

**19 March
2020**

EXPERIMENTAL CLIMATE MONITORING AND PREDICTION

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HIGHLIGHTS

Rainfall Forecast



- The NOAA weekly rainfall forecast predicts up to 25 mm of total rainfall in most parts of the island during 18 - 23 Mar.

Monitored Rainfalls



- Between 11 - 17 Mar: up to 50 mm of rainfall was recorded in Puttalam, Kurunegala and Gampaha districts on the 16th.

Monitored Wind



- From 10 - 16 Mar: up to 18 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 |
|--|---|
| 11 th -13 th March | No Rainfall. |
| 14 th March | Up to 5 mm in Ratnapura district. |
| 15 th March | No Rainfall. |
| 16 th March | Up to 20 mm in Puttalam, Gampaha, Ratnapura, Kalutara and Galle districts; and up to 10 mm in Kurunegala, Kegalle, Colombo Nuwara Eliya and Matara districts. |
| 17 th March | Up to 50 mm in Puttalam, Kurunegala and Gampaha districts; up to 30 mm in Galle district; and up to 20 mm in Kandy and Kegalle districts. |



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Total Rainfall for the Past Week

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

Monthly Monitoring

During February – Above average rainfall conditions up to 150 mm were experienced by several regions of Mannar district. Below average rainfall conditions up to 240 mm were experienced by Polonnaruwa, Batticaloa, Ampara, Monaragala, Nuwara Eliya, Kegalle, Ratnapura, Gampaha, Colombo, Kalutara and Galle districts; and up to 150 mm in rest of the island. The CPC Unified Precipitation Analysis tool shows up to 75 mm were experienced by Mannar, Anuradhapura, Batticaloa and Ampara districts; and up to 50 mm in Polonnaruwa, Monaragala, Hambantota, Galle and Kalutara districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: March 12, 2020

SSTs in the east-central Pacific were neutral, but above average during early March. Patterns in atmospheric variables are split between neutral and weak El Niño conditions. Most model forecasts favor warm-neutral SST conditions during spring, cooling to average by early summer. The official CPC/IRI outlook is consistent with these model forecasts, calling for continuation of ENSO-neutral.

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 18th – 24th Mar: No Rainfall.

From 25th – 31st Mar: No Rainfall.

NOAA Model Forecast:

From 4th – 9th Mar: Total rainfall up to 25 mm is expected in most parts 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/>



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Weekly Hydro- Meteorological Report for Sri Lanka

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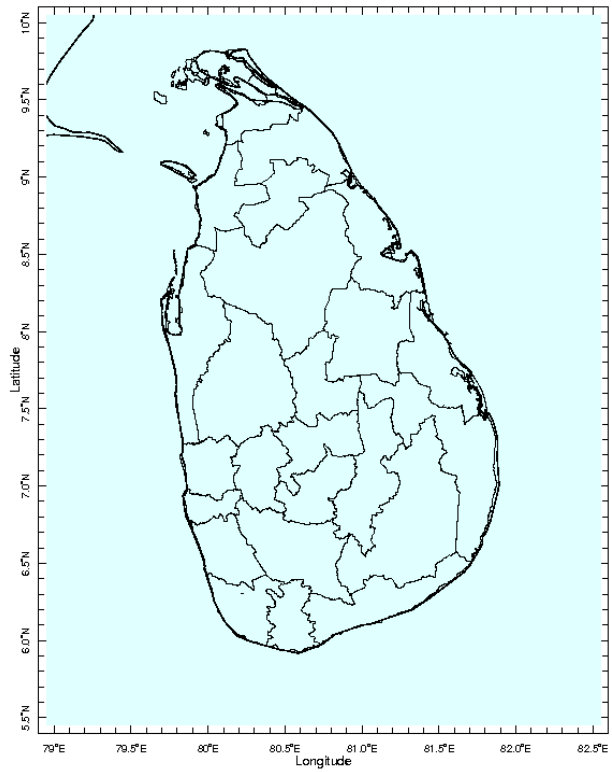
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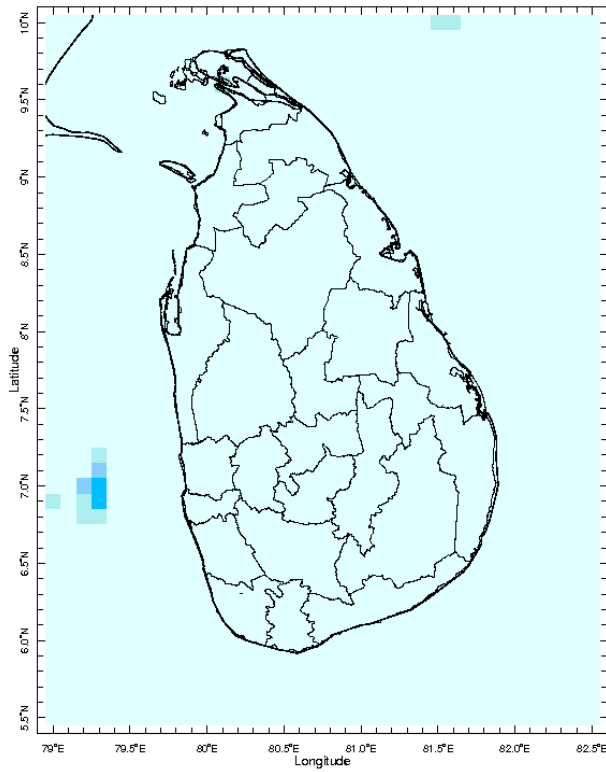
MONITORING

Daily Rainfall Monitoring

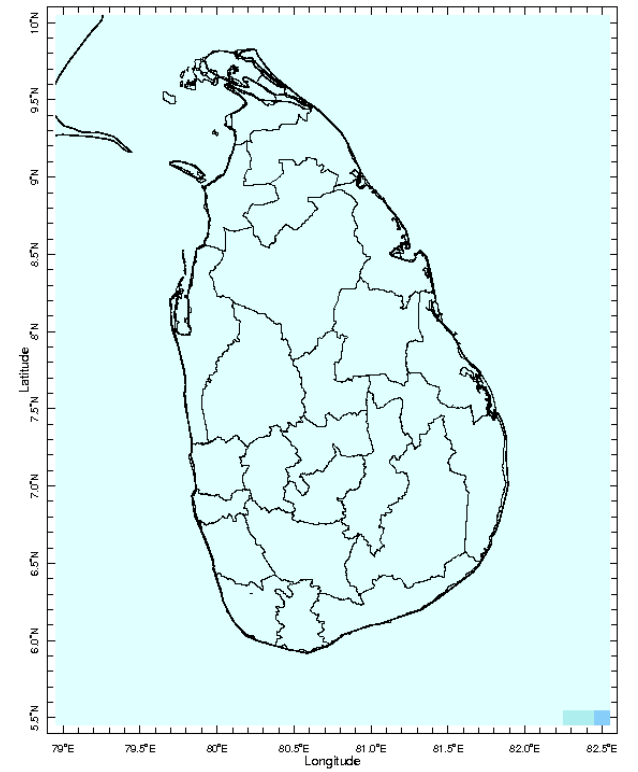
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



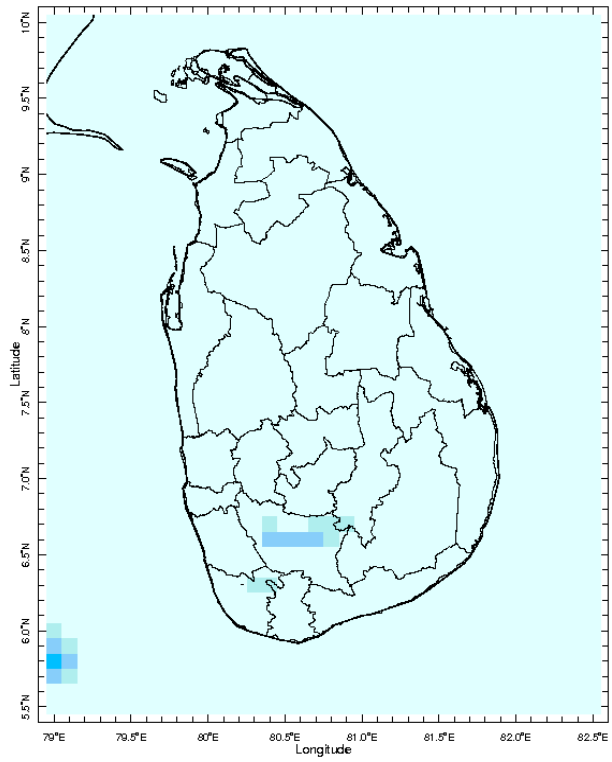
11 Mar 2020



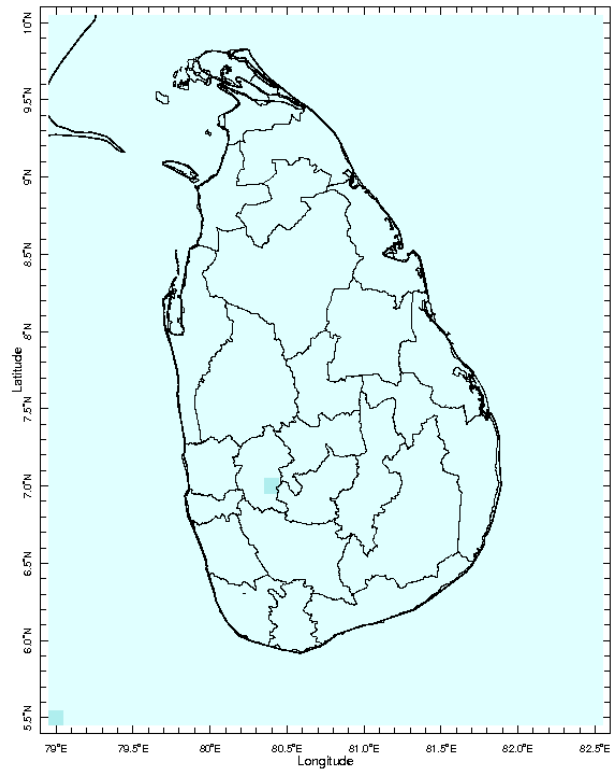
12 Mar 2020



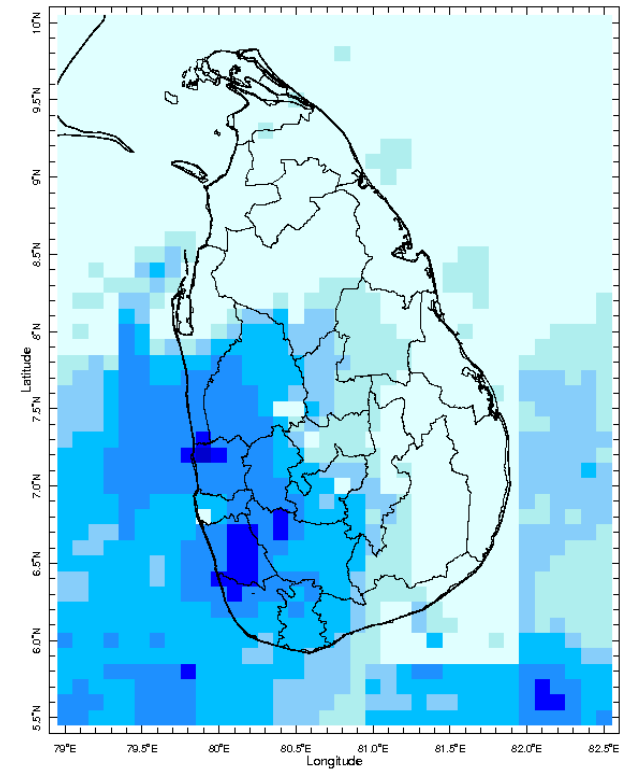
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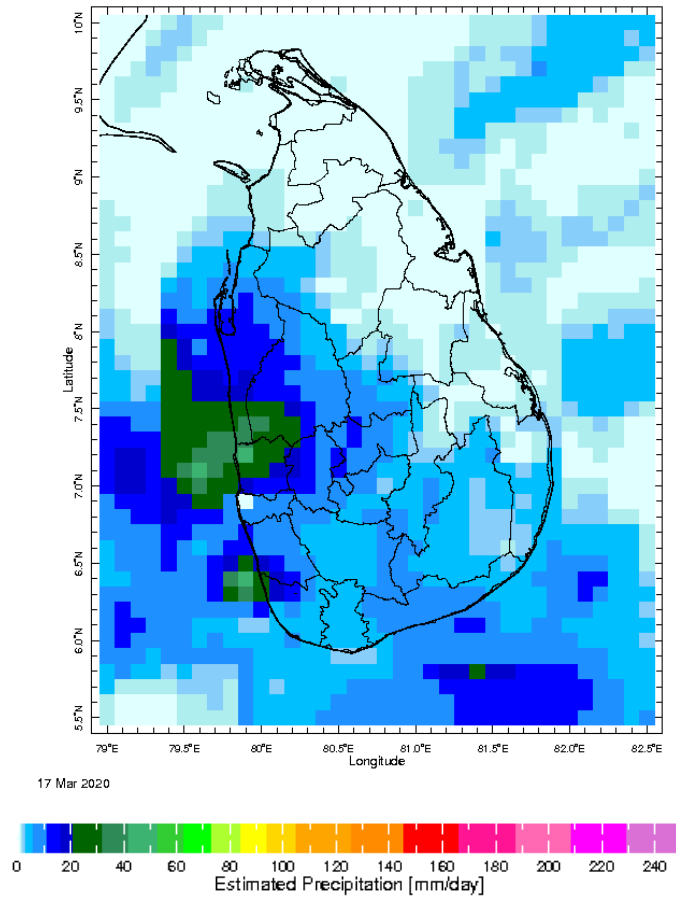
14 Mar 2020



15 Mar 2020

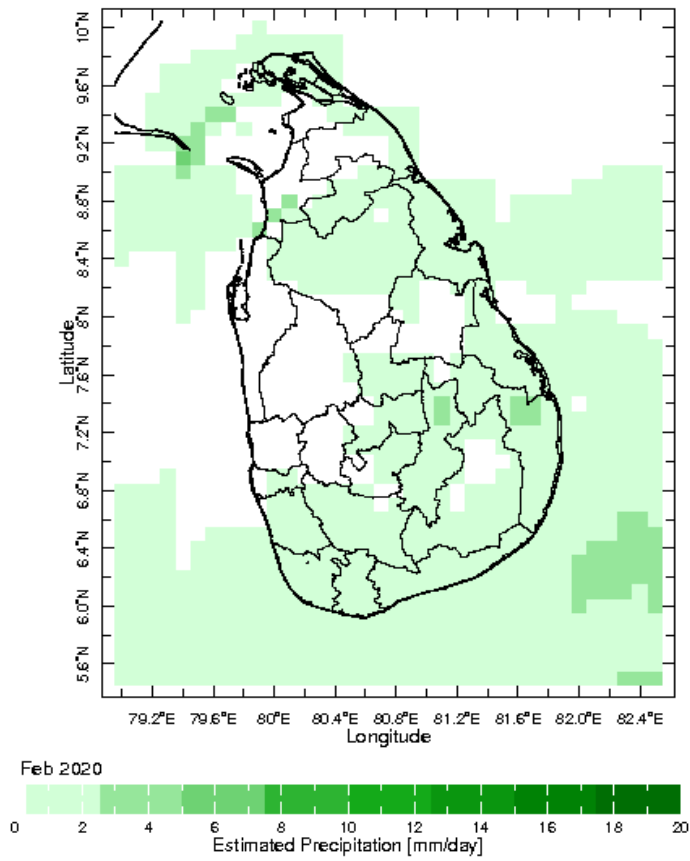


16 Mar 2020

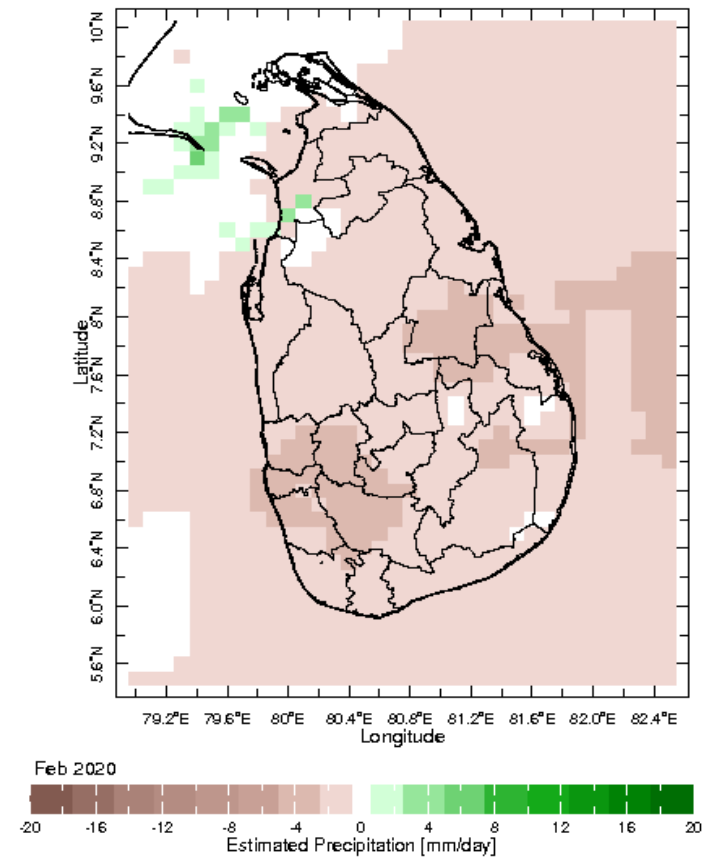


Monthly Rainfall Monitoring

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

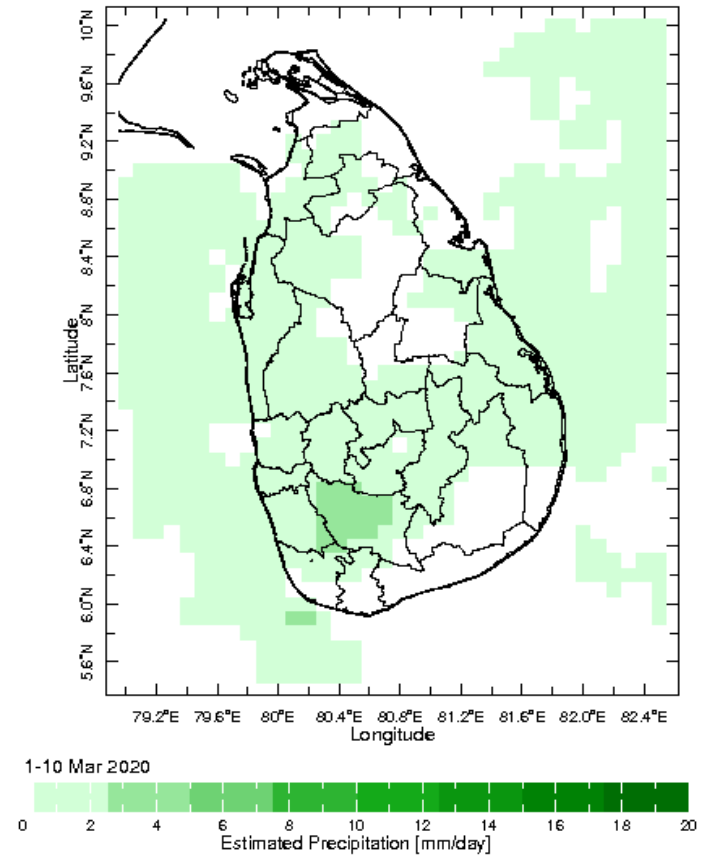
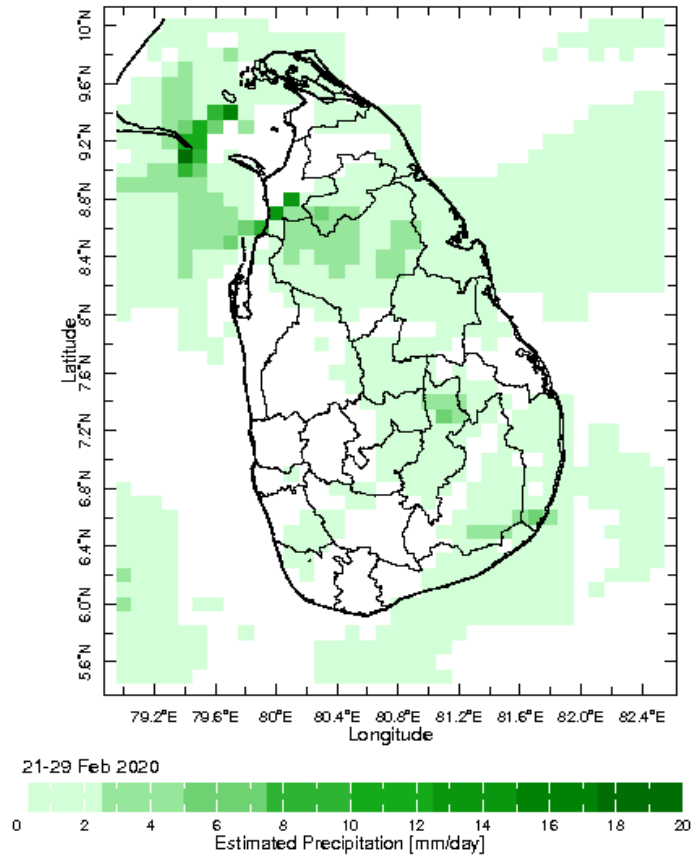


Monthly Average



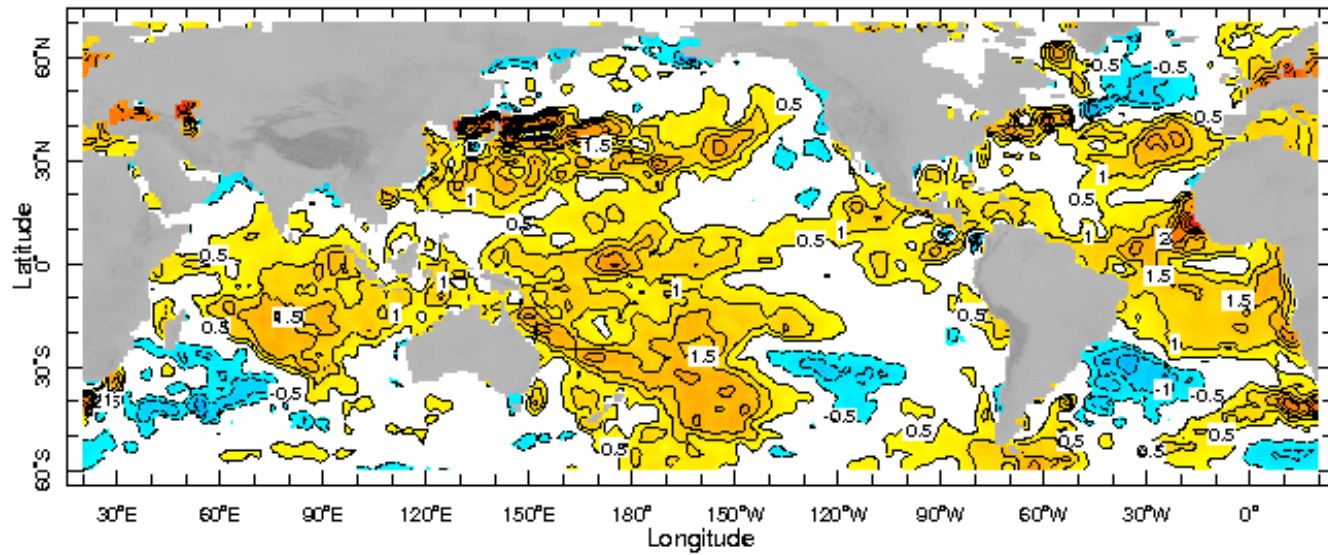
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

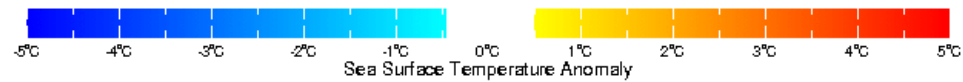


Weekly Average SST Anomalies

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



11 Mar 2020

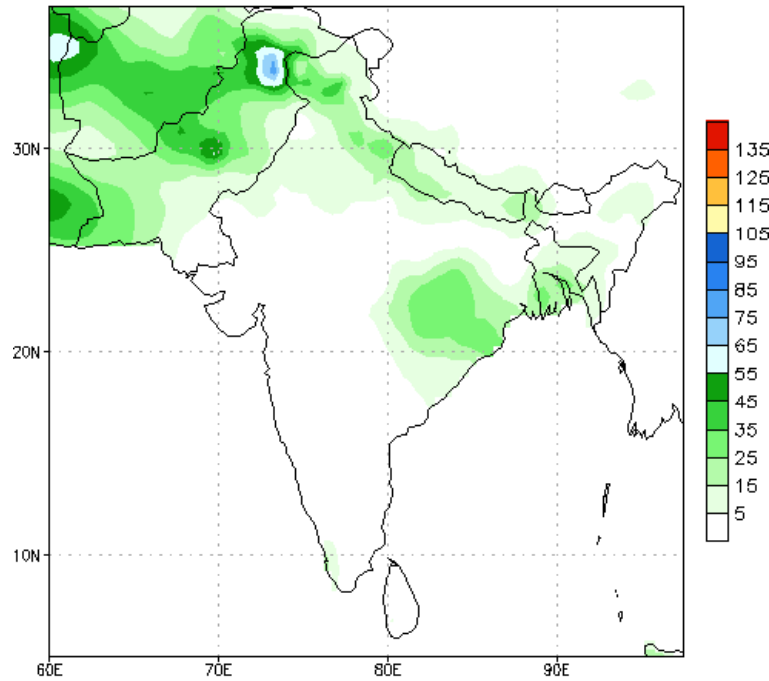


WORLDBATH topography

PREDICTIONS

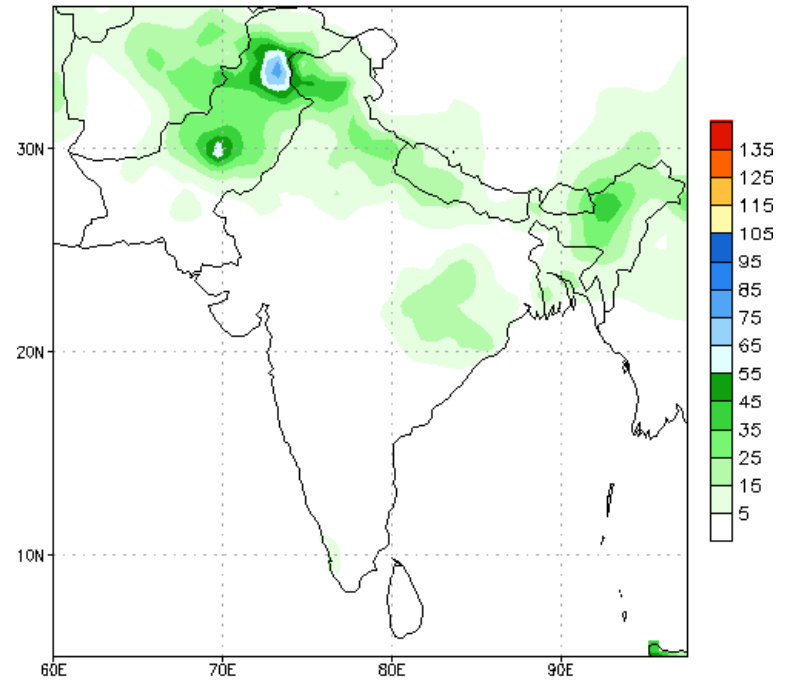
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 18Mar2020
18Mar2020-24Mar2020 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 18Mar2020
25Mar2020-31Mar2020 Accumulation

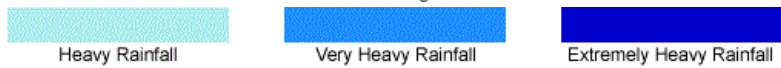
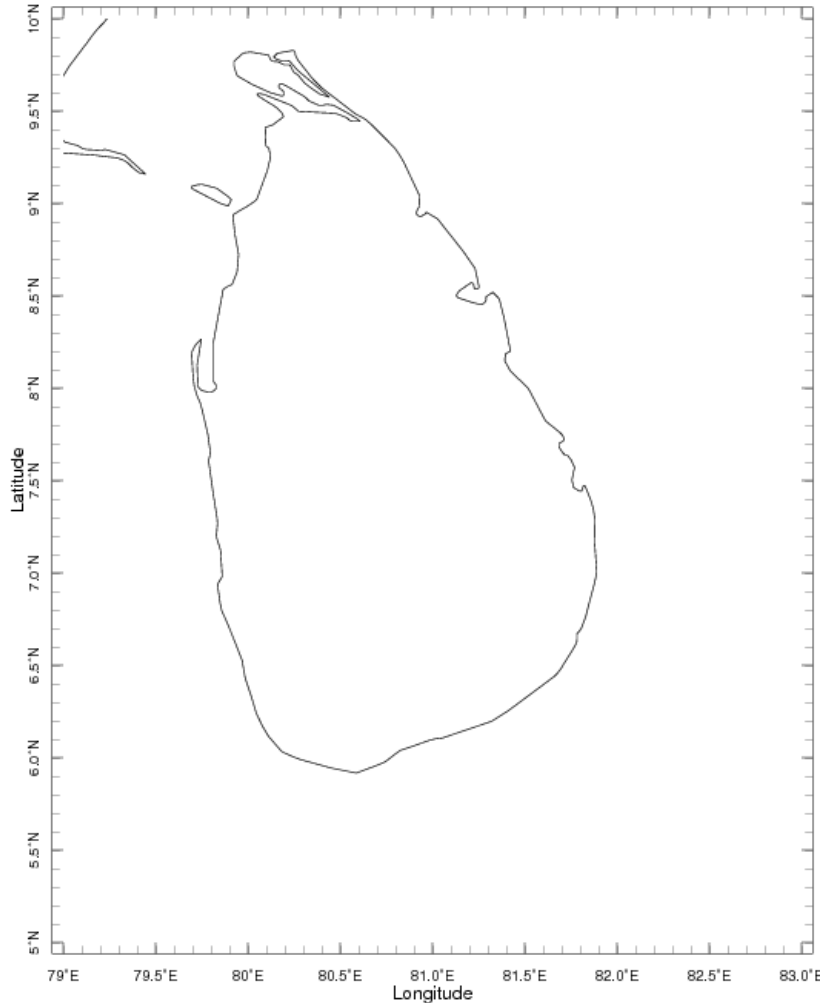


Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

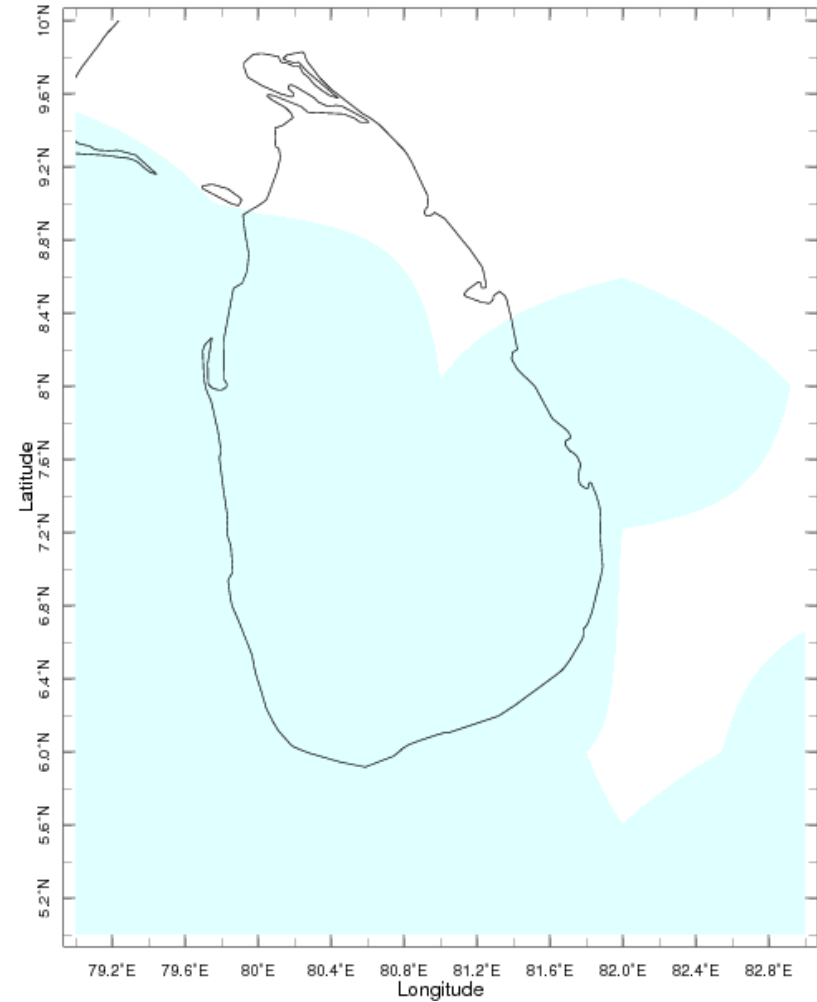
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 18-23 Mar 2020 Issued 0000 18 Mar 2020



Extreme Rainfall Forecast

Forecast for 18-23 Mar 2020 Issued 0000 18 Mar 2020



Total Six Day Precipitation Forecast