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Experimental Climate Monitoring and Prediction

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6 June 2019

Highlights

- ***The IRI weekly rainfall forecast predicts up to 200 mm of total rainfall in Kalutara and Galle districts during 5 – 10 Jun.***
- ***Between 28 May – 4 Jun: up to 50 mm of rainfalls were recorded in Badulla, Monaragala, Ampara and Kurunegala districts on the 4th.***
- ***From 28 May – 3 Jun: up to 54 km/h, southwesterly winds were experienced by the entire island.***
- ***0.5 ^{0}C above average sea surface temperature was observed in the seas around Sri Lanka.***

Monitoring

Rainfall

Weekly Monitoring: On May 28th, Gampaha, Colombo, Kalutara and Galle districts received up to 10 mm of rainfall. No significant rainfalls were recorded in any part of the island on the 29th. On the 30th, Kalutara, Ratnapura, Galle and Matara districts received up to 20 mm of rainfall. On the 31st, Polonnaruwa and Ampara districts received up to 20 mm of rainfall. On June 1st, Kilinochchi, Puttalam, Kurunegala, Anuradhapura, Polonnaruwa, Matale, Gampaha, Kegalle, Colombo, Kalutara, Galle and Ratnapura districts received up to 5 mm of rainfall. On the 2nd, Anuradhapura district received up to 5 mm of rainfall. On the 3rd, Kalutara and Matara districts received up to 40 mm of rainfall; Puttalam, Kurunegala, Gampaha, Colombo, Ratnapura, Badulla, Hambantota and Monaragala districts up to 30 mm; and Kegalle, Kandy Nuwara Eliya, Kilinochchi and Jaffna districts up to 20 mm. On the 4th, Badulla, Monaragala, Ampara and Kurunegala districts received up to 50 mm of rainfall; Puttalam, Gampaha, Ratnapura, Kegalle and Kandy districts up to 30 mm; and Vavuniya, Mullaitivu, Polonnaruwa, Colombo, Kalutara, Galle, Matale and Nuwara Eliya districts up to 20 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total up to 50-75 mm in Kalutara, Ratnapura and Galle districts; up to 25-50 mm in Gampaha, Colombo, Kurunegala, Puttalam, Kegalle, Kandy, Nuwara Eliya, Matara, Hambantota, Ampara, Badulla and Monaragala districts; and 10-25 mm in Mannar, Anuradhapura Polonnaruwa, Matale and Batticaloa districts. Above average rainfall up to 25-50 mm is shown for Ampara and Badulla districts; and up to 10-25 mm in Puttalam, Kurunegala, Anuradhapura, Kegalle, Kalutara, Ratnapura, Galle, Matara and Monaragala districts.

Monthly Monitoring: During May – Below average rainfall conditions up to 240 mm were experienced by Nuwara Eliya, Kegalle, Colombo, Kalutara, Gampaha, Kurunegala and Ratnapura districts; and up to 180 mm in rest of the island. The CPC Unified Precipitation Analysis tool shows up to 150 mm of total rainfall in Colombo, Kalutara and Galle districts; up to 100 mm in Gampaha, Kegalle, Ratnapura, Matara, Badulla, Monaragala and Galle districts; up to 75 mm in Trincomalee, Polonnaruwa, Nuwara Eliya, Ampara and Hambantota districts; and up to 50 mm in Vavuniya, Anuradhapura, Puttalam, Kurunegala, Matale and Kandy districts.

Ocean State (*Text Courtesy IRI*)

Pacific sea state: May 20, 2018

SSTs in the tropical Pacific maintained a weak El Niño level during April and early May, while temperature anomalies of subsurface waters decreased markedly to just slightly above average. Some patterns in the atmosphere show weak El Niño conditions. Collective model forecasts show a continuation of at least weak El Niño-level SSTs lasting through 2019. The official CPC/IRI outlook, with an El Niño advisory, calls for an approximate 70% chance of El Niño continuing during Jun-Aug, decreasing to 55-60% for Sep-Nov.

Indian Ocean State

0.5 ^{0}C above 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 5th – 11th Jun: Total rainfall up to 75 mm Galle and Matara districts; up to 55-65 mm in Kalutara and Hambantota districts; up to 45-55 mm in Colombo district; and up to 35-45 mm in Gampaha, Kegalle, Nuwara Eliya, Badulla, Monaragala and Ampara districts.

From 12th – 18th Jun: Total rainfall up to 55 mm in Ratnapura, Galle and Matara districts; up to 35-45 mm in Gampaha and Hambantota districts; up to 25-35 mm Puttalam, Kurunegala, Nuwara Eliya, Badulla and Monaragala districts.

IMD NCMWRF Forecast:

7th Jun: Not Available

8th Jun: Not Available

IRI Model Forecast:

From 5th – 10th Jun: Total rainfall up to 200 mm is expected in Kalutara and Galle districts; up to 150 mm in Gampaha, Colombo, Kegalle, Ratnapura and Matara districts; up to 100 mm in Puttalam, Kurunegala, Nuwara Eliya and Hambantota districts; and up to 75 mm in Kandy district.

MJO based OLR predictions

For the next 15 days:

MJO shall enhance the rainfall in Sri Lanka.

[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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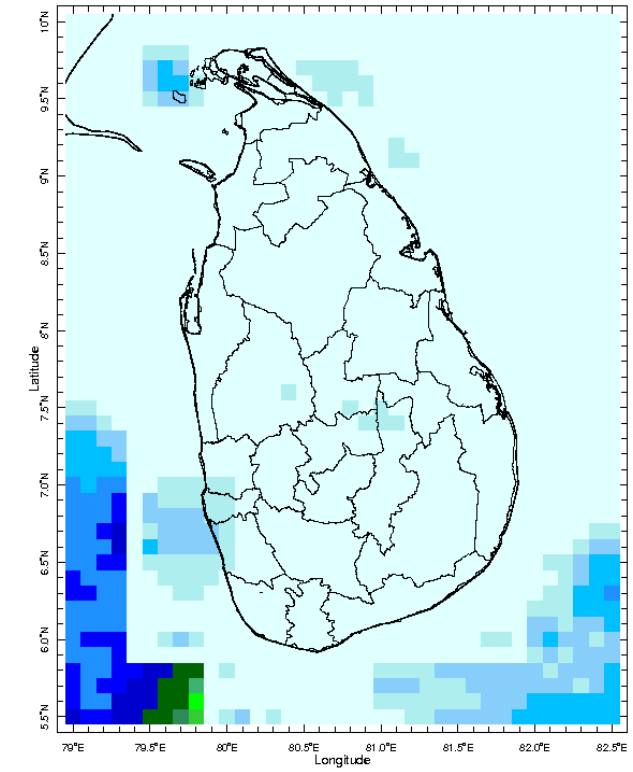
Weekly Hydro- Meteorological Report for Sri Lanka

Inside This Issue

Daily Rainfall Monitoring

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



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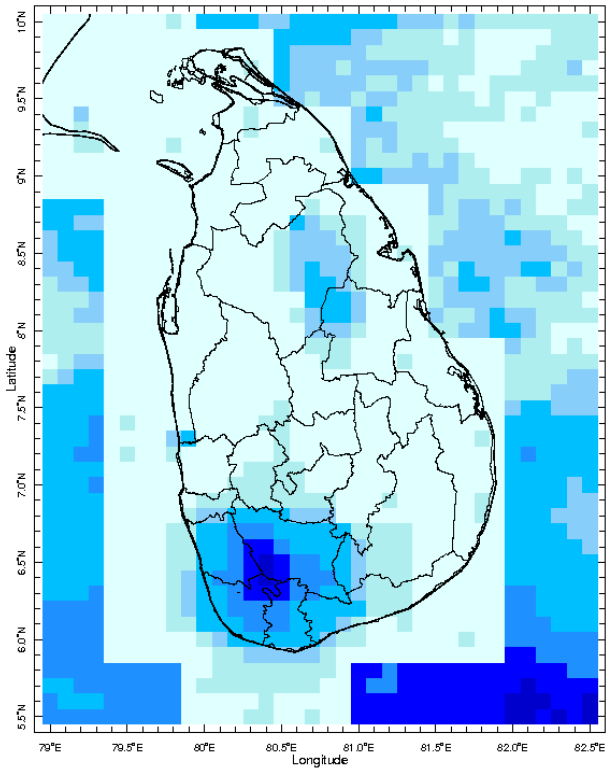
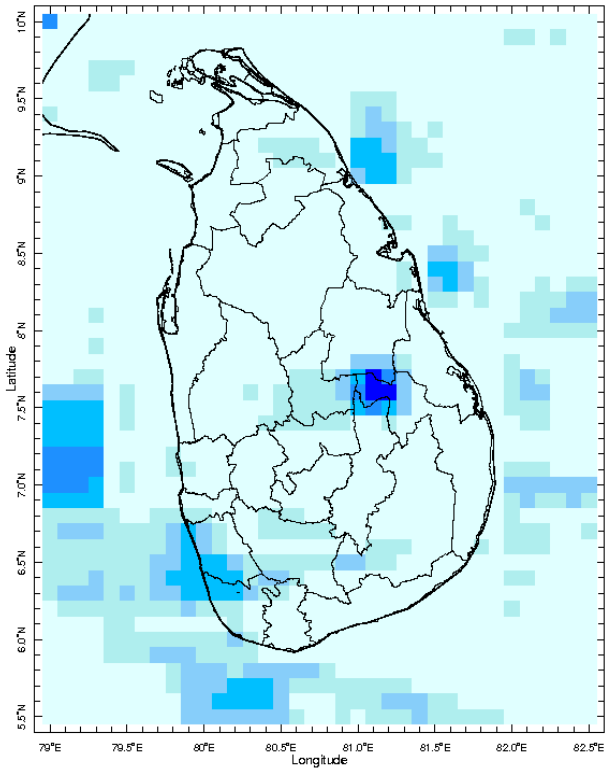


30 May 2019



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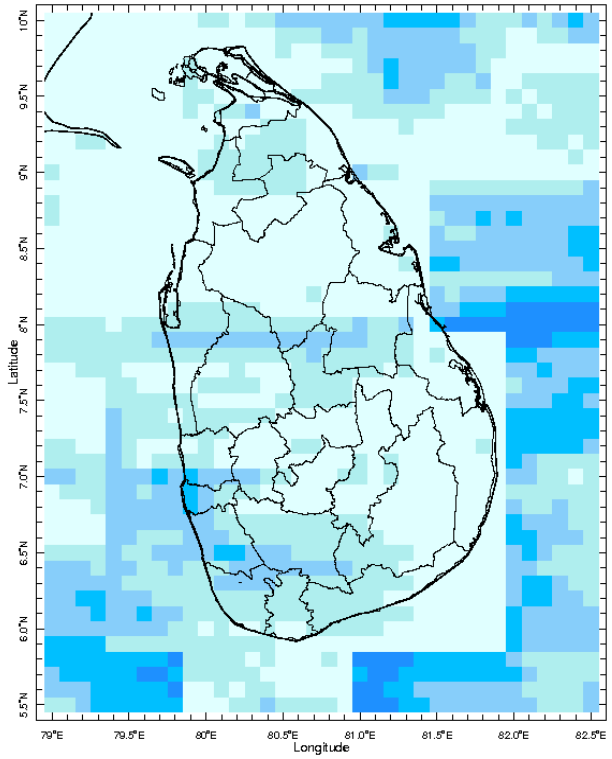
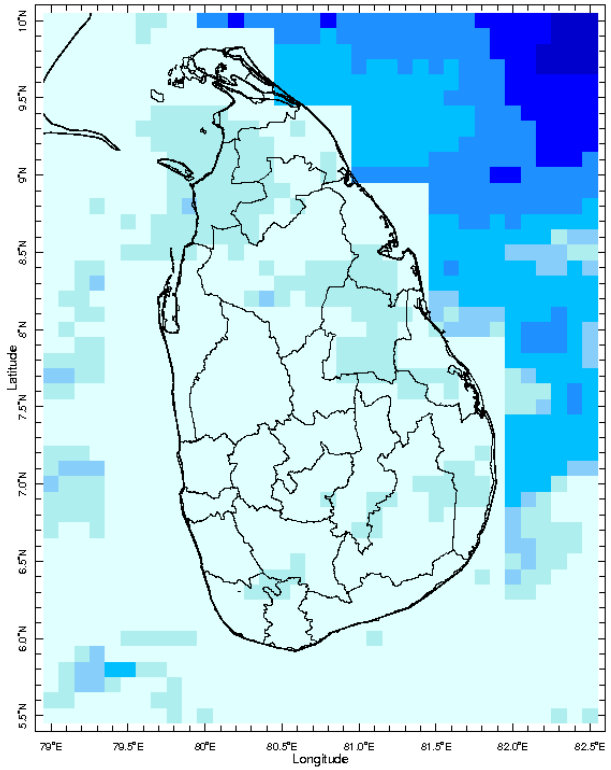
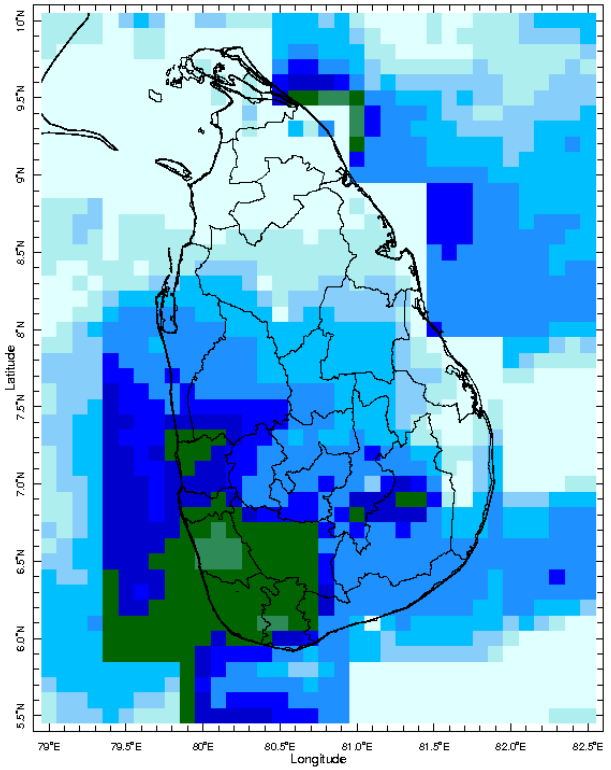


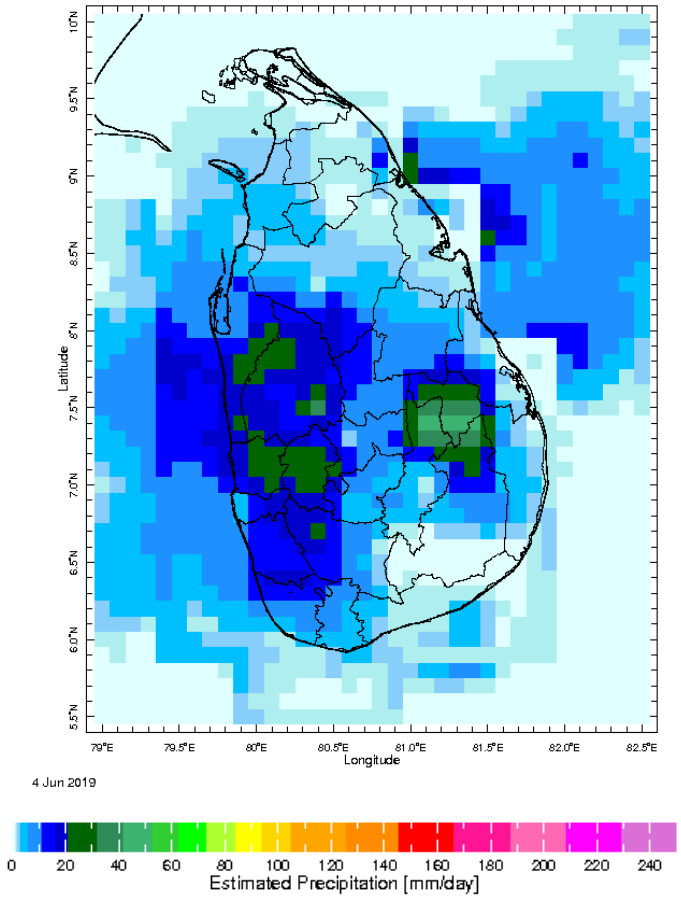
1 Jun 2019



2 Jun 2019

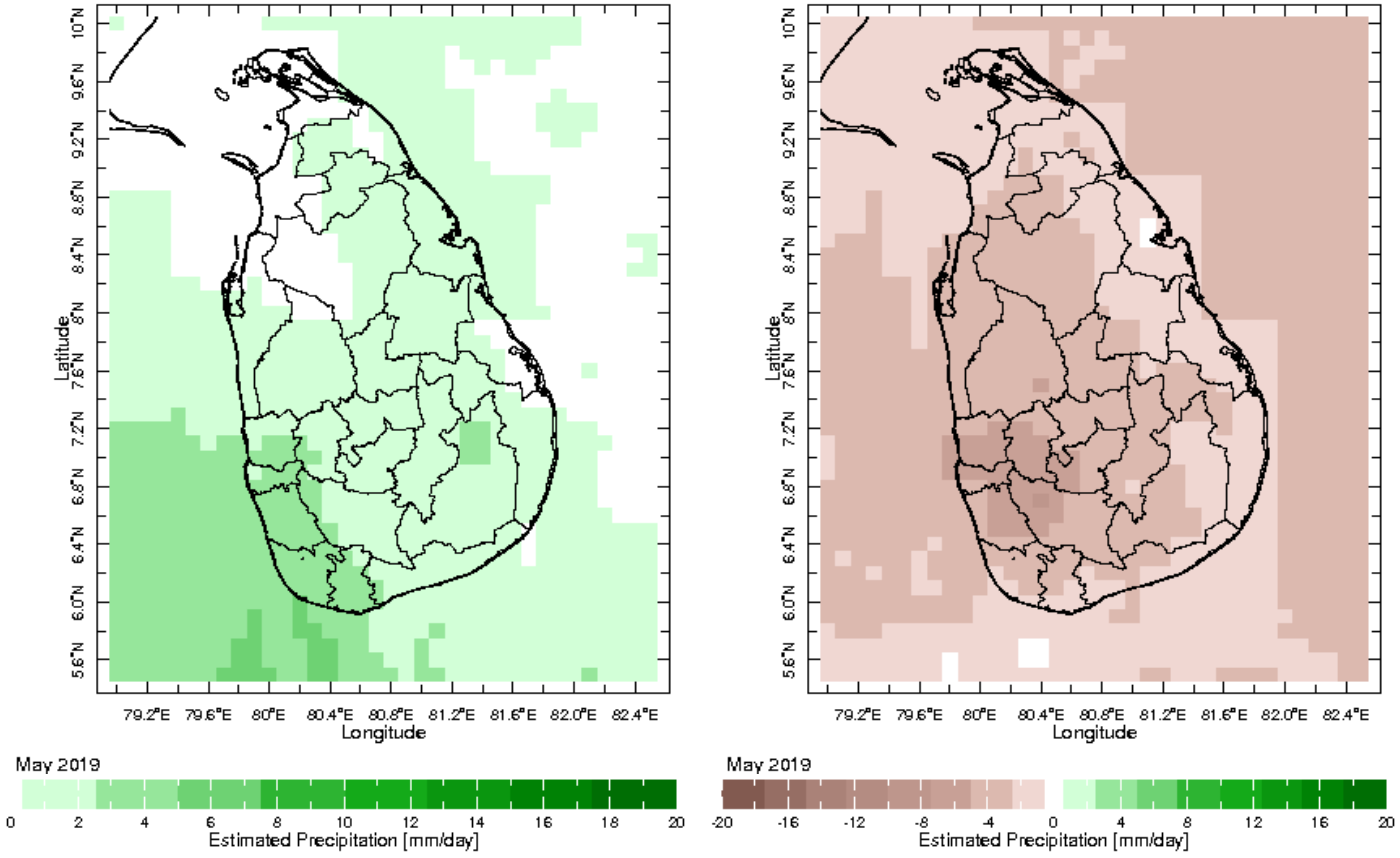


3 Jun 2019


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
4 Jun 2019
0
20
40
60
80
100
120
140
160
180
200
220
240
Estimated Precipitation [mm/day]

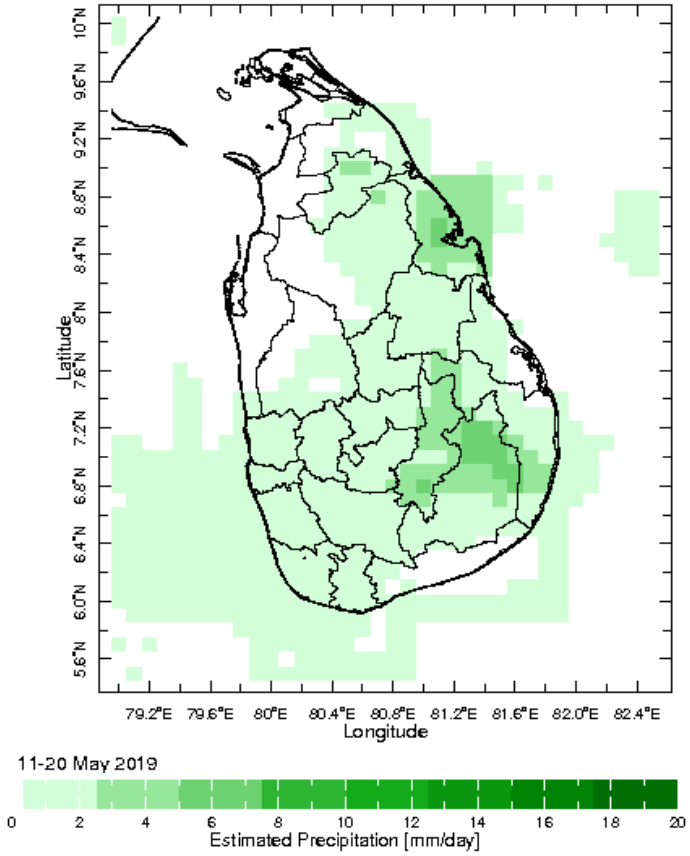
Monthly Rainfall Monitoring

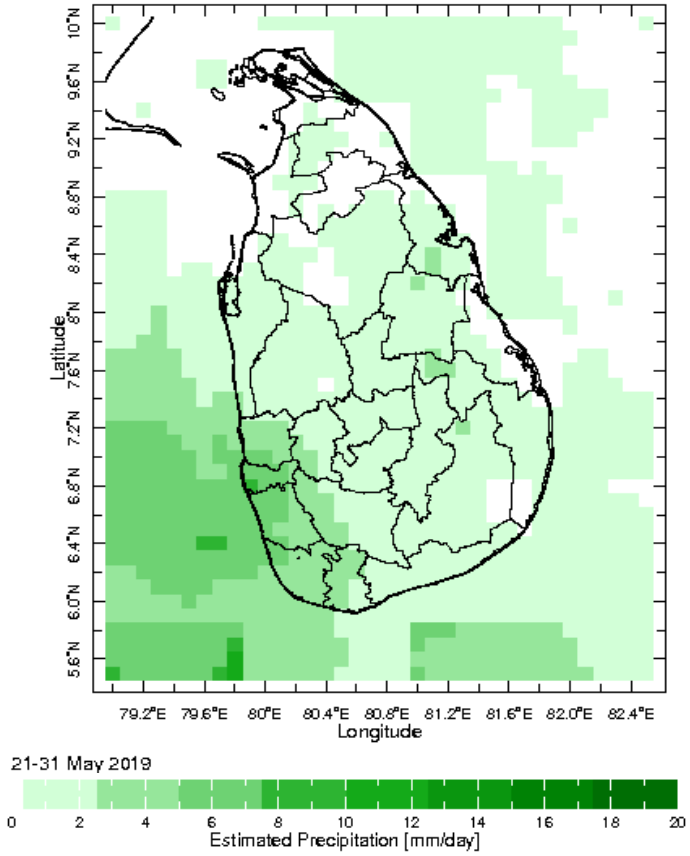
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



Monthly Average **Monthly Anomaly**

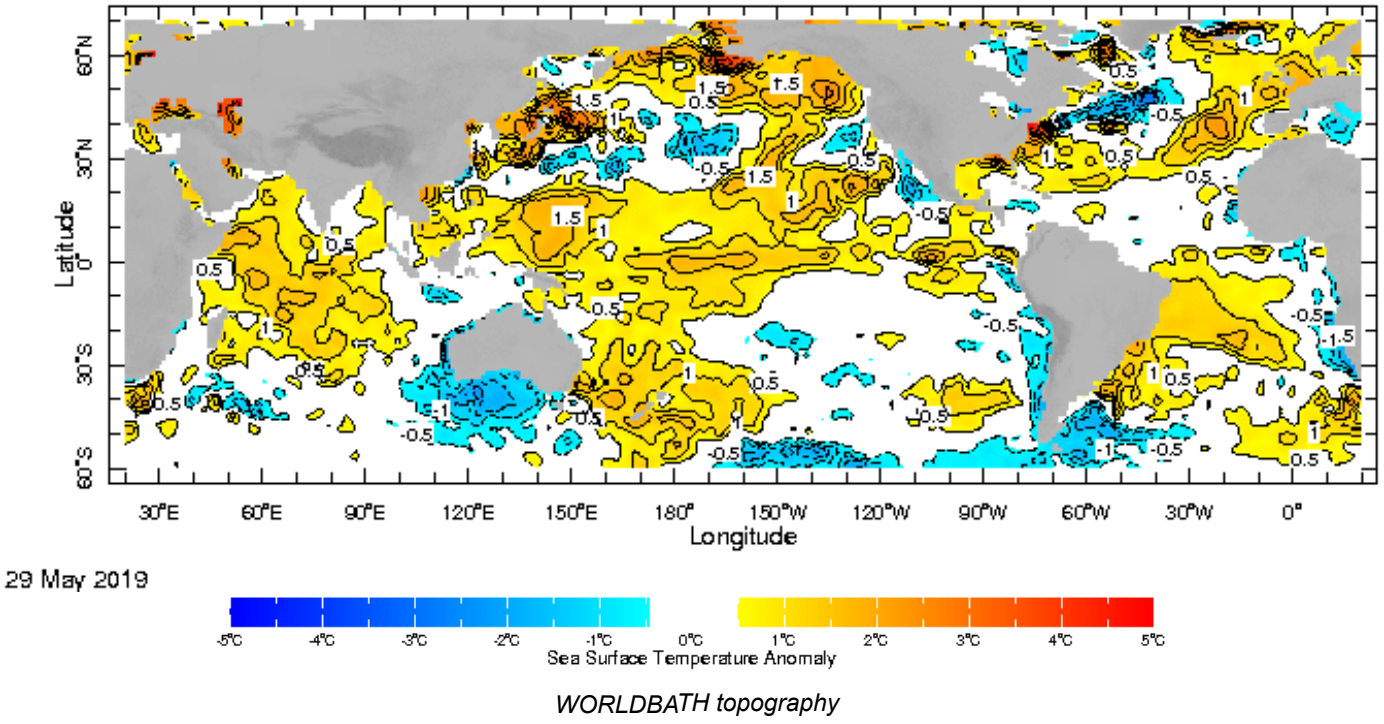
Dekadal (10 Day) Satellite Derived Rainfall Estimates





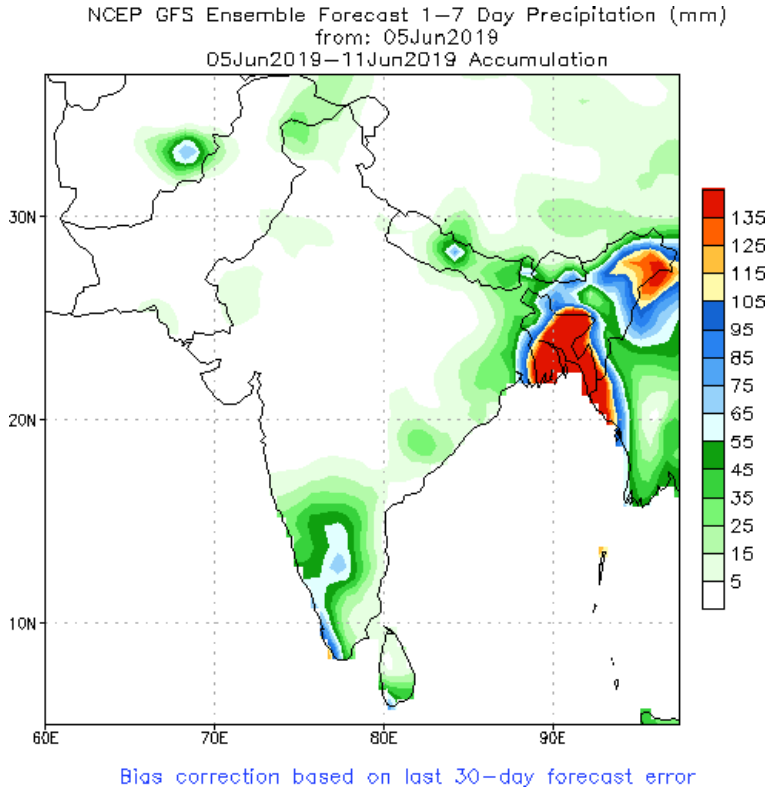
Weekly Average SST Anomalies

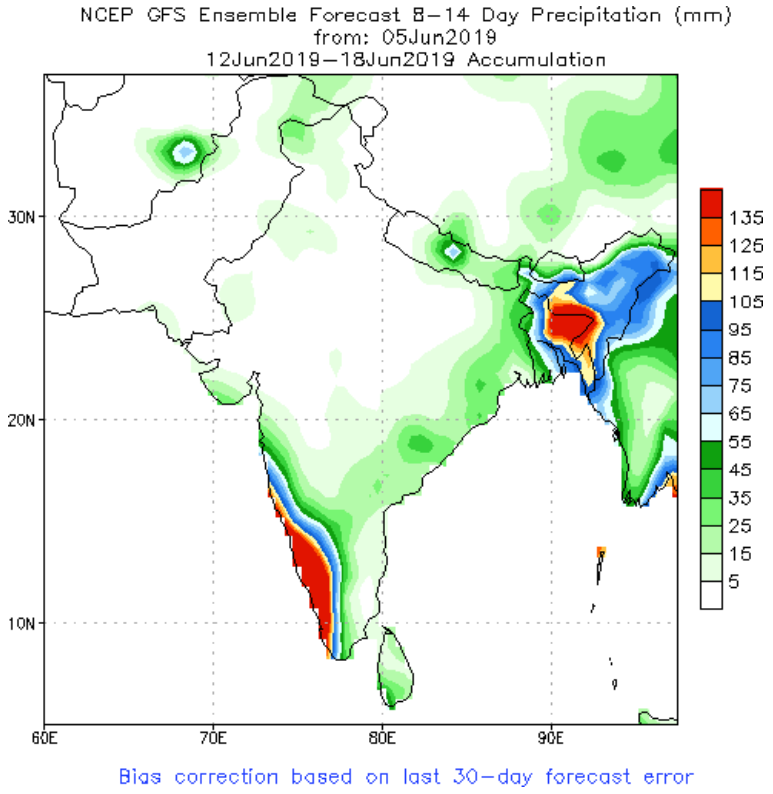
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



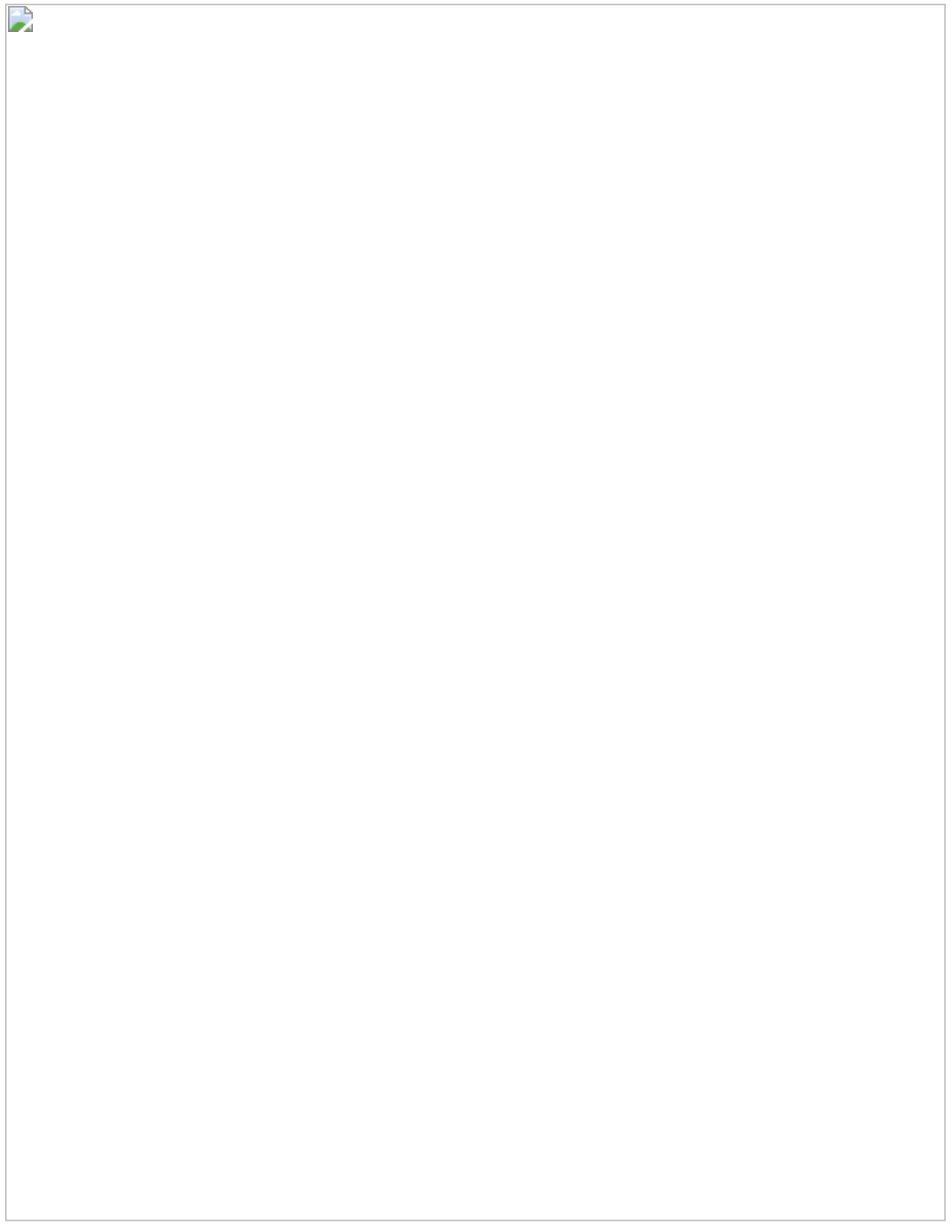
PREDICTIONS

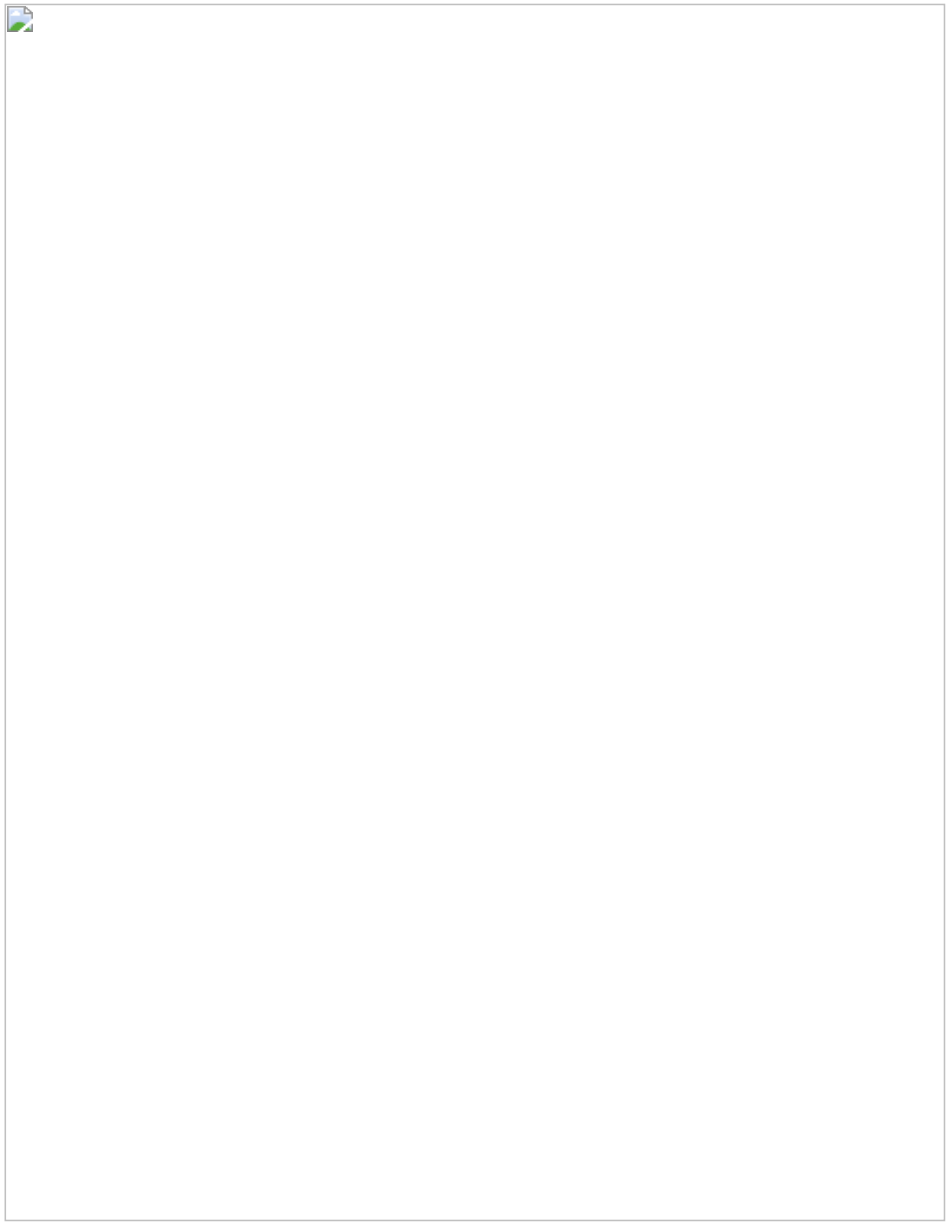
NCEP GFS 1- 14 Day prediction





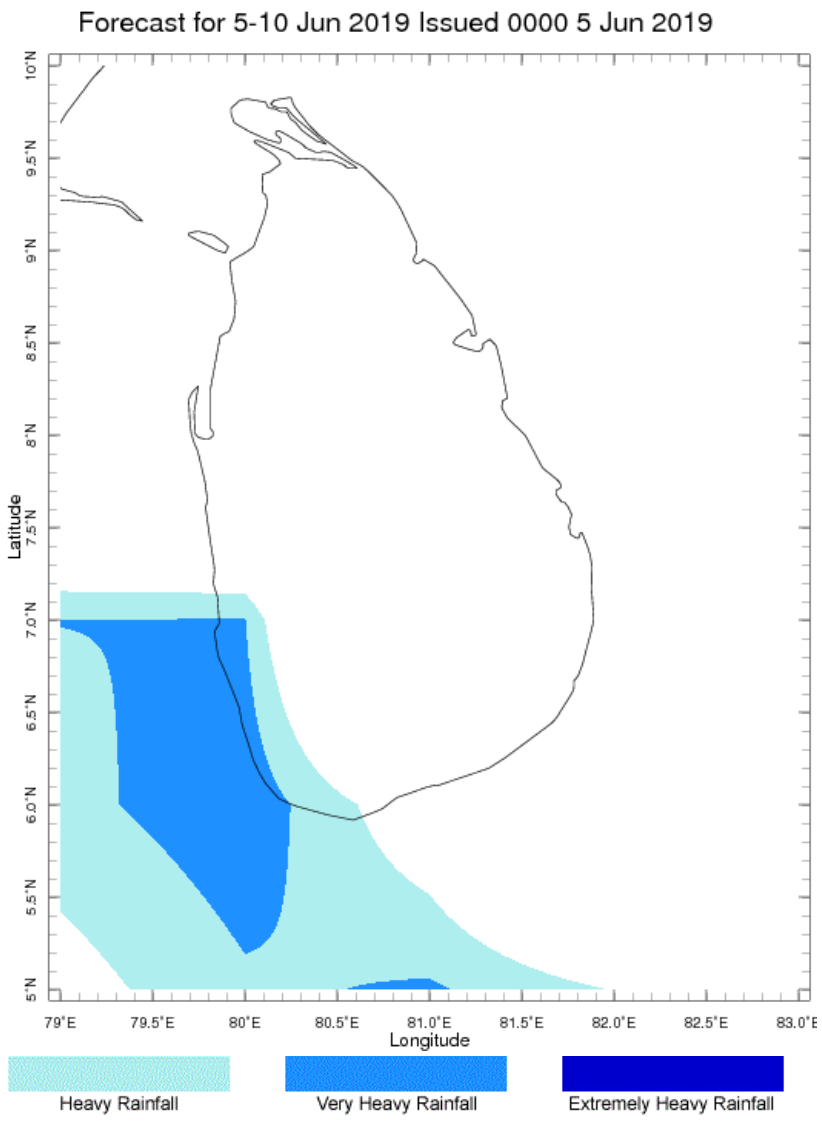
WRF Model Forecast (from IMD Chennai)



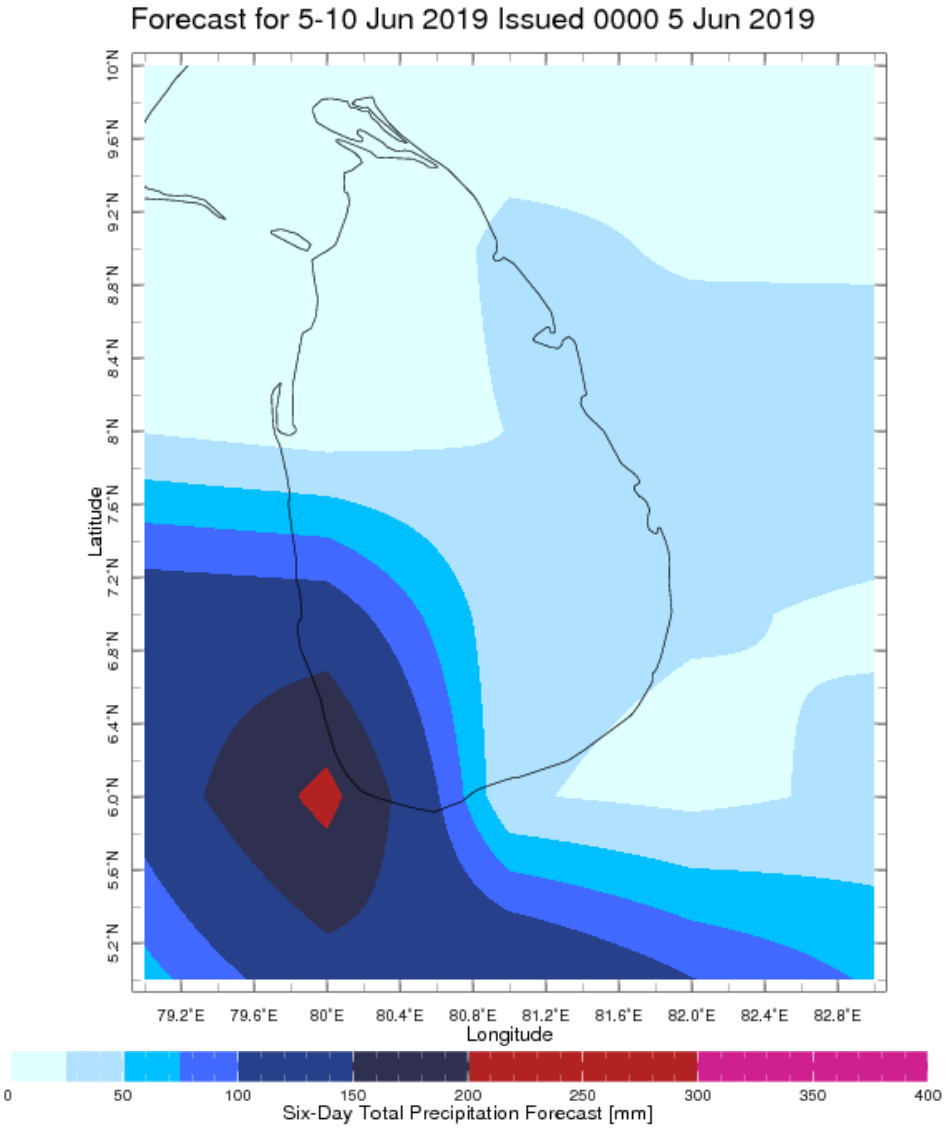


Weekly Rainfall Forecast from IRI

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