

Experimental Climate Monitoring and Prediction

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Highlights

- The IRI weekly rainfall forecast predicts up to 150 mm of total rainfall in Nuwara Eliya and Badulla districts during 25 - 30 Sep.
- Between 17 - 24 Sep: up to 200 mm of rainfalls were recorded in Puttalam and Gampaha districts on the 23rd.
- From 17 - 23 Sep: up to 36 km/h, southwesterly winds were experienced by the entire island.
- Average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On September 17th, Jaffna, Kilinochchi, Mullaitivu and Kurunegala districts received up to 30 mm of rainfall; and up to 20 mm in Puttalam, Mannar, Vavuniya, Kandy and Ratnapura districts. On the 18th, Puttalam, Ratnapura and Monaragala districts received up to 30 mm of rainfall; and Jaffna, Anuradhapura, Kurunegala, Gampaha and Colombo, districts up to 20 mm. On the 19th, Galle district received up to 50 mm of rainfall; Ratnapura, Matara and Hambantota districts up to 30 mm; and Puttalam, Kurunegala, Gampaha, Colombo, Kalutara, Kegalle, Monaragala and Batticaloa districts up to 20 mm. On the 20th, Kalutara, Galle, Matara and Ratnapura districts received up to 20 mm. On the 21st, Kandy and Badulla districts received up to 20 mm. On the 22nd, Galle and Matara districts received up to 90 mm of rainfall; Badulla and Monaragala districts up to 50 mm; Gampaha, Colombo, Kalutara, Kegalle, Ratnapura, Hambantota, Nuwara Eliya, Ampara, Vavuniya and Trincomalee districts up to 30 mm; and Puttalam, Kurunegala, Matale, Kandy and Batticaloa districts up to 20 mm. On the 23rd, Puttalam and Gampaha districts received up to 200 mm of rainfall; Kurunegala, Colombo, Kalutara and Galle districts up to 160 mm; Kegalle, Anuradhapura, Trincomalee, Ratnapura and Matara district up to 80 mm; Polonnaruwa, Batticaloa, Ampara, Matale, Kandy, Nuwara Eliya and Hambantota districts up to 50 mm; Mullaitivu, Vavuniya, Mannar and Badulla districts up to 30 mm; and rest of the country up to 20 mm. On the 24th Gampaha district received up to 100 mm of rainfall; Colombo and Kalutara districts up to 70 mm; Kegalle district up to 60 mm; Puttalam, Kurunegala and Galle districts up to 50 mm; TKandy, Nuwara Eliya and Matara districts up to 30 mm; and Hambantota and Badulla districts up to 20 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total up to 300-500 mm in Gampaha district; up to 200-300 mm Puttalam, Kurunegala, Colombo, Kalutara and Galle districts; and up to 150-200 mm in Kegalle and Ratnapura districts. Above average rainfall up to 200-300 mm is shown for in Puttalam, Gampaha, Colombo and Kalutara districts; up to 100-200 mm Kurunegala, Galle and Matara districts; and up to 50-100 mm Kegalle, Kandy, Nuwara Eliya, Ratnapura and Hambantota districts.

Monthly Monitoring: During August – Above average rainfall conditions up to 360 mm were experienced by Gampaha, Colombo, Kalutara, Galle, Matara, Kegalle and Ratnapura districts; up to 240 mm in Puttalam, Kurunegala, Nuwara Eliya, Anuradhapura, Polonnaruwa, Matale, Monaragala and Hambantota; and up to 120 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Ampara and Batticaloa. Below average rainfall conditions up to 180 mm were experienced Trincomalee and most parts of Badulla district. The CPC Unified Precipitation Analysis tool shows up to 750 mm of total rainfall in Ratnapura district; up to 500 mm in Gampaha, Colombo, Kalutara, Galle, Matara, Kegalle, and Nuwara Eliya districts; up to 300 mm in Puttalam, Kurunegala and Hambantota districts; and up to 200 mm in Kandy, Badulla and Monaragala districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: September 19, 2019

SSTs in the east-central Pacific maintained ENSO-neutral levels during September. Patterns in 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

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

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 25th Sep – 1st Oct: Total rainfall more than 135 mm in Gampaha, Colombo, Kegalle, Ratnapura, Galle, Matara, Hambantota and Ampara districts; up to 125-135 mm in Puttalam and Nuwara Eliya districts; and up to 95-105 mm in Kurunegala, Kandy and Batticaloa districts.

From 2nd – 8th Oct: Total rainfall up to 135 mm in Ratnapura and Galle districts; up to 115-125 mm in Matara, Gampaha and Puttalam districts; and up to 95-105 mm in Kurunegala, Kegalle and Hambantota districts.

IRI Model Forecast:

From 25th – 30th Sep: Total rainfall up to 150 mm is expected in Nuwara Eliya and Badulla districts; and up to 100 mm in Gampaha, Kurunegala, Kegalle, Matale, Kandy, Ampara, Monaragala, Hambantota, Ratnapura, Matara, Galle, Kalutara and Colombo 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 of 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

Inside This Issue

1. Monitoring

- a. Daily Rainfall Monitoring
- b. Monthly Rainfall Monitoring
- c. Dekadal (10 Day) Satellite Derived Rainfall Estimates
- d. Weekly Average SST Anomalies

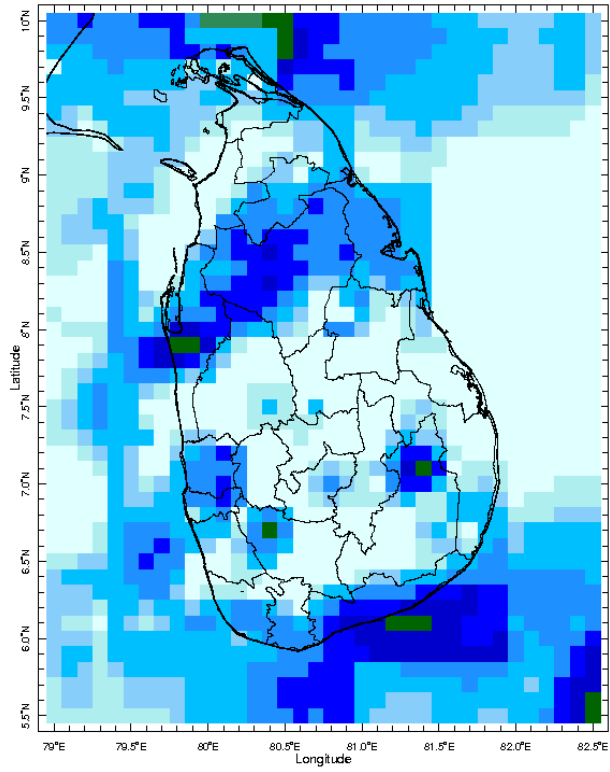
2. Predictions

- 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

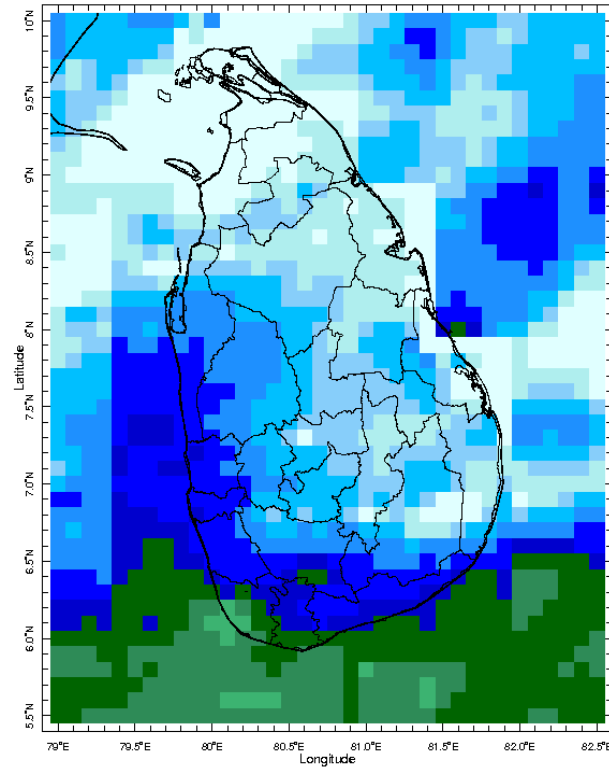
MONITORING

Daily Rainfall Monitoring

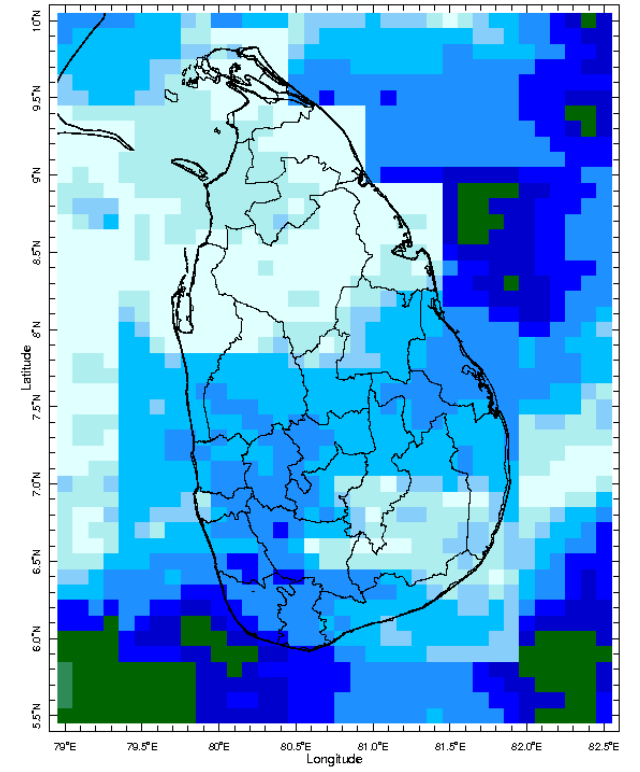
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



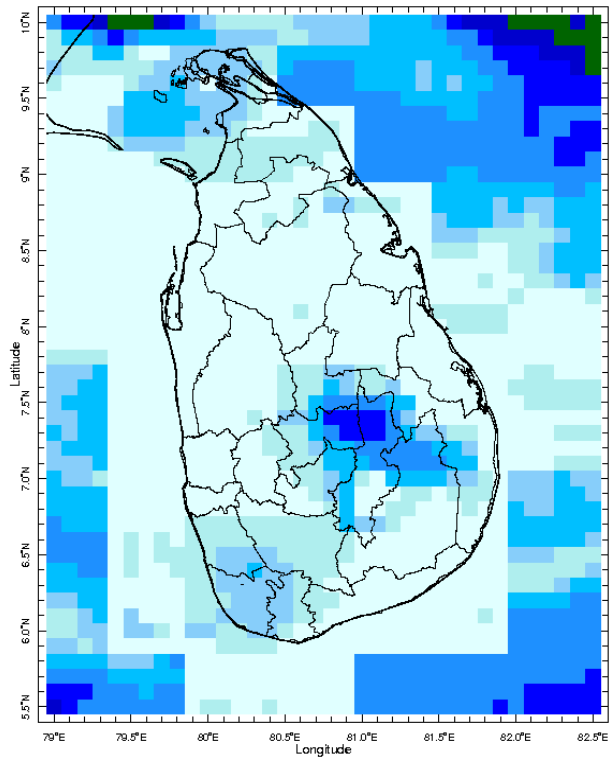
18 Sep 2019



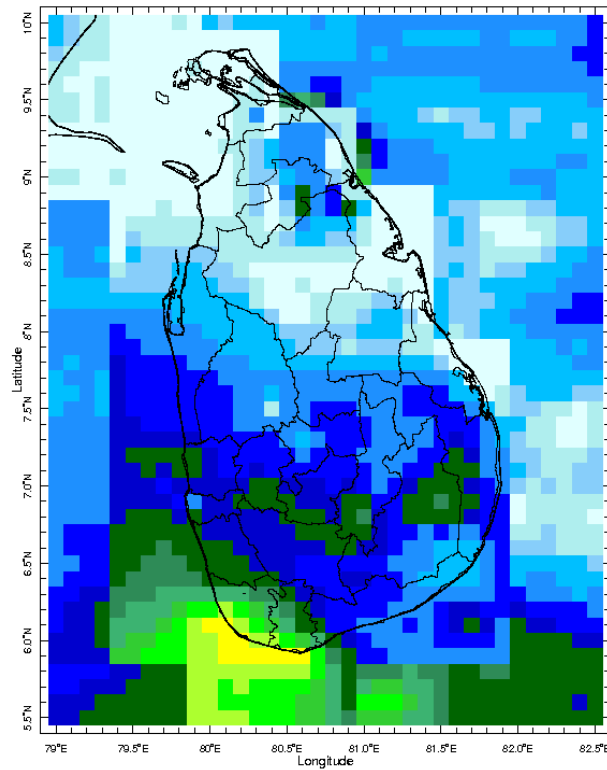
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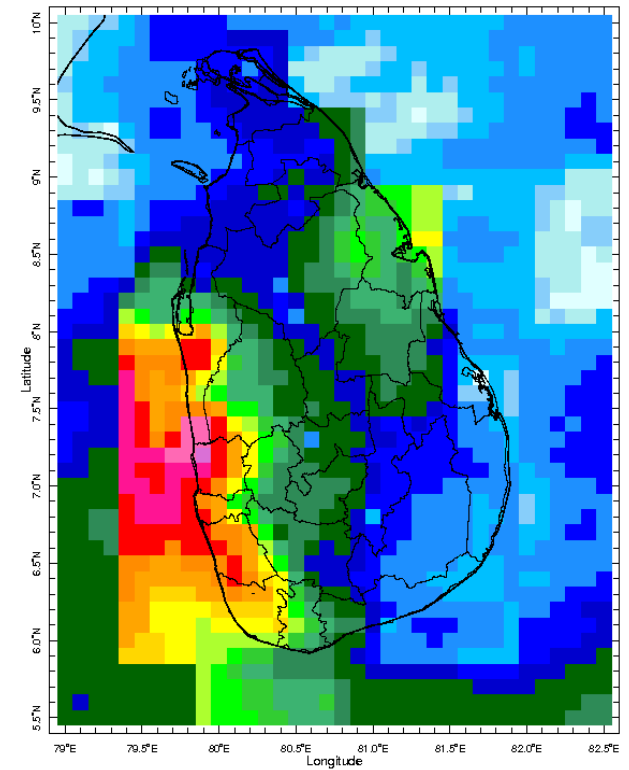
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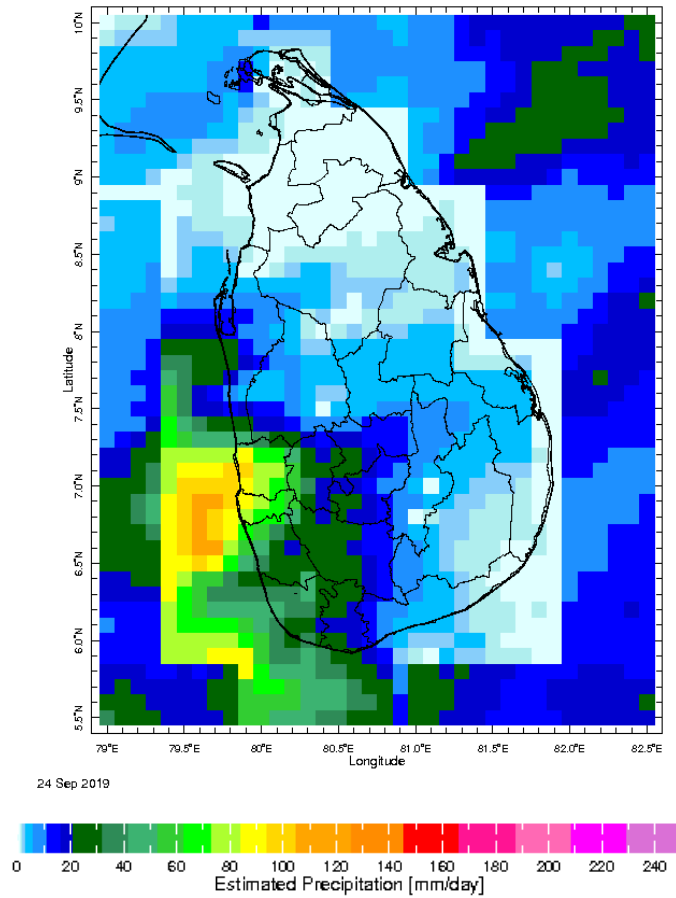
21 Sep 2019



22 Sep 2019

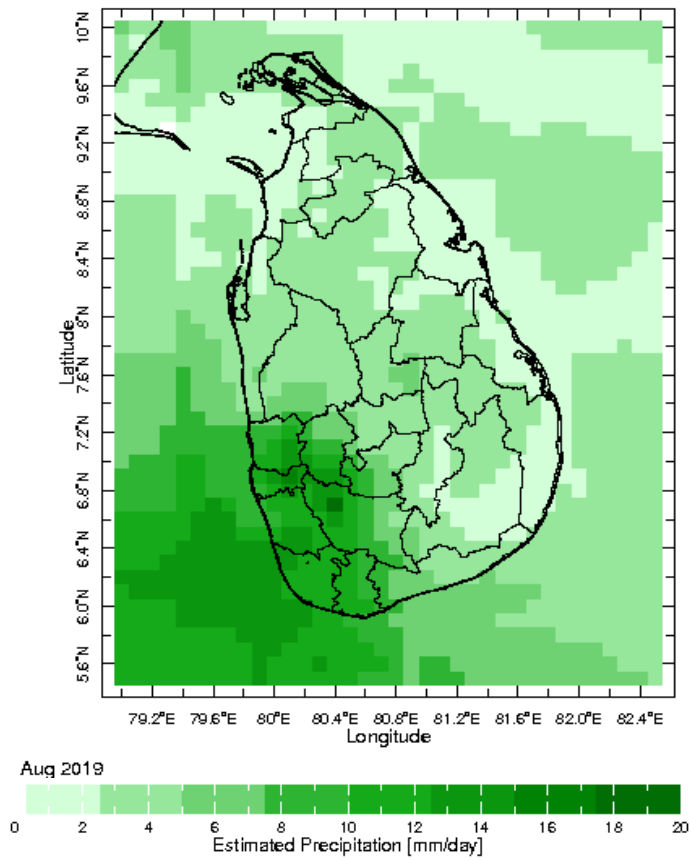


23 Sep 2019

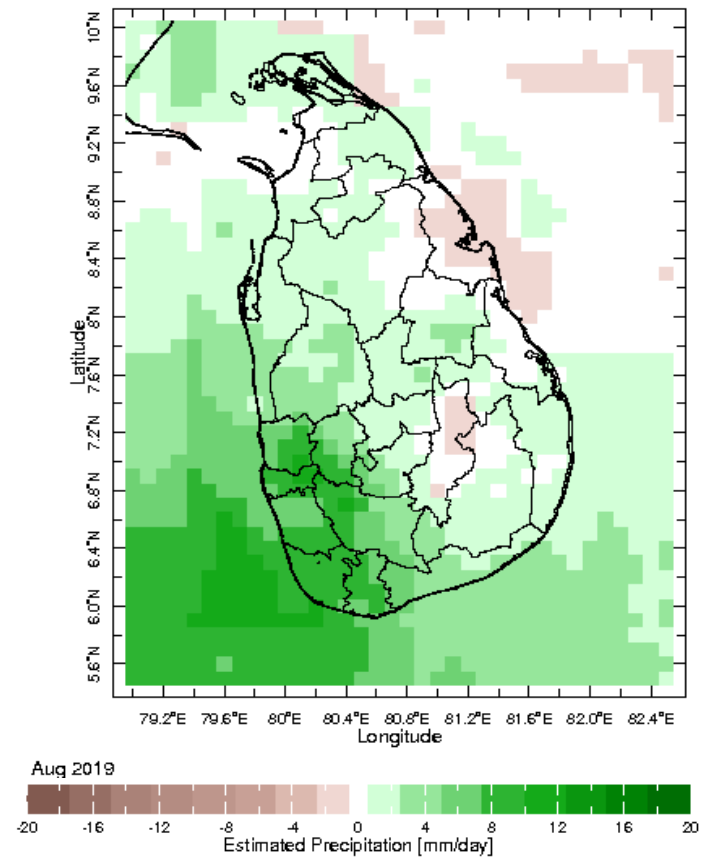


Monthly Rainfall Monitoring

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

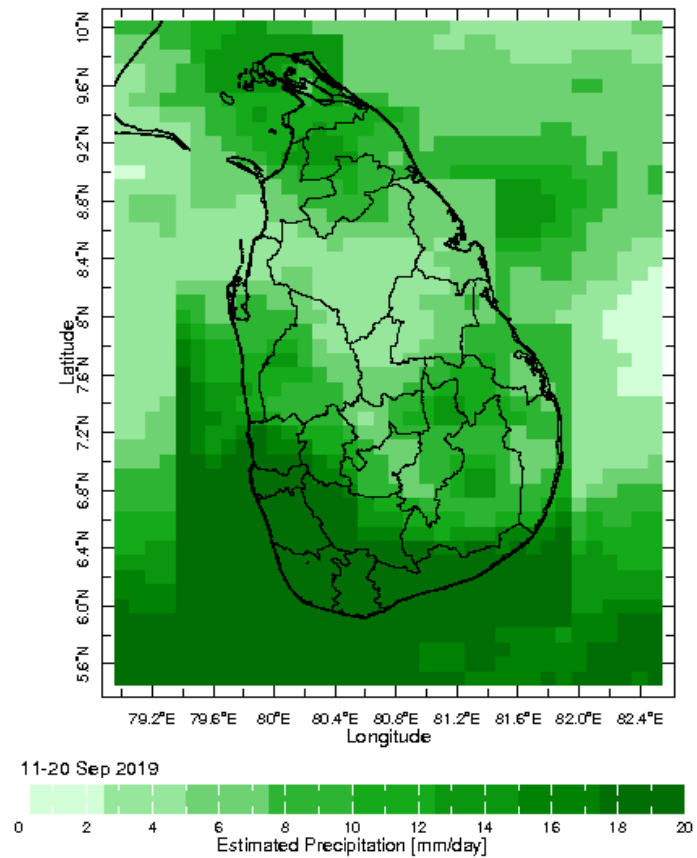
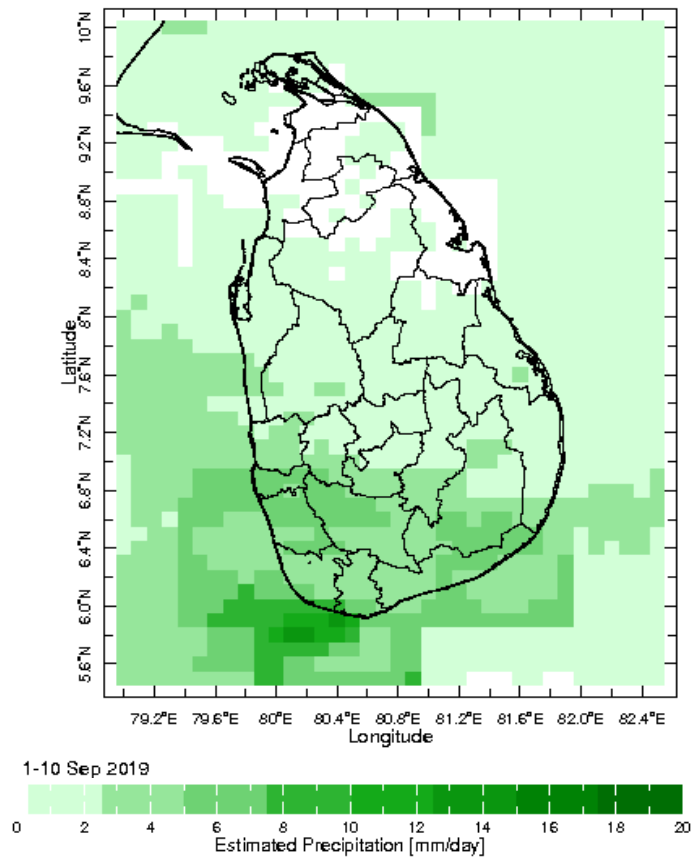


Monthly Average



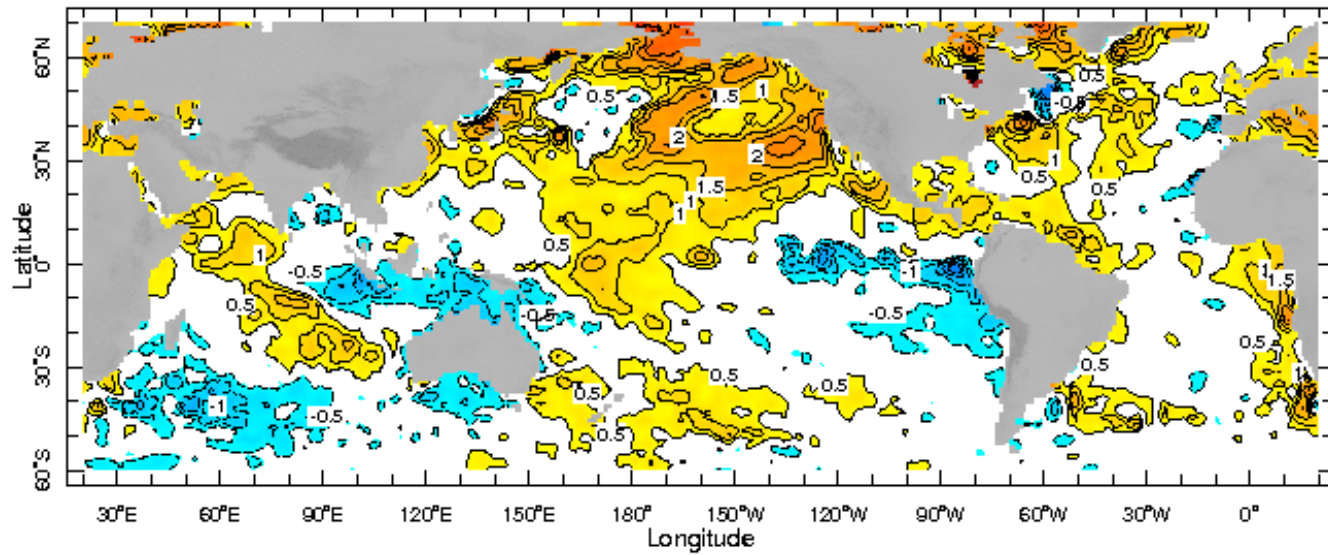
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

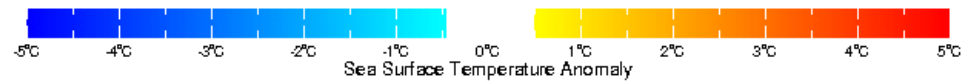


Weekly Average SST Anomalies

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



18 Sep 2019

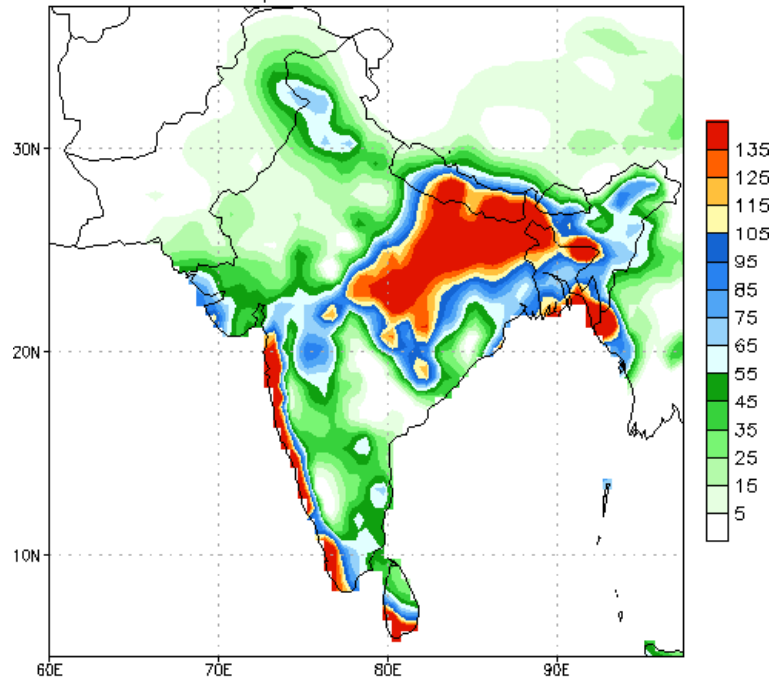


WORLDBATH topography

PREDICTIONS

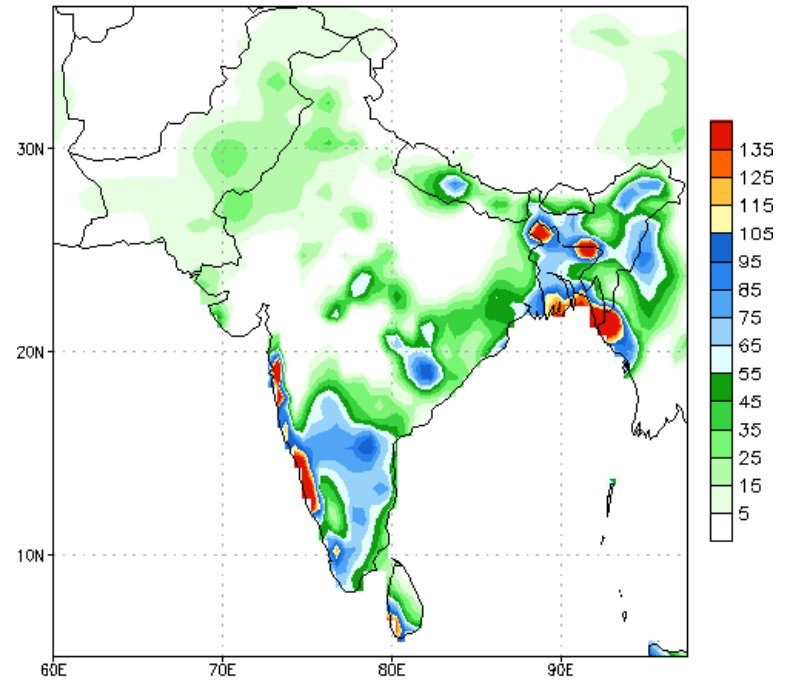
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 25Sep2019
25Sep2019-01Oct2019 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 25Sep2019
02Oct2019-08Oct2019 Accumulation

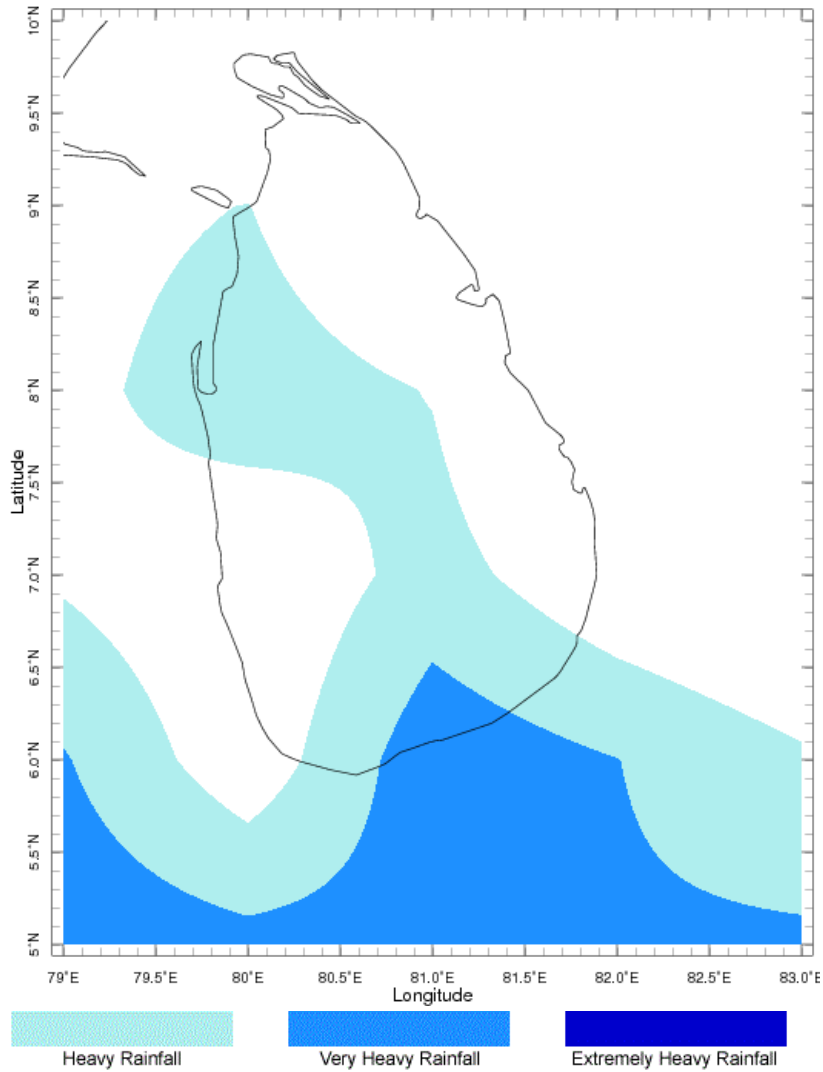


Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

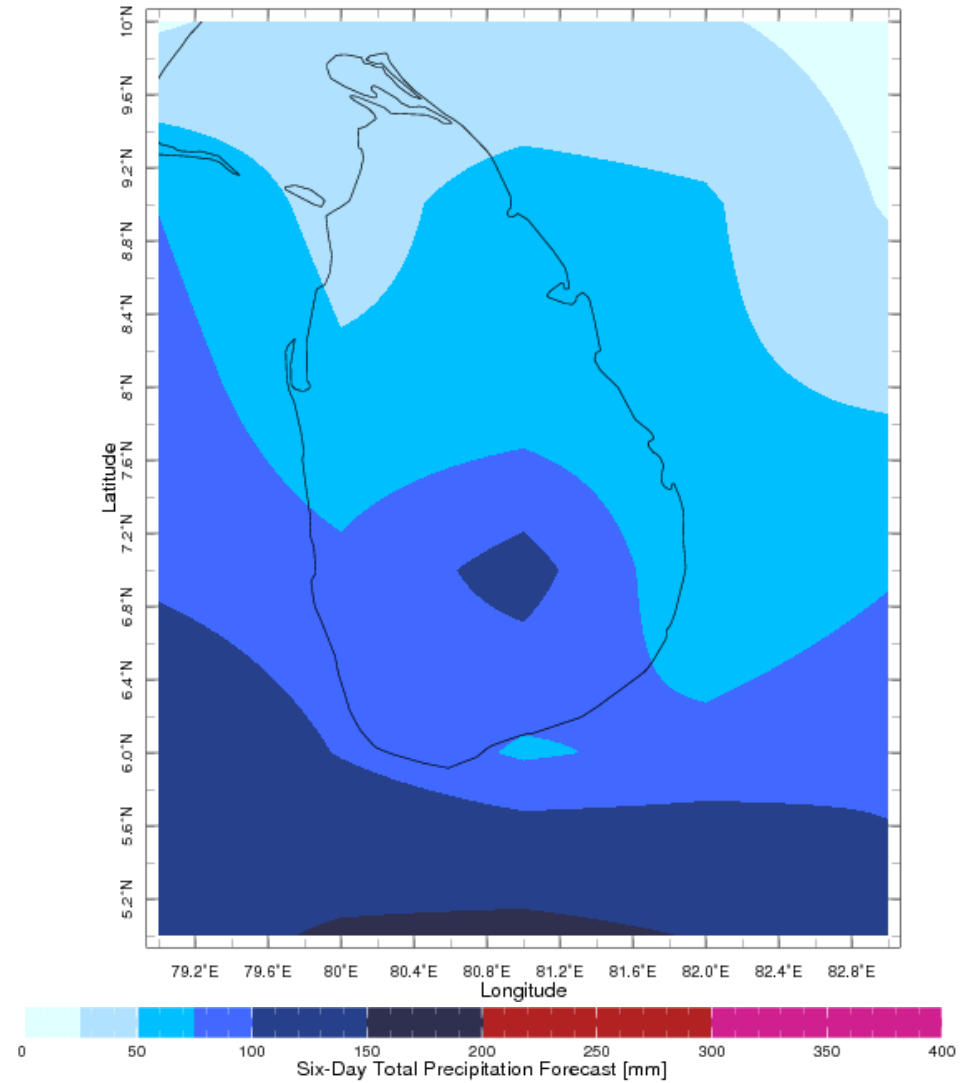
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 25-30 Sep 2019 Issued 0000 25 Sep 2019



Extreme Rainfall Forecast

Forecast for 25-30 Sep 2019 Issued 0000 25 Sep 2019



Total Six Day Precipitation Forecast