

**21 May
2020**

EXPERIMENTAL CLIMATE MONITORING AND PREDICTION

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HIGHLIGHTS

Rainfall Forecast



- The NOAA weekly rainfall forecast predicts up to 50 mm of total rainfall in Gampaha, Colombo, Kalutara, Galle, Matara and Ratnapura districts during 13- 19 May.

Monitored Rainfalls



- Between 13- 19 May: up to 100 mm of rainfall was recorded in Monaragala and Galle districts on 14th and 15th.

Monitored Wind



- From 12 May - 18 May: up to 18 km/h, northwesterly winds were experienced by the southern regions of the 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
13th April	Up to 50 mm in Anuradhapura, Vavunia, Polonnaruwa, Kurunegala and Monaragala districts; up to 40 mm in Matale, Ratnapura and Gampaha districts; and up to 30 mm in Mannar, Ampara, Hambantota and Matara districts.
14th April	Up to 100 mm in Monaragala district; up to 90 mm in Ampara district; up to 50 mm in Ratnapura district; up to 40 mm in Kalutara, Matara and Hambantota districts; and up to 30 mm in Anuradhapura and Vavuniya districts.
15th May	Up to 100 mm in Galle district; up to 90 mm in Kalutara, Anuradhapura and Vavuniya districts; up to 80 mm in Polonnaruwa, Trincomalee and Batticaloa districts, up to 70 mm in Matara and Ampara districts; up to 60 mm in Colombo and Ratnapura districts; up to 50 mm in Monaragala district; up to 40 mm in Gampaha, Kegalle, Kurunegala and Hambantota districts; and up to 30 mm in Mullaitivu, Puttalam, Kandy, Matale and Nuwara Eliya districts.
16th May	Up to 30 mm in all parts of the island.



Federation for Environment, Climate and Technology

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Date	Rainfall
17 th May	Up to 60 mm in Kurunegala district; up to 50 mm in Trincomalee, Matale and Gampaha districts; up to 40 mm Anuradhapura, Polonnaruwa, Kegalle and Batticaloa districts; and up to 30 mm in Mannar, Vavuniya, Kalutara, Galle, Kandy, Ampara and Ratnapura districts.
18 th May	Up to 30 mm in Ratnapura, Kalutara, Galle and Matara districts; and up to 20 mm in Nuwara Eliya, Anuradhapura, Vavuniya, Trincomalee, Mannar, Puttalam, Kalutara, and Kandy districts.
19 th May	Up to 10 mm in Gampaha, Colombo, Kalutara, Galle, Matara, Kegalle, Nuwara Eliya, Ratnapura, Puttalam, Kurunegala, Kandy and Hambantota districts; and up to 5 mm in Monaragala, Badulla and Matale districts.

Total Rainfall for the Past Week

The RFE 2.0 tool shows total up to 100-150 mm in Anuradhapura, Ratnapura, Vavuniya, Trincomalee, Polonnaruwa, Matale, Kalutara, Galle, Matara, Monaragala, Ampara, Gampaha and Batticaloa districts; up to 75-100 mm in Mullaitivu, Kurunegala, Colombo, Nuwara Eliya, Kandy, Badulla, and Hambantota, districts; and up to 50-75 mm in Jaffna, Kilinochchi and Puttalam districts.

Above average rainfall up to 100-200 mm in Anuradhapura, Vavuniya, Polonnaruwa and Trincomalee districts, up to 50-100 mm in Mullaitivu, Mannar, Puttalam, Kurunegala, Gampaha, Kalutara, Galle, Matara, Hambantota, Ratnapura, Badulla, Monaragala, Ampara, Batticaloa, Matale and Kandy districts; up to 25-50 mm in Kilinochchi and Colombo districts; up to 10-25 mm is shown in Jaffna district.

Monthly Monitoring

During April – Above average rainfall conditions up to 360 mm were experienced by Ratnapura, Badulla and Monaragala districts; up to 240 mm in Anuradhapura, Kegalle, Kandy and Matara districts; and up to 120 mm in Vavuniya, Matara, Nuwara Eliya, Colombo, Kalutara, Galle and Hambantota. Below average rainfall conditions up to 240 mm were experienced by Jaffna, Kilinochchi, Mullaitivu and Gampaha districts; and up to 120 mm in Badulla, Polonnaruwa and Trincomalee districts. The CPC Unified Precipitation Analysis tool shows up to 750 mm of total rainfall in Kegalle, Ratnapura and Monaragala districts; and up to 500 mm in Anuradhapura, Kurunegala, Matale, Kandy, Nuwara Eliya, Colombo, Kalutara, Colombo, Galle and Matara districts.

Ocean State *(Text Courtesy IRI)*

Pacific sea state: May 13, 2020

SSTs in the east-central Pacific were near above average in mid May, and many of the atmospheric variables were mainly neutral. Most model forecasts favor neutral SST conditions continuing into summer, becoming below-average but not necessarily into La Nina territory by fall. 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 21st - 27th May: Total rainfall up to 115 mm in Galle, Matara and Ratnapura districts; up to 105 mm in Kegalle district; up to 95 mm in Colombo and Nuwara Eliya and Badulla districts; up to 85 mm in Monaragala and Hambantota districts; up to 75 mm in Kandy district; and up to 65 mm in Matale and Kurunegala districts.

From 28th – 3rd May: Total rainfall up to 125 mm in Matara and Galle districts; up to 115 in Ratnapura district; up to 105 mm in Kegalle district; up to 95 mm in Hambantota and Colombo districts; up to 85 mm in Nuwara Eliya, Badulla and Monaragala districts; up to 75 mm in Kandy and Matale districts; and up to 65 mm in Anuradhapura, Polonnaruwa, Trincomalee, Vavuniya, Mannar, Mullaitivu, Kilinochchi and Jaffna districts.

NOAA Model Forecast:

From 20th – 25th May: Total rainfall up to 50 mm in Gampaha, Colombo, Kalutara, Galle, Matara and Ratnapura districts; and up to 25 mm in the other parts of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall enhance the rainfall within next five days and shall suppress gradually in the next 10 days.

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/>



FECT Blog

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Weekly Hydro- Meteorological Report for Sri Lanka

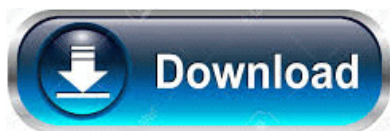
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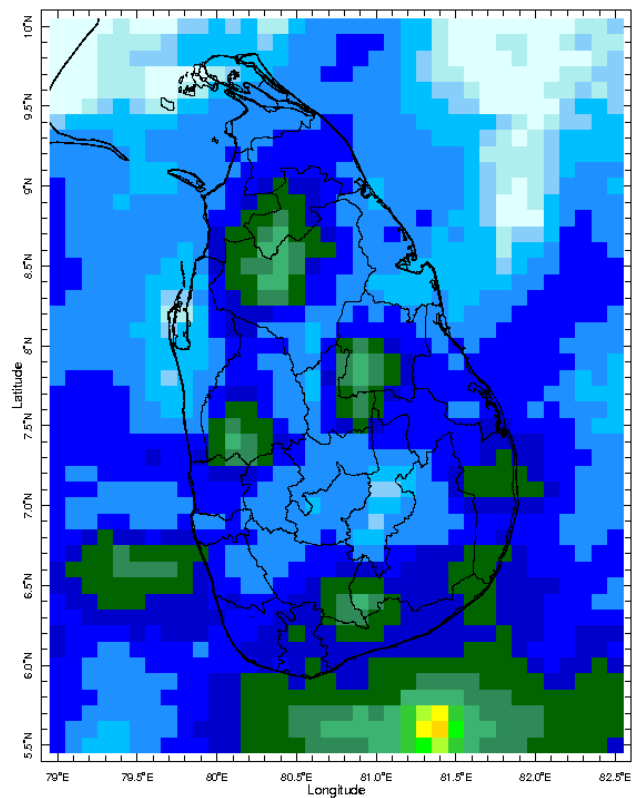
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
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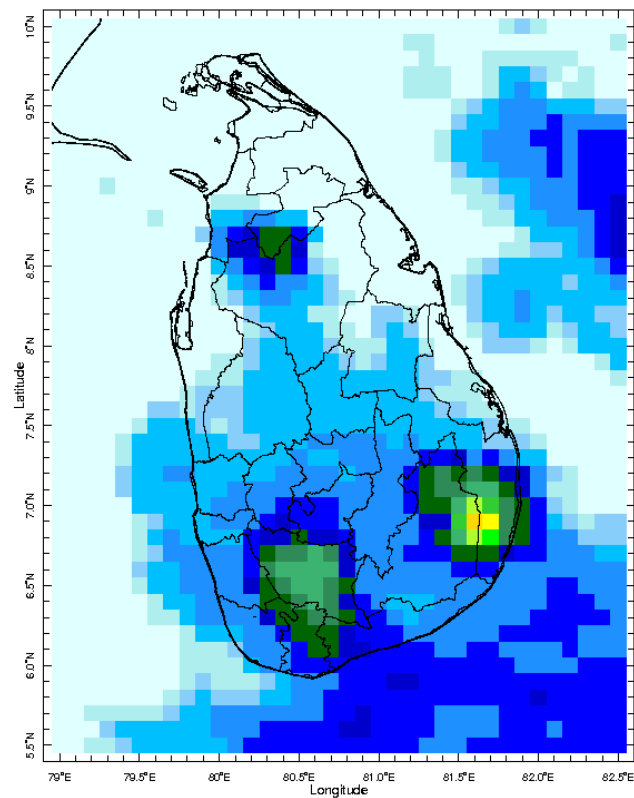
MONITORING

Daily Rainfall Monitoring

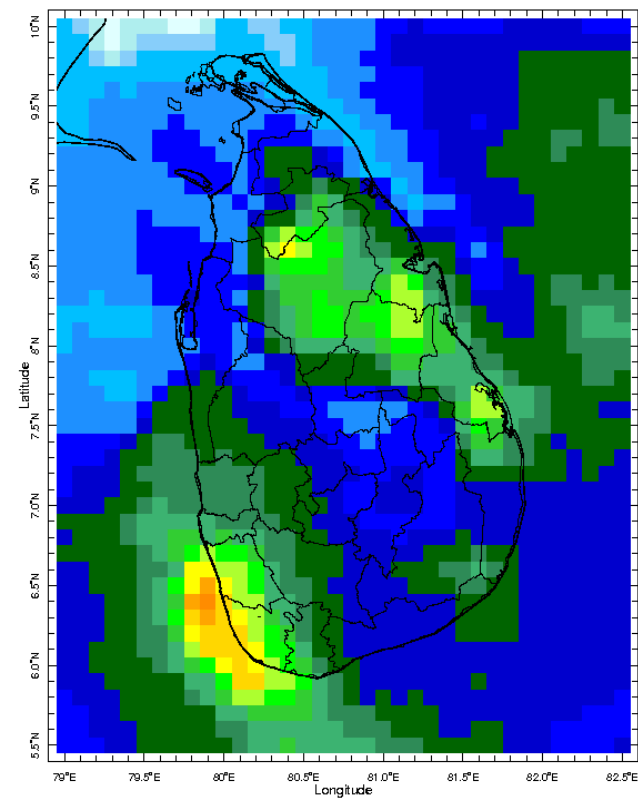
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



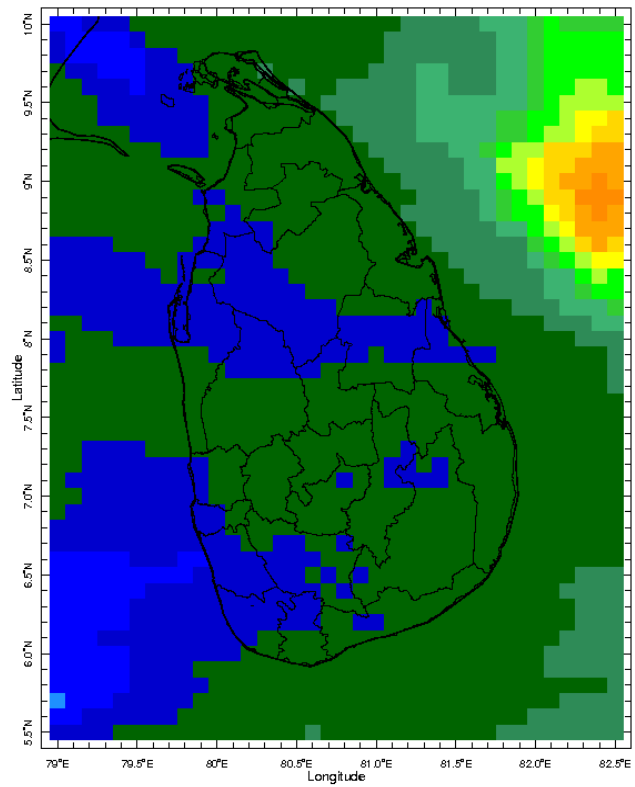
13 May 2020



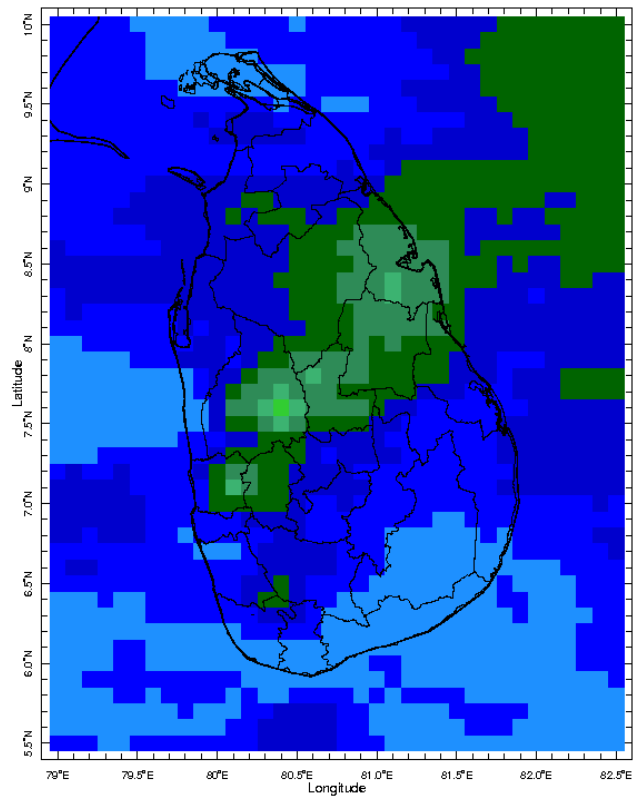
14 May 2020



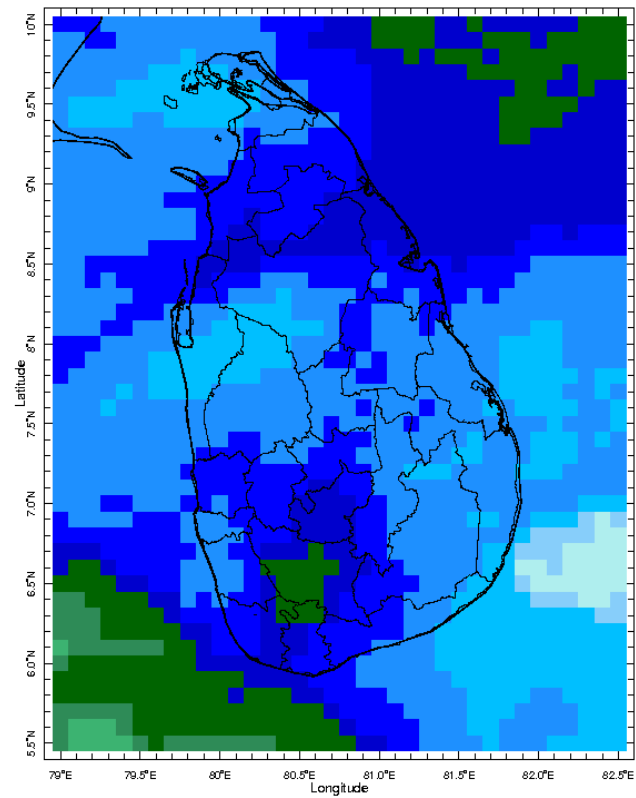
15 May 2020



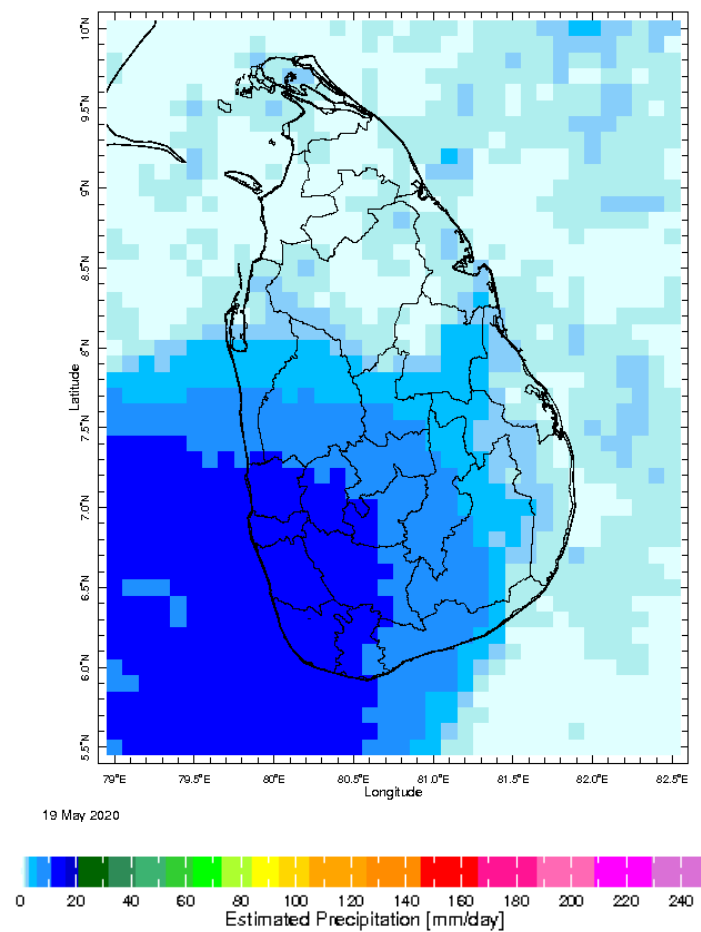
16 May 2020



17 May 2020

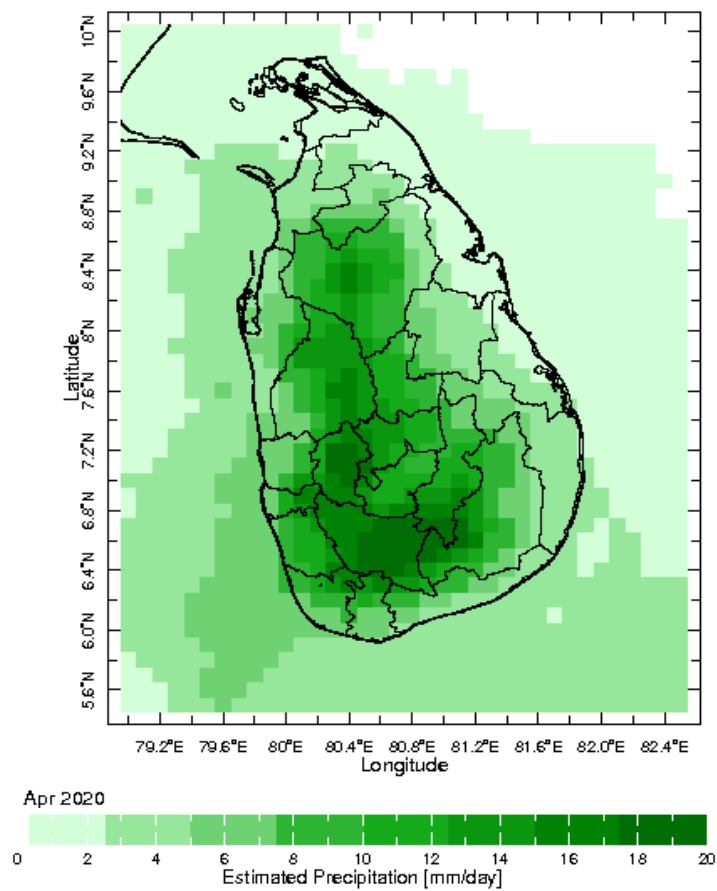


18 May 2020

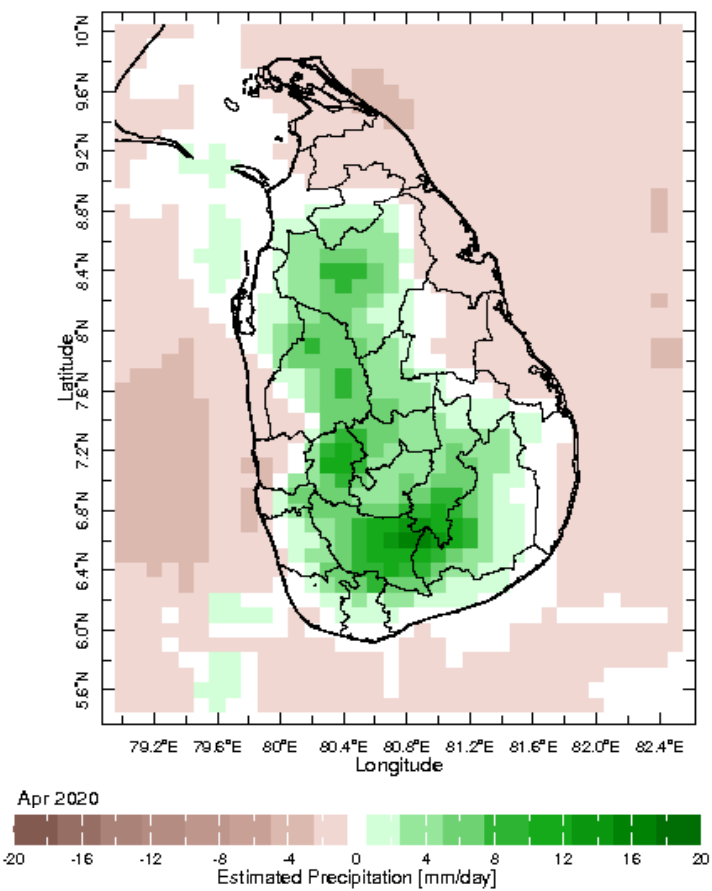


Monthly Rainfall Monitoring

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

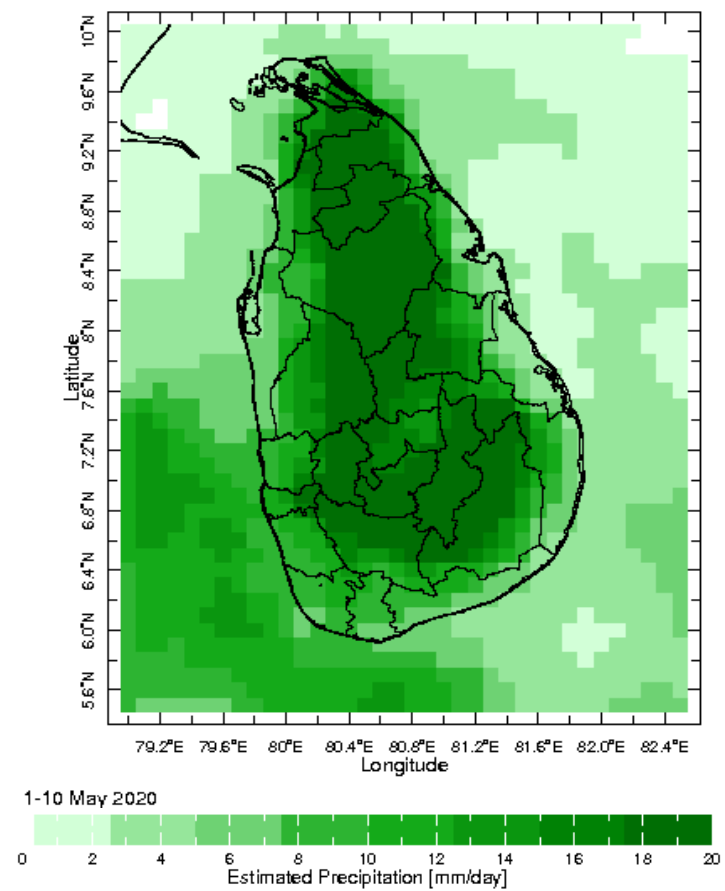
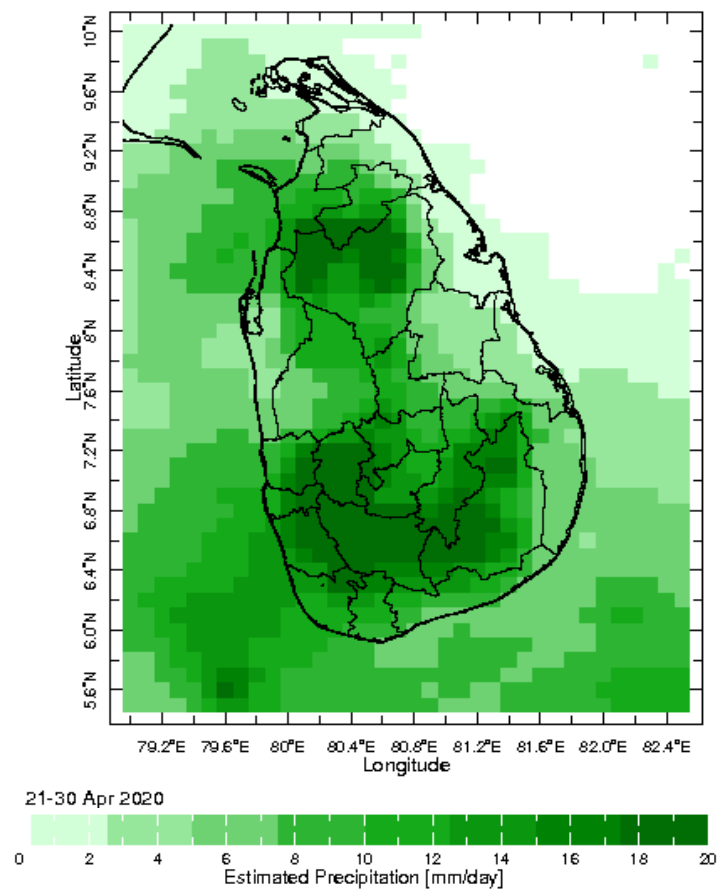


Monthly Average



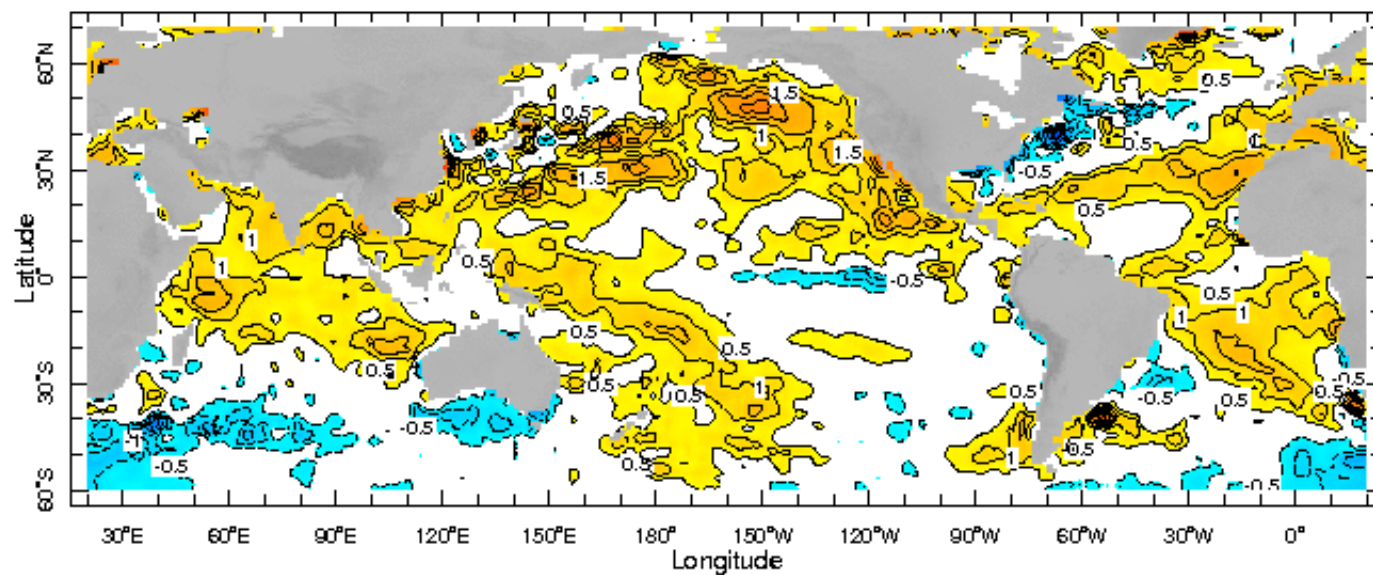
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

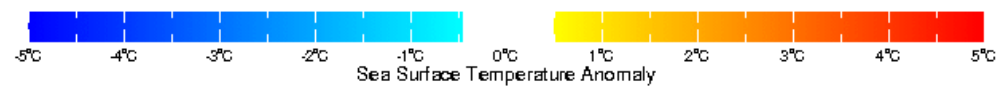


Weekly Average SST Anomalies

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



13 May 2020

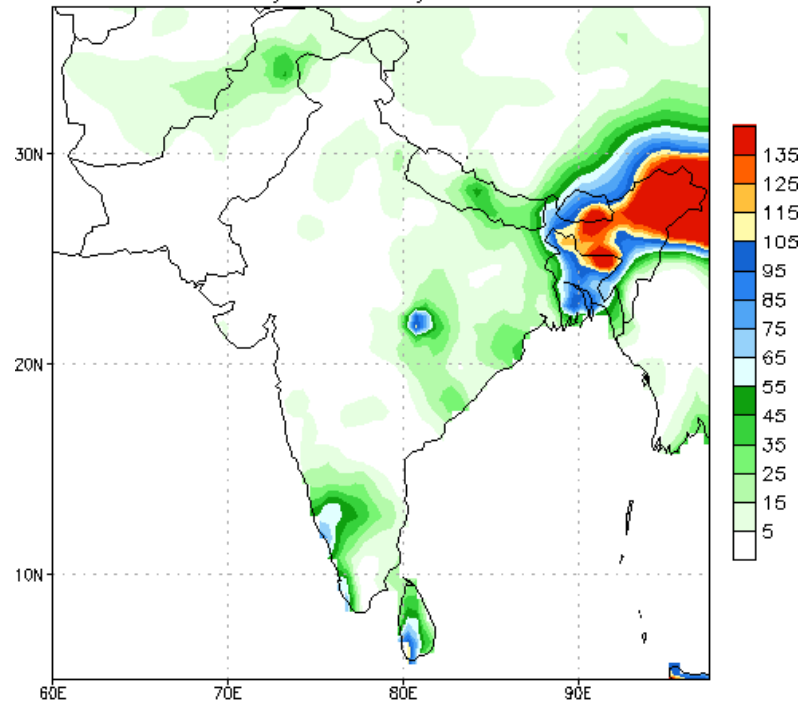


WORLDBATH topography

PREDICTIONS

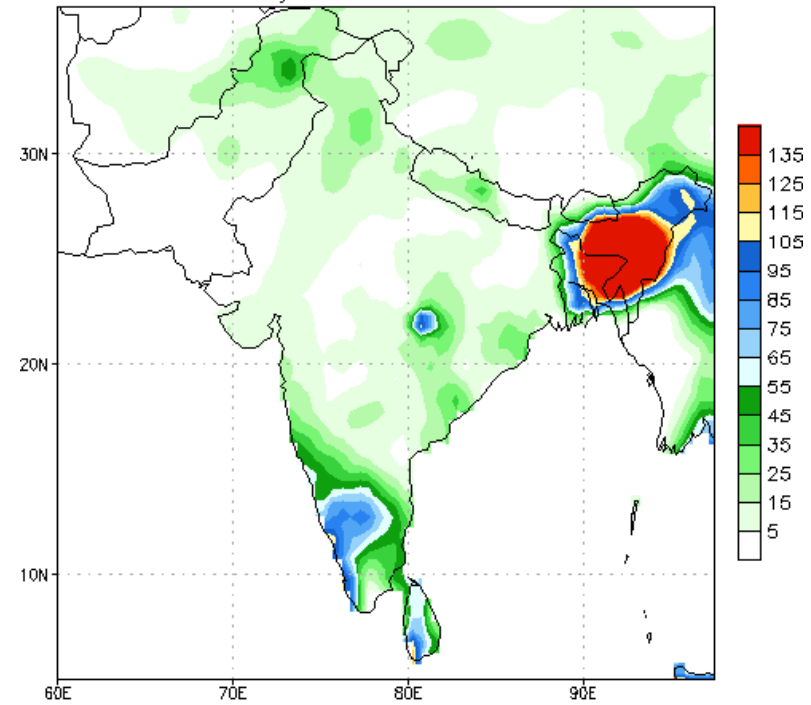
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1–7 Day Precipitation (mm)
from: 21May2020
21May2020–27May2020 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8–14 Day Precipitation (mm)
from: 21May2020
28May2020–03Jun2020 Accumulation



Bias correction based on last 30-day forecast error

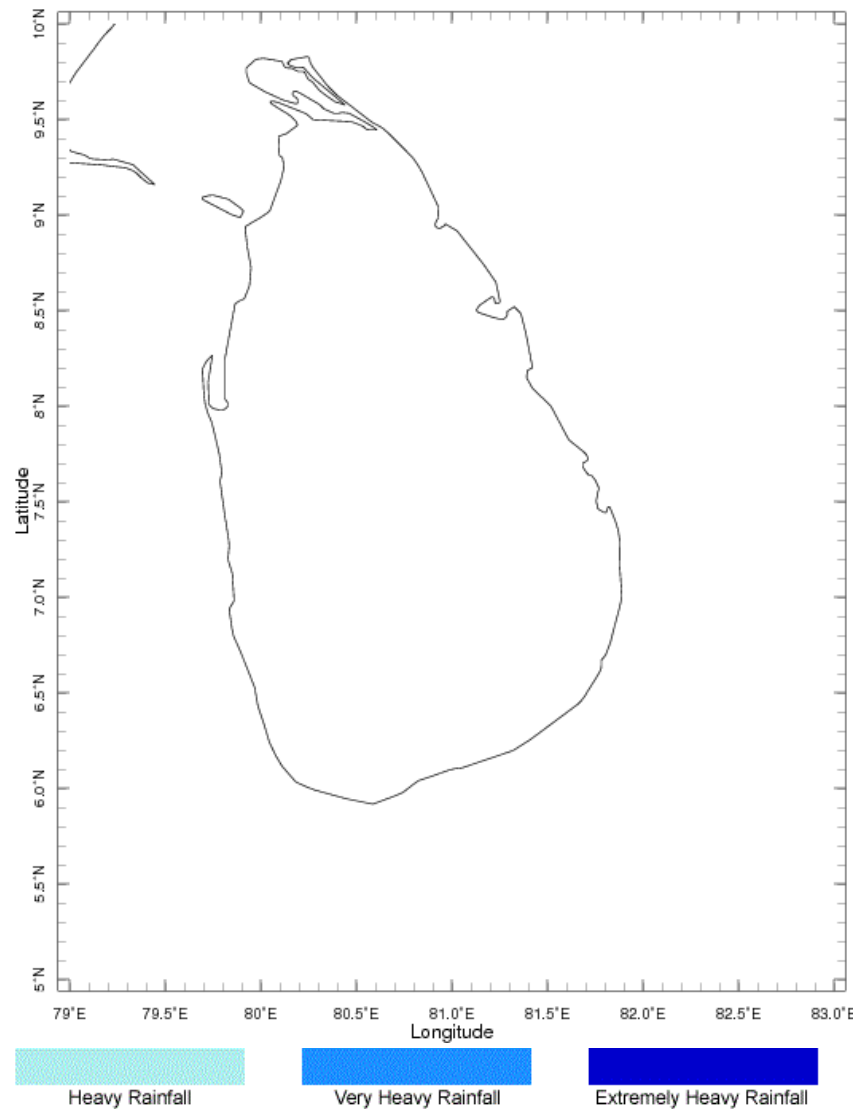
WRF Model Forecast (from IMD Chennai)



Weekly Rainfall Forecast from IRI

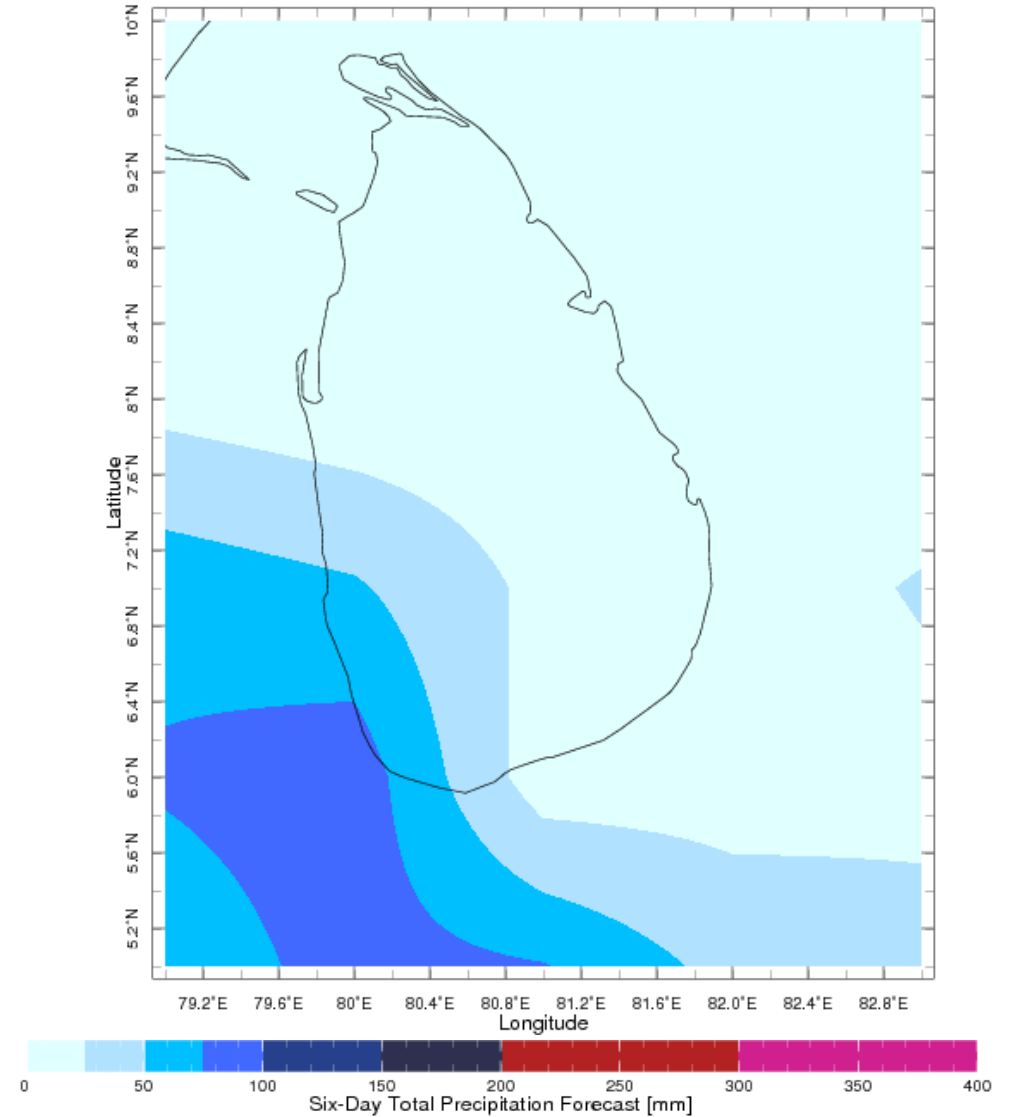
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 21-26 May 2020 Issued 0000 21 May 2020



Extreme Rainfall Forecast

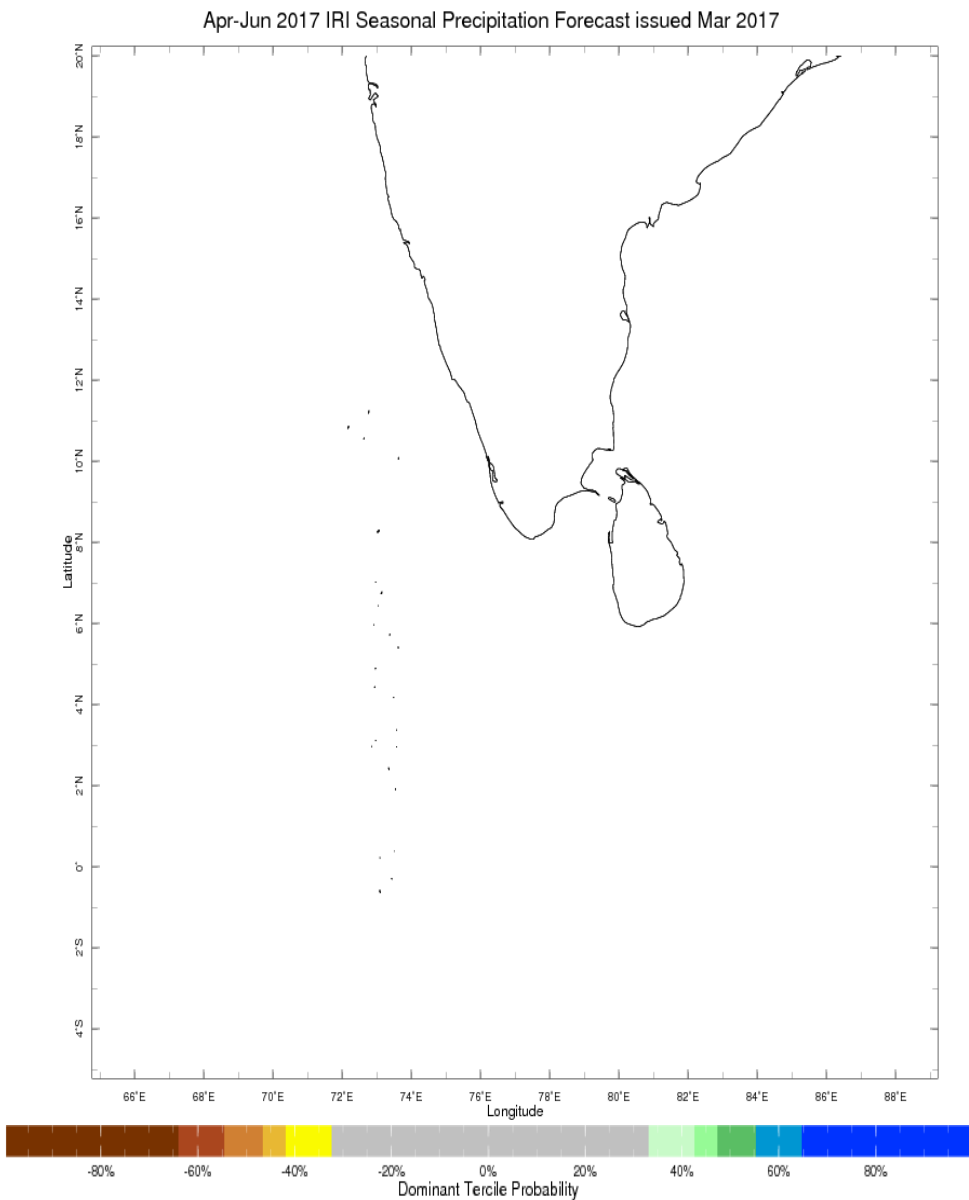
Forecast for 21-26 May 2020 Issued 0000 21 May 2020



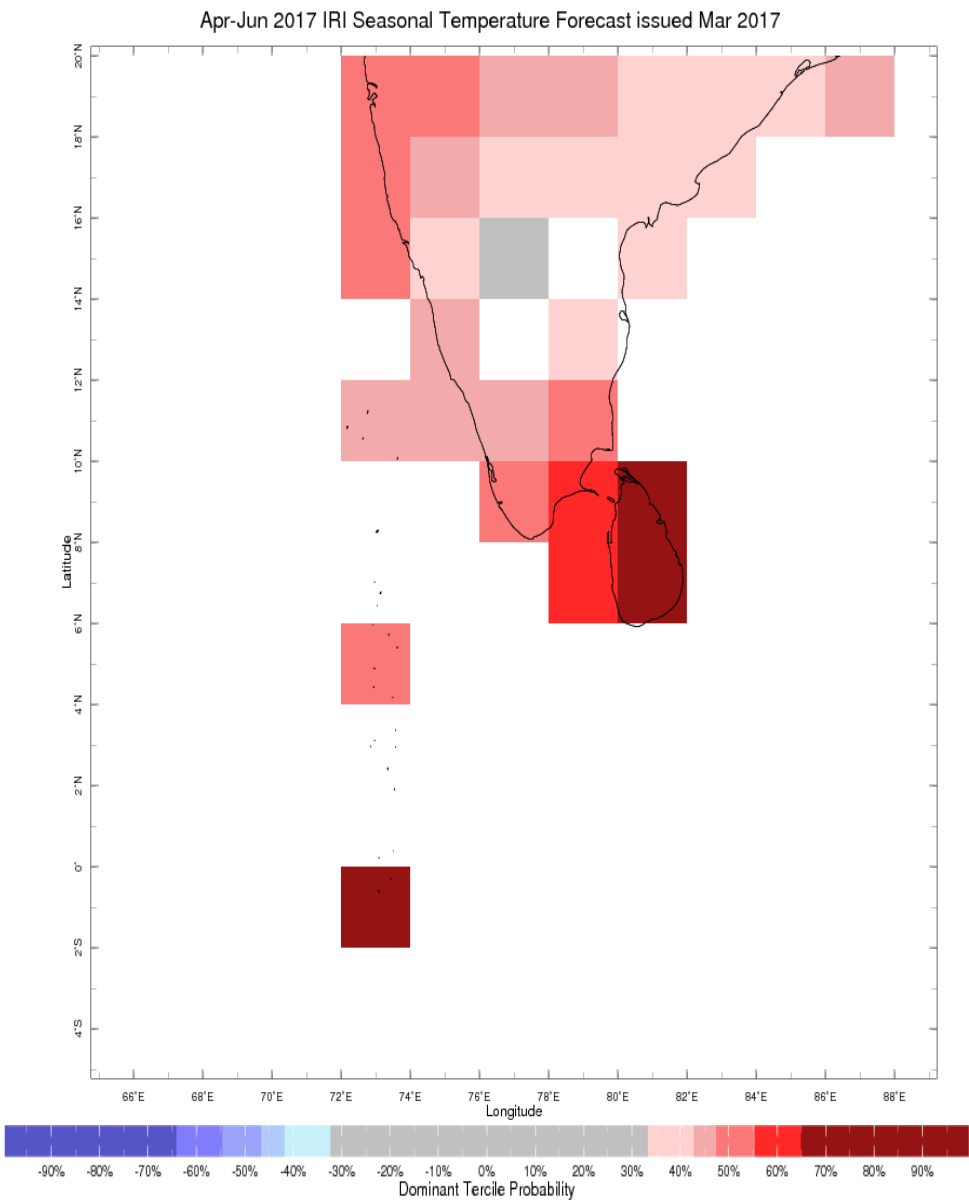
Total Six Day Precipitation Forecast

Seasonal Rainfall and Temperature Forecast

Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile probability levels. The upper side of the color bar shows the colors used for increasingly strong probabilities when the dominant tercile is the above-normal tercile, while the lower side shows likewise for the below-normal tercile. The gray color indicates an enhanced probability for the near-normal tercile (nearly always limited to 40%).



Precipitation Forecast



Temperature Forecast

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Technology

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