

Experimental Climate Monitoring and Prediction

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9 March 2017**Highlights**

- *The WRF model predicts rainfall all over the country. Up to 125 mm of rainfall expected in Anuradhapura, Kandy and Ratnapura districts on the 11th.*
- *Between 1-7 Mar: highest rainfall of 100 mm was recorded on the 3rd in Anuradhapura district.*
- *From 26 Feb- 4 Mar: minimum temperature of 15 °C was recorded from Nuwara Eliya district while many parts of the island recorded a maximum temperature between 30-35 °C.*
- *From 28 Feb- 6 Mar: up to 18 km/h south easterly winds were experienced by the entire island.*

Monitoring**Rainfall**

Weekly Monitoring: On March 1st Batticaloa and Polonnaruwa districts received up to 80 mm of rainfall; Ampara and Trincomalee districts up to 60 mm; Badulla and Monaragala up to 40 mm; Mullaitivu, Anuradhapura, Matale, Kandy, Nuwara Eliya and Hambantota districts up to 30 mm; Vavuniya, Kegalla and Ratnapura districts up to 20 mm; and adjacent southern sea up to 120 mm. On the 2nd Vettikalerni region of Jaffna district received up to 40 mm of rainfall; Batticaloa and Ampara districts up to 20 mm; and adjacent eastern sea up to 80 mm. On the 3rd Anuradhapura district and adjacent north eastern sea received up to 100 mm of rainfall; Jaffna, Matale, Kurunegala and Kandy district received up to 90 mm of rainfall; Kilinochchi and Kegalla districts up to 50 mm; Kalutara and Badulla districts up to 40 mm; Mullaitivu, Mannar, Puttalam, Colombo, Gampaha, Ratnapura and Ampara districts up to 30 mm; and Monaragala, Trincomalee and Vavuniya districts up to 20 mm. On the 4th Anuradhapura, Monaragala and Ampara districts received up to 70 mm of rainfall; Mullaitivu, Batticaloa, Vavuniya and Trincomalee districts up to 50 mm; Kilinochchi, Nuwara Eliya and Badulla districts up to 30 mm; and Ratnapura, Kandy and Matale districts up to 20 mm. No significant rainfalls were recorded on the 5th. On the 6th Anuradhapura, Matale and Badulla districts received up to 30 mm of rainfall; and Polonnaruwa, Kandy, Nuwara Eliya and Monaragala districts up to 20 mm. On the 7th Matale and Kurunegala districts received up to 90 mm of rainfall; Puttalam and Ratnapura districts up to 70 mm; Vavuniya, Kandy, Nuwara Eliya, Anuradhapura, Gampaha, Colombo and Kalutara districts up to 40 mm; Mullaitivu and Badulla districts up to 30 mm; and Mannar district up to 20 mm.

Total Rainfall for the Past Week: The RFE 2.0 tool shows total rainfall up to 100 mm for Kilinochchi, Mullaitivu, Vavuniya, Trincomalee, Anuradhapura, Polonnaruwa, Kurunegala, Matale, Nuwara Eliya, Kegalla, Ratnapura, Ampara, Badulla, Monaragala and Anuradhapura districts; up to 75 mm for Mannar, Puttalam, Gampaha, Colombo, Kalutara and Jaffna districts; up to 50 mm for Kandy district; up to 25 mm for Hambantota, Galle and Matara districts. It shows above average rainfall of 100-200 mm for Trincomalee, Anuradhapura, Polonnaruwa and Matale districts; 50-100 mm for Jaffna, Kilinochchi, Mullaitivu, Vavuniya, Kurunegala, Kegalla, Ratnapura, Kalutara, Badulla, Monaragala, and Ampara districts; and 25-50 mm for most parts of the island.

Monthly Monitoring: During February - above average rainfall conditions were experienced in Jaffna, Badulla, Hambantota and several regions of Kilinochchi, Vavuniya, and Anuradhapura districts. These regions received up to 90 mm above average rainfall. Batticaloa district received below average rainfall up to 150 mm; and many parts of the island received up to 120 mm below average rainfall. Monthly average rainfall for Anuradhapura, Vavuniya, Kandy, Nuwara Eliya, Badulla, Monaragala and Hambantota districts 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 Vavuniya, Anuradhapura, Matale, Kurunegala, Nuwara Eliya, Badulla, Monaragala and Hambantota districts; up to ~75 mm in Kandy, Ratnapura, Ampara, Polonnaruwa, Kalutara and Matara districts; and up to ~50 mm Puttalam, Gampaha, Colombo, Kegalla, Galle and Batticaloa districts.

Ocean State (Text Courtesy IRI)**Pacific sea state: February 16, 2017**

During mid-February 2017 the tropical Pacific SST anomaly was close to 0.0C, in the ENSO-neutral range. Although most of the atmospheric variables across the tropical Pacific are now approximately ENSO-neutral, one or two still show a weak La Niña pattern. In particular, the pattern of cloudiness and rainfall in the central and western tropical Pacific remains indicative of a weak La Niña condition. The collection of ENSO prediction models indicates SSTs are likely to remain neutral through May 2017, with a chance for El Niño development later in the year.

Indian Ocean State

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

Predictions

Rainfall

14-day prediction:

NOAA NCEP models:

From 8th – 14th Mar: Total rainfall up to 15 mm in North, North Central, Central, East, Wayamba and Uwa provinces.

From 15th – 21st Mar: Total rainfall up to 15 mm in Jaffna, Kilinochchi and Badulla districts

IMD WRF & IRI Model Forecast:

11th Mar: Rainfall up to 125 mm in Anuradhapura, Kandy and Ratnapura districts; up to 65 mm of rainfall in Kurunegala district; up to 35 mm of rainfall in Western, Wayamba, Sabaragamuwa, Central, Southern, North Central and Uwa Provinces; and up to 8 mm rainfall all over the country.

12th Mar: Rainfall up to 65 mm rainfall in Anuradhapura, Polonnaruwa and Matale districts; and up to 35 mm Central, Sabaragamuwa, North Central and Eastern provinces and Vavuniya, Mullaitivu districts; and up to 8 mm rainfall all over the country.

Seasonal Prediction: IRI Multi Model Probability Forecast

March to May: the total 3-month precipitation shall be climatological for the whole island. The 3-month temperature has more than 70-80% likelihood in the southern region and 60-70% likelihood in the northern region of being in the above-normal tercile

MJO based OLR predictions

For the next 15 days:

MJO shall enhance the rainfall in Sri Lanka for the upcoming 5 days and shall not have a significant impact on rainfall for the following 5 days. MJO shall suppress the rainfall for the next 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/>

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Weekly Hydro- Meteorological Report for Sri Lanka

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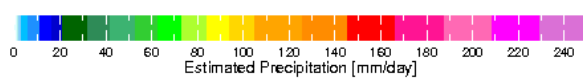
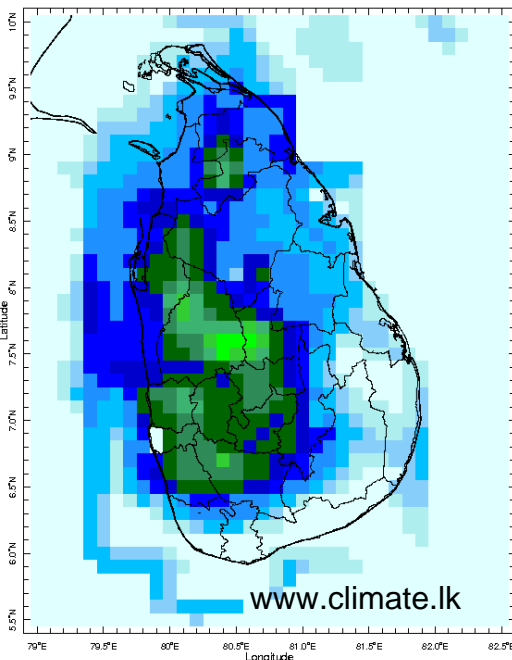
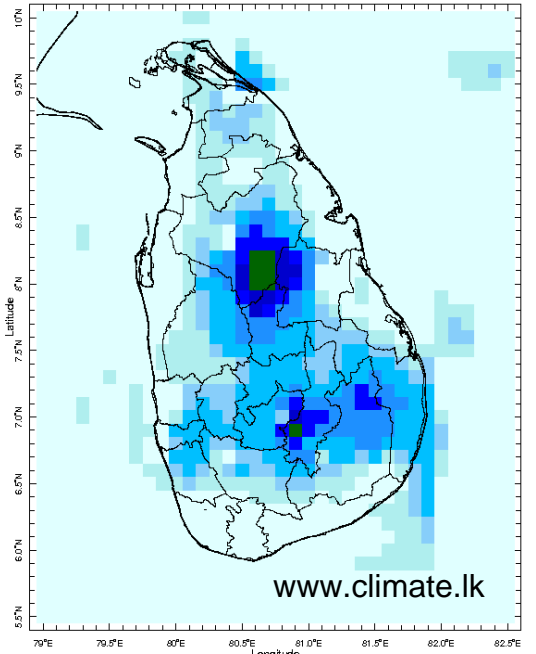
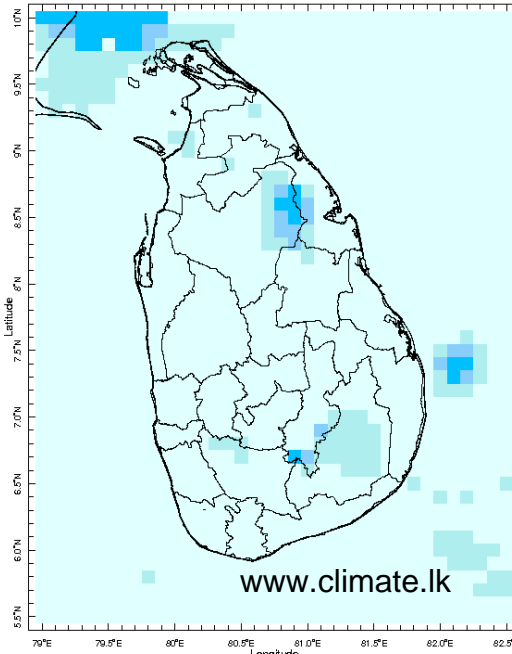
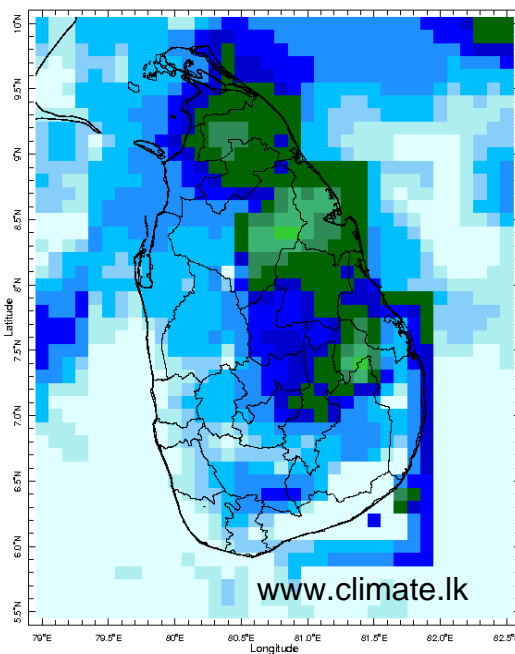
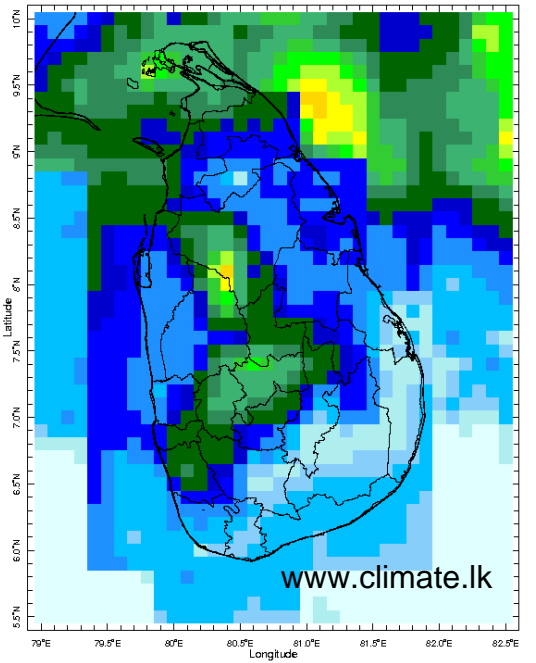
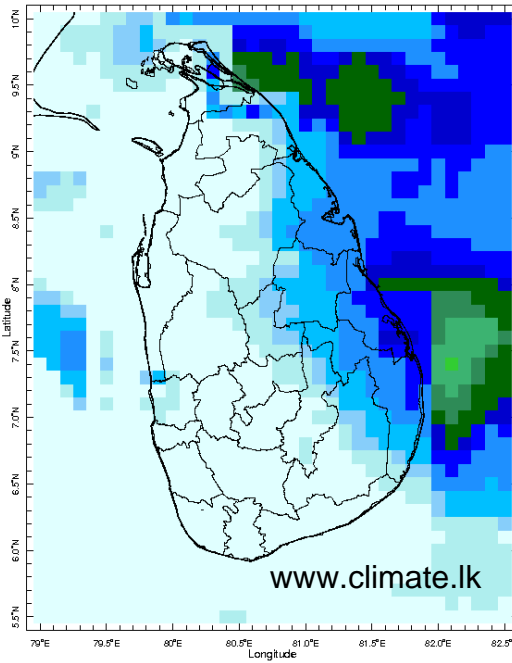
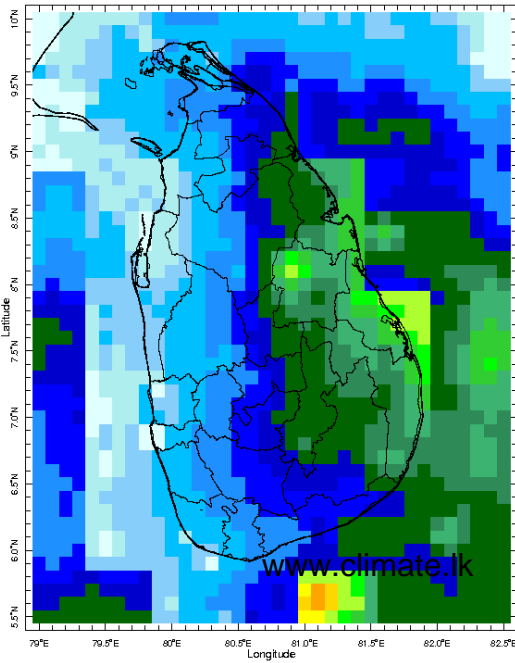
- a. Daily Rainfall Monitoring
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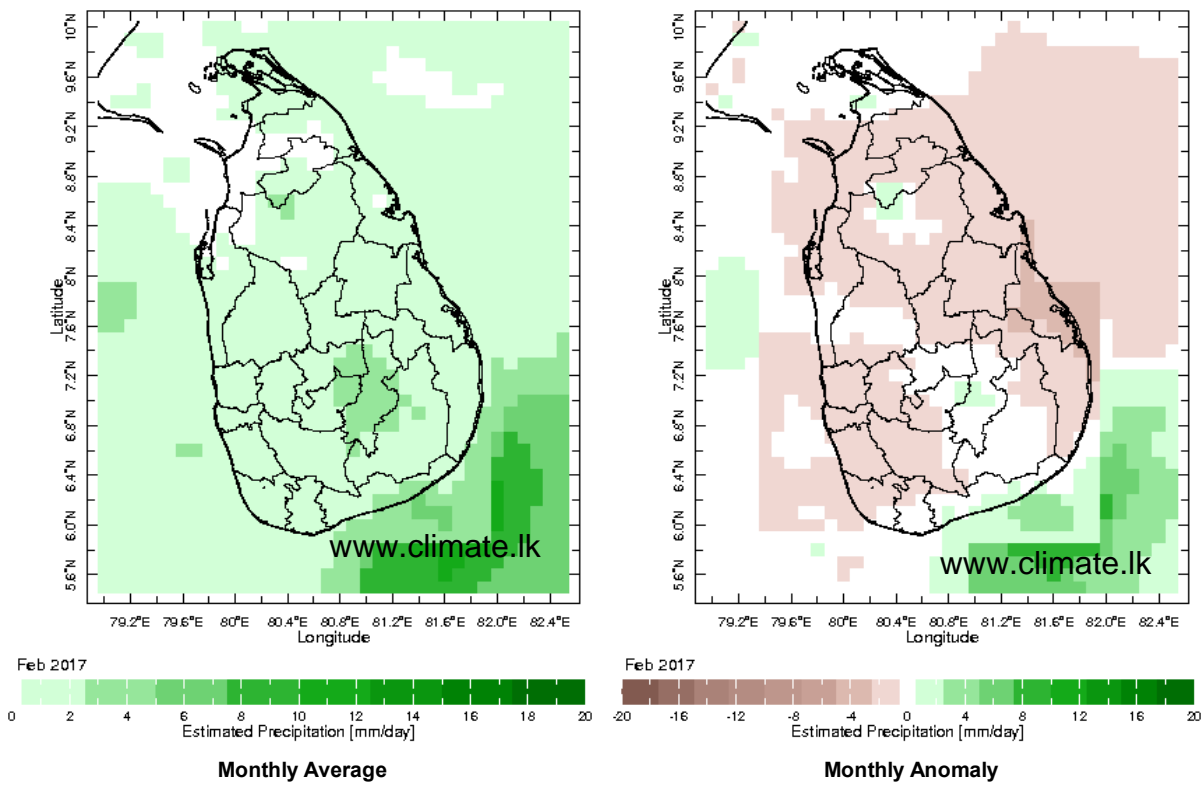
Daily Rainfall Monitoring

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

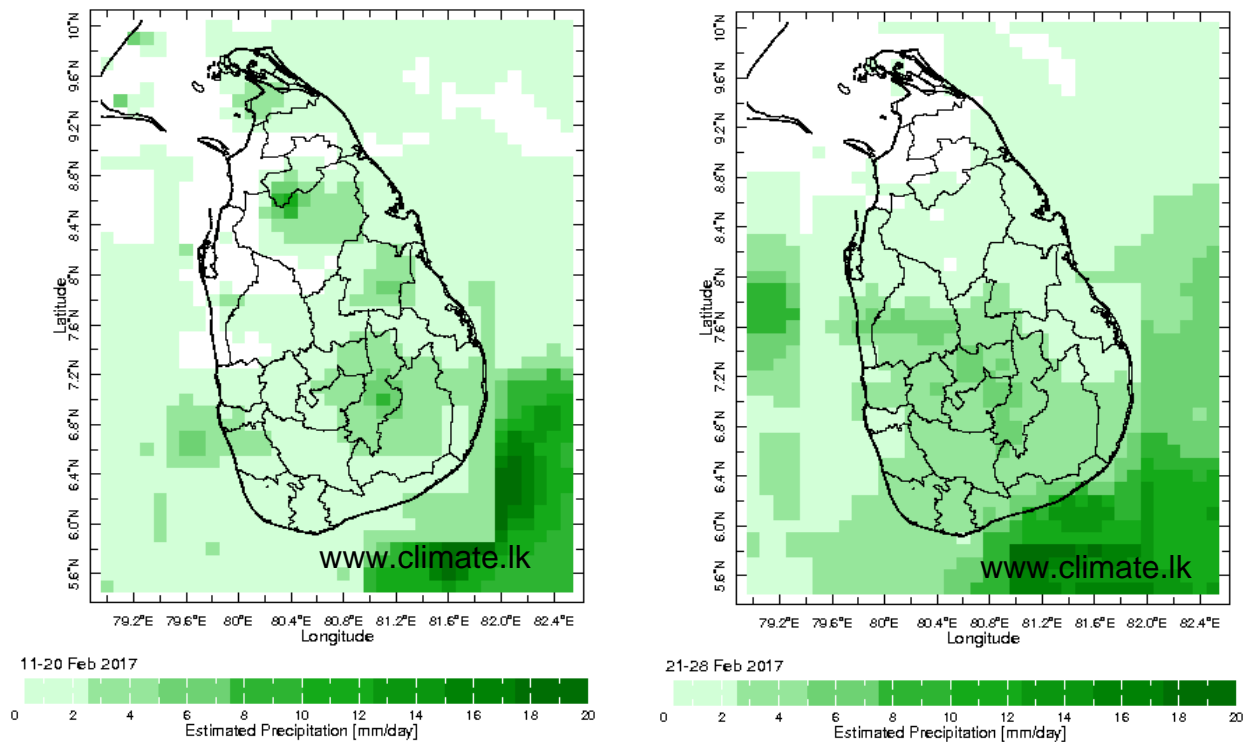


Monthly Rainfall Monitoring

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

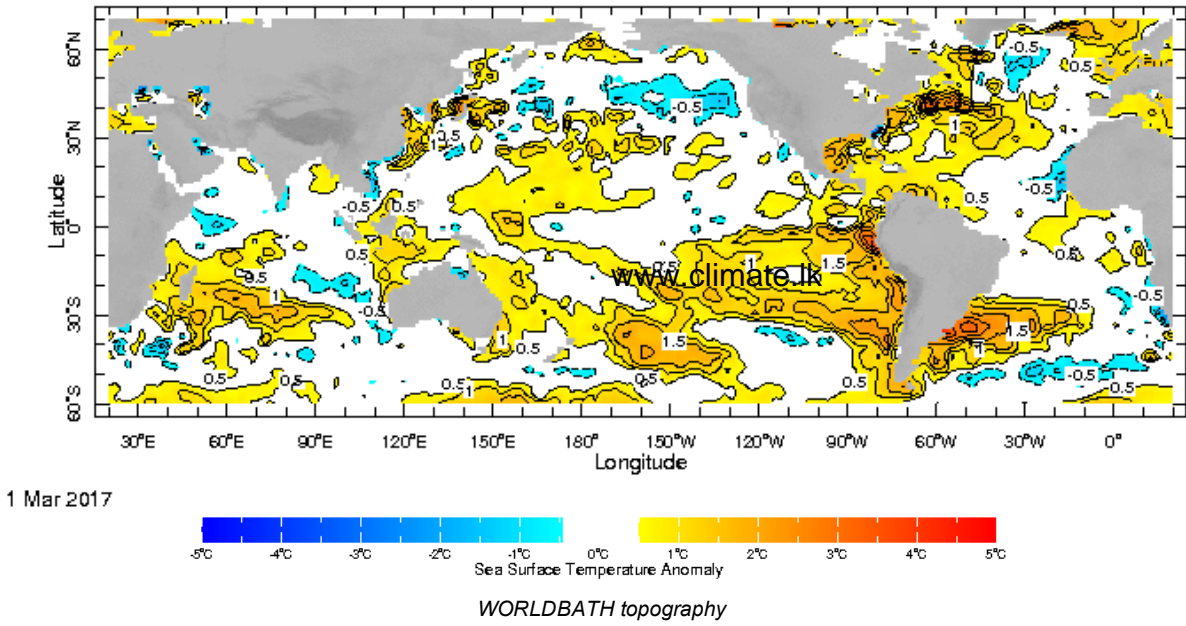


Dekadal (10 Day) Satellite Derived Rainfall Estimates



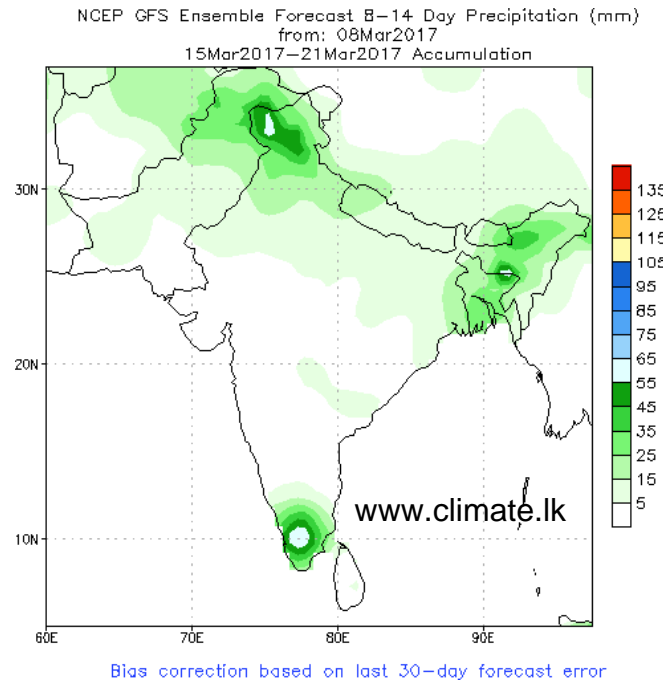
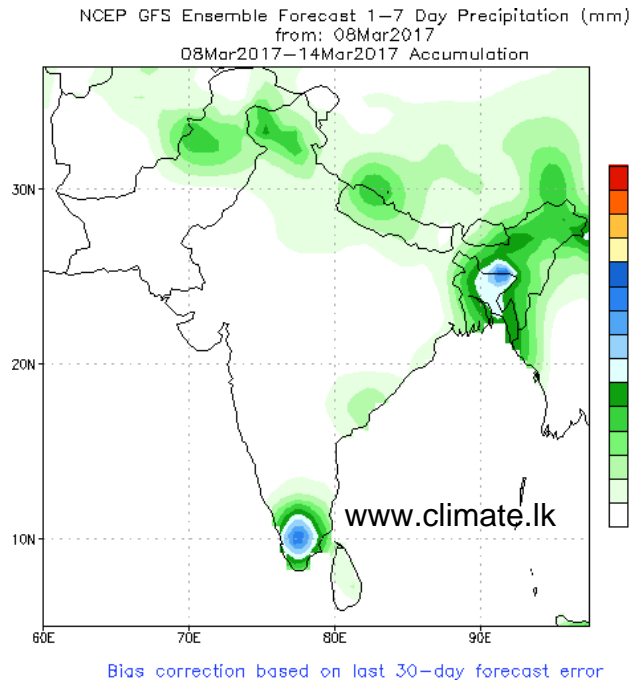
Weekly Average SST Anomalies

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



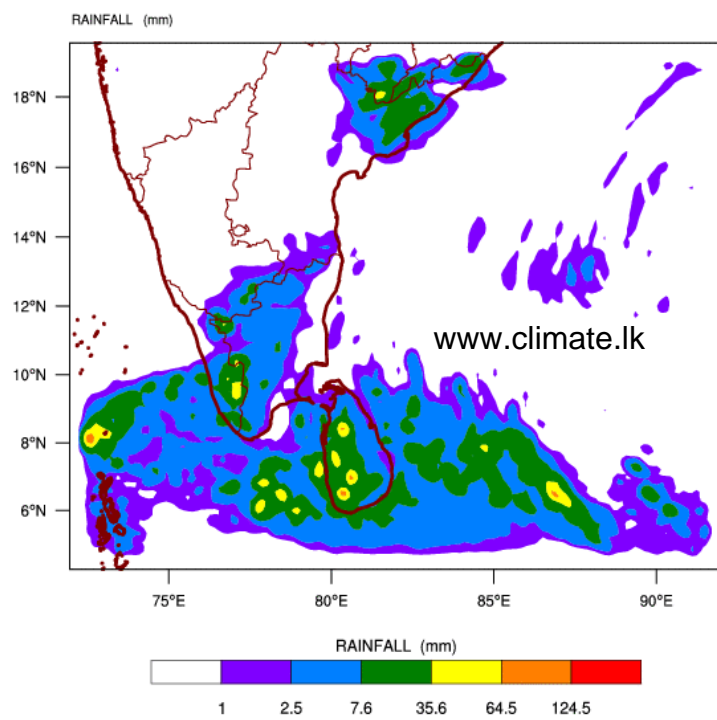
PREDICTIONS

NCEP GFS 1- 14 Day prediction

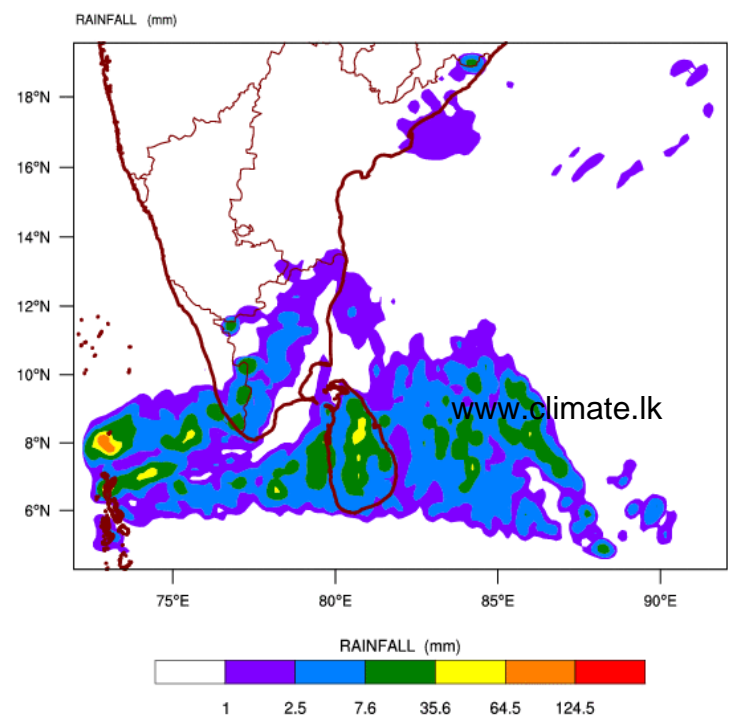


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 09-03-2017 valid for 03 UTC of 11-03-2017

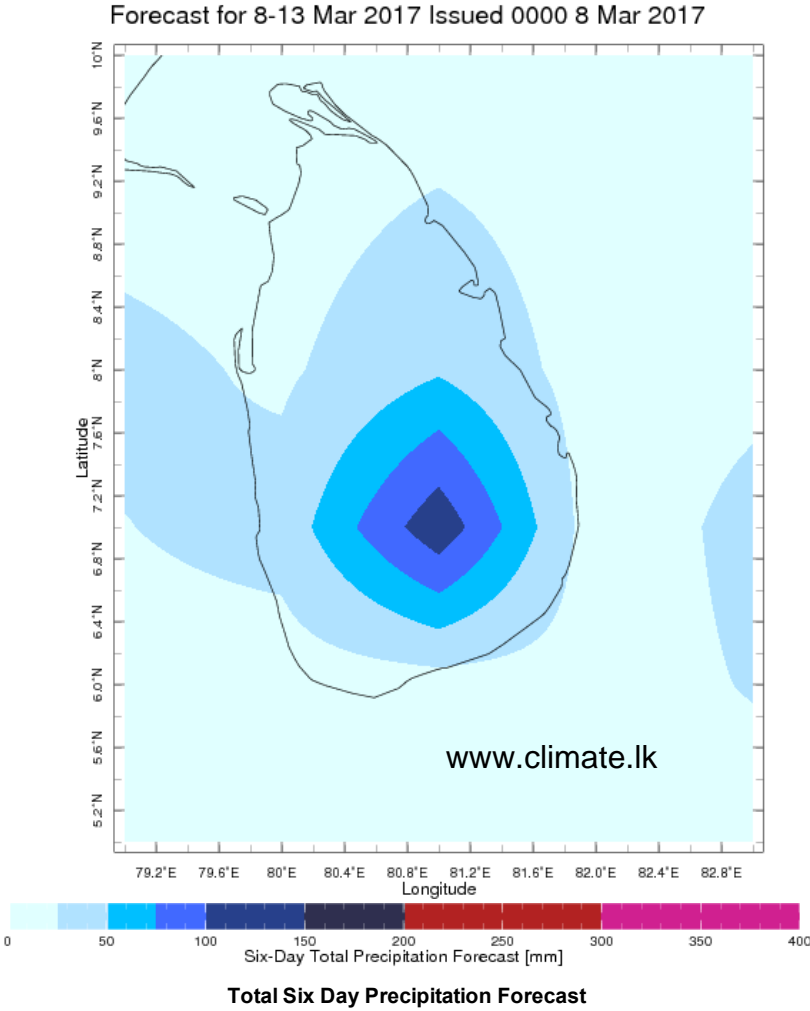
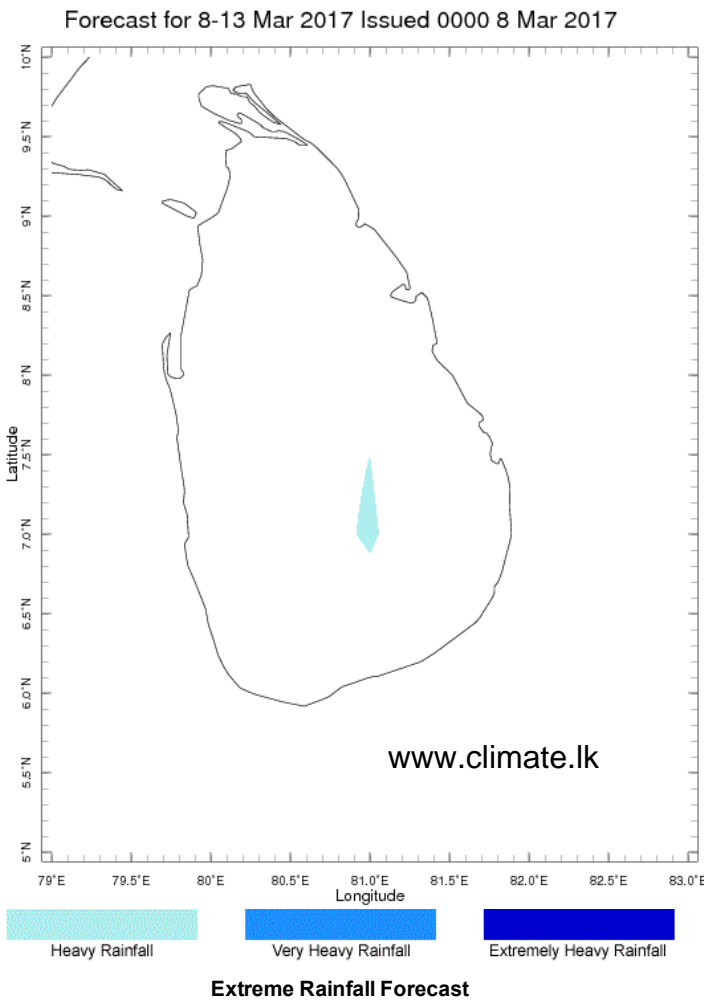


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 09-03-2017 valid for 03 UTC of 12-03-2017



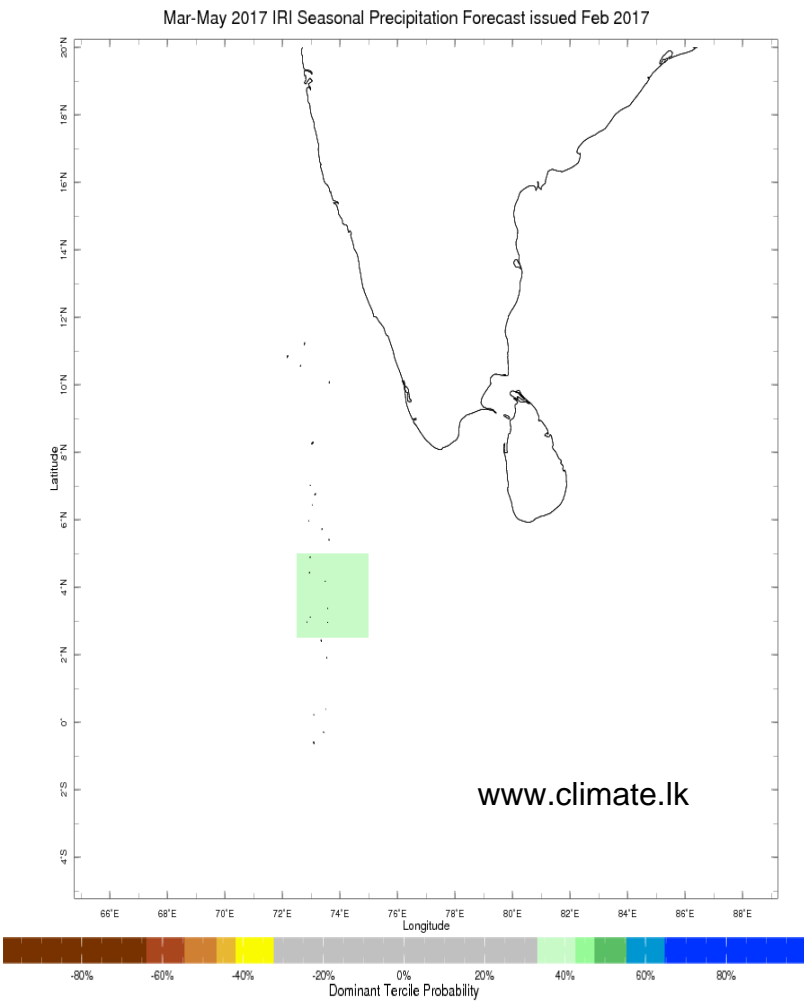
Weekly Rainfall Forecast from IRI

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.

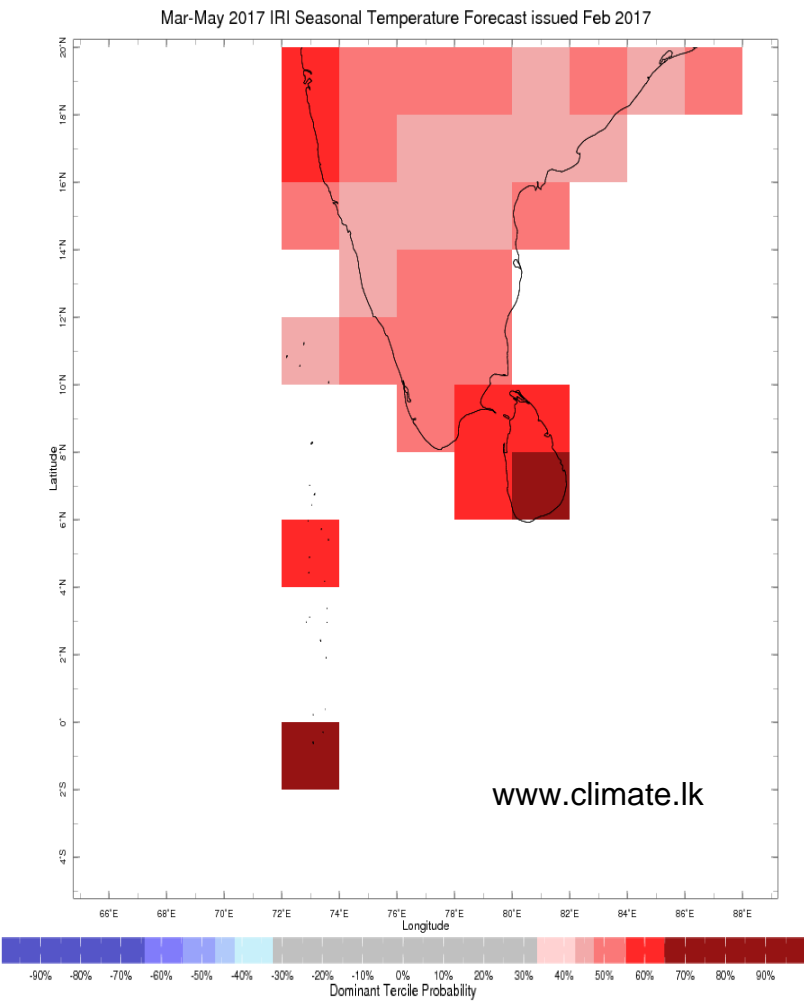


Seasonal Rainfall and Temperature Forecast

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%).



Precipitation Forecast



Temperature Forecast

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