

Experimental Climate Monitoring and Prediction

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Highlights

- The IRI weekly rainfall forecast predicts total rainfall between 100-150 mm in Northeastern coastal area during 1-6 Nov.
- Between 24-30 Oct: Rainfall up to 90 mm was recorded in various parts of the island.
- From 22-28 Oct: minimum temperature of 15 °C was recorded from Nuwara Eliya district while northeastern coastal regions recorded a maximum temperature between 35-40 °C.
- From 24-30 Oct: up to 18 km/h, northeasterly winds were experienced by the northern regions of the country and up to 11 km/h in the central and southern regions.
- 0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On October 24th Vavuniya, Anuradhapura and Polonnaruwa districts received up to 90 mm; Matale district up to 60 mm; Mullaitivu, Mannar, Trincomalee, Puttalam, Kurunegala, Batticaloa, Ampara, Kandy, Badulla and Monaragala districts up to 50 mm; Kilinochchi, Nuwara Eliya and Ratnapura districts up to 30 mm; and Kegalla and Hambantota districts up to 20 mm. On the 25th Kurunegala, Kegalla, Kandy and Badulla districts received up to 90 mm of rainfall; Monaragala district up to 70 mm; Gampaha and Nuwara Eliya districts up to 50 mm; Puttalam and Ratnapura districts up to 30 mm; Colombo, Kalutara, Galle, Matara and Hambantota districts up to 10 mm. On the 26th, Kurunegala, Gampaha, Kegalla, Matale, Kandy and Nuwara Eliya districts received up to 10 mm of rainfall. On the 27th Badulla district received up to 50 mm of rainfall; Anuradhapura, Monaragala and Ampara districts up to 30 mm; Jaffna, Kilinochchi, Mullaitivu, Mannar, Puttalam, Polonnaruwa, Batticaloa, Matale, Kandy, Nuwara Eliya and Ratnapura districts up to 20 mm; and most parts of the island up to 10 mm. On the 28th, Matale district received up to 80 mm of rainfall; Badulla, Ampara, Monaragala and Nuwara Eliya districts up to 60 mm; Anuradhapura, Polonnaruwa, Kandy, Kurunegala, Kegalla, and Ratnapura districts up to 50 mm; Colombo, Batticaloa and Hambantota districts up to 30 mm; and Puttalam and Gampaha districts up to 20 mm. On the 29th, Kandy, Badulla and Ampara districts received up to 30 mm of rainfall; and Puttalam, Kurunegala, Gampaha, Colombo, Kegalla, Ratnapura, Matale, and Nuwara Eliya districts up to 20 mm. On the 30th, Polonnaruwa and Gampaha districts received up to 90 mm of rainfall; Jaffna, Kilinochchi, Kalutara, Galle and Ratnapura districts up to 70 mm; Mannar and Polonnaruwa districts up to 60 mm; Gampaha, Matara, Anuradhapura and Matale districts up to 50 mm; Kurunegala, Badulla, Monaragala and Hambantota districts up to 30 mm; and rest of the country up to 20 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 150-200 mm in Badulla and Monaragala districts; up to 100-150 mm Jaffna, Polonnaruwa, Kurunegala, Ampara, Matale, Kandy, Ampara, Ratnapura, Gampaha, Kalutara and Galle districts; and up to 25-50 mm in rest of the island. It shows above average rainfall up to 50-100 mm in Kegalla, Ampara, Badulla and Monaragala districts; and 25-50 mm in Gampaha, Ratnapura, Kandy and Nuwara Eliya districts. It also shows below average rainfall up to 50-100 mm in Anuradhapura district; and up to 25-50 mm in Mannar, Vavuniya, Kurunegala, Trincomalee, Batticaloa, Galle and Matara districts.

Monthly Monitoring: During September - below average rainfall conditions were experienced in the eastern and southern regions of the island and above average rainfall in western and northern regions. Mullaitivu, Trincomalee, Polonnaruwa, Batticaloa, Matale, Ampara, Badulla, Nuwara Eliya, Ratnapura, Monaragala, Galle, Matara and Hambantota districts received up to 150 mm below average rainfall. Colombo district received up to 180 mm of above average rainfall; and Puttalam, Kurunegala, Colombo, Kegalla and Kalutara districts up to 150 mm. The CPC Unified Precipitation Analysis tool shows ~300 mm of total rainfall in Gampaha, Colombo and Kalutara districts; up to ~200 mm in Kegalla, Ratnapura and Galle districts; up to 100 mm in Puttalam, Kurunegala, Matale. Ampara, Monaragala, Badulla, Kandy and Matara districts; and up to 50 mm in many parts of the island.

Ocean State (Text Courtesy IRI)

Pacific sea state: October 19, 2017

In mid-October 2017, the tropical Pacific remained in an ENSO-neutral state but near the borderline of weak La Niña, as SSTs in the east-central tropical Pacific have cooled to the threshold for La Niña and the atmosphere has also shown patterns suggestive of near-La Niña conditions. The collection of latest ENSO prediction models indicates weak La Niña as a likely scenario during Northern Hemisphere fall and winter. The official CPC/IRI outlook 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 seas around Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 01st–07th Nov: Total rainfall between 115-125 mm in Colombo and Ratnapura districts; between 105-115 mm in Jaffna, Gampaha, Kegalle and Galle districts; between 95-105 mm in Kilinochchi, Mullaitivu, Vavuniya, Trincomalee, Nuwara Eliya, Badulla and Matara districts; between 85-95 mm in Mannar, Anuradhapura, Kurunegala, Puttalam, Kandy, Hambantota, Monaragala and Ampara districts; Up to 85 mm total rainfall in rest of the island.

From 08th – 14th Nov: Total rainfall between 75-85 mm in Ratnapura district; between 65-75 mm in Gampaha, Colombo and Kegalle districts; between 45-55 mm in Kurunegala, Puttalam, Kandy, Nuwara Eliya and Galle districts; Up to 45 mm total rainfall in rest of the island.

IMD WRF Forecast:

03rd Nov: Up to 35.6 mm of rainfall in Jaffna, Kilinochchi, Kandy and Matale districts; and up to 7.6 mm in rest of the island.

04th Nov: Up to 35.6 mm of rainfall in Jaffna, Kilinochchi, Mullaitivu, Batticaloa, Kegalle, Kandy, Nuwara Eliya and Matale districts; and up to 7.6 mm in rest of the island.

IRI Model Forecast:

01st – 06th Nov: Total rainfall between 100-150 mm in Jaffna, Kilinochchi, Mullaitivu, Trincomalee, Badulla, Kandy, Nuwara Eliya and Monaragala districts; between 75-100 mm in Mannar, Vavuniya, Anuradhapura, Polonnaruwa, Puttalam, Gampaha, Colombo, Kalutara, Kurunegala, Kegalle, Matale, Ratnapura, Hambantota, Monaragala, Ampara and Batticaloa districts; Up to 75 mm total rainfall in rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall suppress the rainfall in Sri Lanka in the next 10 days and shall enhance the rainfall in the following 5 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.

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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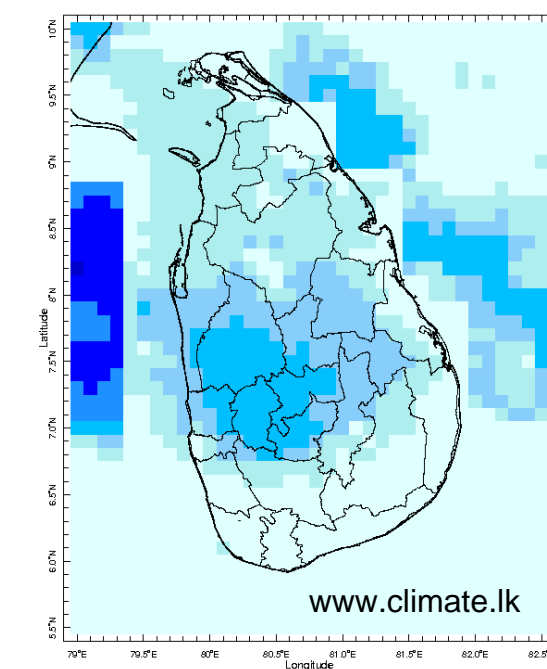
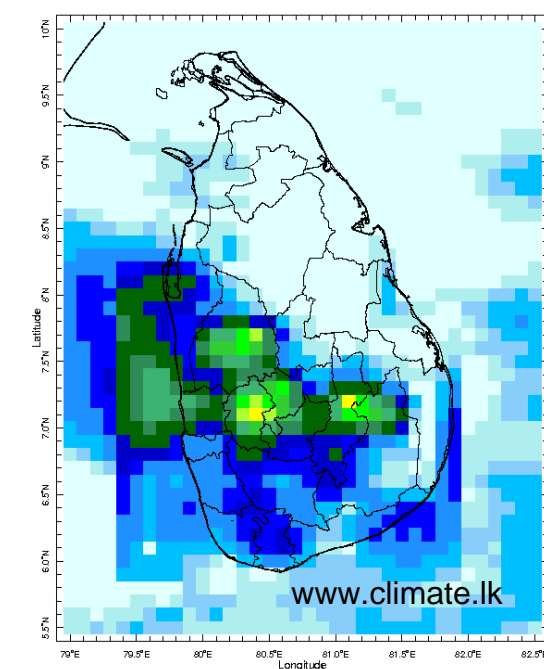
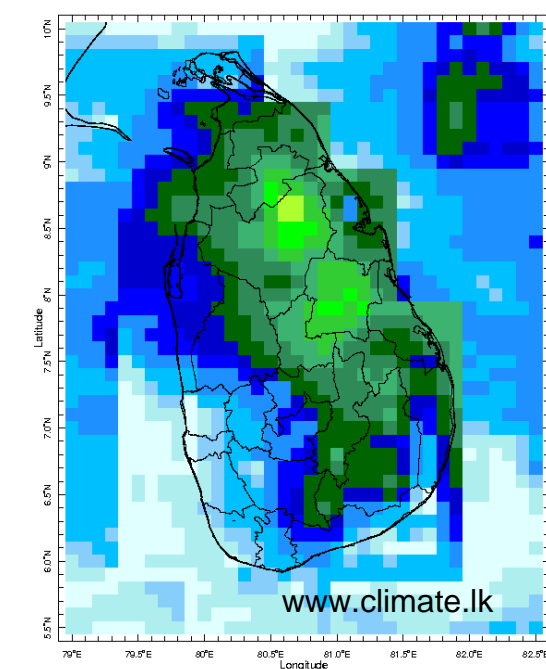
2. Predictions

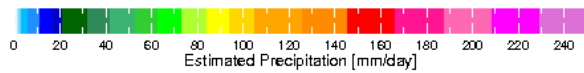
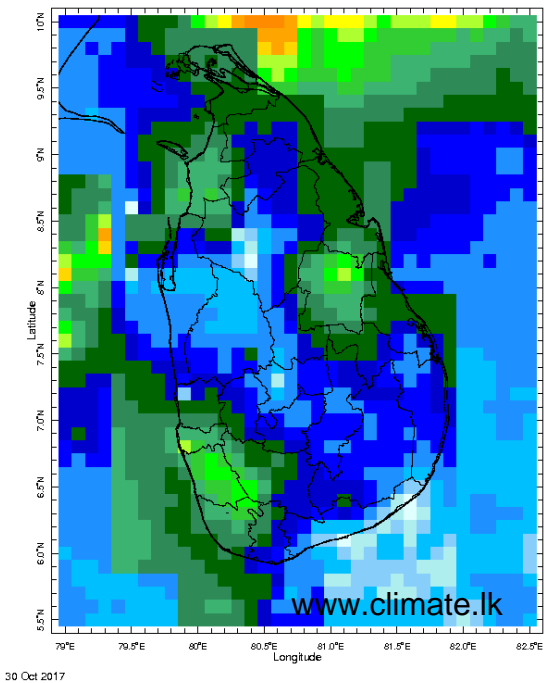
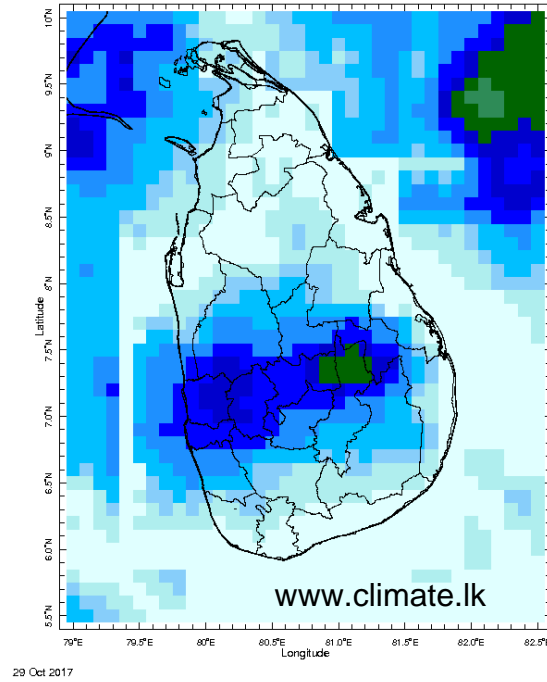
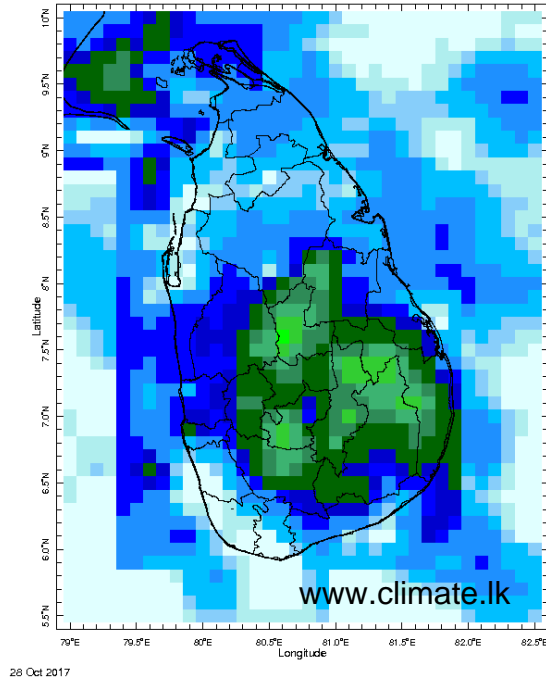
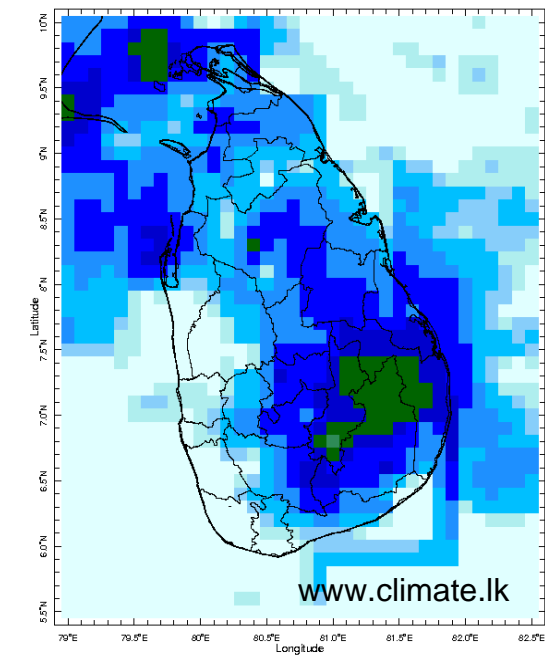
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
- d. Seasonal Predictions from IRI

MONITORING

Daily Rainfall Monitoring

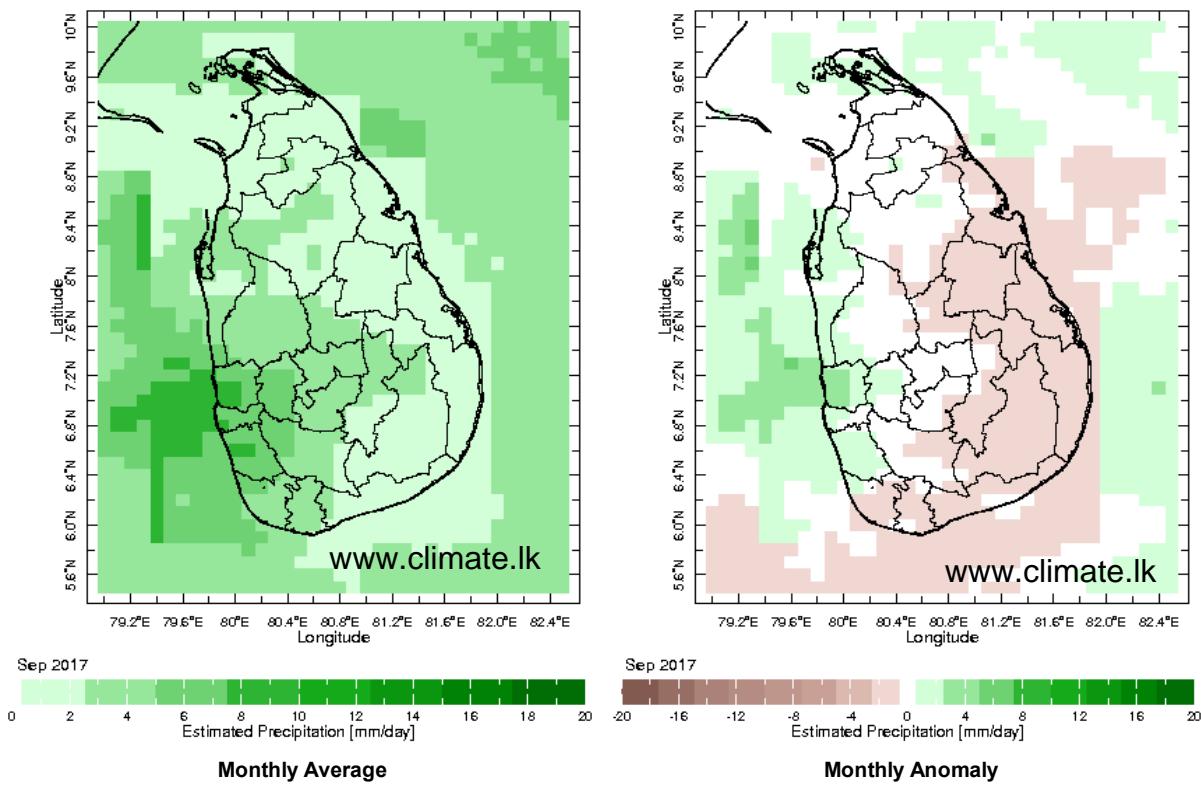
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



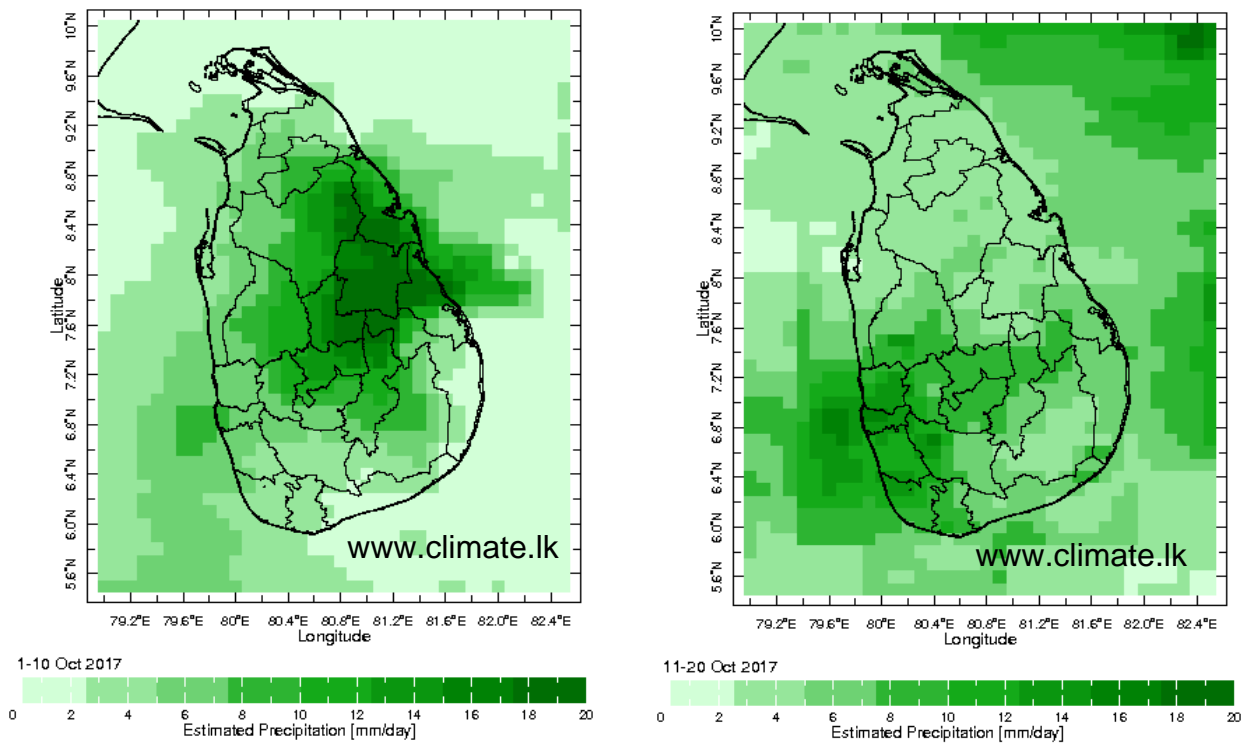


Monthly Rainfall Monitoring

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

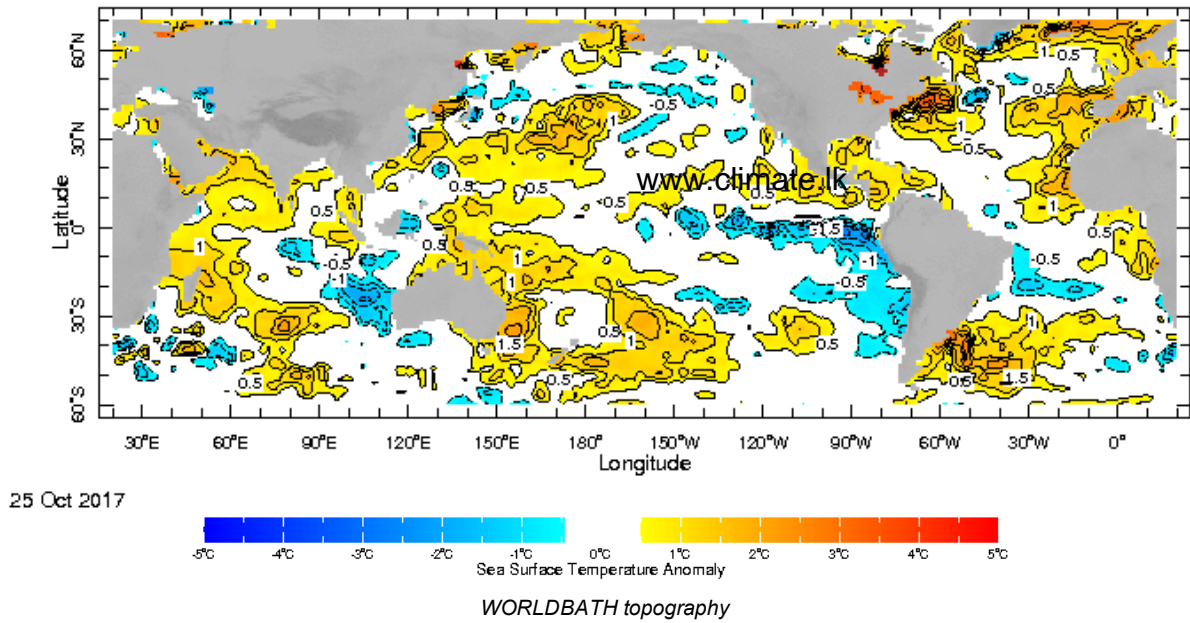


Dekadal (10 Day) Satellite Derived Rainfall Estimates

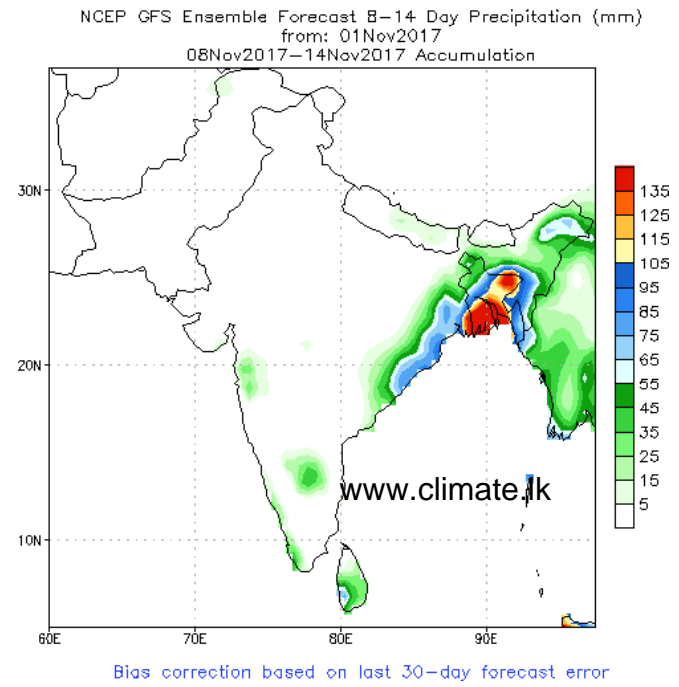
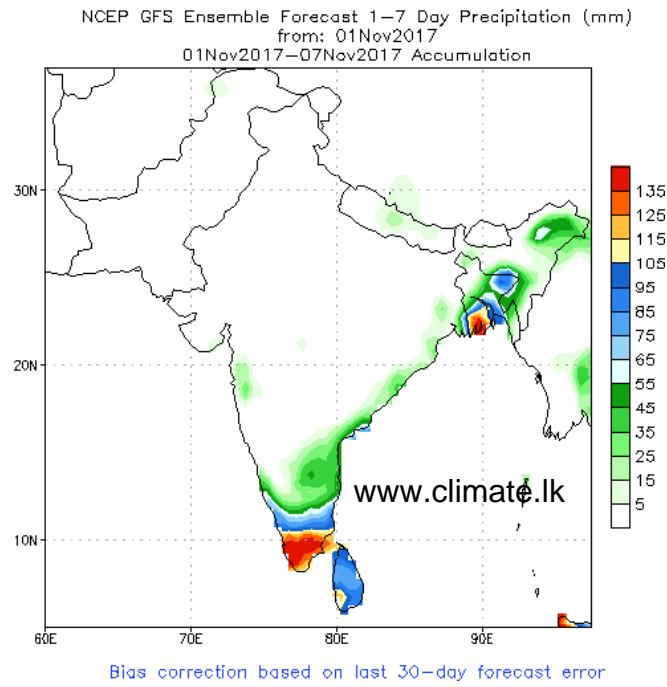


Weekly Average SST Anomalies

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

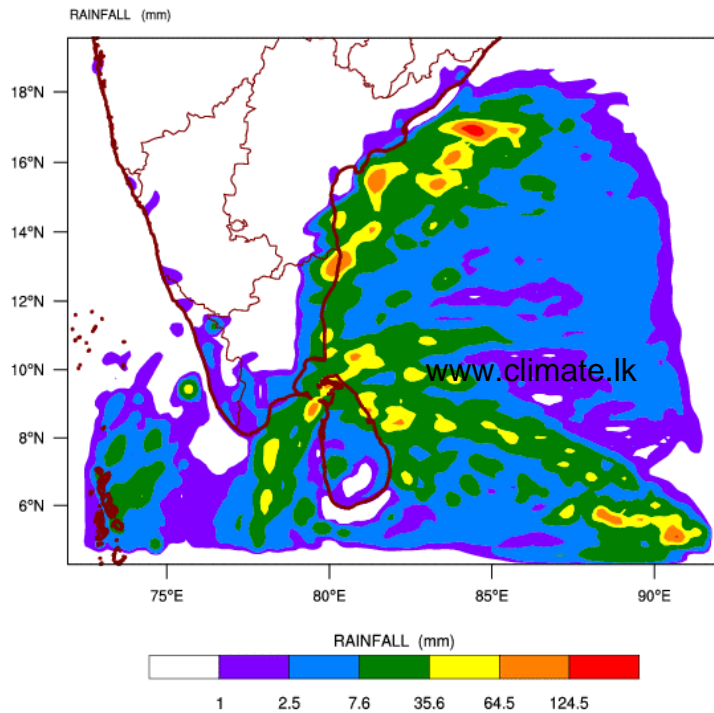


NCEP GFS 1- 14 Day prediction

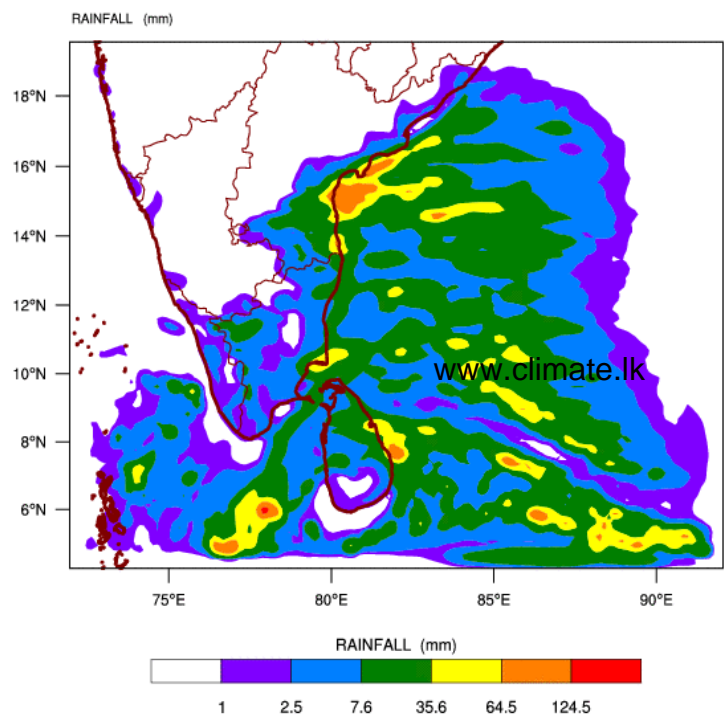


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 02-11-2017 valid for 03 UTC of 04-11-2017

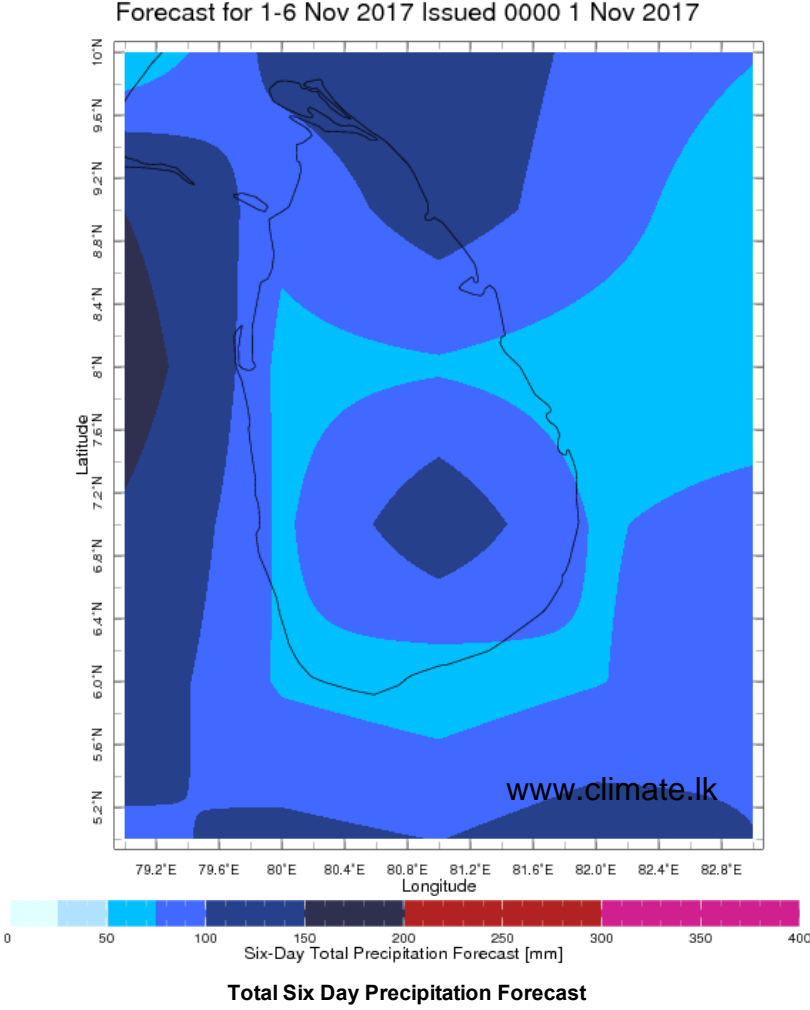
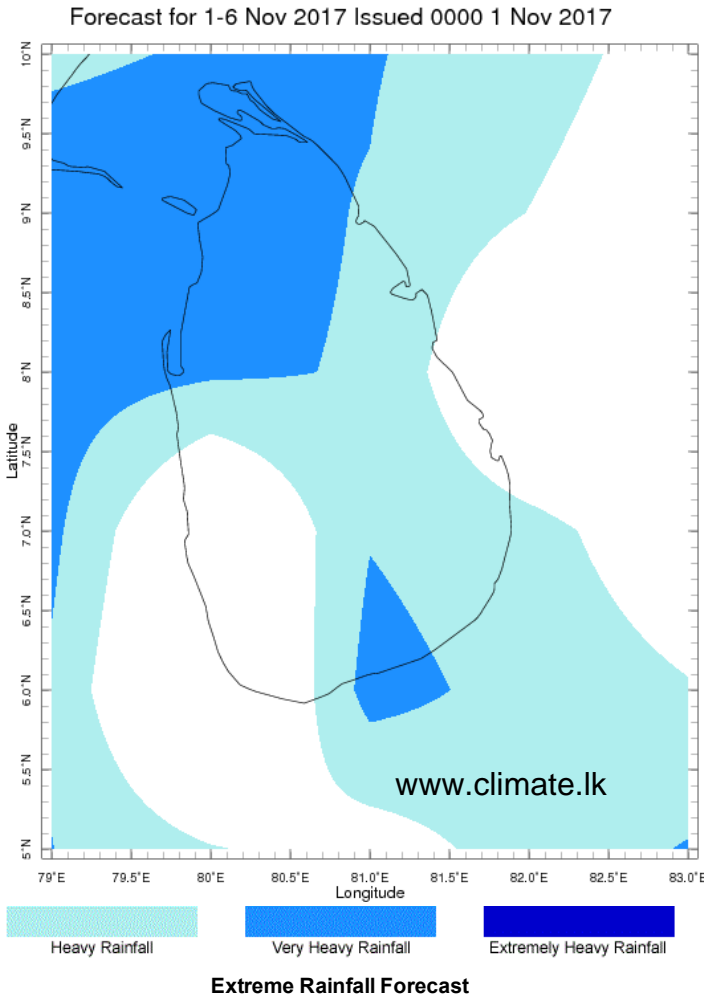


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 02-11-2017 valid for 03 UTC of 05-11-2017



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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