

Experimental Climate Monitoring and Prediction

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

14 September 2017

Highlights

- The IRI weekly rainfall forecast predicts up to 75 mm of total rainfall in the Galle district during 13-18 Sep.
- Between 6 - 12 Sep: Rainfall up to 140 mm was recorded in Gampaha district on the 6th.
- From 3 - 9 Sep: minimum temperature of 20 °C was recorded from Nuwara Eliya district while most parts of the island recorded a maximum temperature between 30-35 °C.
- From 5 - 11 Sep: up to 28 km/h, southwesterly winds were experienced by the southern and central regions of the country; and up to 18 km/h in the northern regions.
- 0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On September 6th, Gampaha district received up to 140 mm of rainfall; Puttalam, Colombo and Kalutara districts up to 80 mm; Kurunegala and Galle districts up to 60 mm; Kegalla, Ratnapura, Matale and Kandy districts up to 50 mm; and Badulla, Nuwara Eliya and Matara districts up to 30 mm. On the 7th Ratnapura district received up to 50 mm of rainfall; Gampaha, Colombo and Kalutara districts up to 30 mm; and Kegalla, Kandy, Nuwara Eliya, Monaragala, Galle, Matara and Hambantota districts up to 20 mm; and Matale, Badulla, Ampara, Polonnaruwa and Batticaloa districts up to 10 mm. On the 8th Jaffna district received up to 30 mm of rainfall; and Kilinochchi district and coastal regions of Batticaloa district up to 20 mm. On the 9th Jaffna, Anuradhapura, Kalutara districts and northern regions of Monaragala district received up to 50 mm of rainfall; Vavuniya, Trincomalee, Gampaha, Ratnapura and Kegalla districts up to 30 mm; Mannar, Puttalam, Galle, Matale, Kandy, Nuwara Eliya, Batticaloa and Matara districts up to 20 mm; and many parts of the island up to 10 mm. On the 10th Chilaw town region received up to 20 mm of rainfall. On the 11th Anuradhapura district received up to 30 mm; and Jaffna, Kilinochchi, Vavuniya, Puttalam and Kegalla districts up to 20 mm. On the 12th Jaffna, Kilinochchi, Mannar, Puttalam, Anuradhapura, Kurunegala, Matale and Polonnaruwa districts received up to 20 mm of rainfall.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 75-100 mm in Kurunegala, Kegalla, Colombo, Kalutara and Ratnapura districts; up to 50-75 mm in Anuradhapura, Matale, Kandy and Galle districts; and 25-50 mm in many parts of the island. It shows above average rainfall up to and 100-200 mm in Colombo and Gampaha districts; and up to 50-100 mm Puttalam and Kalutara districts; and 25-50 mm in Anuradhapura, Matale, Kegalla and Ratnapura districts. It also shows below average rainfalls up to 10-25 mm in Badulla and Monaragala districts.

Monthly Monitoring: During August - below average rainfall conditions were experienced in the southern and western regions of the island and above average rainfall in northern and eastern regions. Gampaha, Colombo, Kalutara, Galle, Matara, Kegalla, Nuwara Eliya and Hambantota districts received up to 150 mm below average rainfall. Batticaloa, Ampara and Monaragala districts received up to 180 mm of above average rainfall; and Mannar, Anuradhapura, Polonnaruwa, Trincomalee, Ampara and northern regions of Puttalam and Badulla districts up to 150 mm. The CPC Unified Precipitation Analysis tool shows ~300 mm of total rainfall in Batticaloa, Polonnaruwa, Monaragala, Badulla, Ratnapura, Anuradhapura and Ampara districts; up to ~200 mm in Trincomalee, Puttalam, Matale, Kandy, Kalutara and Galle districts; up to 100 mm in Jaffna, Kilinochchi, Mullaitivu, Kurunegala, Matara and Hambantota districts; 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

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 13th – 19th Sep: Total rainfall between 45-55 mm in Gampaha, Kegalla, Galle and Ratnapura districts; between 15-45 mm Puttalam, Kurunegala and Matara districts.

From 20th – 26th Sep : Total rainfall between 85-95 mm in Galle and Ratnapura districts; and between 65-85 mm in Gampaha, Kegalla and Matara district ; between 45-55 mm in Hambanthota, Monaragala; between 35-45 mm in Puttalam, Kurunegala, Kandy, Badulla, Ampara and Batticaloa; Up to 35 mm rainfall in Anuradhapura, Polonnaruwa, Trincomalee and Matale.

IMD WRF Forecast:

15th Sep: Up to 35.6 mm of rainfall in Colombo and Gampaha districts; up to 7.6 mm in Hambanthota, Galle, Kalutara, Puttalam, Anuradhapura, Vavuniya, Mannar, Mulathivu and Kilinochchi districts; and up to 2.5 mm in the rest of the island.

16th Sep: Up to 7.6 mm of rainfall in Hambanthota, Galle, Kalutara, Puttalam, Anuradhapura, Vavuniya, Mannar, Mulathivu and Kilinochchi districts; and up to 2.5 mm in the rest of the island.

IRI Model Forecast:

13th- 18th Sep: Total rainfall up to 75 mm in Galle district; and up to 50 mm in Gampaha, Colombo, Kalutara, Matara, Ratnapura, Kegalle, Kandy, Nuwara Eliya, Badulla, Matale, Polonnaruwa, Trincomalee and Batticaloa districts.

MJO based OLR predictions

For the next 15 days:

MJO shall not have a significant impact on the rainfall in Sri Lanka for the next 5 days and shall enhance the rainfall in the following 10 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.

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Weekly Hydro- Meteorological Report for Sri Lanka

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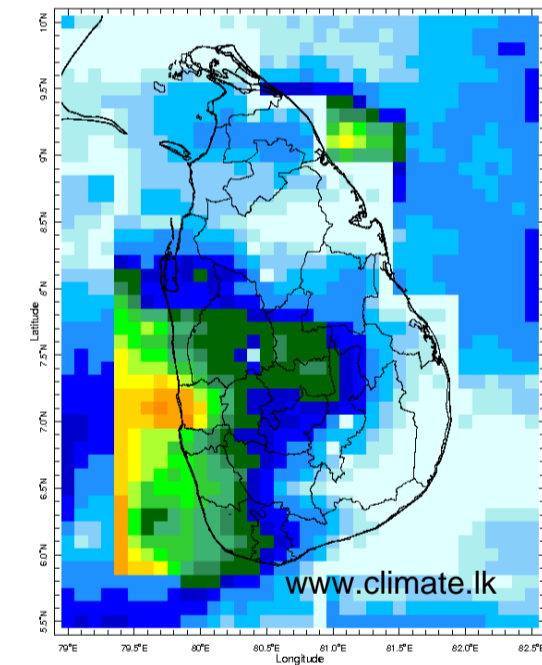
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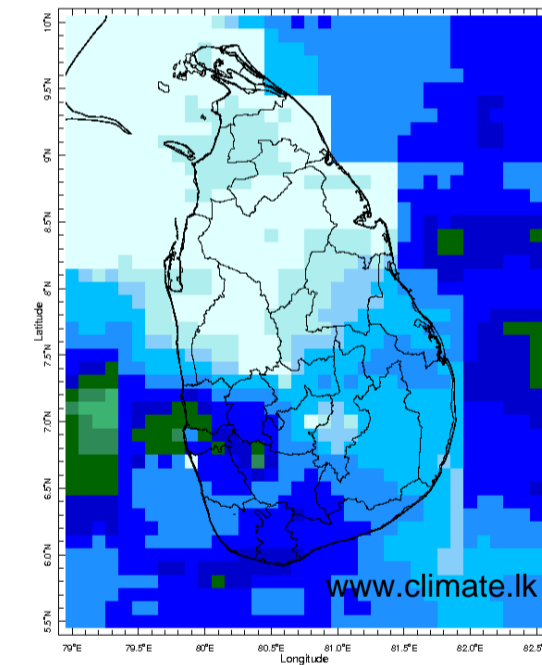
MONITORING

Daily Rainfall Monitoring

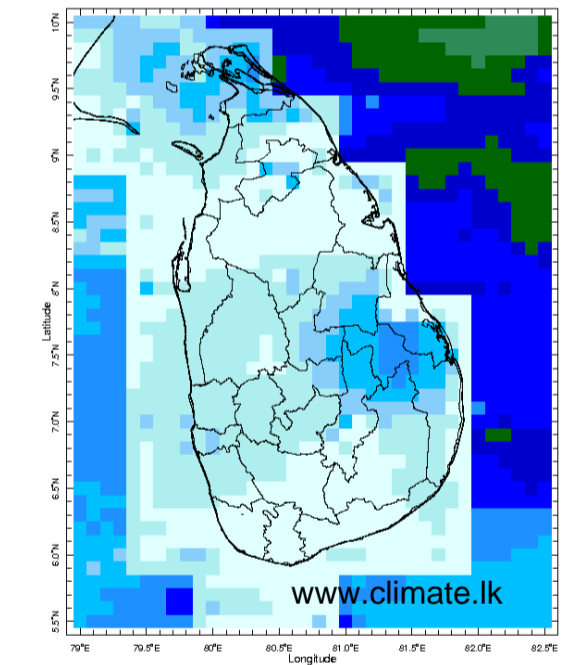
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



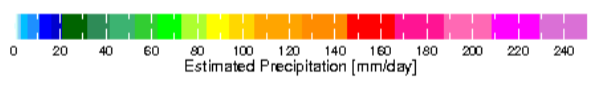
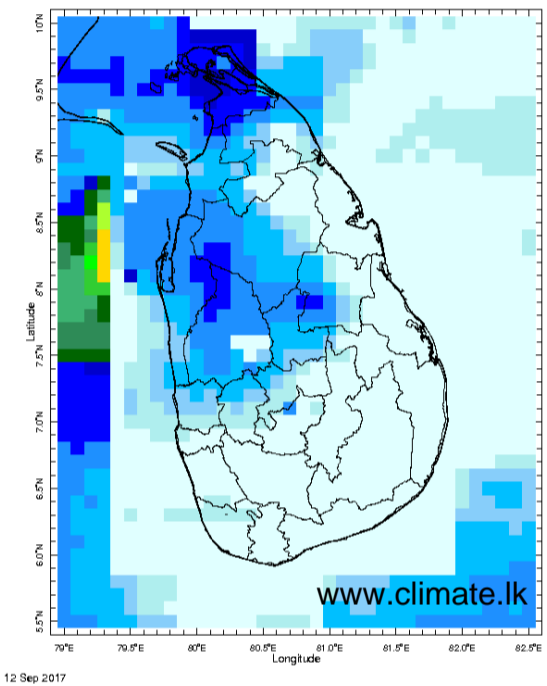
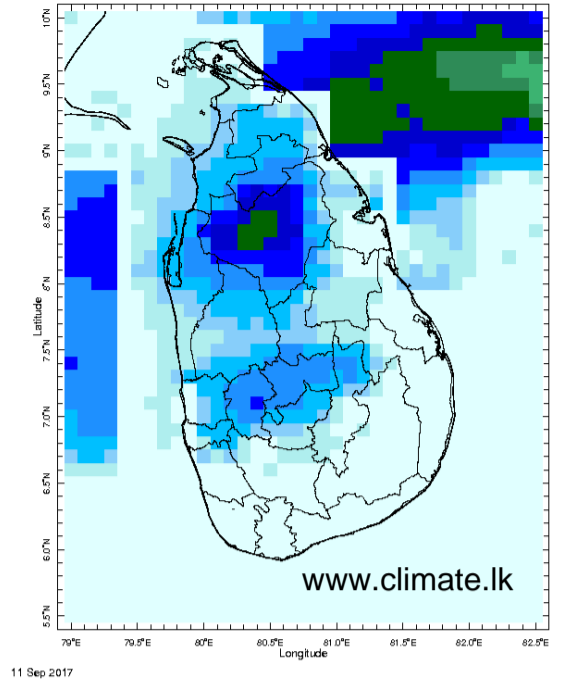
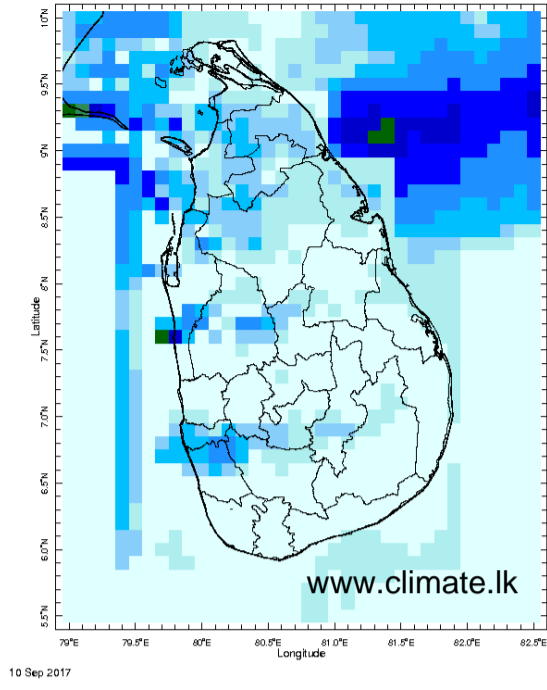
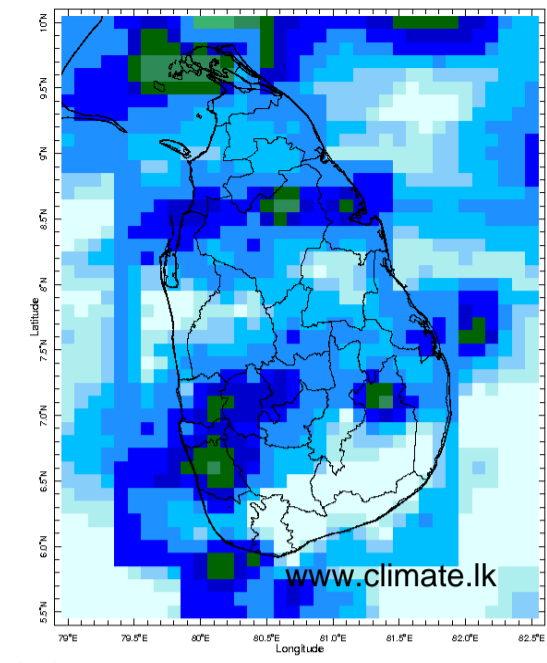
6 Sep 2017



7 Sep 2017

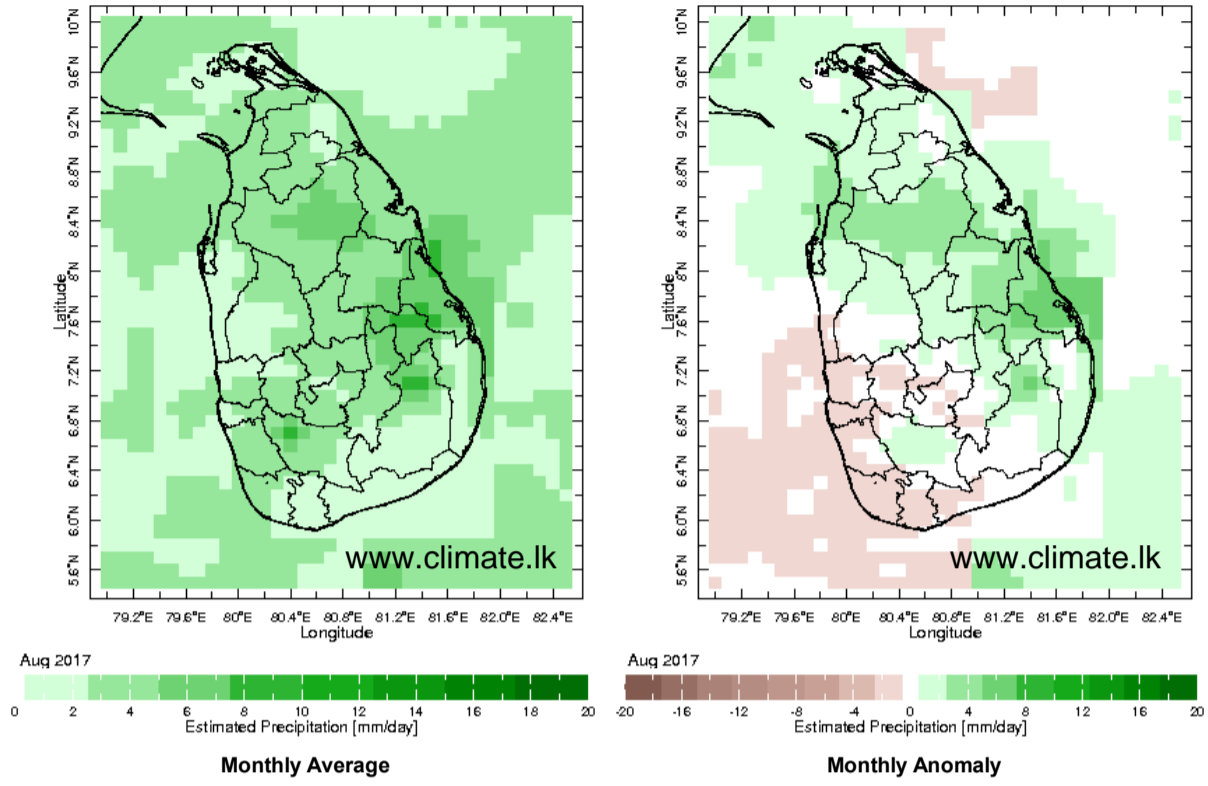


8 Sep 2017

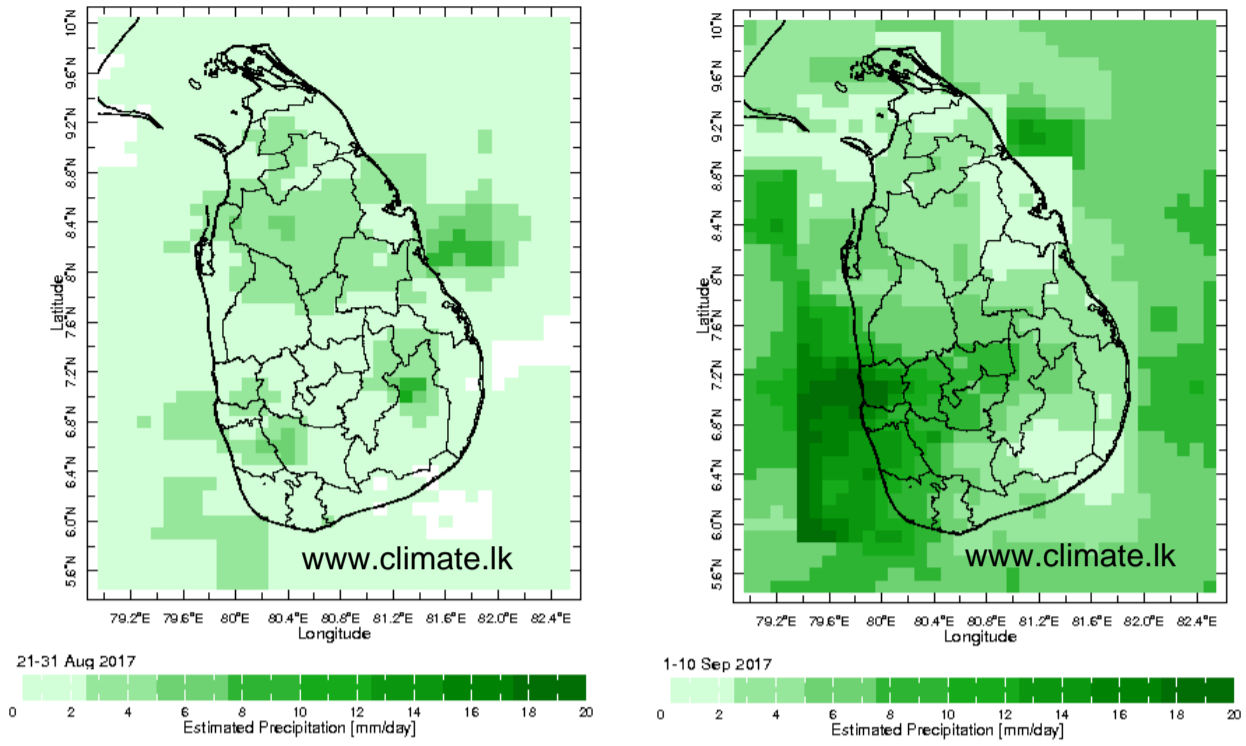


Monthly Rainfall Monitoring

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

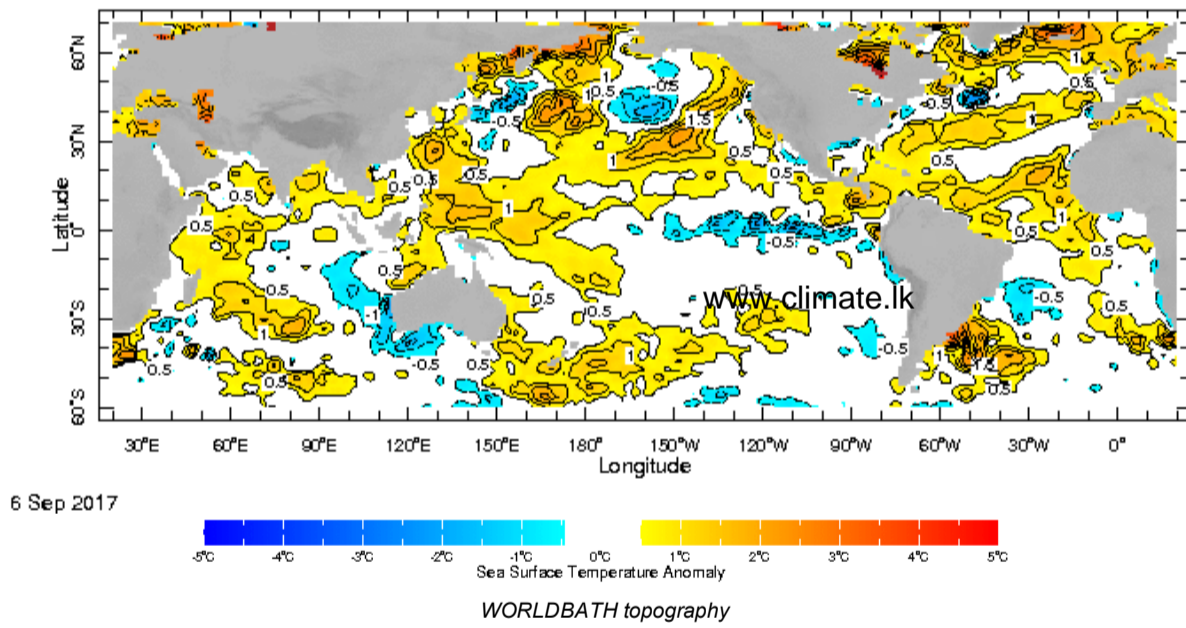


Dekadal (10 Day) Satellite Derived Rainfall Estimates

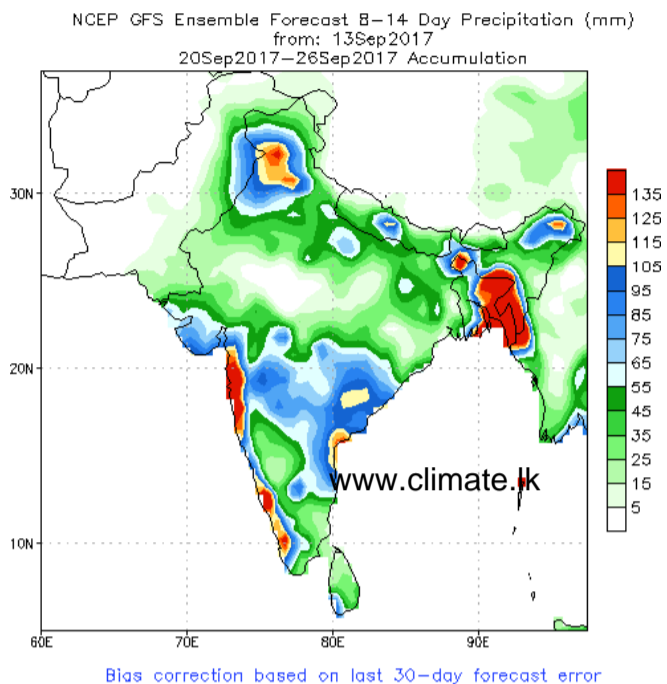
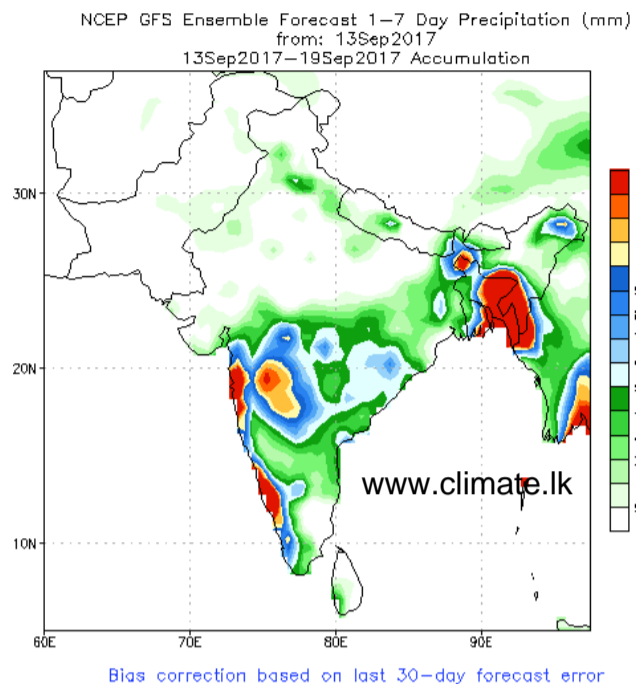


Weekly Average SST Anomalies

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

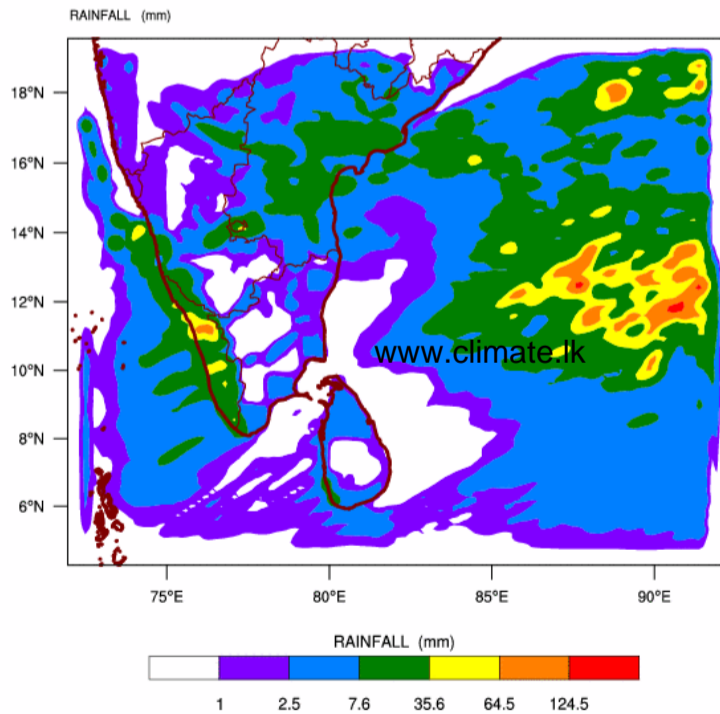


NCEP GFS 1- 14 Day prediction

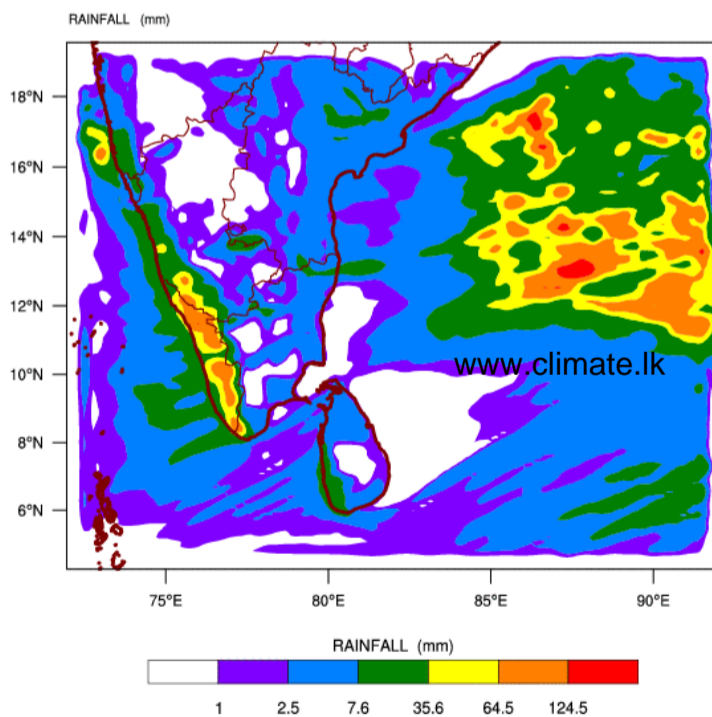


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 14-09-2017 valid for 03 UTC of 16-09-2017

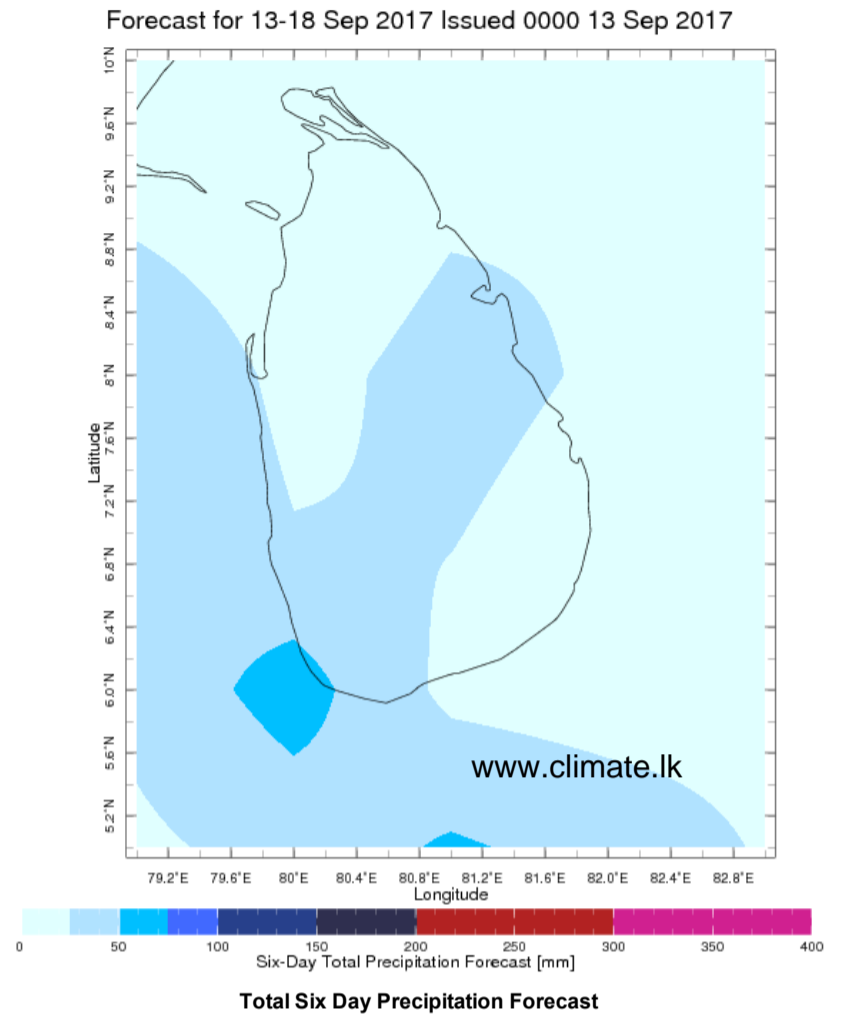
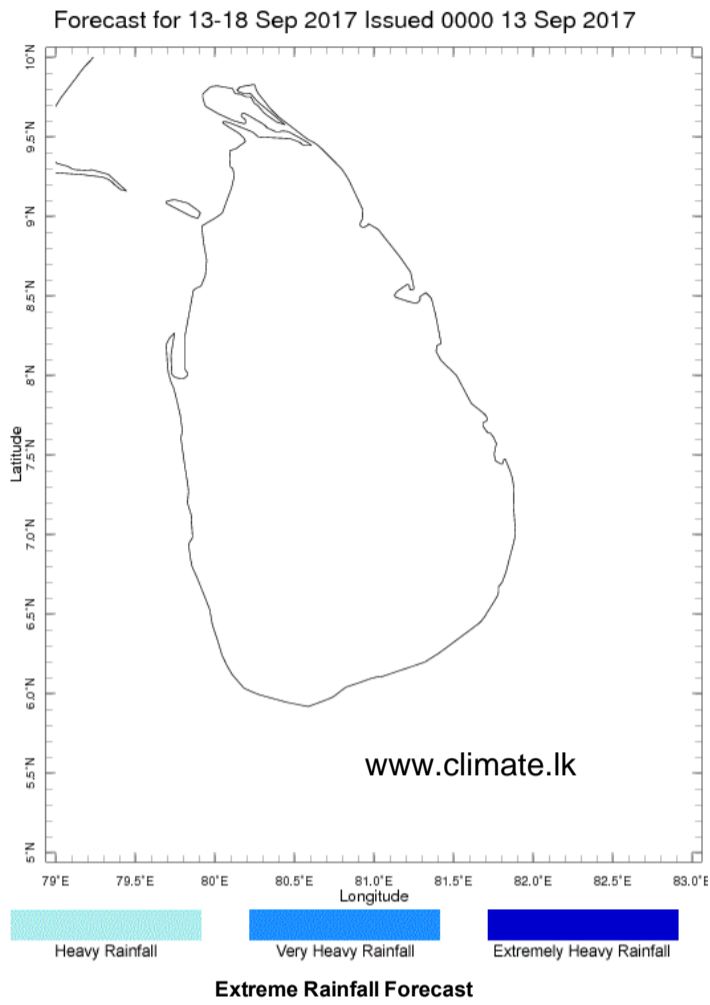


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 14-09-2017 valid for 03 UTC of 17-09-2017



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.



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