

Experimental Climate Monitoring and Prediction

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Highlights

- The NCEP model predicts dry weather conditions for the entire island in the coming week.
- Between 6-12 Feb: up to 80 mm of rainfall was recorded in Puttalam on the 6th.
- From 4-10 Feb: minimum temperature of 15 °C was recorded from Nuwara Eliya district while most parts of the island recorded a maximum temperature between 30-35 °C.
- From 6-12 Feb: up to 18 km/h, easterly winds were experienced by the entire island.
- Average sea surface temperature was observed in the northern seas of Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring: On February 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. On the 7th, Puttalam and Kurunegala districts received up to 50 mm of rainfall; Kalutara, Ratnapura, Anuradhapura and Badulla districts up to 30 mm; Kegalla, Kandy, Matale, Nuwara Eliya, Ampara and Monaragala districts up to 20 mm; and most parts of the island up to 10 mm. On the 8th, Kalutara district received up to 20 mm of rainfall and most parts of the southern half of the country up to 10 mm. On the 9th, Kalutara, Galle and Ratnapura districts received up to 30 mm of rainfall; Colombo and Matara districts up to 20 mm. No significant rainfalls were recorded in any part of the island during 10-12.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall of 25-50 mm in Kalutara, Ratnapura, Galle, Kurunegala and Puttalam districts; and up to 10-25 mm in Anuradhapura, Kegalla, Kandy, Badulla, Monaragala, Ampara, Matara and Colombo districts. It also shows above average rainfall up to 10-25 mm in Kurunegala and Galle districts. Below average rainfall up to 25-50 mm is shown for Ampara district; and up to 10-25 mm in Mullaitivu, Vavuniya, Anuradhapura, Trincomalee, Kandy, Gampaha, Colombo, Kegalla and Kalutara 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: February 9, 2018

In early February 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 all key atmospheric variables showing patterns suggestive of La Niña conditions. The official CPC/IRI outlook calls for La Niña continuing through at least early spring, followed by a likely return to neutral conditions around mid-spring. Support for this scenario is provided by the latest forecasts of statistical and dynamical models.

Indian Ocean State

Average sea surface temperature was observed in the northern seas of Sri Lanka.

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 14th-20th Feb: No Rainfall.

From 21st-27th Feb: Up to 15 mm of total rainfall in Gampaha, Colombo, Kalutara, Matara, Galle, Hambantota, Badulla, Kandy, Nuwara Eliya, Kegalla and Ratnapura districts.

IMD WRF Forecast:

17th Feb: Up to 8 mm in Kilinochchi, Mullaitivu, Ampara and Hambantota districts.

18th Feb: Up to 3 mm of rainfall in the Northern and Eastern regions of the country.

IRI Model Forecast:

From 14th-19th Feb: No Rainfall.

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

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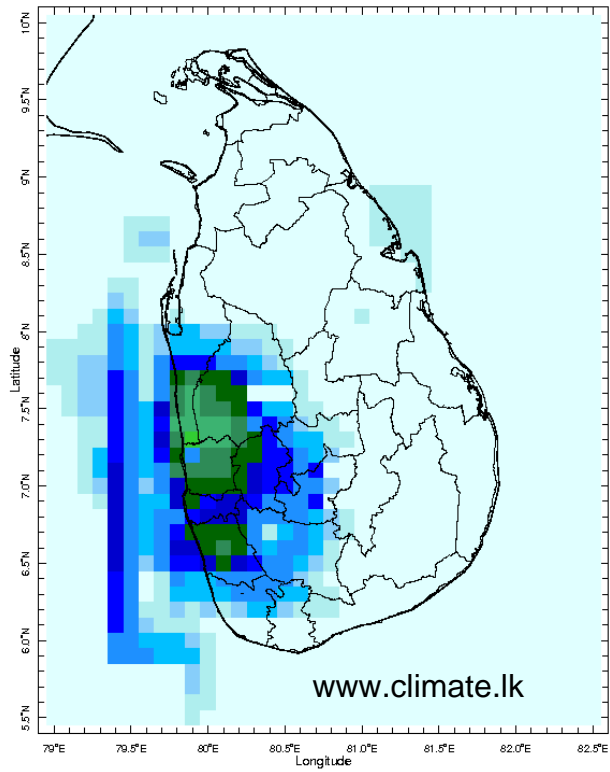
2. Predictions

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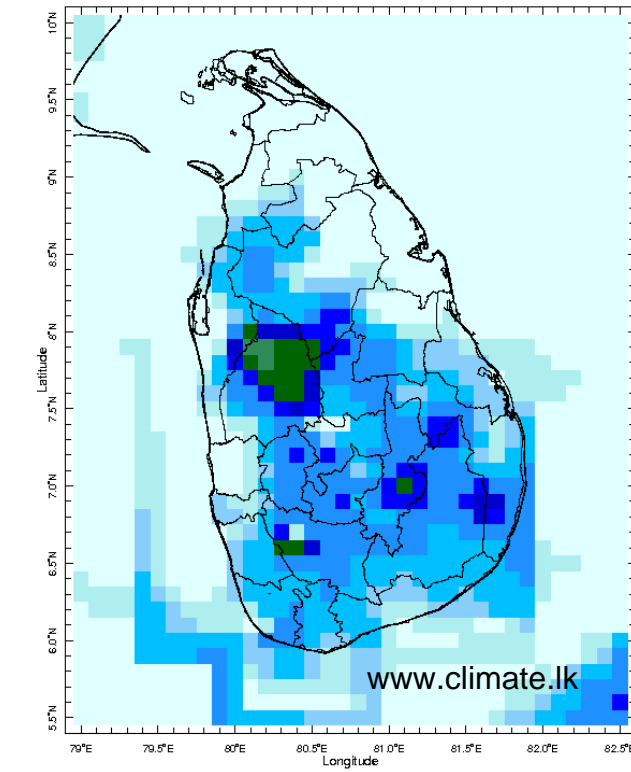
MONITORING

Daily Rainfall Monitoring

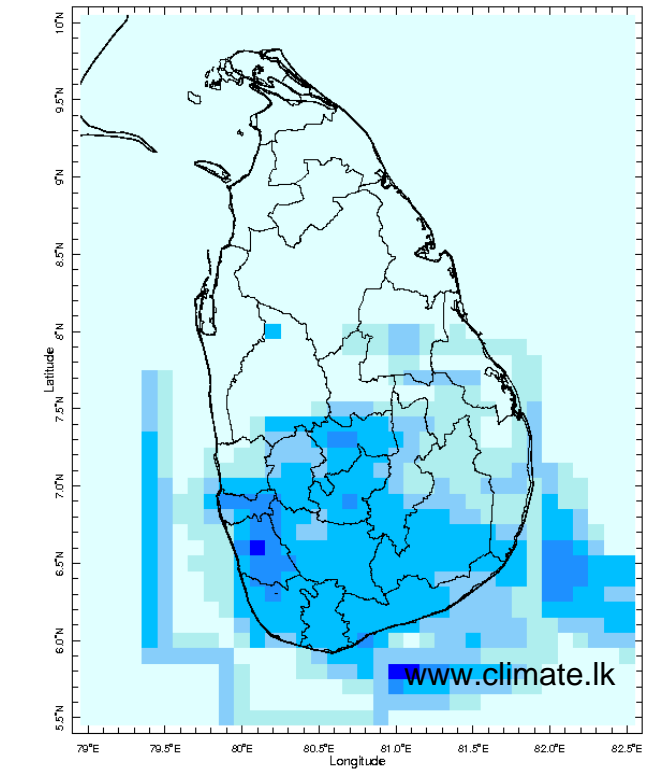
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



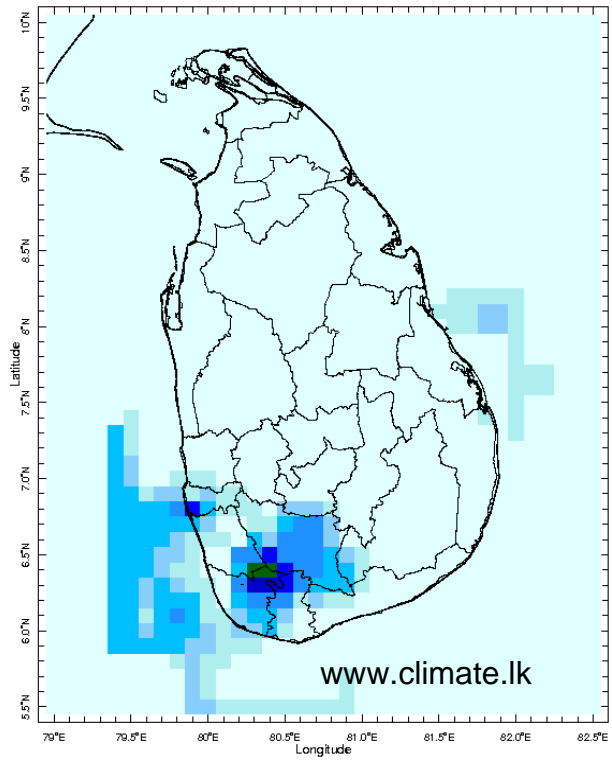
6 Feb 2018



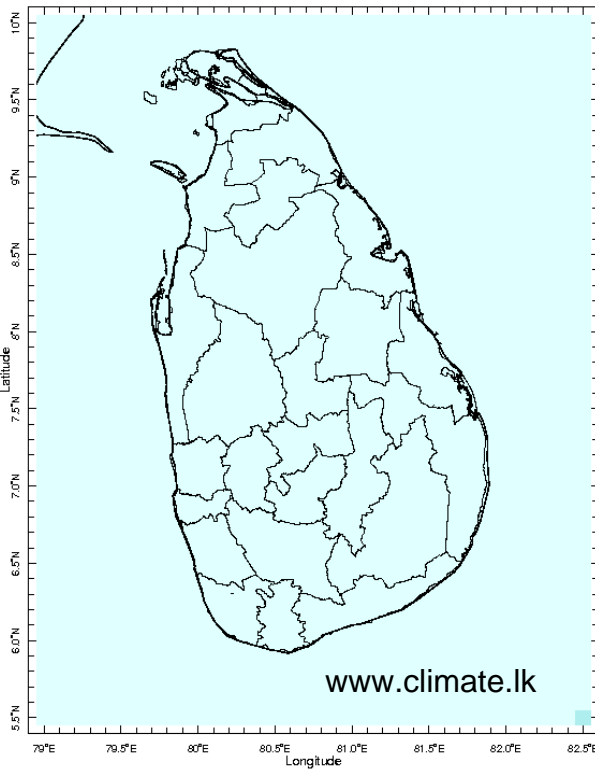
7 Feb 2018



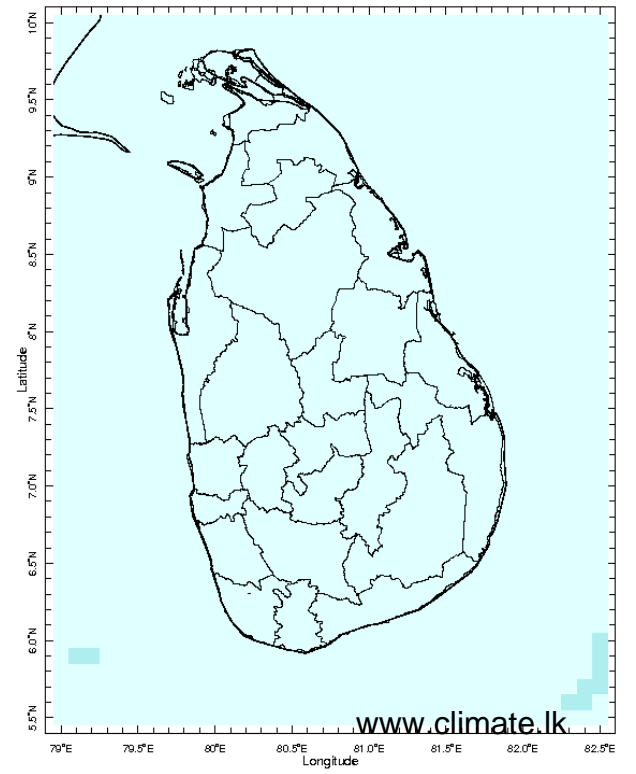
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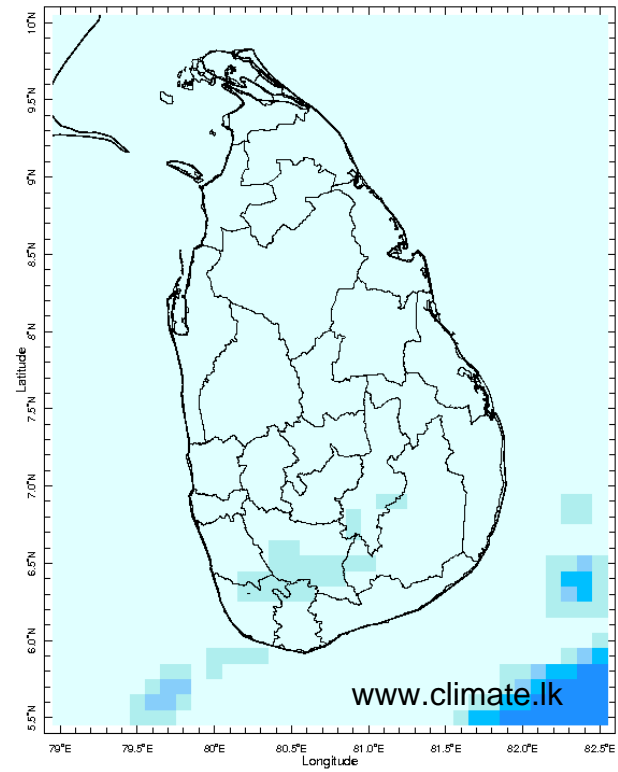
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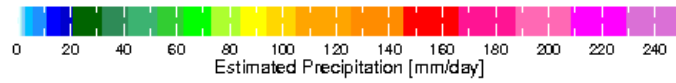
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11 Feb 2018

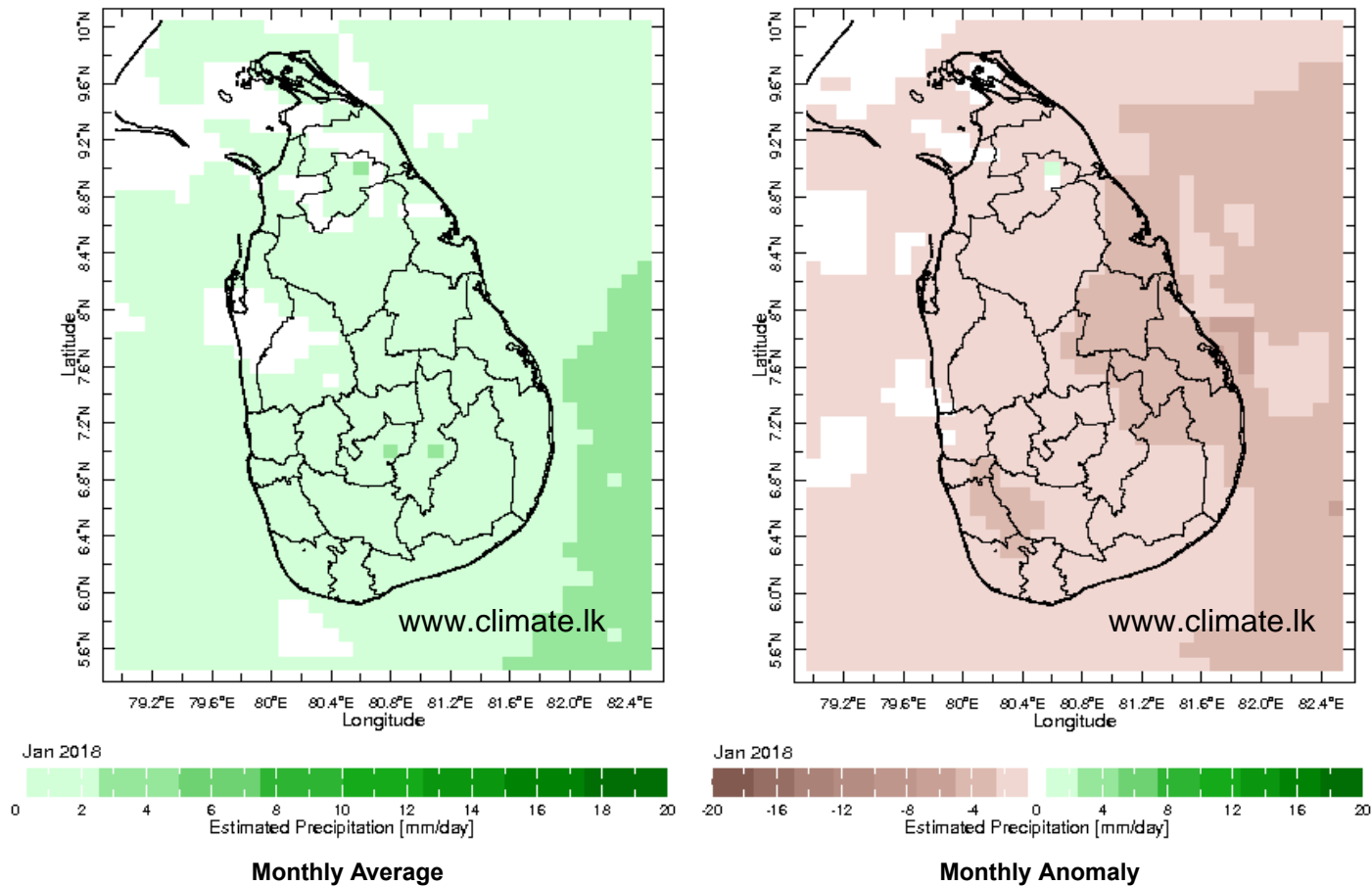


12 Feb 2018

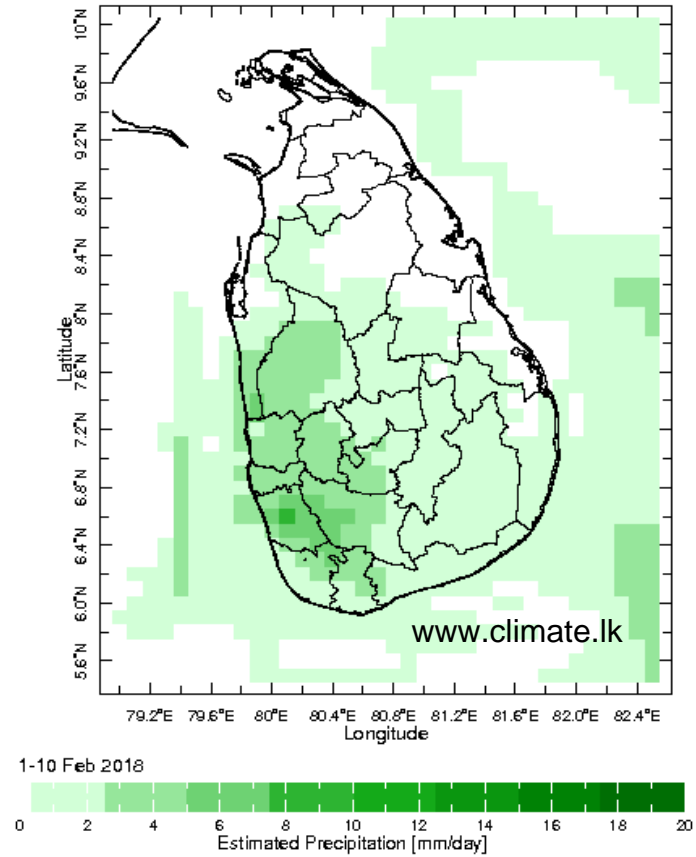
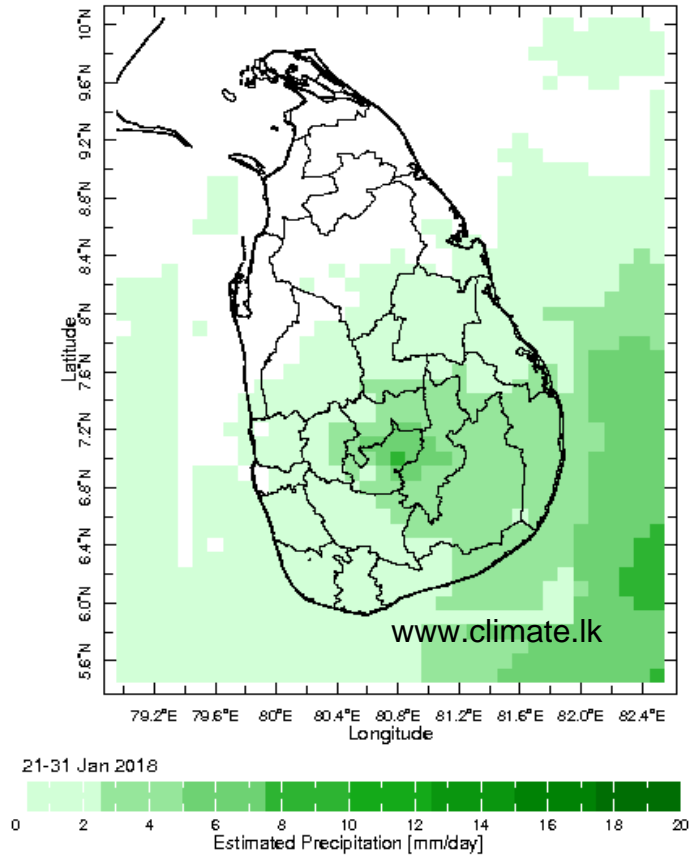


Monthly Rainfall Monitoring

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

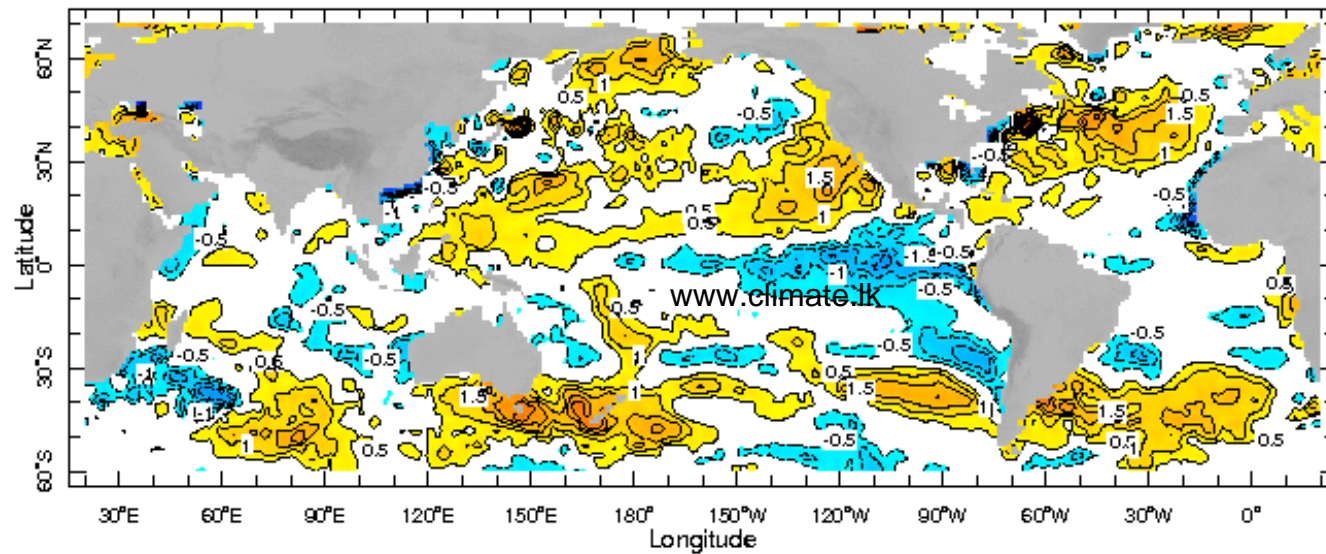


Dekadal (10 Day) Satellite Derived Rainfall Estimates



Weekly Average SST Anomalies

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



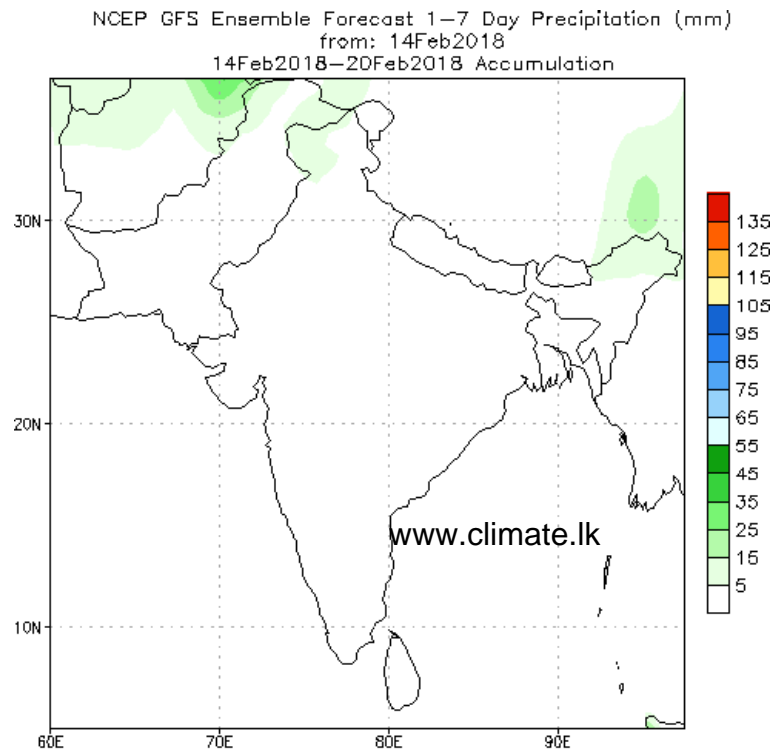
7 Feb 2018



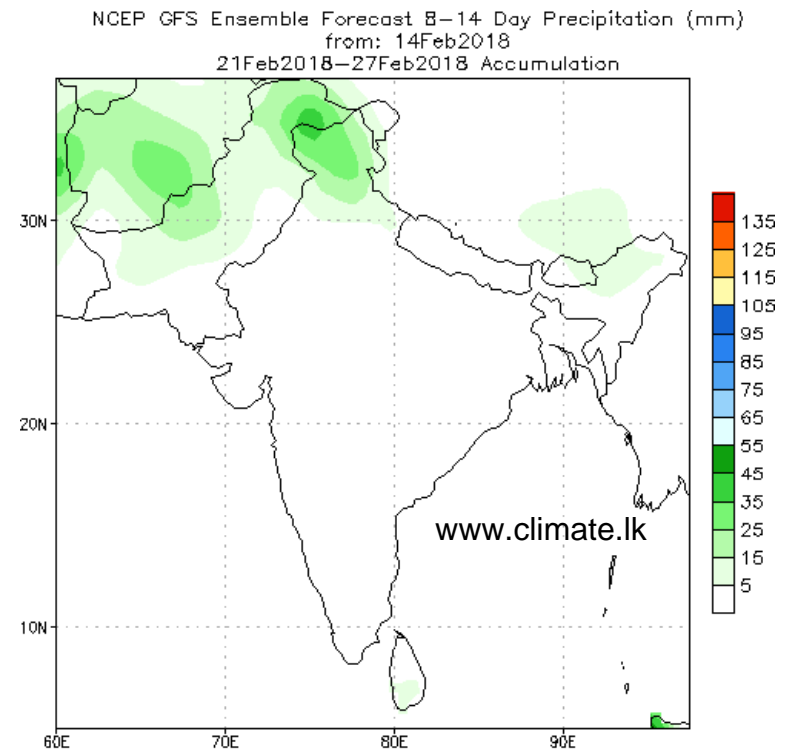
WORLDBATH topography

PREDICTIONS

NCEP GFS 1- 14 Day prediction



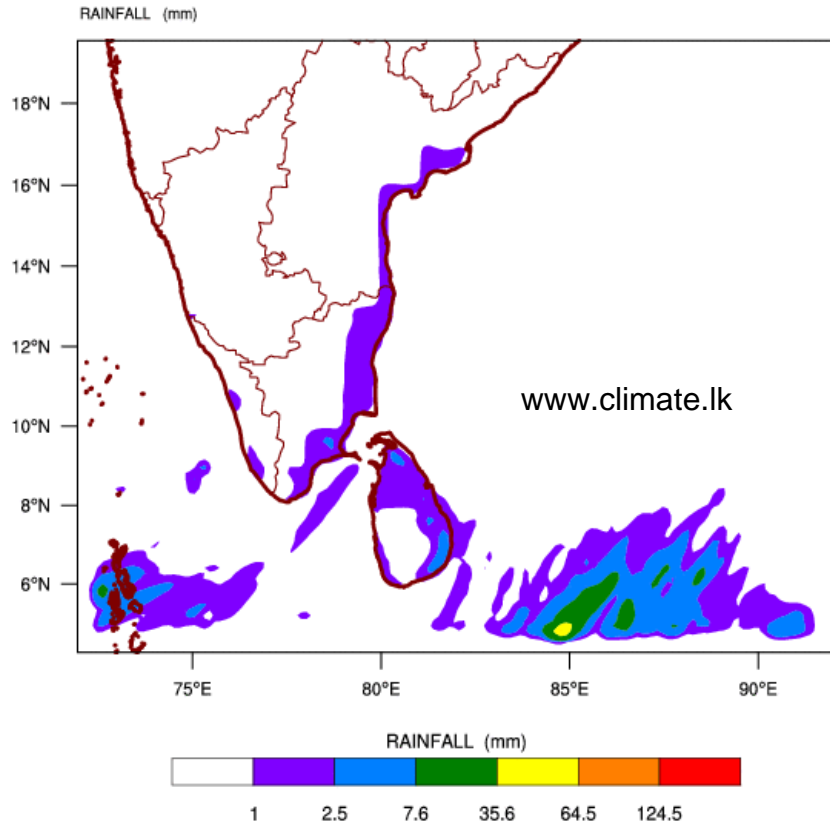
Bias correction based on last 30-day forecast error



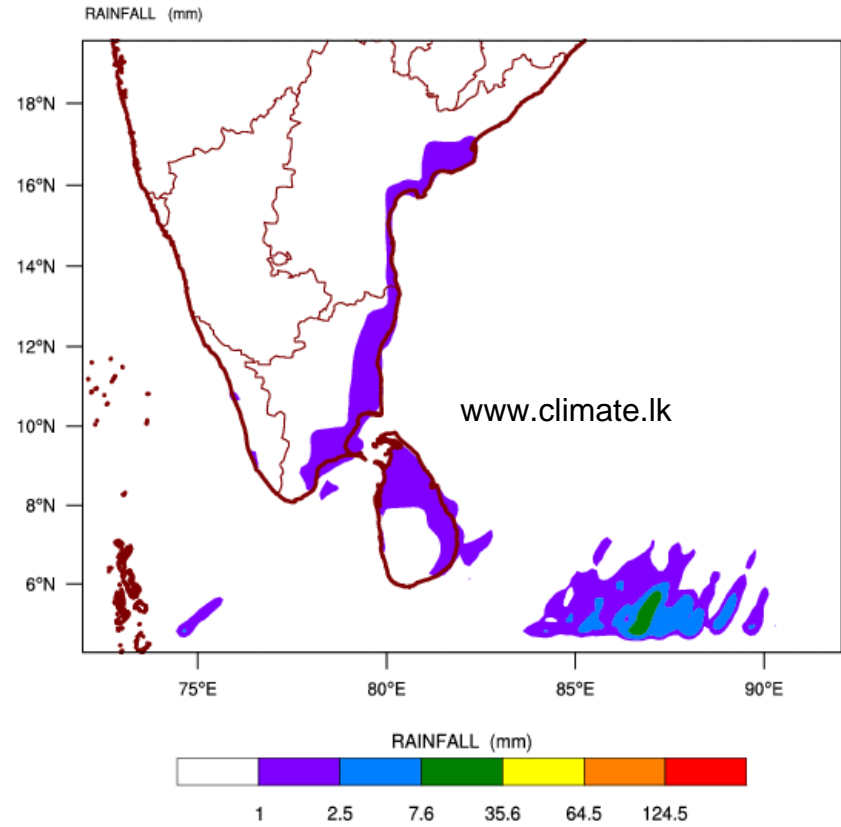
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 15-02-2018 valid for 03 UTC of 17-02-2018



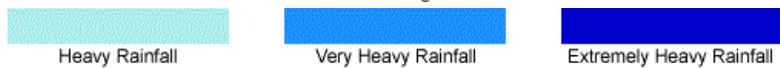
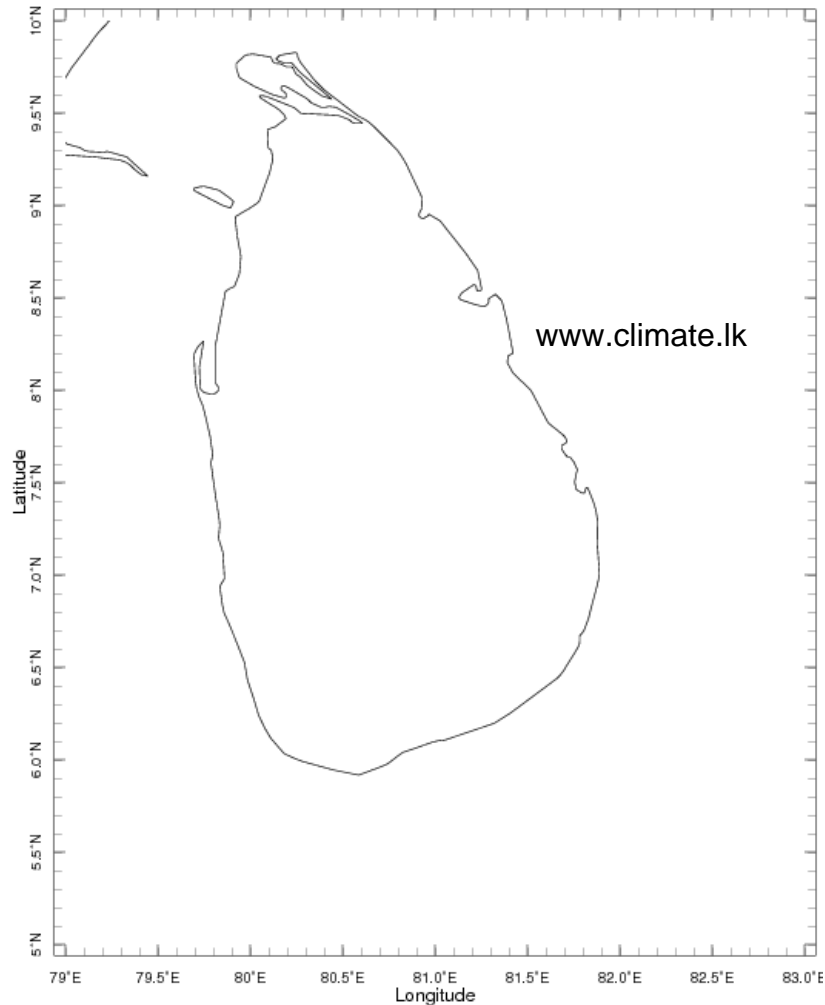
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 15-02-2018 valid for 03 UTC of 18-02-2018



Weekly Rainfall Forecast from IRI

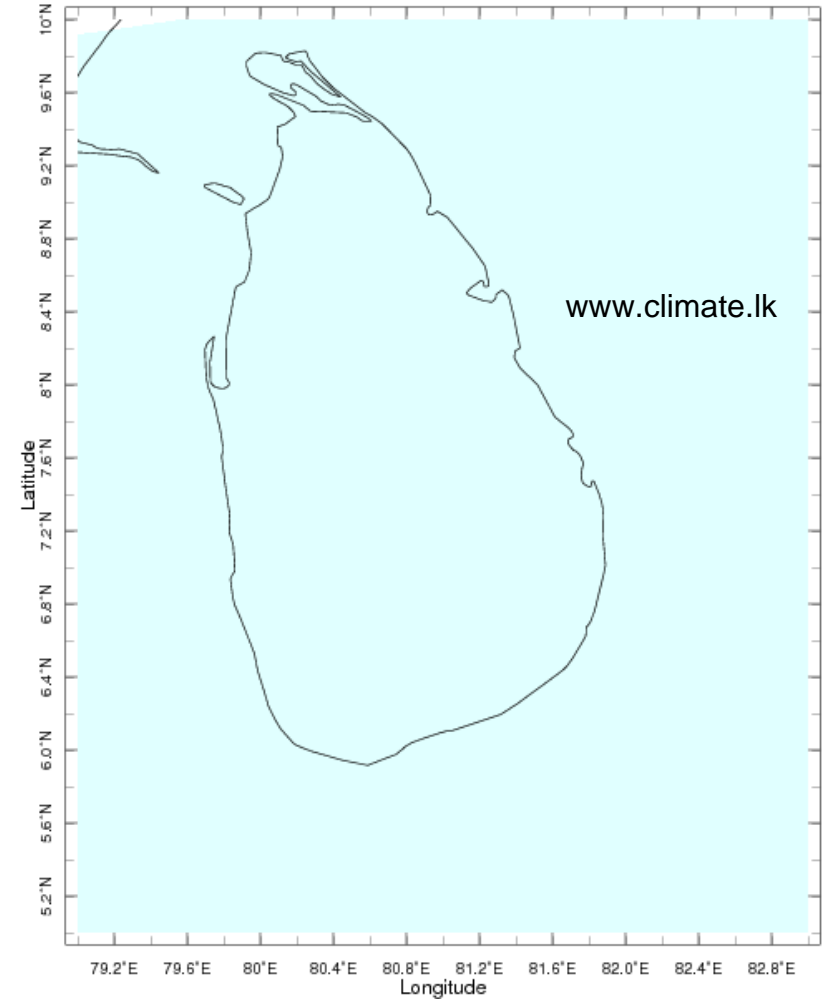
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 14-19 Feb 2018 Issued 0000 14 Feb 2018



Extreme Rainfall Forecast

Forecast for 14-19 Feb 2018 Issued 0000 14 Feb 2018



Total Six Day Precipitation Forecast