

**30 April
2020**

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 Badulla district during 29 Apr - 4 May.

Monitored Rainfalls



- Between 22 - 27 Apr: up to 120 mm of rainfalls were recorded in Anuradhapura and Kegalle districts on the 22nd and 26th respectively.

Monitored Wind



- From 21 - 27 Apr: 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
22nd April	Up to 120 mm in Anuradhapura district; up to 100 mm in Colombo and Gampaha districts; up to 70 mm in Puttalam, Kalutara, Ratnapura and Kegalle districts; up to 60 mm in Mannar and Kurunegala districts; up to 50 mm in Vavuniya, Kandy, Nuwara Eliya and Badulla districts; up to 30 mm in Matale, Ampara, Monaragala, Batticaloa, Hambantota, Galle and Matara districts; and up to 20 mm in Kilinochchi and Polonnaruwa districts.
23rd April	Up to 20 mm in Puttalam, Matale, Kandy, Kurunegala, Gampaha, Colombo, Kalutara, Galle, Matara, Kegalle, Ratnapura, Nuwara Eliya, Badulla, Monaragala and Hambantota districts; and up to 10 mm in most parts of the island.
24th April	Up to 20 mm in Gampaha district; and up to 10 mm in most parts of the island.
25th April	Up to 70 mm in Anuradhapura and Matale districts; up to 50 mm in Ratnapura, Badulla and Monaragala districts; up to 30 mm in Mullaitivu, Polonnaruwa and



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Date	Rainfall
	Nuwara Eliya districts; and up to 20 mm in Mannar, Gampaha, Colombo, Kalutara, Galle, Matara, Kegalle and Kandy districts.
26 th April	Up to 120 mm in Kegalle district; up to 70 mm in Gampaha and Kandy districts; up to 50 mm in Kurunegala, Nuwara Eliya and Ratnapura districts; up to 30 mm in Colombo, Badulla and Monaragala districts; and up to 20 mm in Anuradhapura and Kalutara districts.
27 th April	Up to 60 mm in Vavuniya, Anuradhapura Badulla and Monaragala districts; up to 50 mm in Kegalle and Ratnapura districts; up to 30 mm in Nuwara Eliya, Kalutara, Hambantota, Mannar and Gampaha districts; and up to 20 mm in Gampaha, Colombo and Matara districts.

Total Rainfall for the Past Week

The RFE 2.0 tool shows total up to 150-200 mm in Kegalle district; up to 100-150 mm in Gampaha, Colombo and Ratnapura districts; up to 75-100 mm in Mannar, Anuradhapura, Kurunegala, Kandy, Nuwara Eliya, Badulla, Monaragala and Kalutara districts; and up to 50-75 mm in Vavuniya, Puttalam, Galle, Matara, Hambantota, Matale and Polonnaruwa districts. Above average rainfall up to 50-100 mm is shown for in Kegalle, Gampaha, Colombo, Ratnapura and western regions of Anuradhapura district; up and to 25-50 mm in Matale, Mannar, Kurunegala, Badulla, Monaragala, Galle and Matara districts. Below average rainfall up to 25-50 mm is shown for in Mullaitivu, Trincomalee, Polonnaruwa and northern and eastern regions of Anuradhapura district; and up to 25-50 mm in Jaffna, Kilinochchi, Batticaloa, Ampara and Kandy districts.

Monthly Monitoring

During March – Below average rainfall conditions up to 240 mm were experienced by Anuradhapura, Kurunegala, Matale, Polonnaruwa, Ampara, Badulla, Monaragala, Kandy, Nuwara Eliya, Kegalle, Ratnapura, Colombo, Kalutara, Galle, Matara and Hambantota districts; and up to 150 mm in rest of the island. The CPC Unified Precipitation Analysis tool shows up to 100 mm of total rainfall in Kurunegala, Kegalle, Ratnapura, Nuwara Eliya, Kalutara, Galle and Matara districts; and up to 75 mm in Puttalam, Gampaha, Colombo, Badulla and Kandy districts.

Ocean State *(Text Courtesy IRI)*

Pacific sea state: April 20, 2020

SSTs in the east-central Pacific were near the borderline of weak El Niño during mid-April. However, patterns in atmospheric variables were mainly neutral. Most model forecasts favor warm-neutral SST conditions during the rest of spring, cooling to average by summer. The official CPC/IRI outlook is consistent with these model forecasts, calling for continuation of ENSO-neutral through fall.



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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 29th Apr - 5th May: Total rainfall up to 45 mm in Puttalam, Kurunegala, Kegalle, Gampaha, Ratnapura, Galle and Matara districts; up to 35 mm in Colombo and Hambantota districts; and up to 25 mm in Matale, Kandy, Nuwara Eliya and Ampara districts.

From 6th - 12th May: Total rainfall up to 95 mm in Galle and Matara districts; up to 85 mm in Ratnapura district; up to 75 mm in Kegalle and Hambantota districts; and up to 55 mm in Puttalam, Kurunegala, Matale, Kandy, Badulla, Monaragala and Ampara districts.

NOAA Model Forecast:

From 29th Apr – 4th May: Total rainfall up to 100 mm in Badulla district; up to 75 mm in Kandy, Nuwara Eliya and Monaragala districts; and up to 50 mm in Polonnaruwa, Matale, Kurunegala, Kegalle, Ratnapura, Hambantota, Ampara and Batticaloa districts.

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.



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



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Weekly Hydro- Meteorological Report for Sri Lanka

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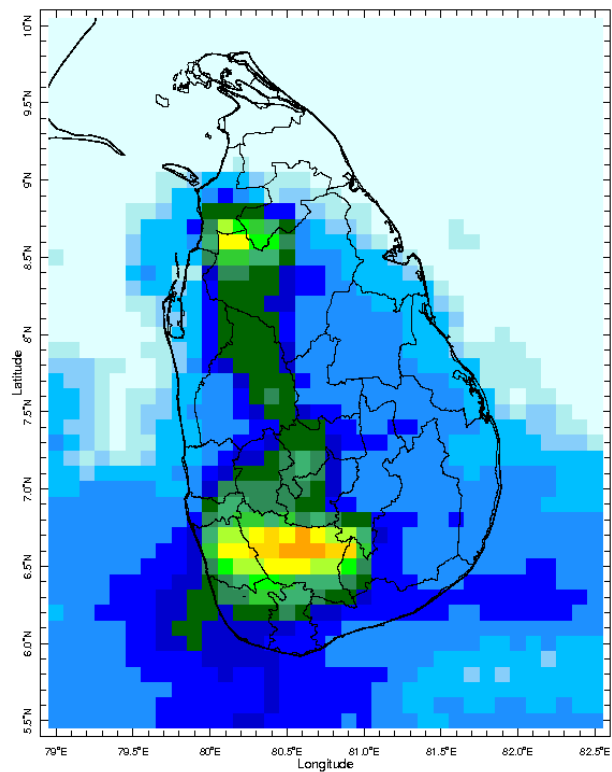
2. Predictions

- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
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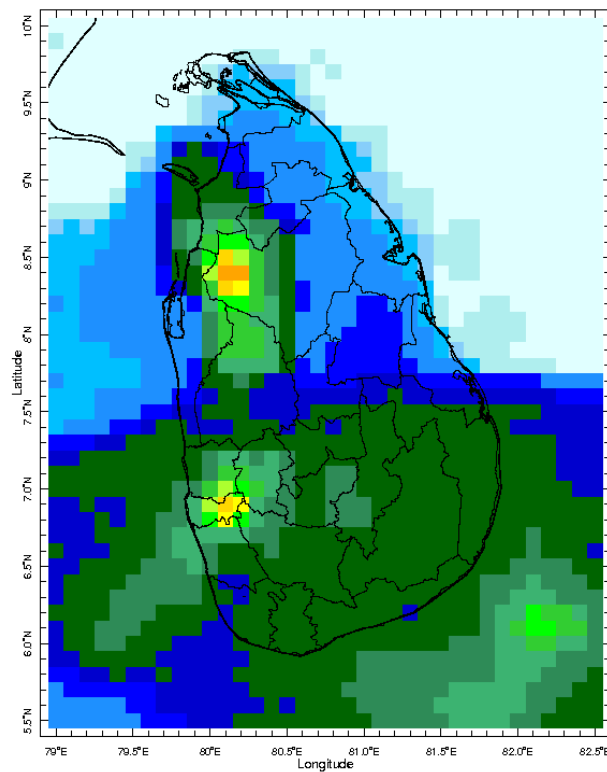
MONITORING

Daily Rainfall Monitoring

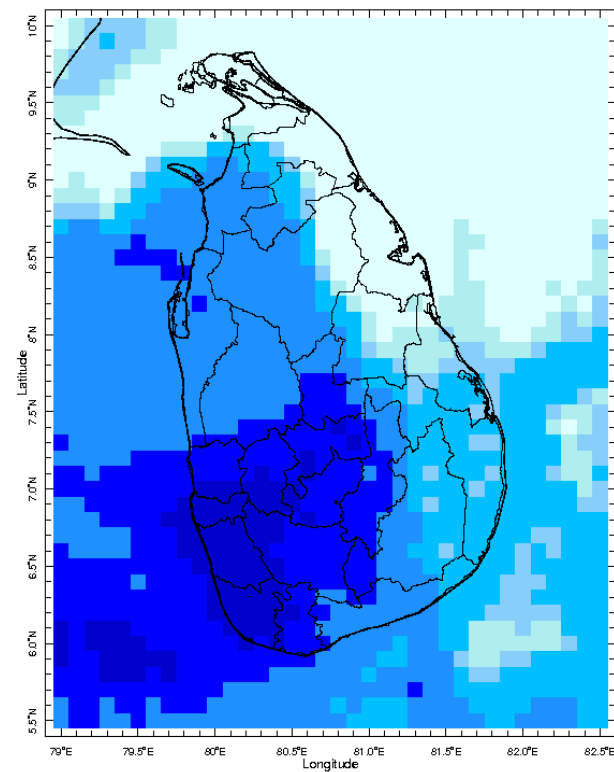
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



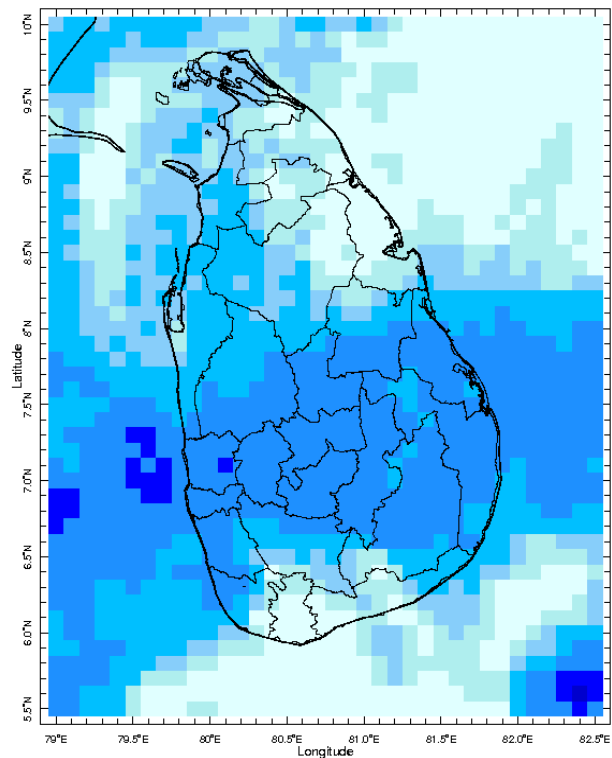
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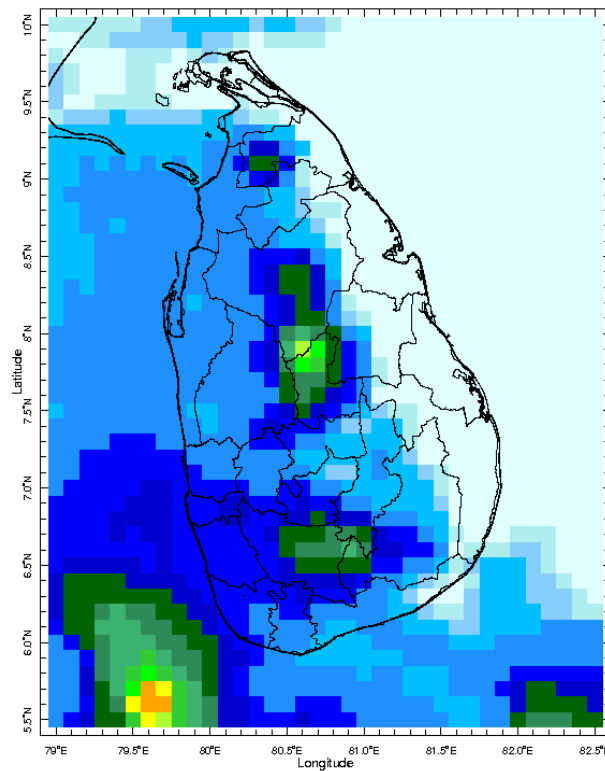
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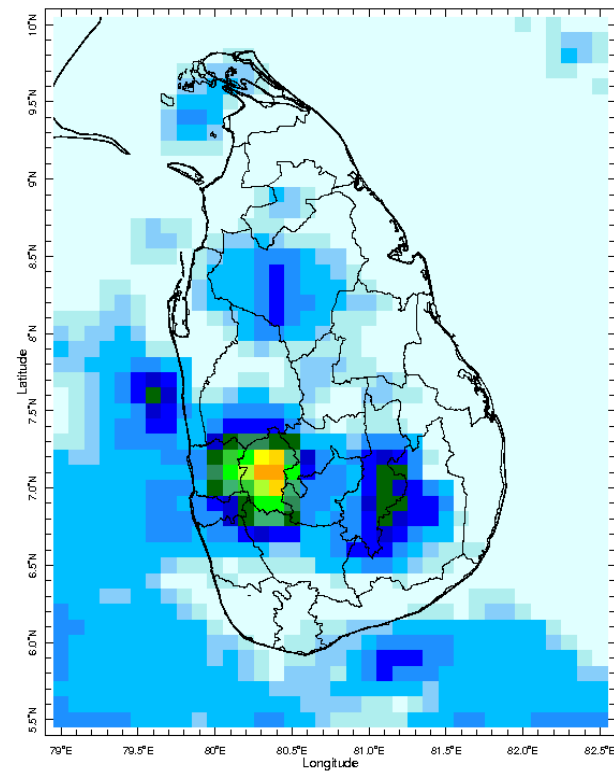
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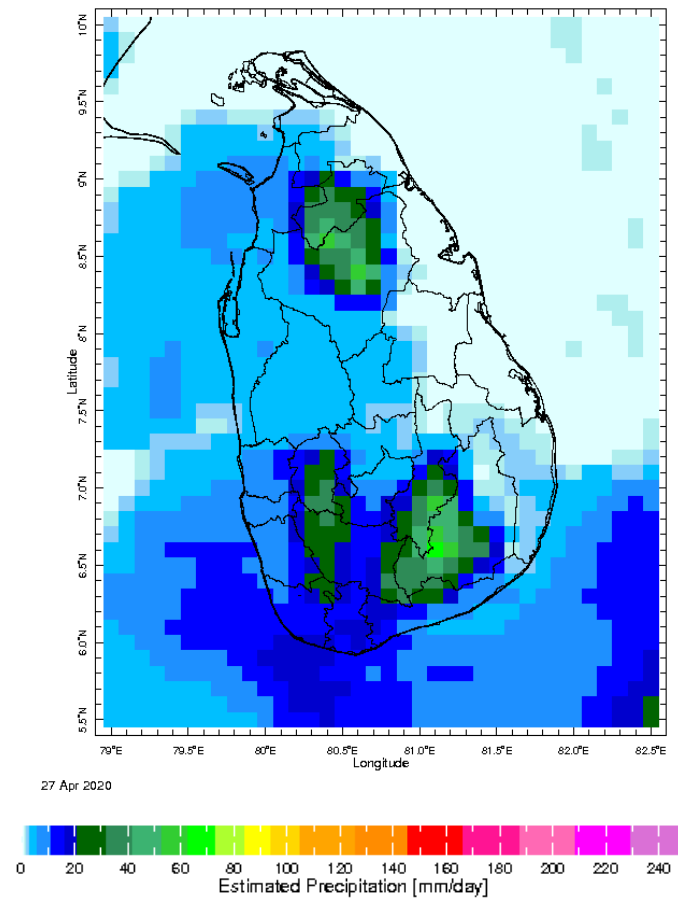
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25 Apr 2020

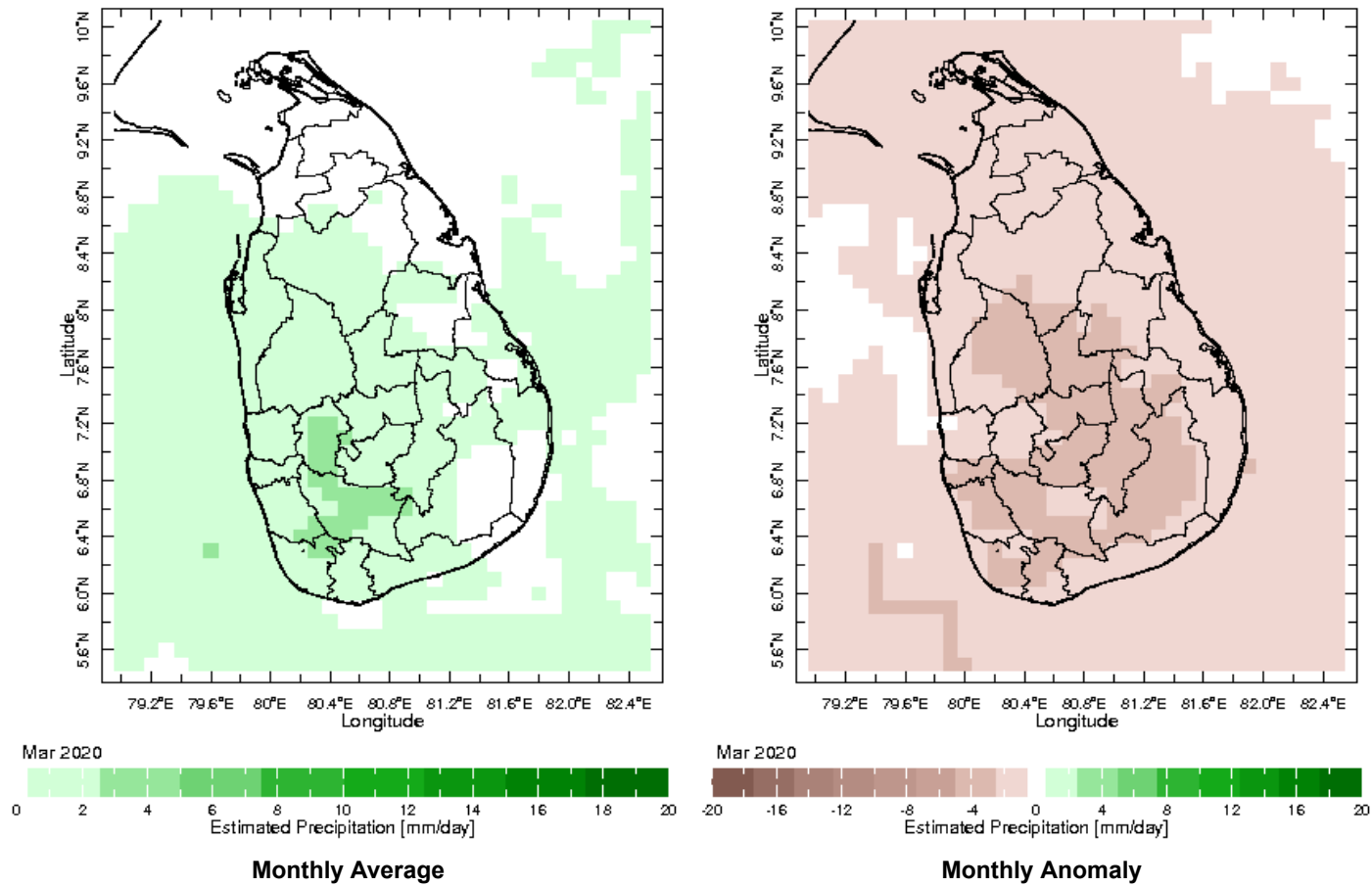


26 Apr 2020

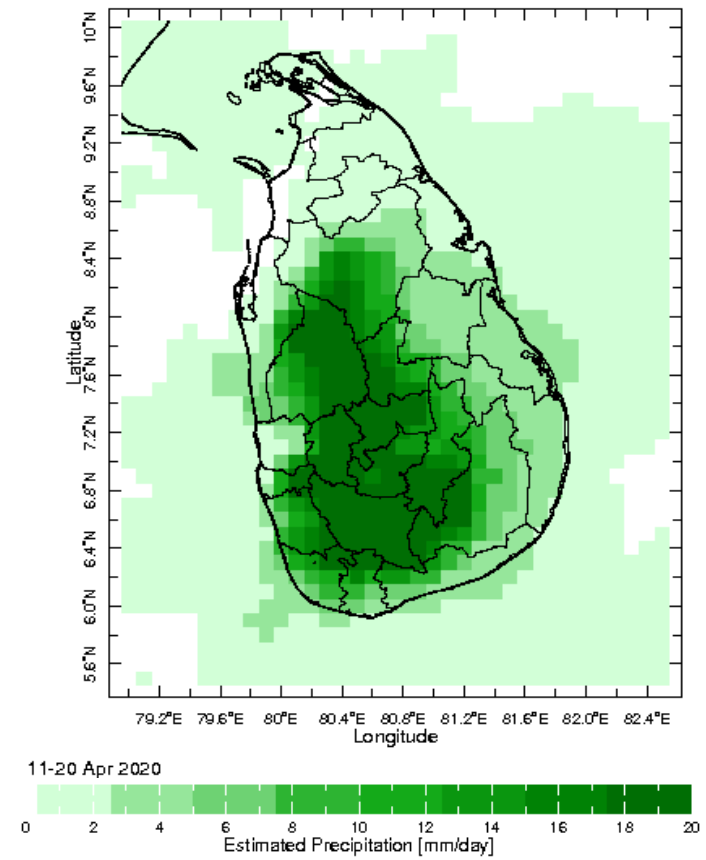
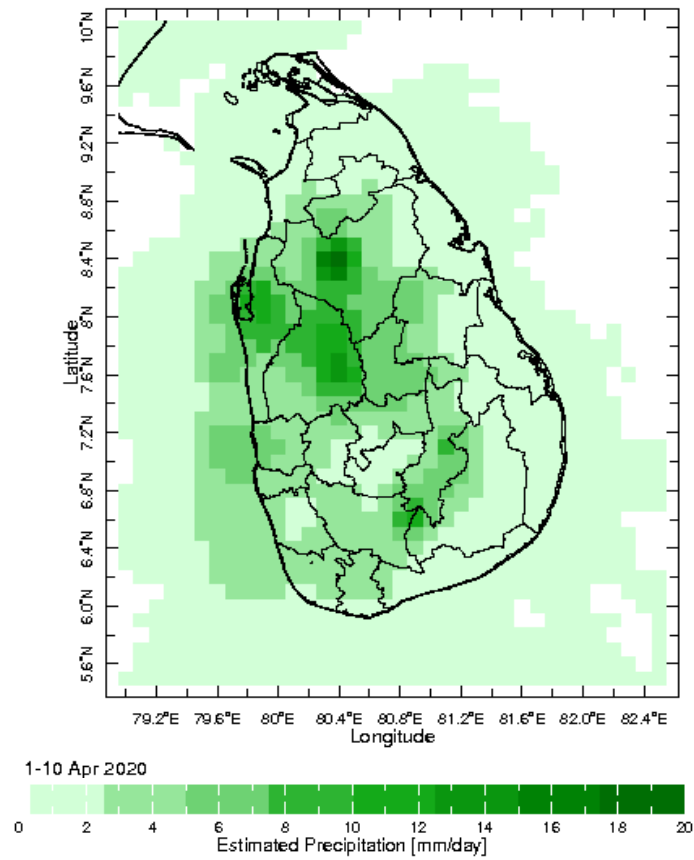


Monthly Rainfall Monitoring

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

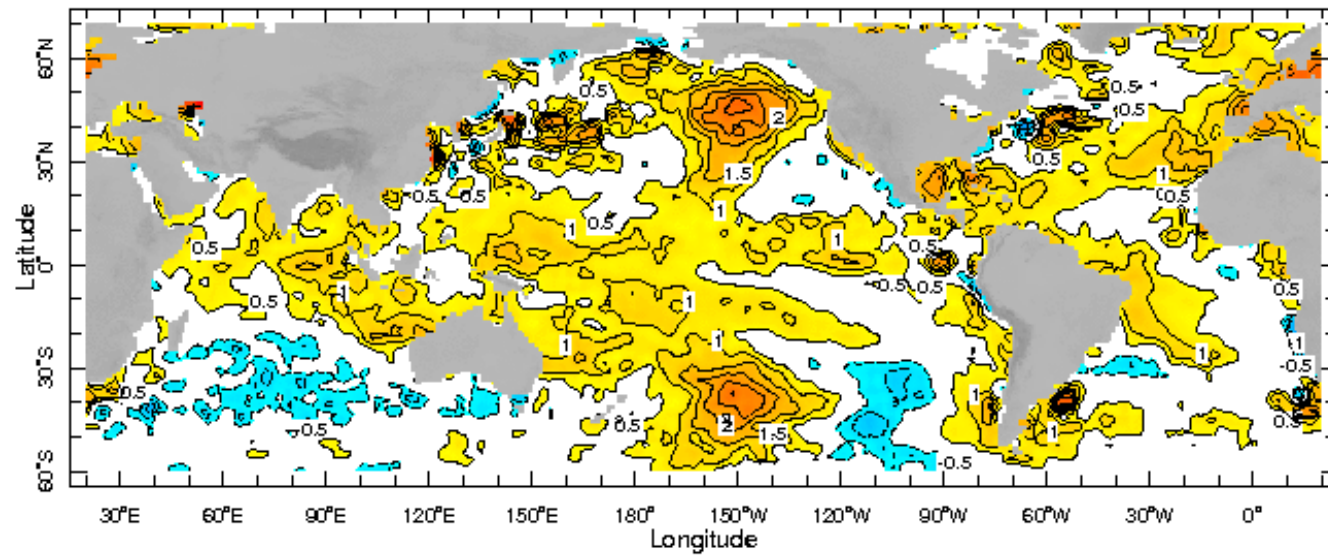


Dekadal (10 Day) Satellite Derived Rainfall Estimates

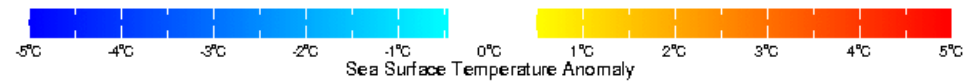


Weekly Average SST Anomalies

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



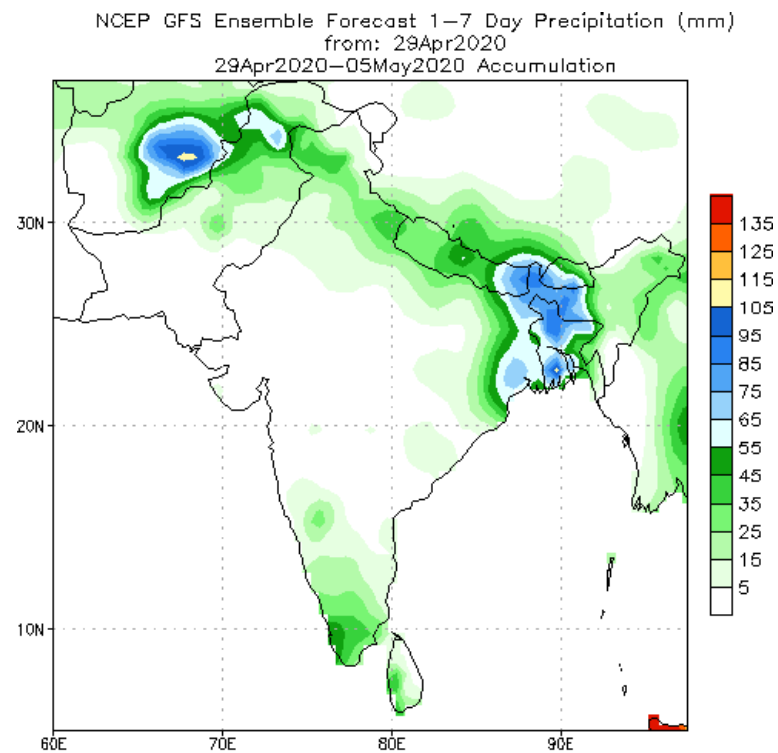
22 Apr 2020



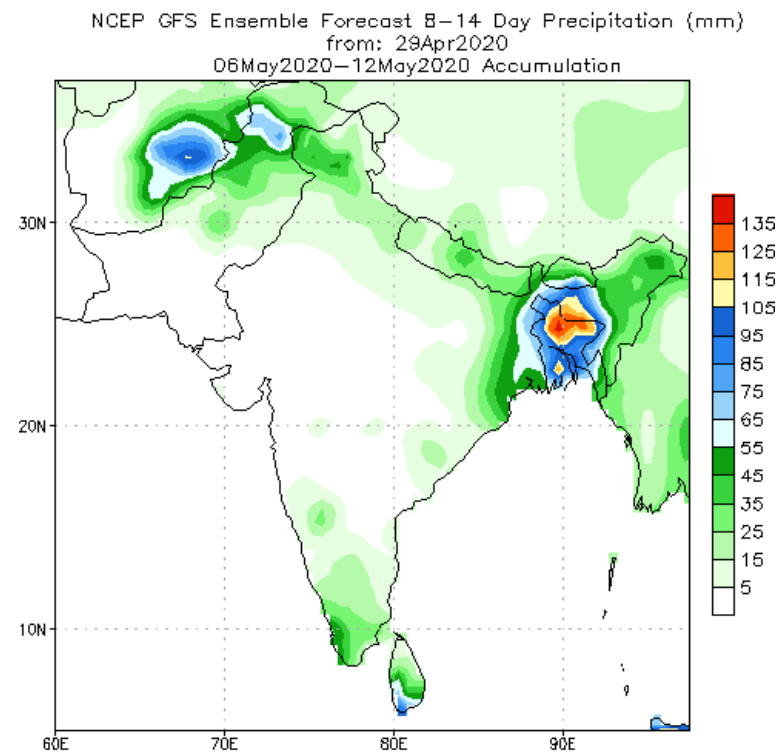
WORLDBATH topography

PREDICTIONS

NCEP GFS 1- 14 Day prediction



Bias correction based on last 30-day forecast error

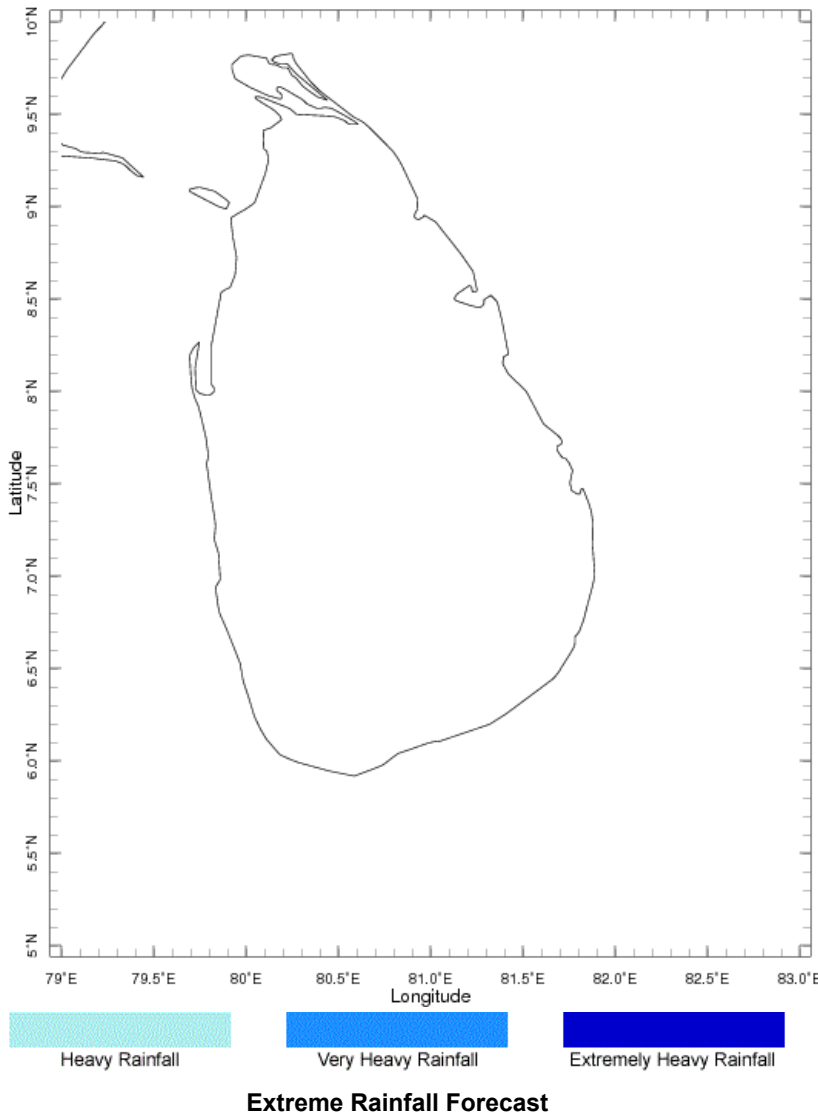


Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

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 29 Apr 2020 - 4 May 2020 Issued 0000 29 Apr 2020



Forecast for 29 Apr 2020 - 4 May 2020 Issued 0000 29 Apr 2020

