

Experimental Climate Monitoring and Prediction for the Maldives

–May 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

6 May 2014

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PACIFIC SEAS STATE

April 17, 2014

During March through mid-April the observed ENSO conditions moved from cool-neutral to warm-neutral. All of the ENSO prediction models indicate a warming trend, with neutral ENSO during northern spring 2014 transitioning to El Niño conditions by the middle of northern summer..

(Text Courtesy IRI)

INDIAN OCEAN STATE

May 3, 2014

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

Highlights²

Dryer than average conditions were observed in all of Maldives during the month of April. Northern and Central Maldivian islands continue to show a cumulative rainfall deficit while Southern islands continue to receive slightly surplus rainfall when compared to monthly averages. Significant rainfall during April was observed only in the Southern islands in early April. ENSO conditions have changed from cooler than - neutral sea surfaces in the Eastern Tropical Pacific to warm-neutral indicating greater likelihood of El Niño in the coming months. Towards the end of April significant rainfall was observed across the Maldives and is expected to continue to the first two weeks of May.

Summary²

CLIMATOLOGY

Monthly Climatology: The average rainfall during June for the Northern islands is high and ranges from 200-250 mm. This average goes further up towards the Northern side of Maldives. During May, July and August rainfall average goes up from 150 mm to 200 mm towards Southern side of Maldives. Wind is Westerly during this four month period.

MONITORING

Weekly Monitoring: During 27th April to 2nd May 2014, the entire country received rainfall ranging up to 100 mm. During 27th only Southern islands received rainfall with seas from South-east to South-west of Maldives very heavy rain reaching up to 150 mm. The next day was relatively dry. Heavy rainfall was again recorded on the 29th for the entire country and thereafter the rainfall dwindled.

Monthly and Seasonal Monitoring: April has been a dry month for Maldives where significant rainfall was only observed in Southern islands during late March to early April. Less than average rainfall was observed in Northern and Central islands. However Southern islands continue to receive surplus rainfall.

PREDICTIONS

Weekly Rainfall Forecast: During 5th to 10th May 2014, up to 40 mm of rainfall is predicted for Maldives. Seas to the eastern side of Maldives shall receive extremely high rainfall ranging from 40- 150 mm.

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.

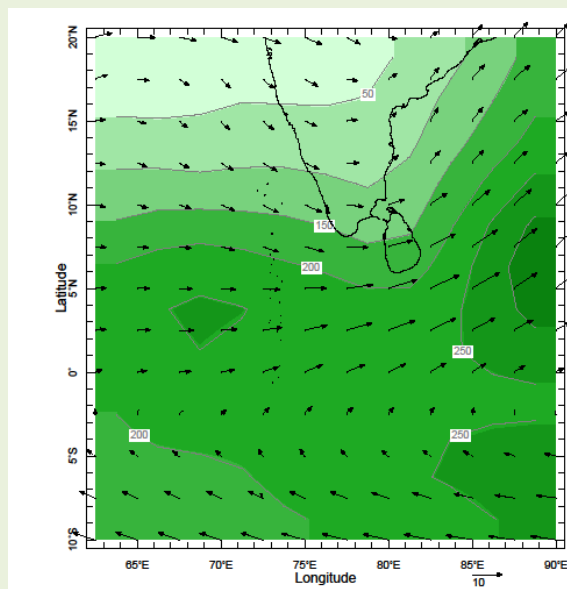
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3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

¹ International Research Institute for Climate and Society.

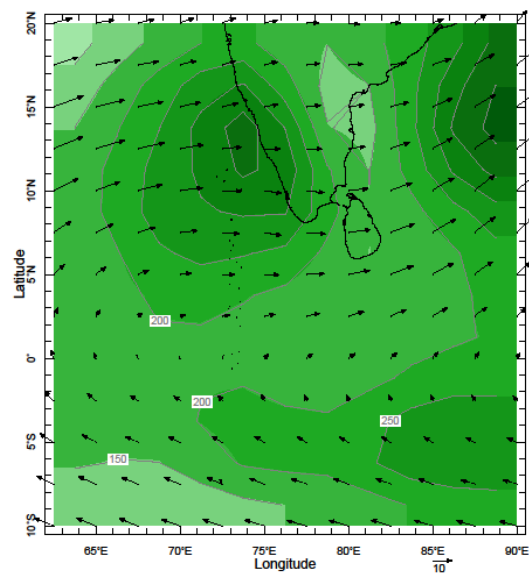
1). Monthly Climatology (CAM5-OPI):

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



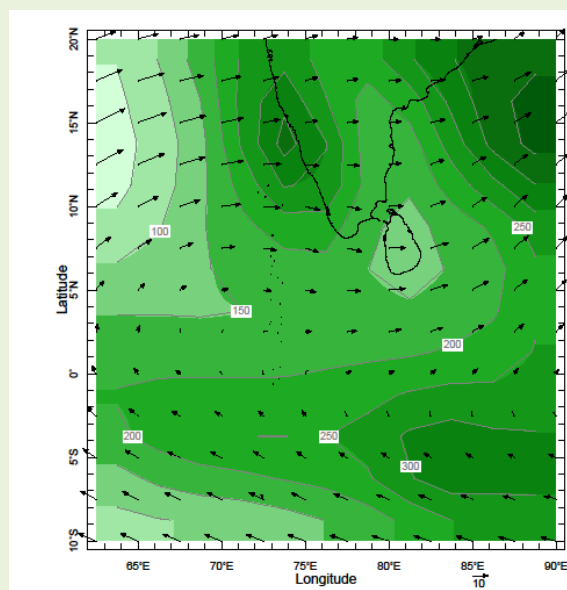
Time May Pressure 925.0 mb

May



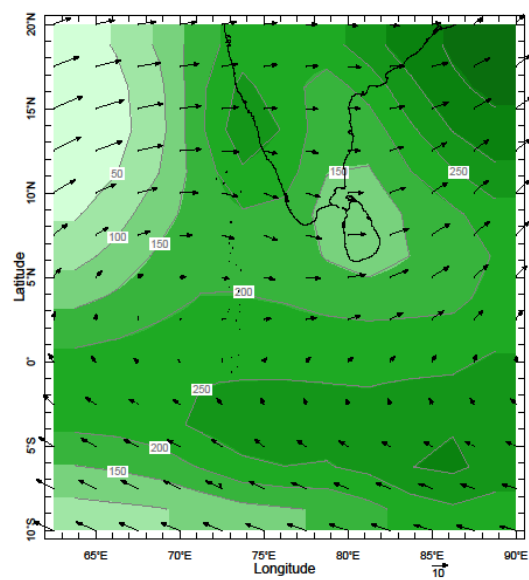
Time Jun Pressure 925.0 mb

June



Time Jul Pressure 925.0 mb

July

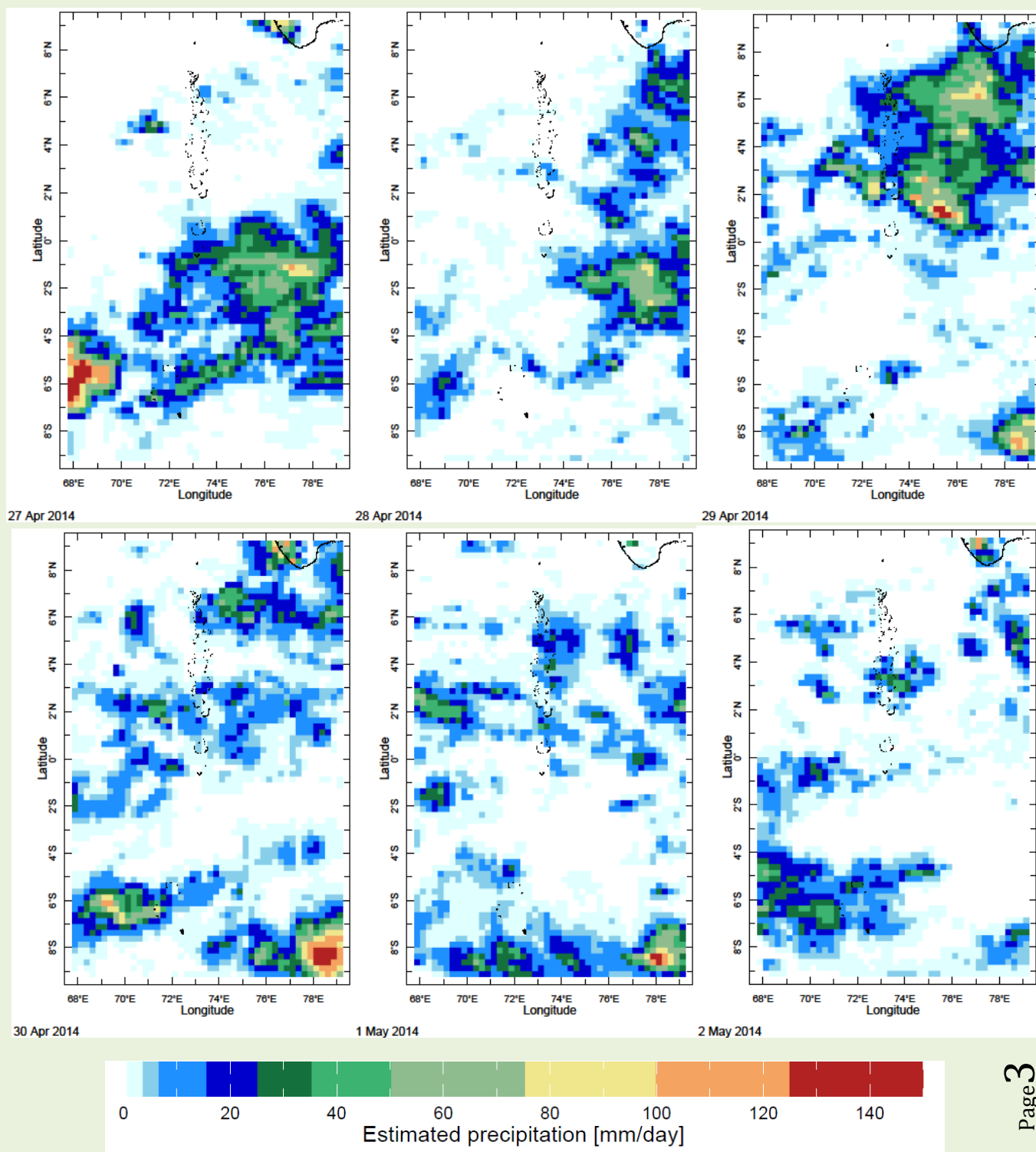


Time Aug Pressure 925.0 mb

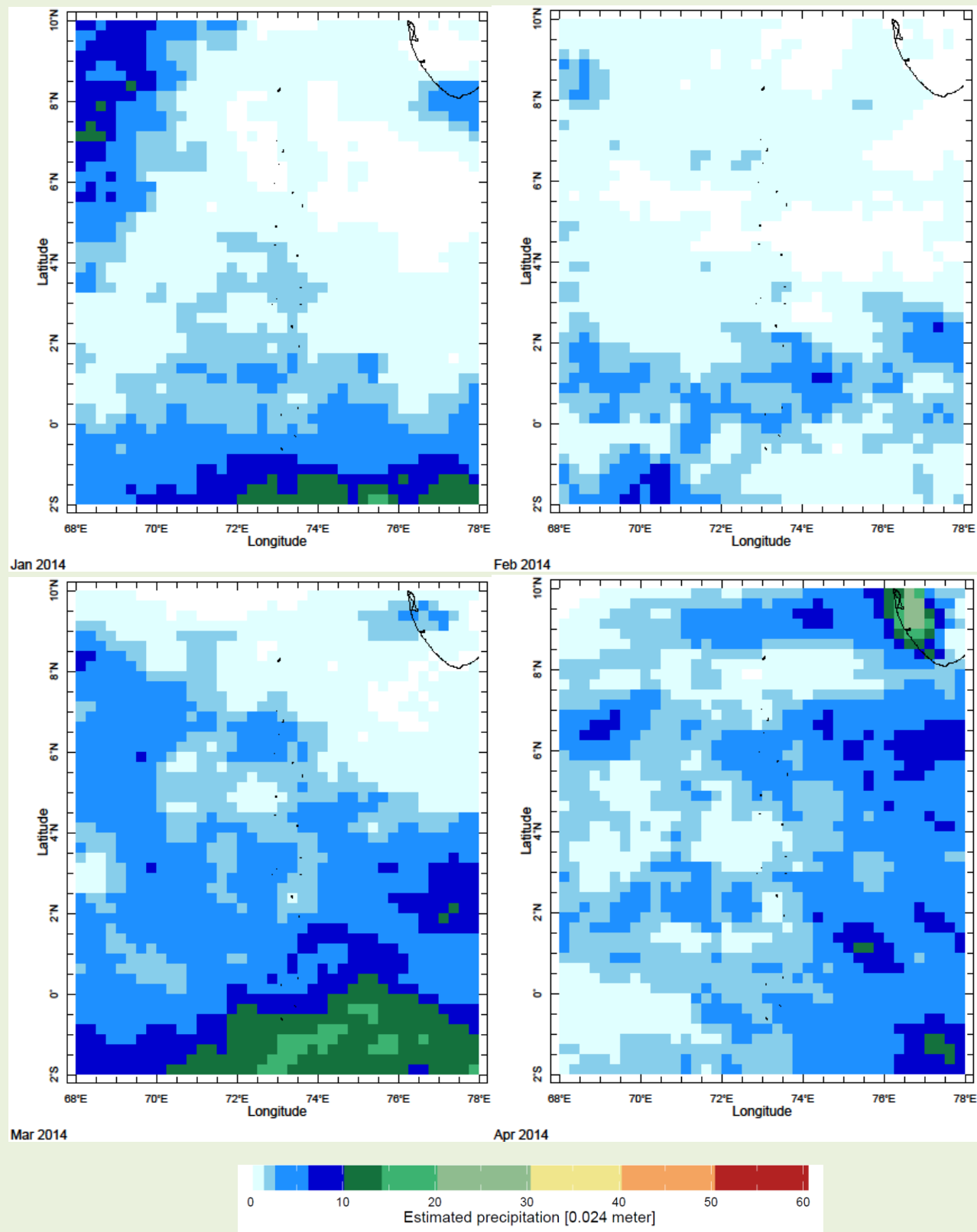
August

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 27th April- 2nd May, 2014 (Left-Right, Top-Bottom)



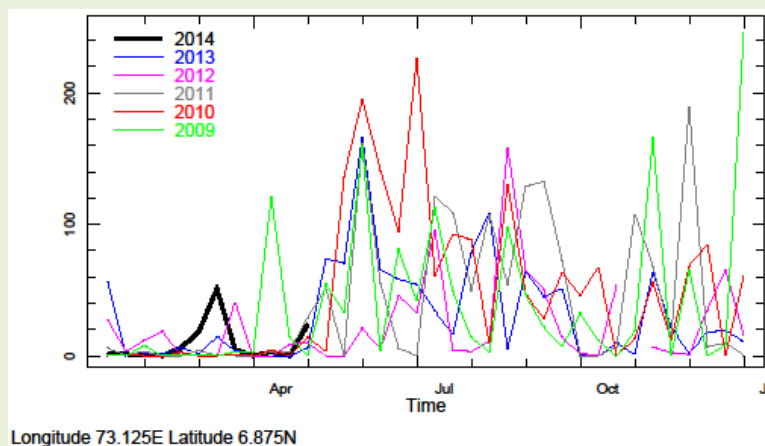
b) Monthly Rainfall (December 2013- April 2014), Derived from Satellite Rainfall Estimates



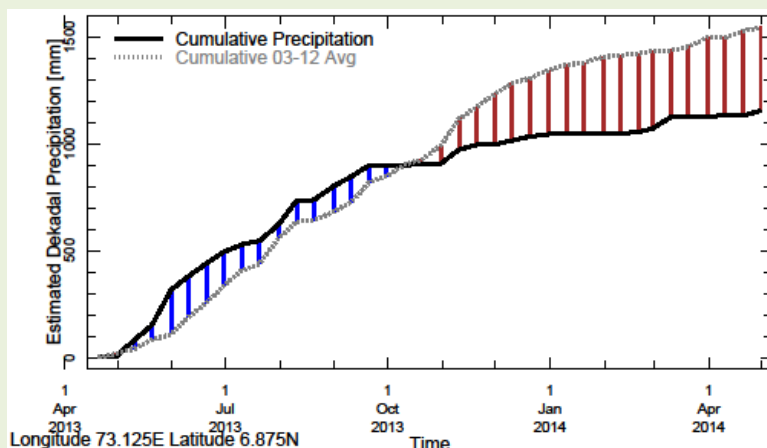
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

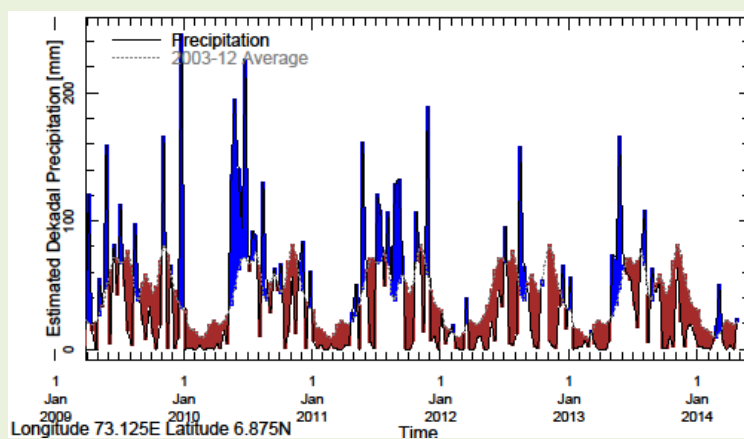
1) Rainfall in 2014 (black) compared to rainfall in previous 5 years



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

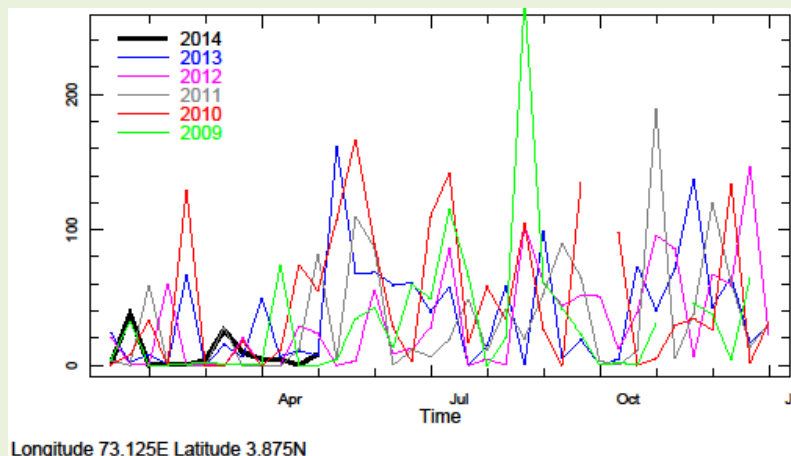


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

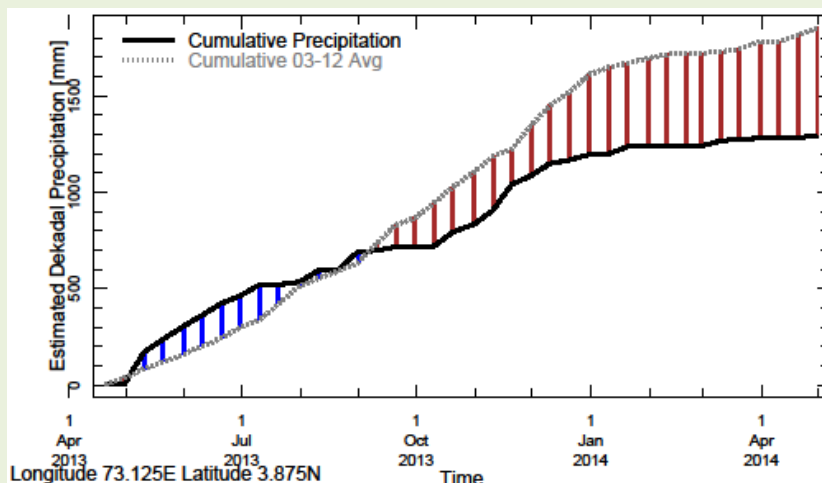


ii) For Central Maldives

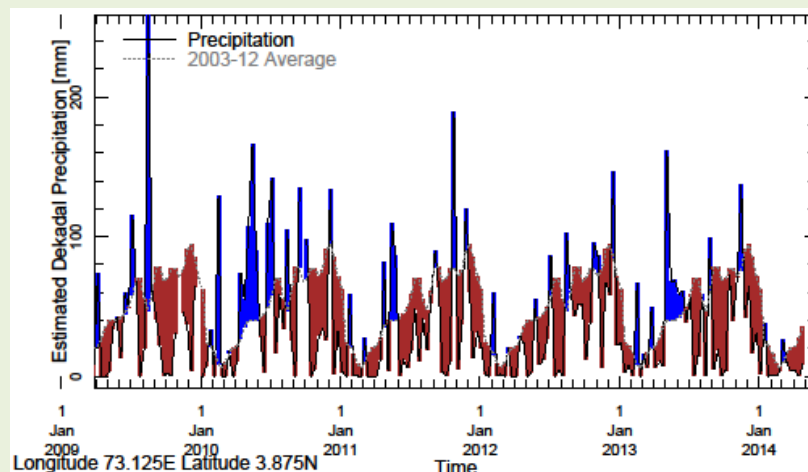
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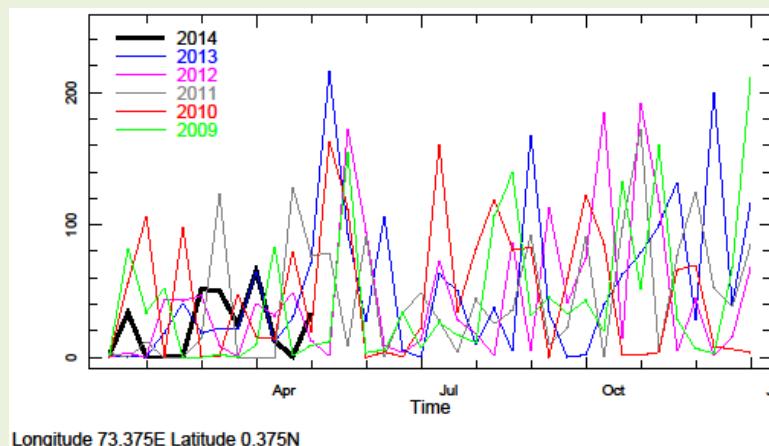


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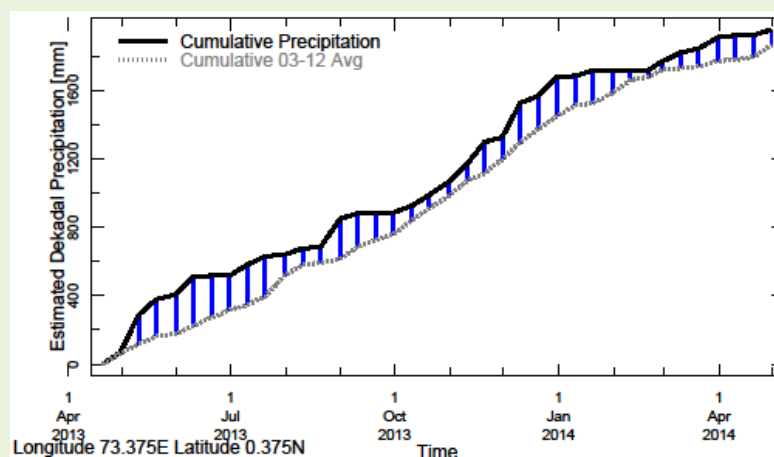


iii) For Southern Maldives

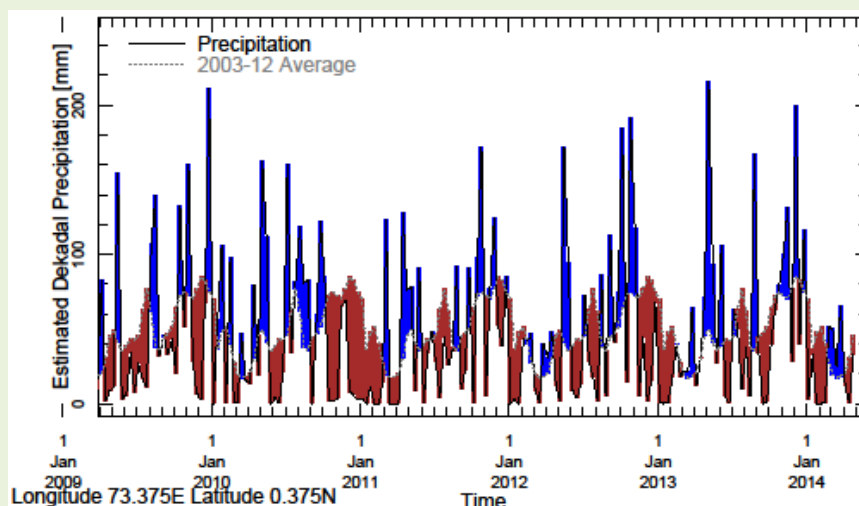
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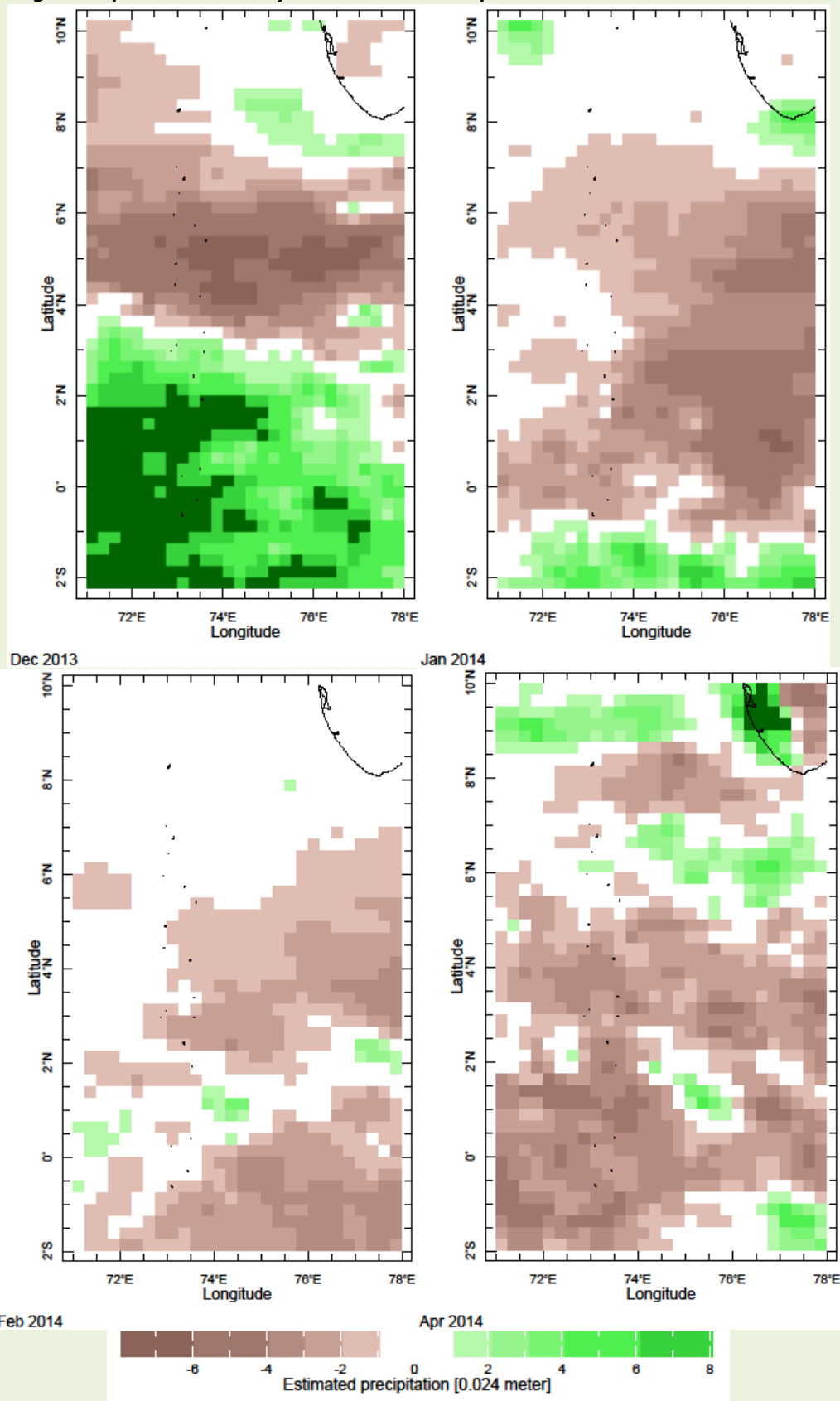
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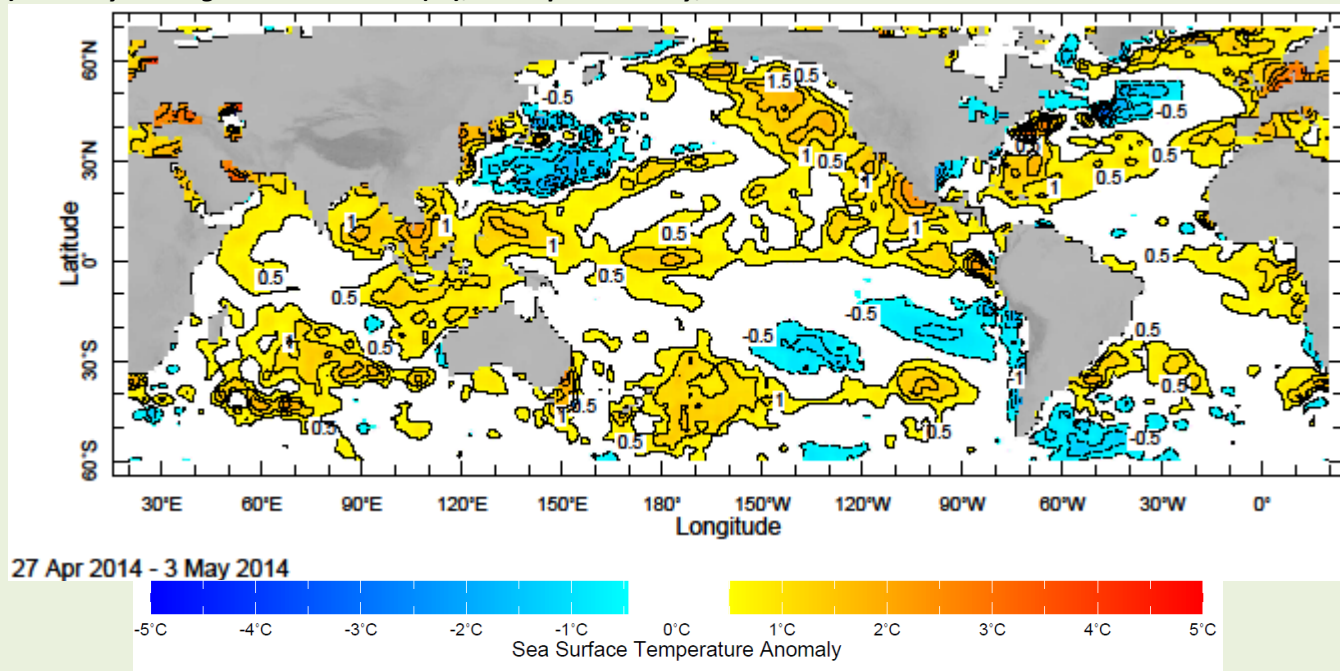
3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



d) Monthly Average Precipitation Anomaly-December 2013- April 2014



e) Weekly Average SST Anomalies ($^{\circ}\text{C}$), 27th April- 3rd May, 2014

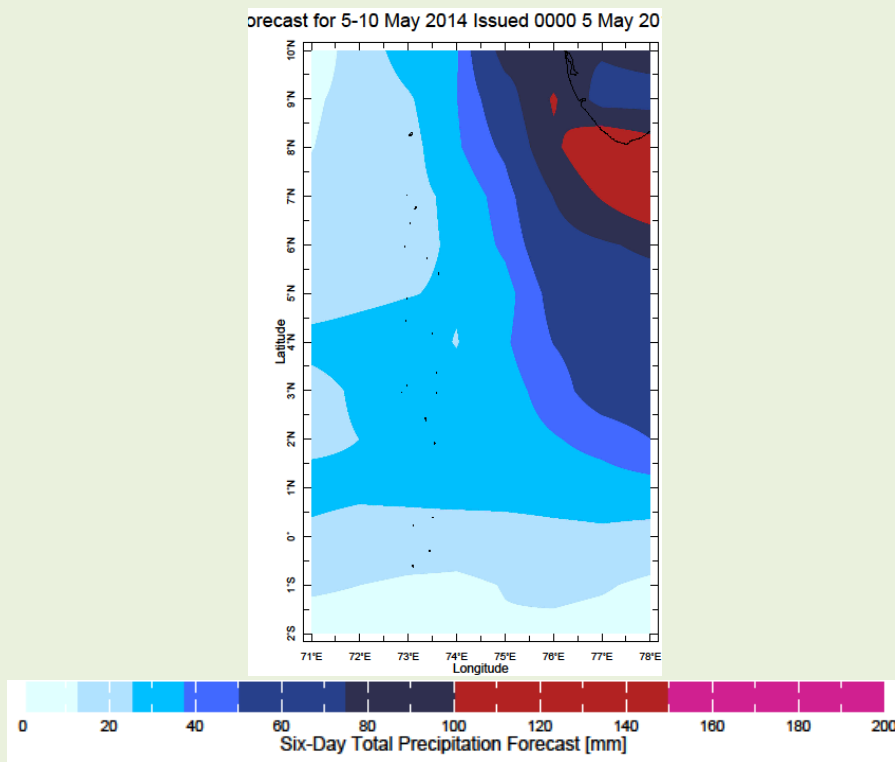


Data Source: NCEP, Environmental Monitoring Center

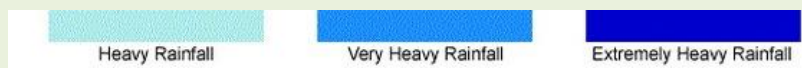
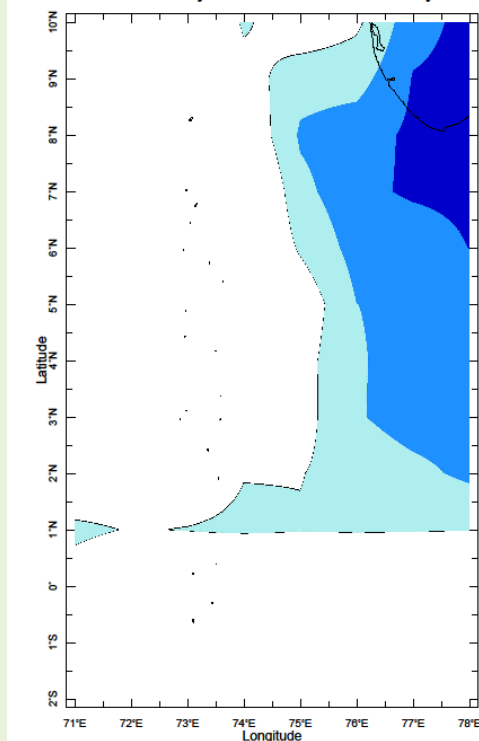
Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 5th – 10th May, 2014: Issued 5th May, 2014



Forecast for 5-10 May 2014 Issued 0000 5 May 2014



b) Seasonal Rainfall and Temperature Predictions from IRI

