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# Experimental Climate Monitoring and Prediction

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**8 August 2019**

## Highlights

- ***The IRI weekly rainfall forecast predicts up to 150 mm of total rainfall in Colombo, Kalutara and Galle districts during 7 - 12 Aug.***
- ***Between 31 Jul – 5 Aug: up to 50 mm of rainfalls were recorded in Trincomalee district on the 31st.***
- ***From 30 Jul – 5 Aug: up to 54 km/h, westerly winds were experienced by the entire island.***
- ***1 $^0$C above average sea surface temperature was observed in the seas around Sri Lanka.***

## Monitoring

### Rainfall

***Weekly Monitoring:*** On July 31th, Trincomalee district received up to 50 mm of rainfall; Anuradhapura and Batticaloa districts received up to 30 mm; and Mullaitivu, Vavuniya, Polonnaruwa, Monaragala and Hambantota districts up to 20 mm. On August 1st, Gampaha, Colombo, Kalutara, Galle, Kegalle, Ratnapura, Badulla and Monaragala districts received up to 5 mm of rainfall. On the 2nd, Galle and Matara districts received up to 5 mm of rainfall. No significant rainfalls were recorded in any part of the island during the 3rd. On the 4th, Ratnapura, Monaragala, Hambantota and Matara districts received up to 10 mm of rainfall. On the 5th, Ratnapura, Monaragala, Hambantota, Galle, Matara and Anuradhapura districts received up to 10 mm of rainfall; and up to 5 mm of rainfall in most parts of the island.

***Total Rainfall for the Past Week:*** The RFE 2.0 tool shows total up to 50-75 mm in Trincomalee district; up to 25-50 mm in Badulla, Monaragala, Ampara and Hambantota districts; and up to 10-25 mm in Mullaitivu, Anuradhapura, Batticaloa, Colombo, Kalutara, Galle, Matara, Ratnapura and Nuwara Eliya districts. Above average rainfall up to 25-50 mm in Trincomalee, Monaragala and Ampara districts; and up to 10-25 mm in Anuradhapura, Badulla and Hambantota districts. Below average rainfall up to 10-25 mm is shown for Kalutara, Gampaha, Kegalle, Ratnapura, Kandy, Nuwara Eliya and Galle districts.

***Monthly Monitoring***: During July – Above average rainfall conditions up to 60 mm were experienced by Puttalam, Kurunegala. Kandy, Nuwara Eliya, Badulla, Monaragala, Ampara and Hambantota districts. Below average rainfall conditions up to 60 mm were experienced by Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Matale, Gampaha, Colombo, Kalutara, Galle and Batticaloa districts. The CPC Unified Precipitation Analysis tool shows up to 200 mm of total rainfall in Nuwara Eliya, Badulla and Ratnapura districts; up to 150 mm in Kalutara, Galle, Matara, Kegalle, Kandy and Monaragala districts; up to 100 mm in Puttalam, Kurunegala, Matale and Ampara districts; and up to 75 mm in Gampaha and Trincomalee districts.

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

***Pacific sea state: August 8, 2019***

The weak El Niño of 2018-19 has ended. SSTs in the east-central Pacific declined to ENSO-neutral levels during July, and have remained neutral to present. Temperature anomalies of subsurface waters have been near-average. Patterns in most atmospheric variables also are showing ENSO-neutral conditions. Collective model forecasts favor ENSO-neutral through autumn and winter, but with higher chances for El Niño than La Niña. The official CPC/IRI outlook, no longer carrying an El Niño advisory, generally agrees with the model forecasts through winter.

***Indian Ocean State***

1 $^0$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 7th – 13th Aug: Total rainfall up to 55 mm on Gampaha, Kegalle, Ratnapura, Matara and Hambantota districts; and up to 35-45 mm in Puttalam, Kurunegala, Kandy, Badulla and Monaragala districts.

From 14th – 20th Aug: Total rainfall up to 55 mm in Jaffna, Kilinochchi, Ratnapura, Galle and Matra districts; and up to 35-45 mm in Gamapaha, Kegalle, Kandy, Nuwara Eliya, Vavuniya, Mullaitivu, Mannar, Badulla and Monaragala districts.

***IMD NCMWRF Forecast:***

9th Aug: Not Available

10th Aug: Not Available

***IRI Model Forecast***:

From 7th – 12th Aug: Total rainfall up to 150 mm is expected in Colombo, Kalutara and Galle districts; up to 100 mm in Puttalam, Gampaha, Kegalle, Ratnapura and Matara districts; up to 75 mm in Kurunegala, Nuwara Eliya and Hambantota districts; and up to 50 mm in Matale, Kandy, Badulla, Monaragala and Jaffna districts.

### MJO based OLR predictions

***For the next 15 days:***

MJO shall enhance the rainfall in Sri Lanka in next 5 days and shall not have an impact on the following 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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# Weekly Hydro- Meteorological Report for Sri Lanka

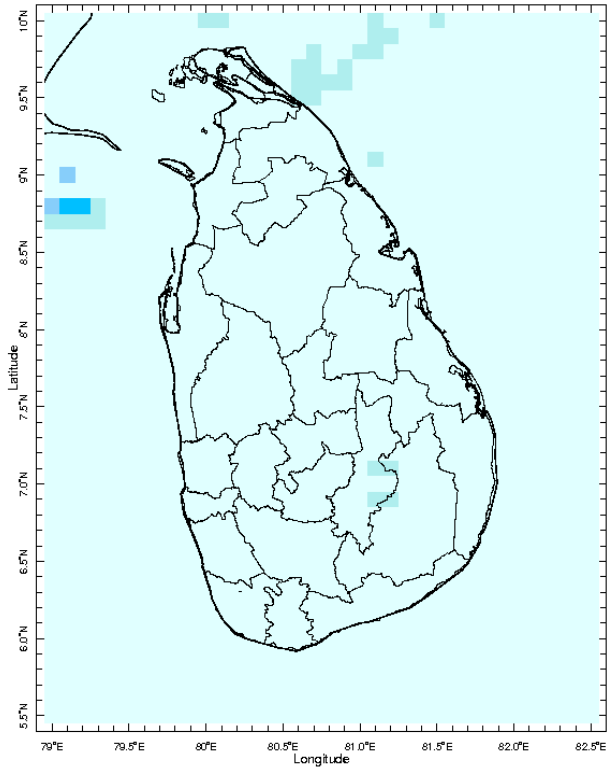
## Inside This Issue



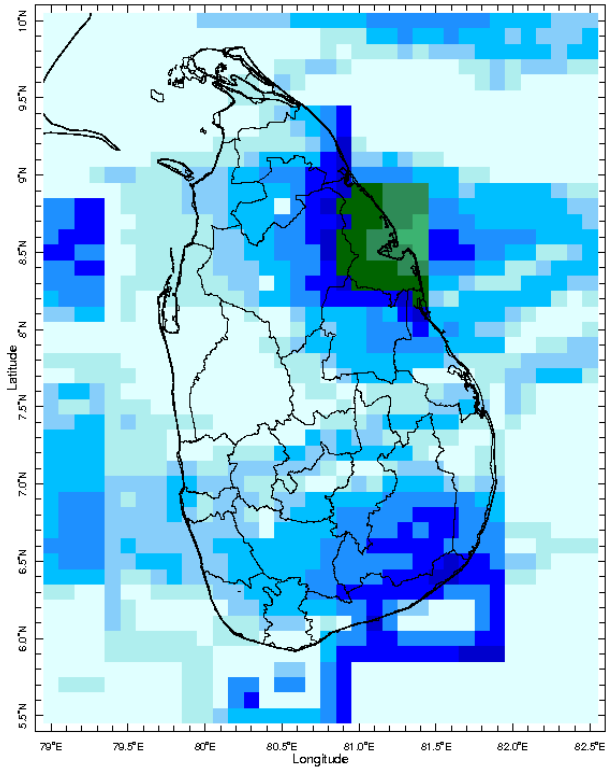
## MONITORING

### Daily Rainfall Monitoring

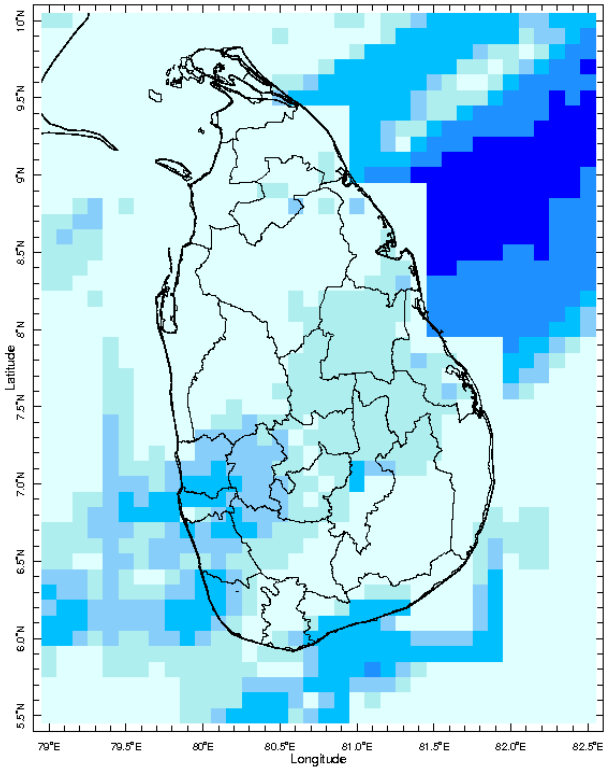
**The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.**



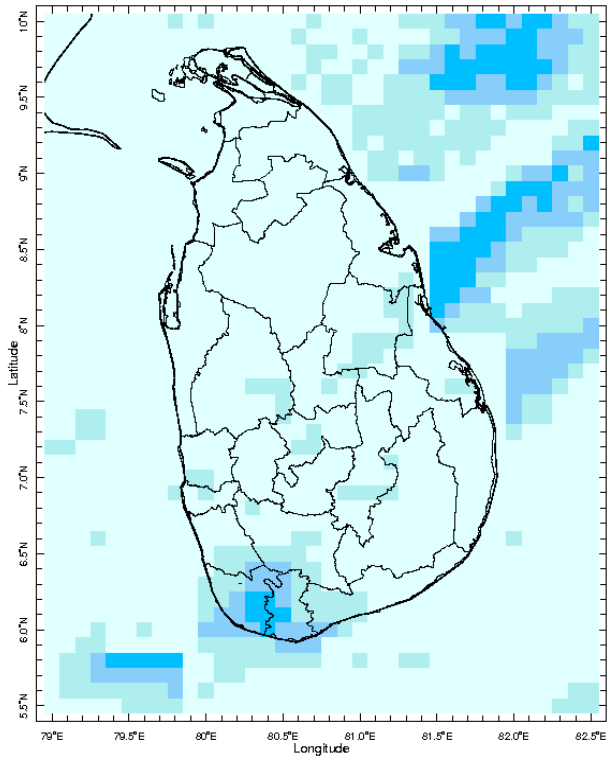

30 Jul 2019



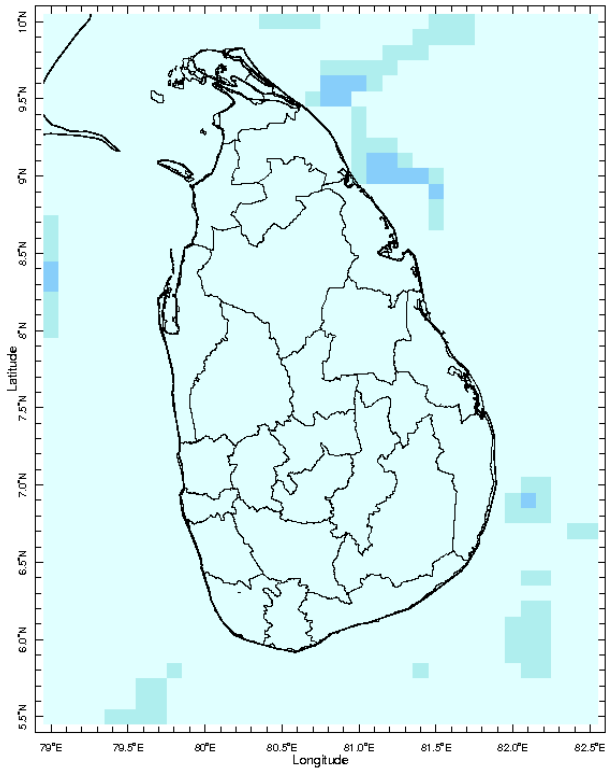

31 Jul 2019



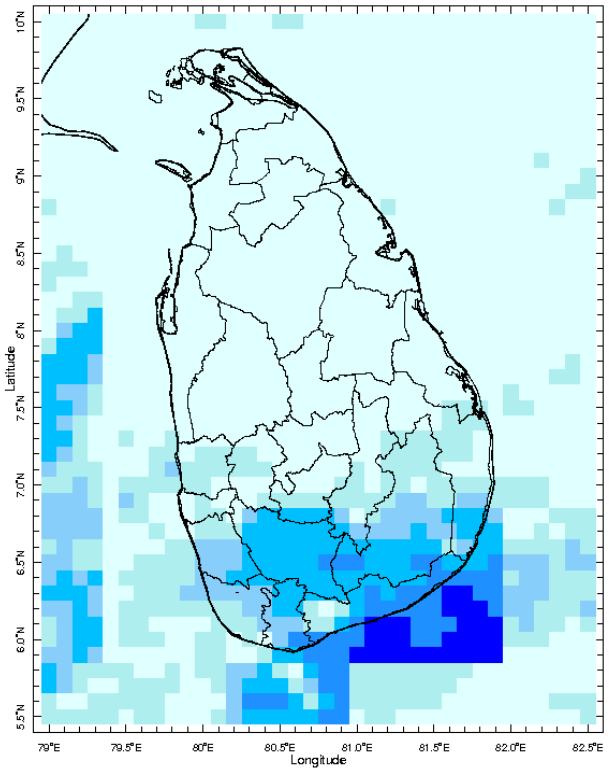

1 Aug 2019



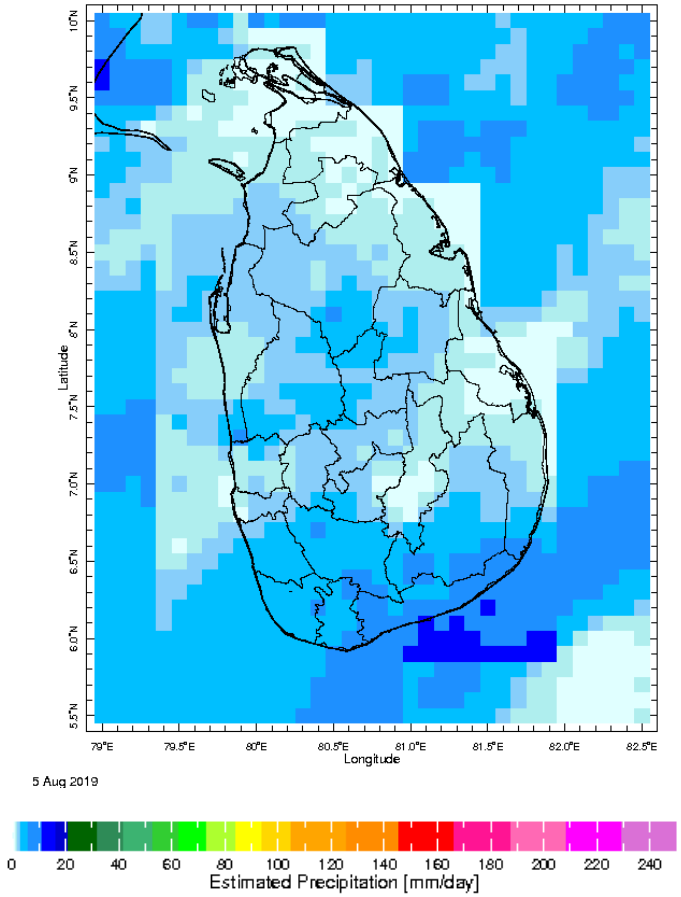

2 Aug 2019




3 Aug 2019

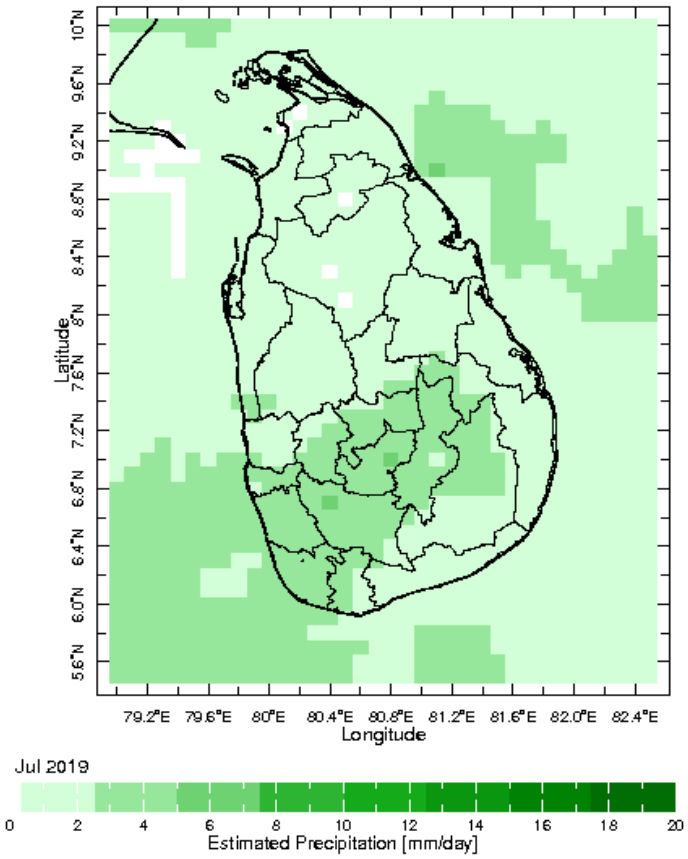



4 Aug 2019

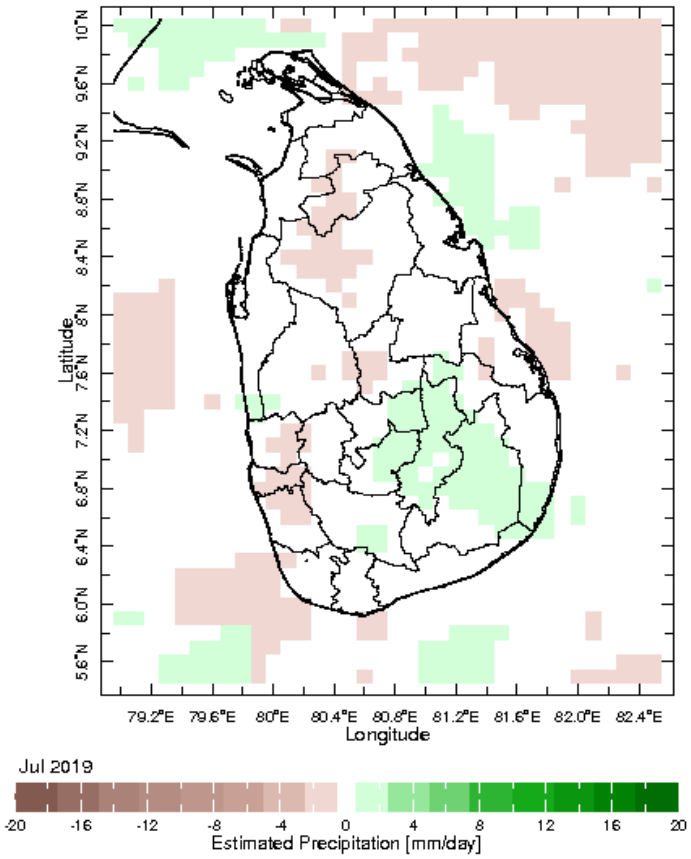



## Monthly Rainfall Monitoring

**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**

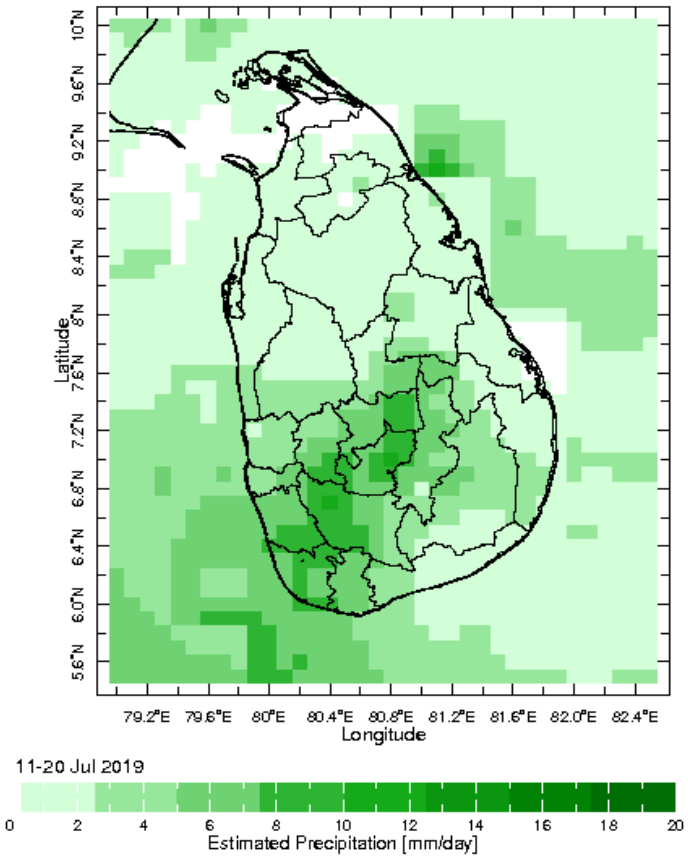


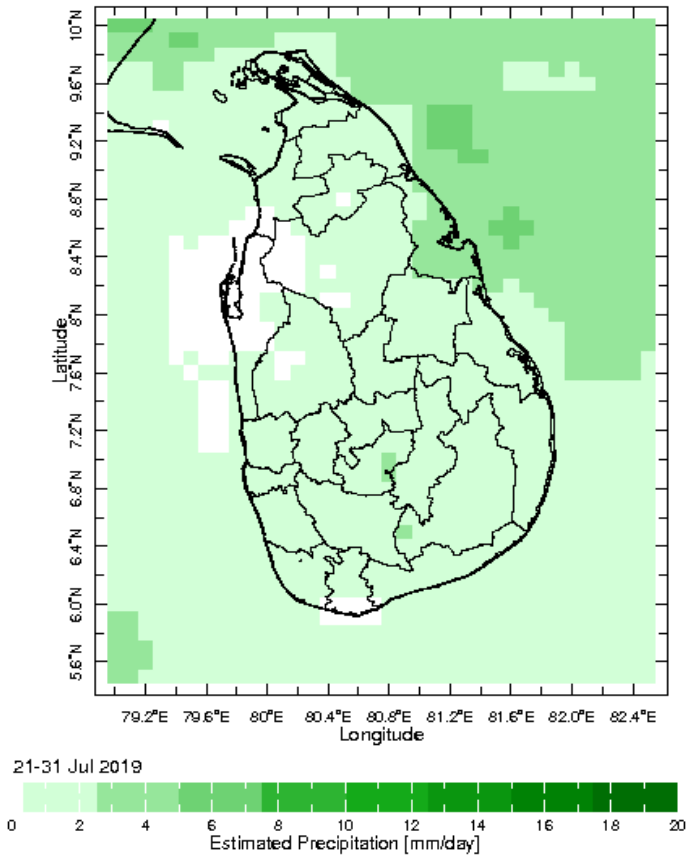

**Monthly Average**




**Monthly Anomaly**

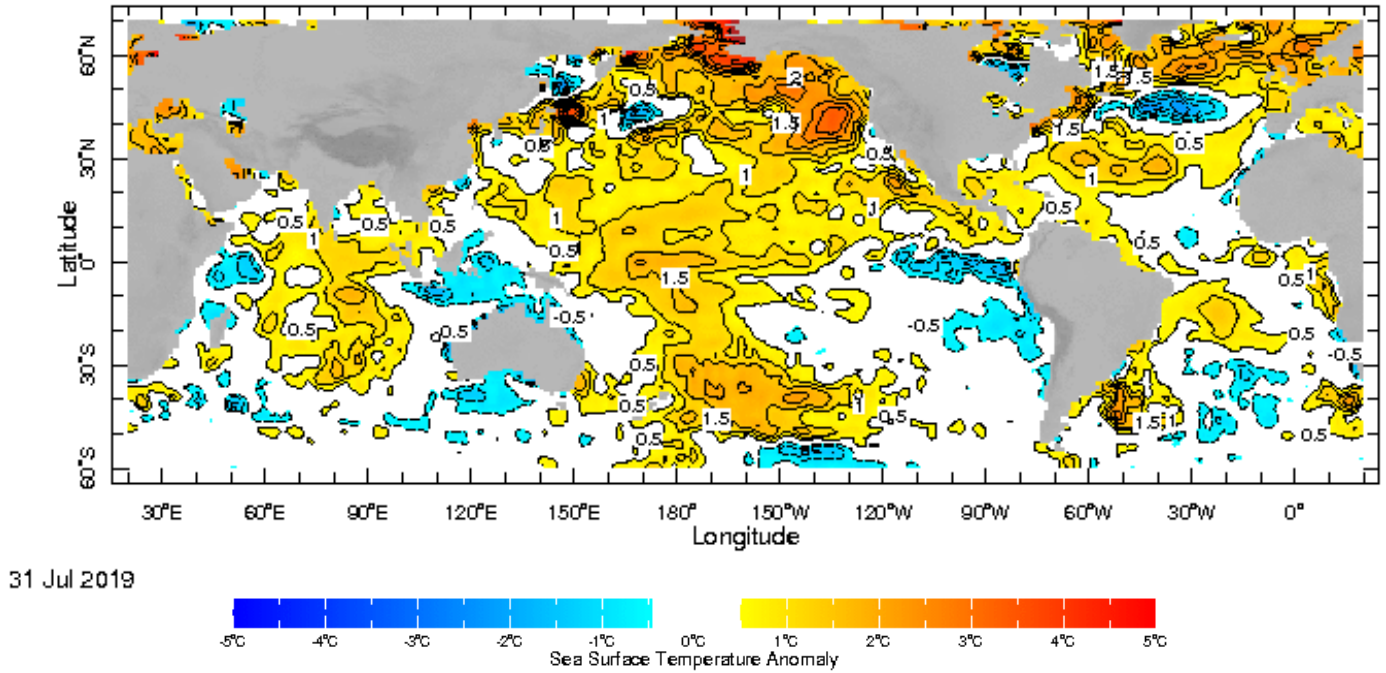
## Dekadal (10 Day) Satellite Derived Rainfall Estimates




## Weekly Average SST Anomalies

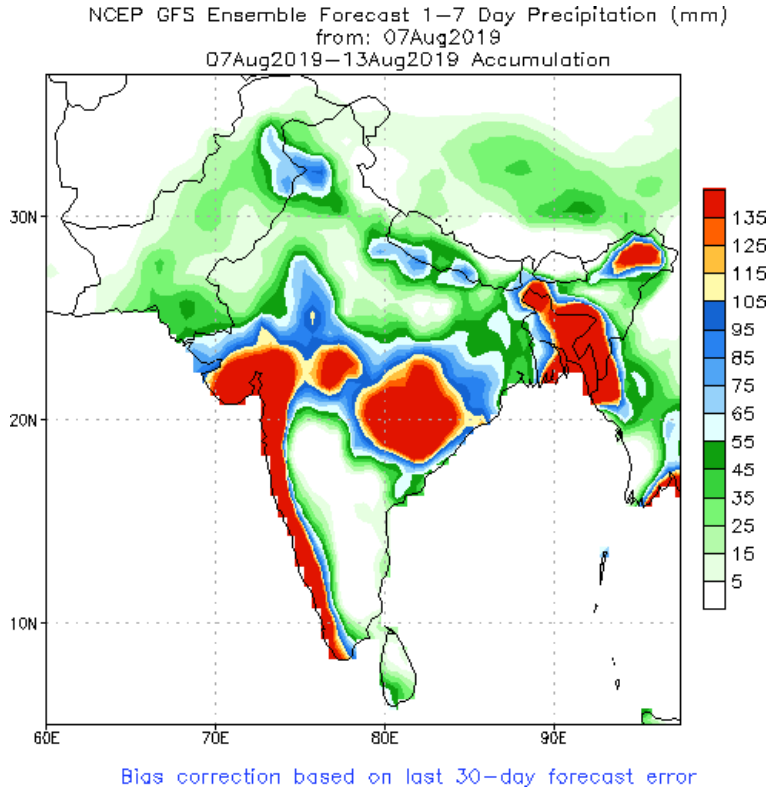
**Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP**

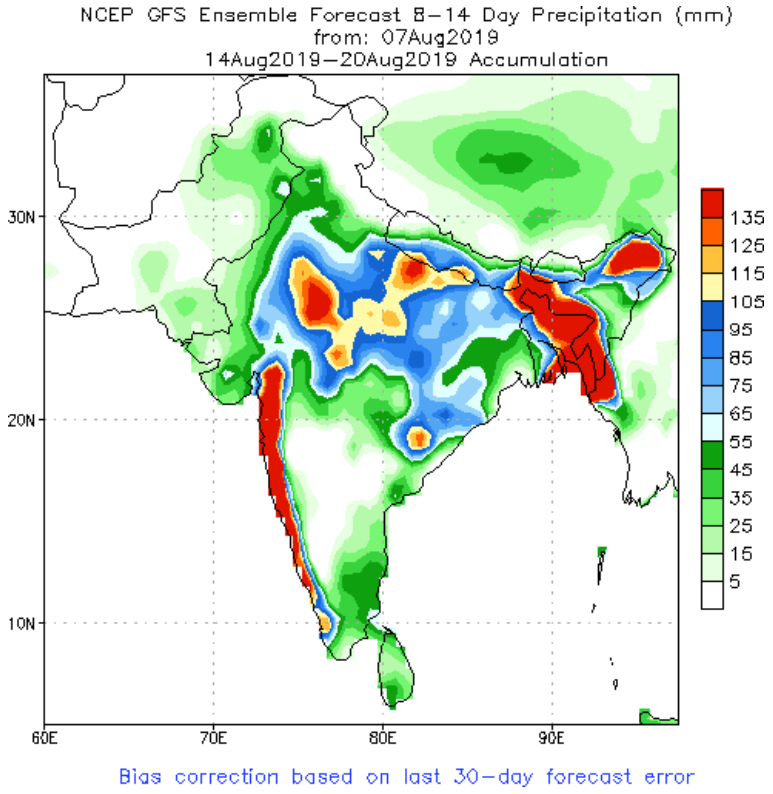



*WORLDBATH topography*

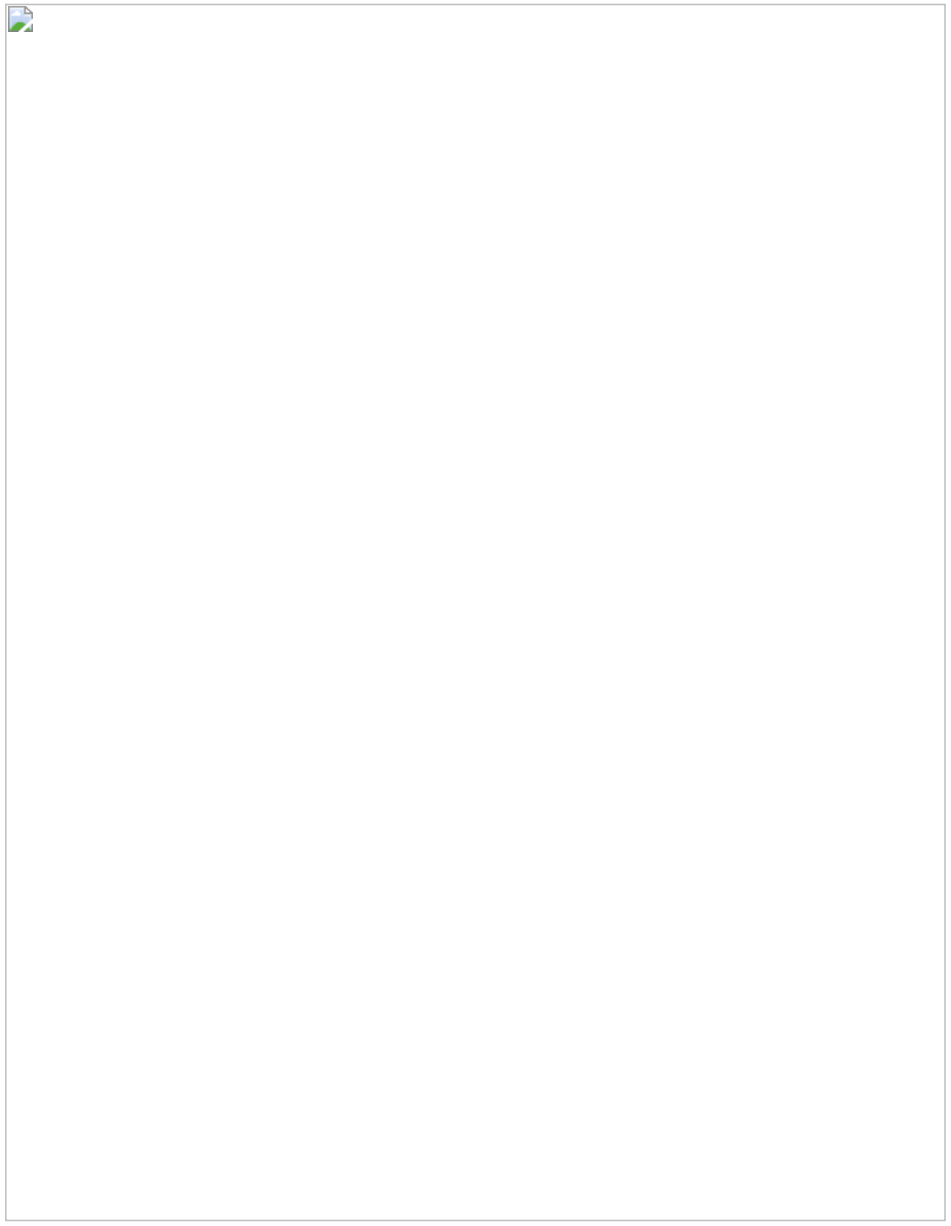
## PREDICTIONS

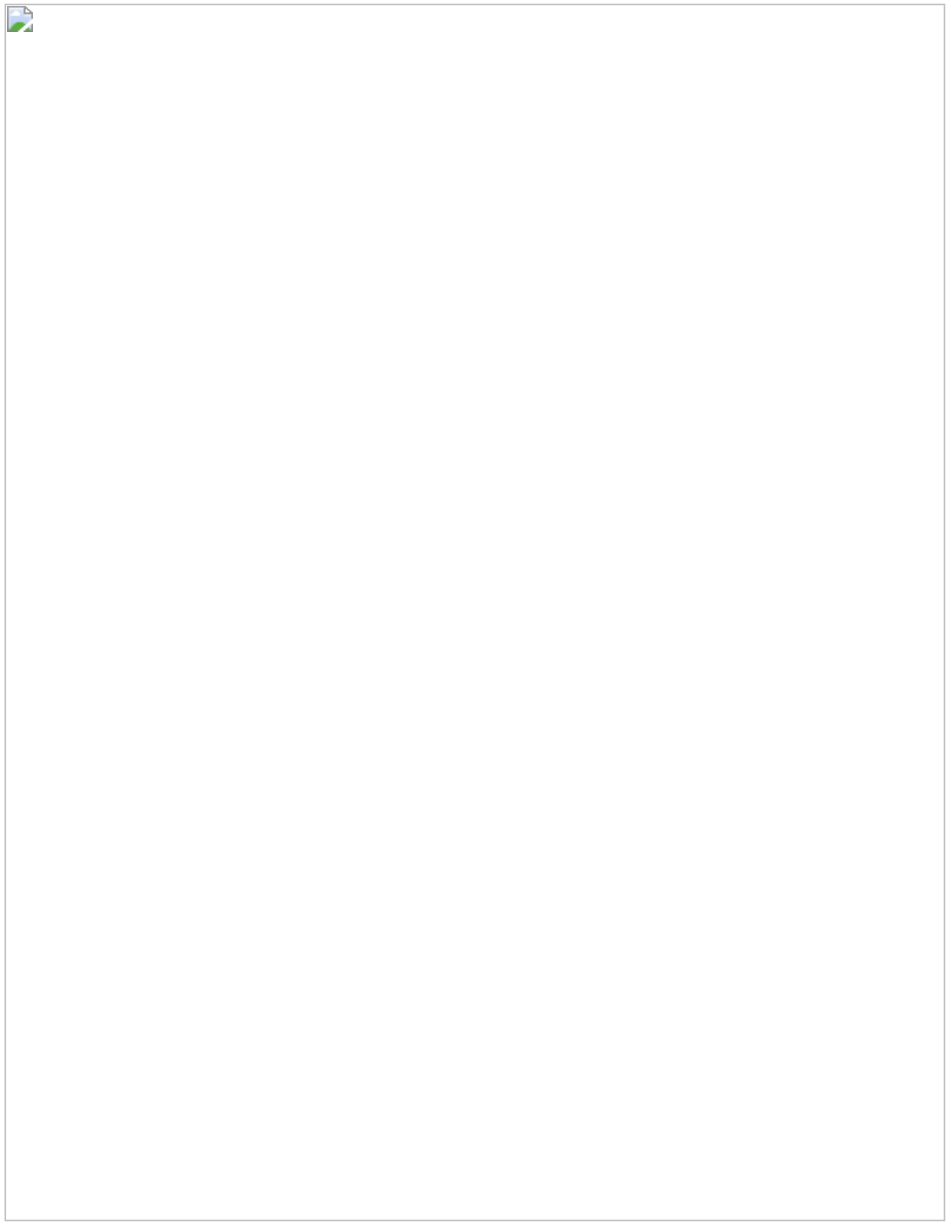
### NCEP GFS 1- 14 Day prediction



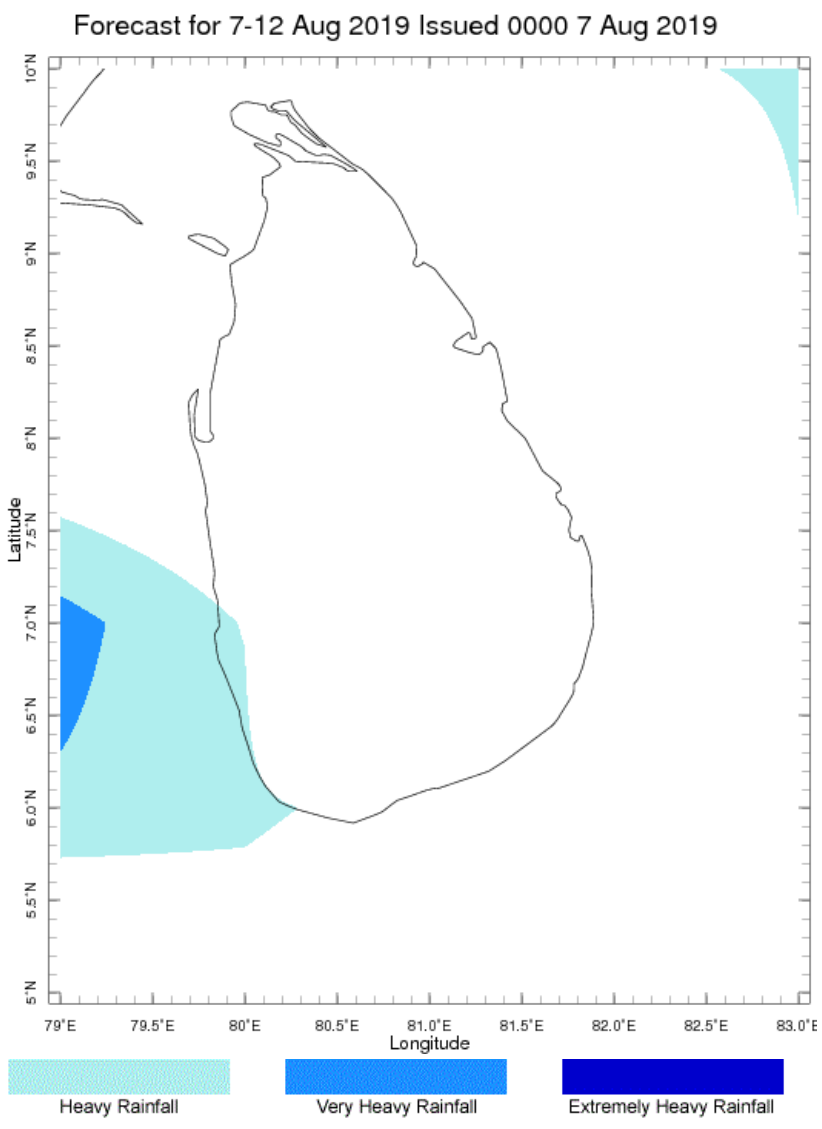

## WRF Model Forecast (from IMD Chennai)



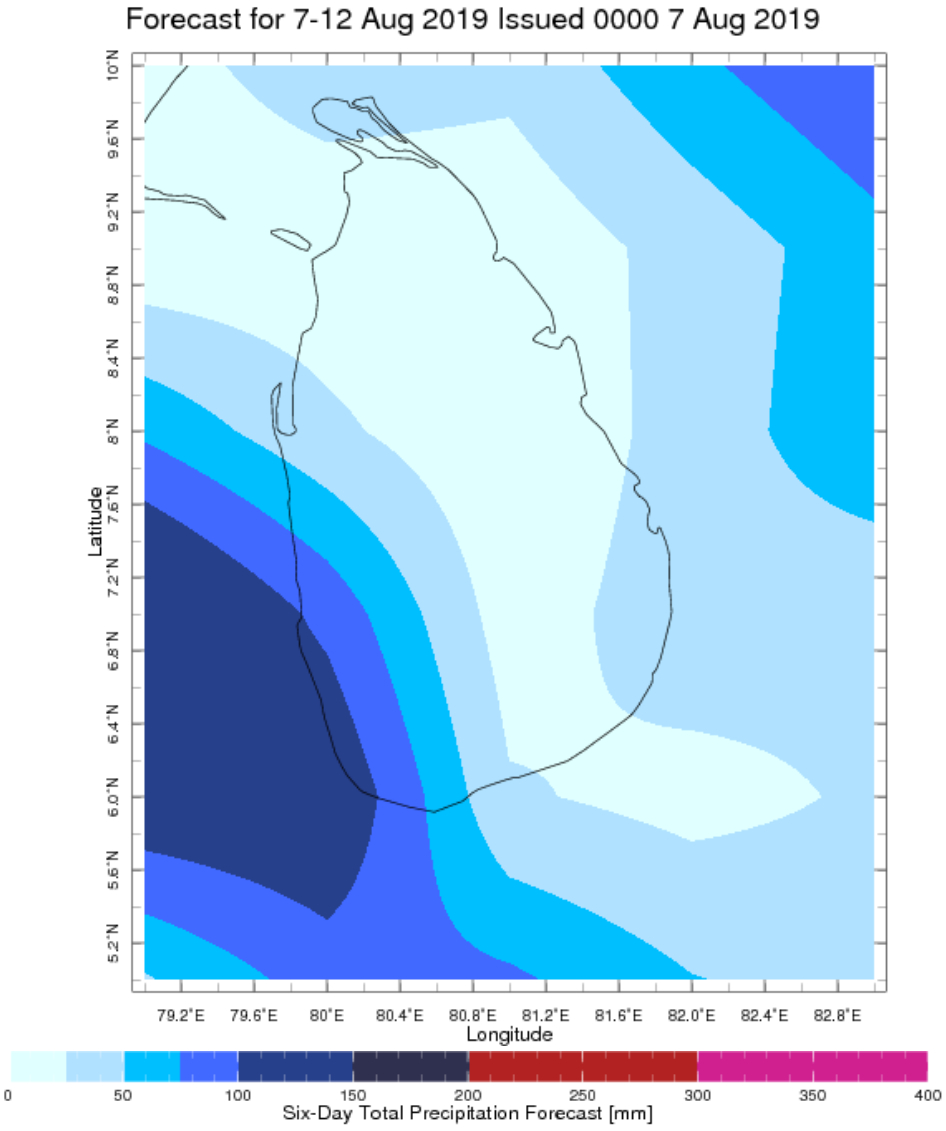


## Weekly Rainfall Forecast from IRI

**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.**




**Extreme Rainfall Forecast**




**Total Six Day Precipitation Forecast**