

Experimental Climate Monitoring and Prediction for the Maldives

–March 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

10 March 2014

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PACIFIC SEAS STATE

March 6, 2014

During January through February the observed ENSO conditions moved to the borderline of cool-neutral and weak La Nina. However, most of the ENSO prediction models continue to indicate neutral ENSO into northern spring 2014. During late spring and summer a warming tendency is seen in both dynamical and statistical models.

(Text Courtesy IRI)

INDIAN OCEAN STATE

March 9, 2014

Neutral SST conditions are observed around Maldives. Seas further north of Maldives show a slightly negative SST anomaly while seas towards the southern side of Maldives show a slightly positive anomaly

Highlights²

The rainfall over the Northern and Central Island since February 2013 has been up to 35% lower than normal. The rainfall over the Southern Islands were actually about 10-20% higher than normal. The major rainfall deficits commenced in September 2013. The cause of these deficits is not explained by the usual factors such as El Nino.

Summary²

CLIMATOLOGY

Monthly Climatology: The average rainfall for the Southern islands is high in March and April and the average declines as one travels north. The winds are usually north-easterly (from North-East to South-West) for March but changes to Westerly by April. Regional Details by month are provided in section 1.

MONITORING

Weekly Monitoring: Rainfall was observed in Southern and Central islands of Maldives as well as seas further south of Maldives during 2nd – 7th March 2014. Rainfall ranged between 0- 100 mm during this period in these regions.

Monthly and Seasonal Monitoring: During February the rainfall was lower than expected in all of Maldives. When the rainfall of the past year is compared to the average of the previous 8 years, there is a clear deficit this year in both Northern and Central islands but not in Southern islands. The rainfall anomaly from normal for February 2014 shows that there is up to 6 mm wetter anomaly of rainfall particularly for Southern islands.

PREDICTIONS

Weekly Rainfall Forecast: During 9th to 14th March 2014 up to 100 mm of rainfall is predicted to central and Southern islands of Maldives and surrounding seas. This value may go up to around 140 mm in seas towards western side of Maldives.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for January to March 2014, rainfall shall have a 40% chance of being in the below-normal tercile for the Central Islands and near climatological conditions in Southern and Northern Islands while temperature this season shall have a 40- 50% probability of being in the above normal tercile in the Southern Islands and climatological in the Central Islands.

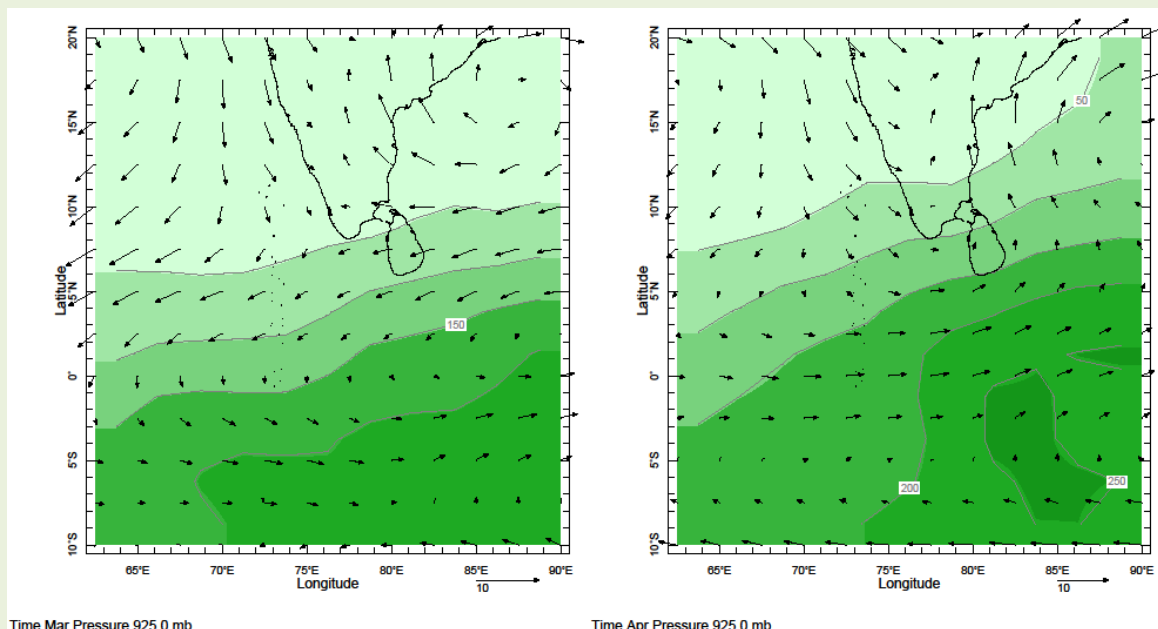
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3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

¹ International Research Institute for Climate and Society.

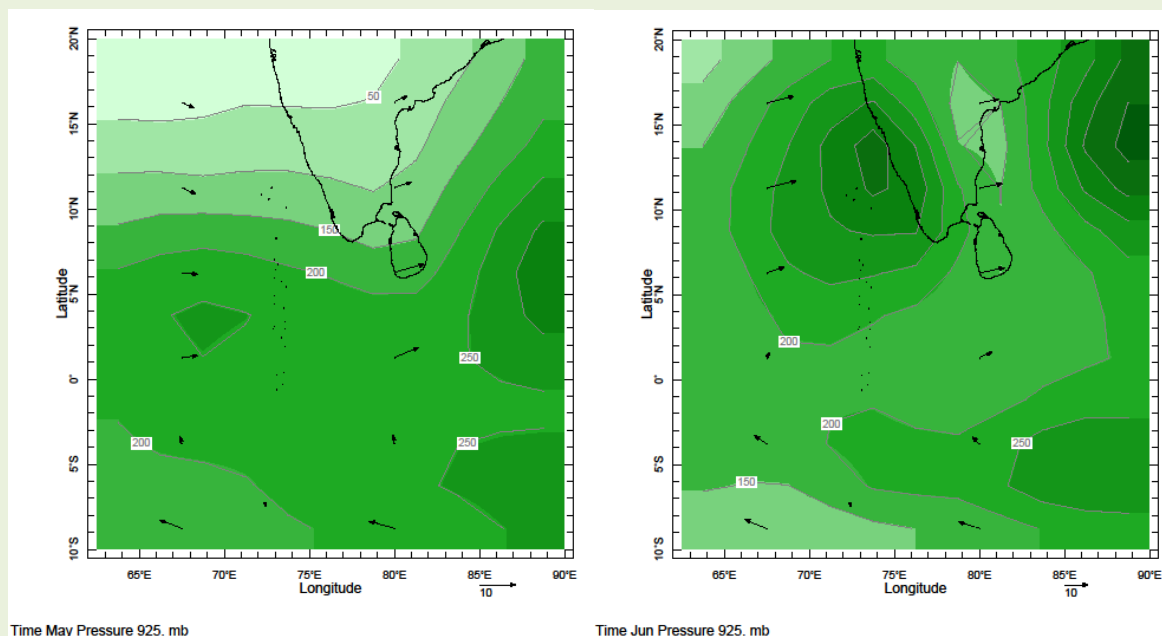
1). Monthly Climatology (CAM5-OPI):

a) Rainfall: Maps: March, April, May and June



March

April

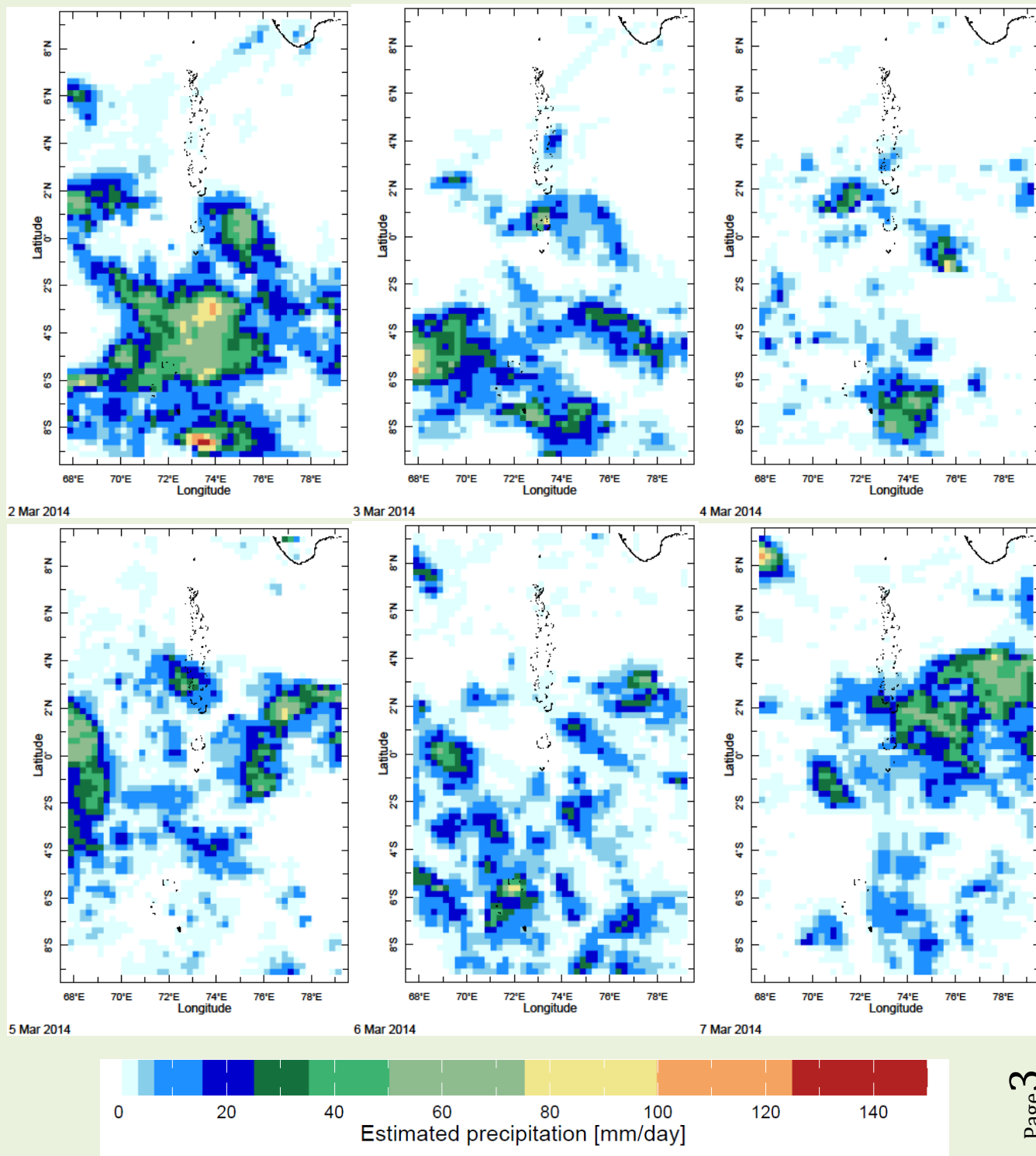


May

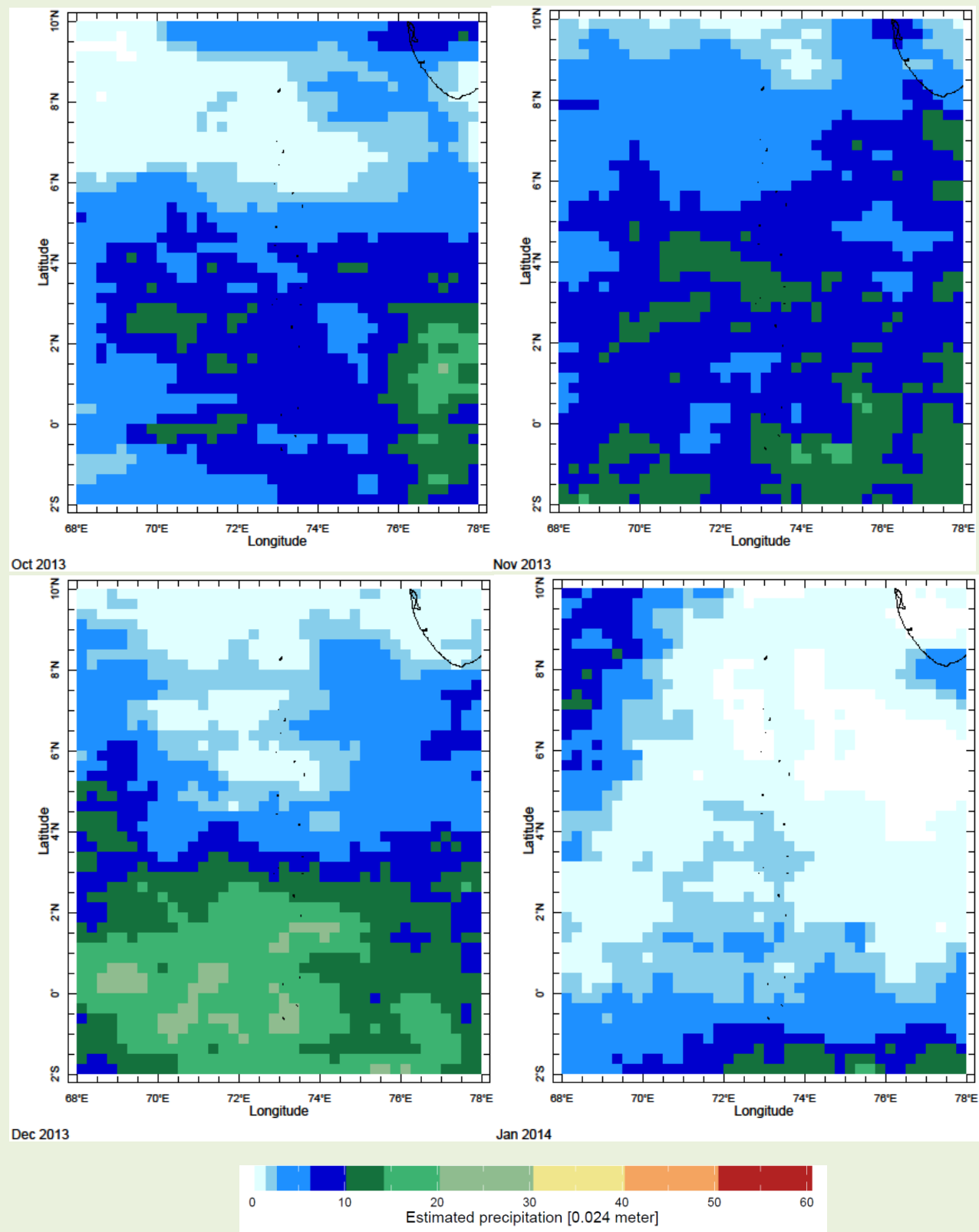
June

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 2nd-7th of February, 2014 (Left-Right, Top-Bottom)



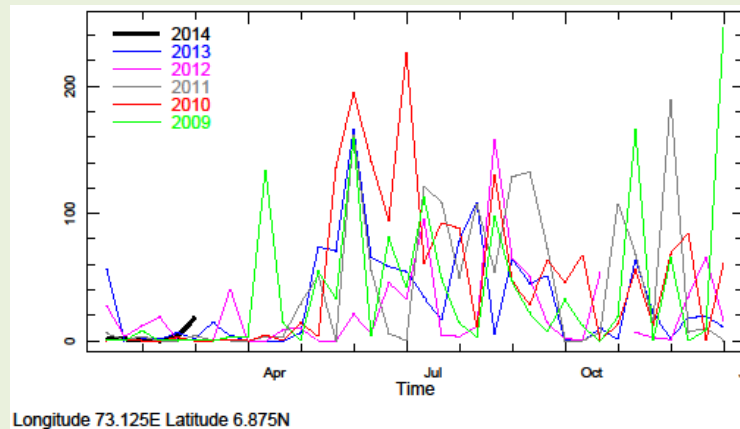
b) Monthly Rainfall (October 2013- January 2014), Derived from Satellite Rainfall Estimates



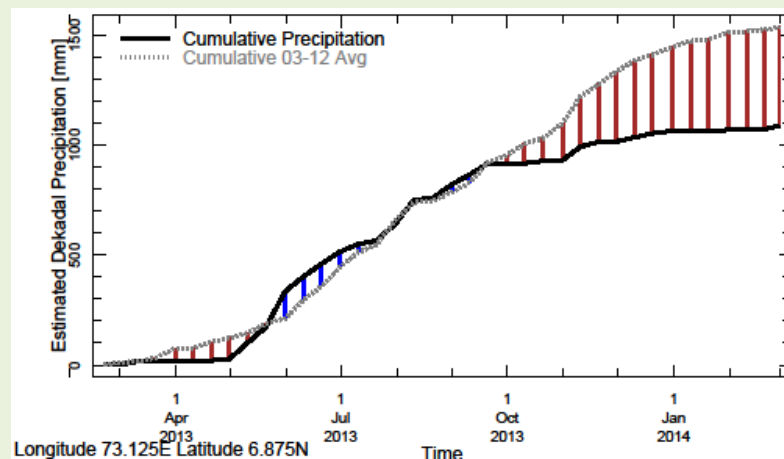
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

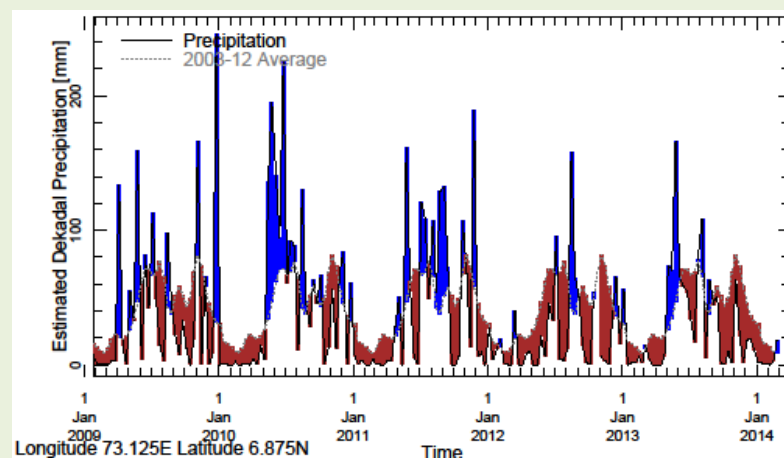
1) Rainfall in 2014 (black) compared to rainfall in previous 5 years



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

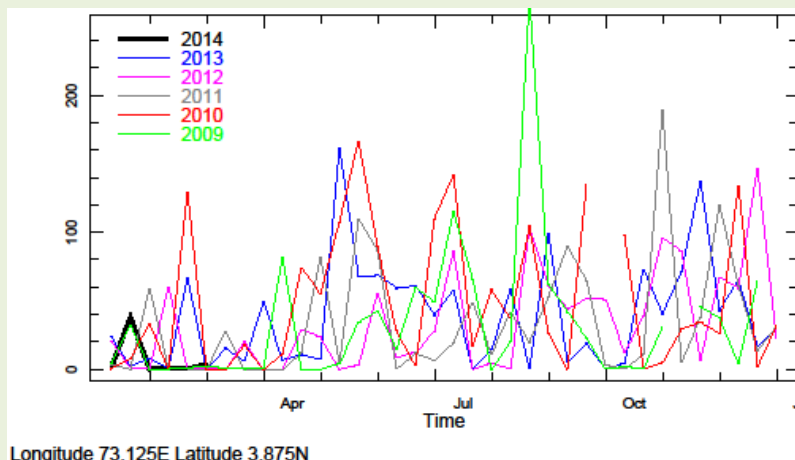


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

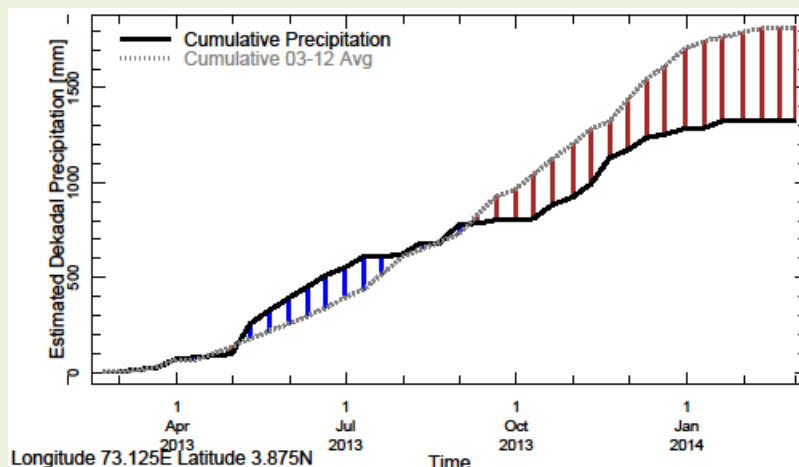


ii) For Central Maldives

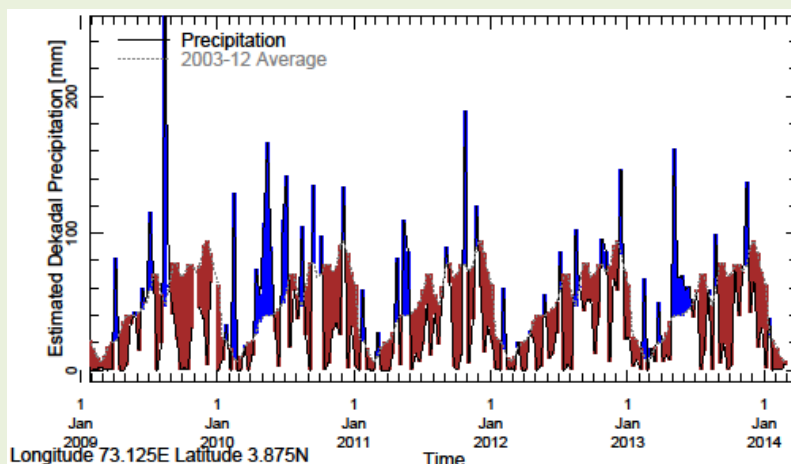
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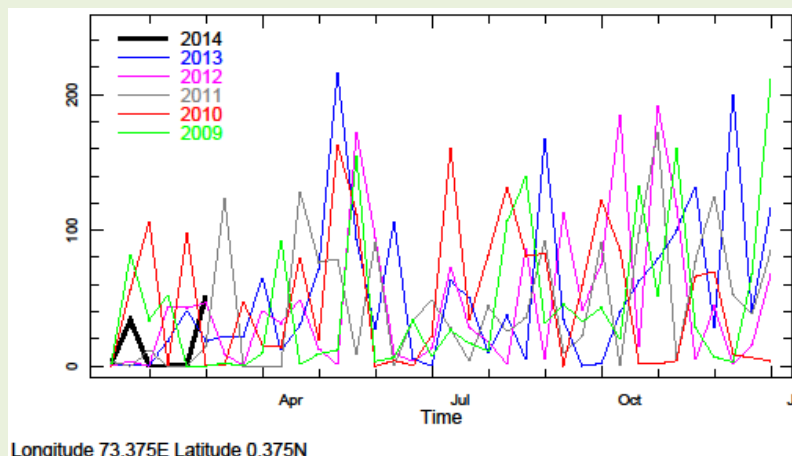


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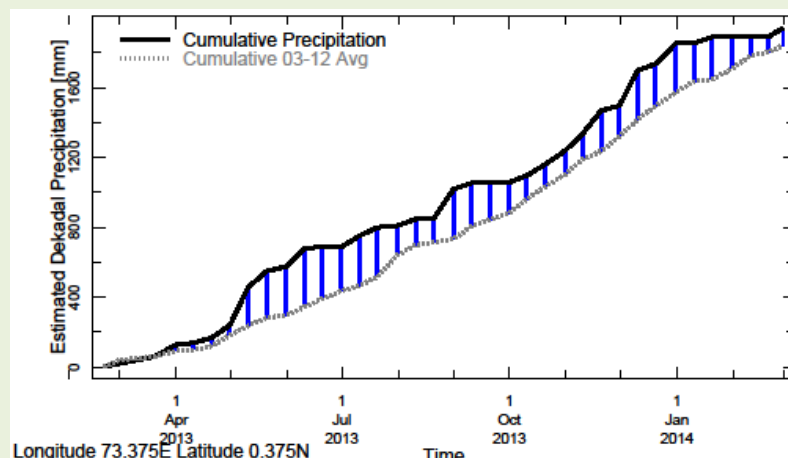


iii) For Southern Maldives

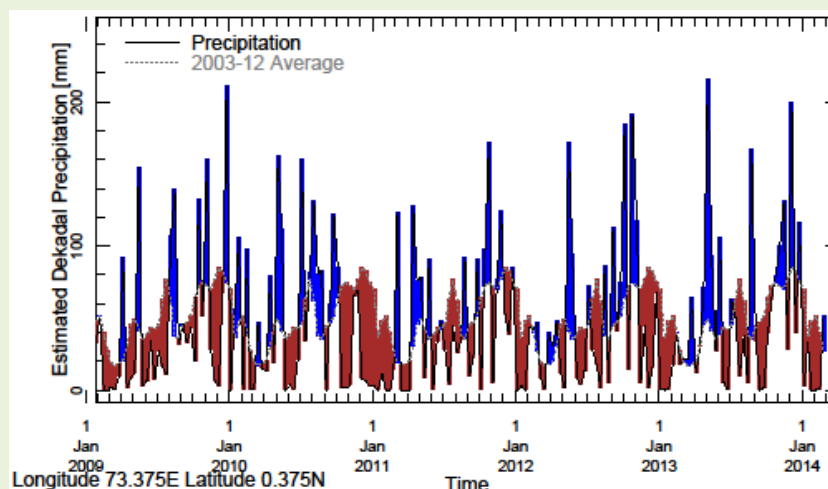
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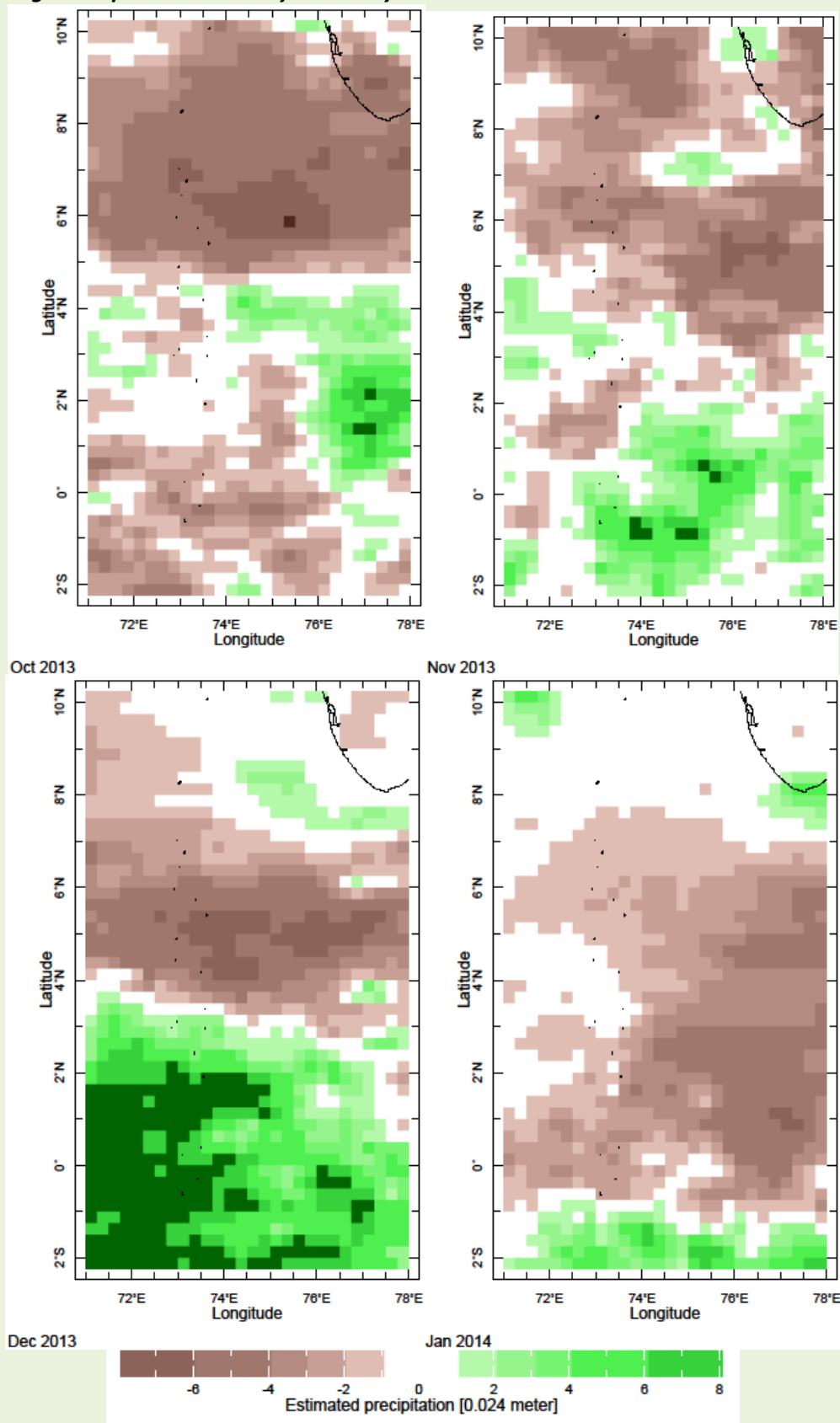
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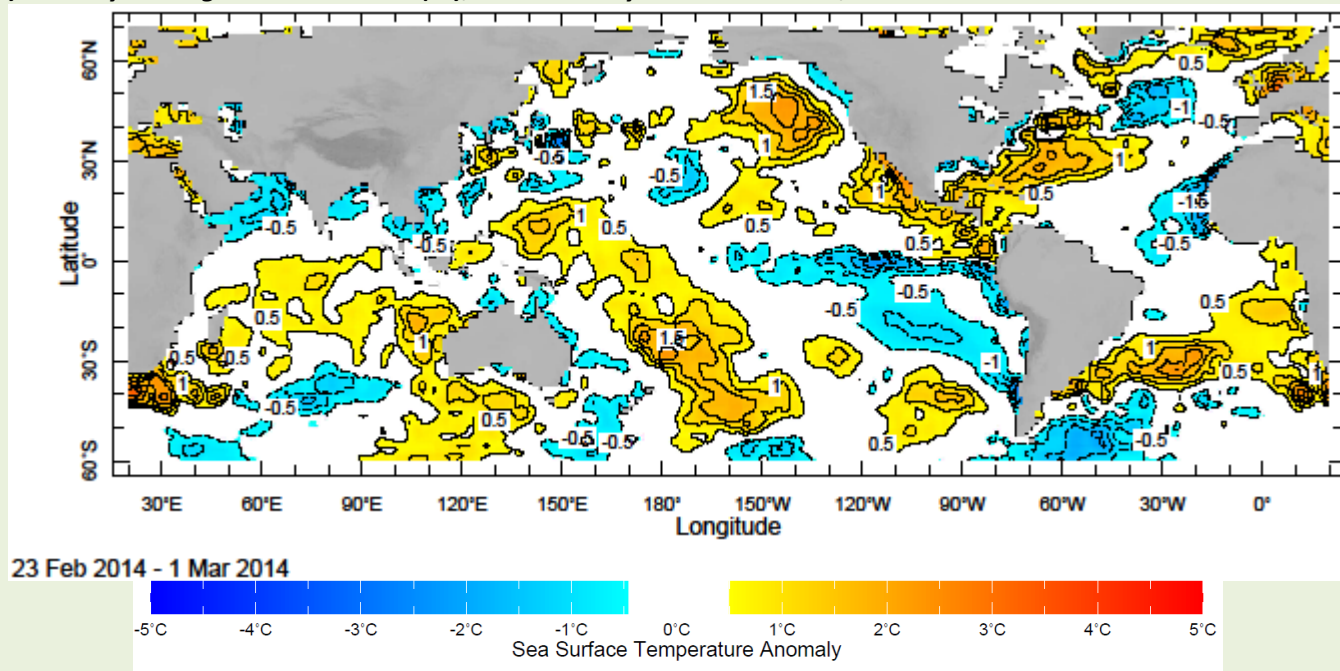
3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



d) Monthly Average Precipitation Anomaly- February 2014



e) Weekly Average SST Anomalies ($^{\circ}\text{C}$), 23rd February 2014– 1st March, 2014

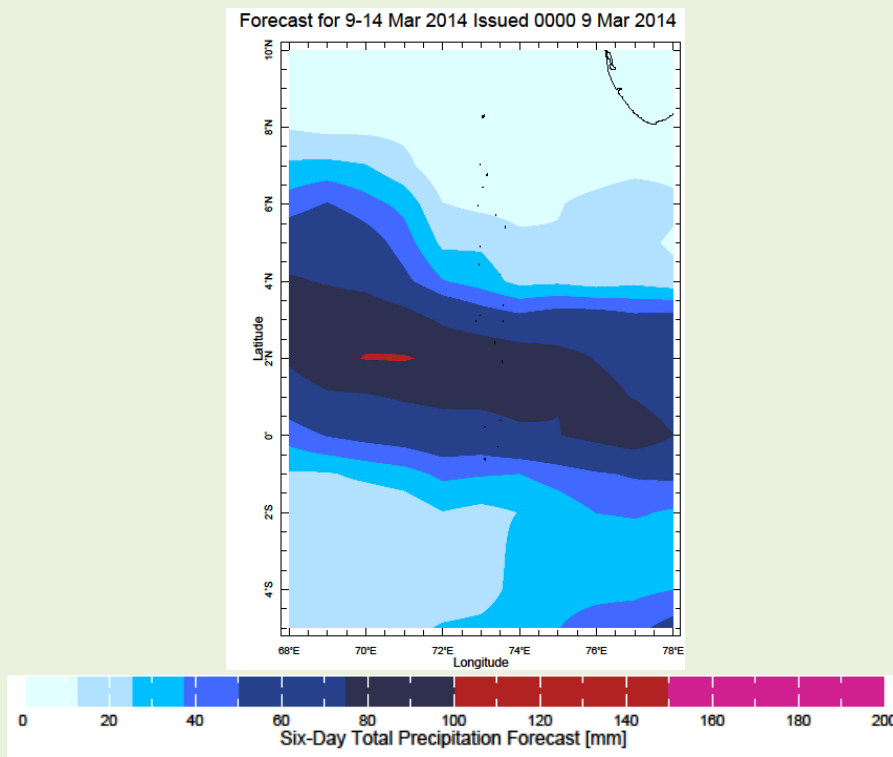


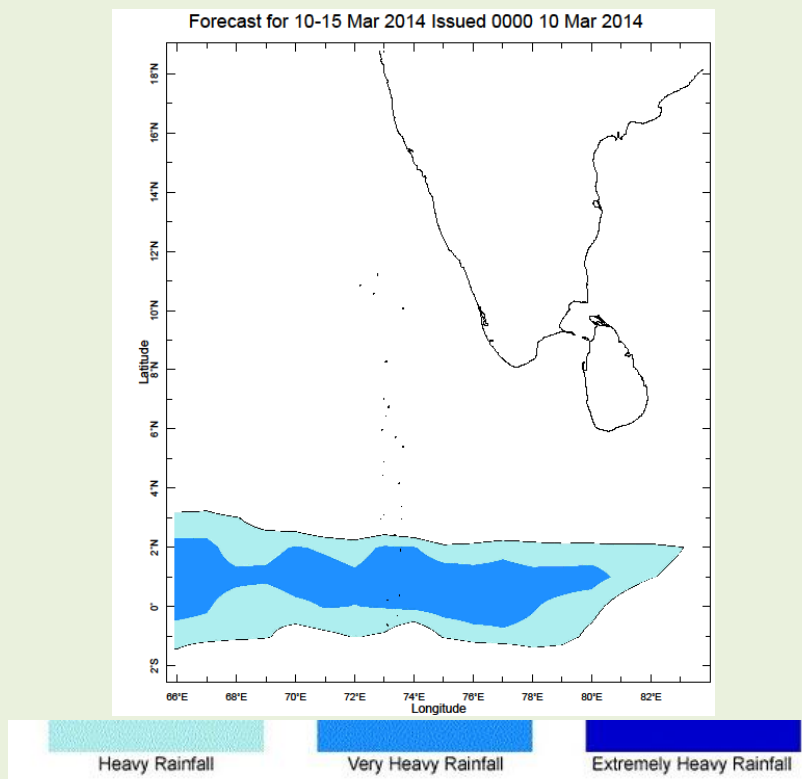
Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 9th – 14th March, 2014: Issued 9th March, 2014





b) Seasonal Rainfall and Temperature Predictions from IRI

