

Experimental Climate Monitoring and Prediction

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Highlights

- The NCEP weekly forecast predicts total rainfall between 75-85 mm in Batticaloa and Ampara districts during 4th -10th Apr.
- Between 21- 27 Mar: up to 100 mm of rainfall was recorded in Colombo district on the 27th.
- From 18- 24 Mar: minimum temperature of 15 °C was recorded from Nuwara Eliya district while Kurunegala, Anuradhapura, Vavuniya and Ratnapura districts recorded a maximum temperature between 35-40 °C.
- From 20- 26 Mar: up to 18 km/h, northeasterly winds were experienced by the entire island.
- Average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring Rainfall

Weekly Monitoring: On March 21st, Ratnapura district and southwestern regions of Monaragala district up to 20 mm of rainfall; and Kegalla, Nuwara Eliya, and Badulla districts up to 10 mm. No significant rainfalls were recorded in any part of the island during 22- 24 period. On the 25th, Anuradhapura, Puttalam, Kurunegala, Matale, Polonnaruwa, Trincomalee, Batticaloa, Ampara, Badulla, Monaragala, Hambantota, Nuwara Eliya and Kandy districts received up to 20 mm of rainfall; and most parts of the island up to 10 mm. On the 26th, Matale, Kalutara and Galle districts received up to 80 mm of rainfall; Kurunegala districts up to 50 mm; Batticaloa, Puttalam, Colombo and Ratnapura districts up to 30 mm; and Gampaha, Kegalla and Nuwara Eliya districts up to 20 mm. On the 27th, Colombo district received up to 100 mm of rainfall; Kalutara, Ratnapura, Puttalam and Kurunegala districts up to 80 mm; Gampaha district up to 70 mm; Galle, Kegalla and Nuwara Eliya districts up to 50 mm; and Matara district and southern regions of Anuradhapura and Badulla districts up to 30 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 75-100 mm in Kalutara, Galle and Ratnapura districts; up to 50-75 mm in Puttalam, Kurunegala, Matale, Nuwara Eliya, Gampaha and Colombo districts; and up to 25-50 mm in Anuradhapura, Kegalla, Kandy, Badulla and Matara districts. It also shows above average rainfall up to 50-100 mm in Kalutara, Galle and Ratnapura districts; and up to 25-50 mm in Puttalam, Matale, Kurunegala, Gampaha and Colombo districts. Below average rainfall up to 25-50 mm is shown for Monaragala district; and up to 10-25 mm for Kandy, Badulla, Matara and Hambantota districts.

Monthly Monitoring: During February - below average rainfall conditions were mainly experienced by northern and southeastern regions of the island. Jaffna, Vavuniya, Mullaitivu, Mannar, Trincomalee, Anuradhapura, Kandy, Nuwara Eliya and southern regions of Badulla, Monaragala and Ampara districts received up to 150 mm below average rainfall. Above average rainfall up to 150 mm was received by northern regions of Ampara, Badulla and Monaragala districts; and up to 120 mm by Gampaha, Batticaloa and Matara districts. The CPC Unified Precipitation Analysis tool shows ~100 mm of total rainfall in Matara, Ratnapura, Nuwara Eliya, Kegalla, Kurunegala, Polonnaruwa, Matale, Kandy, Badulla, Monaragala, Ampara and Gampaha districts; and up to ~75 mm in Mullaitivu, Anuradhapura, Puttalam, Colombo and Hambantota districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: March 19, 2018

In mid-March 2018, the east-central tropical Pacific still reflected weak La Niña conditions. Most of the key atmospheric variables, however, no longer show patterns suggestive of La Niña, and the east Pacific subsurface water temperature has warmed back to average. The official CPC/IRI outlook calls for a transition from La Niña to neutral conditions during the March-May season. The latest forecasts of statistical and dynamical models support this scenario.

Indian Ocean State

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

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 28th Mar-03rd Apr: Total rainfall between 25-35 mm in Batticaloa district; between 15-25 mm in Trincomalee, and Ampara districts; between 5-15 mm in Mullaitivu, Anuradhapura, Polonnaruwa and Galle districts; Up to 5 mm total rainfall rest of the island.

From 04th -10th Apr: Total rainfall between 75-85 mm in Batticaloa and Ampara districts; between 65-75 mm in Polonnaruwa district; between 55-65 mm in Trincomalee, Badulla and Ampara districts; between 45-55 mm in Anuradhapura, Matale, Kandy, Nuwara Eliya, Hambantota, Matara, Galle and Kalutara districts; between 35-45 mm in Vavuniya, Puttalam, Kurunegala, Gampaha, Colombo, Kegalle and Ratnapura districts; between 25-35 mm in Mullaitivu and Mannar districts; Up to 25 mm total rainfall rest of the island.

IMD WRF Forecast:

30th Mar: Up to 2.5 mm of rainfall in Jaffna, Mullaitivu, Vavuniya, Kilinochchi, Mannar, Puttalam, Kurunegala, Anuradhapura, Polonnaruwa, Trincomalee, Batticaloa, Ampara, Monaragala, Hambantota, Colombo and Kalutara districts

31st Mar: Up to 7.6 mm of rainfall in Puttalam district; Up to 2.5 mm in Jaffna, Mullaitivu, Vavuniya, Kilinochchi, Mannar, Puttalam, Kurunegala, Anuradhapura, Polonnaruwa, Trincomalee, Batticaloa, Ampara, Monaragala and Hambantota, Matara, Galle, Kalutara, Colombo and Gampaha districts.

IRI Model Forecast:

28th Mar – 02nd Apr: Total rainfall between 25-50 mm in Matale, Kandy, Nuwara Eliya, Badulla, Monaragala and Ratnapura districts; Up to 25 mm total rainfall rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall suppress the rainfall in Sri Lanka in the next 5 days; shall not have an effect on the following 5 days; and shall enhance the rainfall in the next 5 days.

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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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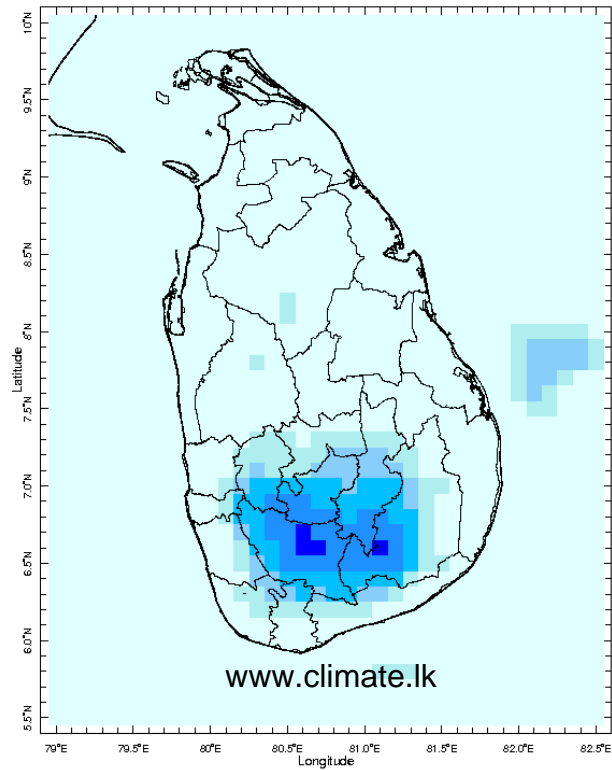
- a. Daily Rainfall Monitoring
- b. Monthly Rainfall Monitoring
- c. Dekadal (10 Day) Satellite Derived Rainfall Estimates
- d. Weekly Average SST Anomalies

2. Predictions

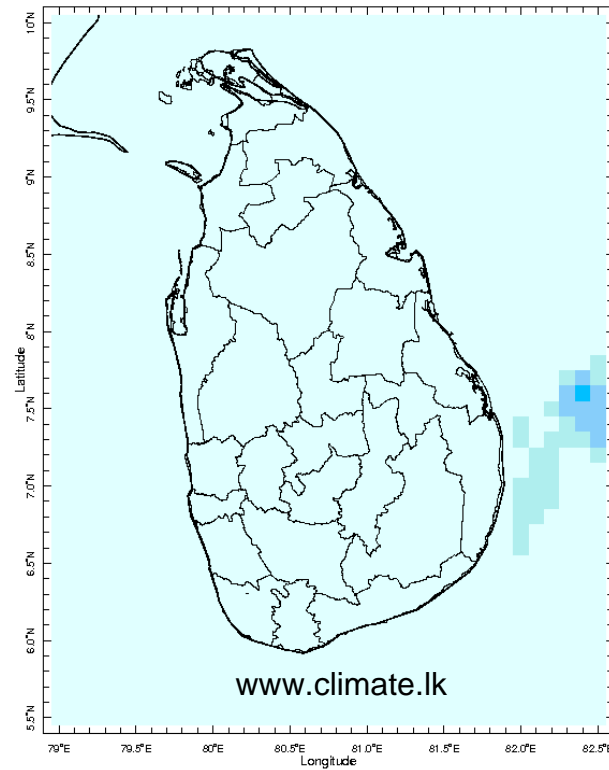
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
- d. Seasonal Predictions from IRI

Daily Rainfall Monitoring

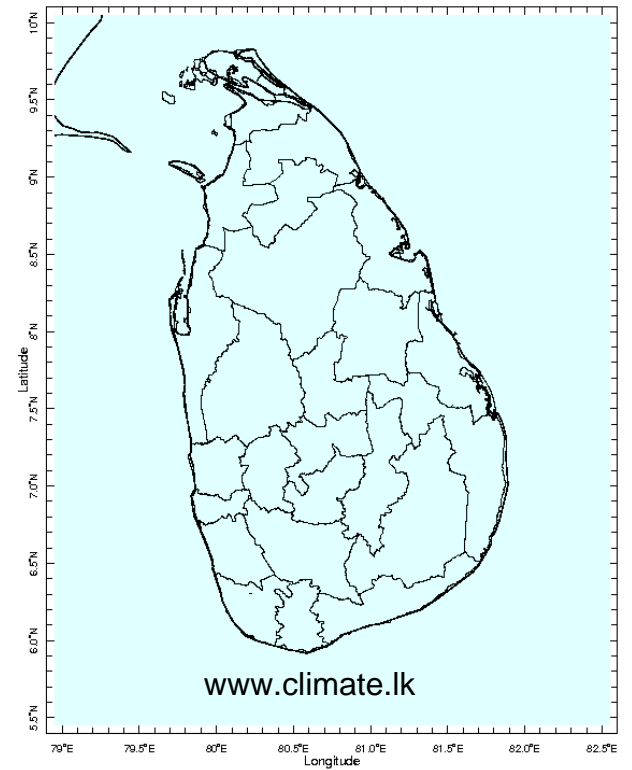
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



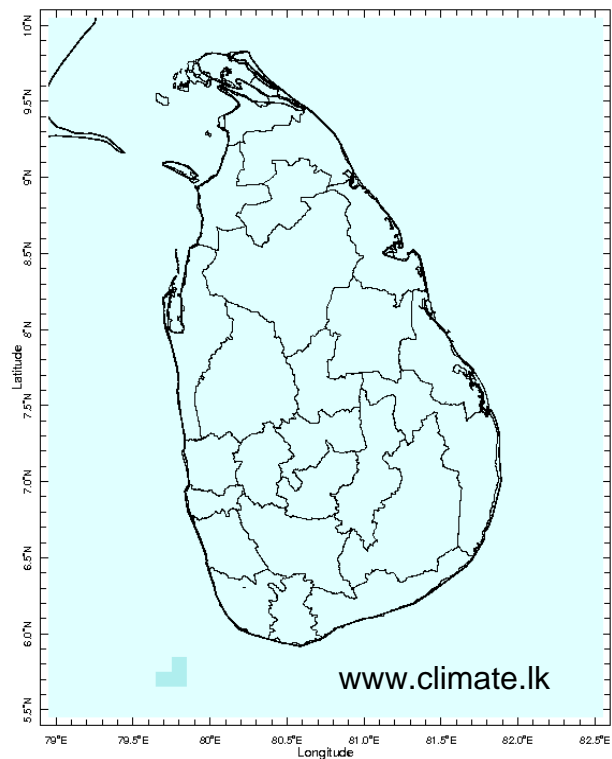
21 Mar 2018



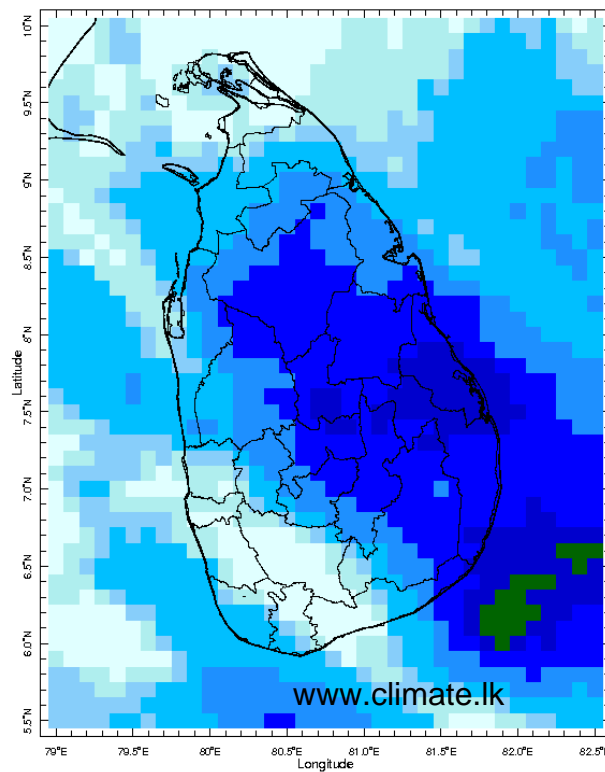
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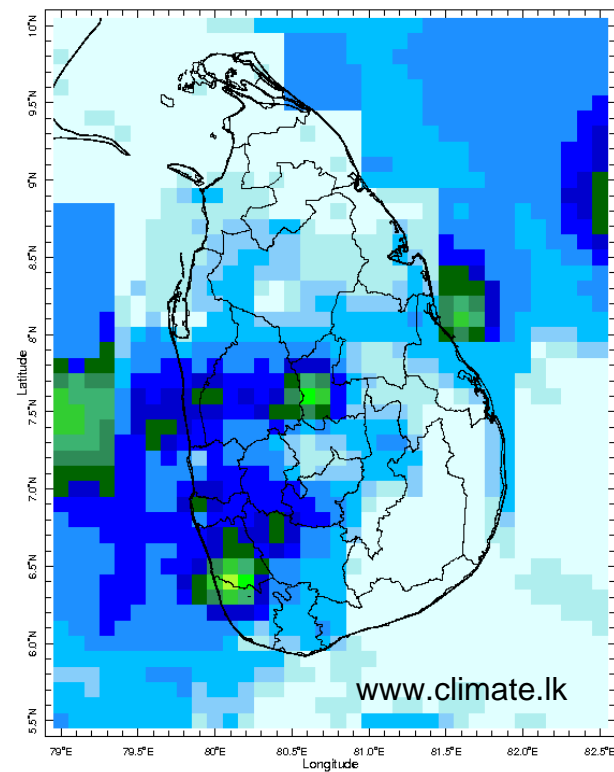
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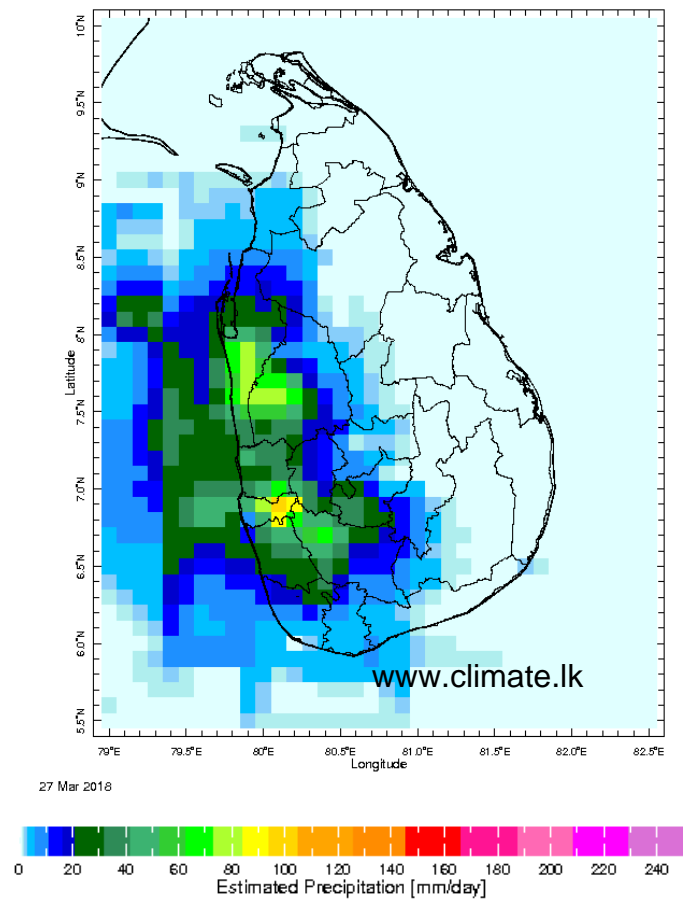
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25 Mar 2018

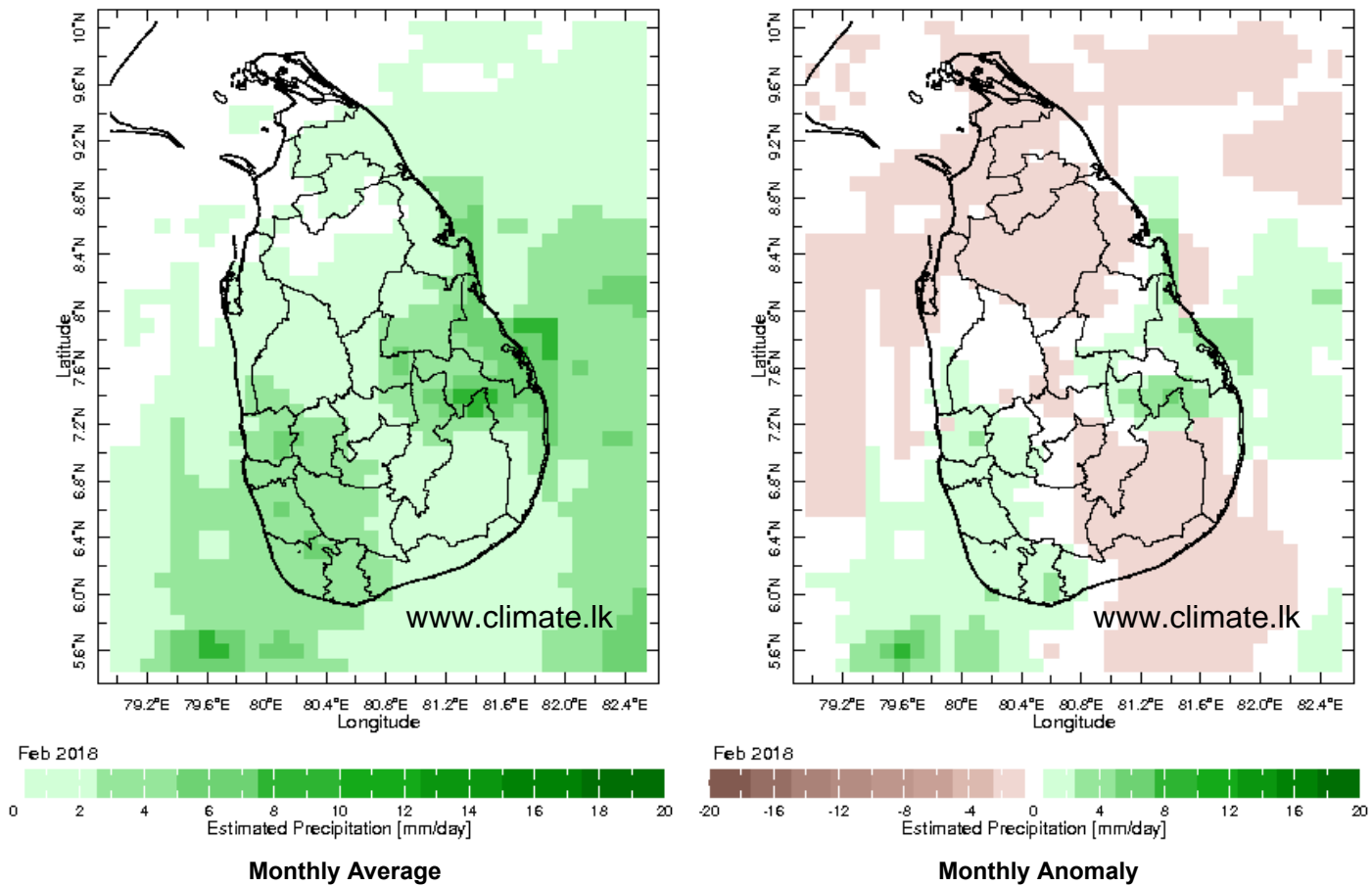


26 Mar 2018

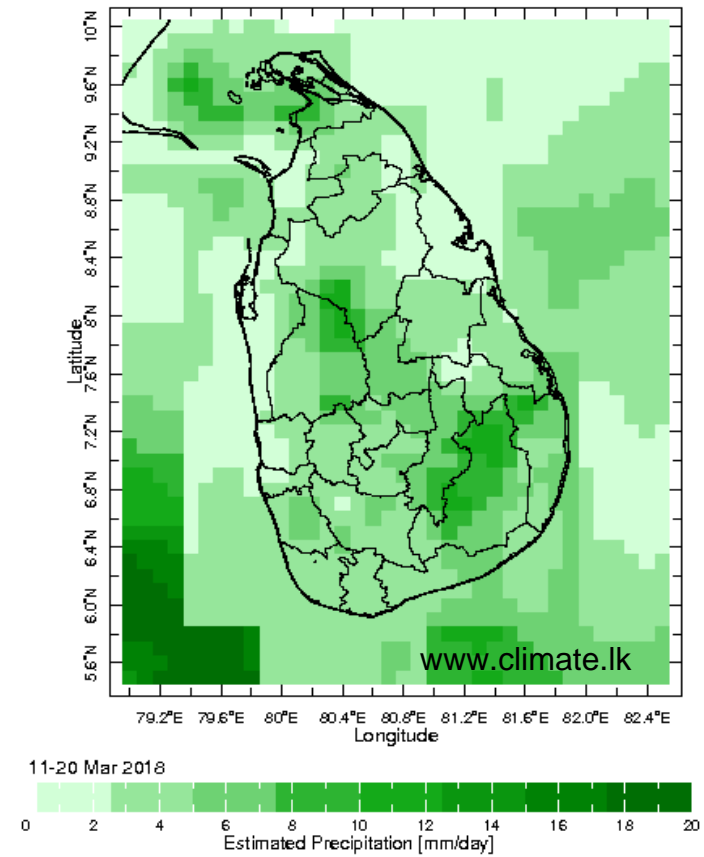
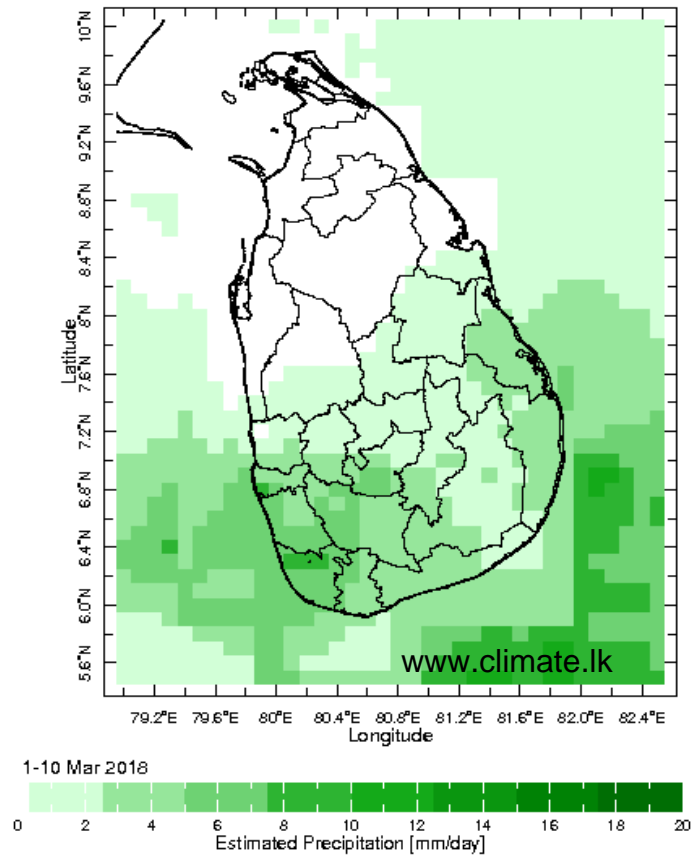


Monthly Rainfall Monitoring

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

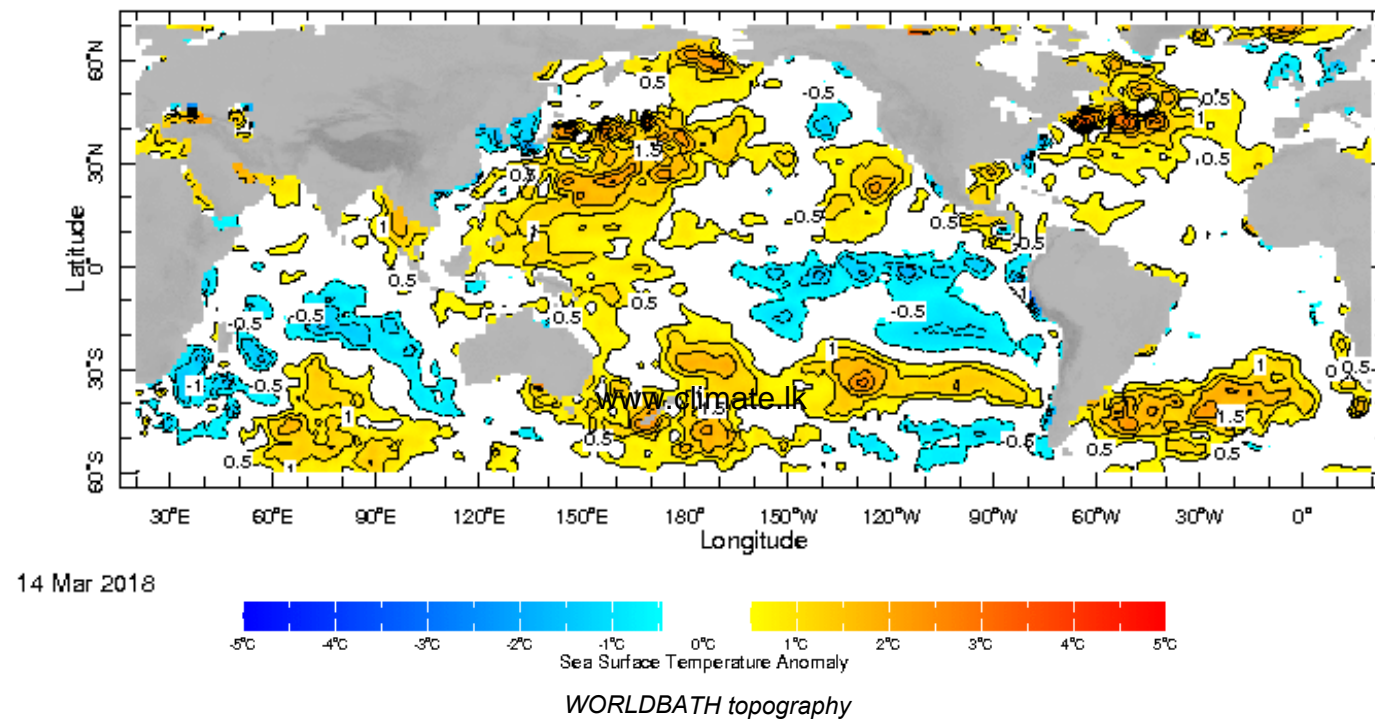


Dekadal (10 Day) Satellite Derived Rainfall Estimates



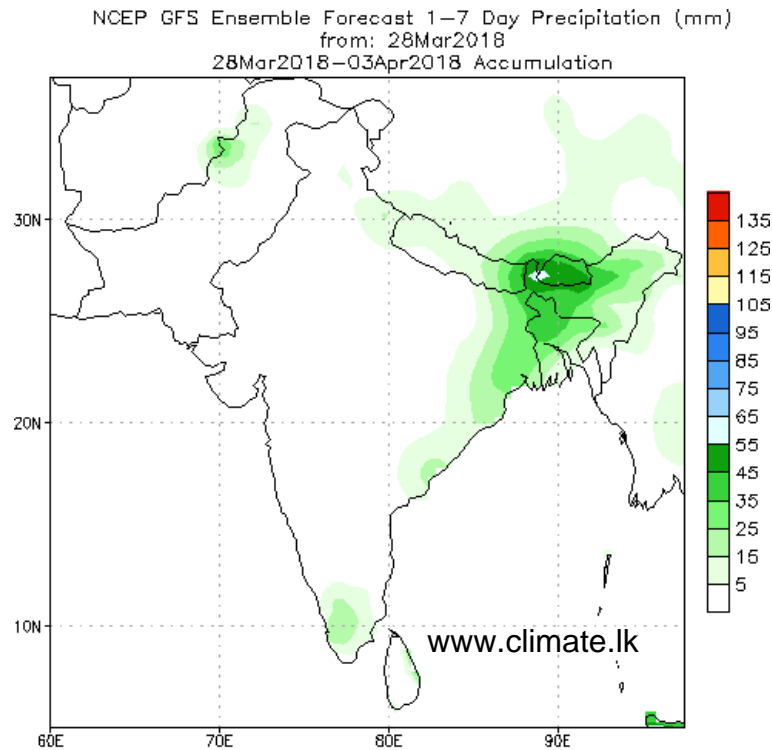
Weekly Average SST Anomalies

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

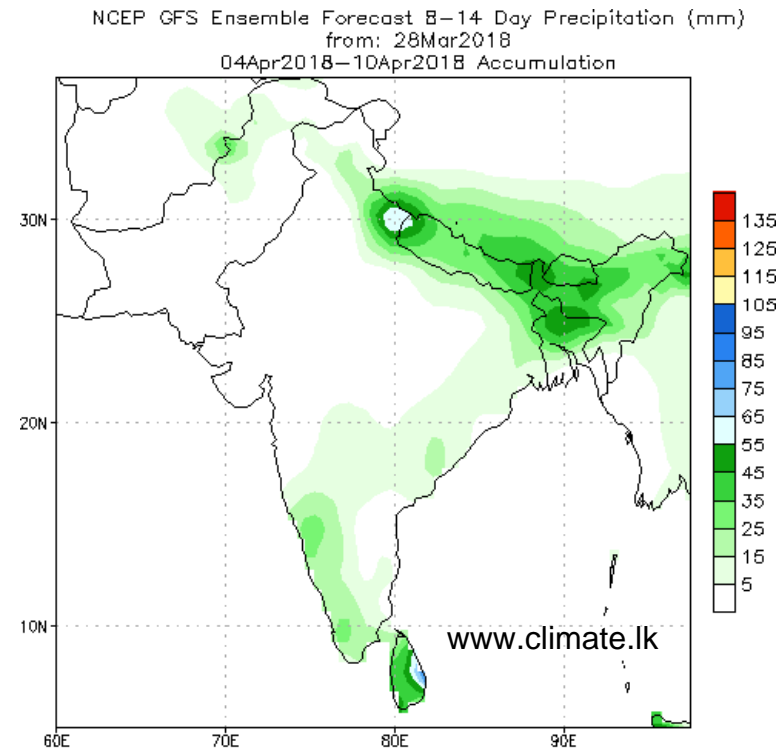


PREDICTIONS

NCEP GFS 1- 14 Day prediction



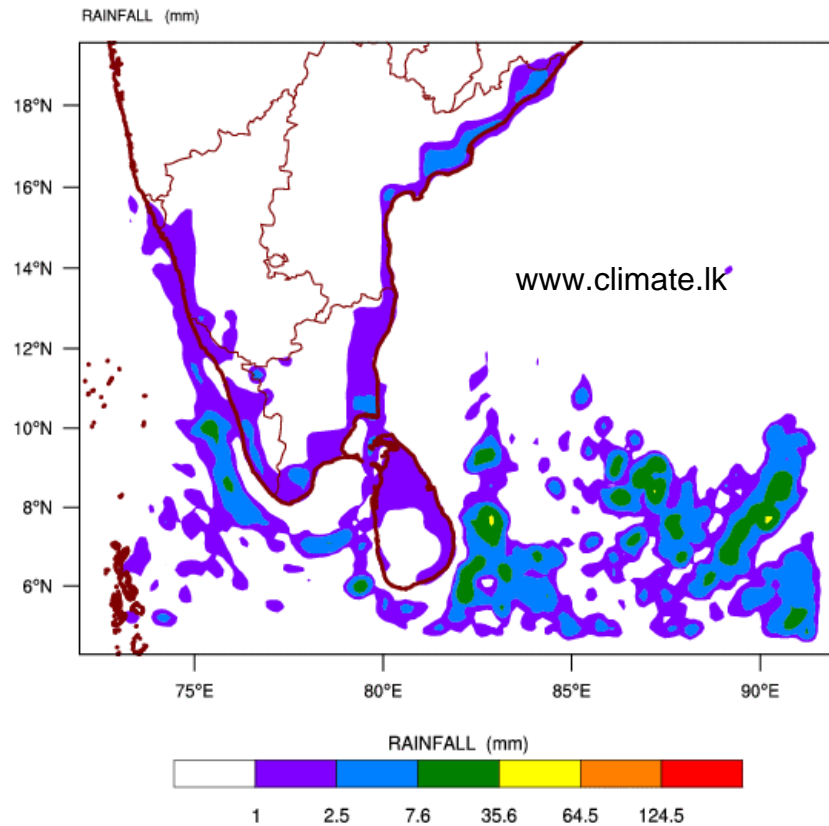
Bias correction based on last 30-day forecast error



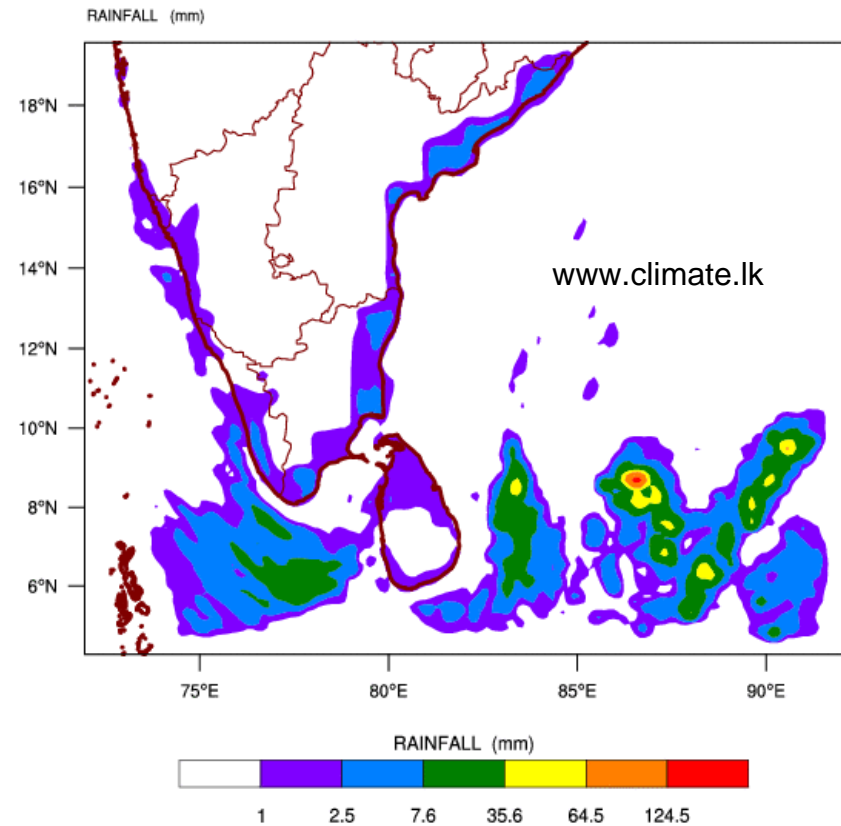
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 28-03-2018 valid for 03 UTC of 30-03-2018



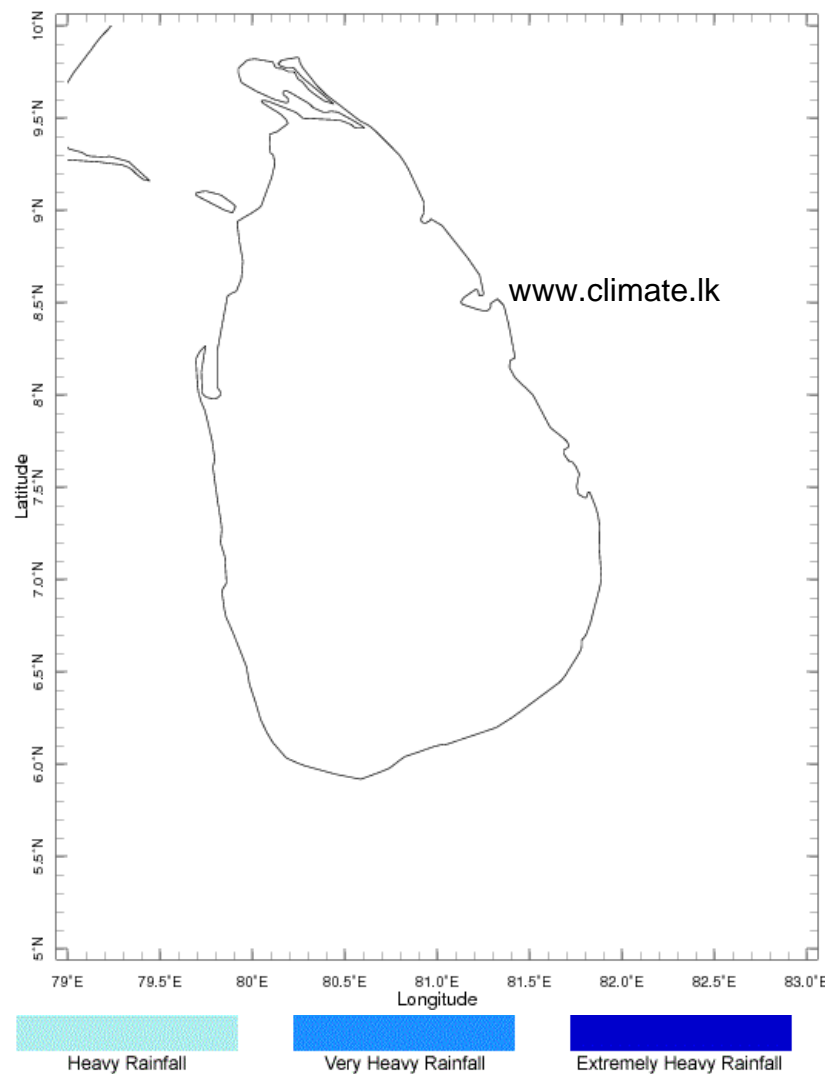
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 28-03-2018 valid for 03 UTC of 31-03-2018



Weekly Rainfall Forecast from IRI

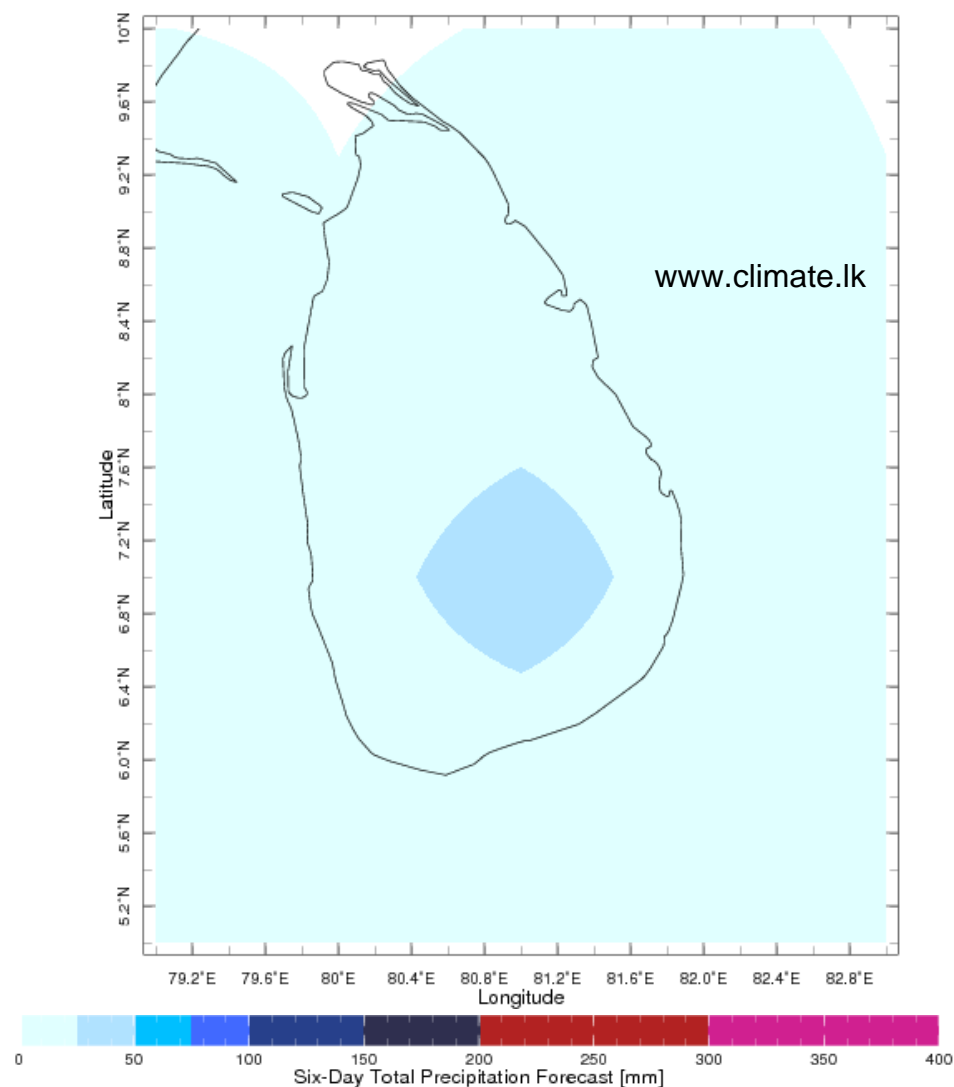
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 28 Mar 2018 - 2 Apr 2018 Issued 0000 28 Mar 2018



Extreme Rainfall Forecast

Forecast for 28 Mar 2018 - 2 Apr 2018 Issued 0000 28 Mar 2018



Total Six Day Precipitation Forecast