

Experimental Climate Monitoring and Prediction

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8 February 2018

Highlights

- The IRI weekly forecast predicts total rainfall between 25-50 mm in Kandy, Nuwara Eliya, Kegalle, Badulla, Ratnapura and Monaragala districts during 7th-12th Feb.
- Between 31 Jan-6 Feb: up to 80 mm of rainfall was recorded in Puttalam on the 5th.
- From 28 Jan-3 Feb: minimum temperature of 15 °C was recorded from Nuwara Eliya district while western and southern parts of the island recorded a maximum temperature between 30-35 °C.
- From 30 Jan-5 Feb: up to 36 km/h, easterly winds were experienced by the southern regions of the island.
- 0.5 °C below average sea surface temperature was observed in the northern seas of Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On January 31st Kalutara and Ratnapura districts received up to 15 mm of rainfall; and most parts of the central and southern regions of the island up to 10 mm. On February 1st, Ratnapura district received up to 50 mm of rainfall; Kalutara district up to 30 mm; Kegalla, Nuwara Eliya, Colombo, Matara and Hambantota districts up to 20 mm; and Galle district up to 10 mm. No significant rainfalls were recorded in any part of the island during 2-3. On the 4th, Kalutara, Galle, Matara and Ratnapura districts received up to 10 mm of rainfall. On the 5th, Kalutara and several regions of Ratnapura and Galle districts received up to 10 mm of rainfall. On the 6th, Koswatta region of Puttalam district received up to 80 mm of rainfall; Kurunegala, Gampaha and Kalutara districts up to 50 mm; Kegalla and Colombo districts up to 30 mm and Ratnapura, Kandy and Nuwara Eliya districts up to 20 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 50-75 mm in Kalutara district; and up to 25-50 mm in Puttalam, Kurunegala, Gampaha, Colombo, Kegalla, Ratnapura and Galle districts. It also shows above average rainfall up to 25-50 mm in Kalutara district; and up to 10-25 mm in Puttalam and Kurunegala districts. Below average rainfall up to 5-100 mm is shown for Trincomalee, Anuradhapura, Polonnaruwa, Batticaloa and Ampara districts; and up to 25-50 mm in Mullaitivu, Matale, Kandy, Nuwara Eliya, Badulla and Monaragala districts.

Monthly Monitoring: During January - below average rainfall conditions were experienced by the entire island. Trincomalee, Polonnaruwa, Batticaloa, Matale, Colombo, Kalutara, Galle, Ratnapura, Badulla, Monaragala and Ampara districts received up to 180 mm below average rainfall; and rest of the island up to 120 mm. The CPC Unified Precipitation Analysis tool shows ~100 mm of total rainfall in Puttalam, Kalutara, Nuwara Eliya and Badulla districts; and up to ~75 mm in Anuradhapura, Kurunegala, Gampaha, Kegalla, Ratnapura, Galle, Matara, Matale, Kandy, Monaragala and Ampara districts;

Ocean State (Text Courtesy IRI)

Pacific sea state: January 19, 2018

In mid-January 2018, the tropical Pacific reflected La Niña conditions, with SSTs in the east-central tropical Pacific in the range of weak to moderate La Niña and most atmosphere variables showing patterns suggestive of La Niña conditions. The collection of latest ENSO prediction models indicates weak La Niña continuing through the Northern Hemisphere winter and early spring, followed by a return to neutral conditions during spring. This scenario is consistent with the official CPC/IRI outlook, which continues its La Niña advisory.

Indian Ocean State

0.5 °C below average sea surface temperature was observed in the northern seas of Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 07th-13th Feb: Total rainfall between 5-15 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Anuradhapura, Puttalam, Kurunegala, Gampaha, Colombo, Kegalle, Kandy, Nuwara Eliya, Ratnapura and Kalutara districts; Up to 5 mm total rainfall rest of the island.

From 14th-20th Feb: Up to 5 mm of total rainfall over the island.

IMD WRF Forecast:

09th Feb: Up to 7.6 mm of rainfall in Trincomalee, Ampara and Monaragala districts; Up to 2.5 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Anuradhapura, Puttalam, Kurunegala, Polonnaruwa, Batticaloa, Hambantota, Matara, Galle, Kalutara, Colombo and Gampaha districts.

10th Feb: Up to 7.6 mm of rainfall in Trincomalee, Ampara, Hambantota and Monaragala districts; Up to 2.5 mm in Jaffna, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Puttalam, Kurunegala, Anuradhapura, Polonnaruwa, Batticaloa, Matara, Galle, Kalutara and Colombo districts.

IRI Model Forecast:

From 07th-12th Feb: Total rainfall between 25-50 mm in Kandy, Nuwara Eliya, Kegalle, Badulla, Ratnapura and Monaragala districts; Up to 25 mm total rainfall rest 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.

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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

Inside This Issue

1. Monitoring

- a. Daily Rainfall Monitoring
- b. Monthly Rainfall Monitoring
- c. Dekadal (10 Day) Satellite Derived Rainfall Estimates
- d. Weekly Average SST Anomalies

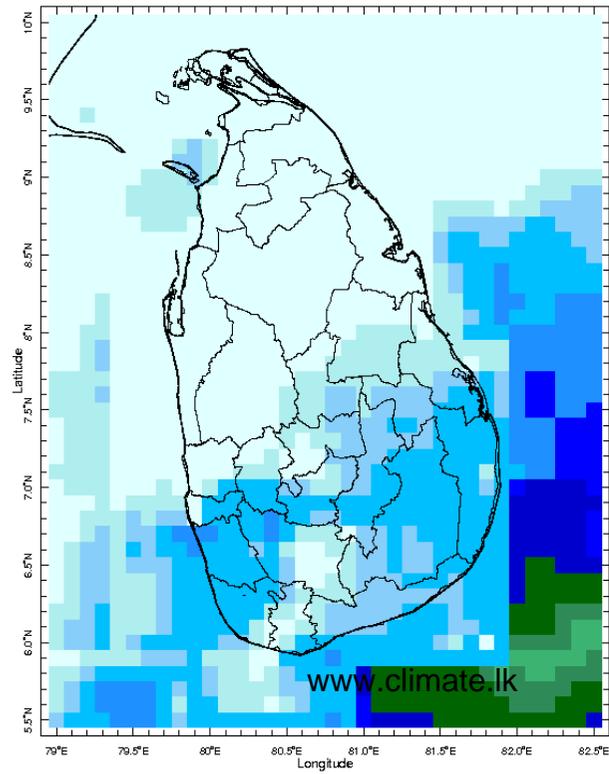
2. Predictions

- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
- c. Weekly Precipitation Forecast from IRI
- d. Seasonal Predictions from IRI

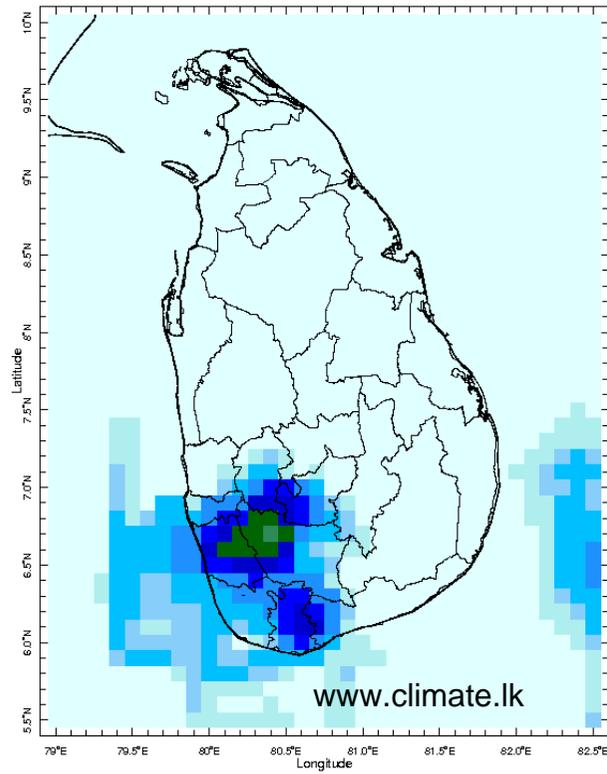
MONITORING

Daily Rainfall Monitoring

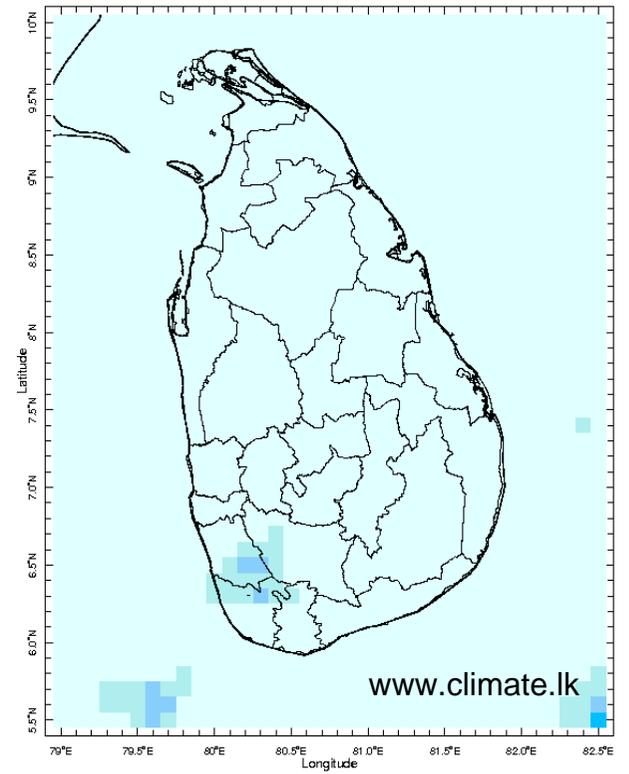
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



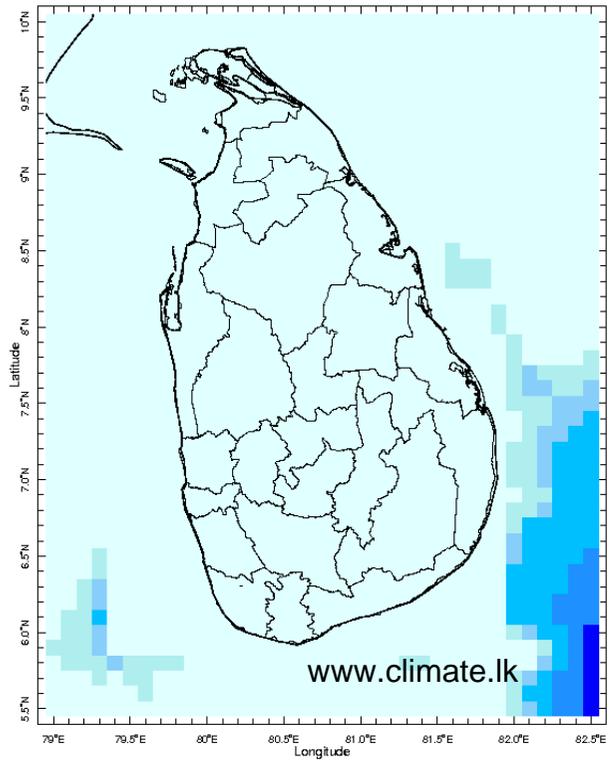
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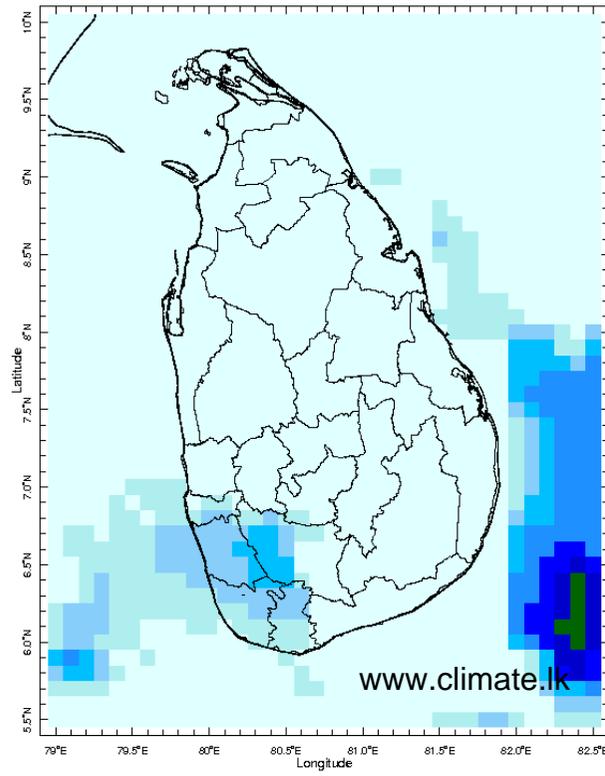
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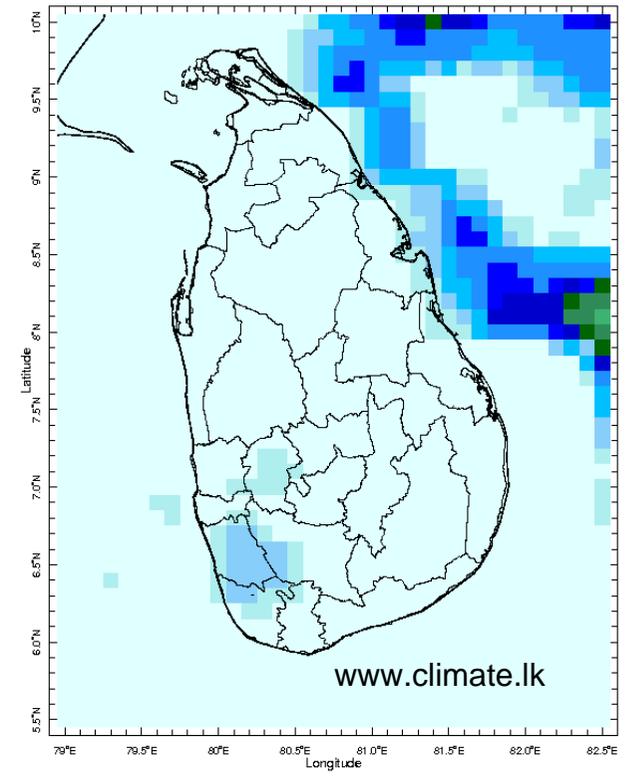
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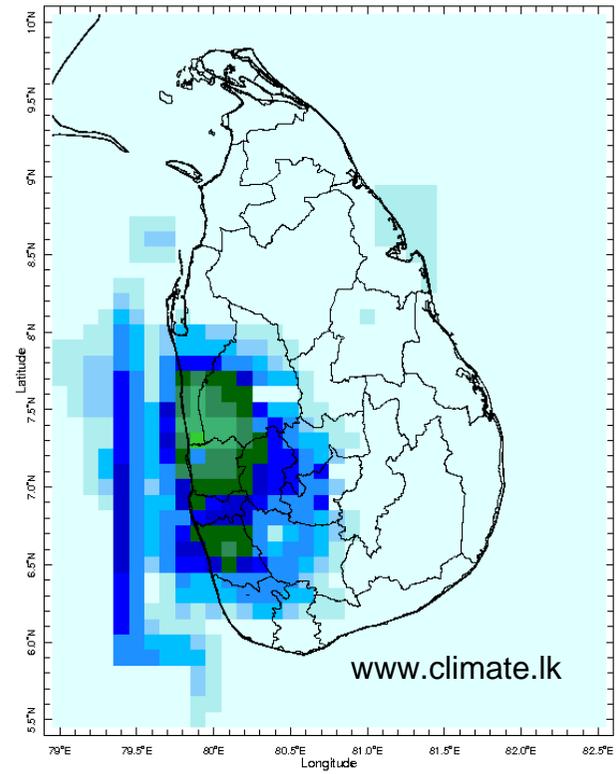
3 Feb 2018



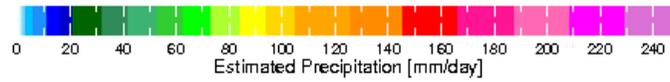
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5 Feb 2018

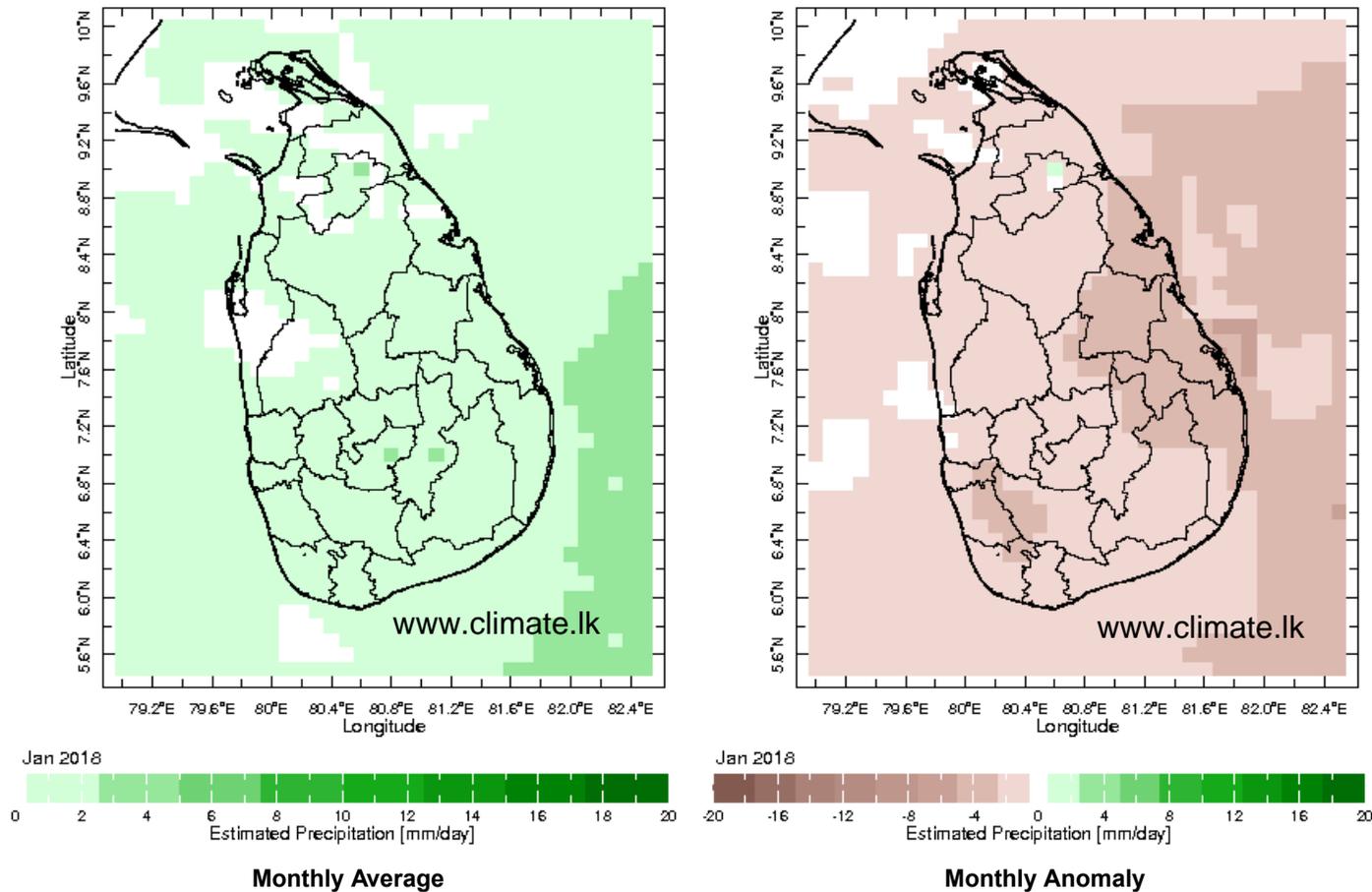


6 Feb 2018

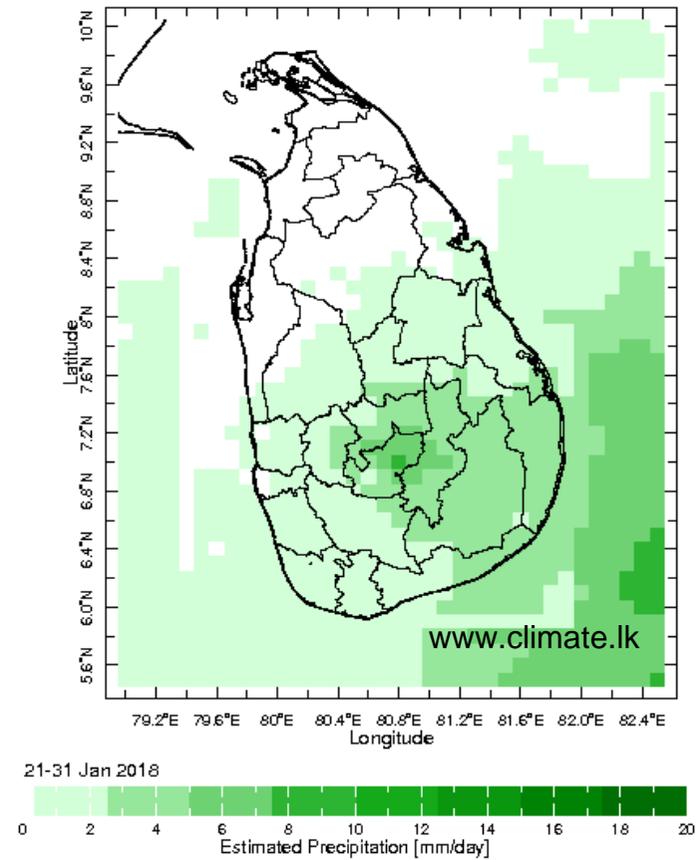
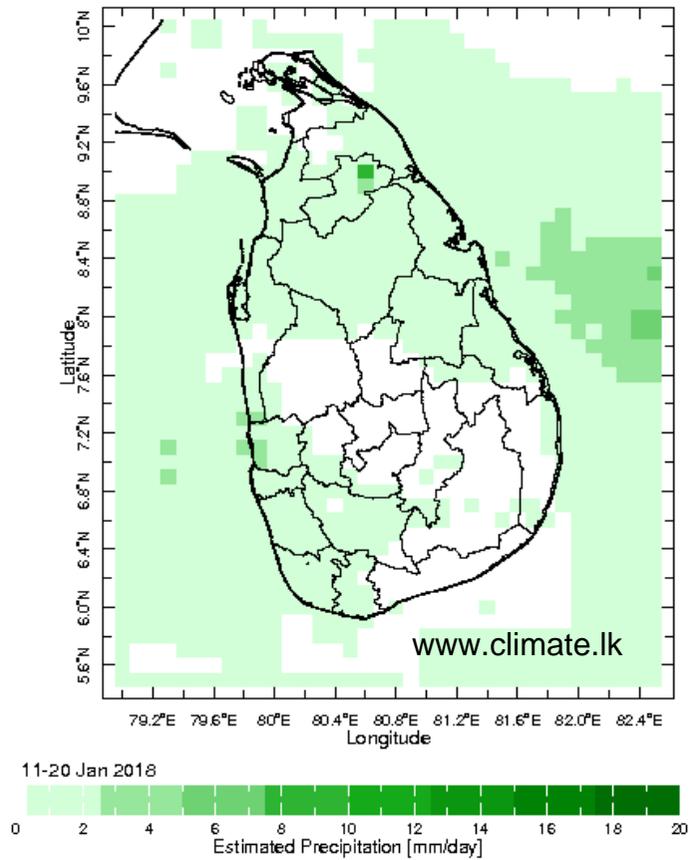


Monthly Rainfall Monitoring

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

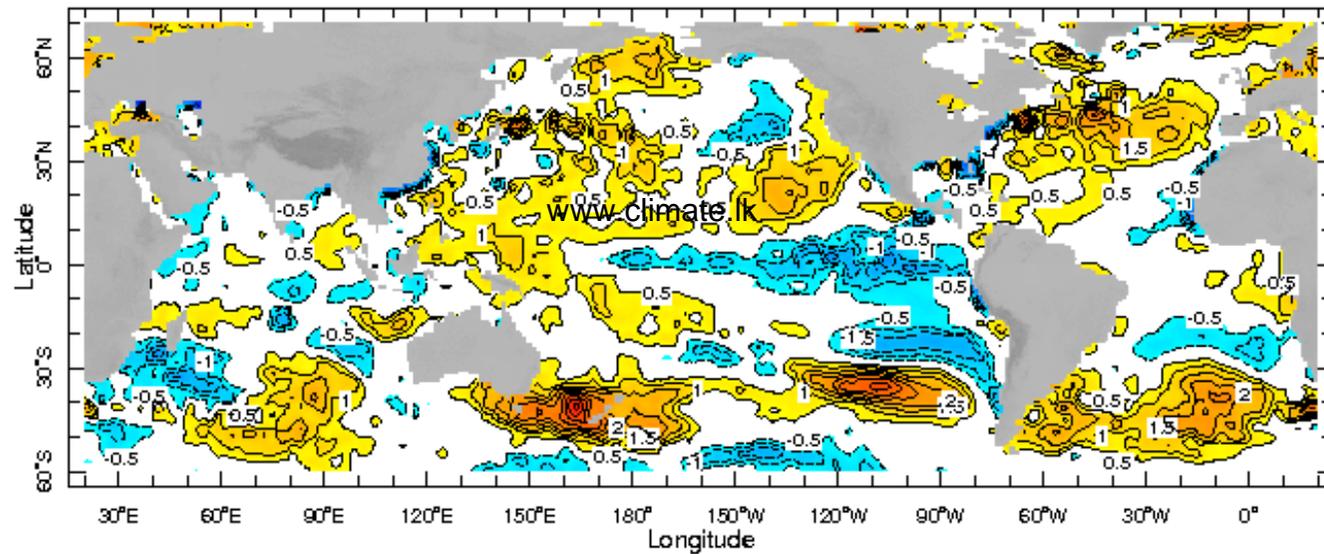


Dekadal (10 Day) Satellite Derived Rainfall Estimates



Weekly Average SST Anomalies

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



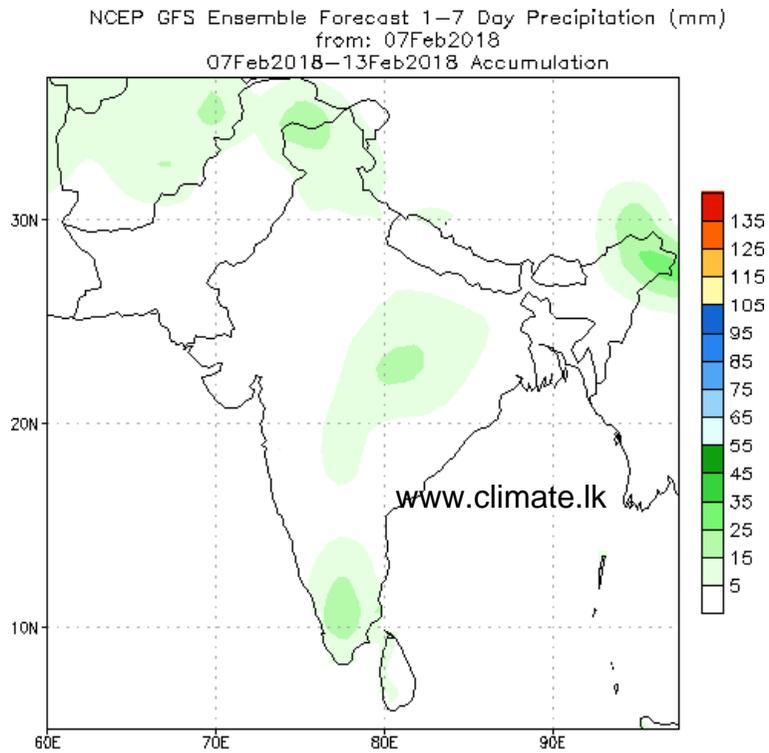
31 Jan 2018



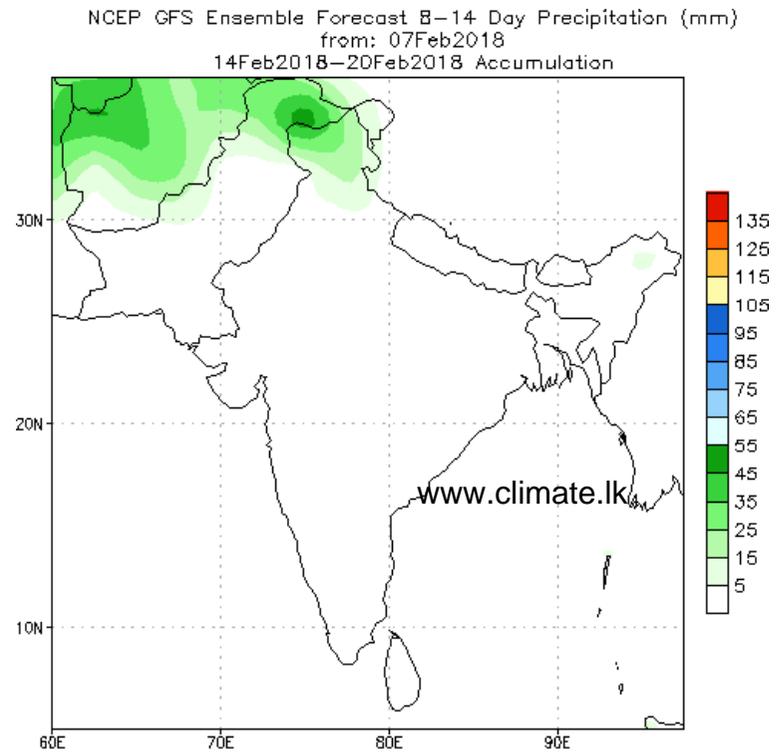
WORLDBATH topography

PREDICTIONS

NCEP GFS 1- 14 Day prediction



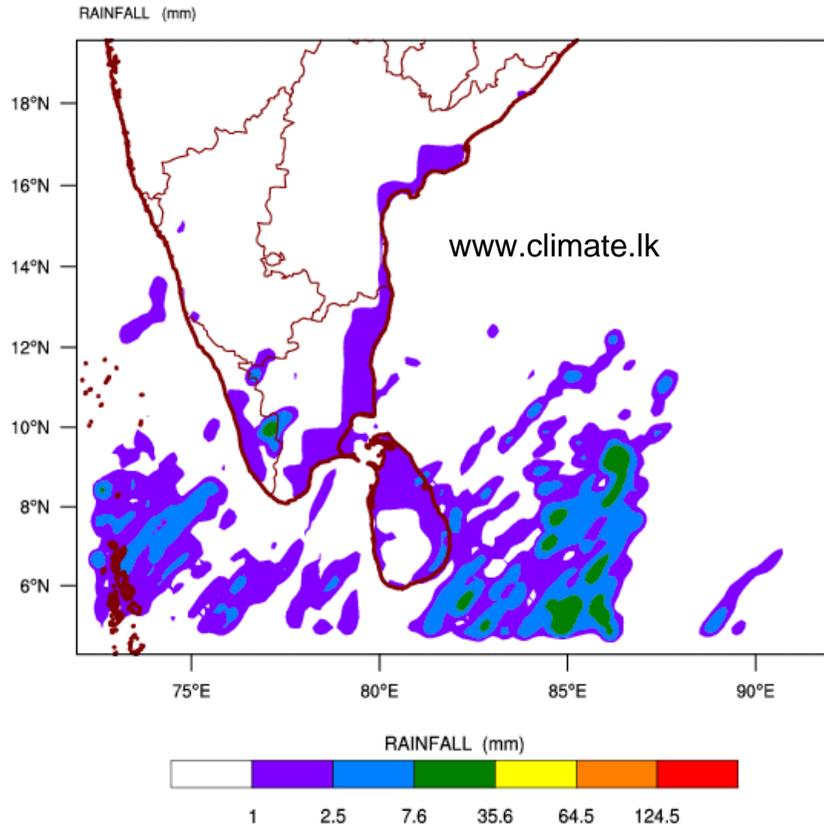
Bias correction based on last 30-day forecast error



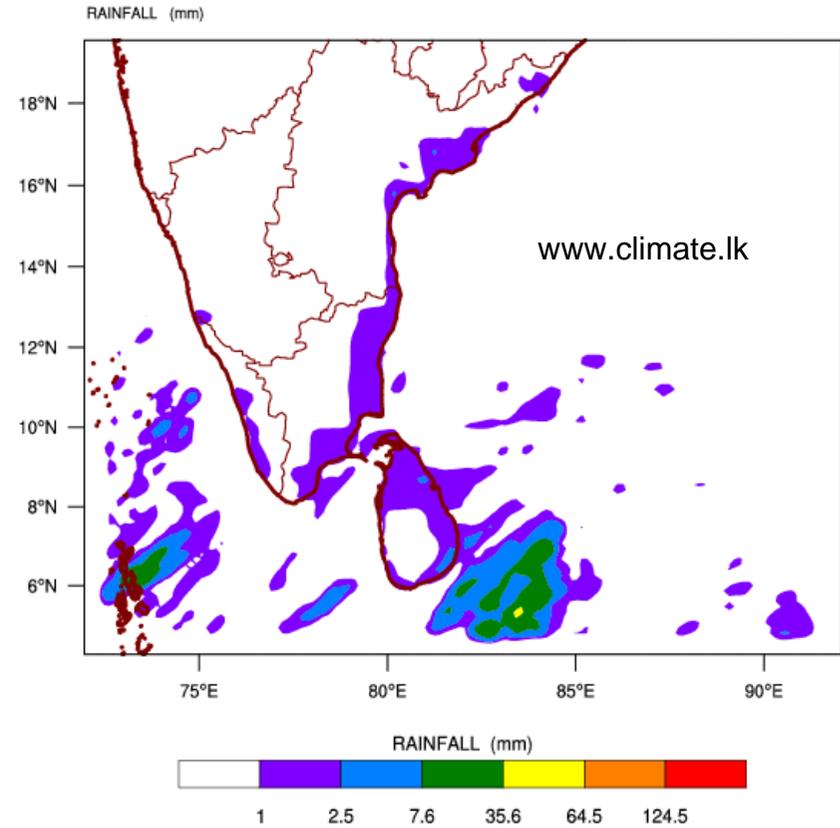
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 07-02-2018 valid for 03 UTC of 09-02-2018



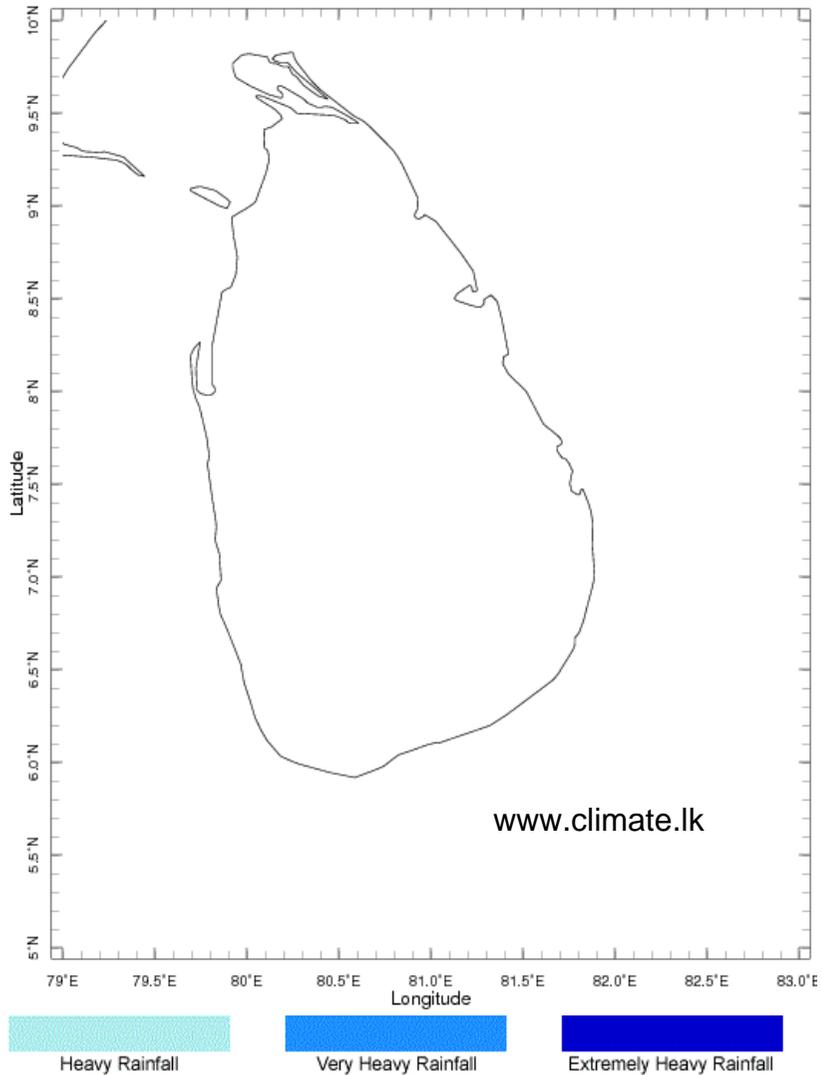
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 07-02-2018 valid for 03 UTC of 10-02-2018



Weekly Rainfall Forecast from IRI

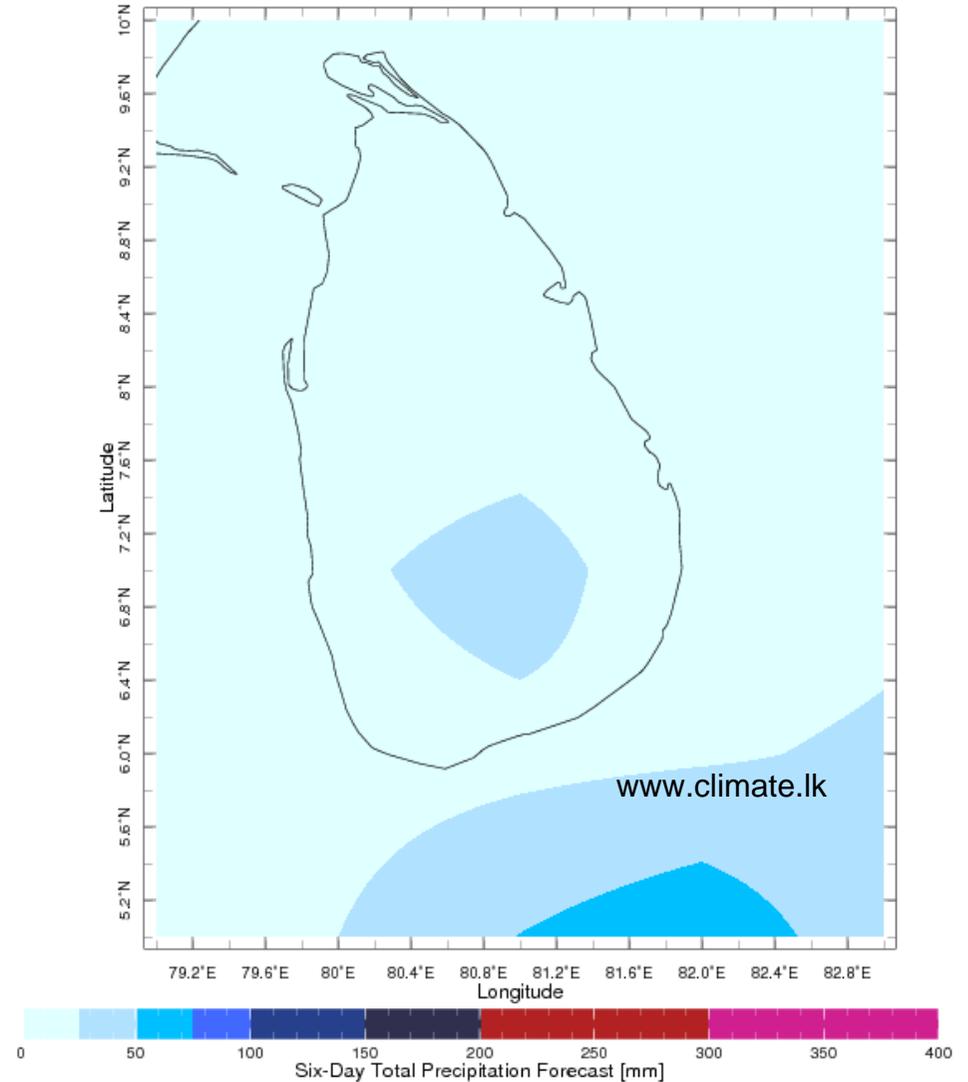
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 7-12 Feb 2018 Issued 0000 7 Feb 2018



Extreme Rainfall Forecast

Forecast for 7-12 Feb 2018 Issued 0000 7 Feb 2018



Total Six Day Precipitation Forecast