

Experimental Climate Monitoring and Prediction for the Maldives

–August 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

19 August 2014

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PACIFIC SEAS STATE

August 7, 2014

During June through 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 or late portion of northern summer. (Text Courtesy IRI)

INDIAN OCEAN STATE

Aug 17, 2014

More than 1⁰ C above average sea surface temperature was observed around Maldives.

Highlights²

Dry conditions persisted during the July in the entirety of Maldives. Lower rainfall than the previous month was observed across the country. But during the next week NOAA predicts heavy rainfall in Maldives and this prediction has been made with a high confidence. Sustained El Nino conditions are expected towards the end of this year. The sea surface temperature around the country has also risen to more than 1⁰ C.

Summary²

CLIMATOLOGY

Monthly Climatology: During 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. Rainfall in the southern islands shall decrease down to 200 mm in November.

MONITORING

Weekly Monitoring: High rainfall (up to 40 mm) rainfall was observed in Northern islands of Maldives on the 11th and 12th of August. Then on the 13th only light rainfall was observed in central islands. During these 3 days Very heavy rainfall was observed in the sea south of Maldives. Only very little precipitation was observed on the 14th throughout the country. Both 15th and 16th were dry days.

Monthly and Seasonal Monitoring: Less rainfall compared to previous months were observed in entire Maldives during July. This observed amount is less than the historical average during this month. The cumulative deficits in the Northern and Central Maldives show that the rainfall has been 30% below what would be normal over the past 365 days.

PREDICTIONS

Weekly Rainfall Forecast: Extremely heavy rainfall is expected in Central Maldives south of Male and nearby sea during 18th- 23rd August. The rest of the Maldives too shall receive high rainfall in that period.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for August to October 2014, rainfall shall tend towards near-climatological across Maldives while the seasonal temperature this season shall tend towards the above normal tercile across the Maldives with a 70% probability.

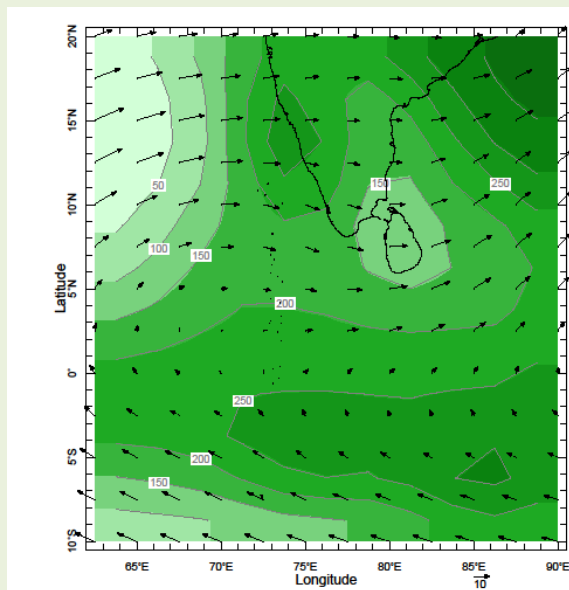
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3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

¹ International Research Institute for Climate and Society.

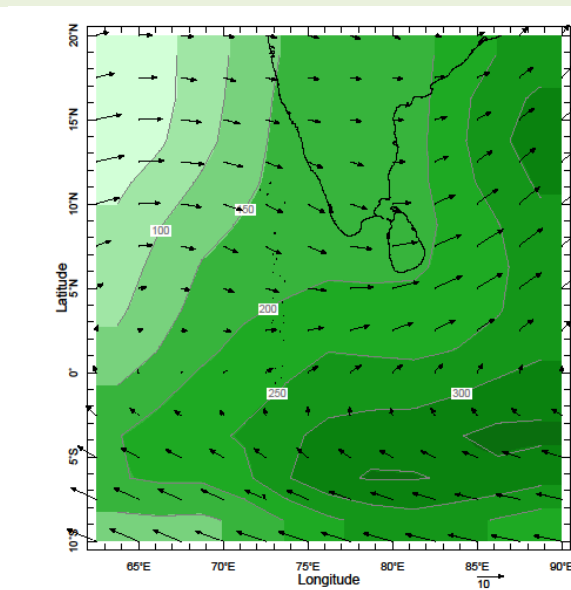
1). Monthly Climatology (CAM5-OPI):

a) Rainfall: Maps: August, September, October and November



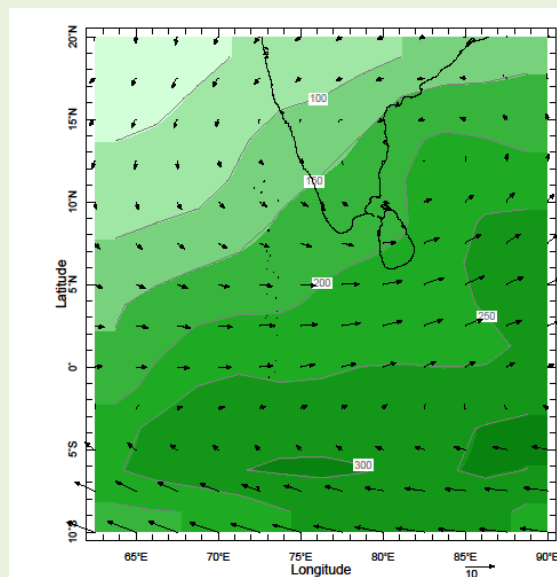
Time Aug Pressure 925.0 mb

August



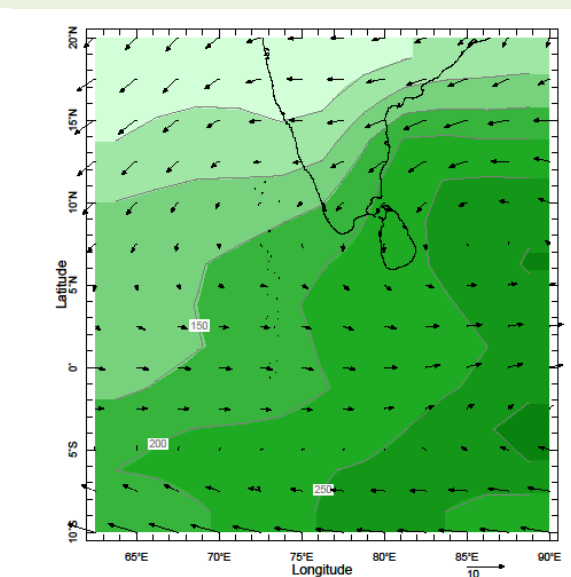
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September



Time Oct Pressure 925.0 mb

October

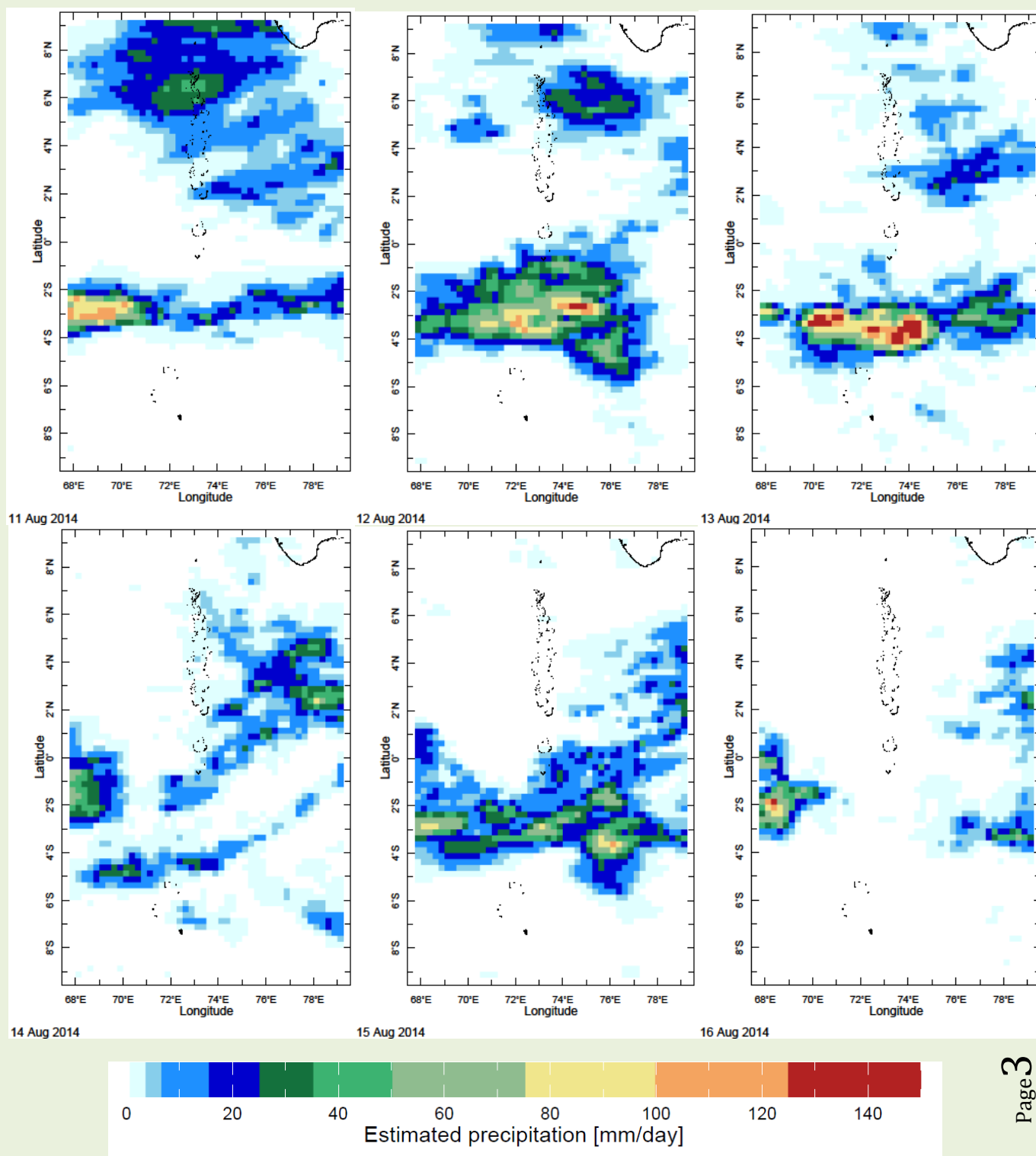


Time Nov Pressure 925.0 mb

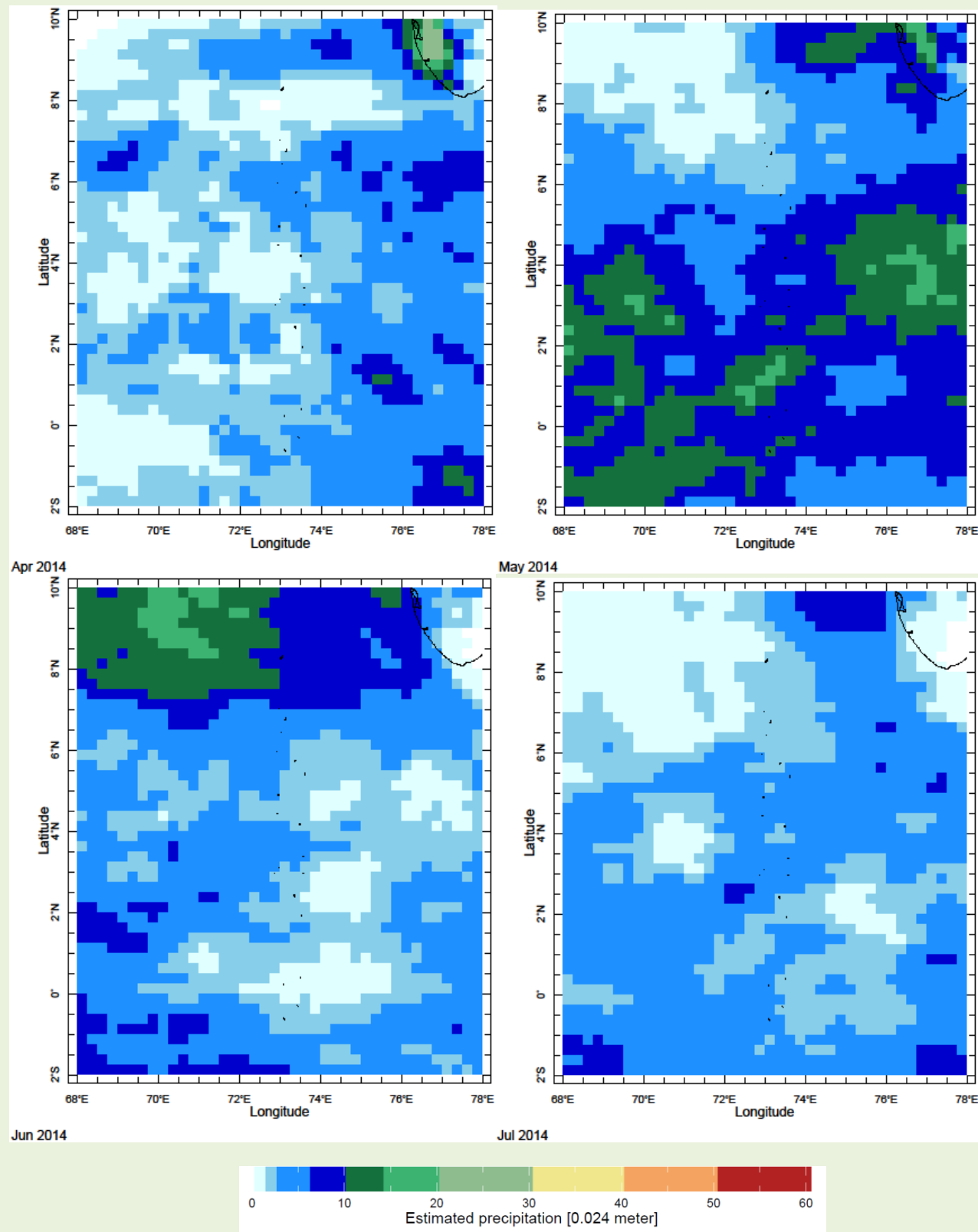
November

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 11th – 16th August, 2014 (Left-Right, Top-Bottom)



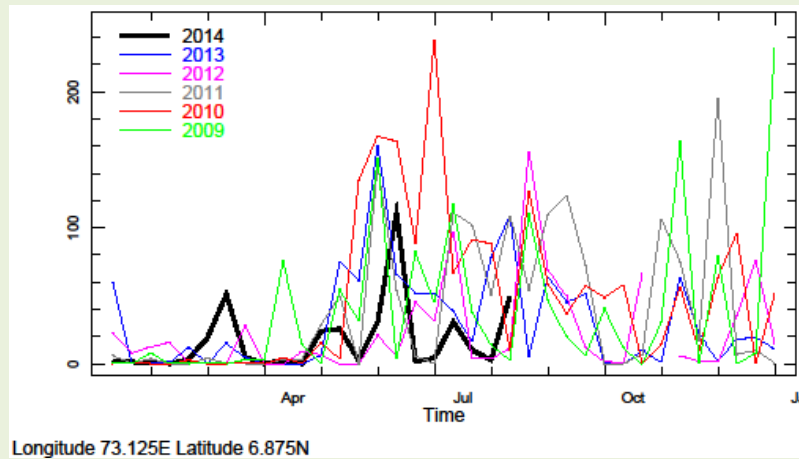
b) Monthly Rainfall (April- July 2014), Derived from Satellite Rainfall Estimates



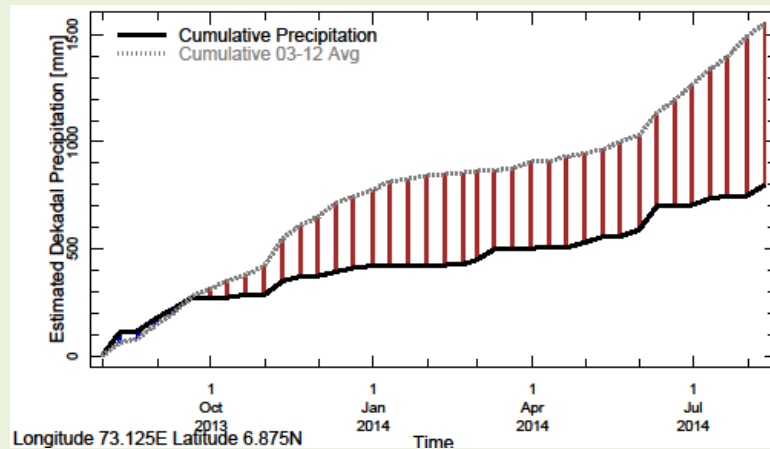
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

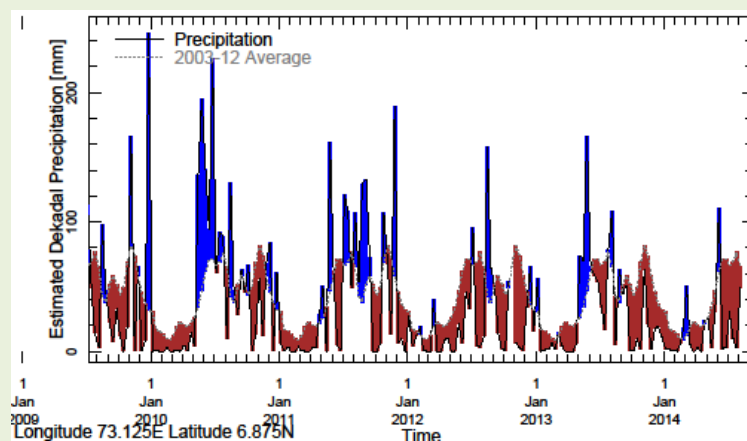
1) Rainfall in 2014 (black) compared to rainfall in previous 5 years



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

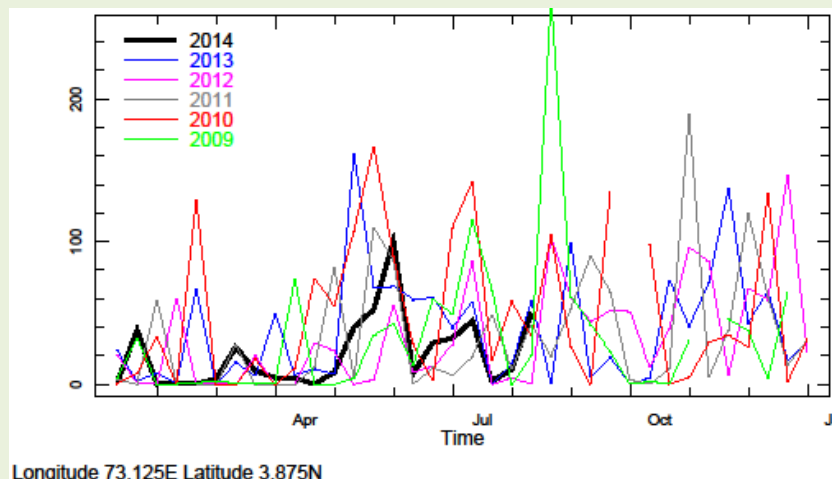


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

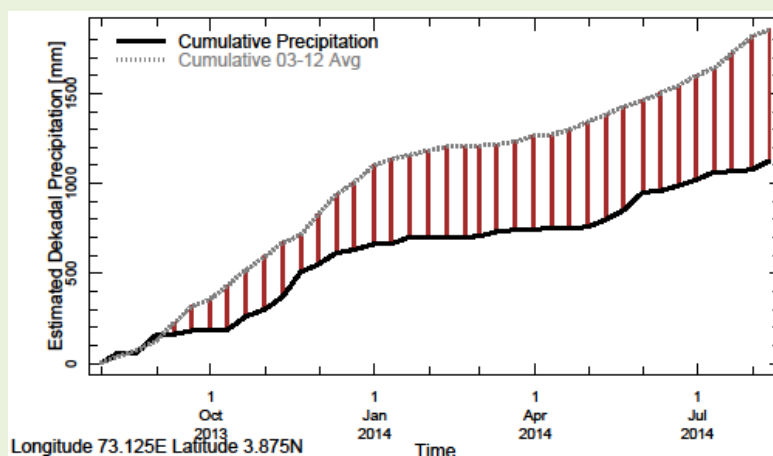


ii) For Central Maldives

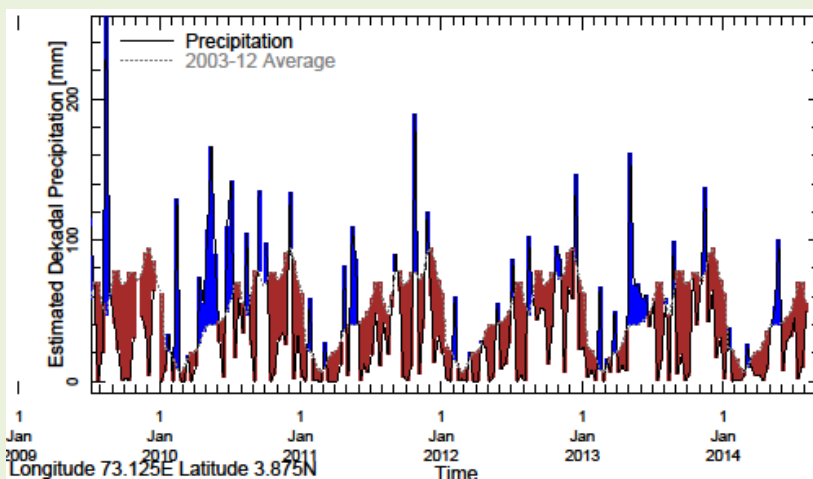
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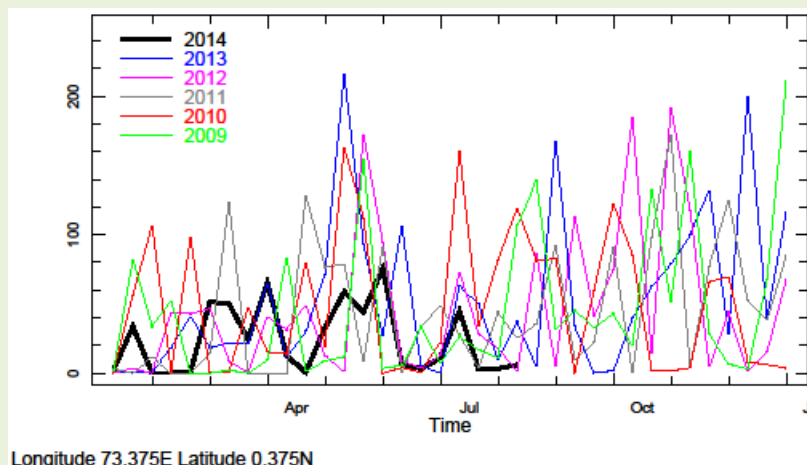


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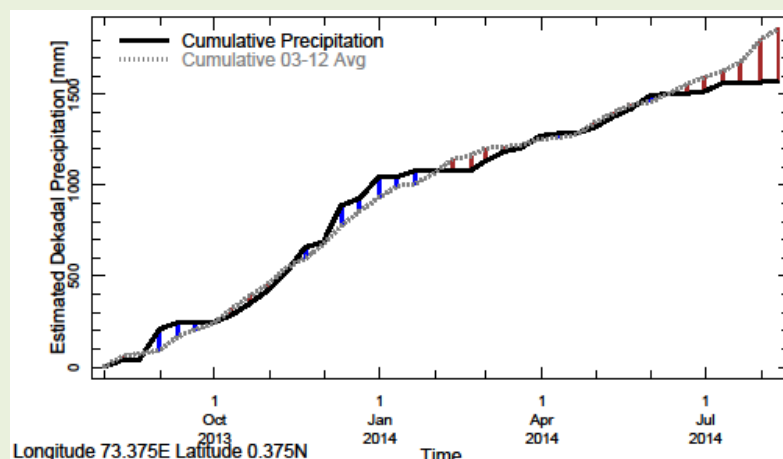


iii) For Southern Maldives

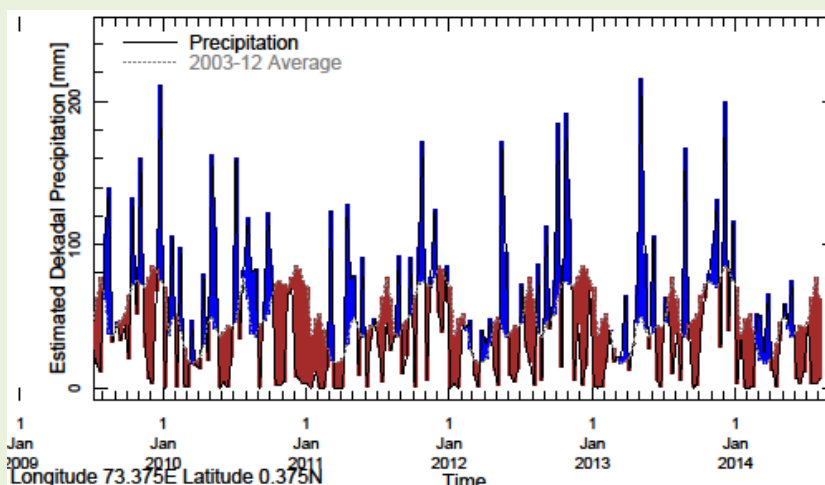
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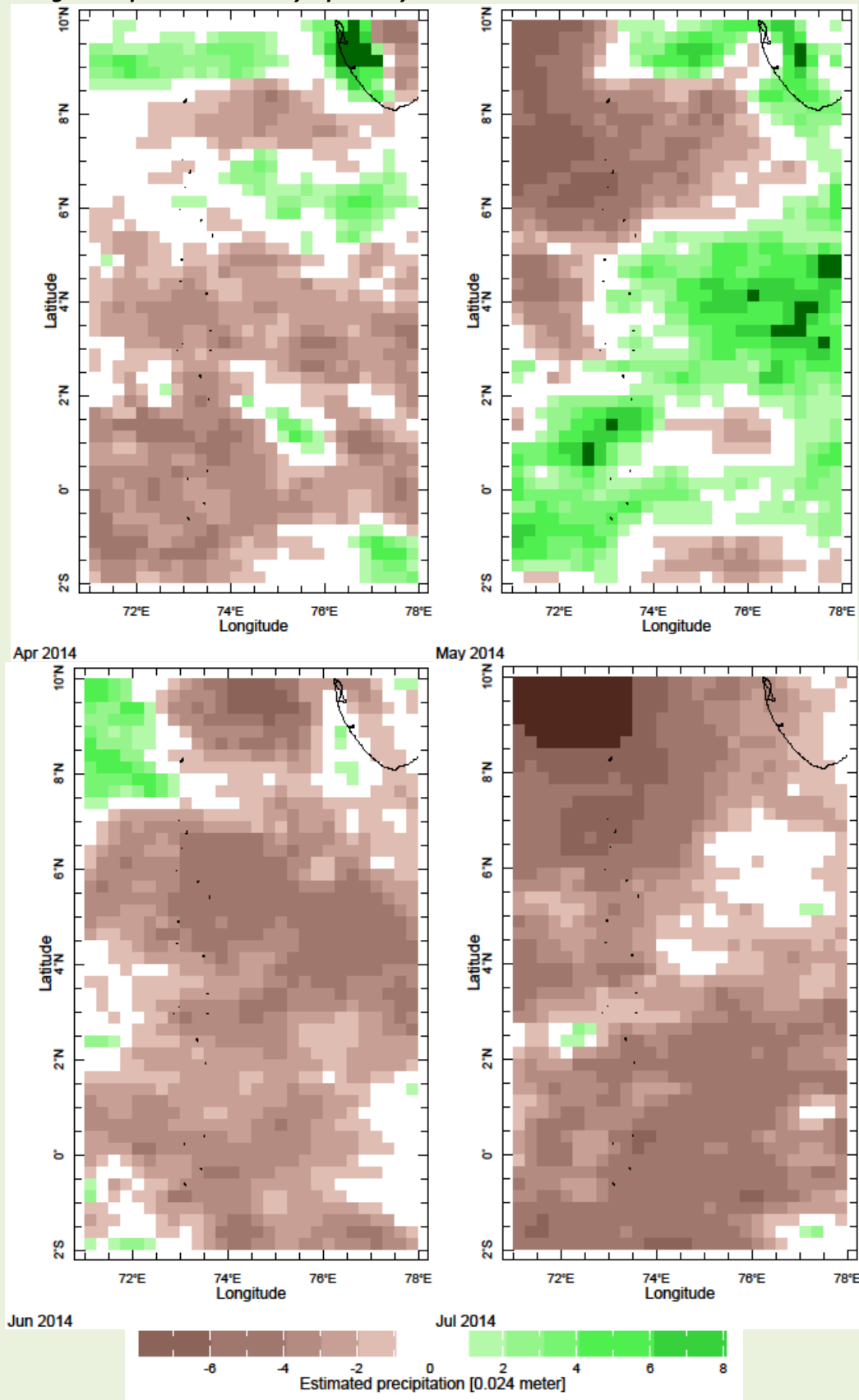
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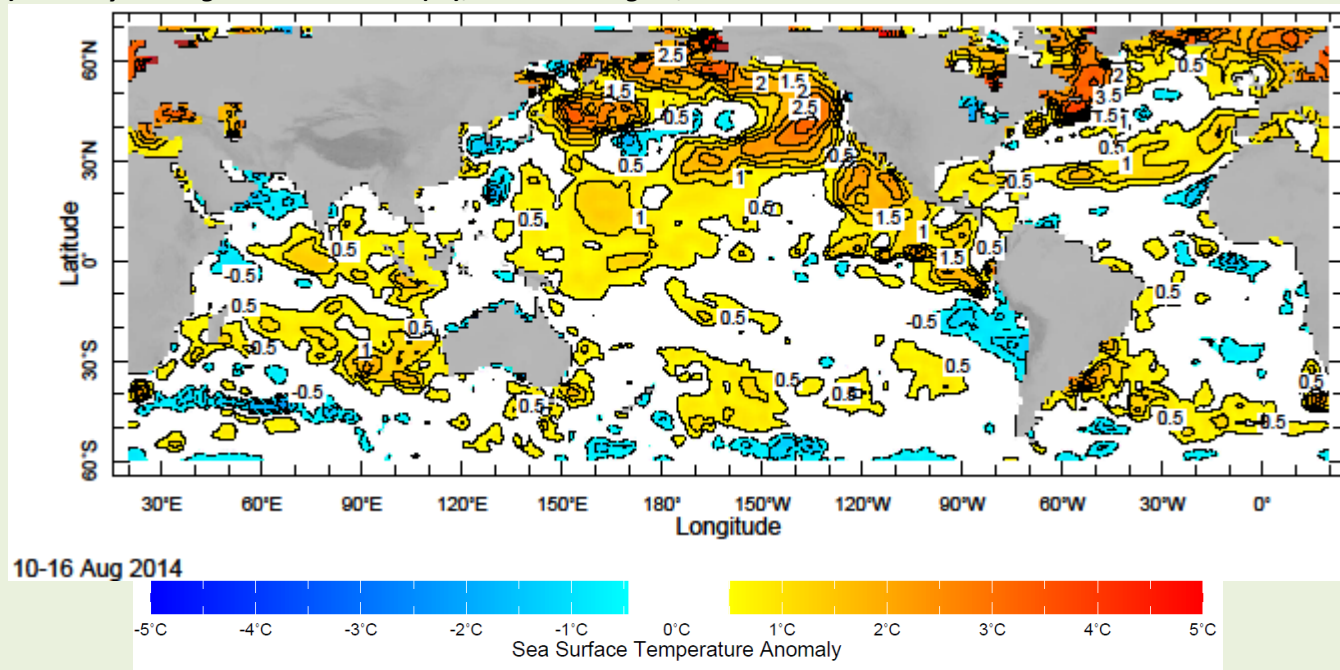
3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



d) Monthly Average Precipitation Anomaly-April- July 2014



e) Weekly Average SST Anomalies ($^{\circ}\text{C}$), 10th - 16th August, 2014

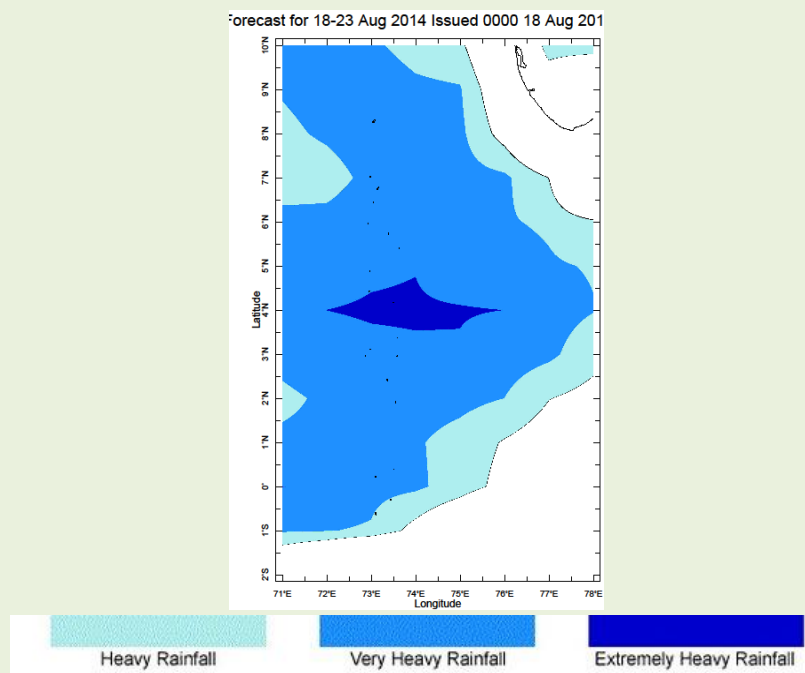


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 18th – 23rd August, 2014: Issued 18th August, 2014



b) Seasonal Rainfall and Temperature Predictions from IRI

