

**16 January
2020**

EXPERIMENTAL CLIMATE MONITORING AND PREDICTION

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HIGHLIGHTS

Rainfall Forecast



- The NOAA weekly rainfall forecast predicts up to 75 mm of total rainfall in western, central and eastern regions during 15- 20 Jan.

Monitored Rainfalls



- Between 7 - 14 Jan: up to 20 mm of rainfall were recorded in Vavuniya, Batticaloa and Ratnapura districts on the 7th.

Monitored Wind



- From 7- 13 Jan: up to 18 km/h, northeasterly winds were experienced by the entire 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
7 th January	Up to 20 mm in Vavuniya, Batticaloa and Ratnapura districts; and up to 15 mm in Mullaitivu, Mannar, Anuradhapura, Badulla and Kalutara districts.
8 th January	No Rainfall.
9 th January	No Rainfall.
10 th January	No Rainfall.
11 th January	Up to 10 mm in Polonnaruwa, Batticaloa, Ampara, Kandy, Badulla and Monaragala districts.
12 th January	Up to 10 mm in Ratnapura district.
13 th January	No Rainfall.
14 th January	No Rainfall.



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Total Rainfall for the Past Week

The RFE 2.0 tool shows total up to 5-10 mm in Polonnaruwa, Batticaloa, Ampara, Badulla, Monaragala, Kandy, Ratnapura and Galle districts. Below average rainfall up to 50-100 mm is shown for Trincomalee, Anuradhapura, Matale, Kandy, Nuwara Eliya, Polonnaruwa, Badulla, Monaragala, Batticaloa and Ampara districts; and up to 25-50 mm in most parts of the island.

Monthly Monitoring

During December – Above average rainfall conditions up to 300 mm were experienced by Trincomalee, Anuradhapura and Ampara districts; up to 240 mm in Mullaitivu, Puttalam, Polonnaruwa, Kurunegala, Matale, Kandy, Nuwara Eliya, Badulla, Monaragala, Galle, Colombo, Jaffna and Hambantota districts; and up to 60 mm in Kegalle, Kalutara and Matara districts. The CPC Unified Precipitation Analysis tool shows up to 500 mm were experienced by Mullaitivu, Anuradhapura, Polonnaruwa, Matale, Badulla, Monaragala, Batticaloa and Ampara districts; and up to 200-300 mm in Jaffna, Kilinochchi, Mannar, Puttalam, Kandy, Nuwara Eliya, Ratnapura and Hambantota districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: January 19, 2020

SSTs in the east-central Pacific were near the borderline of weak El Niño levels during mid-January. Patterns in most atmospheric variables have mainly maintained neutral conditions, with some trends toward El Niño. Most model forecasts favor borderline weak El Niño SST conditions during winter, returning to ENSO-neutral by early spring and beyond. The official CPC/IRI outlook is consistent with these model forecasts.

Indian Ocean State

1 °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 15th – 21st Jan: Total rainfall up to 55 mm in Gampaha, Kegalle, Ratnapura, Kandy, Nuwara Eliya, Badulla, Monaragala, Batticaloa and Ampara districts; up to 35-45 mm in Galle, Matara, Hambantota, Polonnaruwa, Matale, Kurunegala and Puttalam districts; and up to 25-35 mm in Anuradhapura and Trincomalee districts.

From 22nd – 28th Jan: Total rainfall up to 15 mm in Colombo district.

NOAA Model Forecast:

From 15th – 20th Jan: Total rainfall up to 75 mm is expected in Puttalam, Colombo, Kalutara, Kegalle, Ratnapura, Kandy, Nuwara Eliya, Badulla, Monaragala, Batticaloa and Ampara districts.

MJO based OLR predictions

For the next 15 days:

MJO shall suppress 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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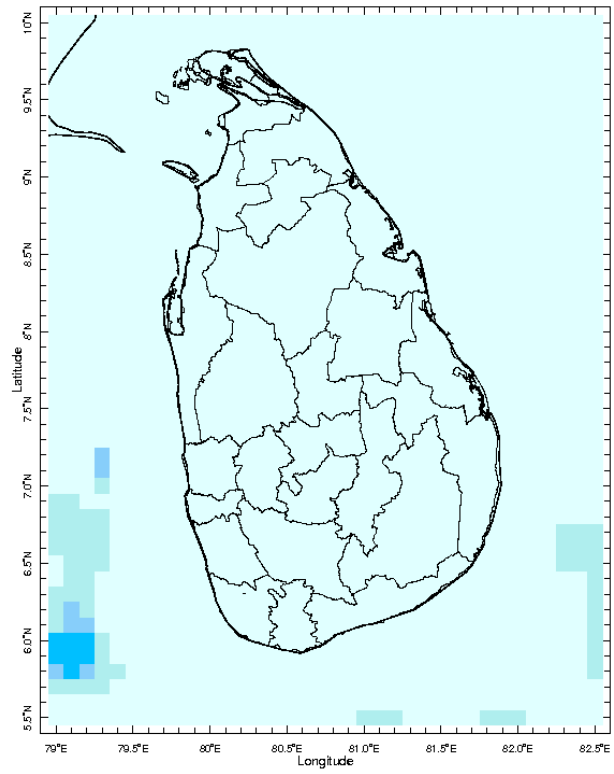
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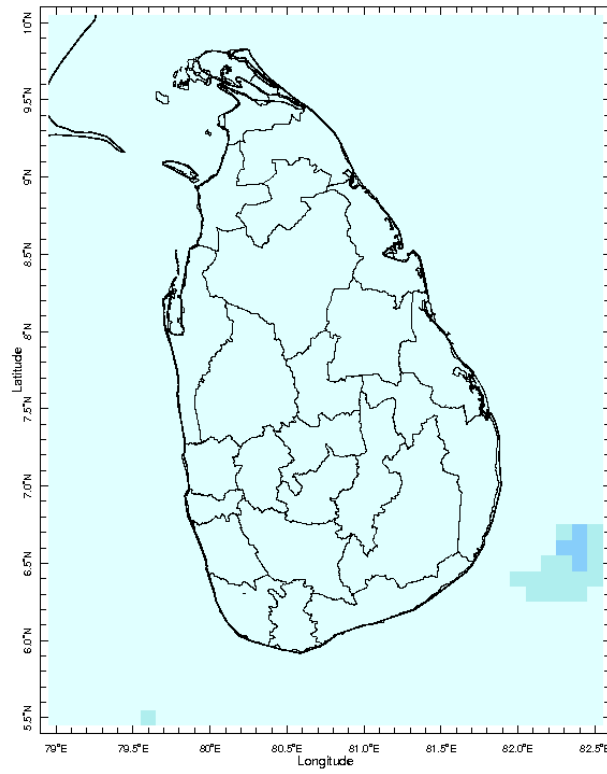
MONITORING

Daily Rainfall Monitoring

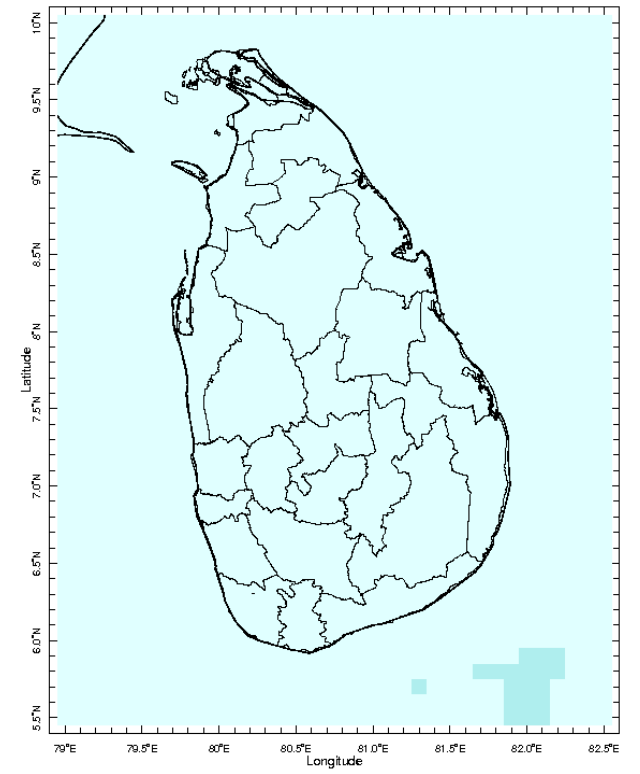
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



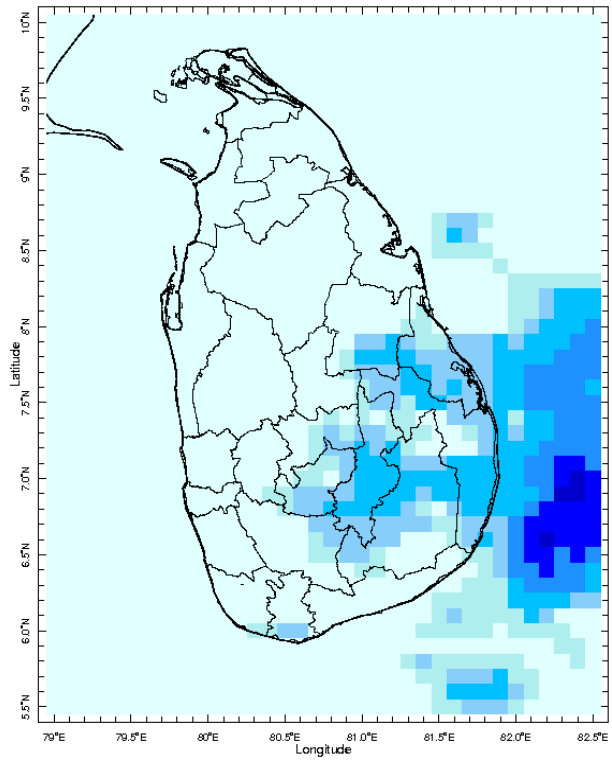
8 Jan 2020



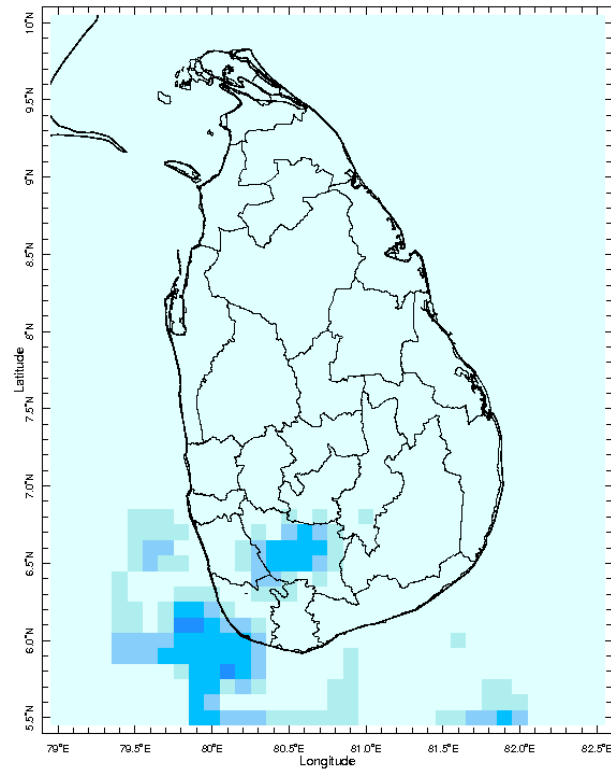
9 Jan 2020



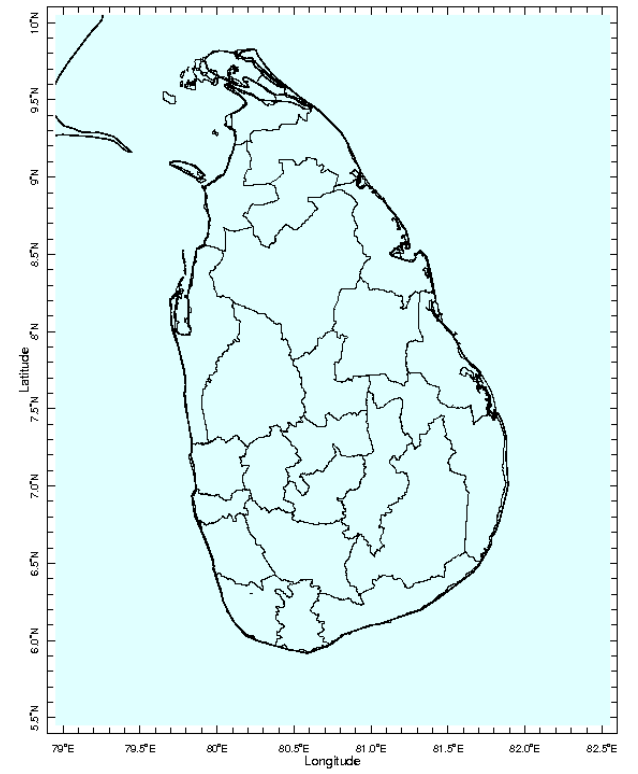
10 Jan 2020



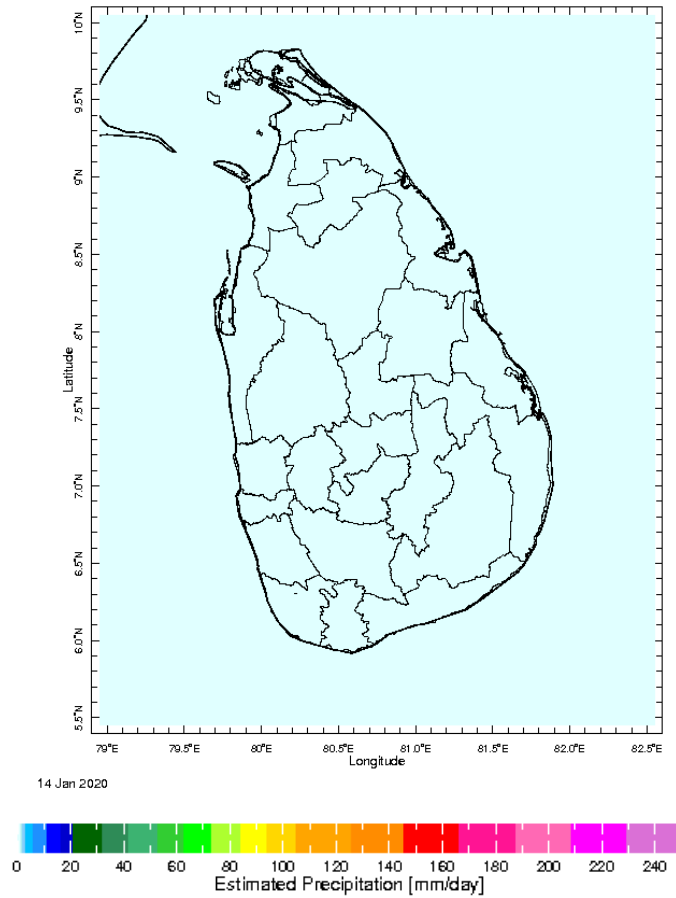
11 Jan 2020



12 Jan 2020

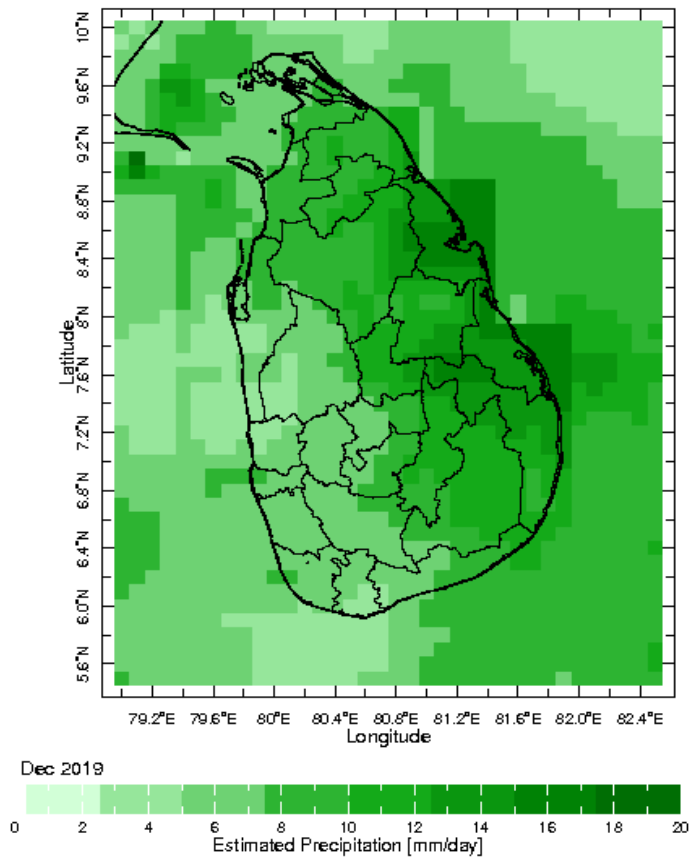


13 Jan 2020

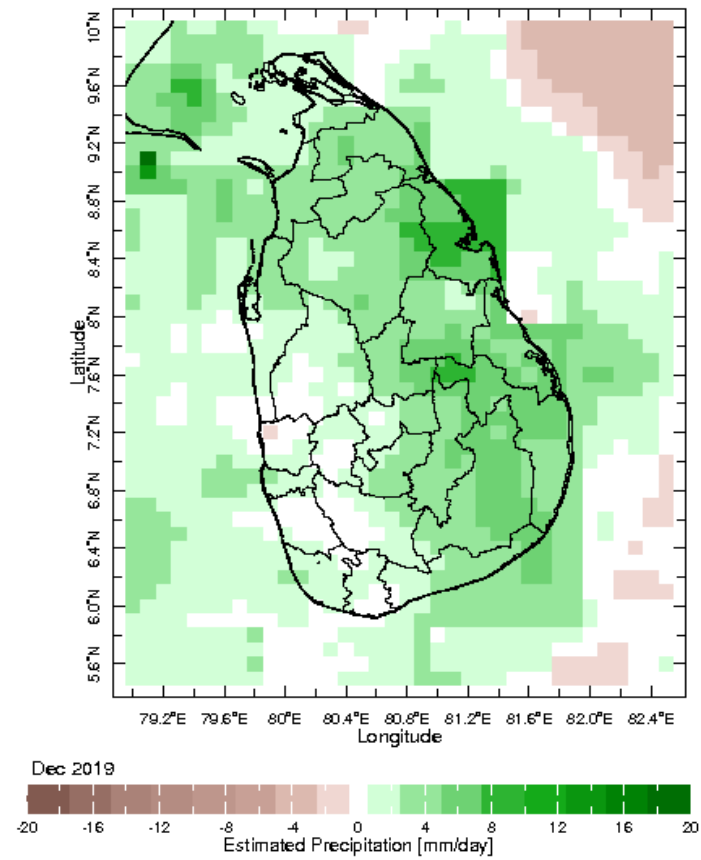


Monthly Rainfall Monitoring

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

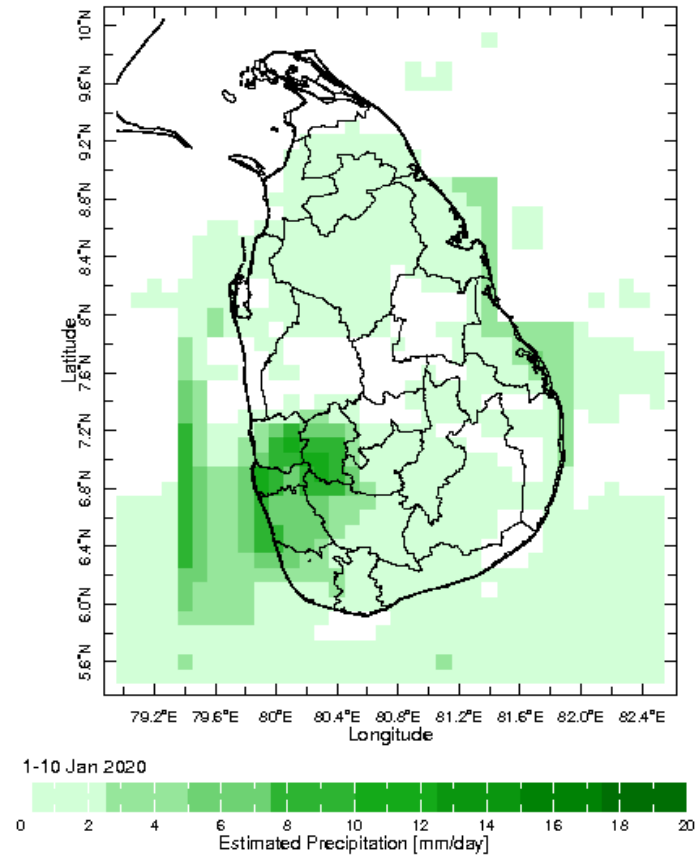
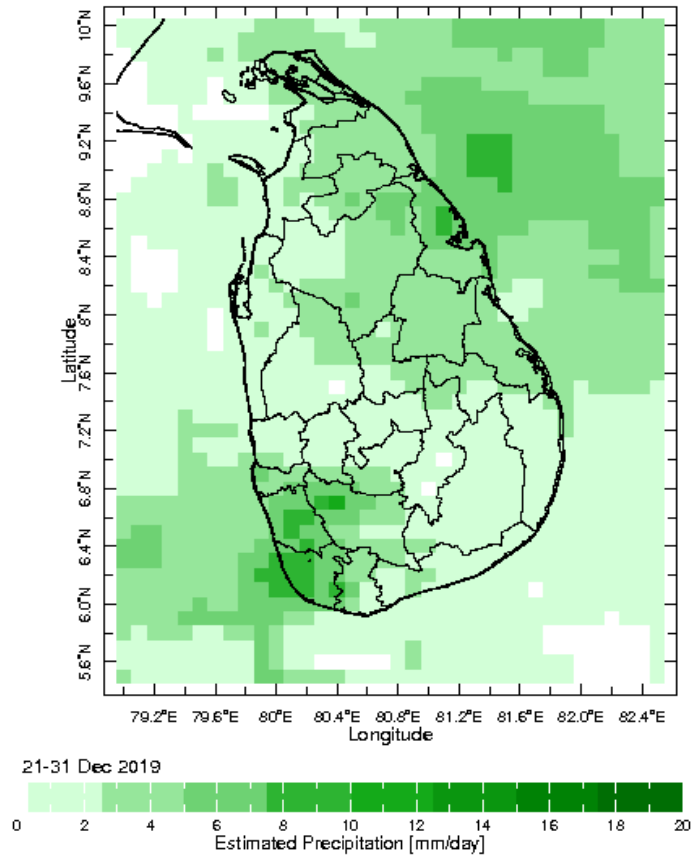


Monthly Average



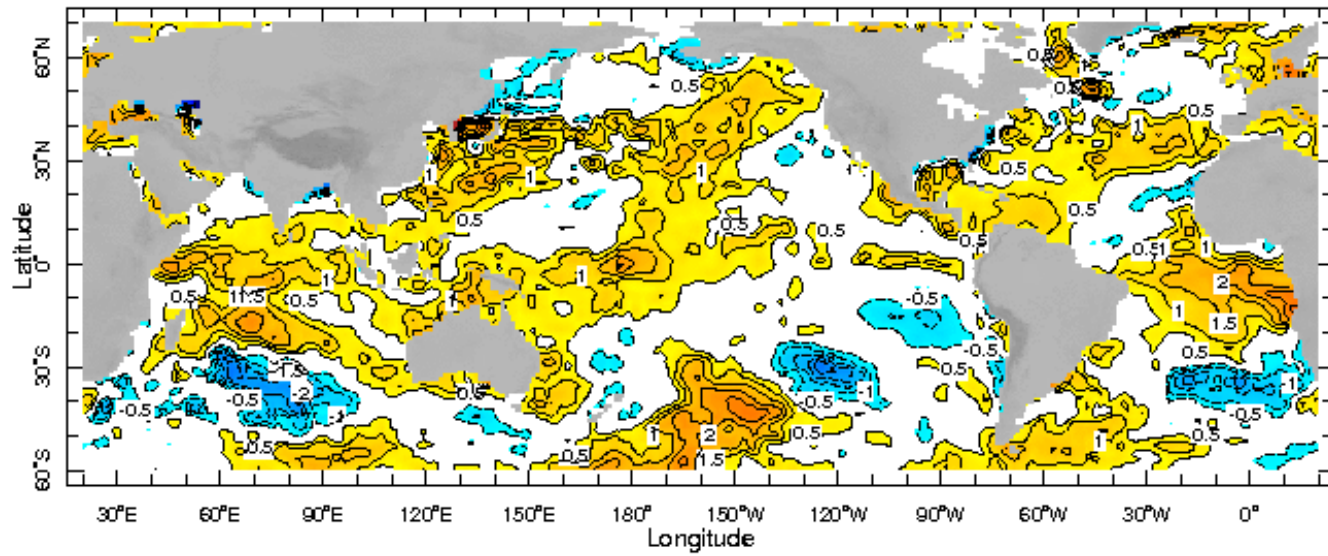
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

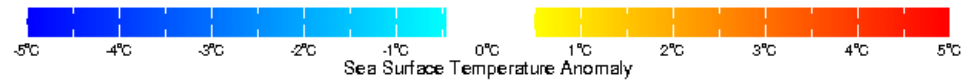


Weekly Average SST Anomalies

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



8 Jan 2020

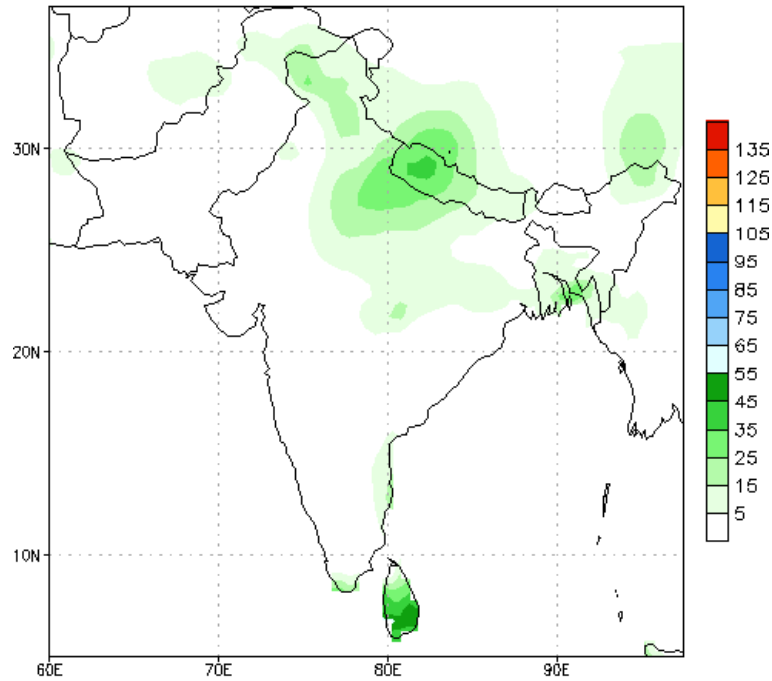


WORLDBATH topography

PREDICTIONS

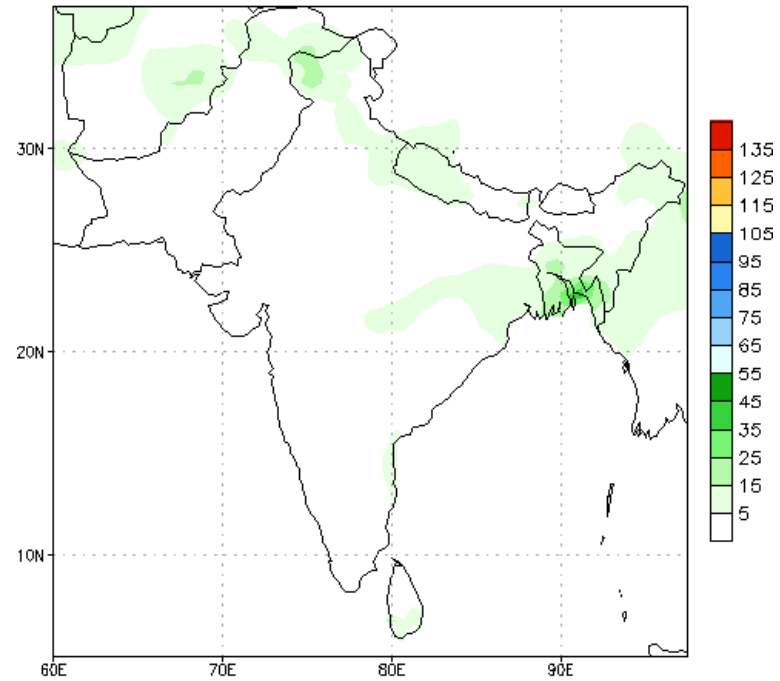
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 15Jan2020
15Jan2020-21Jan2020 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 15Jan2020
22Jan2020-28Jan2020 Accumulation

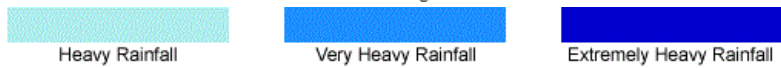
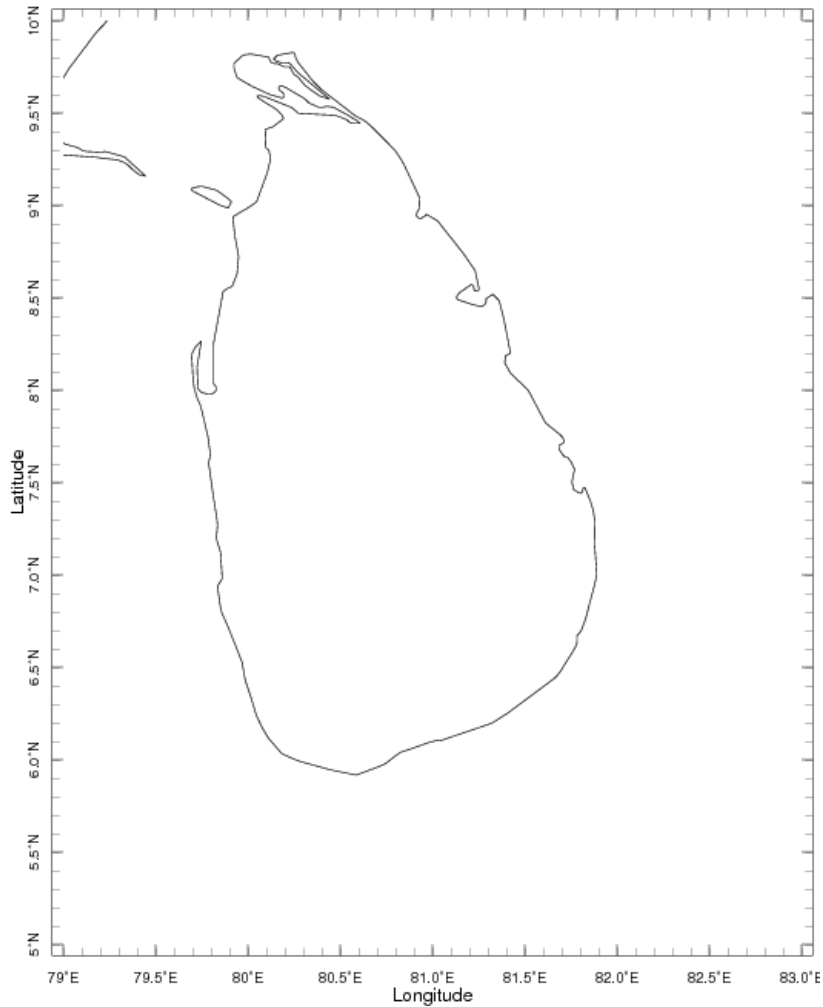


Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

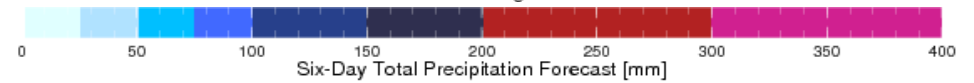
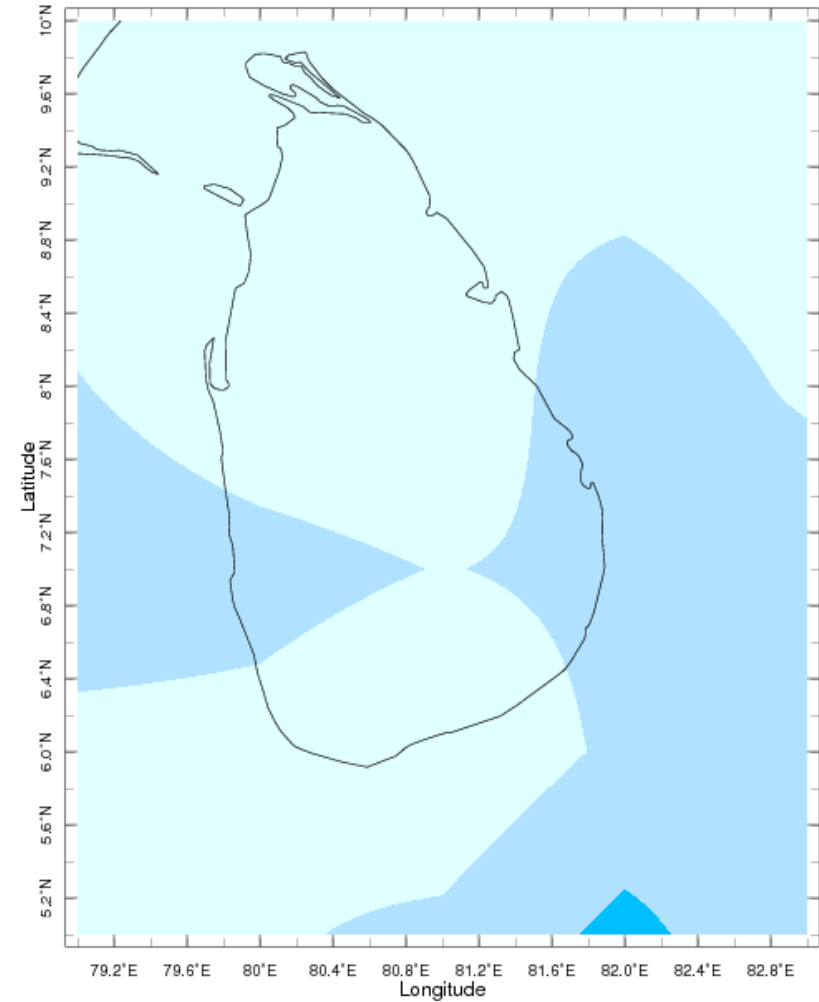
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 15-20 Jan 2020 Issued 0000 15 Jan 2020



Extreme Rainfall Forecast

Forecast for 15-20 Jan 2020 Issued 0000 15 Jan 2020



Total Six Day Precipitation Forecast