

Experimental Climate Monitoring and Prediction for the Maldives

–December 2012

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

20 December 2012

FECT Maldives website

[www.tropicalclimate.org/
maldives](http://www.tropicalclimate.org/maldives)

FECT Maldives blog

www.fectmv.blogspot.com

Follow news of FECT at our
web site

www.climate.lk

PACIFIC SEAS STATE

**December 6,
2012**

Most of the ENSO prediction models predict a warm-neutral ENSO condition for the coming few months, lasting into early 2013. During early November the observed SST conditions have been above average, but in the ENSO- neutral range.
(Text Courtesy IRI)

INDIAN OCEAN STATE

**December 19,
2012**

The Arabian Sea and Bay of Bengal is anomalously warm up to South of the Equator. The Indian Ocean Dipole shows a modest positive mode. These features affect the local atmosphere.

Highlights²

Southern Maldivian islands which were considerably wet in September and October received only a little rainfall in November. Northern and Central islands have a rainfall deficit if the last 365 days are considered even though these islands received significant rainfall during October. Heavy rains are forecast for the week of 16-21. The warm Indian Ocean continues to persist around Maldives and the implications include warmer than average temperatures. There is tendency to drier climate in the next three months 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: From 11th to 13th of December, high rainfall was observed in Northern and Central islands of Maldives. Light rainfall was observed in Southern Maldives on 14th and 15th and in Central Maldives on the 16th.

Monthly and Seasonal Monitoring: A considerable deficit of rainfall compared to the past 8 years is still evident in North and Central Maldives in November. Moreover, a drastical drop of rainfall was observed in Southern Maldives, in the same month, compared to September and October which were considerably wet.

Sea Surface Temperatures and ENSO state: In the Pacific, the El Nino state has weakened to a neutral/warm El Nino. The unusually warmer sea surfaces of the Arabian Sea/Central Western Indian Ocean remain even though the El Nino has waned in the Pacific. Past work has shown that these conditions lead to higher than average rainfall and warmer conditions in Sri Lanka and Northern and Central Maldives for October to December.

PREDICTIONS

Weekly Rainfall Forecast: Highly wet conditions are expected for Maldives for the period of 16th -21st of December 2012.

Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for December 2012 to April 2013, precipitation shall be climatological at the beginning of the year 2013 and there is 40-45% probability that it shall be below normal toward March- April 2013. Furthermore, there is a 40% probability for Temperature to be normal.

Inside this Issue

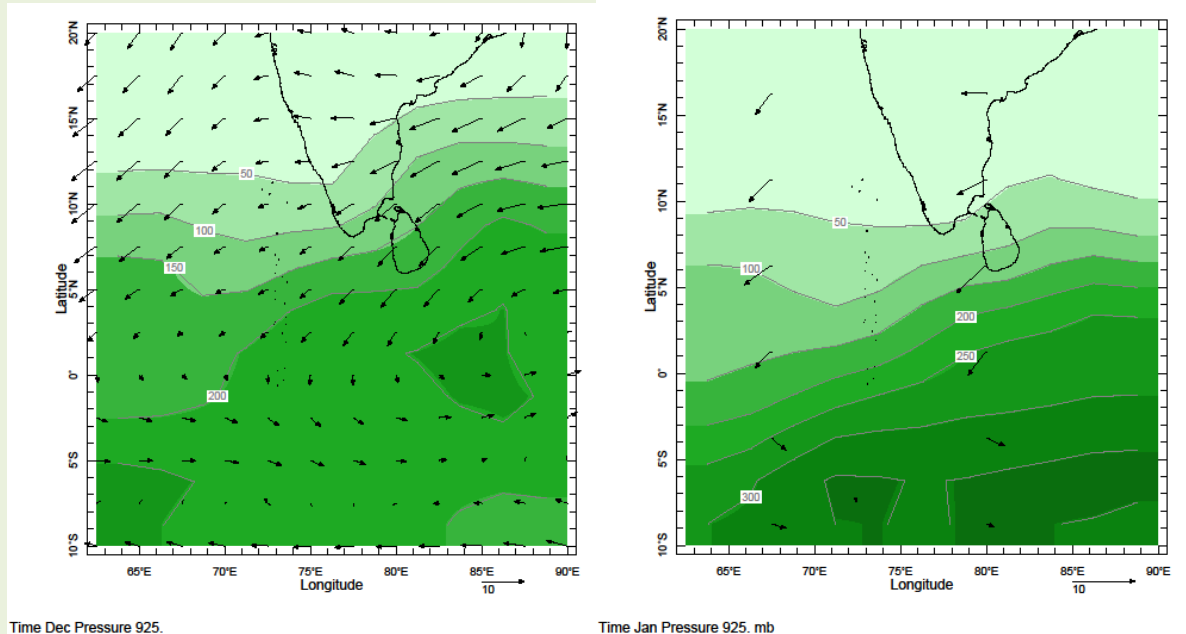
1. Monthly Climatology
2. Rainfall Monitoring
 - a. Daily Satellite derived Rainfall Estimates
 - b. Monthly Rainfall derived from Satellite Rainfall Estimate
 - c. Monthly and Seasonal Monitoring
 - d. Weekly Average SST Anomalies
3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b.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

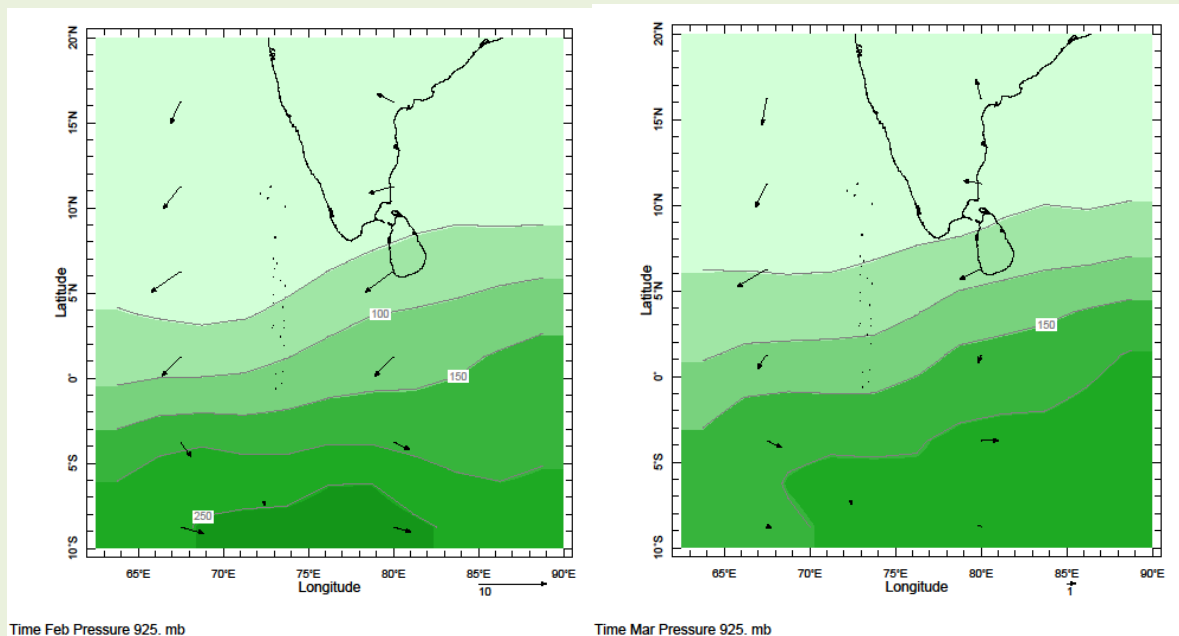
1). Monthly Climatology (CAM5-OPI):

a) Rainfall: Maps: December, January, February, March (Left-Right)



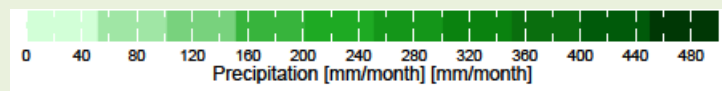
December

January



February

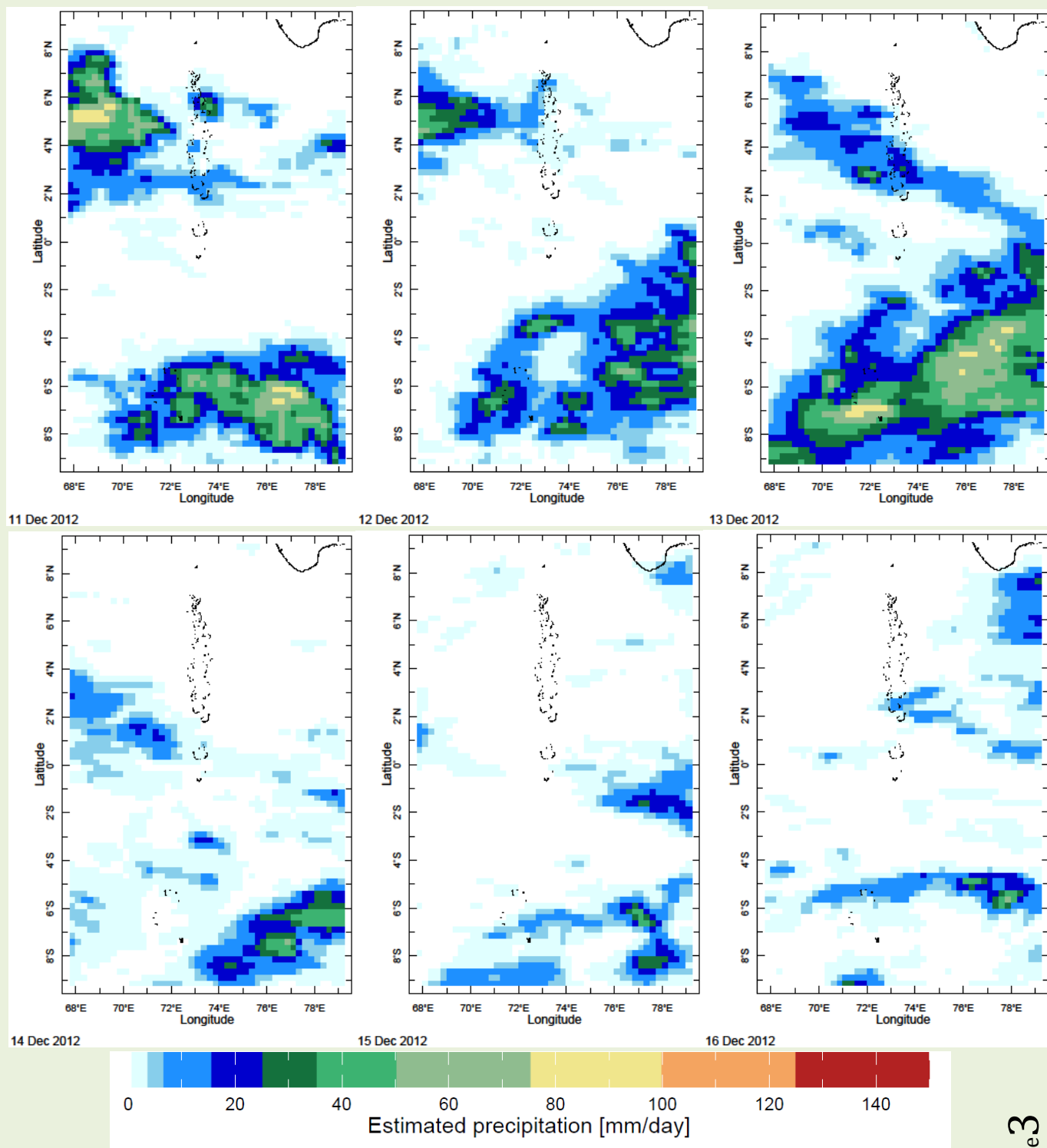
March



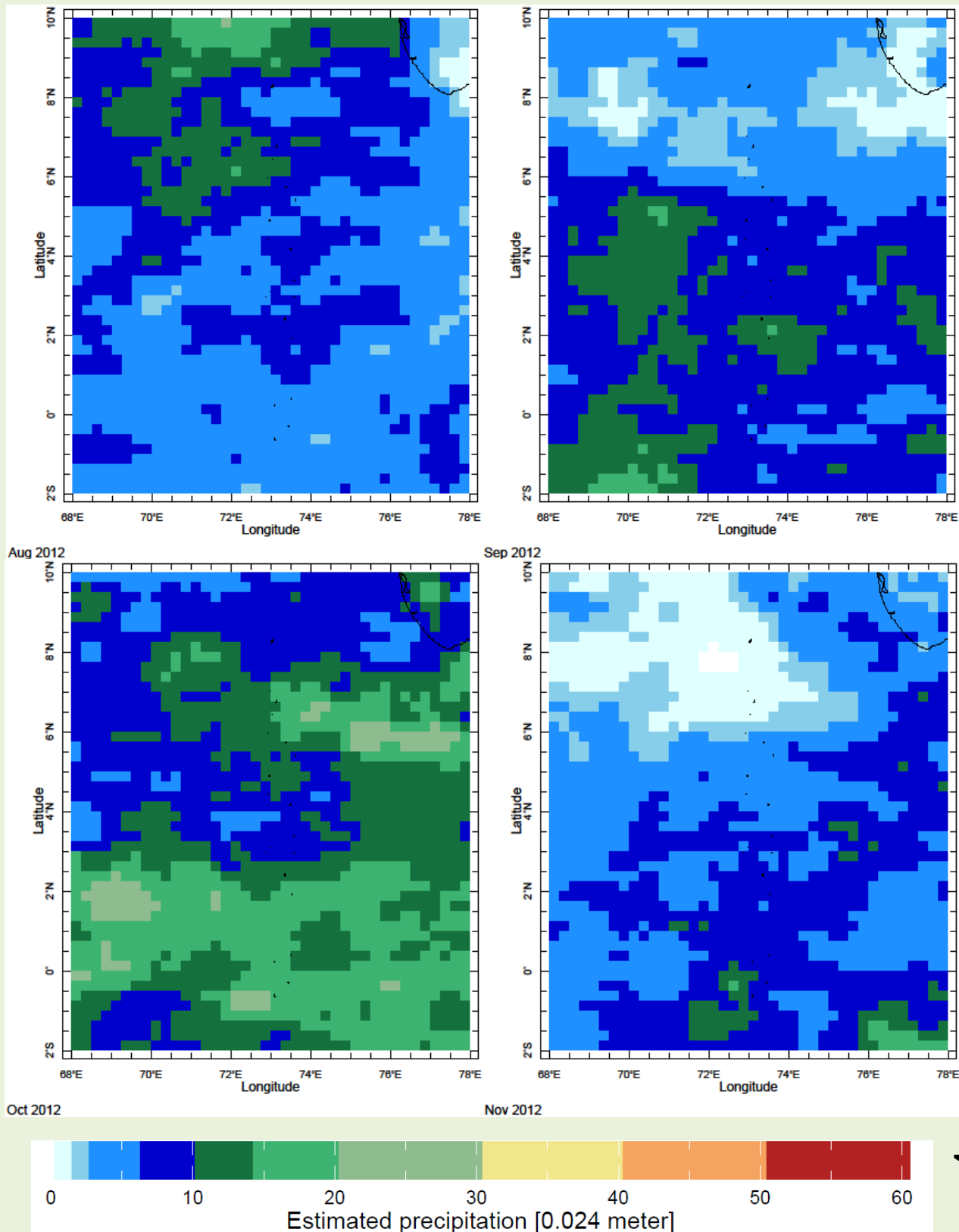
Rainfall Climatology for Maldives Islands for December 2012 and January, February and March 2013. Islands on the Top, Middle and Bottom are roughly assumed as Northern, Central and Southern Respectively.

2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 11th - 16th December, 2012 (Left-Right, Top-Bottom)



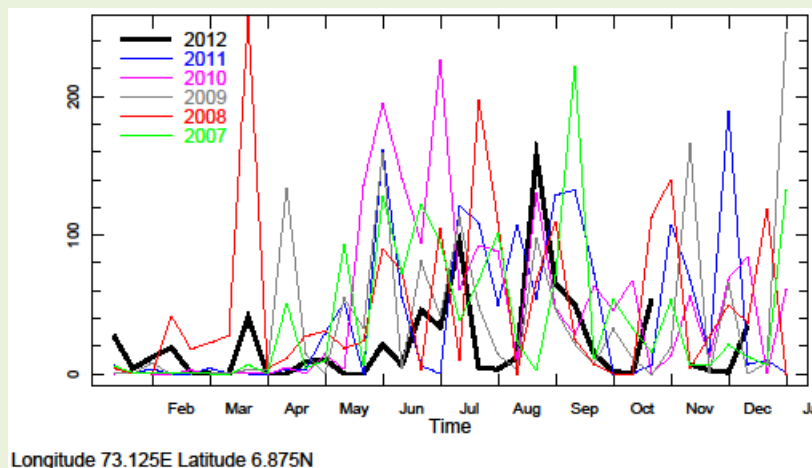
b) Monthly Rainfall (August to November 2012), Derived from Satellite Rainfall Estimates



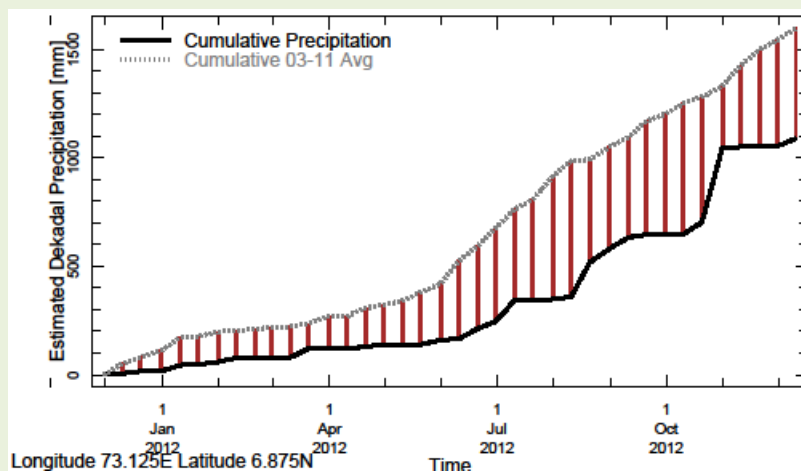
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

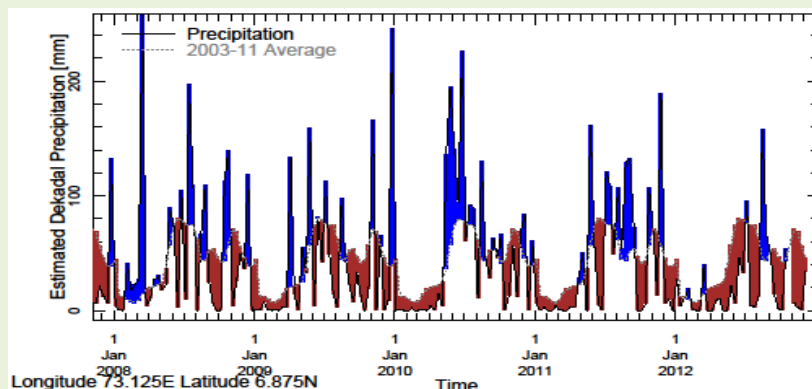
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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

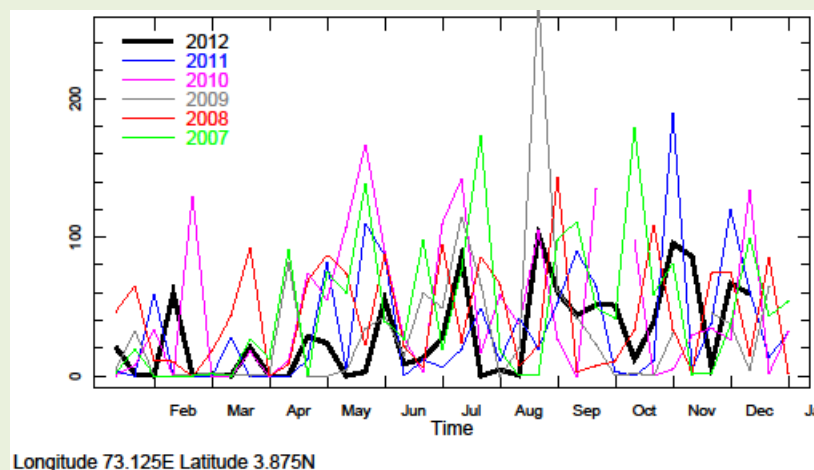


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

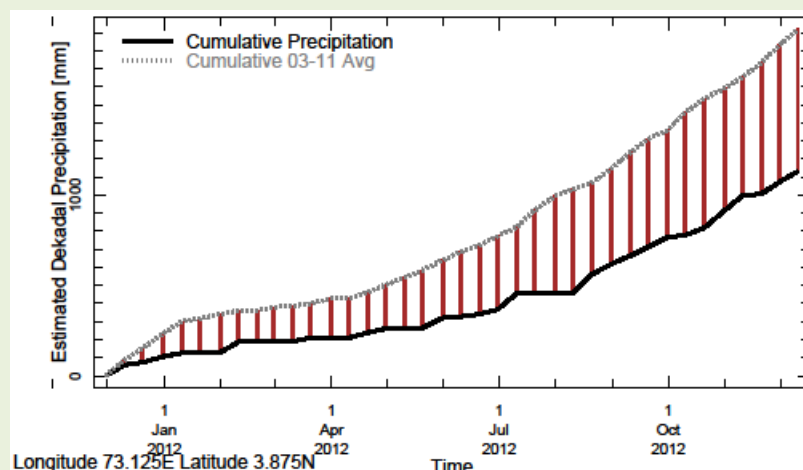


ii) For Central Maldives

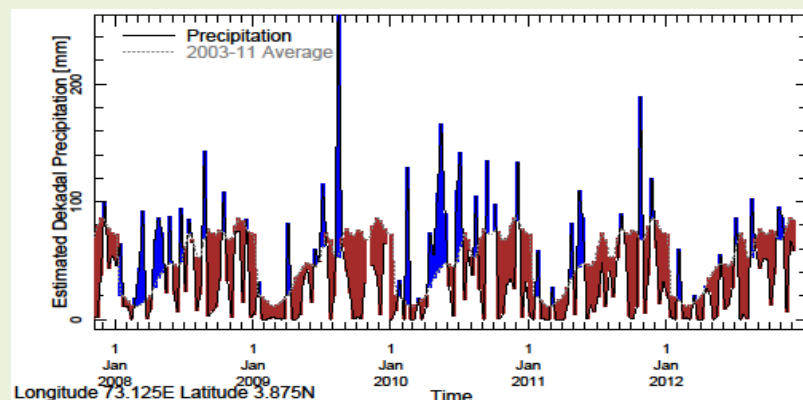
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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

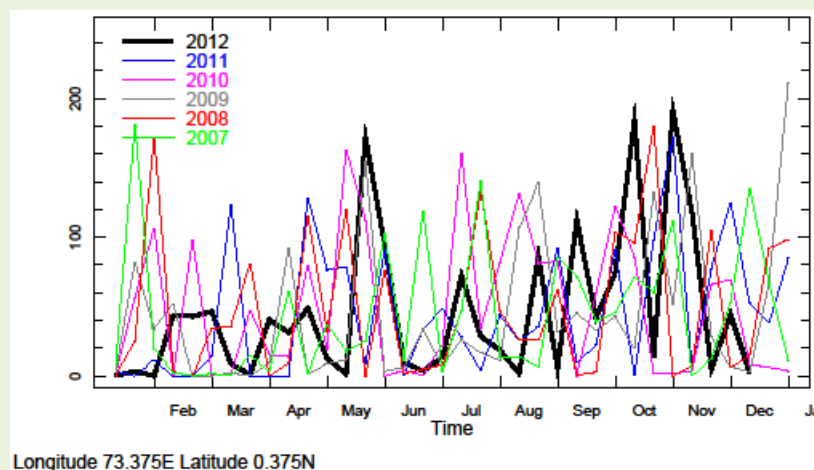


3) Rainfall for the past 5 years with above-average (compared to the last 8 years) hatched in blue and below normal in brown.

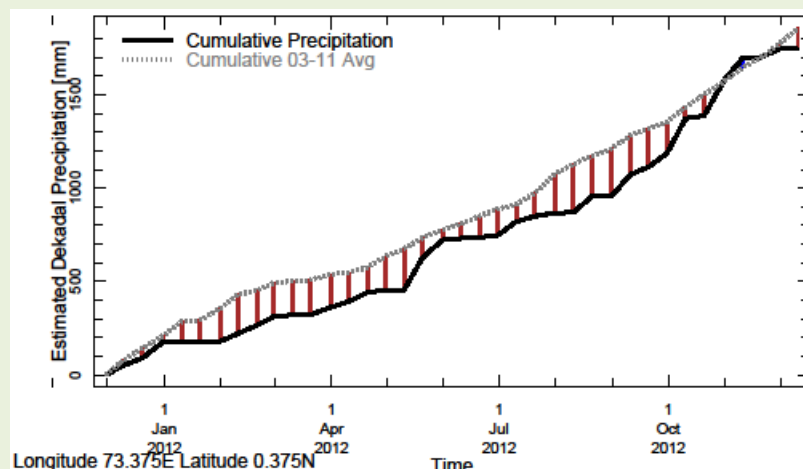


iii) For Southern Maldives

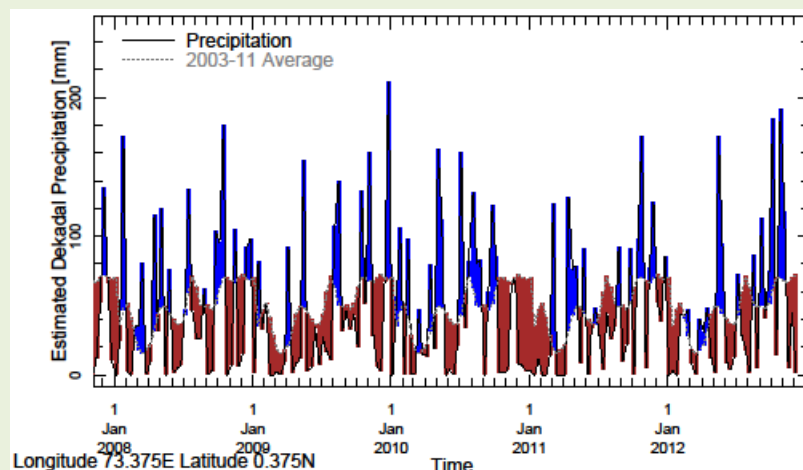
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



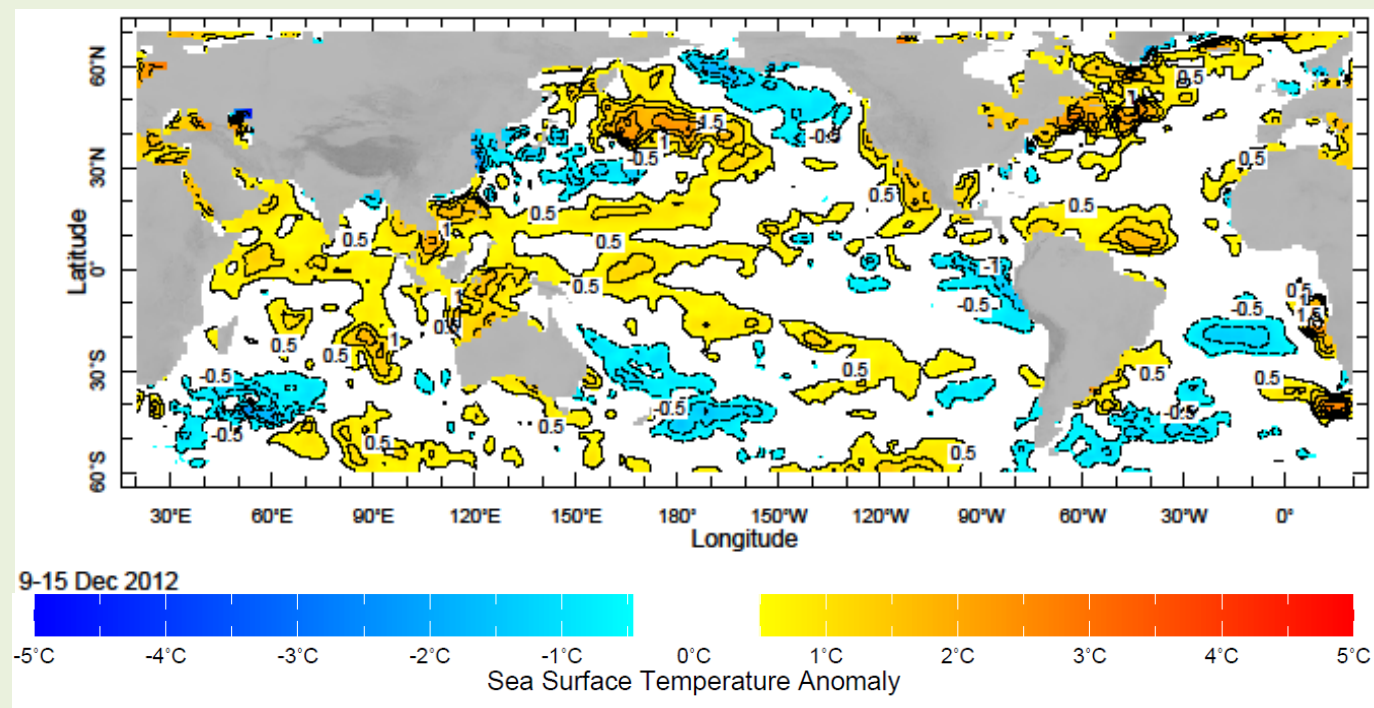
2) Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.



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



d) Weekly Average SST Anomalies ($^{\circ}\text{C}$), 9th -15th December, 2012

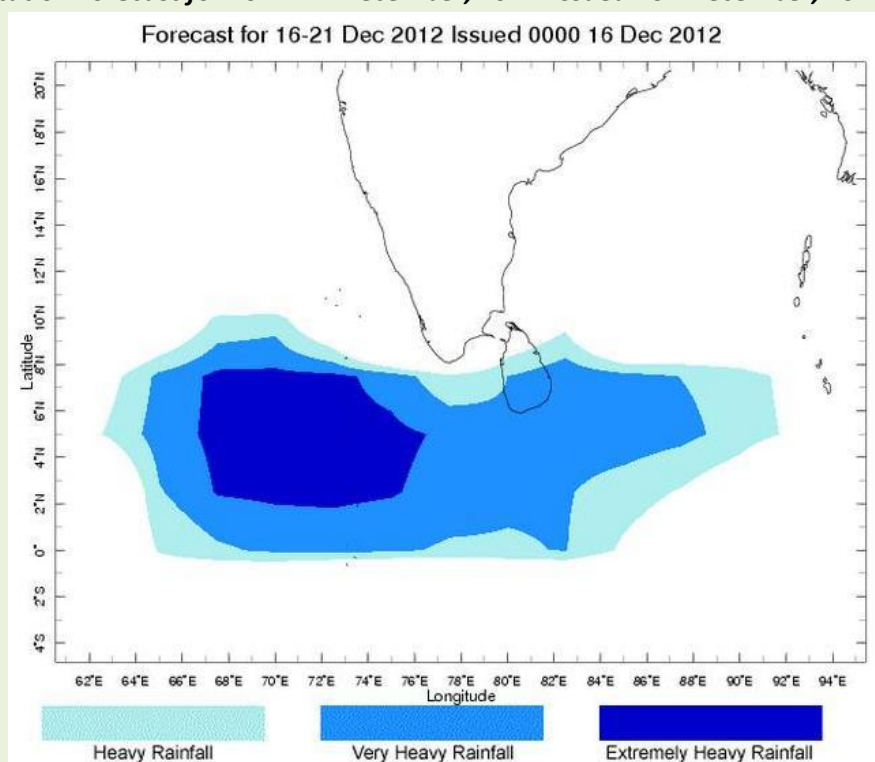


Data Source: NCEP, Environmental Monitoring Center

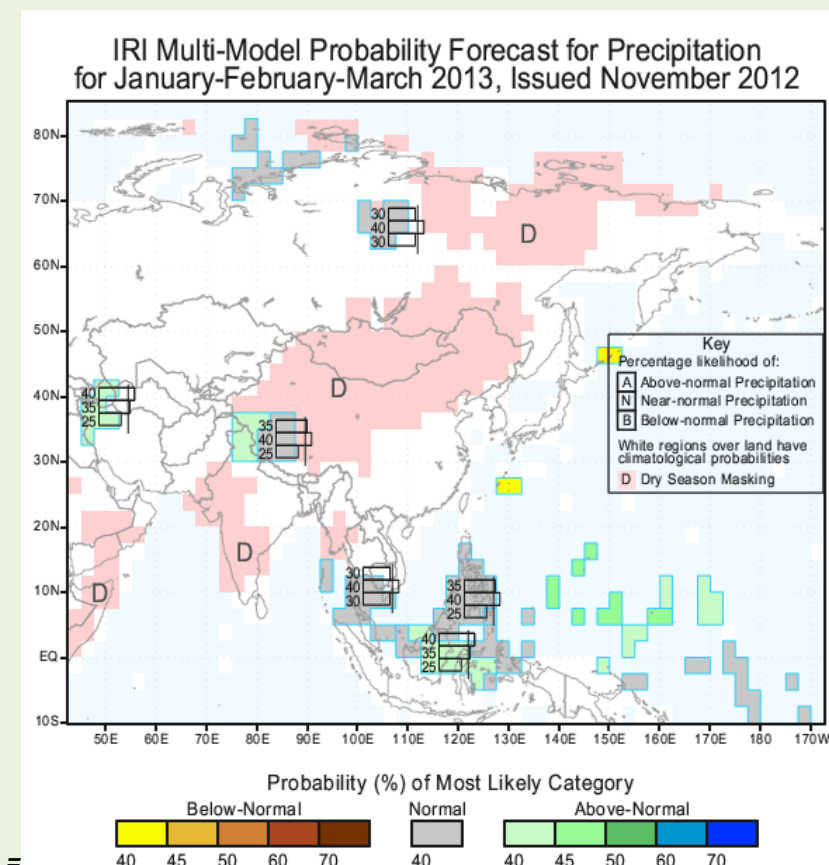
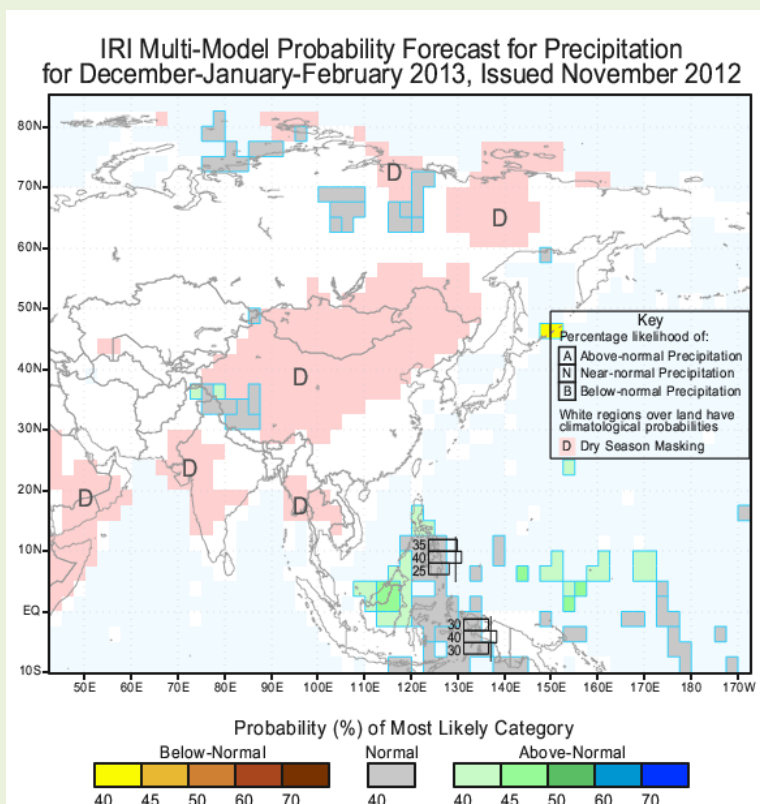
Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 16th -21st December, 2012: Issued 16th December, 2012



b) Seasonal Rainfall and Temperature Predictions from IRI



b) Seasonal Climate Predictions (IRI) continued

