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Experimental Climate Monitoring and Prediction

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25 May 2016

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http://www.climate.lkand http://www.tropicalclimate.org/

May 19, 2016
PACIFIC SEAS STATE

During mid-May 2016 the positive tropical Pacific SST anomaly was quickly weakening, now indicating only a weak El Niño. The atmospheric variables continue to support the El Niño pattern, but at much reduced strength. This includes only a mildly weakened Walker circulation and excess rainfall in the central tropical Pacific, failing to extend eastward as it did in previous months. Most ENSO prediction models indicate a return to neutral by the end of May, with likely development of La Niña (of unknown strength) by fall.

(Text Courtesy IRI)

INDIAN OCEAN STATE

0.5°C above average sea surface temperature was observed around Sri Lanka.

MJO STATE

MJO phase is in 5 therefore shall not have a significant impact on the rainfall in Sri Lanka.

Highlights

After heavy rains throughout the previous week, rainfall was gradually decreasing in this week. Highest rainfall up to 90 mm was recorded in Negombo and near Kurunegala town. According to the NOAA, further heavy rainfall is expected in the next week with 125 mm total rainfall is expected in south western region of the country. This shall go further up in the following week. MJO is in phase 5 and shall not have a significant impact on rainfall.

Summary

Monitoring

***Weekly Monitoring*:** Decreasing rainfall pattern was seen during the week 17th- 23rd May in the entire country. Up to 90 mm rainfall was seen in Negombo and near Kurunegala town on 17th May while Kurunegala, Puttalam, Gampaha, Badulla and all the districts in central and sabaragamuwa provinces received up to 50 mm rainfall. Surrounding regions received up to 30 mm rainfall on the same day. On the 18th, up to 30 mm rainfall was seen only in Negombo. Ratnapura town, Central region of Kegalle district, near Mawanella and Aranayake received up to 70 mm rainfall while nearby regions received up to 50 mm rainfall on the 19th. The received rainfall was low in next two days in the entire country. Only northern and south western sea regions received up to 30 mm rainfall during 20th-21st May. Further, no rainfall was seen during 22nd- 23rd May also.

***Monthly Monitoring*:** During April 2016 most regions of the country received below average rainfall except Ratnapura, eastern regions of Colombo and Gampaha. These districts received up to ~120mm monthly excess rainfall than the historical average.

Predictions

14-day prediction: NOAA NCEP models predict up to 125mm total rainfall in south western region while up to 85 mm total rainfall shall receive in northern and eastern regions of the country during 24th – 30th May. On the same week, up to 55 mm total rainfall is expected in south eastern region of the country during this period. Again rainfall shall increase during 31st May- 6th June. More than 135 mm total rainfall is expected in Colombo, Kalutara, North province and nearby regions during this week while south eastern region shall receive up to 85 mm rainfall. Most districts in north, central and western provinces shall have more than 105 mm total rainfall in this week.

IMD WRF & IRI Model Forecast: According to the IMD WRF model, up to 125mm rainfall shall be around Kegalle on the 26th while up to 65mm rainfall is expected around Kegalle and Ratnapura during 26th- 27th May. The surrounding districts also shall have up to 35 mm total rainfall during these two days. The IRI CFS model predicts up to 100 mm total rainfall in the sea near Galle while Galle, Kalutara, Colombo and sea near these districts shall have up to 75 mm total rainfall for 24th-29th May.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for June to August, the total 3-month precipitation shall be climatological. The 3-month temperature has more than 70-80% likelihood in the entire country of being in the above-normal tercile during this period.

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[1] International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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Weekly Hydro- Meteorological Report for Sri Lanka

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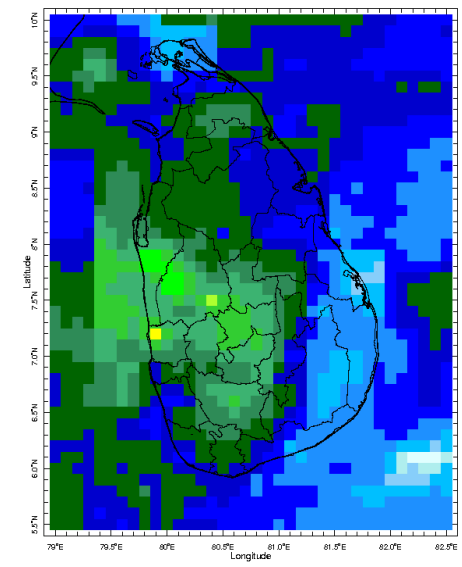
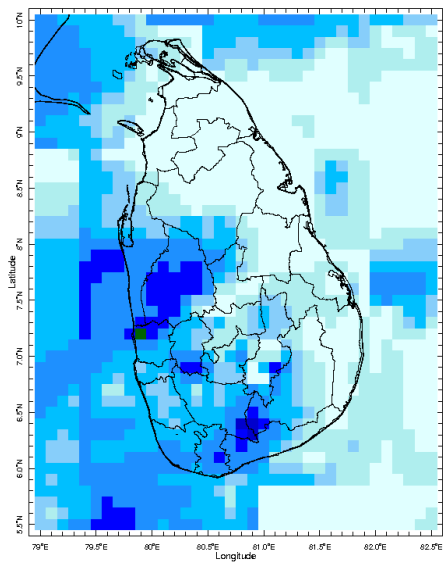
Daily Rainfall Monitoring

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



17 May 2016



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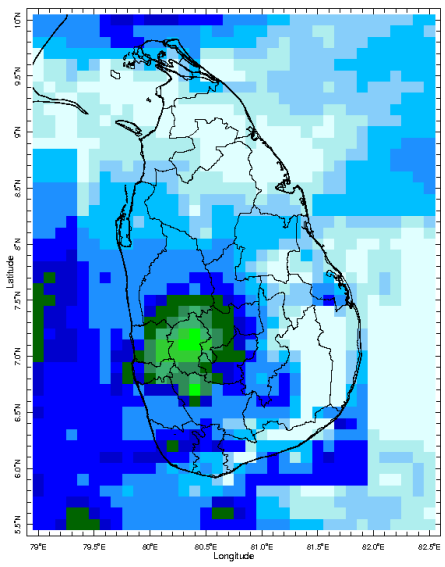

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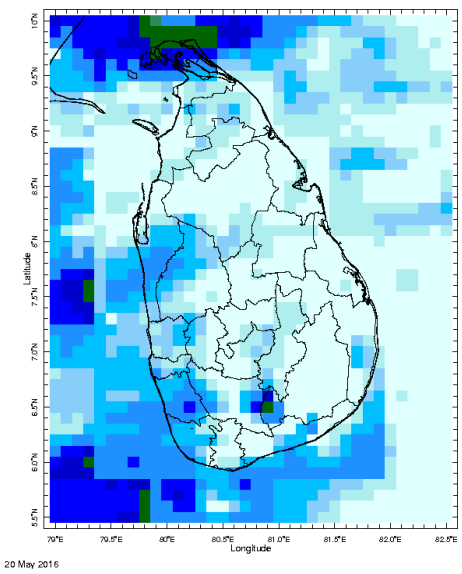

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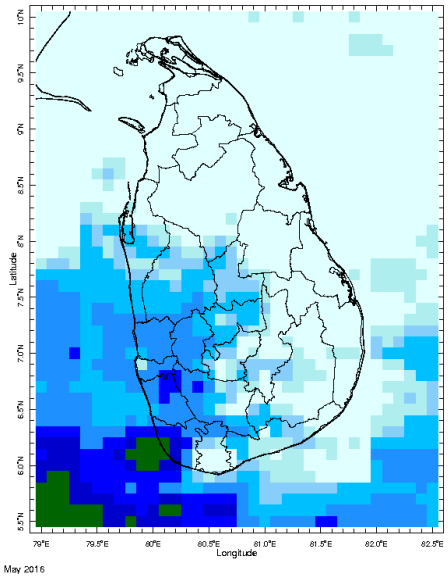

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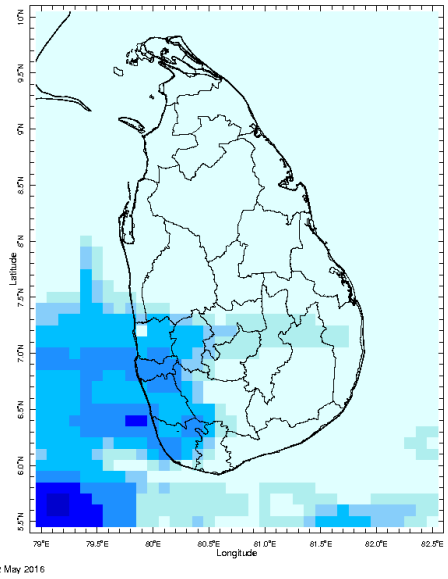
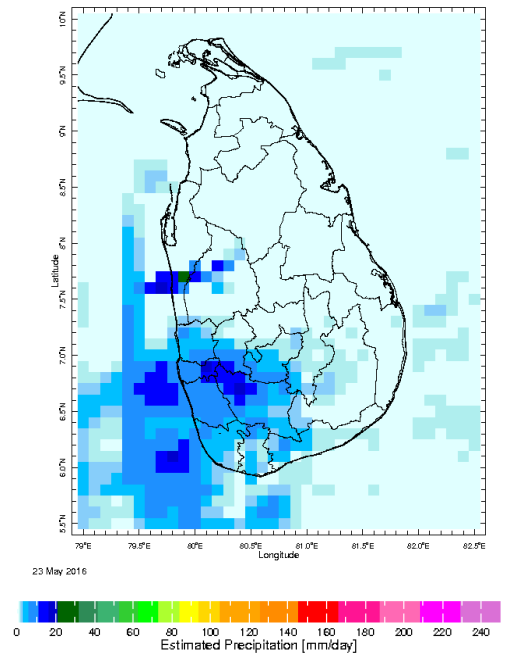
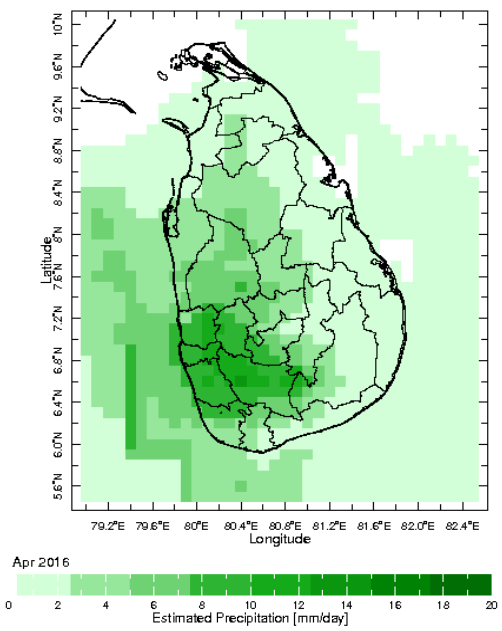


22 May 2016

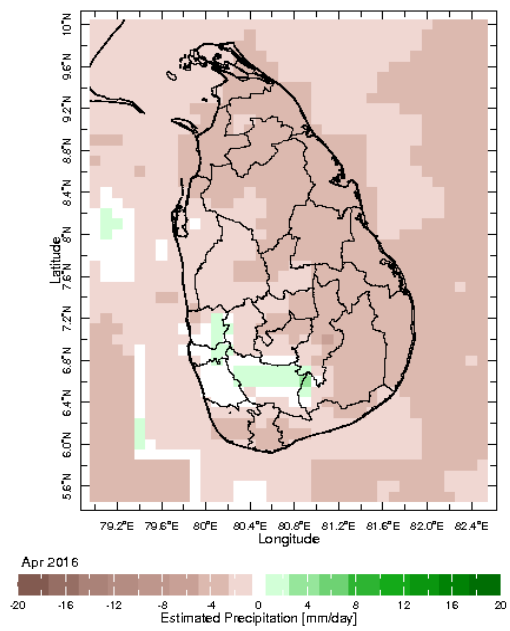


Monthly Rainfall Monitoring

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

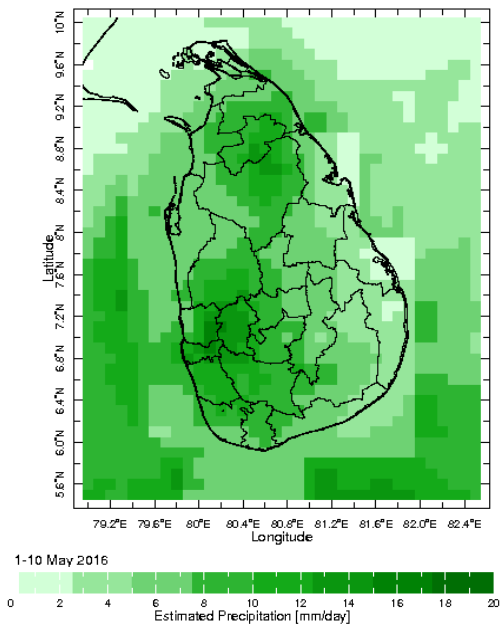


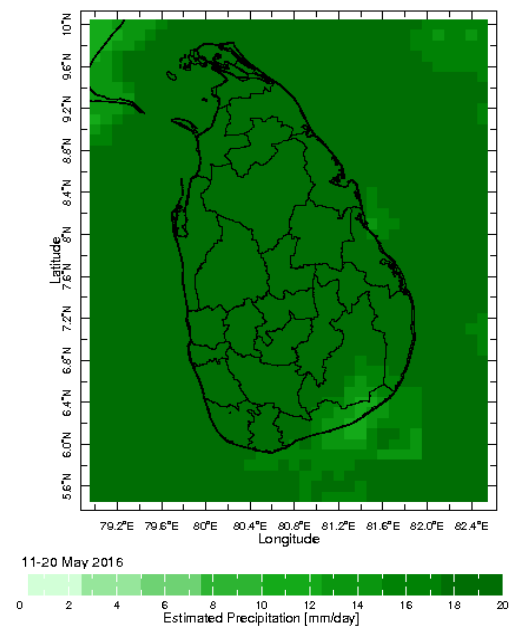
Monthly Average



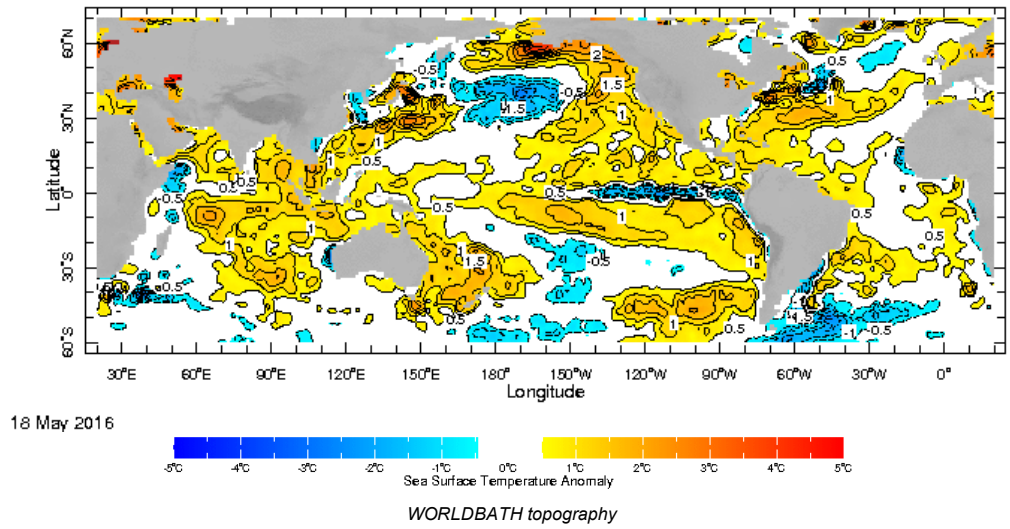
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

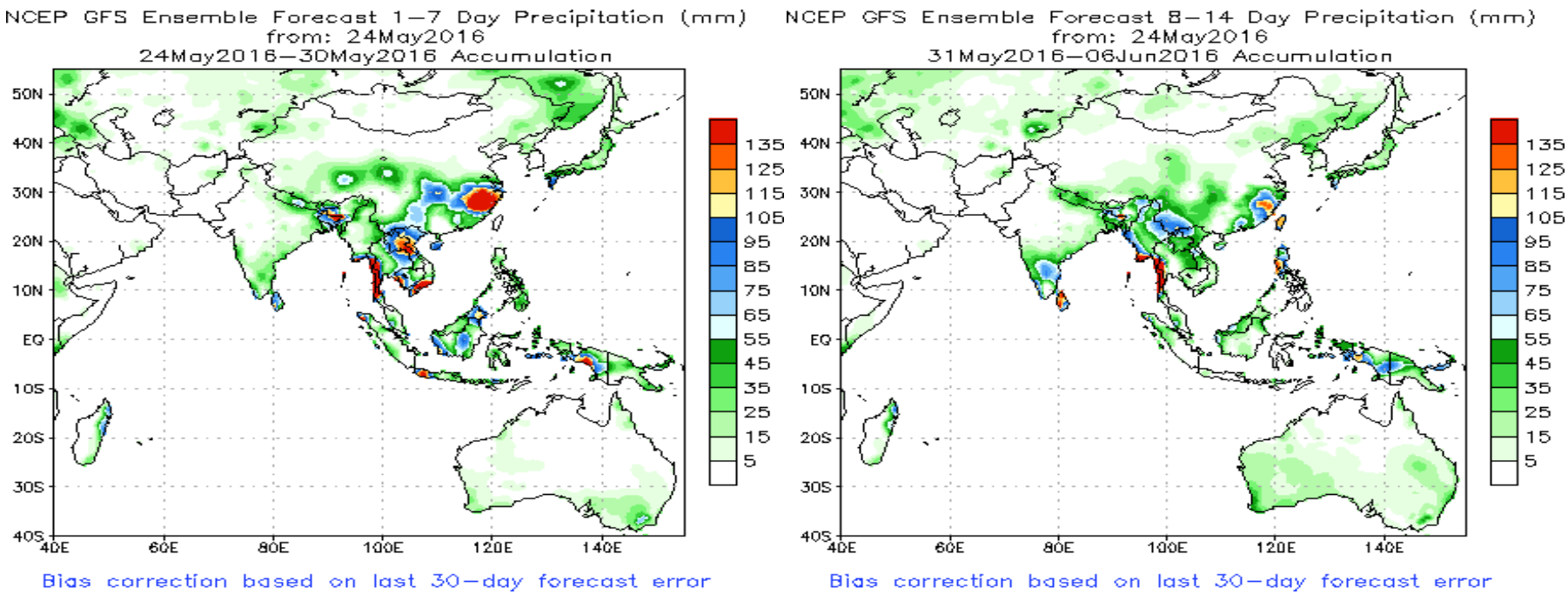




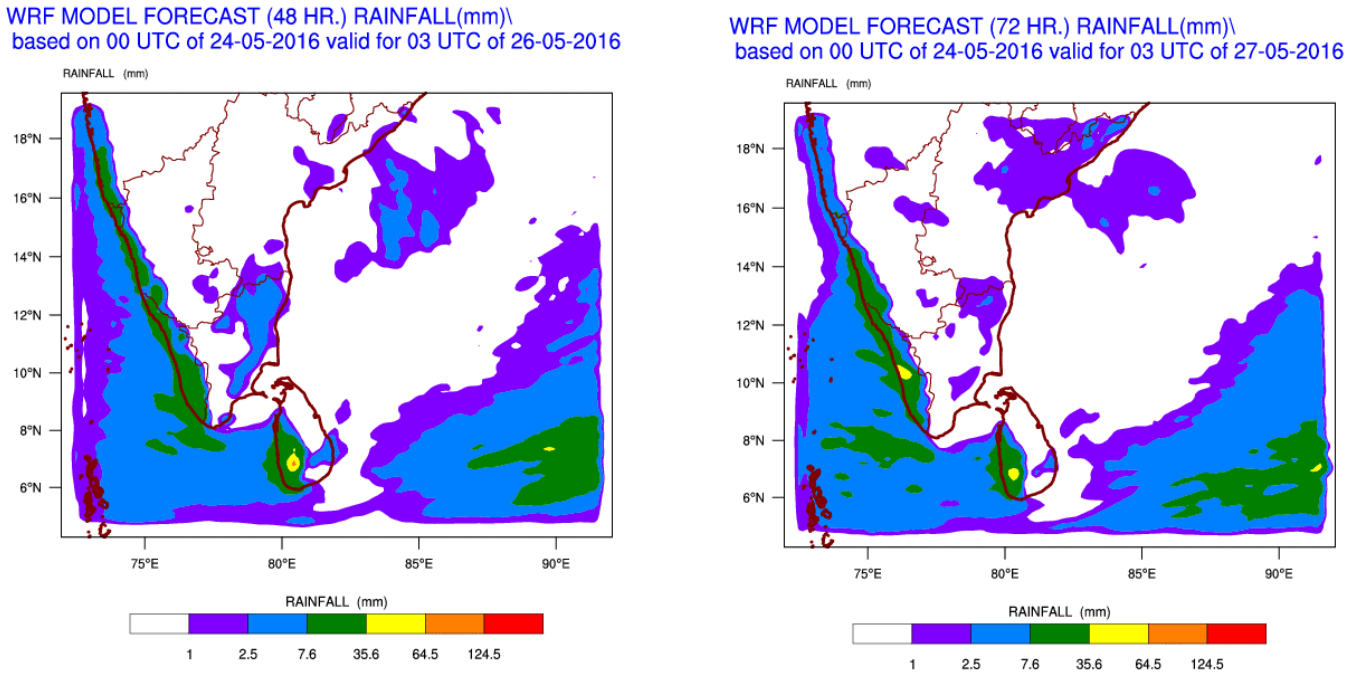
Weekly Average SST Anomalies



NCEP GFS 1- 14 Day prediction

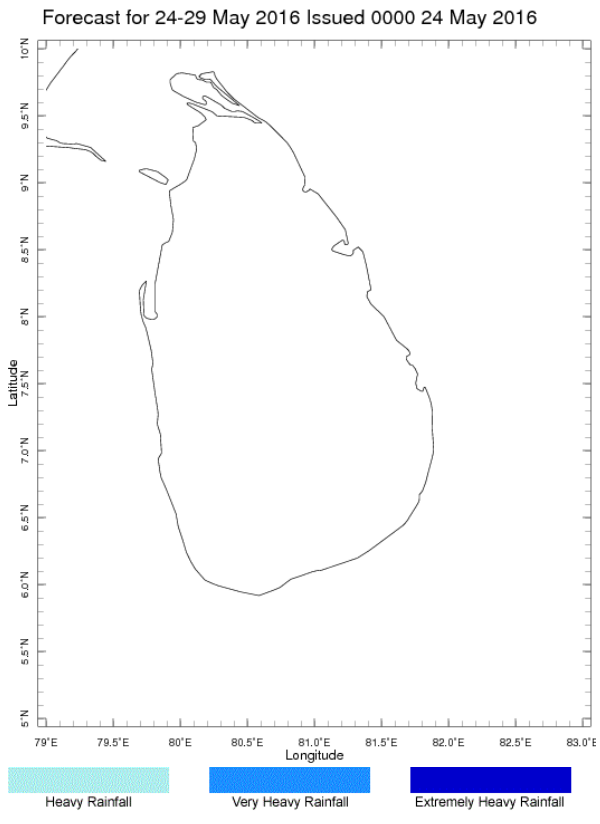


WRF Model Forecast (from IMD Chennai)

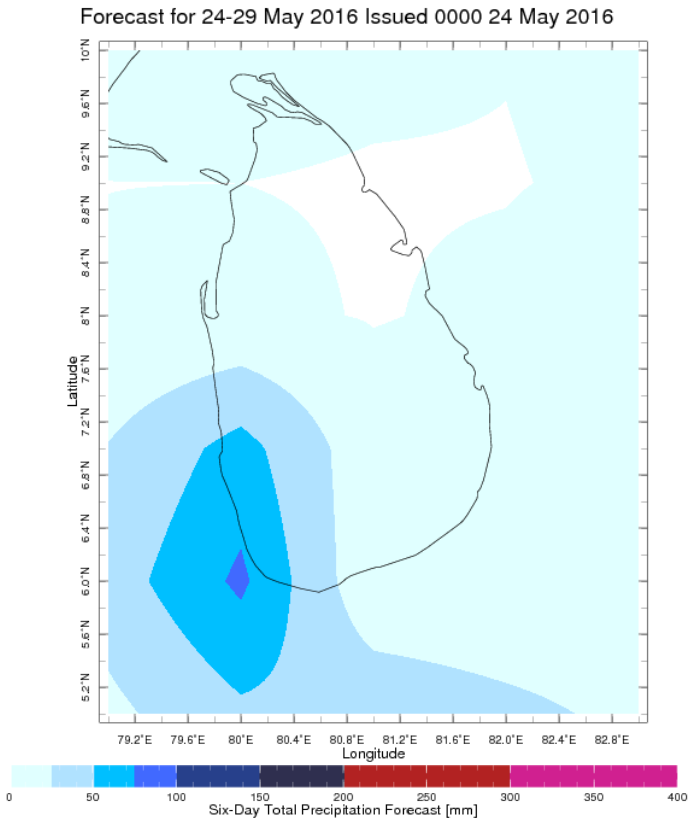


Weekly Rainfall Forecast

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.



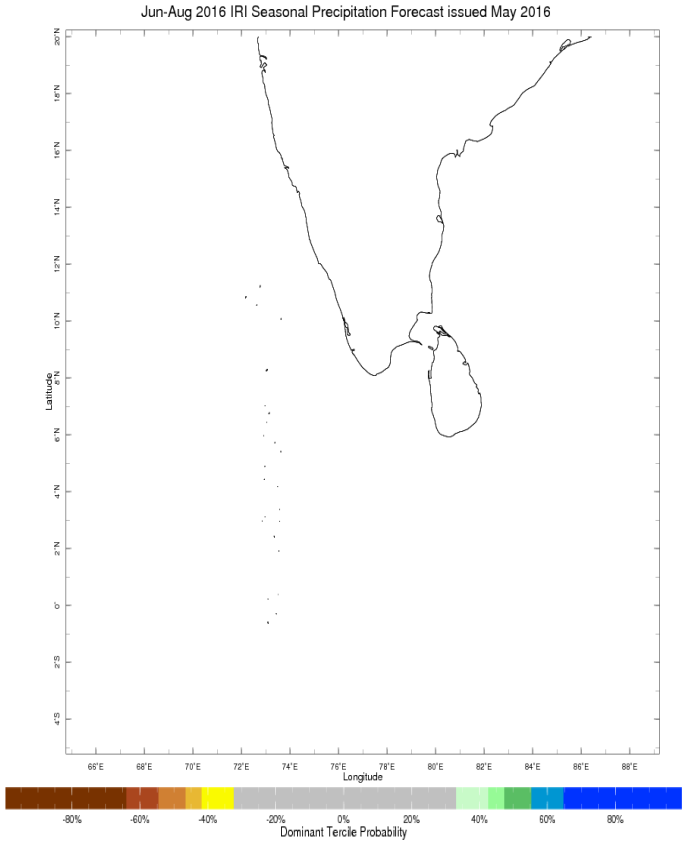
Extreme Rainfall Forecast



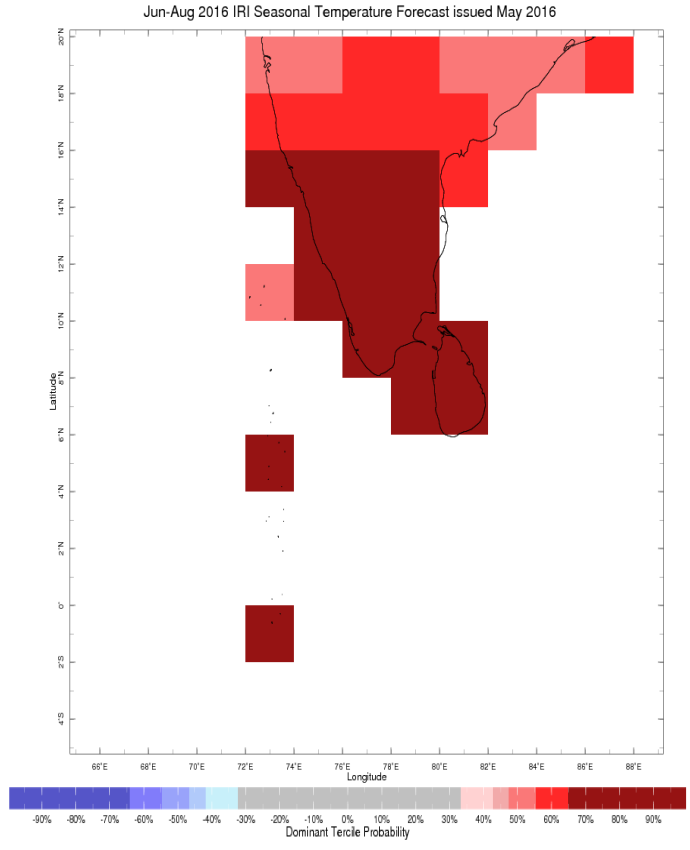
Total Six Day Precipitation Forecast

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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