FECT Foundation for Environment Climate and Technology
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Experimental Climate Monitoring and Prediction for the Maldives –November 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

21 November

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PACIFIC SEAS STATE

November 15, 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

October 18, 2012

The tropical Indian Ocean shows unusually warm anomalies in the Arabian Sea and at the same latitudes to South of the Equator. The Indian Ocean Dipole shows a warm positive phase. These are likely to alter climate drastically.

Highlights[2]

Rainfall in Southern Maldives was higher than usual and as a result the cumulative rainfall over the last 365 days was as expected from the 2003-2011 averages. The 365 day cumulative rainfall for both Central and Northern Maldives is below expected- the drought persists although rainfall was about average during the last two months as expected during an El Nino. El Nino conditions are beginning to weaken – so the usual increase in rainfall over Northern and Central Malidves in December may be reduced. The anomalously high sea surface temperatures near Maldives shall lead to warmer temperatures over the Malidves during the next three months and associated impacts on fisheries and other sectors.

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: During 12th to 17th of November, 0-30 mm rainfall was observed over Southern Islands of Maldives. On the 12th and the 13th, some rainfall on central islands and very less rainfall was observed on Northern islands of Maldives.

Monthly and Seasonal Monitoring: During October, Northern islands received less rainfall compared to other parts of Maldives. Although rainfall gradually decreased towards the middle of the month, during last two weeks of October, Central and Southern islands received very high rainfall. Despite this fact, rainfall deficit of Northern and Central islands increased while for the first time in this year, a surplus of cumulative precipitation compared to the average precipitation of 2003- 2011 was observed on Southern islands of Maldives.

Sea Surface Temperatures and ENSO state: In the Pacific, the ENSO state has moved towards an El Nino state. The unusually warmer sea surfaces of the Arabian Sea/Central Western Indian Ocean are stronger than normal during El Nino periods. Past work has shown that these conditions lead to lower than average rainfall in Sri Lanka and Northern and Central Maldives upto September followed by be higher than average for October to December.

PREDICTIONS

Weekly Rainfall Forecast: Dry conditions are expected for Maldives for the period of 17th -22nd of November 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] 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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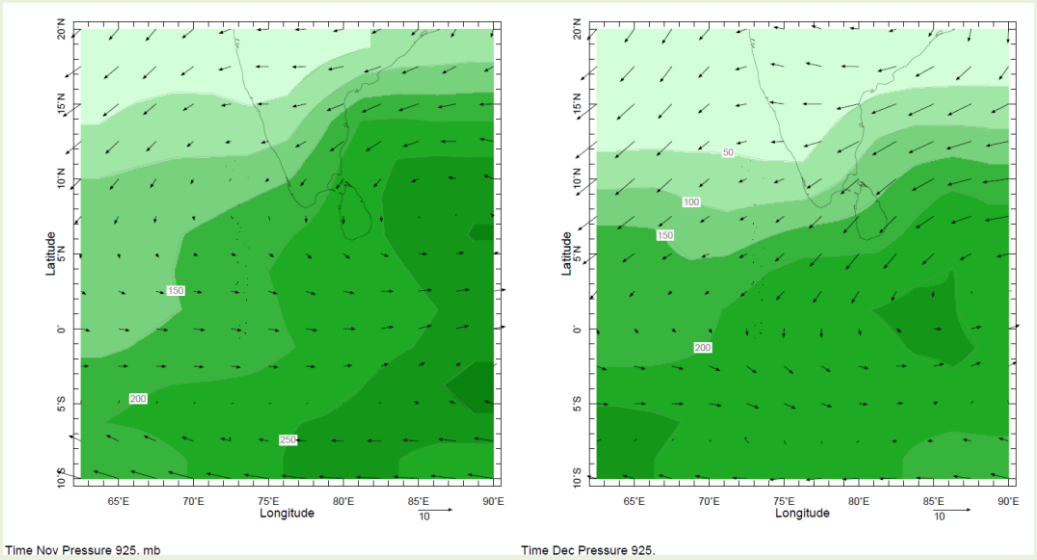
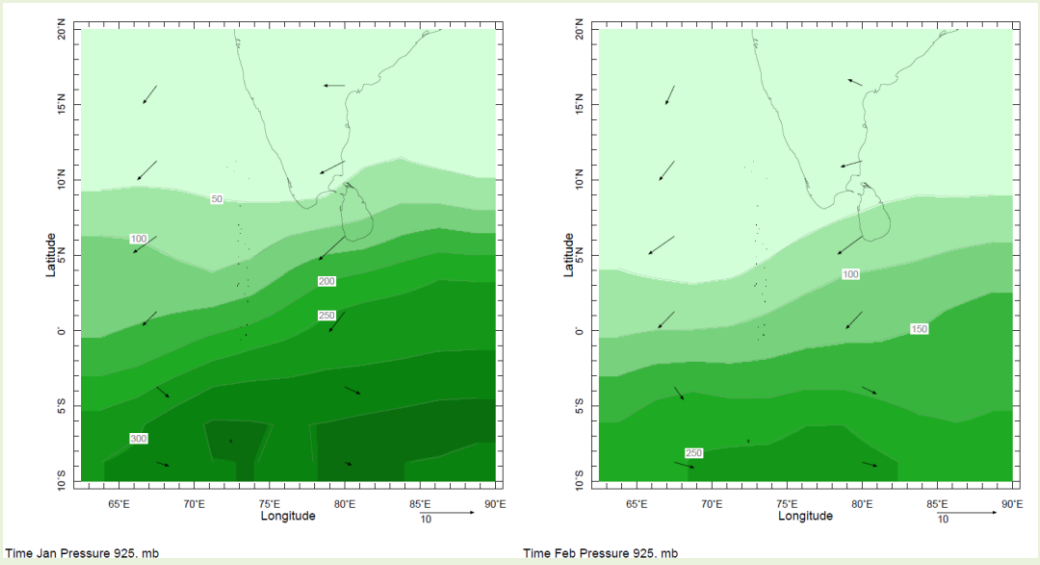
1). Monthly Climatology (CAMS-OPI):

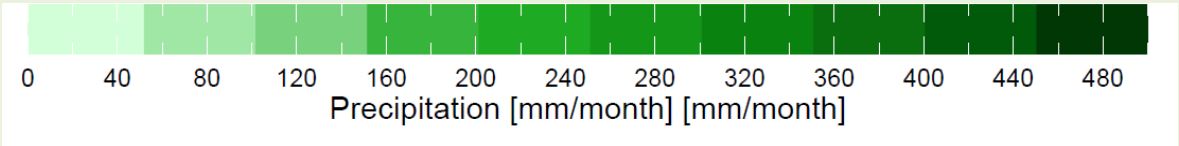
a) Rainfall**: Maps*: ***November, December, January, February (Left-Right)



November **December**



January **February**



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

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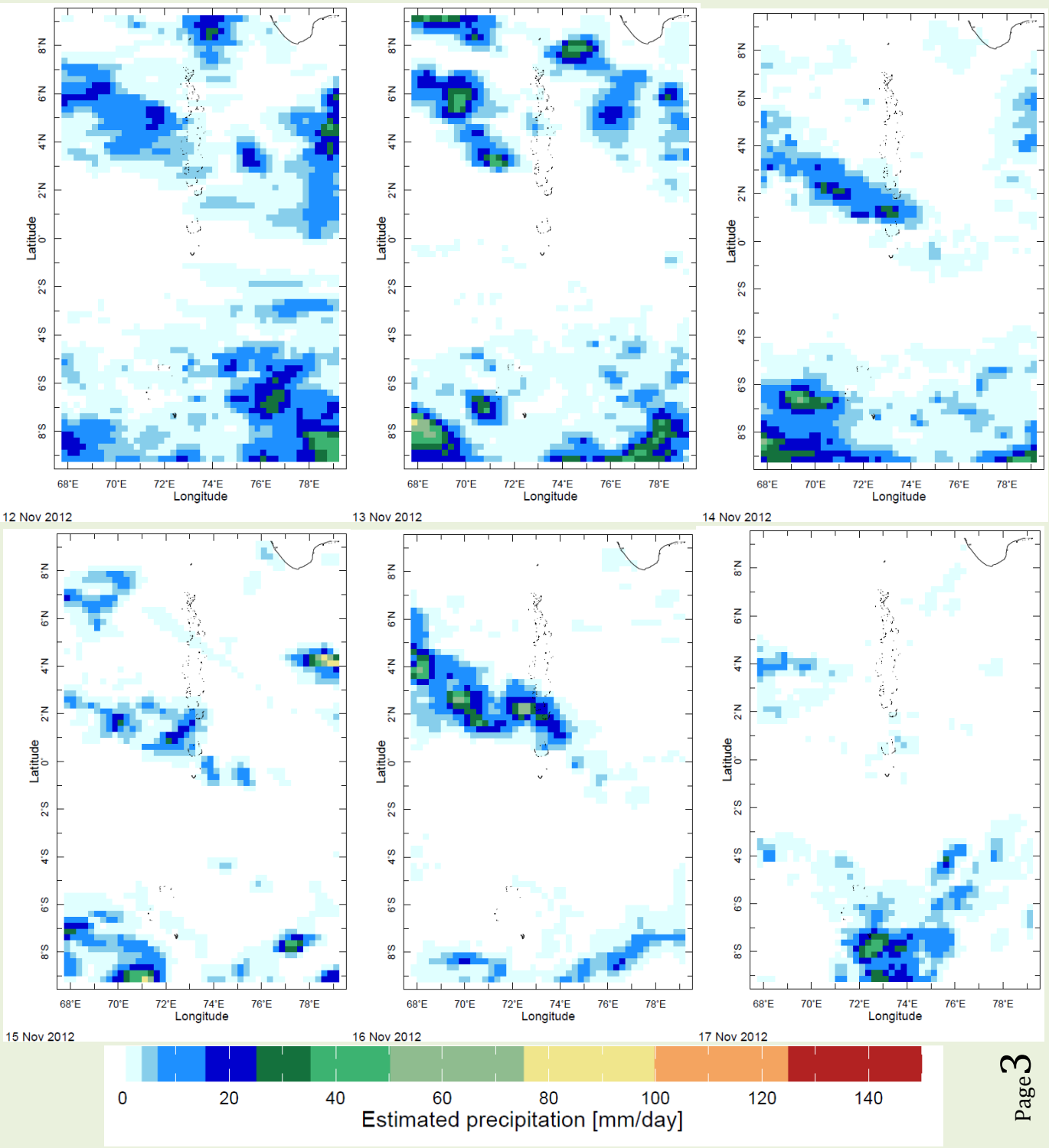
2) Rainfall Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: *12th- 17th November, 2012 (Left-Right, Top-Bottom)*



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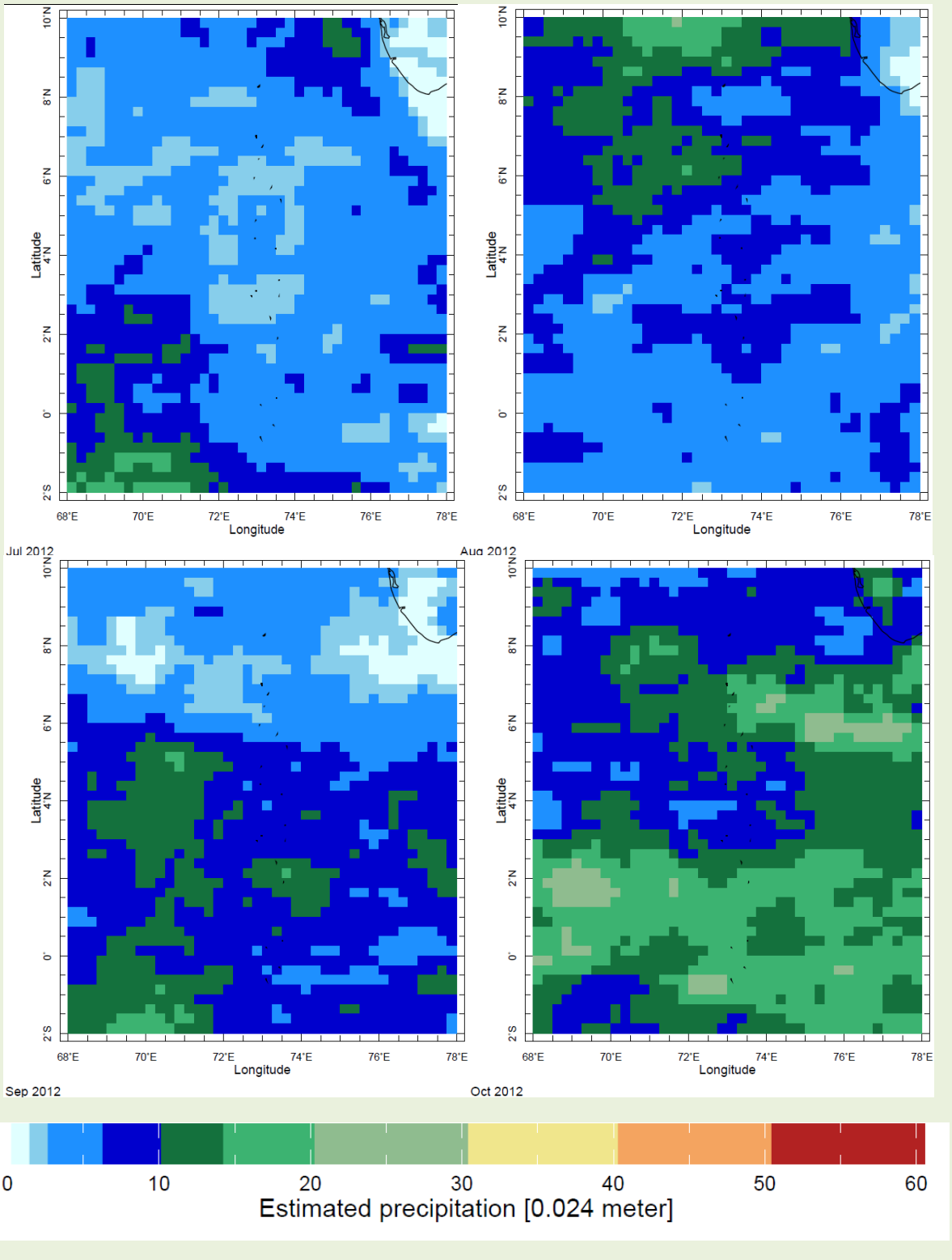
b) Monthly Rainfall* (July to October 2012), *Derived from Satellite Rainfall Estimates



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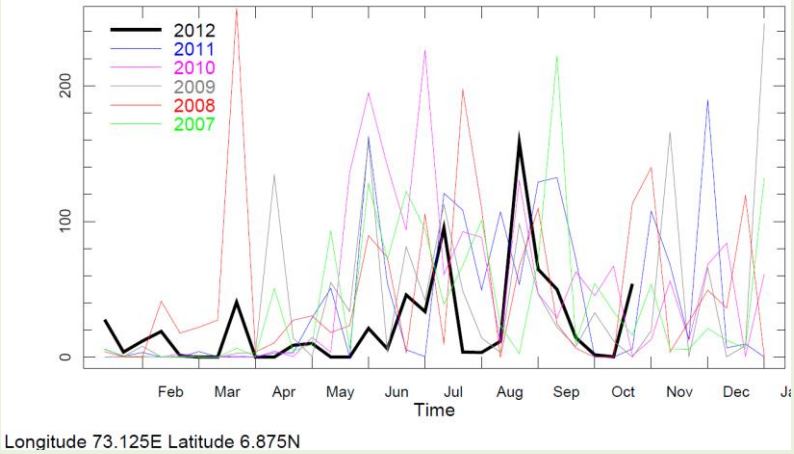
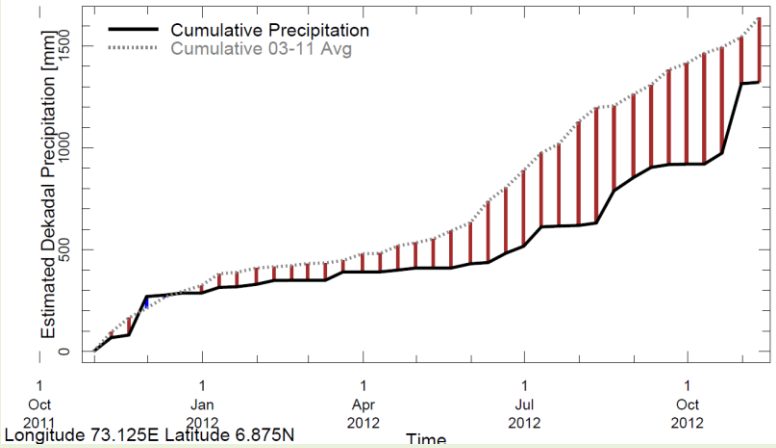
c) Seasonal to Annual Rainfall Monitoring

i) For Northern Maldives

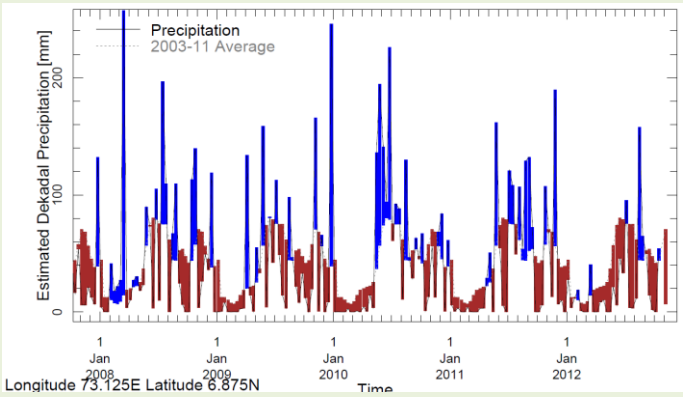
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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.



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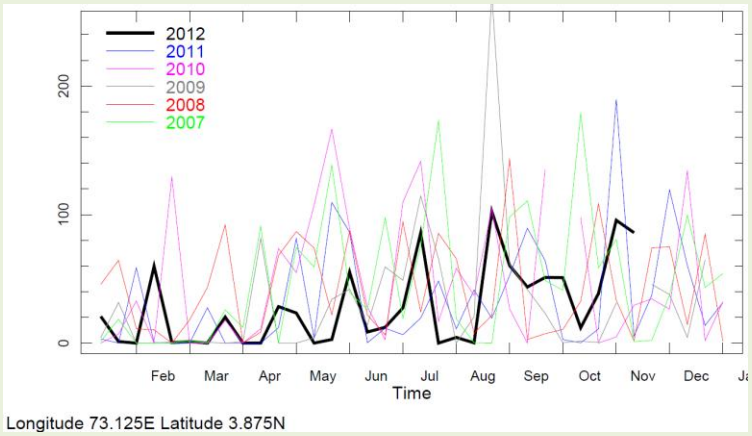
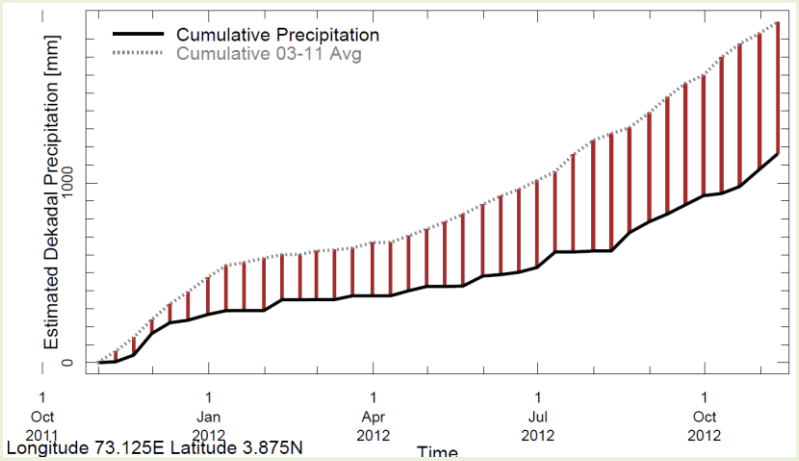
ii) For Central Maldives

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.



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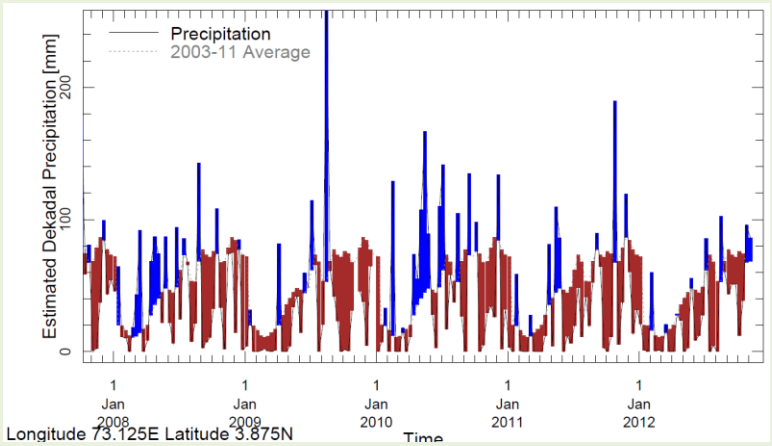

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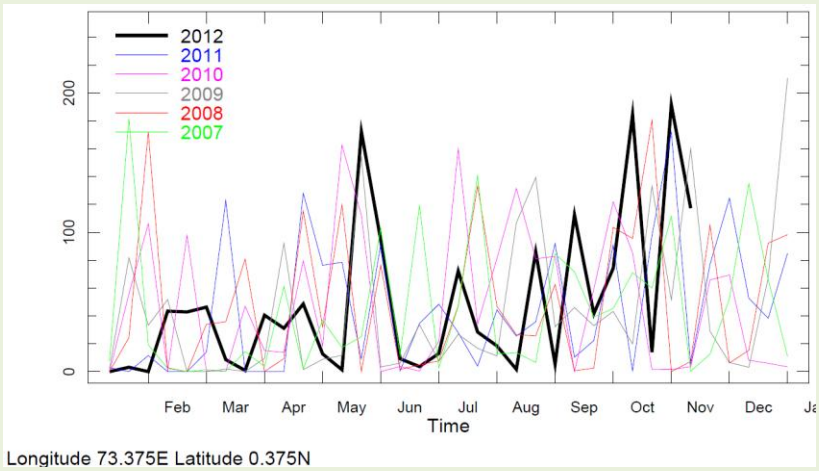
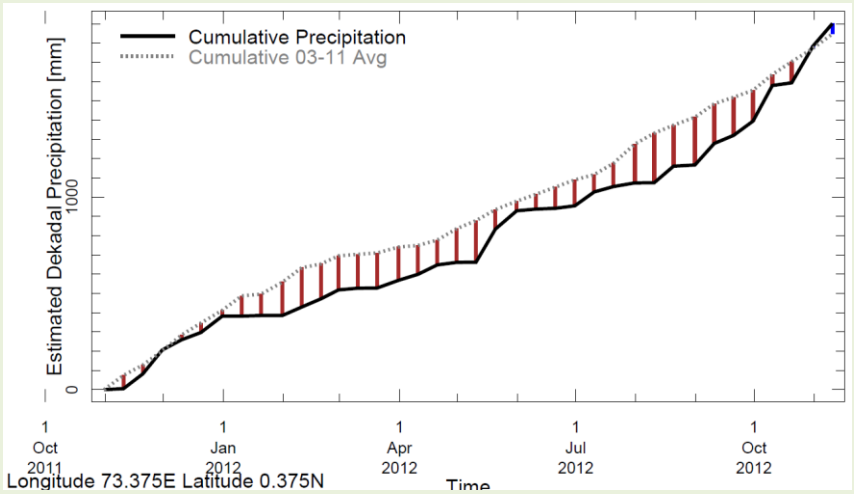
iii) For Southern Maldives

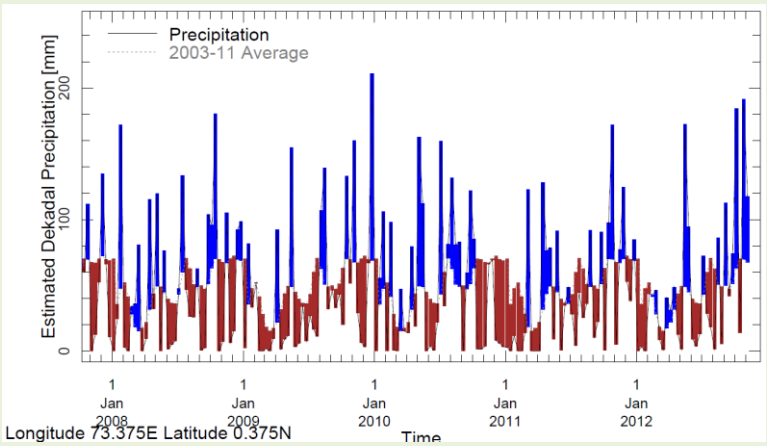
1) Rainfall in 2012 (black) compared to rainfall in previous 5 years



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.



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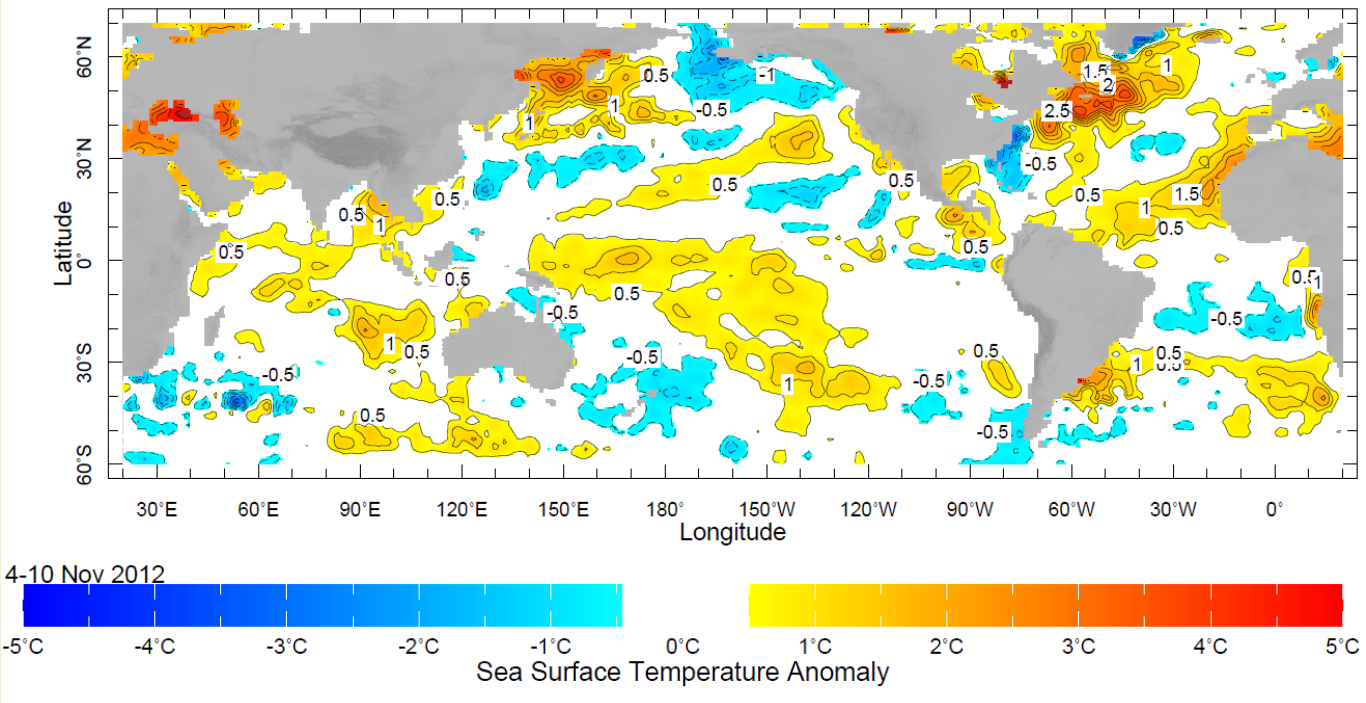
d) Weekly Average SST Anomalies (^{0}C), 4th -10th November, 2012

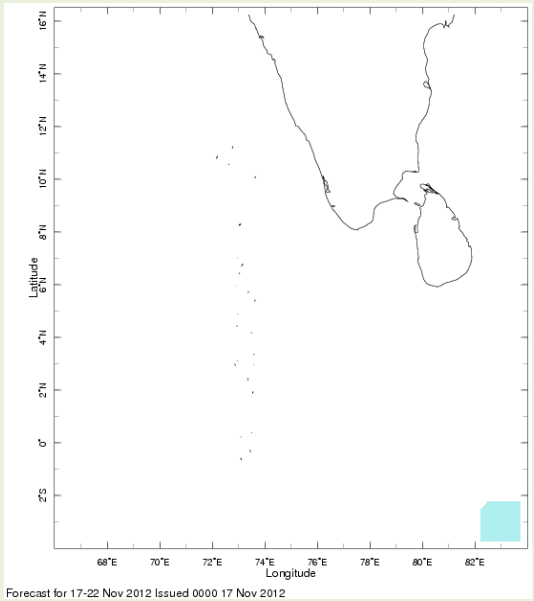


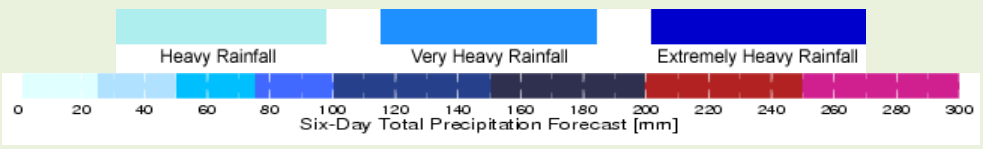
Data Source: NCEP, Environmental Monitoring Center

Base Period of Climatology: 1971- 2000

3). Predictions

a) Weekly Precipitation Forecast for 17th -22nd November, 2012: Issued 17th November, 2012





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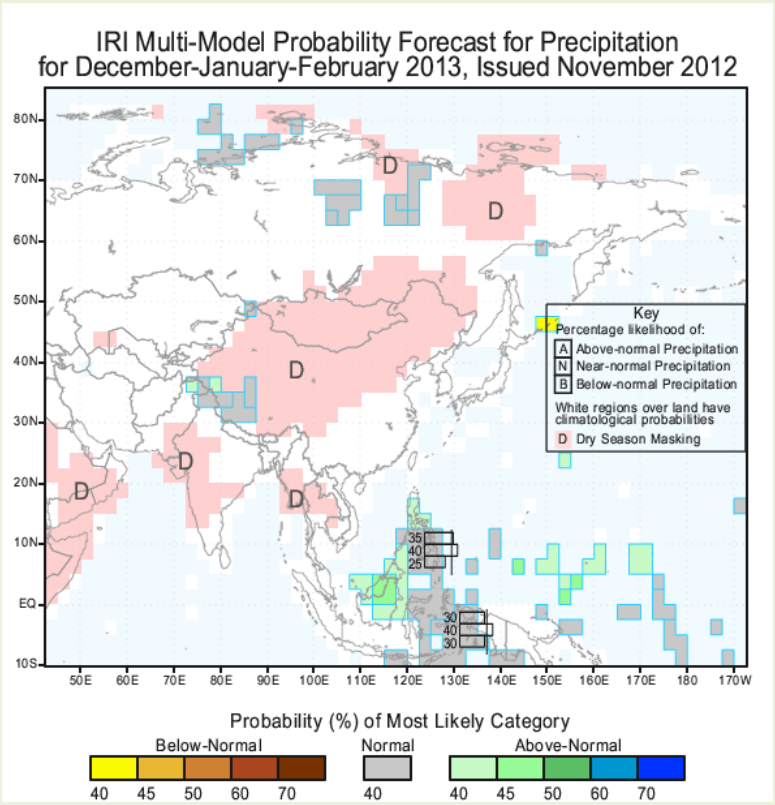
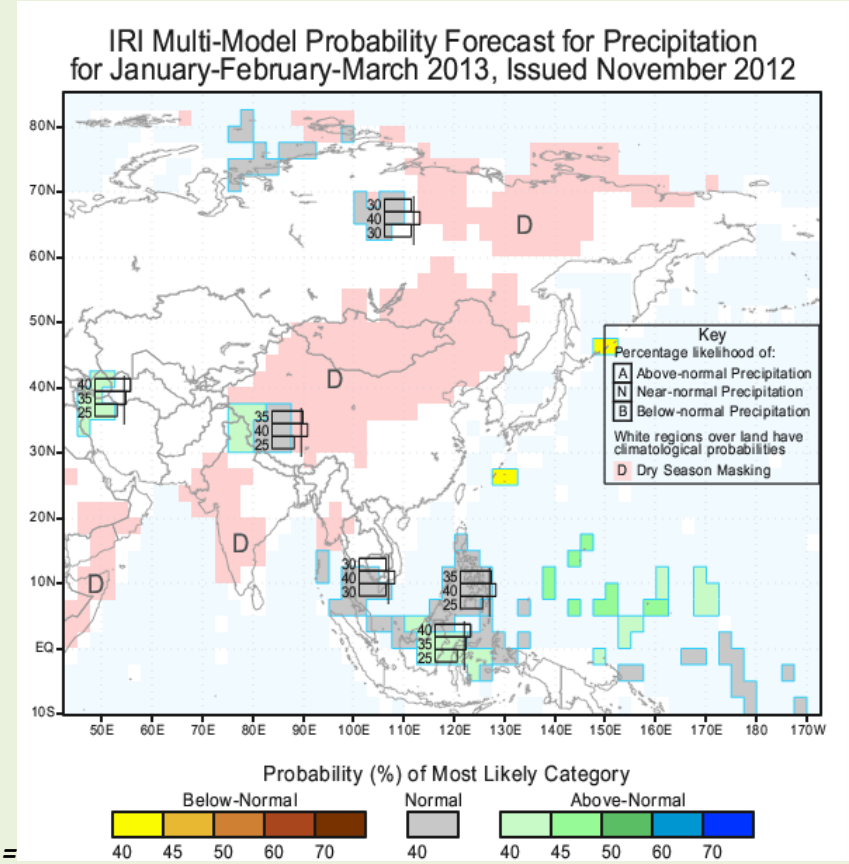
b) Seasonal Rainfall and Temperature Predictions from IRI





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b) Seasonal Climate Predictions (IRI) continued