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Climate Monitoring and Prediction for the Maldives – June 2018

Prepared by Staff from Foundation for Environment, Climate and Technology, Sri Lanka and USA, Maldives Meteorological Service, and Columbia University
(Ruchira Lokuhetti, Lareef Zubair, Janan Visvanathan, Zahid and Michael Bell)

July 10, 2018

PACIFIC SEAS STATE

June 19, 2018

In mid-June 2018, the east-central tropical Pacific waters reflected ENSO-neutral conditions, as did all key atmospheric variables. The official CPC/IRI outlook calls for neutral conditions through northern summer season, with a 50% chance of El Niño development after September rising to 65% during winter 2018-19. An El Niño watch has been issued. The latest forecasts of statistical and dynamical models collectively favor weak El Niño development during late summer, growing to possibly moderate strength during fall and winter. (**Text Courtesy IRI)**

INDIAN OCEAN STATE

July 4, 2018

Neutral to 0.5 ^{0}C above neutral SST Anomalies was observed around Maldives.

MJO INDEX

The MJO was significant in Phase 2 from 17-22 June and in Phase 3 from 23-30 June. Usually rainfall in Maldives is augmented in Phase 2.

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Highlights

Monitored: *During June, Southern, Central and some Northern Islands received an excess of rainfall than is normal for the season by up to 120 mm. However, the Northern Islands which had been having a rainfall deficit in the last year is not fully recovered from the below normal rainfall. The Central Islands have a 100 mm of deficit of rainfall while the Southern Islands are having a good year. The sea surface temperature around Maldives is near normal with seas around Southern Islands seeing an anomaly of 0.5 ^{0}C above average.*

Predictions: *IMD GFS model predicts up to 40 mm of daily rain is expected in northern islands; up to 20 mm in central islands; and up to 10 mm in the southern islands on July 11th. Up to 40 mm of daily rainfall is expected in the southern islands on the 15th and 16th. Long Range Weather prediction models simulations anticipate total rainfall up to 75 mm for the northern islands during July 9th -14th.*

Summary

CLIMATOLOGY

Monthly Climatology: In July, the entire country usually receives up to 200 mm average rainfall and the wind direction in July is usually westerly but with low speeds wind speed. In August and September, the rainfall in southern and central islands increases to 250 mm while in northern islands it remains about 200 mm. The wind direction and speed do not change.

MONITORING

Weekly Rainfall Monitoring:

Date	Rainfall
20th June 2018	Up to 10 mm in northern and southern islands.
21st– 22nd June 2018	No Rainfall.
23rdJune 2018	Up to 5 mm in northern and central islands.
24th June 2018	Up to 20 mm in central and up to 10 mm in northern islands.
25th June 2018	Up to 20 mm in northern and up to 5 mm in central islands.
26th June 2018	Up to 50 mm in northern and central islands.
27th June 2018	Up to 10 mm in northern and central islands.
28th June 2018	Up to 5 mm in central islands.
29th June 2018	No Rainfall.
30th June 2018	Up to 5 mm in northern islands.

Monthly and Seasonal Rainfall Monitoring: In June, central and southern islands including Faadhippolhu atoll received rainfall more than 120 mm above the monthly average; and rest of the northern islands up to 90 mm below the average. The central islands received up to 450 mm of total rainfall; northern islands up to 300 mm; *and southern islands up to 180 mm.*

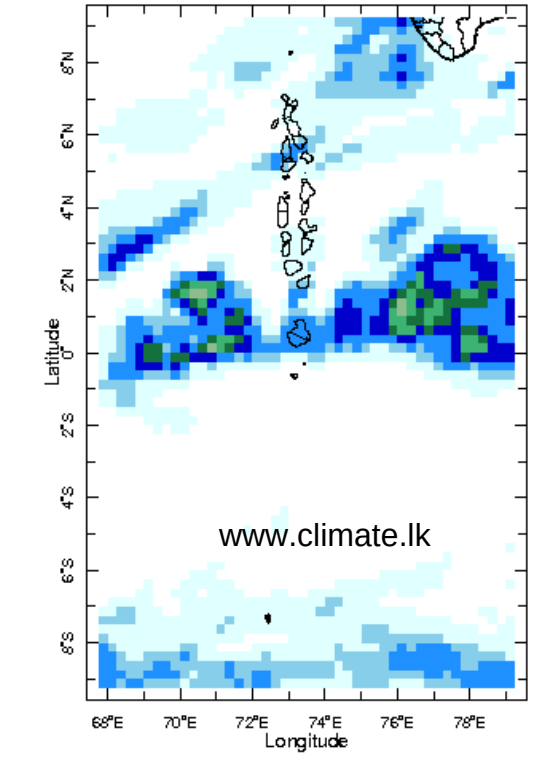
PREDICTIONS

Weekly Rainfall Forecast: According to IMD GFS model up to 40 mm of daily rain is expected in northern islands; up to 20 mm in central islands; and up to 10 mm in the southern islands on July 11th. Up to 10 mm of rainfall is expected in the entire country on the 12th. On the 13th and 14th up to 20 mm rainfall is expected in the northern and southern islands and up to 10 mm in the central islands. Up to 40 mm of rainfall is expected in the southern islands; and up to 10 mm in the northern islands on the 15th. On the 16th up to 40 mm rainfall is expected in the southern islands and up to 10 mm in the northern and central islands.

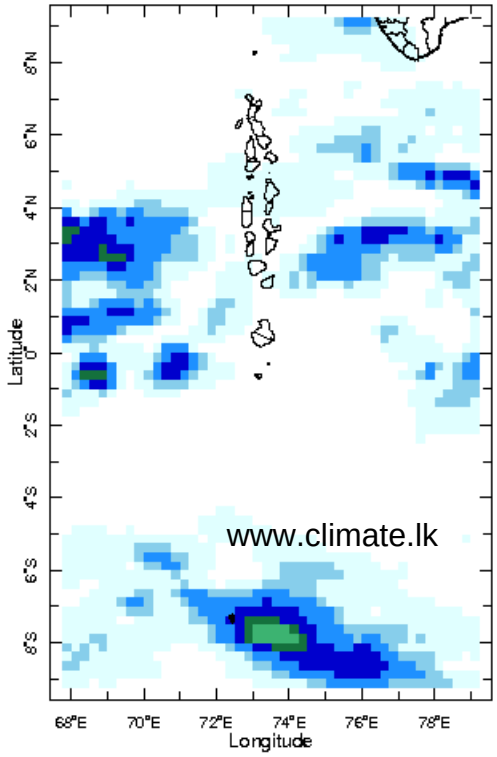
Inside this Issue

Daily Rainfall Monitoring

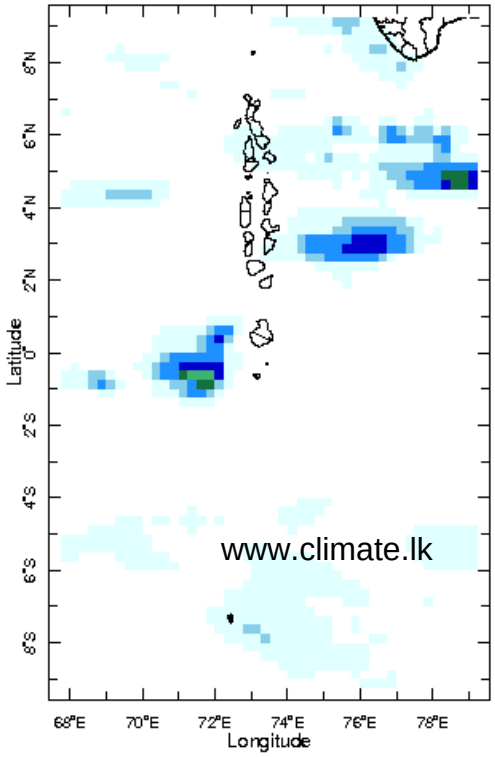
The following figures show the observed rainfall in the last 15 days in Maldives.



20 Jun 2018



21 Jun 2018



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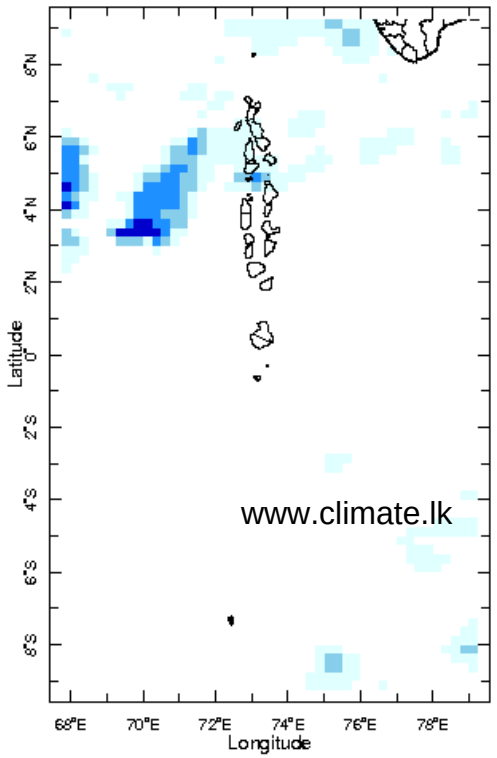

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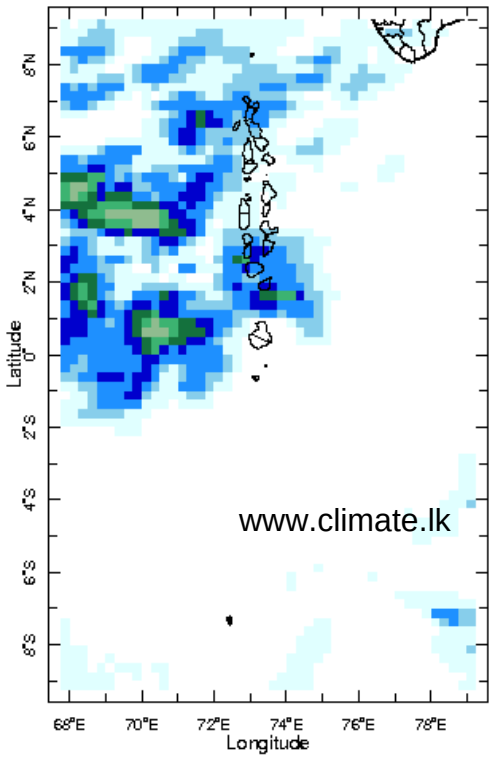

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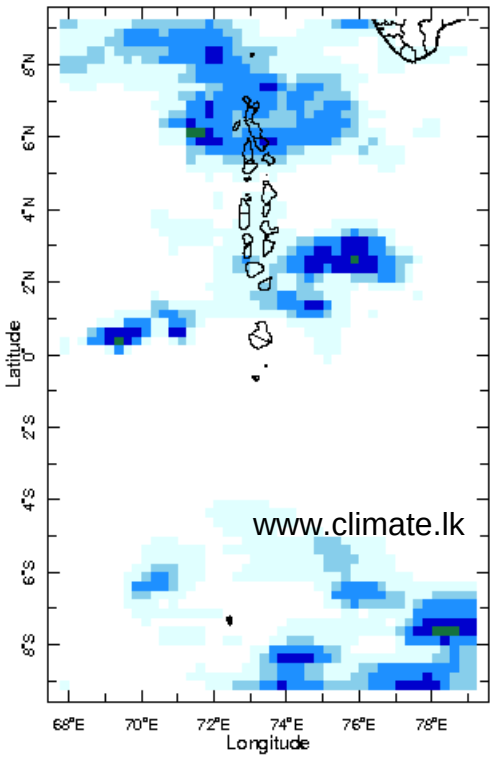

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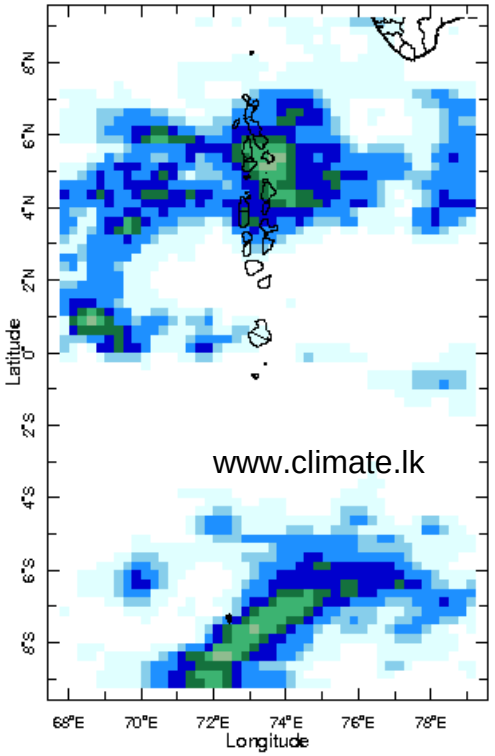

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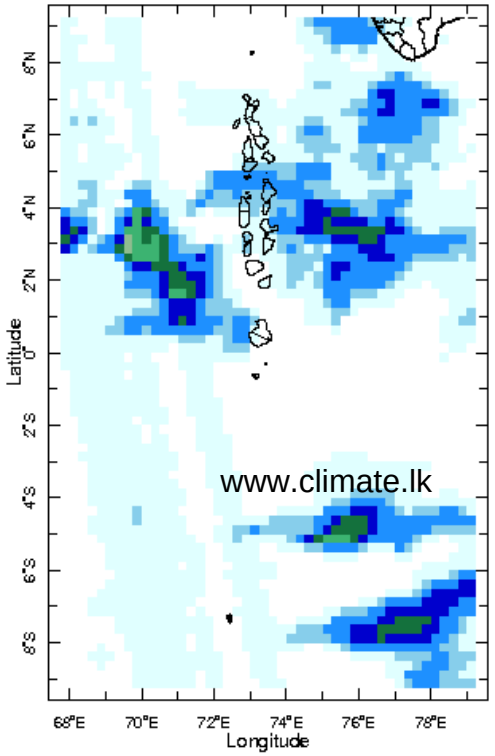

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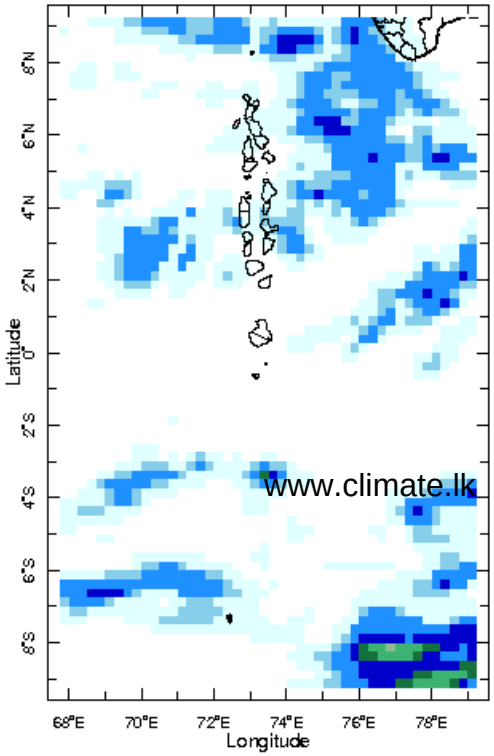

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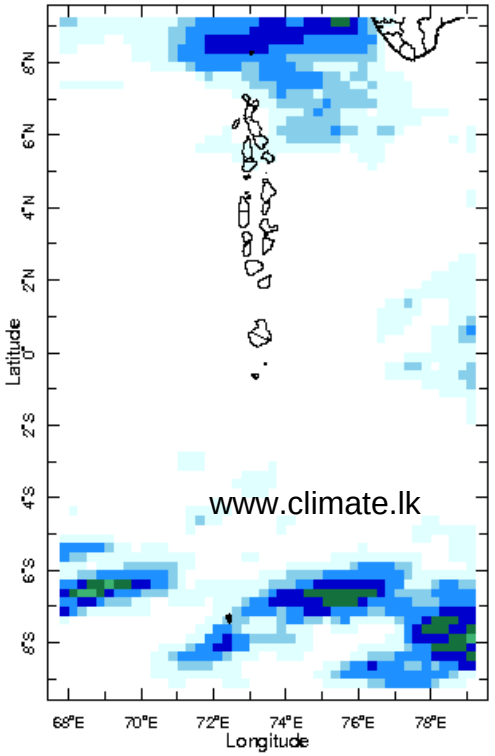

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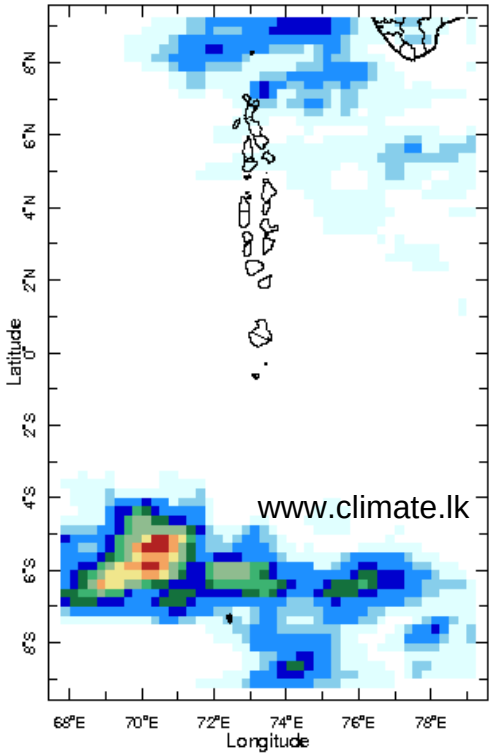
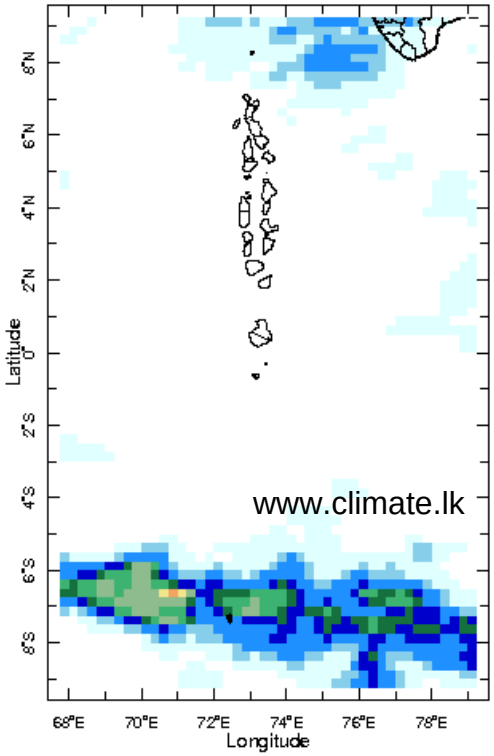
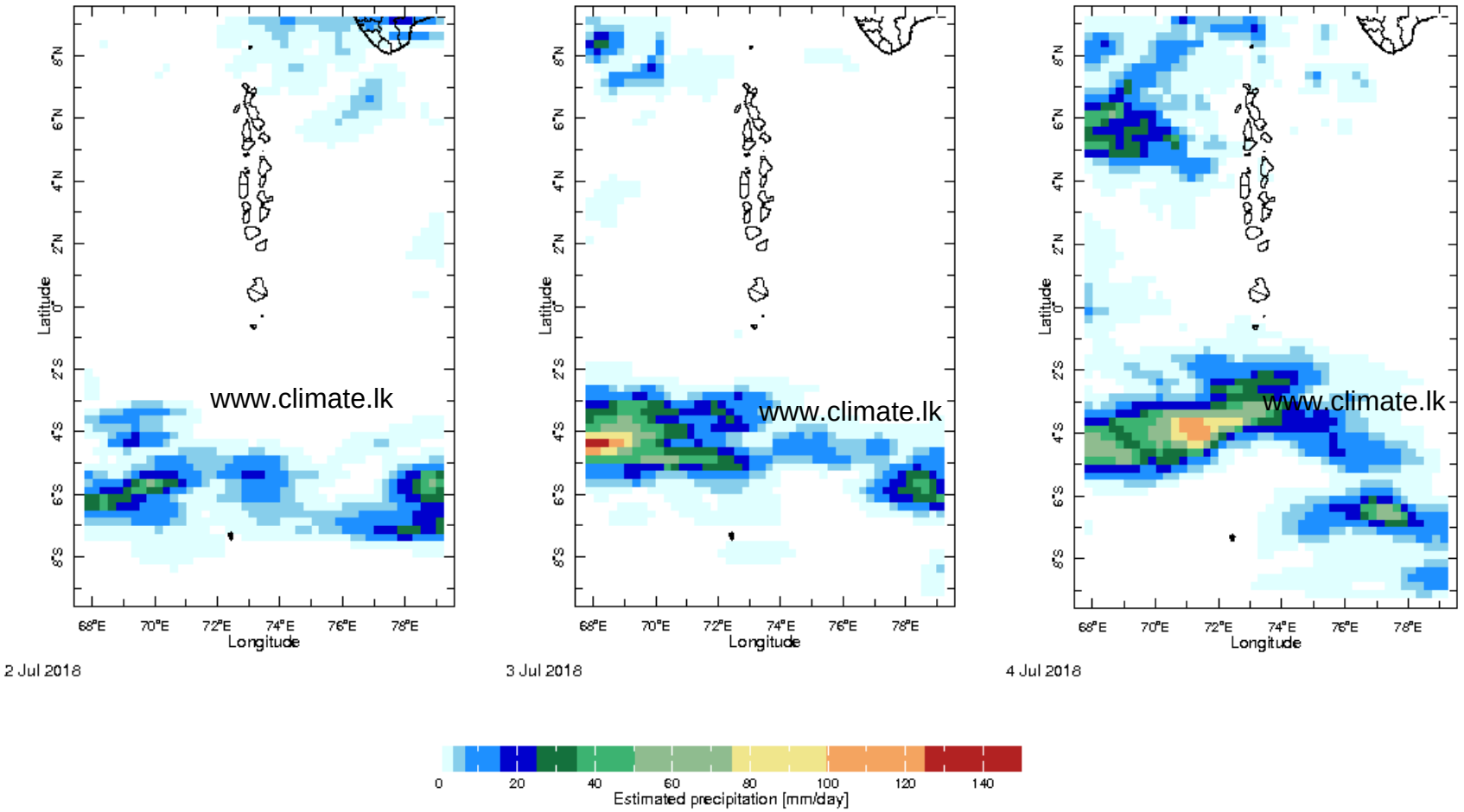


30 Jun 2018



1 Jul 2018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www.climate.lk
2 Jul 2018
3 Jul 2018
4 Jul 2018
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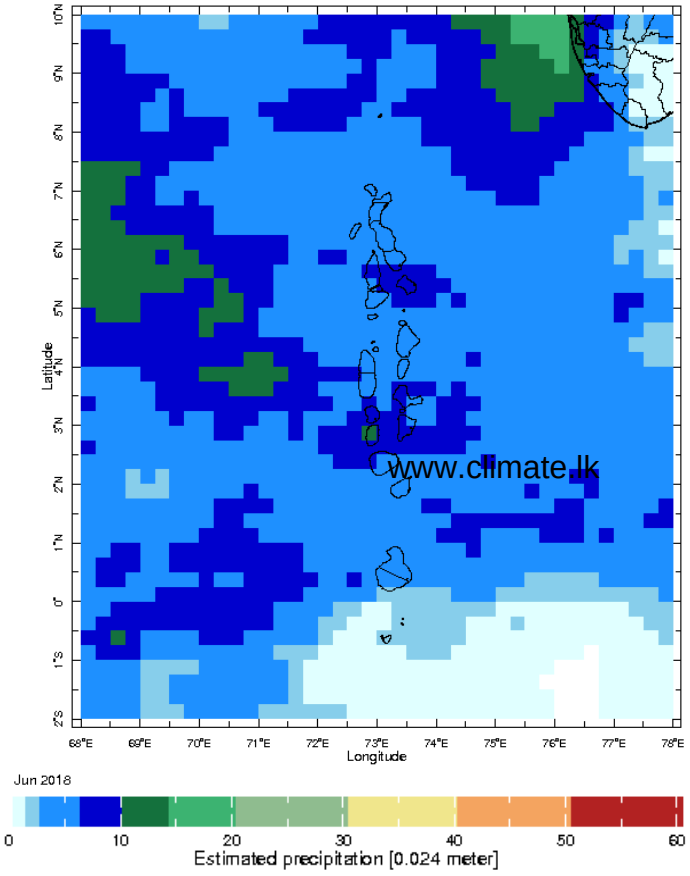
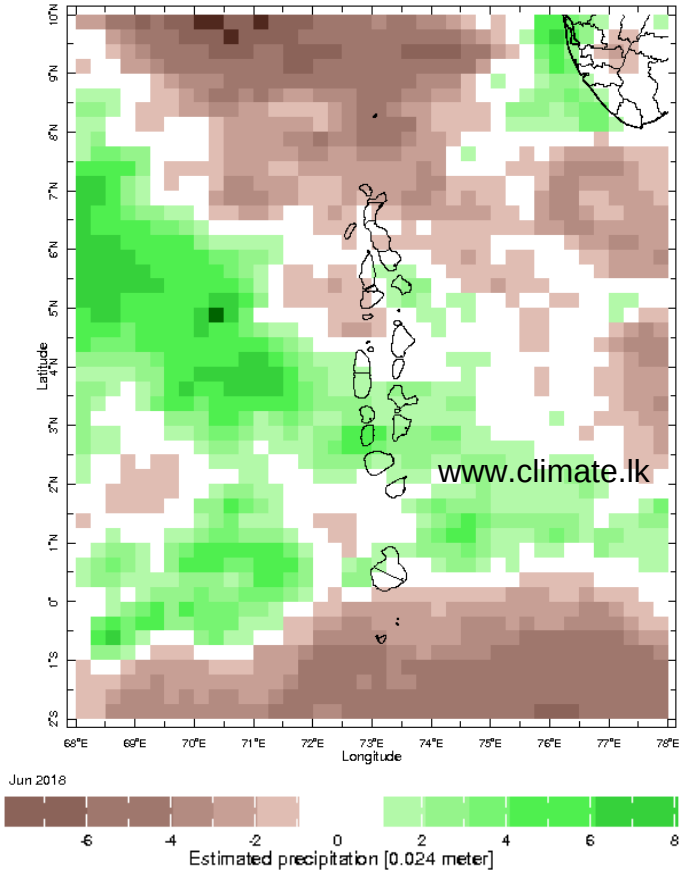
Estimated precipitation [mm/day]

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



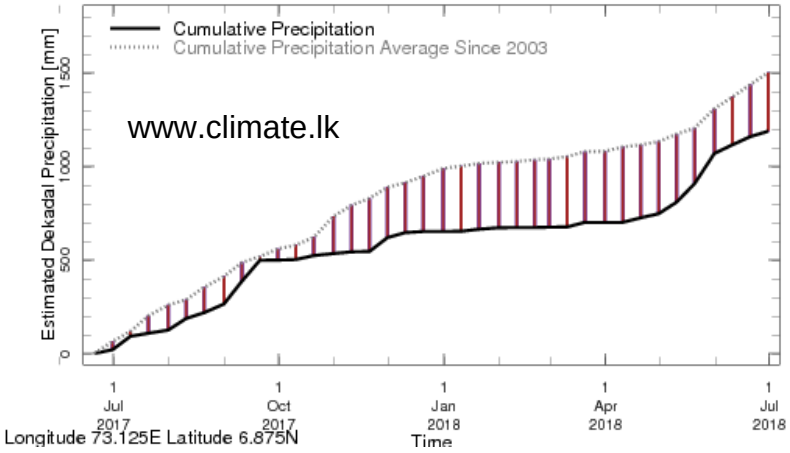
Monthly Anomaly

Monthly and Seasonal Monitoring

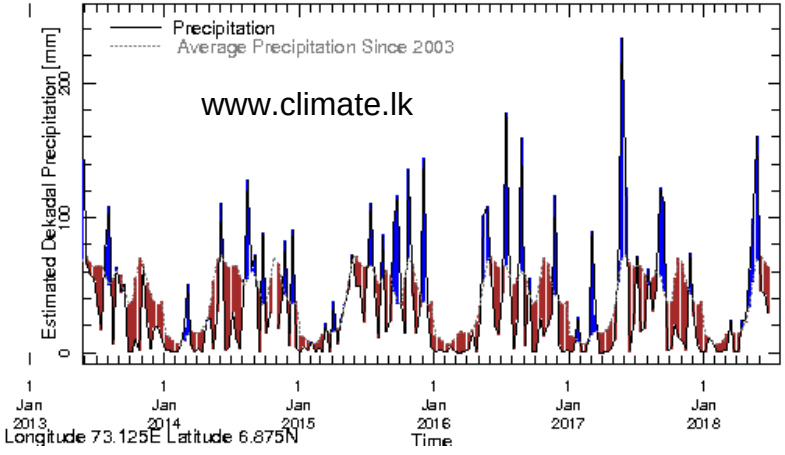
Northern Maldives:

Not Available

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.

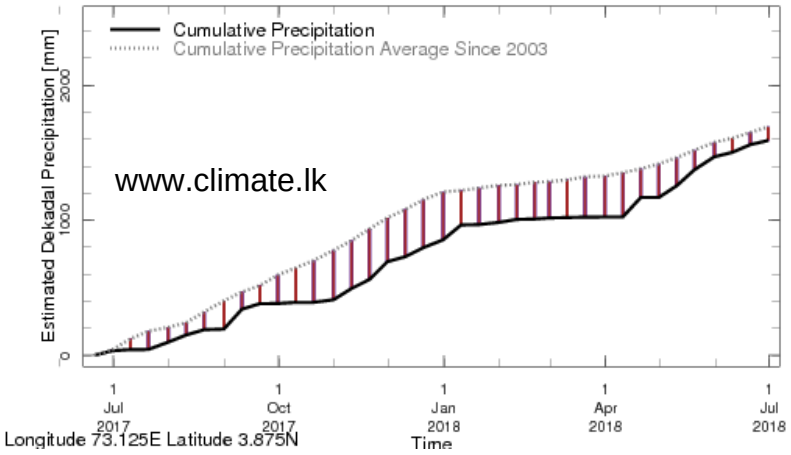


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

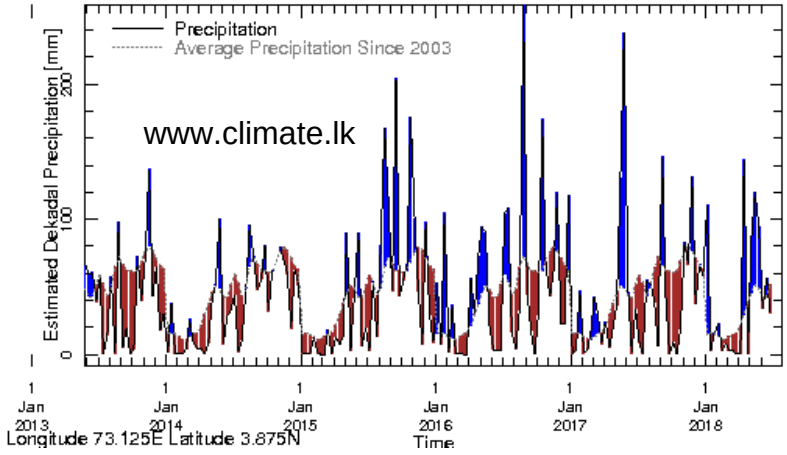
Central Maldives:

Not Available

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

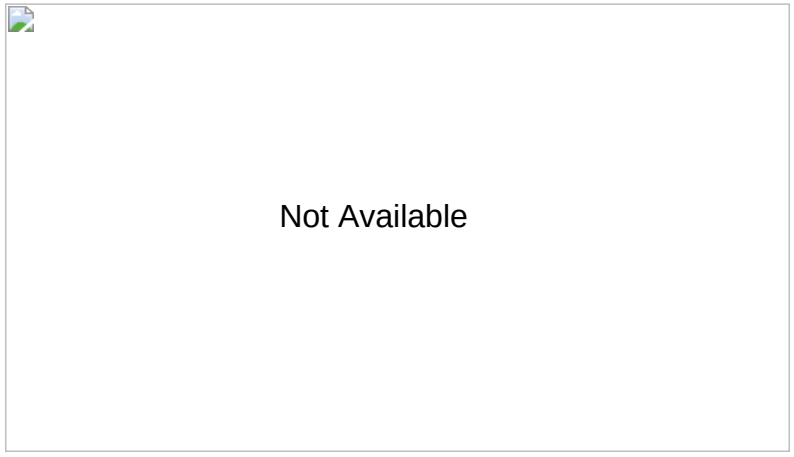


Rainfall of past 365 days (black) compared to average rainfall since 2003.

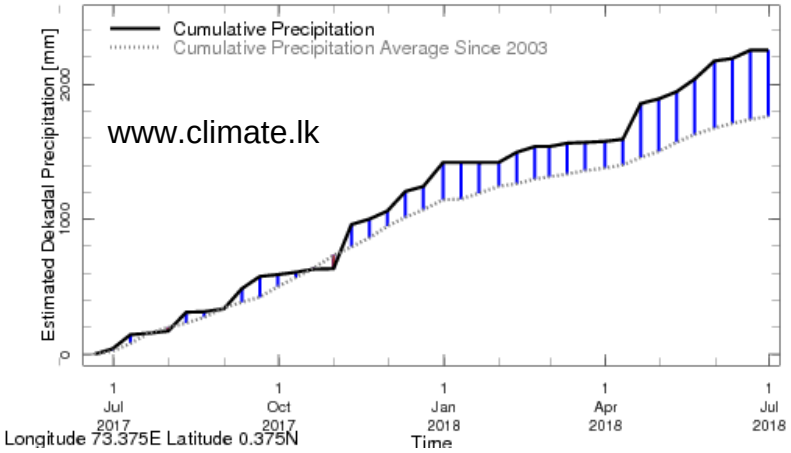


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

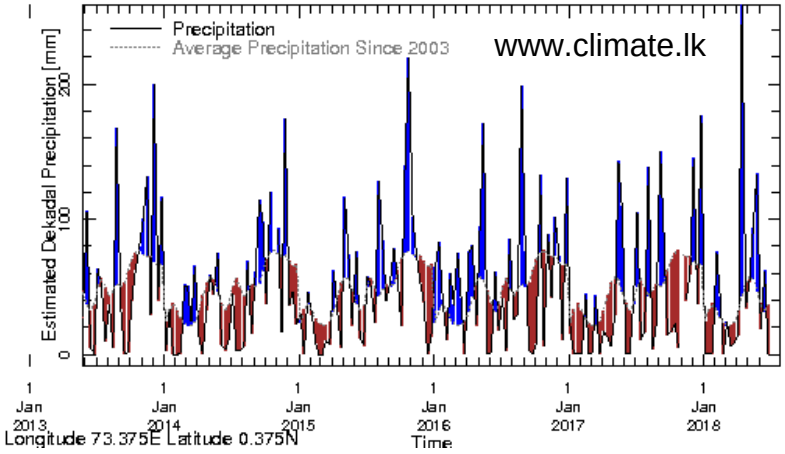
Southern Maldives:



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

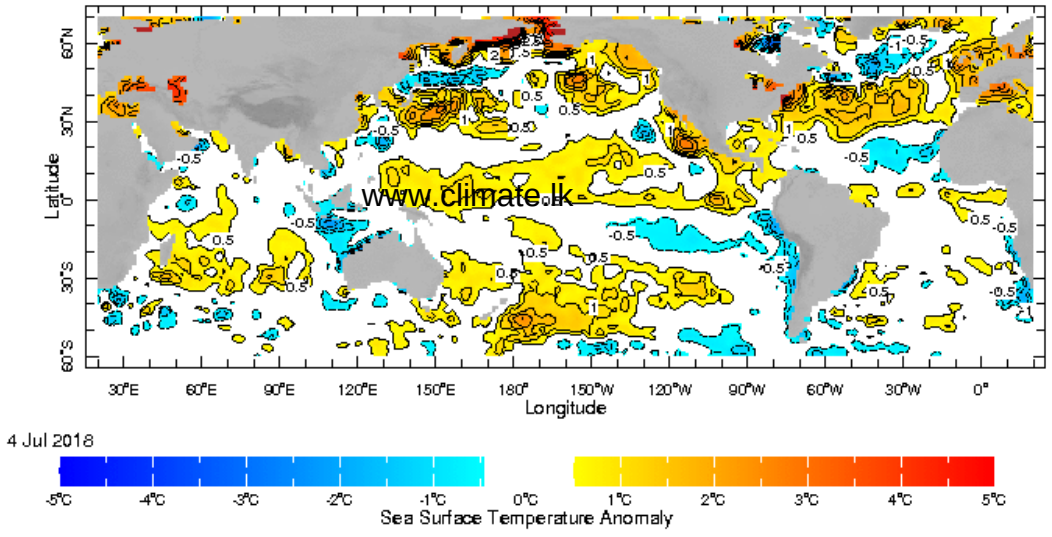


Rainfall of past 365 days (black) compared to average rainfall since 2003.



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

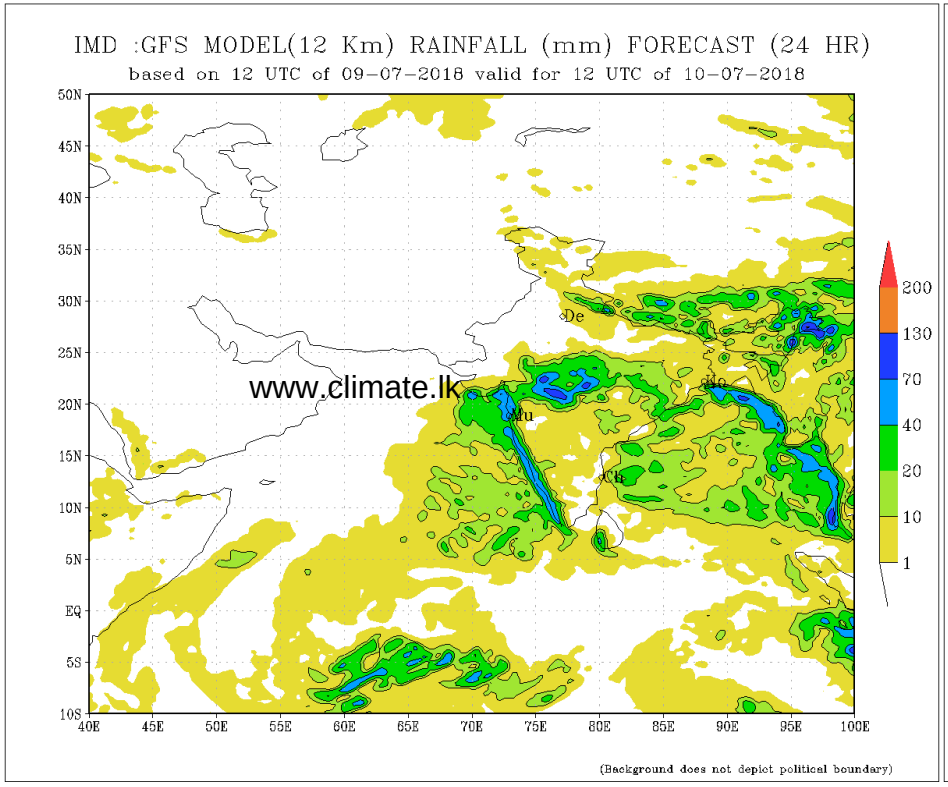
Ocean Surface Monitoring

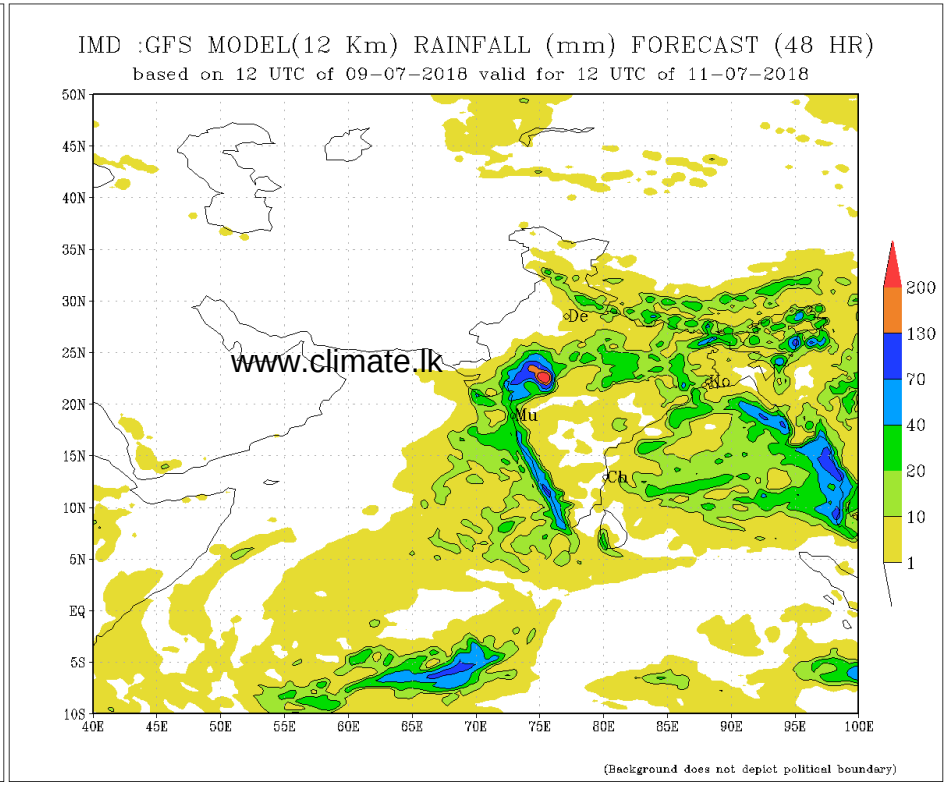


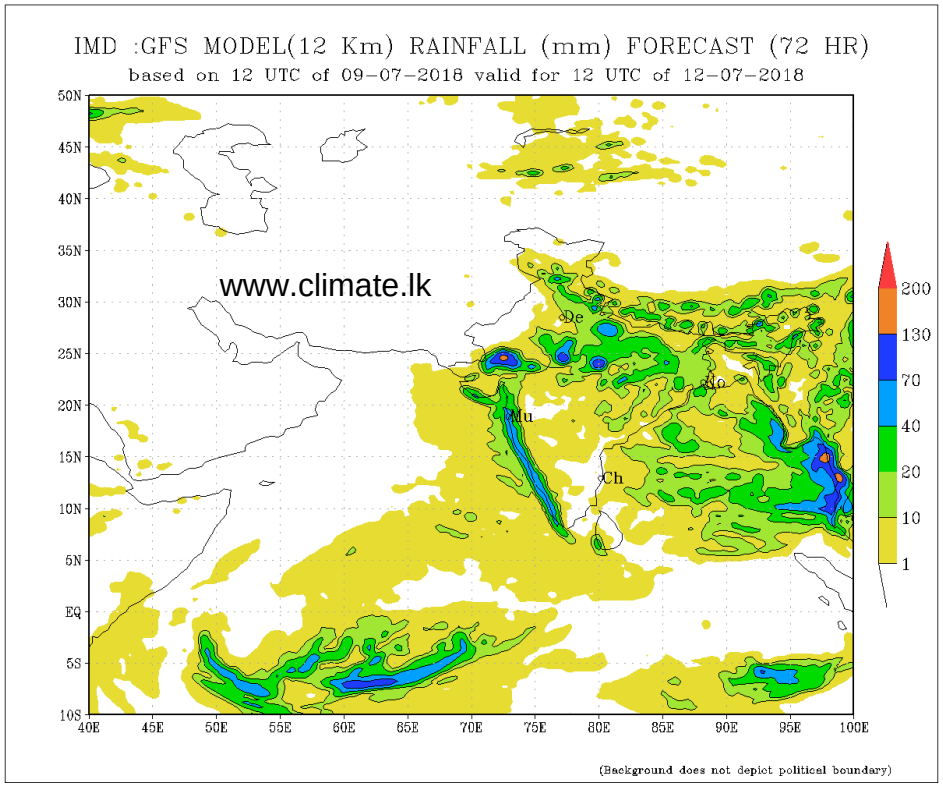
WORLDBATH topography

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.






IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (72 HR)
based on 12 UTC of 09-07-2018 valid for 12 UTC of 12-07-2018
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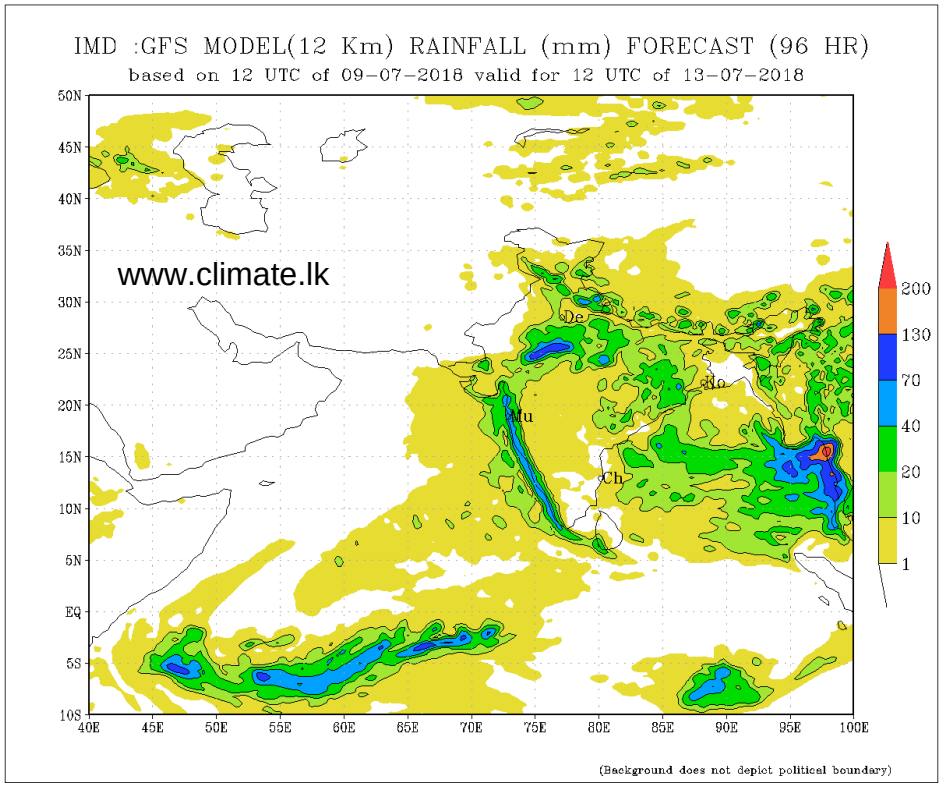
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (96 HR)
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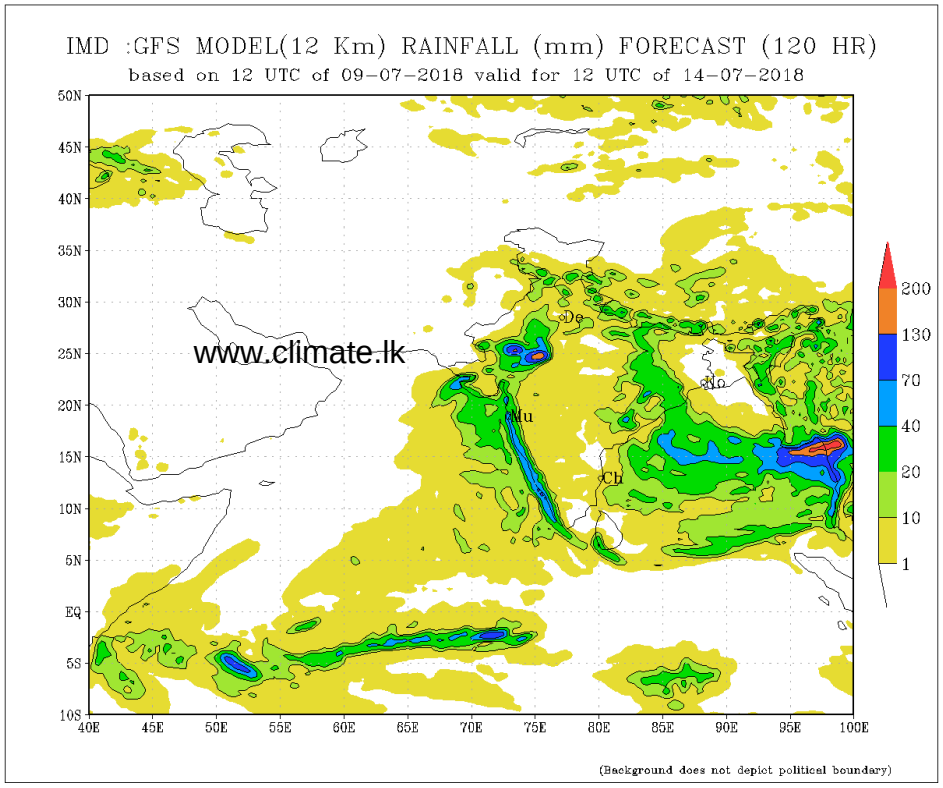
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (120 HR)
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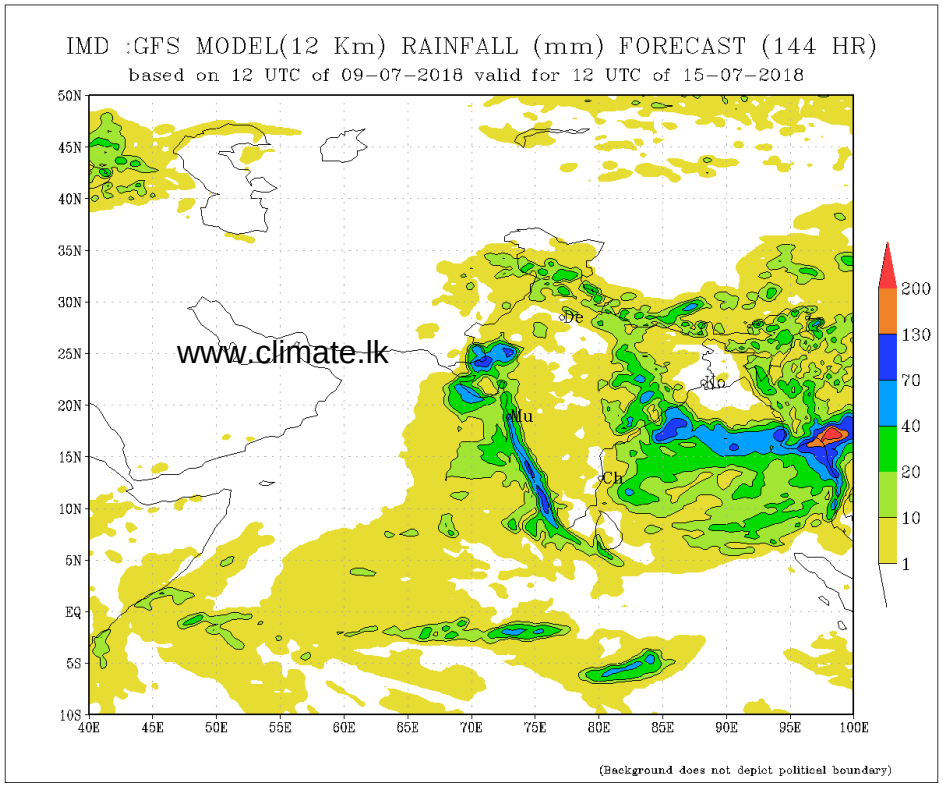
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (144 HR)
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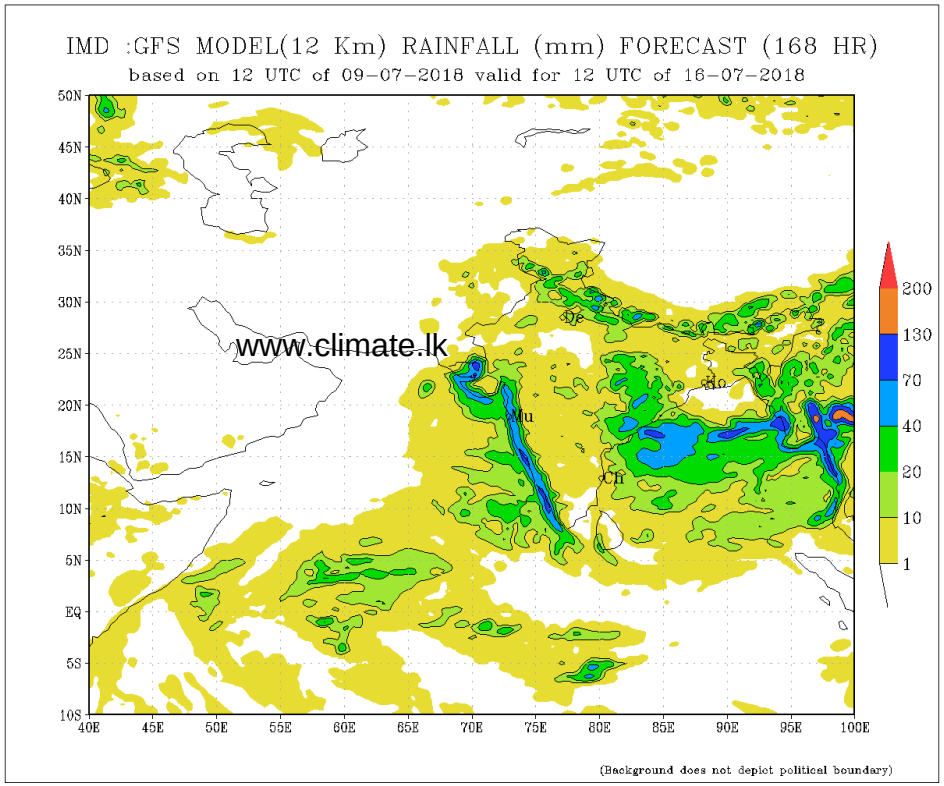
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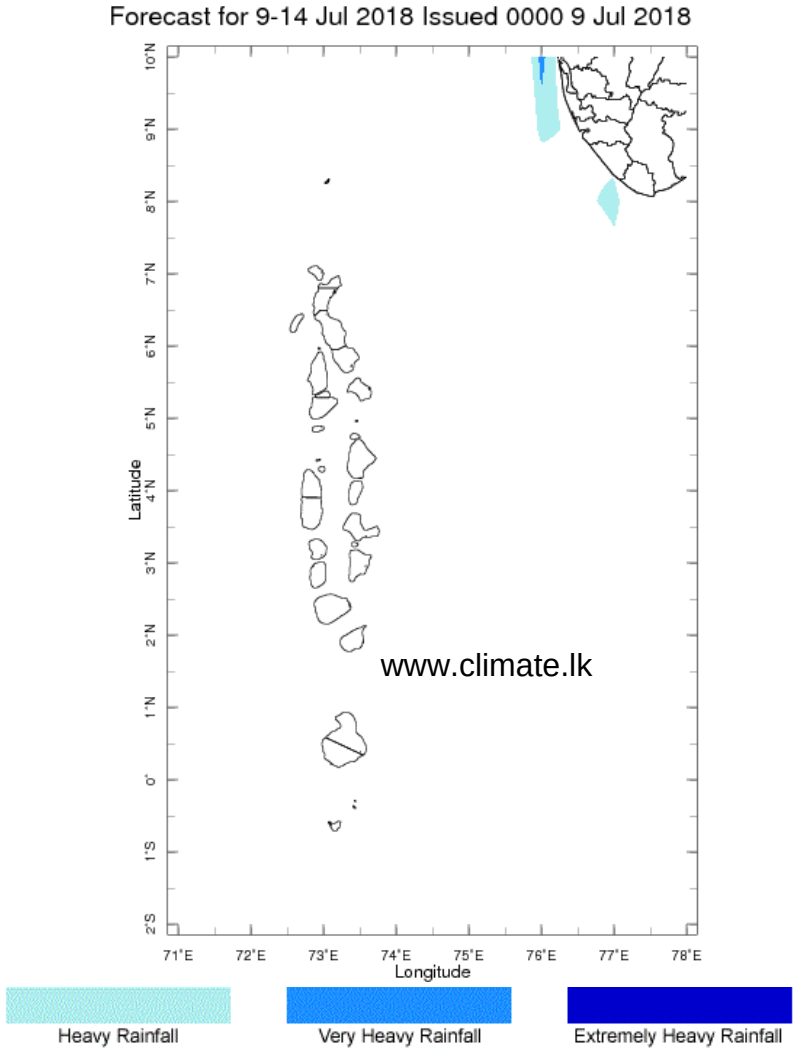
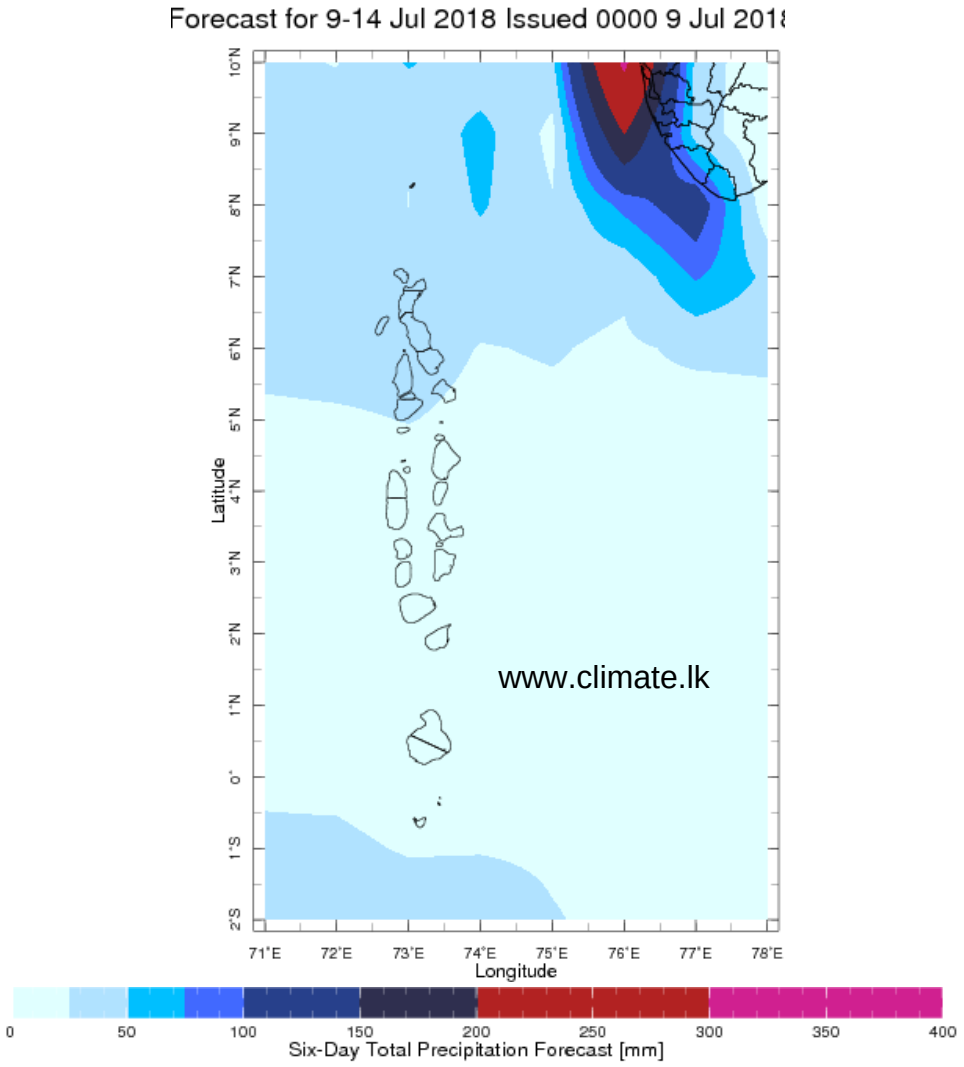
Weekly Rainfall Forecast

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.



Extreme Rainfall Forecast



Total Six Day Precipitation Forecast