

**17 October
2019**

EXPERIMENTAL CLIMATE MONITORING AND PREDICTION

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HIGHLIGHTS

Rainfall Forecast



- The NOAA weekly rainfall forecast predicts up to 100 mm of total rainfall in central regions during 16 – 21 Oct.

Monitored Rainfalls



- Between 9 – 14 Oct: up to 140 mm of daily rainfalls were recorded in Ratnapura and Kurunegala districts on the 11th and 13th respectively.

Monitored Wind



- From 8 – 14 Oct: up to 5 km/h, easterly 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
9 th October	Up to 70 mm in Mannar and Vavuniya districts; up to 60 mm in Mullaitivu and Kurunegala districts; up to 50 mm in Anuradhapura, Matale and Badulla districts; up to 30 mm in Trincomalee, Kandy and Monaragala districts; and up to 20 mm in Kilinochchi, Puttalam, Kegalle, Nuwara Eliya, Ratnapura and Ampara districts.
10 th October	Up to 30 mm in Polonnaruwa district; and up to 20 mm in Anuradhapura and Matale districts.
11 th October	Up to 140 mm in Ratnapura district; up to 60 mm in Nuwara Eliya and Badulla districts; up to 50 mm in Kilinochchi, Kegalle, Colombo, Kalutara and Monaragala districts; up to 30 mm in Jaffna, Mullaitivu, Mannar, Puttalam, Gampaha and Galle districts; and up to 20 mm in Anuradhapura, Kurunegala and Matara districts.
12 th October	Up to 50 mm in Badulla district; up to 30 mm in Nuwara Eliya, Ratnapura and Monaragala districts; and up to 20 mm in Anuradhapura, Trincomalee, Kegalle, Gampaha, Colombo and Kalutara districts.



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Date	Rainfall
13 th October	Up to 140 mm in Kurunegala district; up to 70 mm in Kandy district; up to 60 mm in Puttalam district; up to 50 mm in Anuradhapura, Matale, Monaragala, Badulla, Ratnapura, Kegalle, Gampaha, Colombo and Kalutara districts; up to 30 mm in Trincomalee, district; and up to 20 mm Mannar, Polonnaruwa, Ampara, Galle, Matara and Hambantota districts.
14 th October	Up to 30 mm in Ratnapura, Matara and Hambantota districts; and up to 20 mm in Kalutara, Galle, Monaragala and Ampara districts.

Total Rainfall for the Past Week

The RFE 2.0 tool shows total up to 100-150 mm in Kurunegala, Anuradhapura, Nuwara Eliya, Ratnapura, Badulla and Monaragala districts; up to 75-100 mm in Vavuniya, Puttalam, Gampaha, Colombo, Kalutara, Galle, Kegalle and Kandy districts; up to 50-75 mm in Kilinochchi, Matale, Matara and Hambantota districts; and 25-50 mm in most parts of the island. Above average rainfall up to 50-100 mm is shown for Kurunegala, Vavuniya, Colombo, Ratnapura, Nuwara Eliya, Badulla, Monaragala and western regions of Anuradhapura district; up to 25-50 mm in Gampaha, Colombo, Kalutara and Kandy districts; and up to 10-25 mm in Kilinochchi and Mannar districts. Below average rainfall up to 50-100 mm is shown for Polonnaruwa district; and up to 25-50 mm in Trincomalee, Batticaloa, Ampara and eastern regions of Anuradhapura district.

Monthly Monitoring

During September – Above average rainfall conditions up to 450 mm were experienced by Gampaha district; up to 360 mm in Puttalam, Colombo, Kalutara, Galle, Matara, Hambantota, Monaragala and Ratnapura districts; up to 240 mm in Kurunegala, Kegalle, Jaffna, Kilinochchi, Vavuniya, Anuradhapura, Trincomalee, Polonnaruwa, Batticaloa, Badulla, Ampara, Kandy and Nuwara Eliya districts; and up to 120 mm in rest of the island. The CPC Unified Precipitation Analysis tool shows up to 750 mm of total rainfall in Gampaha, Colombo, Kalutara and Galle districts; up to 500 mm in Kurunegala, Puttalam, Kegalle, Ratnapura, Matara, Hambantota and Monaragala districts; up to 300 mm in Nuwara Eliya and Badulla districts; and up to 200 mm in Kandy, Matale, Ampara and Batticaloa districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: October 10, 2019

SSTs in the east-central Pacific maintained ENSO-neutral levels during September and early October, despite some warming in October. Patterns in most of the key atmospheric variables are also showing ENSO-neutral conditions. Model forecasts generally favor ENSO-neutral through autumn, winter and into 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.



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Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 16th – 22nd Oct: Total rainfall more than 135 mm in Puttalam, Kurunegala, Gampaha, Colombo, Kegalle and Ratnapura districts; up to 115-25 mm in Galle and Matara districts; up to 95-105 mm in Mannar, Anuradhapura, Matale, Kandy and Nuwara Eliya districts; and up to 85-95 mm in most parts of the island.

From 23rd – 29th Oct: Total rainfall more than 135 mm in Puttalam, Kurunegala, Gampaha and Ratnapura districts; up to 115-125 mm in Jaffna, Mannar, Galle and Matara districts; up to 105-115 mm in Kilinochchi, Vavuniya, Anuradhapura, Matale, Kandy and Hambantota districts; and up to 85-95 mm most parts of the island.

NOAA Model Forecast:

From 16th – 21st Oct: Total rainfall up to 150 mm is expected in Polonnaruwa, Matale, Kandy, Nuwara Eliya, Badulla, Monaragala and Ampara districts; up to 100 mm in Trincomalee, Anuradhapura, Kurunegala, Kegalle, Gampaha, Colombo, Ratnapura and Batticaloa districts; and up to 75 mm in rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall enhance 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.



FECT Web

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



FECT Blog

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Weekly Hydro- Meteorological Report for Sri Lanka

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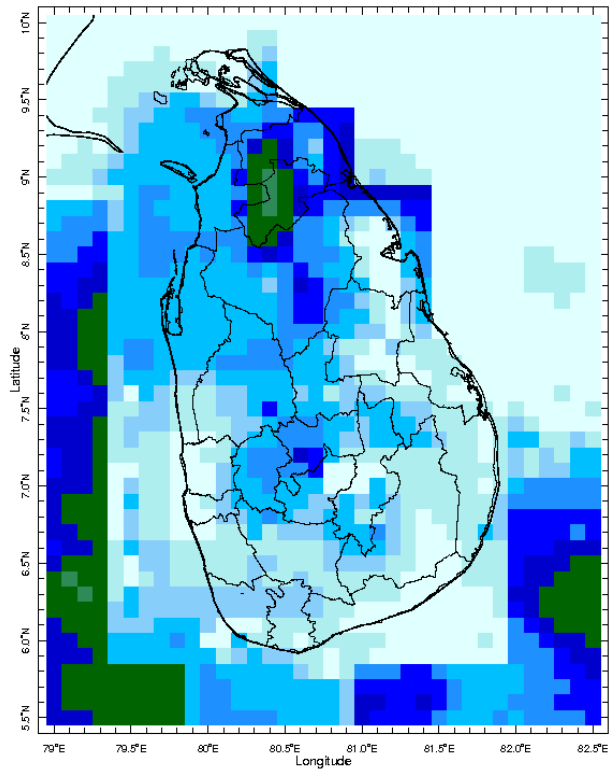
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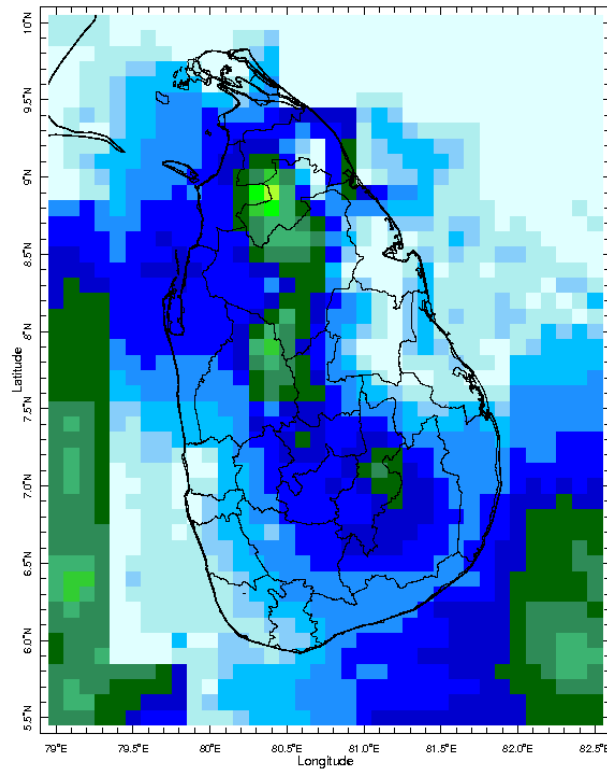
MONITORING

Daily Rainfall Monitoring

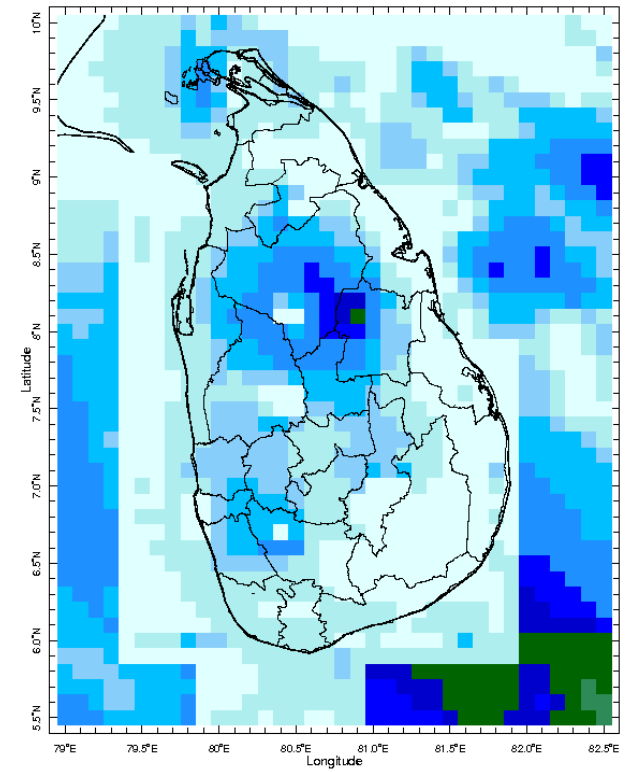
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



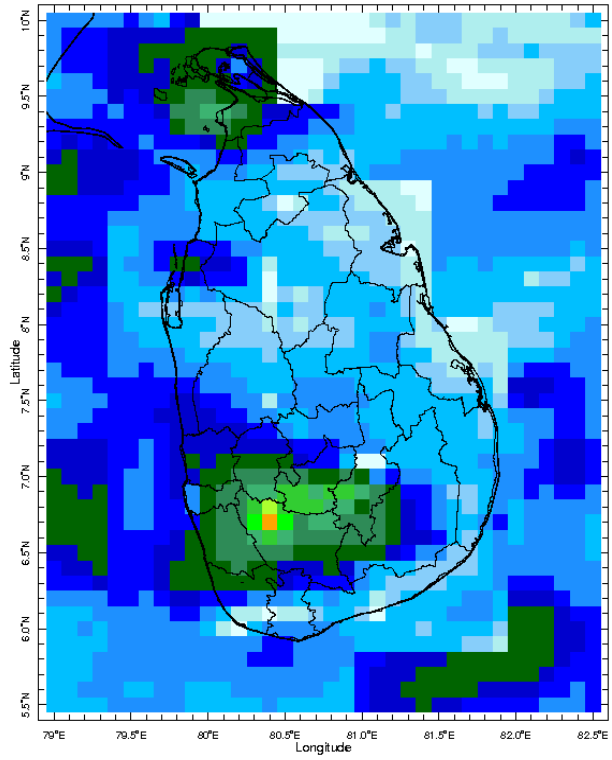
8 Oct 2019



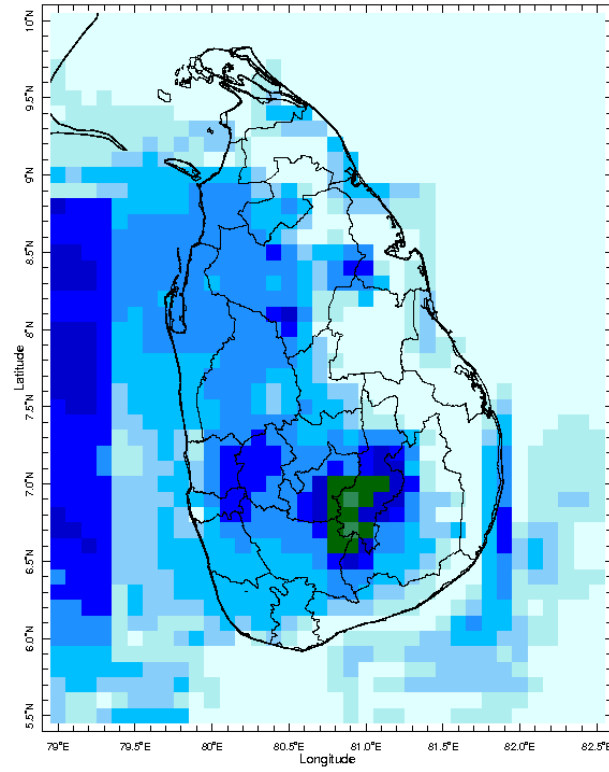
9 Oct 2019



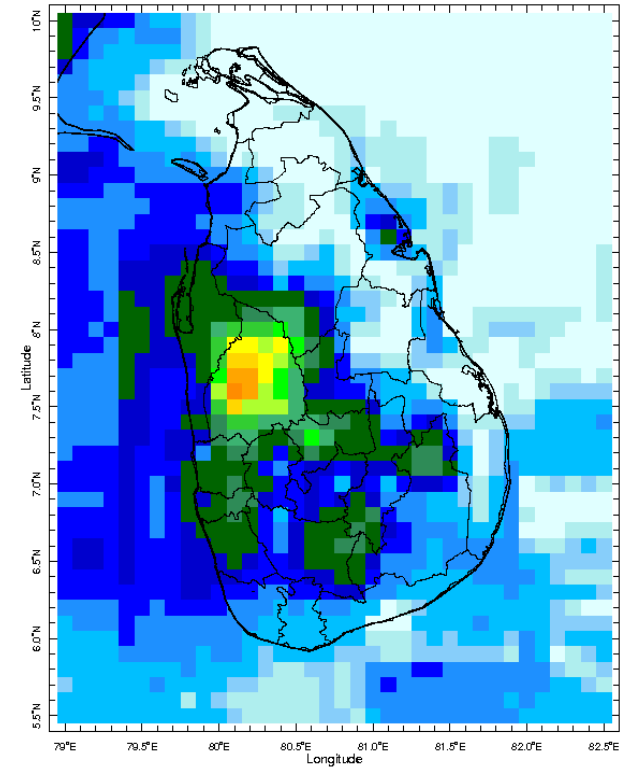
10 Oct 2019



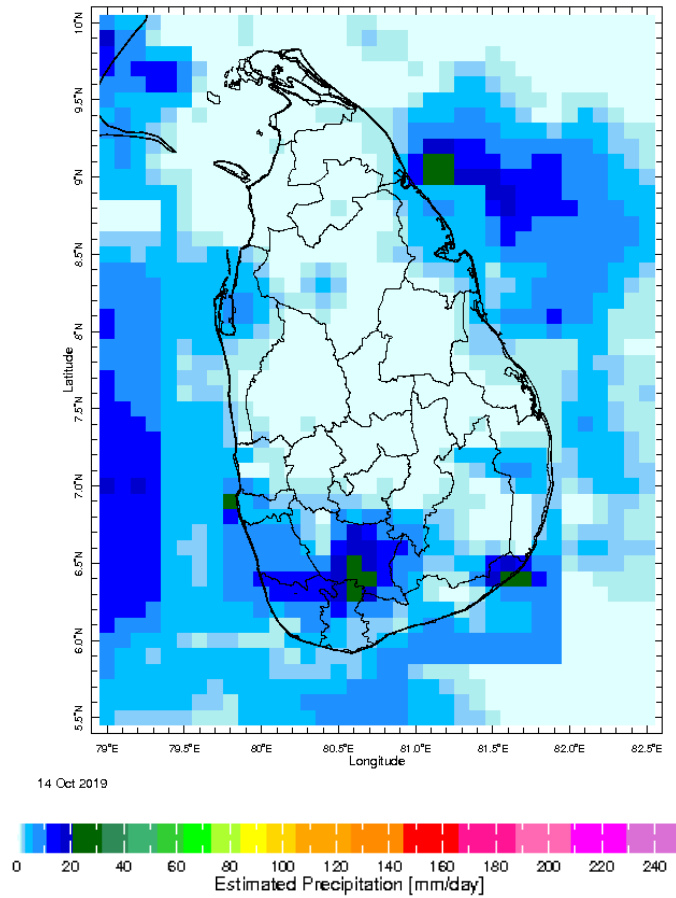
11 Oct 2019



12 Oct 2019

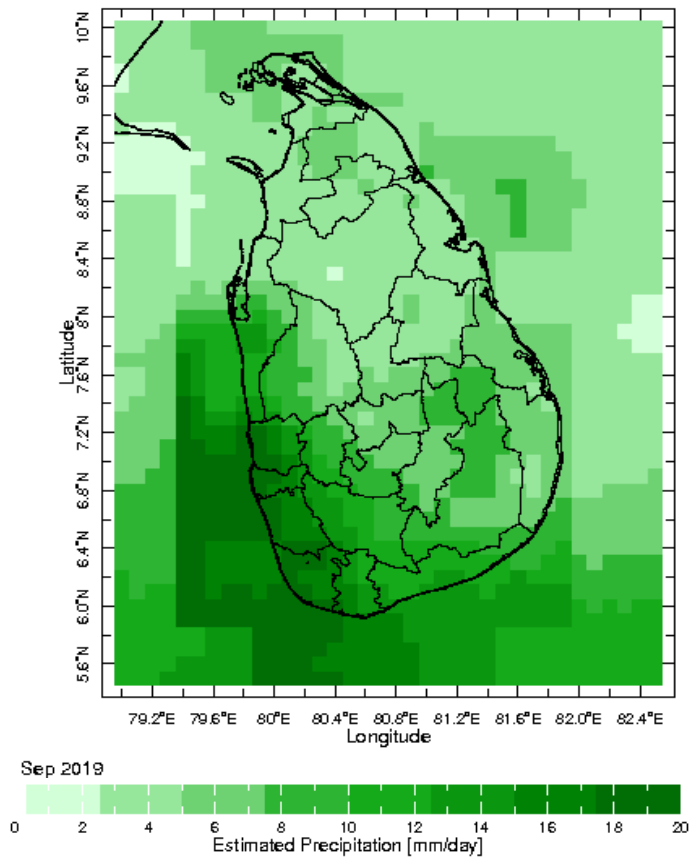


13 Oct 2019

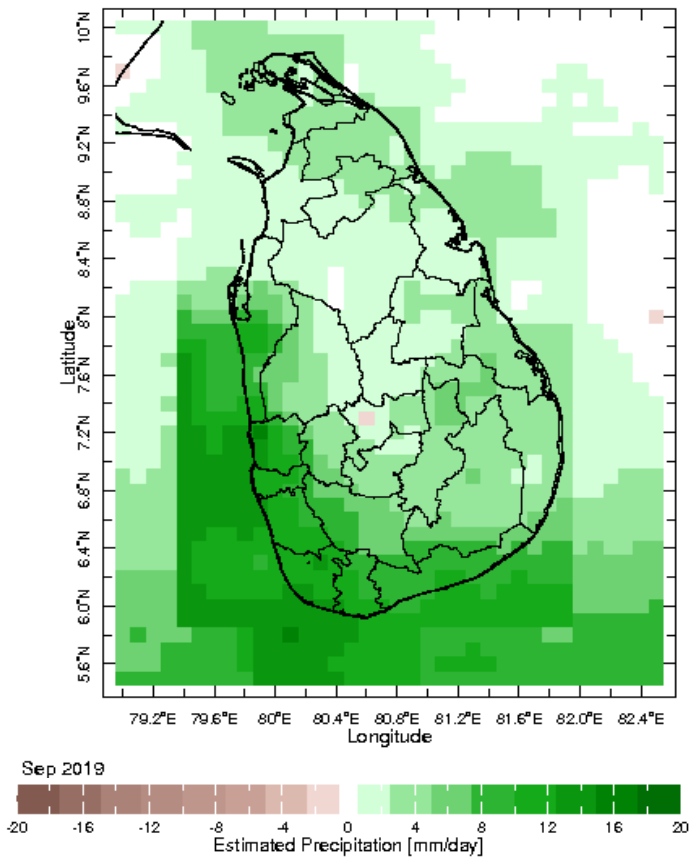


Monthly Rainfall Monitoring

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

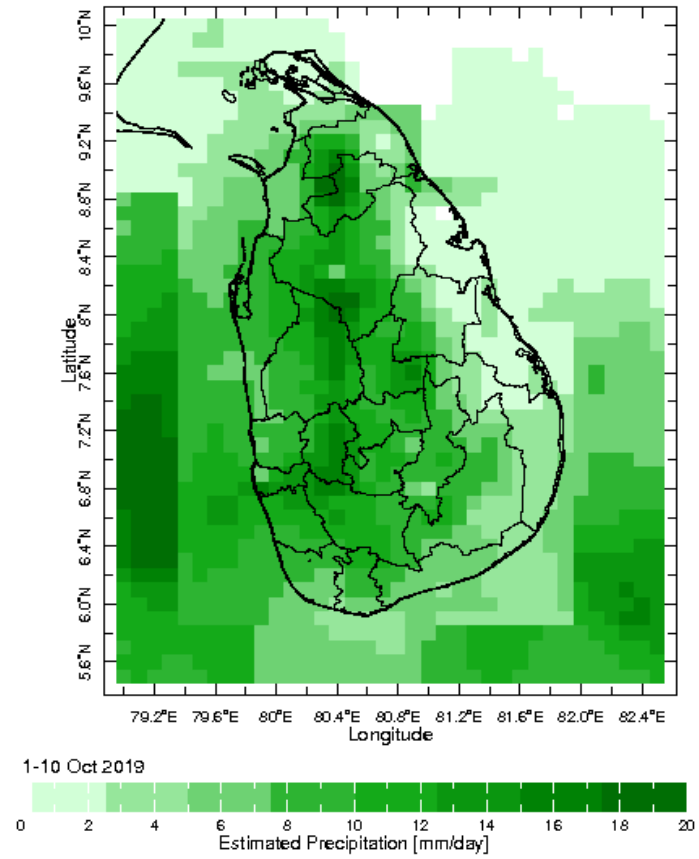
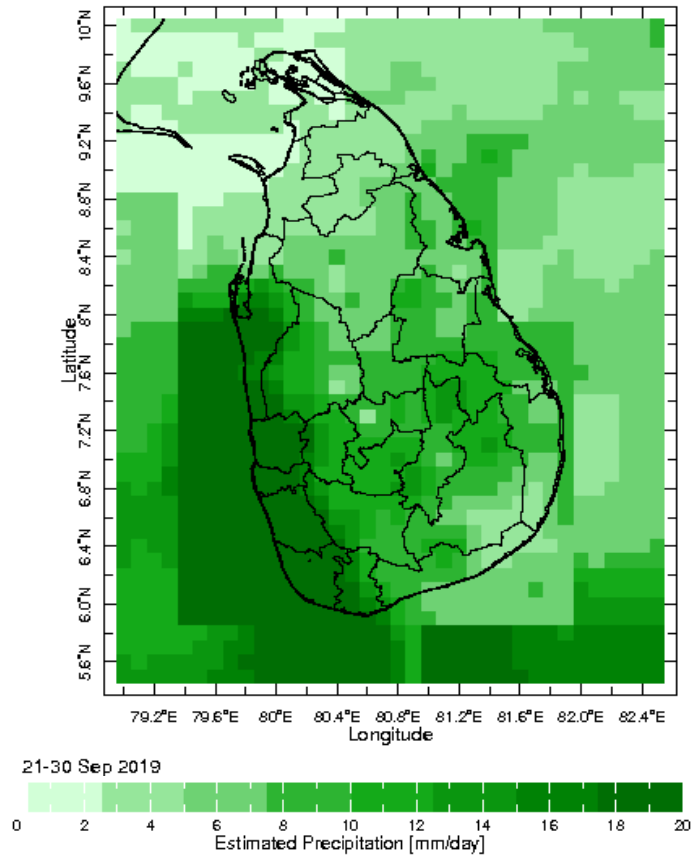


Monthly Average



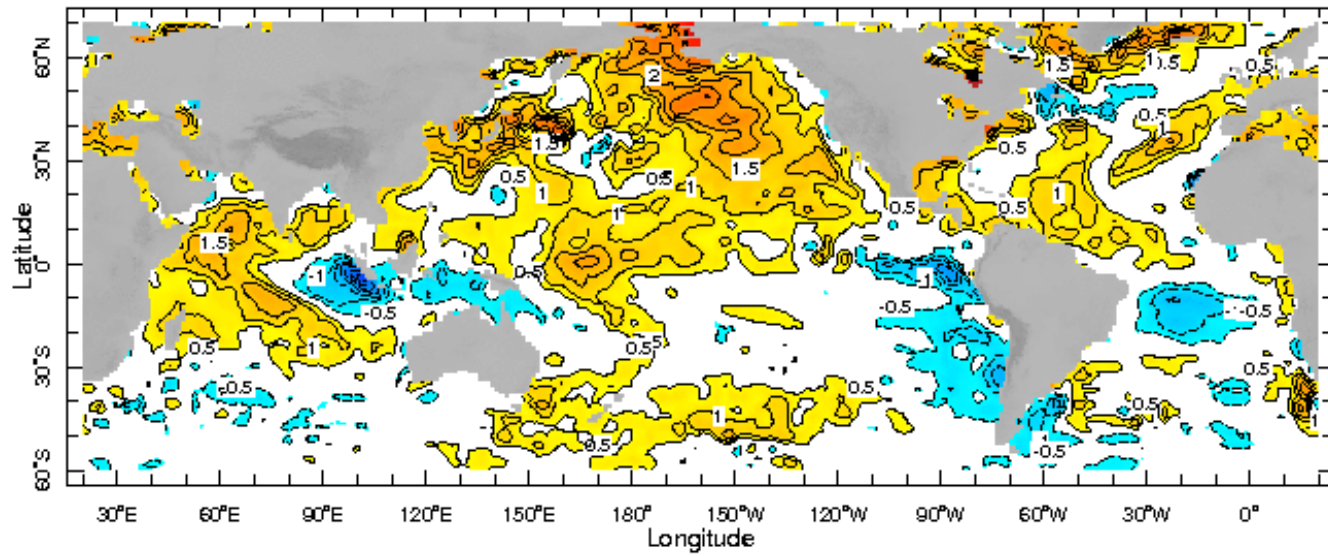
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

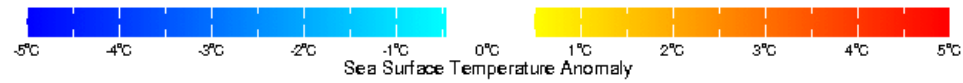


Weekly Average SST Anomalies

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



9 Oct 2019

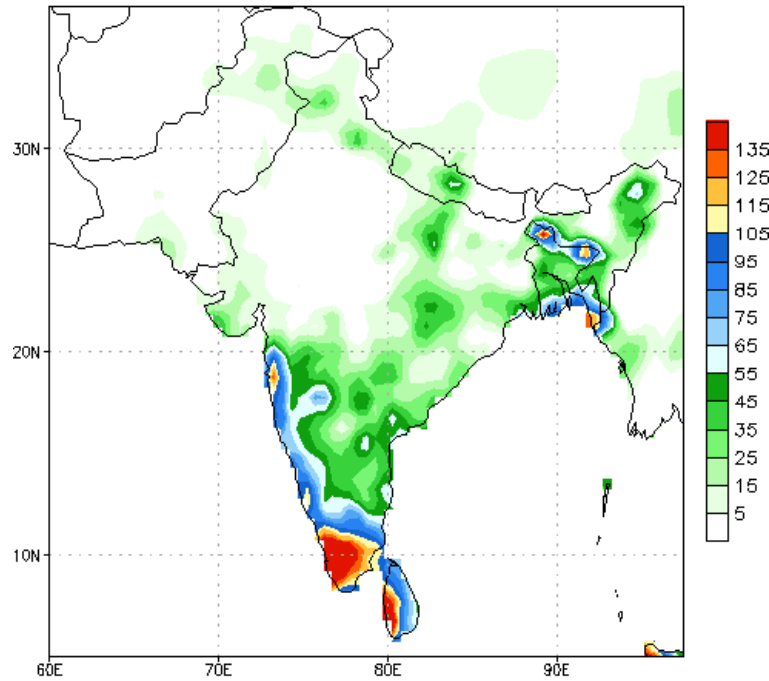


WORLDBATH topography

PREDICTIONS

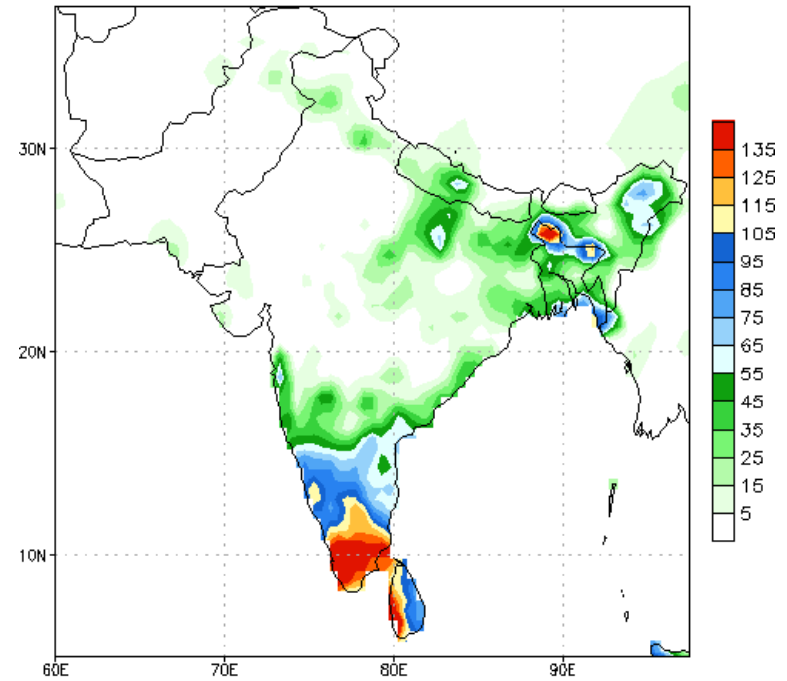
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 16Oct2019
16Oct2019-22Oct2019 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 16Oct2019
23Oct2019-29Oct2019 Accumulation

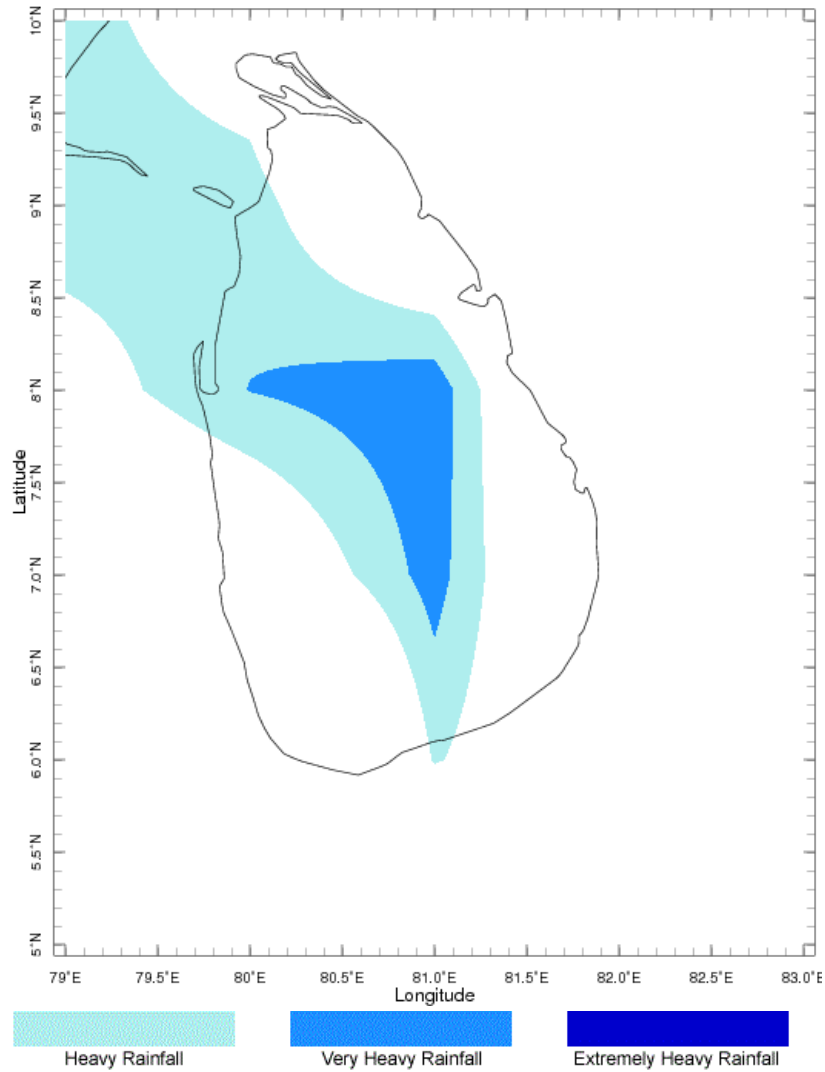


Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

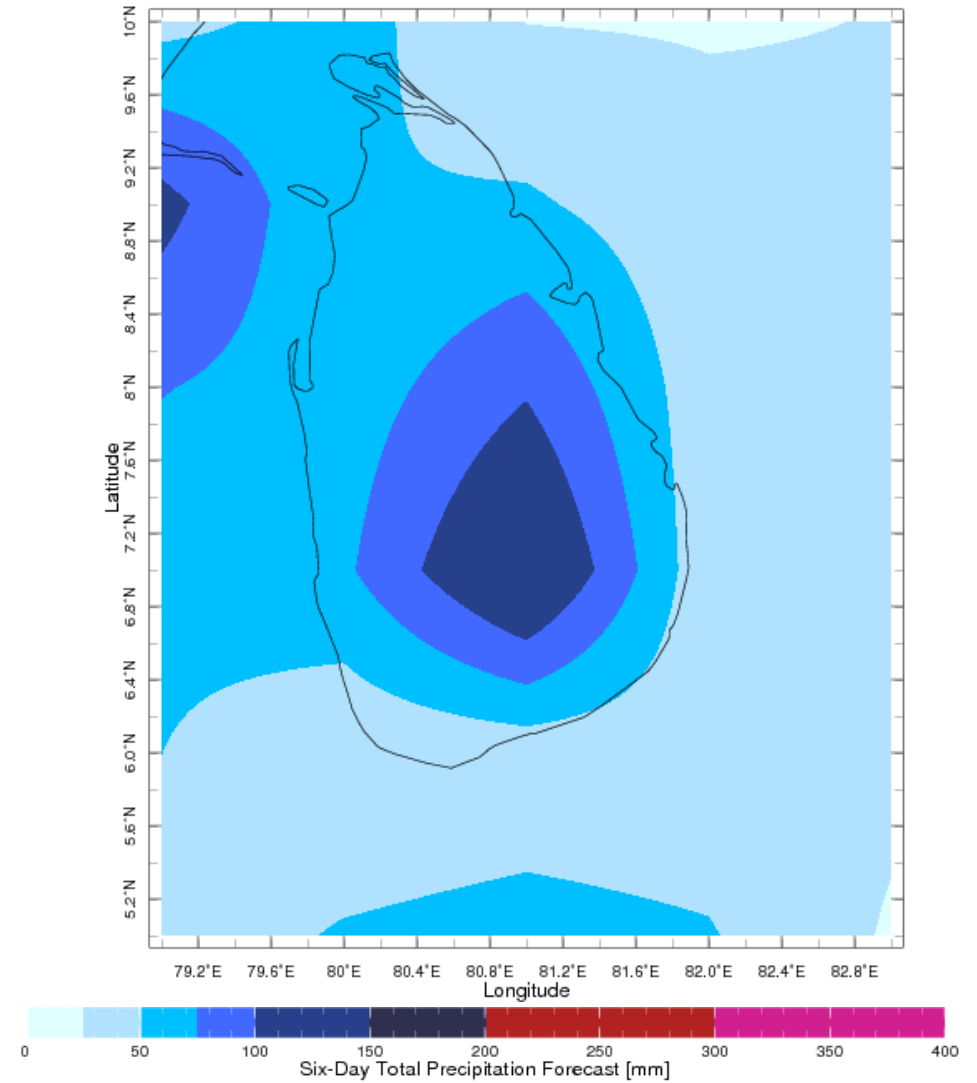
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 16-21 Oct 2019 Issued 0000 16 Oct 2019



Extreme Rainfall Forecast

Forecast for 16-21 Oct 2019 Issued 0000 16 Oct 2019



Total Six Day Precipitation Forecast