

Experimental Climate Monitoring and Prediction for the Maldives

–January 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

08 January 2014

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PACIFIC SEAS STATE

December 19, 2013

During November through early-December the observed ENSO conditions remained neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO into early 2014. During northern spring and summer, a warming tendency is seen in both dynamical and statistical models.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Jan 08, 2013

Seas around Maldives show neutral SST anomaly but Southern tropical seas are warmer

Highlights²

The highest recorded rainfall in the past five years for southern islands was observed in mid-December. This is the third high rainfall event observed this year in this region. Due to this a surplus rainfall was observed in southern Maldives in contrast to the rainfall deficit observed in northern and central islands. The sea surface temperature has become neutral around Maldives but in the rest of the Indian Ocean there is warming to South of the Equator.

Summary²

CLIMATOLOGY

Monthly Climatology: The average rainfall for the Southern islands is high in November and December and the average declines as one travels north. The winds over the Northern & Central islands are usually north-easterly (from North-East to South-West). For Southern islands higher wind speeds are expected for July and August, but stronger westerly winds are expected in September and October.

MONITORING

Weekly Monitoring: On the 31st December 2013 light rainfall was observed in central islands of Maldives. For next five days no rainfall was observed in any part of Maldives.

Monthly and Seasonal Monitoring: During the month of December an average of 10- 20 mm of rainfall was observed in Southern islands and seas surrounding this region. Lesser average rainfall was observed during this month in central and northern islands. When compared with the rainfall of the previous five years, rainfall in northern and central islands has been low. Hence the cumulative deficit for this year is around 800 mm for these regions. In southern islands more than 200 mm of rainfall was observed in mid-December which is the highest observed rainfall during the past five years for this region. Due to this fact southern islands show a surplus cumulative average compared to the average of past eight years.

PREDICTIONS

Weekly Rainfall Forecast: Heavy rainfall events are not expected during 7th – 12th of January 2014.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for January to March 2014, rainfall shall have a 40-45% chance of being in the above-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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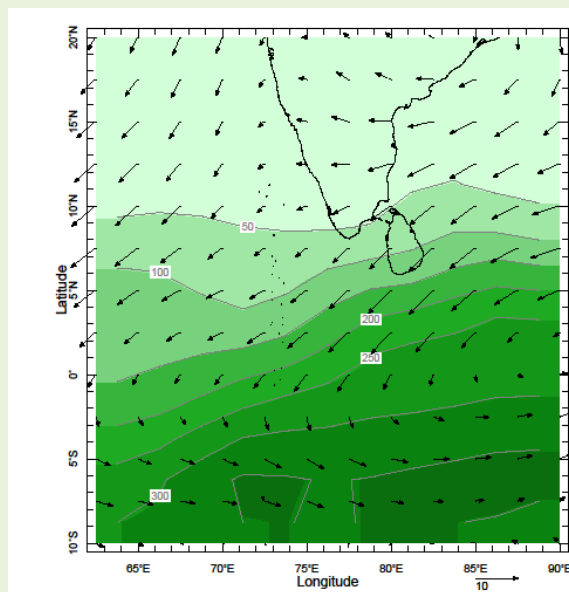
1. Monthly Climatology
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3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

¹ International Research Institute for Climate and Society.

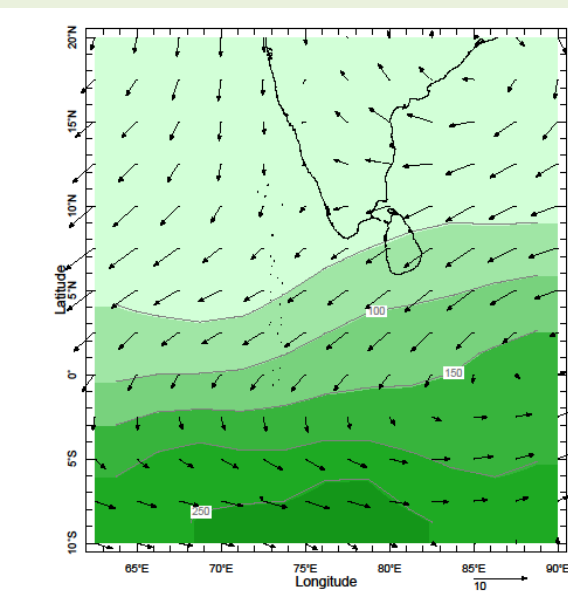
²These interpretations of climatic conditions are an experimental product.

1). Monthly Climatology (CAM5-OPI):

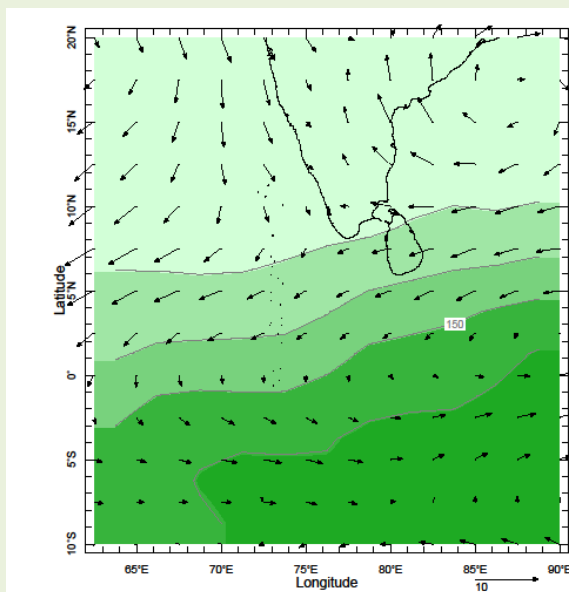
a) Rainfall: Maps: January, February, March and April



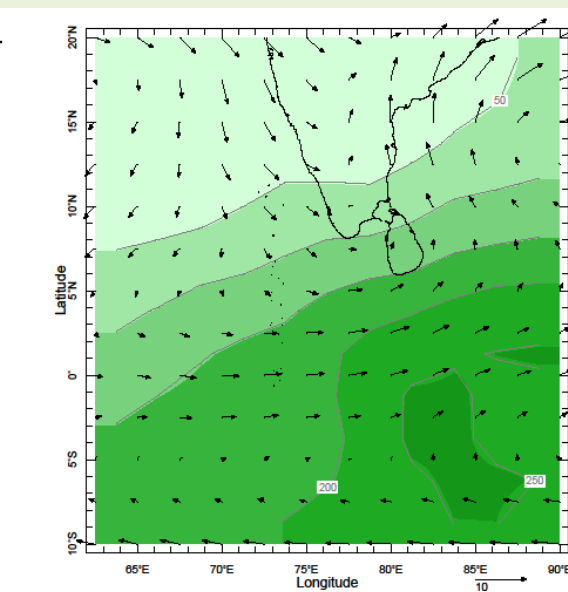
January



February



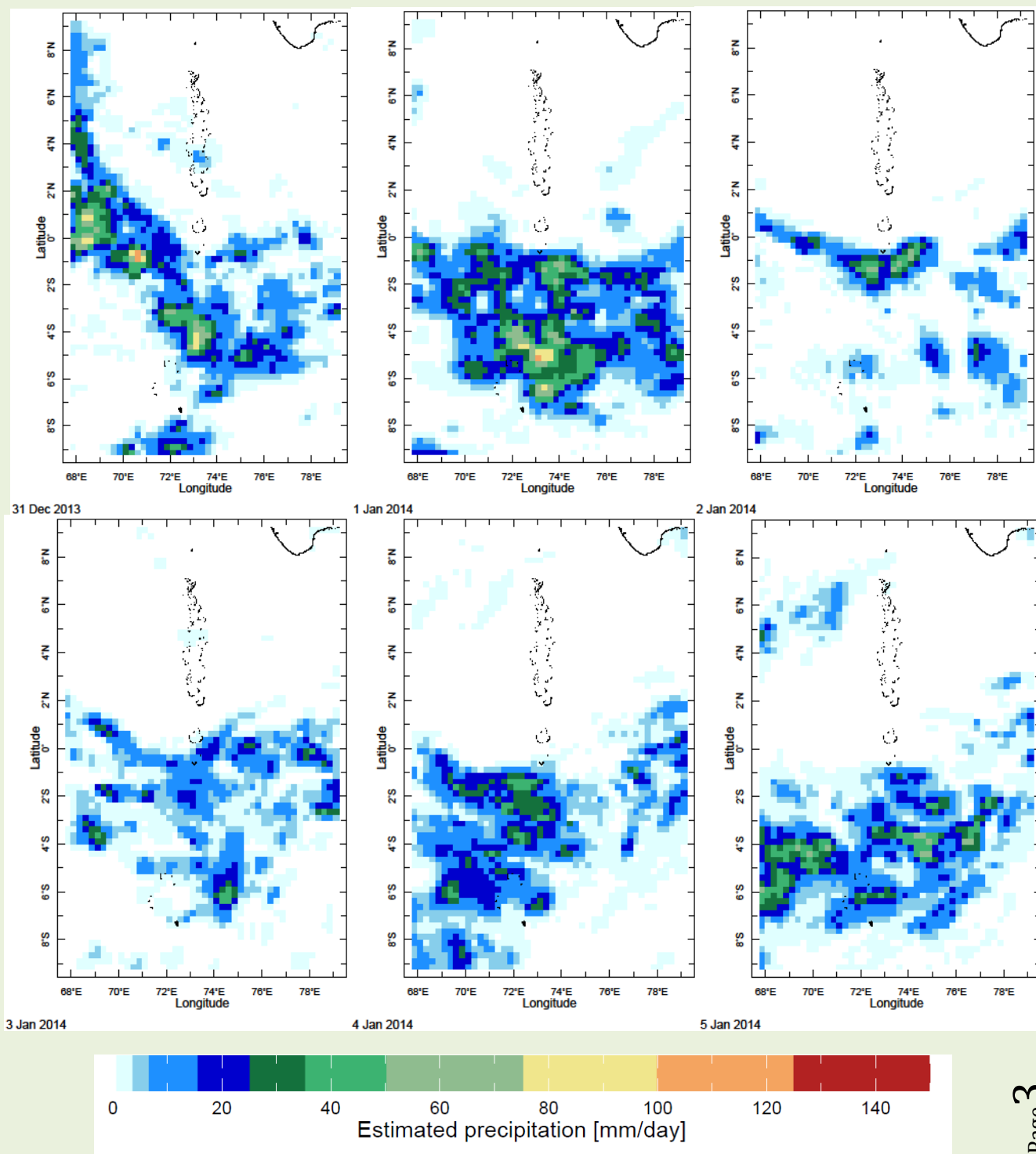
March



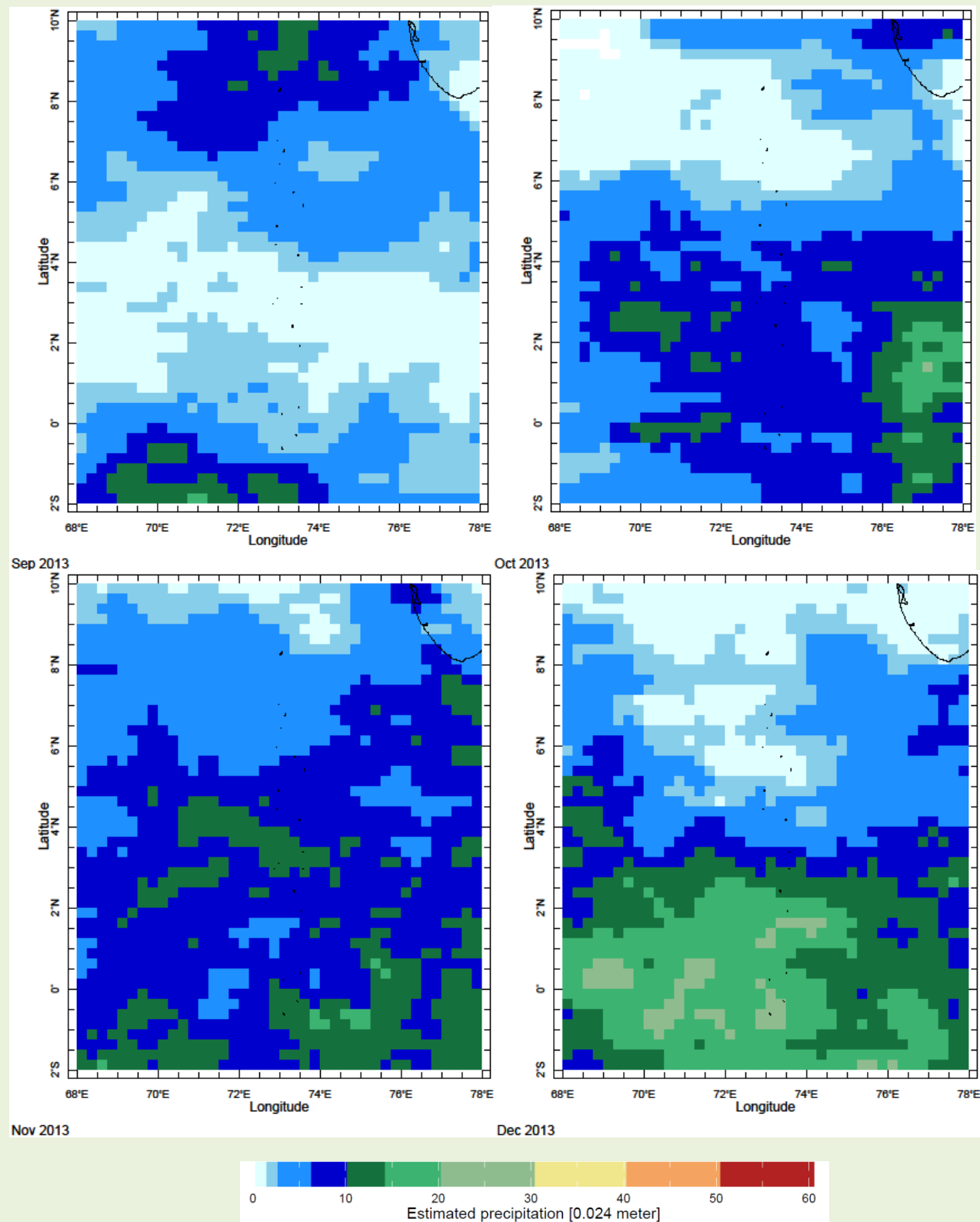
April

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 31st December 2013– 5th of January, 2014 (Left-Right, Top-Bottom)

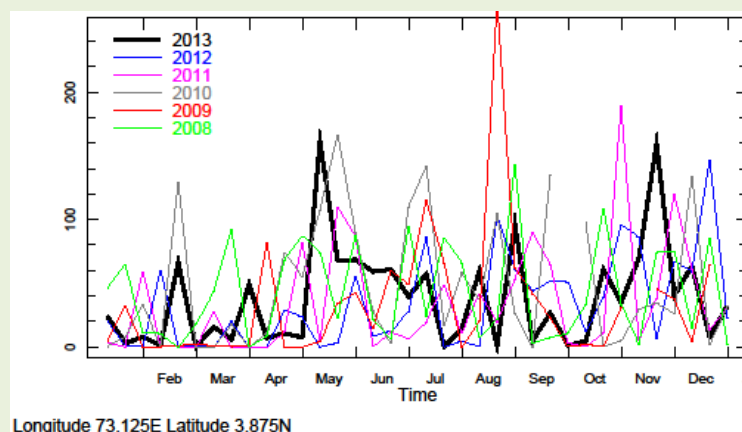


b) Monthly Rainfall (September- December 2013), Derived from Satellite Rainfall Estimates

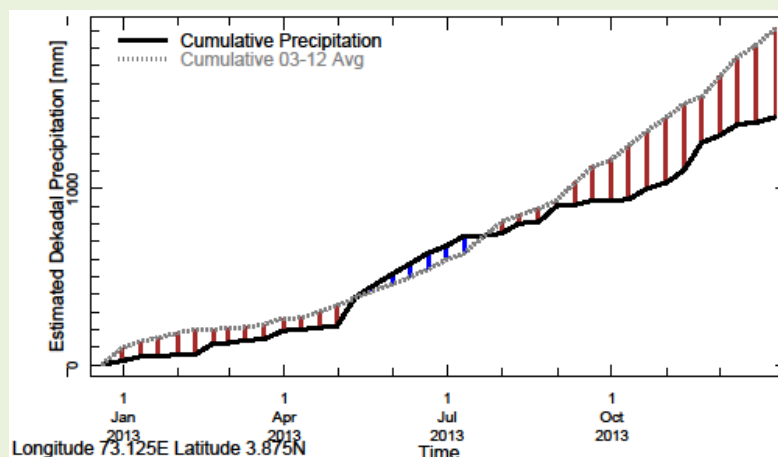


ii) For Central Maldives

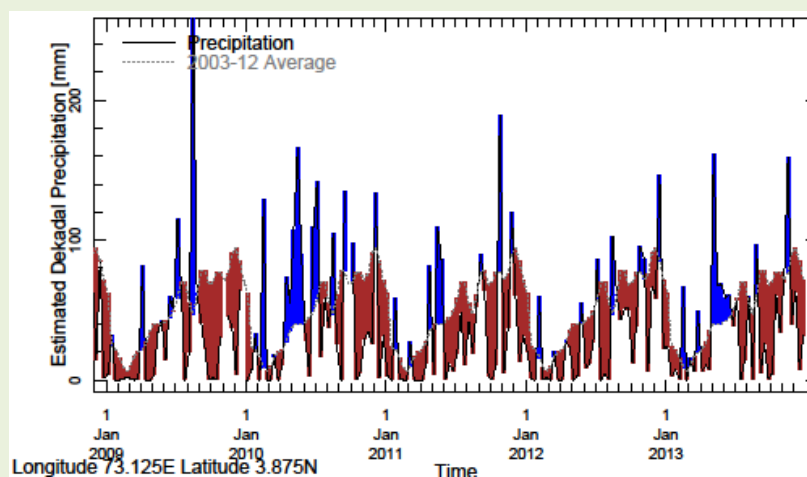
1) Rainfall in 2013 (black) compared to rainfall in previous 5 years



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

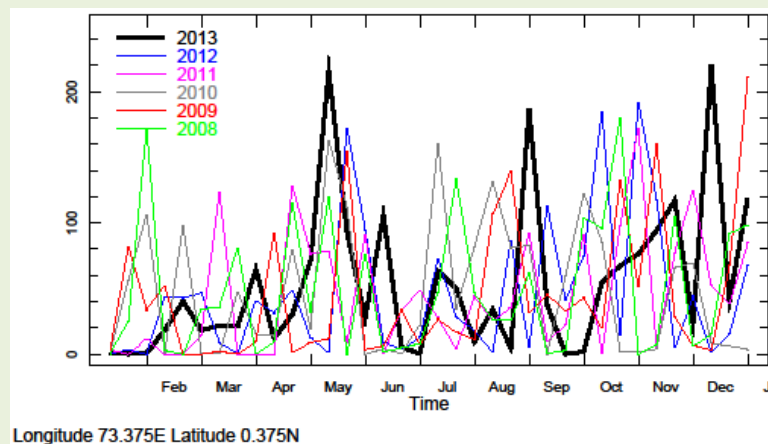


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

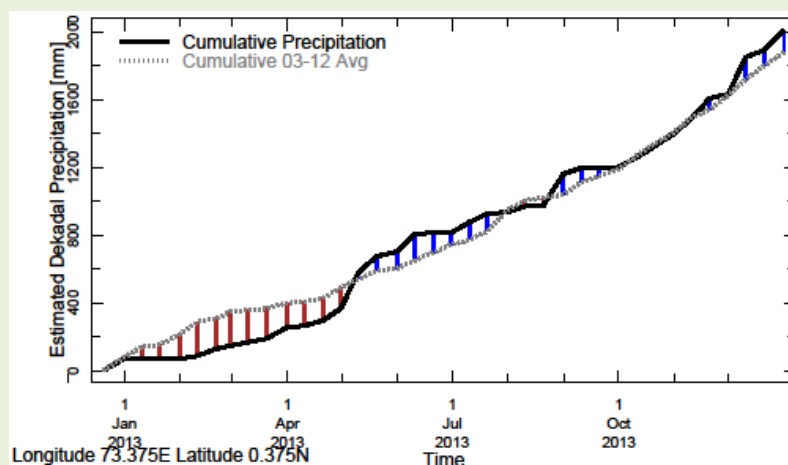


iii) For Southern Maldives

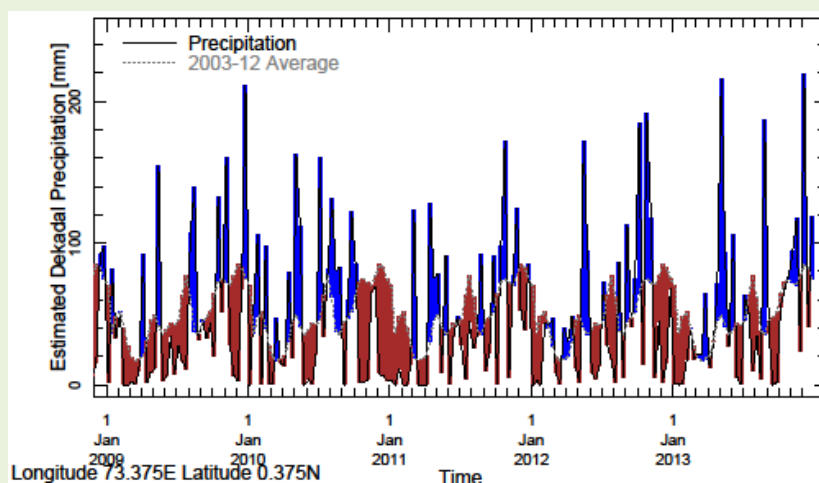
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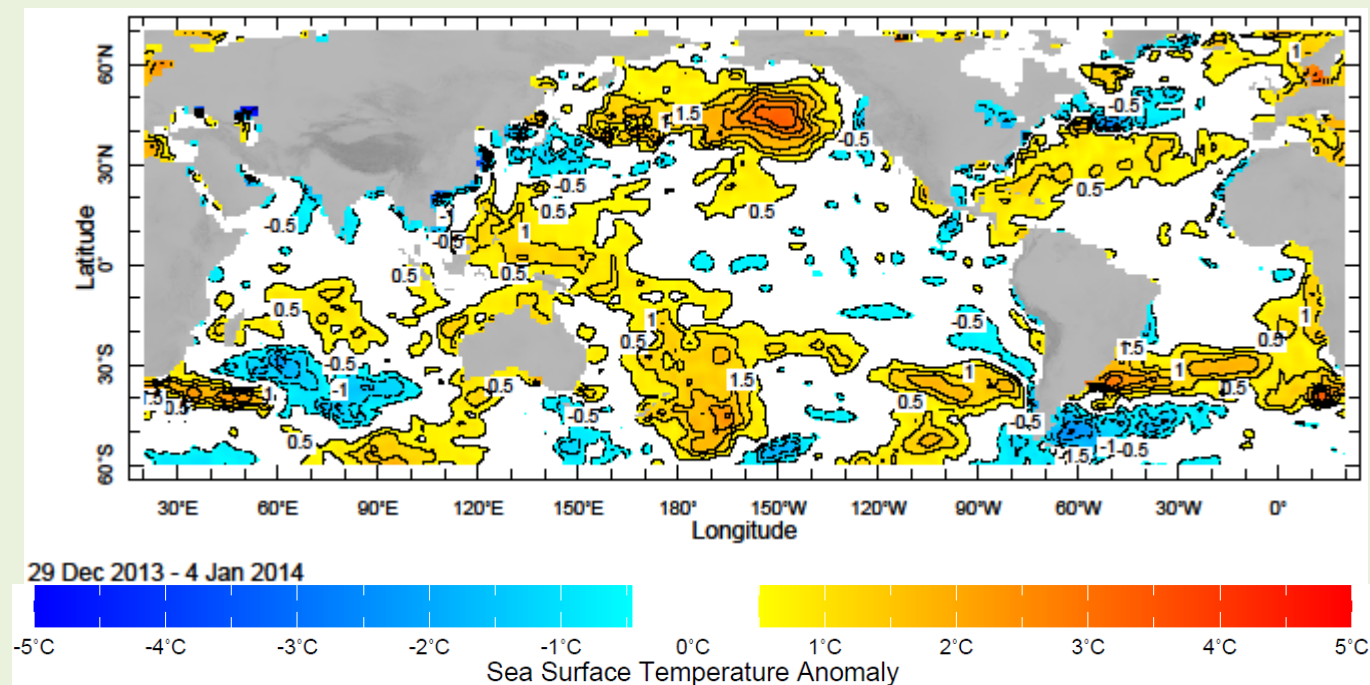
2) Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.



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



d) Weekly Average SST Anomalies ($^{\circ}\text{C}$), 29th December, 2013– 4th January, 2014

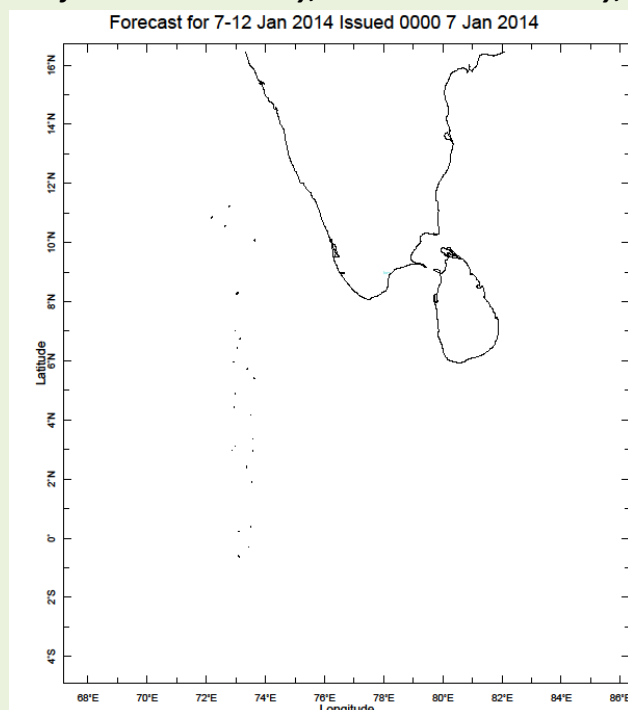


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 7th – 12th January, 2014: Issued 7th January, 2014



b) Seasonal Rainfall and Temperature Predictions from IRI

