

Experimental Climate Monitoring and Prediction for the Maldives – June 2015

Prepared by Staff from Foundation for Environment, Climate and Technology, Sri Lanka and USA, Maldives Meteorological Service, and Columbia University

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23 June 2015

PACIFIC SEAS STATE

June 18, 2015

During late May through early-June 2015 the SST was at a moderate El Niño level. The atmospheric variables support the El Niño pattern, including weakened trade winds and excess rainfall in the east-central tropical Pacific. The consensus of ENSO prediction models indicate continuation of moderate El Niño conditions during the June-August 2015 season in progress, likely strengthening further between summer and fall, and lasting into early 2016.

(Text Courtesy IRI)

INDIAN OCEAN STATE

June 17, 2014

~1 C° Warmer than usual
Sea surface temperature was observed around Maldives

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Highlights

In the last week of June and the first week of June high rainfall was observed in the entire Maldives and then a rapid decrease was observed. No rainfall was observed in the past week in any part of Maldives. High rainfall is expected in the Northern tip of Maldives particularly in the seat towards the Kerala Coast. IRI multi-model 3 month seasonal precipitation predictions point to a tendency to a less than average rainfall in southern-most islands of the country. Both the El Nino and Indian Ocean warm conditions are driving warmer seasonal temperatures.

Summary

CLIMATOLOGY

Monthly Climatology: High precipitation is usually observed in Northern Maldives in June and gradually decreases from north to south of Maldives (about 400 mm in northern islands and about 200 mm in southern islands). In July and August the rainfall decreases down to about 150 mm in northern islands and about 200 mm in central and southern islands. Wind direction is usually south-westerly in March and in April northern islands receive south-easterly wind while southern islands receive easterly wind. Strong easterly wind is usually observed in May and in June only northern islands get strong easterly wind. In July and August the entire country usually do not receive strong wind.

MONITORING

Weekly Rainfall Monitoring: During 14th- 20th of June no rainfall was observed in any part of the Maldives except for little rain in Addu Atoll on the 18th and in the Central Province on the 20th of June. .

Monthly and Seasonal Rainfall Monitoring: Less than average rainfall was observed throughout the Maldives during May 2015. Very high above average rainfall was observed in the sea east of Male and Hanimaadhoo where rainfall averaging up to 30 mm/day was observed during this month. Northern islands received highest observed rainfall of about 90 mm at the end of May and a decrease in rainfall was observed during the first fortnight of June in this region. In Central islands rainfall reached up to 100 mm during the last week of May and the first week of June and thereafter a rapid decrease in rainfall was observed. A similar situation was observed in southern islands as well.

PREDICTIONS

Weekly Rainfall Forecast: According to NOAA models, no rainfall is expected in Maldives during 22nd- 27th June 2015. But in the sea north east of Maldives toward Sri Lanka, very high rainfall is expected.

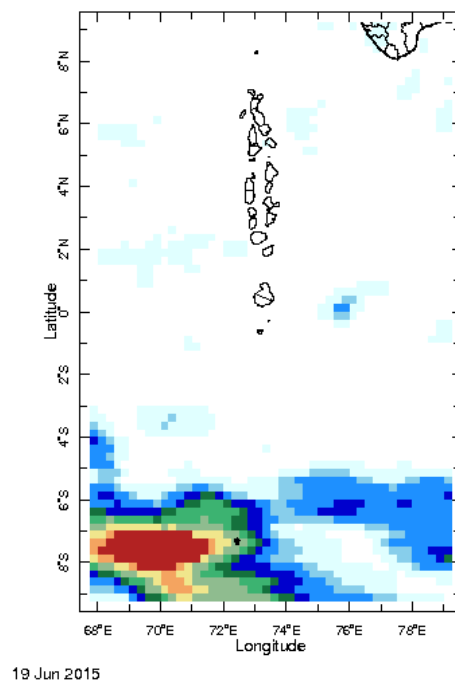
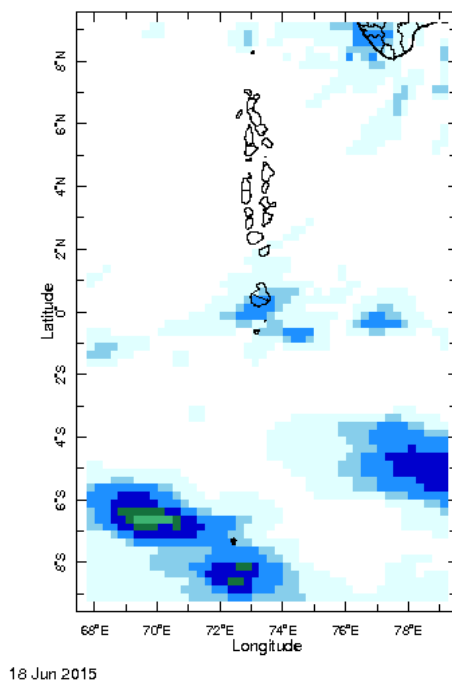
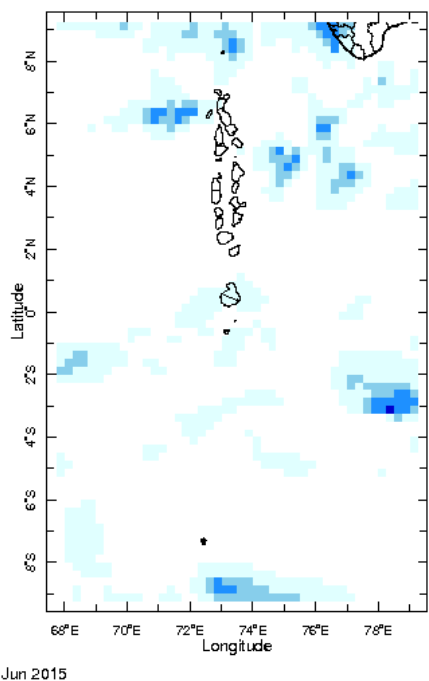
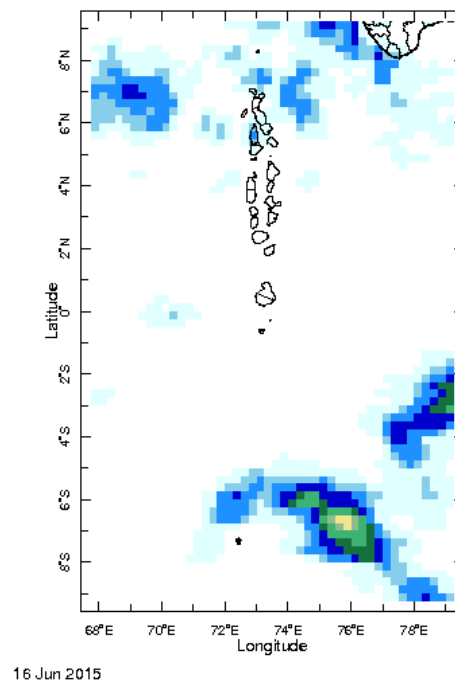
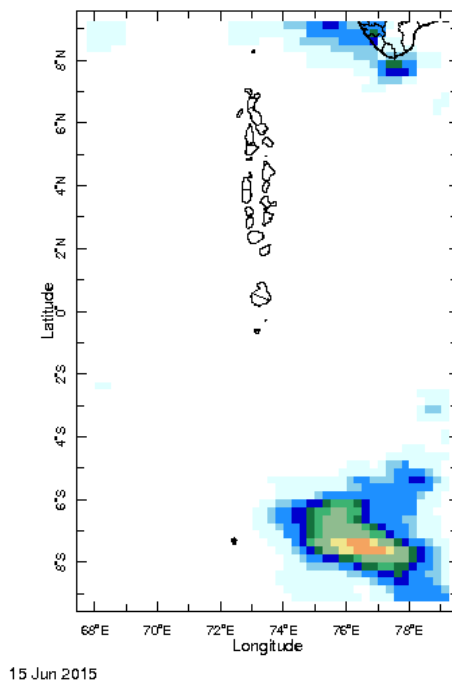
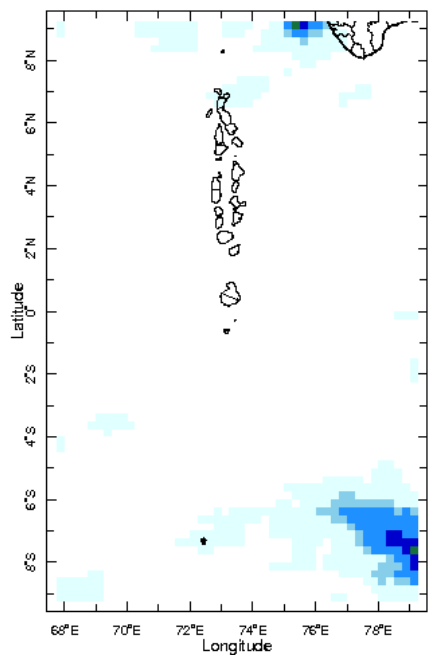
Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for July to September, the total 3 month precipitation shall be climatological except in the southern-most atoll of Maldives where there is a 40% chance of rainfall to be below normal. The 3 month average temperature has a 50- 60% likelihood for northern islands and about 80% likelihood for southern-most islands to be in the above-normal tercile during this period.

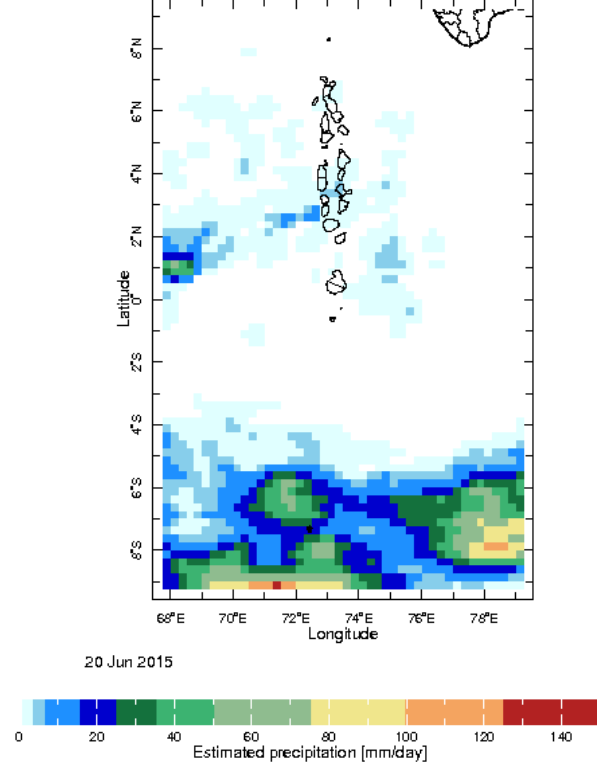
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 - e. Weekly Average SST Anomalies
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 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

Daily Rainfall Monitoring

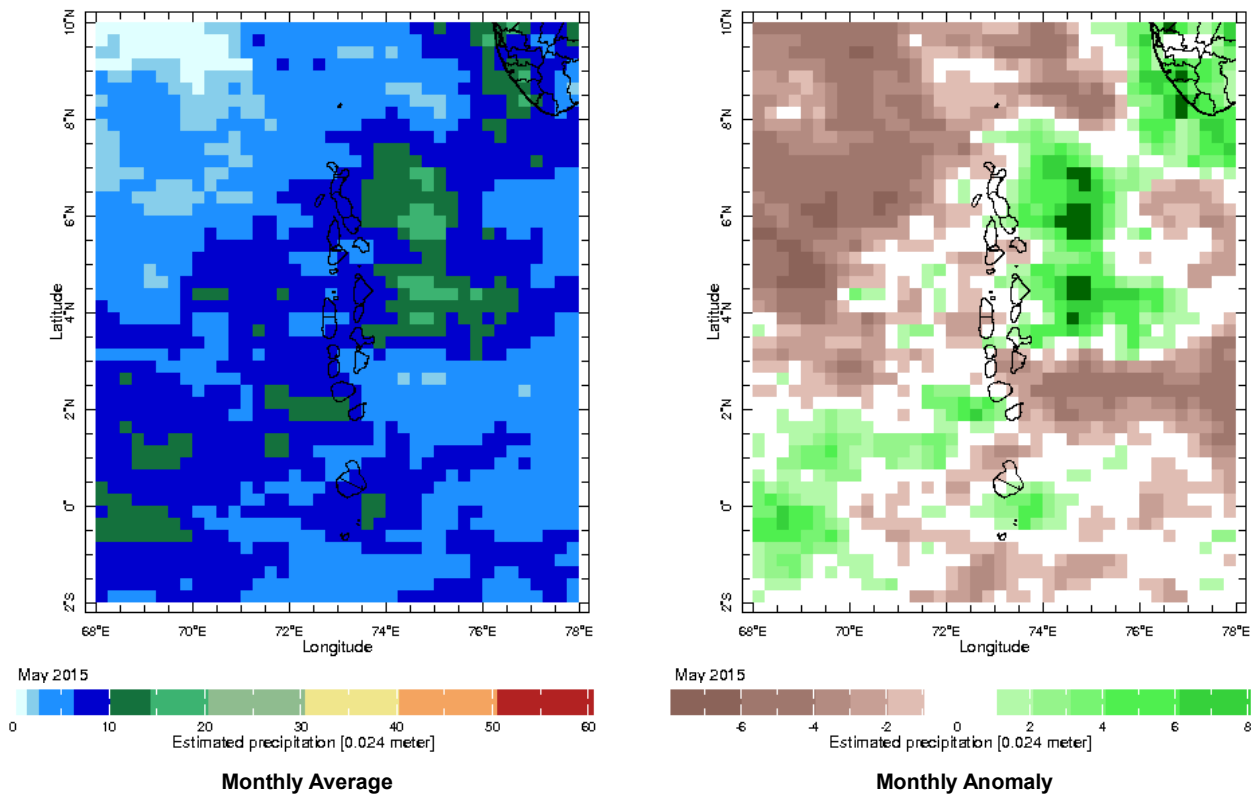
The following figures show the observed rainfall in the last 7 days in Maldives.





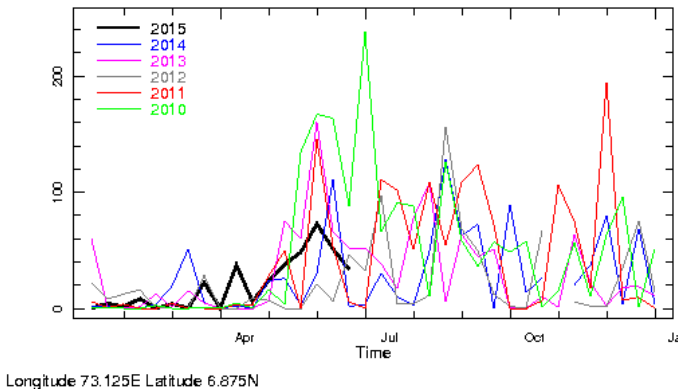
Monthly Rainfall Monitoring

The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places with above average rainfall. Darker shades show higher magnitudes in rainfall

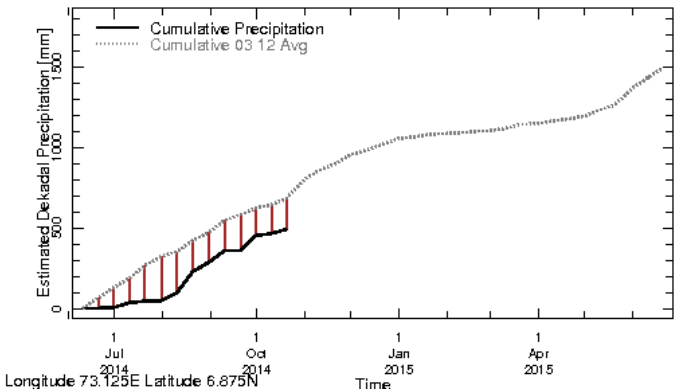


Monthly and Seasonal Monitoring

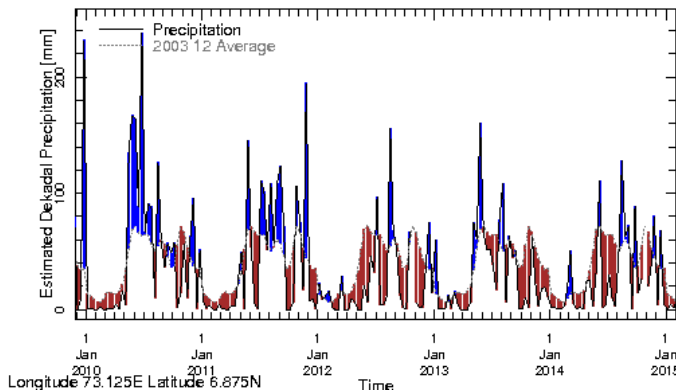
Northern Maldives:



Rainfall in the current year (black) compared to rainfall in previous 5 years

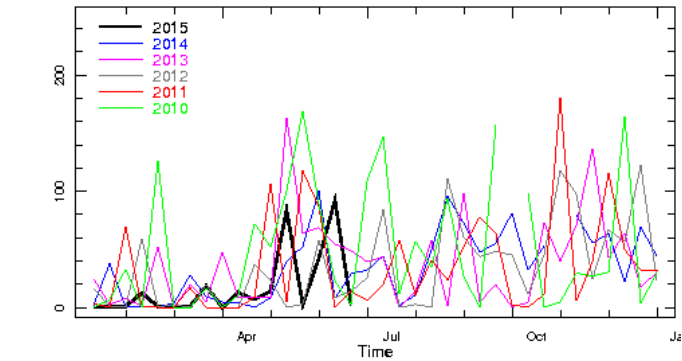


Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.

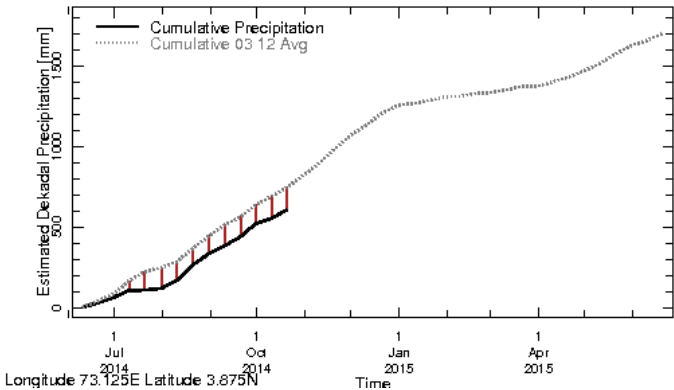


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average rainfall hatched in brown

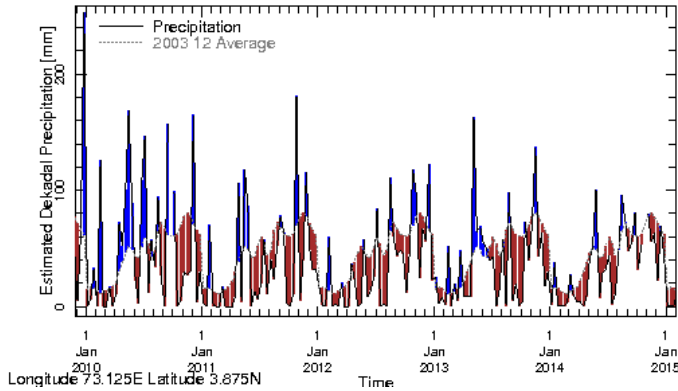
Central Maldives:



Longitude 73.125E Latitude 3.875N
Rainfall in the current year (black) compared to rainfall in previous 5 years

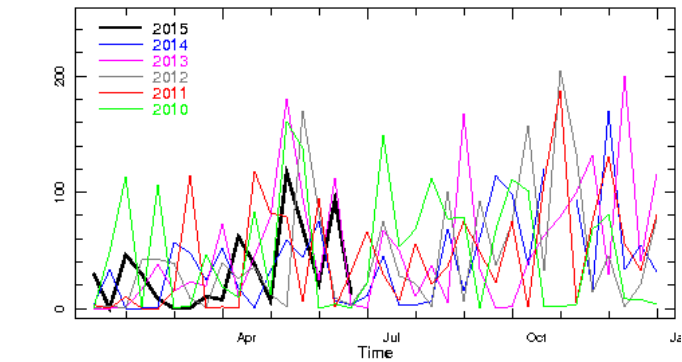


Longitude 73.125E Latitude 3.875N
Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.

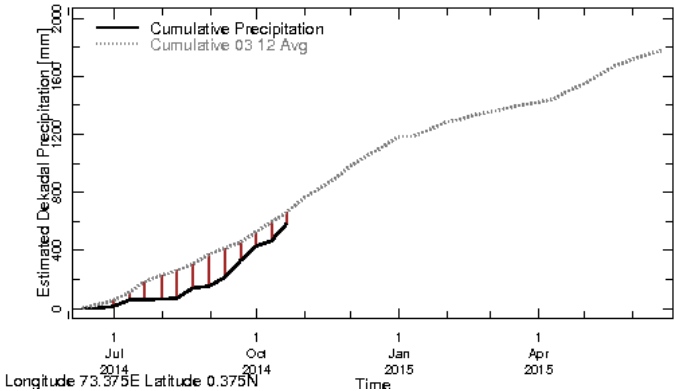


Longitude 73.125E Latitude 3.875N
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

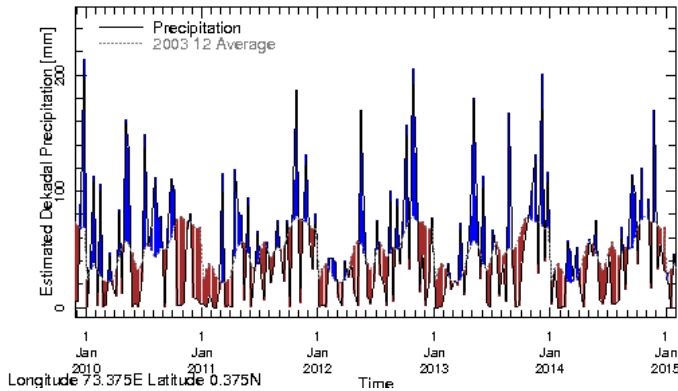
Southern Maldives:



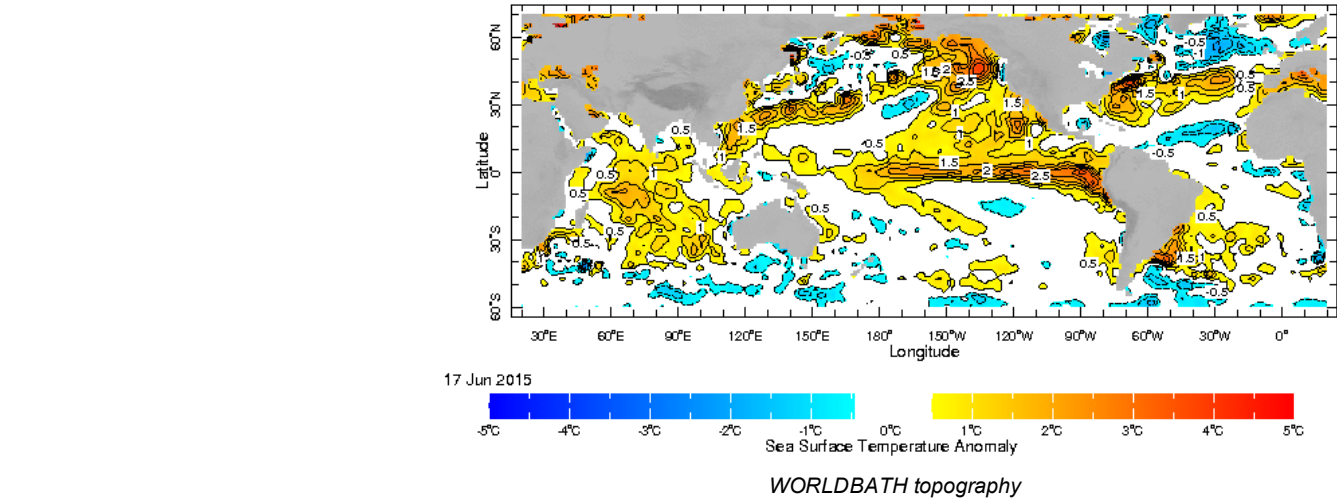
Longitude 73.375E Latitude 0.375N
Rainfall in the current year (black) compared to rainfall in previous 5 years



Longitude 73.375E Latitude 0.375N
Rainfall of past 365 days (black) compared to average rainfall in previous 8 years.

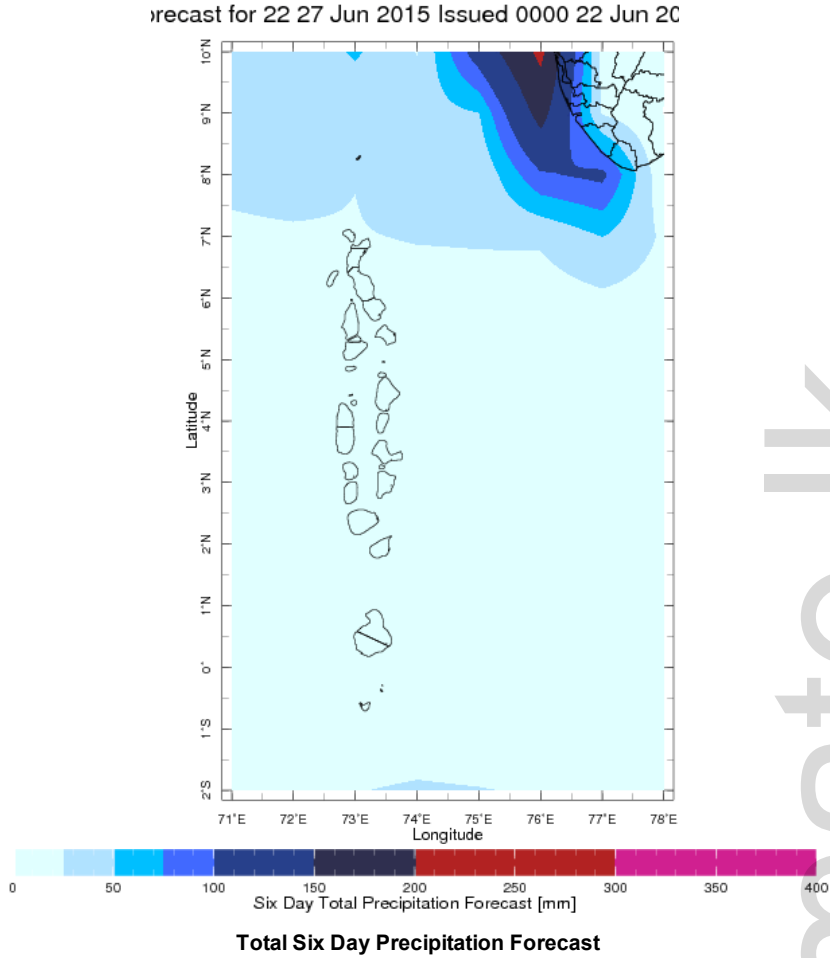
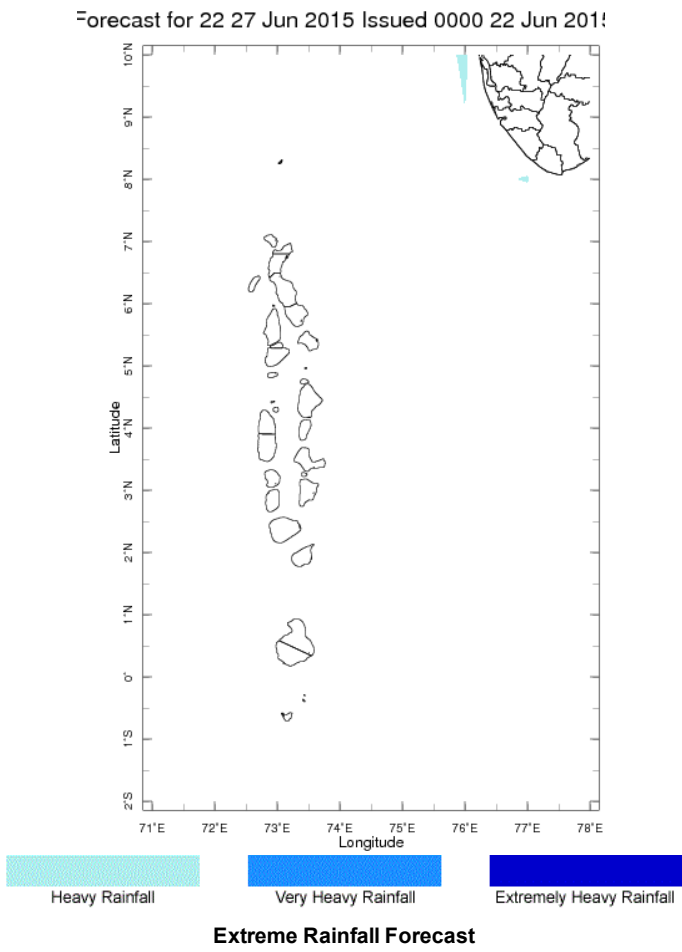


Longitude 73.375E Latitude 0.375N
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown



Weekly Rainfall Forecast

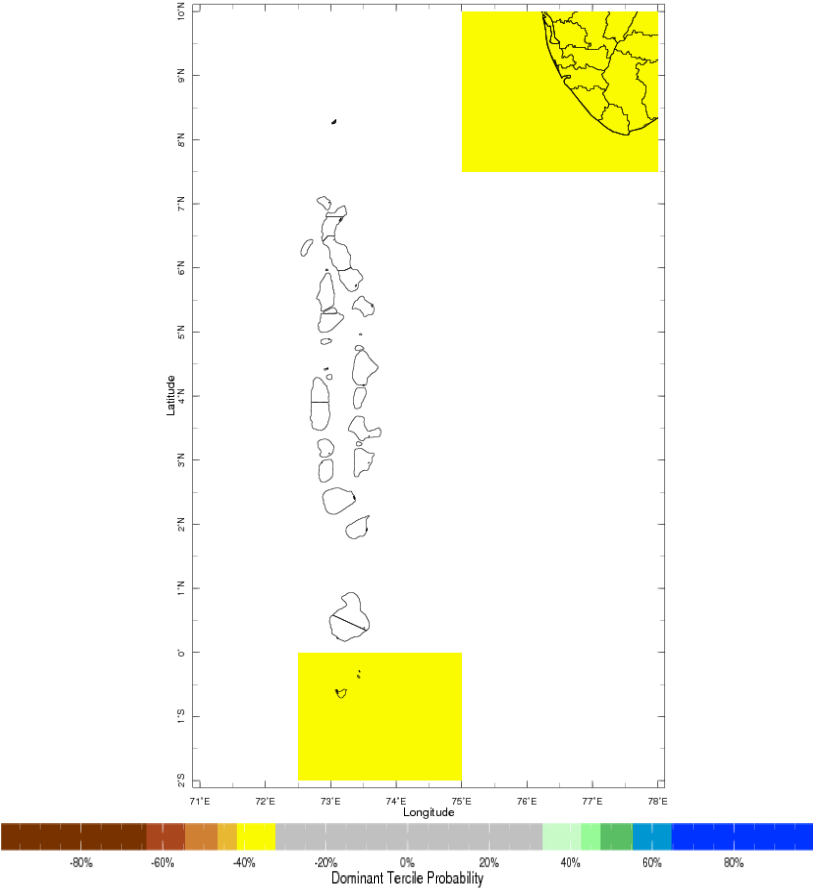
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.



Seasonal Rainfall and Temperature Forecast

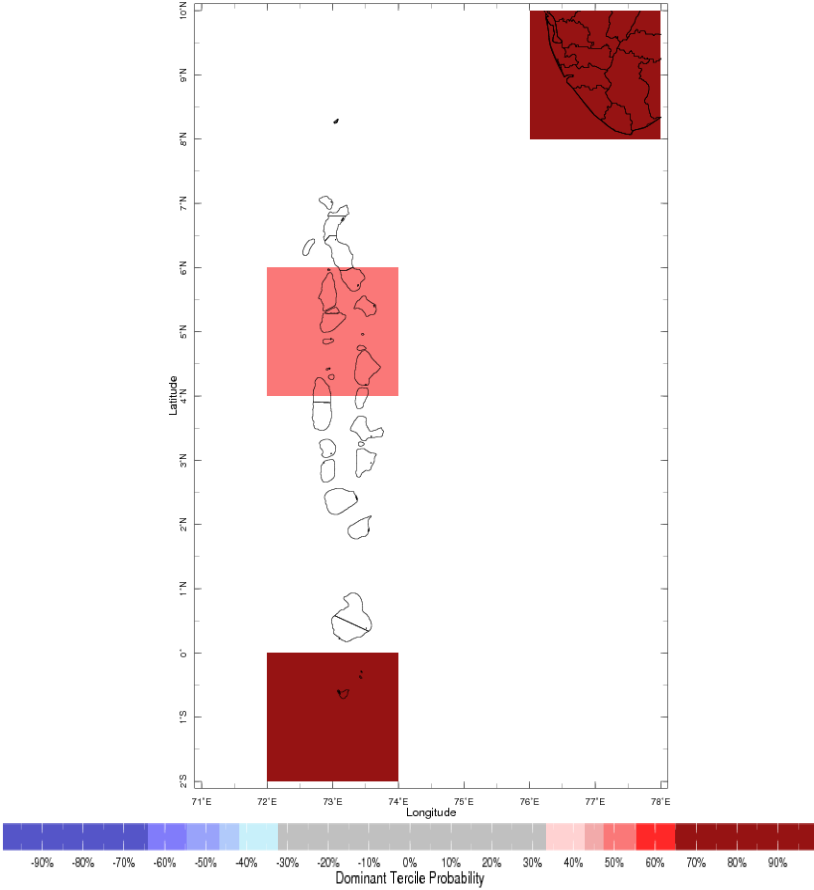
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile probability levels. The upper side of the color bar shows the colors used for increasingly strong probabilities when the dominant tercile is the above-normal tercile, while the lower side shows likewise for the below-normal tercile. The gray color indicates an enhanced probability for the near-normal tercile (nearly always limited to 40%).

Jul Sep 2015 IRI Seasonal Precipitation Forecast issued Jun 2015



Precipitation Forecast

Jul Sep 2015 IRI Seasonal Temperature Forecast issued Jun 2015



Temperature Forecast

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