

Experimental Climate Monitoring and Prediction

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Highlights

- *The NCEP weekly rainfall forecast predicts total rainfall between 65-75 mm in southwestern regions of the country during 9th -15th May.*
- *Between 1-7 May: up to 140 mm of rainfall was recorded in Kurunegala on the 5th.*
- *From 29 Apr-5 May: minimum temperature of 15 °C was recorded from Nuwara Eliya district while Northern and Northeastern regions of the country recorded a maximum temperature between 35-40 °C.*
- *From 1-7 May: up to 18 km/h, southwesterly winds were experienced by the entire island.*
- *Average sea surface temperature was observed in the seas around Sri Lanka.*

Monitoring

Rainfall

Weekly Monitoring: On May 1st, several regions of Colombo, Kalutara, Ratnapura, Nuwara Eliya and Badulla districts received up to 10 mm. On the 2nd, Mullaitivu and Vavuniya districts received up to 120 mm of rainfall; Mannar and Vavuniya districts up to 80 mm; Gampaha district up to 50 mm; Puttalam, Kurunegala, Kegalla, Kilinochchi and Trincomalee districts up to 30 mm; Ratnapura and Kalutara districts up to 20 mm; and rest of the country up to 10 mm. On the 3rd, Anuradhapura district received up to 20 mm of rainfall; and Ratnapura, Badulla, Monaragala and Kandy districts up to 10 mm. On the 4th, Anuradhapura district received up to 90 mm; Mannar district up to 70 mm; Vavuniya, Puttalam, Polonnaruwa, Matale, Kandy and Ratnapura districts up to 50 mm; Kegalla, Nuwara Eliya and Kurunegala districts up to 30 mm; Matara, Badulla, Monaragala, Ampara and Trincomalee districts up to 20 mm; and rest of the country up to 10 mm. On the 5th, Kurunegala district received up to 140 mm of rainfall; Matale, Anuradhapura and Polonnaruwa districts up to 100 mm; Puttalam district up to 90 mm; Gampaha district up to 70 mm; Kegalla, Kandy, Nuwara Eliya, Ampara, Trincomalee, Vavuniya, Mullaitivu and Mannar districts up to 50 mm; Kilinochchi, Ratnapura, Badulla and Monaragala districts up to 30 mm; Jaffna, Batticaloa, Hambantota and Colombo districts up to 20 mm; and rest of the country up to 10 mm. On the 6th, Polonnaruwa district received up to 60 mm of rainfall; Matale, Badulla and Ampara districts up to 50 mm; Mullaitivu, Vavuniya, Anuradhapura, Kurunegala, Kandy and Batticaloa districts up to 30 mm; Puttalam, Gampaha, Kegalla, Nuwara Eliya, and Monaragala districts up to 20 mm; and rest of the country up to 10 mm. Trincomalee districts received up to 90 mm of rainfall; Polonnaruwa district up to 80 mm; Batticaloa and Matale districts up to 60 mm; Mullaitivu, Anuradhapura, Kurunegala, Badulla, Ampara and Monaragala districts up to 50 mm; Vavuniya, Kurunegala, Kandy, Ratnapura, Nuwara Eliya and Hambantota districts up to 30 mm; Jaffna, Kilinochchi, Mannar, Kegalla, Galle and Matara districts up to 20 mm; and rest of the country up to 10 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall 200-300 mm of total rainfall in Anuradhapura, Matale and Polonnaruwa districts; up to 150-200 mm Kurunegala, Kandy, Vavuniya, Mullaitivu and Ampara districts; up to 100-150 mm in Trincomalee, Kegalla, Nuwara Eliya and Badulla districts; and 75-100 mm in Gampaha, Colombo, Ratnapura, Monaragala, Hambantota, Matara, Galle, Mannar and Kilinochchi districts. Above average rainfall up to 200-300 mm is shown for Anuradhapura, Matale and Polonnaruwa districts; up to 100-200 in Vavuniya, Mullaitivu, Trincomalee, Matale, Kandy, Nuwara Eliya, Kegalla, Kurunegala and Puttalam districts; 50-100 mm in Killinochchi, Batticaloa, Badulla, Monaragala, Hambantota, Matara, Ratnapura, Gampaha and Colombo.

Monthly Monitoring: During April - above average rainfall conditions were experienced by southwestern regions of the island; and rest of the country experienced below average rainfall. Vavuniya and Jaffna districts received up to 150 mm below average rainfall; and Kilinochchi, Mullaitivu, Anuradhapura, Trincomalee, Anuradhapura, Polonnaruwa, Batticaloa, Ampara, Badulla, Monaragala, Matale, Kandy and Kurunegala districts up to 90 mm. Galle and Matara districts received above average rainfall up to 150 mm; and Gampaha, Colombo, Kalutara, Kegalla, Ratnapura and Nuwara Eliya districts up to 90 mm. The CPC Unified Precipitation Analysis tool shows ~500 mm of total rainfall in Kurunegala, Kegalla, Ratnapura, Gampaha, Colombo, Kalutara, Galle and Matara districts; up to 300 mm Puttalam, Kurunegala, Kandy, Badulla, and Monaragala districts; up to ~200 mm in Anuradhapura, Matale and Hambantota districts; and up to 150 mm in Mannar, Polonnaruwa and Ampara districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: April 19, 2018

In mid-April 2018, the east-central tropical Pacific waters were at warm-neutral to borderline La Niña levels, while many key atmospheric variables continued to indicate weak La Niña. Importantly, the east Pacific subsurface water temperature has become moderately above average. The official CPC/IRI outlook calls for a transition from La Niña to neutral conditions during the March-May season, with a further warming tendency later in the year. 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 9th – 15th May: Total rainfall between 65-75 mm in Gampaha, Kegalla, Ratnapura, Galle and Matara districts; between 55-65 mm in Colombo, Kalutara and Hambantota districts; between 45-55 mm in Puttalam, Kandy, Nuwara Eliya, Badulla, Ampara and Monaragala districts; between 35-45 mm in Kurunegala, Matale, Polonnaruwa, Batticaloa, Trincomalee, Anuradhapura, Vavuniya and Mullaitivu districts; and between 25-35 mm in rest of the island.

From 16th – 22nd May: Total rainfall between 85-95 mm in Kegalla, Ratnapura, Galle and Matara districts; between 75-85 mm in Gampaha, Nuwara Eliya and Hambantota, districts; between 65-75 mm in Kandy, Badulla and Monaragala districts; between 45-55 mm in Puttalam, Kurunegala, Matale, Anuradhapura, Trincomalee and Ampara districts.

IMD WRF Forecast: Not Available

IRI Model Forecast:

From 9th -14th May: Total rainfall between 100-150 mm in Badulla district; between 100-150 mm in Nuwara Eliya, Kandy, Polonnaruwa and Monaragala districts; between 75-100 mm in Batticaloa, Ampara, Matale and Ratnapura districts; and 50-75 mm in Mullaitivu, Trincomalee, Anuradhapura, Kegalla, Kurunegala, Colombo, Kalutara, Falle, Matara and Hambantota districts.

MJO based OLR predictions

For the next 15 days:

MJO shall enhance the rainfall in Sri Lanka.

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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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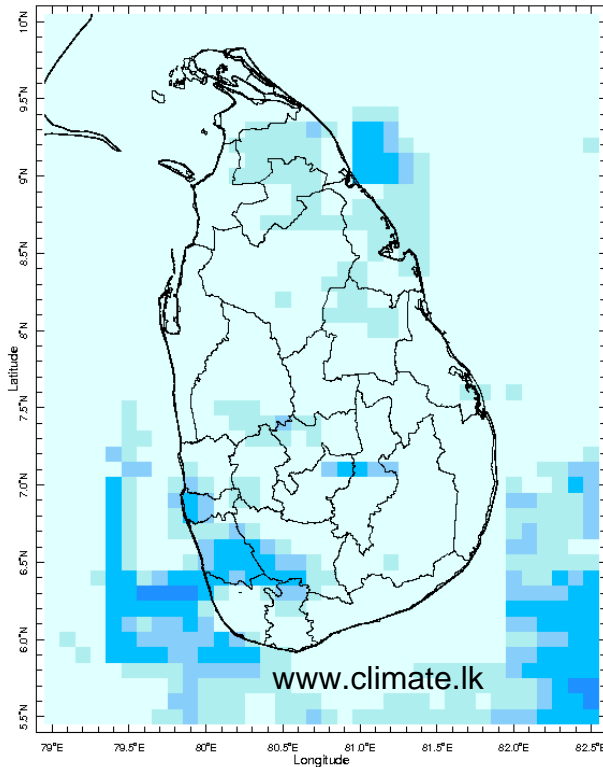
- a. Daily Rainfall Monitoring
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2. Predictions

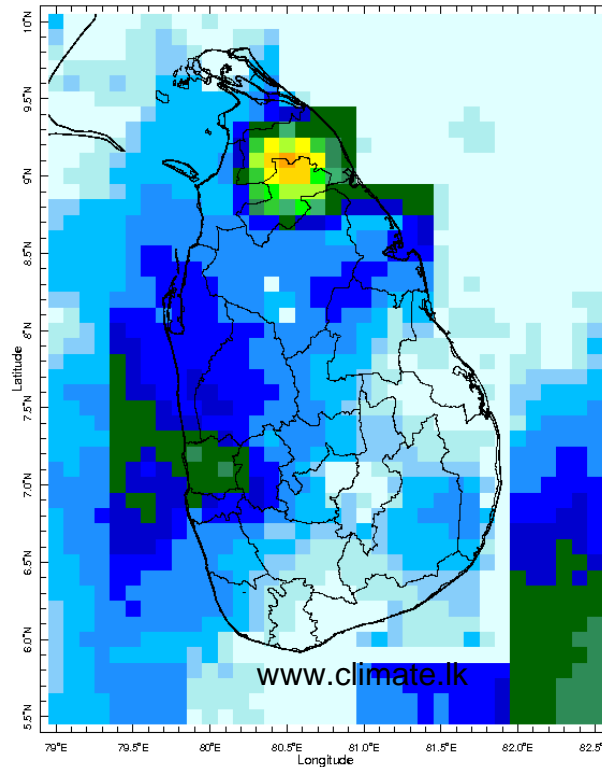
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
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Daily Rainfall Monitoring

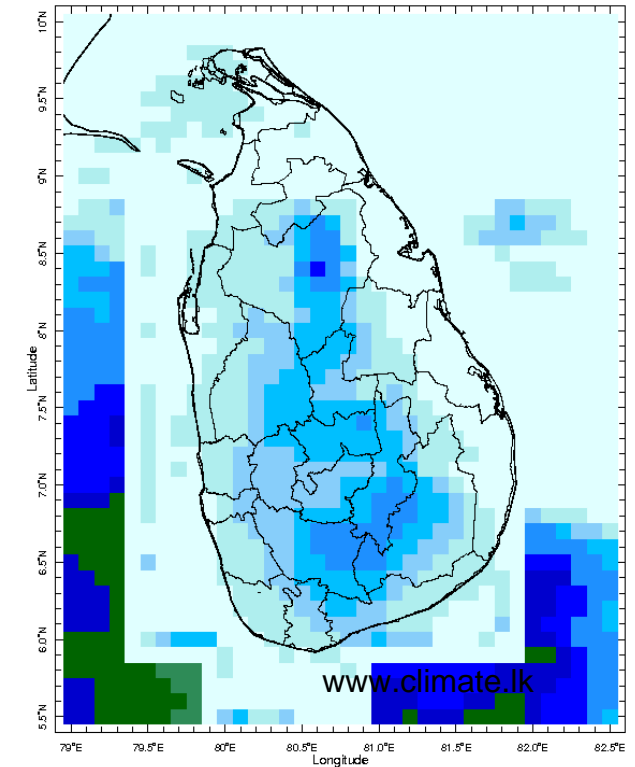
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



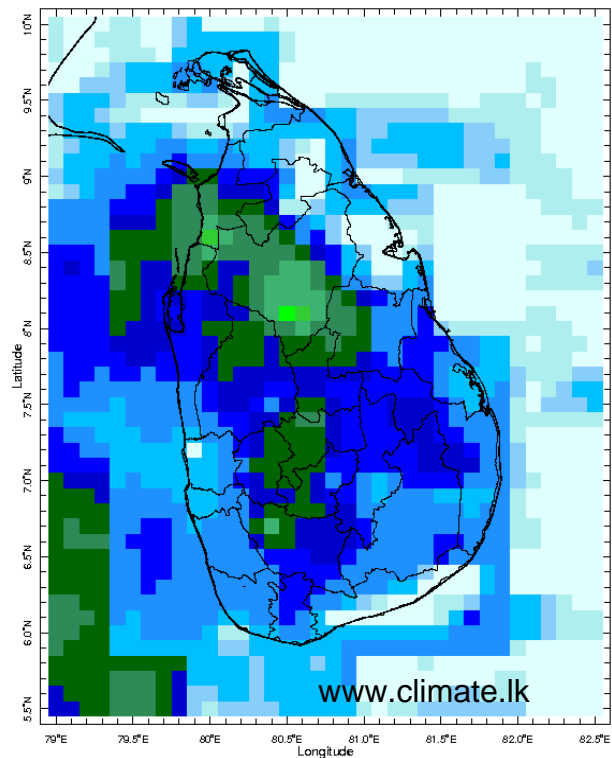
1 May 2018



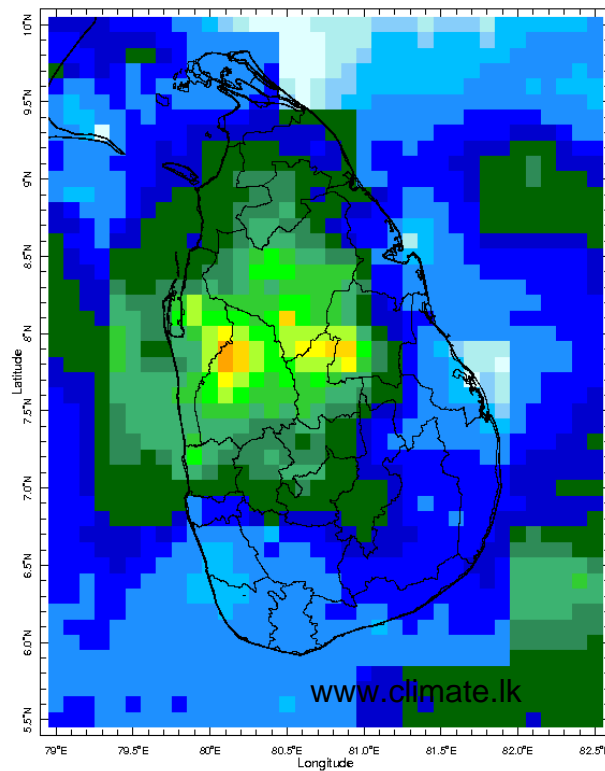
2 May 2018



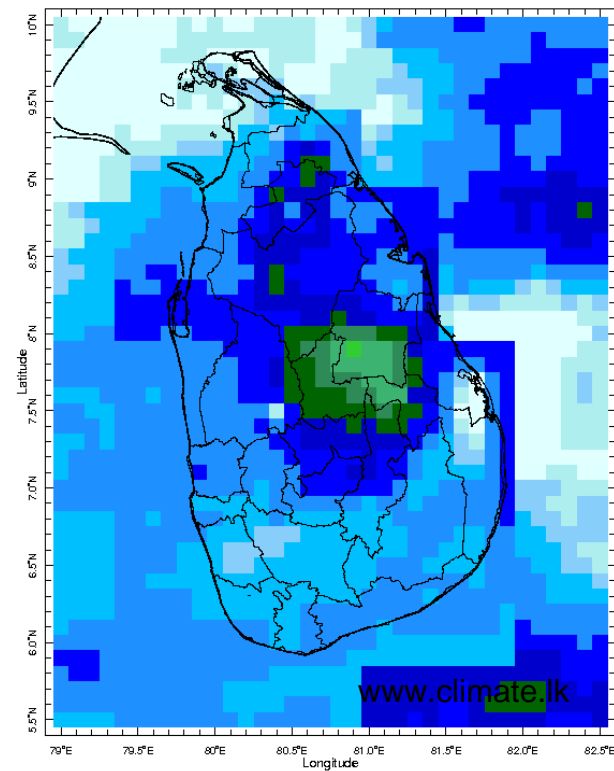
3 May 2018



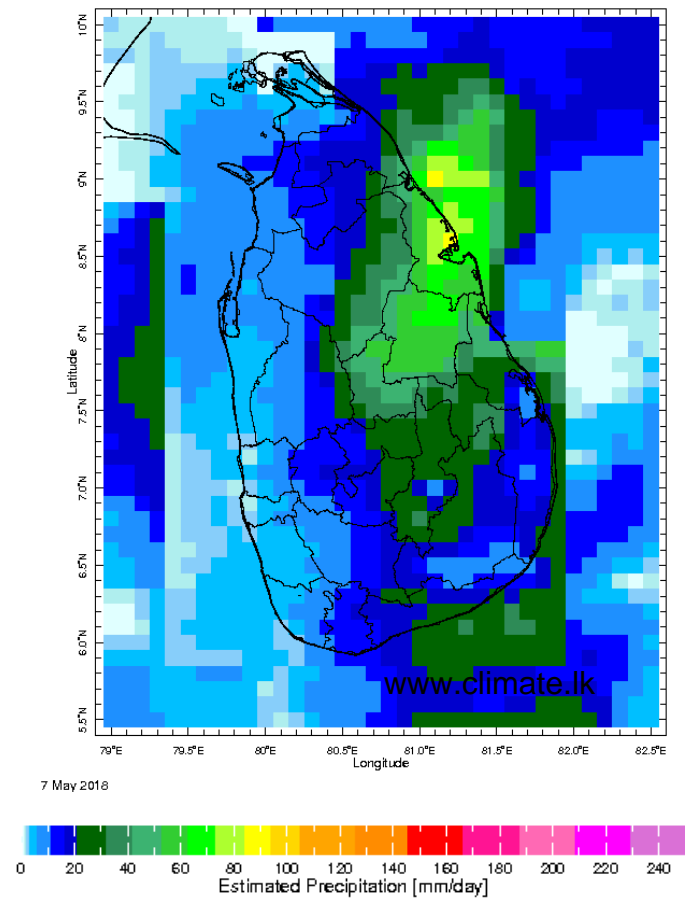
4 May 2018



5 May 2018

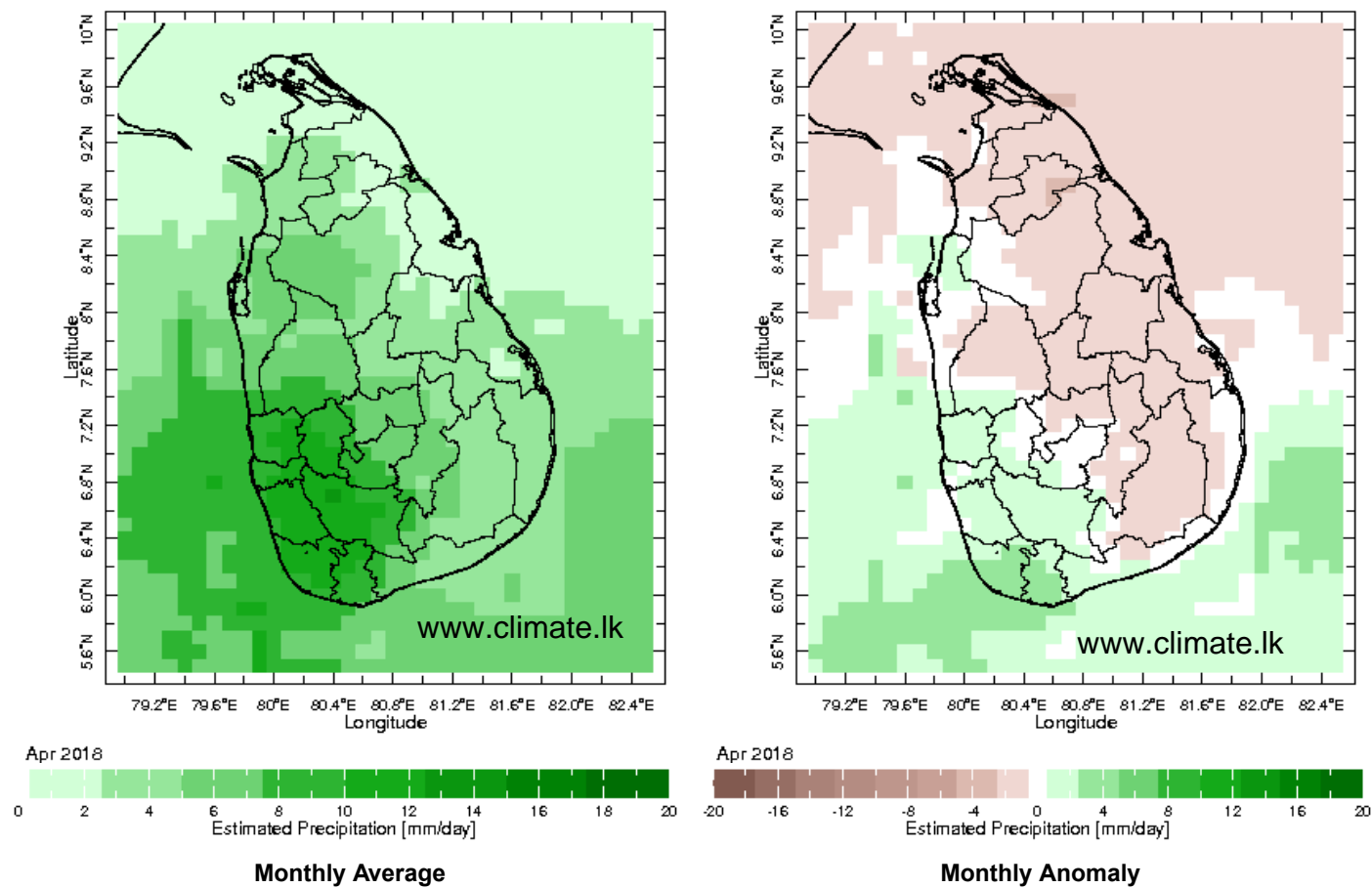


6 May 2018

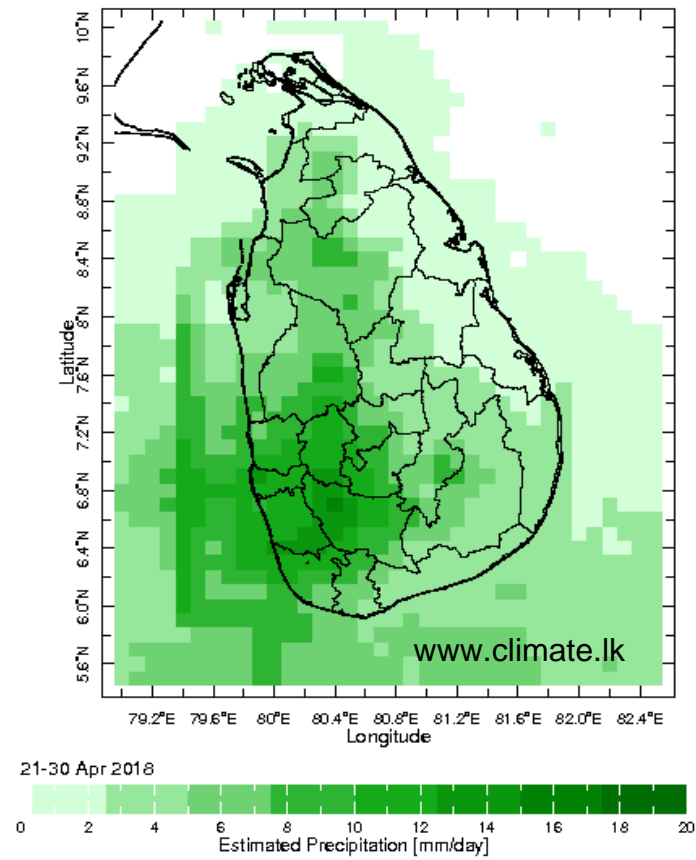
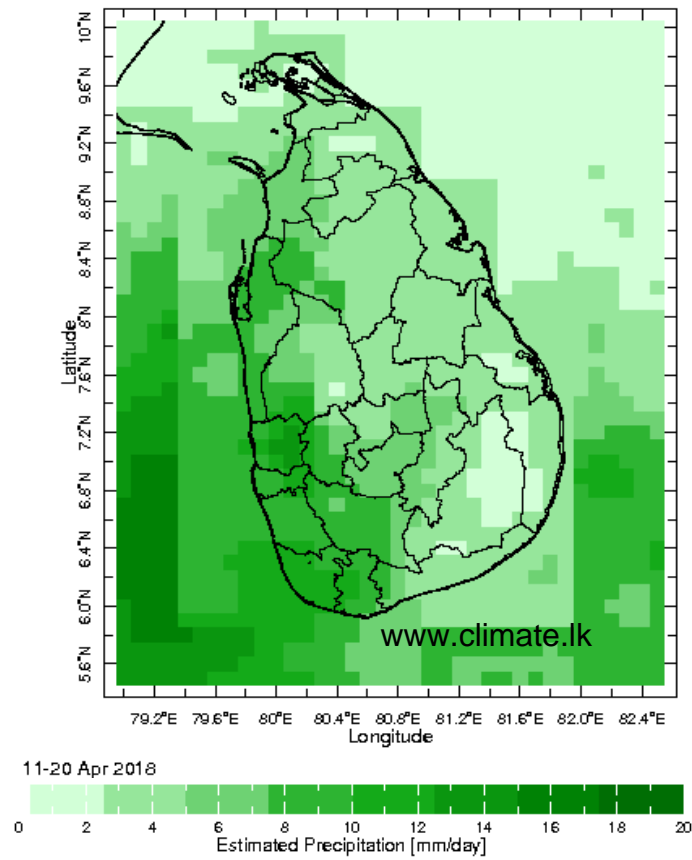


Monthly Rainfall Monitoring

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

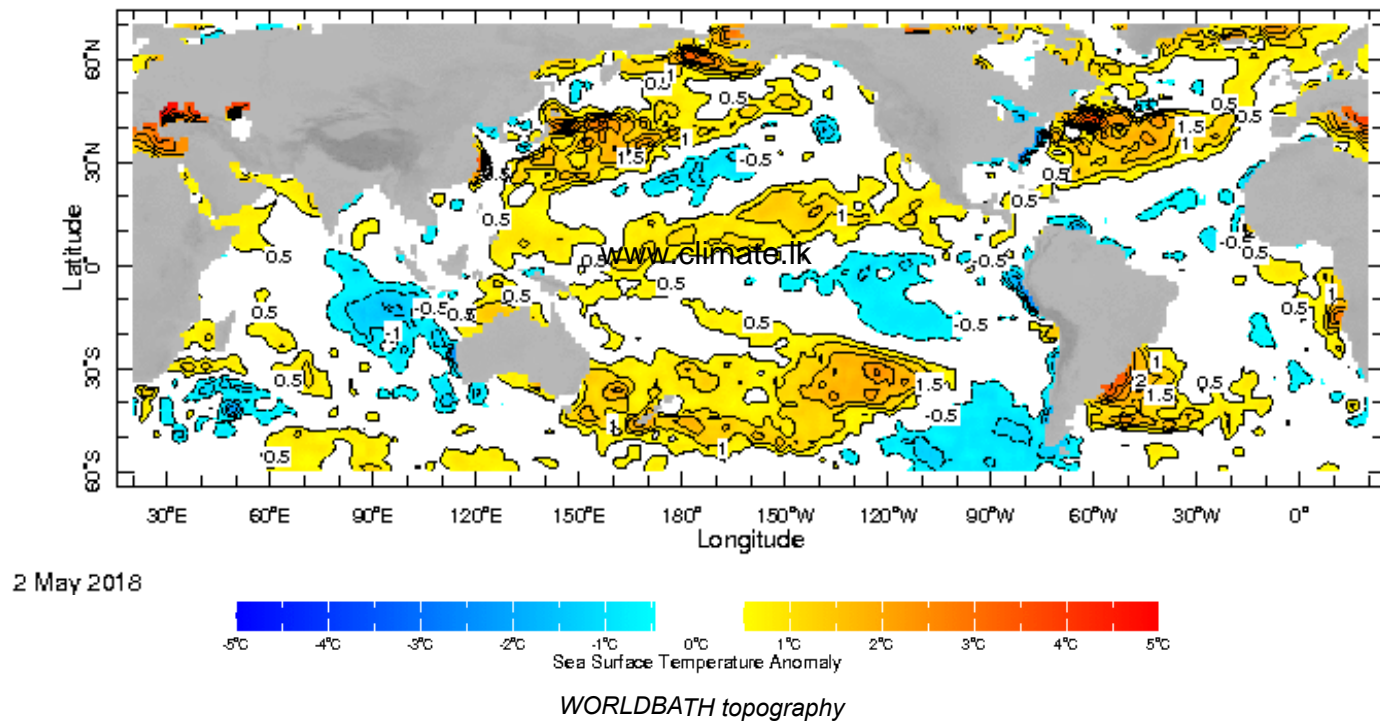


Dekadal (10 Day) Satellite Derived Rainfall Estimates



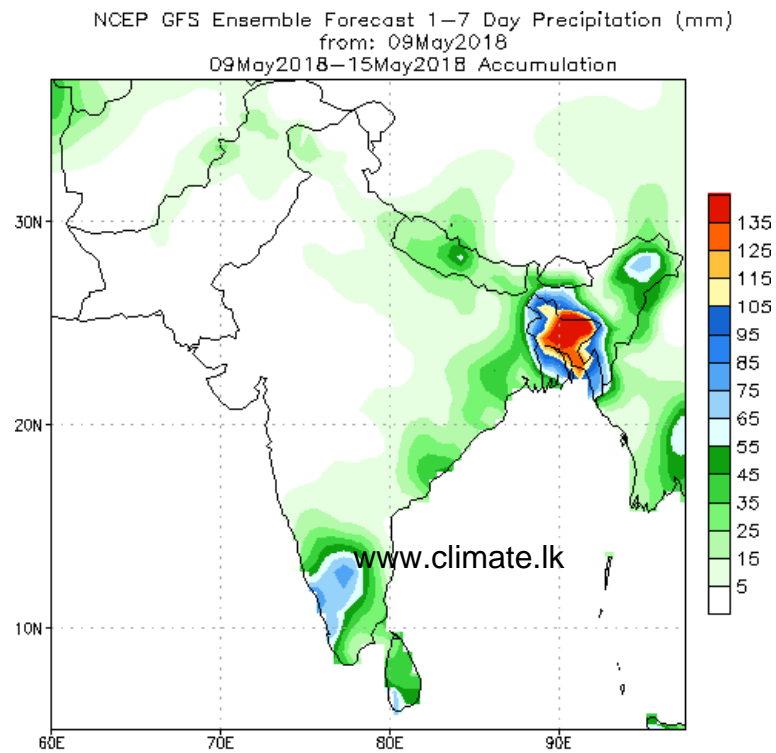
Weekly Average SST Anomalies

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

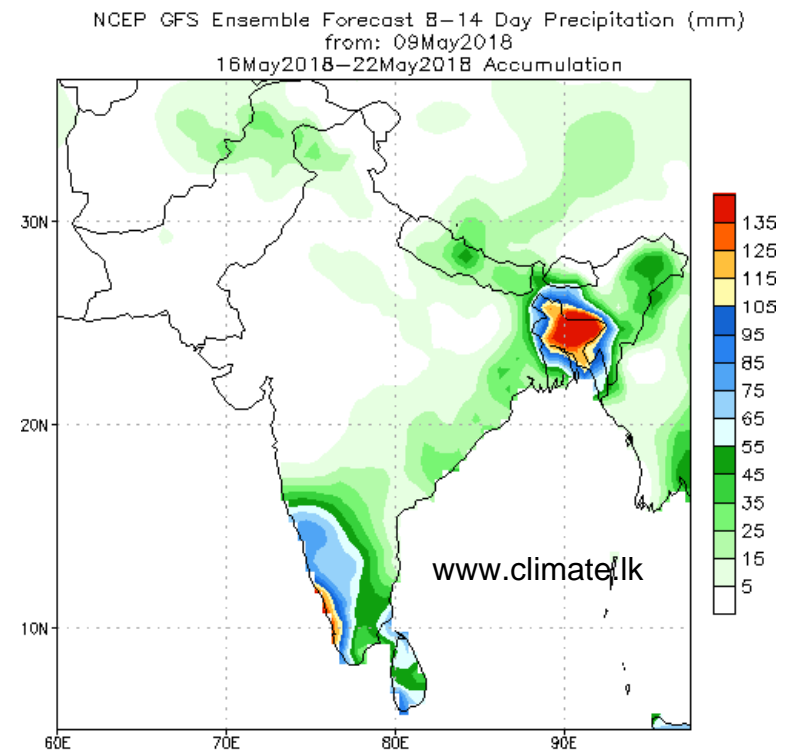


PREDICTIONS

NCEP GFS 1-14 Day prediction



Bias correction based on last 30-day forecast error



Bias correction based on last 30-day forecast error

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.

