

Experimental Climate Monitoring and Prediction

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Highlights

- *The IRI weekly rainfall forecast predicts total rainfall up to 200 mm in Jaffna, Kilinochchi, Mullaitivu and Trincomalee districts during 31 Oct – 5 Nov.*
- *Between 23 – 29 Oct: up to 100 mm of rainfall was recorded in Batticaloa district on the 28th.*
- *From 21 – 27 Oct: Nuwara Eliya and Badulla districts recorded a minimum temperature between 15-20 °C and most parts of the island recorded a maximum temperature between 30-35 °C.*
- *From 23 - 30 Oct: up to 30 km/h, northeasterly winds were experienced by the Northern province; and up to 18 km/h in the same direction by the rest of the island.*
- *0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.*

Monitoring

Rainfall

Weekly Monitoring: On October 23rd, Badulla and Monaragala districts received up to 50 mm of rainfall; Kurunegala, Matale and Kandy districts up to 30 mm; and Vavuniya, Anuradhapura, Polonnaruwa, Nuwara Eliya, Ratnapura, Kalutara, Galle, Matara and Hambantota districts up to 20 mm. On the 24th, Galle, Matara, Ratnapura, Hambantota, Monaragala and Badulla districts received up to 50 mm of rainfall; Matale, Kandy and Nuwara Eliya districts up to 30 mm; and Jaffna, Kilinochchi, Mullaitivu, Vavuniya, Kurunegala, Kegalle, Colombo, Kalutara and Ampara districts up to 20 mm. On the 25th, Jaffna and Kilinochchi districts received up to up to 20 mm rainfall. On the 26th, Jaffna and Kilinochchi districts received up to 30 mm of rainfall; Vavuniya, Polonnaruwa, Ampara, Batticaloa, Ratnapura, Kalutara, Galle, Matara and Hambantota districts up to 20 mm; and most parts of the island up to 10 mm. On the 21st, Kurunegala, Matale, Polonnaruwa, Ampara, Kandy, Nuwara Eliya, Kegalle, Badulla and Monaragala districts received up to 20 mm of rainfall; and most parts of the island up to 10 mm. On the 27th, Kalutara, Ratnapura, Galle and Matara districts received up to 50 mm of rainfall; Gampaha, Colombo, Kegalle, Nuwara Eliya, Monaragala, Jaffna and Kilinochchi districts up to 30 mm; and Mullaitivu, Batticaloa, Polonnaruwa, Ampara, Hambantota, Badulla and Kandy districts up to 20 mm. On the 28th, Kalkudah region in Batticaloa district received up to 100 mm of rainfall; Polonnaruwa district up to 30 mm; Jaffna and Monaragala districts up to 20 mm. On the 29th, Trincomalee and Anuradhapura districts received up to 50 mm of rainfall; Mullaitivu, Polonnaruwa and Batticaloa districts up to 30 mm; and Jaffna, Kilinochchi and Vavuniya districts up to 20 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall up to 75-100 mm in Trincomalee district; up to 50-75 mm in Jaffna, Kilinochchi, Mullaitivu, Vavuniya, Anuradhapura, Batticaloa, Kalutara, Galle, Matara, Ratnapura, Badulla, Monaragala and Hambantota districts; and up to 50 mm in rest of the island. Above average rainfall up to 10-25 mm is shown for Hambantota district. Below average rainfall up to 50-100 mm is shown for Mannar, Kurunegala, Anuradhapura, Polonnaruwa, Puttalam, Matale, Gampaha, Colombo, Batticaloa and Monaragala districts; and up to 25-50 mm for Vavuniya, Trincomalee, Kegalle, Kandy, Nuwara Eliya, Badulla and Kalutara districts.

Monthly Monitoring: During September - above average rainfall conditions up to 210 mm were experienced by Ratnapura, Monaragala, Badulla, Kandy, Anuradhapura districts and north eastern regions of Kurunegala district; and up to 60 mm in Mannar, Vavuniya, Puttalam, Matale, Polonnaruwa, Kalutara, Galle and several regions of Matara and Ampara districts. Mullaitivu, Trincomalee, Batticaloa, Gampaha, Colombo and south western regions of Kurunegala district experienced below average rainfall up to 90 mm. The CPC Unified Precipitation Analysis tool shows up to 300 mm of total rainfall in Ratnapura, Kalutara and Galle districts; and up to 200 mm in Anuradhapura, Kurunegala, Kandy, Nuwara Eliya, Kegalle, Colombo, Matara, Badulla and Monaragala districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: October 19, 2018

While ENSO-neutral conditions prevailed in September, signs of El Niño increased in early October 2018 as east-central tropical Pacific SSTs warmed to weak El Niño levels. Also, low level winds showed westerly anomalies in most of the last three weeks. The subsurface water temperature continued to be above-average, and increased further recently. The official CPC/IRI outlook calls for a 70-75% chance of El Niño development during October/November, continuing through winter 2018-19. An El Niño watch is in effect. New forecasts of statistical and dynamical models collectively favor imminent El Niño development, most likely weak to moderate strength, continuing through winter.

Indian Ocean State

0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 31st Oct – 6th Nov: Total rainfall up to 125 mm in Mullaitivu and Vavuniya districts; up to 105-115 mm in Kilinochchi, Anuradhapura and Trincomalee districts; up to 95-105 mm in Jaffna, Mannar and Polonnaruwa districts; up to 85-95 mm in Puttalam and Kurunegala districts; and up to 75-85 mm in Matale and Batticaloa districts.

From 7th – 13th Nov: Total rainfall up to 135 mm in Anuradhapura, Vavuniya and Mullaitivu districts; up to 115-125 mm in Jaffna, Kilinochchi, Mannar and Trincomalee districts; up to 105-115 mm in Puttalam, Kurunegala and Polonnaruwa districts; and up to 95-105 mm in Matale district.

IMD NCMWRF Forecast:

2nd Nov: Up to 160 mm of rainfall in Galle, Matara and Ratnapura districts; and up to 80 mm in Gampaha, Mullaitivu, Batticaloa, Badulla, Monaragala, Nuwara Eliya, Puttalam and Kurunegala districts; and up to 40 mm in Kilinochchi, Kalutara, Kandy and Anuradhapura districts.

3rd Nov: Up to 160 mm in Ratnapura, Galle, Kegalle and Kalutara districts; and up to 40 mm in Mannar, Puttalam, Hambantota, Gampaha and Colombo districts.

IRI Model Forecast:

From 31 Oct – 5 Nov: Total rainfall up to 200 mm in Jaffna, Kilinochchi, Mullaitivu and Trincomalee districts; up to 150 mm in Vavuniya, Anuradhapura and Batticaloa districts; up to 100 mm in Ratnapura, Monaragala, Matara and Hambantota districts; and up to 75 mm in rest of the island.

MJO based OLR predictions

For the next 15 days:

MJO shall enhance the rainfall in Sri Lanka.

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Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

FECT BLOG

Past reports available at <http://fectsl.blogspot.com/> and <http://fectsl.wordpress.com/>

FECT WEBSITES

<http://www.climate.lk> and <http://www.tropicalclimate.org/>



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Weekly Hydro- Meteorological Report for Sri Lanka

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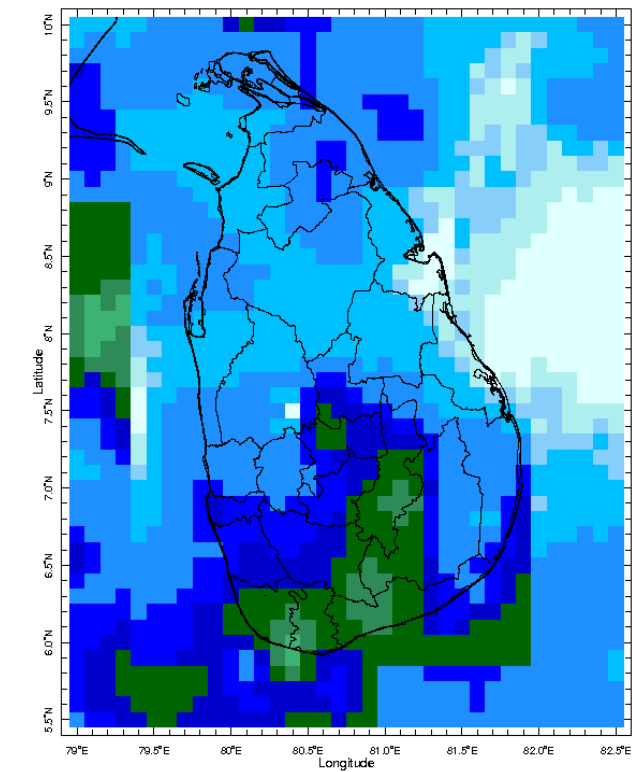
2. Predictions

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- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
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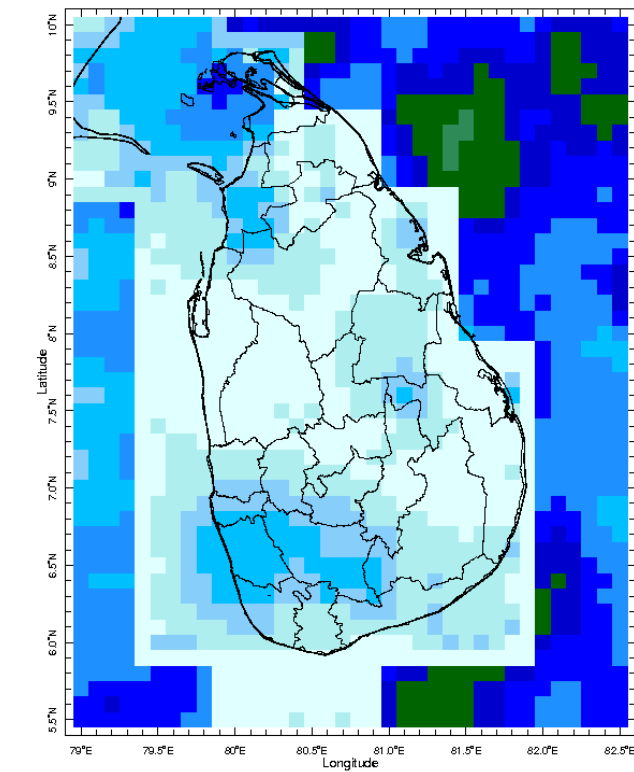
MONITORING

Daily Rainfall Monitoring

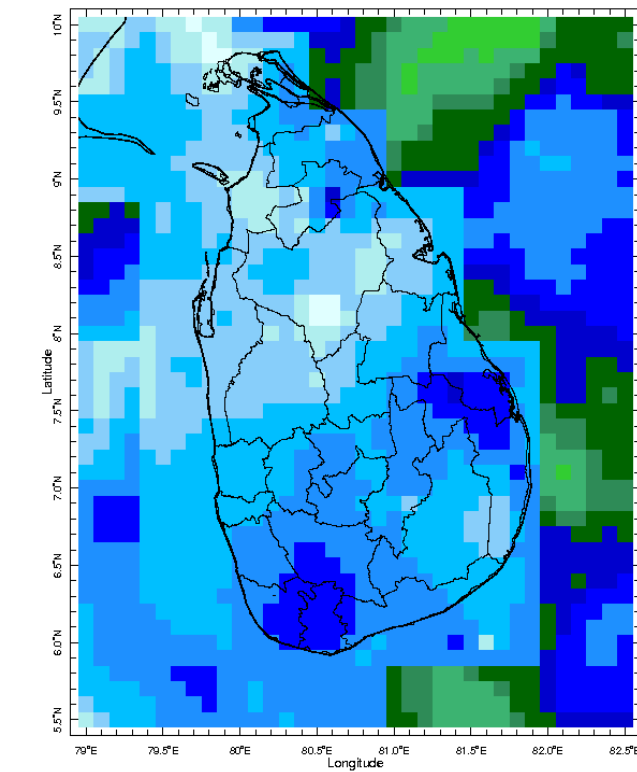
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



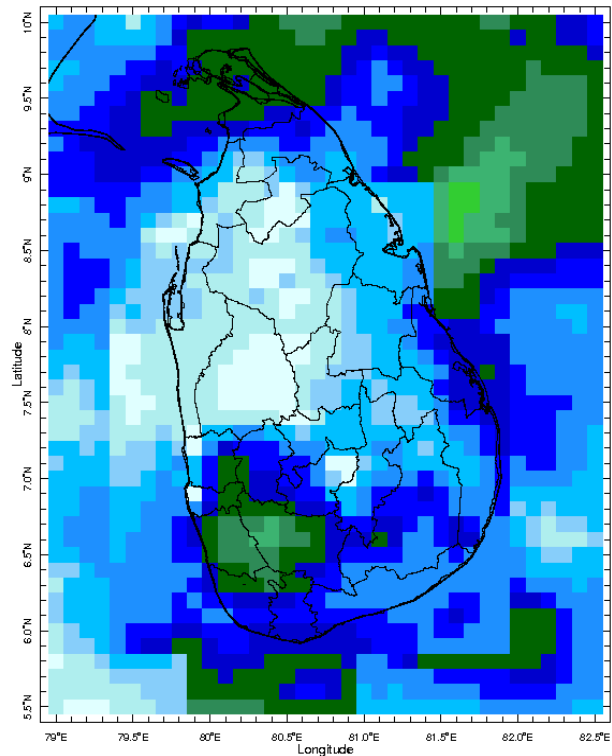
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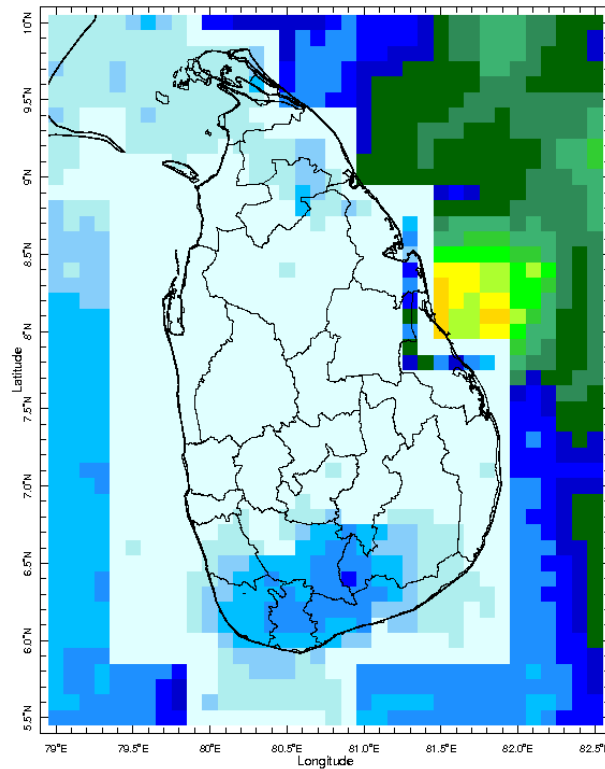
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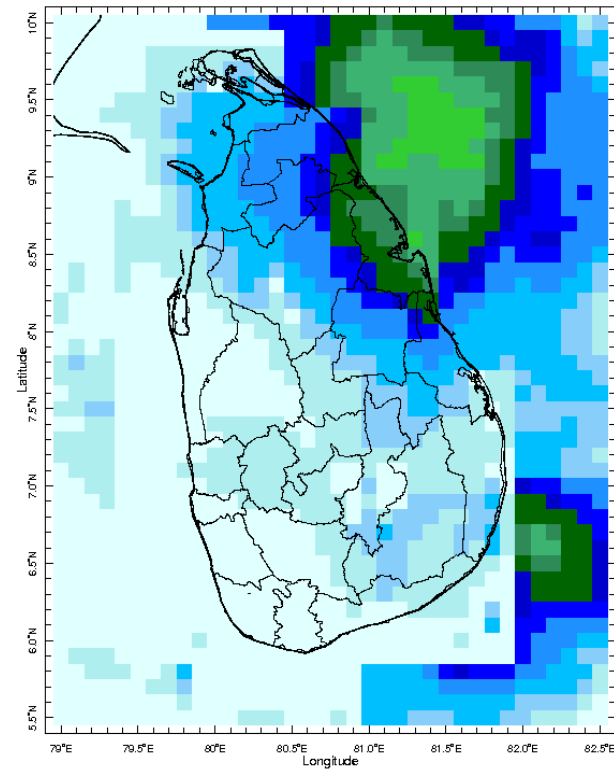
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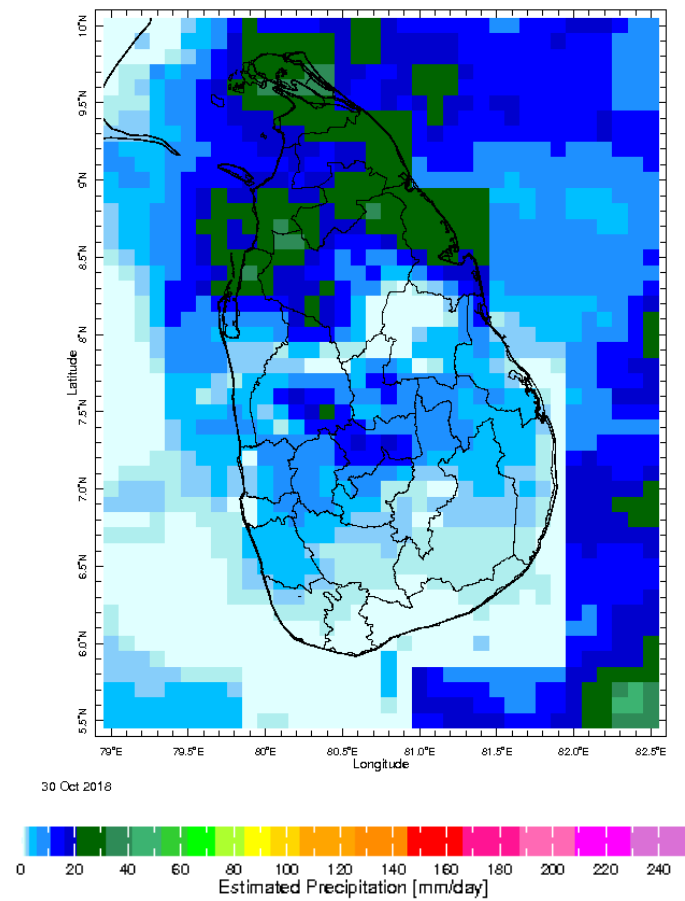
27 Oct 2018



28 Oct 2018

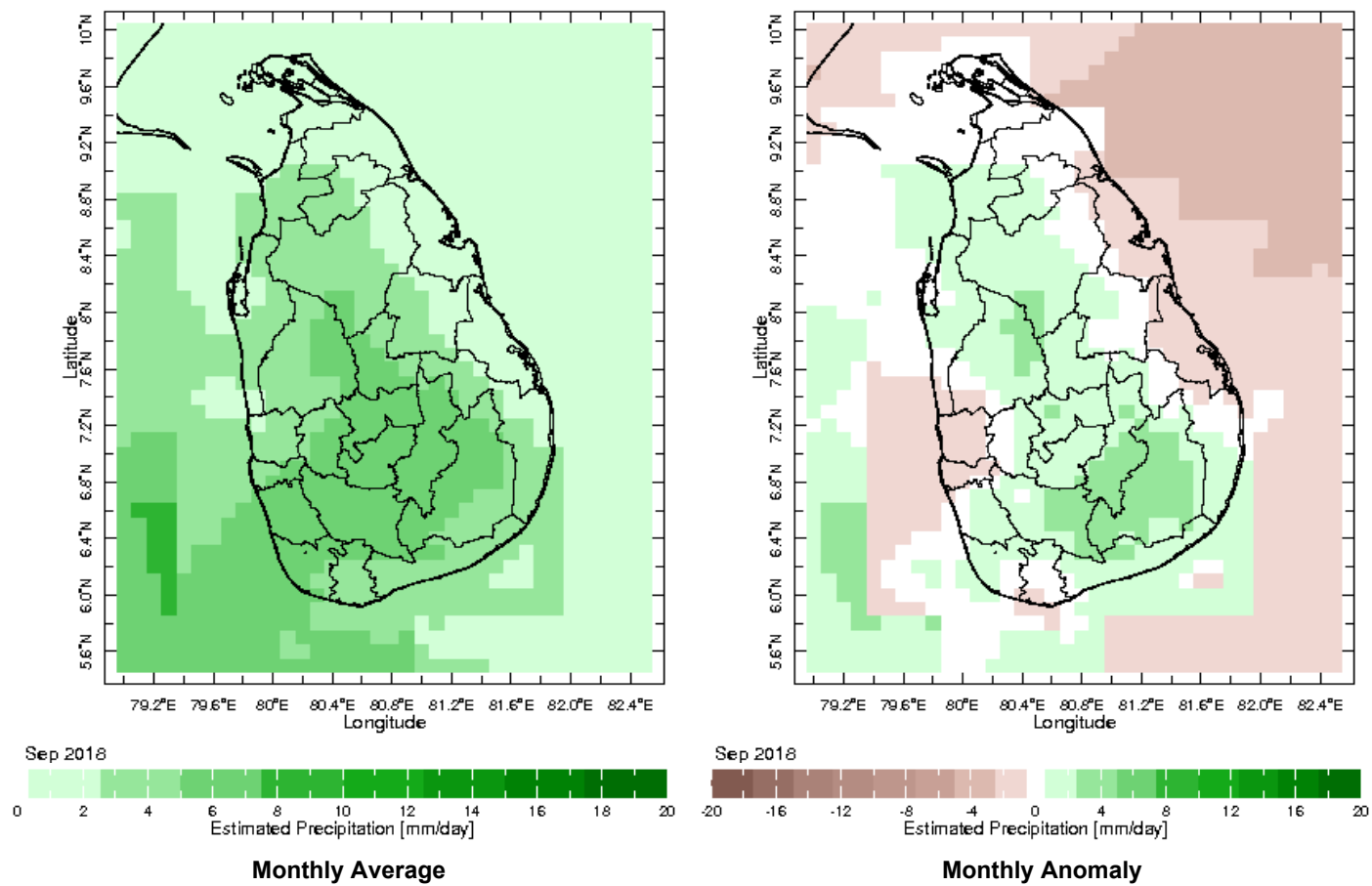


29 Oct 2018

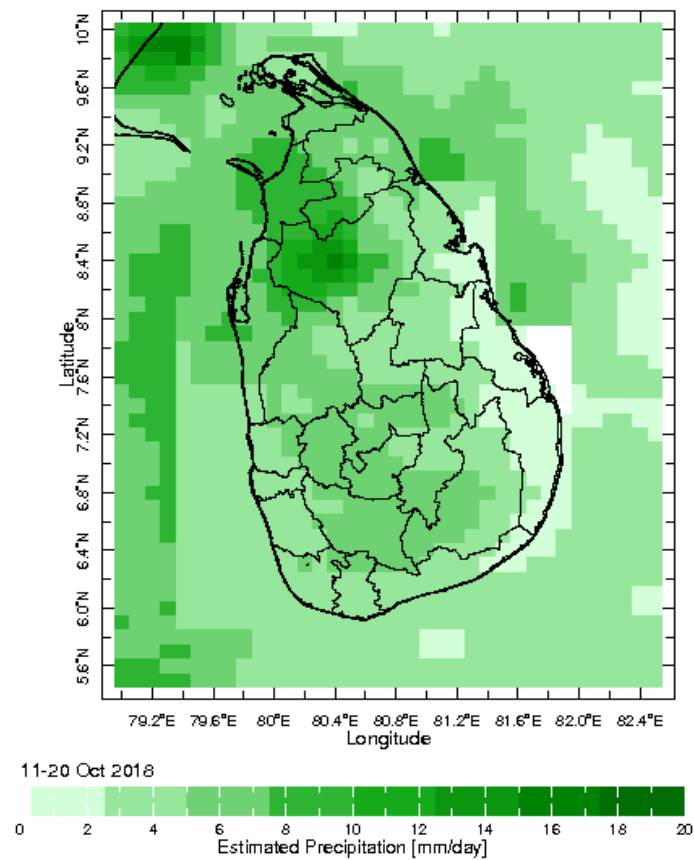
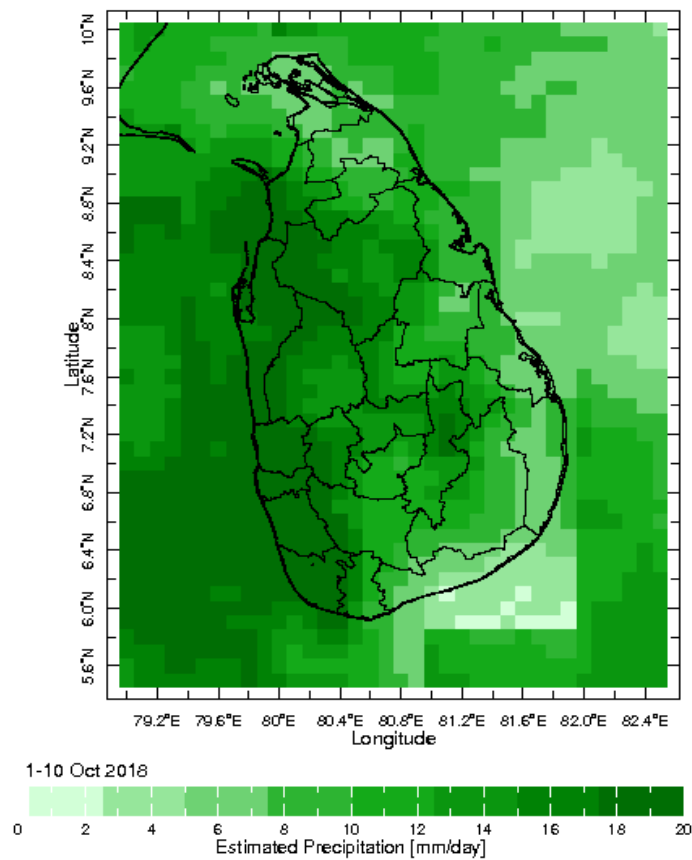


Monthly Rainfall Monitoring

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

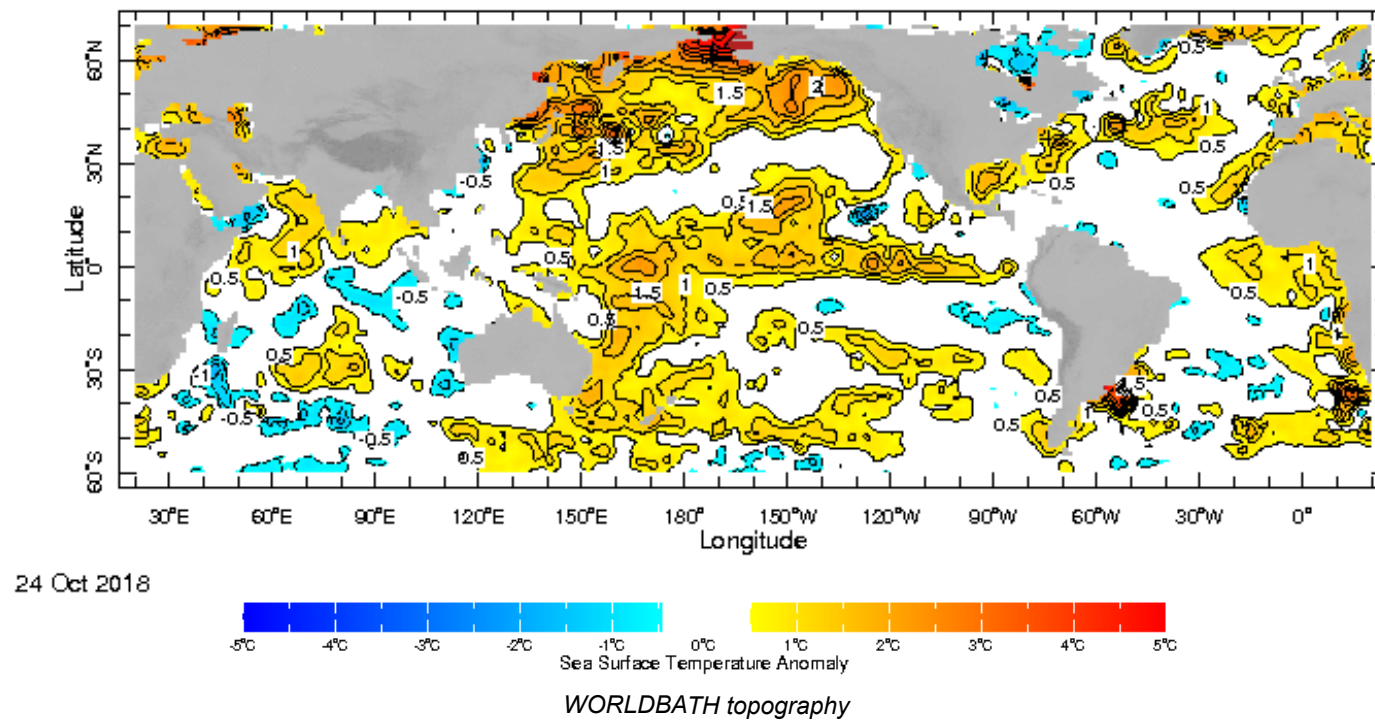


Dekadal (10 Day) Satellite Derived Rainfall Estimates

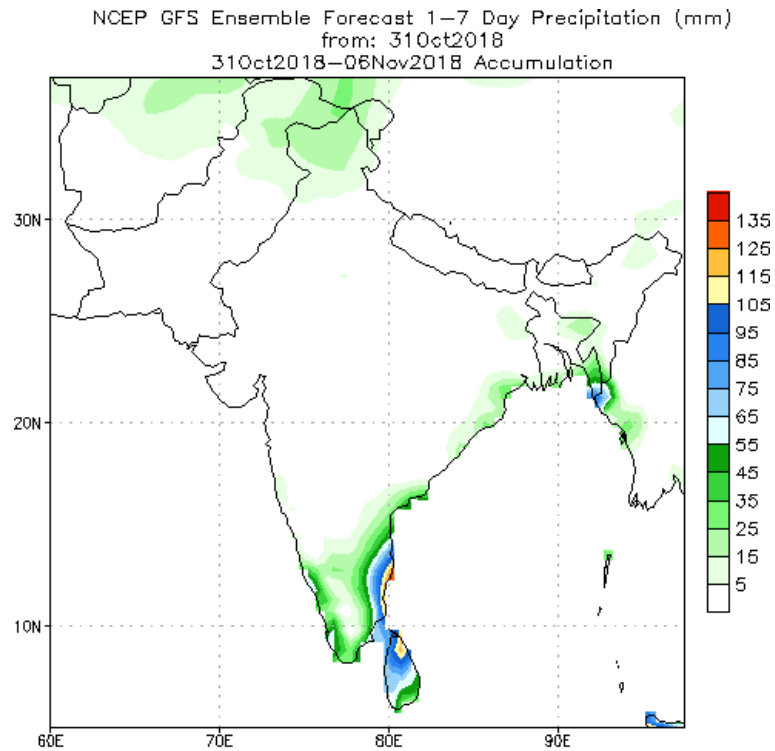


Weekly Average SST Anomalies

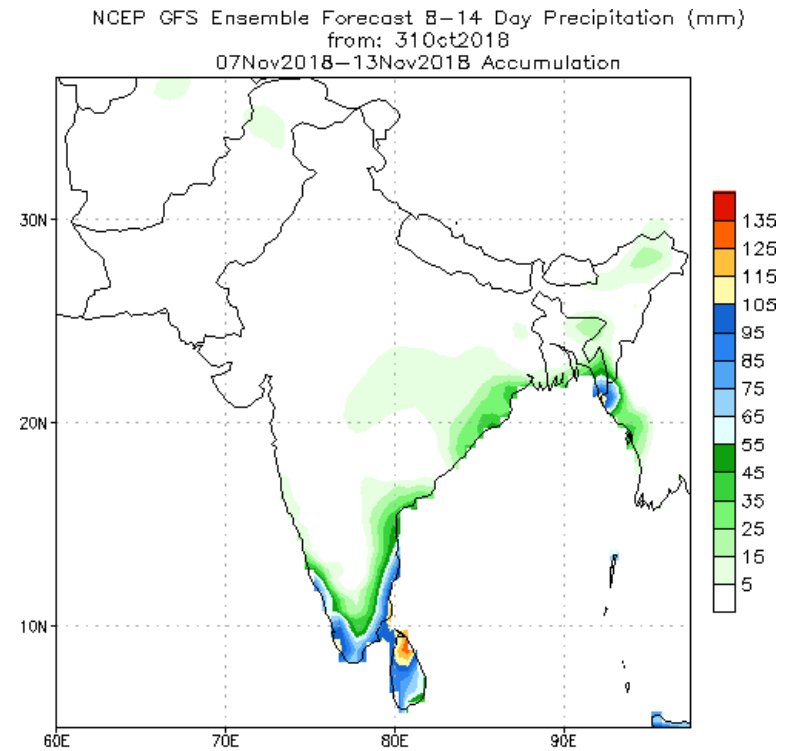
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



NCEP GFS 1- 14 Day prediction

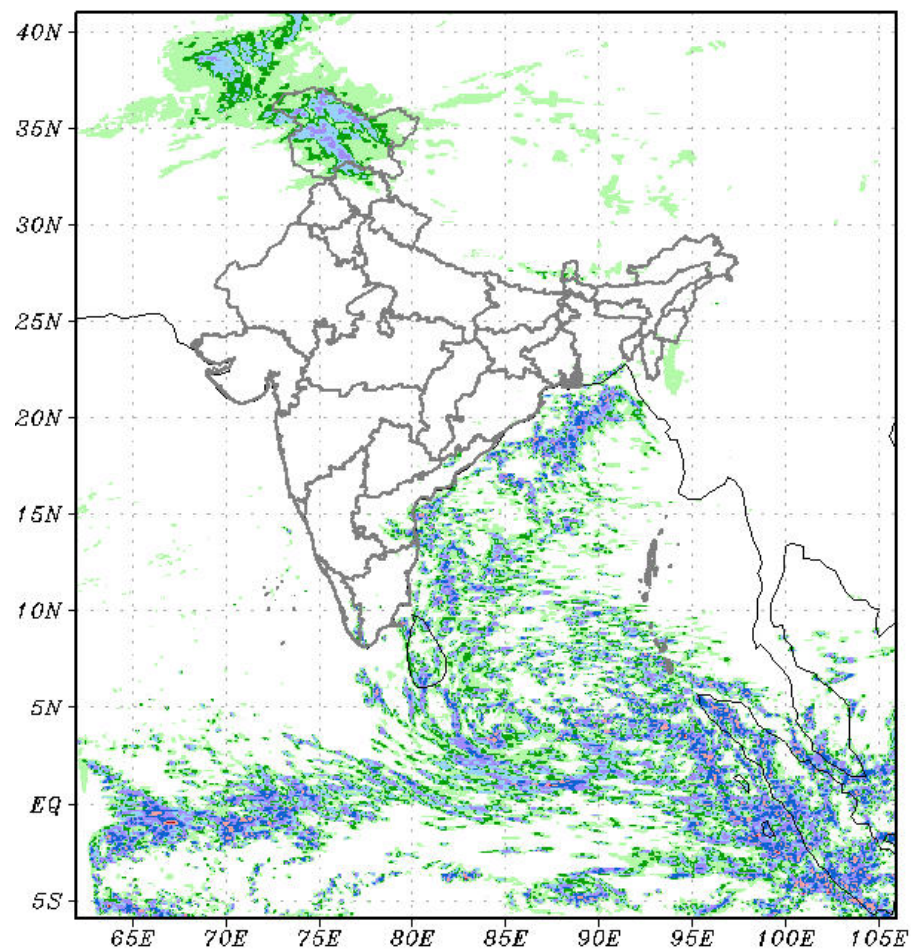


Bias correction based on last 30-day forecast error

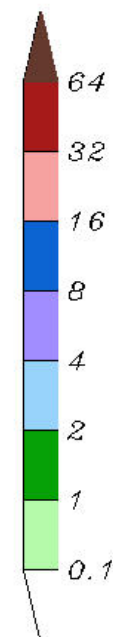
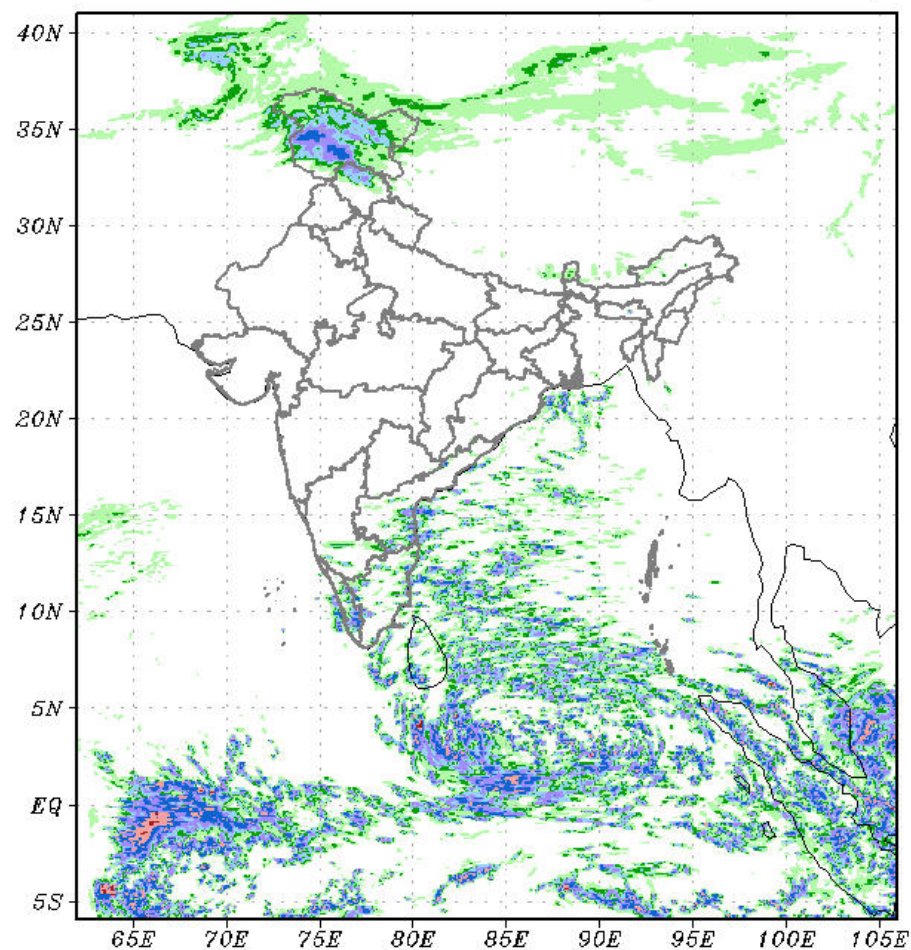


Bias correction based on last 30-day forecast error

DAY 1 FORECAST VALID ON 00Z2NOV2018
RAINFALL(cm) CI=0.1,1,2,4,8,...
NCMRWF UNIFIED MODEL (REG-4Km)



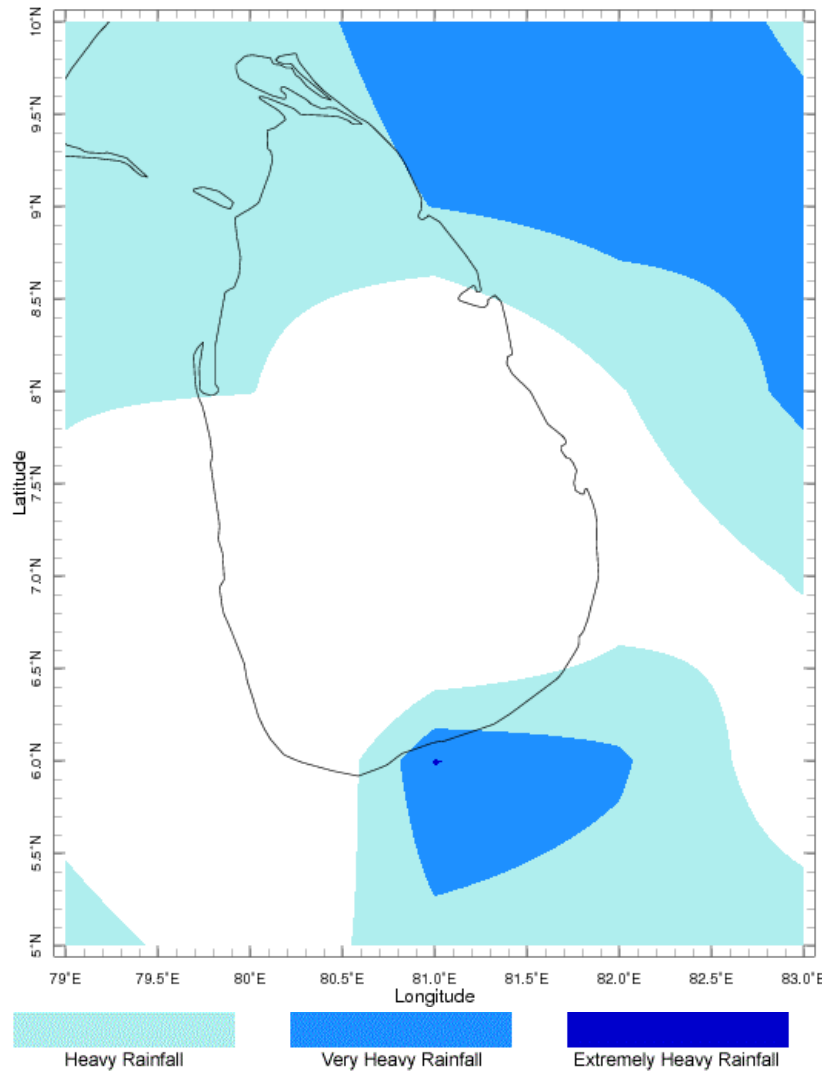
DAY 2 FORECAST VALID ON 00Z3NOV2018
RAINFALL(cm) CI=0.1,1,2,4,8,...
NCMRWF UNIFIED MODEL (REG-4Km)



Weekly Rainfall Forecast from IRI

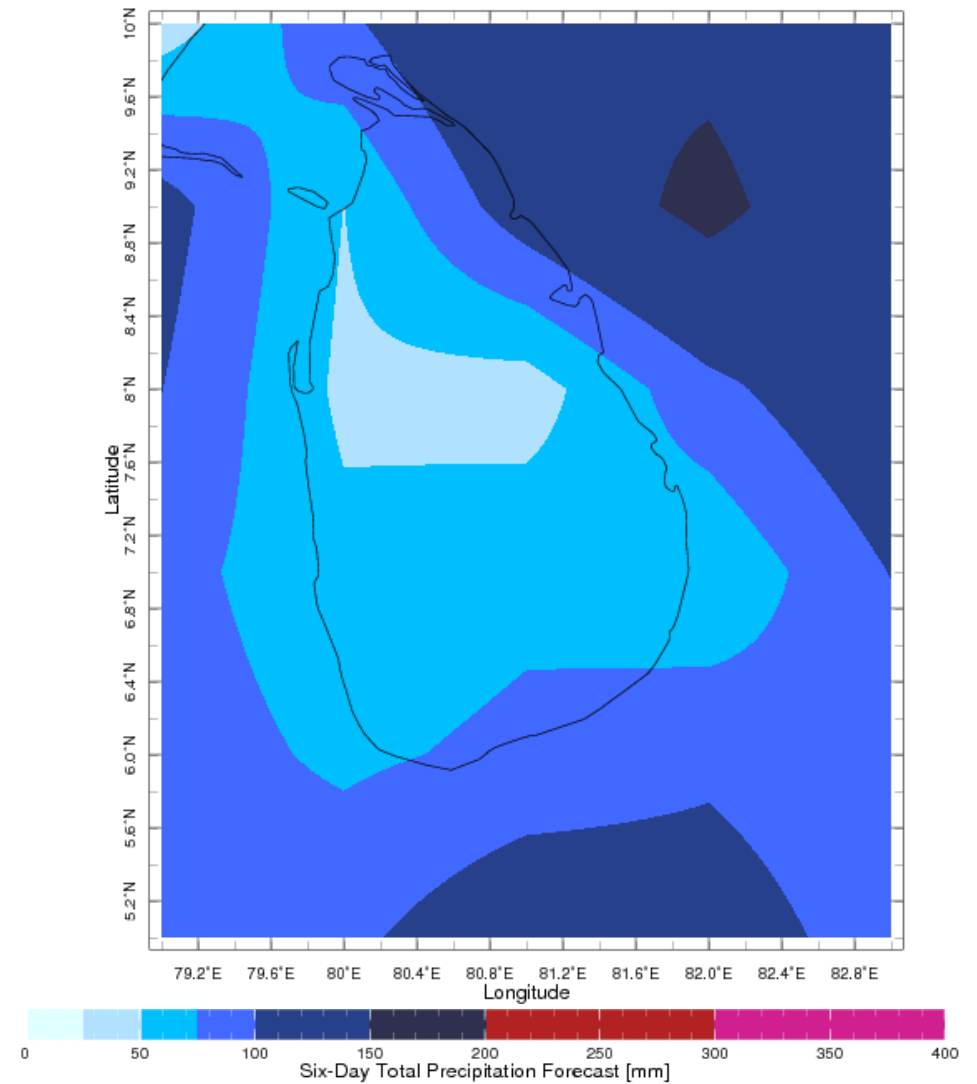
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 31 Oct 2018 - 5 Nov 2018 Issued 0000 31 Oct 2018



Extreme Rainfall Forecast

Forecast for 31 Oct 2018 - 5 Nov 2018 Issued 0000 31 Oct 2018



Total Six Day Precipitation Forecast