

Experimental Climate Monitoring and Prediction

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Highlights

- The WRF model predicts up to 64 mm of rainfall in Kurunegala district on 2nd of September.
- Between 23-29 Aug: Rainfall up to 80 mm was recorded in Batticaloa district on the 24th.
- From 20-26 Aug: minimum temperature of 20 °C was recorded from Nuwara Eliya district while southeastern regions of the island recorded a maximum temperature between 30-35 °C.
- From 22-28 Aug: up to 36 km/h, northwesterly winds were experienced by the central and southern regions of the country; and up to 29 km/h in the northern regions.
- Average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On August 23rd, Anuradhapura, Ampara, Badulla and Monaragala districts received up to 30 mm of rainfall; Vavuniya, Trincomalee, Kandy, Matale and Batticaloa districts up to 20 mm; and Kilinochchi, Mannar, Mullaitivu, Puttala, Polonnaruwa and Kegalla districts up to 10 mm. On the 24th coastal regions of Batticaloa district received up to 80 mm of rainfall; Polonnaruwa and Monaragala districts up to 30 mm; Mullaitivu, Trincomalee, Anuradhapura, Matale, Ampara and Badulla districts up to 20 mm; and many parts of the island up to 10 mm. On 25th Monaragala town region received up to 20 mm of rainfall. No significant rainfalls were recorded in any part of the island on the 26th. On 27th several regions of Puttalam, Kurunegala, Kegalla and Gampaha districts received up to 10 mm of rainfall. On the 28th Nakkala region of Monaragala district received up to 60 mm of rainfall; Ratnapura district up to 50 mm; Kalutara district up to 30 mm; and several regions of Puttalam, Anuradhapura, Kurunegala, Galle, Matara, Hambantota, Kandy and Nuwara Eliya districts received up to 20 mm. No significant rainfalls were recorded in any part of the island on the 29th.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 75-100 mm in Monaragala district; up to 50-75 mm in Badulla district; and 25-50 mm in Trincomalee, Batticaloa, Ampara and Anuradhapura districts. It shows above average rainfall up to and 50-100 mm in Monaragala districts; and up to 25-50 mm Badulla, Anuradhapura, Trincomalee, Polonnaruwa and Batticaloa districts. It also shows below average rainfalls 25-50 mm in Galle and Matara districts; and up to 10-25 mm Kilinochchi, Puttalam, Gampaha, Colombo, Kurunegala, Kegalla, Kandy, Nuwara Eliya, Matara and Hambantota districts.

Monthly Monitoring: During July - below average rainfall conditions were experienced in the southern and western regions of the island and above average rainfall in eastern regions. Colombo, Kegalla and Nuwara Eliya districts received up to 150 mm below average rainfall; and Puttalam, Kurunegala, Gampaha, Kandy, Badulla, Monaragala, Hambantota, Ratnapura, Matara and Kalutara districts received up to 120 mm. Trincomalee, Polonnaruwa, Batticaloa and Ampara districts received up to 60 mm of above average rainfall. The CPC Unified Precipitation Analysis tool shows ~100 mm of total rainfall in Batticaloa, Polonnaruwa and Ampara districts; up to ~75 mm Trincomalee, Anuradhapura, Kurunegala, Matale, Kandy, Ratnapura, Kalutara and Galle district; and up to 50 mm in many parts of the island.

Ocean State (Text Courtesy IRI)

Pacific sea state: August 18, 2017

In mid-August 2017, the tropical Pacific remained in an ENSO-neutral state, with near-average SSTs in the east-central tropical Pacific and the atmosphere also maintaining ENSO-neutral patterns. The collection of latest ENSO prediction models indicates ENSO-neutral as the most likely condition through Northern Hemisphere fall and into winter with chances for El Niño or La Niña development less than one-half that for neutral.

Indian Ocean State

Average sea surface temperature was observed in the seas around Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 30th Aug – 5th Sep: Total rainfall between 45-55 mm in Ratnapura, Matara, Hambantota and Ampara districts; between 35-45 mm in Kegalla, Kandy, Nuwara Eliya, Badulla, Monaragala and Polonnaruwa districts; and between 25-35 mm in Jaffna, Kilinochchi and Mannar districts.

From 6th – 12th Sep: Total rainfall between 45-55 mm in Batticaloa and Ampara districts; and between 35-45 mm in Polonnaruwa and Ratnapura districts.

IMD WRF & IRI Model Forecast:

1st Sep: Up to 7 mm of rainfall in Puttalam, Anuradhapura, Polonnaruwa, Trincomalee, Matale, Kegalla, Ratnapura, Kurunegala, Gampaha, Colombo, Kalutara, Galle, Matara and Hambantota districts.

2nd Sep: Up to 64 mm of rainfall in Kurunegala district; up to 36 mm Kegalla district; and up to 8 mm in Puttalam, Anuradhapura, Mannar, Colombo, Galle, Matara and Hambantota 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 in the following 10 days.

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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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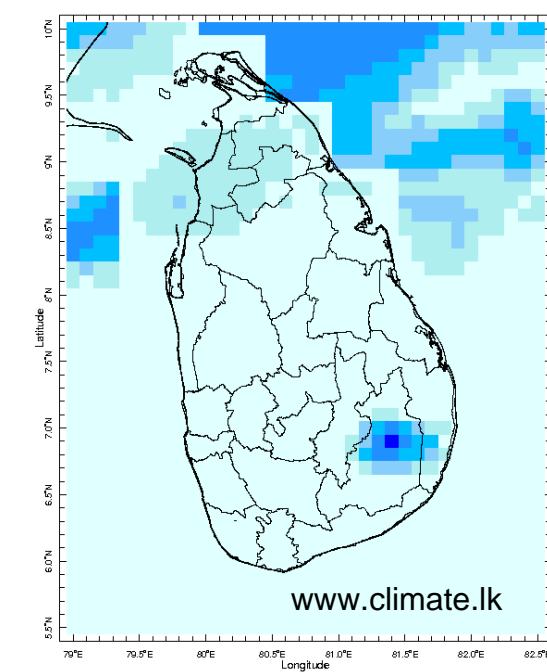
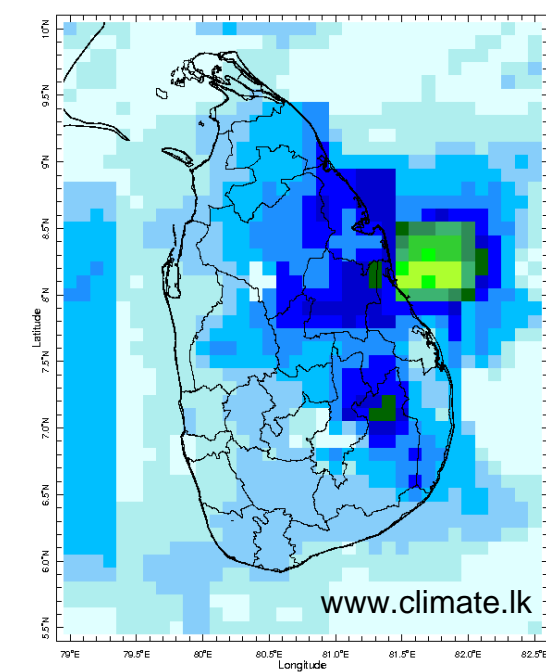
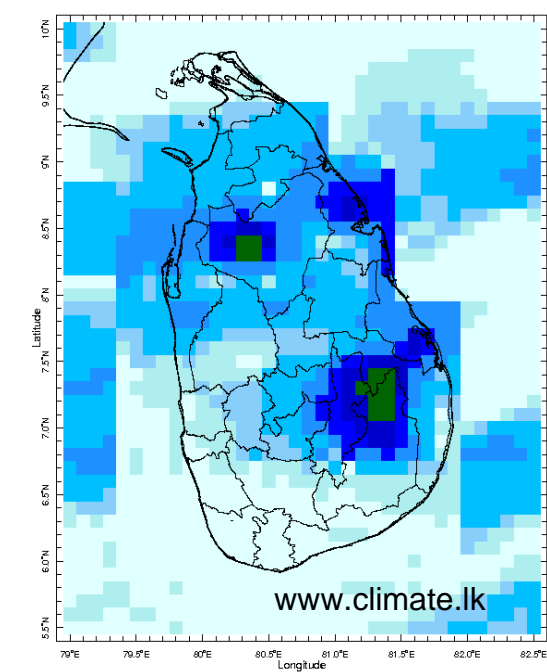
2. Predictions

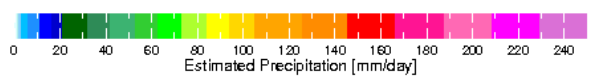
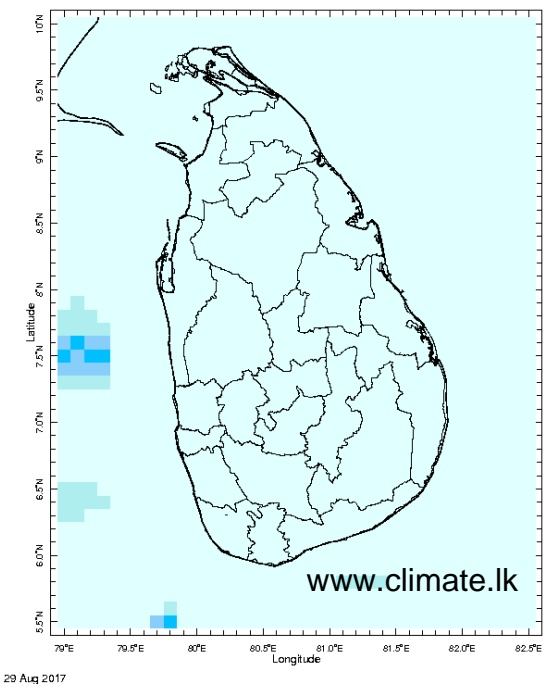
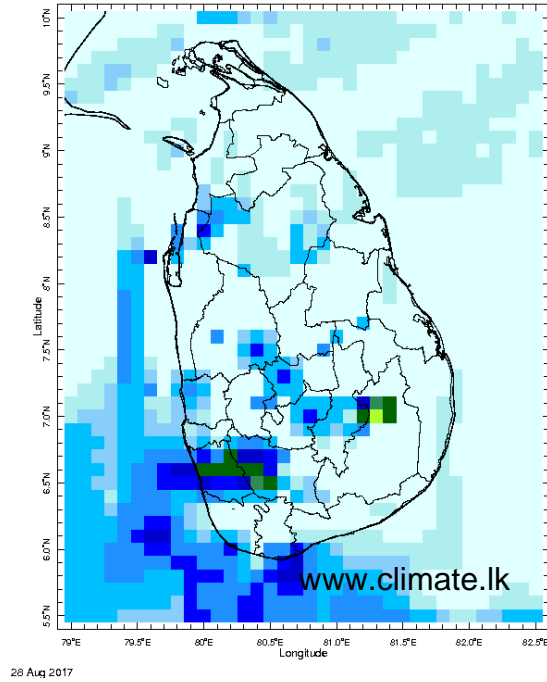
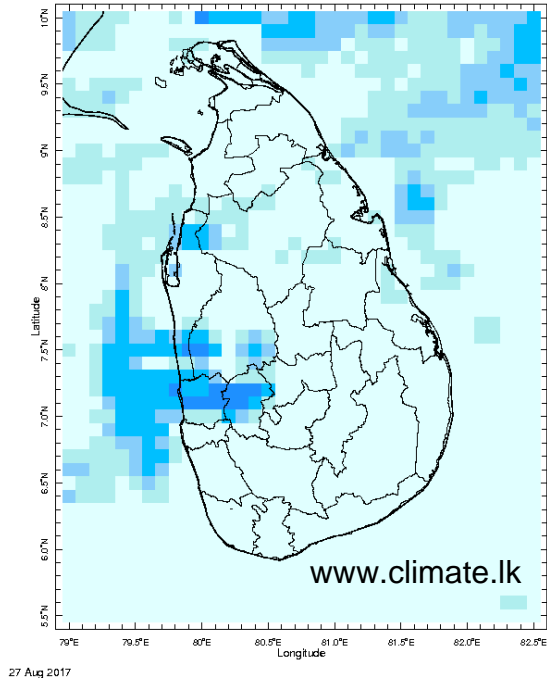
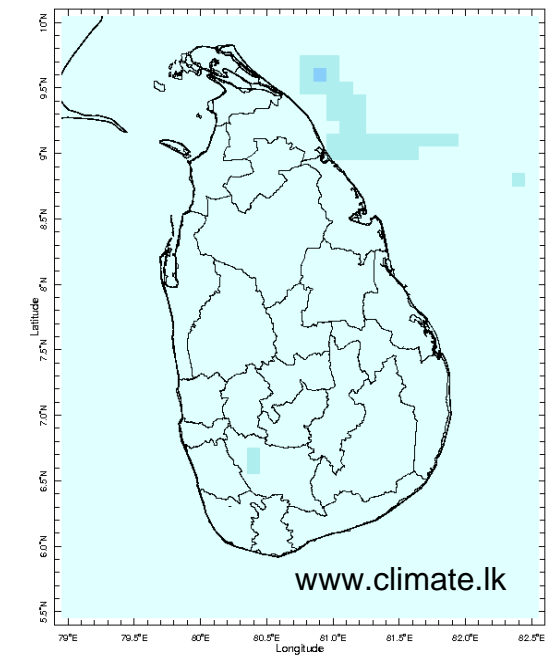
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
- d. Seasonal Predictions from IRI

MONITORING

Daily Rainfall Monitoring

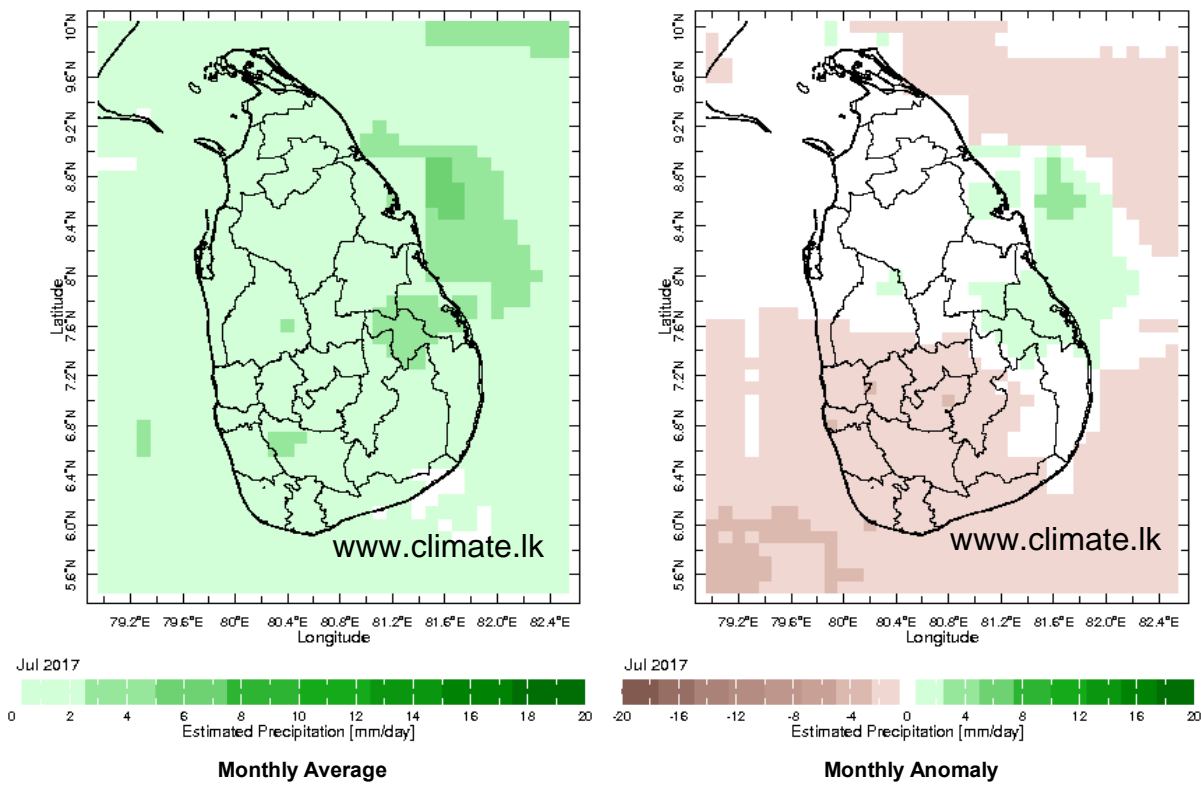
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



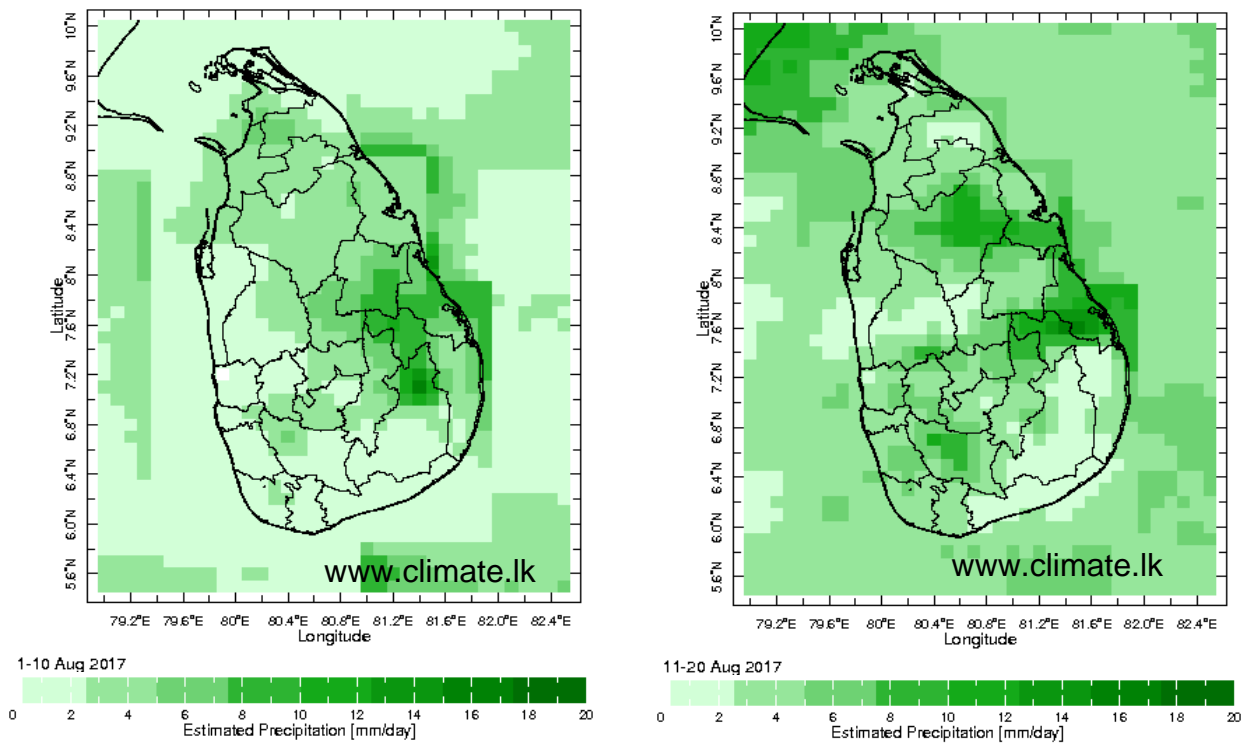


Monthly Rainfall Monitoring

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

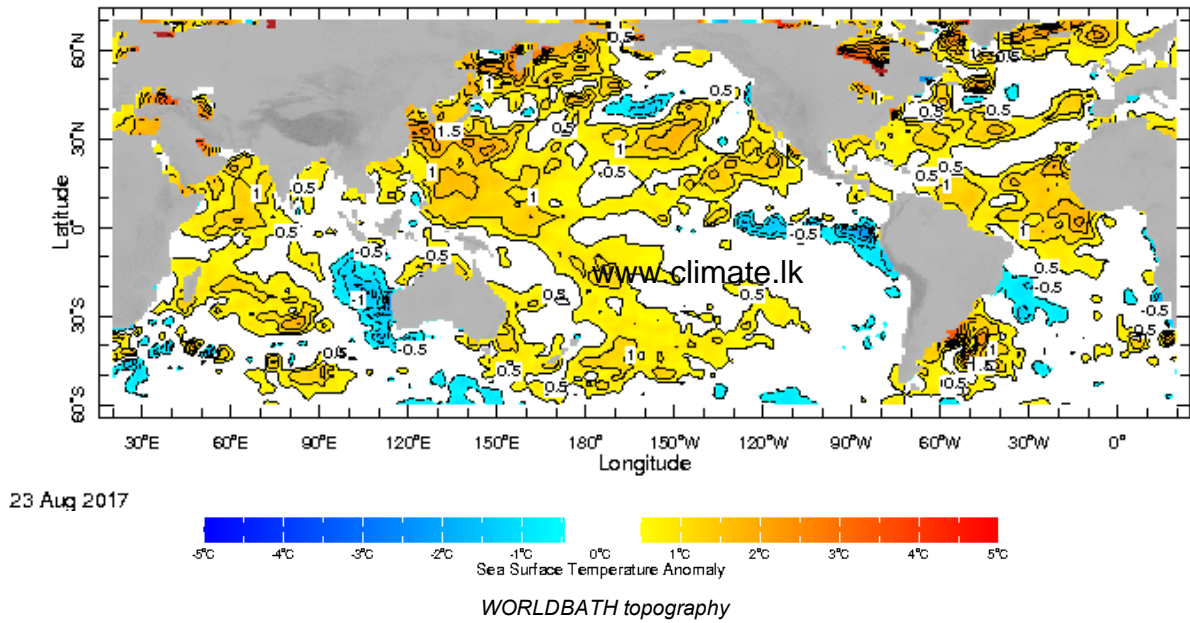


Dekadal (10 Day) Satellite Derived Rainfall Estimates

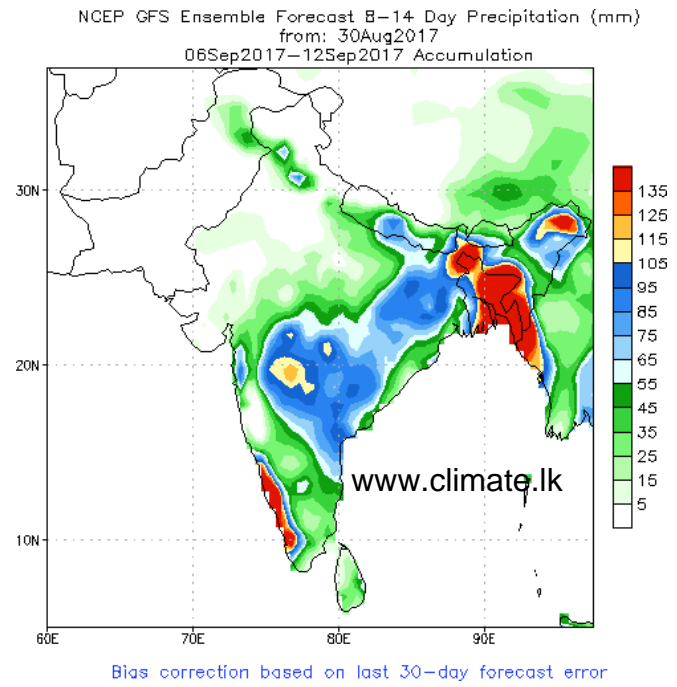
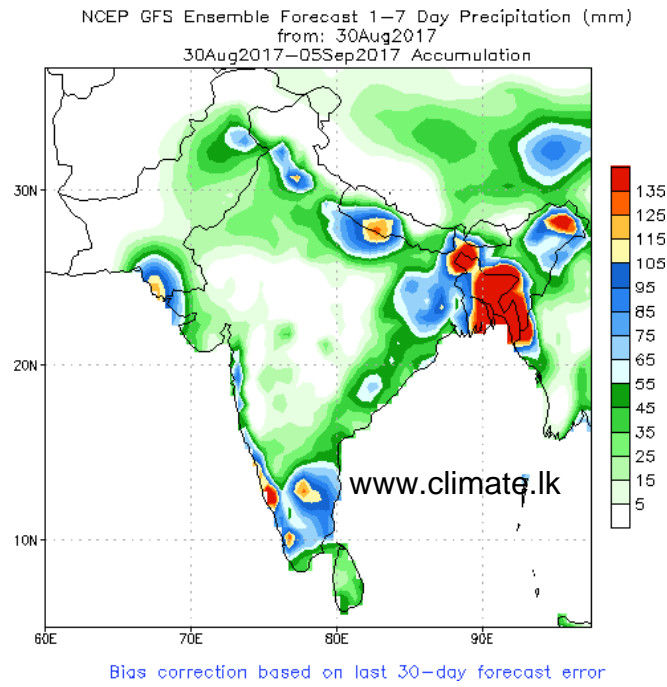


Weekly Average SST Anomalies

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

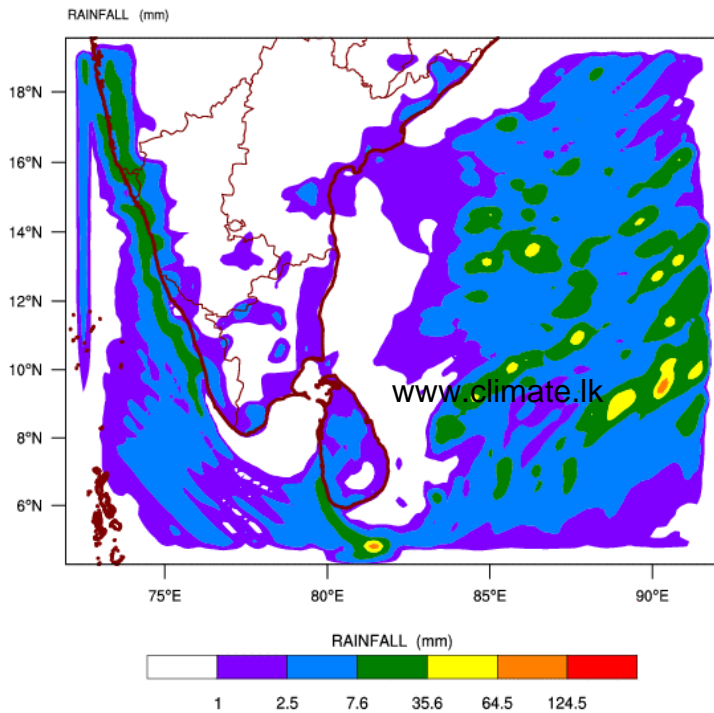


NCEP GFS 1- 14 Day prediction

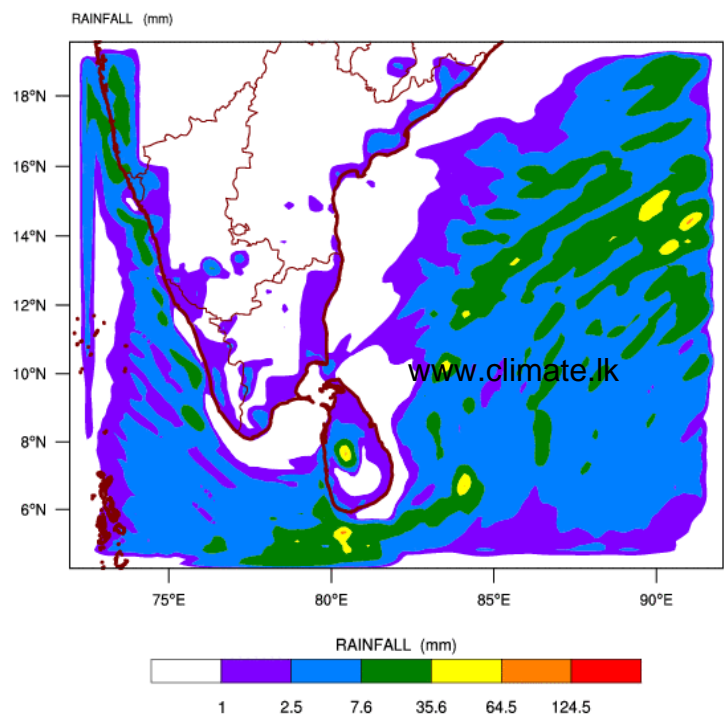


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 30-08-2017 valid for 03 UTC of 01-09-2017



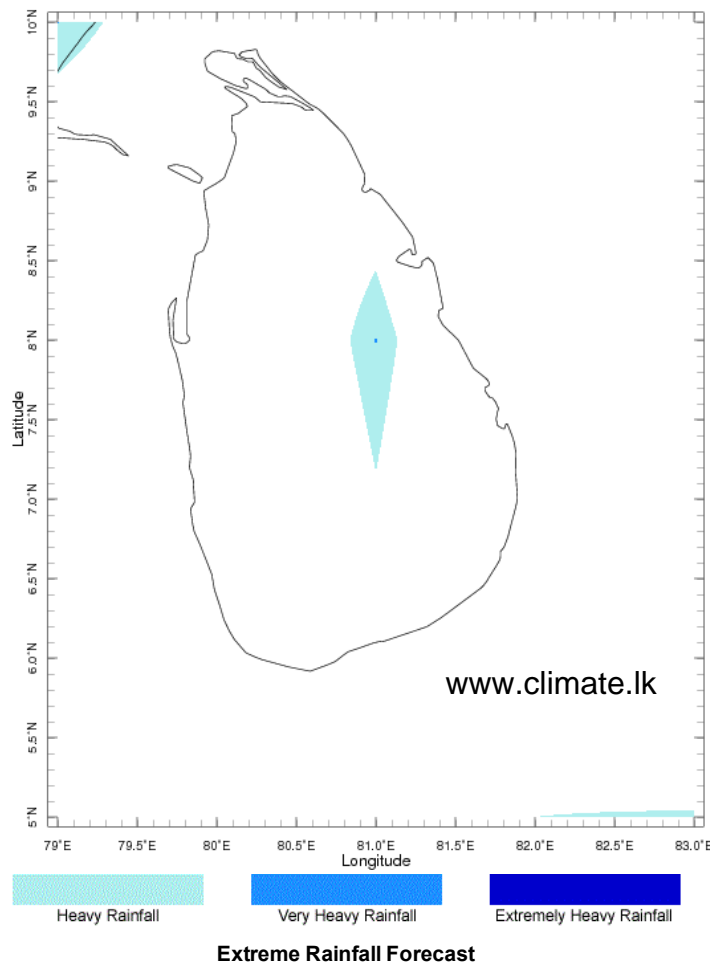
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 30-08-2017 valid for 03 UTC of 02-09-2017



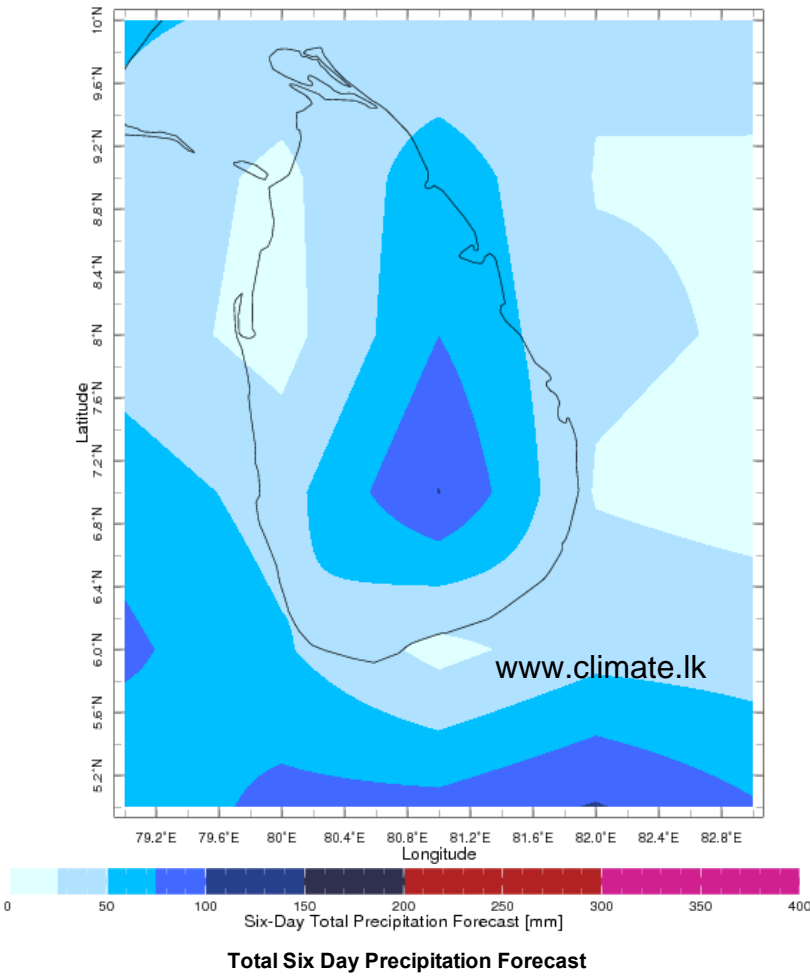
Weekly Rainfall Forecast from IRI

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.

Forecast for 30 Aug 2017 - 4 Sep 2017 Issued 0000 30 Aug 2017

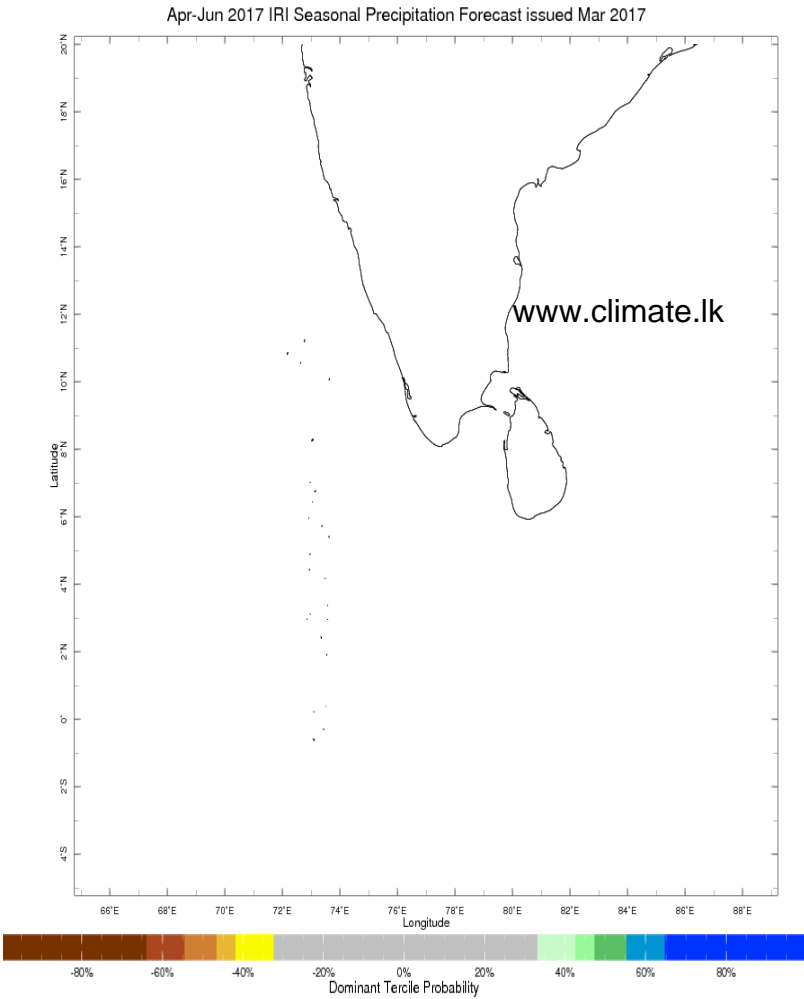


Forecast for 30 Aug 2017 - 4 Sep 2017 Issued 0000 30 Aug 2017

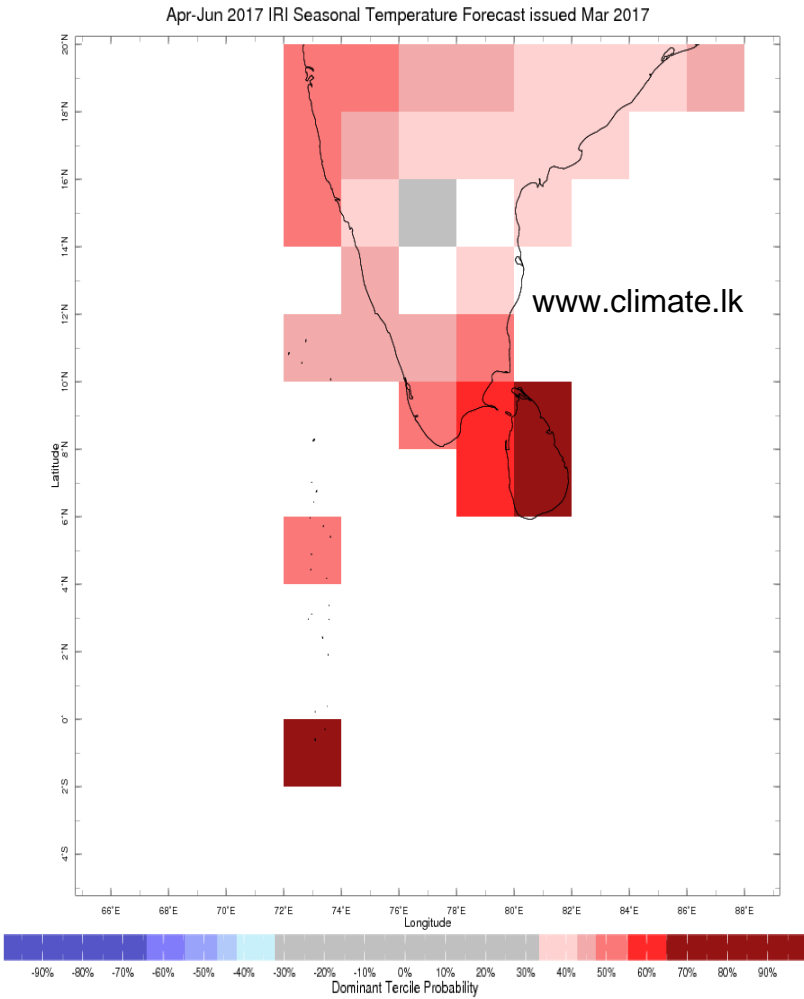


Seasonal Rainfall and Temperature Forecast

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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