

Experimental Climate Monitoring and Prediction

by: Ruchira Lokuhetti, Himash Rashmika, Janan Visvanathan,
Lareef Zubair and Michael Bell¹ (FECT and IRI¹)

27 July 2017**Highlights**

- The WRF model predicts up to 36 mm of rainfall in Western regions of the country on 28th and 29th of July.
- Between 18- 24 Jul: Rainfall up to 20 mm was recorded in Kurunegala and Gampaha districts on the 18th.
- From 16-22 Jul: minimum temperature of 20 °C was recorded from Nuwara Eliya district while Northern and Eastern regions of the island recorded a maximum temperature between 30-35 °C.
- From 18-24 Jul: up to 36 km/h, northwesterly winds were experienced by the entire island.
- 0.5 °C above average sea surface temperature was observed in the northern and southern seas around Sri Lanka.

Monitoring**Rainfall**

Weekly Monitoring: On July 18th, Kurunegala and Gampaha districts received up to 20 mm of rainfall; and Puttalam, Matale, Kandy, Kegalla, Colombo, Kalutara and Ratnapura districts up to 10 mm. On the 19th Gampaha, Colombo, Kalutara, Ratnapura and Kegalla districts received up to 10 mm of rainfall. No significant rainfalls were recorded in any part of the island during the period 20th – 24th.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 10-25 mm in western and southern adjacent seas of the island; and up to 5-10 mm in Gampaha, Colombo, Kalutara, Ratnapura, Galle and Matara districts. It shows below average rainfall and up to and 10-25 mm in Gampaha, Kalutara, Kegalla, Ratnapura, Kurunegala, Matale, Kandy, Nuwara Eliya, Trincomalee, Badulla, Monaragala and Trincomalee districts.

Monthly Monitoring: During June - below average rainfall conditions were experienced in the entire island except for northern regions of Monaragala and adjacent regions of Ampara district. Ratnapura, Kalutara and Galle districts received up to 240 mm below average rainfall; and Colombo and Nuwara Eliya districts received up to 150 mm; and most parts of the island up to 120 mm. The CPC Unified Precipitation Analysis tool shows ~200 mm of total rainfall in Monaragala and Ampara districts; up to ~150 mm Badulla district; and up to ~100 mm Kurunegala, Gampaha, Colombo, Kalutara, Nuwara Eliya, Kandy, Kegalla, Ratnapura and Galle districts; up to 75 mm in Puttalam, Matale and Matara districts.

Ocean State (Text Courtesy IRI)**Pacific sea state: July 19, 2017**

In mid-July 2017, the tropical Pacific remained in an ENSO-neutral state, with SSTs near the El Niño threshold in the east-central tropical Pacific but the atmosphere maintaining ENSO-neutral patterns. The collection of latest ENSO prediction models indicates ENSO-neutral as the most likely condition during summer through fall and into winter with chances for El Niño development at about 35-40%.

Indian Ocean State

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

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 26th Jul – 1st Aug: Total rainfall between 45-55 mm in Ratnapura, Matara and Hambantota districts; between 35-45 mm in Gampaha, Kegalla, Nuwara Eliya and Monaragala; and between 25-35 mm in Puttalam, Kurunegala, Kandy and Badulla districts.

From 2nd – 8th Aug: Total rainfall between 45-55 mm in Galle district; between 35-45 mm in Colombo, Kegalla, Ratnapura, Matara and Hambantota districts; and between 25-35 mm in Gampaha, Puttalam, Kurunegala, Matale, Kandy and Nuwara Eliya districts.

IMD WRF & IRI Model Forecast:

28th Jul: Up to 36 mm of rainfall in Puttalam, Kurunegala, Matale, Kegalla, Kandy, Nuwara Eliya, Gampaha, Colombo, Kalutara, Ratnapura, Matara and Galle districts; and up to 8 mm of rainfall in many parts of the island.

29th Jul: Up to 36 mm of rainfall in Puttalam, Kurunegala, Gampaha, Colombo, Kalutara, Galle, Matara, Kegalla, Matale, Kandy, Nuwara Eliya and Ratnapura districts; and up to 8 mm of rainfall in many parts of the island.

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 suppress the rainfall in Sri Lanka.

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/>

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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

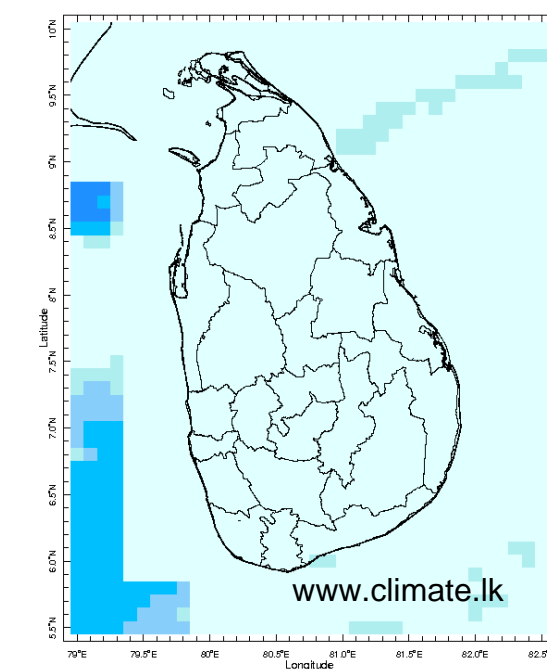
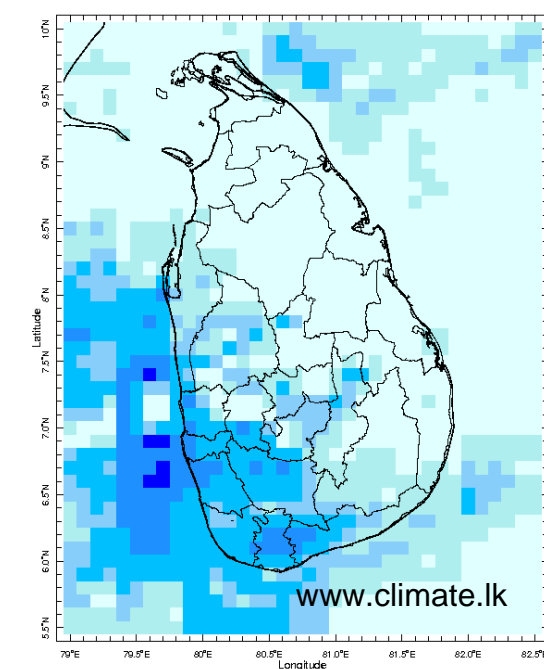
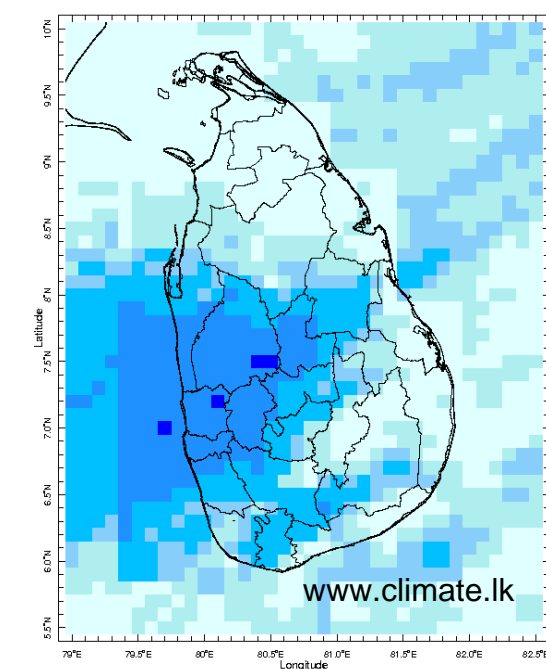
2. Predictions

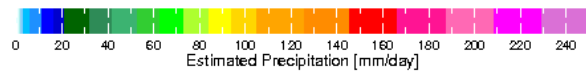
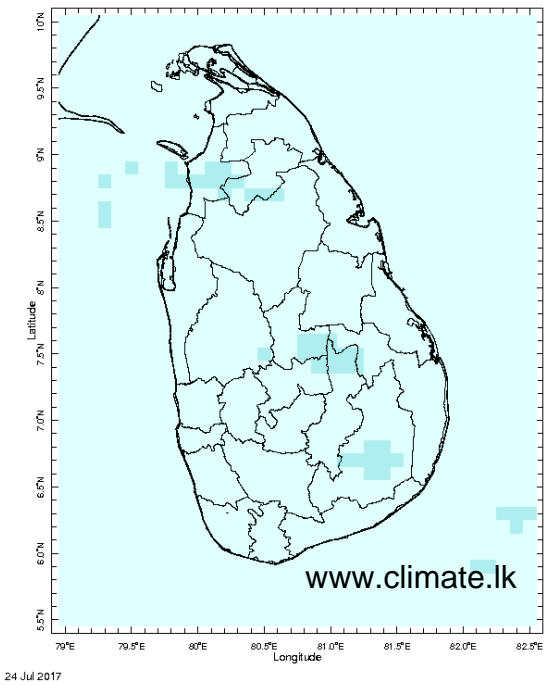
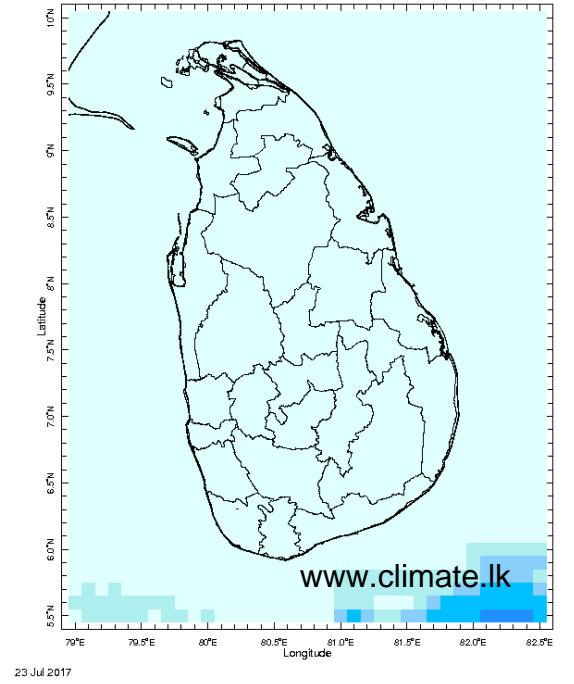
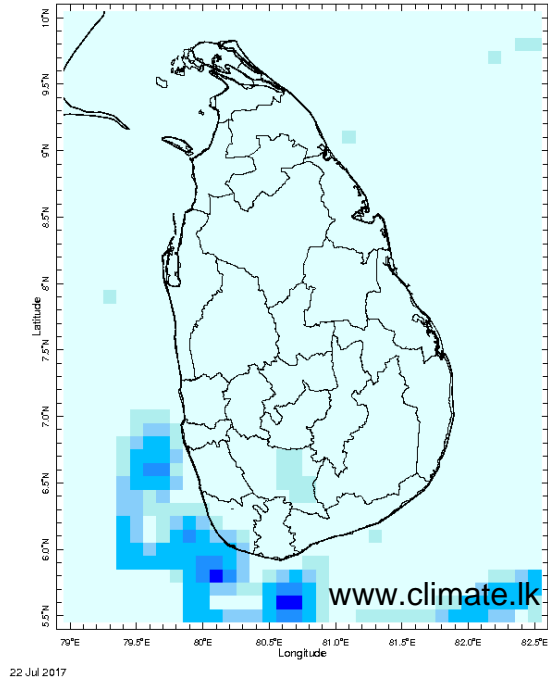
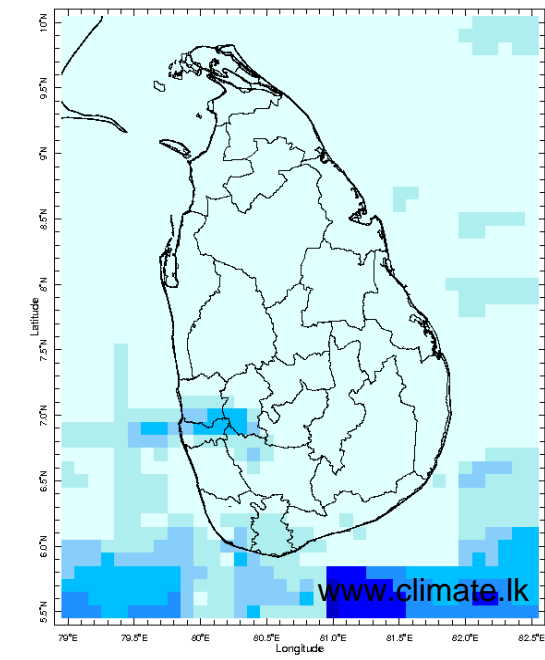
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
- d. Seasonal Predictions from IRI

MONITORING

Daily Rainfall Monitoring

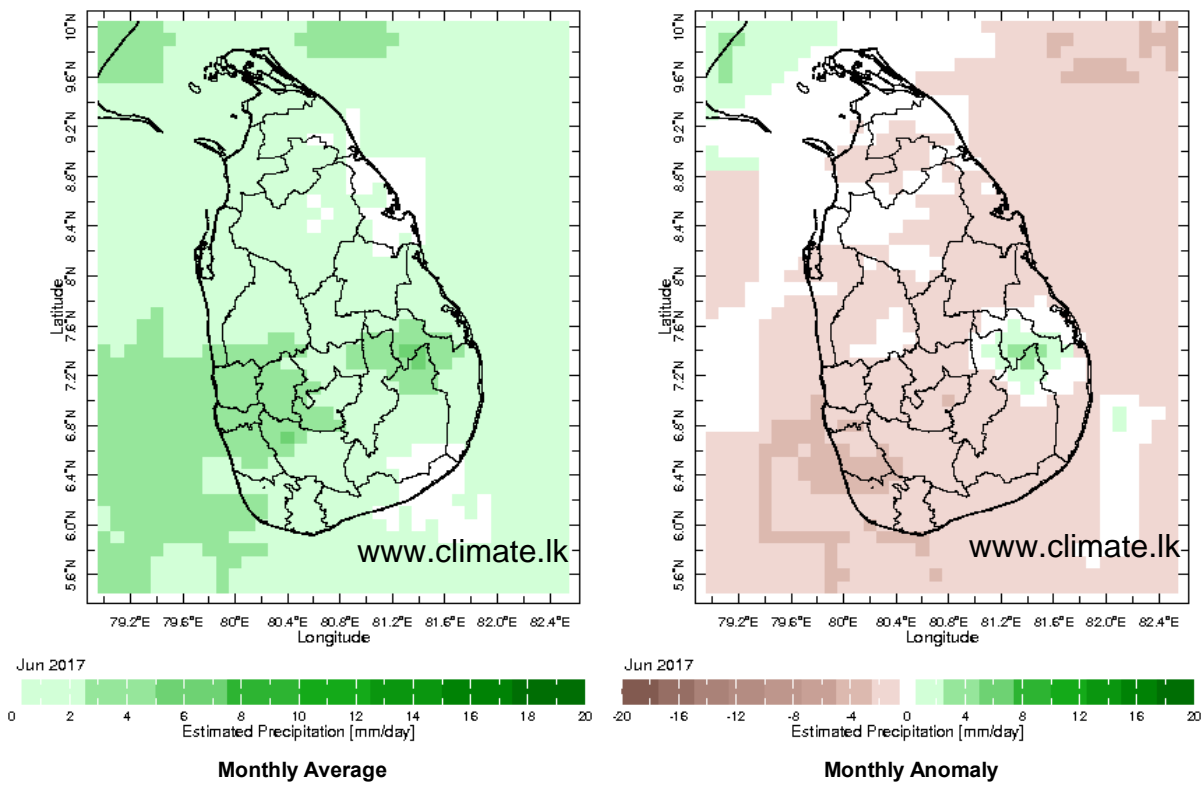
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



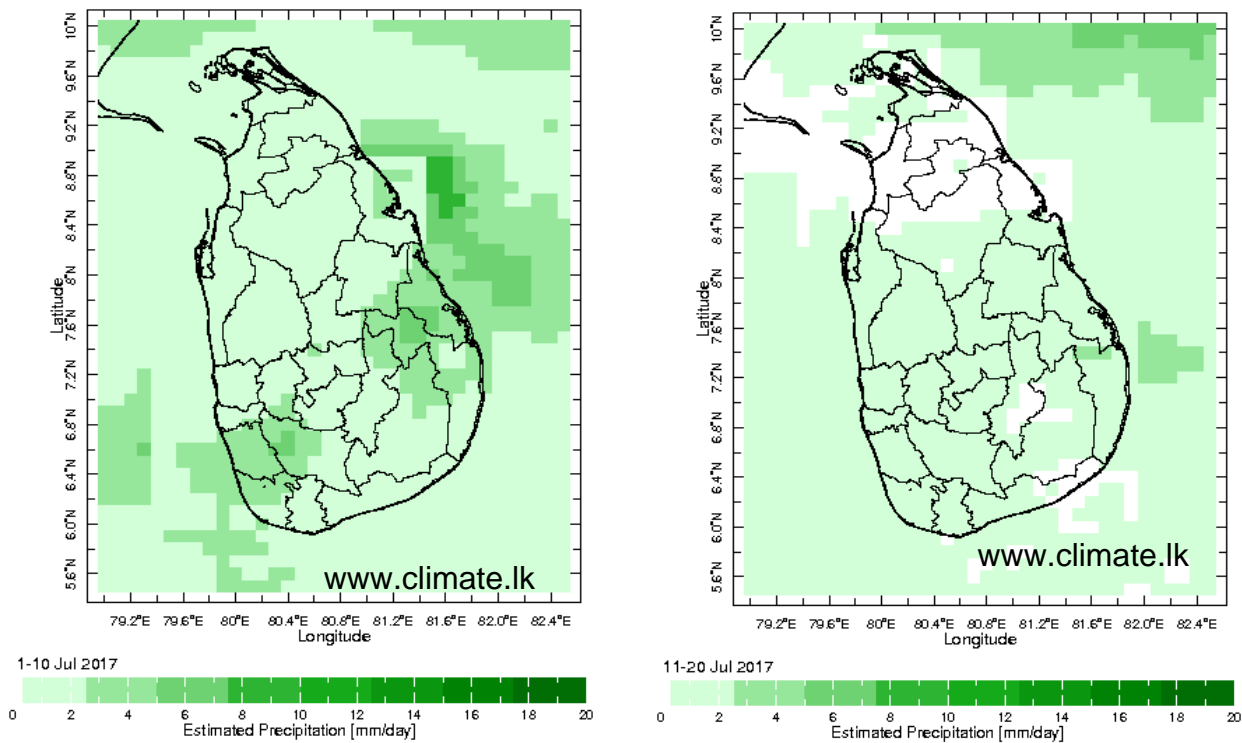


Monthly Rainfall Monitoring

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

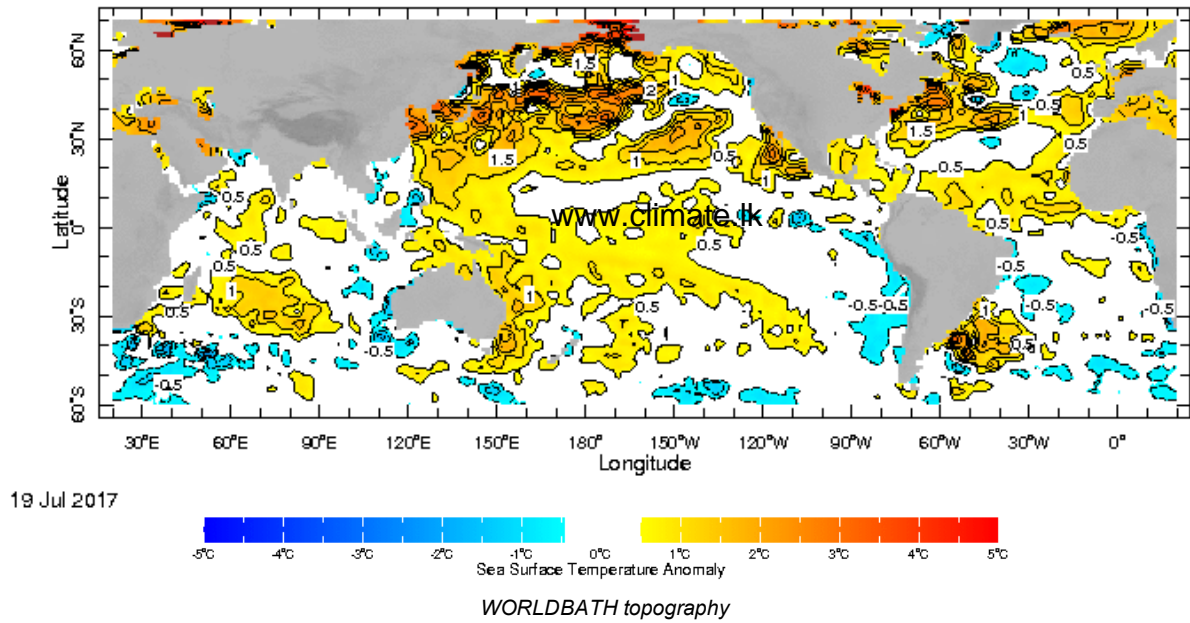


Dekadal (10 Day) Satellite Derived Rainfall Estimates

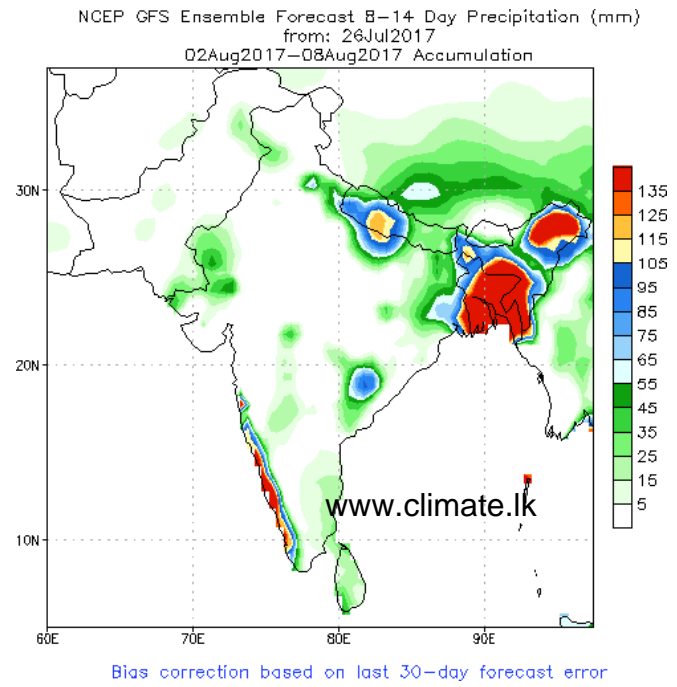
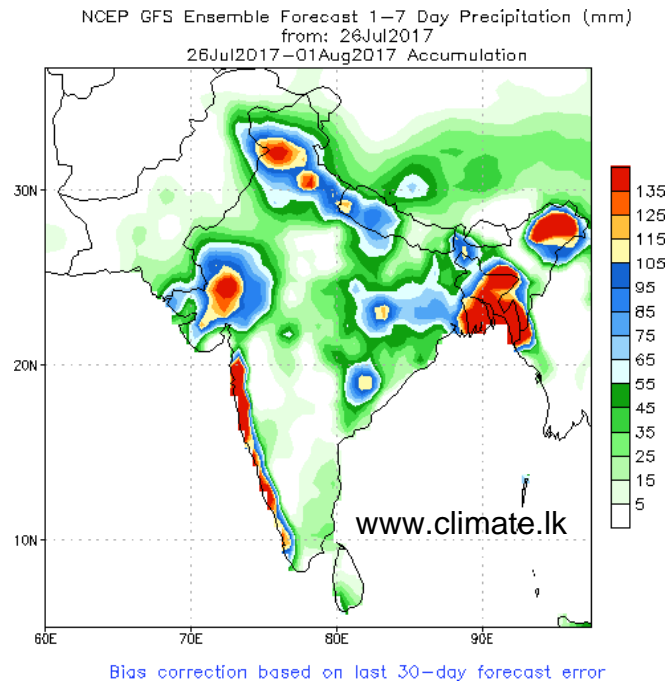


Weekly Average SST Anomalies

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

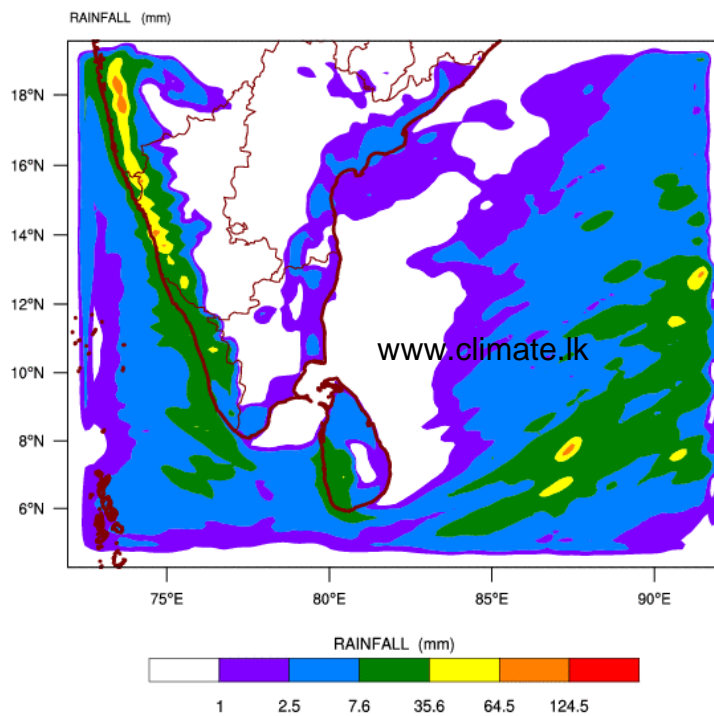


NCEP GFS 1- 14 Day prediction

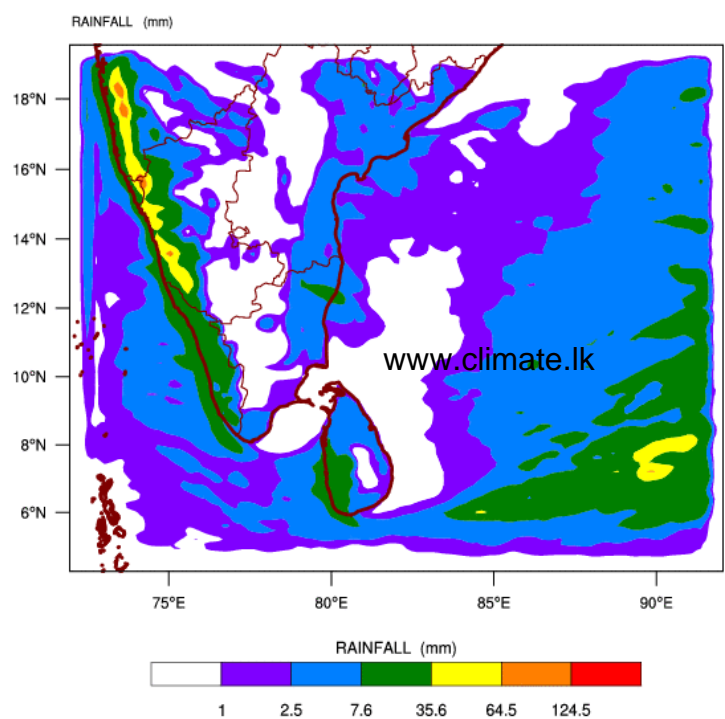


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 26-07-2017 valid for 03 UTC of 28-07-2017

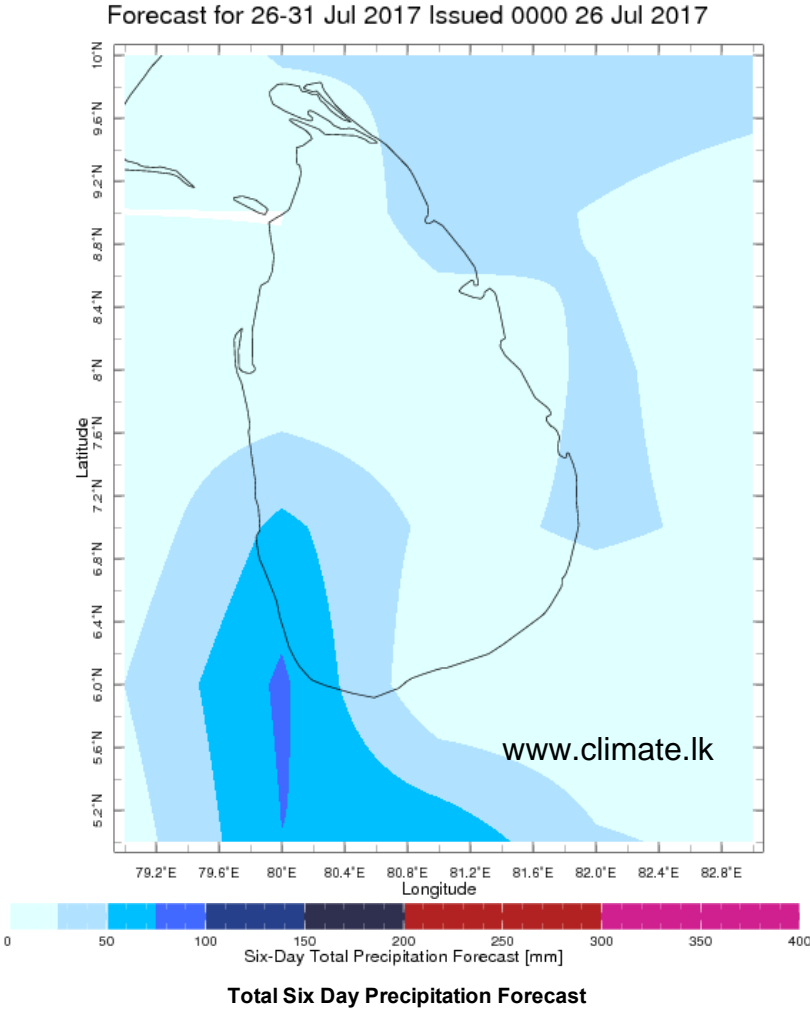
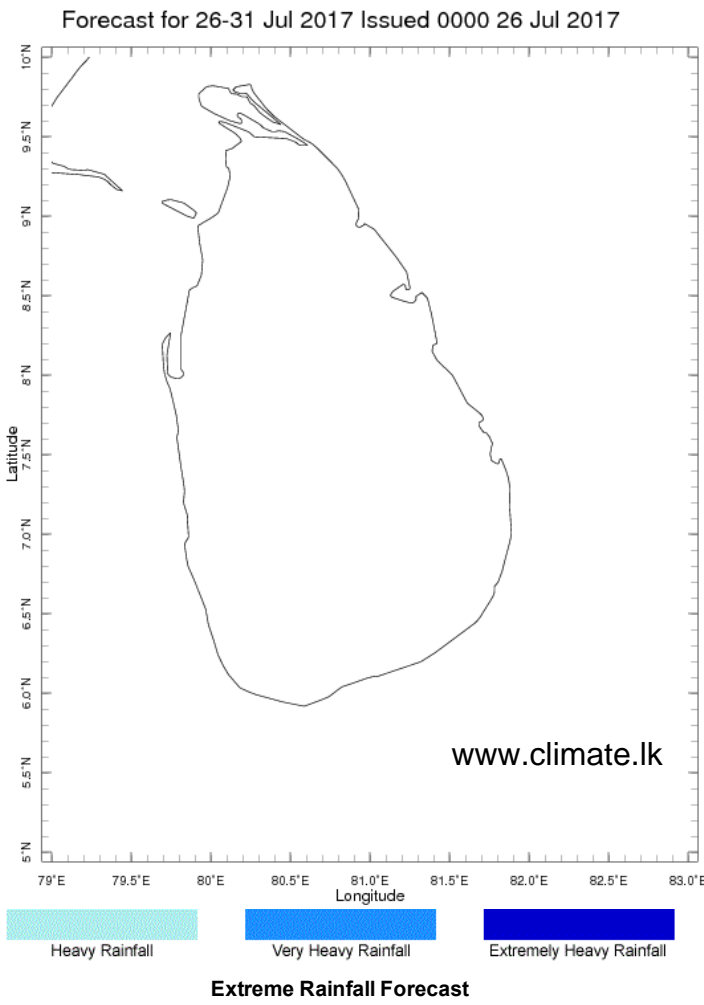


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 26-07-2017 valid for 03 UTC of 29-07-2017



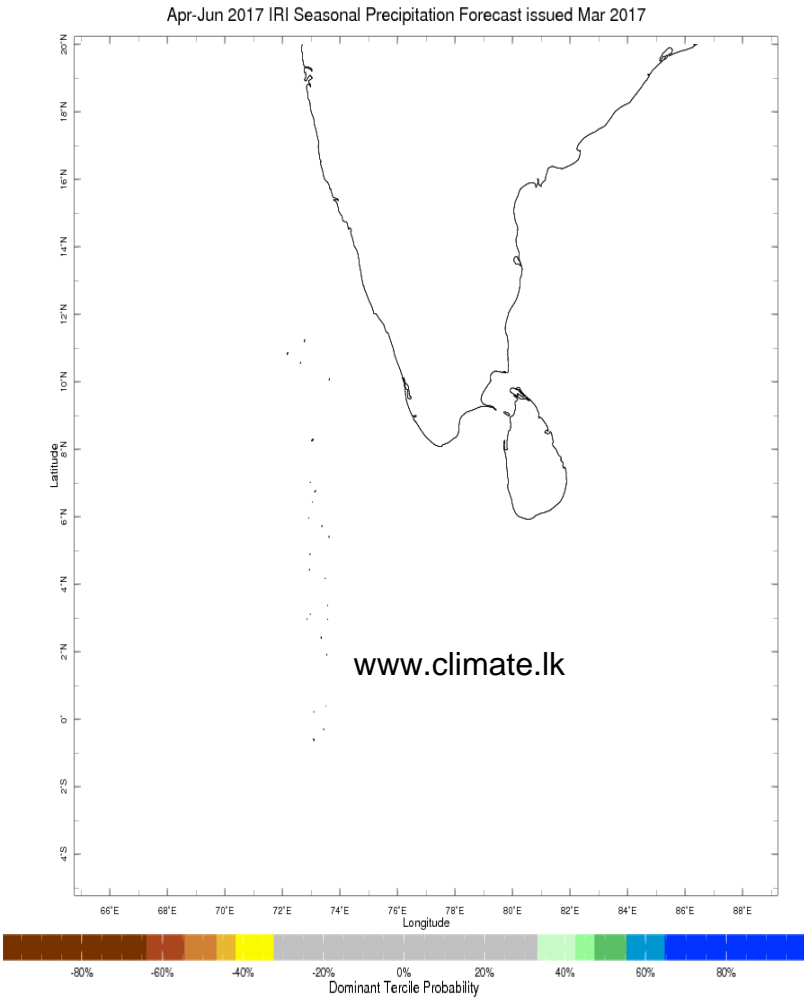
Weekly Rainfall Forecast from IRI

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.

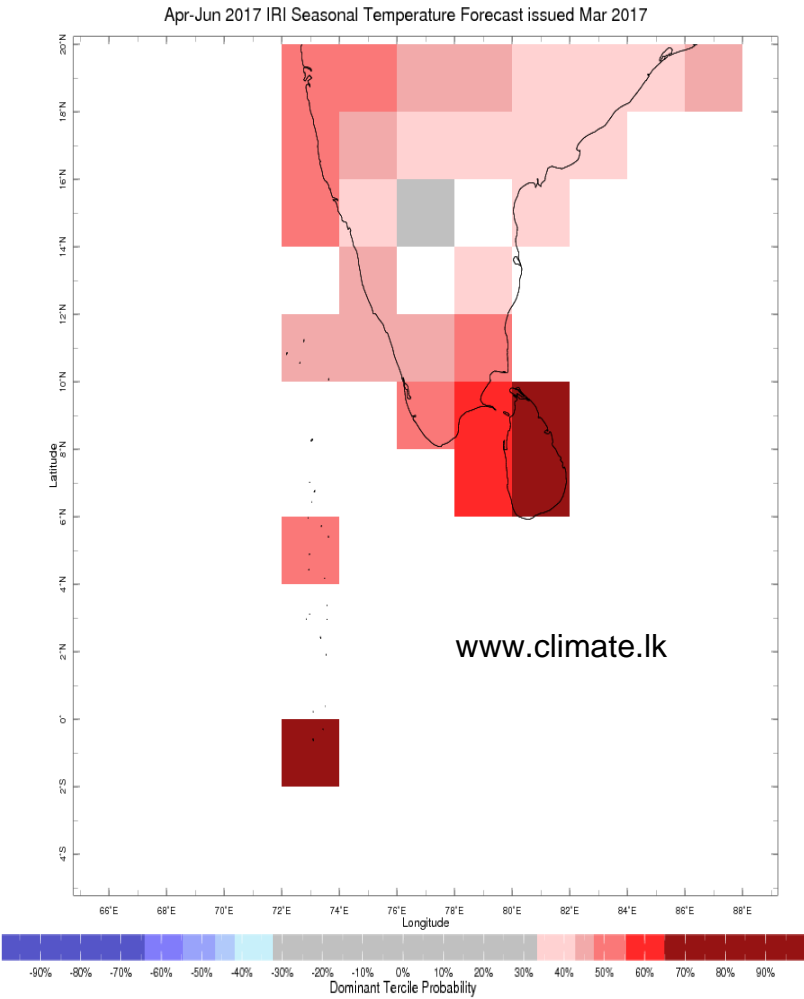


Seasonal Rainfall and Temperature Forecast

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