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Experimental Climate Monitoring and Prediction

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21 June 2018

Highlights

- ***The NCEP weekly rainfall forecast predicts total rainfall between 95-105 mm in Kegalla and Ratnapura districts during 20th -26th June.***
- ***Between 13-19 Jun: up to 50 mm of rainfall was recorded in Colombo and Ratnapura districts on the 13th and in Puttalam and Badulla districts on the 15th.***
- ***From 10-16 Jun: minimum temperature of 20 ºC was recorded from Nuwara Eliya and Badulla districts while eastern coastal areas of the island recorded a maximum temperature between 35-40 ºC.***
- ***From 12-18 Jun: up to 36 km/h, westerly winds were experienced by the entire island.***
- ***Average sea surface temperature was observed in the seas around Sri Lanka.***

Monitoring

Rainfall

***Weekly Monitoring*:** On June 13th, Colombo and Ratnapura districts received up to 50 mm of rainfall; Kegalla, Kalutara and Gampaha districts up to 30 mm; and Puttalam, Matale, Kandy, Galle and Matara districts up to 20 mm. On the 14th, Colombo district received up to 30 mm of rainfall; and Kegalla, Ratnapura and Kautara districts up to 20 mm. On the 15h, Kalladi region in Puttalam district and Bibile region in Badulla district received up to 50 mm of rainfall; Kurunegala, Gampaha and Kegalla districts up to 30 mm; Colombo, Kalutara, Ratnapura, Kandy and several regions of Ampara district received up to 20 mm. On the 16th, Colombo and Ratnapura districts received up to 30 mm; Gampaha, Kegalla, Kandy, Nuwara Eliya, Galle and Matara districts up to 20 mm. On the 17th, Kalutara and Ratnapura districts received up to 20 mm of rainfall. On the 18th, Kalutara and Puttalam districts received up to 20 mm of rainfall. No significant rainfalls were recorded in any part of the island on the 19th.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall 75-100 mm of total rainfall in Colombo, Kegalla and Ratnapura districts; up to 50-75 mm in Gampaha district; and Puttalam, Kurunegala, Kandy, Nuwara Eliya, Galle and Matara districts. Above average rainfall up to 50-100 mm is shown for Ratnapura district; and up to 25-50 mm in Kegalla, Colombo and Kalutara districts. Below average rainfall up to 10-25 mm is shown for Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Anuradhapura, Batticaloa, Polonnaruwa and Ampara districts.

***Monthly Monitoring*:** During May - above average rainfall conditions were experienced by the entire island. Puttalam, Kurunegala, Anuradhapura, Matale and Polonnaruwa districts received up to 360 mm above average rainfall; Vavuniya, Trincomalee, Gampaha, Colombo, Kegalla, Ratnapura, Galle, Matara, Kandy, Badulla and Ampara districts up to 300 mm; and rest of the country up to 120 mm. The CPC Unified Precipitation Analysis tool shows ~750 mm of total rainfall in Kurunegala, Kegalla, Colombo, Kalutara and Ratnapura districts; up to 500 mm Puttalam, Gampaha, Galle, Matara, Hambantota, Nuwara Eliya, Kandy, Matale, Anuradhapura, Polonnaruwa, Ampara, Badulla and Monaragala districts; up to ~300 mm Mullaitivu and Trincomalee districts; and up to 200 mm in rest of the country.

Ocean State (*Text Courtesy IRI*)

Pacific sea 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 subsurface water temperature continued to be above-average, and this strengthened further during May. The official CPC/IRI outlook calls for neutral conditions through northern summer season, with a 50% chance of El Niño development during fall, 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; forecasters are largely buying into this scenario as the spring barrier is now mostly passed.

Indian Ocean State

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

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Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 20th – 26th Jun: Total rainfall between 95-105 mm in Kegalla and Ratnapura districts; between 85-95 mm in Gampaha and Nuwara Eliya districts; between 75-85 mm in Puttalam, Kurunegala and Kandy districts; and between 45-55 mm in Matale and Galle districts.

From 27th Jun- 3rd Jul: Total rainfall between 95-105 mm in Kegalla and Ratnapura districts; between 85-95 mm in Nuwara Eliya district; between 75-85 mm in Gampaha, Puttalam and Kurunegala districts; and between 45-55 mm in Anuradhapura, Matale, Kandy, Nuwara Eliya and Galle districts.

IMD NCMWRF Forecast:

22nd Jun: Up to 80 mm of rainfall expected in Gampaha, Kurunegala. Kegalla and Kandy districts; and up to 40 mm in Kalutara, Ratnapura, Colombo and Galle districts.

23rd Jun: Up to 80 mm of rainfall expected in Matara district; and up to 40 mm in Kalutara, Galle, Ratnapura and Hambantota districts.

IRI Model Forecast:

From 19th -24th May: Total rainfall between 50-75 mm expected in Colombo, Kalutara and Galle districts; between 25-50 mm in Gam[aha, Kegalla, Ratnapura and Matara districts.

MJO based OLR predictions

For the next 15 days:

MJO shall not have an impact on the rainfall in Sri Lanka in the next 10 days and shall enhance in the following 5 days.

[1] International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

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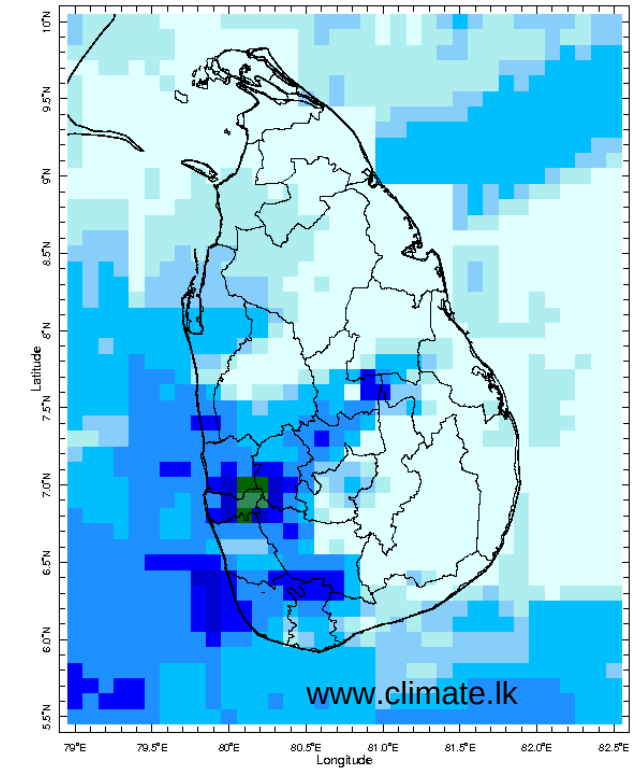
Weekly Hydro- Meteorological Report for Sri Lanka

Inside This Issue

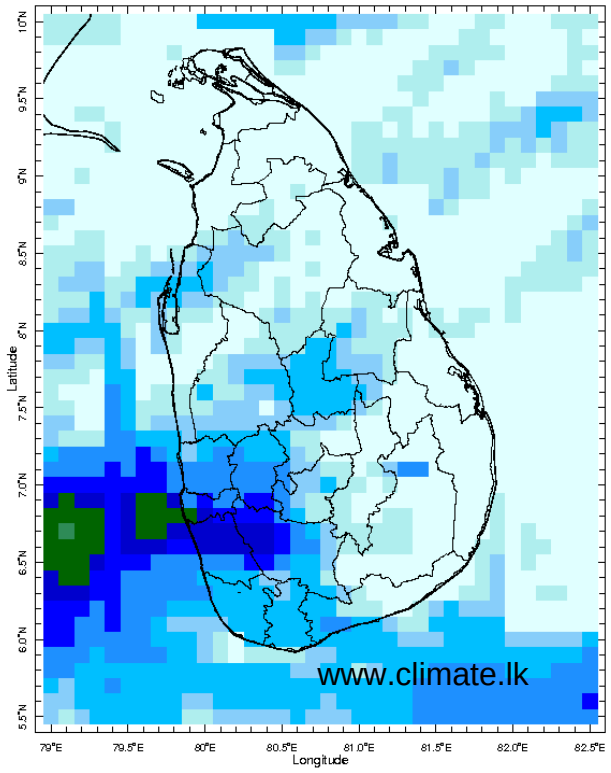
MONITORING

Daily Rainfall Monitoring

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



13 Jun 2018



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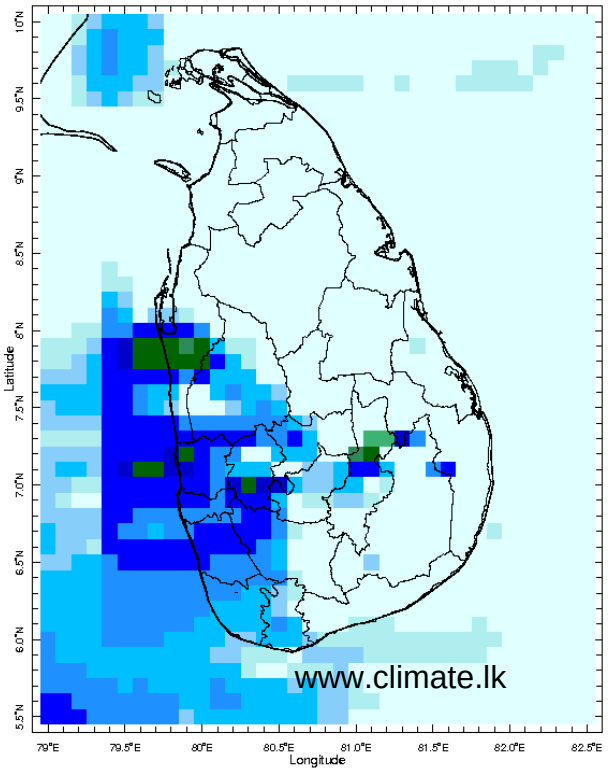

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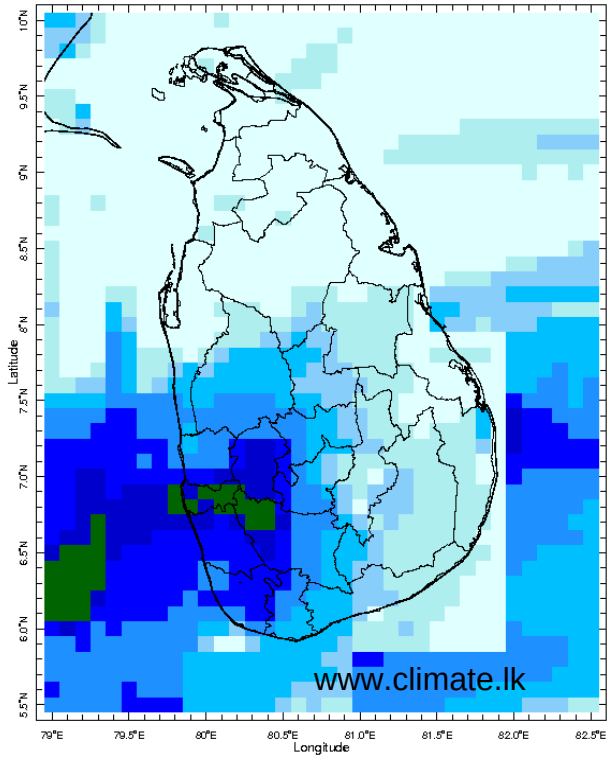
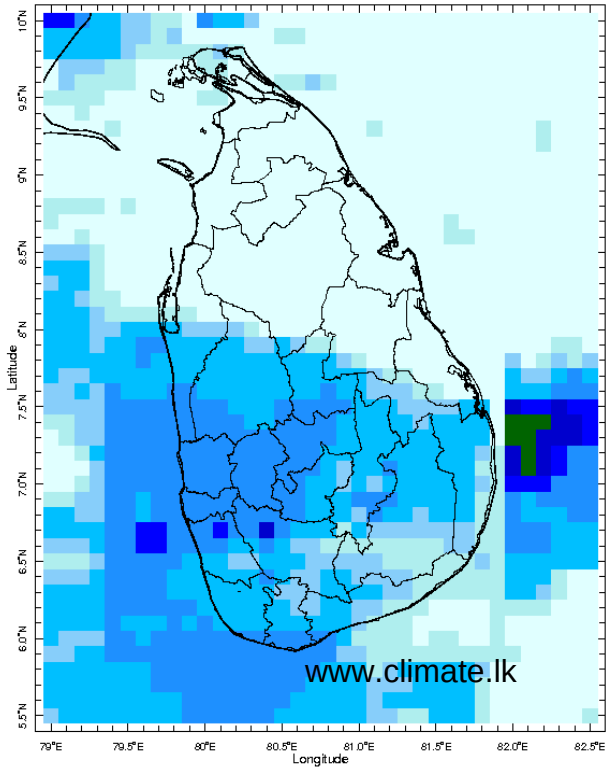


16 Jun 2018



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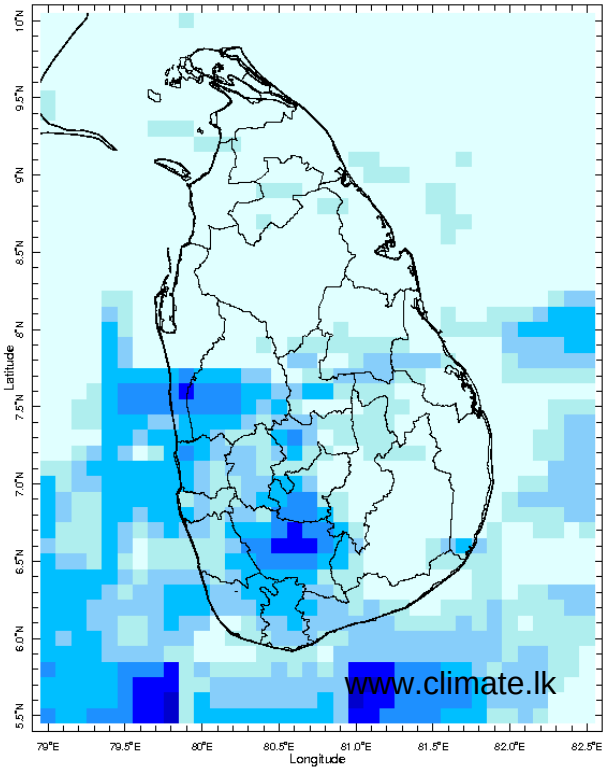

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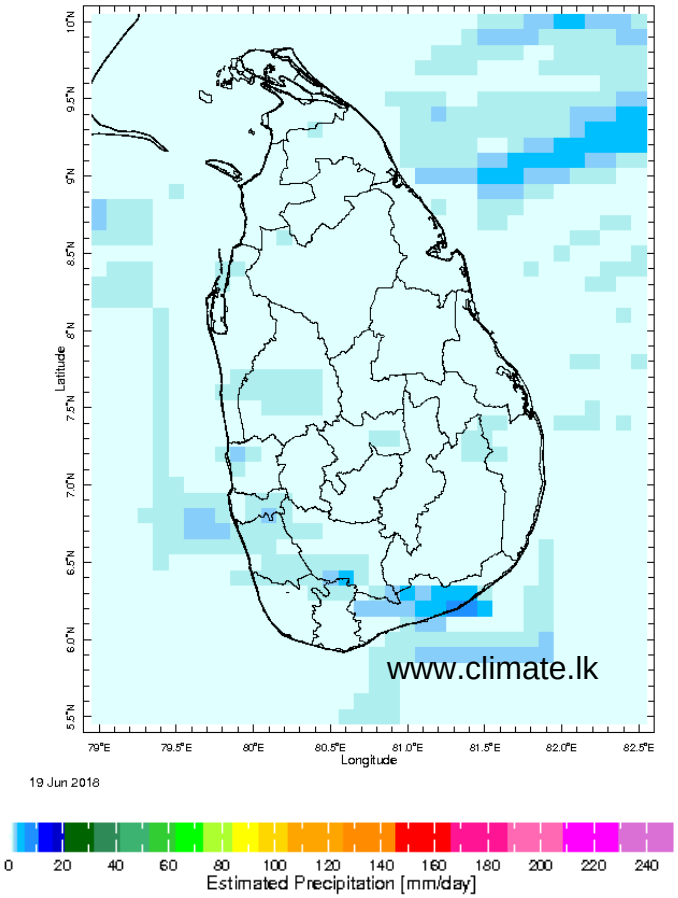
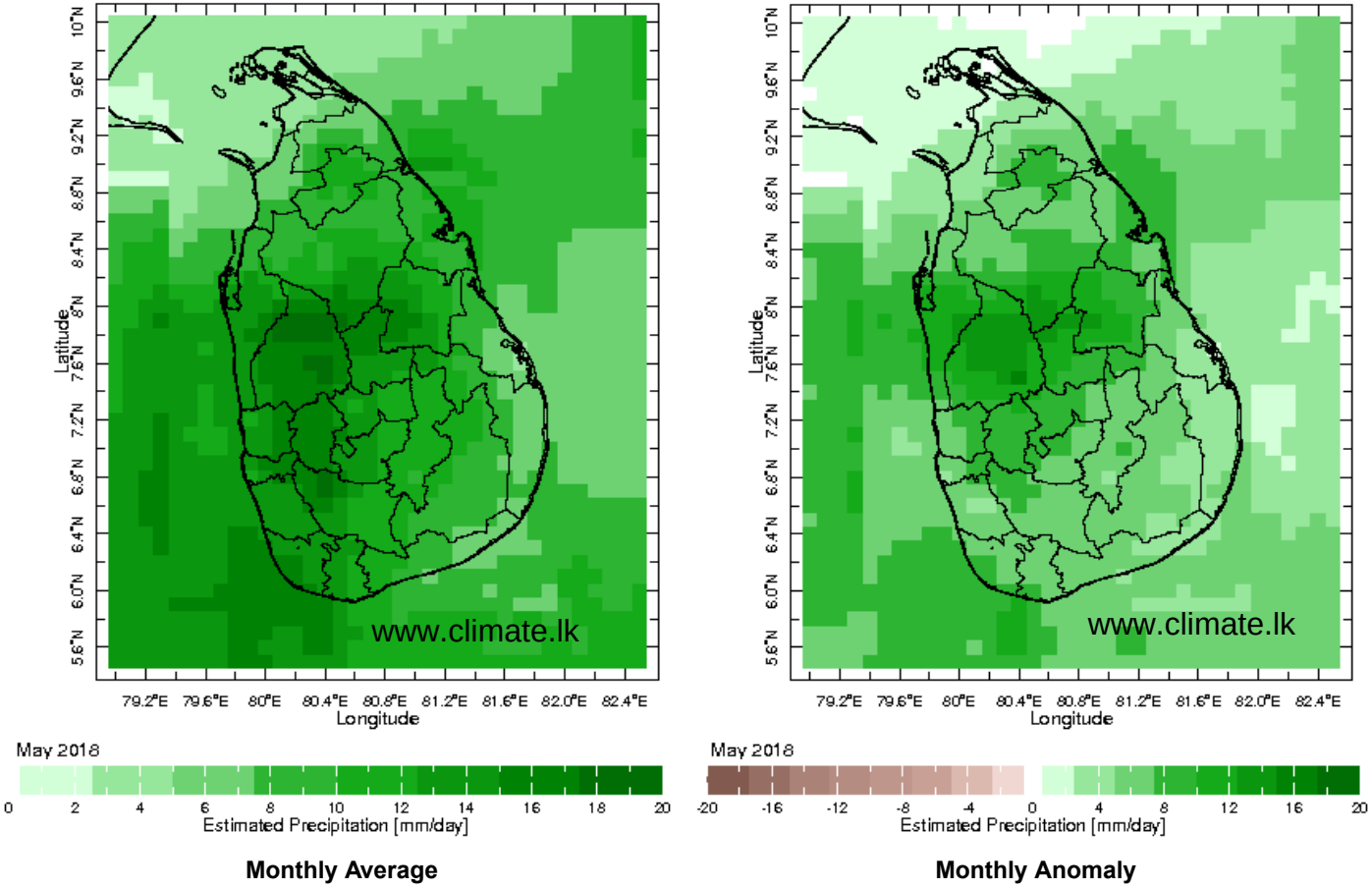

10°N
9.5°N
9°N
8.5°N
8°N
7.5°N
7.0°N
6.5°N
6.0°N
5.5°N
Latitude
79°E
79.5°E
80°E
80.5°E
81.0°E
81.5°E
82.0°E
82.5°E
Longitude
www.climate.lk
19 Jun 2018
0
20
40
60
80
100
120
140
160
180
200
220
240
Estimated Precipitation [mm/day]

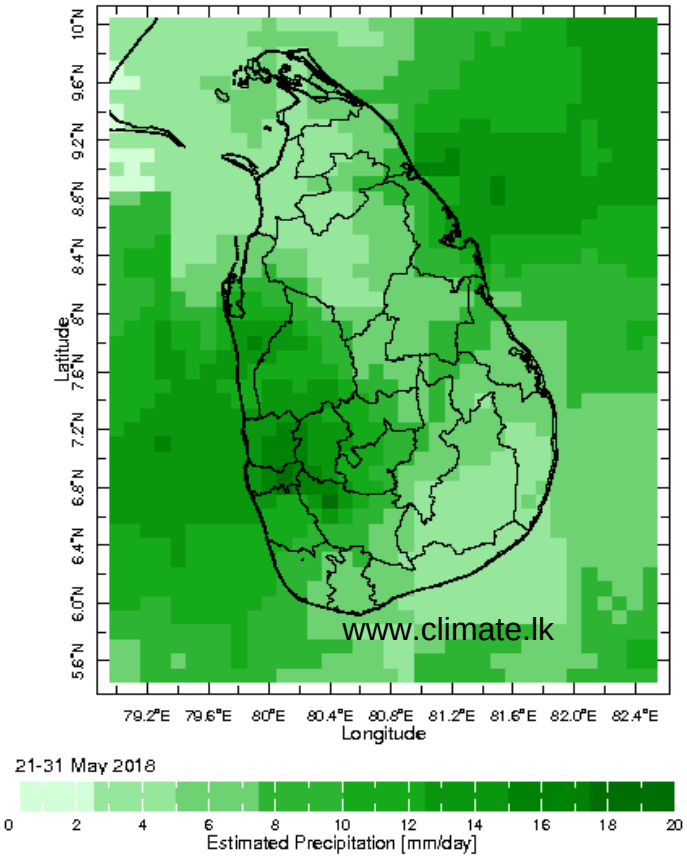
Monthly Rainfall Monitoring

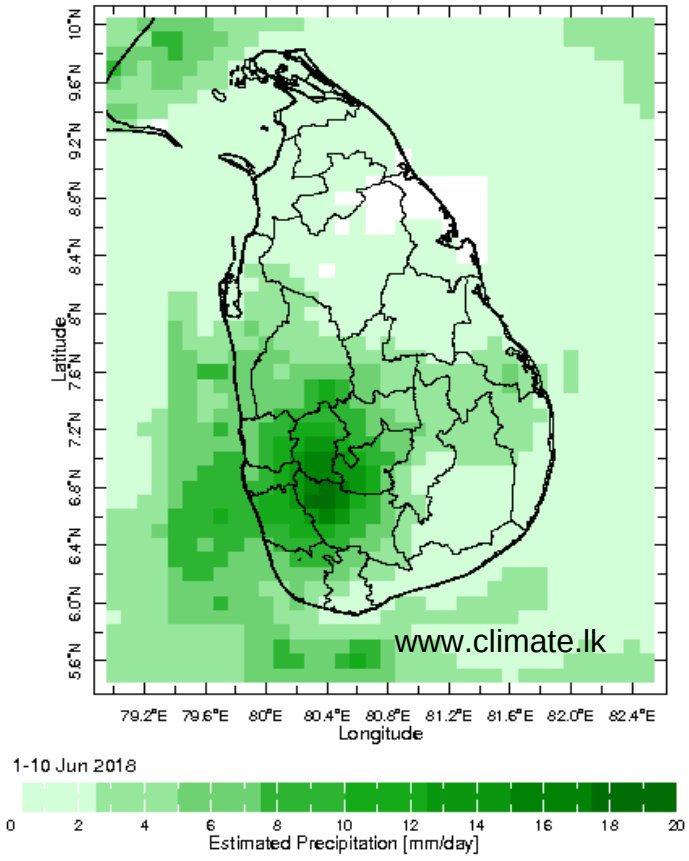
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



Monthly Average **Monthly Anomaly**

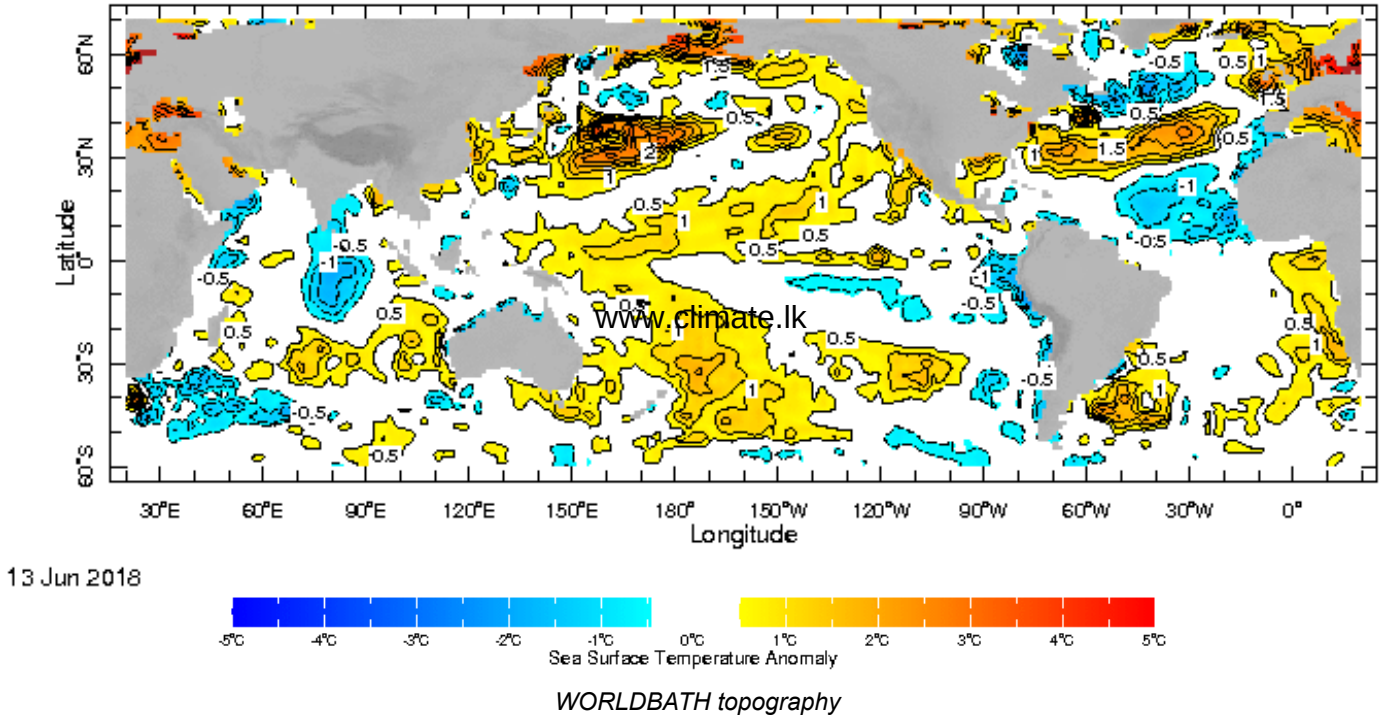
Dekadal (10 Day) Satellite Derived Rainfall Estimates





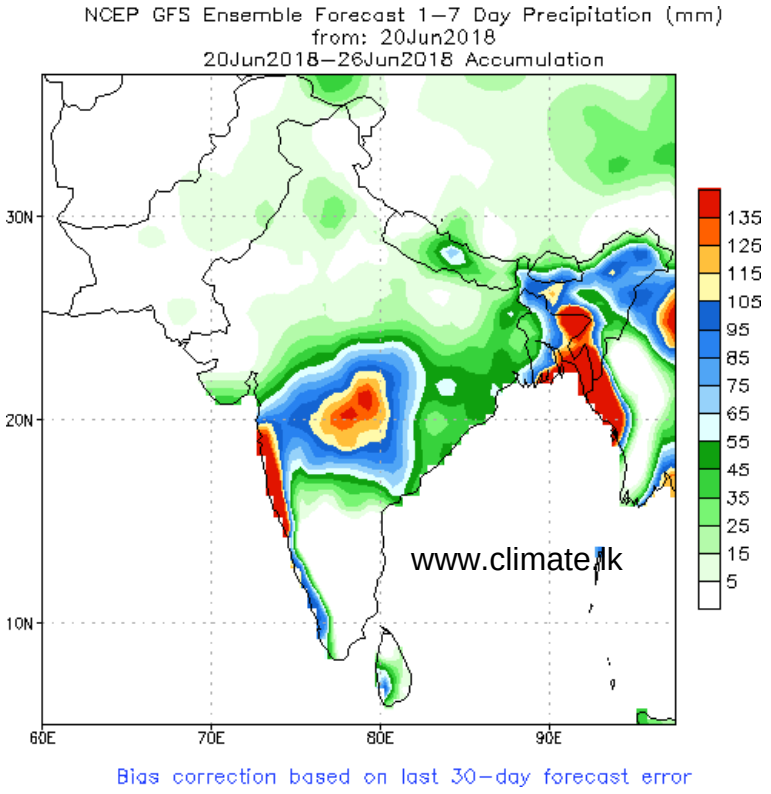
Weekly Average SST Anomalies

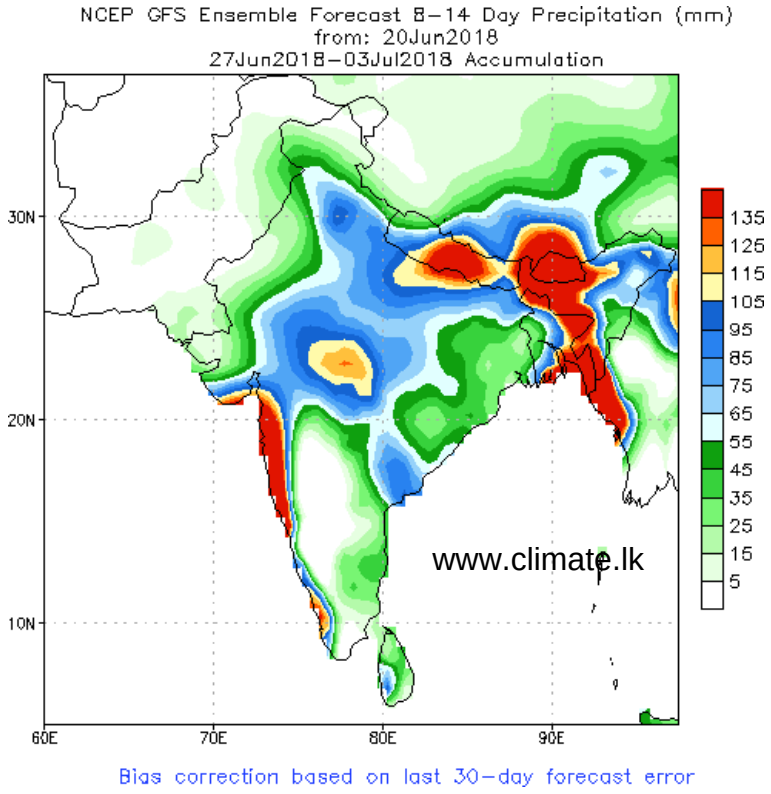
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



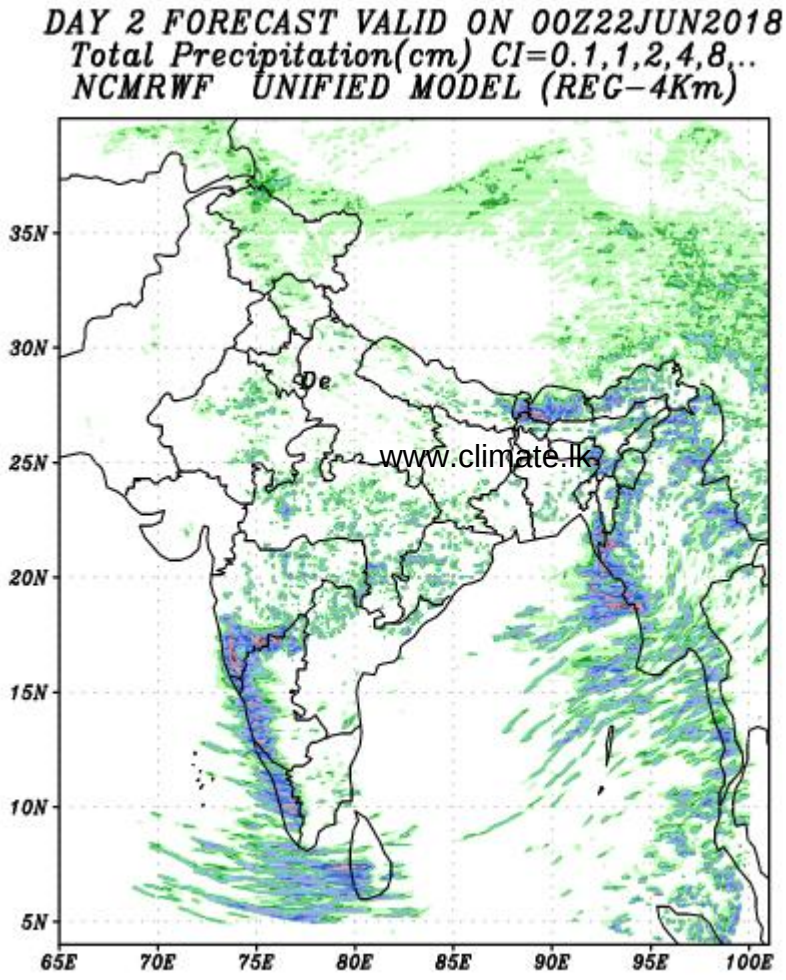
PREDICTIONS

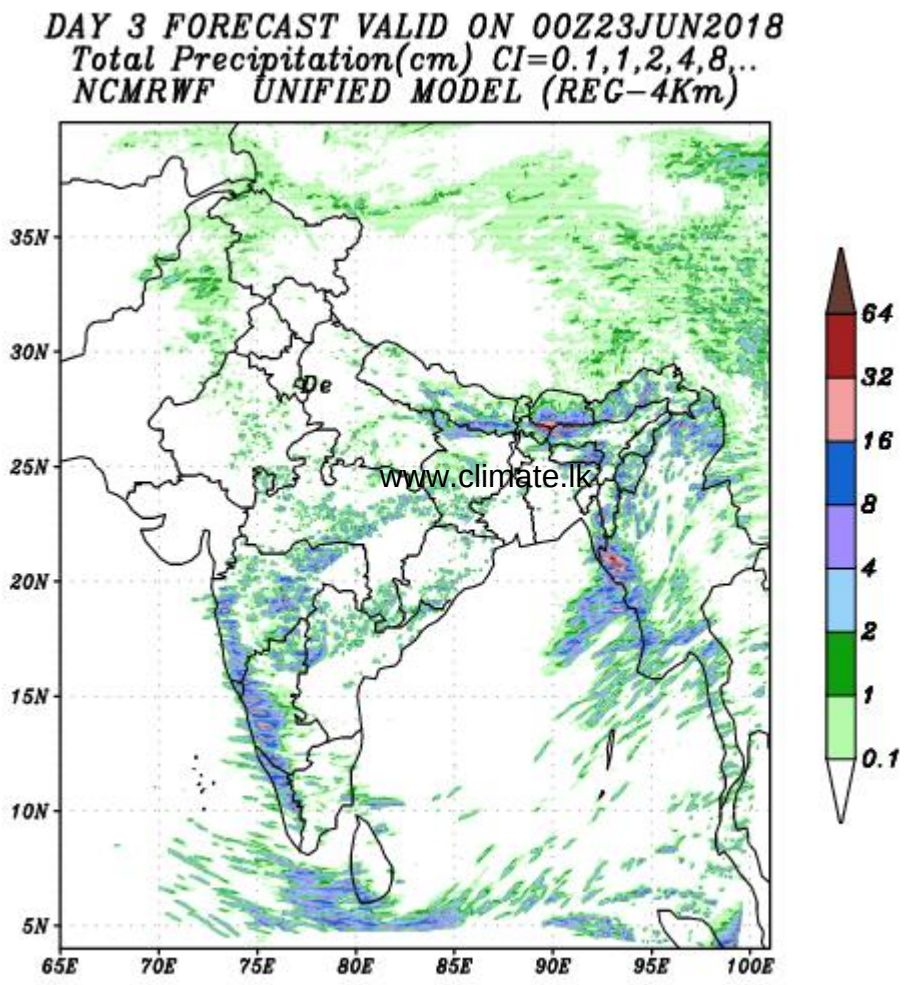
NCEP GFS 1- 14 Day prediction





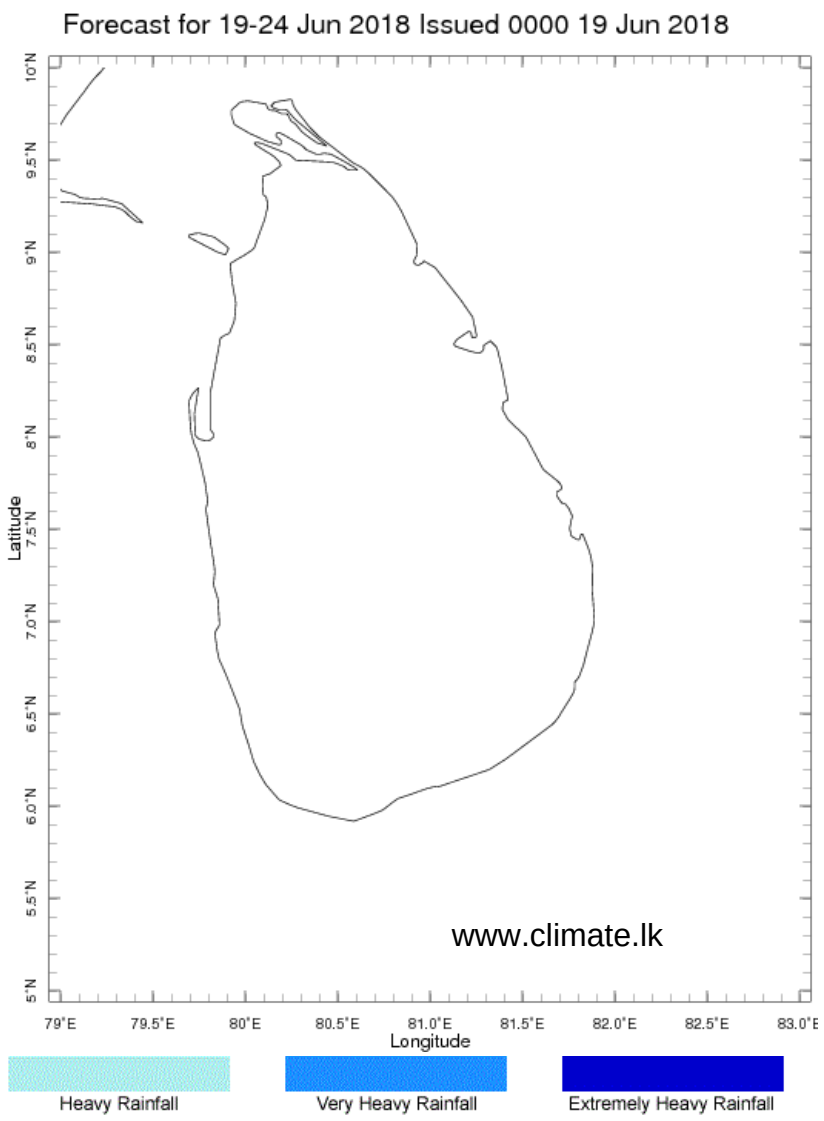
WRF Model Forecast (from IMD Chennai)



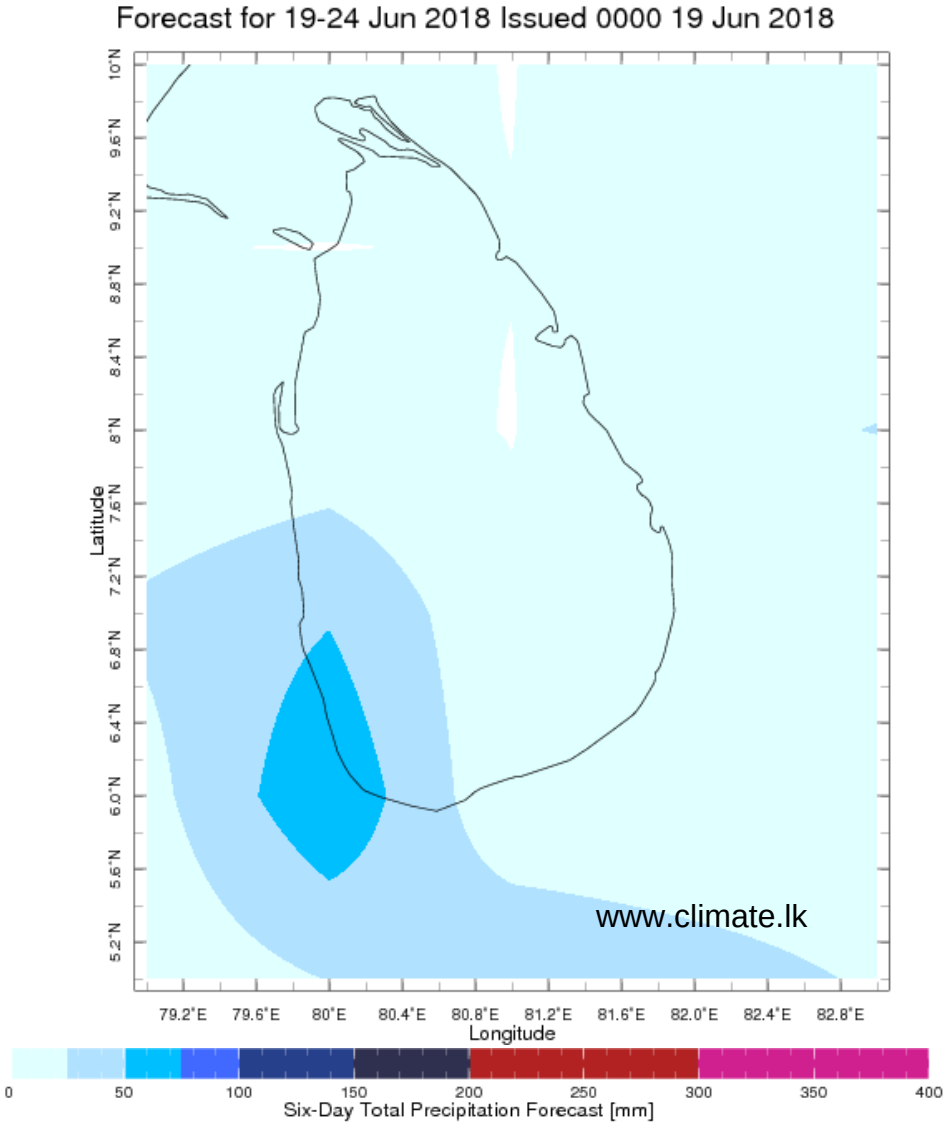


Weekly Rainfall Forecast from IRI

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.



Extreme Rainfall Forecast



Total Six Day Precipitation Forecast