

Experimental Climate Monitoring and Prediction for the Maldives

–April 2013

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 April 2013

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PACIFIC SEAS STATE

April 18, 2013

During March through mid-April the observed ENSO conditions remained in the neutral ENSO condition. Most of the ENSO prediction models indicate a continuation of neutral ENSO into northern autumn, but a few statistical models call for cooling toward weak La Nina conditions and an even smaller set of Dynamical models predict warming toward borderline EL Nino conditions.

(Text Courtesy IRI)

INDIAN OCEAN STATE

April 18, 2013

A positive anomaly up to 0.5°C is evident in seas towards East and West of Maldives

Highlights²

Drought conditions persist all over Maldives. South and central islands received relatively high rainfall compared to the previous months, but Northern islands received extremely less rainfall. Anomalous warm sea surface temperature is observed in the seas around Maldives. ENSO conditions remain in the neutral ENSO condition.

Summary²

CLIMATOLOGY

Monthly Climatology: The climatology refers to the average conditions experienced historically for a given month. Usually the climatology is a good guide to what one may expect in a given month absent other information. The historical average rainfall for the Northern islands is high in July (200-250 mm), higher in August (250- 300 mm) and drops in September & October (100- 200 mm). In the Central islands rainfall is usually moderate (150- 200 mm) during the August – October period. Heavy rainfall is typical for the Southern islands during these four months. The winds over the Northern & Central islands are usually westerly (from West to East) and wind speeds are expected to be high. For Southern islands, low wind speeds are expected for July and August but stronger westerly winds in September and October.

MONITORING

Weekly Monitoring: Up to 30 mm of rainfall was observed on the 11th April in Central islands of Maldives. Then in the next 5 days no rain was observed over Maldives save for rainfall up to 50- 60 mm which was observed in Southern islands and seas south of Maldives on 14th and 15th of April.

Monthly and Seasonal Monitoring: Relatively dry conditions persisted in all of Maldives with the cumulative rainfall deficit continues to increase all the time. Although relatively higher rainfall was observed in Central and Southern Maldives in March/ April, which was the highest recorded rainfall in this year in these region, the drought condition persist.

Sea Surface Temperatures and ENSO state: Although the El Nino/La Nina state in the Eastern tropical Pacific Ocean has been near-neutral the anomalously warm Central Indian Ocean sea surfaces are driving climate anomalies.

PREDICTIONS

Weekly Rainfall Forecast: Extreme rainfall events are not expected during 18th -23rd of April.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for May to July 2013 rainfall shall remain climatological while temperature this season shall be 40- 50% above normal.

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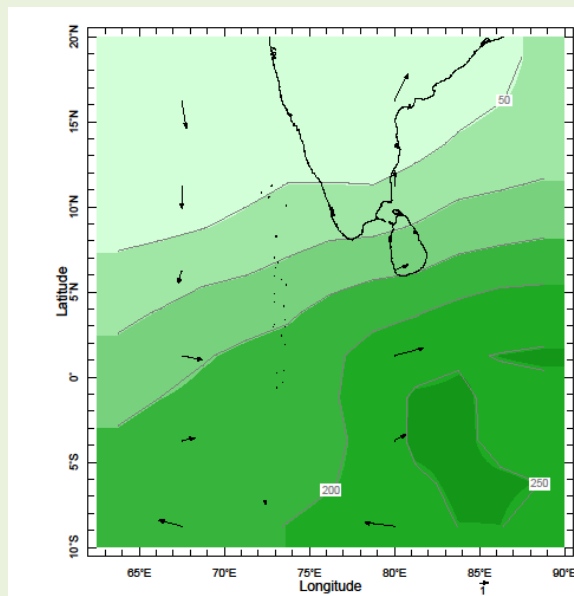
1. Monthly Climatology
2. Rainfall Monitoring
 - a. Daily Satellite derived Rainfall Estimates
 - b. Monthly Rainfall derived from Satellite Rainfall Estimate
 - c. Monthly and Seasonal Monitoring
 - d. Weekly Average SST Anomalies
3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

¹ International Research Institute for Climate and Society.

² These interpretations of climatic conditions are an experimental product. Please consult with the Maldives Meteorological Services for advice on interpretation.

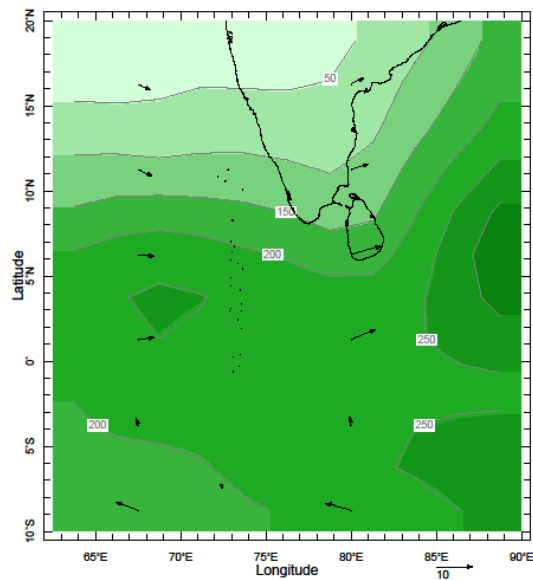
1). Monthly Climatology (CAM5-OPI):

a) Rainfall: Maps: April, May, June, July (Left-Right)



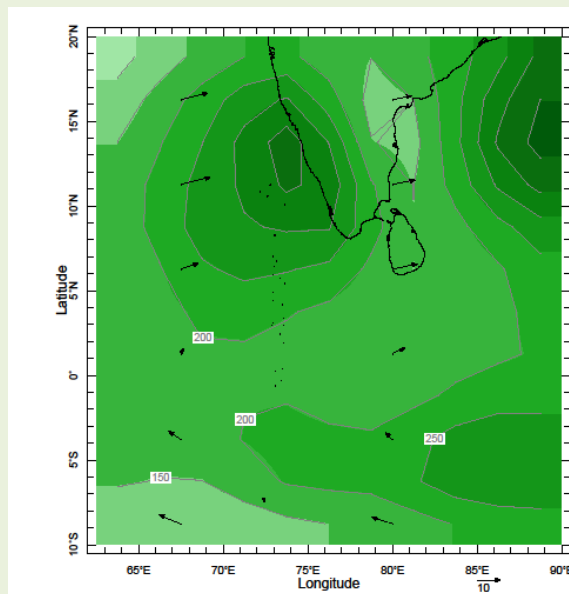
Time Apr Pressure 925. mb

April



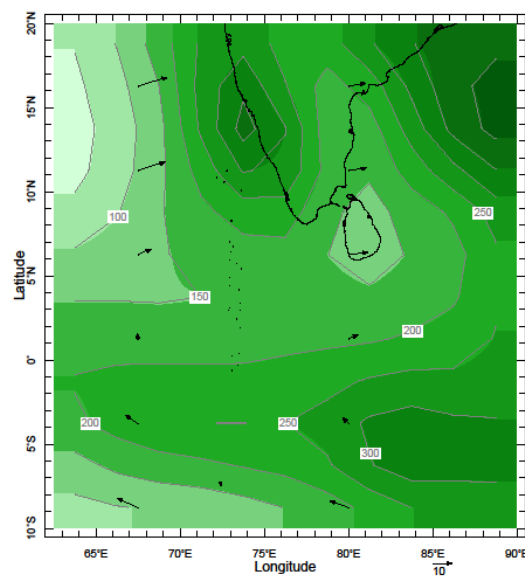
Time May Pressure 925. mb

May



Time Jun Pressure 925. mb

June

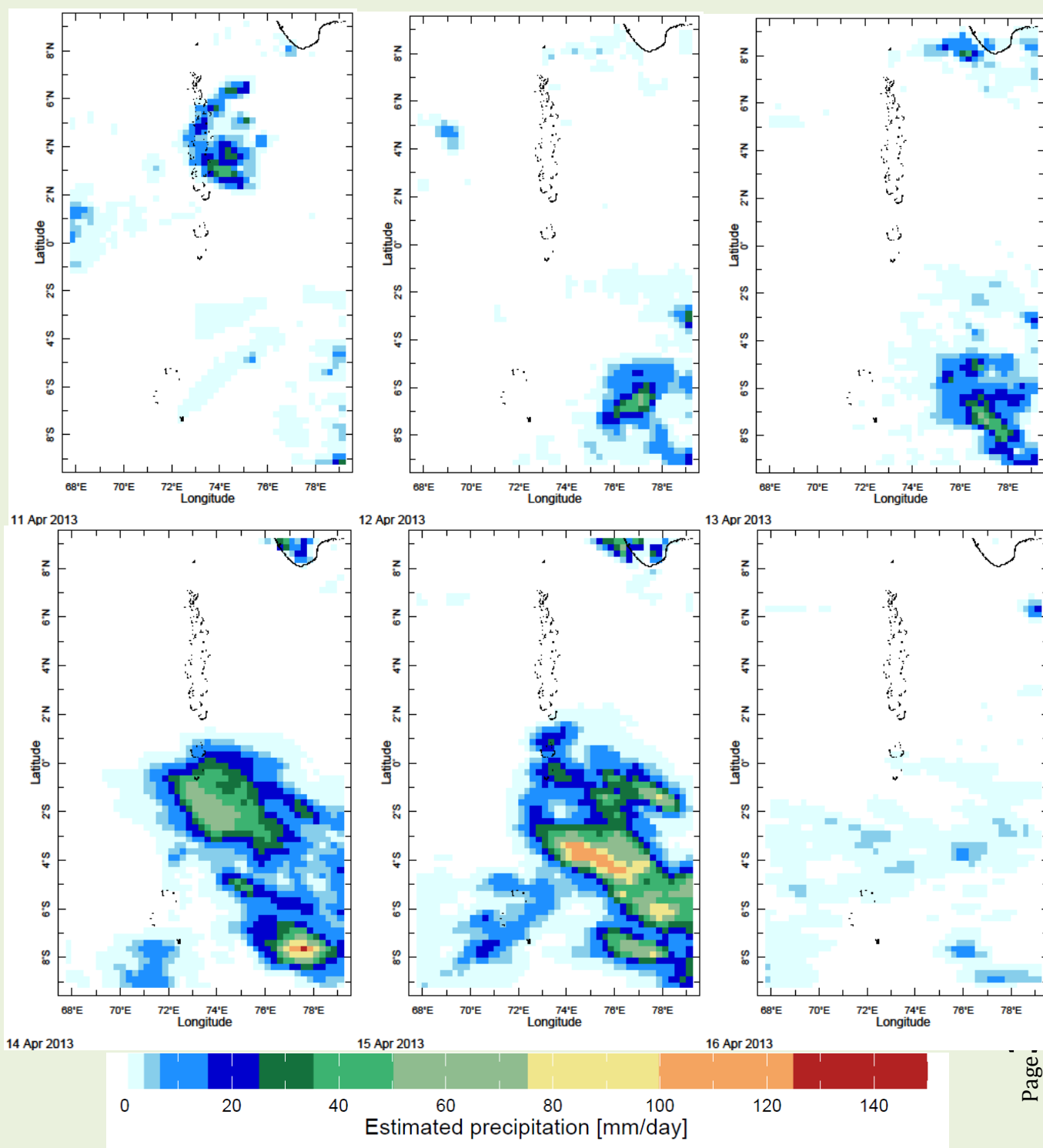


Time Jul Pressure 925. mb

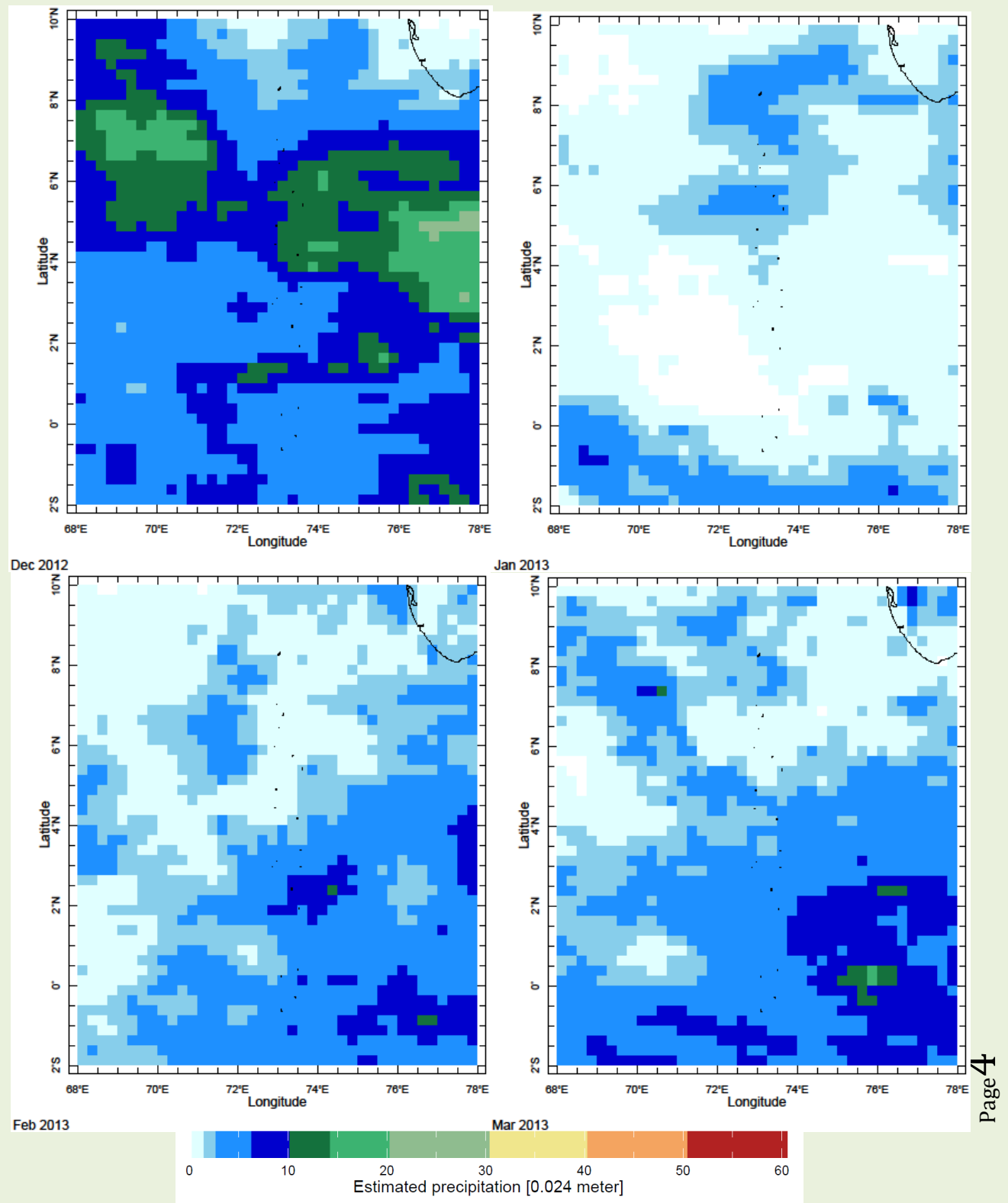
July

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 11th - 16th April, 2013 (Left-Right, Top-Bottom)



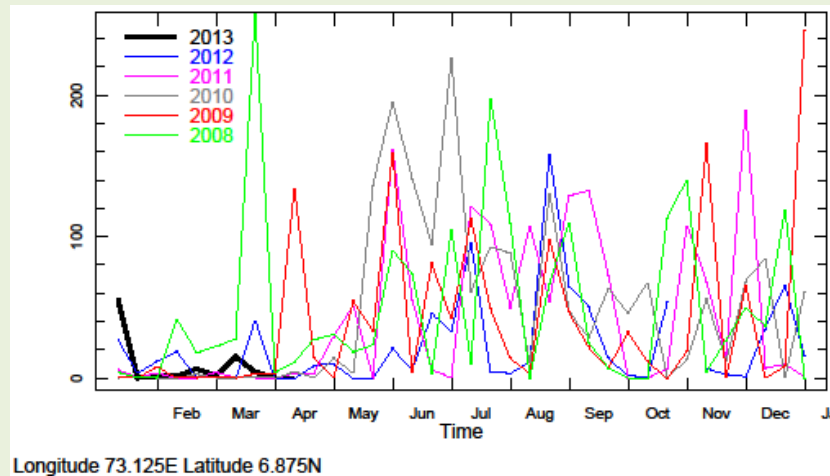
b) Monthly Rainfall (December 2012- March 2013), Derived from Satellite Rainfall Estimates



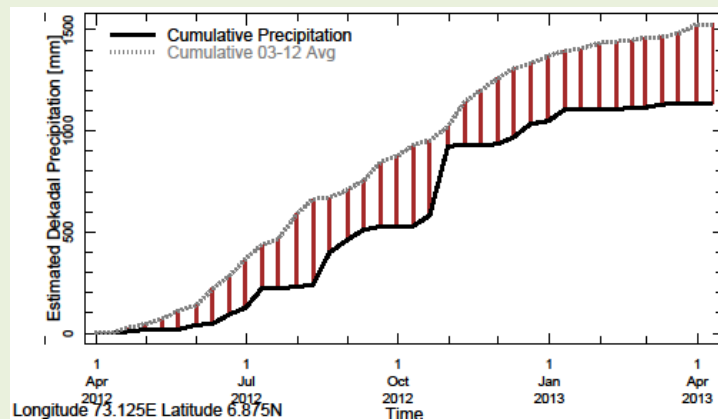
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

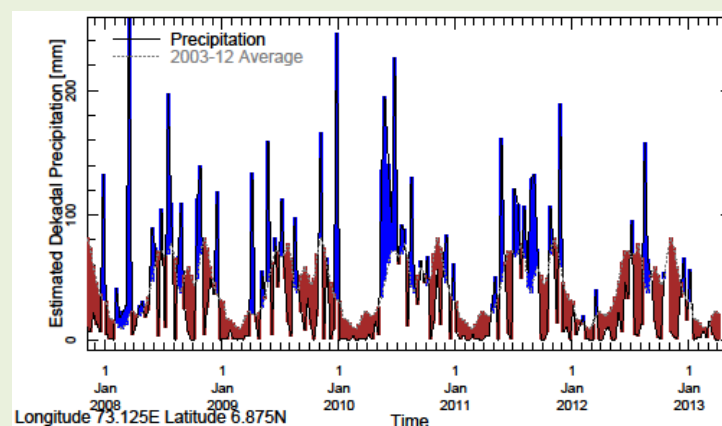
1) Rainfall in 2013 (black) compared to rainfall in previous 5 years



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

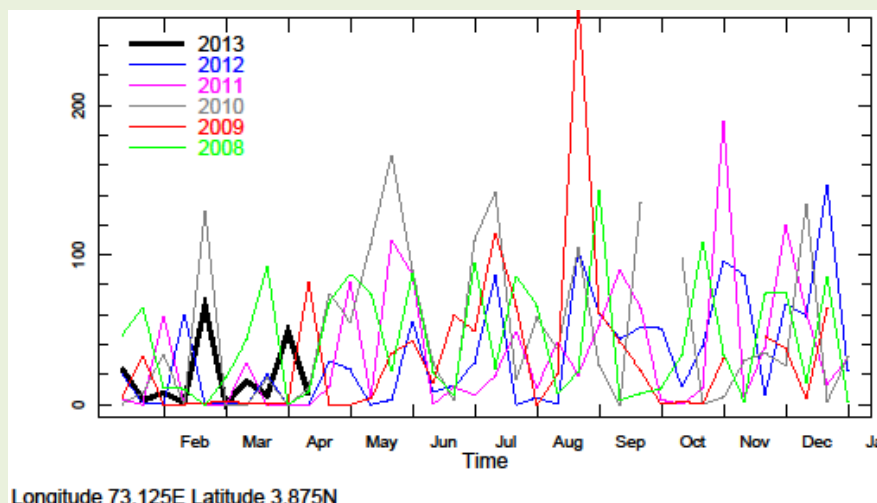


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

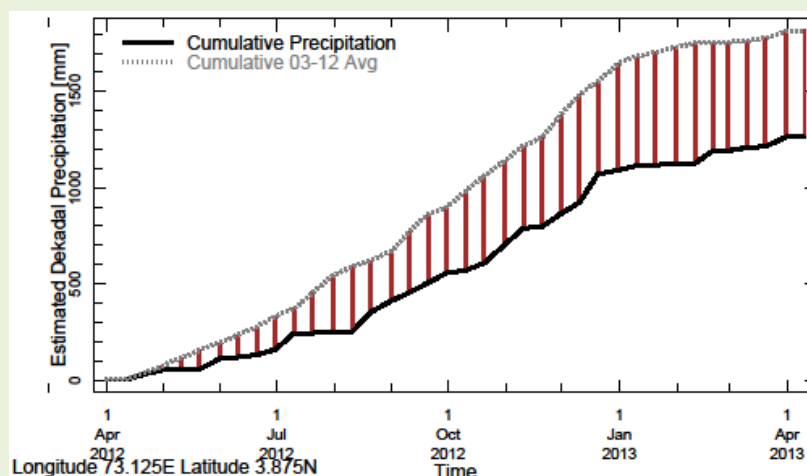


ii) For Central Maldives

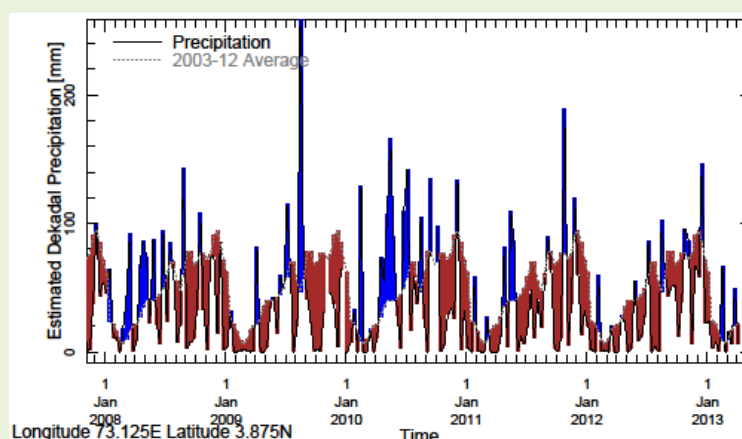
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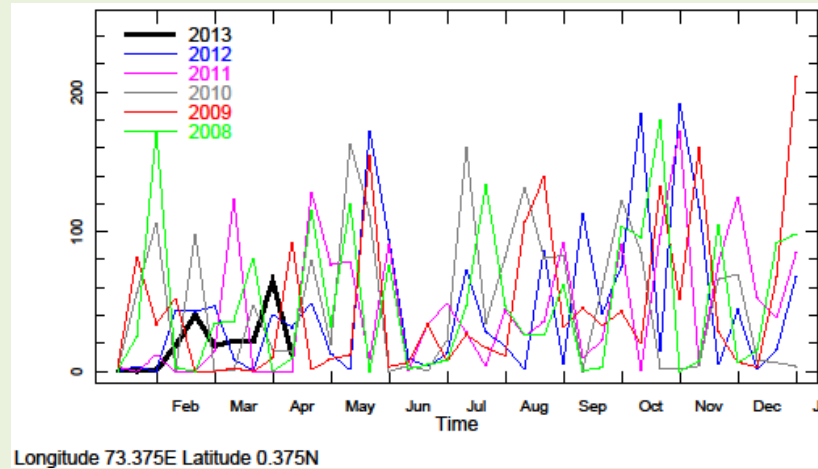


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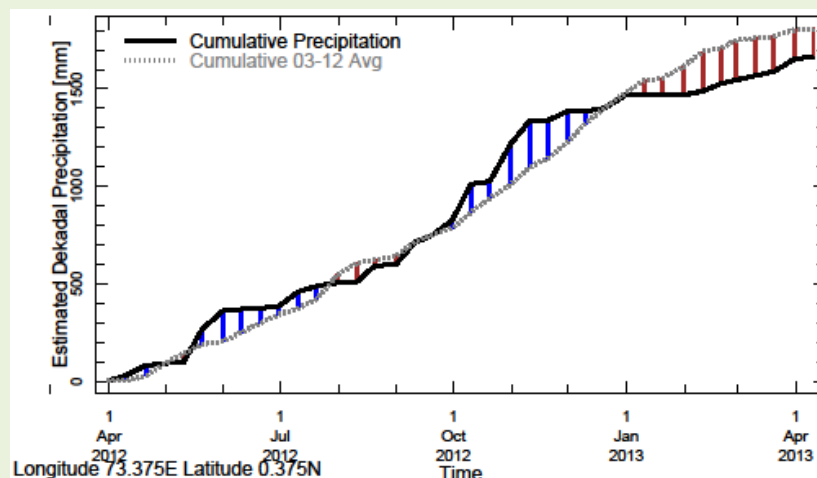


iii) For Southern Maldives

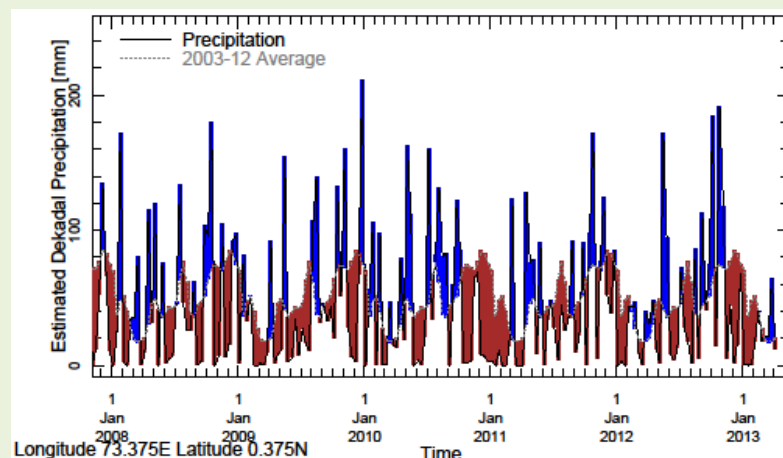
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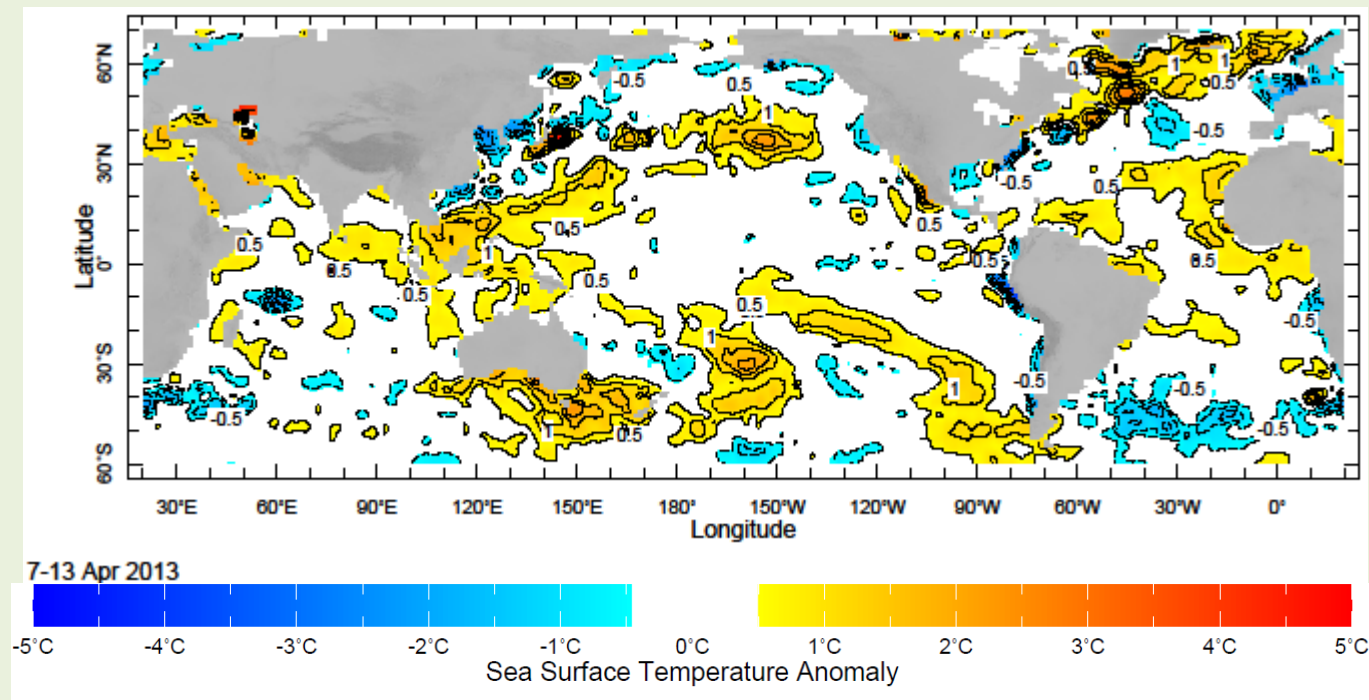
2) Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.



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 ($^{\circ}\text{C}$), 7th -13th April, 2013

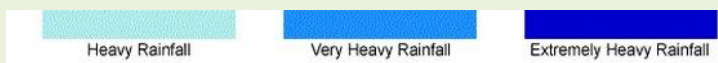
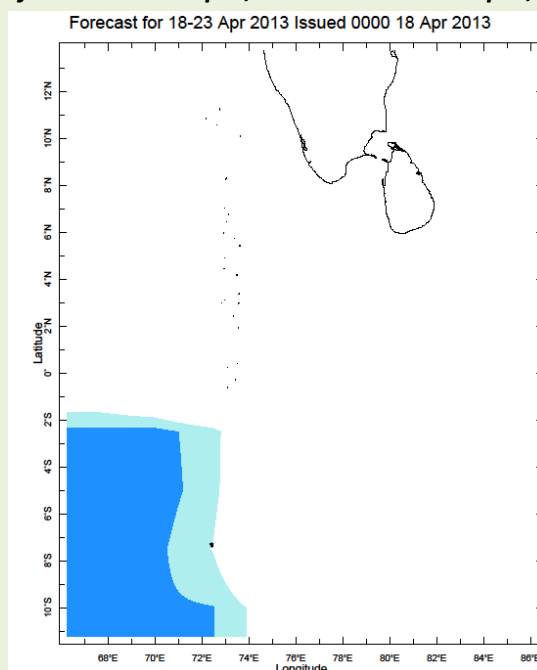


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 18th – 23rd April, 2013: Issued 18th April, 2013



b) Seasonal Rainfall and Temperature Predictions from IRI

