

Experimental Climate Monitoring and Prediction

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Highlights

- The IRI weekly forecast predicts total rainfall between 25-50 mm in Kandy, Kegalle, Nuwara Eliya, Badulla, Monaragala, and Ratnapura districts during 21st - 26th Mar.
- Between 13- 19 Mar: up to 80 mm of rainfall was recorded in Kilinochchi district on the 13th.
- From 11- 17 Mar: minimum temperature of 15 °C was recorded from Nuwara Eliya district while Kurunegala, Puttalam and Kegalla districts recorded a maximum temperature between 35-40 °C.
- From 13- 19 Mar: up to 18 km/h, easterly 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 13th, Kilinochchi district received up to 80 mm of rainfall; Jaffna and Mullaitivu districts up to 30 mm; Galle district up to 20 mm; and Gampaha, Colombo, Kalutara, Matara and several regions of Vavuniya, Ratnapura and Hambantota districts up to 10 mm. On the 14th, Jaffna, Mannar, Puttalam, Badulla and Monaragala districts received up to 20 mm of rainfall; and Nuwara Eliya, Matara and several regions of Kilinochchi, Mullaitivu, Vavuniya, Anuradhapura, Kurunegala, Kegalla, Ratnapura, Hambantota, Matale, Kandy districts up to 10 mm. On the 15th, Anuradhapura and Kurunegala districts received up to 70 mm of rainfall; Puttalam, Matale, Kandy and Badulla districts up to 50 mm; Jaffna, Mullaitivu, Vavuniya districts and southern regions of Polonnaruwa district up to 30 mm; and Kilinochchi, Mannar, Gampaha, Kegalla and Nuwara Eliya districts up to 20 mm. On the 16th, Kurunegala and Kegalla districts received up to 50 mm of rainfall; Kandy district up to 30 mm; Anuradhapura and Gampaha districts up to 20 mm; and many parts of the island up to 10 mm. On the 17th, Kalutara district received up to 20 mm of rainfall; and Colombo, Gampaha, Kegalla, Ratnapura, Galle and Matara districts up to 10 mm. On the 18th, Colombo, Kalutara and Galle districts received up to 10 mm. On the 19th, Gampaha, Colombo, Kalutara and Ratnapura districts received up to 20 mm; and Gampaha, Kegalla, Galle and Matara districts received up to 10 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 75-100 mm in Kurunegala district; up to 50-75 mm in Anuradhapura district; and up to 25-50 mm in Vavuniya, Matale, Kandy, Kegalla and Badulla districts. It also shows above average rainfall up to 50-100 mm in Kurunegala and Anuradhapura districts; and up to 25-50 mm in Badulla district. Below average rainfall up to 25-50 mm is shown for Ratnapura, Galle, Matara, Hambantota and Ampara 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 20th-26th Mar: Total rainfall between 25-35 mm in Batticaloa and Ampara districts; between 15-25 mm in Trincomalee and Polonnaruwa districts; between 5-15 mm in Galle Matara and Monaragala districts; Up to 5 mm total rainfall rest of the island.

From 27th Mar- 02nd Apr: Total rainfall between 35-45 mm in Batticaloa and Ampara districts; between 25-35 mm in Trincomalee, Polonnaruwa, Galle and Matara districts; between 15-25 mm in Monaragala and Hambantota districts; between 5-15 mm in Anuradhapura, Matale, Kandy, Nuwara Eliya, Badulla, Ratnapura, Kalutara and Colombo districts; Up to 5 mm total rainfall rest of the island.

IMD WRF Forecast:

23rd Mar: Up to 7.6 mm of rainfall in Mullaitivu, Vavuniya, Anuradhapura, Puttalam, Kurunegala and Polonnaruwa districts; Up to 2.5 mm in Jaffna, Kilinochchi, Mannar, Trincomalee, Batticaloa, Ampara, Hambantota, Matara, Galle, Kalutara, Colombo, Gampaha districts.

24th Mar: Up to 2.5 mm of rainfall in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Puttalam, Anuradhapura, Trincomalee, Polonnaruwa, Batticaloa, Ampara, Monaragala, Hambantota and Colombo districts.

IRI Model Forecast:

From 21st -26th Mar: Total rainfall between 25-50 mm in Kandy, Kegalle, Nuwara Eliya, Badulla, Monaragala and Ratnapura districts; Up to 25 mm of total rainfall rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall not have an effect on the rainfall.

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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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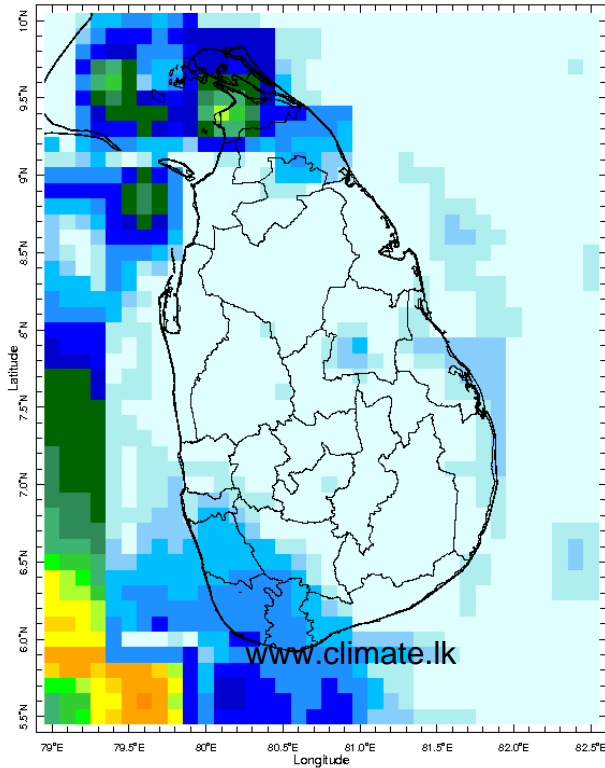
2. Predictions

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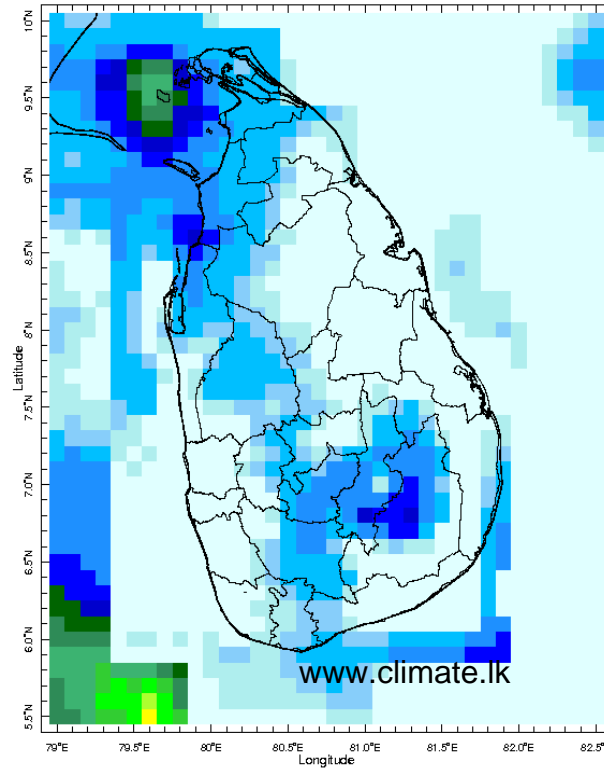
MONITORING

Daily Rainfall Monitoring

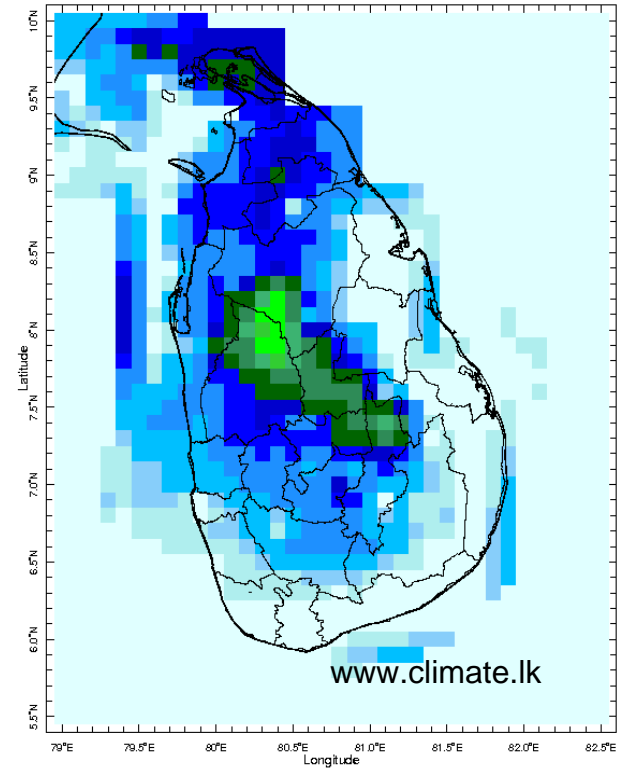
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



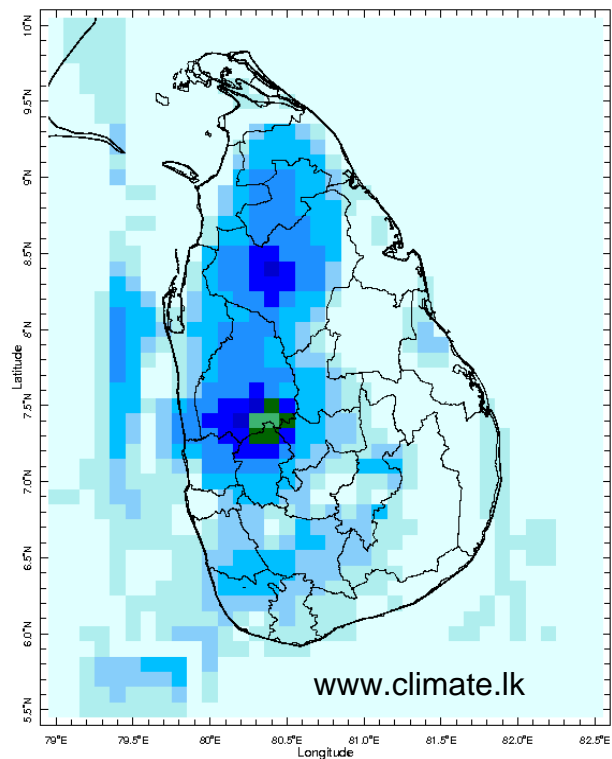
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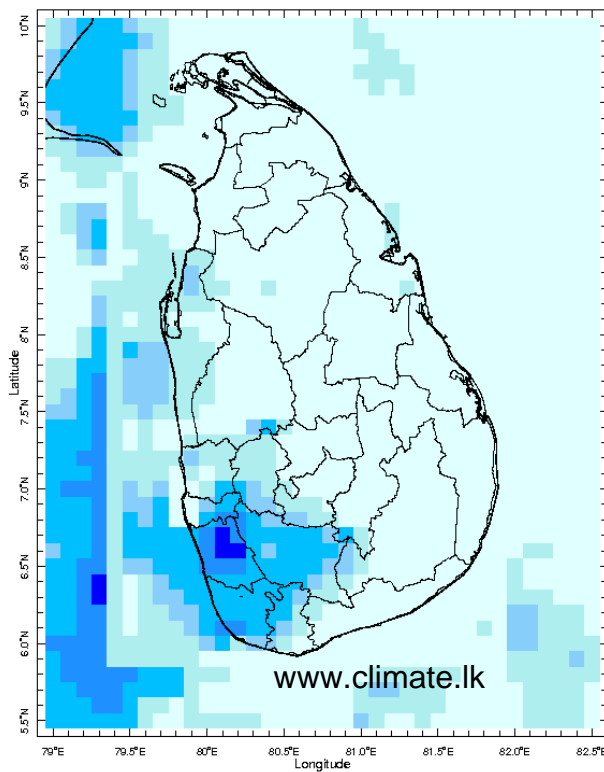
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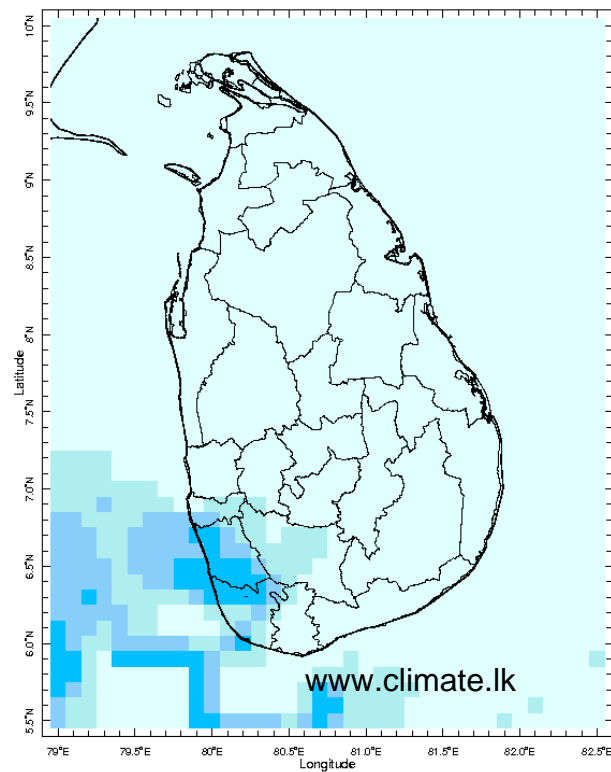
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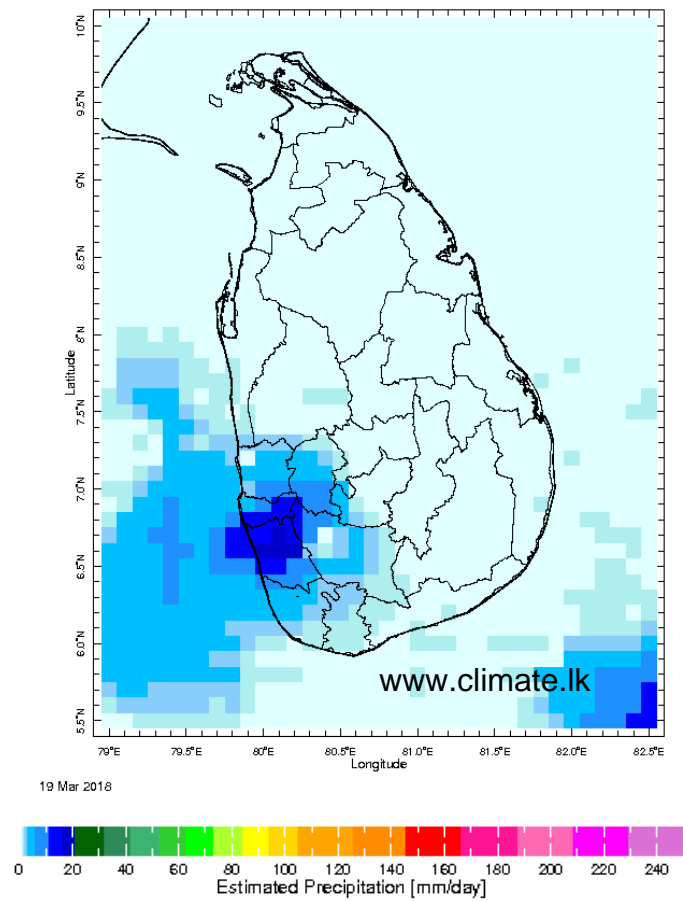
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17 Mar 2018

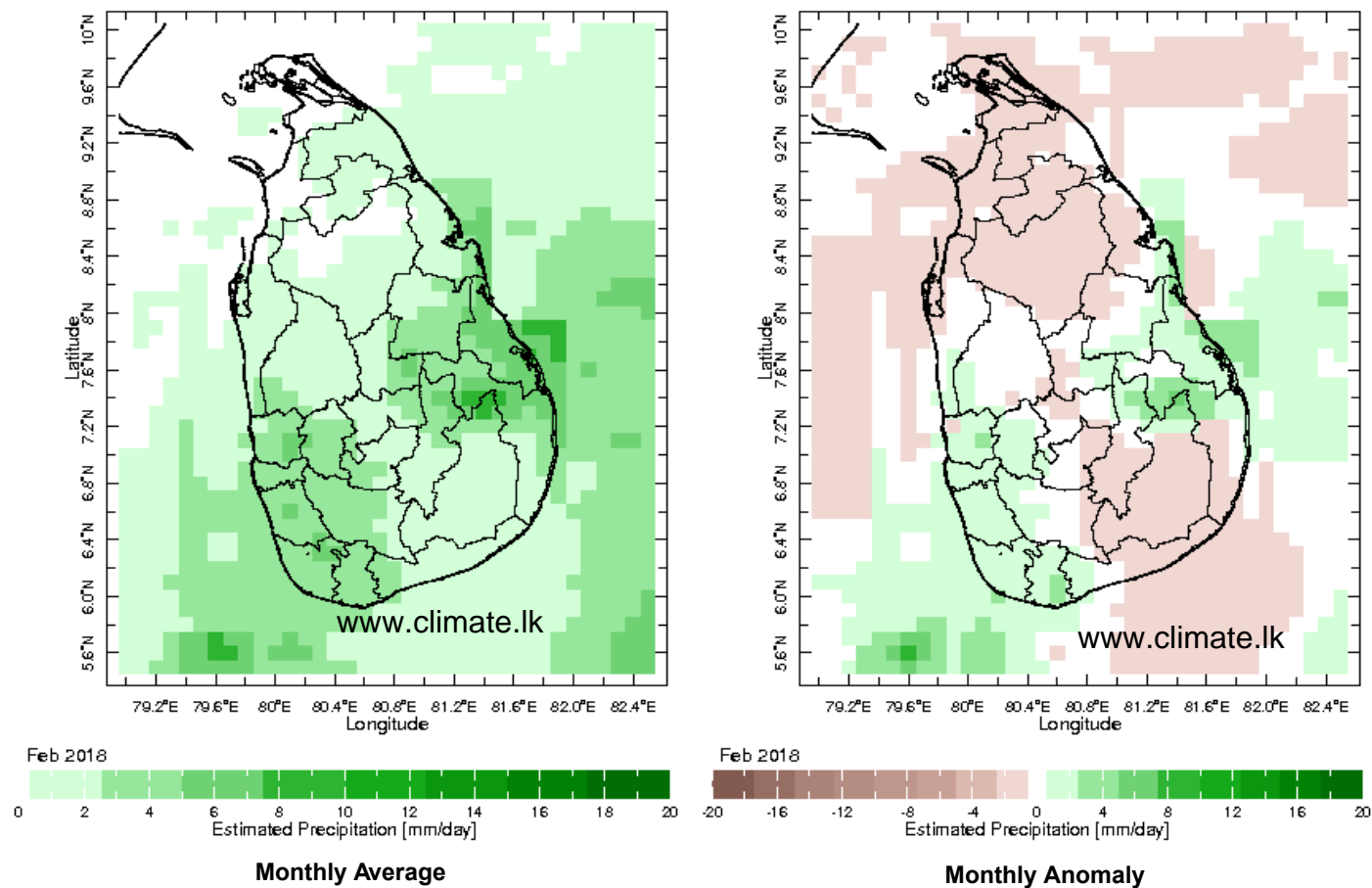


18 Mar 2018

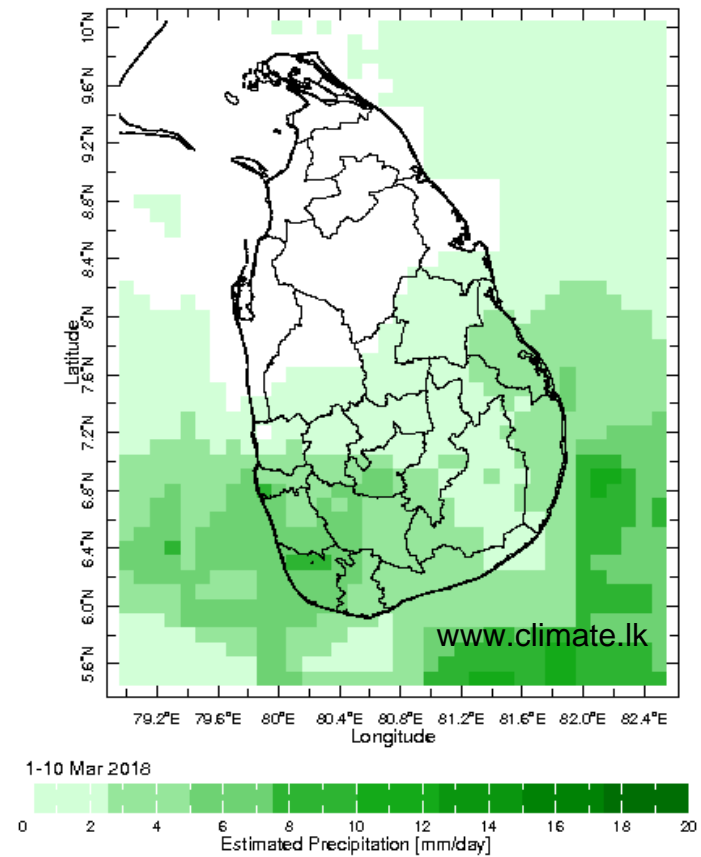
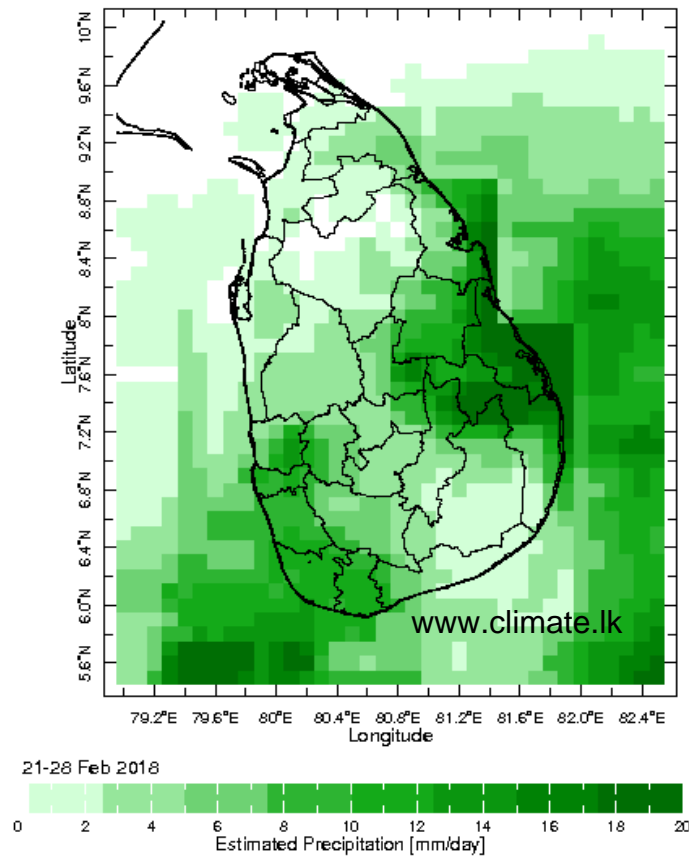


Monthly Rainfall Monitoring

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

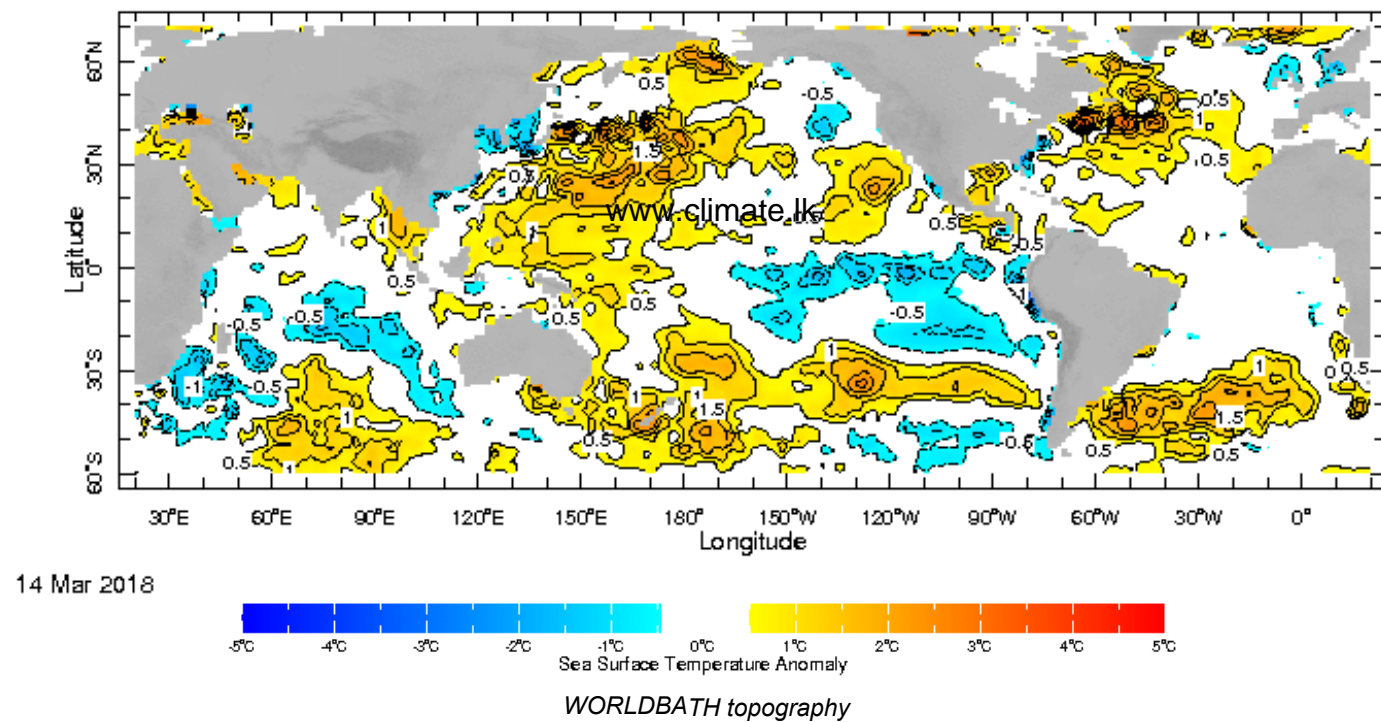


Dekadal (10 Day) Satellite Derived Rainfall Estimates



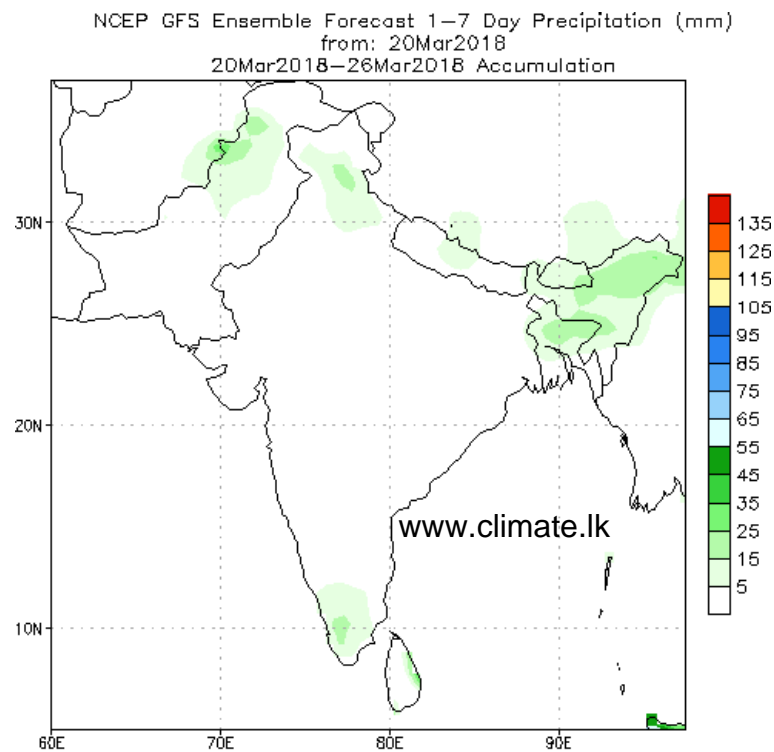
Weekly Average SST Anomalies

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

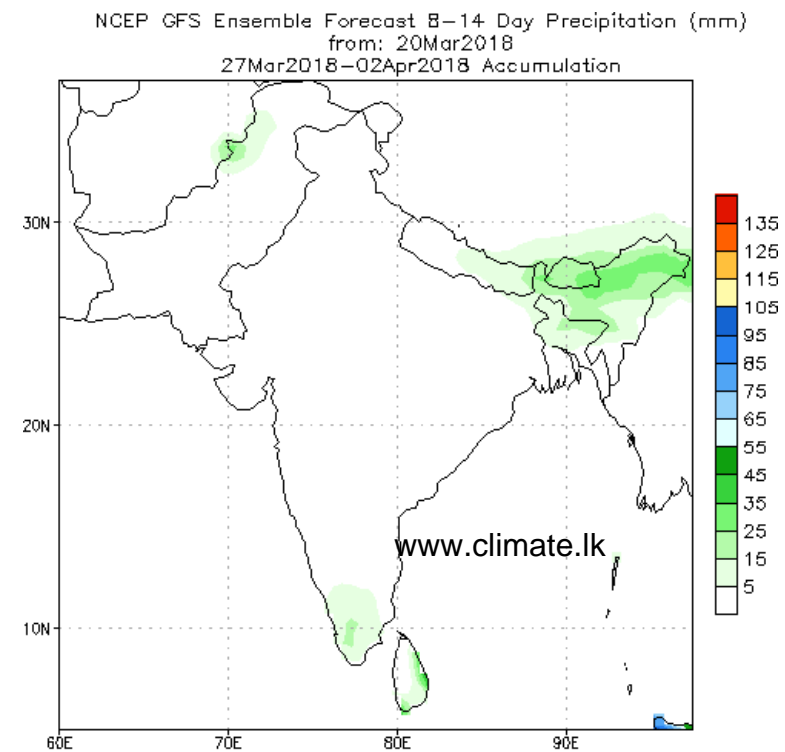


PREDICTIONS

NCEP GFS 1- 14 Day prediction



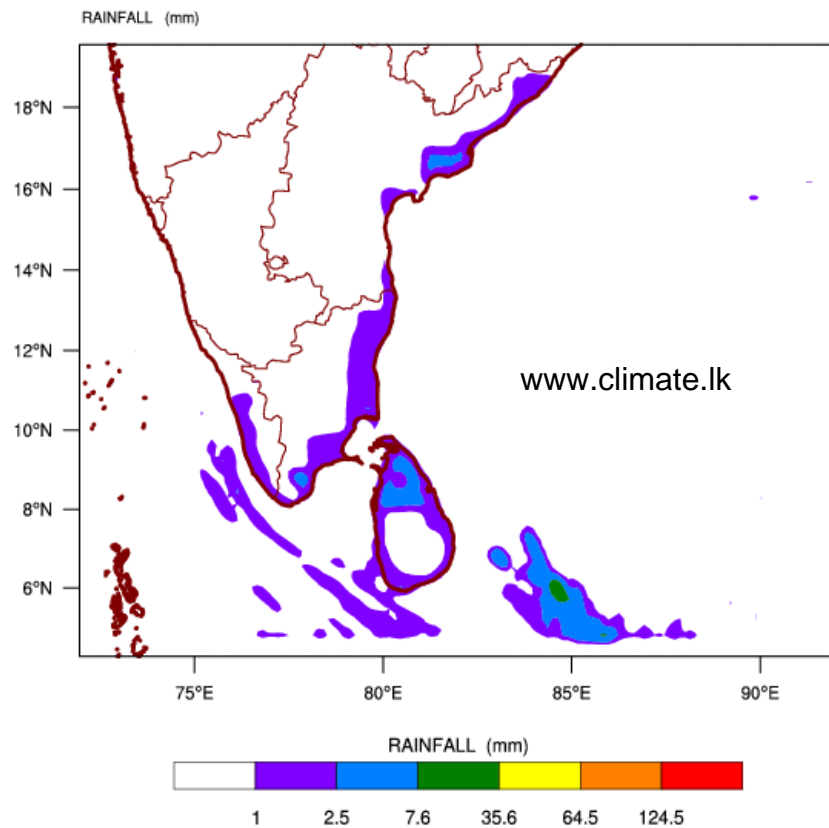
Bias correction based on last 30-day forecast error



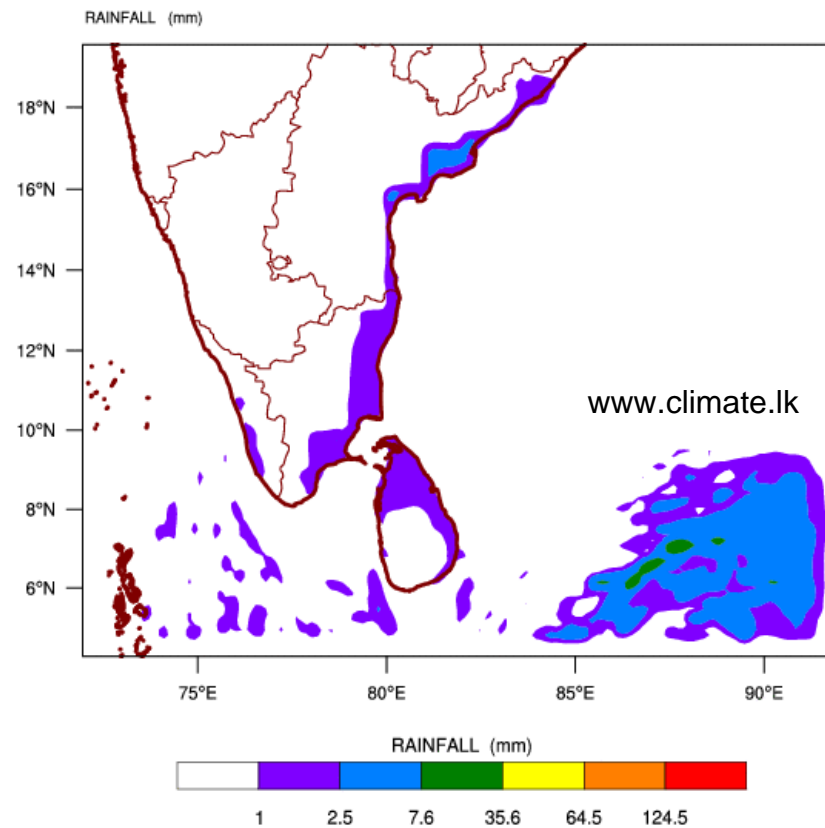
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 21-03-2018 valid for 03 UTC of 23-03-2018



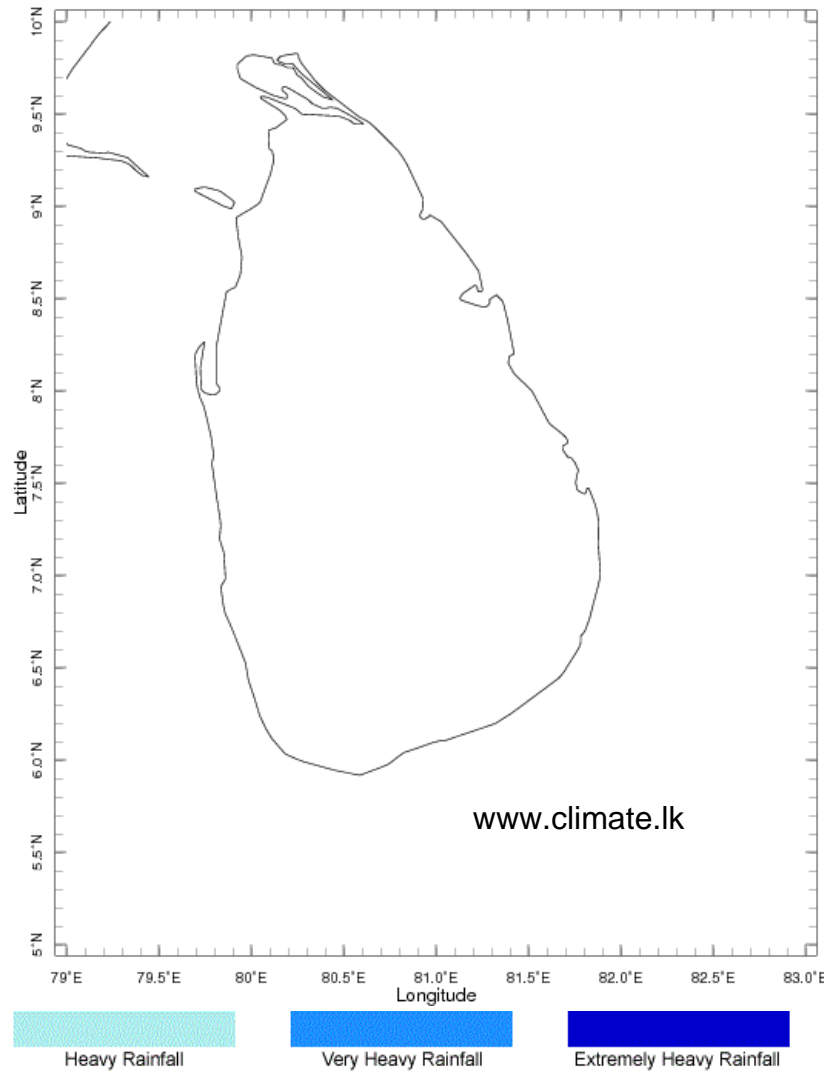
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 21-03-2018 valid for 03 UTC of 24-03-2018



Weekly Rainfall Forecast from IRI

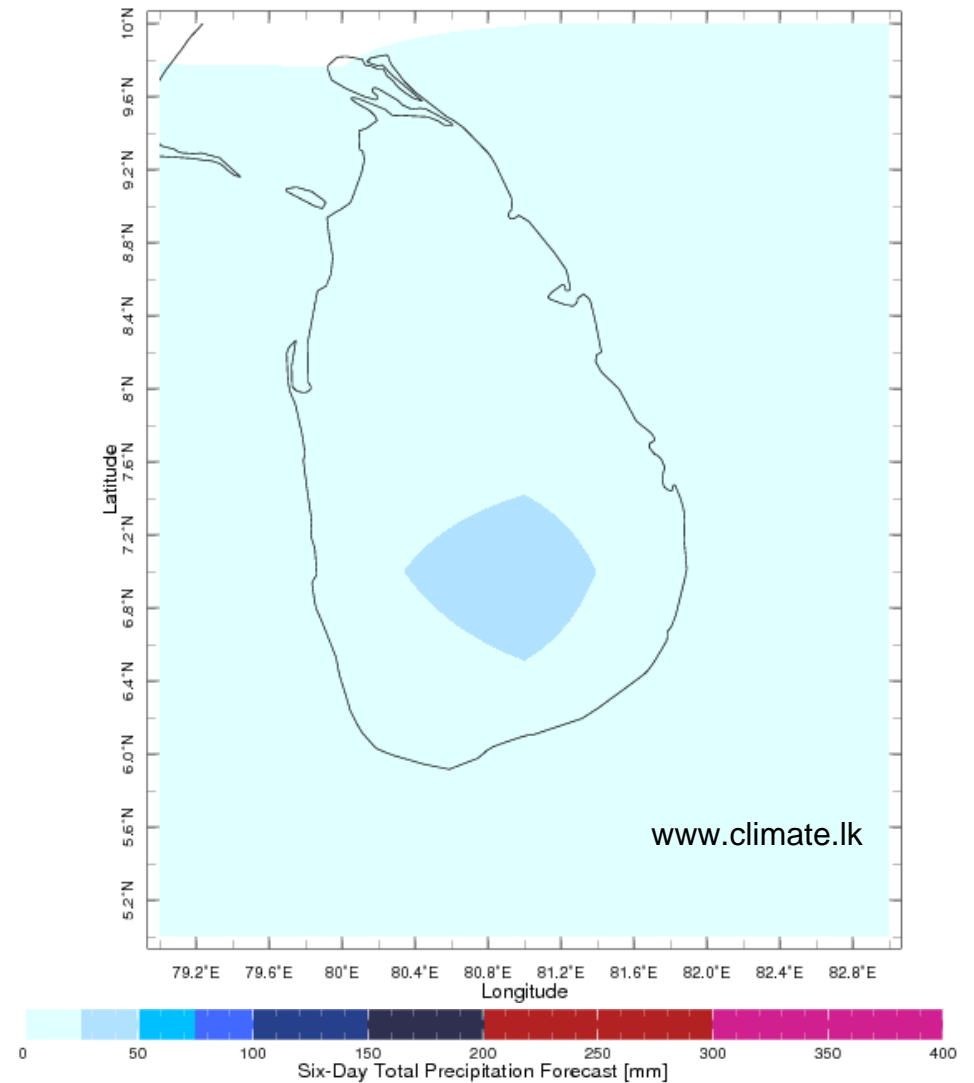
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 21-26 Mar 2018 Issued 0000 21 Mar 2018



Extreme Rainfall Forecast

Forecast for 21-26 Mar 2018 Issued 0000 21 Mar 2018



Total Six Day Precipitation Forecast