

Experimental Climate Monitoring and Prediction

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9 February 2017

Highlights

- The WRF model predicts up to 35.6 mm of rainfall in Nuwara Eliya and Ratnapura districts on the 10th.
- Between 1-7 Feb: no rainfalls were recorded in any part of the island.
- From 29 Jan-4 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 31 Jan-6 Feb: up to 14 km/h northeasterly winds were experienced by the entire island.

Monitoring

Rainfall

Weekly Monitoring: No rainfalls were recorded within the island during the period February 1st - 7th.

Total Rainfall for the Past Week: The RFE 2.0 tool shows below average rainfall 50-100 mm for Trincomalee, Batticaloa, Polonnaruwa and Ampara districts; 25-50 mm for Mullaitivu, Vavuniya, Anuradhapura, Kurunegala, Matale, Kandy, Nuwar Eliya, Badulla, Monaragala, Kegalla, Gamapha, Colombo, Kalutara and Ratnapura districts; and 10-25 mm in rest of the districts.

Monthly Monitoring: During January - above average rainfall conditions were experienced in Jaffna, Kilinochchi, Mannar, and several regions of Anuradhapura, Polonnaruwa, Matale, Puttalam, Matara and Hambantota districts. These regions received up to 60 mm above average rainfall. Batticaloa, Ampara and Badulla districts received up to 150 mm below average rainfall; and up to 90 mm below average rainfall in many parts of the island. Monthly average rainfall for Anuradhapura, Polonnaruwa, Batticaloa, Ampara, Ratnapura, Galle, Matara and Hambantota amounted to 150 mm/month; and 90 mm/month for many parts of the island. The CPC Unified Precipitation Analysis tool shows ~100 mm of total rainfall in Mannar, Anuradhapura, Polonnaruwa, Galle, Batticaloa, Ampara, Hambantota, Ratnapura and Matale districts; and up to ~75 mm for many parts of the island.

Ocean State (Text Courtesy IRI)

Pacific sea state: January 19, 2016

During mid-January 2016 the tropical Pacific SST anomaly was near -0.5C, the threshold for weak La Niña. Many of the atmospheric variables across the tropical Pacific also remain consistent with weak La Niña conditions, although some have become only weakly so. The upper and lower atmospheric winds have continued to be weakly suggestive of a strengthened Walker circulation, and the cloudiness and rainfall remain suggestive of La Niña conditions. The collection of ENSO prediction models indicates SSTs, now near the threshold of La Niña, is in the process of dissipating to neutral levels by February.

Indian Ocean State

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

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 8th – 14th Feb: No rainfall.

From 15th – 21st Feb: Up to 45 mm rainfall in Southern province.

IMD WRF & IRI Model Forecast:

10th Feb: Rainfall up to 35.6 mm of rainfall in Nuwara Eliya and Ratnapura districts and up to 7.6 mm of rainfall in Badulla, Kandy, Kegalle, Kalutara, Galle and Matara districts.

11th Feb: Rainfall up to 35.6 mm of rainfall in Nuwara Eliya district and up to 7.6 mm of rainfall in Badulla, Kandy, Kegalle, Ratnapura and Matara districts.

Seasonal Prediction: IRI Multi Model Probability Forecast

February to April: the total 3-month precipitation shall be climatological for the whole island. The 3-month temperature has more than 70-80% likelihood in the entire country of being in the above-normal tercile.

MJO based OLR predictions

For the next 15 days:

MJO shall heavily suppress the rainfall of 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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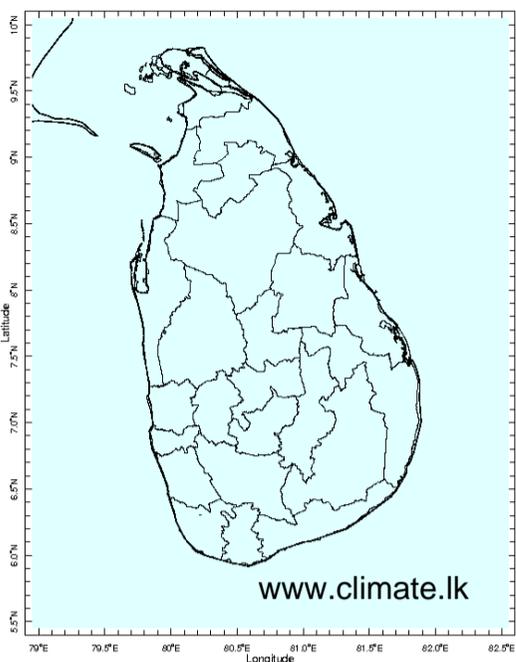
- a. Daily Rainfall Monitoring
- b. Monthly Rainfall Monitoring
- c. Dekadal (10 Day) Satellite Derived Rainfall Estimates
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2. Predictions

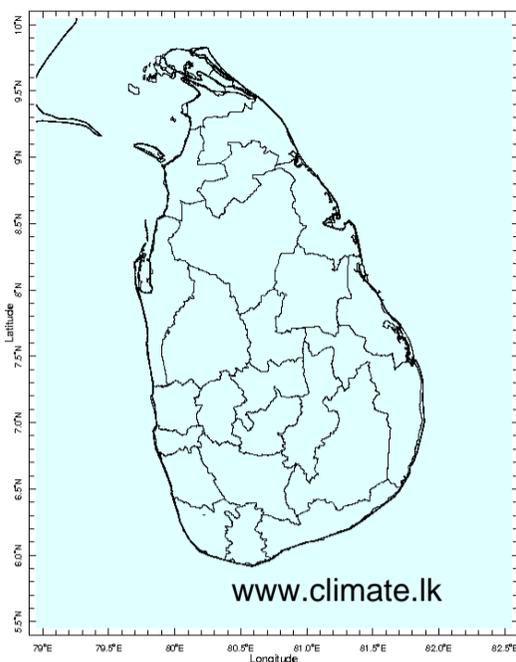
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. WRF Model Rainfall Forecast from IMD Chennai
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Daily Rainfall Monitoring

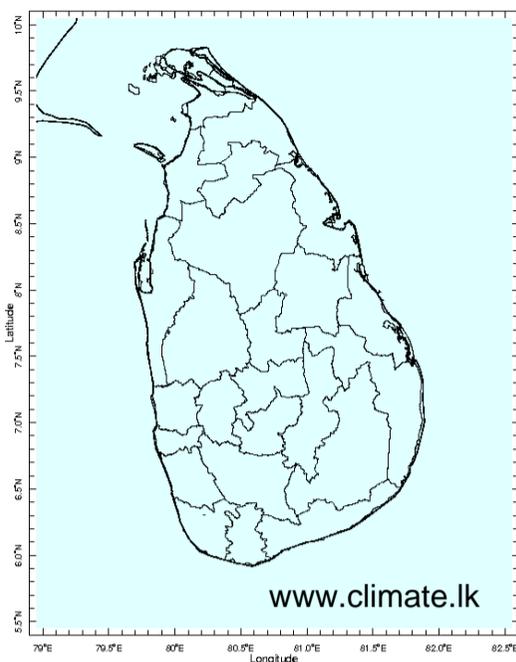
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



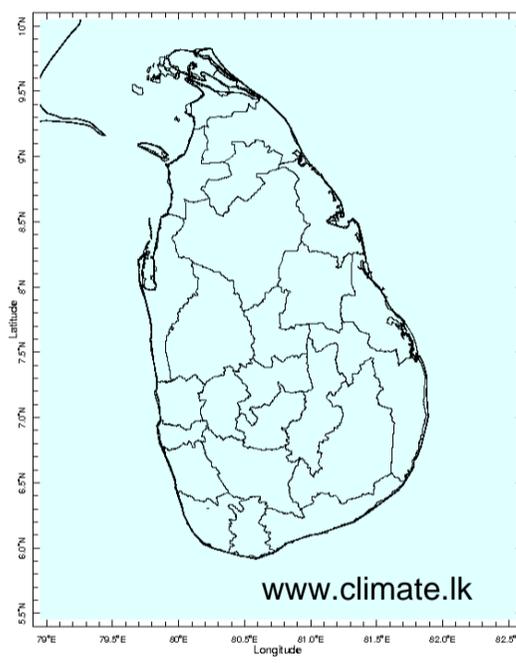
1 Feb 2017



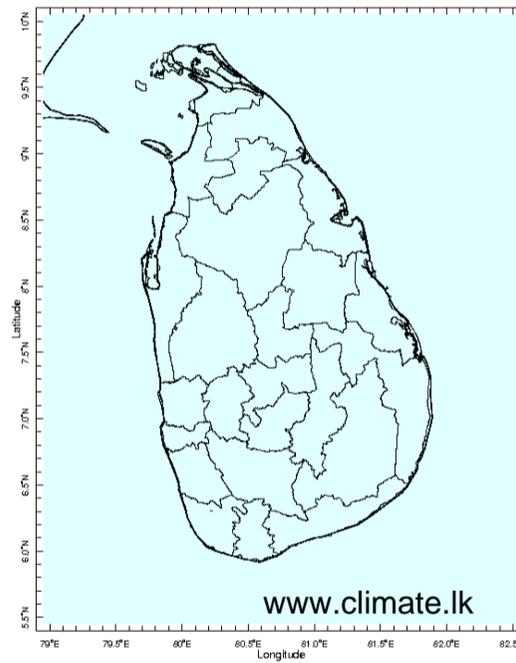
2 Feb 2017



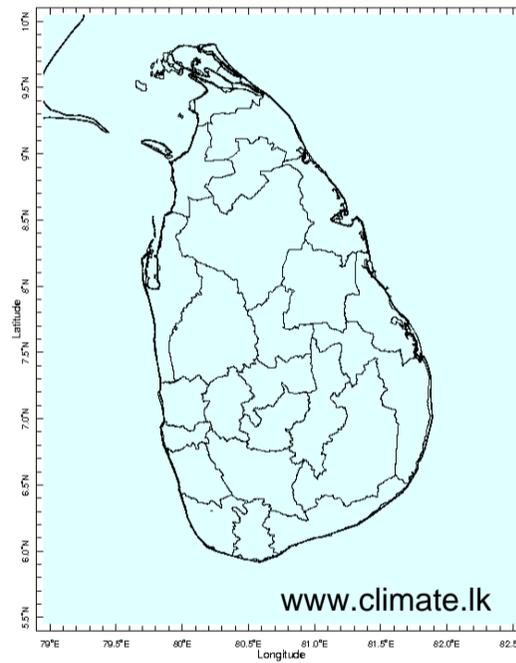
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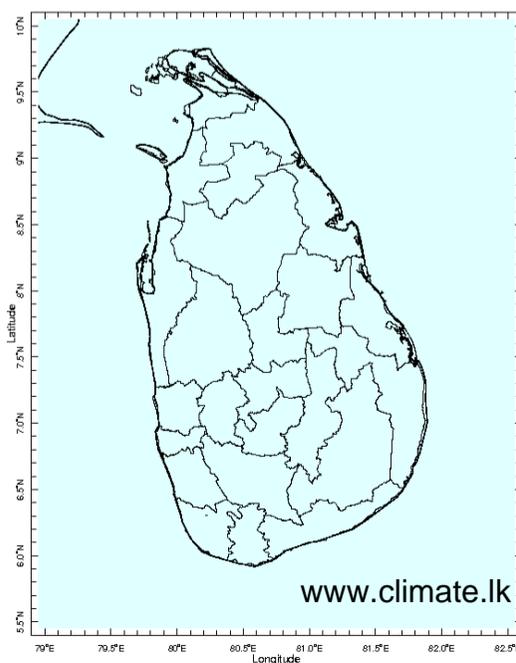
4 Feb 2017



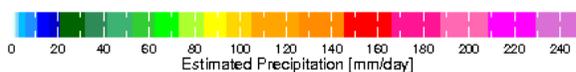
5 Feb 2017



6 Feb 2017

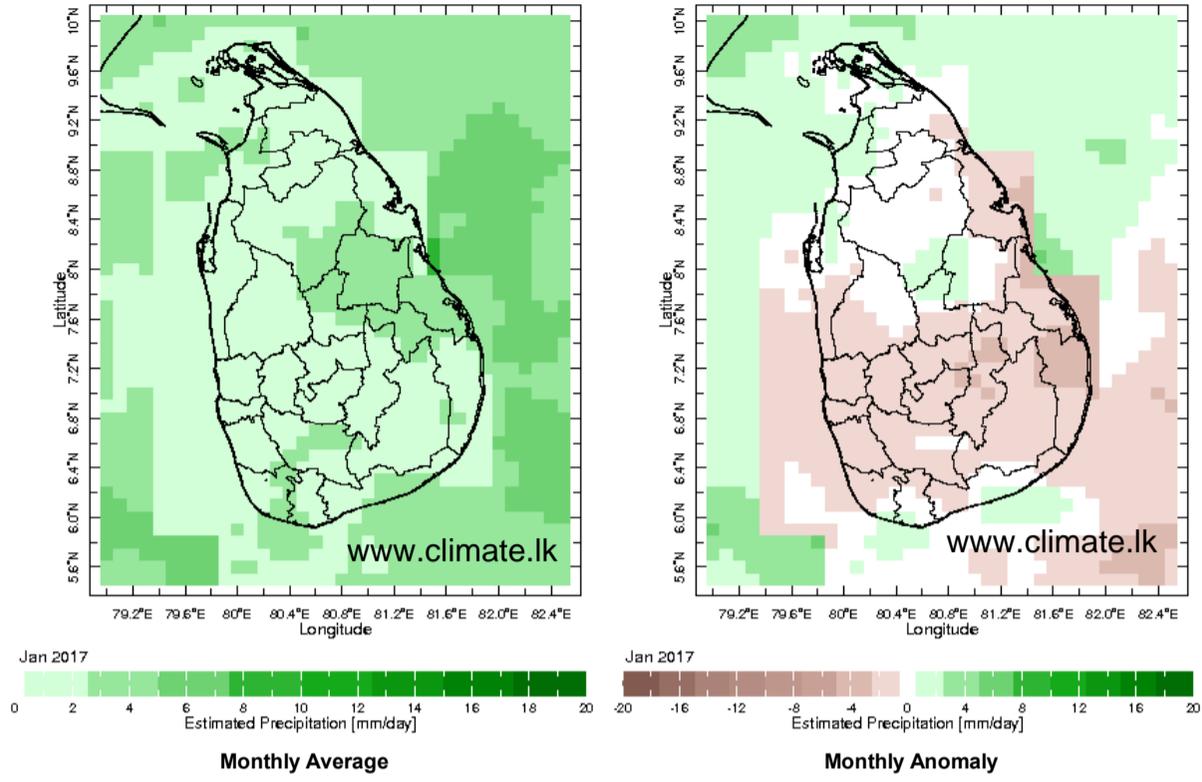


7 Feb 2017

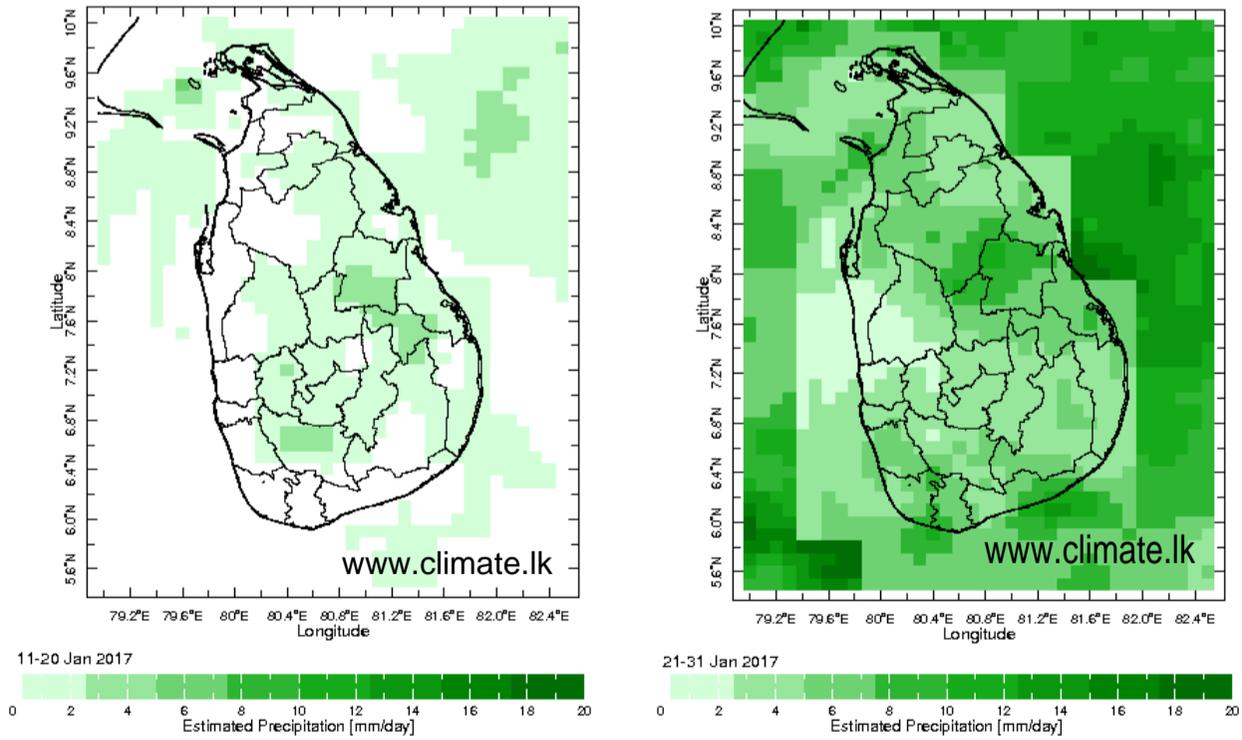


Monthly Rainfall Monitoring

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

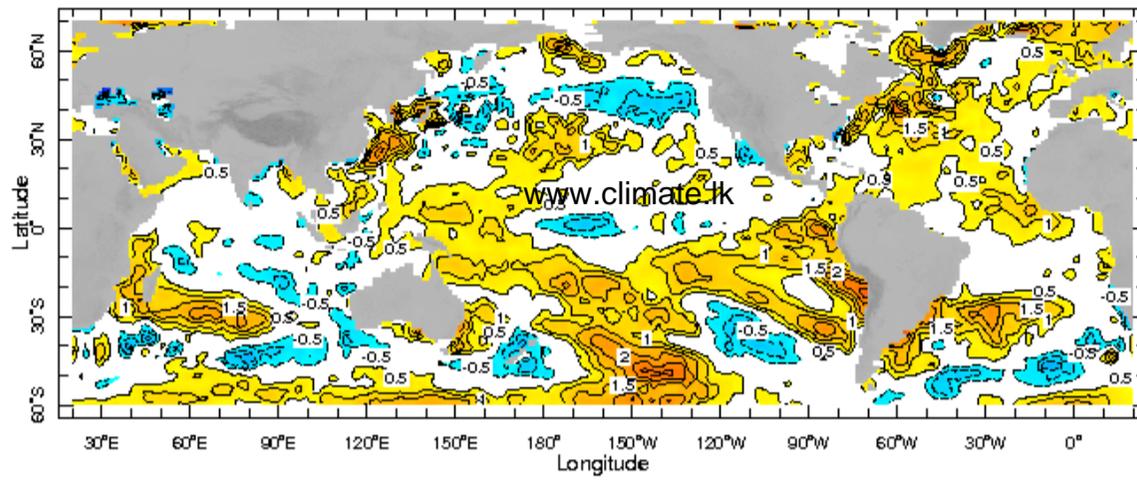


Dekadal (10 Day) Satellite Derived Rainfall Estimates

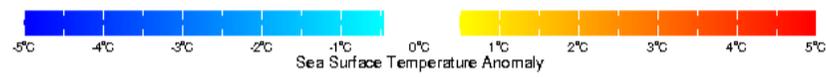


Weekly Average SST Anomalies

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

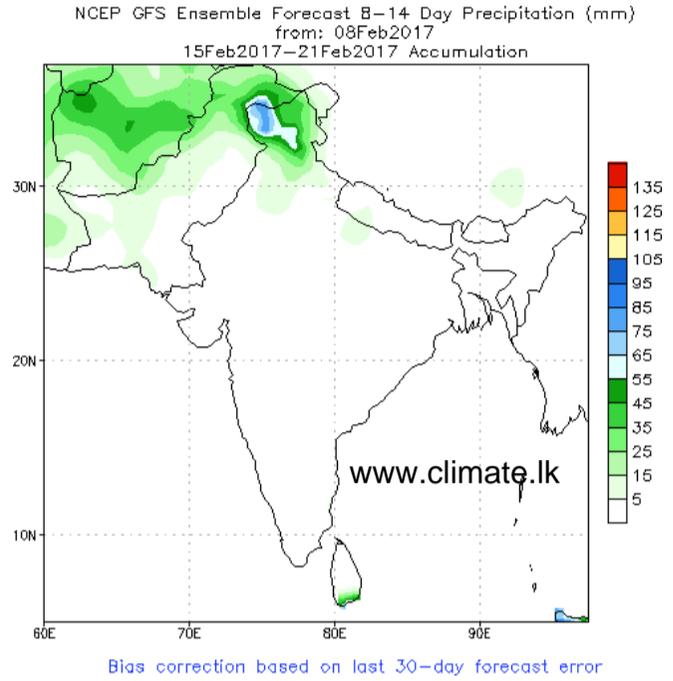
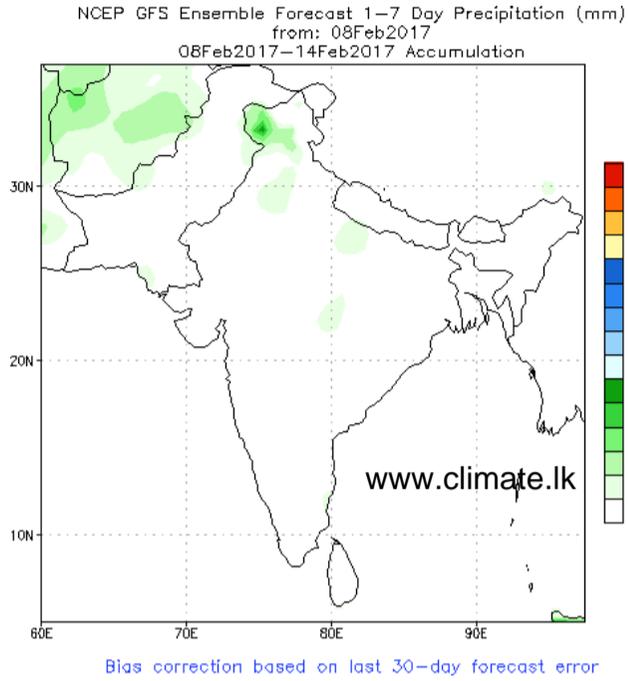


1 Feb 2017



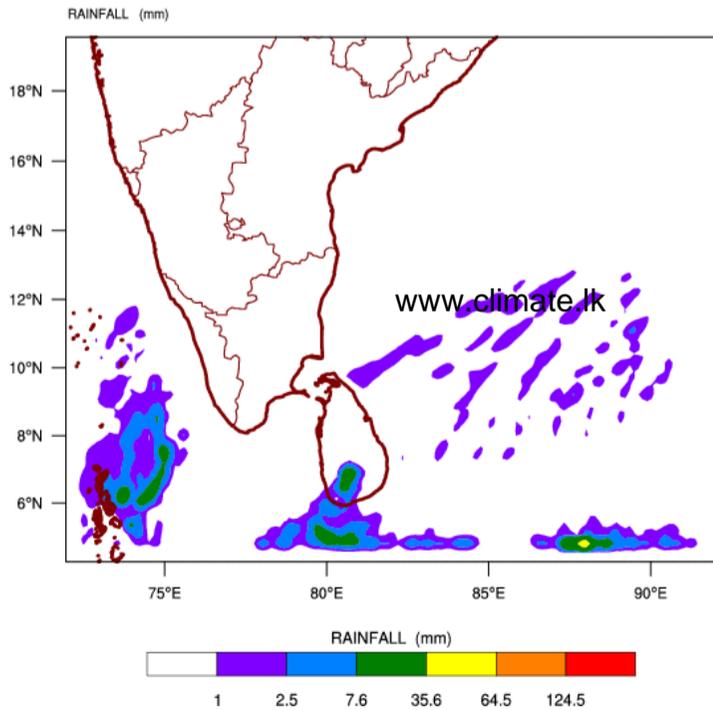
WORLDBATH topography

NCEP GFS 1- 14 Day prediction

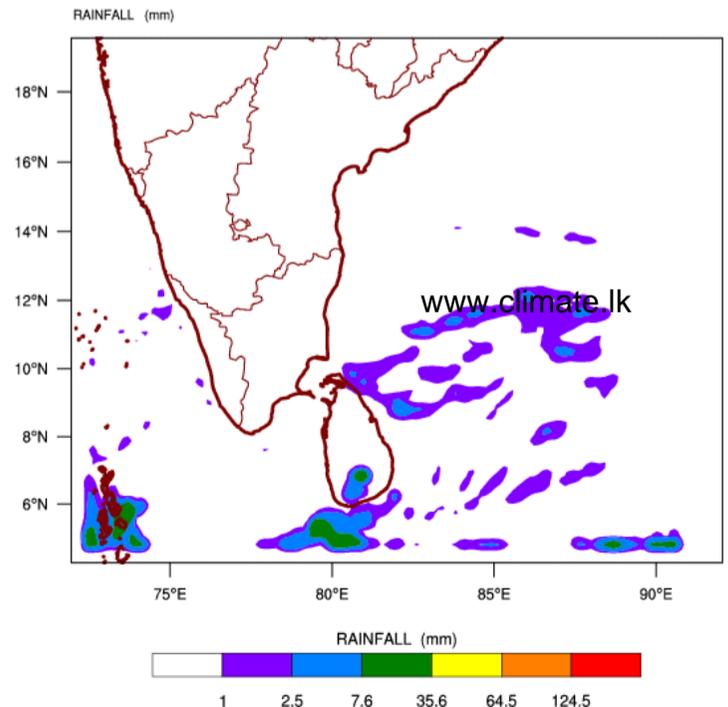


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 08-02-2017 valid for 03 UTC of 10-02-2017

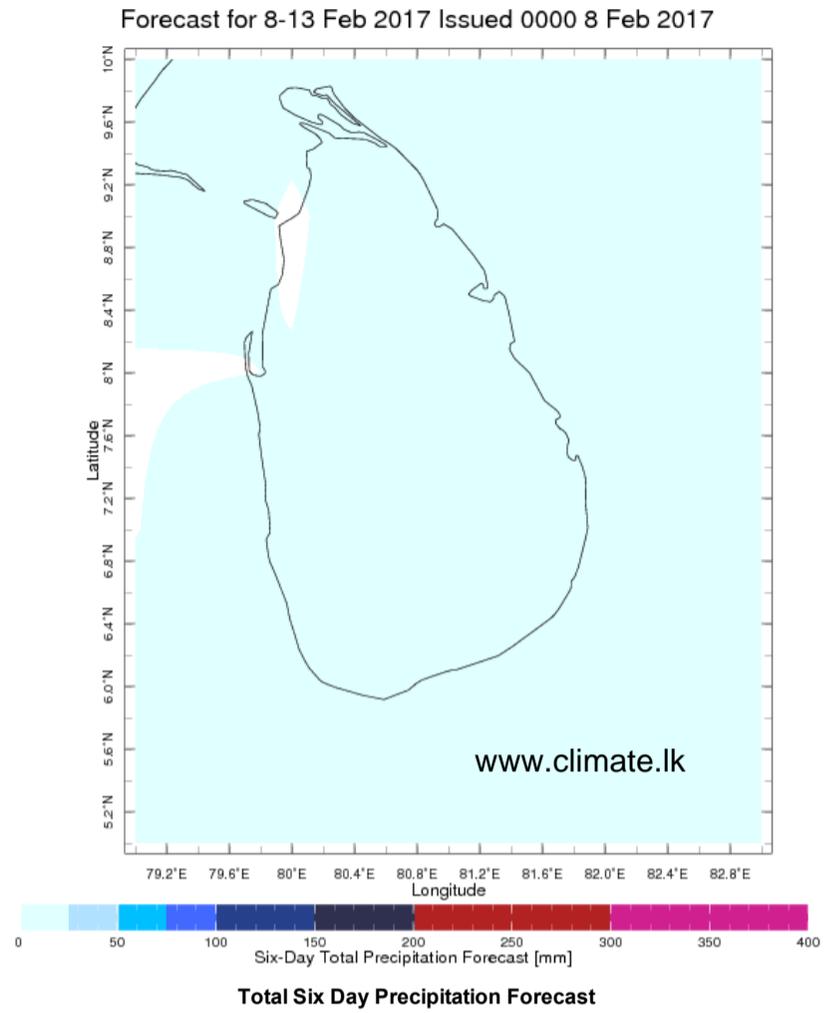
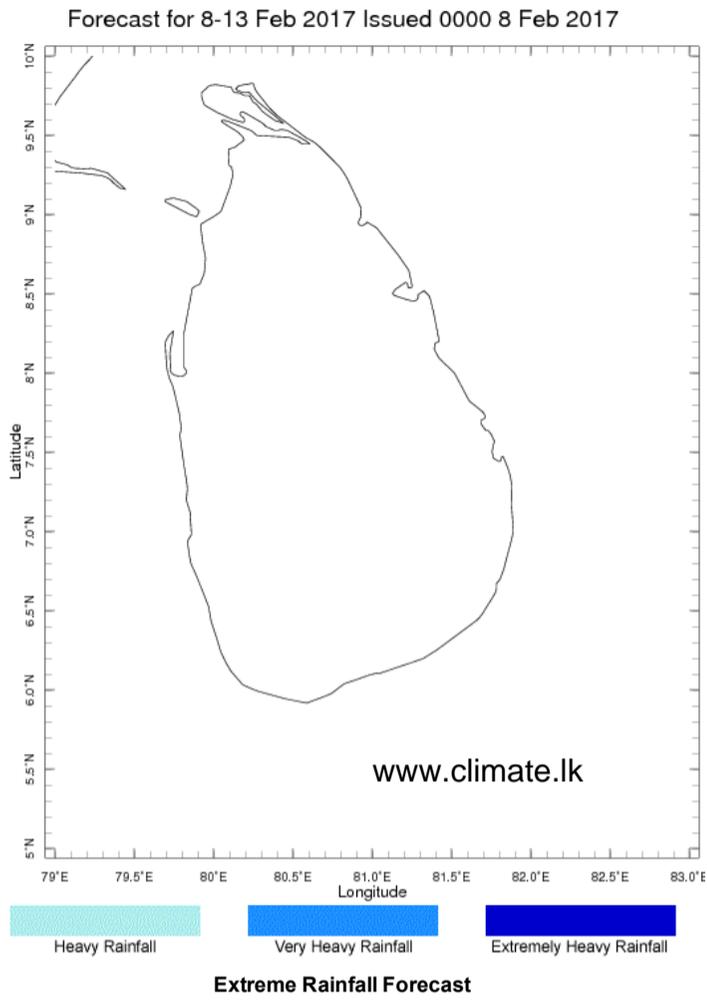


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 08-02-2017 valid for 03 UTC of 11-02-2017



Weekly Rainfall Forecast from IRI

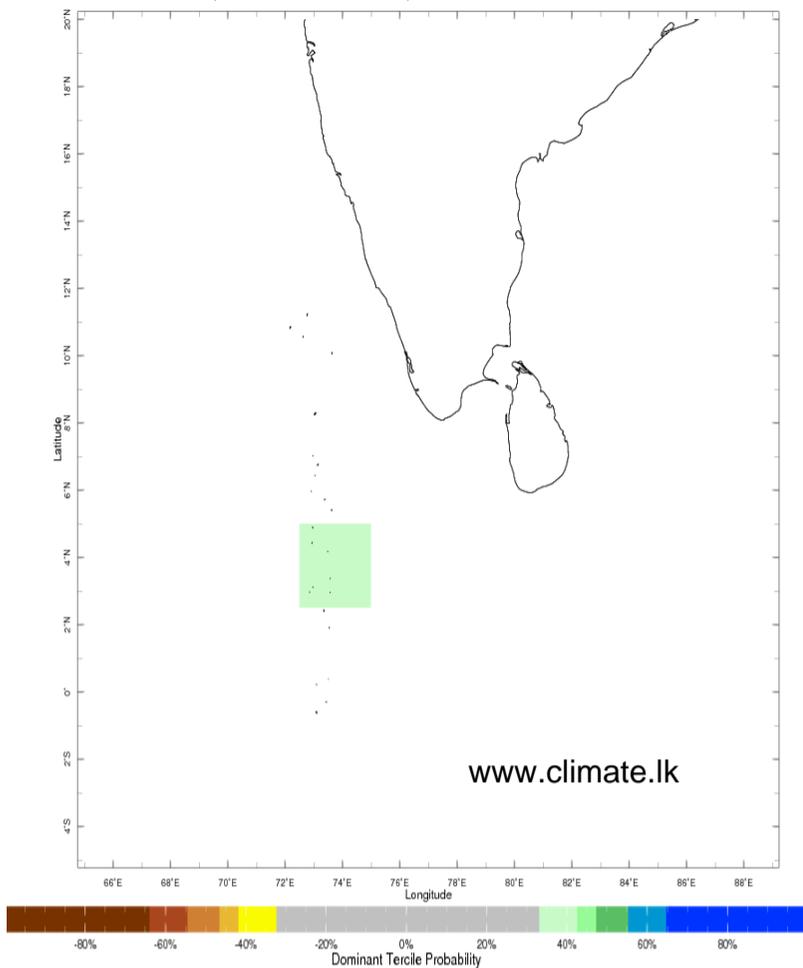
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.



Seasonal Rainfall and Temperature Forecast

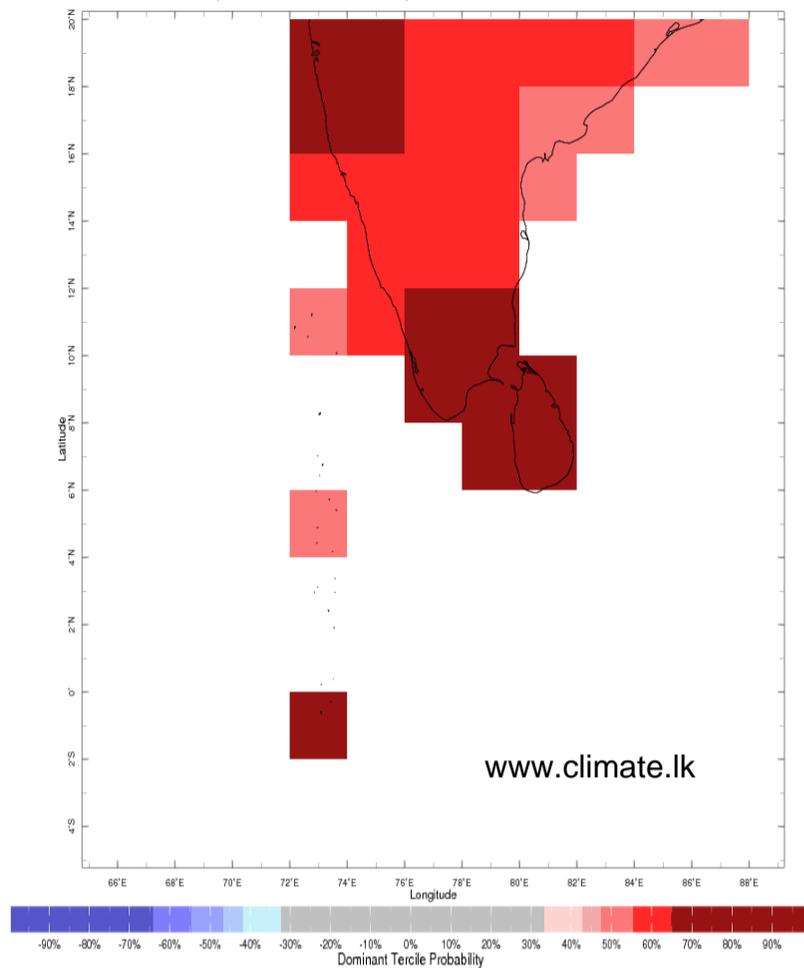
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile probability levels. The upper side of the color bar shows the colors used for increasingly strong probabilities when the dominant tercile is the above-normal tercile, while the lower side shows likewise for the below-normal tercile. The gray color indicates an enhanced probability for the near-normal tercile (nearly always limited to 40%).

Feb-Apr 2017 IRI Seasonal Precipitation Forecast issued Jan 2017



Precipitation Forecast

Feb-Apr 2017 IRI Seasonal Temperature Forecast issued Jan 2017



Temperature Forecast

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