

**23 April
2020**

EXPERIMENTAL CLIMATE MONITORING AND PREDICTION

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HIGHLIGHTS

Rainfall Forecast



- The NOAA weekly rainfall forecast predicts up to 150 mm of total rainfall in Kandy, Nuwara Eliya and Badulla districts during 22 - 27 Apr.

Monitored Rainfalls



- Between 15 - 21 Apr: up to 140 mm of rainfalls were recorded in Anuradhapura district on the 17th.

Monitored Wind



- From 14 - 20 Apr: up to 18 km/h, easterly winds were experienced by the entire island.

Monitored Sea Surface



- 1 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring

| Date | Rainfall |
|------------------------------|--|
| 15th April | Up to 70 mm in Matale and Kandy districts; up to 50 mm in Kurunegala, Hambantota, Kegalle, Ratnapura, Kandy, Galle, Matara, Nuwara Eliya, Badulla and Monaragala districts; up to 30 mm in Polonnaruwa and Ampara districts; and up to 20 mm in Gampaha and Colombo districts. |
| 16th April | Up to 50 mm in Anuradhapura, Ratnapura and Matara districts; up to 30 mm in Kandy, Badulla, Monaragala, Kegalle, Hambantota and Galle districts; and up to 20 mm in Kurunegala, Matale, Kalutara, Colombo and Nuwara Eliya districts. |
| 17th April | Up to 140 mm in Anuradhapura district; up to 70 mm in Matale and Kurunegala districts; up to 60 mm in Gampaha and Colombo districts; up to 50 mm in Ratnapura, Badulla, Monaragala, Galle and Kalutara districts; up to 30 mm in Polonnaruwa, Kegalle, Kandy and Nuwara Eliya districts; and up to 20 mm in Hambantota district. |
| 18th April | Up to 120 mm in Kegalle and Colombo districts; up to 100 mm in Kurunegala and Ratnapura districts; up to 70 mm in Kandy and Kalutara districts; up to 60 mm in |



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| Date | Rainfall |
|------------------------|--|
| | Gampaha and Nuwara Eliya district; up to 50 mm in Anuradhapura, Matale, Badulla, Matara and Galle districts; up to 30 mm in Ampara district; and up to 20 mm in Hambantota district. |
| 19 th April | Up to 70 mm in Kurunegala and Puttalam districts; up to 50 mm in Monaragala district; up to 30 mm in Kegalle and Ratnapura districts; and up to 20 mm in Anuradhapura, Matale, Kandy, Nuwara Eliya, Badulla, Kalutara and Galle districts. |
| 20 th April | Up to 60 mm in Kegalle, Kurunegala and Puttalam districts; up to 50 mm in Kandy and Ratnapura districts; up to 30 mm in Gampaha and Nuwara Eliya districts; and up to 20 mm in Kalutara, Badulla and Monaragala districts. |
| 21 st April | Up to 120 mm in Ratnapura district; up to 100 mm in Kandy and Monaragala districts; up to 70 mm in Mannar, Vavuniya, Anuradhapura, Kalutara, Galle and Badulla districts; up to 50 mm in Puttalam, Kurunegala, Kandy, Nuwara Eliya, Galle, Colombo, Matara and Hambantota districts; and up to 20 mm in Ampara district. |

Total Rainfall for the Past Week

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

1 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 22nd – 28th Apr: Total rainfall up to 55 mm in Ratnapura, Matara and Hambantota districts; up to 45 mm in Colombo, Gampaha, Puttalam, Kurunegala, Kegalle, Badulla and Monaragala districts; and up to 35 mm in Kandy, Nuwara Eliya and Ampara districts.

From 29th Apr - 5th May: Total rainfall up to 55 mm in Puttalam, Kurunegala, Gampaha, Colombo, Kegalle, Ratnapura, Matara and Hambantota districts; up to 45 mm in Kandy, Nuwara Eliya, Badulla and Monaragala districts; and up to 35 mm in Matale and Ampara districts.

NOAA Model Forecast:

From 22nd – 27th Apr: Total rainfall up to 150 mm in Kandy, Nuwara Eliya and Badulla districts; up to 100 mm in Ratnapura and Monaragala districts; up to 75 mm in Matale, Kurunegala, Kegalle, Polonnaruwa and Ampara districts; and up to 50 mm in Batticaloa, Anuradhapura, Colombo and Hambantota 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.



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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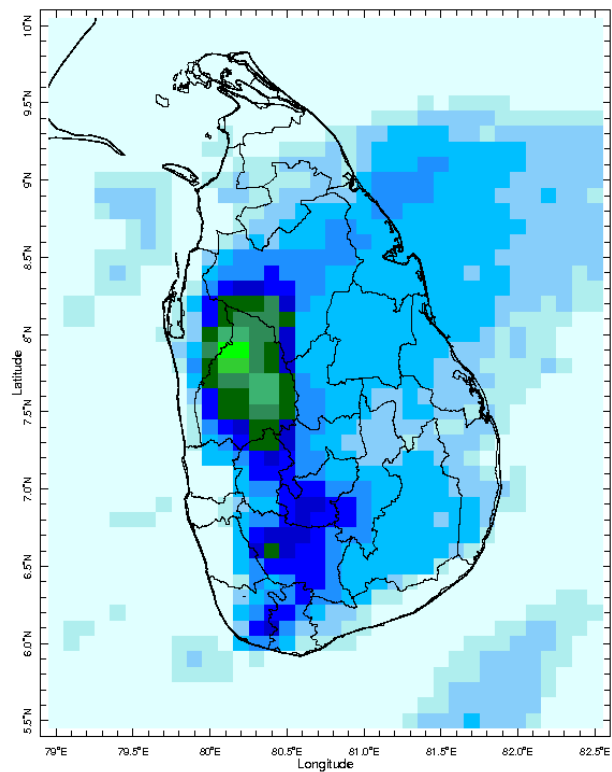
2. Predictions

- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
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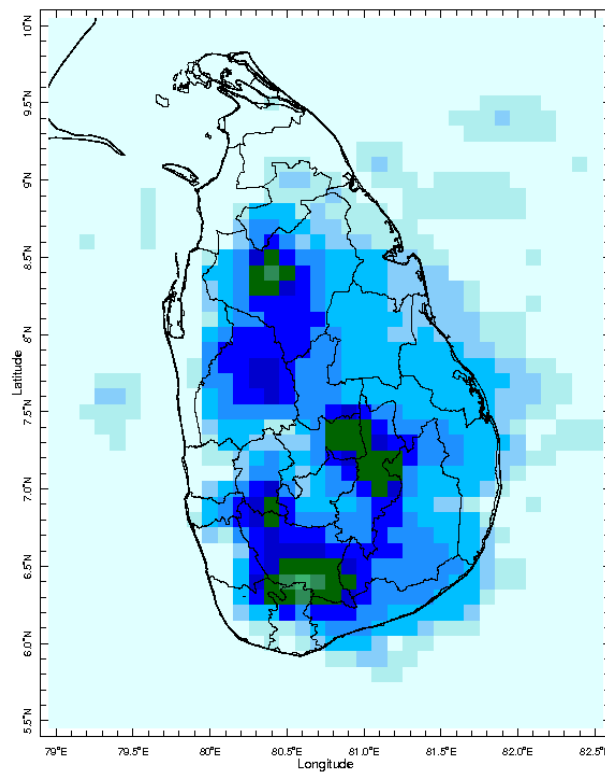
MONITORING

Daily Rainfall Monitoring

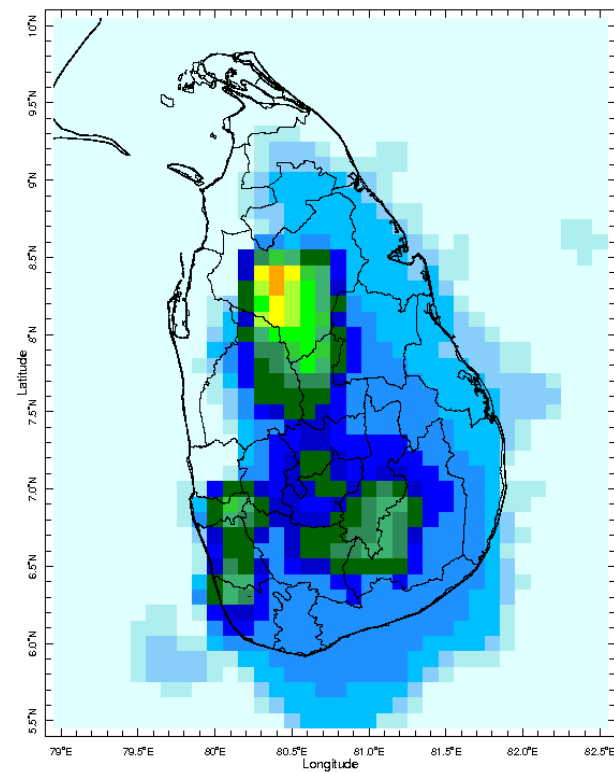
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



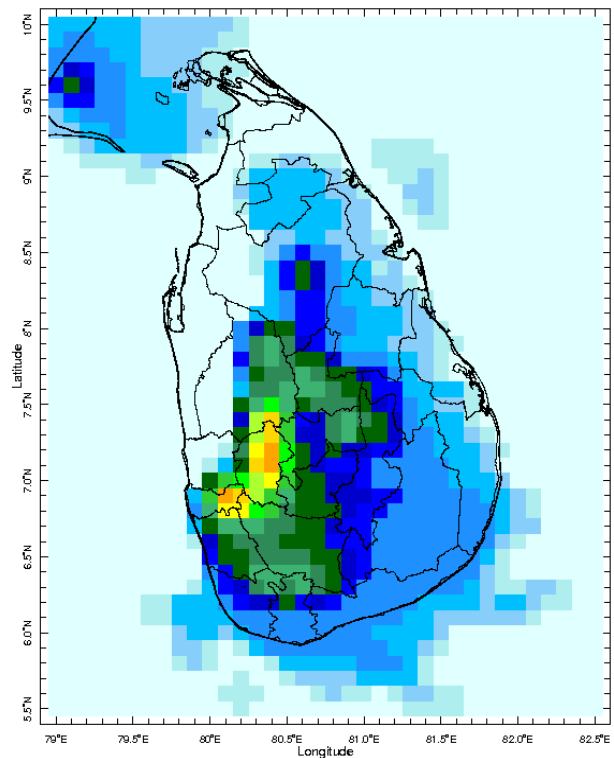
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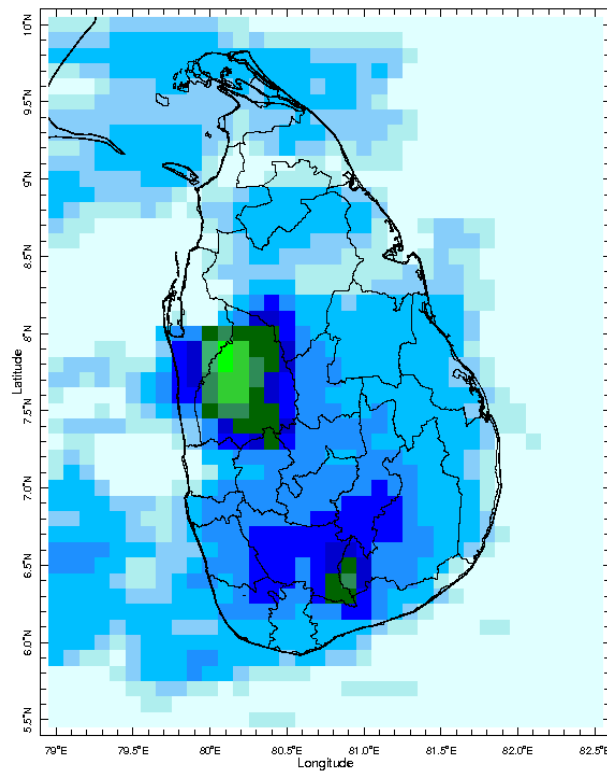
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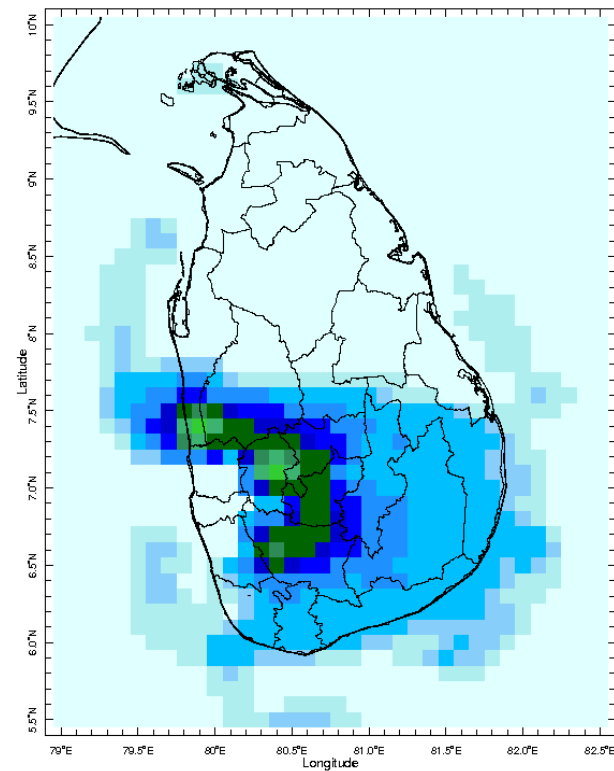
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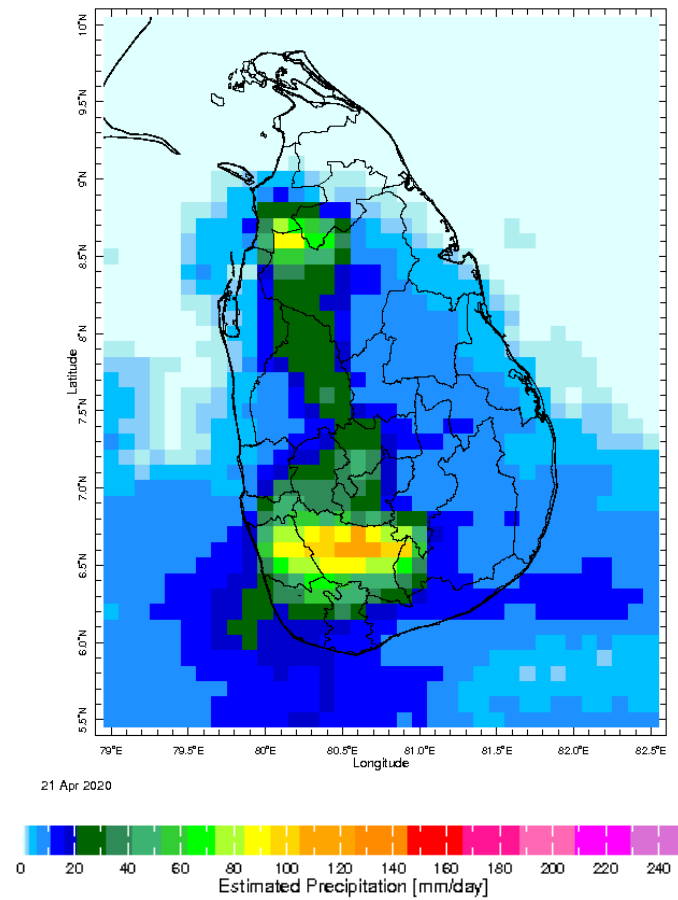
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19 Apr 2020

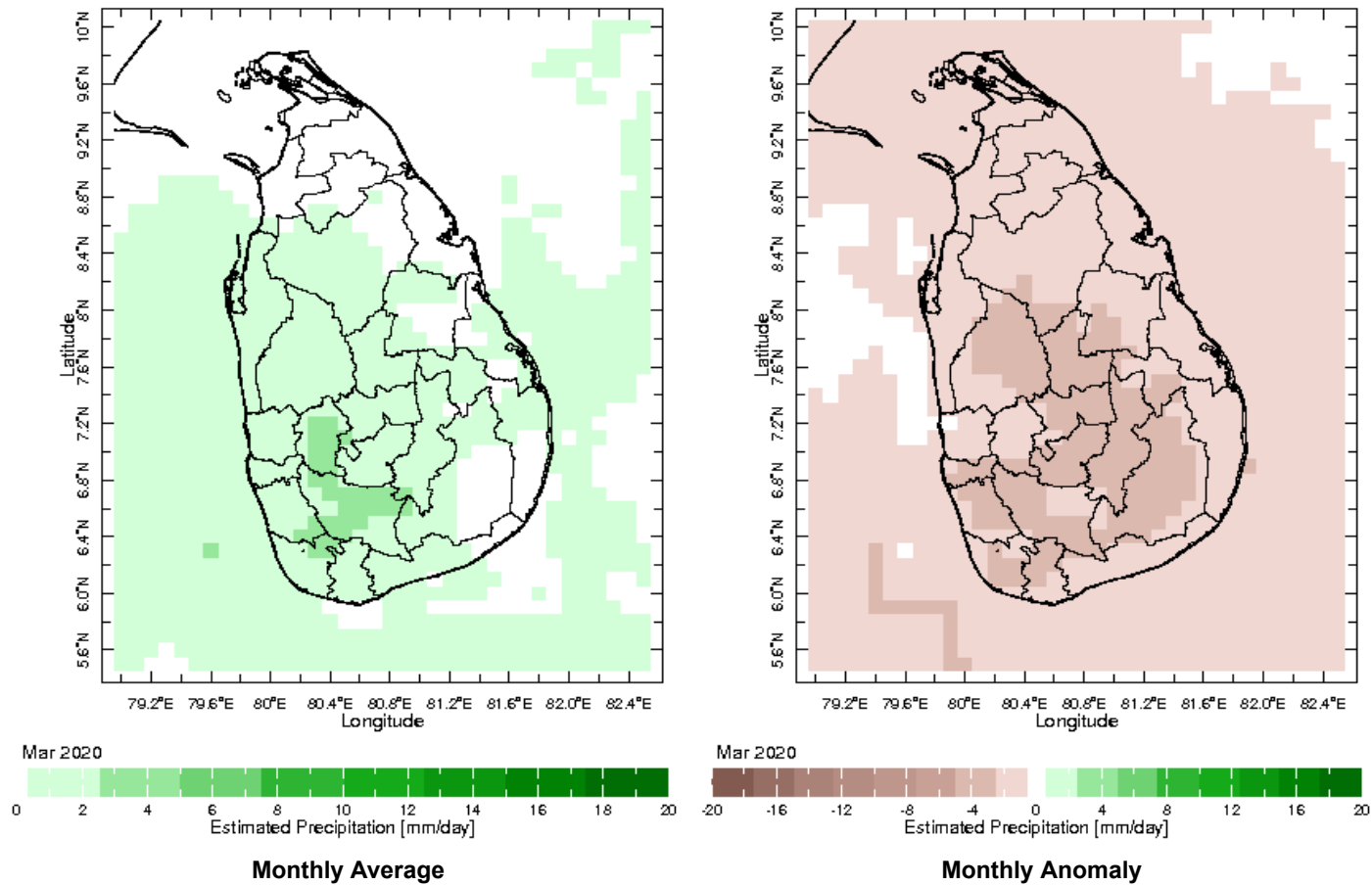


20 Apr 2020

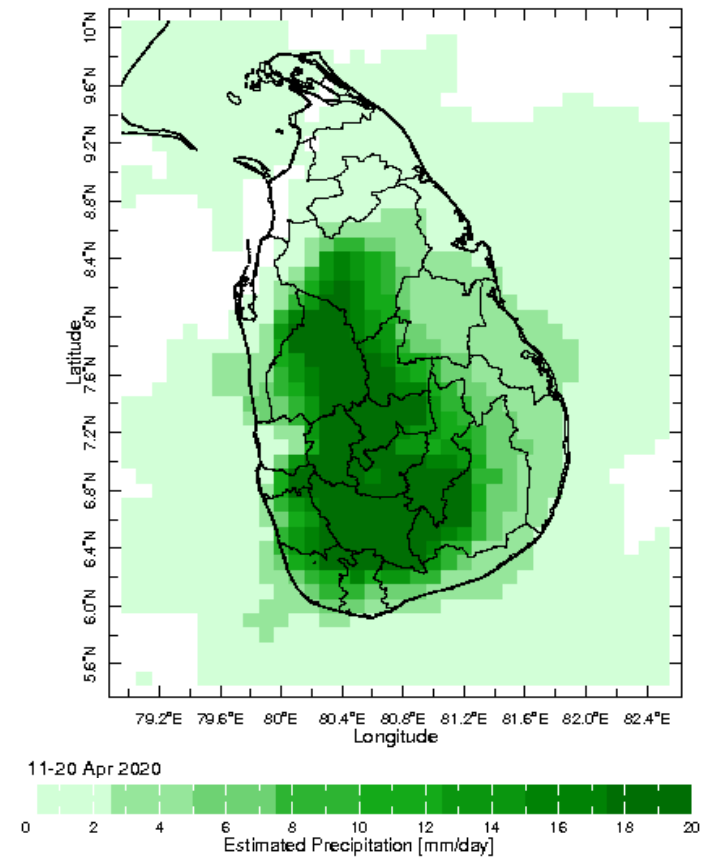
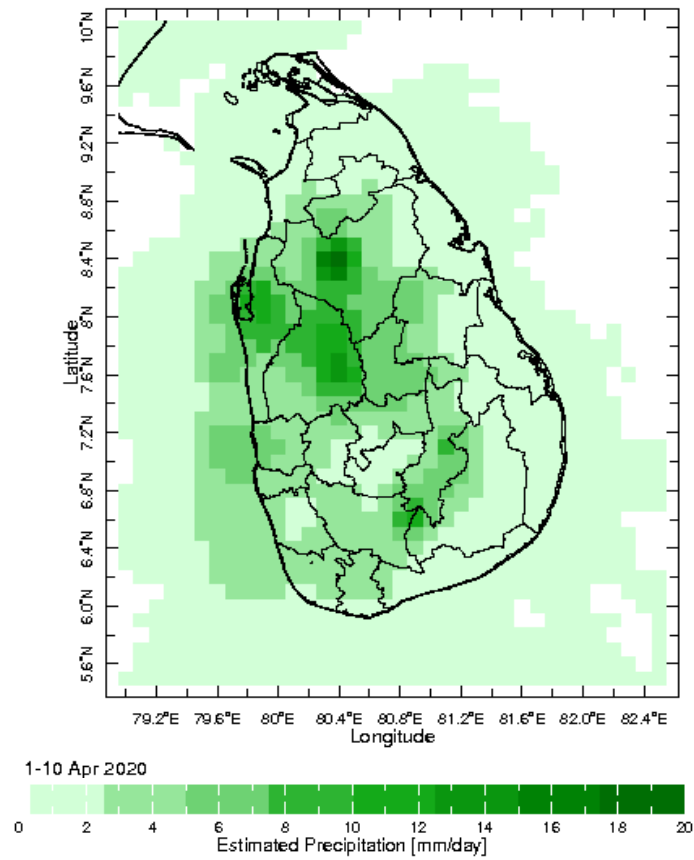


Monthly Rainfall Monitoring

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

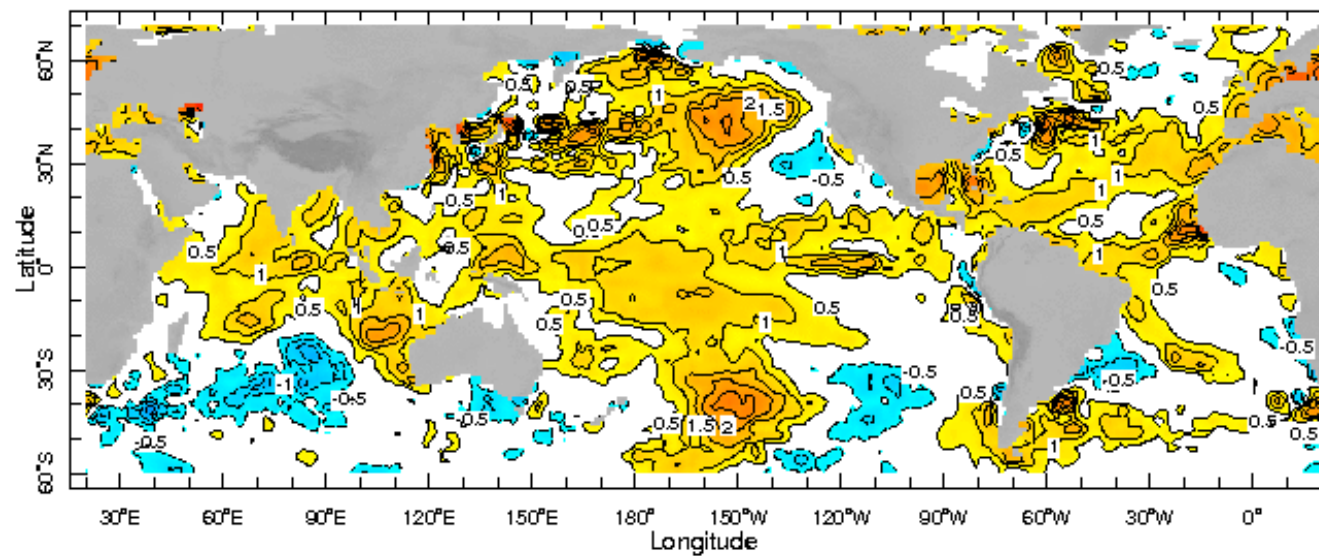


Dekadal (10 Day) Satellite Derived Rainfall Estimates

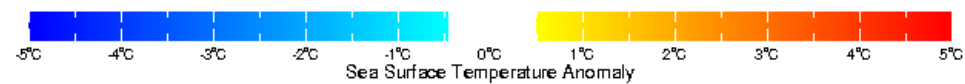


Weekly Average SST Anomalies

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



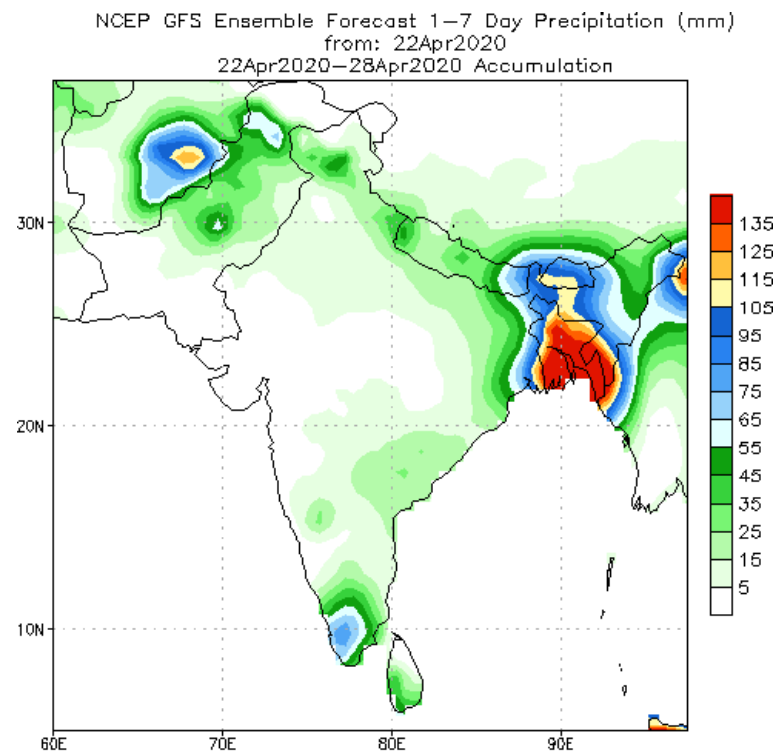
15 Apr 2020



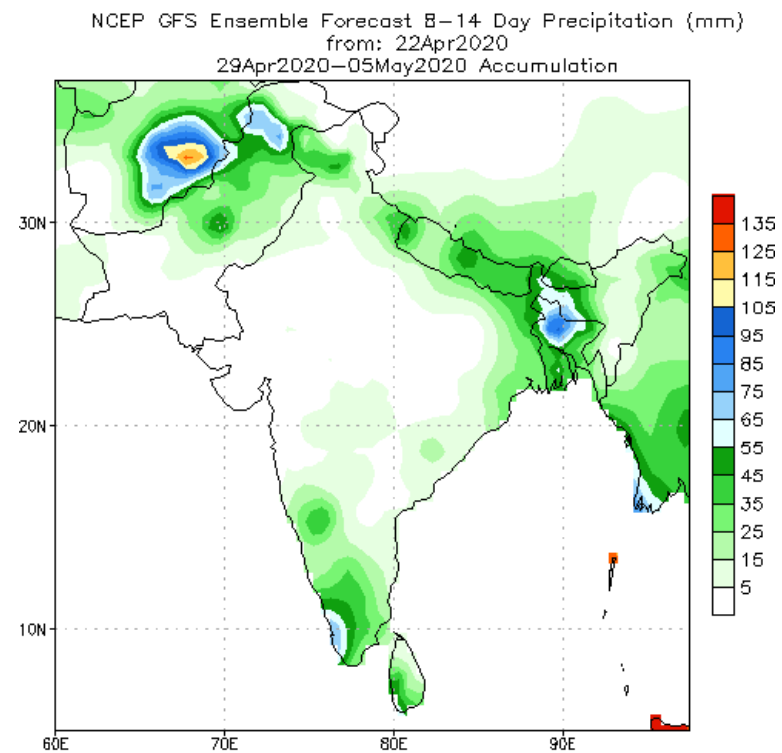
WORLDBATH topography

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.

