

Experimental Climate Monitoring and Prediction for the Maldives

–February 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

28 February 2013

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PACIFIC SEAS STATE

February 7, 2013

Most of the ENSO prediction models predict natural ENSO conditions through the first half of 2013. During January the observed SST conditions have become below average, but in the neutral range.

(Text Courtesy IRI)

INDIAN OCEAN STATE

February 26, 2013

The Indian Ocean around Maldives, particularly to the South, continues to have a warm anomaly.

Highlights²

As expected the rainfall was low for January particularly in the Northern Islands. Dry months are to follow. The cumulative deficit for the 365 days from the average ending in mid-February is highest in the Northern Islands, while being in deficit to some extent in the Central Islands but about normal in the Southern Islands.

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: Some rainfall was observed on the 18th February 2013 in Northern-most and Southern-most islands of Maldives. No rainfall was observed in any part of Maldives for the next 5 days. (19th – 23rd February)

Monthly and Seasonal Monitoring: Compared to 3 previous months, very less rainfall was observed during the month of January in Maldives. Rainfall deficit has grown to around 500 mm in Northern islands and around 700 mm in Central islands while a comparatively large deficit is also evident in Southern islands of Maldives.

Sea Surface Temperatures and ENSO state: In the Pacific, the El Nino state has weakened to neutral although there is weak warming remnant in the El Nino index areas. The unusually warmer sea surfaces of the Arabian Sea/Central Western and South-Eastern Indian Ocean remain although it has weakened.

PREDICTIONS

Weekly Rainfall Forecast: Extreme rainfall events are not expected during 24th of February to 1st of March.

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

Inside this Issue

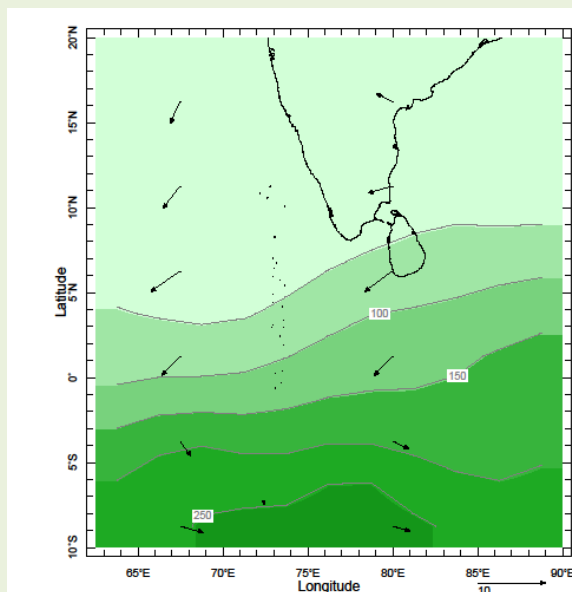
1. Monthly Climatology
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 - b. Monthly Rainfall derived from Satellite Rainfall Estimate
 - c. Monthly and Seasonal Monitoring
 - d. Weekly Average SST Anomalies
3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions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

¹ International Research Institute for Climate and Society.

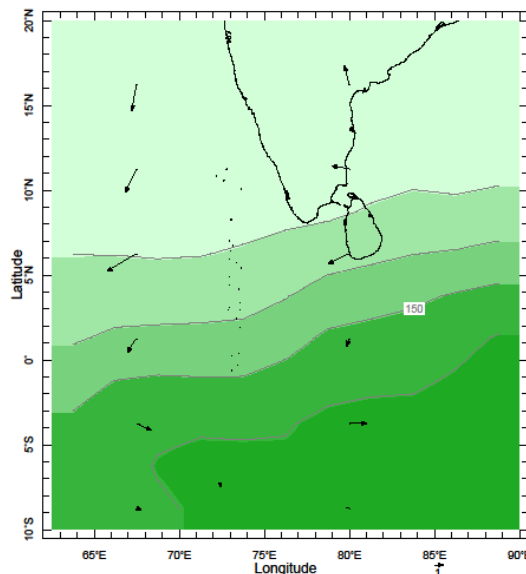
² These interpretations of climatic conditions are an experimental product. Please consult with the Maldives Meteorological Services for advice on interpretation.

1). Monthly Climatology (CAM5-OPI):

a) Rainfall: Maps: February, March, April, May (Left-Right)



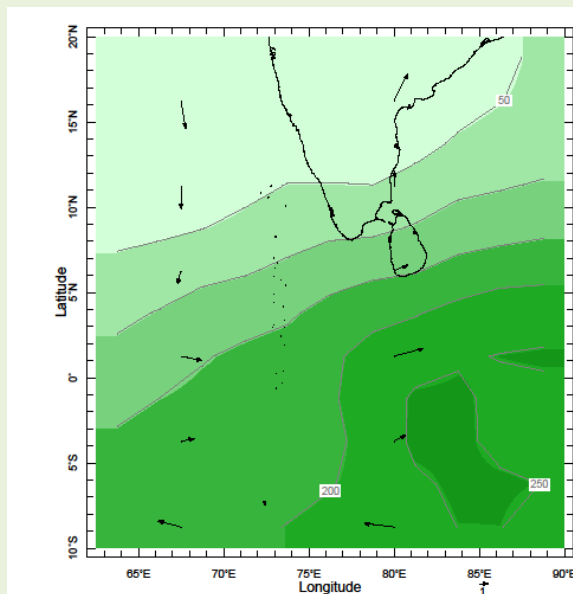
Time Feb Pressure 925. mb



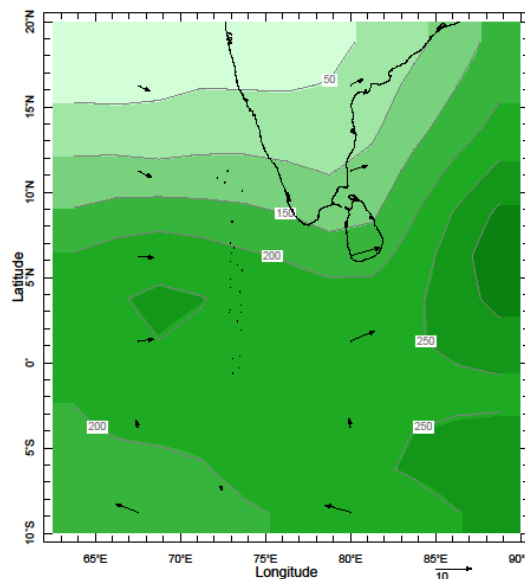
Time Mar Pressure 925. mb

February

March



Time Apr Pressure 925. mb



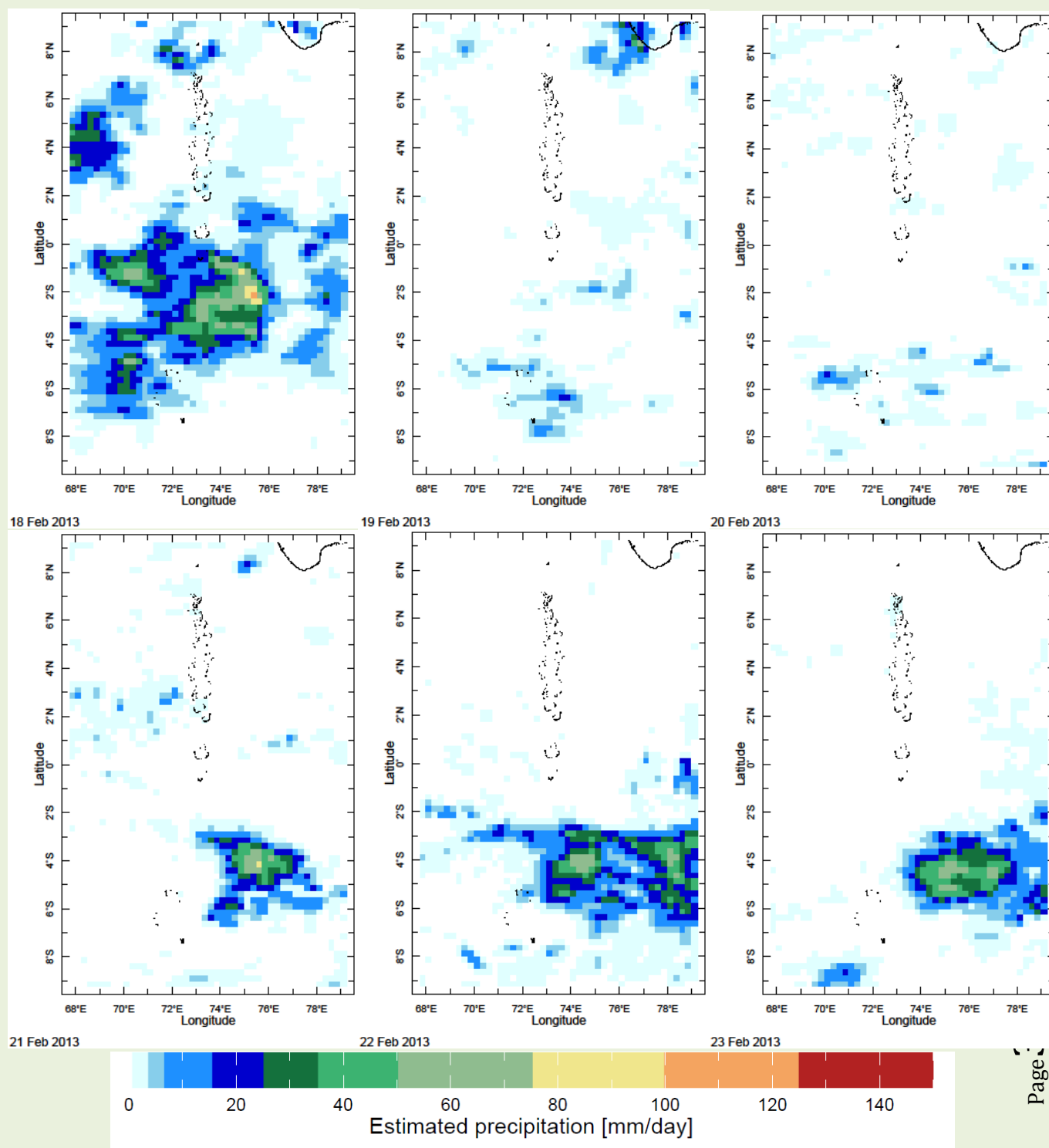
Time May Pressure 925. mb

April

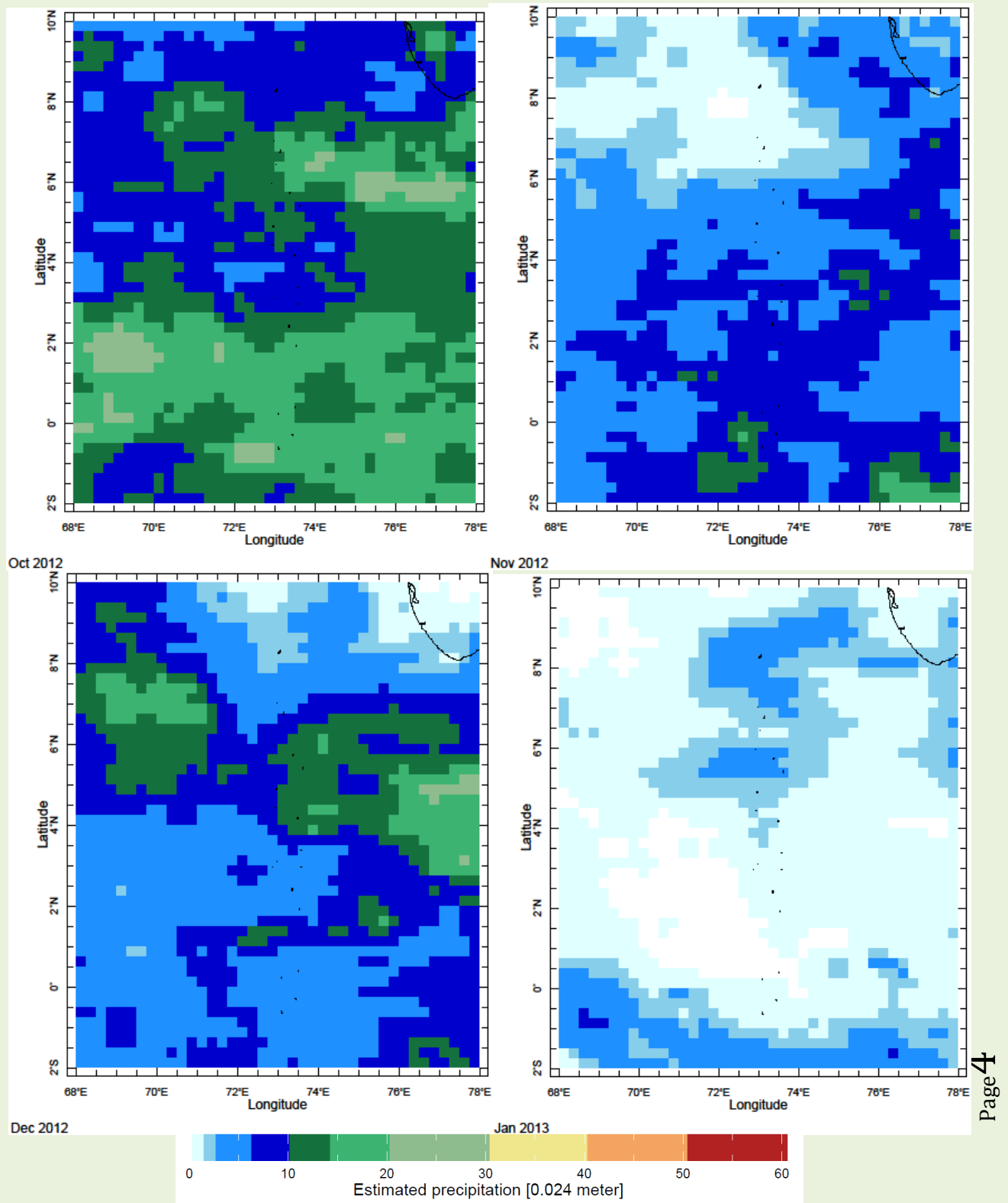
May

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 18th - 23rd February, 2013 (Left-Right, Top-Bottom)



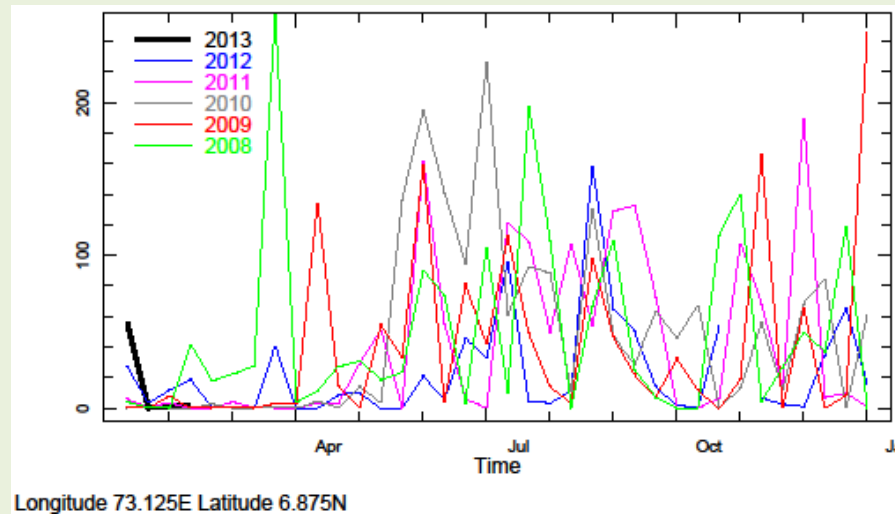
b) Monthly Rainfall (October 2012- January 2013), Derived from Satellite Rainfall Estimates



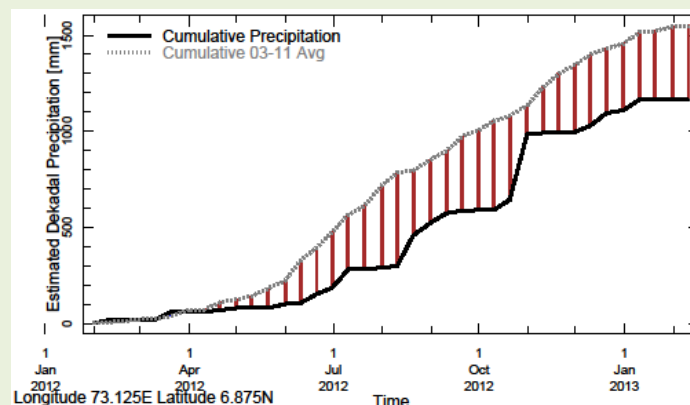
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

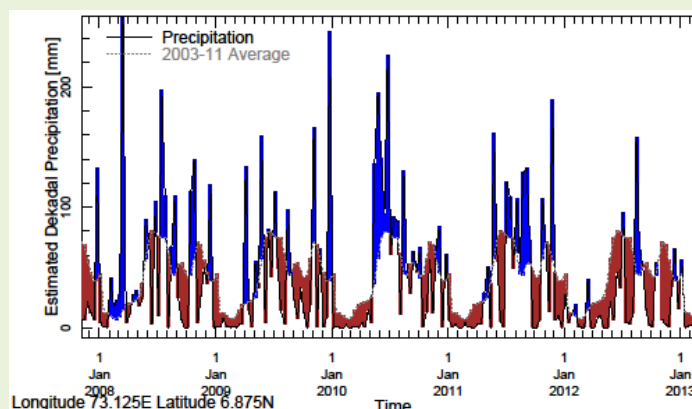
1) Rainfall in 2013 (black) compared to rainfall in previous 5 years



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

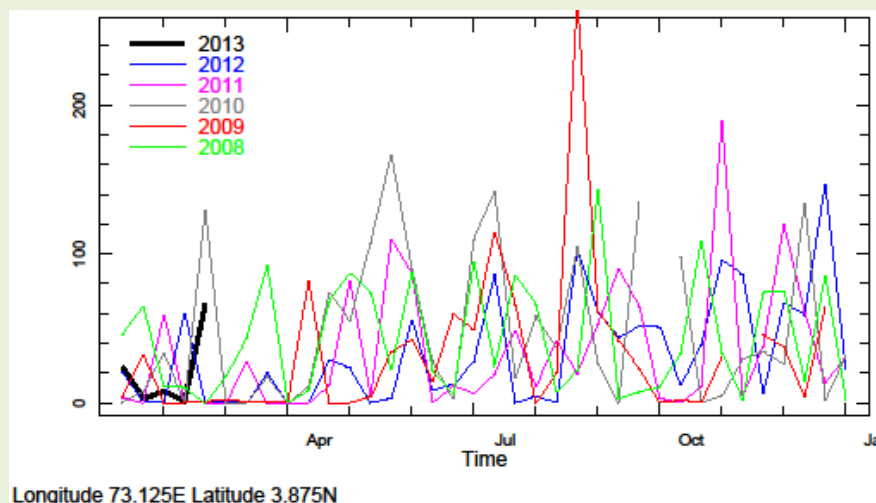


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

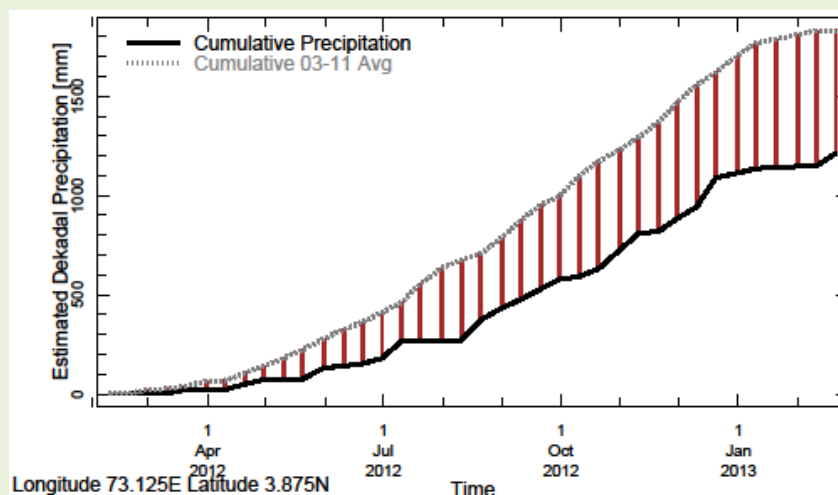


ii) For Central Maldives

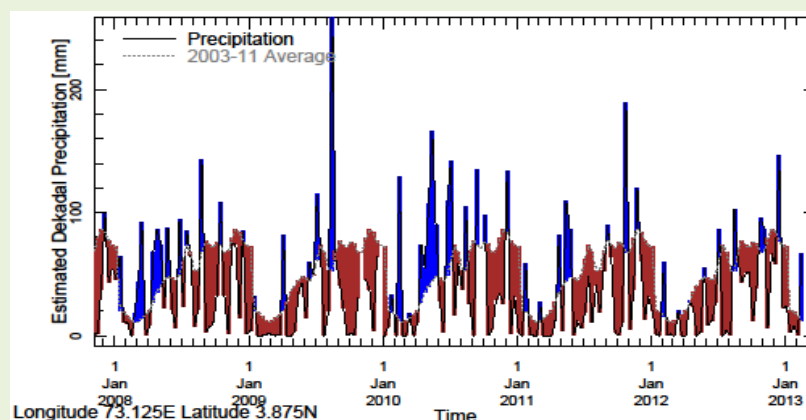
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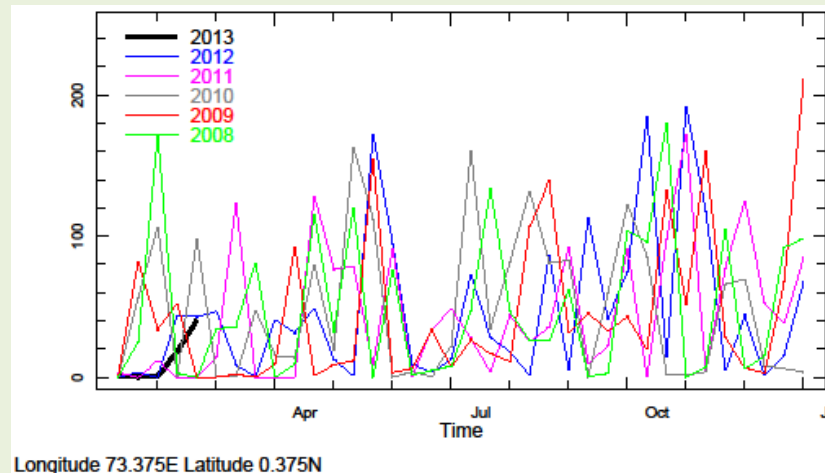


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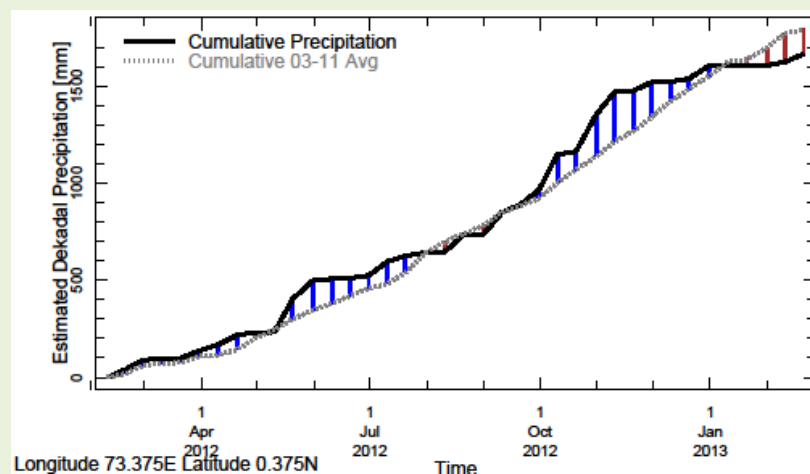


iii) For Southern Maldives

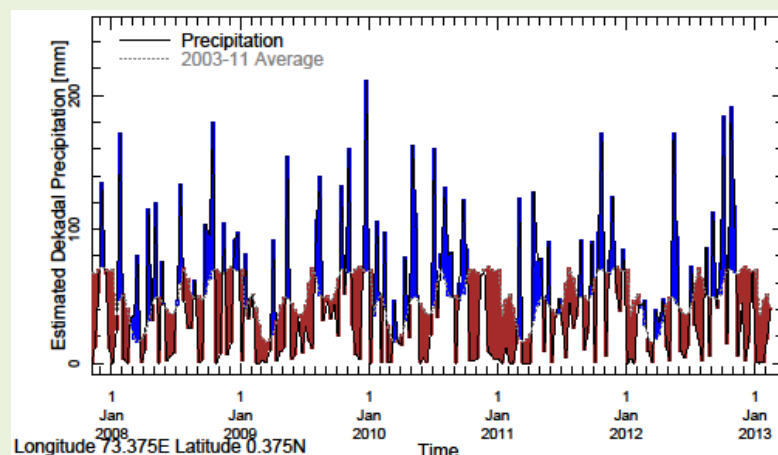
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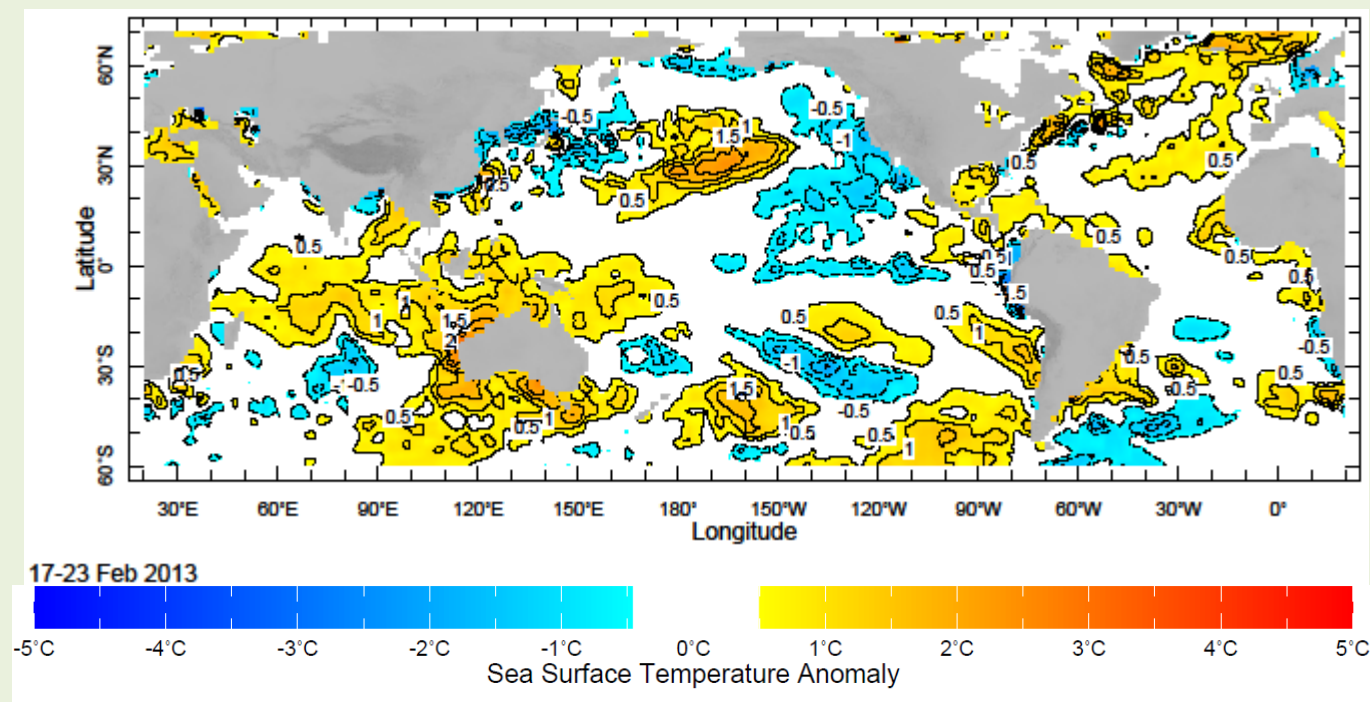
2) Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.



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 ($^{\circ}\text{C}$), 17th -23rd February, 2013

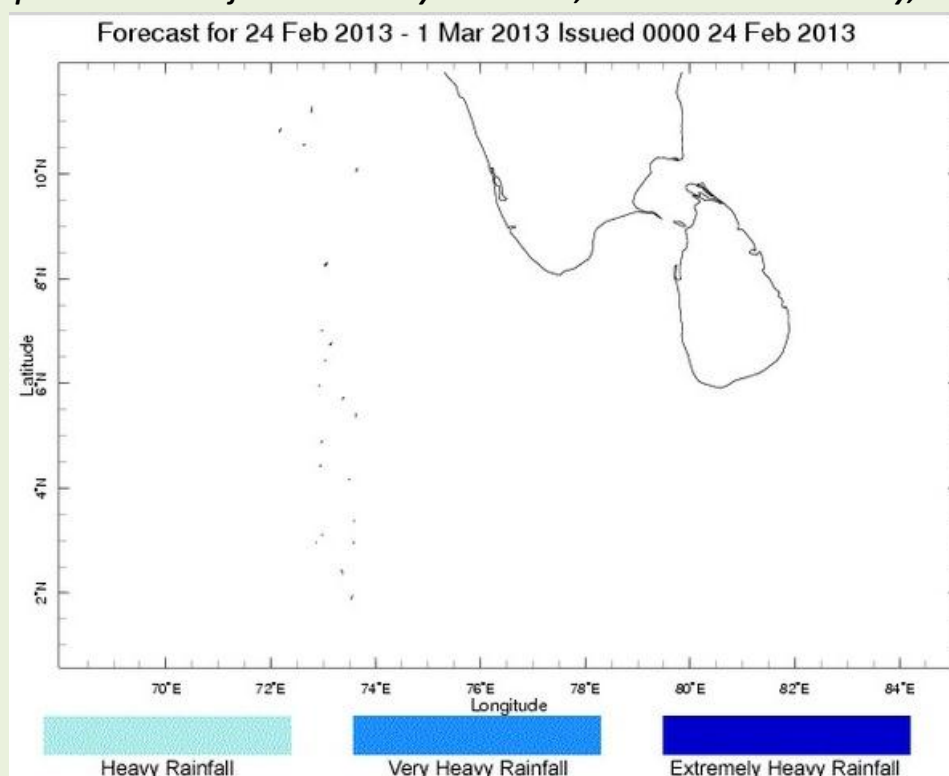


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

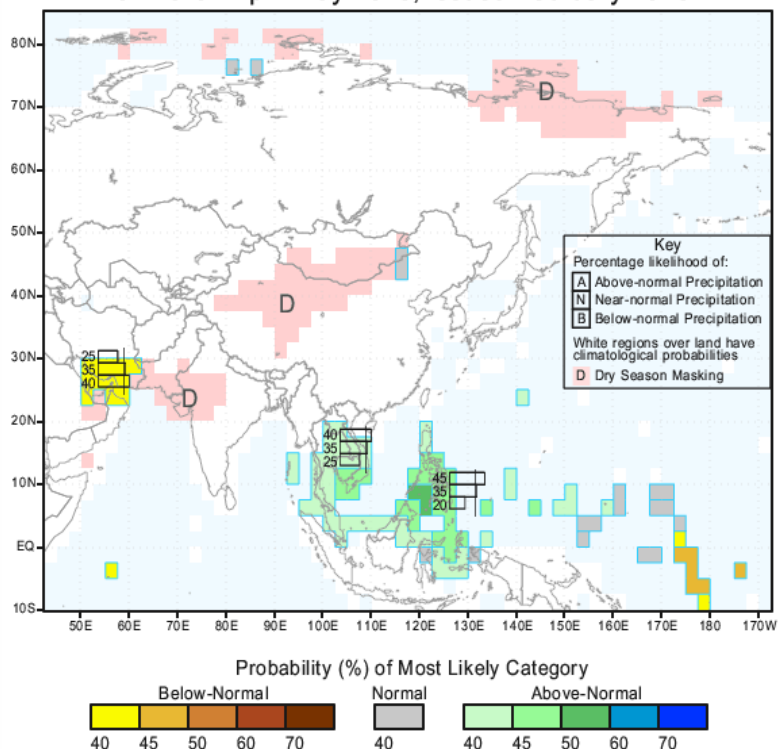
3). Predictions

a) Weekly Precipitation Forecast for 24th February – 1st March, 2013: Issued 24th February, 2013

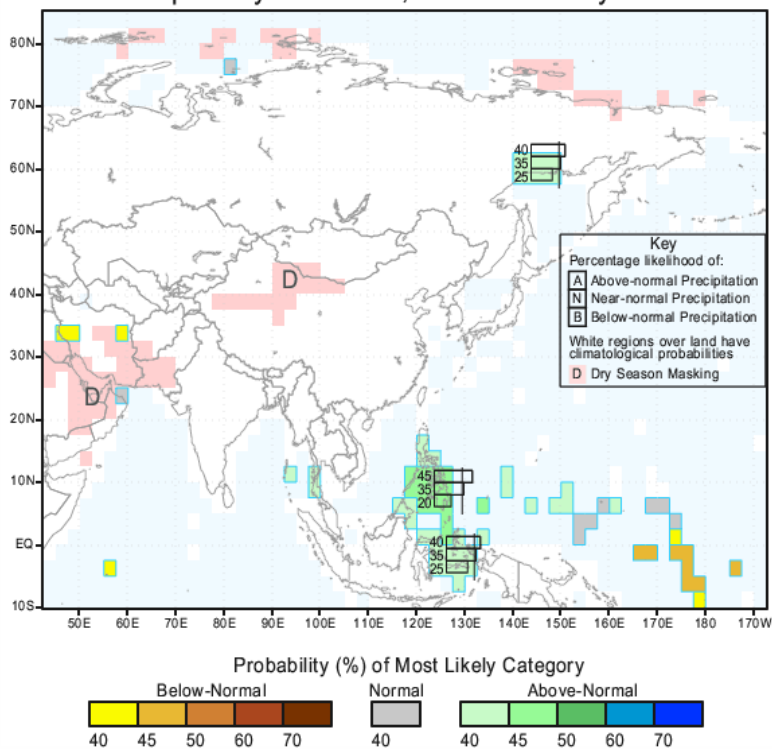


b) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for March-April-May 2013, Issued February 2013



IRI Multi-Model Probability Forecast for Precipitation
for April-May-June 2013, Issued February 2013



b) Seasonal Climate Predictions (IRI) continued

