

Experimental Climate Monitoring and Prediction

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5 September 2019

Highlights

- The IRI weekly rainfall forecast predicts up to 75 mm of total rainfall in Batticaloa, Ampara and Monaragala districts during 4
– 9 Sep.
- Between 27 Aug - 3 Sep: up to 175 mm of rainfalls were recorded in Colombo and Ratnapura districts on the 29th.
- From 27 Aug – 2 Sep: up to 36 km/h, westerly winds were experienced by the entire island.
- 0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On August 27th, Galle and Ratnapura districts received up to 30 mm of rainfall; and Gampaha, Colombo, Kalutara and Matara districts up to 20 mm. On the 28th, Hambantota, Galle and Matara districts received up to 30 mm of rainfall; and Gampaha, Colombo and Kalutara districts up to 20 mm. On the 29th, Colombo and Ratnapura districts received up to 175 mm of rainfall; Gampaha, Kegalle, Kalutara and Galle districts up to 120 mm; Nuwara Eliya and Matara districts up to 90 mm; Anuradhapura, Hambantota and Monaragala districts up to 50 mm; Jaffna, and Puttalam districts up to 30 mm; and Kilinochchi, Mullaitivu, Mannar, Matale, Kandy, Badulla and Ampara districts up to 20 mm. On the 30th, Badulla district received up to 15 mm of rainfall; and Matale, Nuwara Eliya, Ratnapura and Kalutara districts up to 10 mm. On the 31st, Kalutara, Colombo, Gampaha, Kegalle, Ratnapura and Kalutara districts received up to 30 mm of rainfall; and Matale, Galle, Matara and Hambantota districts up to 20 mm. On September 1st, Colombo, Monaragala and Hambantota districts received up to 50 mm of rainfall; Gampaha, Kalutara, Galle, Kegalle, Ratnapura and Matara districts up to 30 mm; and Nuwara Eliya and Batticaloa districts up to 20 mm. On the 2nd, Batticaloa, Kalutara and Galle districts received up to 15 mm of rainfall. On the 3rd, Gampaha, Colombo, Kegalle districts received up to 15 mm of rainfall.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total up to 200-300 mm in Colombo, Kalutara and Ratnapura districts; up to 150-200 mm in Galle and Kegalle districts; up to 100-150 mm Gampaha, Galle and Matara districts; and up to 75-100 mm Nuwara Eliya and Ratnapura districts. Above average rainfall up to 100-200 mm in Colombo, Kalutara, Ratnapura, Galle and Matara districts; up to 50-100 mm in Gampaha, Nuwara Eliya and Hambantota districts; and up to 25-50 mm in Kegalle, Nuwara Eliya and southern regions of Monaragala districts. Below average rainfall up to 10-25 mm in Trincomalee, Anuradhapura, Kurunegala, Matale, Kandy, Badulla, Ampara and central regions of Monaragala district.

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: August 19, 2019

The weak El Niño of 2018-19 has ended, as SSTs in the east-central Pacific cooled to ENSO-neutral levels during July. Patterns in most atmospheric variables also are showing ENSO-neutral conditions. Collective model forecasts favor ENSO-neutral through autumn and winter, but with higher chances for El Niño than La Niña. The official CPC/IRI outlook, no longer carrying an El Niño advisory, generally agrees with the model forecasts through winter.

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 4th – 10th Sep: Total rainfall up to 85 mm on Galle, Kegalle, Ratnapura and Gampaha districts; up to 65-75 mm in Matara and Hambantota districts; and up to 55-65 mm in Colombo and Kalutara districts.

From 11th – 17th Sep: Total rainfall up to 65 mm Gampaha, Ratnapura and Kegalle districts; and up to 45-55 mm in Puttalam, Kurunegala, Matara and Hambantota districts.

IRI Model Forecast:

From 4th – 9th Sep: Total rainfall up to 75 mm is expected in Batticaloa, Ampara and Monaragala districts; and up to 25 mm in most parts 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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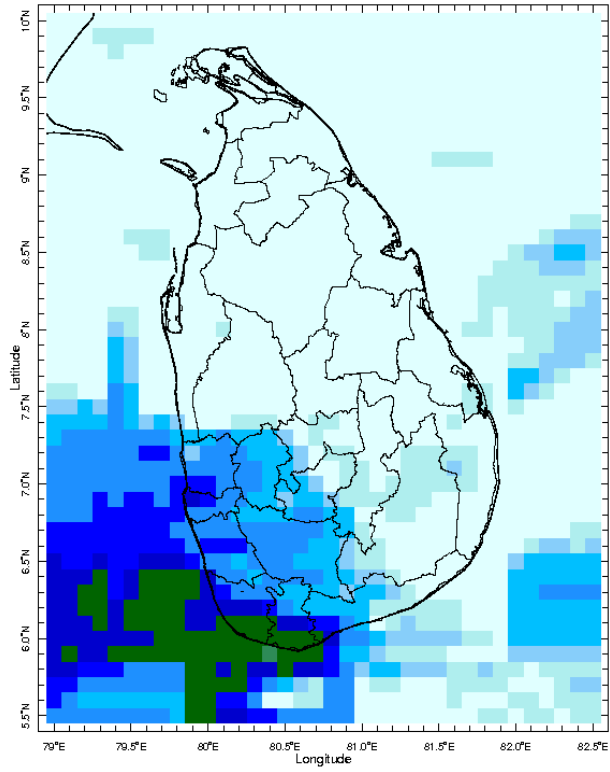
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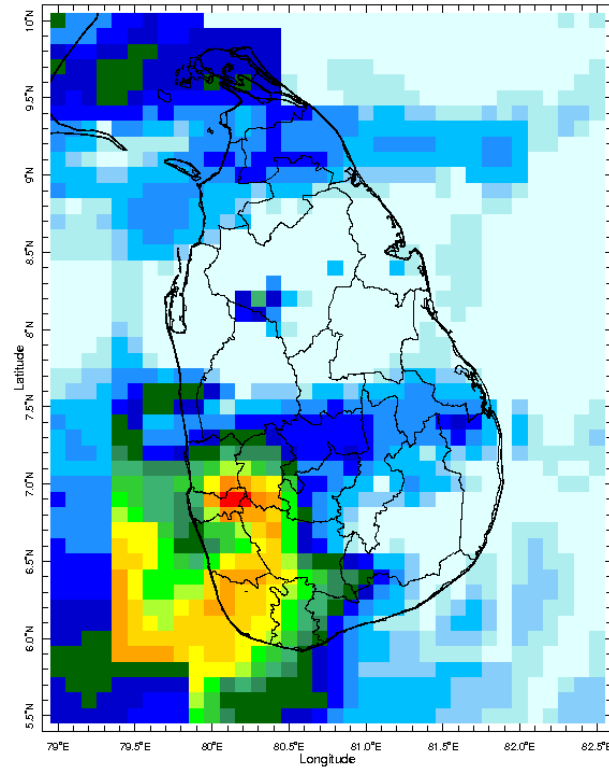
MONITORING

Daily Rainfall Monitoring

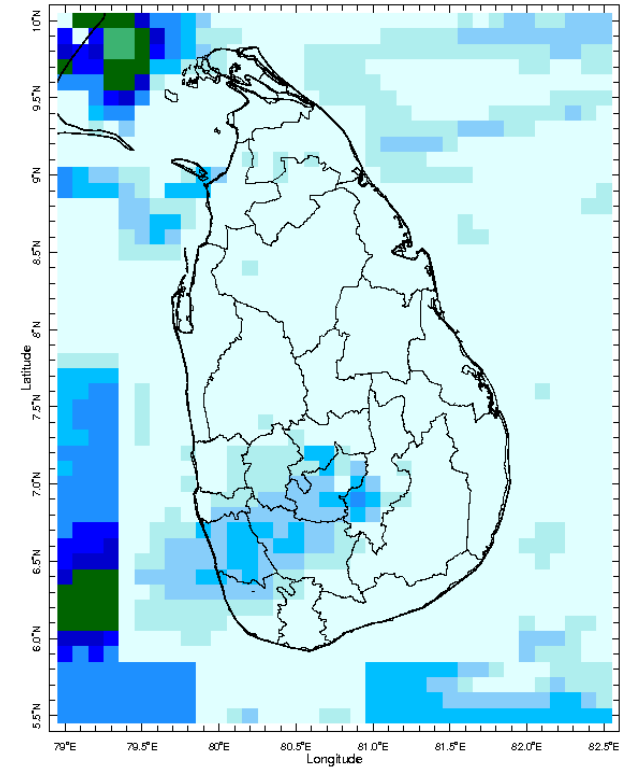
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



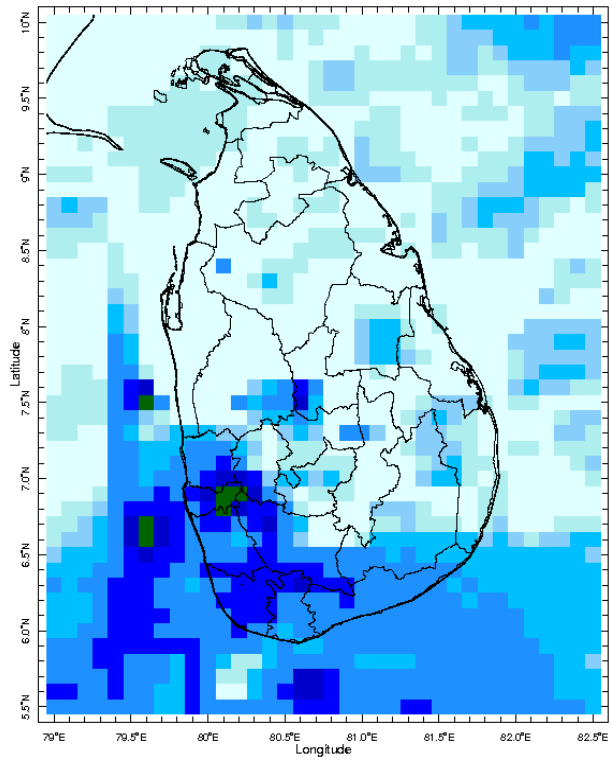
28 Aug 2019



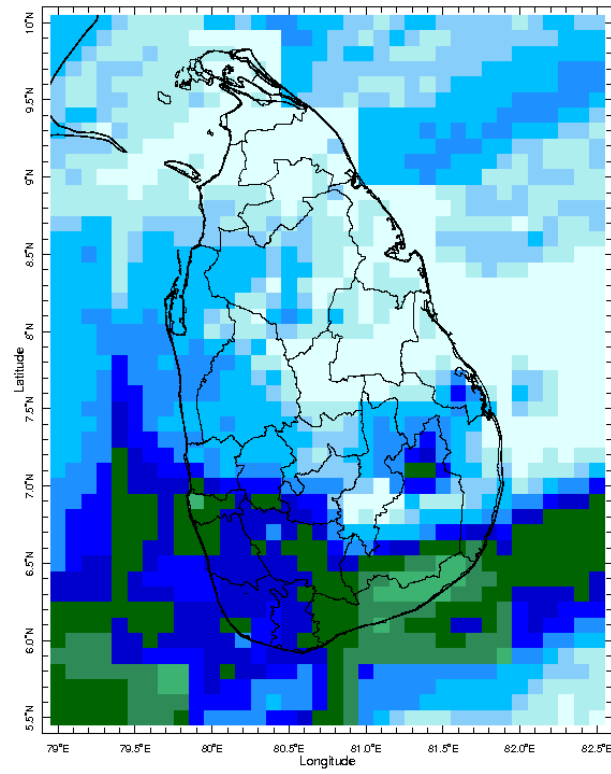
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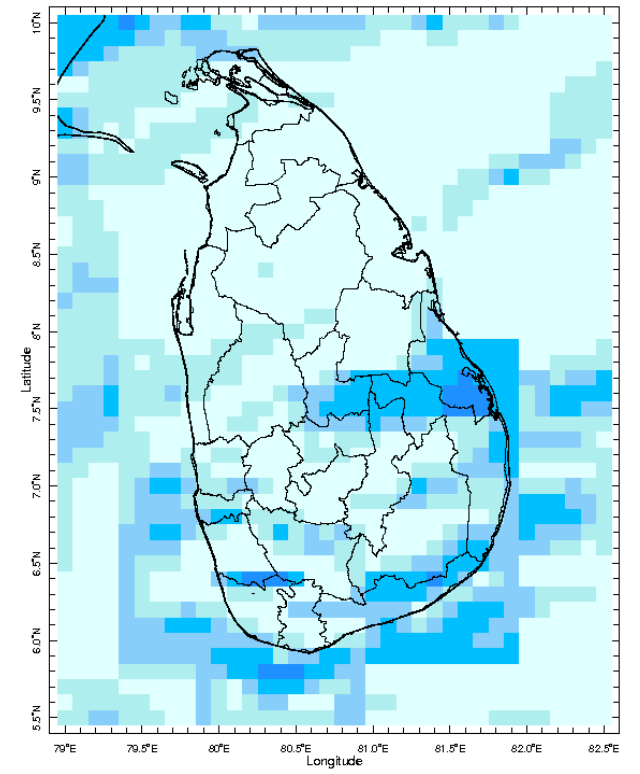
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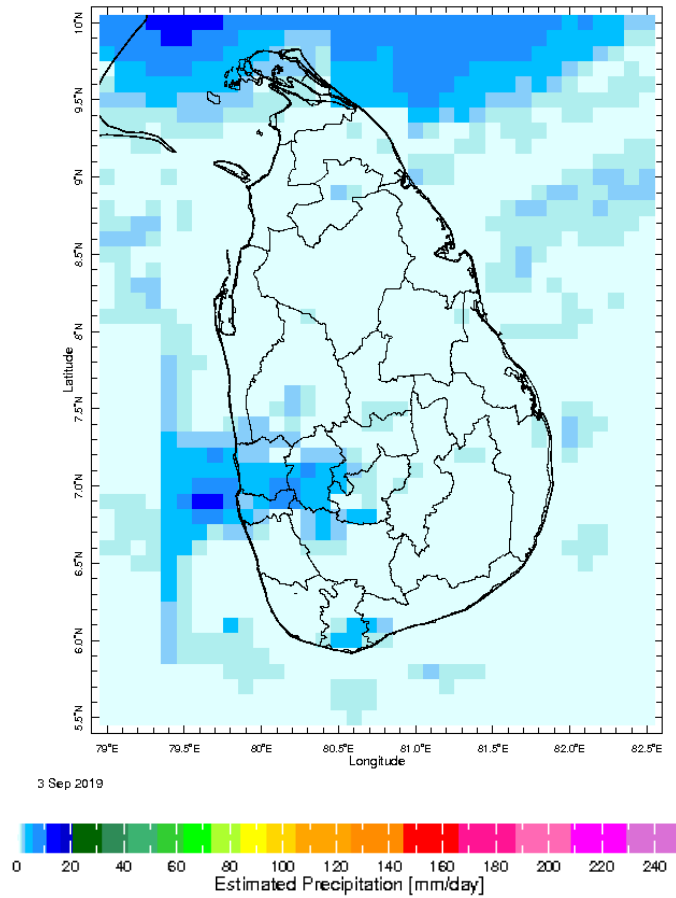
31 Aug 2019



1 Sep 2019

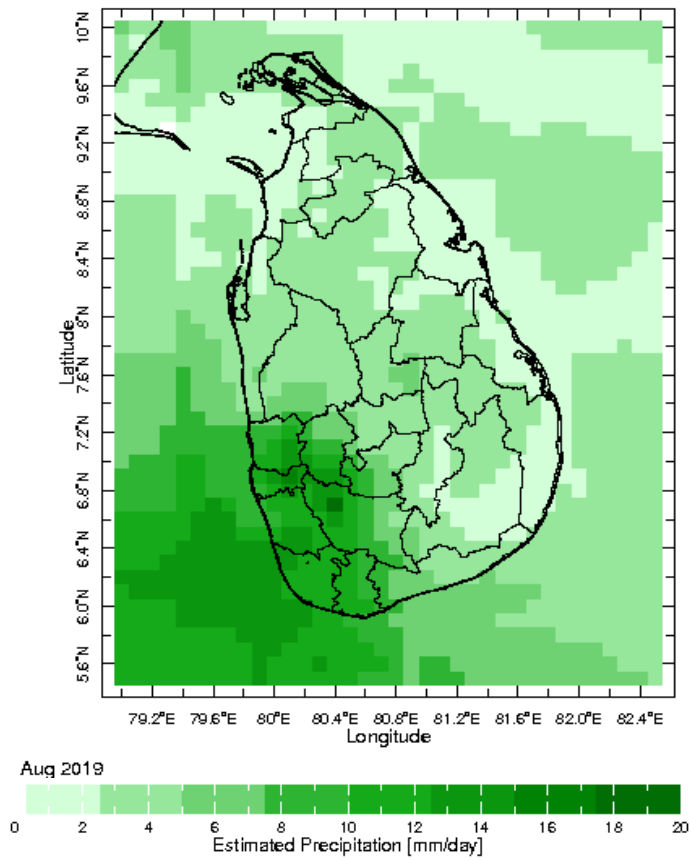


2 Sep 2019

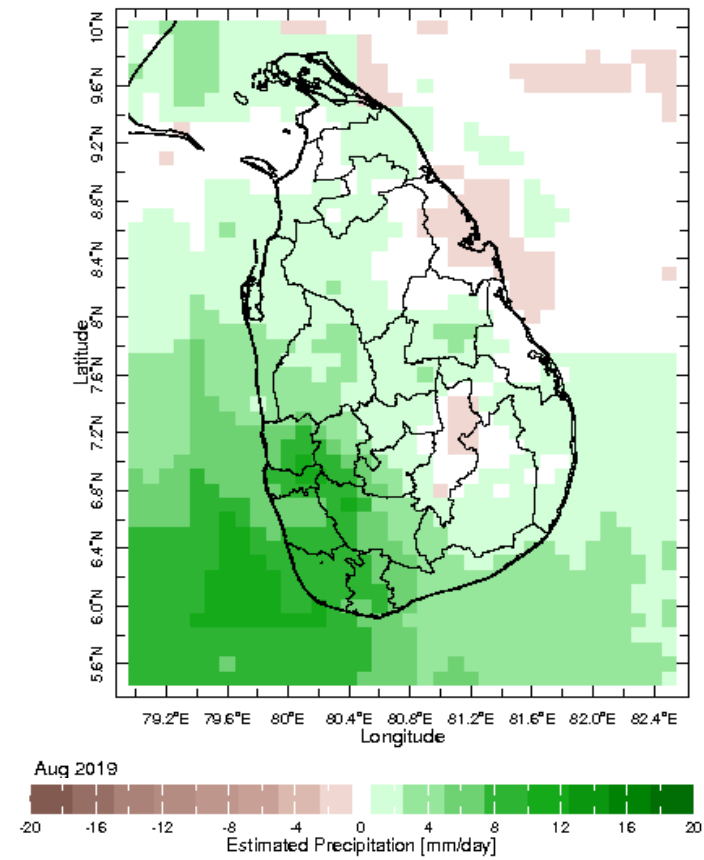


Monthly Rainfall Monitoring

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

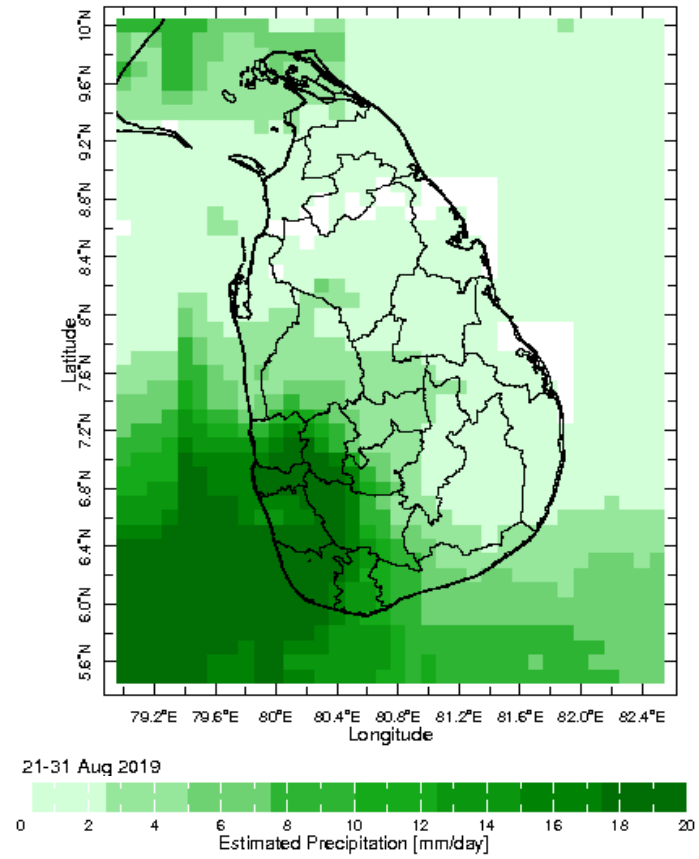
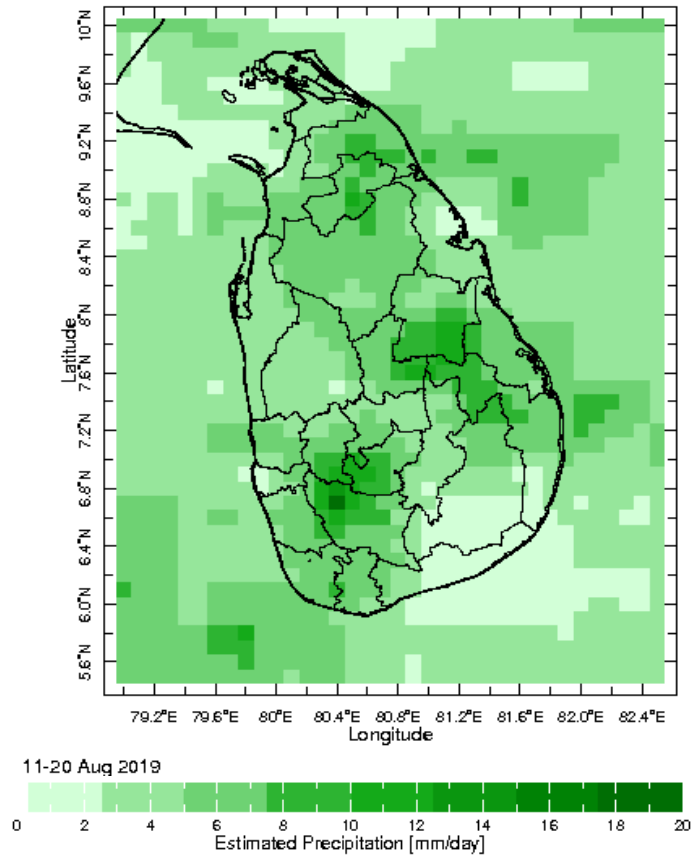


Monthly Average



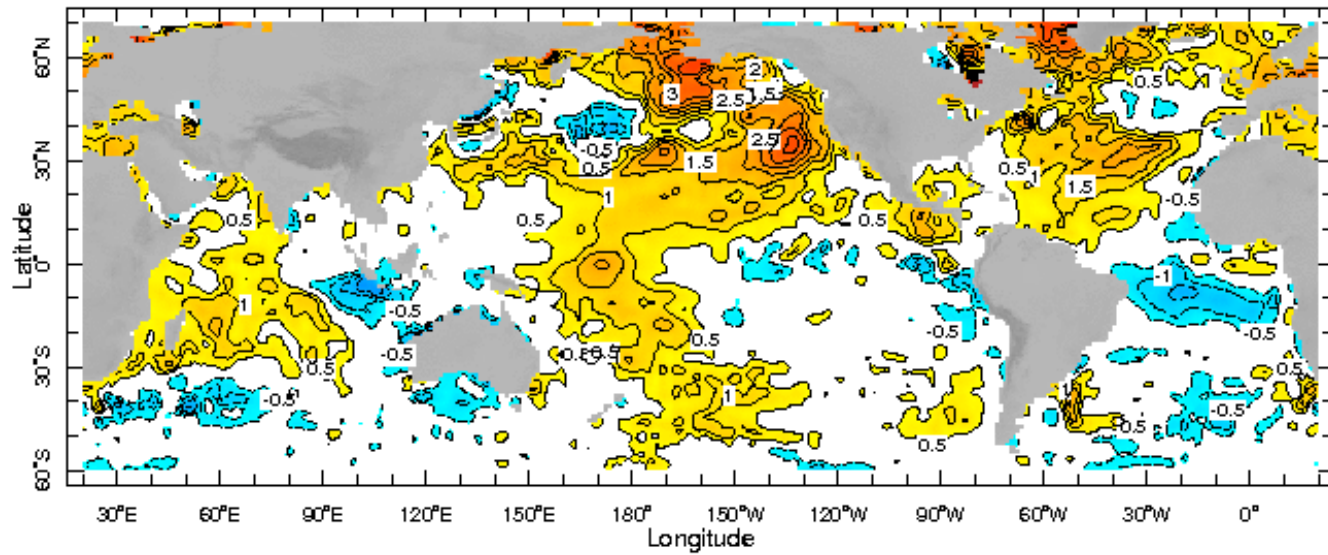
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

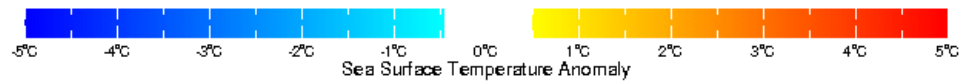


Weekly Average SST Anomalies

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



28 Aug 2019

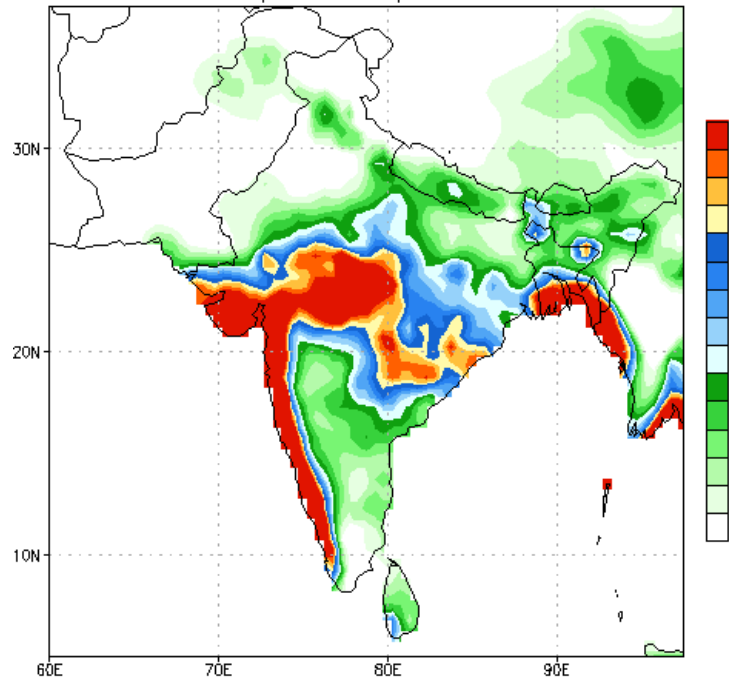


WORLDBATH topography

PREDICTIONS

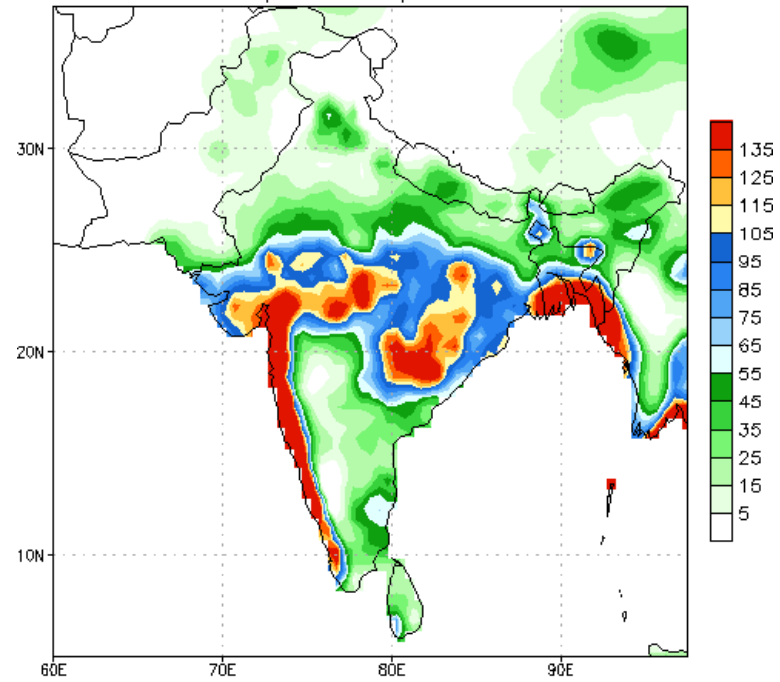
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 04Sep2019
04Sep2019-10Sep2019 Accumulation



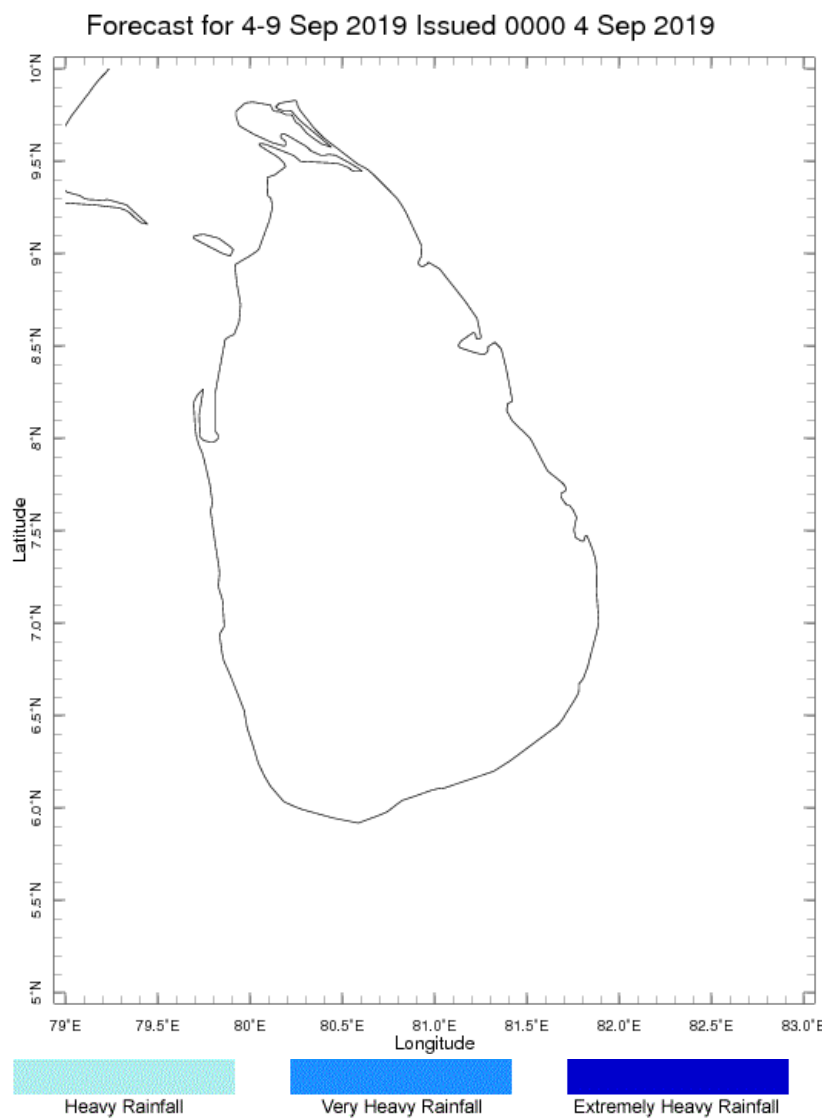
Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 04Sep2019
11Sep2019-17Sep2019 Accumulation

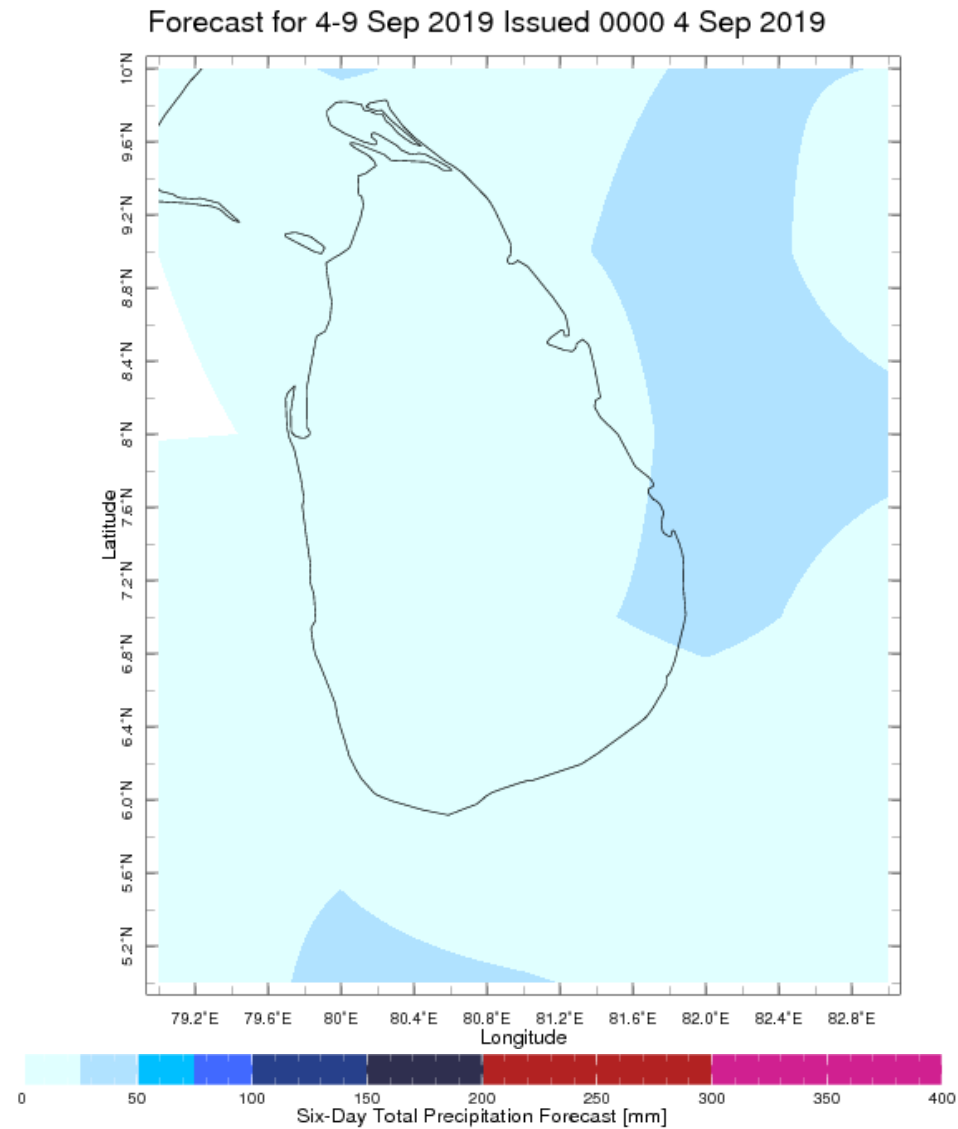


Bias correction based on last 30-day forecast error

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.



Extreme Rainfall Forecast



Total Six Day Precipitation Forecast