

Experimental Climate Monitoring and Prediction

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Highlights

- The IRI weekly forecast predicts total rainfall between 100-150 mm in Nuwara Eliya and Badulla districts during 4th -9th Apr.
- Between 28 Mar-3 Apr: up to 80 mm of rainfall was recorded in Kalutara district on April 1st.
- From 25-31 Mar: minimum temperature of 15 °C was recorded from Nuwara Eliya district while northwestern regions of the island recorded a maximum temperature between 35-40 °C.
- From 27 Mar-2 Apr: up to 10 km/h, southeasterly 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 28th, Anuradhapura, Colombo, Nuwara Eliya, Monaragala and Badulla districts up to 20 mm of rainfall; and Kegalla, Gampaha, Kandy, Ratnapura and Vavuniya districts up to 10 mm. On the 29th, Kurunegala, Kegalla, Ratnapura and Badulla districts received up to 30 mm of rainfall; Kurunegala, Gampaha, Colombo, Kandy and Nuwara Eliya; and most parts of the central southern regions of the island up to 10 mm. No significant rainfalls were recorded in any part of the island on the 30th. On the 31st, Passara region in Badulla district received up to 30 mm of rainfall; and Badalkumbura region of Monaragala district up to 20 mm. On April 1st, Kalutara district received up to 80 mm of rainfall; Ratnapura district up to 70 mm; Galle, Colombo, Matara, Badulla and Monaragala districts up to 50 mm; Kurunegala, Gampaha, Puttalam, Nuwara Eliya and Hambantota districts up to 30 mm; and Anuradhapura, Matale, Kandy and Kegalla districts up to 20 mm. On the 2nd, Kegalla and Ratnapura districts received up to 30 mm; and Anuradhapura, Kurunegala, Matale, Kandy, Nuwara Eliya, Gampaha and Colombo districts up to 20 mm. On the 3rd, Galle, Ratnapura and Matara districts received up to 30 mm of rainfall; and Hambantota and Kalutara districts up to 20 mm.

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

Monthly Monitoring: During March - below average rainfall conditions were mainly experienced by northern and central regions of the island. Vavuniya, Mullaitivu, Mannar, Trincomalee, Anuradhapura, Polonnaruwa, Kurunegala, Puttalam, Kandy, Nuwara Eliya, Ratnapura, Matara and Kegalla and western regions of Matale district received up to 120 mm below average rainfall. Above average rainfall up to 90 mm was received by Jaffna, Kilinochchi, Colombo, Galle, Hambantota, Badulla, Monaragala, Ampara and Trincomalee districts. The CPC Unified Precipitation Analysis tool shows ~300 mm of total rainfall in Kalutara, Galle and Ratnapura districts; up to 200 mm Kurunegala, Matale, Kegalla, Nuwara Eliya, Badulla and Monaragala; up to 100 mm Puttalam, Anuradhapura, Polonnaruwa, Trincomalee, Ampara and Hambantota districts; and up to ~75 mm in Jaffna, Kilinochchi and Vavuniya 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 4th -10th Apr: Total rainfall between 55-65 mm in Kurunegala, Gampaha, Kegalle, Colombo and Ratnapura districts; between 45-55 mm in Anuradhapura, Puttalam, Polonnaruwa, Batticaloa, Ampara, Monaragala, Badulla, Galle, Kalutara, Nuwara Eliya, Kandy and Matale districts; between 35-45 mm in Matara, Trincomalee, Mannar and Vavuniya districts; Up to 35 mm total rainfall rest of the island.

From 11th – 17th Apr: Total rainfall between 45-55 mm in Gampaha, Colombo, Kalutara, Ratnapura and Nuwara Eliya districts; between 35-45 mm in Puttalam, Kurunegala, Matale, Kandy Badulla, Ampara, Monaragala Matara and Galle districts; between 25-35 mm in Mannar, Vavuniya, Anuradhapura, Polonnaruwa, Batticaloa and Hambantota districts; Up to 25 mm total rainfall rest of the island.

IMD WRF Forecast:

5th Apr: Up to 7.6 mm of rainfall in Anuradhapura, Kurunegala, Ampara, Monaragala and Hambantota districts; Up to 2.5 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Trincomalee, Puttalam, Polonnaruwa, Batticaloa, Badulla, Gampaha, Colombo, Kalutara, Galle and Matara districts.

6th Apr: Up to 7.6 mm of rainfall in Ampara, Monaragala and Hambantota districts; Up to 2.5 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Trincomalee, Puttalam, Anuradhapura, Kurunegala, Polonnaruwa, Batticaloa, Badulla, Gampaha, Colombo and Kalutara districts.

IRI Model Forecast:

From 4th -9th Apr: Total rainfall between 100-150 mm in Nuwara Eliya and Badulla districts; between 75-100 mm in Kandy and Monaragala districts; between 50-75 mm in Polonnaruwa, Kurunegala, Matale, Ampara, Ratnapura, Colombo, Gampaha and Kegalla districts; between 25-50 mm in Trincomalee, Anuradhapura, Batticaloa, Hambantota, Matara, Galle, Kalutara, and Puttalam 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 and shall enhance the rainfall in the next 10 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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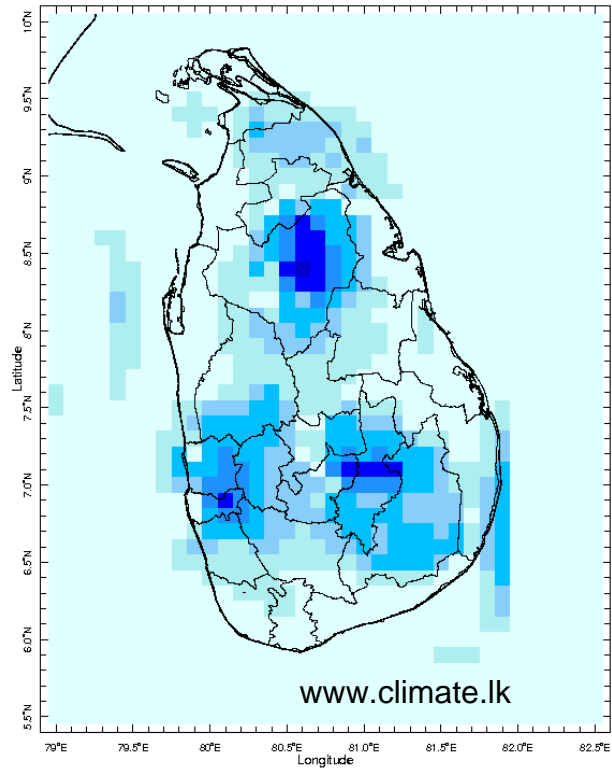
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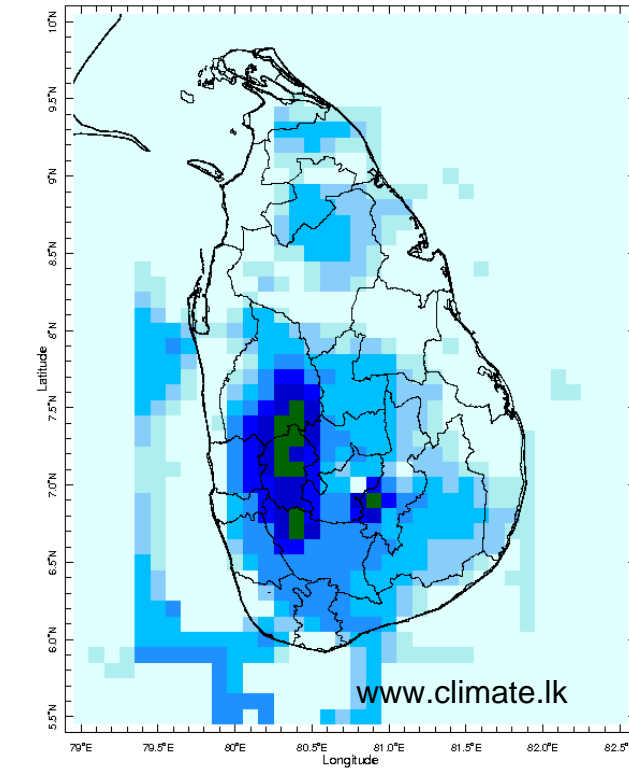
MONITORING

Daily Rainfall Monitoring

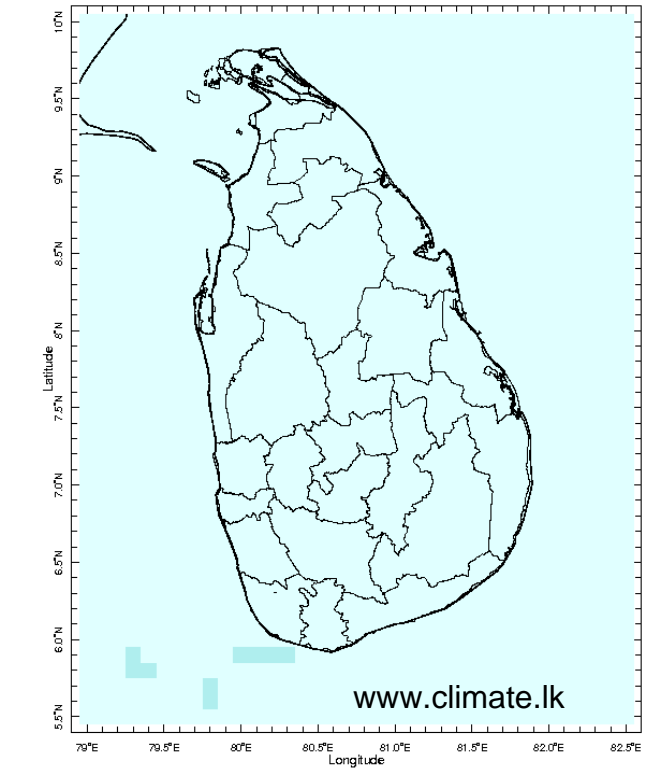
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



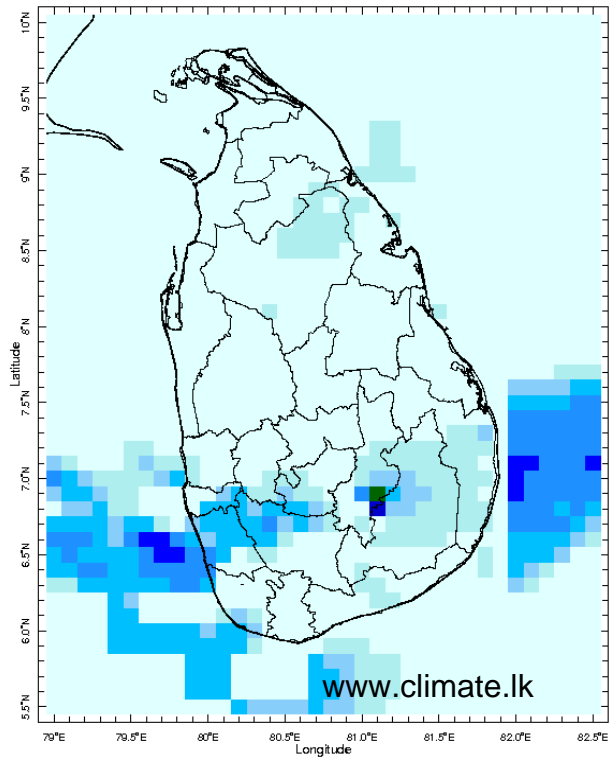
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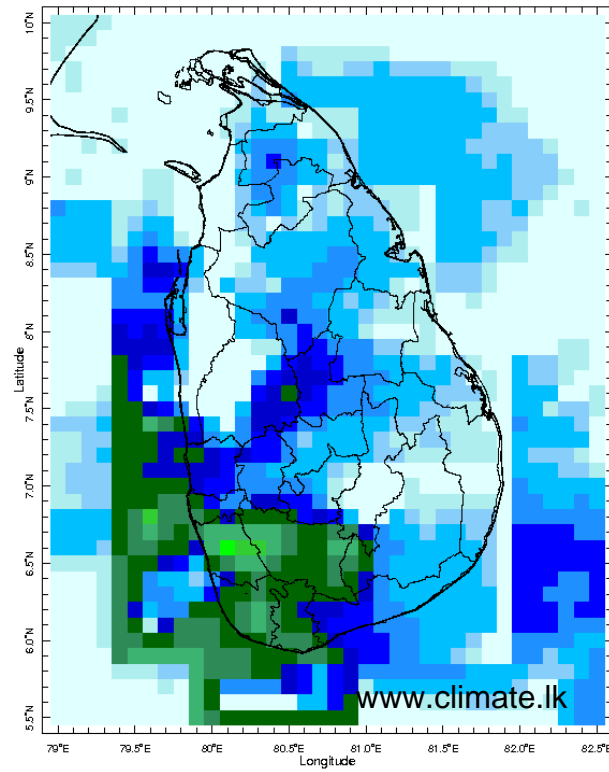
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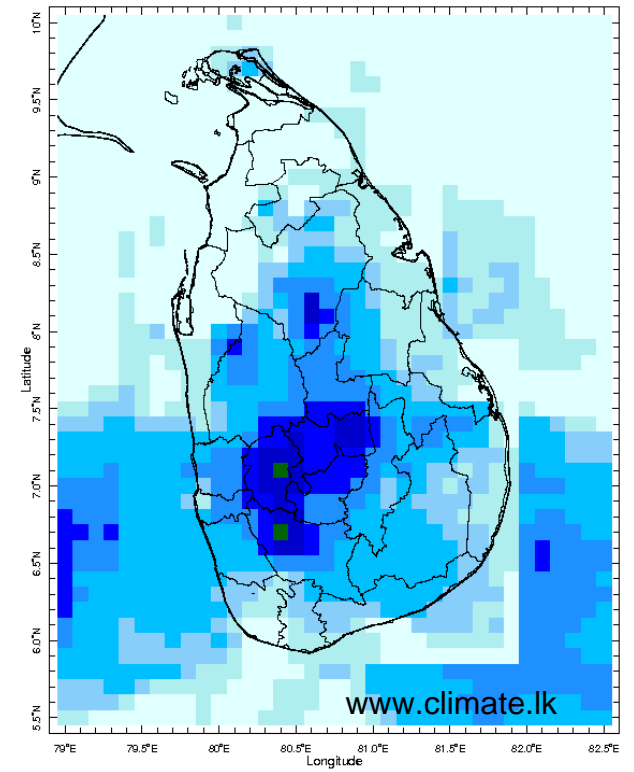
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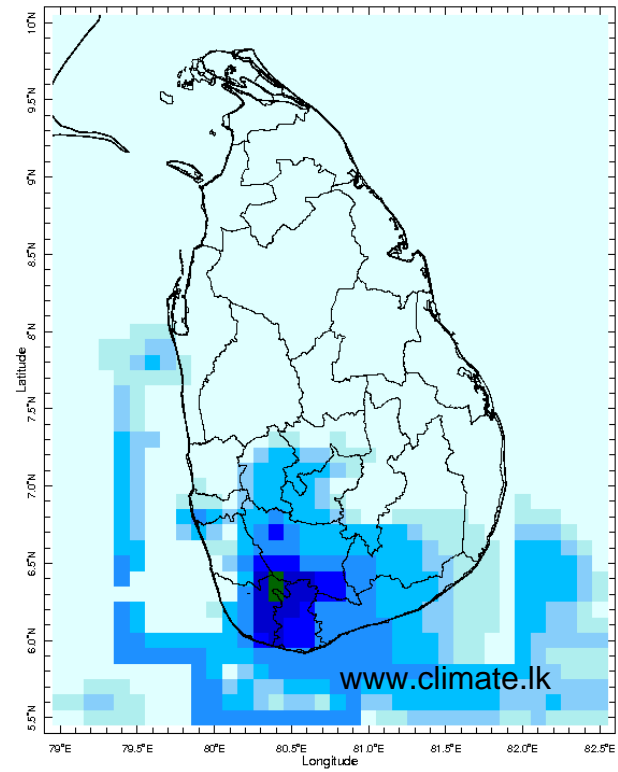
31 Mar 2016



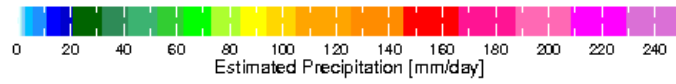
1 Apr 2016



2 Apr 2016

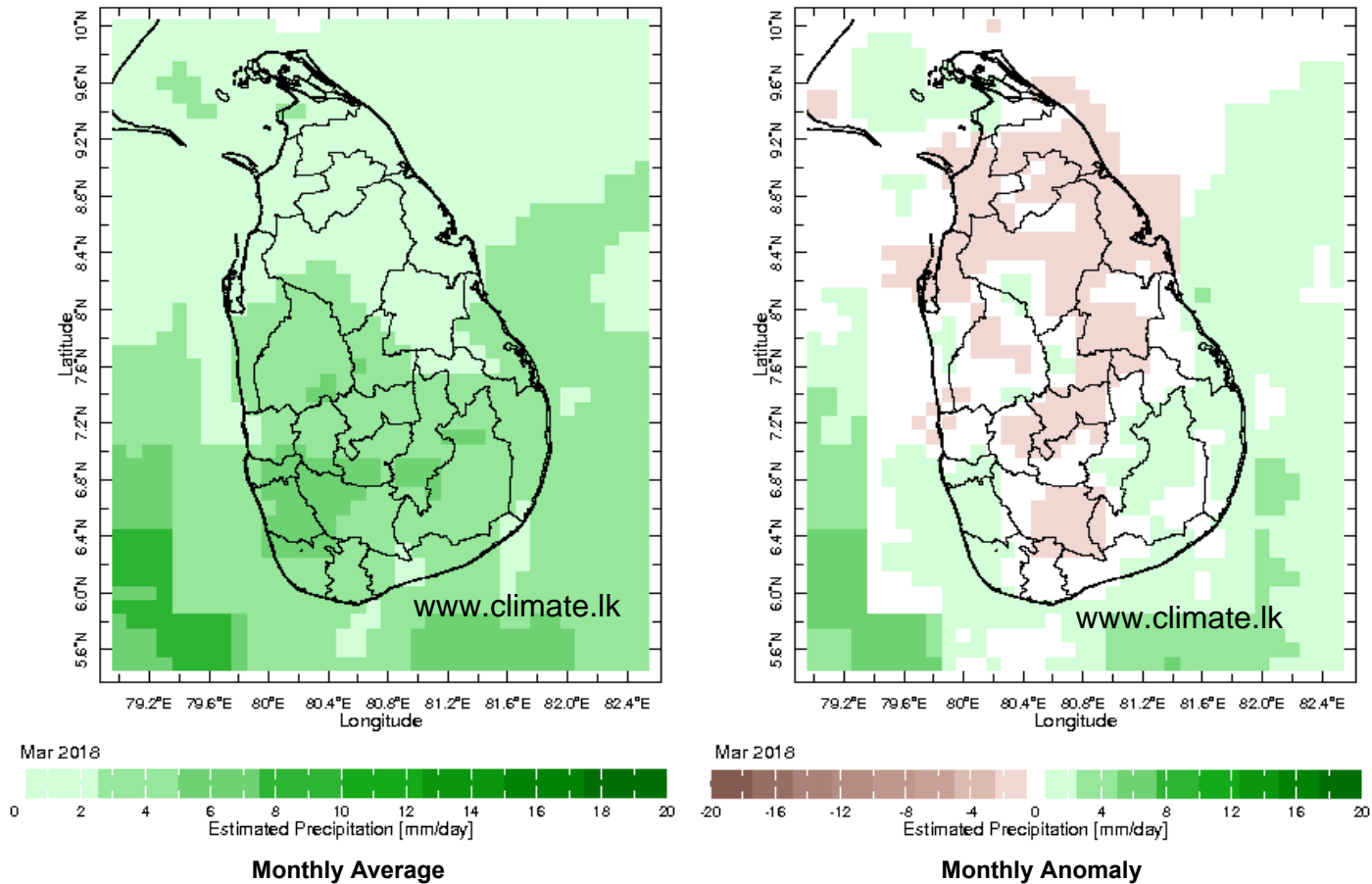


3 Apr 2018

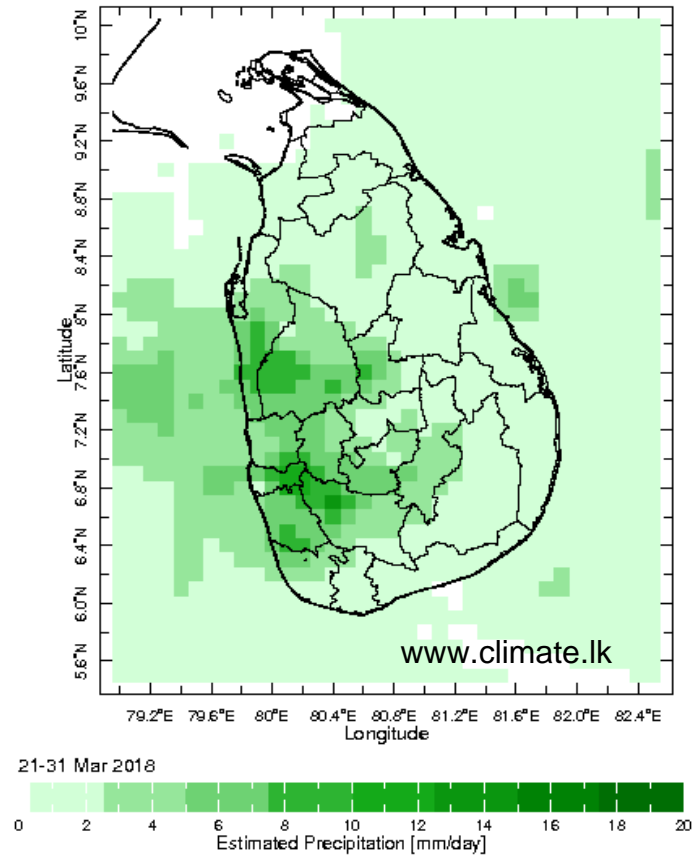
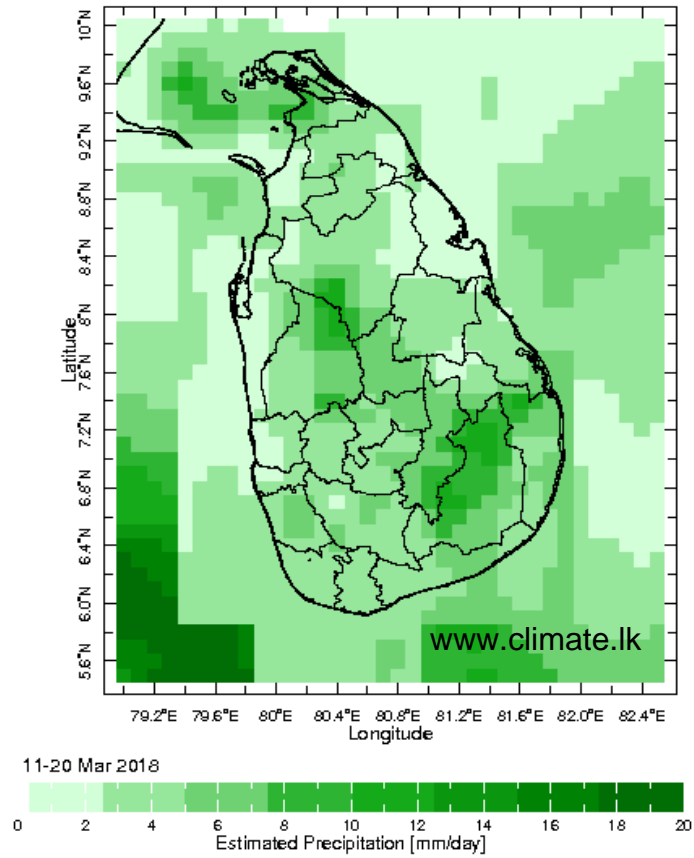


Monthly Rainfall Monitoring

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

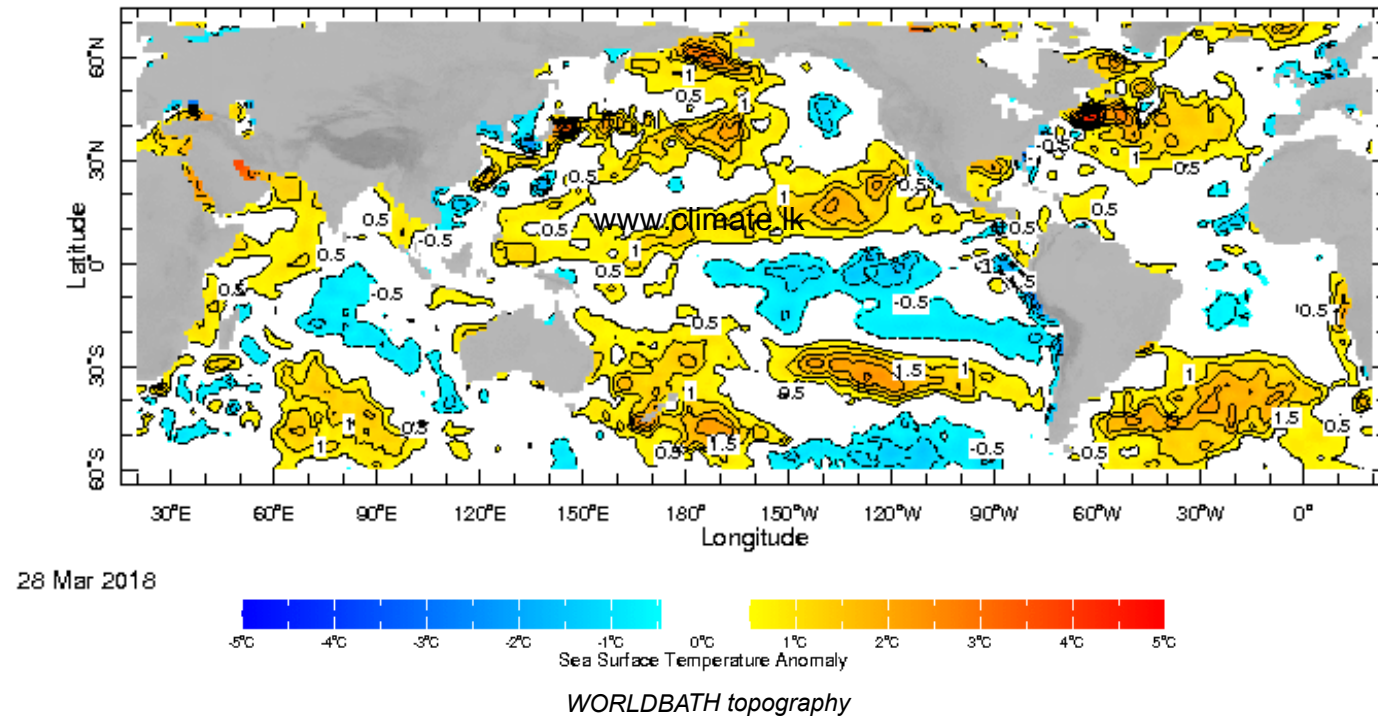


Dekadal (10 Day) Satellite Derived Rainfall Estimates

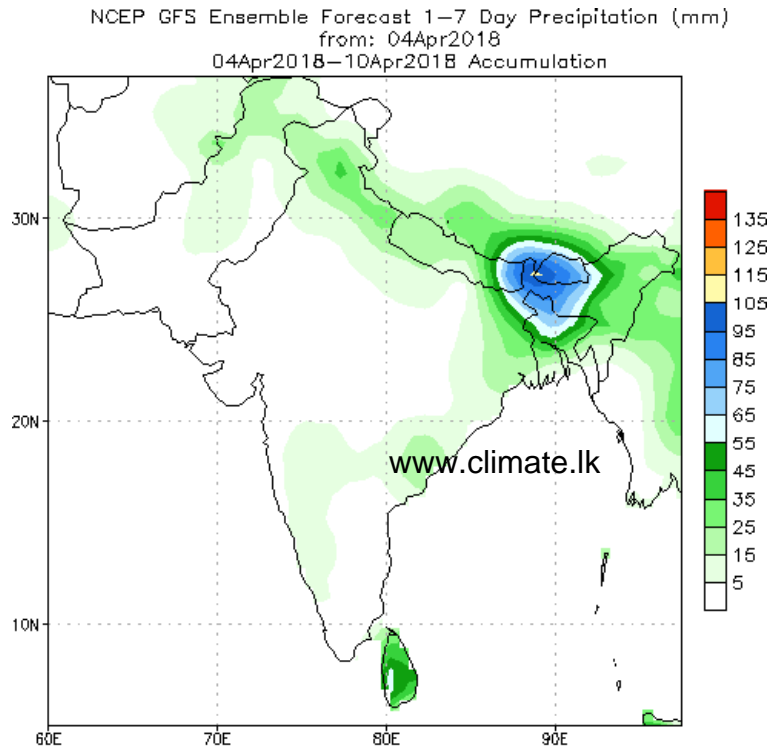


Weekly Average SST Anomalies

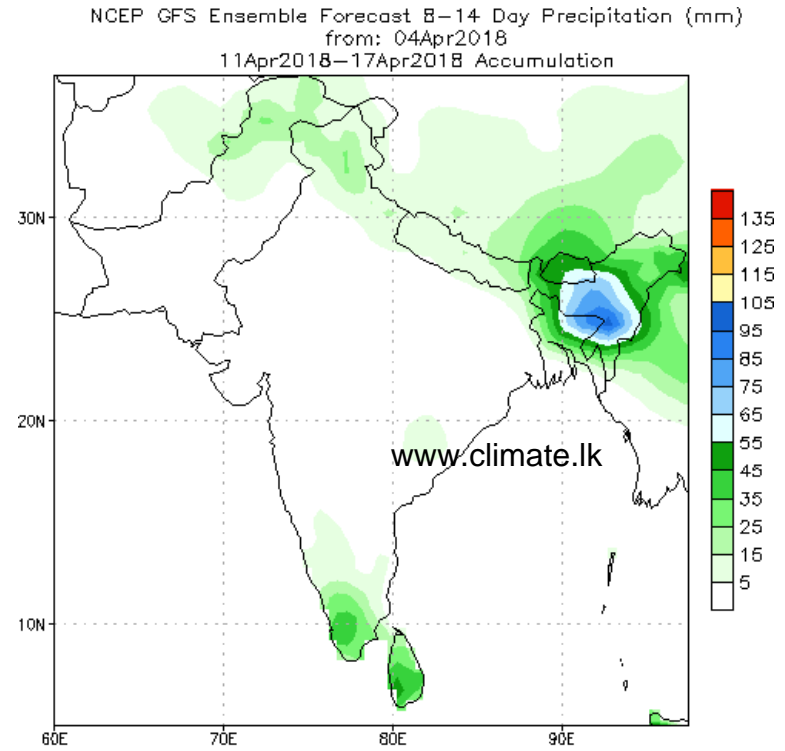
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



NCEP GFS 1-14 Day prediction



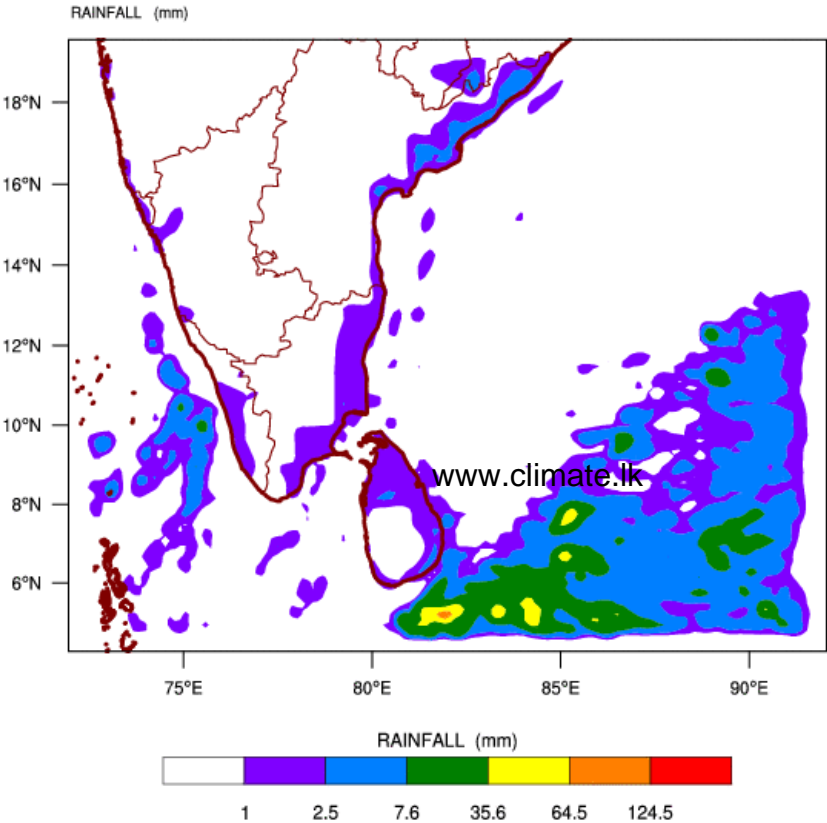
Bias correction based on last 30-day forecast error



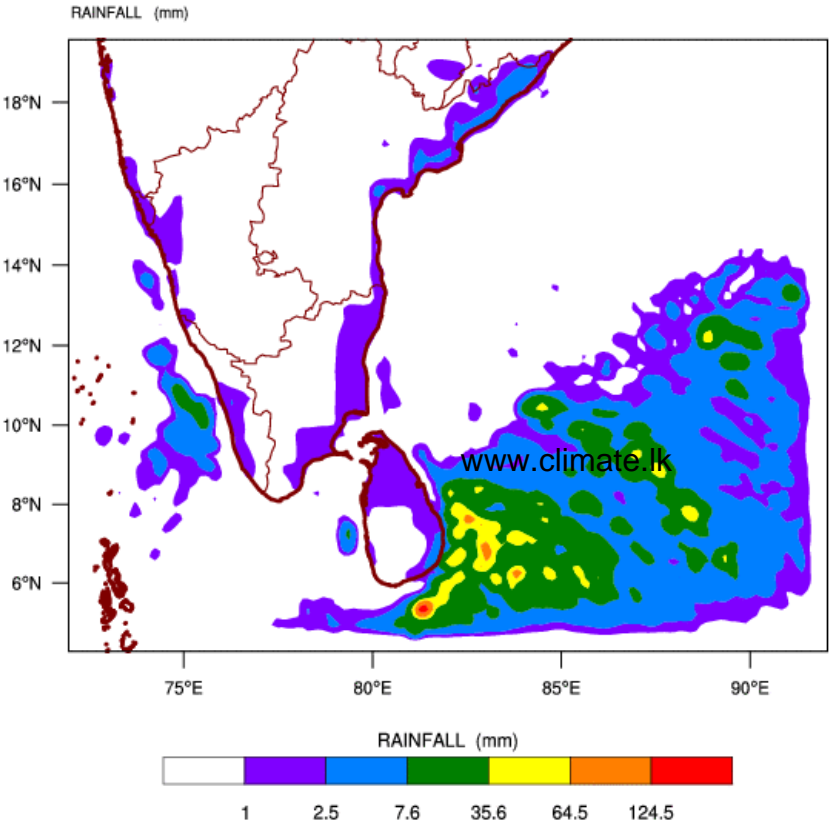
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 03-04-2018 valid for 03 UTC of 05-04-2018



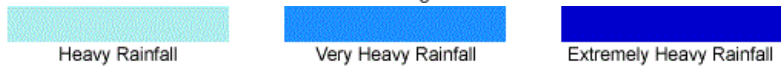
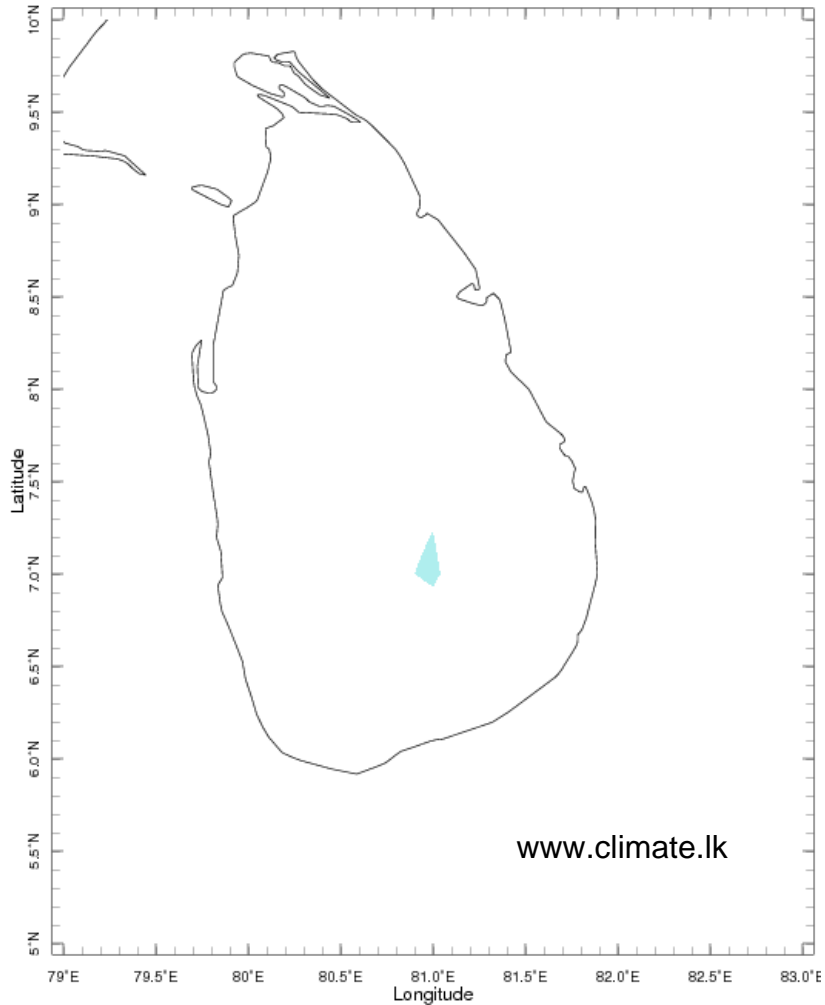
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 03-04-2018 valid for 03 UTC of 06-04-2018



Weekly Rainfall Forecast from IRI

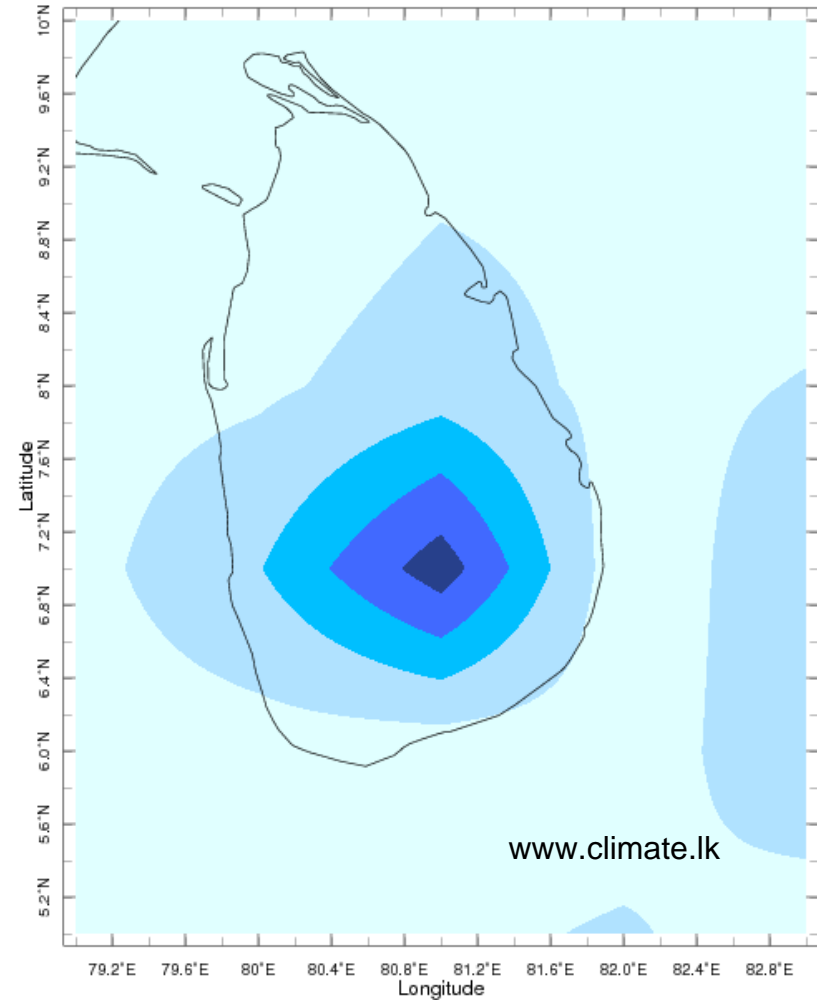
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 4-9 Apr 2018 Issued 0000 4 Apr 2018



Extreme Rainfall Forecast

Forecast for 4-9 Apr 2018 Issued 0000 4 Apr 2018



Total Six Day Precipitation Forecast