

Climate Monitoring and Prediction for the Maldives – April 2017

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

(Ruchira Lokuhetti, Lareef Zubair, Zahid, Michael Bell, Zeenas Yahiya, and Janan Visvanathan)

May 3, 2017

PACIFIC SEAS STATE Apr 20, 2017

By mid-April 2017, the tropical Pacific remained in an ENSO-neutral state, with above-average SSTs present in the eastern Pacific Ocean, and near-average SSTs across the central and east-central part of the basin. Across the western and central Pacific, the pattern of cloudiness, rainfall, and winds remains suggestive of La Nina conditions. The collection of ENSO prediction models indicates increasing chances of El Nino into the summer and fall of 2017. (Text Courtesy IRI)

INDIAN OCEAN STATE Apr 26, 2017

0.5 °C above average SST was observed around Maldives.

 www.fb.com/fectmv

 @fectmv

Highlights

Monitored: During April, entire country received below average rainfall. Over the last year, there has been a rainfall deficit in the Northern and Southern Islands by 20 and 15% respectively - the Northern Islands have a deficit by 300 mm; and the Southern islands by 240 mm compared to the average annual cumulative rainfalls since 2003 of 1500 mm. Rainfalls received by the northern is the lowest rainfall recorded in the region during the past 6 years. The sea surface temperature around Maldives is 0.5 °C above average.

Predictions: IRI seasonal prediction predicts climatological distribution of rainfall for Maldives until June (i.e. no signs of either higher or lower tendency). El Nino prediction models suggest of ENSO-neutral conditions. Long Range Weather prediction models simulations do not anticipate heavy rainfall in the next week.

Summary

CLIMATOLOGY

Monthly Climatology: In April, Rainfall usually is up to 200 mm in the entire country. The wind direction is westerly and the speed is higher than in April. The rainfall in northern islands usually increases up to 250 mm in June, while it decreases to 150 mm in southern islands. Wind direction in June is usually easterly but with low speeds. In July, the entire country receives up to 200 mm rainfall and the wind speed and direction does not change.

MONITORING

Weekly Rainfall Monitoring:

Date	Rainfall
19 th – 23 rd Apr 2017	No Rainfall.
24 th Apr 2017	Up to 50 mm in northern islands and up to 20 mm in central islands.
25 th Apr 2017	Up to 20 mm in central islands and up to 10 mm in northern islands.
26 th Apr 2017	No Rainfall.
27 th Apr 2017	Up to 50 mm in central islands.
28 th Apr 2017	Up to 10 mm in central islands.
29 th Apr 2017	No Rainfall.
30 th Apr 2017	Up to 50 mm in southern islands.

Monthly and Seasonal Rainfall Monitoring: In April, Southern and Central islands received up to 150 mm; and northern islands up to 90 mm of below average rainfall. The entire country received up to 240 mm of rainfall during this period. Rainfalls received by the northern is the lowest rainfall recorded in each region during the past 6 years.

PREDICTIONS

Weekly Rainfall Forecast: According to IMD GFS model up to 10 mm of rain is expected on May 5th in the entire country. During 6th- 8th up to 20 mm of rainfall is expected in southern islands and up to 10 mm in the central islands. On the 9th up to 10 mm of rainfall is expected in southern and central islands. Up to 10 mm of rainfall is expected in the entire country on the 10th. Central islands are expected to receive up to 40 mm of rainfall; northern islands up to 20 mm; and southern islands up to 10 mm on the 11th.

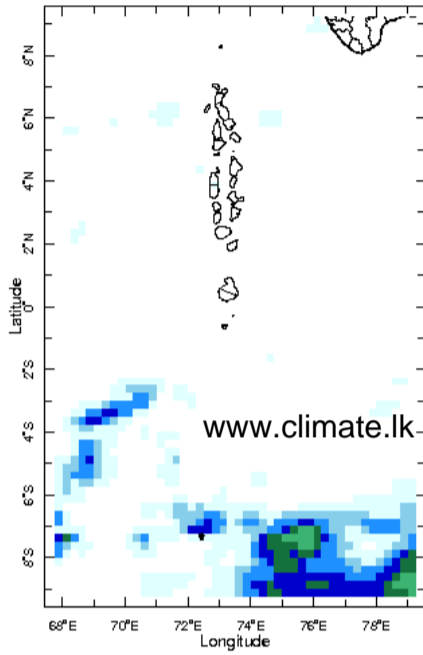
Seasonal Rainfall and Temperature Prediction: As per IRI Multi Model Probability Forecast for April to June, the total 3-month precipitation shall be climatological for the whole country. The 3-month average temperature has a 70% likelihood to be in the above-normal tercile in southern islands and 50% likelihood for central and northern islands during these 3 months.

Inside this Issue

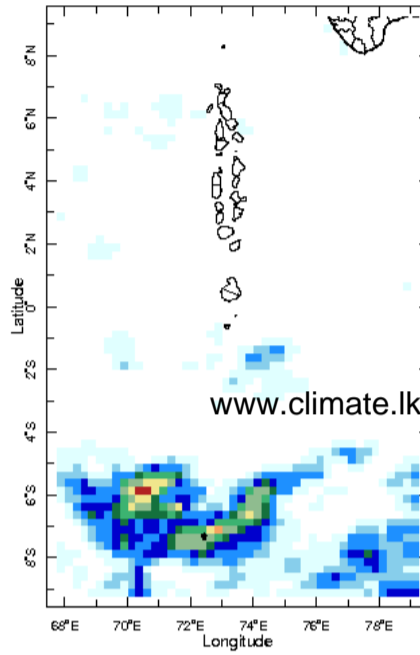
1. Rainfall Monitoring
 - a. Daily Satellite derived Rainfall Estimates
 - b. Monthly Rainfall derived from Satellite Rainfall Estimate
 - c. Monthly and Seasonal Monitoring
2. Ocean Surface Monitoring
3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

Daily Rainfall Monitoring

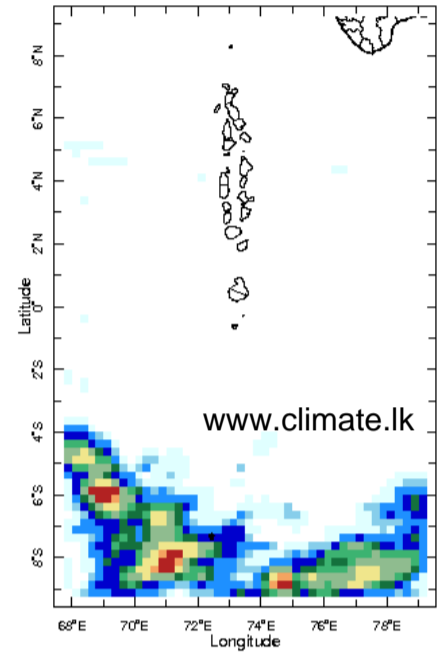
The following figures show the observed rainfall in the last 15 days in Maldives.



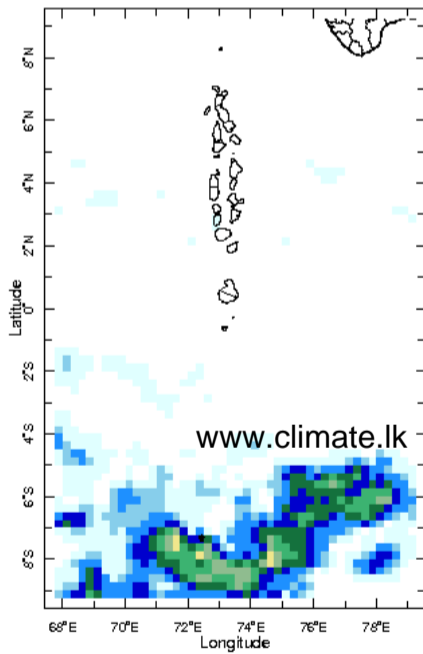
16 Apr 2017



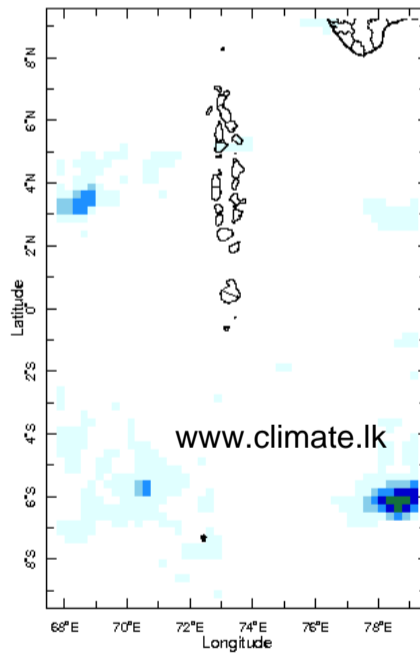
17 Apr 2017



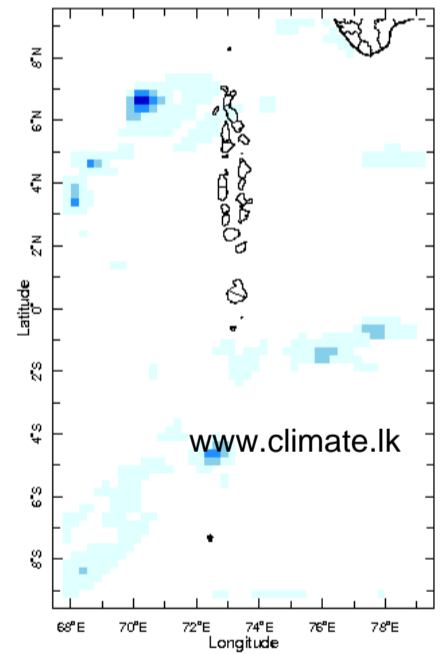
18 Apr 2017



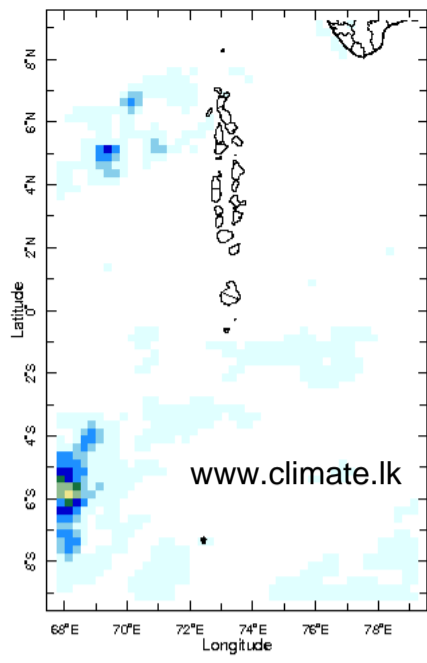
19 Apr 2017



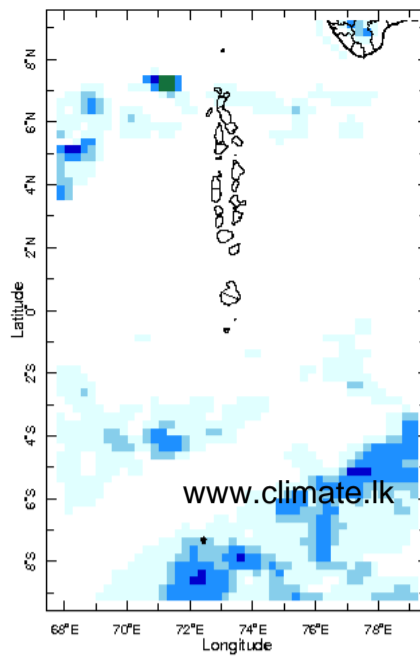
20 Apr 2017



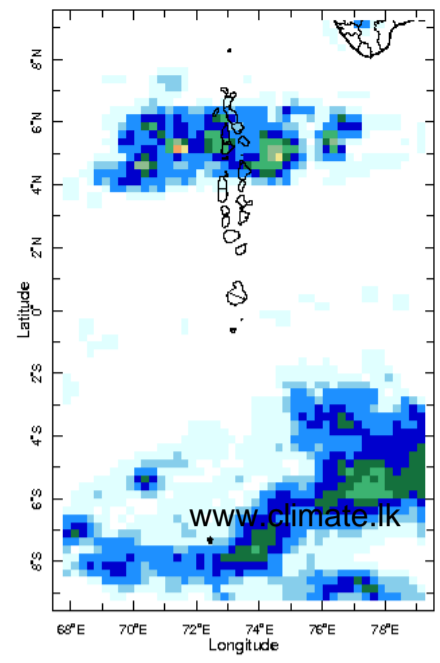
21 Apr 2017



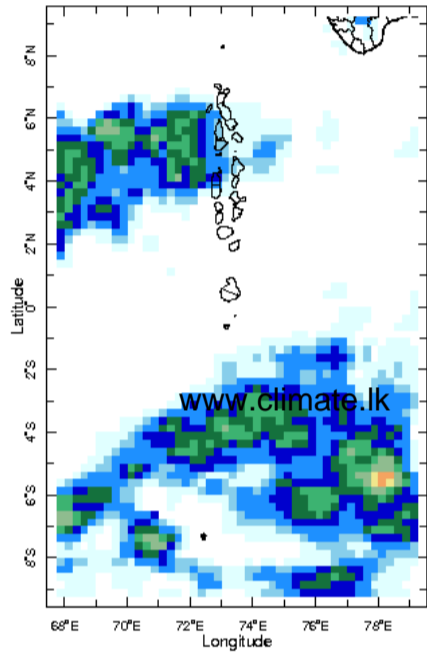
22 Apr 2017



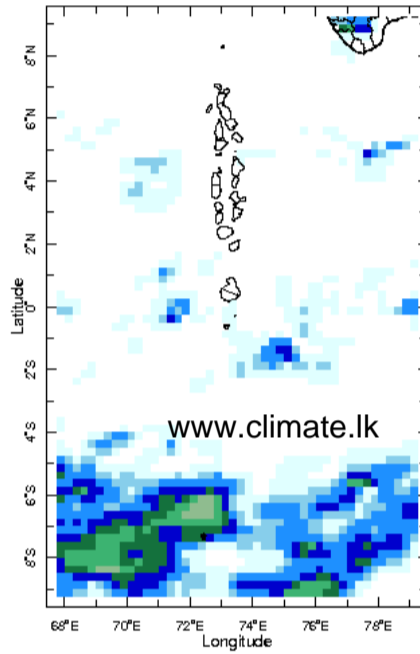
23 Apr 2017



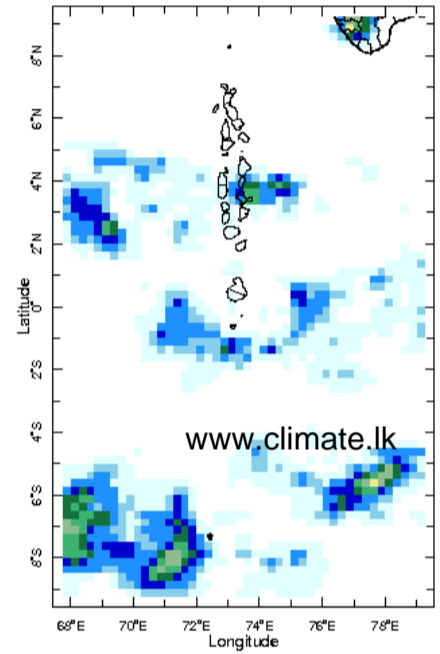
24 Apr 2017



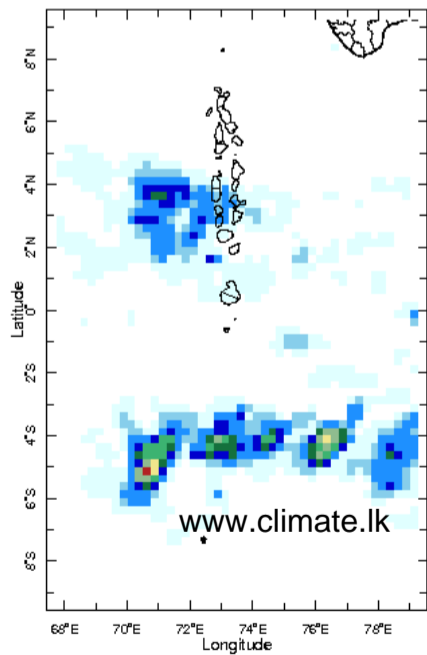
25 Apr 2017



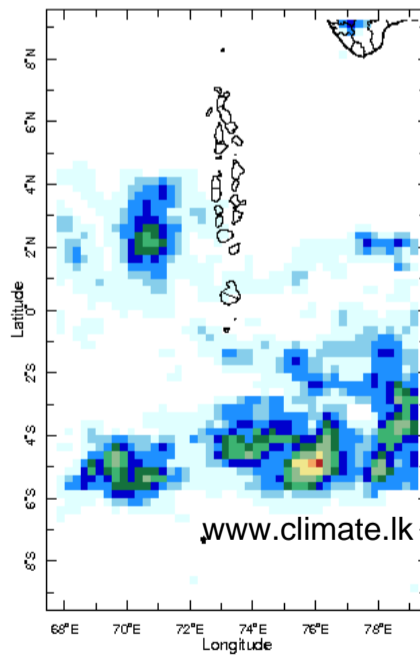
26 Apr 2017



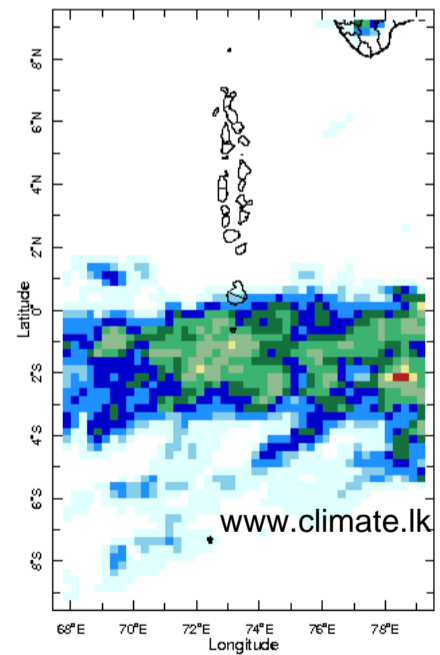
27 Apr 2017



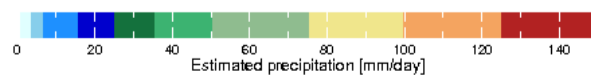
28 Apr 2017



29 Apr 2017

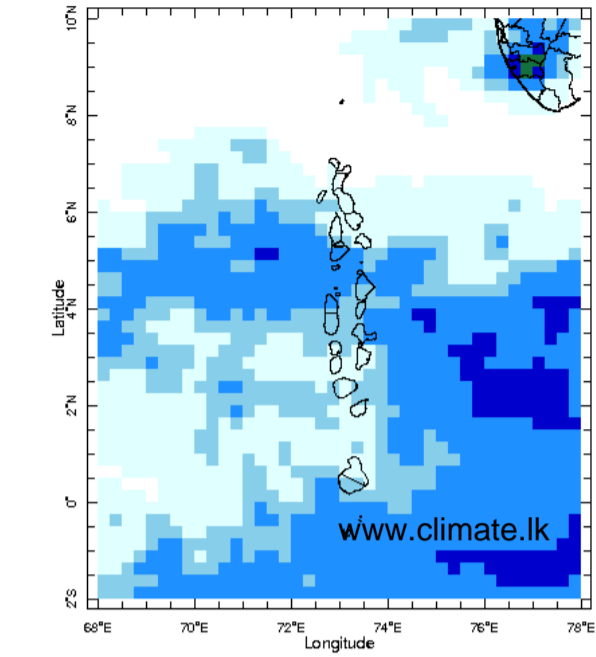


30 Apr 2017

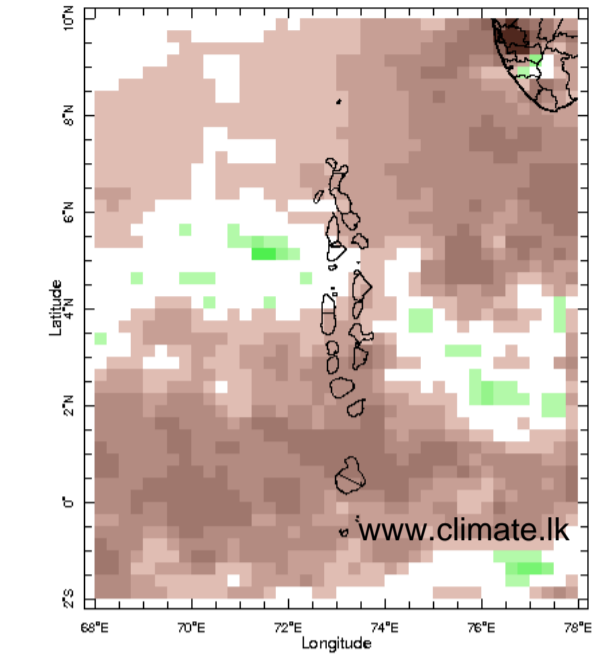


Monthly Rainfall Monitoring

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



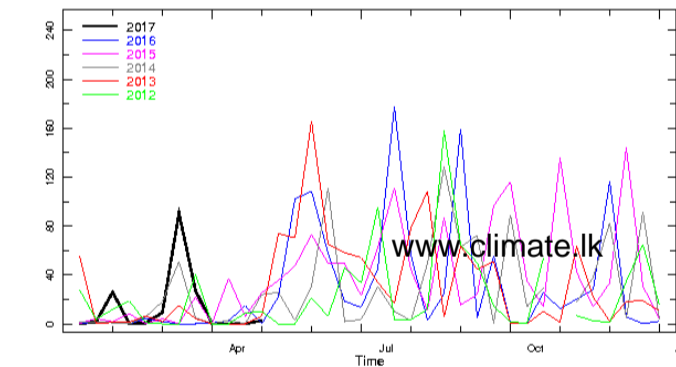
Monthly Average



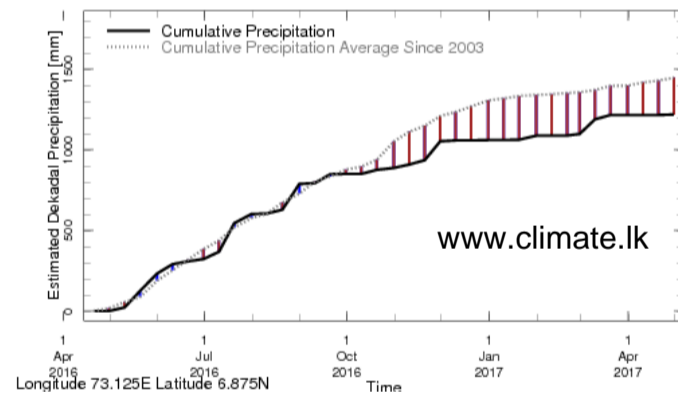
Monthly Anomaly

Monthly and Seasonal Monitoring

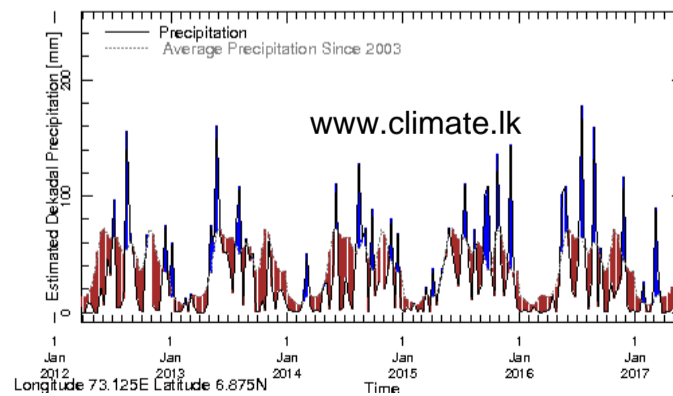
Northern Maldives:



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

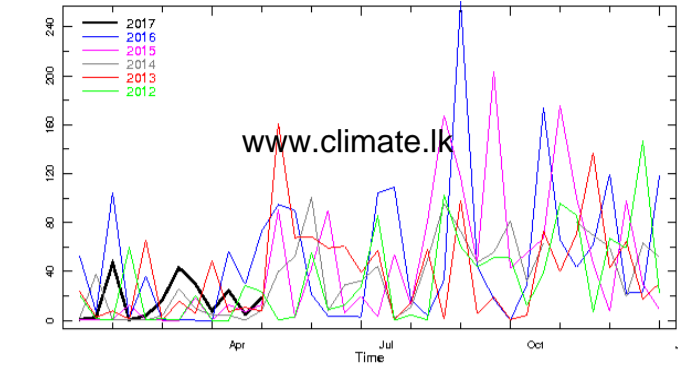


Rainfall of past 365 days (black) compared to average rainfall since 2003.

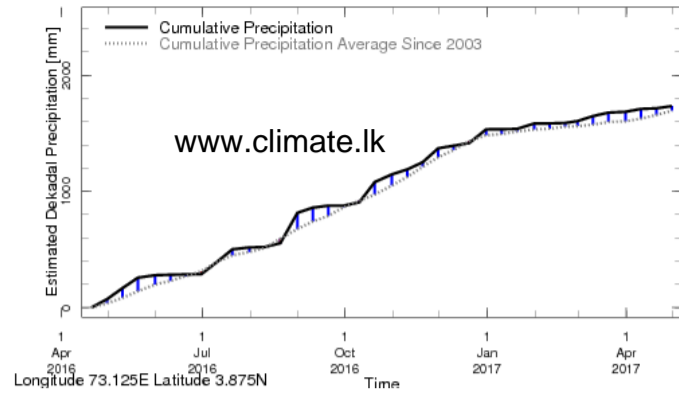


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

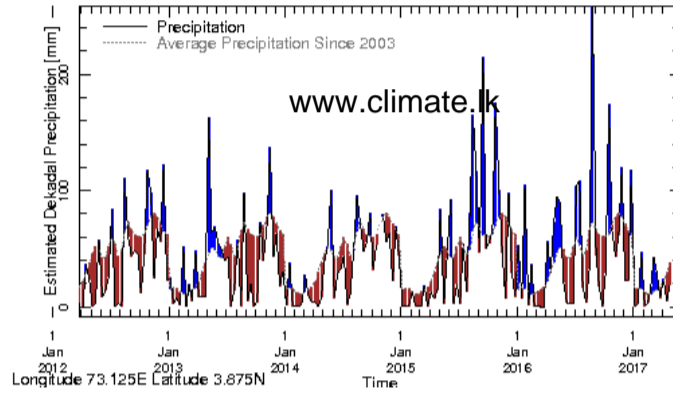
Central Maldives:



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

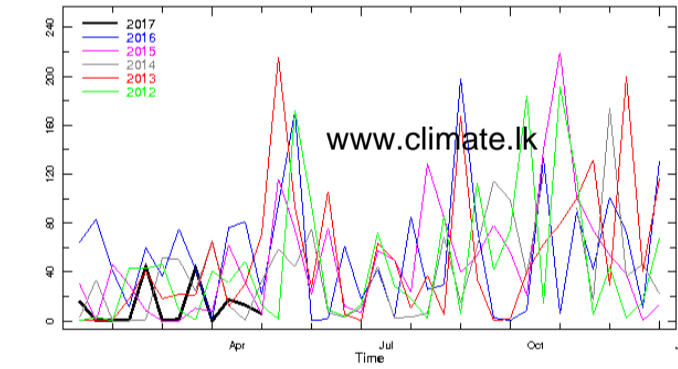


Longitude 73.125E Latitude 3.875N
Rainfall of past 365 days (black) compared to average rainfall since 2003.

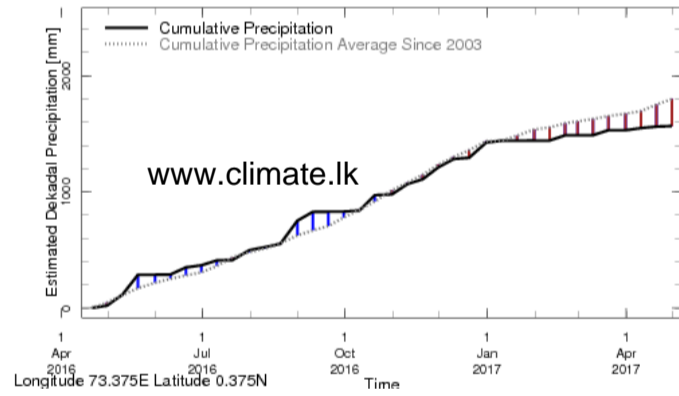


Longitude 73.125E Latitude 3.875N
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

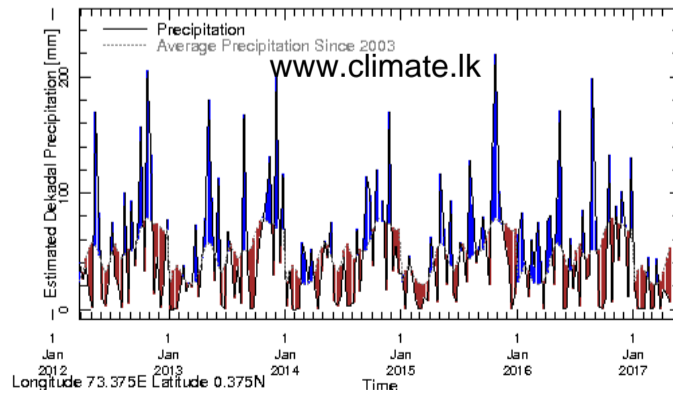
Southern Maldives:



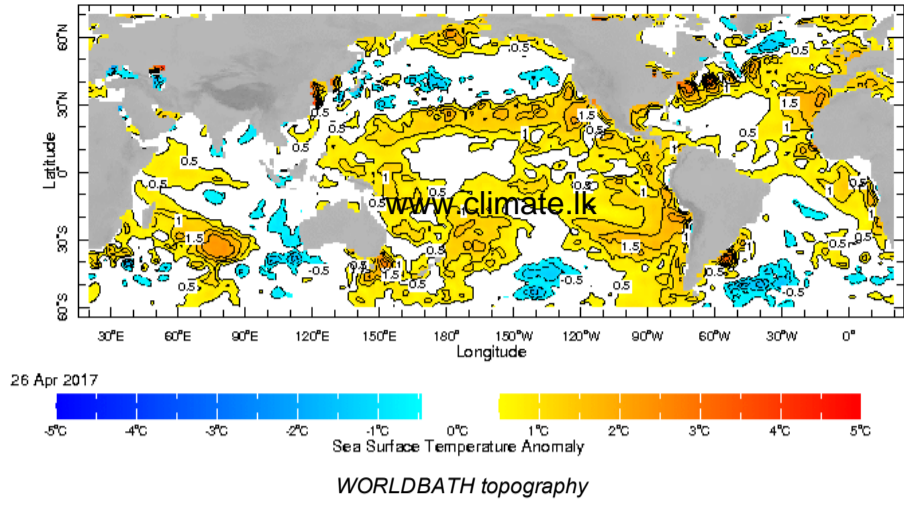
Longitude 73.375E Latitude 0.375N
Rainfall in the current year (black) compared to rainfall in previous 5 years



Longitude 73.375E Latitude 0.375N
Rainfall of past 365 days (black) compared to average rainfall since 2003.

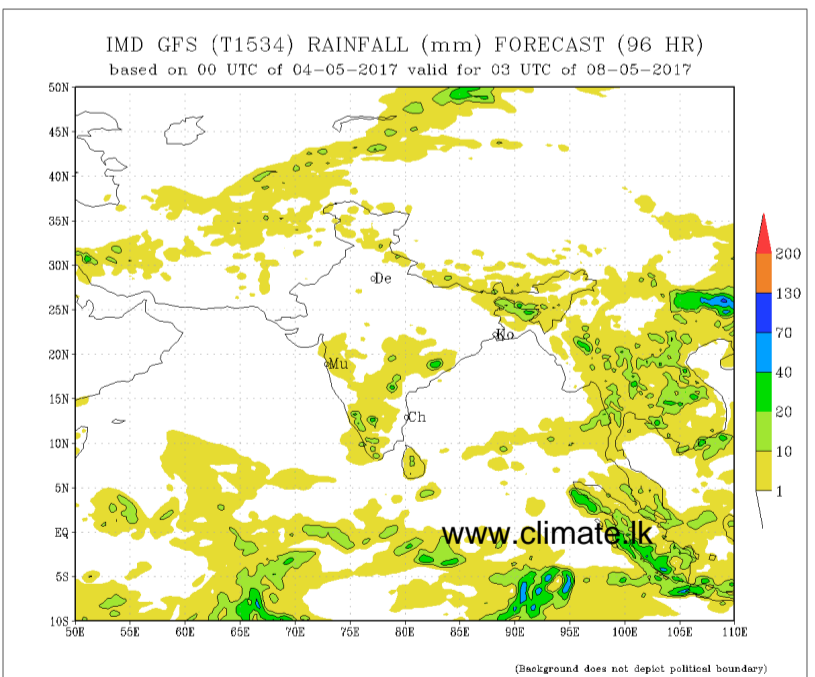
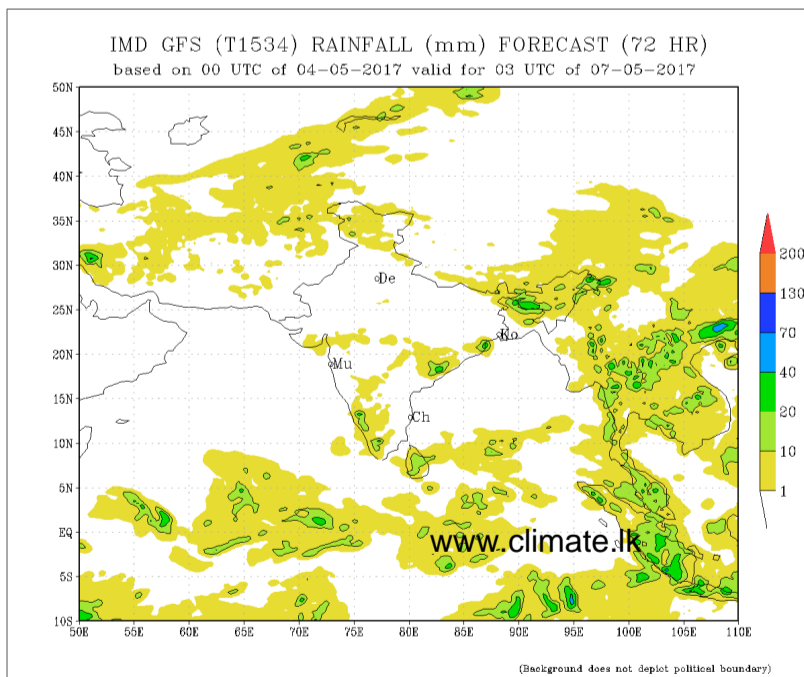
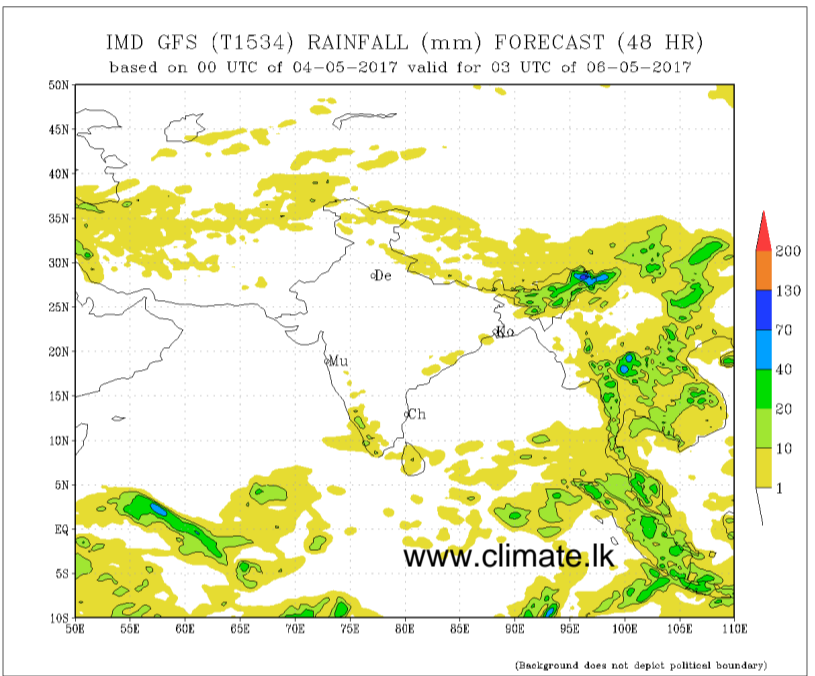
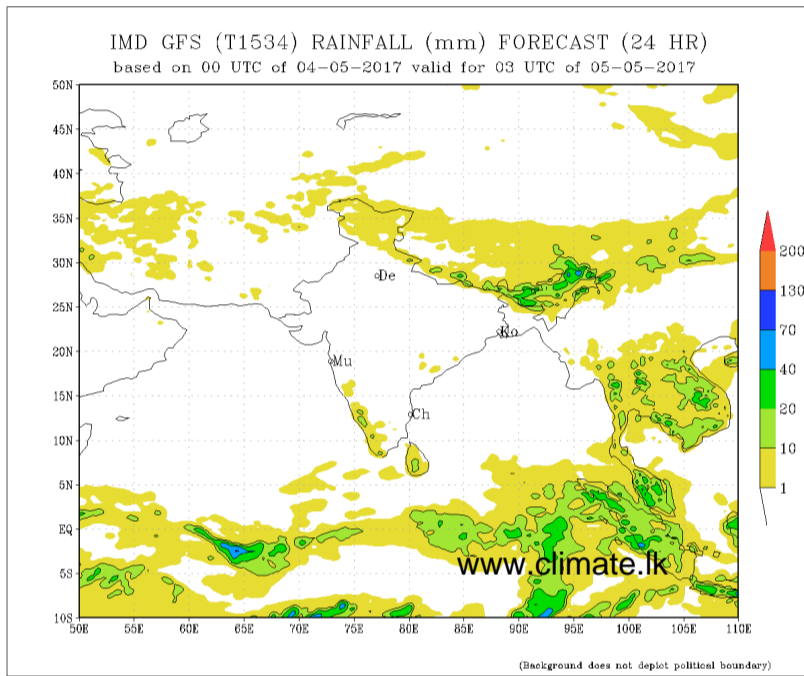


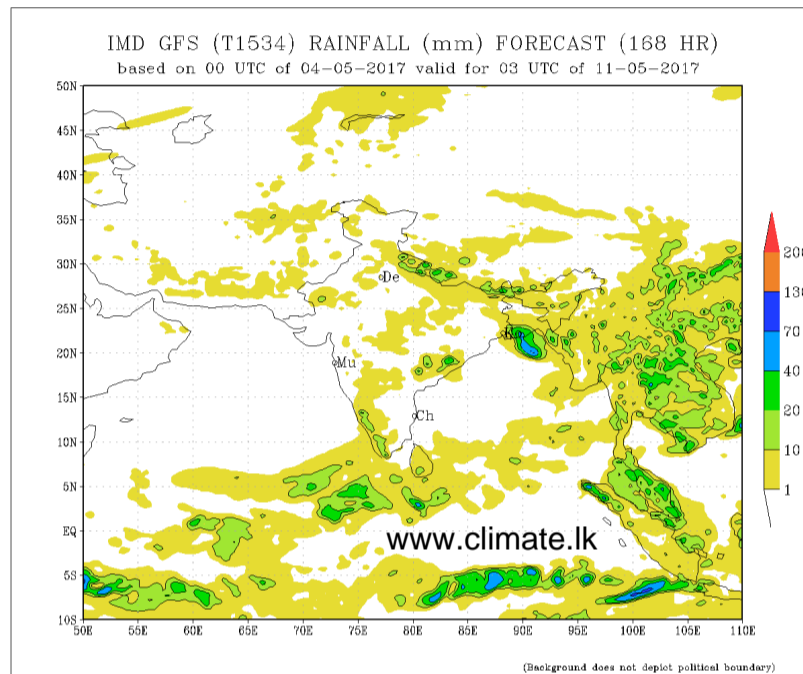
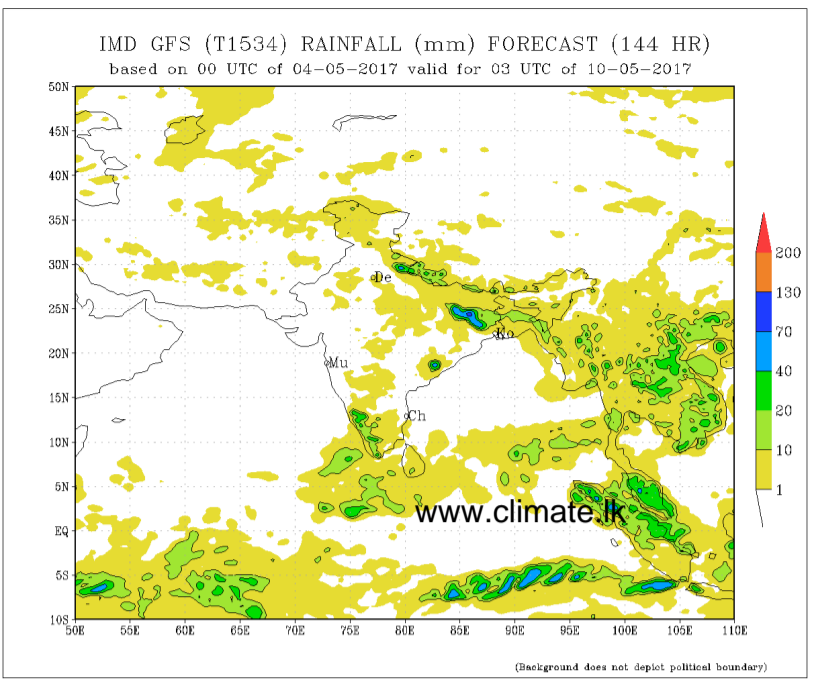
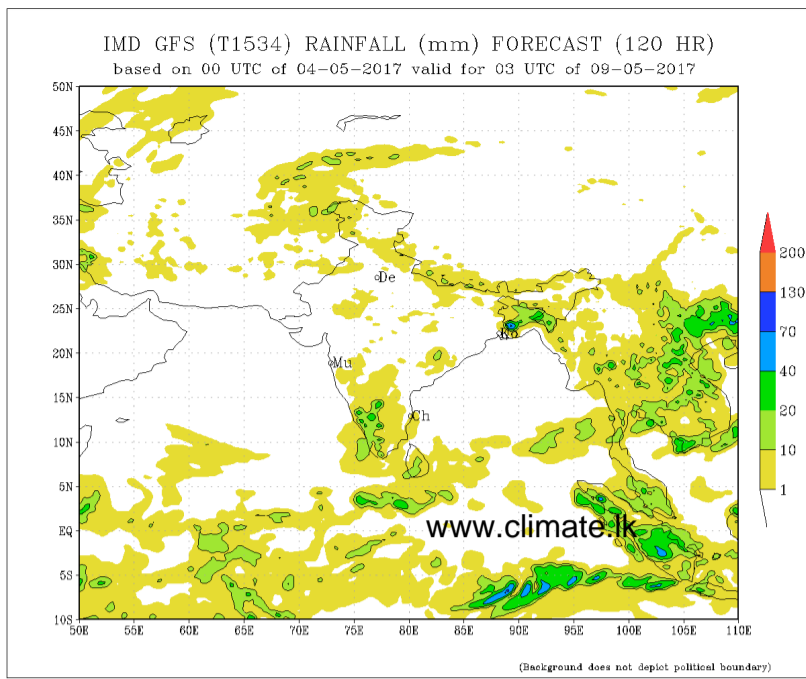
Longitude 73.375E Latitude 0.375N
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown



Daily Rainfall Forecast

Daily Rainfall forecasts (up to 7 days ahead) from the IMD is provided in figures below. These predictions are from the GFS (T1534) model covering the entire south Asian region.

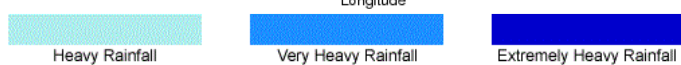
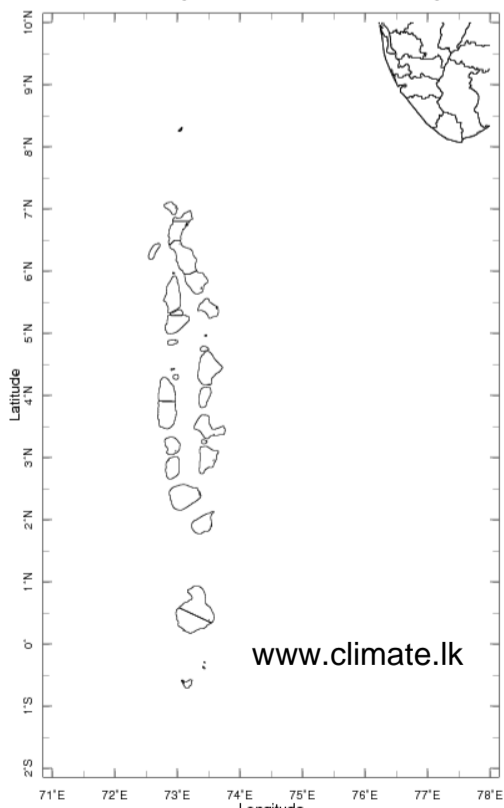




Weekly Rainfall Forecast

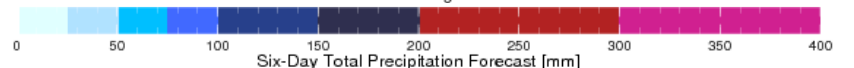
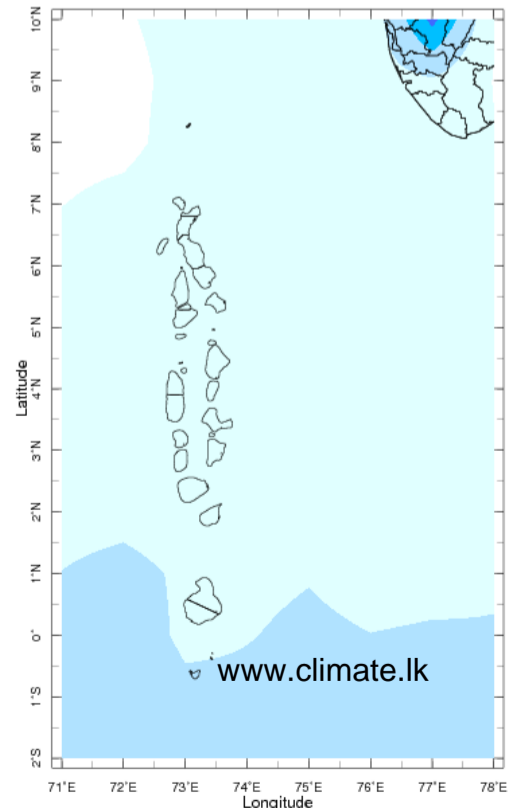
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 3-8 May 2017 Issued 0000 3 May 2017



Extreme Rainfall Forecast

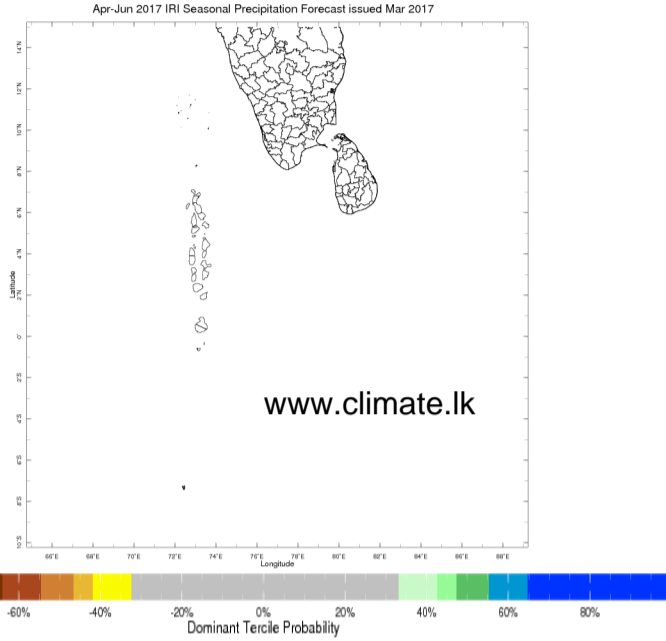
Forecast for 3-8 May 2017 Issued 0000 3 May 2017



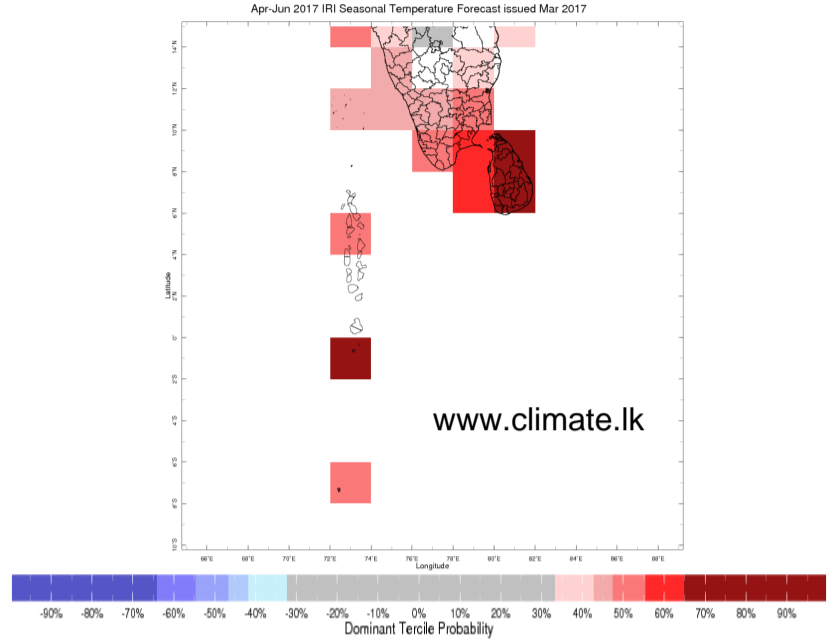
Total Six Day Precipitation Forecast

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%).



Precipitation Forecast



Temperature Forecast

Subscribe to our Monthly Maldives Newsletter

Subscribe

Follow @fectmv
 Contact Us
 email: fectmv@gmail.com
 phone: (+94) 81 2376746
 blog: www.fectmv.blogspot.com

Foundation for Environment, Climate & Technology
 C/O Mahaweli Authority of Sri Lanka,
 Digana Village,
 Rajawella,
 SRI LANKA