

Experimental Climate Monitoring and Prediction

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Highlights

- The NCEP weekly rainfall forecast predicts between 125-135 mm of total rainfall in Jaffna district during 11th – 17th Oct.
- Between 3-9 Oct: Rainfall up to 80 mm was recorded in Anuradhapura and Trincomalee districts on the 7th.
- From 1-7 Oct: minimum temperature of 20 °C was recorded from Nuwara Eliya district while northeastern coastal regions recorded a maximum temperature between 35-40 °C.
- From 3-9 Oct: up to 36 km/h, northwesterly winds were experienced by the southern half of the country and up to 18 km/h in the northern half.
- Average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On October 3rd Batticaloa, Ampara and Badulla districts received up to 20 mm. On the 4th Monaragala district received up to 50 mm of rainfall; Ampara and Badulla districts up to 30 mm; Batticaloa, Kandy, Nuwara Eliya and Trincomalee districts up to 10 mm; and many parts of the island up to 10 mm. On the 5th, Polonnaruwa district received up to 70 mm of rainfall; Anuradhapura, Matale, Kurunegala and Ampara districts up to 50 mm; Trincomalee, Kalutara, Galle and Batticaloa districts up to 30 mm; and Mannar, Mullaitivu, Vavuniya, Puttalam, Gampaha, Colombo, Matara and Kandy districts up to 20 mm. On the 6th Colombo district received up to 50 mm of rainfall; Gampaha and Kalutara districts up to 30 mm; and Ratnapura, Badulla, Ampara and Monaragala districts up to 20 mm. On the 7th, Anuradhapura and Trincomalee districts received up to 80 mm of rainfall; Polonnaruwa district up to 60 mm; Matale and Monaragala districts up to 50 mm; Kandy and Badulla districts up to 40 mm; Kilinochchi, Mullaitivu, Puttalam, Kurunegala, Ampara and Nuwara Eliya districts received up to 30 mm; and Gampaha, Kegalla, and Batticaloa districts up to 20 mm. On the 8th, Kegalla, Kandy and Nuwara Eliya districts received up to 70 mm of rainfall; Matale and Badulla districts up to 40 mm; Monaragala district up to 30 mm; and Hambantota, Gampaha and Ratnapura districts up to 20 mm. On the 9th, Ampara district received up to 60 mm of rainfall, Trincomalee, Anuradhapura, Polonnaruwa, Badulla and Kandy districts up to 50 mm, Mannar, Mullaitivu and Vavuniya districts up to 30 mm; and Monaragala district up to 20 mm.

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

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

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 11th Oct – 17th Oct: Total rainfall between 125-135 mm in Jaffna district; between 115-125 mm in Kilinochchi and Mullaitivu districts; between 105-115 mm in Mannar and Vavuniya districts; between 95-105 mm in Anuradhapura and Trincomalee districts; between 75-105 mm in Puttalam, Kurunegala, Matale and Polonnaruwa districts; between 55-75 mm in Colombo, Gampaha, Kegalle, Kandy and Matale districts; Up to 55 mm total rainfall rest of the island.

From 18th – 24th Oct: Total rainfall between 45-55 mm in Colombo and Ratnapura; between 35-45 mm in Puttalam, Kurunegala and Kegalla districts; between 25-35 mm in Galle district; between 15-25 mm in Matara, Nuwara Eliya, Kandy and Matale districts; between 5-15 mm in Anuradhapura, Matale, Badulla, Monaragala and Hambantota districts.

IMD WRF Forecast:

13th Oct: Up to 35.6 mm of rainfall in Puttalam, Colombo, Gampaha Kalutara, Galle and districts; up to 7.6 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Anuradhapura, Polonnaruwa, Trincomalee, Kegalle, Matara and Hambantota districts; and up to 2.5 mm in Matale, Nuwara Eliya, Monaragala, Ampara and Batticaloa districts.

14th Sep: Up to 35.6 mm of rainfall in Mannar, Puttalam, Kurunegala, Gampaha, Colombo, Kalutara, Ratnapura, Galle and Matara districts; up to 7.6 mm rainfall in Kilinochchi, Mullaitivu, Vavuniya, Anuradhapura, Trincomalee, Polonnaruwa, Kegalla, Nuwara Eliya, Monaragala and Hambantota districts; and up to 2.5 mm rainfall in Batticaloa, Ampara, Matale, Badulla and Kandy districts.

IRI Model Forecast:

11th – 16th Oct: Total rainfall between 100-150 mm in Jaffna district; between 75-100 mm in Kilinochchi, Mullaitivu and Kalutara districts; between 50-75 mm in Puttalam, Kurunegala, Gampaha, Colombo, Galle, Kegalla, Ratnapura, Mannar, Vavuniya and Trincomalee districts and up to 50 mm rainfall in rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall suppress 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/>

FECT WEBSITES

<http://www.climate.lk> and <http://www.tropicalclimate.org/>



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Weekly Hydro- Meteorological Report for Sri Lanka

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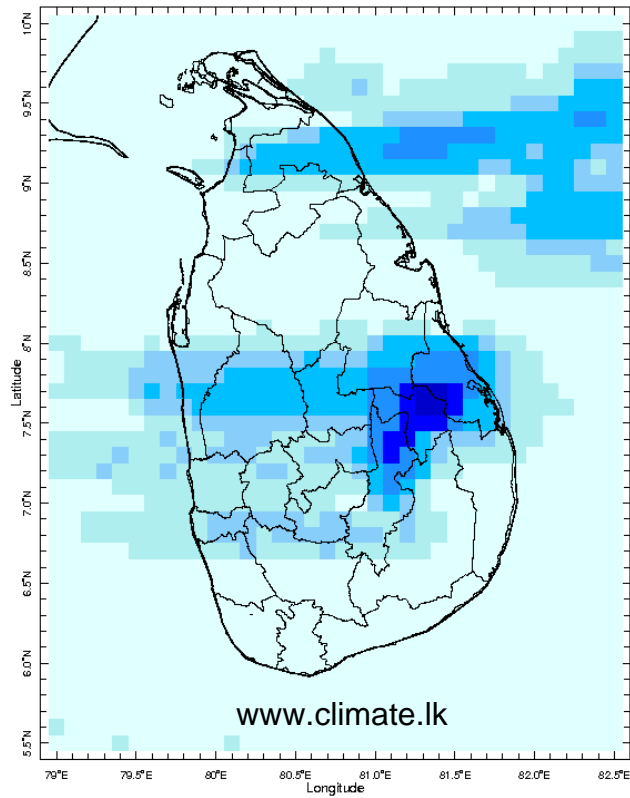
2. Predictions

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- d. Seasonal Predictions from IRI

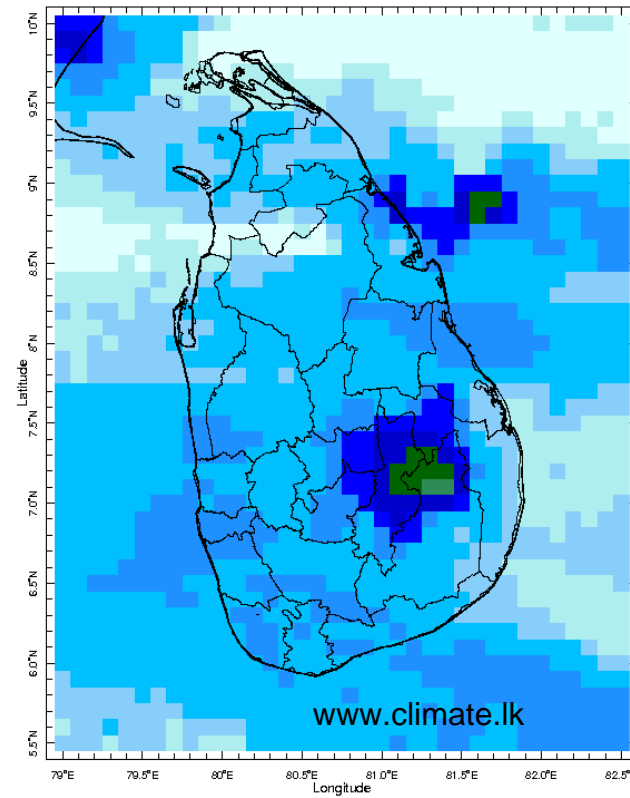
MONITORING

Daily Rainfall Monitoring

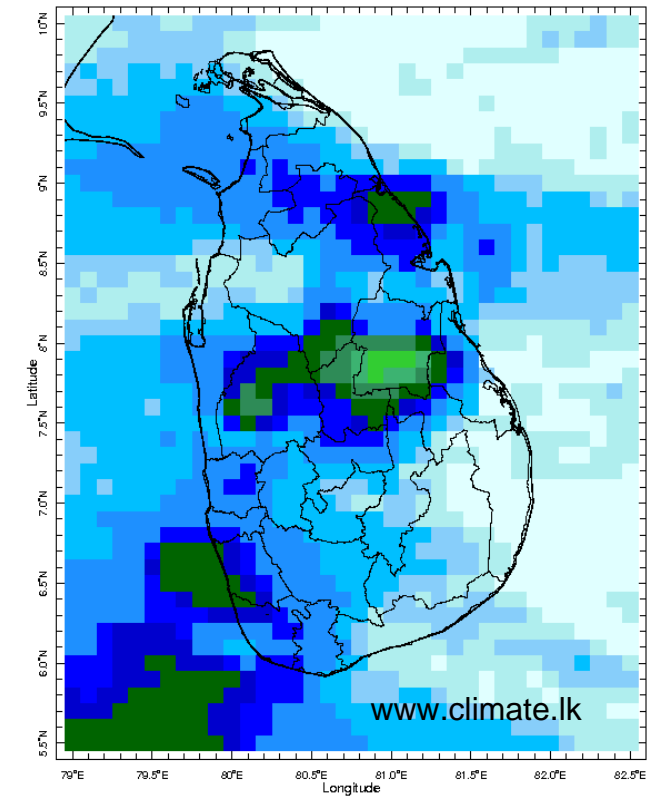
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



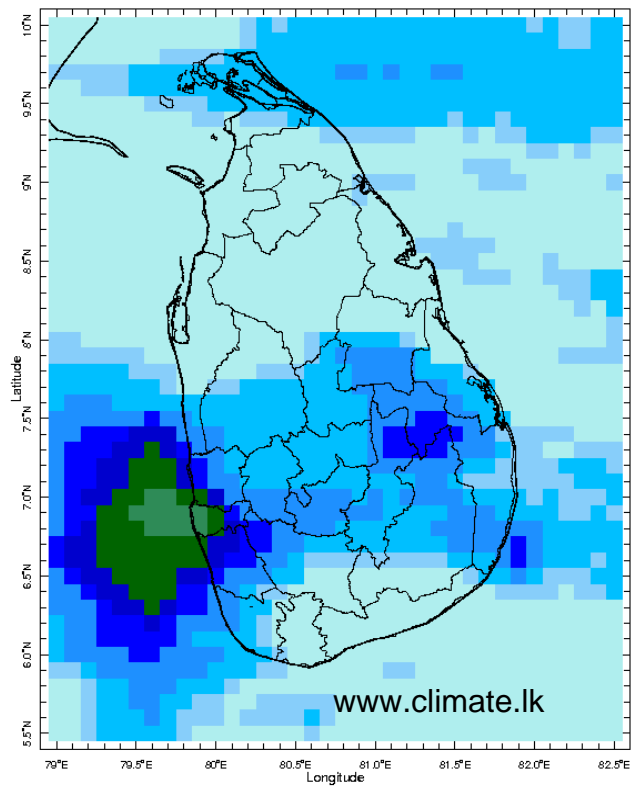
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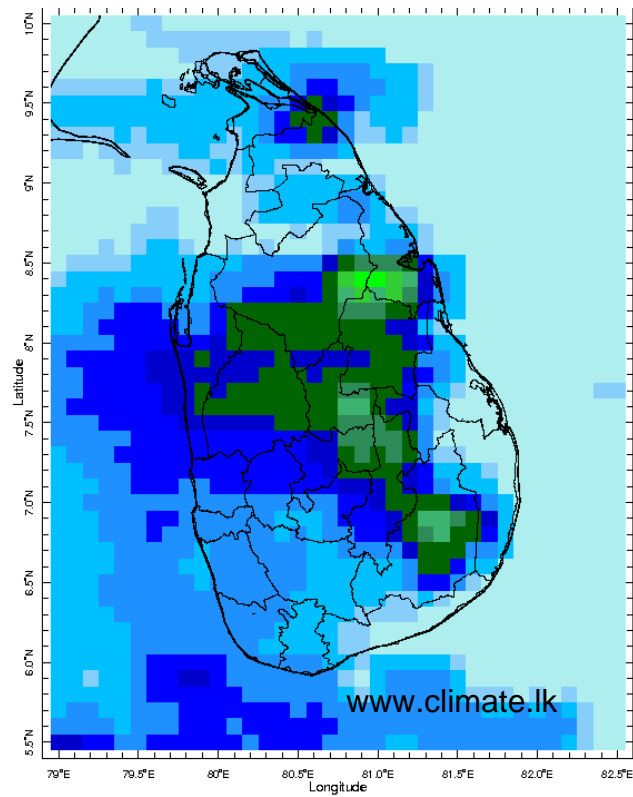
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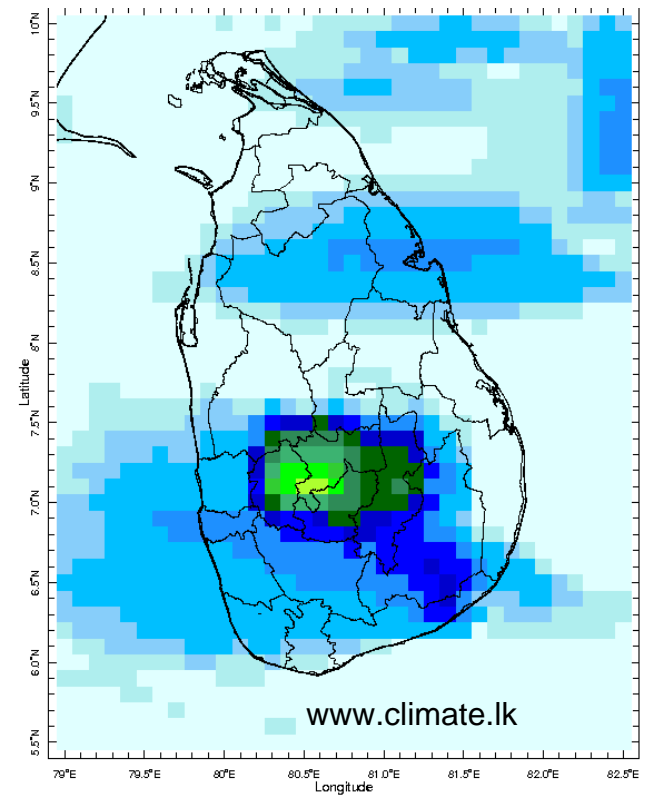
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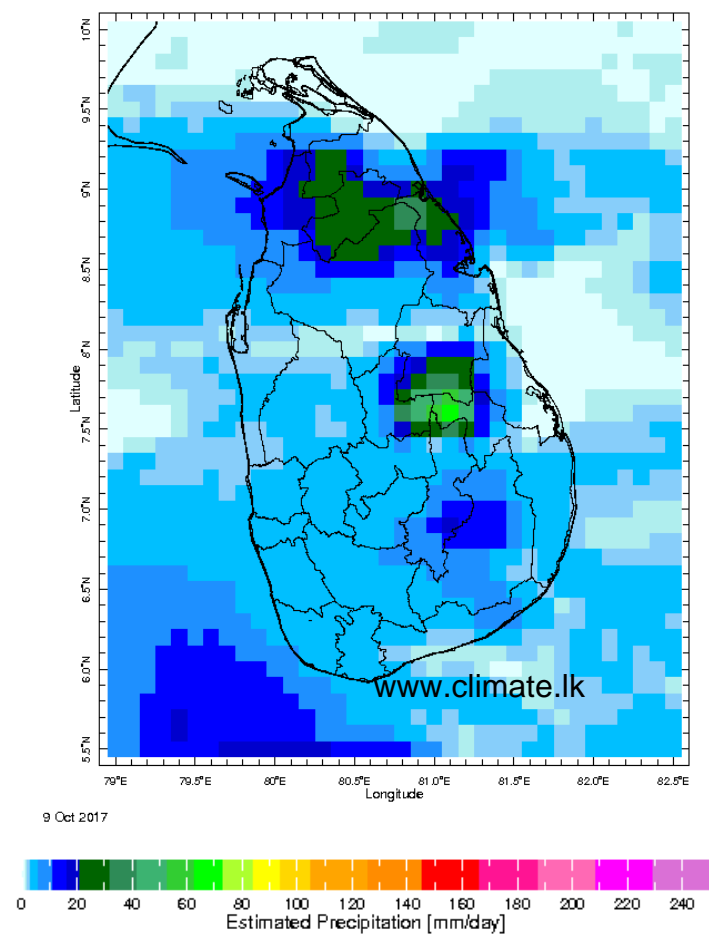
6 Oct 2017



7 Oct 2017

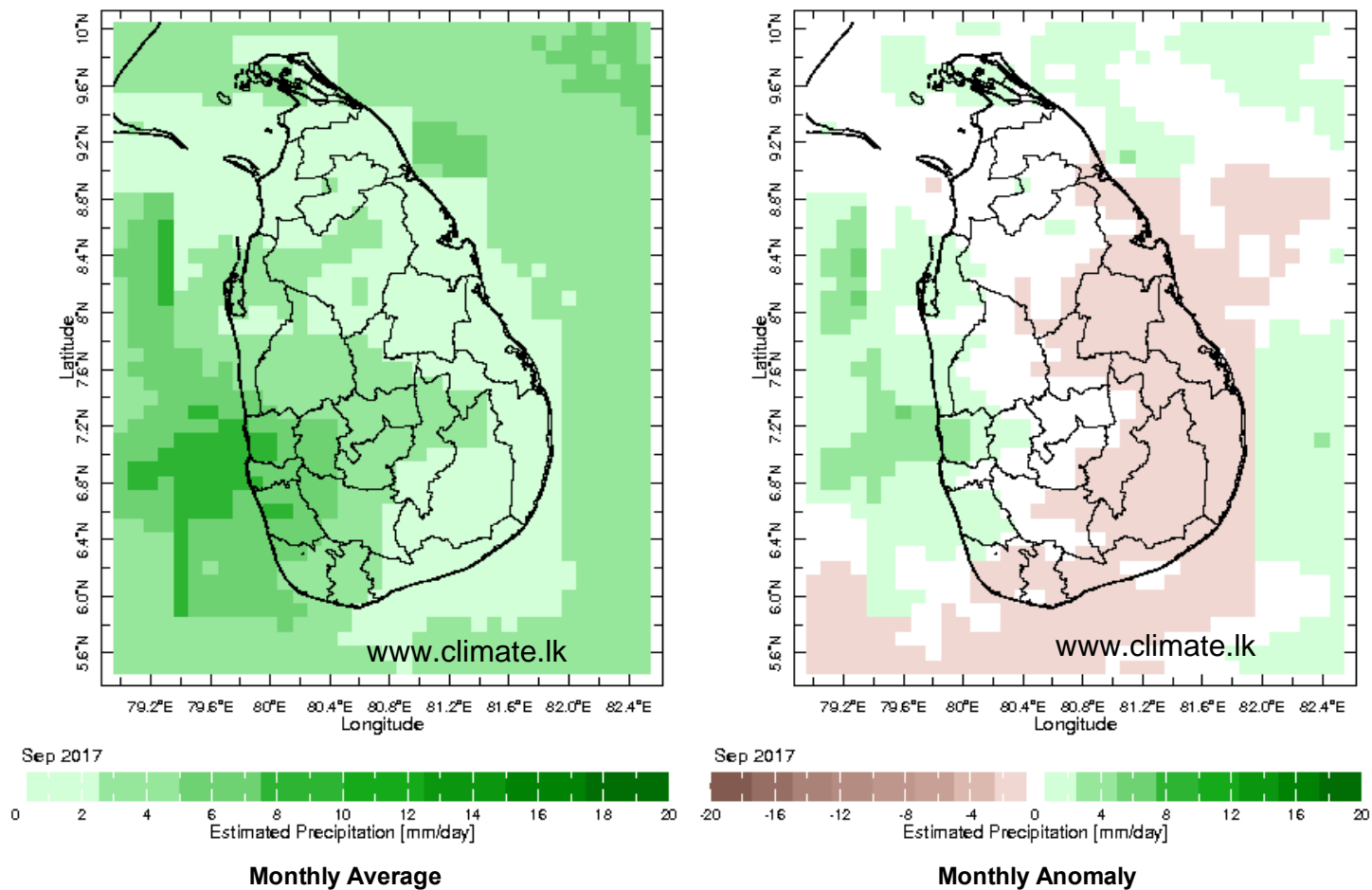


8 Oct 2017

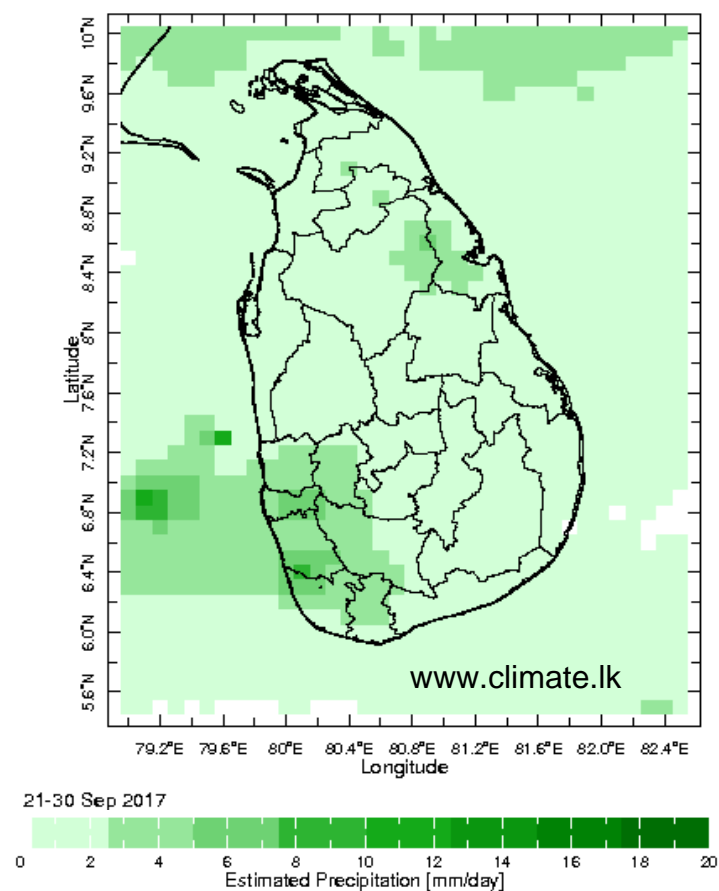
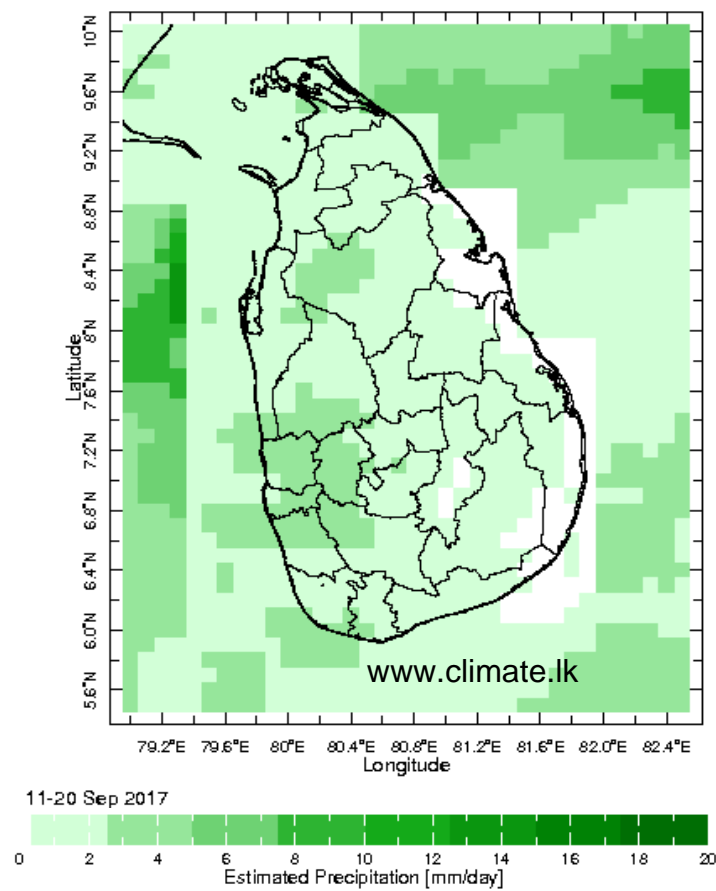


Monthly Rainfall Monitoring

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

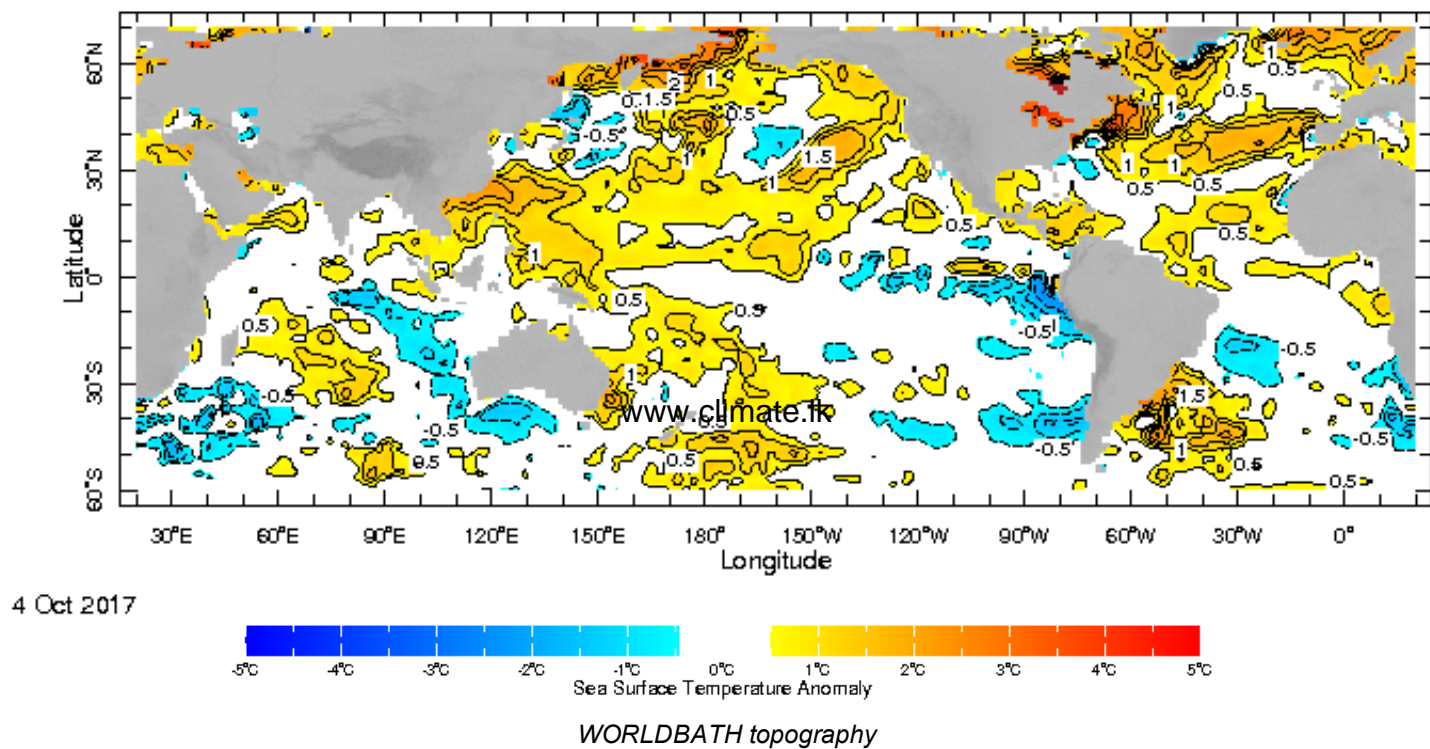


Dekadal (10 Day) Satellite Derived Rainfall Estimates



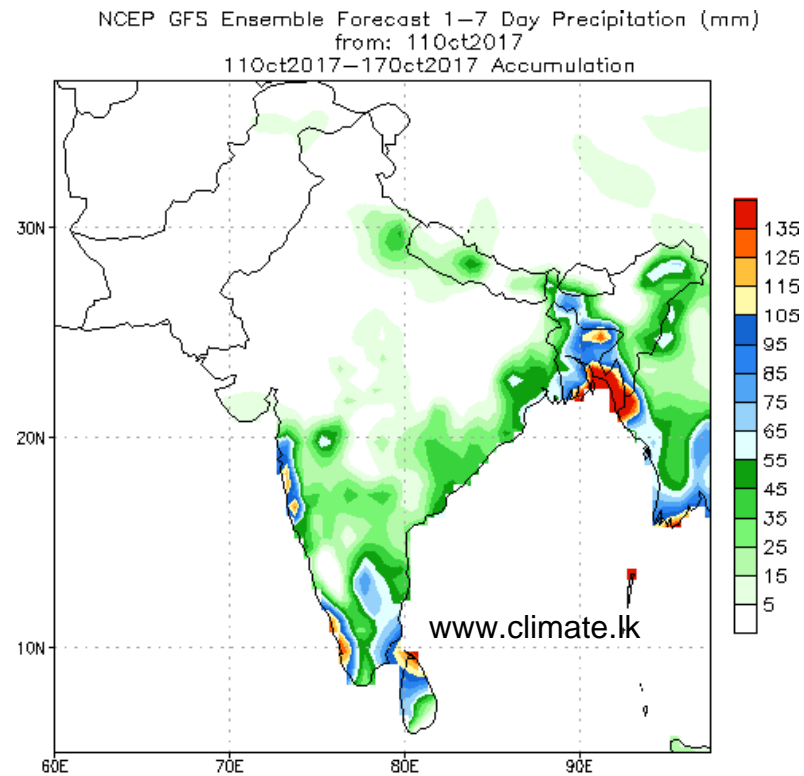
Weekly Average SST Anomalies

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

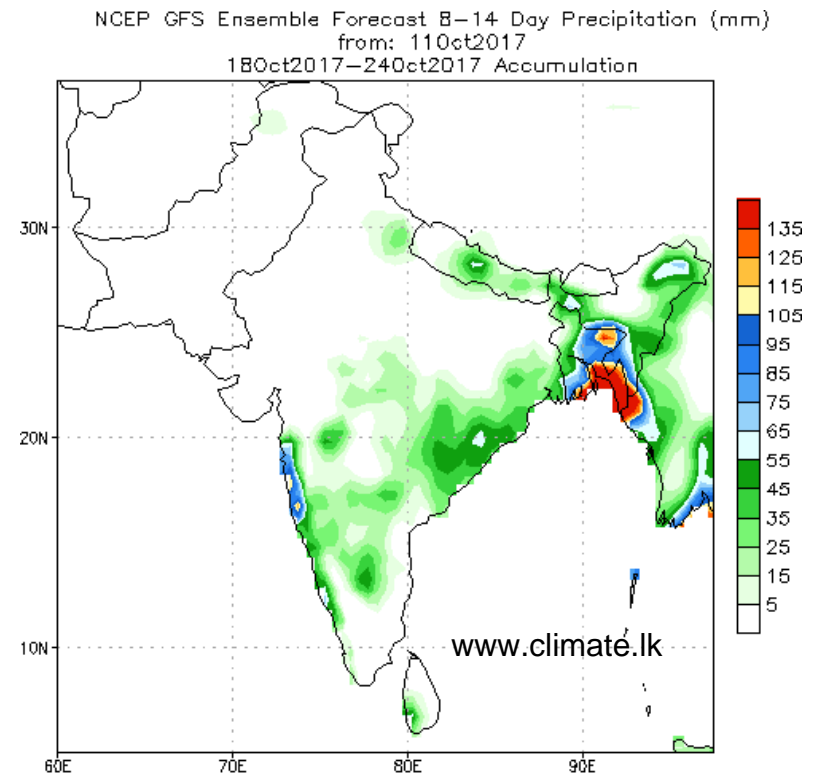


PREDICTIONS

NCEP GFS 1- 14 Day prediction



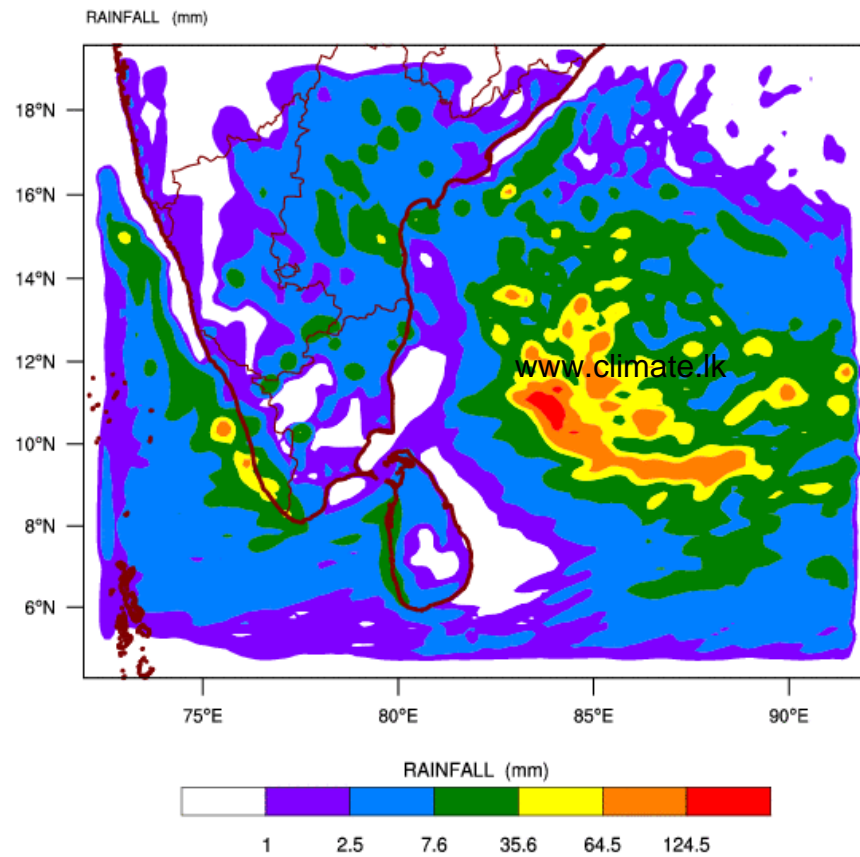
Bias correction based on last 30-day forecast error



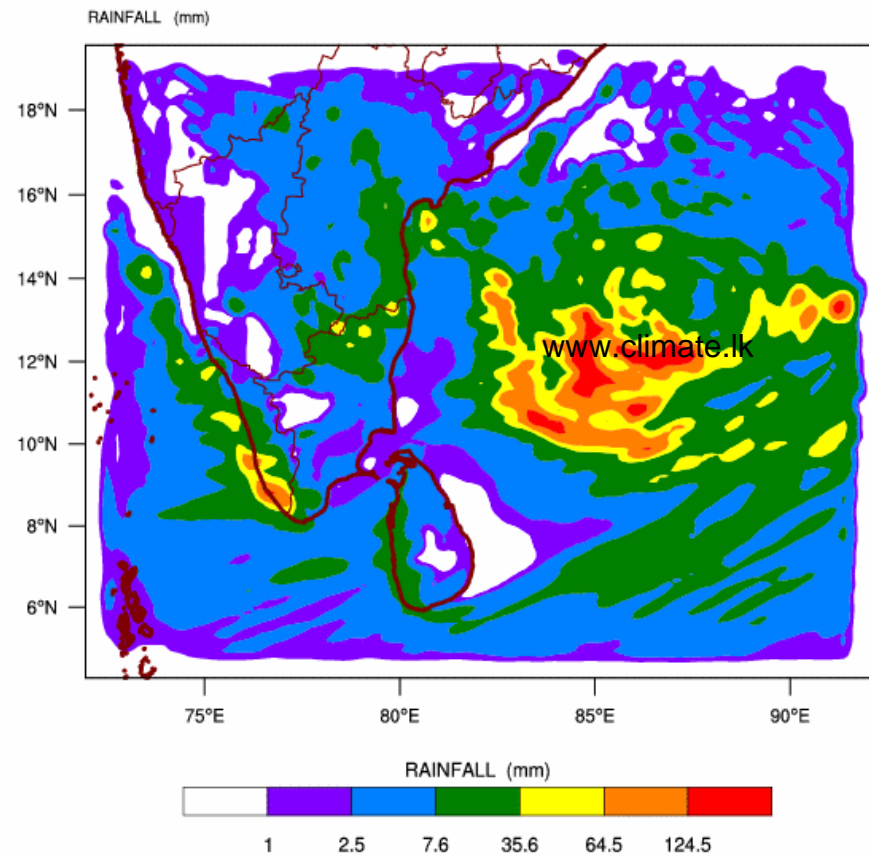
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

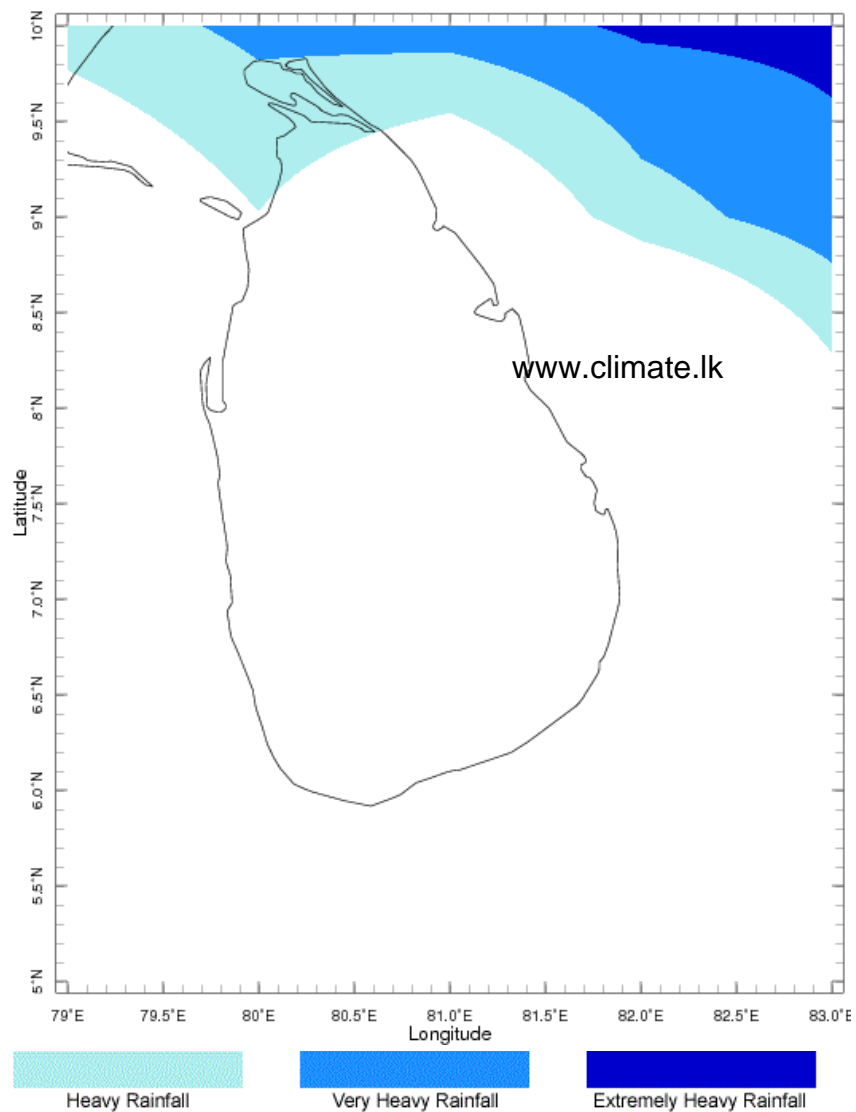
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 11-10-2017 valid for 03 UTC of 13-10-2017



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 11-10-2017 valid for 03 UTC of 14-10-2017

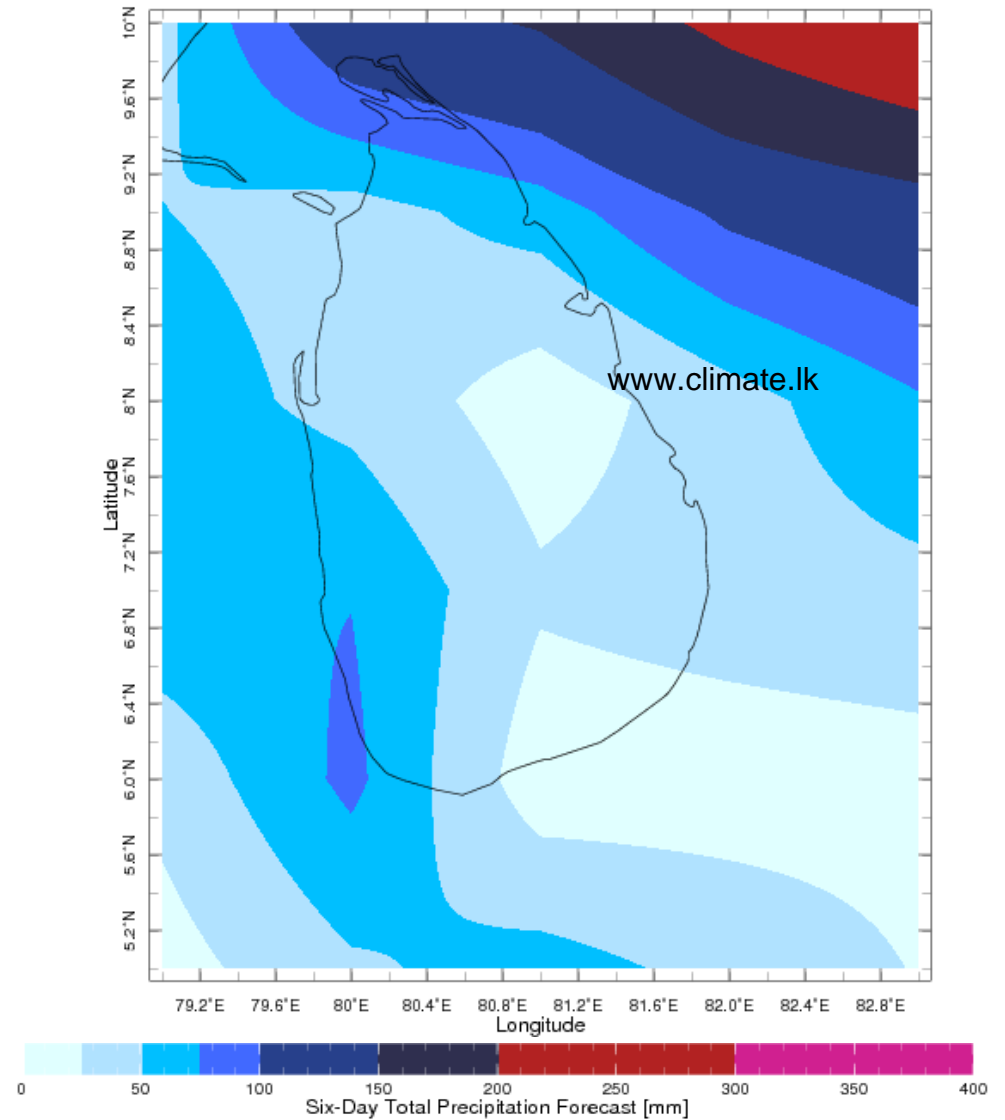


Forecast for 11-16 Oct 2017 Issued 0000 11 Oct 2017



Extreme Rainfall Forecast

Forecast for 11-16 Oct 2017 Issued 0000 11 Oct 2017



Total Six Day Precipitation Forecast