

Experimental Climate Monitoring and Prediction

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15 June 2017

Highlights

- The WRF model predicts up to 36 mm of rainfall in Western coastal regions of the country on 16th of June.
- Between 7-13 Jun: Rainfall up to 60 mm was recorded in Jaffna district on the 7th.
- From 4-10 Jun: minimum temperature of 15 °C was recorded from Nuwara Eliya district while northern and eastern coastal regions of the island recorded a maximum temperature between 30-35 °C.
- From 6-12 Jun: up to 54 km/h, northwesterly winds were experienced by the whole island.
- 0.5 °C above average sea surface temperature was observed in the northern and northeastern seas of Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On June 7th, Jaffna district received up to 60 mm of rainfall; Kilinochchi, Mullaitivu and Vavuniya districts up to 20 mm; most northern regions of the island up to 10 mm; and adjacent northern sea up to 90 mm. On the 8th Mannar district received up to 10 mm of rainfall. Several regions of Mullaitivu and Mannar districts received up to 10 mm on the 9th. No significant rainfalls were recorded during the 10th-13th period.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 10-25 mm in Jaffna, Kilinochchi, Mullaitivu and Mannar districts; up to 5-10 mm in Vavuniya and Anuradhapura districts. It shows below average rainfall up to 50 mm for Puttalam, Kurunegala, Kandy, Nuwara Eliya, Kegalla, Ratnapura, Gampaha, Colombo, Kalutara, Badulla, Monaragala and Galle districts; up to 10-25 mm in Matale, Polonnaruwa, Ampara, Hambantota and Matara districts.

Monthly Monitoring: During May - above average rainfall conditions were experienced in the entire island except for Batticaloa, Ampara and Jaffna districts. Ratnapura district received up to 450 mm above average rainfall; and Kegalla, Kalutara, Matara and Galle districts received up to 360 mm; Nuwara Eliya district up to 240 mm and many parts of the island up to 120 mm. Monthly total rainfall for Ratnapura, Kalutara and Galle districts amounted to 540 mm; up to 420 mm for Kegalla district; and 360 mm for Nuwara Eliya, Colombo and Gampaha districts. The CPC Unified Precipitation Analysis tool shows ~1000 mm of total rainfall in Ratnapura district; up to ~750 mm in Kegalla, Colombo, Kalutara and Galle districts; and up to ~500 mm Kurunegala, Gampaha, Nuwara Eliya and Matara districts; up to 300 mm in Puttalam, Kandy, Badulla, Monaragala and Hambantota districts; and up to 200 mm in Anuradhapura, Polonnaruwa and Matale districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: June 8, 2017

In early June 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 approximately even chances for SSTs at warm-neutral versus weak El Niño levels in early summer, but slightly greater chances for ENSO-neutral than weak El Niño from late summer onward into the rest of 2017.

Indian Ocean State

0.5 °C above average sea surface temperature was observed in the northern and northeastern seas of Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 14th-20th Jun: Total rainfall between 125-135 mm Ratnapura district; up to 95-105 mm in Colombo, Kegalla, Kandy, Nuwara Eliya and Galle districts; up to 45-55 mm in Gampaha, Matale, Badulla and Monargala districts; up to 35-45 mm in Puttalam, Kurunegala and Ampara districts.

From 21st-27th June: Total rainfall between 95-105 mm in Kegalla, Colombo and Ratnapura districts; up to 45-55 mm in Gampaha, Kurunegala, Kandy, Nuwara Eliya and Galle districts; up to 25-35 mm in Kurunegala and Puttalam districts.

IMD WRF & IRI Model Forecast:

16th Jun: Up to 8 mm of rainfall in Puttalam, Gampaha, Colombo, Kalutara, Galle, Matara, Badulla, Batticaloa, Ampara and Ratnapura districts.

17th Jun: Up to 36 mm of rainfall in Puttalam, Gampaha and Kalutara districts; up to 8 mm of rainfall in Kurunegala, Kegalla, Ratnapura, Galle and Matara 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.

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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/>

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Weekly Hydro- Meteorological Report for Sri Lanka

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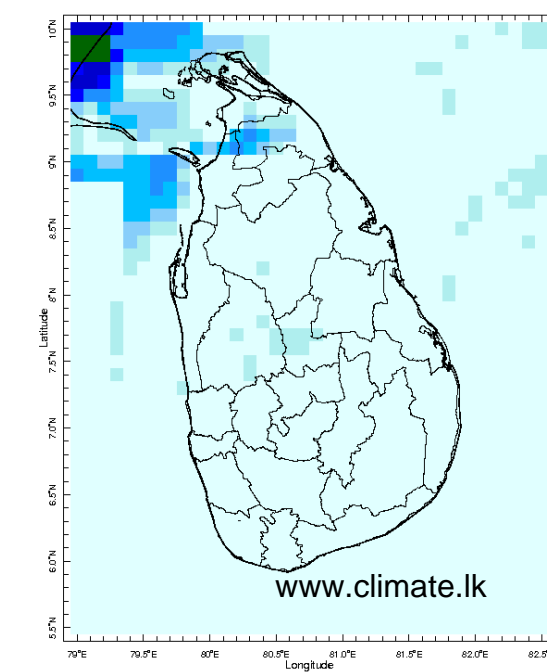
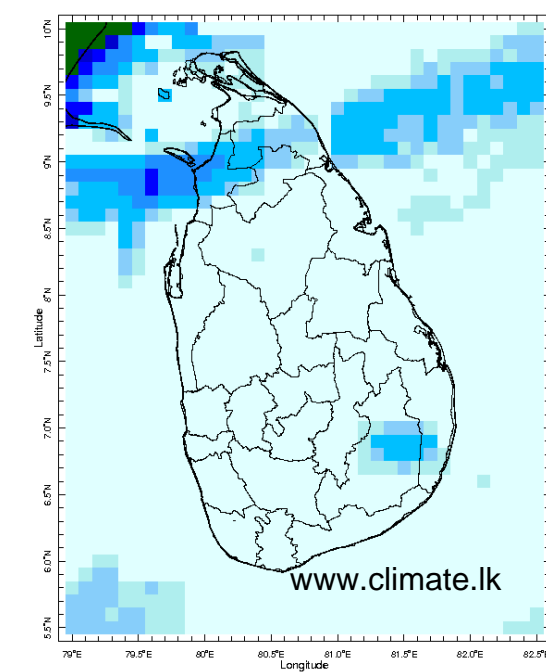
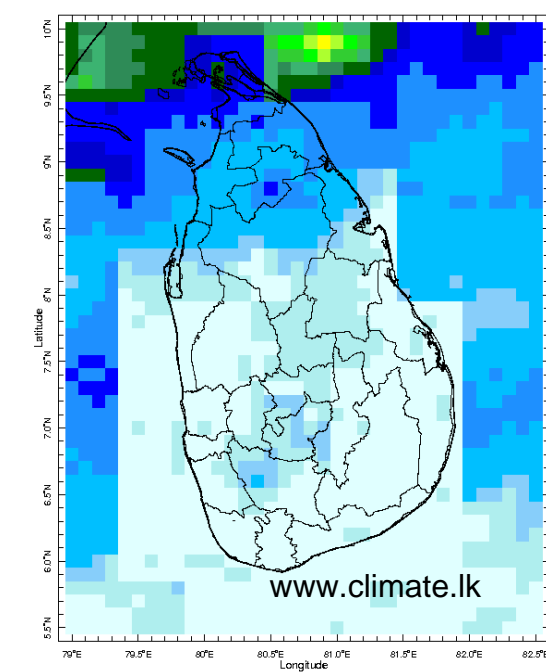
2. Predictions

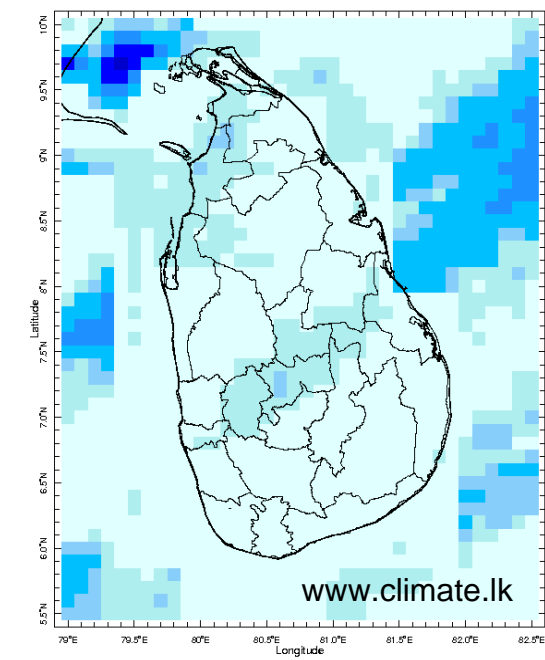
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
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MONITORING

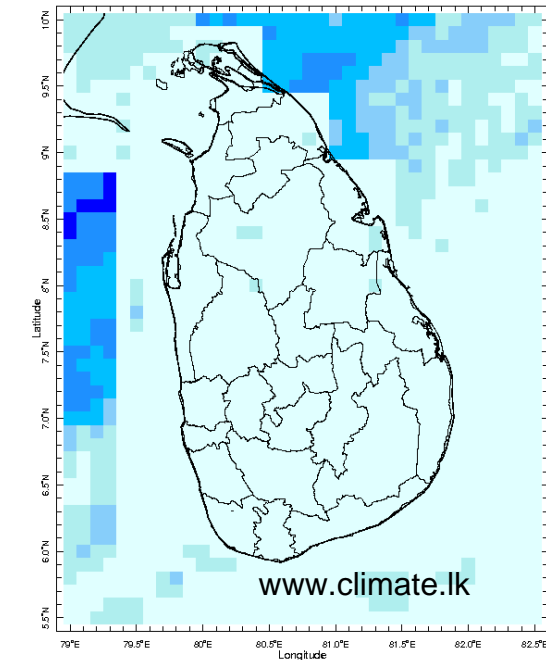
Daily Rainfall Monitoring

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

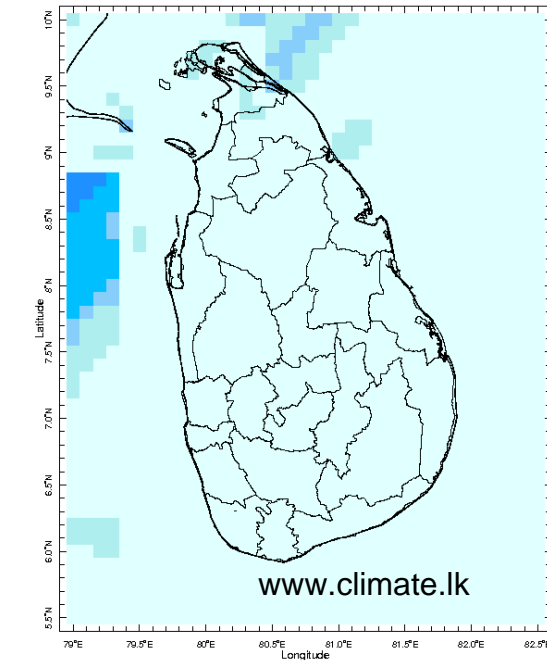




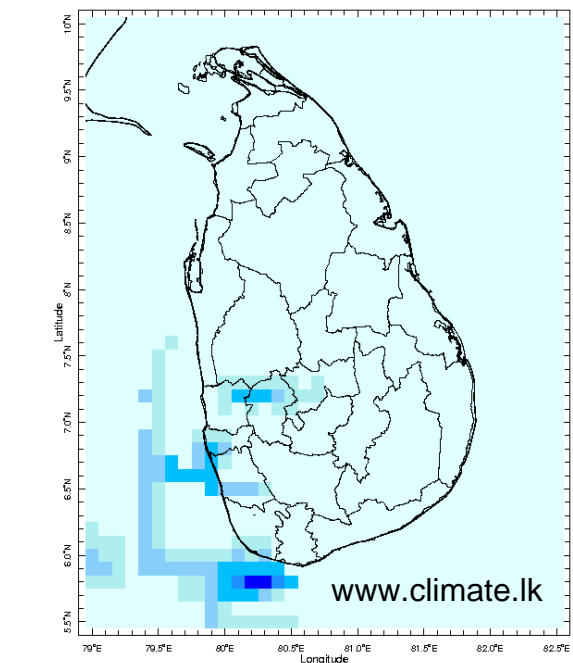
10 Jun 2017



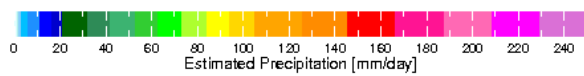
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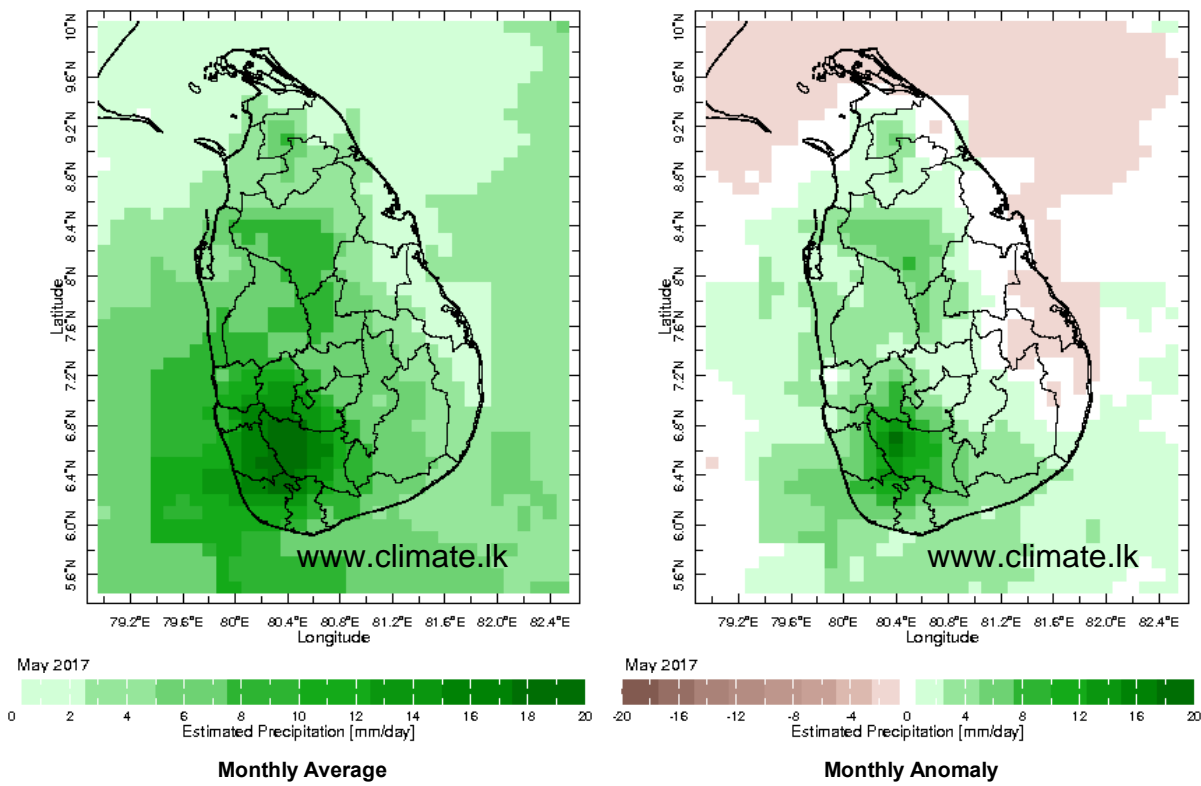


13 Jun 2017

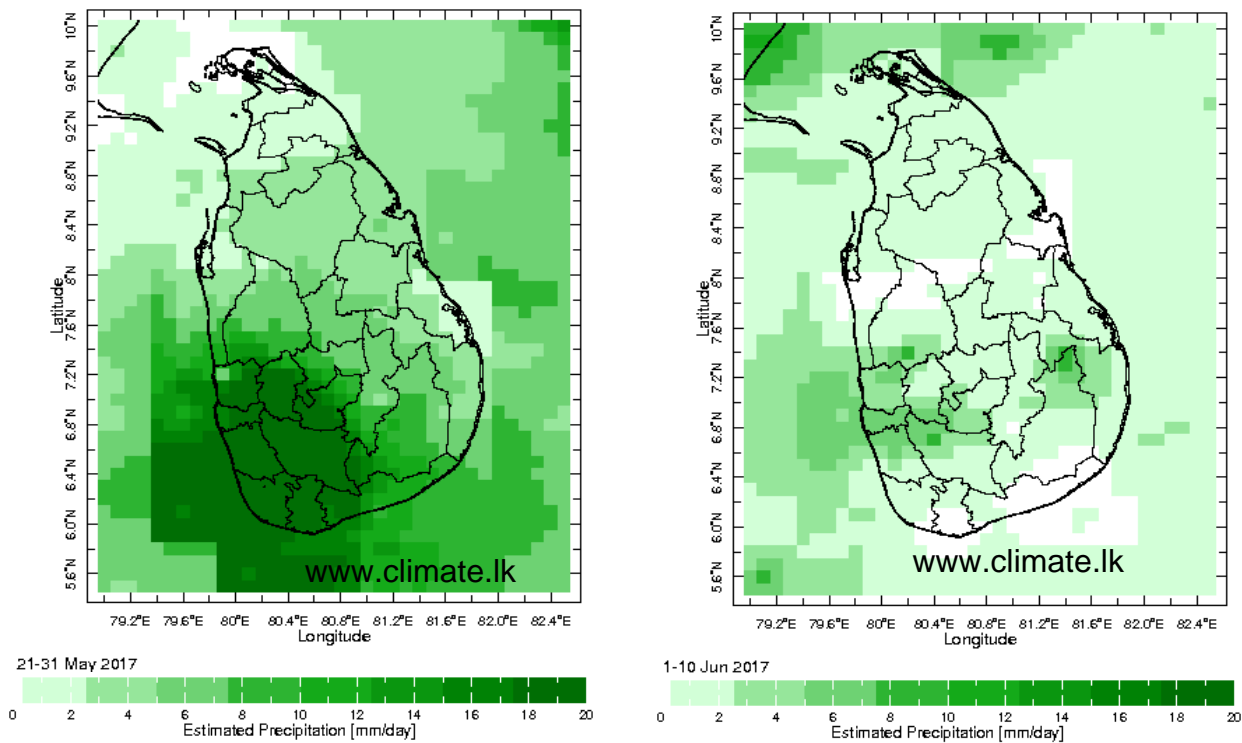


Monthly Rainfall Monitoring

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

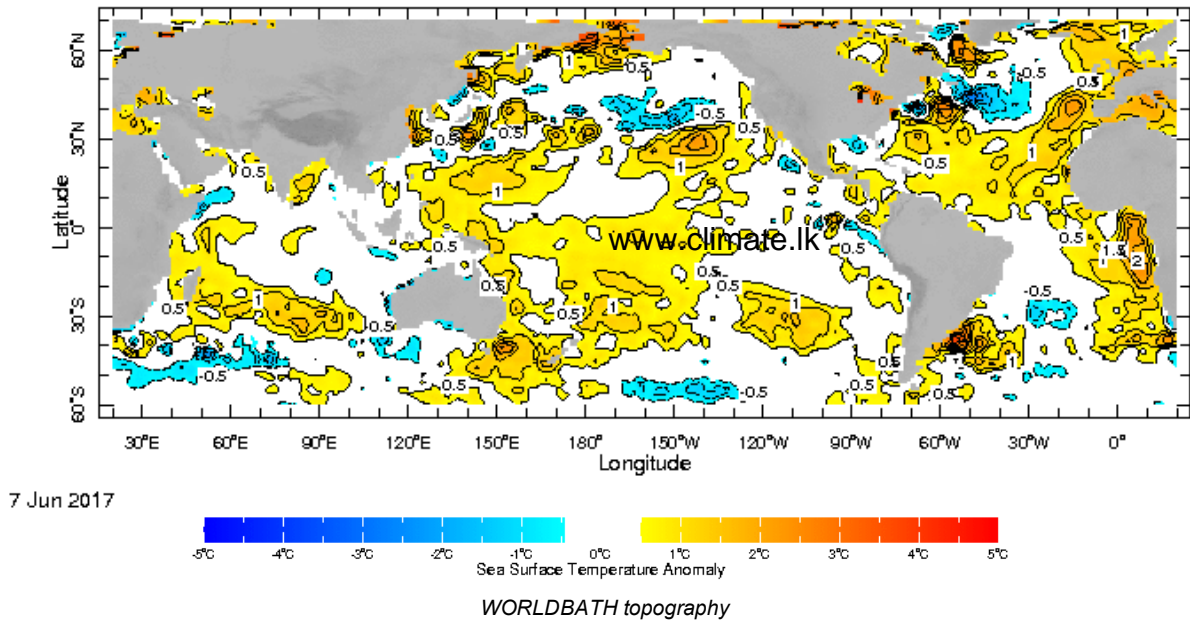


Dekadal (10 Day) Satellite Derived Rainfall Estimates

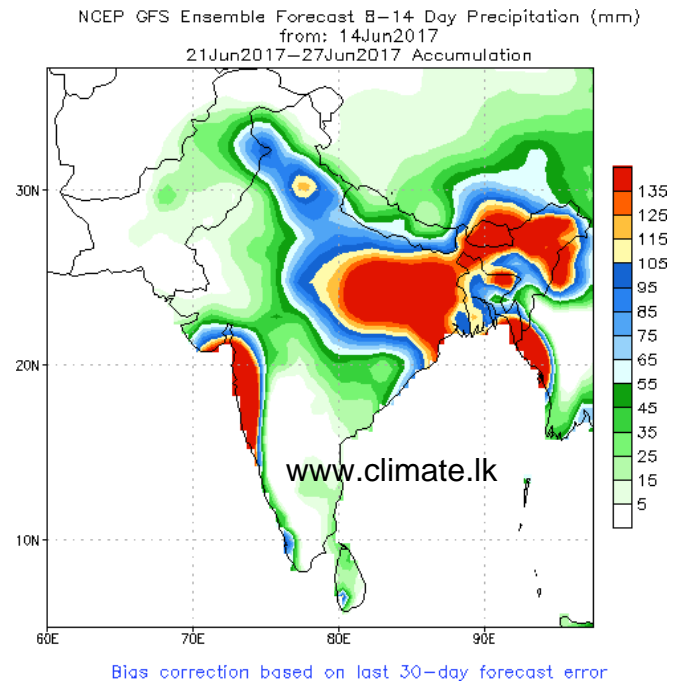
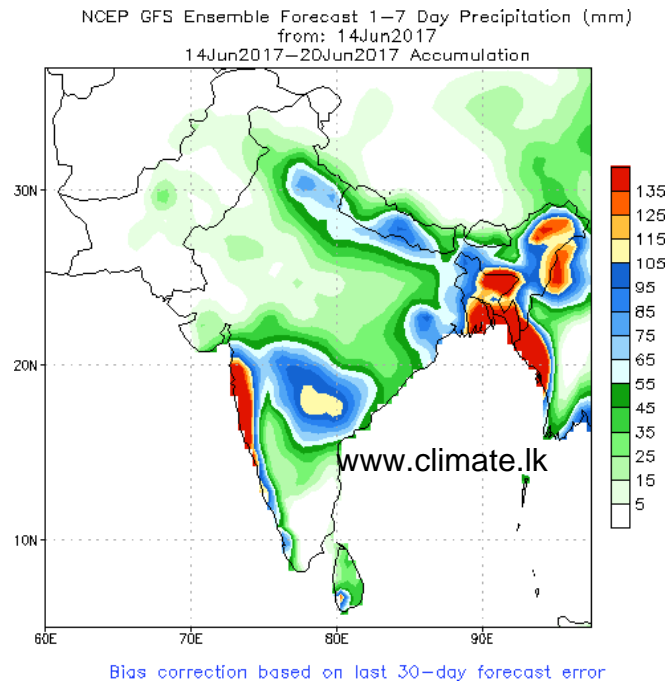


Weekly Average SST Anomalies

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

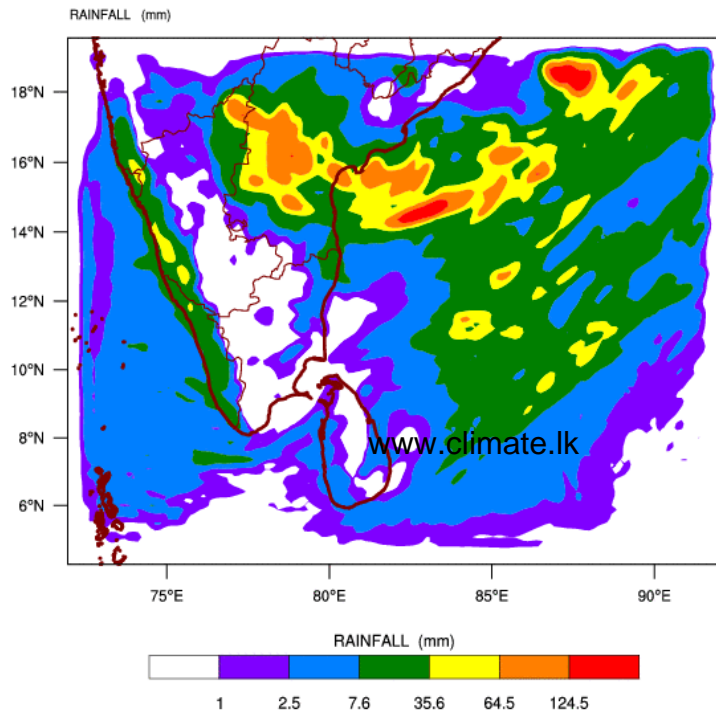


NCEP GFS 1- 14 Day prediction

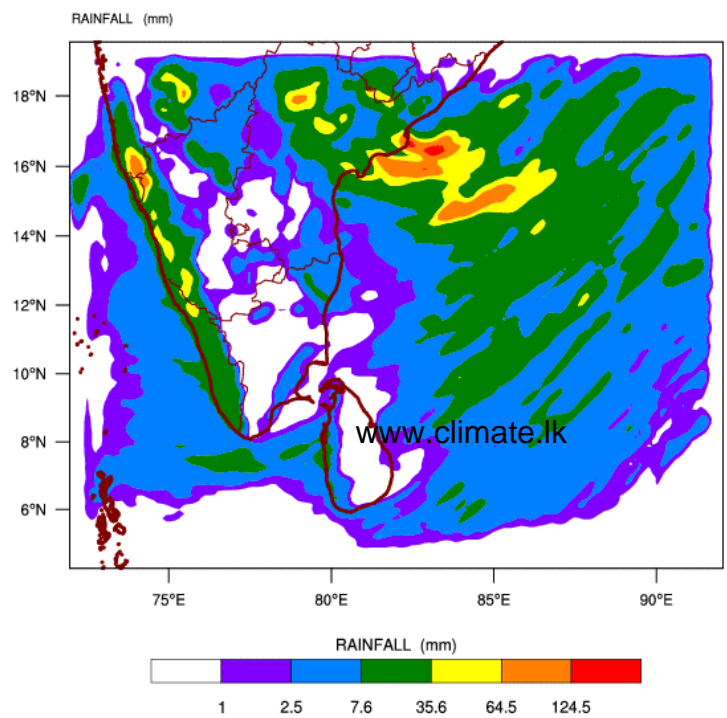


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 14-06-2017 valid for 03 UTC of 16-06-2017

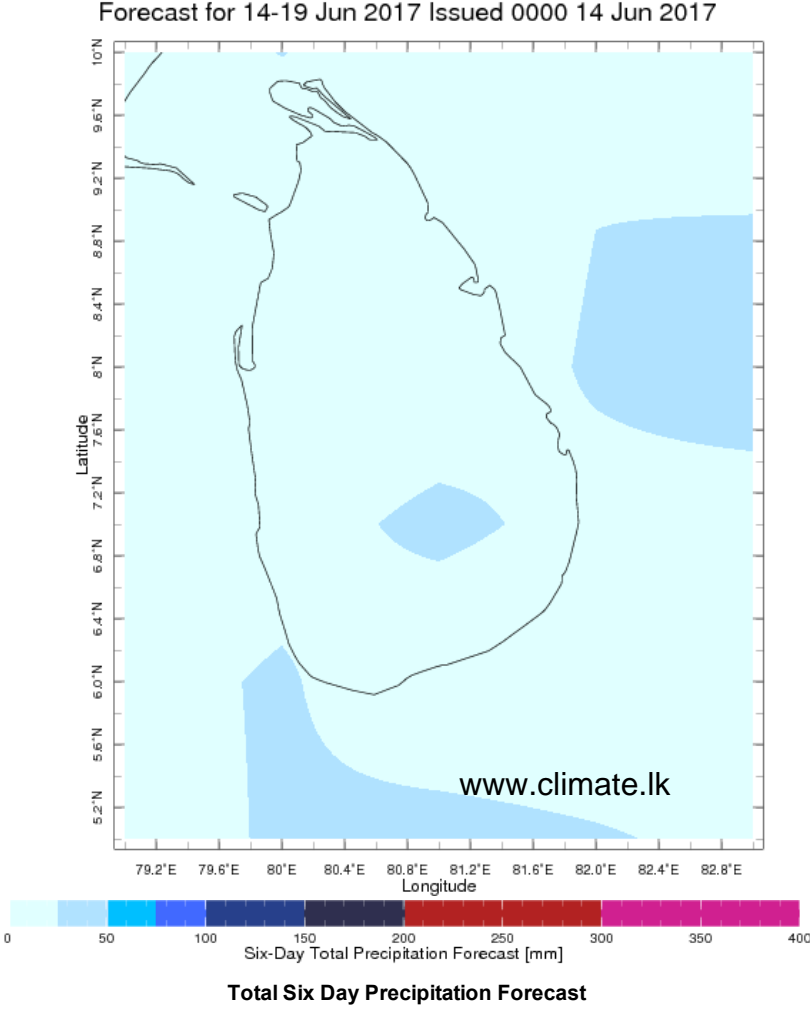
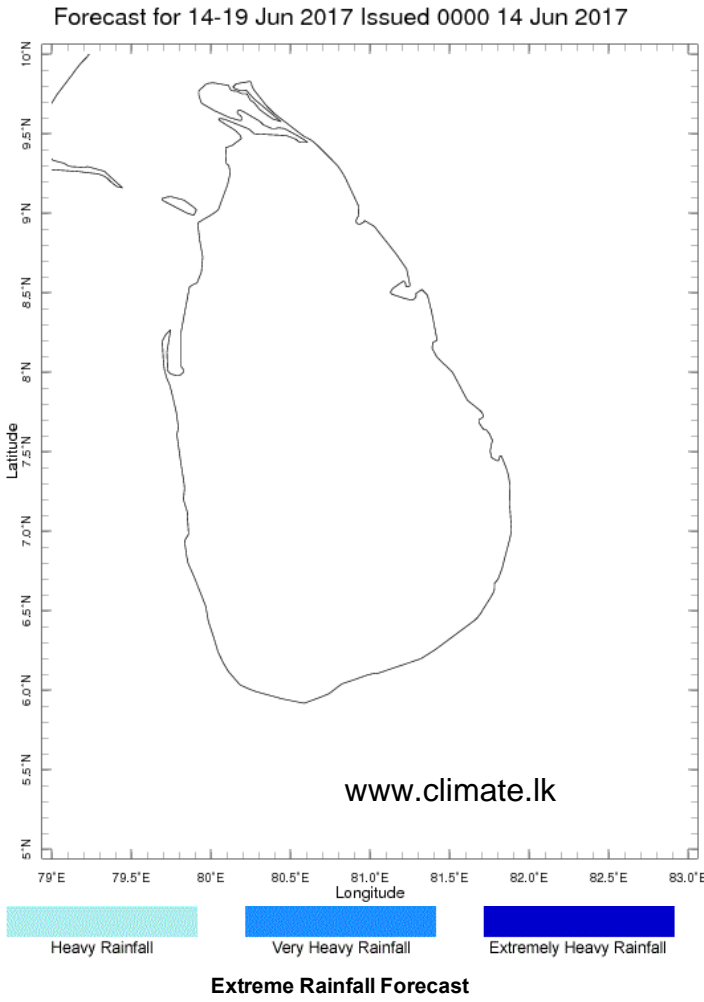


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 14-06-2017 valid for 03 UTC of 17-06-2017



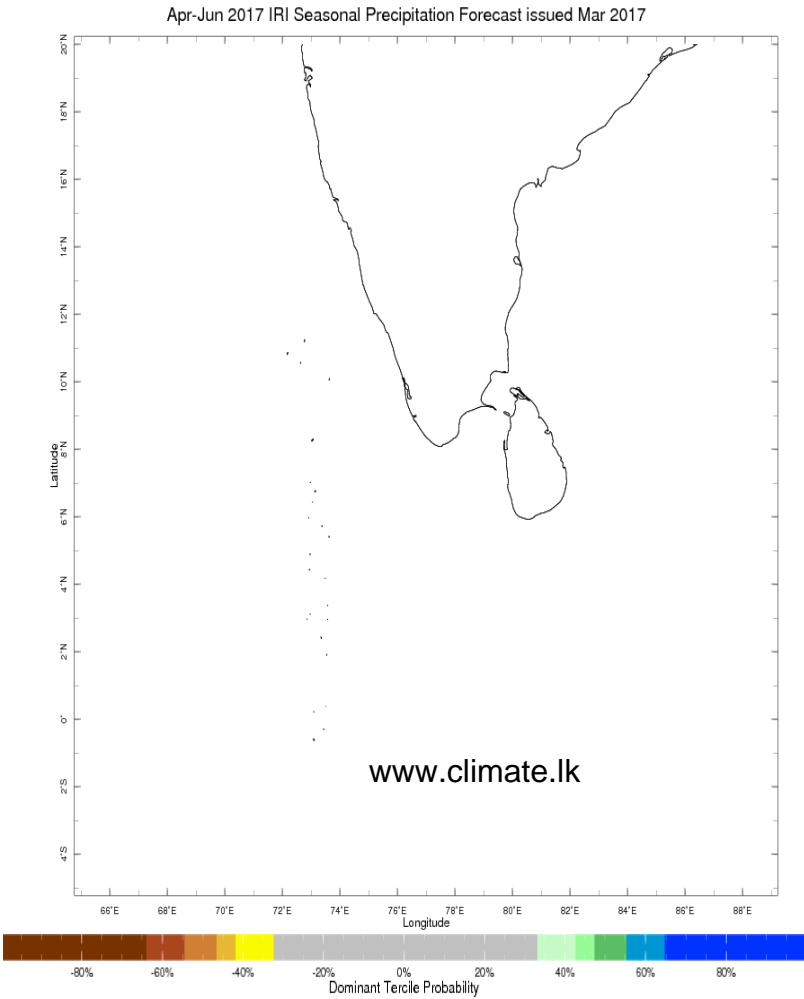
Weekly Rainfall Forecast from IRI

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.

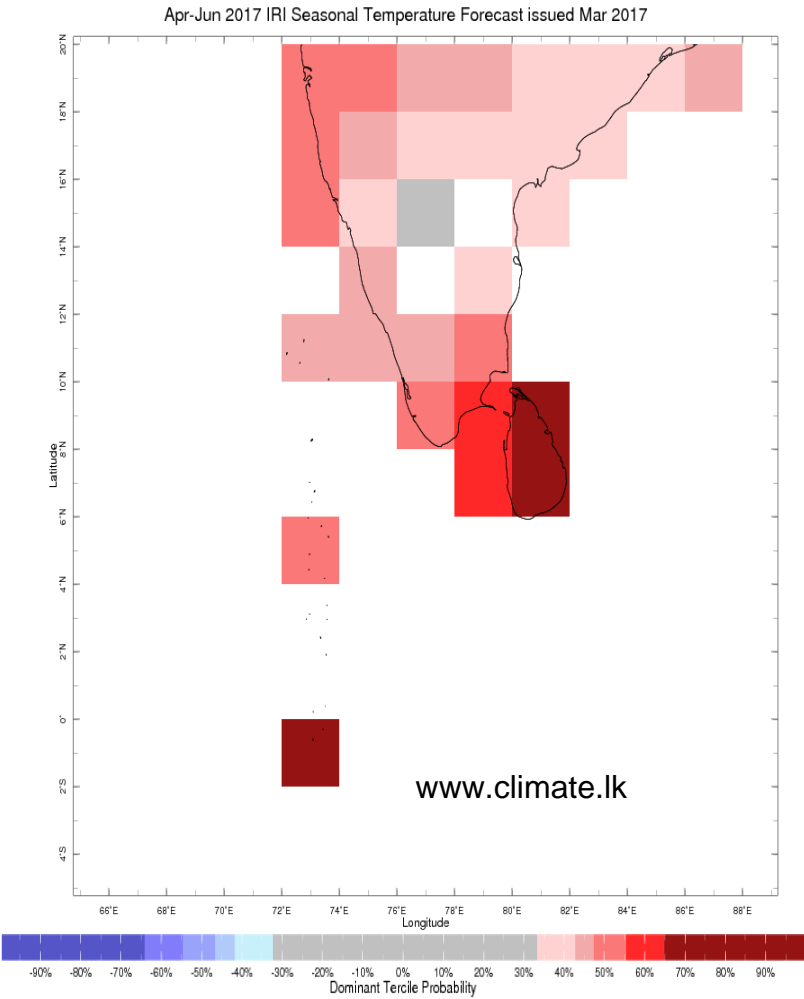


Seasonal Rainfall and Temperature Forecast

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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