

Climate Monitoring and Prediction for the Maldives – July 2018

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August 7, 2018

PACIFIC SEAS STATE

July 18, 2018

In mid-July 2018, the east-central tropical Pacific waters reflected ENSO-neutral conditions, with slightly above average SST. The key atmospheric variables also suggested neutral conditions. The subsurface water temperature continued to be above-average. The official CPC/IRI outlook calls for neutral conditions through northern summer season, with a 65% chance of El Niño development during fall, rising to 70% for winter 2018-19. An El Niño watch is in effect. The latest forecasts of statistical and dynamical models collectively favor weak El Niño development by late summer or early fall, growing to weak or moderate strength during late fall and winter; forecasters are largely buying into this scenario now that the spring barrier is largely passed.
(Text Courtesy IRI)

INDIAN OCEAN STATE

August 1, 2018

Average SST was observed around Maldives.

MJO INDEX

The MJO was significant in Phase 4 from 8-11 July; in Phase 5 from 12-19 July and in Phase 6 from 20 - 28 July. Usually rainfall in Maldives is augmented in Phase 2.

Highlights

Monitored: During July, Southern, some Central and Northern Islands received an excess of rainfall than is normal for the season by up to 90 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 slight excess of rainfall compared to the average while the Southern Islands are having a good year. The sea surface temperature around Maldives is near normal.

Predictions: IMD GFS model predicts up to 10 mm of rainfall is expected in the entire country on August 7th and 8th. On the 9th, up to 10 mm rainfall is expected in the northern. Up to 20 mm of rainfall is expected in the northern islands; and up to 10 mm in the southern islands on the 10th. Long Range Weather prediction models simulations anticipate total rainfall up to 25 mm for the entire country during August 5th -10th.

Summary

CLIMATOLOGY

Monthly Climatology: In August islands in the northern half of the country, receive up to 150 mm rainfall while the southern half receives up to 200 mm rainfall. The same rainfall pattern continues in October and in November, the entire country usually receives up to 150 mm rainfall. The wind pattern is usually westerly during these three months.

MONITORING

Weekly Rainfall Monitoring:

Date	Rainfall
22 nd July 2018	Up to 80 mm in central islands; up to 30 mm in northern islands; and up to 20 mm in southern islands.
23 rd July 2018	Up to 50 mm in central islands and up to 30 mm in southern islands.
24 th July 2018	Up to 20 mm in southern islands and up to 5 mm in northern and central islands.
25 th July 2018	No Rainfall.
26 th July 2018	Up to 10 mm in southern islands.
27 th – 30 th July 2018	No Rainfall.
31 st July 2018	Up to 20 mm in northern islands.
1 st – 5 th August 2018	No Rainfall.

Monthly and Seasonal Rainfall Monitoring: In July, Maamakunudhoo, Ihavandhippolhu, Thiladhunmathee, Miladhunmadulu atolls and northern regions of Ari and Male atolls received rainfall up to 90 mm below the monthly average; and rest of the country received up to 90 mm above the average. The central islands received up to 450 mm of total rainfall; northern and southern islands up to 300 mm.

PREDICTIONS

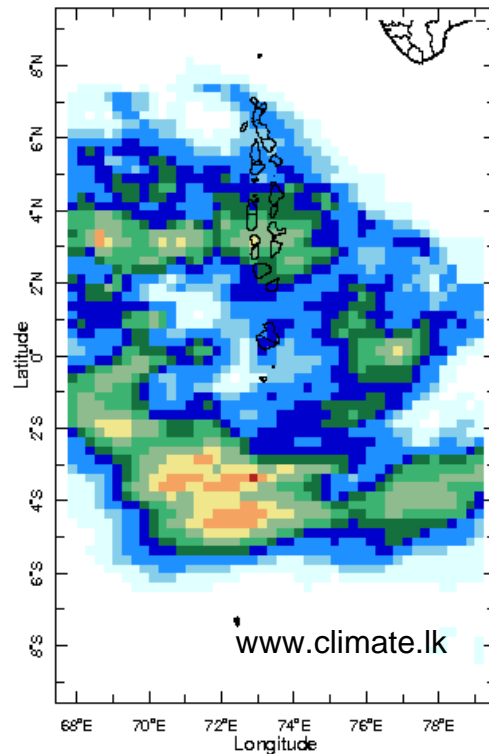
Weekly Rainfall Forecast: According to IMD GFS up to 10 mm of rainfall is expected in the entire country on August 7th and 8th. On the 9th, up to 10 mm rainfall is expected in the northern. Up to 20 mm of rainfall is expected in the northern islands; and up to 10 mm in the southern islands on the 10th. On the 12th up to 20 mm rainfall is expected in the northern islands and up to 10 mm in the central and southern islands. On the 13th, up to 40 mm is expected in northern and southern islands; and up to 10 mm in central islands. On the 14th, up to 40 mm is expected in southern islands and up to 10 mm in northern and southern islands.

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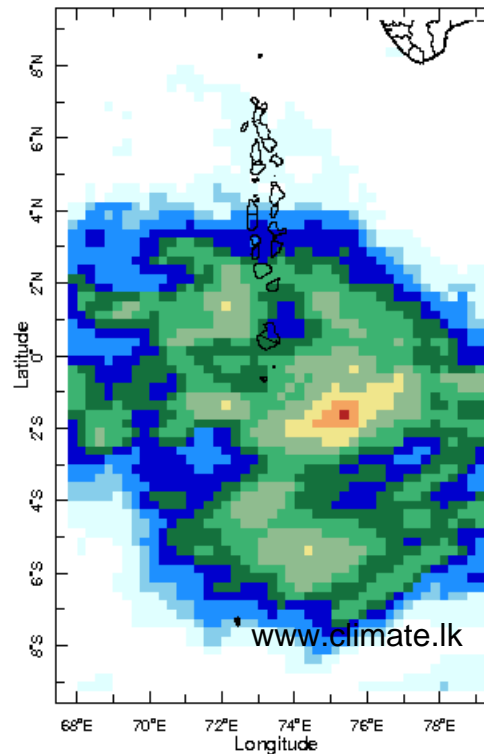
1. Rainfall Monitoring
 - a. Daily Satellite derived Rainfall Estimates
 - b. Monthly Rainfall derived from Satellite Rainfall Estimate
 - c. Monthly and Seasonal Monitoring
2. Ocean Surface Monitoring
3. Rainfall Predictions
 - a. Weekly Predictions from NOAA/NCEP
 - b. Seasonal Predictions from IRI¹

Daily Rainfall Monitoring

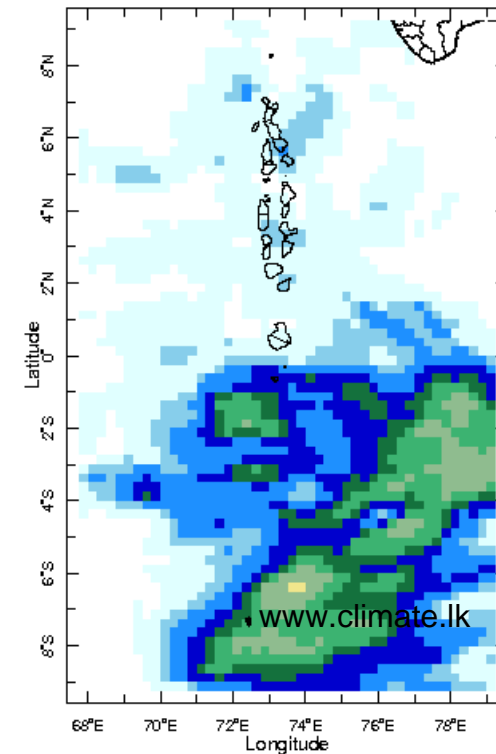
The following figures show the observed rainfall in the last 15 days in Maldives.



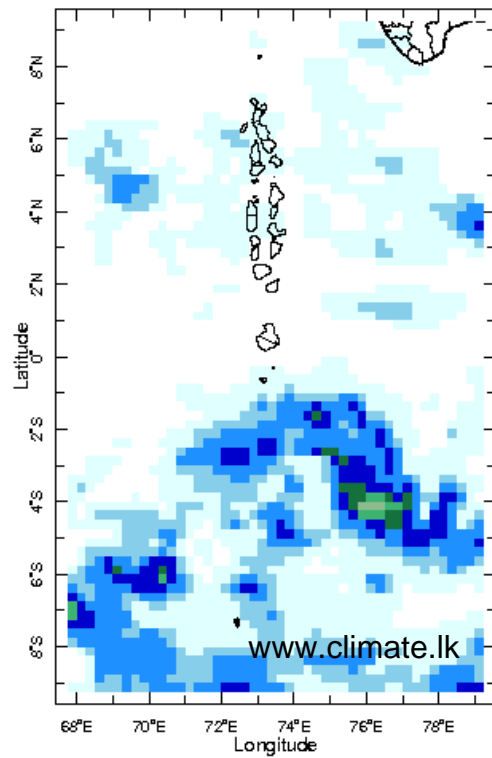
22 Jul 2018



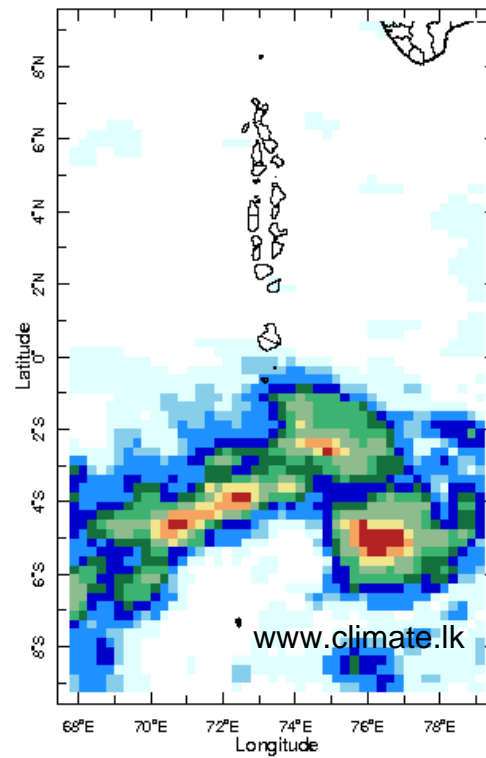
23 Jul 2018



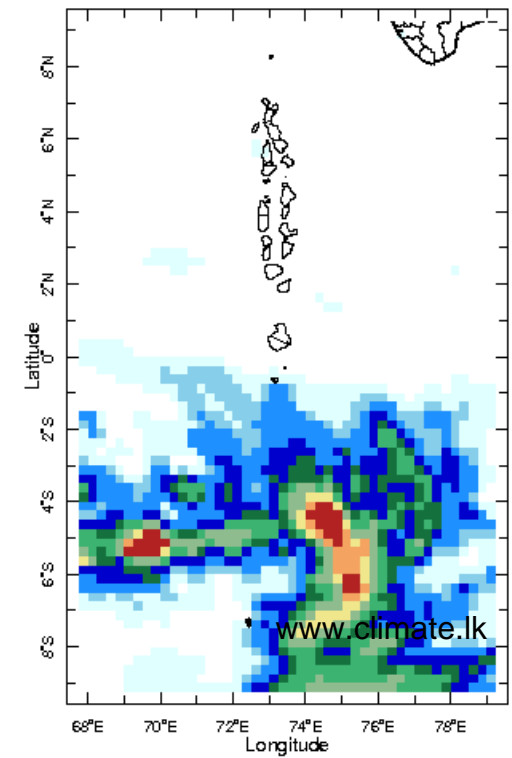
24 Jul 2018



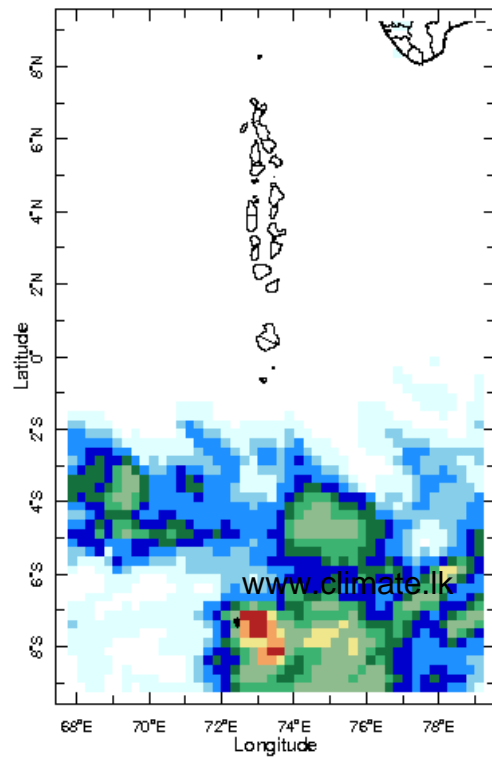
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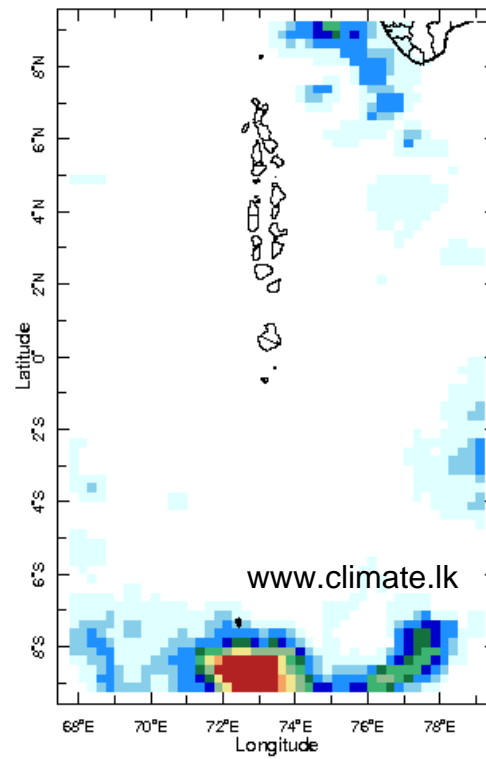
26 Jul 2018



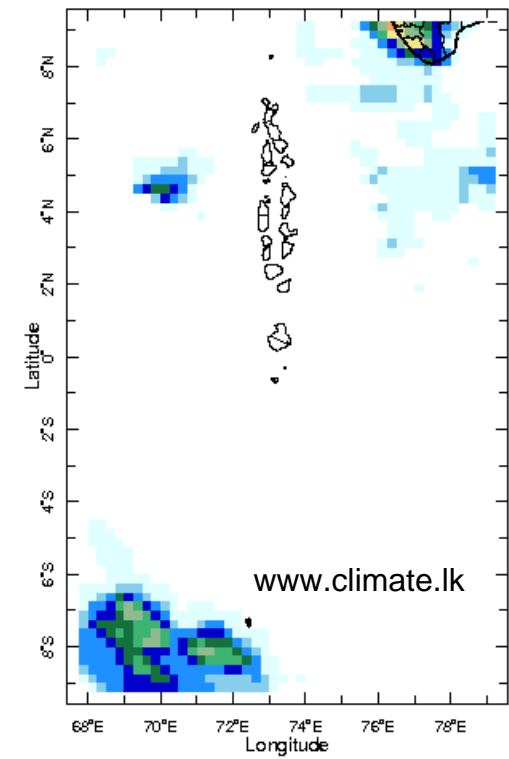
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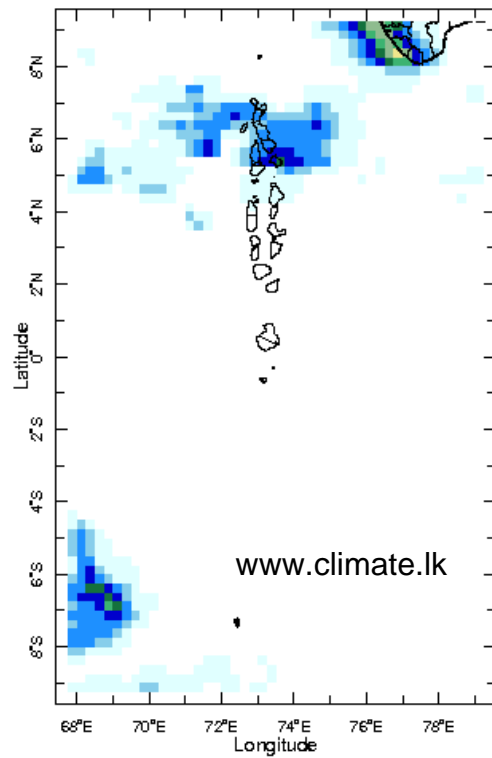
28 Jul 2018



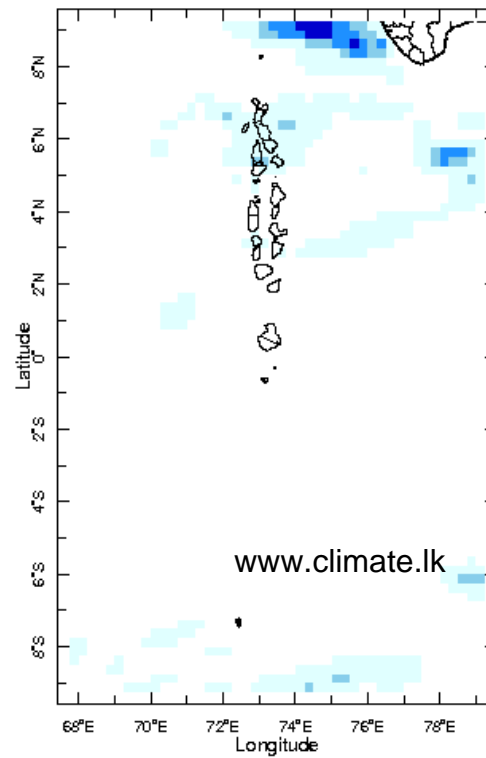
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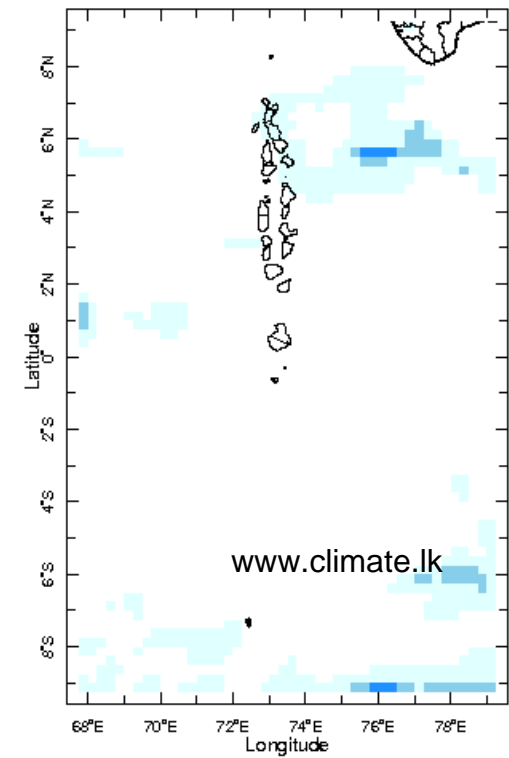
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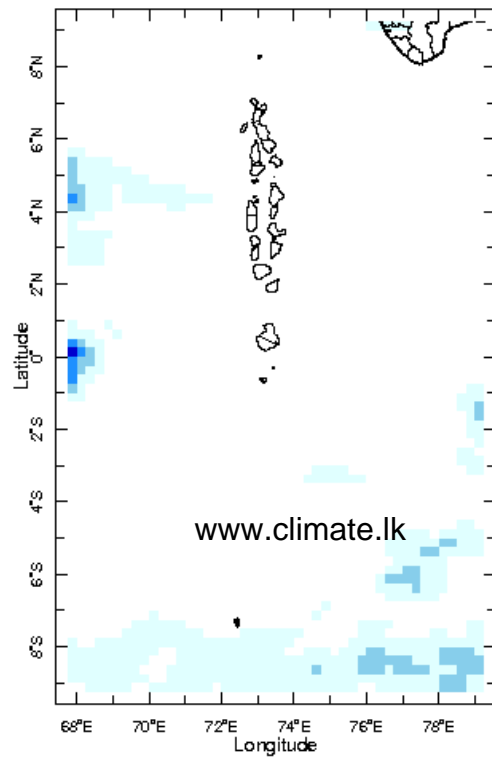
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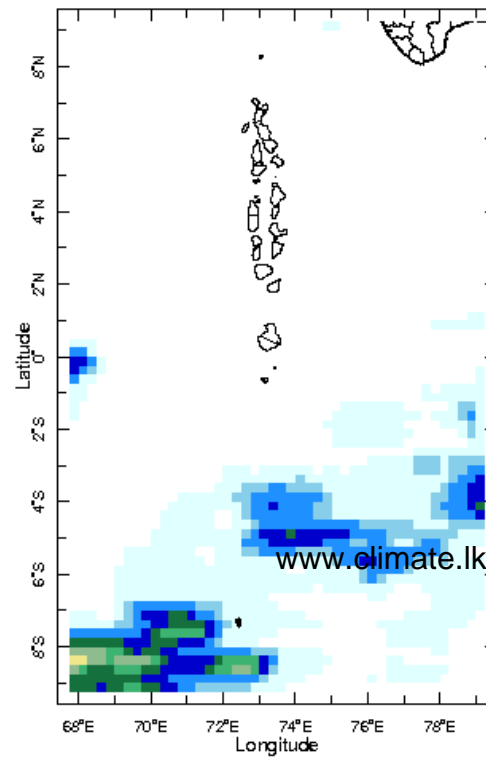
1 Aug 2018



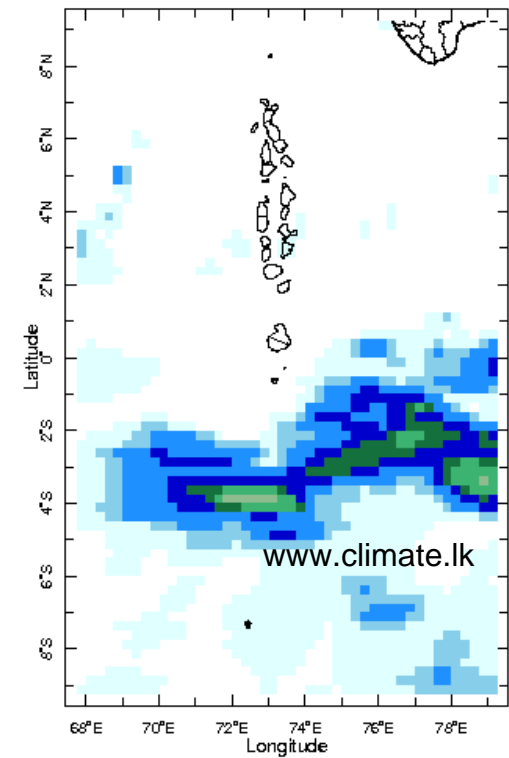
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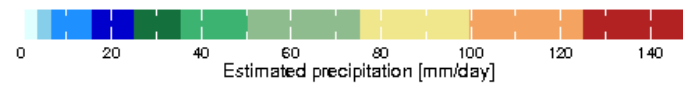
3 Aug 2018



4 Aug 2018

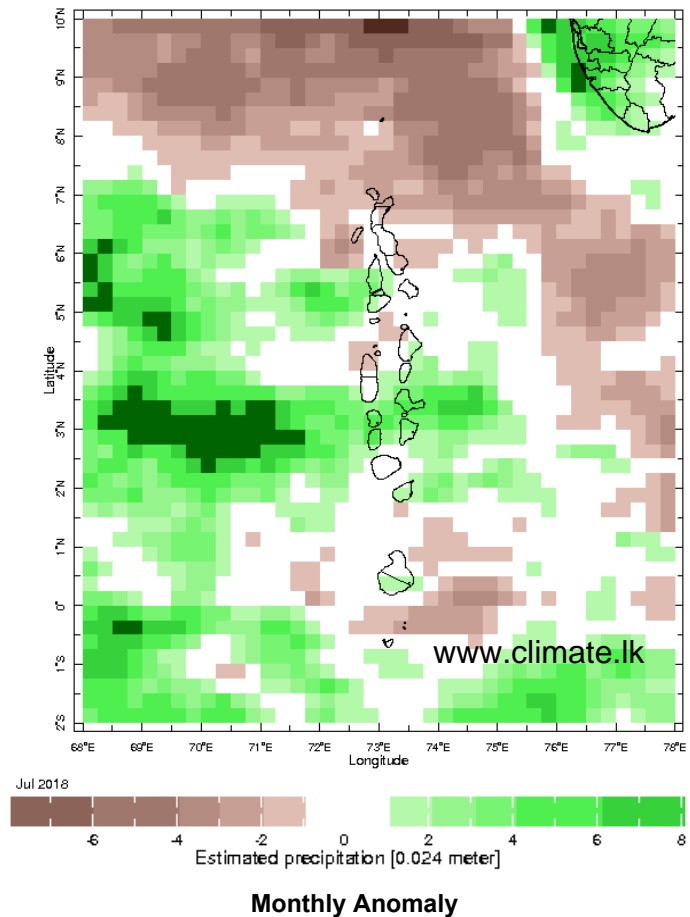
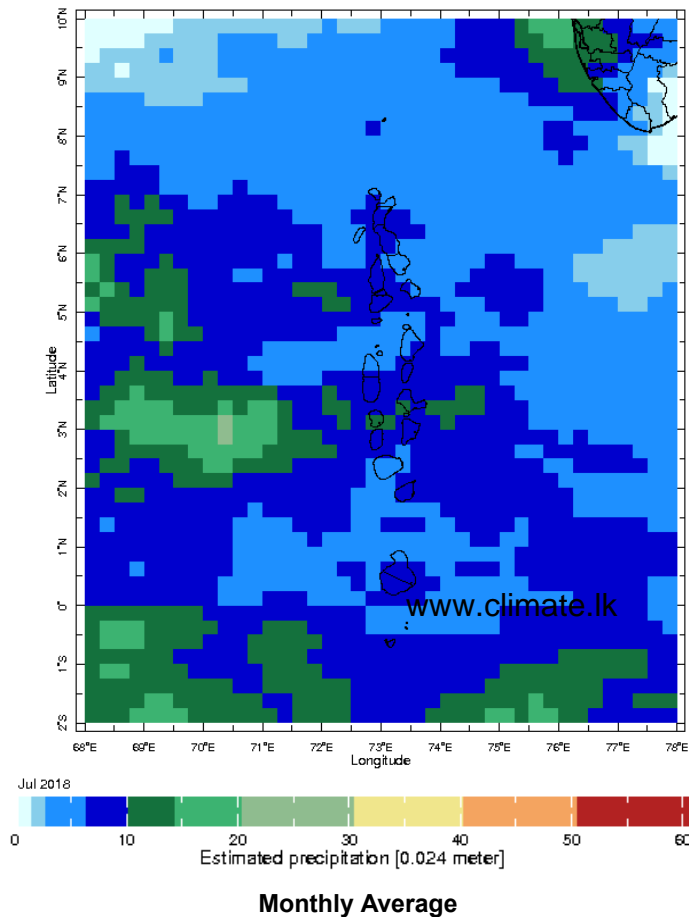


5 Aug 2018



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



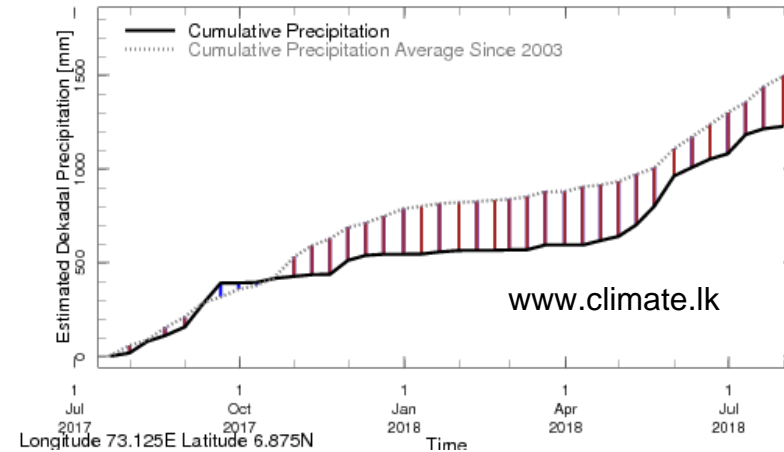
Monthly and Seasonal Monitoring



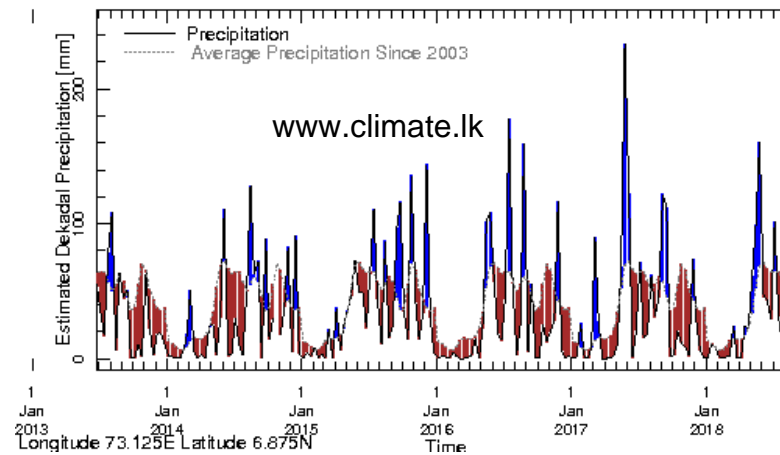
Northern Maldives:

Not Available

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

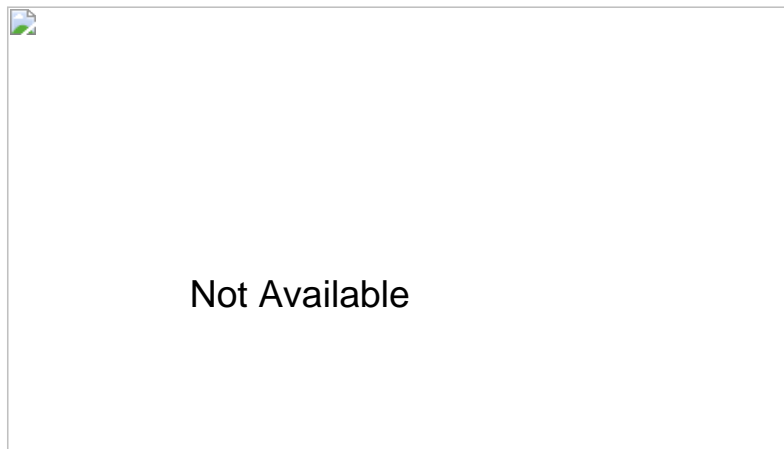


Rainfall of past 365 days (black) compared to average rainfall since 2003.

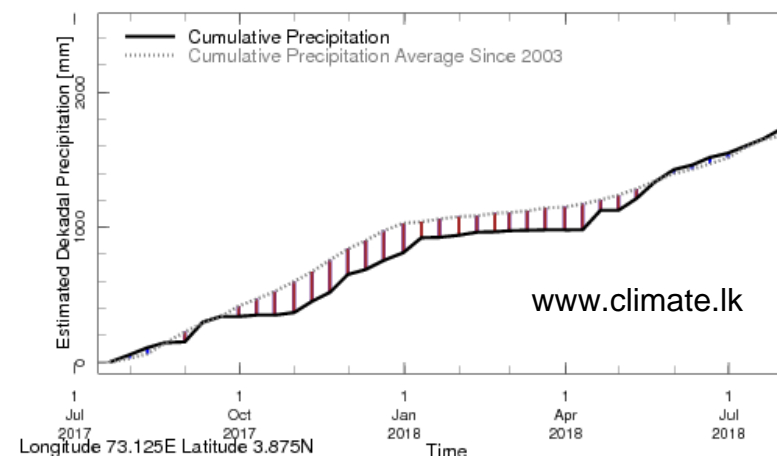


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

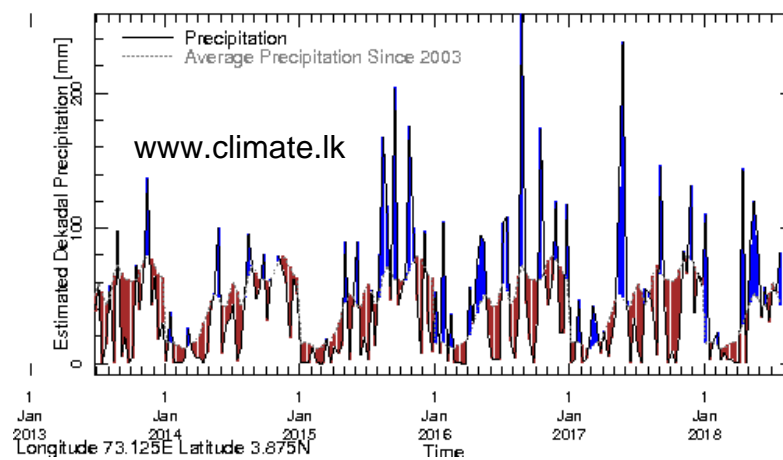
Central Maldives:



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

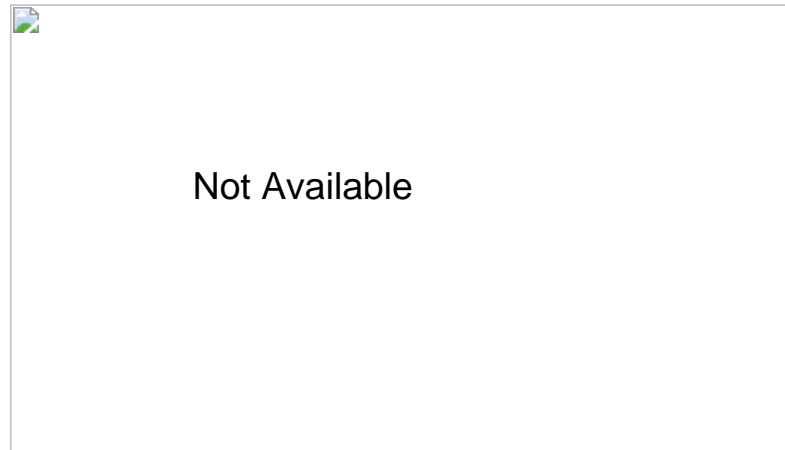


Rainfall of past 365 days (black) compared to average rainfall since 2003.

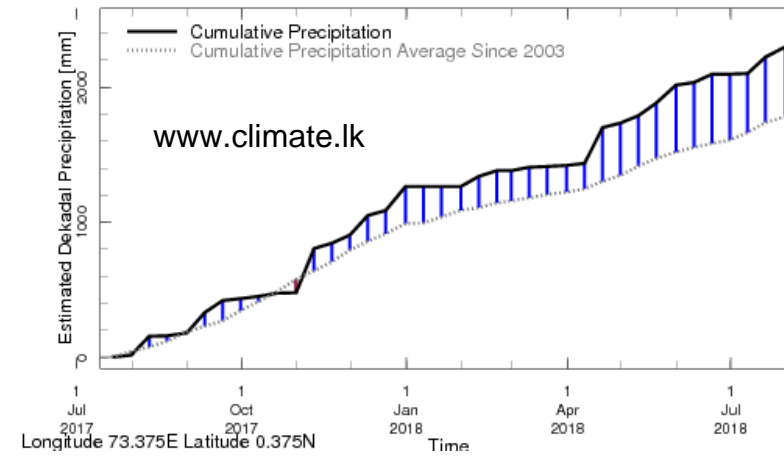


Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

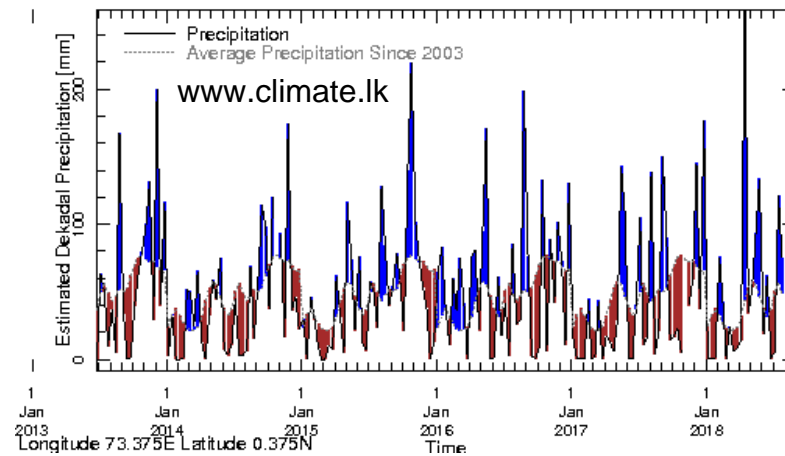
Southern Maldives:



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

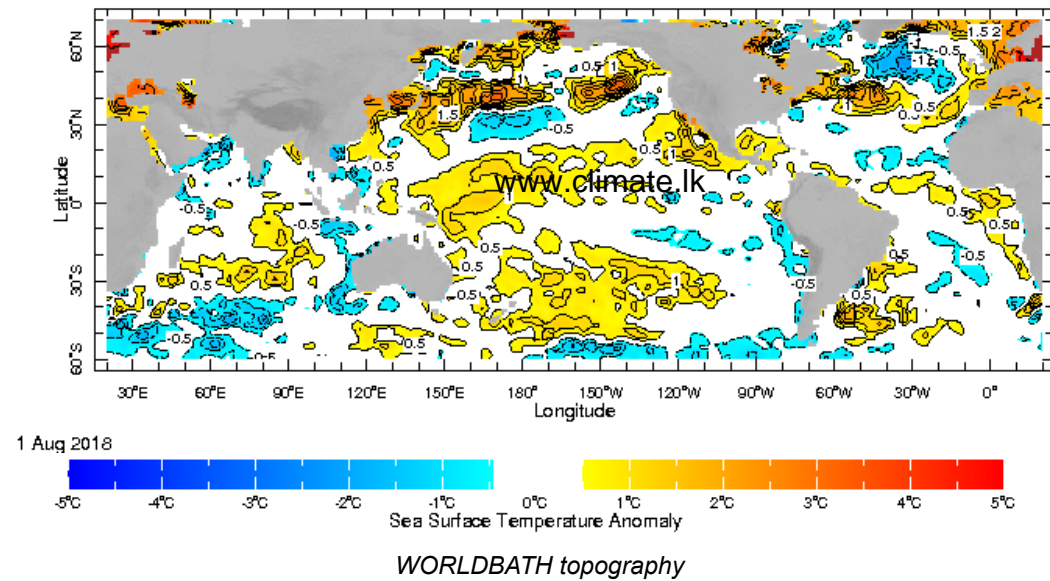


Rainfall of past 365 days (black) compared to average rainfall since 2003.



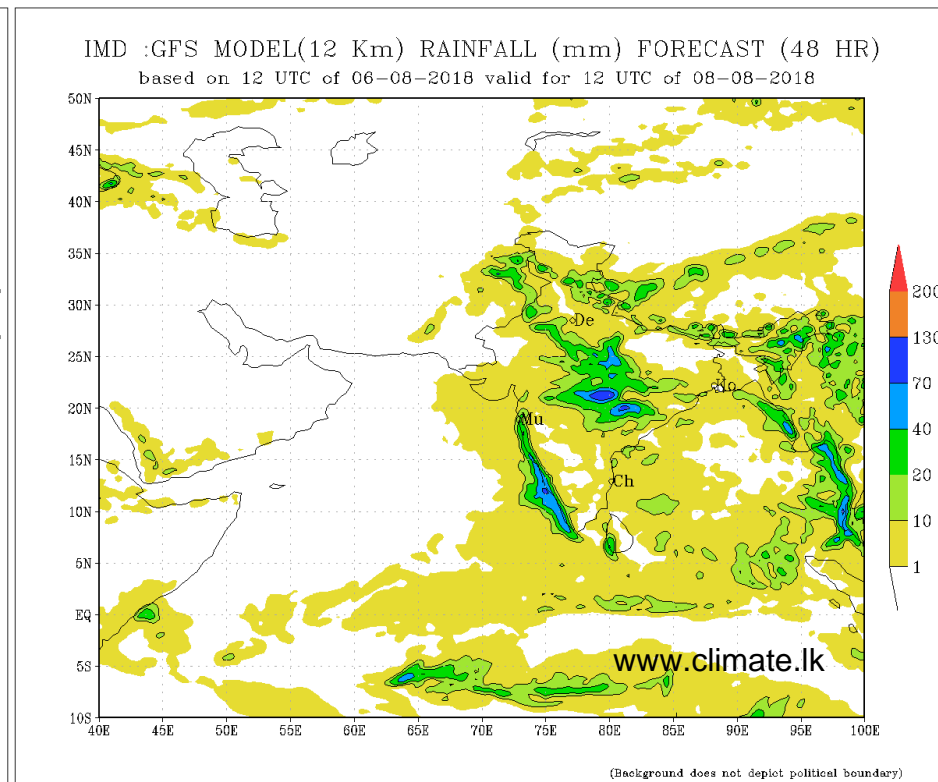
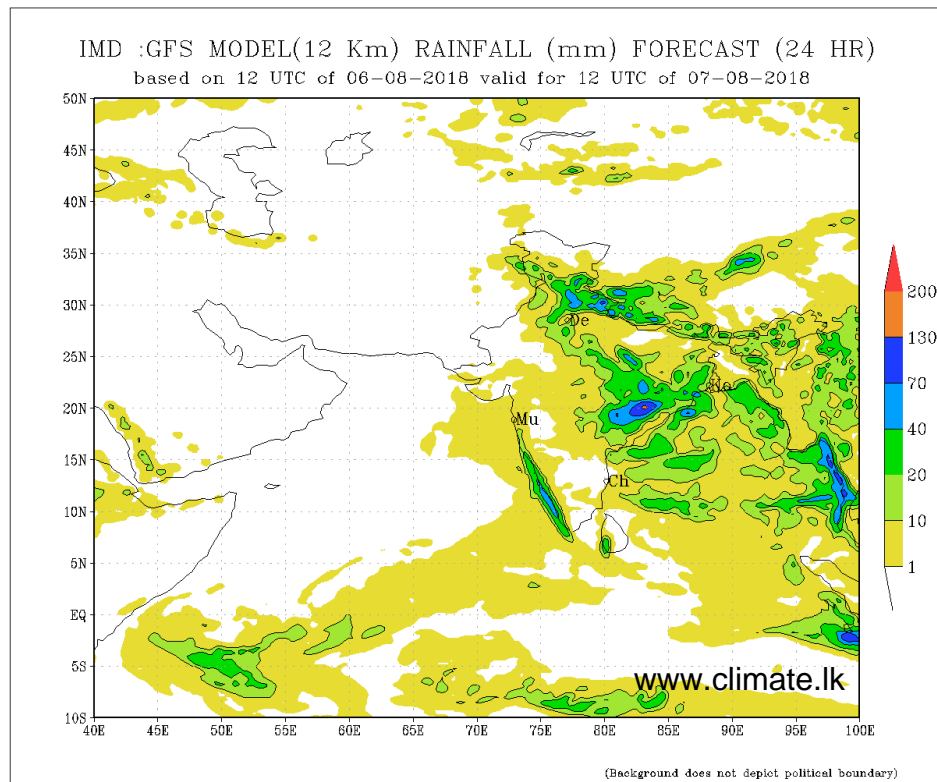
Rainfall in the past 5 years with above-average rainfall hatched in blue and below-average hatched in brown

Ocean Surface Monitoring



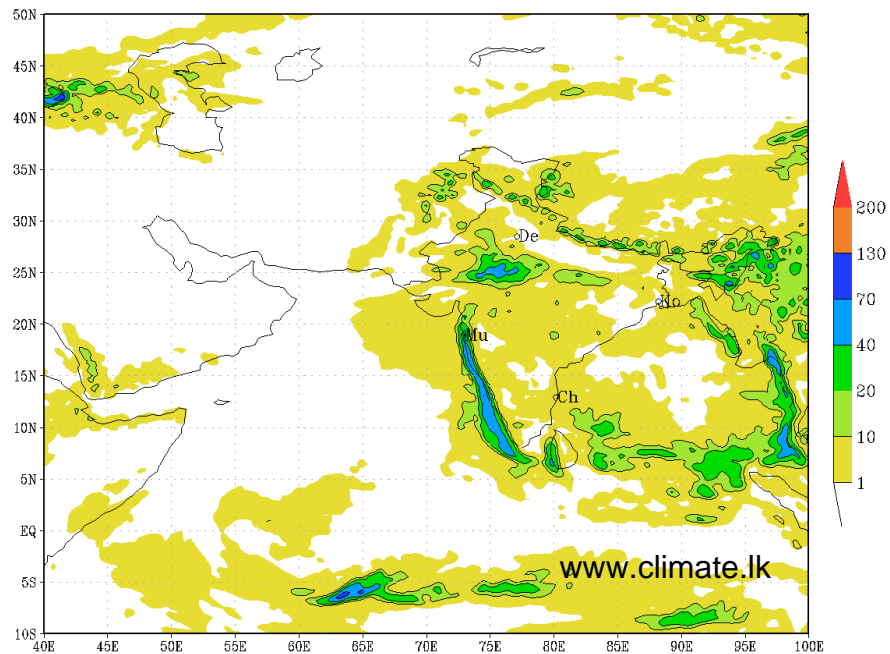
Daily Rainfall Forecast

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)

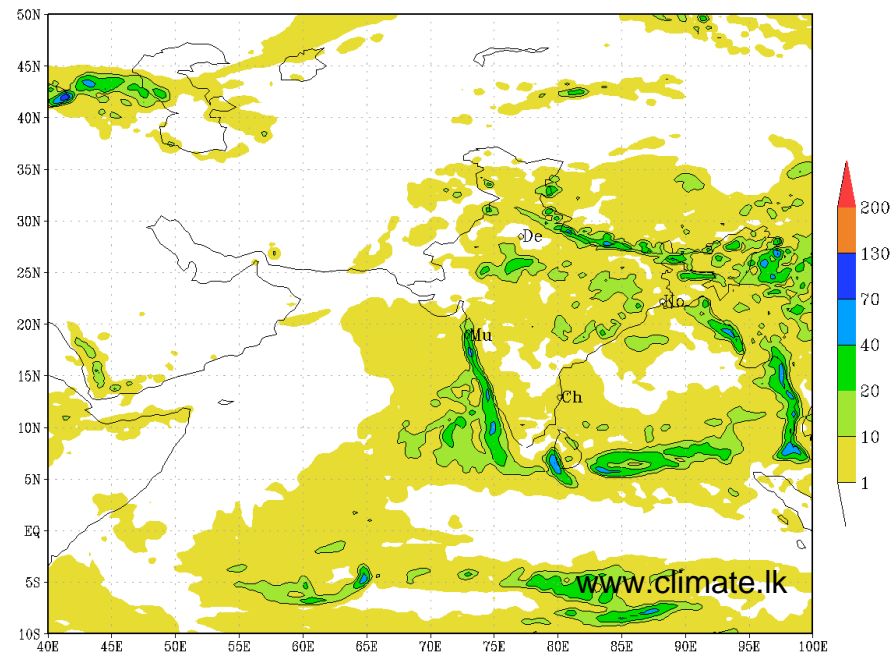
based on 12 UTC of 06-08-2018 valid for 12 UTC of 09-08-2018



(Background does not depict political boundary)

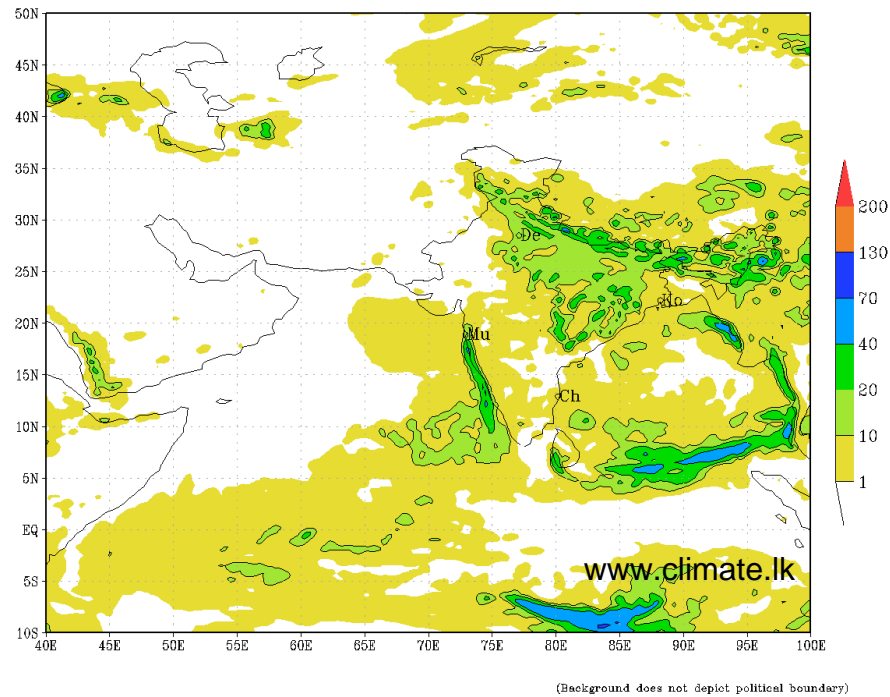
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (96 HR)

based on 12 UTC of 06-08-2018 valid for 12 UTC of 10-08-2018

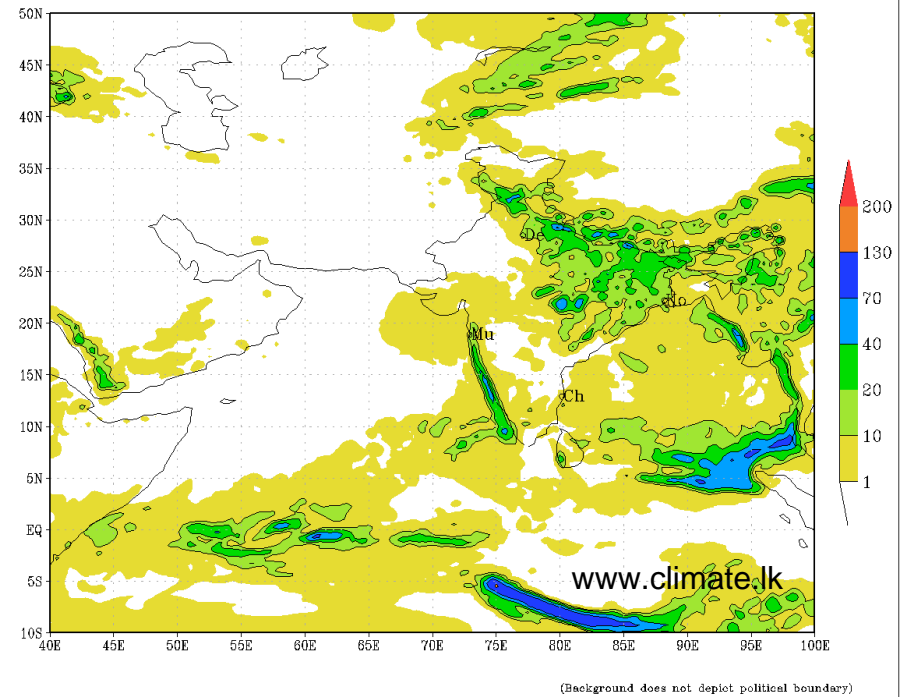


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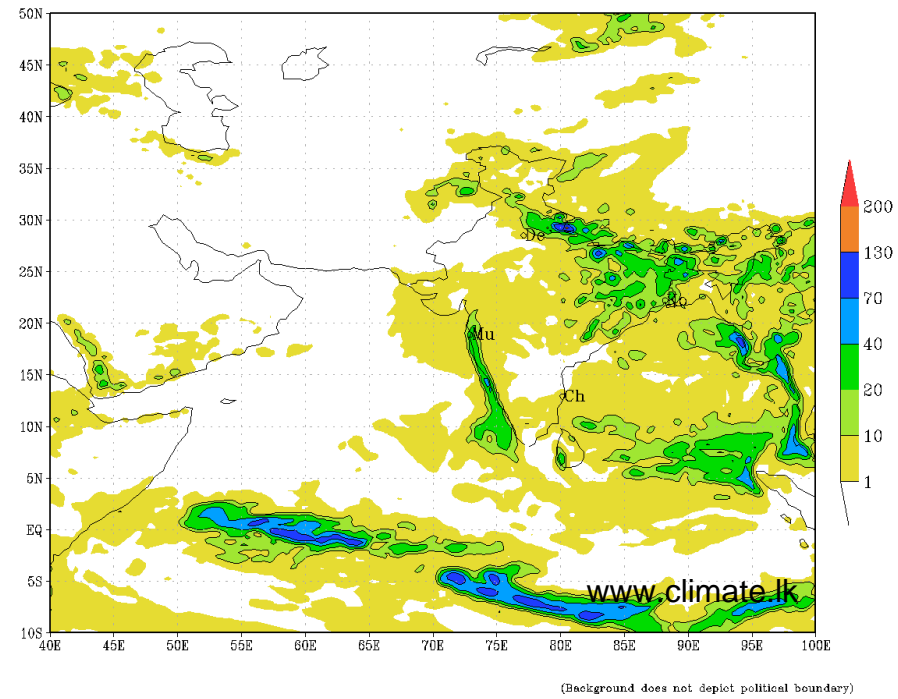
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (120 HR)
based on 12 UTC of 06-08-2018 valid for 12 UTC of 11-08-2018



IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (144 HR)
based on 12 UTC of 06-08-2018 valid for 12 UTC of 12-08-2018

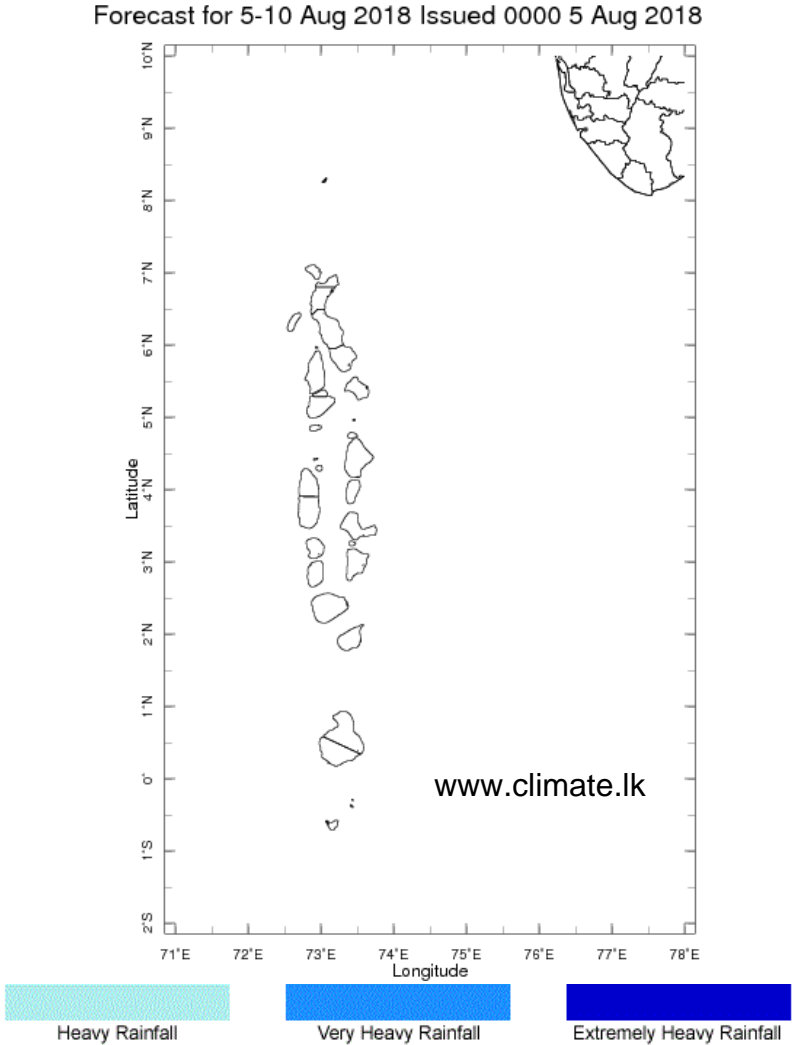


IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (168 HR)
based on 12 UTC of 06-08-2018 valid for 12 UTC of 13-08-2018

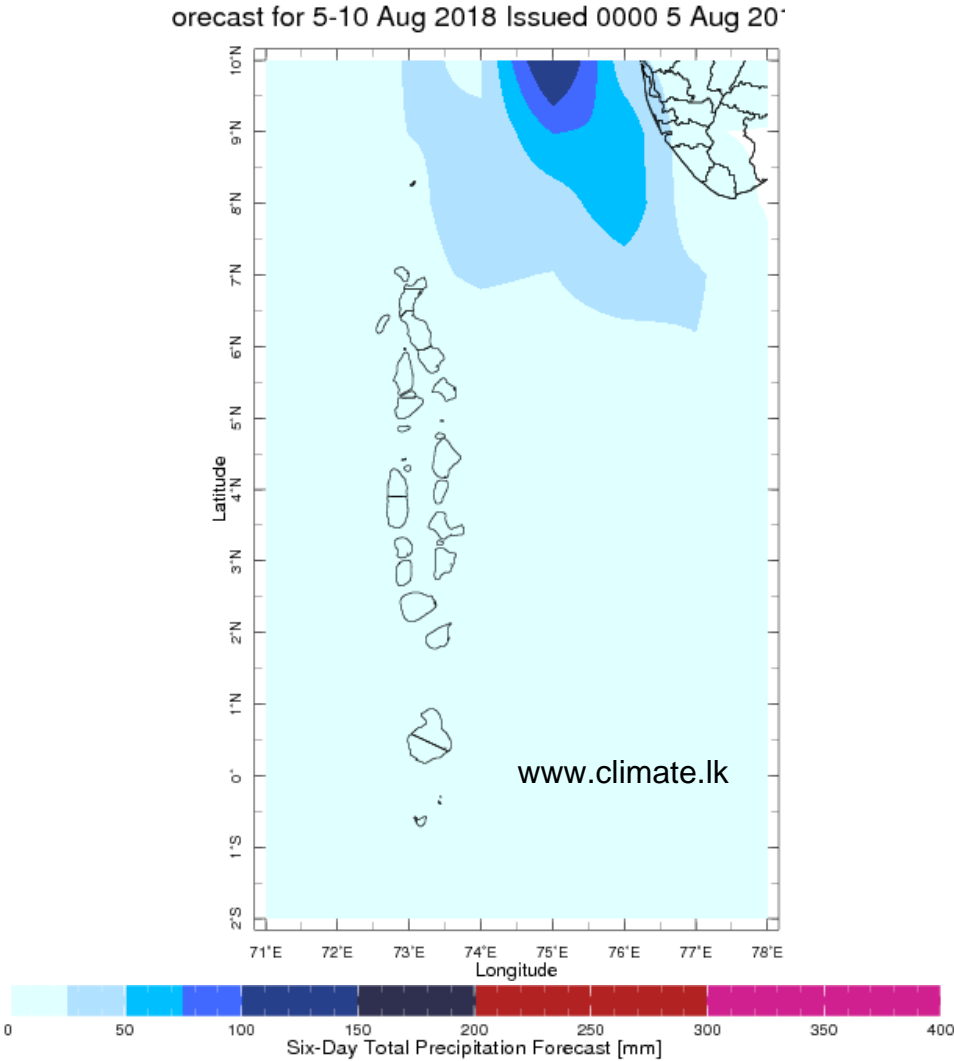


Weekly Rainfall Forecast

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