

Experimental Climate Monitoring and Prediction

by: Ruchira Lokuhetti, Prabodha Agalawatte, Himash Rashmika, Zeenas Yahiya,
Lareef Zubair and Michael Bell¹ (FECT and IRI¹)

25 May 2017**Highlights**

- The WRF model predicts up to 125 mm of rainfall in Colombo and Ratnapura districts on 26th May.
- Between 15-23 May: highest rainfall of 90 mm was recorded on the 18th in Colombo district.
- From 14-20 May: minimum temperature of 15 °C was recorded from Nuwara Eliya district while northern and northeastern regions of the island recorded a maximum temperature between 30-35 °C.
- From 16-22 May: up to 36 km/h, westerly winds were experienced by the southern regions; and up to 28 km/h northwesterly in the northern regions of the island.
- 0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring**Rainfall**

Weekly Monitoring: On May 15th, Kegalla and Ratnapura districts received up to 30 mm of rainfall; Galle and Matara districts up to 20 mm; and most of the southwestern parts of the island up to 10 mm. No significant rainfalls were recorded on the 16th and 17th. On the 18th Colombo district received up to 90 mm of rainfall; Gampaha district up to 70 mm; Kalutara and Ratnapura districts up to 50 mm; Puttalam, Kurunegala, Kegalla, Kandy, Nuwara Eliya and Galle districts up to 30 mm; and Matale and Matara districts up to 20 mm. On the 19th Gampaha district received up to 50 mm of rainfall; Puttalam and Kurunegala districts up to 30 mm; and Kegalla, Batticaloa and Ampara districts up to 20 mm. Up to 10 mm of rainfall was recorded in several parts of the island on the 20th and 21st. On the 22nd Ratnapura and Badulla districts received up to 30 mm of rainfall; Gampaha, Colombo, Kegalla, Kandy, Monaragala and Ampara districts up to 20 mm; and most of the southern of the parts of the island up to 10 mm. On the 23rd Ratnapura district received up to 30 mm of rainfall; Kegalla, Kandy, Galle, Matara, Badulla, Batticaloa and Monaragala districts up to 20 mm; and several regions of the southern parts of the island up to 10 mm.

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

Monthly Monitoring: During April - below average rainfall conditions were experienced in the entire island. Matale, Gampaha, Colombo, Ratnapura and Kandy districts received up to 210 mm below average rainfall; and many parts of the island received up to 150 mm. Monthly average rainfall for Anuradhapura, Kurunegala, Gampaha, Colombo, Ratnapura, Kegalla, Galle and Matara districts amounted to 210 mm/month; and 150 mm/month for Puttalam, Kandy, Matale, Badulla, Hambantota and Monaragala districts. The CPC Unified Precipitation Analysis tool shows ~200 mm of total rainfall in Anuradhapura, Gampaha, Colombo, Kalutara, Galle and Ratnapura districts; up to ~100 mm in Matale, Kandy, Nuwara Eliya, Badulla, Monaragala, Kurunegala and Hambantota districts; and up to ~75 mm Ampara, Puttalam and Mannar districts;

Ocean State (Text Courtesy IRI)**Pacific sea state: May 18, 2017**

By mid-May 2017, the tropical Pacific remained in an ENSO-neutral state, with above-average SSTs present in the eastern Pacific Ocean, and near-average SSTs across the central and east-central part of the basin. The collection of ENSO prediction models indicates increasing chances of El Niño into the summer and fall of 2017.

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 24th – 30th May: Total rainfall between 75-85 mm in Mullaitivu district; between 65-75 mm in Jaffna, Kilinochchi, Vavuniya, Anuradhapura, Trincomalee, Kalutara and Galle district; 55-65 mm in Mannar, Colombo, Ratnapura and Matara districts; 45-55 mm in Polonnaruwa, Gampaha and Kegalle districts; 35-45 mm in Puttalam, Kurunegala, Matale, Nuwara Eliya and Hambantota districts; 25-35 mm in Batticaloa, Kandy, Badulla and Monaragala districts; 15-25 mm in Ampara district.

From 31st May – 6th Jun: Total rainfall between 35-45 mm in Colombo and Ratnapura districts; 25-35 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Anuradhapura, Trincomalee, Kegalle and Gampaha districts; 15-25 mm in Puttalam, Kurunegala, Nuwara Eliya and Matara districts; 5-15mm in Polonnaruwa, Matale, Kandy, Badulla, Monaragala and Hambantota districts.

IMD WRF & IRI Model Forecast:

25th May: Up to 125 mm rainfall in Galle district; up to 65 mm of rainfall in Kegalle, Ratnapura, Kalutara and Matara districts; up to 35 mm in Puttalam, Kurunegala, Gampaha, Colombo, Nuwara Eliya and Hambantota districts; up to 8 mm of rainfall in Batticaloa, Kandy, Ampara, Badulla and Monaragala districts.

26th May: up to 125 mm of rainfall in Colombo and Ratnapura districts; up to 65 mm in Gampaha, Kegalle and Kalutara districts; up to 36 mm in Puttalam, Kurunegala, Nuwara Eliya, Galle and Matara districts; up to 8 mm Anuradhapura, Matale, Kandy, Nuwara Eliya, Hambantota, Badulla, Monaragala and Ampara districts.

Seasonal Prediction: IRI Multi Model Probability Forecast

Apr to Jun: the total 3-month precipitation shall be climatological for the whole country. The 3-month temperature has more than 70-80% likelihood in the whole of the island of being in the above-normal tercile.

MJO based OLR predictions

For the next 15 days:

MJO shall enhance the rainfall in Sri Lanka in the next 5 days and shall not have a significant impact on the following 5 days. MJO shall suppress the rainfall for the next 5 days.

¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.
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

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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

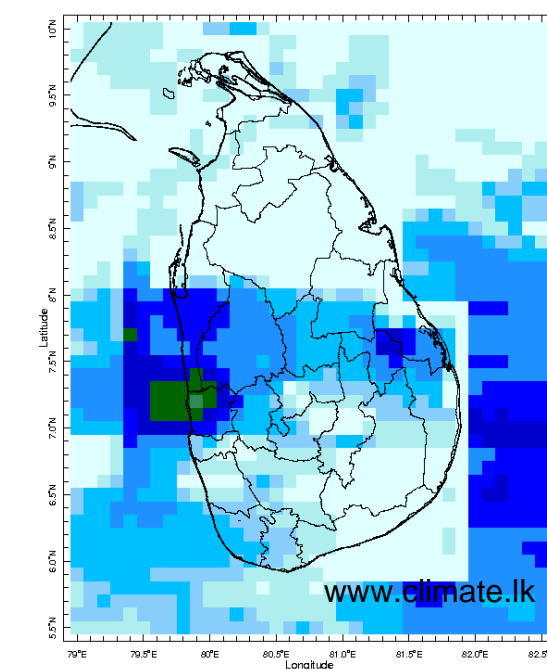
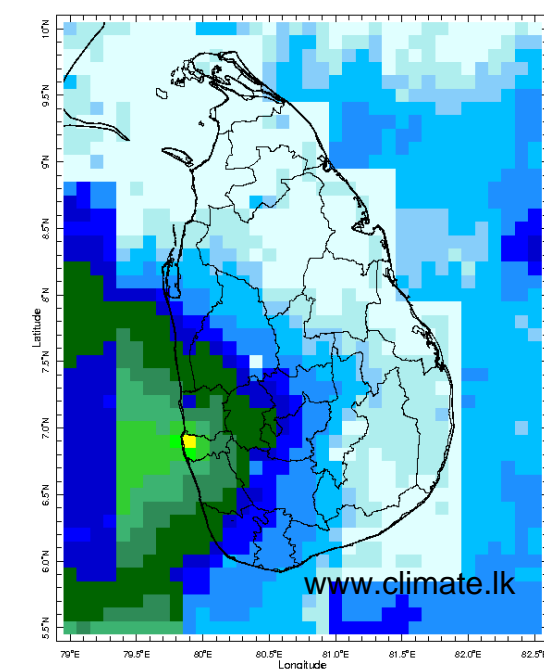
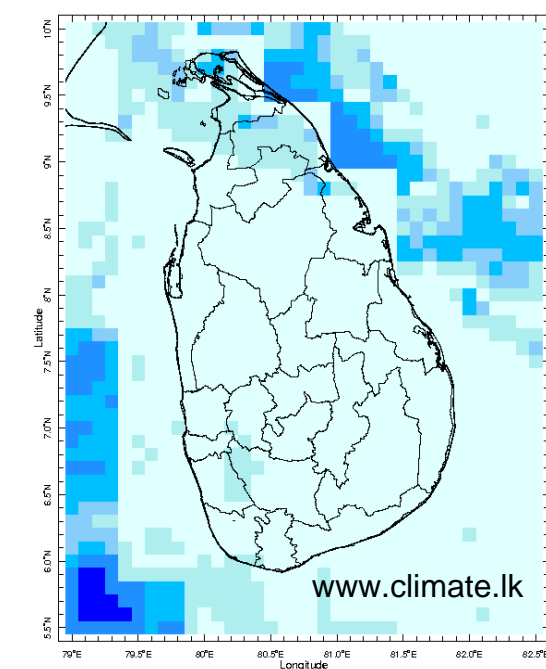
2. Predictions

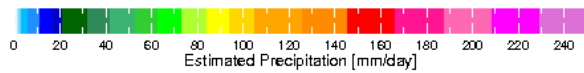
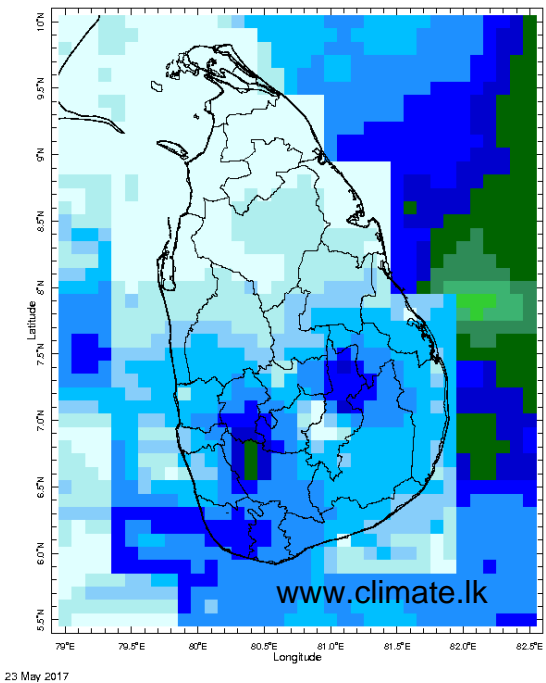
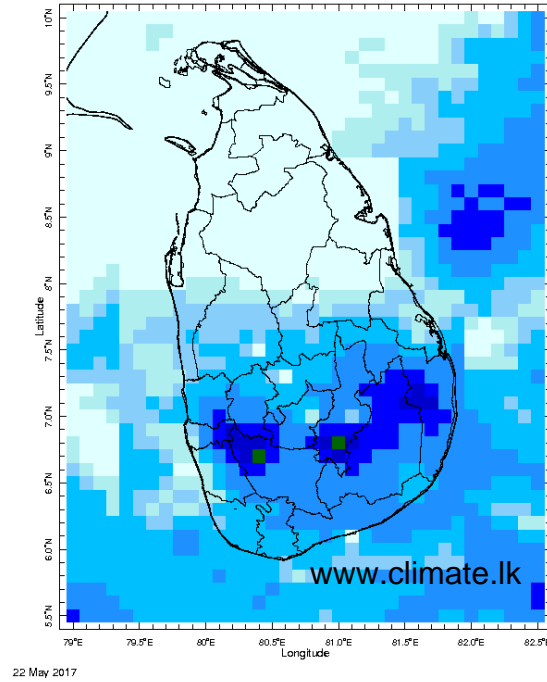
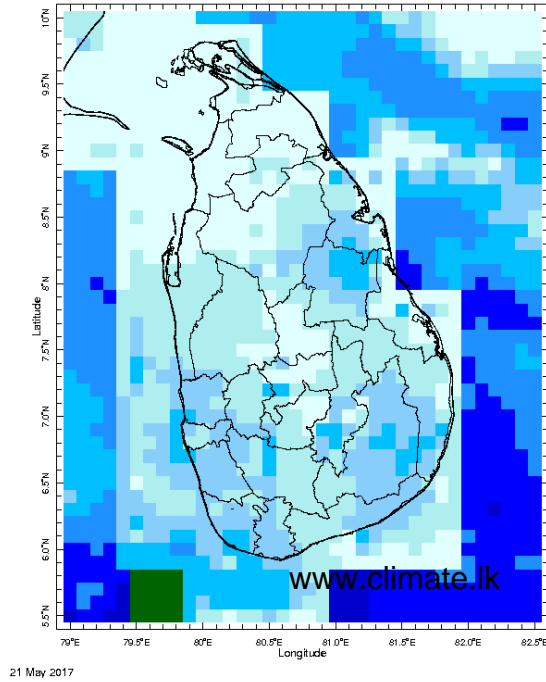
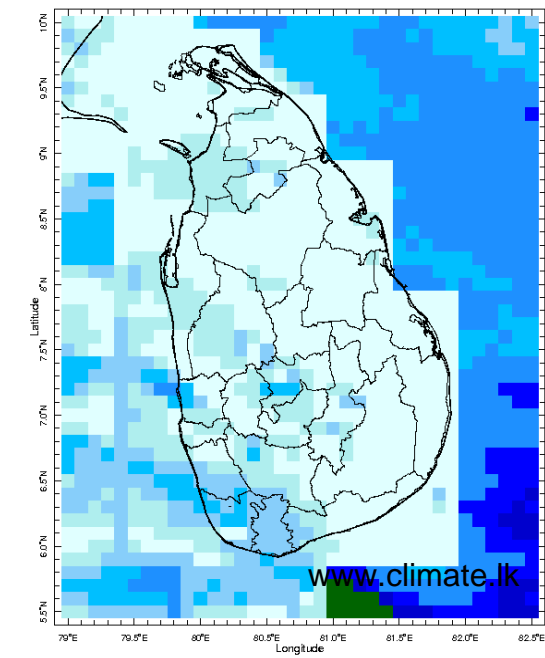
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
- d. Seasonal Predictions from IRI

MONITORING

Daily Rainfall Monitoring

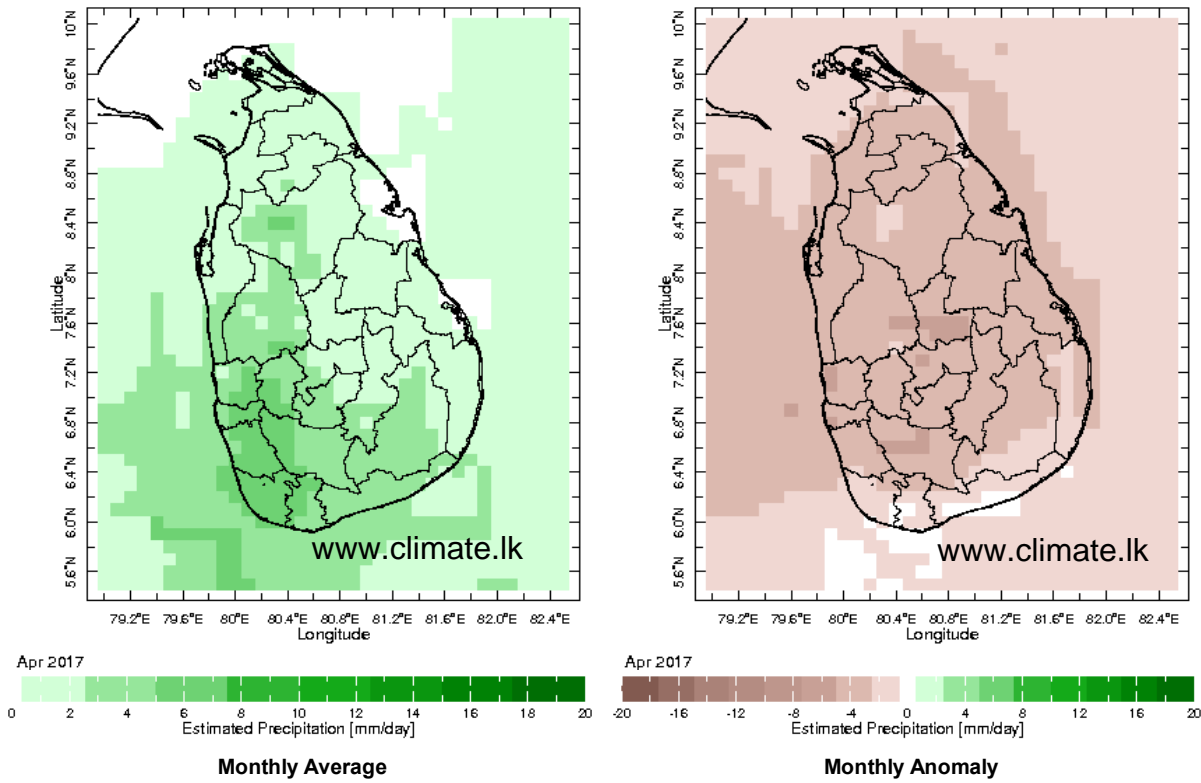
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



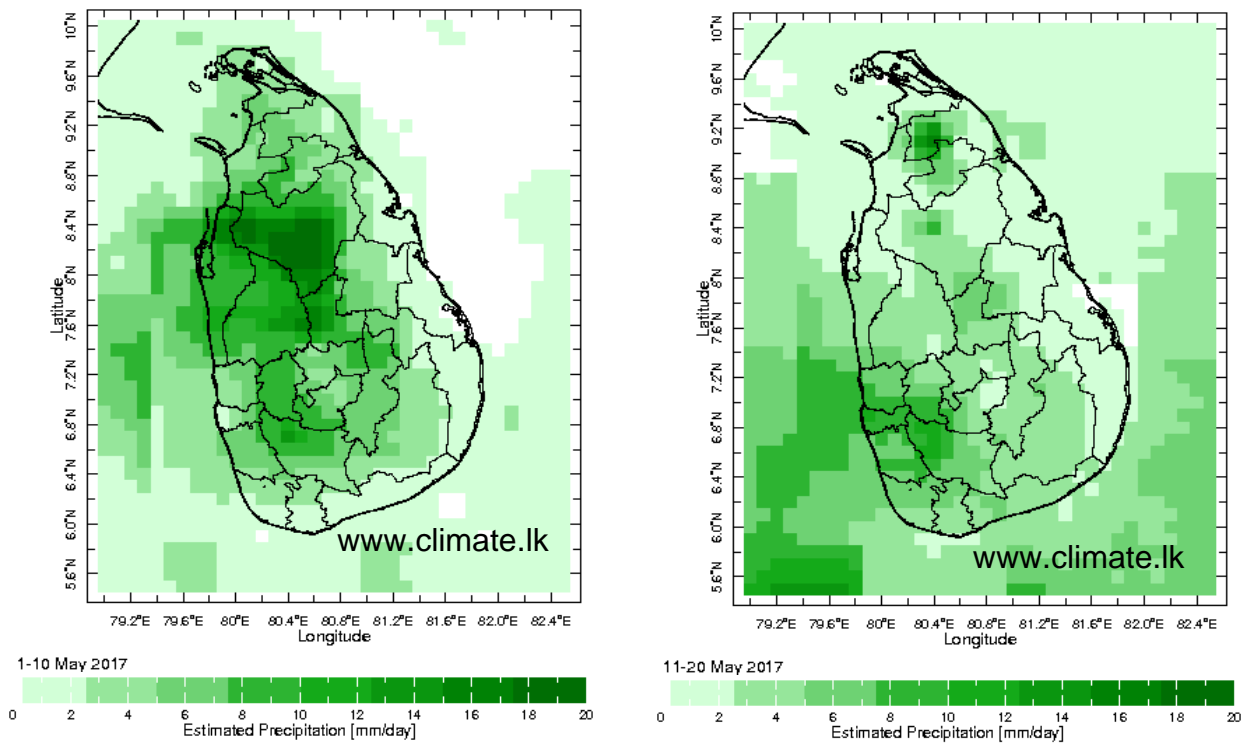


Monthly Rainfall Monitoring

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

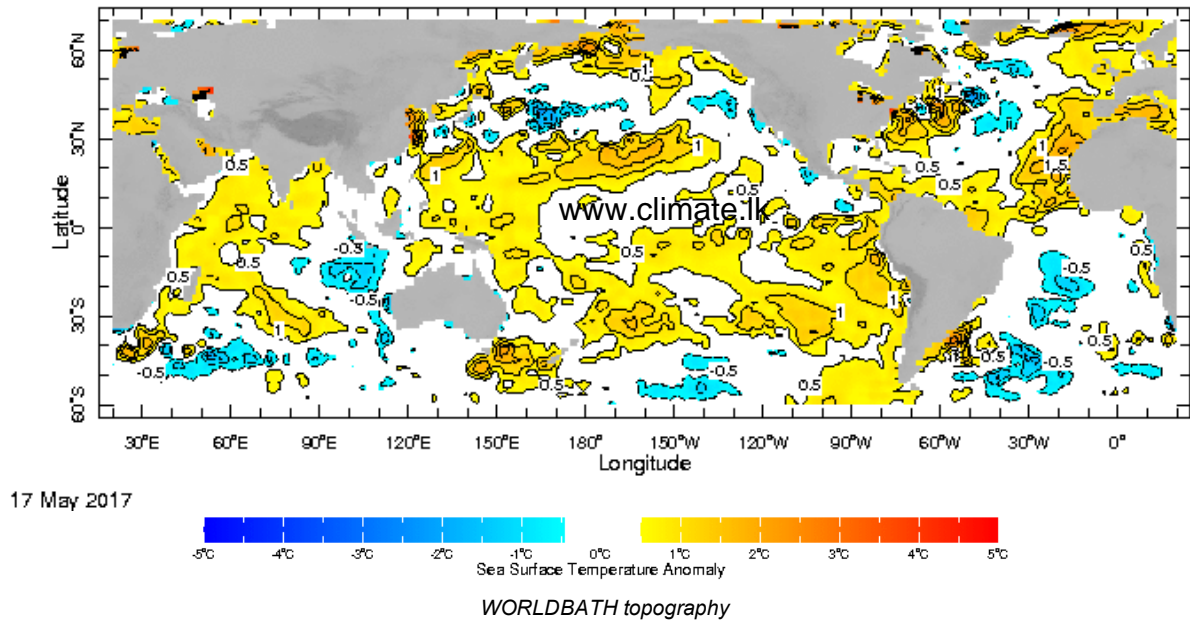


Dekadal (10 Day) Satellite Derived Rainfall Estimates

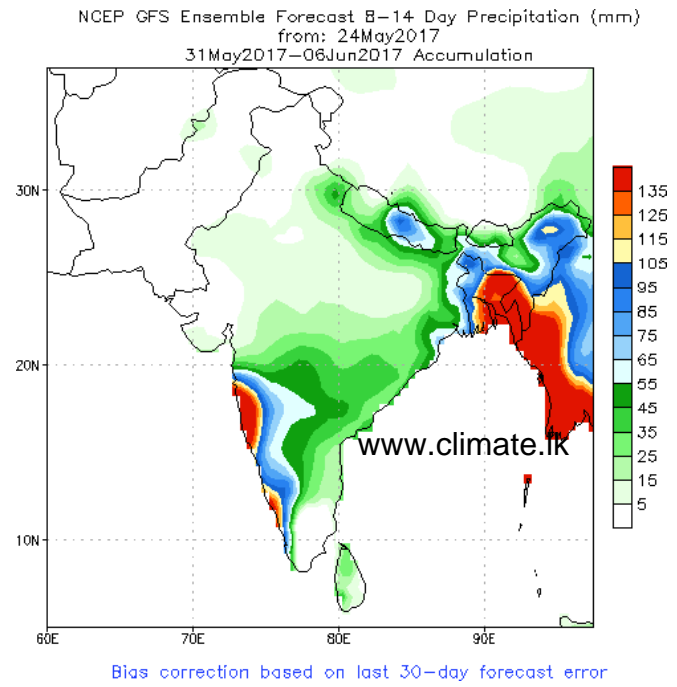
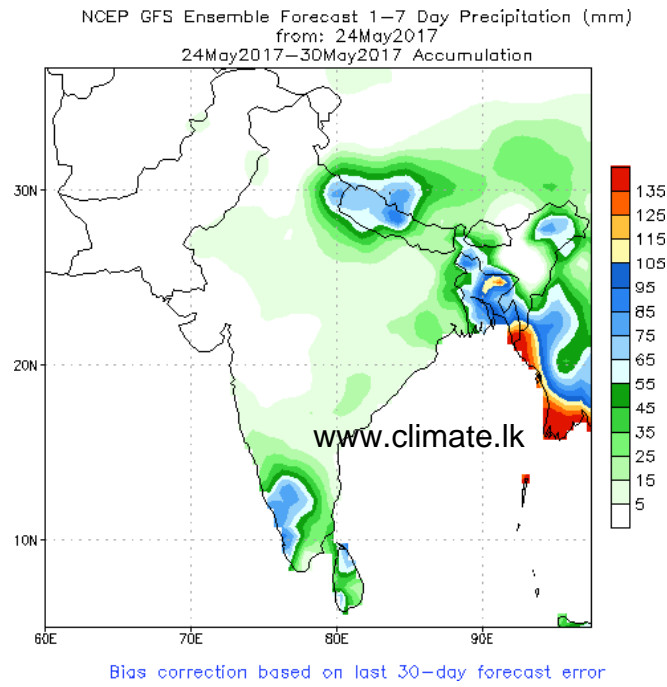


Weekly Average SST Anomalies

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

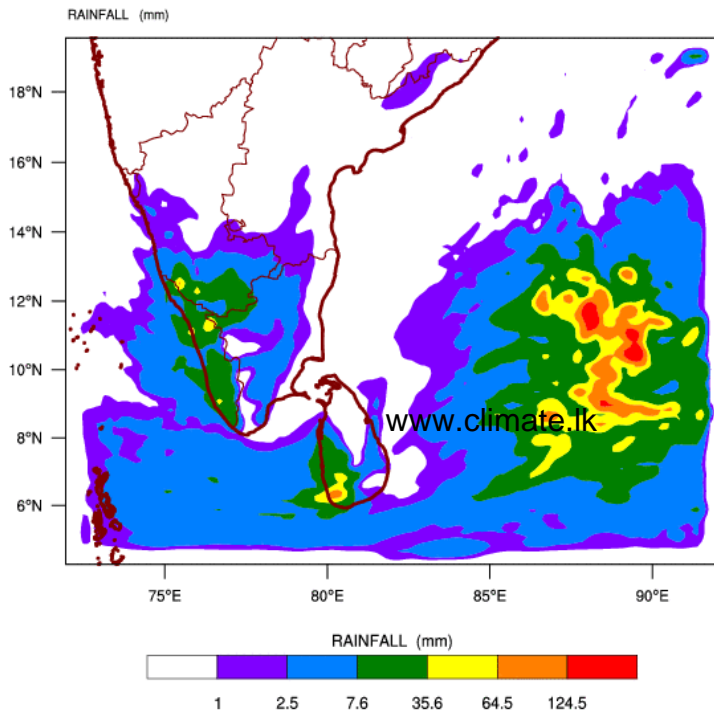


NCEP GFS 1- 14 Day prediction

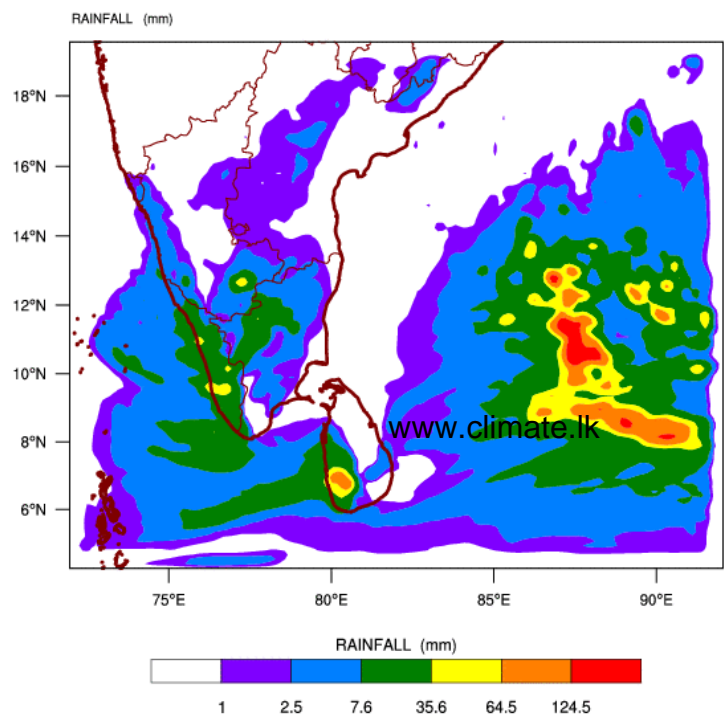


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 23-05-2017 valid for 03 UTC of 25-05-2017

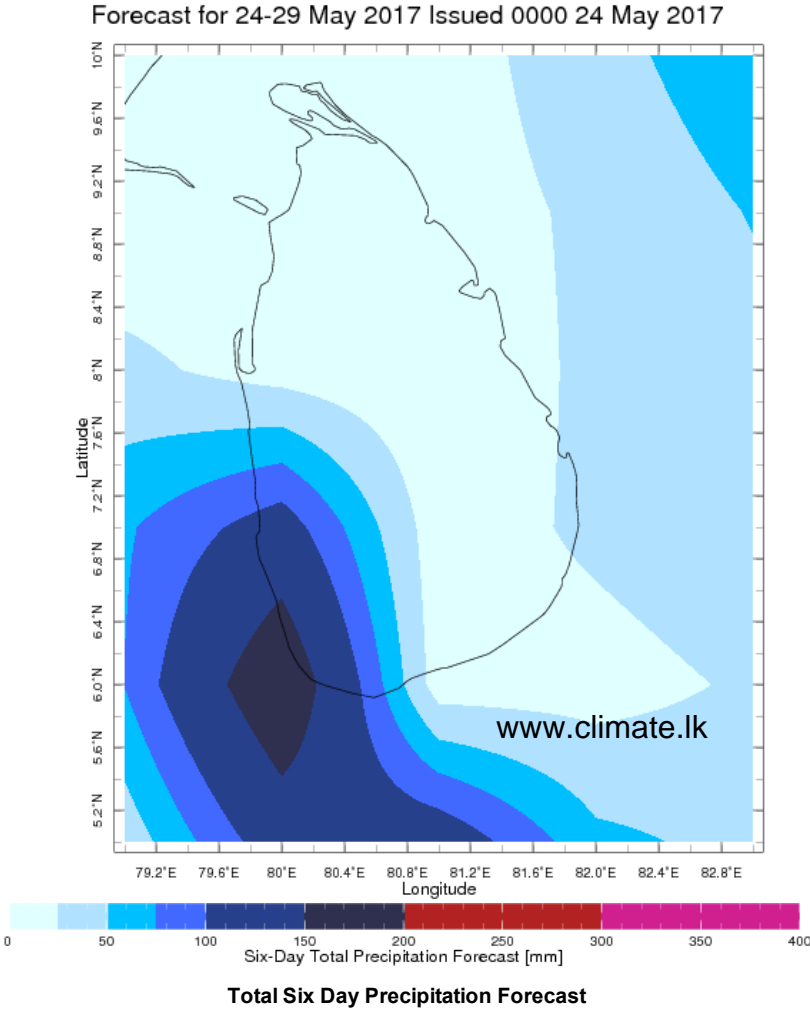
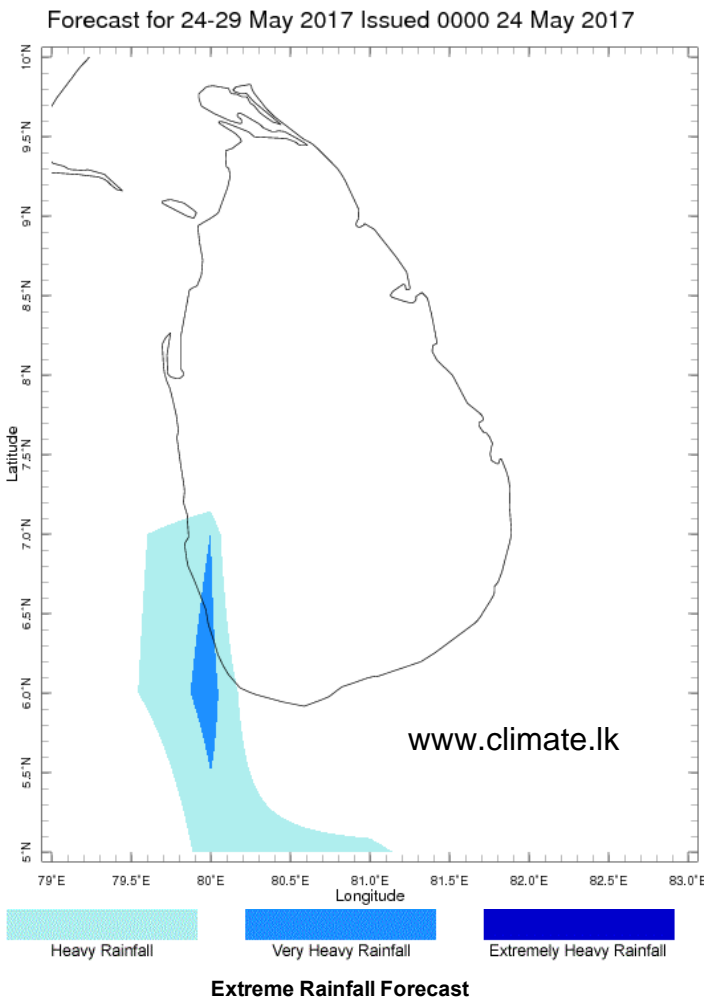


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 23-05-2017 valid for 03 UTC of 26-05-2017



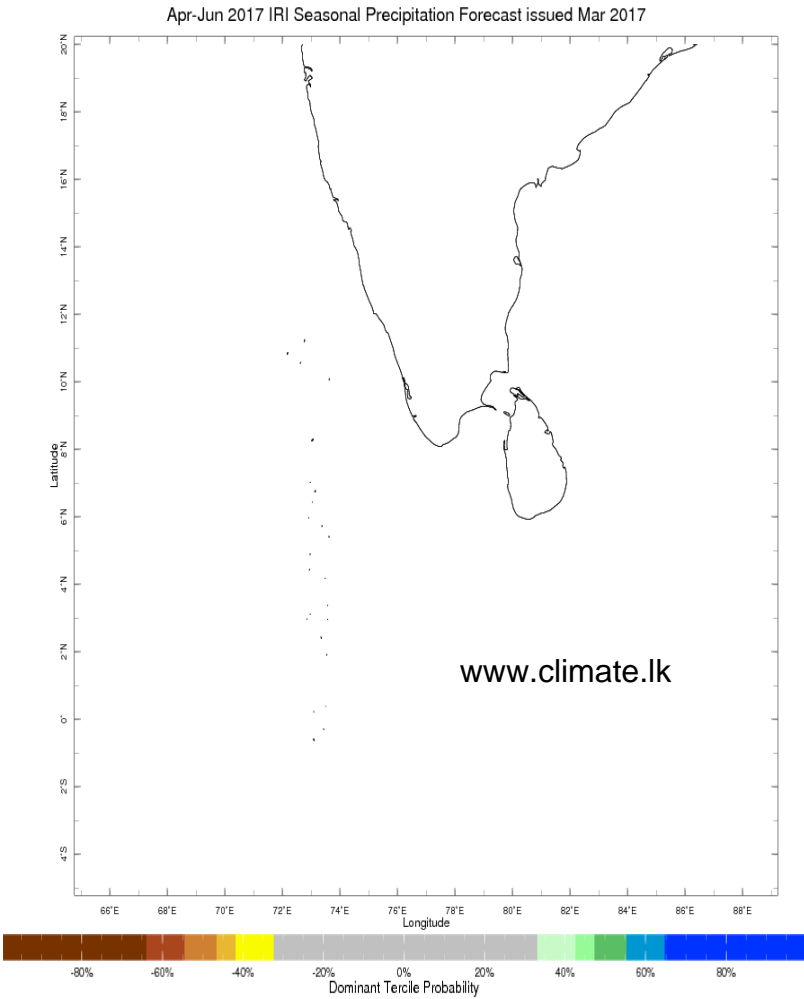
Weekly Rainfall Forecast from IRI

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.

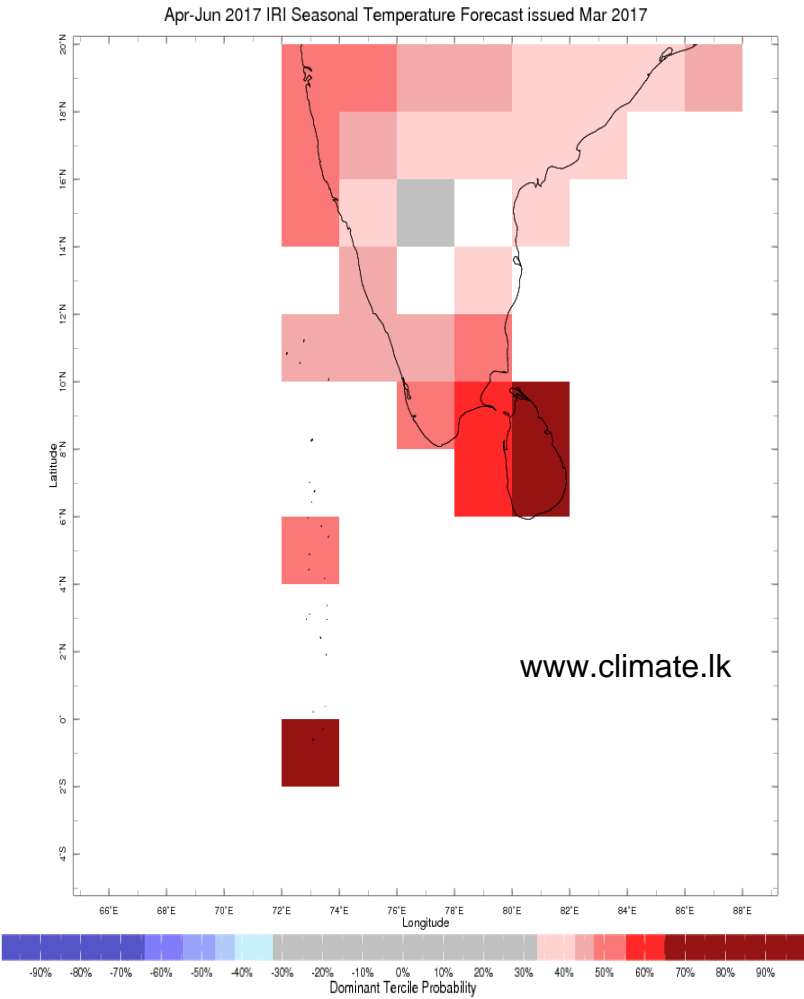


Seasonal Rainfall and Temperature Forecast

Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile probability levels. The upper side of the color bar shows the colors used for increasingly strong probabilities when the dominant tercile is the above-normal tercile, while the lower side shows likewise for the below-normal tercile. The gray color indicates an enhanced probability for the near-normal tercile (nearly always limited to 40%).



Precipitation Forecast



Temperature Forecast

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Contact Us

email: fectsl@gmail.com

phone: (+94) 81 2376746

blog: www.fectsl.blogspot.com

Foundation for Environment, Climate & Technology

C/O Mahaweli Authority of Sri Lanka,

Digana Village,

Rajawella,

SRI LANKA