

Experimental Climate Monitoring and Prediction

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Highlights

- The NCEP weekly rainfall forecast predicts total rainfall up to 35 mm in Kegalla and Ratnapura districts during 18th - 24th July.
- Between 10 - 16 Jul: up to 50 mm of rainfall was recorded in Ratnapura and Galle districts on the 10th.
- From 8 - 14 Jul: minimum temperature of 20 °C was recorded from Nuwara Eliya and Badulla districts while eastern coastal regions including Anuradhapura district recorded a maximum temperature between 35-40 °C.
- From 10 - 16 Jul: up to 72 km/h, northwesterly winds were experienced by the entire island.
- Average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On July 10th, Ratnapura and Galle districts received up to 50 mm of rainfall; Gampaha, Colombo, Kalutara, Nuwara Eliya, Monaragala and Hambantota districts up to 30 mm; and Puttalam, Kurunegala, Matale, Kandy, Kegalla and Badulla districts up to 20 mm. On the 11th, Gampaha, Colombo, Kegalla, Ratnapura, Nuwara Eliya and Badulla districts received up to 15 mm of rainfall; and most of areas of the southern part of the island up to 10 mm. On the 12th, Kegalla and Kandy districts received up to 5 mm of rainfall. No significant rainfalls were recorded in any part of the island on the 13th. On the 14th, Nuwara Eliya district received up to 30 mm of rainfall; and Ratnapura, Kandy, Monaragala and Hambantota districts up to 15 mm. On the 15th, Nuwara Eliya district received up to 30 mm of rainfall; Colombo, Kalutara, Galle, Matara, Hambantota, Ratnapura, Badulla and Monaragala districts up to 20 mm; and Gampaha, Puttalam, Kegalla, Matale and Ampara districts up to 15 mm. On the 16th, Nuwara Eliya districts received up to 20 mm of rainfall; and Matale, Kandy, Badulla, Monaragala, Kegalla, Ratnapura, Gampaha, Colombo, Kalutara and Galle districts up to 5 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows up to 75-100 mm of total rainfall in Nuwara Eliya district; up to 50-75 mm of total rainfall in Colombo, Kalutara, Ratnapura, Kegalla and Badulla districts; and up to 25-50 mm in most of areas of the southern part of the island. Above average rainfall up to 25-50 mm is shown for Nuwara Eliya district. Below average rainfall up to 36-60 mm is shown for Ratnapura district; and up to 10-25 mm is shown for Vavuniya, Anuradhapura, Polonnaruwa, Trincomalee, Batticaloa, Matale, Ampara, Kurunegala, Kegalla, Colombo, Kalutara and Galle districts.

Monthly Monitoring: During June - above average rainfall conditions were experienced by the western and south-western regions of the island. Ratnapura district received up to 210 mm above average rainfall; Kegalla, Nuwara Eliya and Kalutara districts up to 150 mm; and Puttalam, Kurunegala, Colombo, Galle and Matara districts up to 60 mm. The CPC Unified Precipitation Analysis tool shows up to 500 mm of total rainfall in Ratnapura district; up to 300 mm Kegalla, Colombo and Kalutara districts; up to ~200 mm Gampaha, Galle and Nuwara Eliya districts; and up to 150 mm in Jaffna, Vavuniya, Anuradhapura, Trincomalee, Polonnaruwa, Kurunegala, Matale, Kandy, Badulla, Monaragala, Ampara and Hambantota districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: July 12, 2018

In early 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, growing to weak or moderate strength during fall and winter; forecasters are largely buying into this scenario now that the spring barrier is largely passed.

Indian Ocean State

Average sea surface temperature was observed in the seas around Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 18th – 24th Jul: Total rainfall between 25-35 mm in Kegalla and Ratnapura districts; and between 15-25 mm in Gampaha, Kurunegala, Kandy, Nuwara Eliya and Matara districts.

From 25th – 31st Jul: Total rainfall between 25-35 mm in Kegalla and Ratnapura districts; and between 15-25 mm in Gampaha, Kurunegala, Kandy, Nuwara Eliya and Matara districts.

IMD NCMWRF Forecast:

20th July: No Rainfall.

21st July: No Rainfall.

IRI Model Forecast:

From 18th – 23th Jul: Total rainfall up to 25 mm expected for most parts of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall suppress the rainfall in Sri Lanka.

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Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

FECT BLOG

Past reports available at <http://fectsl.blogspot.com/> and <http://fectsl.wordpress.com/>

FECT WEBSITES

<http://www.climate.lk> and <http://www.tropicalclimate.org/>



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Weekly Hydro- Meteorological Report for Sri Lanka

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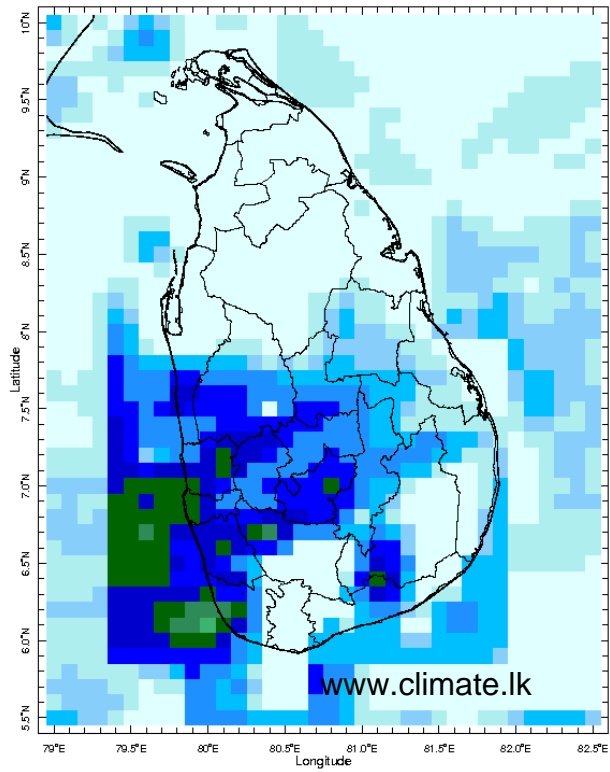
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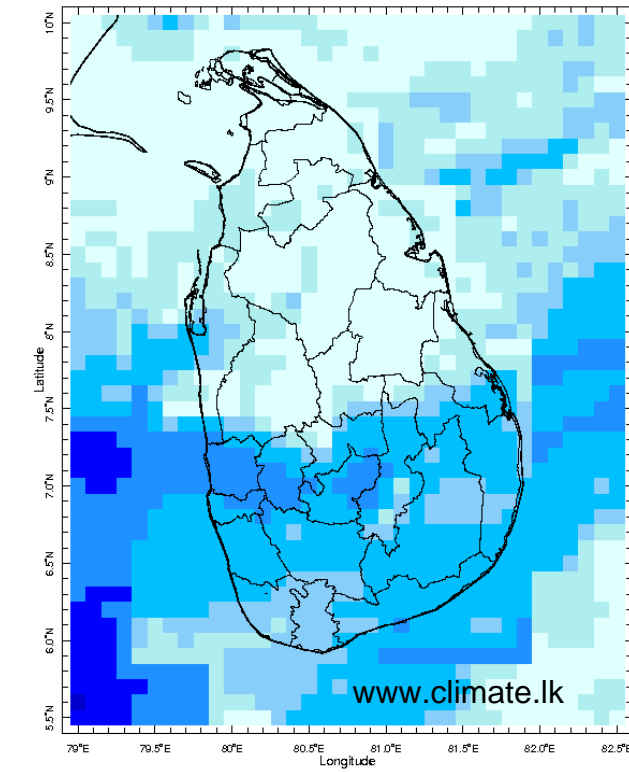
MONITORING

Daily Rainfall Monitoring

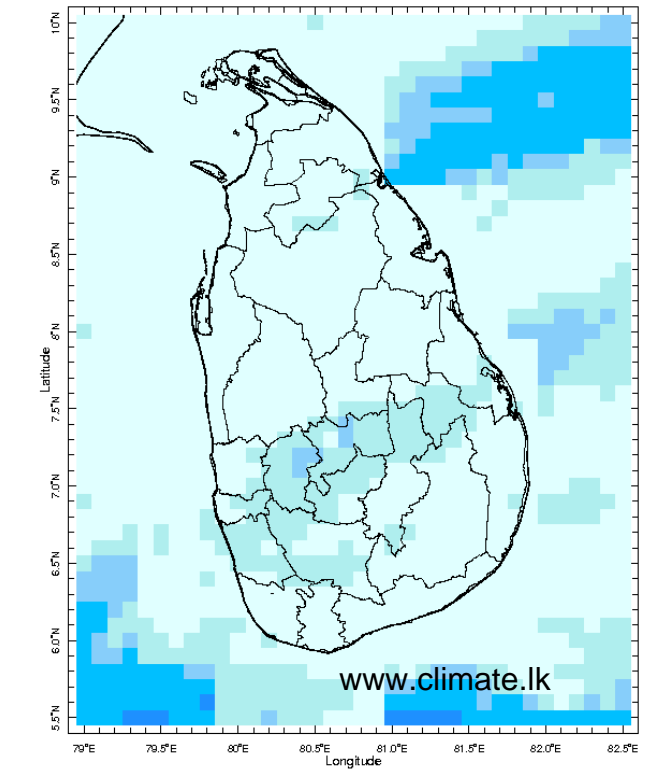
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



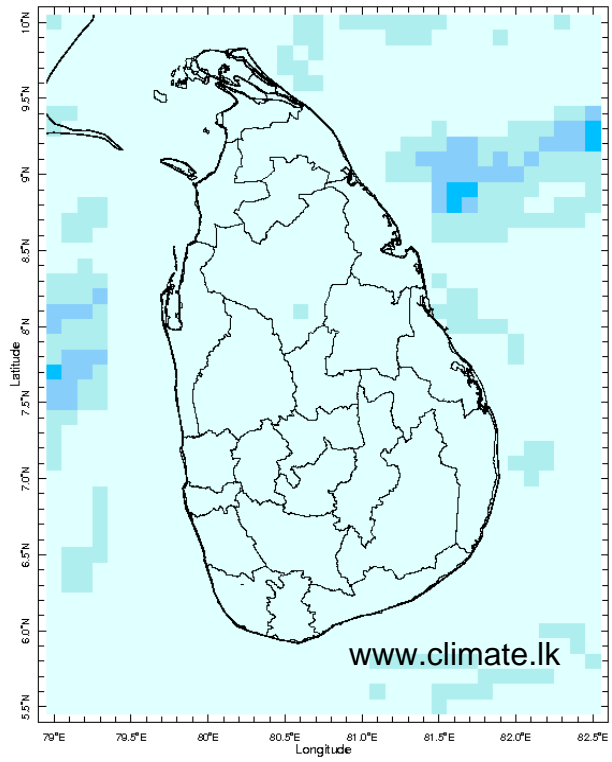
10 Jul 2018



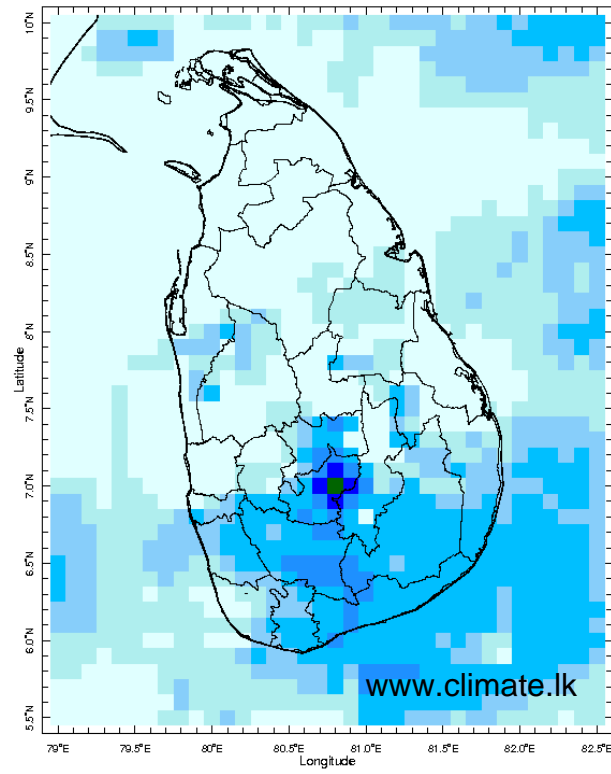
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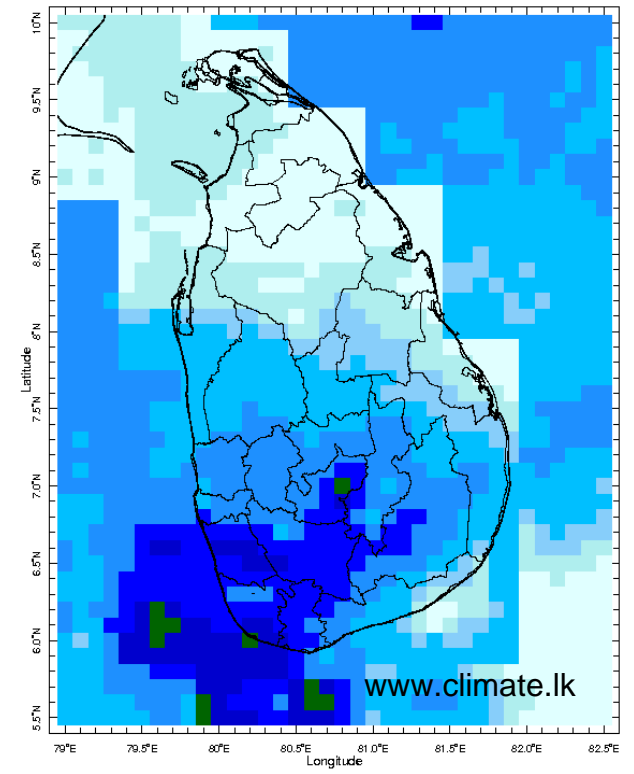
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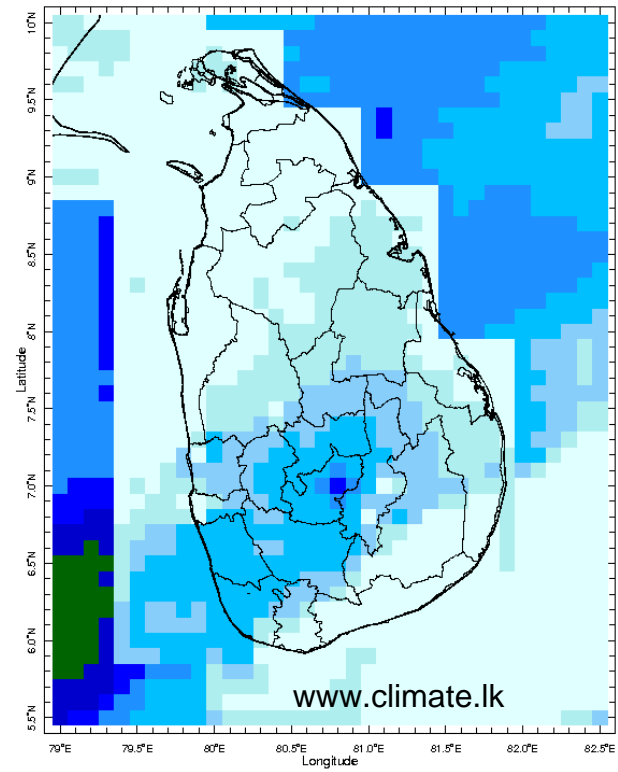
13 Jul 2018



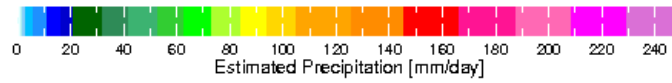
14 Jul 2018



15 Jul 2018

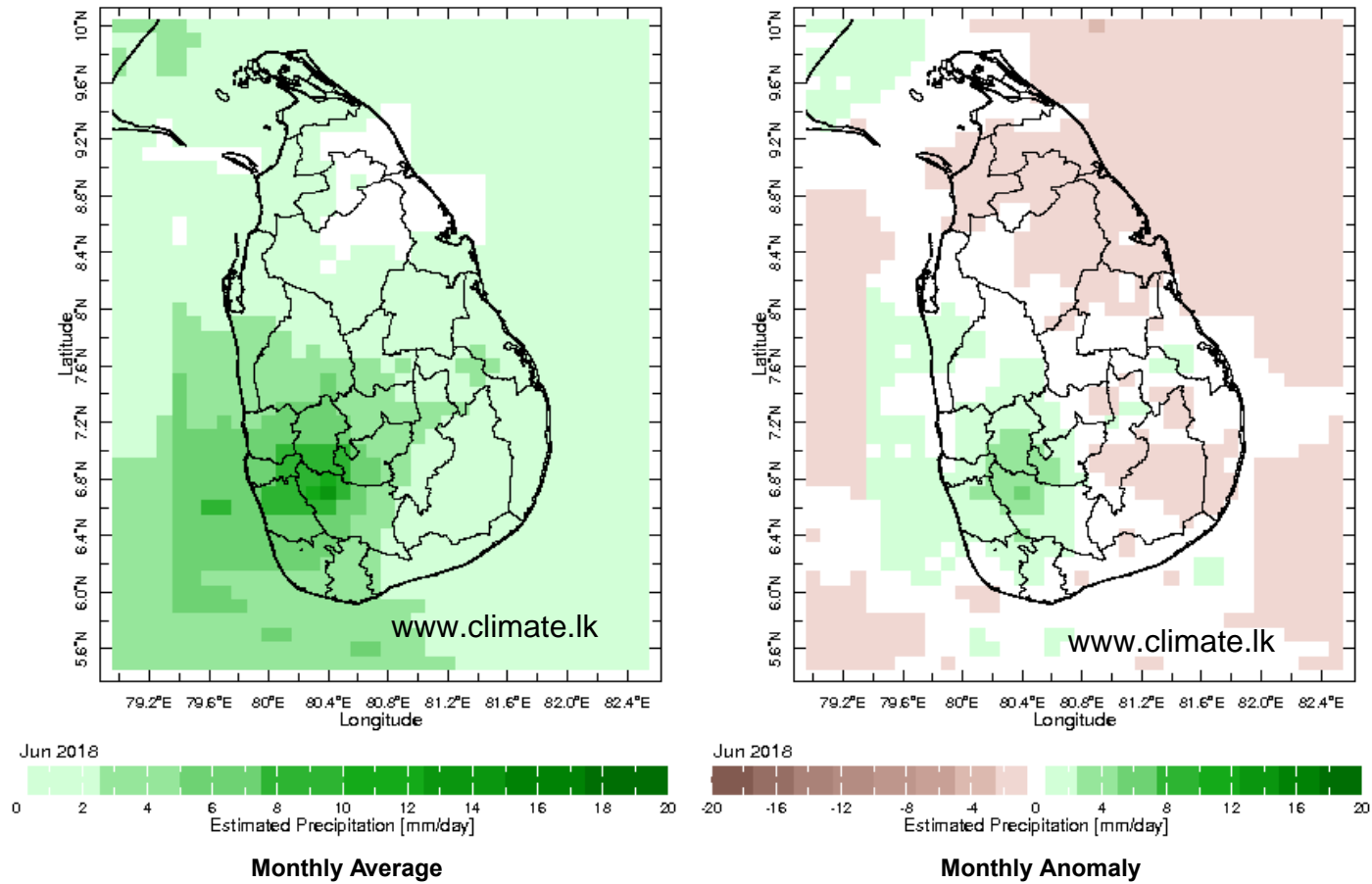


16 Jul 2018

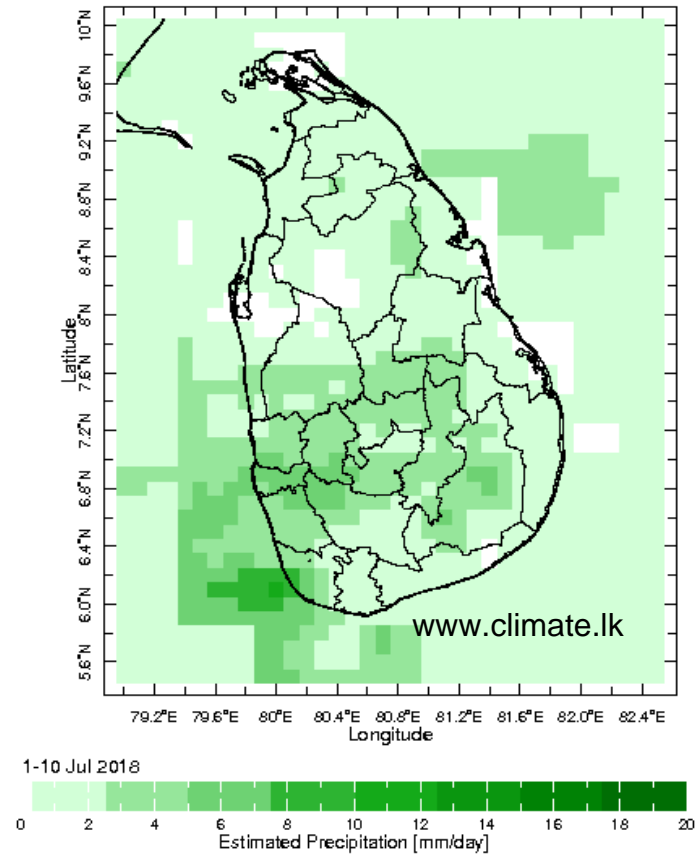
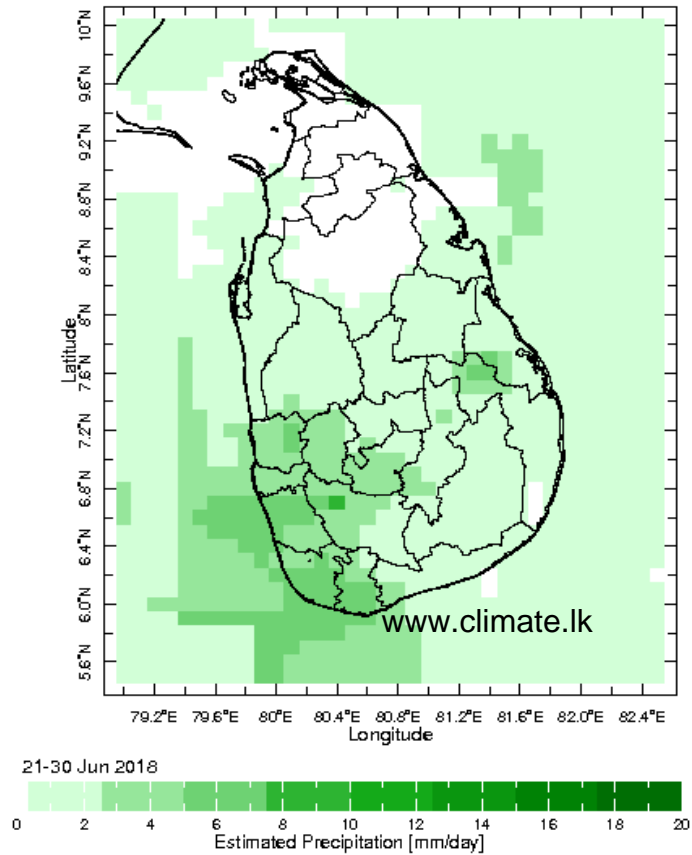


Monthly Rainfall Monitoring

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

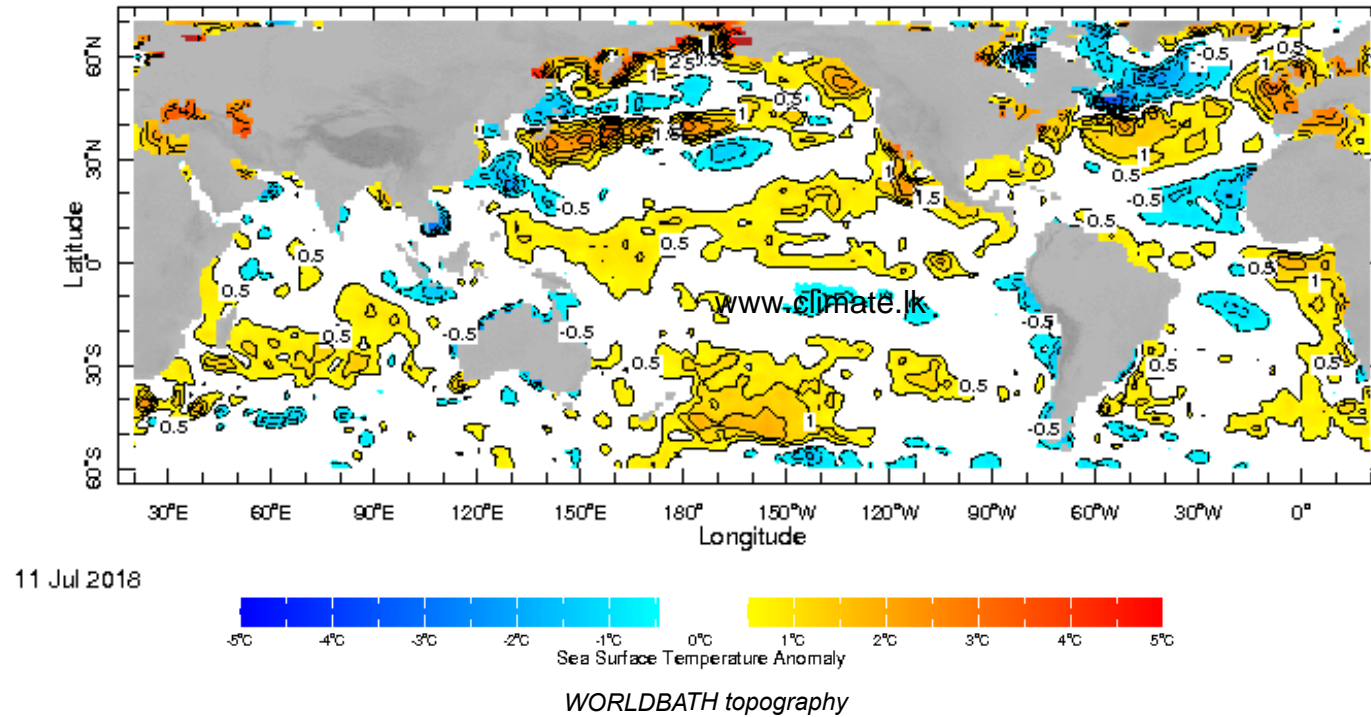


Dekadal (10 Day) Satellite Derived Rainfall Estimates



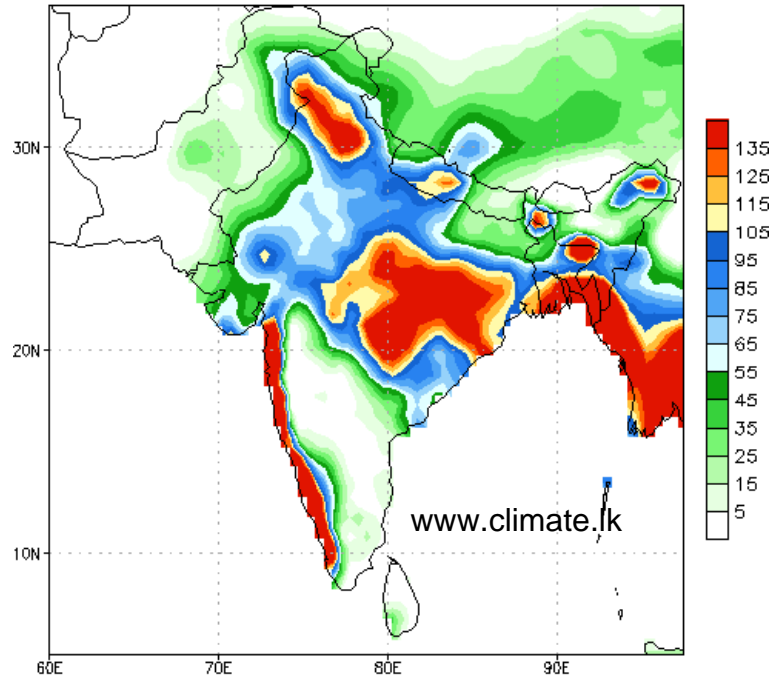
Weekly Average SST Anomalies

Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



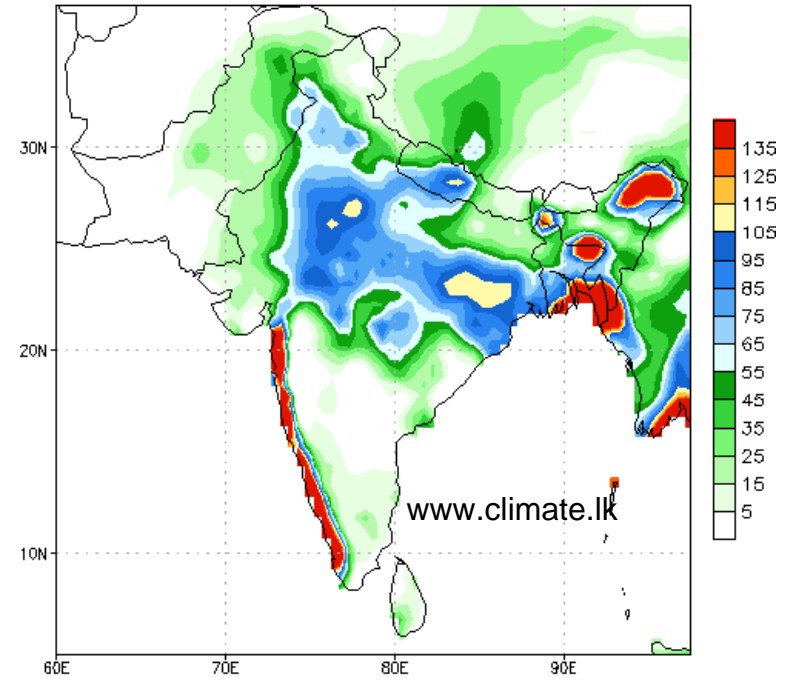
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 18Jul2018
18Jul2018-24Jul2018 Accumulation



Bias correction based on last 30-day forecast error

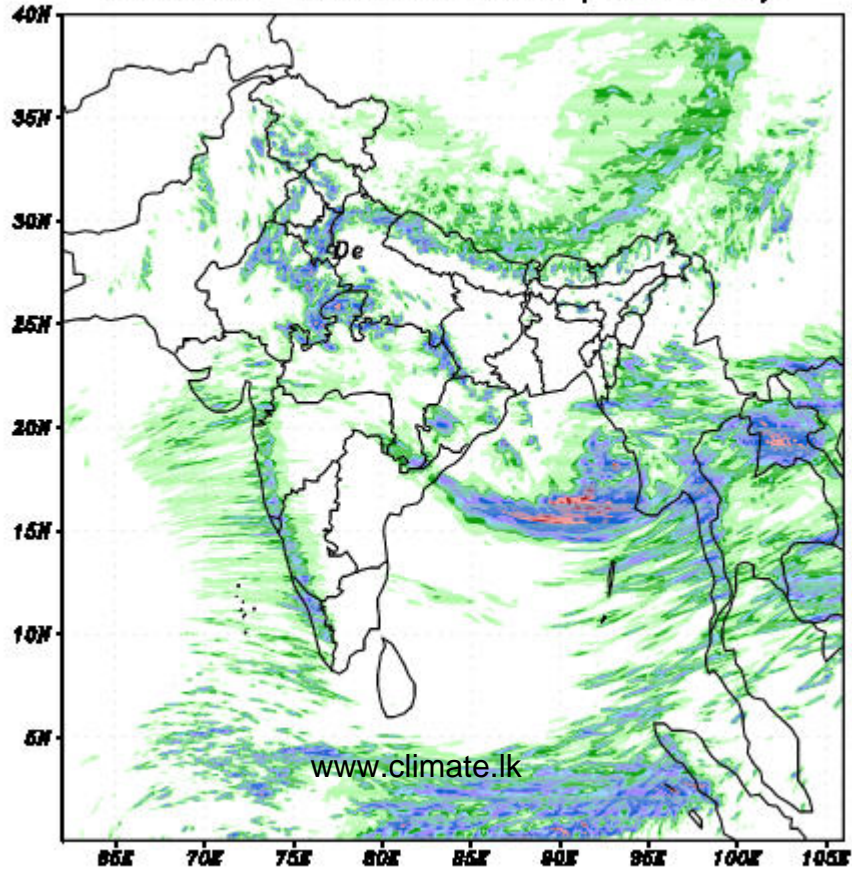
NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 18Jul2018
25Jul2018-31Jul2018 Accumulation



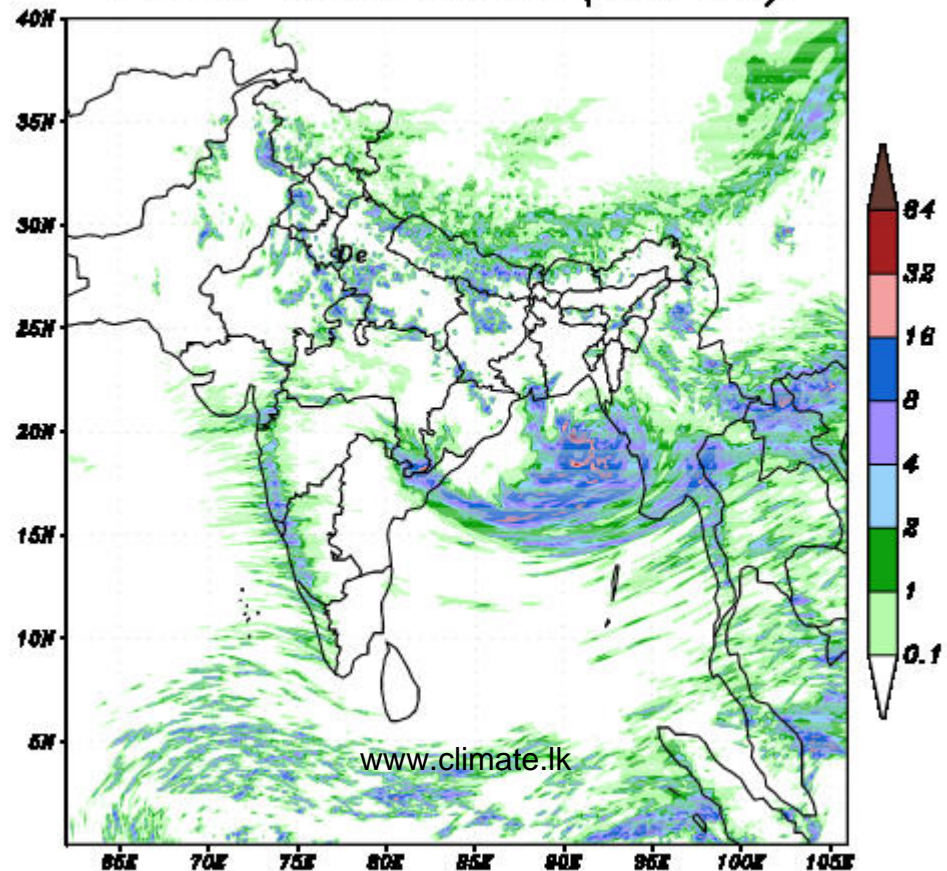
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

DAY 2 FORECAST VALID ON 00Z20JUL2018
RAINFALL (cm) CI=0.1,1,2,4,8,..
NCMRWF UNIFIED MODEL (REC-4Km)



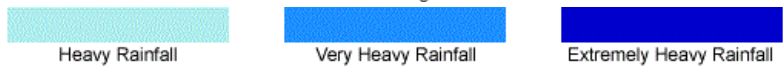
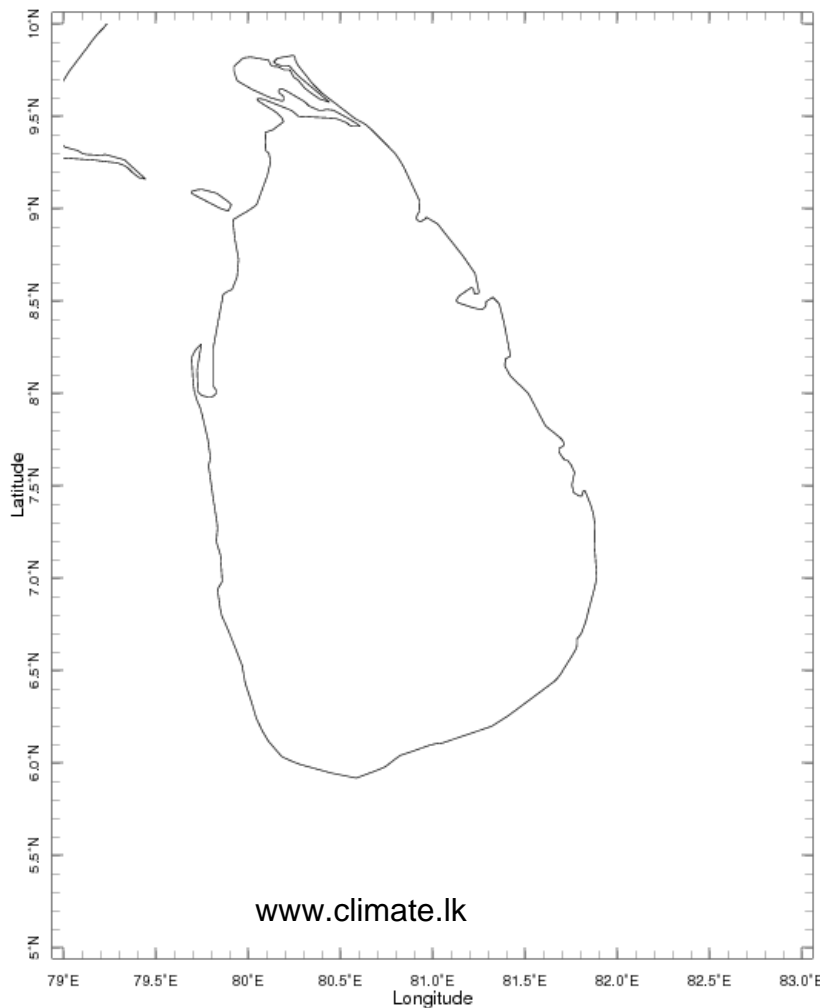
DAY 3 FORECAST VALID ON 00Z21JUL2018
RAINFALL (cm) CI=0.1,1,2,4,8,..
NCMRWF UNIFIED MODEL (REC-4Km)



Weekly Rainfall Forecast from IRI

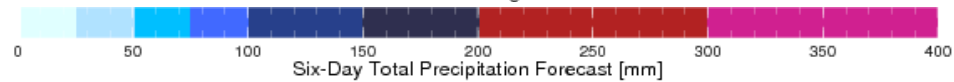
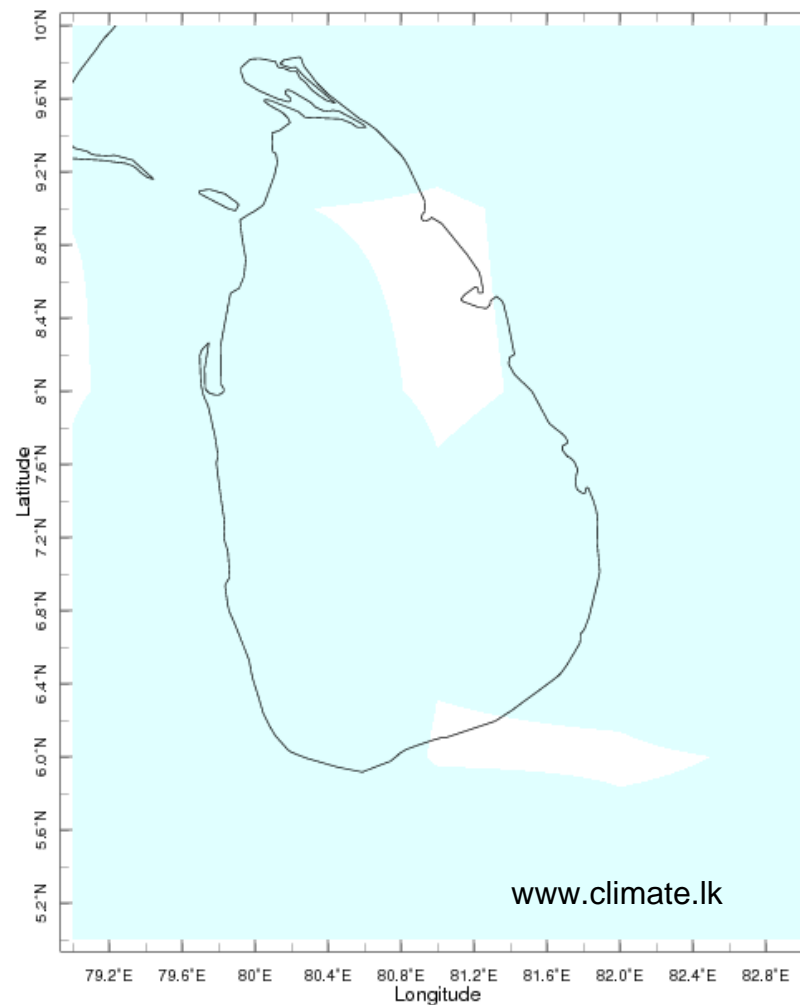
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 18-23 Jul 2018 Issued 0000 18 Jul 2018



Extreme Rainfall Forecast

Forecast for 18-23 Jul 2018 Issued 0000 18 Jul 2018



Total Six Day Precipitation Forecast