FECT Foundation for Environment Climate and Technology
Website http://www.climate.lk/ E-mail fectmv@gmail.com
Digana Village,Sri Lanka - Male,Maldives - New York,USA.
Phone: (+94) 81-2376746 **(SL),** (+960) 77880 **(MV)**
Maldives Site http://www.tropicalclimate.org/maldives

Experimental Climate Monitoring and Prediction for the Maldives –March 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

18 March 2013

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www.tropicalclimate.org/maldives

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PACIFIC SEAS STATE

March 21, 2013

During January and February the observed ENSO conditions have leaned towards La-Nina, but remained in the neutral range. Most of the ENSO prediction models call for neutral ENSO conditions through most of the second quarter of 2013, beyond which there is great uncertainty due to the time of year. **(Text Courtesy IRI)**

INDIAN OCEAN STATE

March 18, 2013

The Indian Ocean around Maldives, particularly to the South and North, has a warm anomaly of up to 0.5 °C.

Highlights[2]

The cumulative rainfall of 20-40% deficit in in the past 365 days for Northern and Central Maldives highlights the drought conditions in the last two months, Southern Maldives too shows a deficit after having near normal rainfall in the previous 10 months. Although the El Nino/La Nina state in the Eastern tropical Pacific Ocean has been near-neutral the warm Central Indian Ocean sea surfaces are driving climate anomalies. In particular the seas around Northern and Southern are warmer than normally by up to 0.5 degrees C. Seasonal rainfall predictions for the next season (March-April-May) and following season (June-July-August) do not show shifts in rainfall tendencies, there is a higher likelihood of warmer temperatures across the Maldives.

Summary[2]

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 15th March 2013 in Southern-most islands of Maldives. Dry conditions were observed in the whole country during previous 5 days.

Monthly and Seasonal Monitoring: Relatively dry conditions persisted in all of Maldives with the cumulative rainfall deficit increasing all the time. The deficit over the last two months in all of Maldives is particularly likely to affect the Northern and Central Islands where the previous 10 months had significant (15-30%) deficits.

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 17th -22nd 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] 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.

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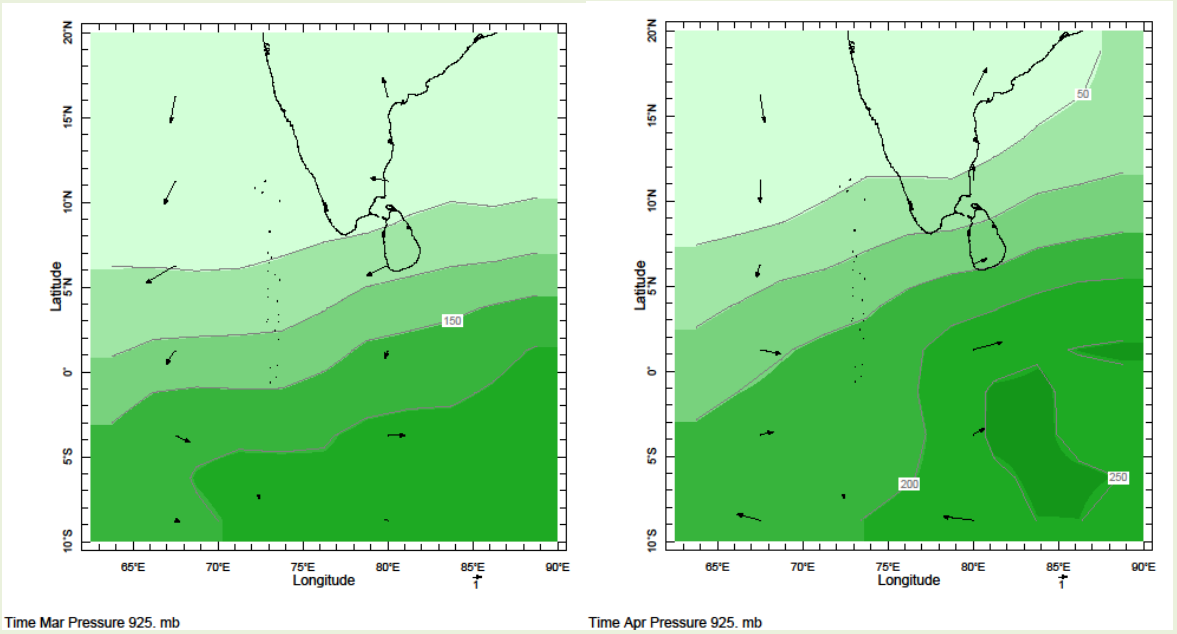
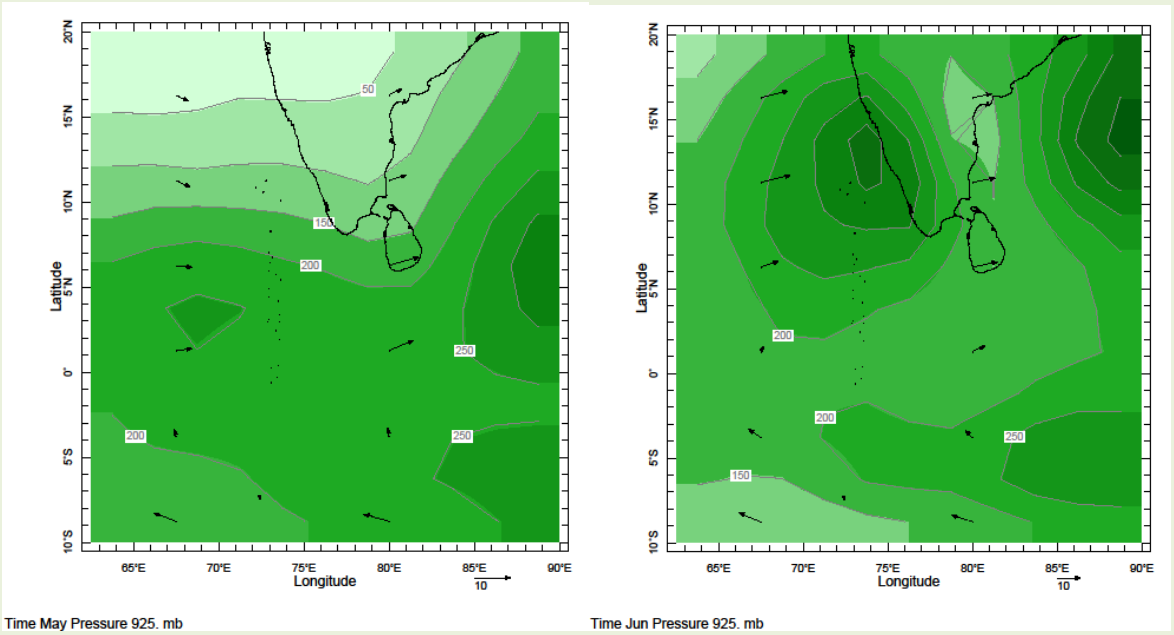
1). Monthly Climatology (CAMS-OPI):

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



March **April**



May **June**

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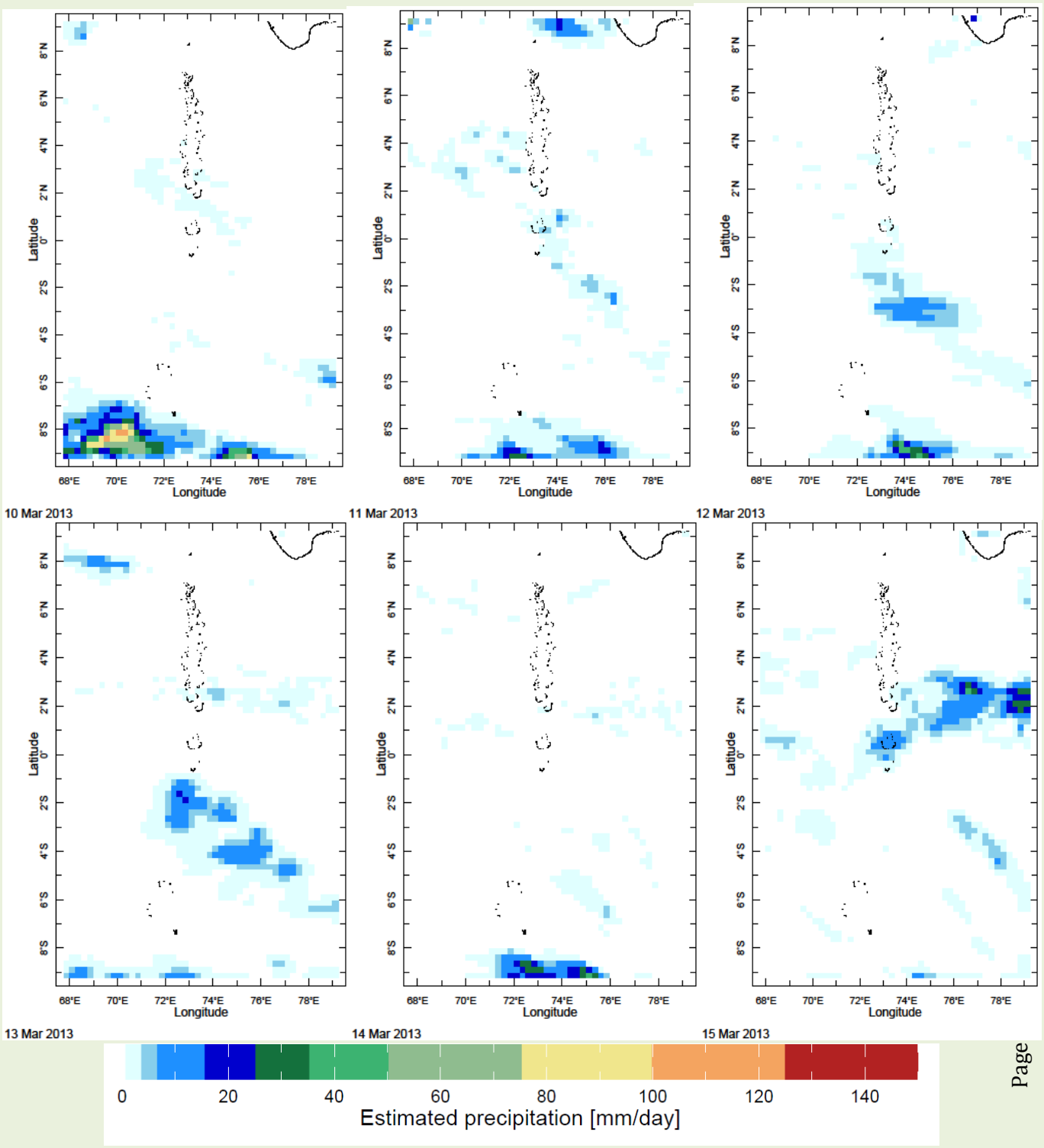
2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: *10th- 15th March, 2013 (Left-Right, Top-Bottom)*



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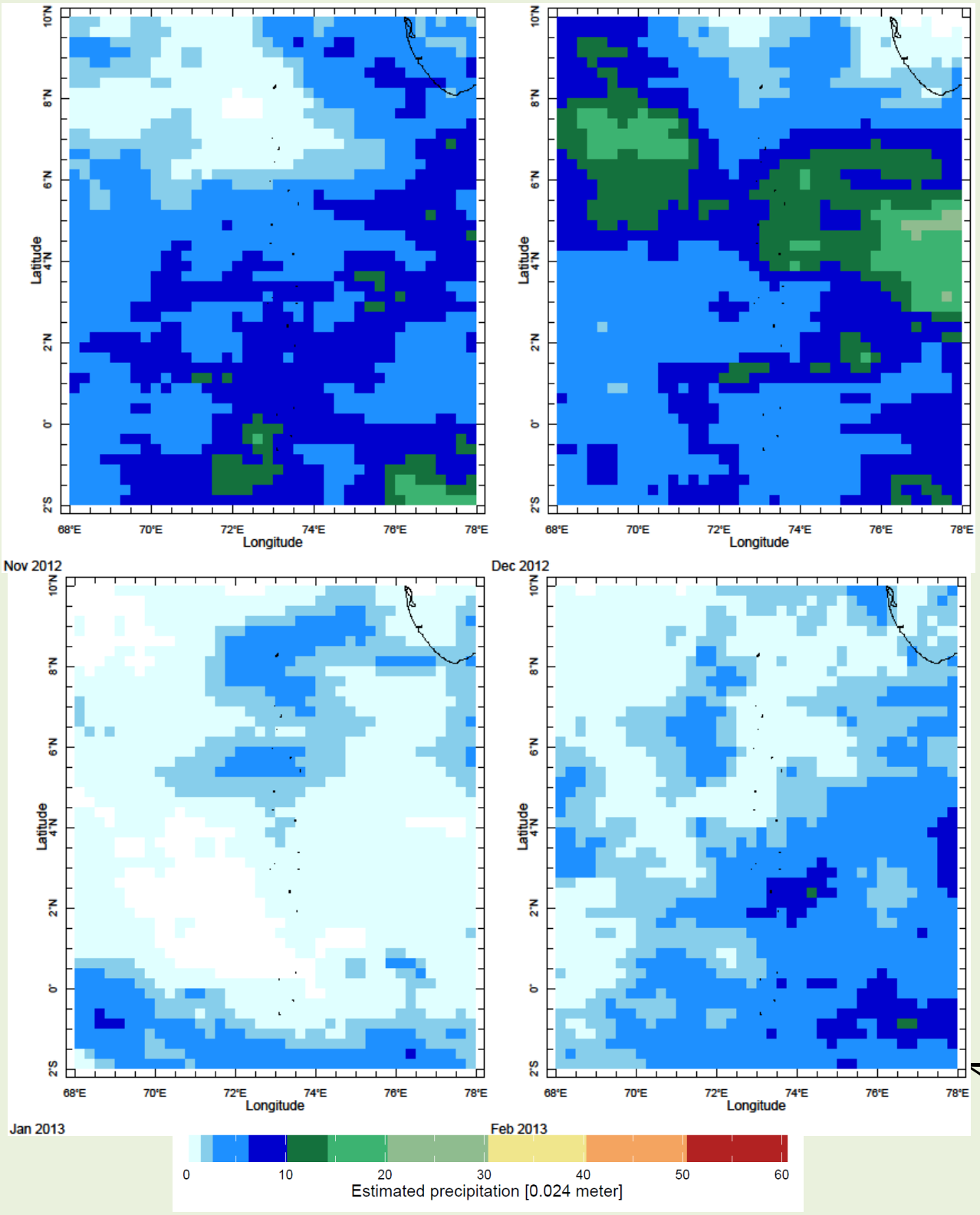
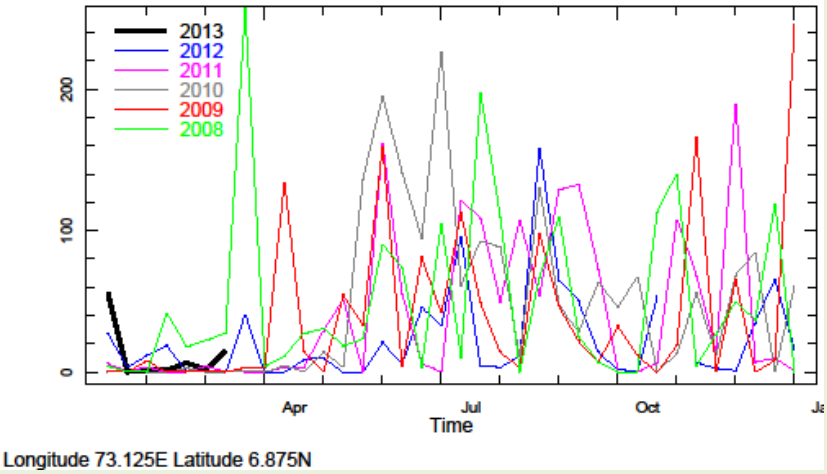
b) Monthly Rainfall **(November 2012- February 2013),** ***Derived from Satellite Rainfall Estimates***



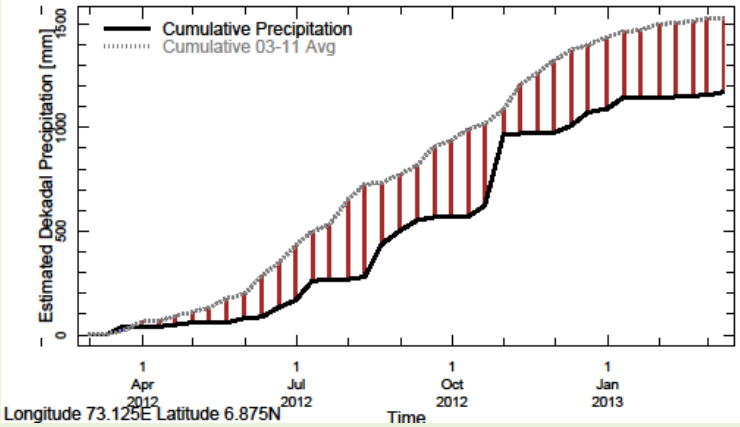
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

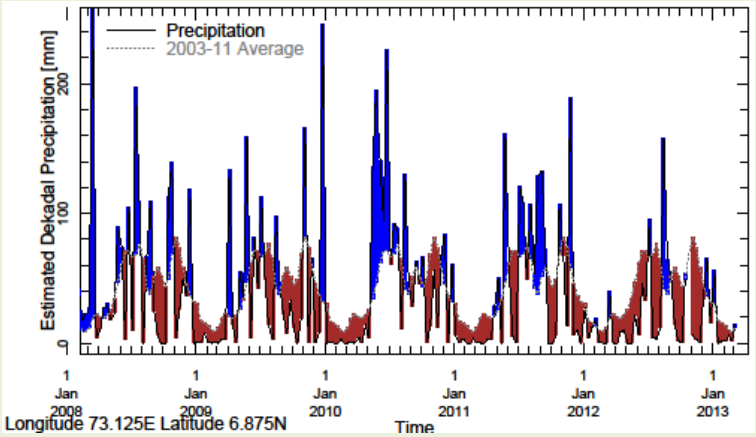
1) Rainfall in 2013 (black) compared to rainfall in previous 5 years



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

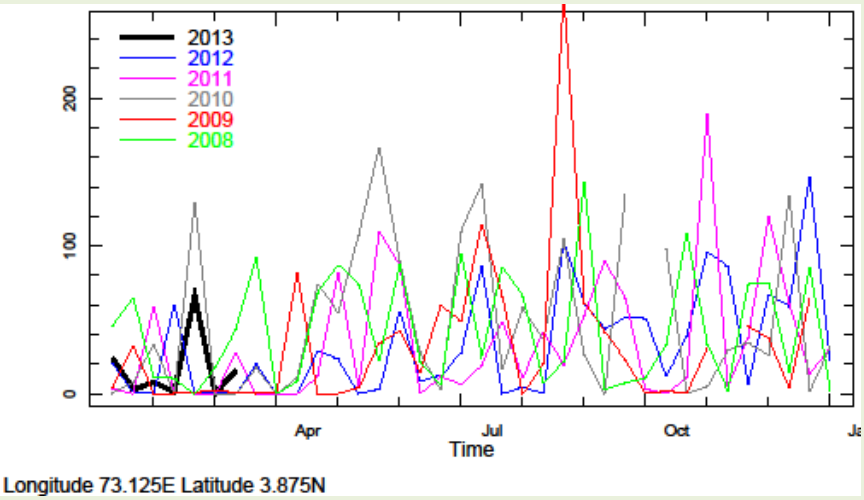


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



ii) For Central Maldives

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



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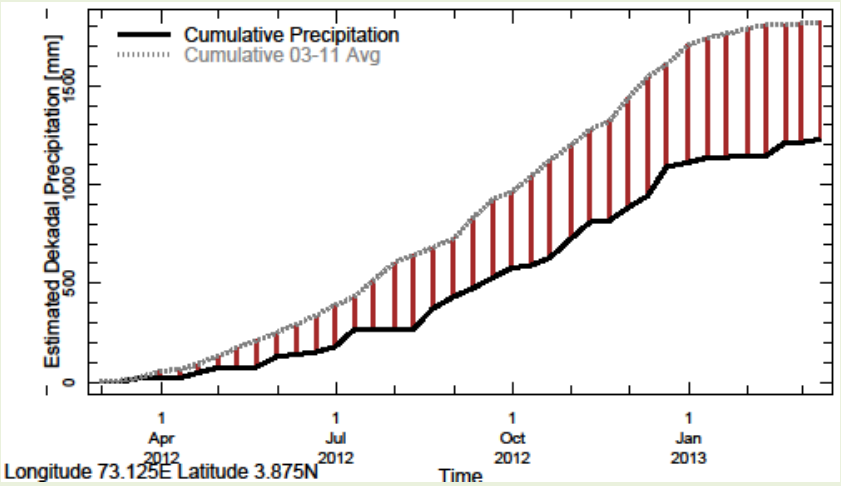
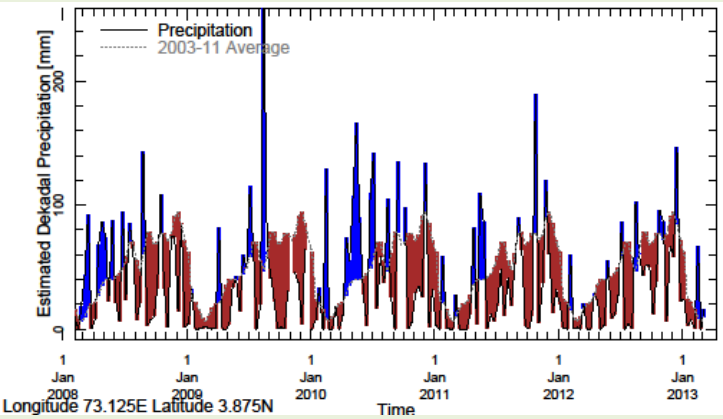
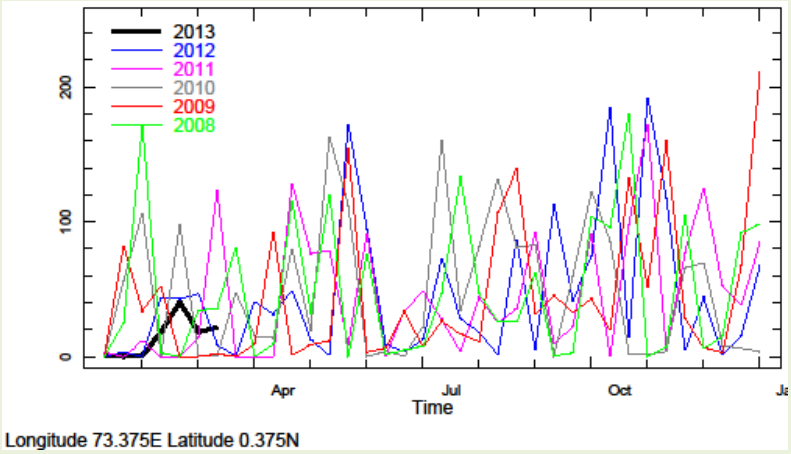


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.



iii) For Southern Maldives

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



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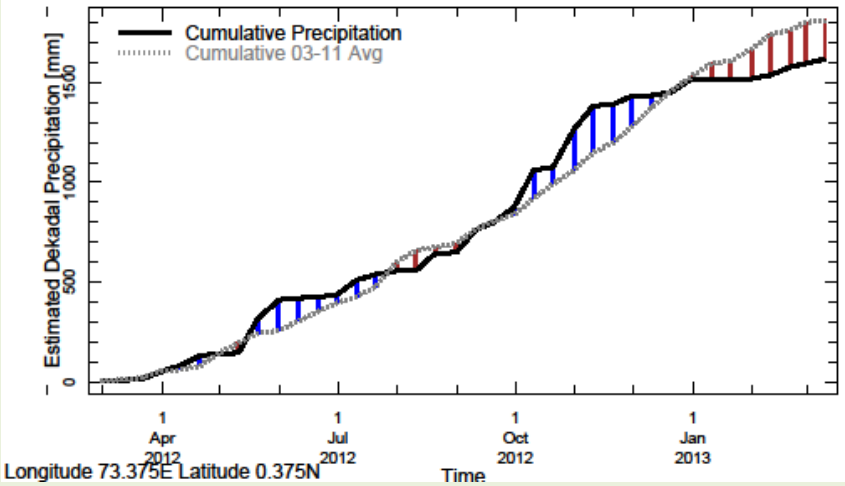

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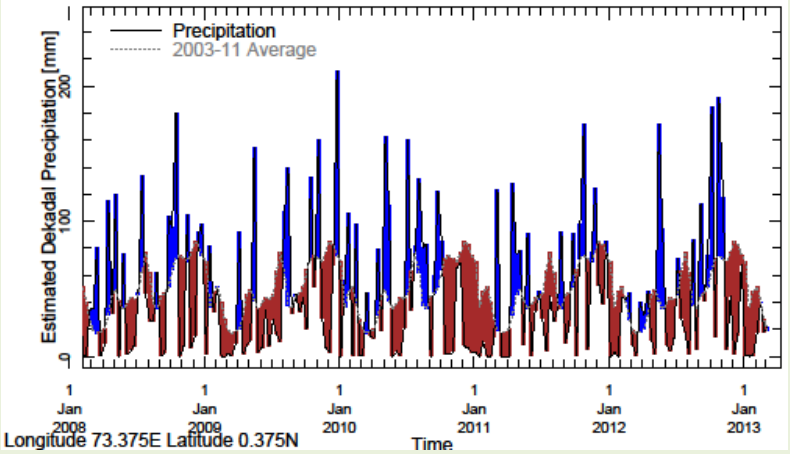
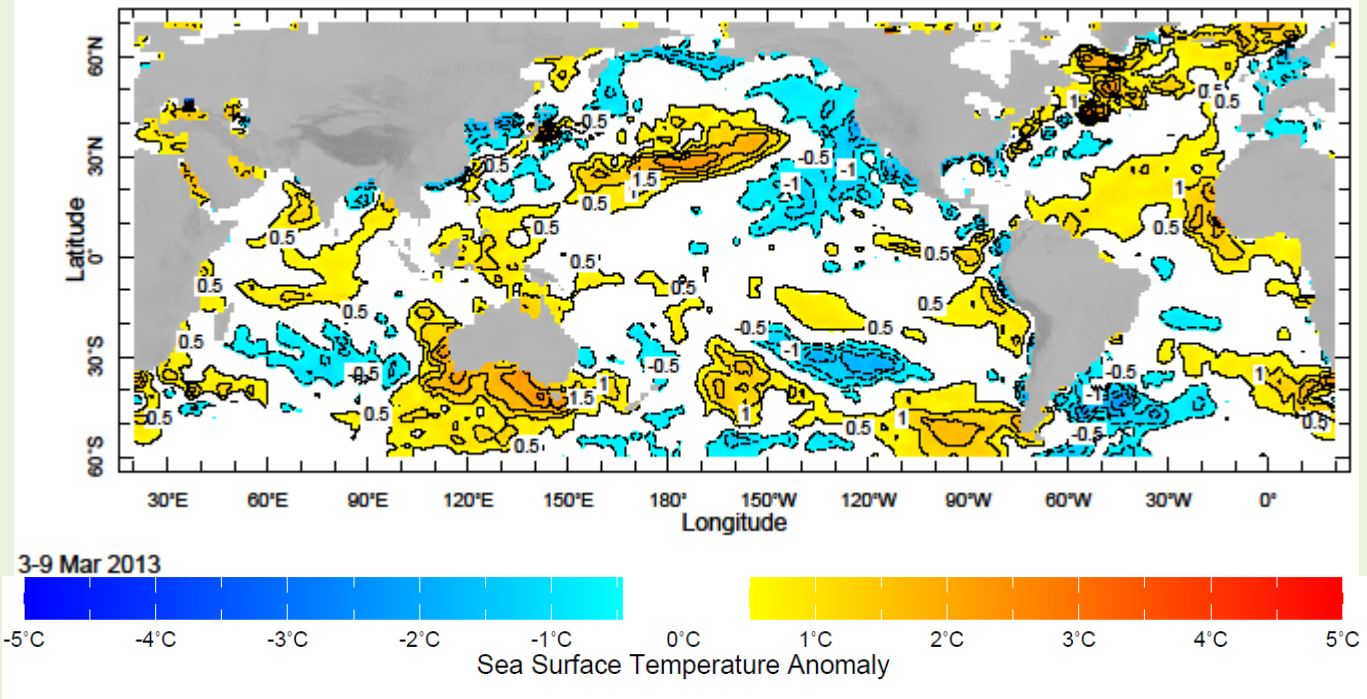


d) Weekly Average SST Anomalies (^{0}C), 3rd -9th March, 2013

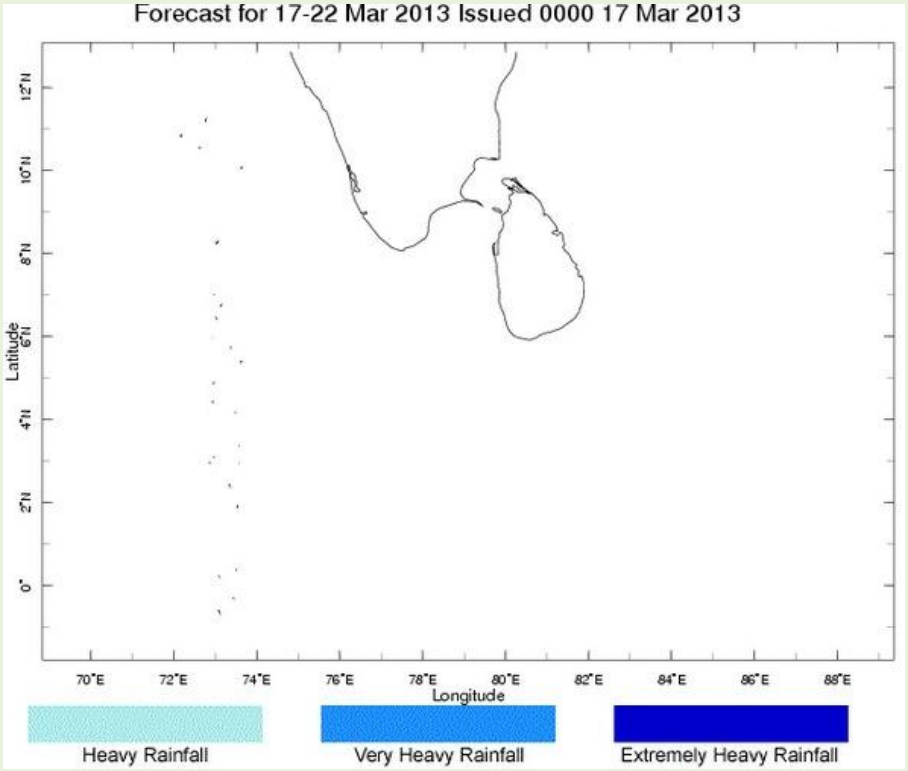


Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 17th – 22nd March, 2013: Issued 17th March, 2013



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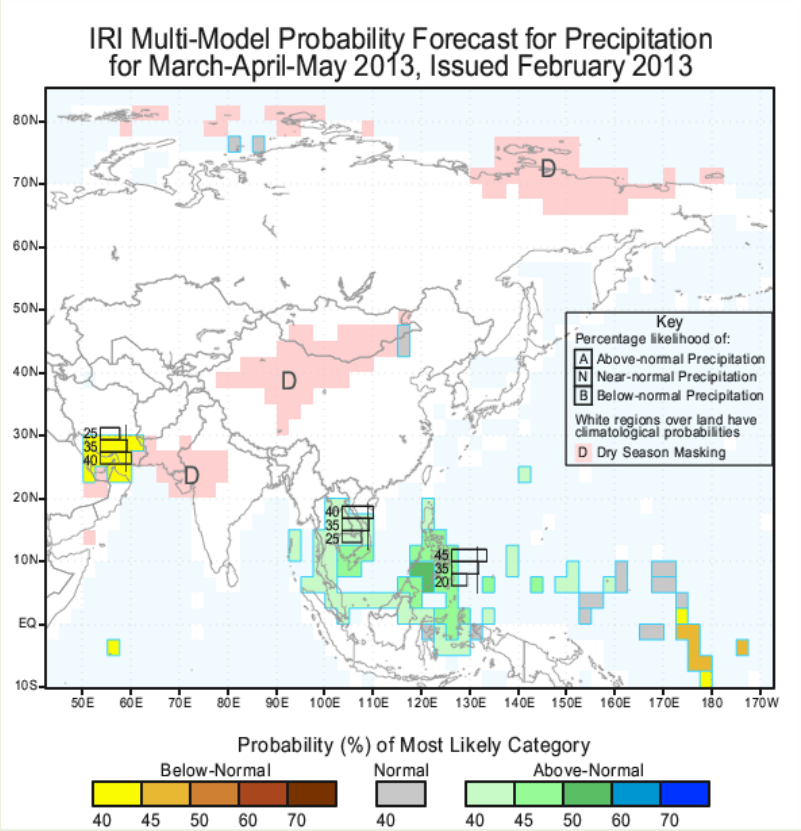
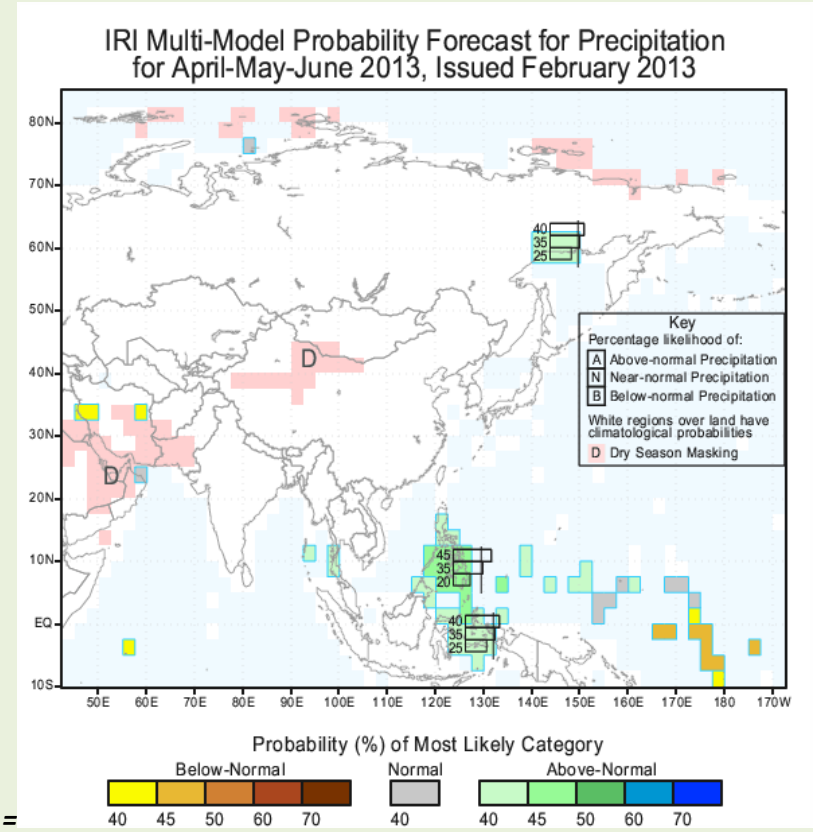
b) Seasonal Rainfall and Temperature Predictions from IRI





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b) Seasonal Climate Predictions (IRI) continued