

Experimental Climate Monitoring and Prediction

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Highlights

- The NCEP weekly rainfall forecast predicts total rainfall between 125-135 mm in Northeastern regions of the country during 23rd -29th May.
- Between 16-22 May: up to 220 mm of rainfall was recorded in Ratnapura district on the 20th.
- From 13-19 May: minimum temperature of 15 °C was recorded from Nuwara Eliya district while Ampara district recorded a maximum temperature between 35-40 °C.
- From 15-21 May: up to 22 km/h, southwesterly winds were experienced by the entire island.
- 0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On May 16th, Anuradhapura district received up to 90 mm of rainfall; Kurunegala, Polonnaruwa and Galle districts up to 80 mm; Matale and Batticaloa districts up to 60 mm; Puttalam, Trincomalee, Kandy, Ampara, Hambantota, Ratnapura, Badulla, Monaragala, Matara and Colombo districts up to 50 mm; Mannar, Vavuniya, Gampaha, Kegalla, Nuwara Eliya districts up to 30 mm; and rest of the country up to 20 mm. On the 17th, Colombo district received up to 50 mm of rainfall; Jaffna, Kilinochchi, Ampara, Monaragala, Hambantota, Gampaha and Kalutara districts up to 30 mm; Mannar, Mullaitivu, Puttalam, Kurunegala, Kegalla, Ratnapura, Galle, Matara and Badulla districts up to 20 mm. On the 18th, Batticaloa district received up to 60 mm of rainfall; Badulla, Monaragala and Ampara districts up to 50 mm; Kurunegala, Colombo, Matara, , Ratnapura, Hambantota and Nuwara Eliya districts up to 30 mm; Vavuniya, Trincomalee, Polonnaruwa, Matale, Kandy, Kegalla, Gampaha, Kalutara and Galle districts up to 20 mm. On the 19th, Kalutara, Galle, Matara and Ratnapura districts received up to 50 mm; Colombo, Kegalla, Nuwara Eliya, and Hambantota district up to 30 mm; Puttalam, Gampaha, Kurunegala, Matale, Badulla, Monaragala, Anuradhapura and Trincomalee districts up to 20 mm. On the 20th, Ratnapura district received up to 220 mm of rainfall; Kegalla, Nuwara Eliya and Kurunegala districts up to 140 mm; Colombo, and Kalutara districts up to 120 mm; Kandy and Gampaha districts up to 90 mm; Puttalam, Matale, Matara and Galle districts up to 60 mm; Hambantota, Monaragala, Badulla, Ampara, Polonnaruwa and Anuradhapura districts up to 50 mm; Batticaloa and Trincomalee districts up to 30 mm; and rest of the country up to 20 mm. On the 21st, Kandy district received up to 90 mm of rainfall; Kurunegala, Matale, Kegalla, Nuwara Eliya and Ratnapura district up to 50 mm; Badulla district up to 30 mm; and Puttalam, Anuradhapura, Polonnaruwa, Ampara, Monaragala, Hambantota, Kalutara, Colombo and Gampaha districts up to 20 mm. On the 22nd, Vavuniya and Batticaloa districts received up to 60 mm of rainfall; Anuradhapura, Trincomalee, Polonnaruwa, Ampara and Badulla districts up to 50 mm; Jaffna, Kilinochchi, Monaragala, Kandy, Ratnapura, Colombo and Kalutara districts up to 30 mm; and rest of the country up to 20 mm.

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

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: May 18, 2018

In mid-May 2018, the east-central tropical Pacific waters reflected ENSO-neutral conditions. Most key atmospheric variables also indicated neutral conditions, although the upper level wind anomalies show remnants of La Niña. The subsurface water temperature continued to be above-average. The official CPC/IRI outlook calls for neutral conditions through the September-November season, with a nearly 50% chance of El Niño development by year's end. The latest forecasts of statistical and dynamical models collectively favor weak El Niño development by year's end, but forecasters hedge on this due to low confidence at this time of year.

Indian Ocean State

0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 23rd – 29th May: Total rainfall between 125-135 mm in Mullaitivu, Vavuniya, Anuradhapura, Matale, Polonnaruwa and Trincomalee districts; between 115-125 mm in Jaffna, Kilinochchi and Kurunegala districts; between 105-115 mm in Mannar, Puttalam, Kandy, Kegalle, Ratnapura, Kalutara and Galle districts; between 95-105 mm in Gampaha, Colombo, Nuwara Eliya, Matara and Batticaloa districts; Up to 85 mm total rainfall rest of the island.

From 30th May – 5th Jun: Total rainfall between 85-95 mm in Kurunegala, Matale, Ratnapura, Kalutara and Galle districts; between 75-85 mm in Anuradhapura, Polonnaruwa, Kegalle, Kandy, Gampaha and Colombo districts; between 65-75 mm in Puttalam, Matara and Nuwara Eliya districts; between 55-65 mm in Mullaitivu, Vavuniya, Trincomalee, Badulla and Hambantota districts; between 45-55 mm in Mannar and Monaragala districts; Up to 45 mm total rainfall rest of the island.

IMD NCMWRF Forecast: 25th May: Up to 80 mm of rainfall expected in Kalutara, Gampaha, Kurunegala, Kegalla and Ratnapura districts.

26th May: Up to 80 mm of rainfall expected in Gampaha, Kegalla, and Kurunegala districts; up to 40 mm in Kalutara, Colombo, Nuwara Eliya, Kandy, Matale and Puttalam districts.

IRI Model Forecast:

From 23rd -28th May: Total rainfall between 200-250 mm in Kalutara and Galle districts; between 150-200 mm in Gampaha, Colombo, Kegalle, Ratnapura and Matara districts; between 100-150 mm in Jaffna, Kilinochchi, Mullaitivu, Vavuniya, Anuradhapura, Trincomalee, Puttalam, Kurunegala and Nuwara Eliya districts; between 75-100 mm in Mannar, Kandy and Hambantota districts; between 50-75 mm in Polonnaruwa, Matale, Badulla, Batticaloa and Ampara districts; Up to 50 mm total rainfall rest of the island.

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

Inside This Issue

1. Monitoring

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

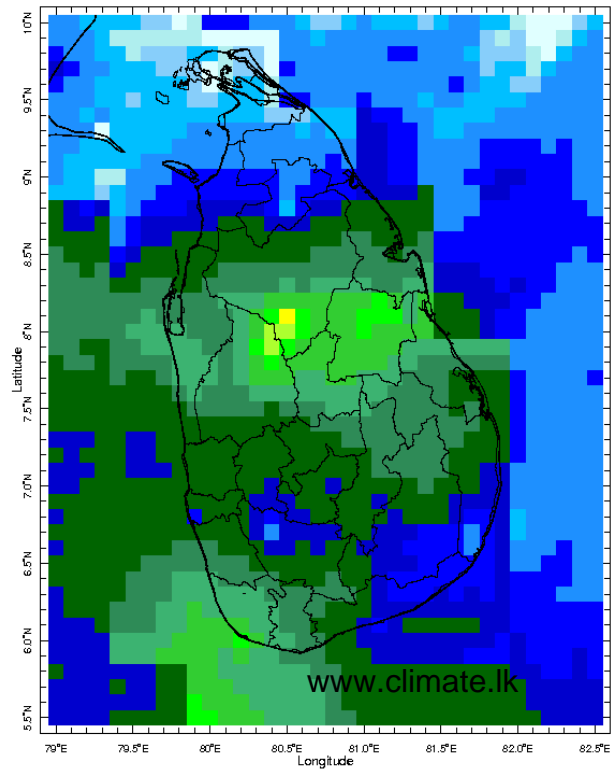
2. Predictions

- 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

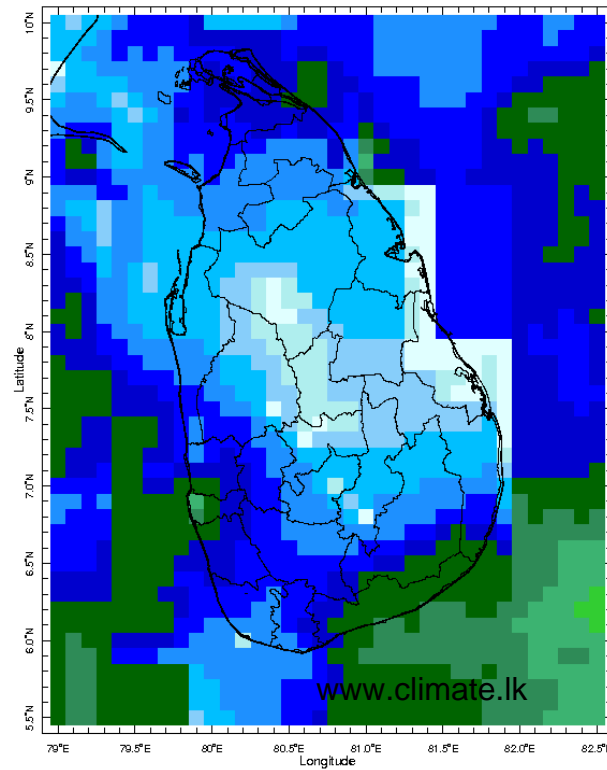
MONITORING

Daily Rainfall Monitoring

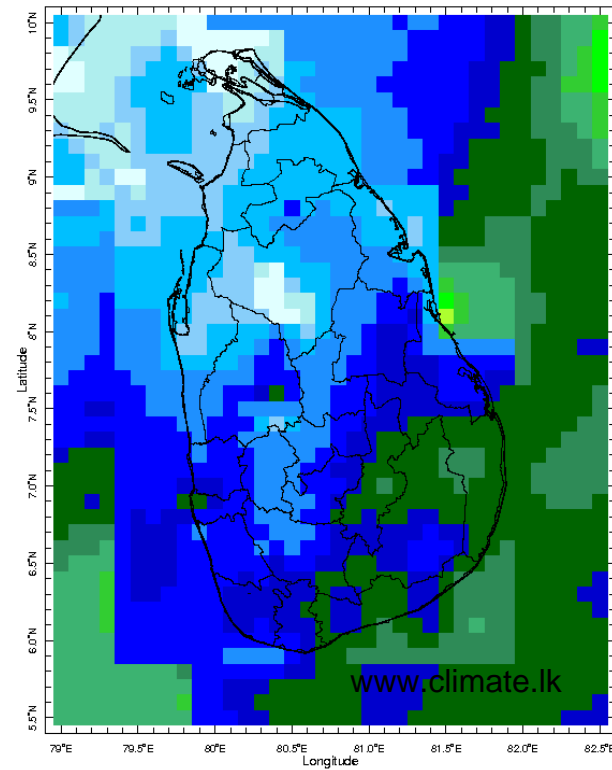
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



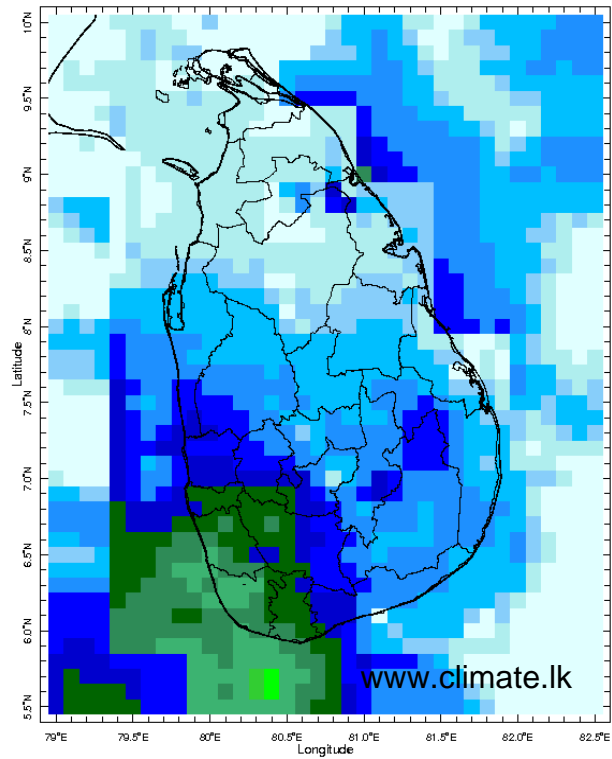
16 May 2018



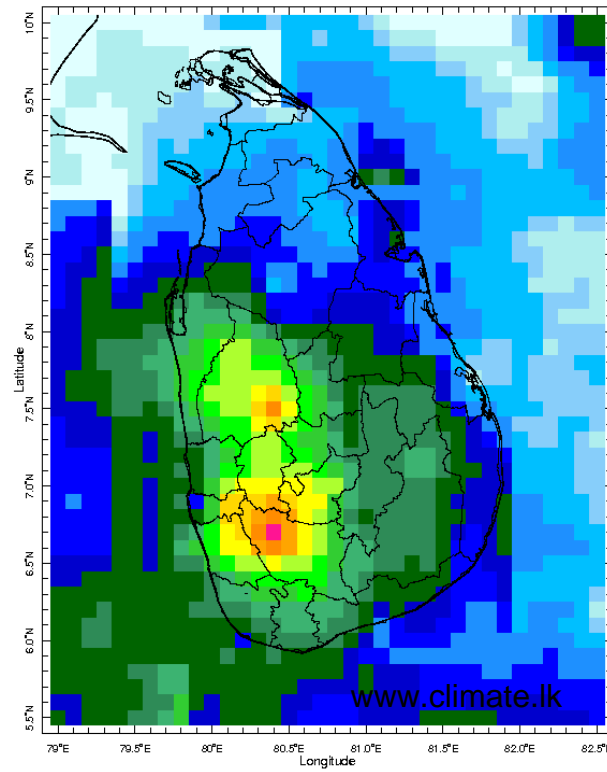
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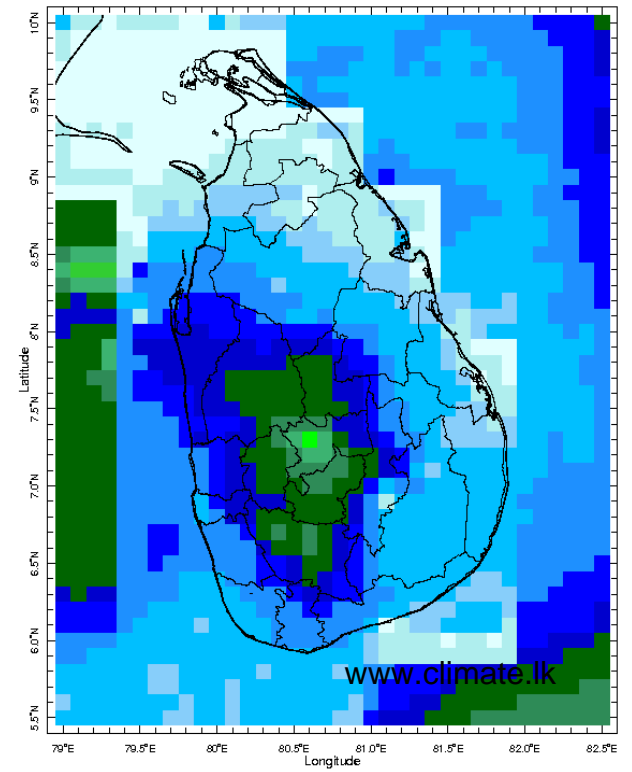
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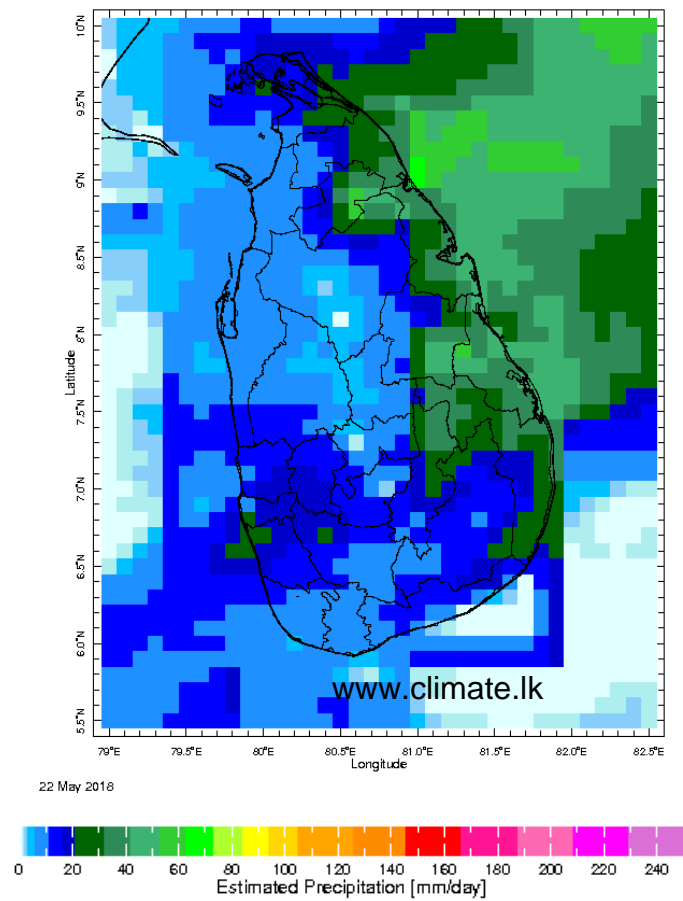
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20 May 2018

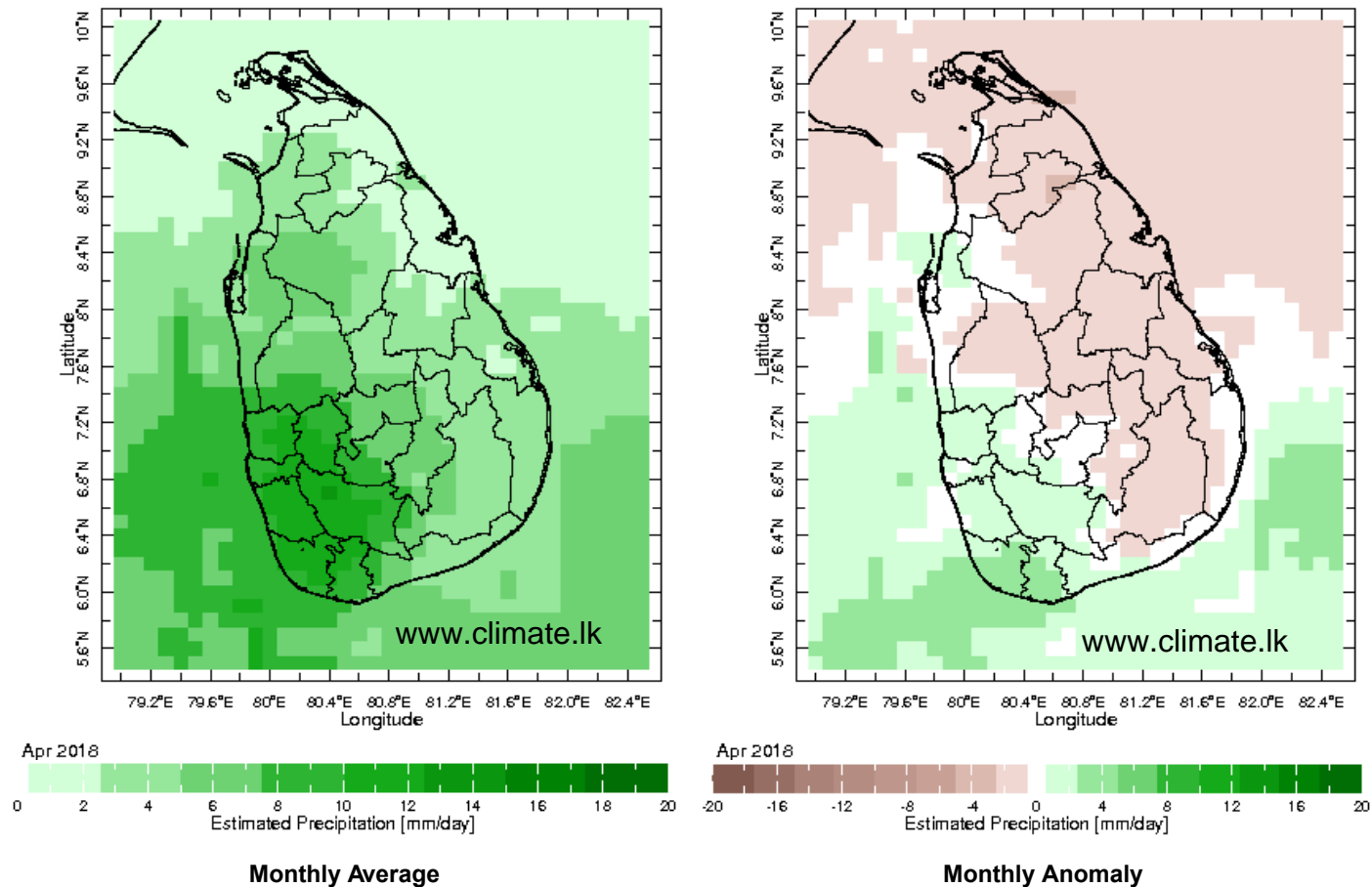


21 May 2018

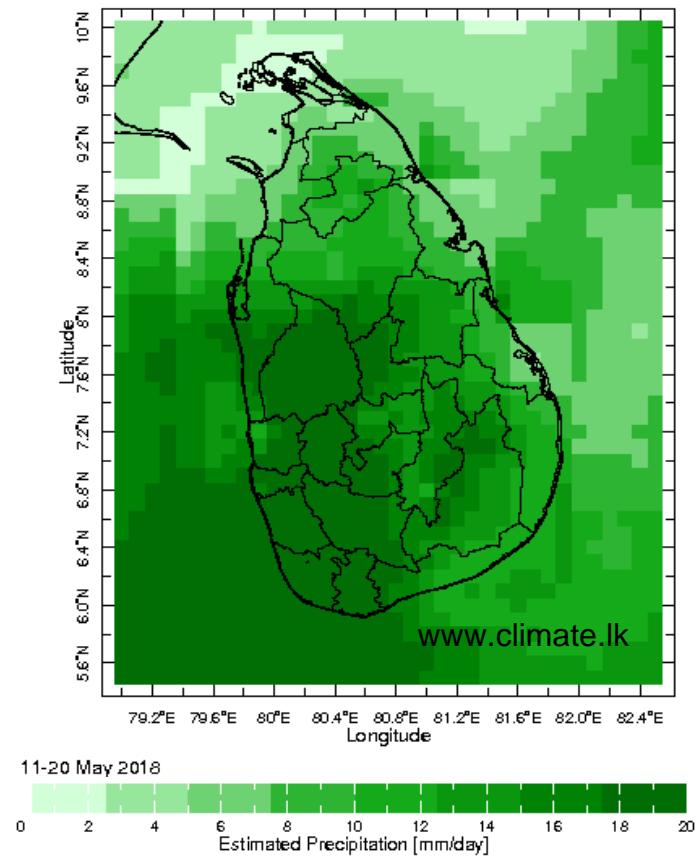
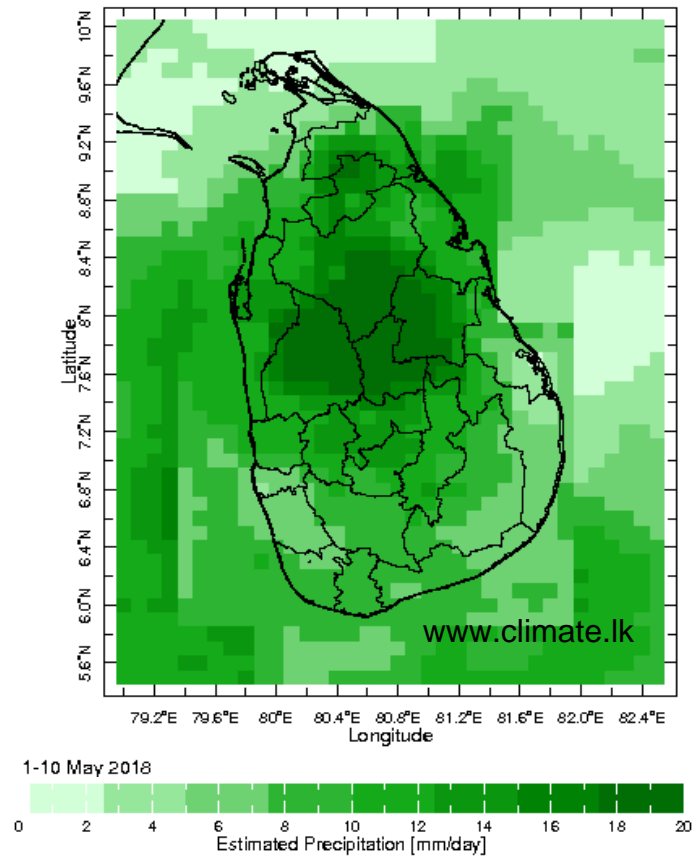


Month Y Rainfall Monitoring

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.

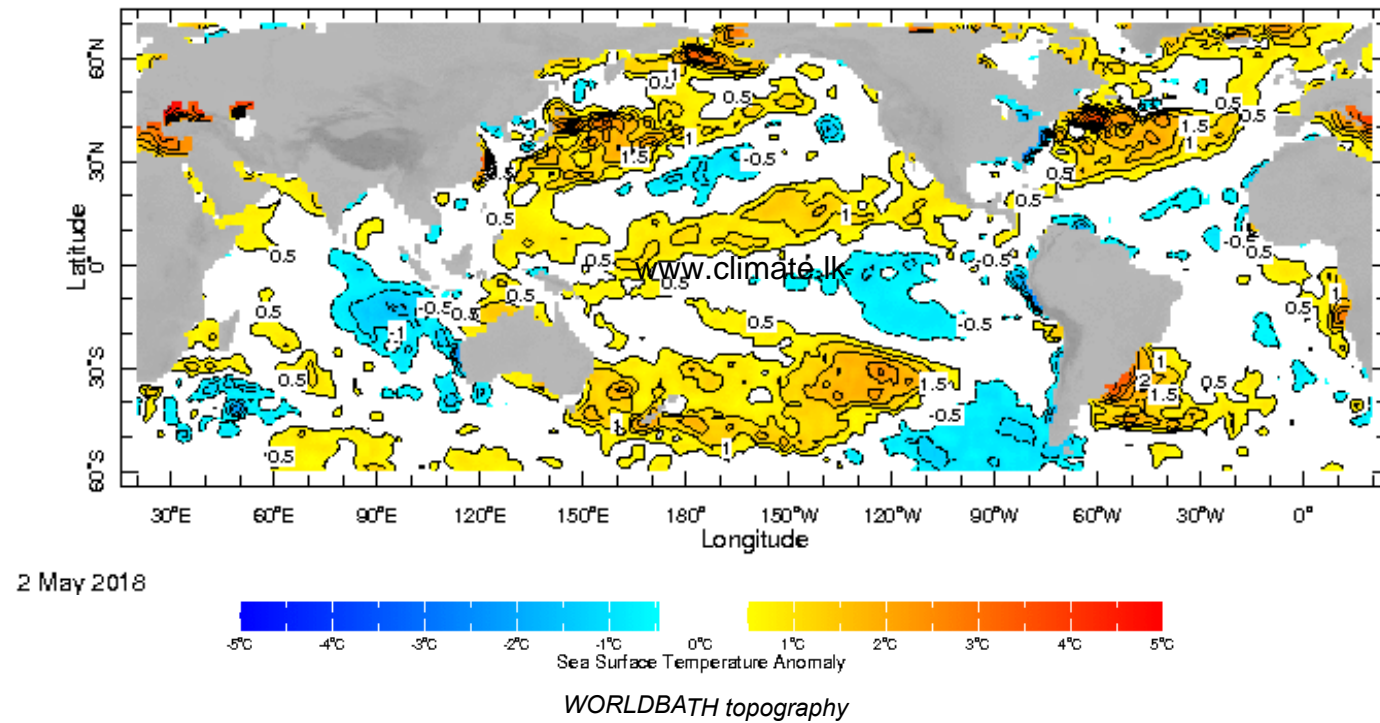


Dekadal (10 Day) Satellite Derived Rainfall Estimates

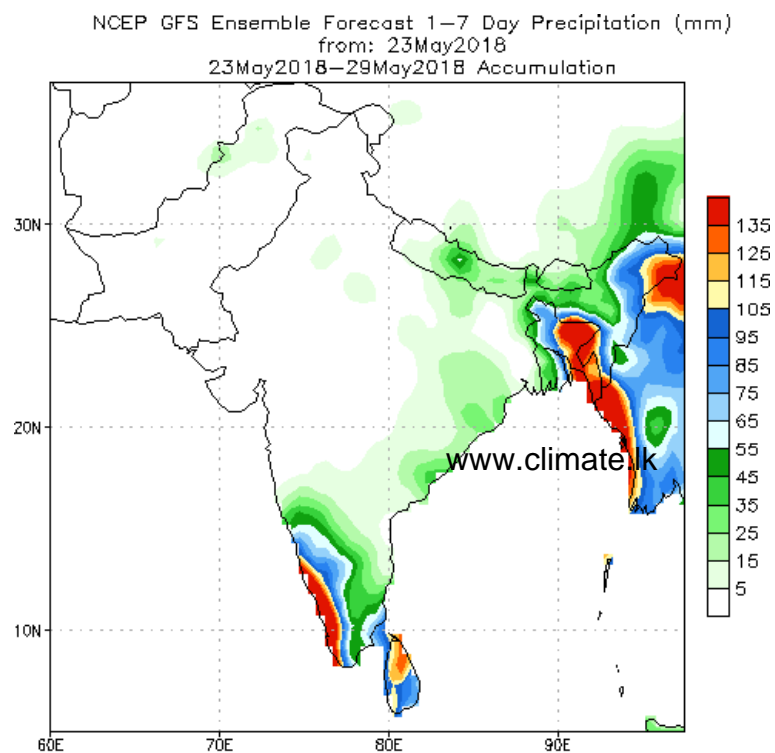


Weekly Average SST Anomalies

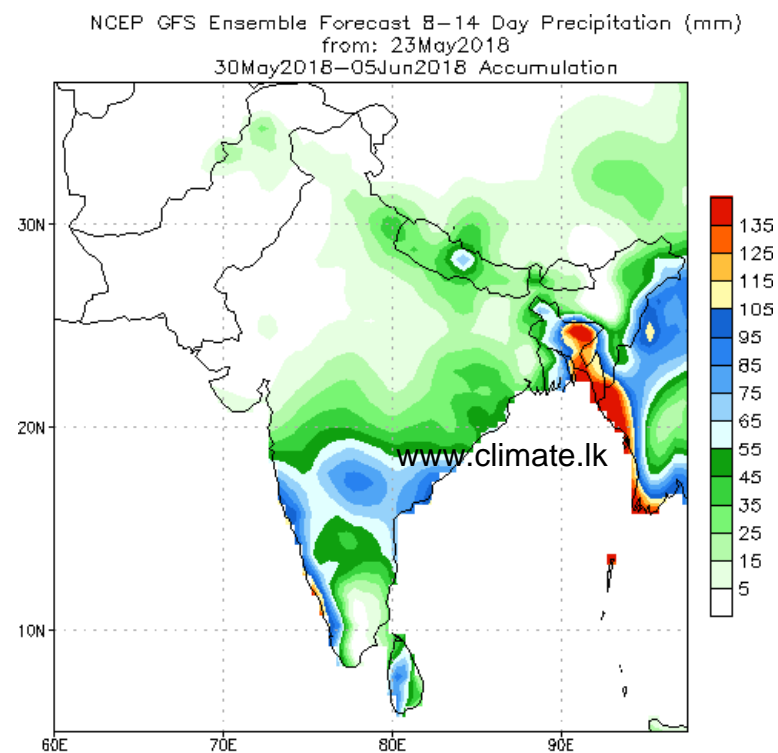
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



NCEP GFS 1-14 Day prediction

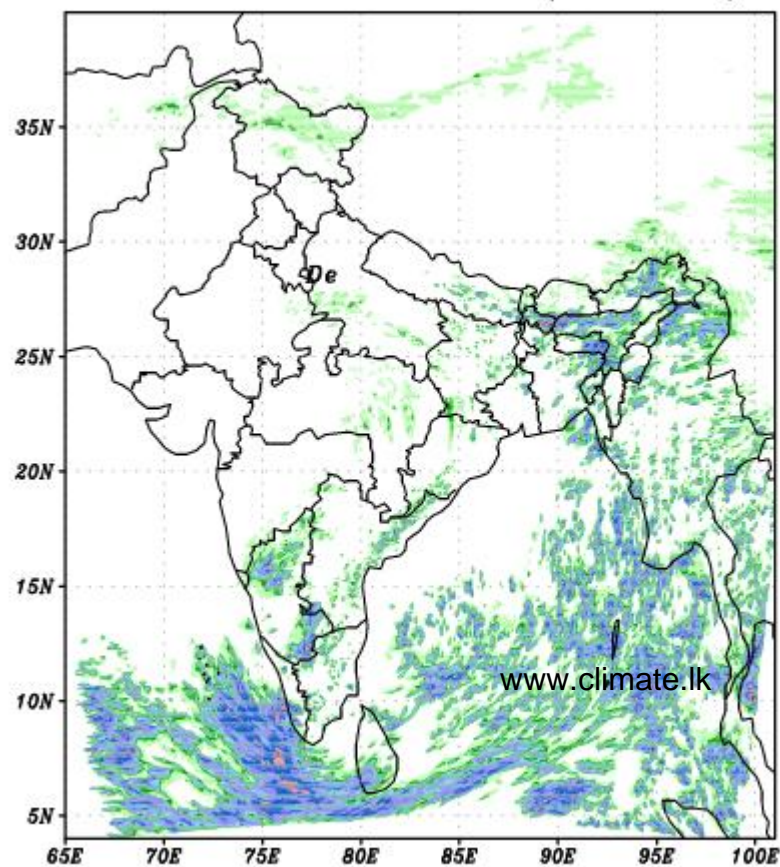


Bias correction based on last 30-day forecast error

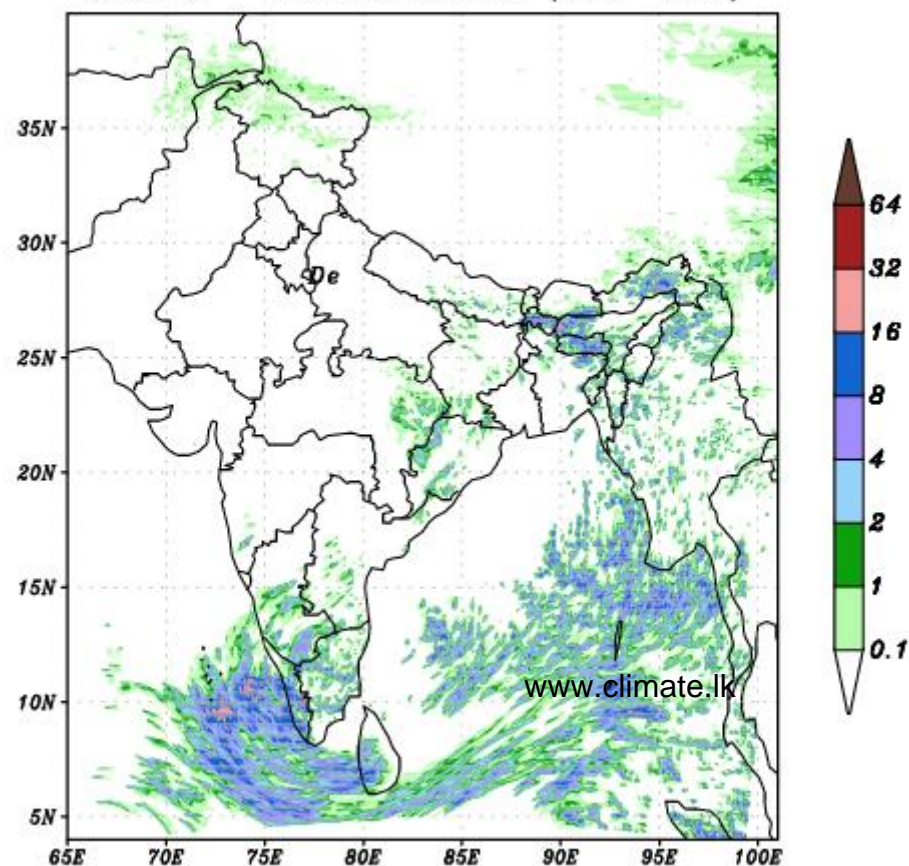


Bias correction based on last 30-day forecast error

DAY 2 FORECAST VALID ON 00Z25MAY2018
Total Precipitation(cm) CI=0.1,1,2,4,8,...
NCMRWF UNIFIED MODEL (REG-4Km)



DAY 3 FORECAST VALID ON 00Z26MAY2018
Total Precipitation(cm) CI=0.1,1,2,4,8,...
NCMRWF UNIFIED MODEL (REG-4Km)



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.

