

**27 February  
2020**

**EXPERIMENTAL CLIMATE MONITORING AND PREDICTION**

By: Ruchira Lokuhetti, Divaskar Shayendra, Chayana Gunathilake, Lareef Zubair and Michael Bell<sup>1</sup> (FECT and IRI<sup>1</sup>)

**HIGHLIGHTS**

*Rainfall Forecast*



- The NOAA weekly rainfall forecast predicts up to 25 mm of total rainfall in most parts of the island during 26 Feb - 2 Mar.

*Monitored Rainfalls*



- Between 19 - 25 Feb: up to 140 mm of rainfall was recorded in Mannar district on the 22<sup>nd</sup>.

*Monitored Wind*



- From 18 - 24 Feb: up to 36 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
19 <sup>th</sup> February	No Rainfall.
20 <sup>th</sup> February	Up to 70 mm Batticaloa and Ampara districts; up to 50 mm in Trincomalee and Monaragala districts; up to 30 mm in Badulla and Polonnaruwa districts; and up to 20 mm in Kandy district.
21 <sup>st</sup> February	Up to 50 mm Vavuniya, Anuradhapura, Badulla and Ampara districts; up to 30 mm in Jaffna, Trincomalee, Kandy, Monaragala and Hambantota districts; and up to 20 mm in Kilinochchi, Mullaitivu, Matale, Nuwara Eliya, Ratnapura and Polonnaruwa districts.
22 <sup>nd</sup> February	Up to 140 mm in Mannar district; and up to 20 mm in Monaragala and Hambantota districts.
23 <sup>rd</sup> February	Up to 10 mm in Monaragala district.
24 <sup>th</sup> February	No Rainfall.
25 <sup>th</sup> February	No Rainfall.



## Federation for Environment, Climate and Technology

c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.

Phone (+94) 81-2376746, 2300415 E-mail: [fectsl@gmail.com](mailto:fectsl@gmail.com)

Web Site <http://www.climate.lk>

### ***Total Rainfall for the Past Week***

The RFE 2.0 tool shows total up to 50-75 mm in Mannar, Badulla and Anuradhapura districts; up to 25-0 mm in Vavuniya, Mullaitivu, Monaragala Polonnaruwa, Trincomalee, Ampara and Hambantota districts. Above average rainfall up to 50-100 mm is shown for Mannar district; and up to 25-50 mm in Polonnaruwa, Trincomalee, Anuradhapura and Badulla districts. Below average rainfall up to 25-50 mm is shown for Kurunegala district; and up to 10-25 mm in Nuwara Eliya, Ratnapura and Batticaloa districts.

### ***Monthly Monitoring***

During January – Above average rainfall conditions up to 120 mm were experienced by Gampaha, Colombo, Kalutara and southern regions of Kegalle and northern regions of Ratnapura districts. Below average rainfall conditions up to 240 mm were experienced by Trincomalee, Anuradhapura, Polonnaruwa Matale, Kandy, Badulla, Monaragala, Batticaloa and Ampara districts; and up to 150 mm in rest of the island. The CPC Unified Precipitation Analysis tool shows up to 100 mm were experienced by Ratnapura and Kalutara districts; up to 50-75 mm in Galle and Matara districts; and up to in Badulla, Monaragala, Ampara, Hambantota, Nuwara Eliya and Kegalle districts.

### ***Ocean State (Text Courtesy IRI)***

#### ***Pacific sea state: February 18, 2020***

SSTs in the east-central Pacific were neutral, but above average during mid-February. 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 26<sup>th</sup> Feb - 3<sup>rd</sup> Mar:** No Rainfall.

**From 4<sup>th</sup> – 10<sup>th</sup> Mar:** No Rainfall.

#### **NOAA Model Forecast:**

**From 19<sup>th</sup> – 24<sup>th</sup> Feb:** 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 suppress the rainfall in Sri Lanka in the next 10 days and shall enhance in the following 5 days.

<sup>1</sup> 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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## Weekly Hydro- Meteorological Report for Sri Lanka

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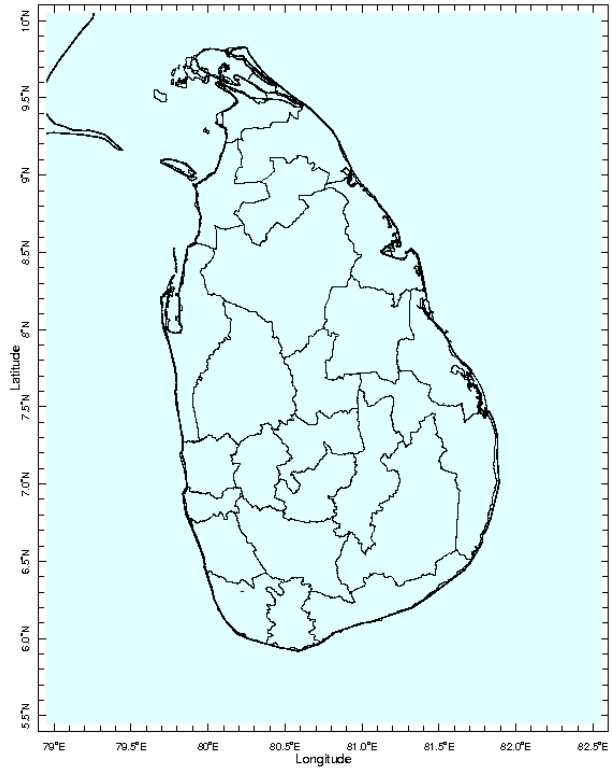
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
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- c. Weekly Precipitation Forecast from IRI
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## MONITORING

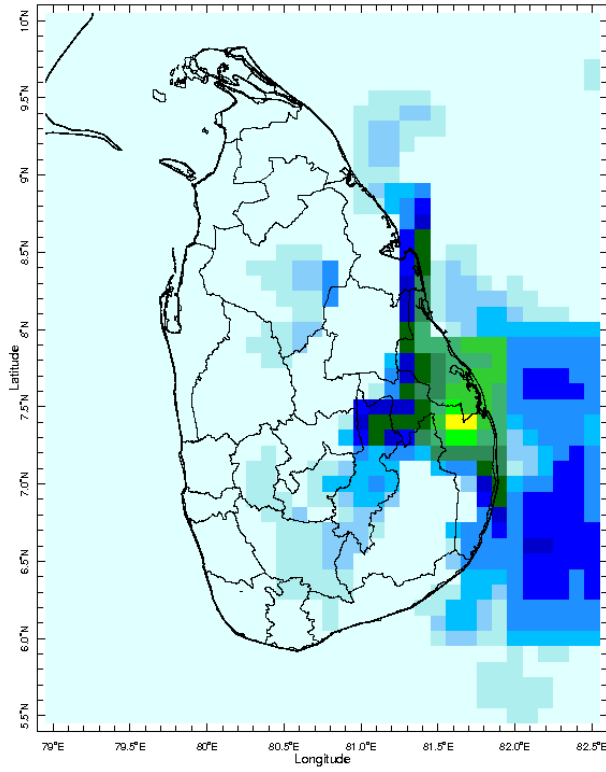
### Daily Rainfall Monitoring

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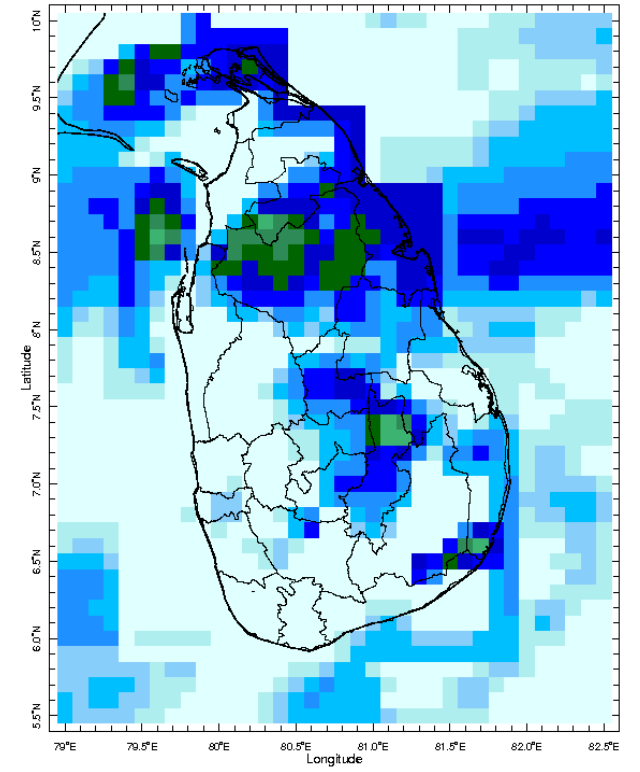
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



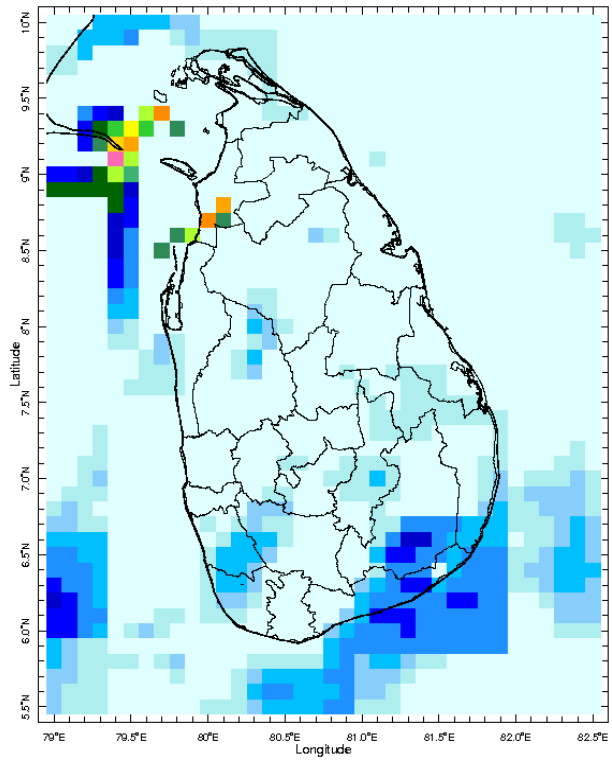
19 Feb 2020



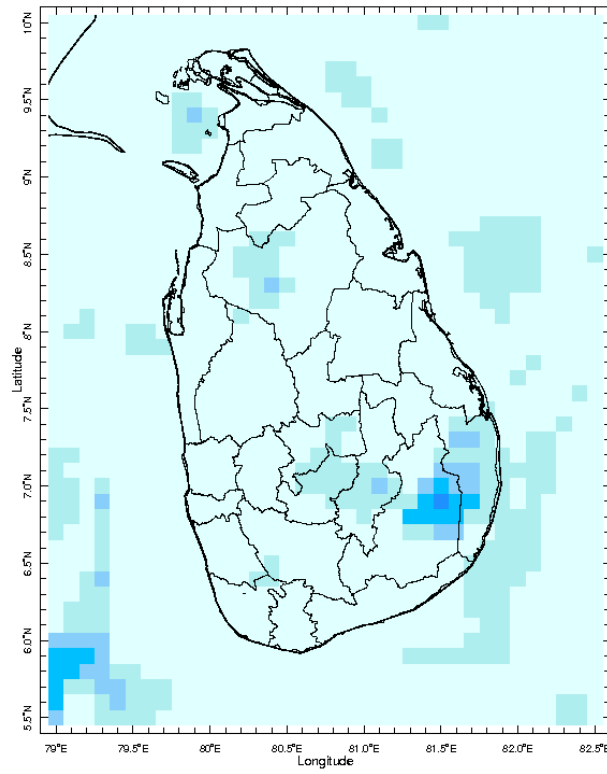
20 Feb 2020



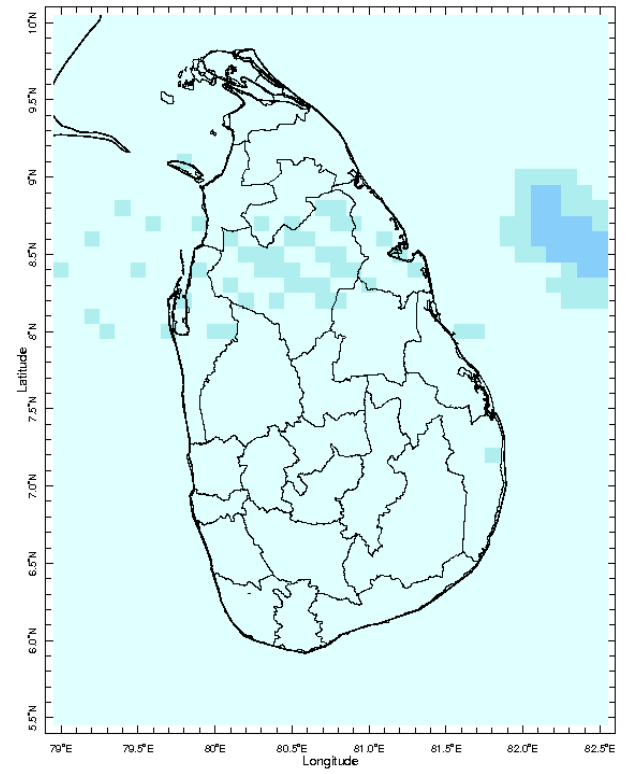
21 Feb 2020



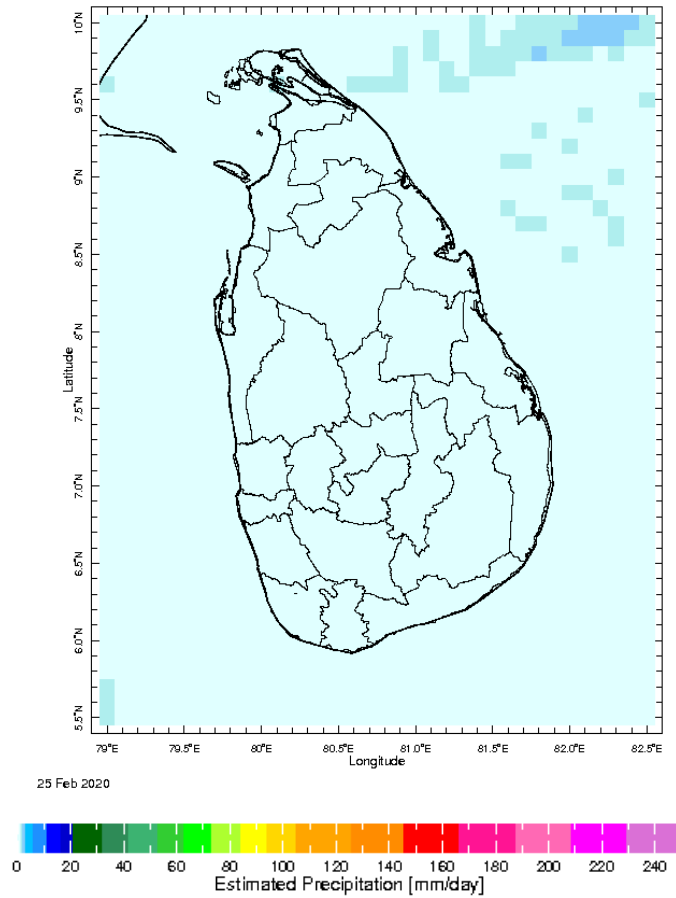
22 Feb 2020



23 Feb 2020

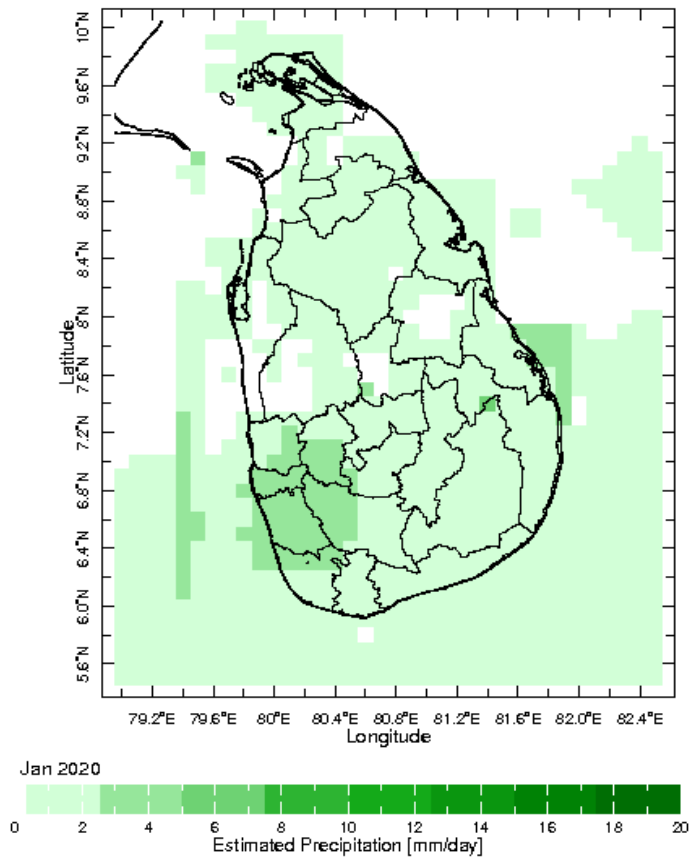


24 Feb 2020

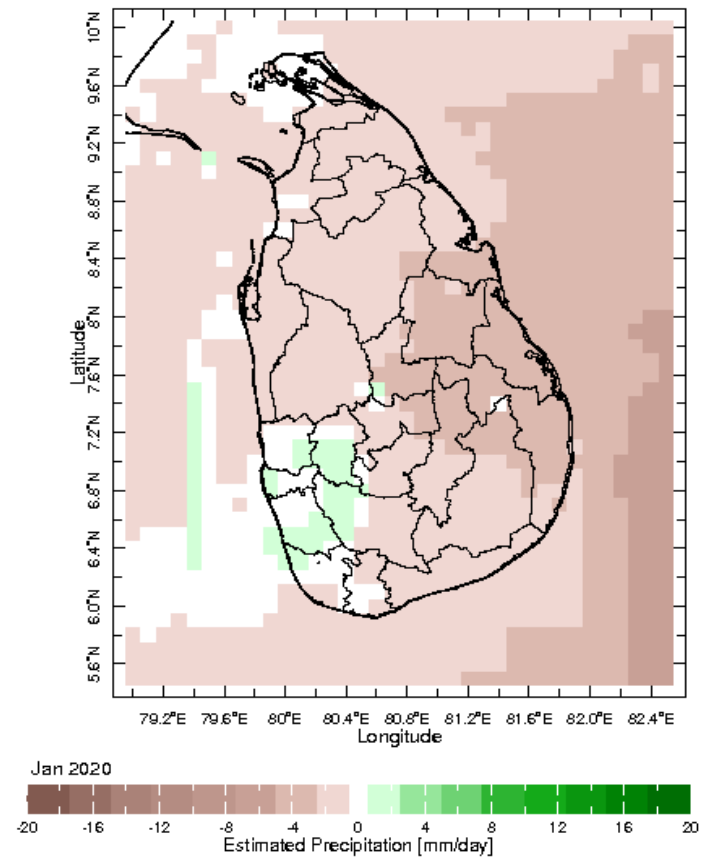


## Monthly Rainfall Monitoring

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



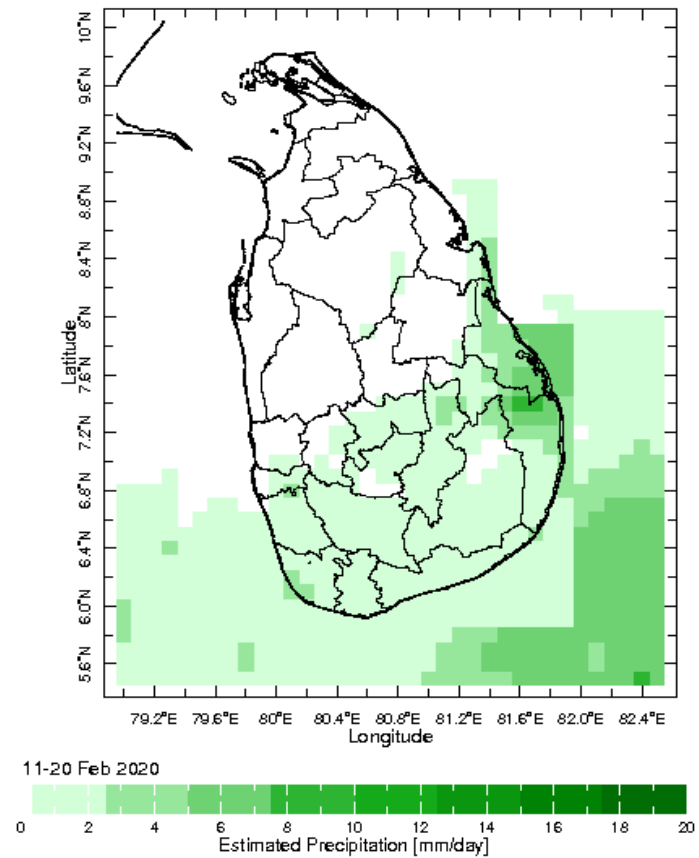
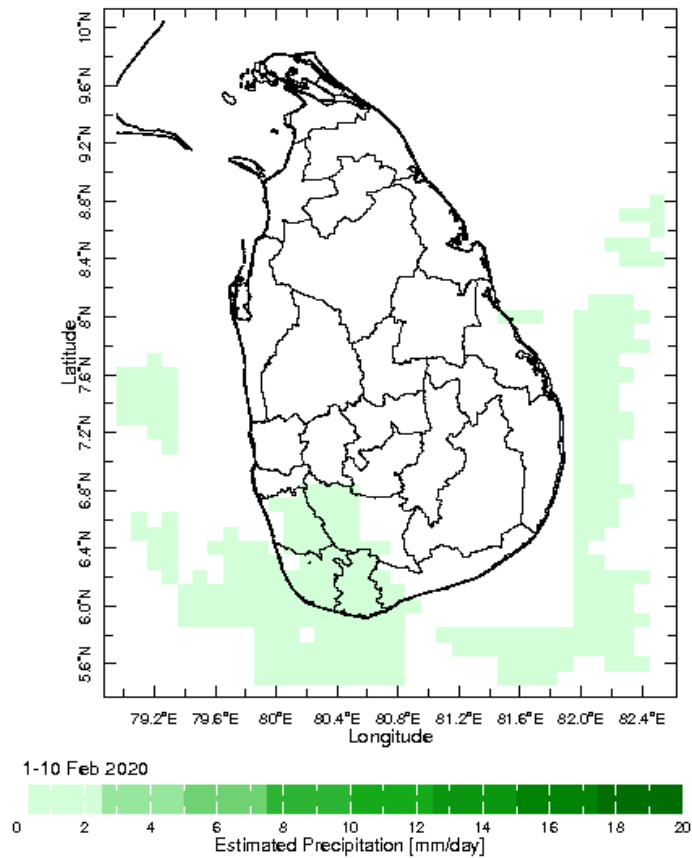
**Monthly Average**



**Monthly Anomaly**

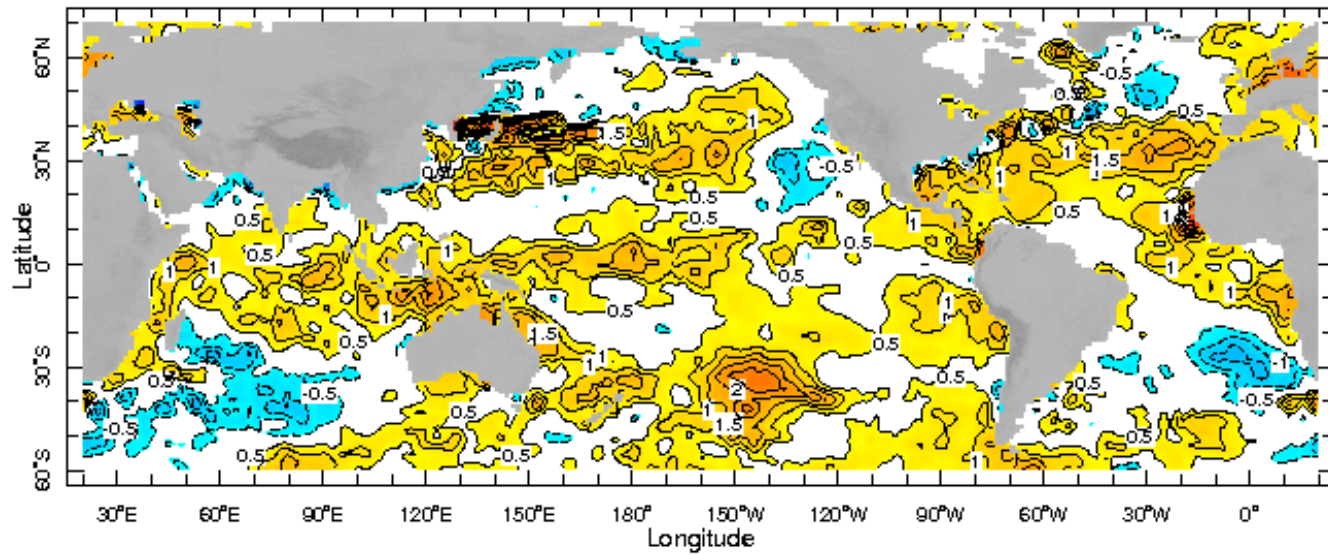
**Dekadal (10 Day) Satellite Derived Rainfall Estimates**



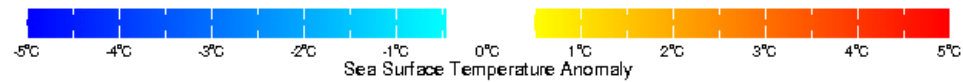


## Weekly Average SST Anomalies

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



19 Feb 2020

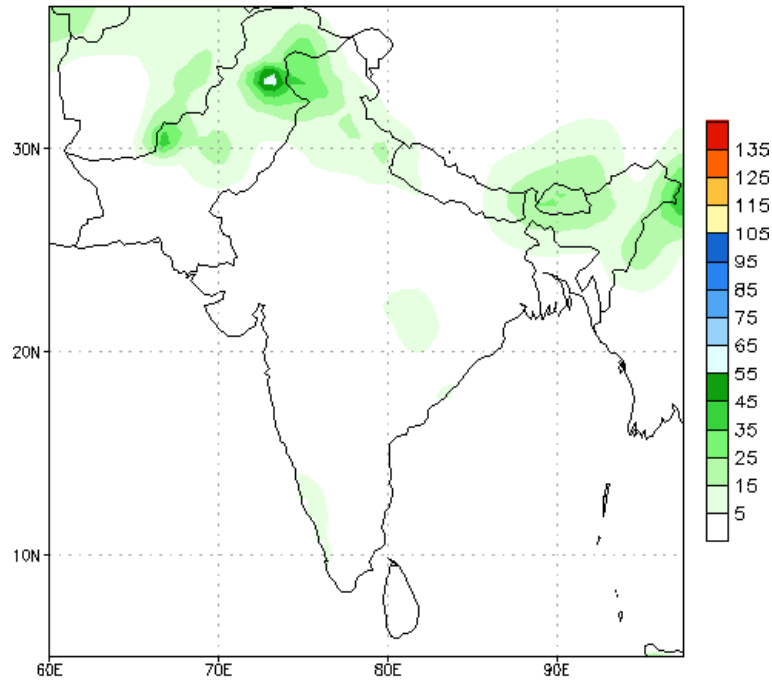


*WORLDBATH* topography

## PREDICTIONS

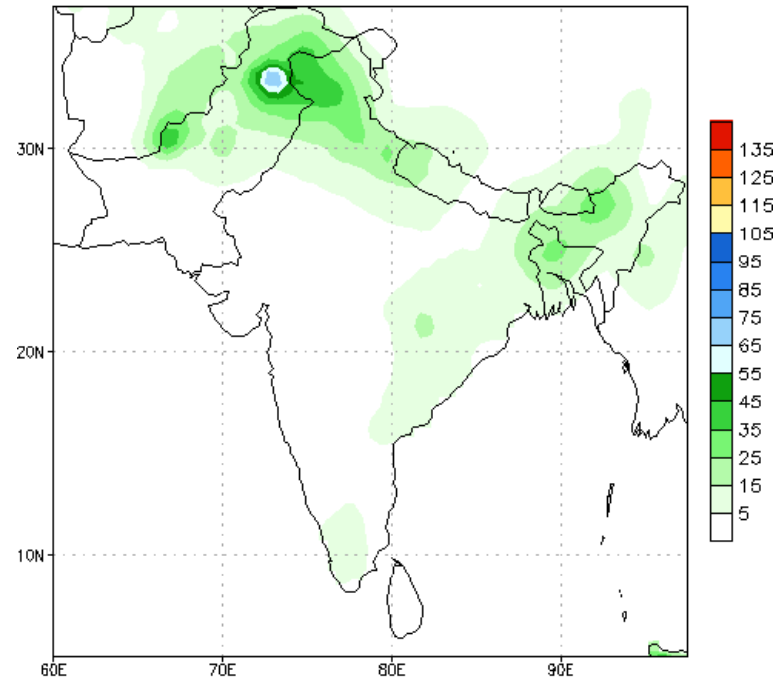
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)  
from: 26Feb2020  
26Feb2020-03Mar2020 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)  
from: 26Feb2020  
04Mar2020-10Mar2020 Accumulation

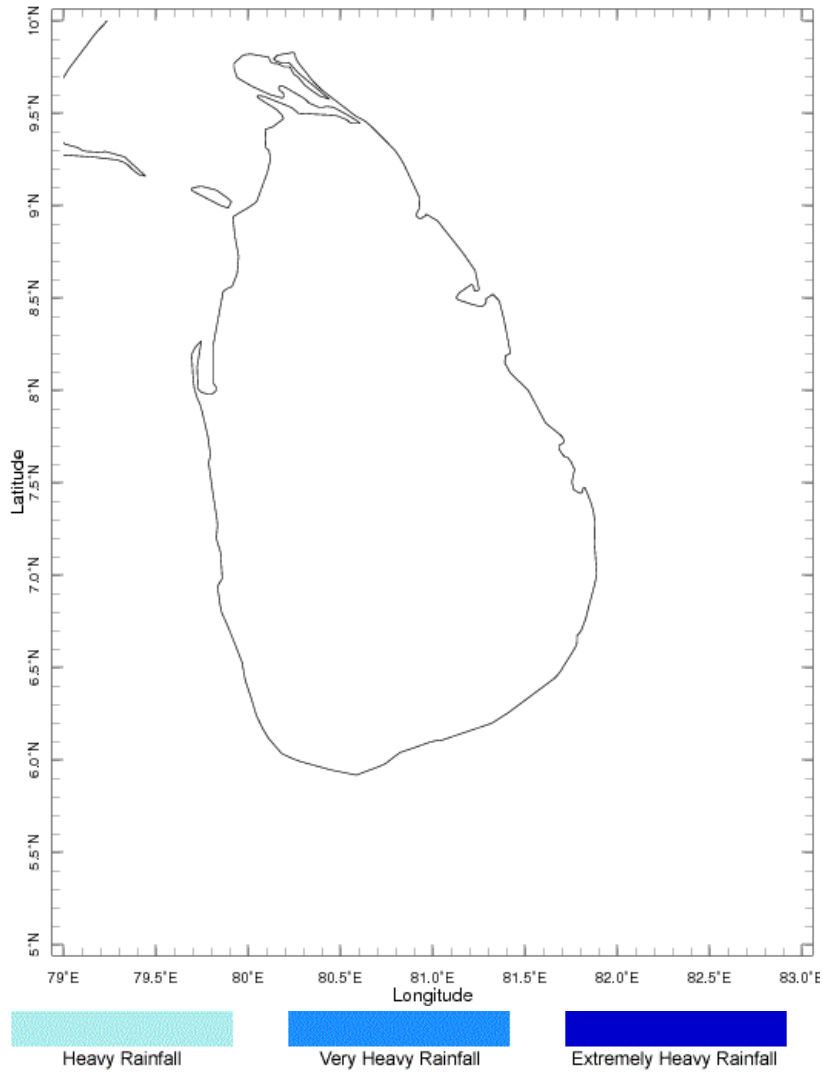


Bias correction based on last 30-day forecast error

## WRF Model Forecast (from IMD Chennai)

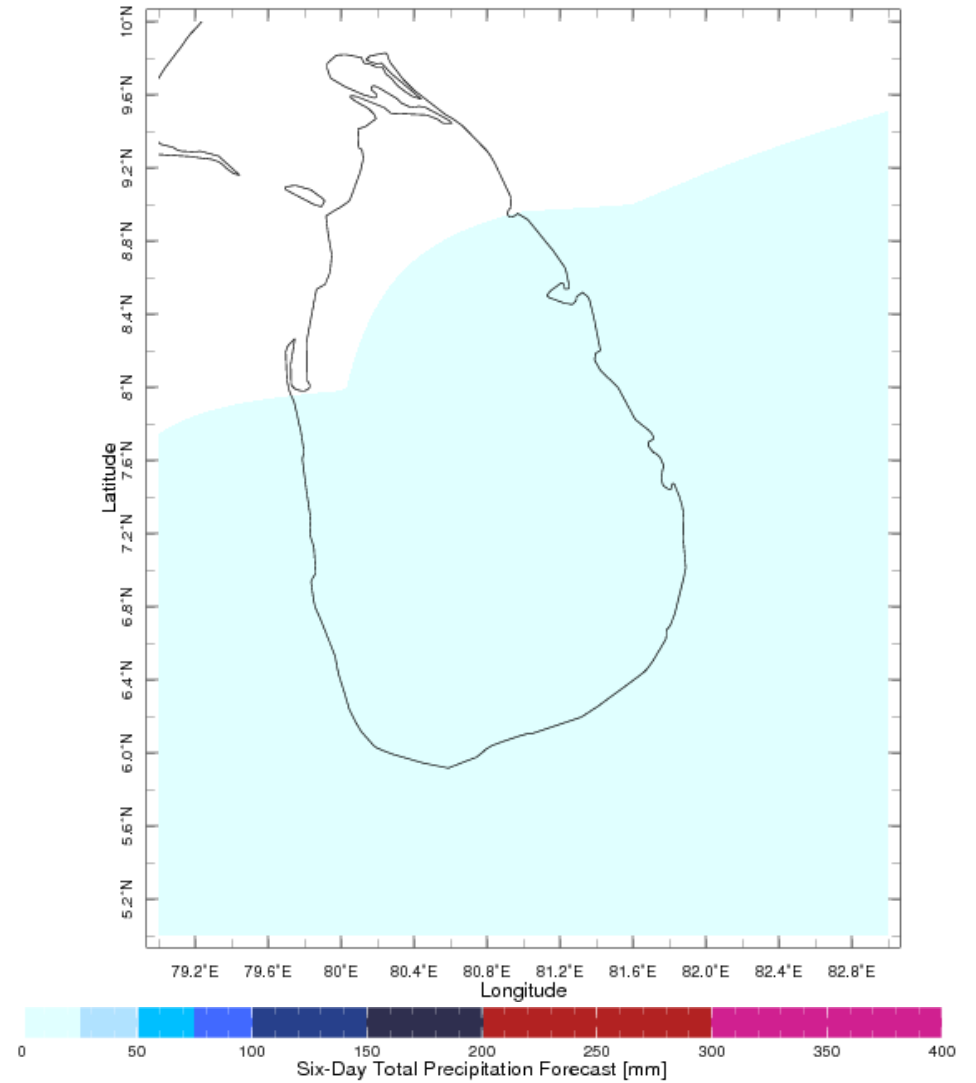
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 26 Feb 2020 - 2 Mar 2020 Issued 0000 26 Feb 2020



Extreme Rainfall Forecast

Forecast for 26 Feb 2020 - 2 Mar 2020 Issued 0000 26 Feb 2020



Total Six Day Precipitation Forecast