

Experimental Climate Monitoring and Prediction

by: Ruchira Lokuhetti, Chalani Malge, Janan Visvanathan,

Lareef Zubair and Michael Bell¹ (FECT and IRI¹)

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Highlights

- The IRI weekly rainfall forecast predicts up to 50 mm of total rainfall in Kalutara and Galle districts during 27th Sep - 2nd Oct.
- Between 20 - 26 Sep: Rainfall up to 50 mm was recorded in Anuradhapura and Trincomalee districts on the 23rd.
- From 17 - 23 Sep: minimum temperature of 15 °C was recorded from Nuwara Eliya district while Ampara district recorded a maximum temperature between 35-40 °C.
- From 19 - 25 Sep: up to 54 km/h, northwesterly winds were experienced by the southern half of the country and up to 36 km/h in the northern half.
- 0.5 °C above average sea surface temperature was observed in the northern and eastern seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On September 20th, coastal regions of Colombo, Galle and Matara districts received up to 30 mm of rainfall; and several regions of Kegalla, Gampaha, Nuwara Eliya and Ratnapura districts up to 10 mm. On the 21st Kurunegala, Gampaha, Kandy, Nuwara Eliya, Badulla, Monaragala, Colombo, Kalutara, Galle and Matara districts received up to 10 mm of rainfall. On the 22nd Trincomalee district received up to 10 mm of rainfall. On the 23rd Anuradhapura and Trincomalee districts received up to 50 mm of rainfall; Mullaitivu, and Vavuniya districts received up to 20 mm of rainfall; and many northern parts of the island up to 10 mm. On the 25th Kalutara, Galle, Matara and Ratnapura districts up to 30 mm; and many parts of the island up to 10 mm. On the 26th Kalutara and Galle districts received up to 40 mm of rainfall; Jaffna, Kilinochchi, Gampaha, Colombo and Ratnapura districts up to 20 mm; and many parts of the island up to 10 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 25-50 mm in Anuradhapura, Trincomalee, Gampaha, Kalutara, Ratnapura, Galle and Matara districts; and 10-25 mm in many parts of the island. It shows above average rainfall up to 25-50 mm in the northern regions of Anuradhapura district. It also shows below average rainfall up to and 25-50 mm in Colombo, Gampaha, Badulla and Batticaloa districts; and up to 10-25 mm in many central and southern parts of the island.

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: September 19, 2017

In mid-September 2017, the tropical Pacific remained in an ENSO-neutral state, although SSTs in the east-central tropical Pacific have cooled to the threshold for La Niña while the atmosphere continues to maintain largely ENSO-neutral patterns. The collection of latest ENSO prediction models indicates coolish ENSO-neutral or weak La Niña as two possible scenarios during Northern Hemisphere fall and winter. The official CPC/IRI outlook slightly favors La Niña development, and carries a La Niña watch.

Indian Ocean State

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

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 27th Sep – 03rd Oct: Total rainfall between 35-45 mm in Colombo, Ratnapura and Galle districts; between 25-35 mm Gampaha and Kegalle districts; between 15-25 mm Puttalam, Kurunegala and Matara districts.

From 04th – 10th Oct: Total rainfall between 45-55 mm in Colombo, Ratnapura, Galle and Matara districts; and between 35-45 mm in Gampaha, Kegalla and Matara district; between 25-35 mm in Puttalam, Kurunegala, Kandy and Nuwara Eliya; between 15-25 mm in Anuradhapura, Matale, Badulla, Monaragala, Hambanthota, Jaffna, Kilinochchi and Mannar; Up to 15 mm rainfall in Vavuniya, Polonnaruwa, Trincomalee, Batticaloa and Ampara.

IMD WRF Forecast:

29th Sep: Up to 36 mm of rainfall in Mannar, Puttalam, Gampaha, Colombo, Kalutara and Galle districts; up to 8 mm in Matara, Hambanthota, Ratanapura, Kegalla, Kurunegala, Anuradhapura, Vavuniya, Mulativu and Trincomalee districts; and up to 3 mm rainfall in Ampara, Batticaloa, Polonnaruwa, Matale and Monaragala districts.

30th Sep: Up to 36 mm of rainfall in Mannar, Vavuniya, Anuradhapura Puttalam, Gampaha, Colombo, Kalutara and Galle districts; up to 8 mm in Matara, Hambanthota, Ratanapura, Kegalla, Kurunegala, Mulativu and Trincomalee districts; and up to 3 mm rainfall in Ampara, Batticaloa, Polonnaruwa, Matale and Monaragala districts.

IRI Model Forecast:

27th Sep- 2nd Oct: Total rainfall up to 50 mm in Kalutara and Galle districts and up to 25 mm rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall not have a significant impact on 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.

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Weekly Hydro- Meteorological Report for Sri Lanka

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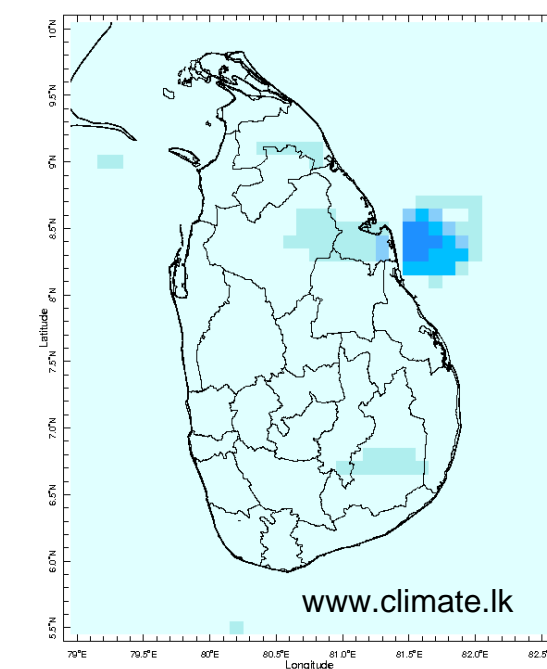
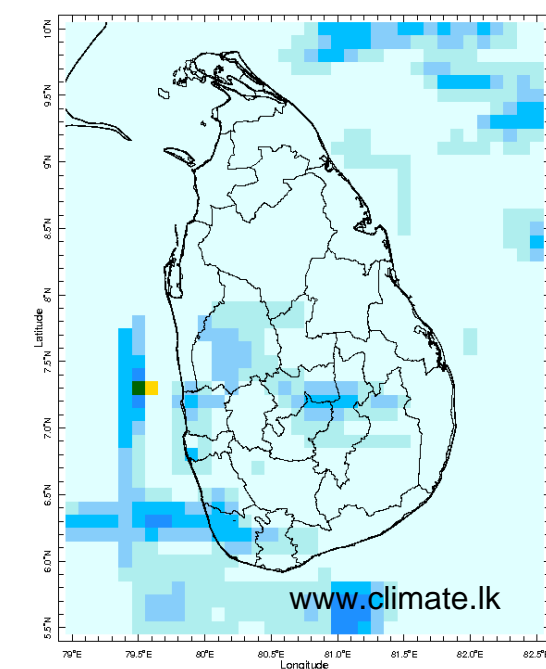
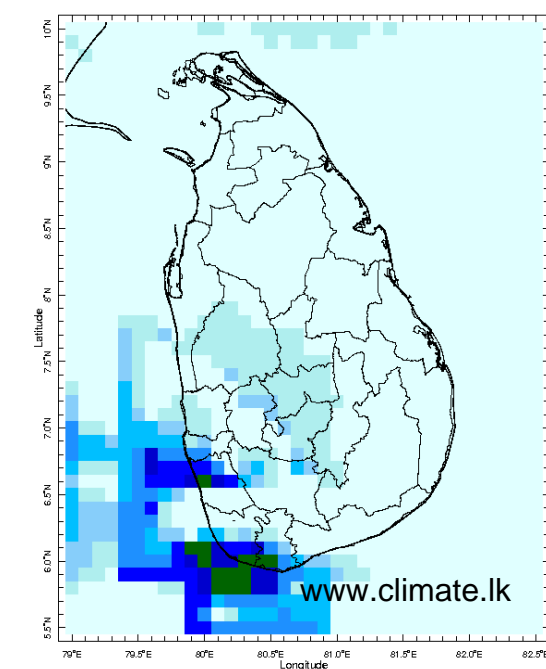
2. Predictions

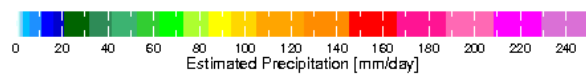
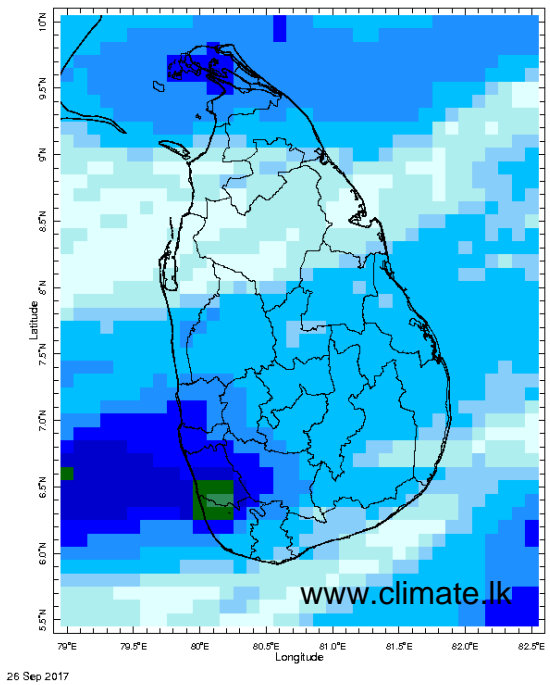
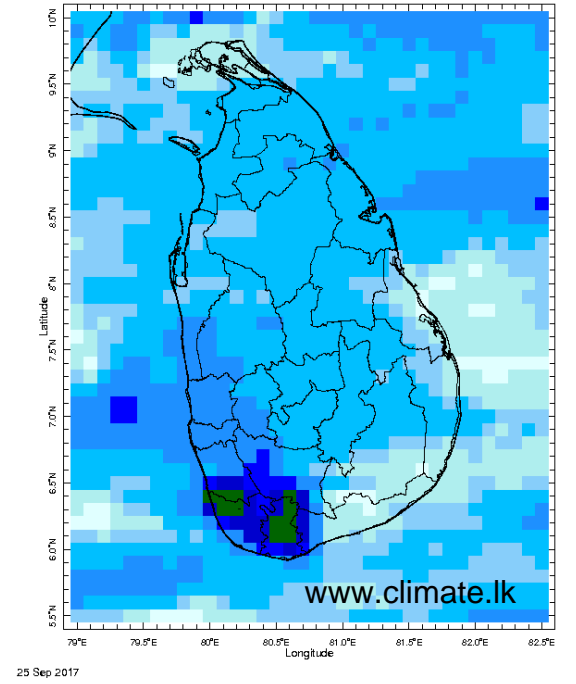
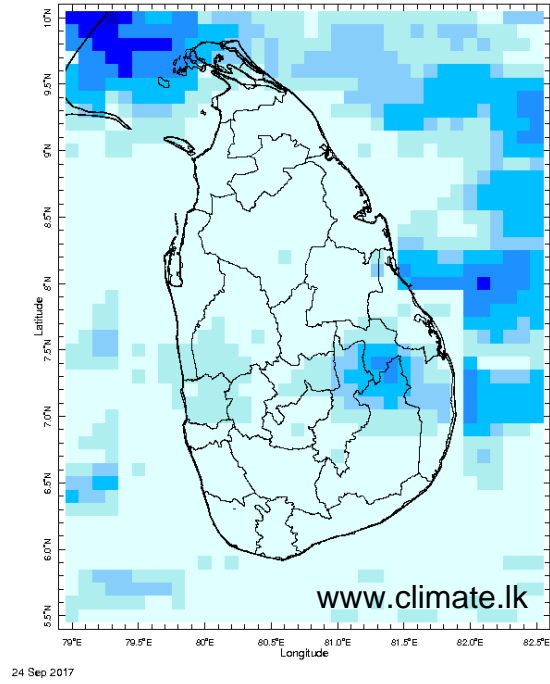
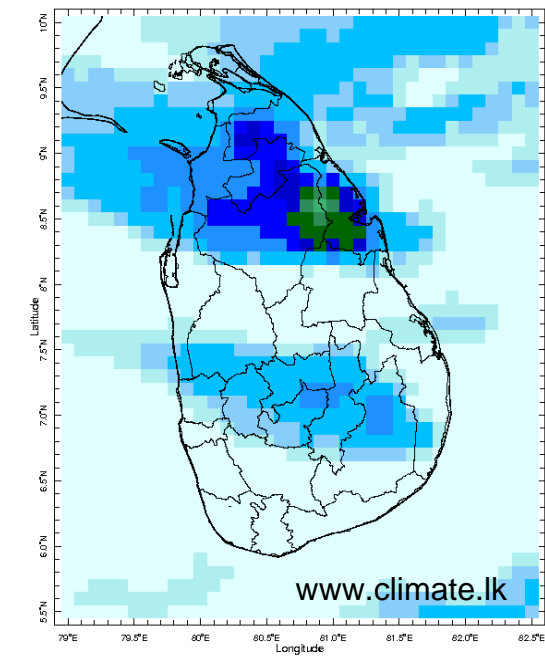
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
- d. Seasonal Predictions from IRI

MONITORING

Daily Rainfall Monitoring

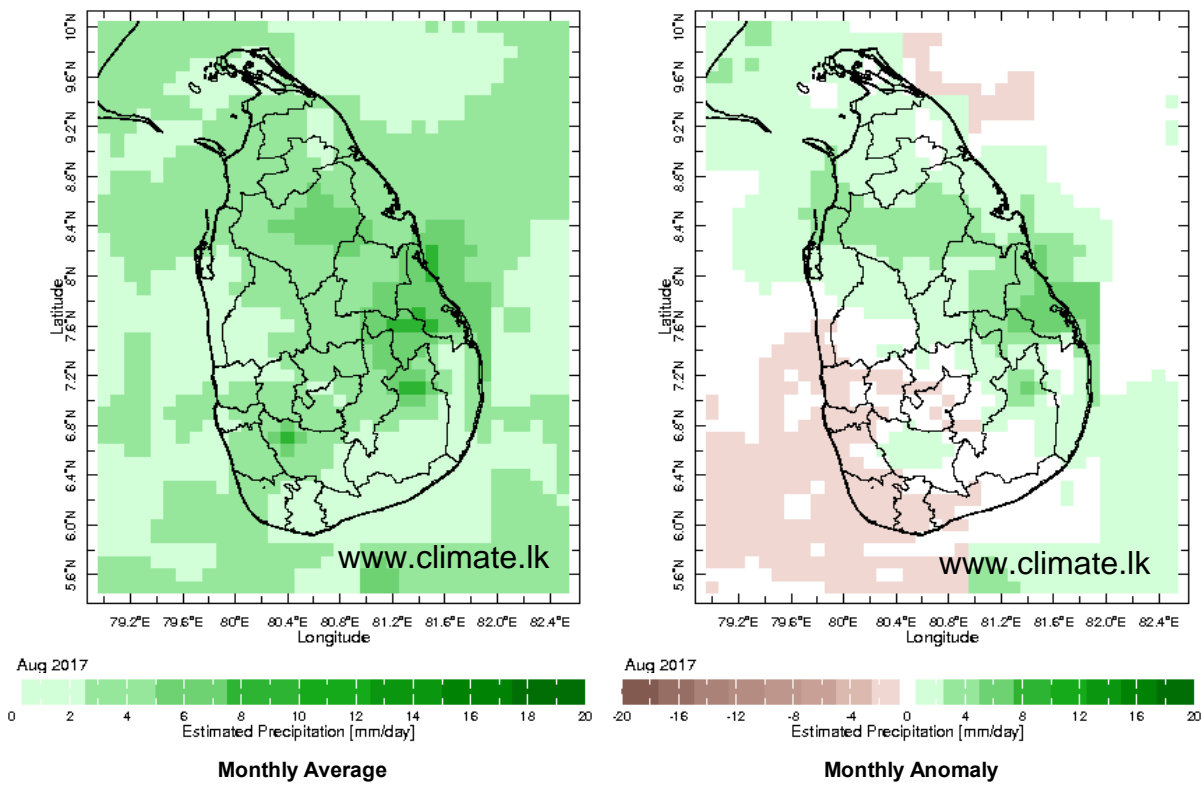
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



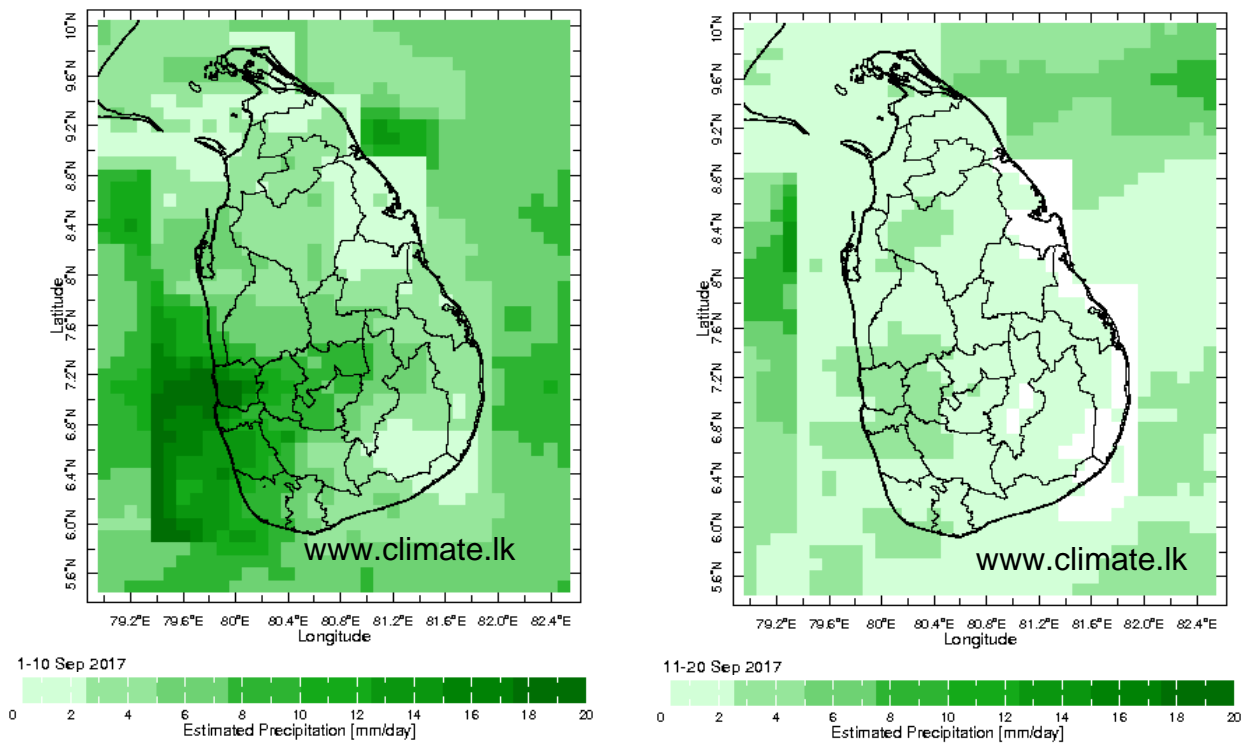


Monthly Rainfall Monitoring

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

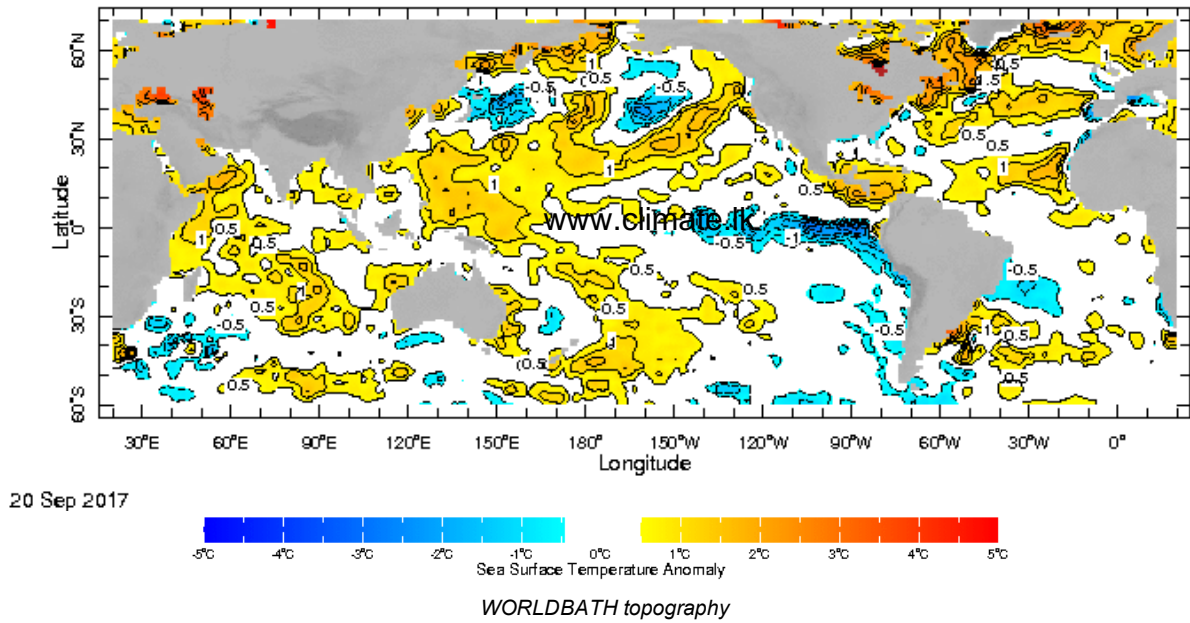


Dekadal (10 Day) Satellite Derived Rainfall Estimates

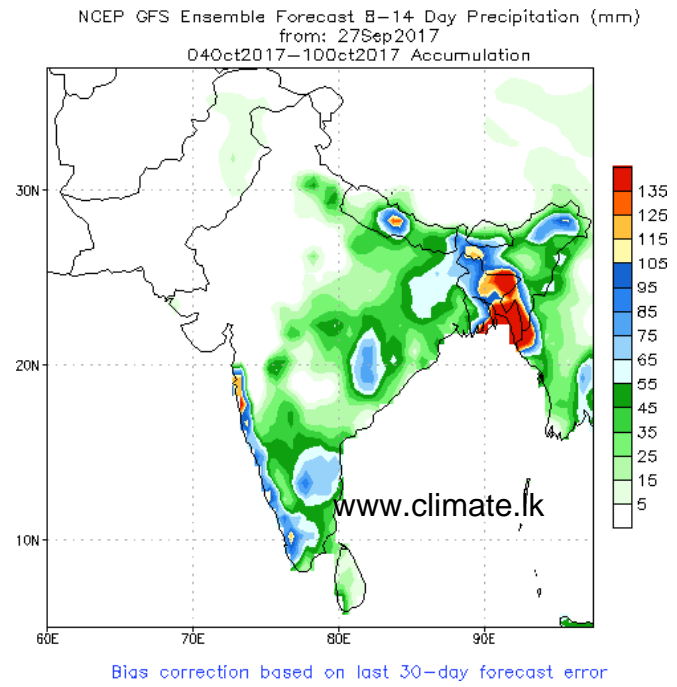
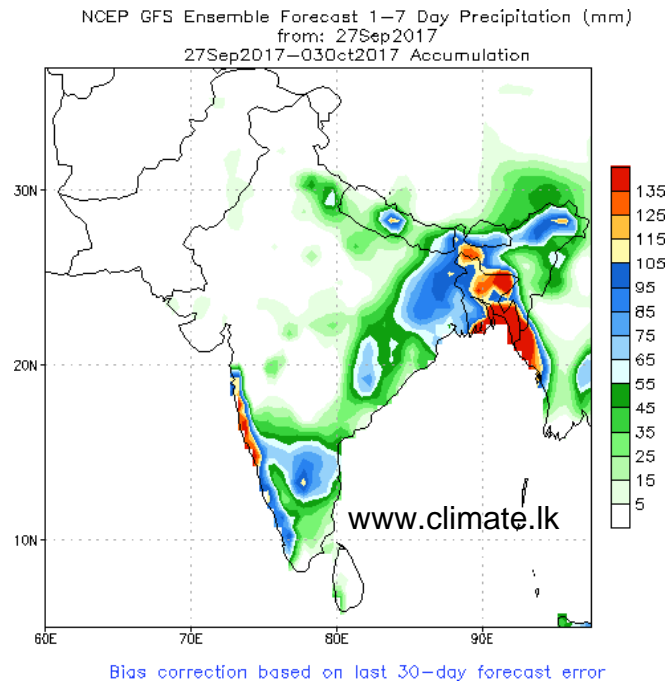


Weekly Average SST Anomalies

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

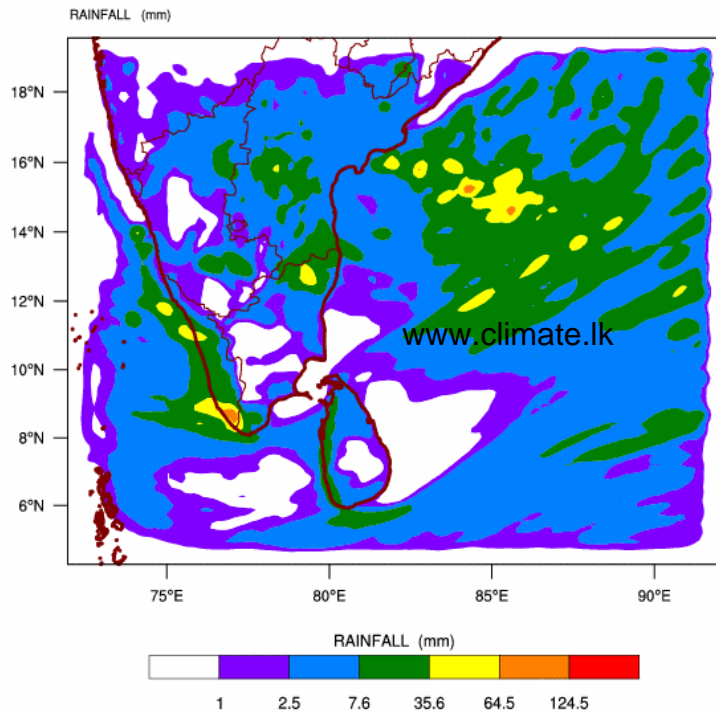


NCEP GFS 1- 14 Day prediction

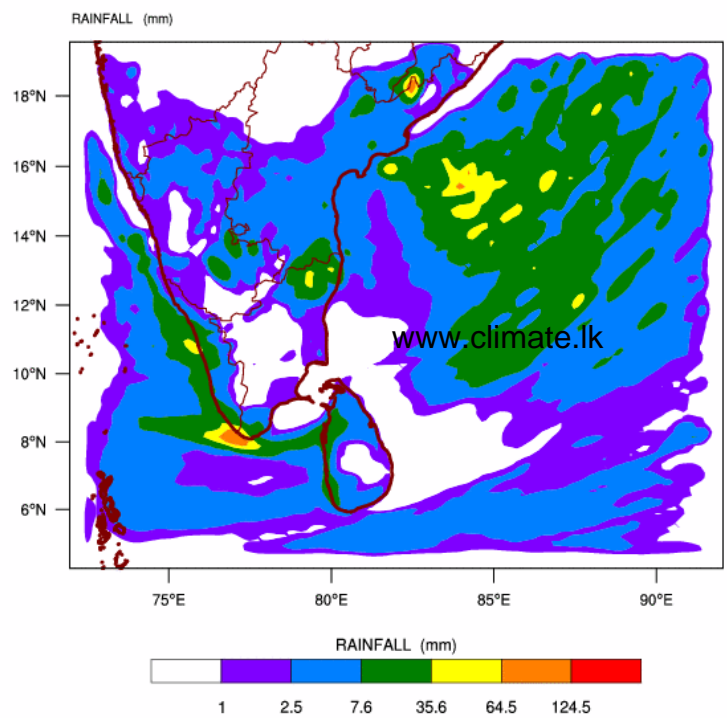


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 27-09-2017 valid for 03 UTC of 29-09-2017



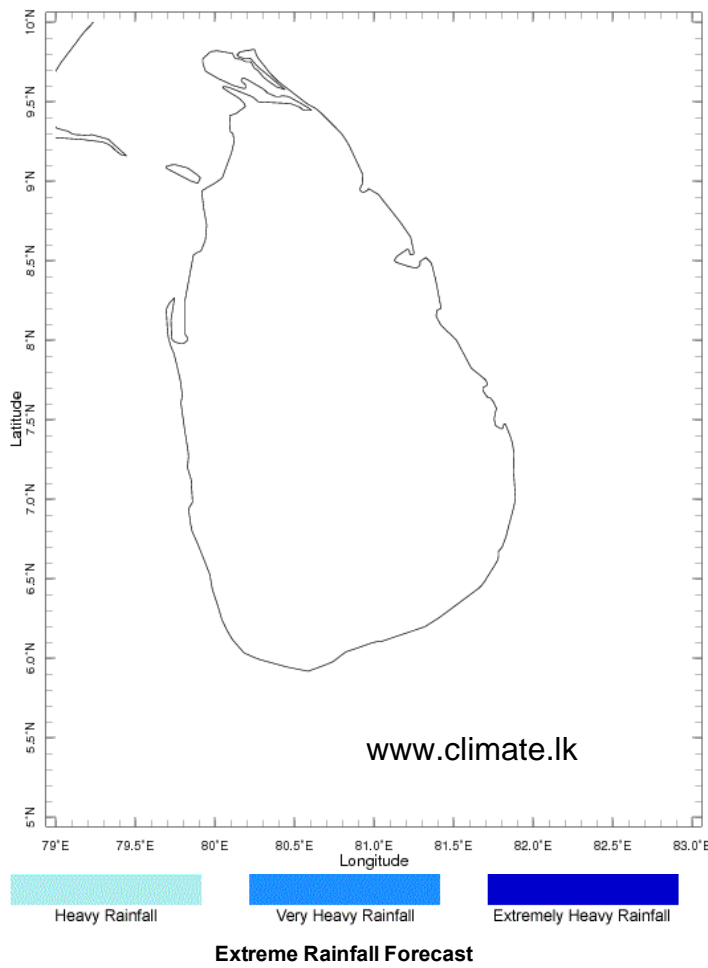
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 27-09-2017 valid for 03 UTC of 30-09-2017



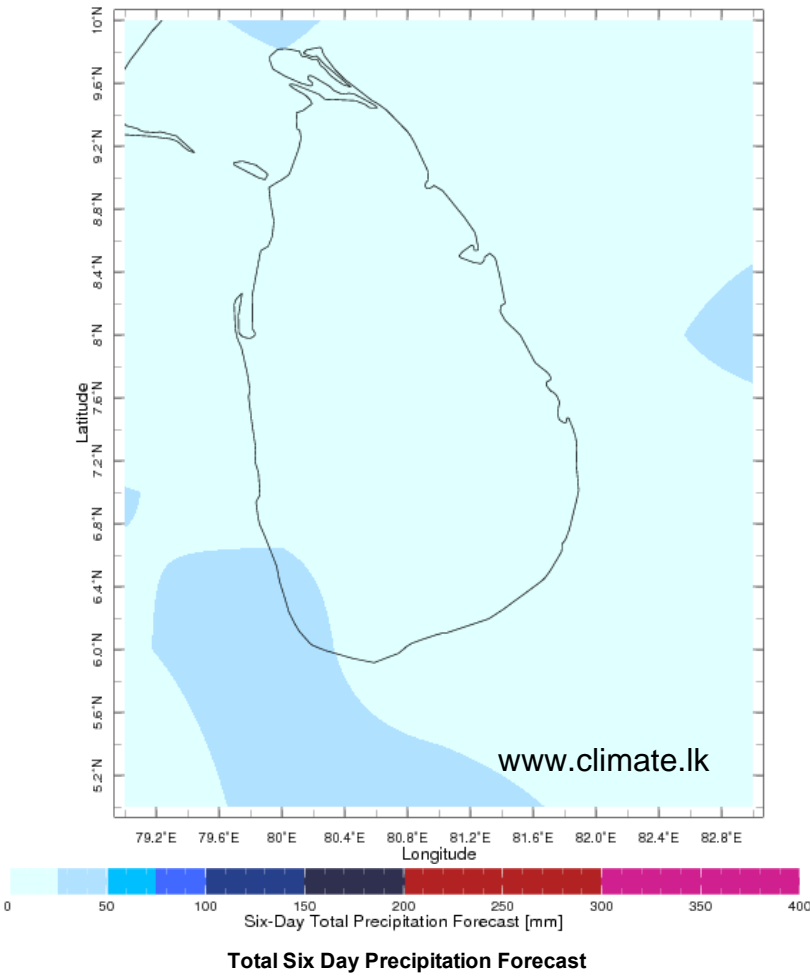
Weekly Rainfall Forecast from IRI

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 27 Sep 2017 - 2 Oct 2017 Issued 0000 27 Sep 2017



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