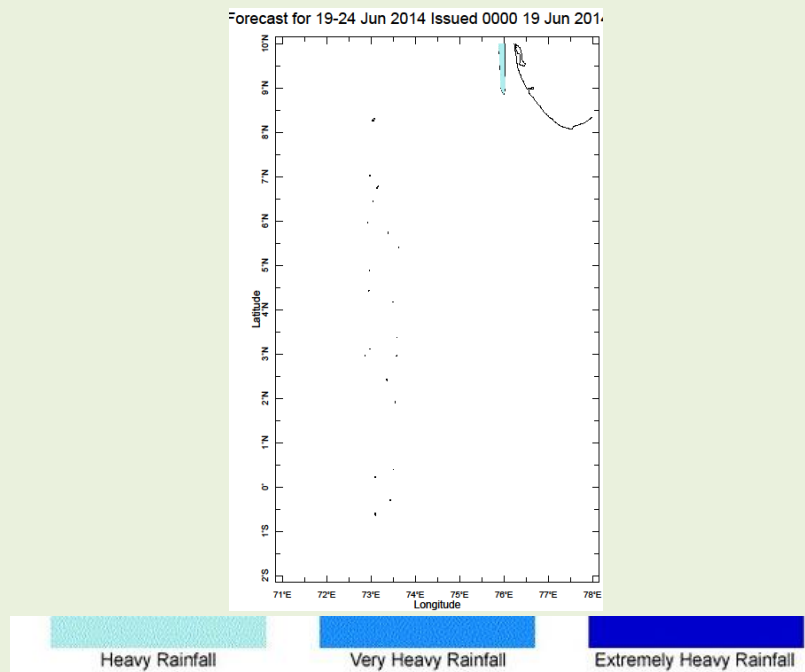


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 19th – 24th June, 2014: Issued 19th June, 2014



b) Seasonal Rainfall and Temperature Predictions from IRI

