

**14 November
2019**

EXPERIMENTAL CLIMATE MONITORING AND PREDICTION

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HIGHLIGHTS

Rainfall Forecast



- The NOAA weekly rainfall forecast predicts up to 75 mm of total rainfall in central and western regions of the island during 13 – 18 Nov.

Monitored Rainfalls



- Between 5 - 11 Nov: up to 120 mm of rainfall was recorded in Matara district on the 9th.

Monitored Wind



- From 5 - 11 Nov: up to 10 km/h, northeasterly winds were experienced by the entire island.

Monitored Sea Surface



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

Monitoring

Rainfall

Weekly Monitoring

Date	Rainfall
5 th November	Up to 20 mm in Monaragala and Ampara districts; and up to 10 mm in Anuradhapura, Nuwara Eliya, Ratnapura and Badulla districts.
6 th November	No Rainfall.
7 th November	Up to 60 mm in Gampaha and Colombo districts; up to 50 mm in Kegalle and Ratnapura districts; and up to 10 mm in Kalutara, Puttalam and Kurunegala districts.
8 th November	Up to 30 mm in Trincomalee district; up to 20 mm in Batticaloa, Puttalam, Badulla and Monaragala districts; and up to 10 mm most parts of the island.
9 th November	Up to 120 mm in Matara district; up to 70 mm in Hambantota district; up to 60 mm in Nuwara Eliya district; up to 50 mm in Kalutara, Galle, Badulla and Monaragala districts; up to 30 mm in Ratnapura district; and up to 20 mm in Mullaitivu, Matale, Kandy, Ampara, Kegalle, Gampaha, Colombo districts.
10 th November	Up to 70 mm in Galle and Matara districts; up to 50 mm in Ratnapura, Badulla, Monaragala and Hambantota districts; up to 30 mm in Mannar, Anuradhapura,



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Date	Rainfall
	Kurunegala, Kegalle and Kalutara districts; and up to 20 mm in Mullaitivu, Gampaha, Kandy and Nuwara Eliya districts.
11th November	Up to 50 mm in Mannar, Puttalam, Vavuniya, Anuradhapura, Kurunegala, Kegalle and Ratnapura districts; up to 30 mm in Matale, Nuwara Eliya, Gampaha and Kalutara districts; and up to 20 mm in Galle, and Monaragla districts.

Total Rainfall for the Past Week

The RFE 2.0 tool shows total up to 100-150 mm in Galle and Matara districts; up to 75-100 mm in Ratnapura and Hambantota districts; and up to 50-75 mm in Anuradhapura, Kegalle, Gampaha, Colombo, Kalutara, Badulla and Monaragala districts. Above average rainfall up to 50-100 mm is shown for Galle and Matara districts. Below average rainfall up to 50-100 mm is shown for Jaffna, Kilinochchi, Vavuniya, Anuradhapura, Kurunegala, Puttalam, Matale, Kandy, Nuwara Eliya, Ratnapura, Badulla, Monaragala, Polonnaruwa, Batticaloa and Ampara districts; up to 25-50 mm in rest of the island.

Monthly Monitoring

During October – Above average rainfall conditions up to 360 mm were experienced by Kilinochchi, Ratnapura, Vavuniya, Anuradhapura, Kurunegala, Matara and Hambantota districts; up to 300 mm in Jaffna district; and up to 240 mm in rest of the island. The CPC Unified Precipitation Analysis tool shows up to 750 mm were experienced by Colombo and Ratnapura districts; and up to 500 mm in most parts of the island.

Ocean State (Text Courtesy IRI)

Pacific sea state: October 18, 2019

SSTs in the east-central Pacific maintained ENSO-neutral levels during September and early October, despite some warming in October. Patterns in some atmospheric variables show weak El Niño conditions, but this is attributed to intraseasonal variability and the collective assessment is for ENSO-neutral conditions. Model forecasts generally favor ENSO-neutral through autumn, winter and spring, with slightly higher chances for El Niño than La Niña. The official CPC/IRI outlook is consistent with these model forecasts.

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



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From 13th – 19th Nov: Total rainfall more than 95 mm in Ratnapura and Galle districts; up to 75-85 mm in Puttalam, Kurunegala, Gampaha, Kegalle, Matara and Hambantota districts; and up to 65-75 mm in Matale, Kandy, Badulla, Monaragala and Ampara districts.

From 20th – 26th Nov: Total rainfall more than 135 mm in Jaffna, Kilinochchi, Mannar and Puttalam districts; up to 125-135 mm Kurunegala and Batticaloa districts; and up to 115-125 mm in Mullaitivu, Vavuniya, Anuradhapura, Ratnapura, Galle and Ampara districts.

NOAA Model Forecast:

From 13th – 18th Nov: Total rainfall up to 75 mm is expected in Kandy, Nuwara Eliya, Gampaha, Colombo, Kegalle, Ratnapura, Badulla and Monaragala districts; and up to 50 mm in most parts of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall suppress the rainfall in Sri Lanka in next 5 days and shall enhance 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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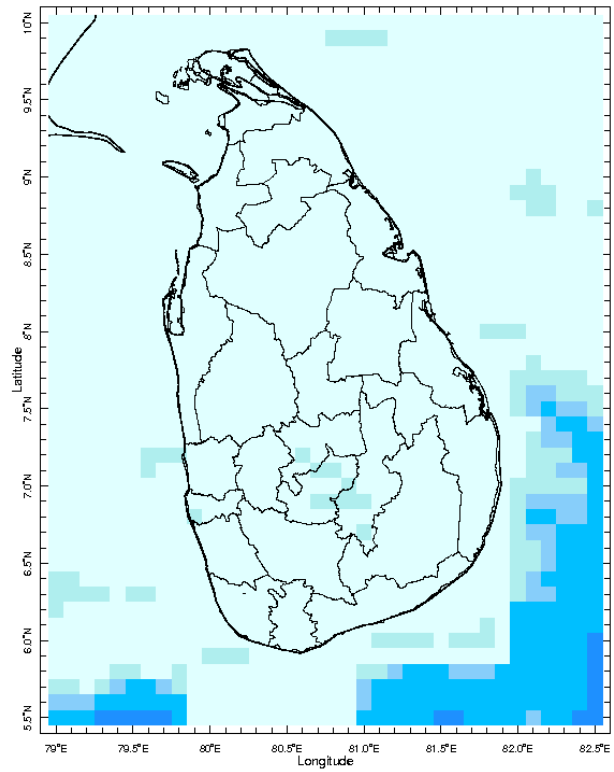
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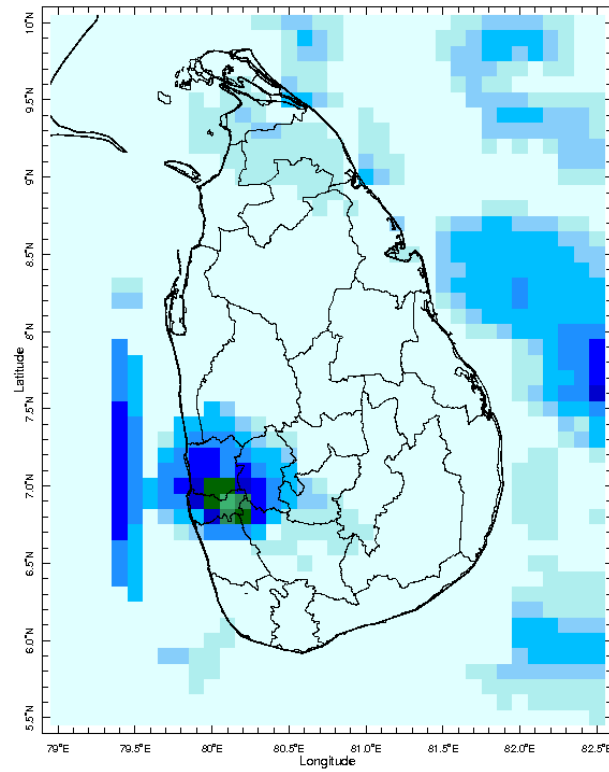
MONITORING

Daily Rainfall Monitoring

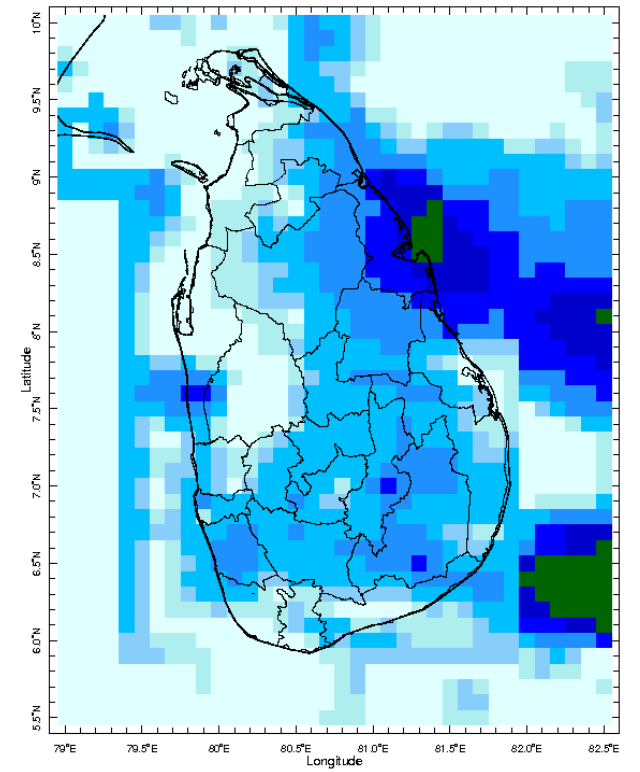
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



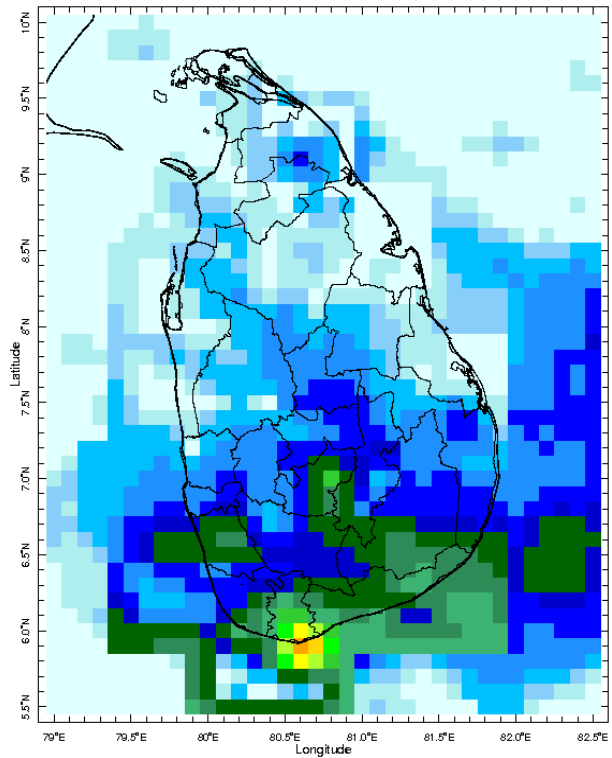
6 Nov 2019



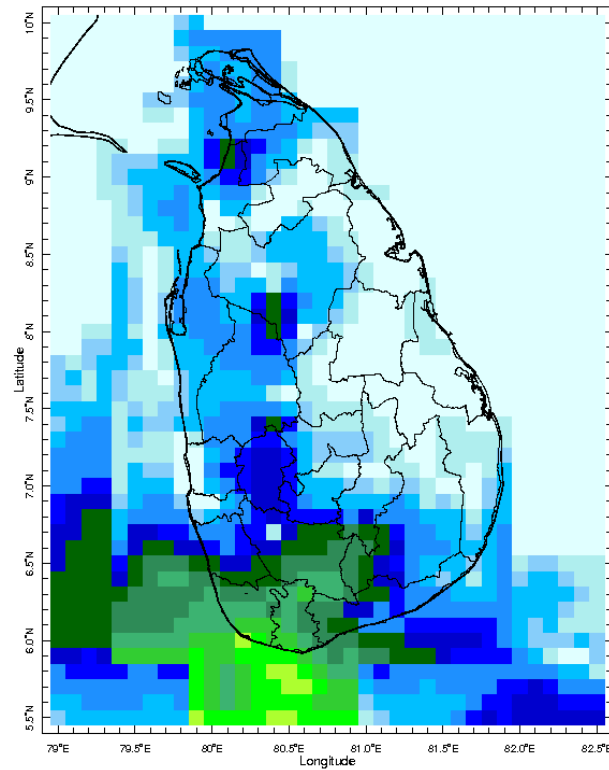
7 Nov 2019



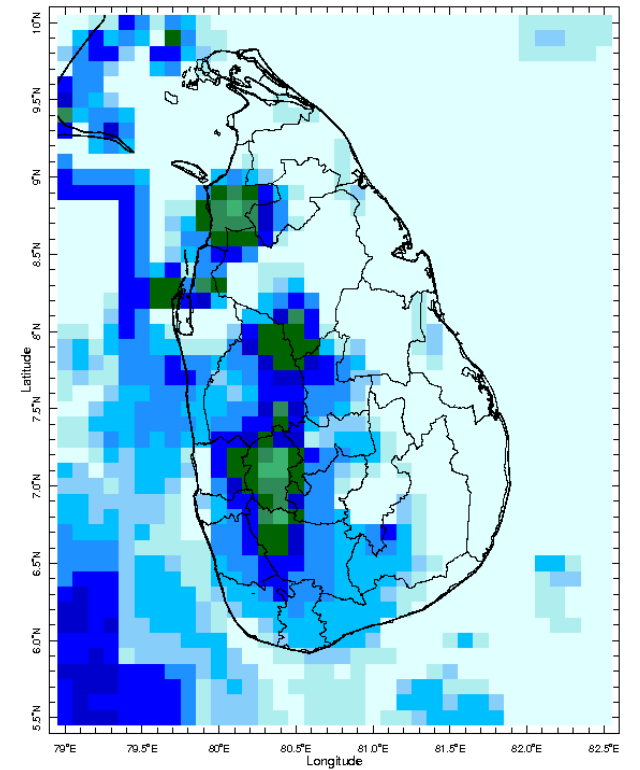
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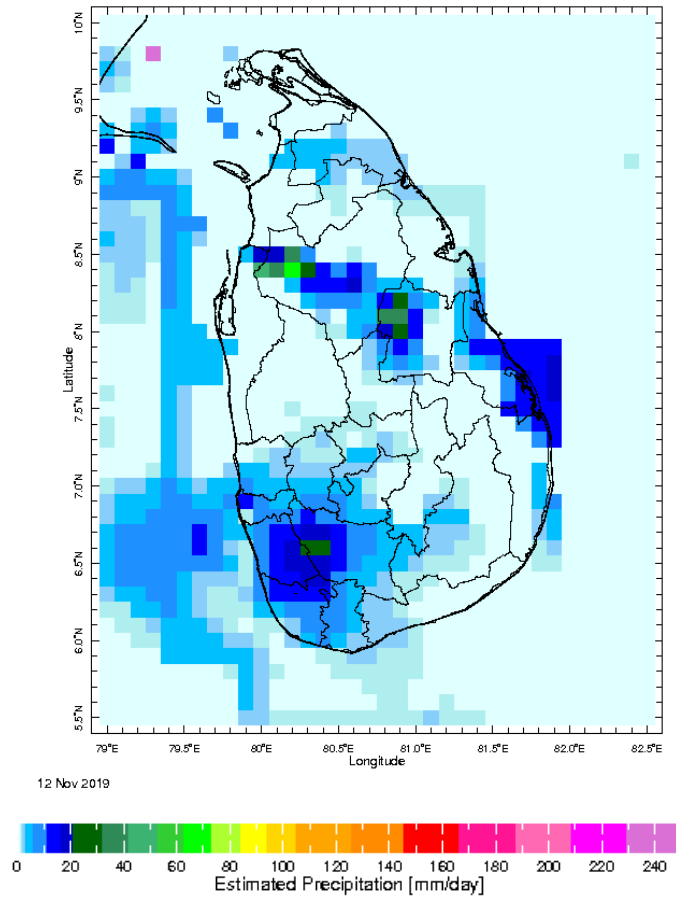
9 Nov 2019



10 Nov 2019

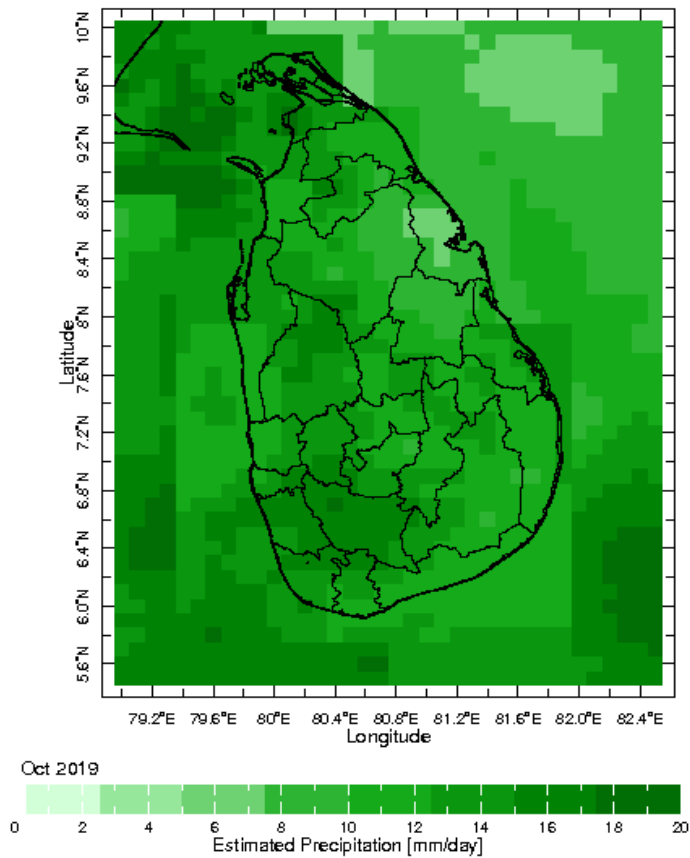


11 Nov 2019

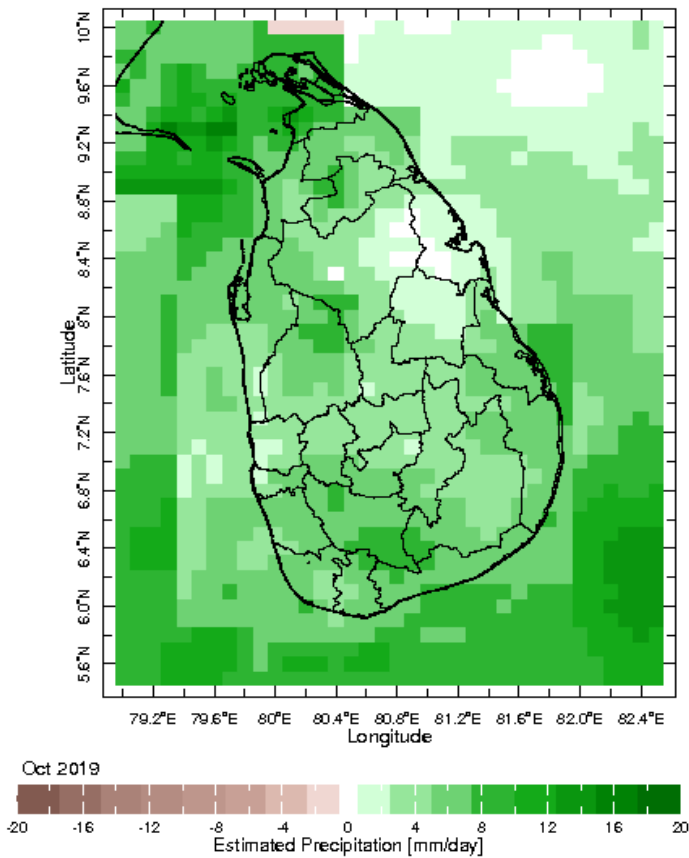


Monthly Rainfall Monitoring

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

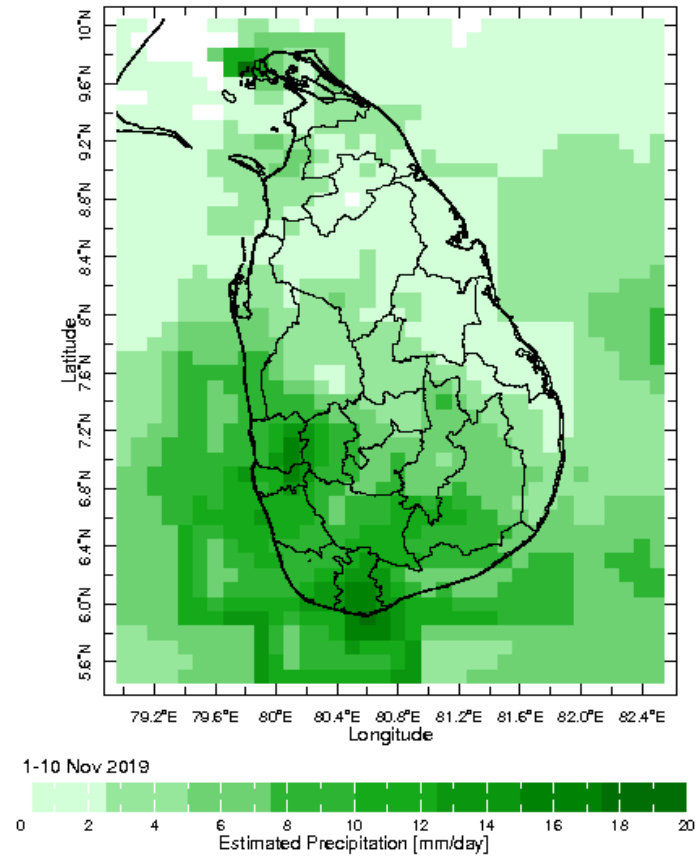
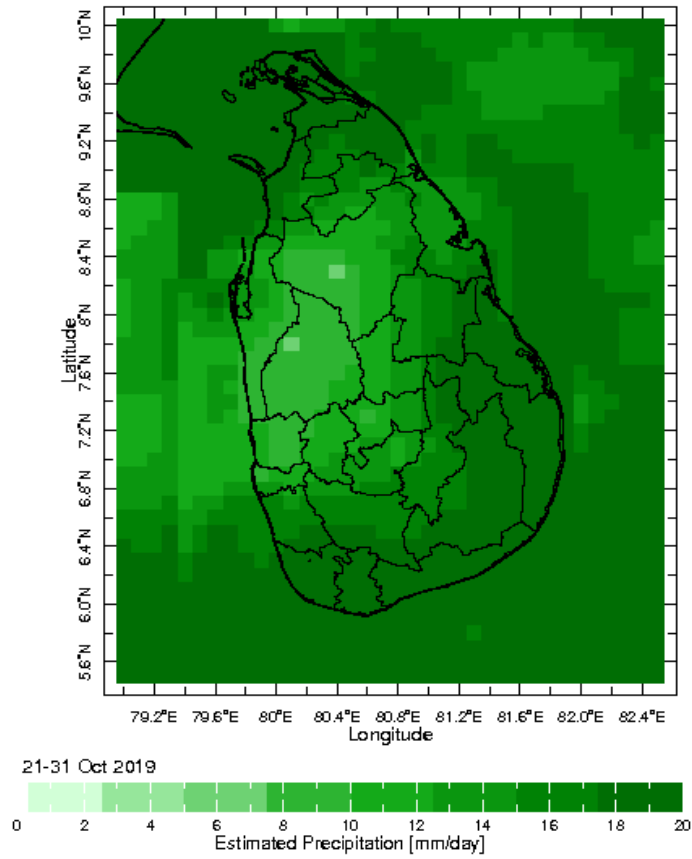


Monthly Average



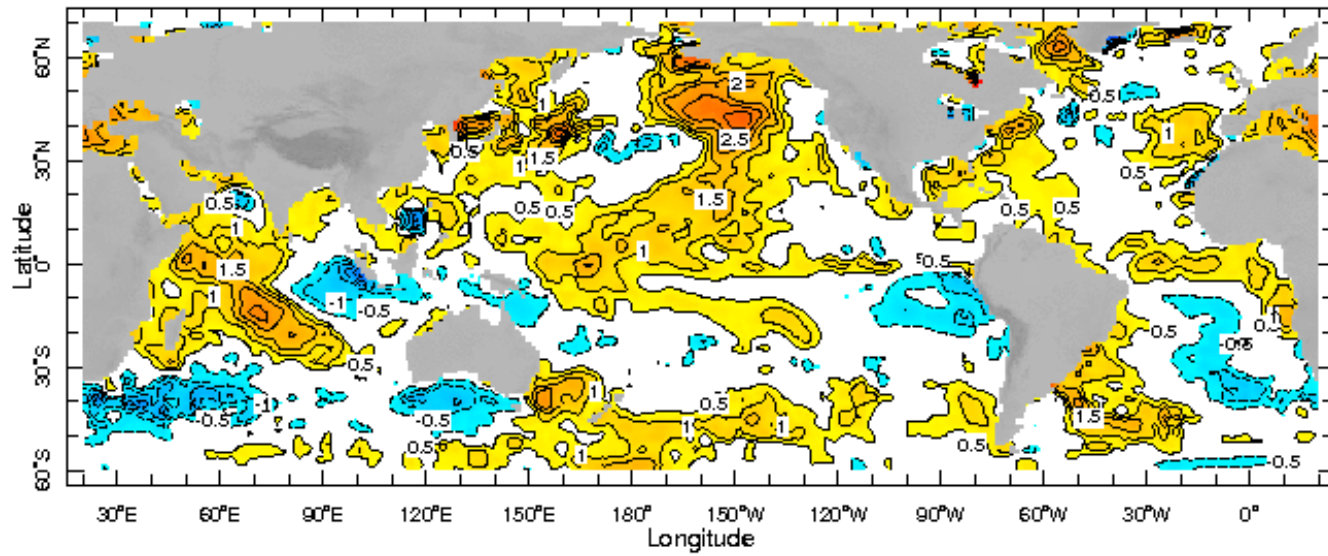
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

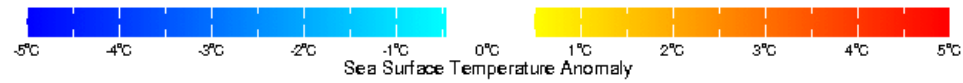


Weekly Average SST Anomalies

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



6 Nov 2019

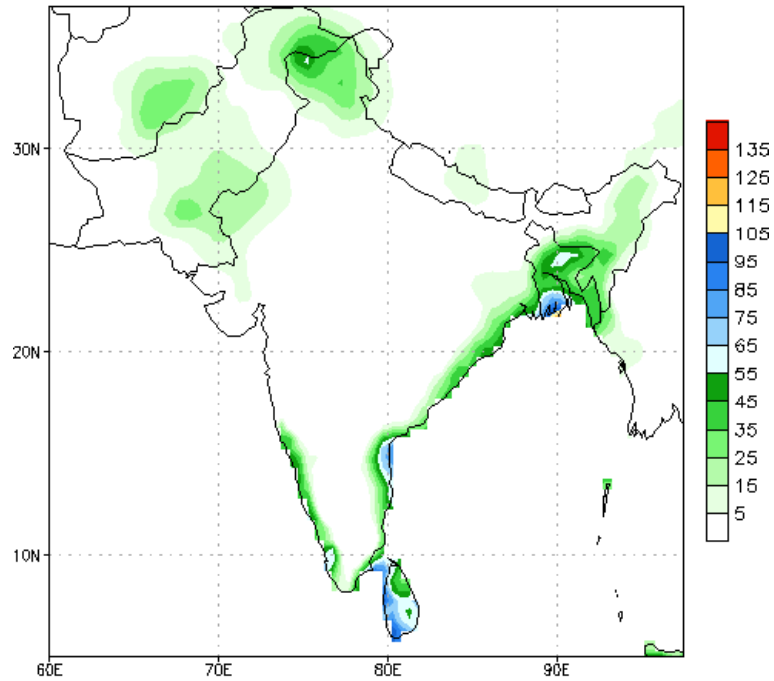


WORLDBATH topography

PREDICTIONS

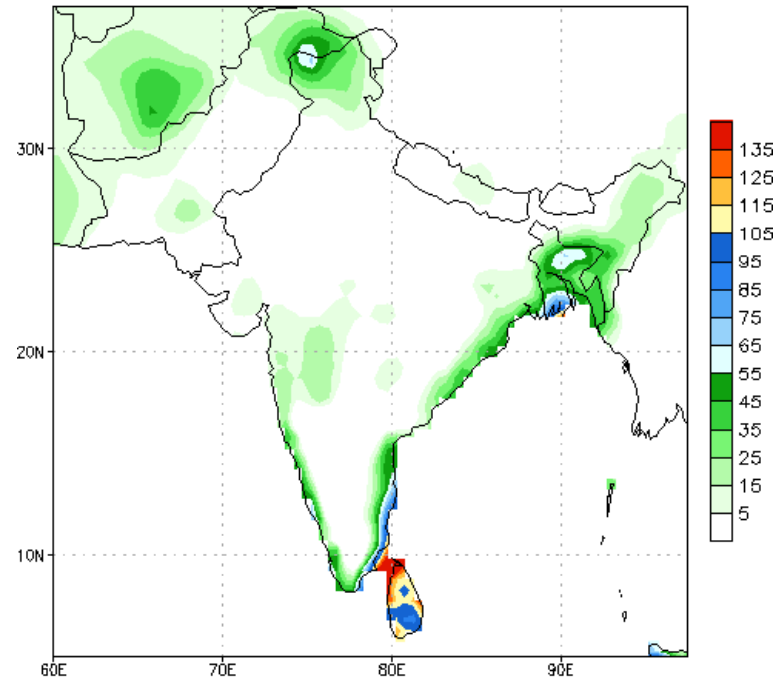
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 13Nov2019
13Nov2019-19Nov2019 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 13Nov2019
20Nov2019-26Nov2019 Accumulation

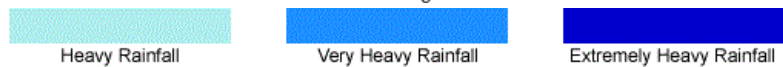
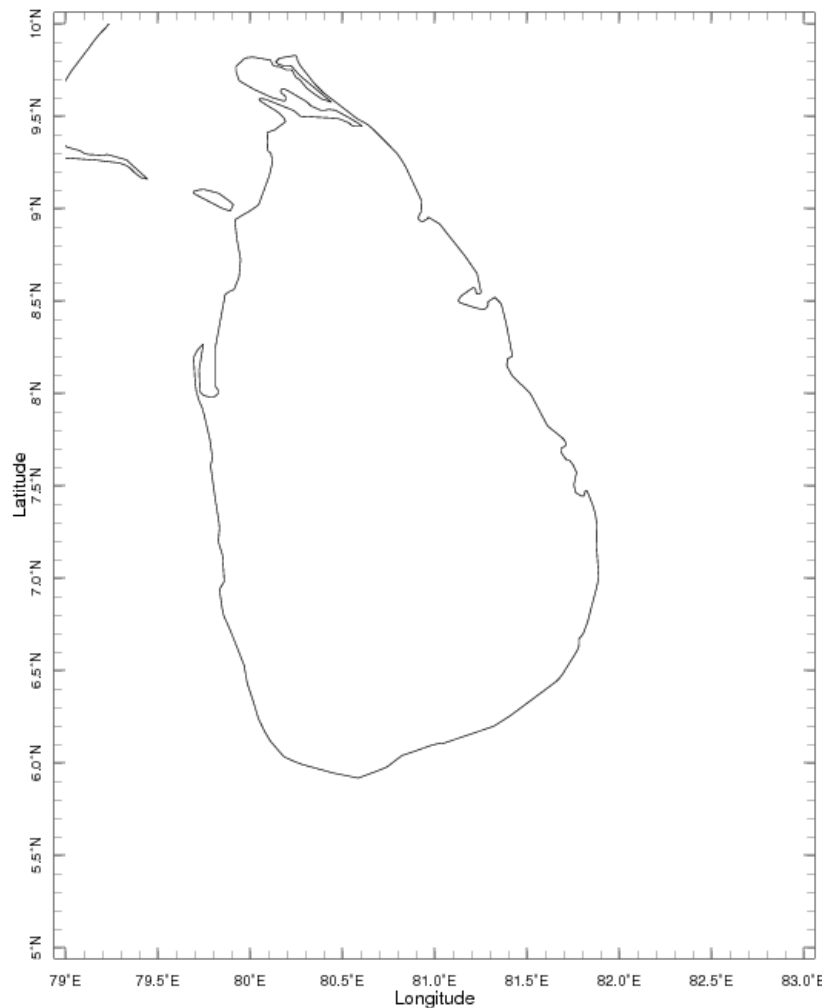


Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

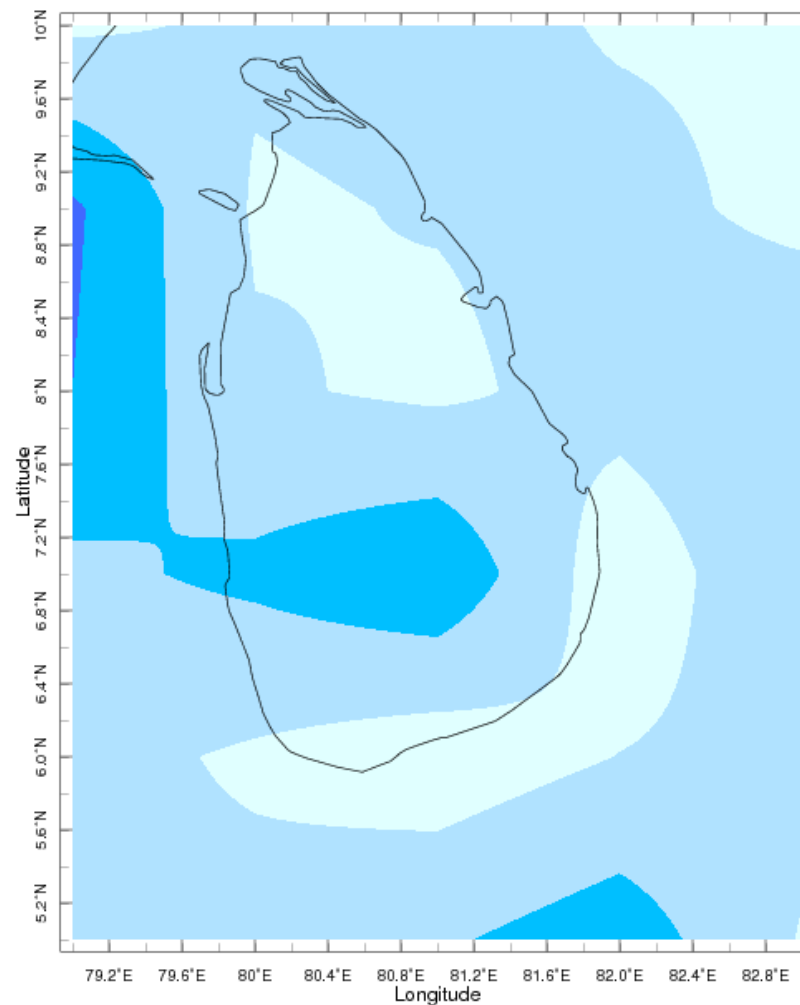
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 13-18 Nov 2019 Issued 0000 13 Nov 2019



Extreme Rainfall Forecast

Forecast for 13-18 Nov 2019 Issued 0000 13 Nov 2019



Total Six Day Precipitation Forecast