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Experimental Climate Monitoring and Prediction

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02 June 2016

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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

The Sea Surface Temperature around Sri Lanka is neutral.

MJO STATE

MJO is weak and therefore it shall not affect rainfall in Sri Lanka

Highlights

Rainfall during the previous week was concentrated in the south western region of the country. Kalutara district received the highest rainfall during the week (up to 160 mm). The surrounding districts and the south western sea received up to 100-120 mm rainfall. NOAA NCEP, IMD WRF and IRI CFS models predict more than 100 mm of rainfall in the south western region of the country in the next two weeks.

Summary

Monitoring

***Weekly Monitoring*:** On the 25th of May up to 30 mm of rain has fallen in Nuwara Eliya, Kegalle and Gampaha districts, and up to 40 mm in the coastal region in Kalutara district. On the 26th of May Gampaha district received up to 20 mm of rainfall. On the 27th up to 160 mm rain has fallen near Agalawatta, while Kalutara, Colombo, Gampaha, Kegalle, Galle and western region of Ratnapura districts and the south western sea region experienced rainfall up to 140 mm. The surrounding regions received up to 100 mm rainfall. Rainfall decreased on the following day (28th) with only up to 20 mm rainfall seen in the southwestern regions of the country. Kurunegala district received rainfall up to 10 mm on the 29th. Rainfall increased once again on the 30th with Kalutara and Kegalle districts receiving up to 40 mm rain, and Galle, Matara, Kandy and Kurunegala districts receiving up to 30 mm. Surrounding regions received up to 20 mm of rain on the 30th. Up to 40 mm rainfall fell in Kalutara district on the 31st. Up to 30 mm rain has fallen in Colombo district on the same day while the surrounding regions received up to 20 mm rainfall.

***Monthly Monitoring*:** During May 2016, the entire country as well as the surrounding sea received above average rainfall due to the influence of the Cyclonic storm Roanu. The south eastern region of the country received around 100 mm excess rainfall compared to what is usual in May. This was as high as 300-400 mm in the rest of the country.

Predictions

14-day prediction: NOAA NCEP models predict up to 135 mm of rainfall in Colombo and Kalutara Districts while predicting up to 125 mm in Gampaha district between 1st – 7th June 2016. The surrounding districts may receive up to 95 mm of rainfall. The south western region shall receive rain up to 50 mm while the rest of the country shall receive up to 75 mm of rainfall during this week. There is an increasing tendency in rainfall during 8th- 14th of June. Colombo, and Kalutara districts shall receive more than 135 mm of rainfall; Gampaha and Kegalle districts shall receive rainfall up to 135 mm, and Galle district as well as the entire northern and north central regions shall receive rainfall up to 125 mm. The south eastern region of the country shall receive up to 50 mm rain and the rest of the country shall receive up to 75 mm rain. Please note that these are total expected rainfalls for the entire 7 days.

IMD WRF & IRI Model Forecast: According to the IMD WRF model, up to 125mm rainfall is expected in Colombo, Kegalle and Ratnapura districts on the 3rd June. Puttlam and Kurunegala districts shall receive up to 65 mm rain. Surrounding districts shall receive up to 35 mm rain. Similar rainfall conditions are expected in the country on the 4th as well. IRI CFS model predicts up to 75 mm rain in the south western region of the country during 1st- 6th June.

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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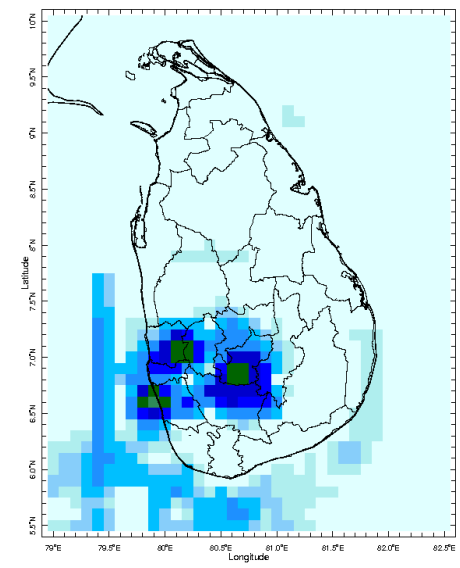
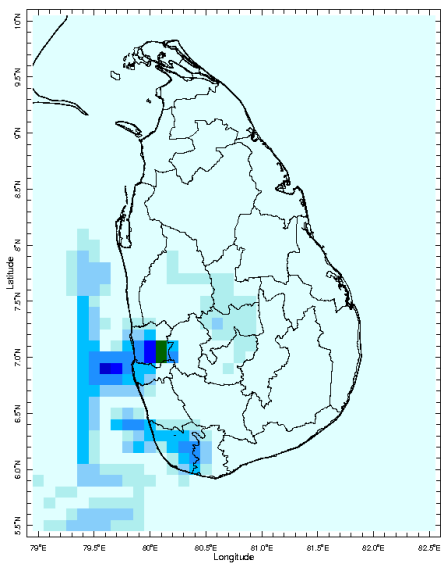
Daily Rainfall Monitoring

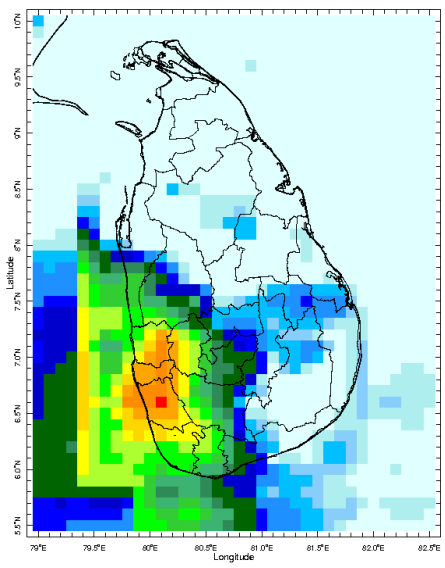
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



25 May 2016



26 May 2016



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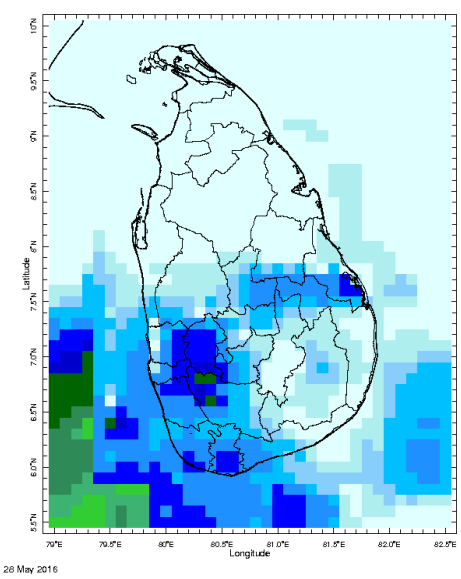
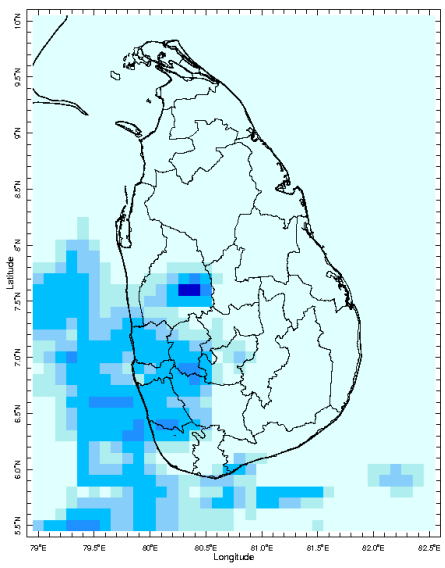
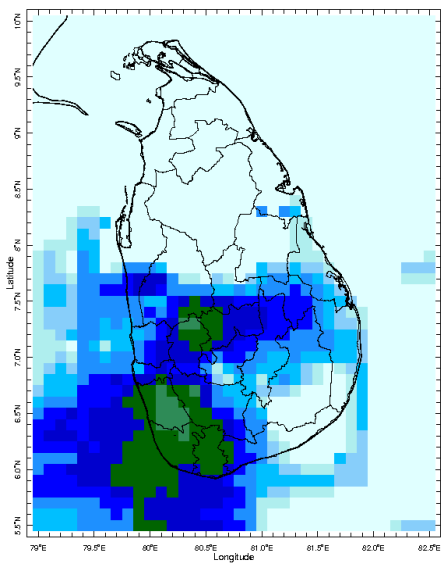


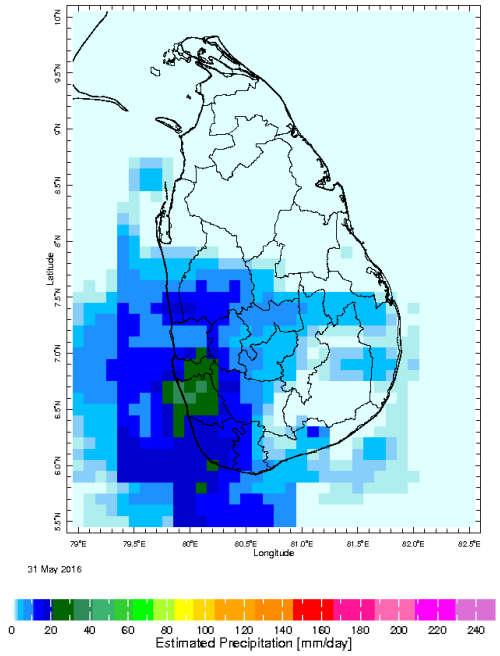
28 May 2016



29 May 2016

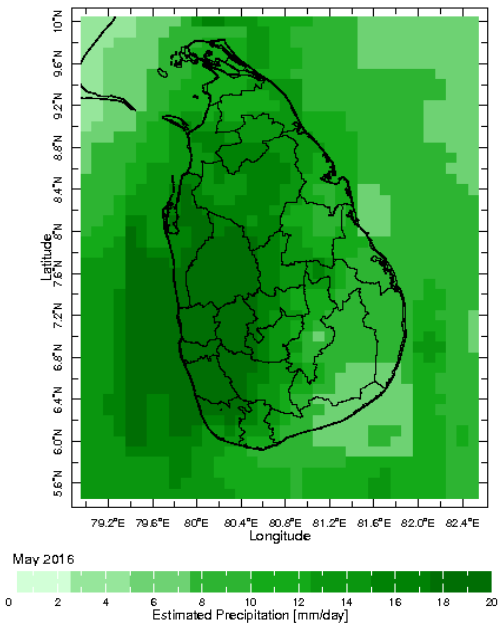


30 May 2016

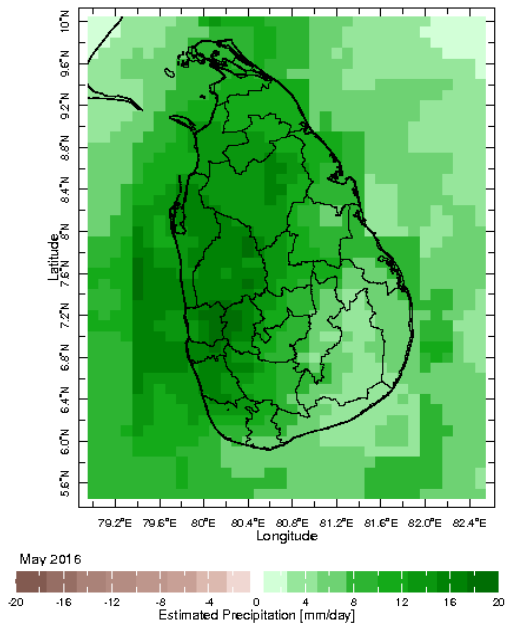


Monthly Rainfall Monitoring

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

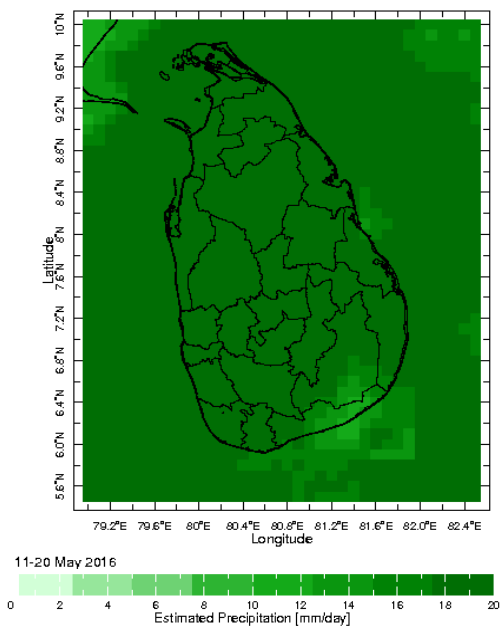


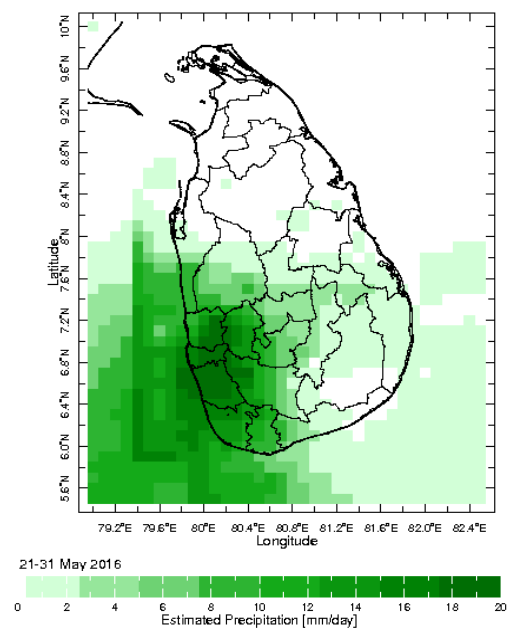
Monthly Average



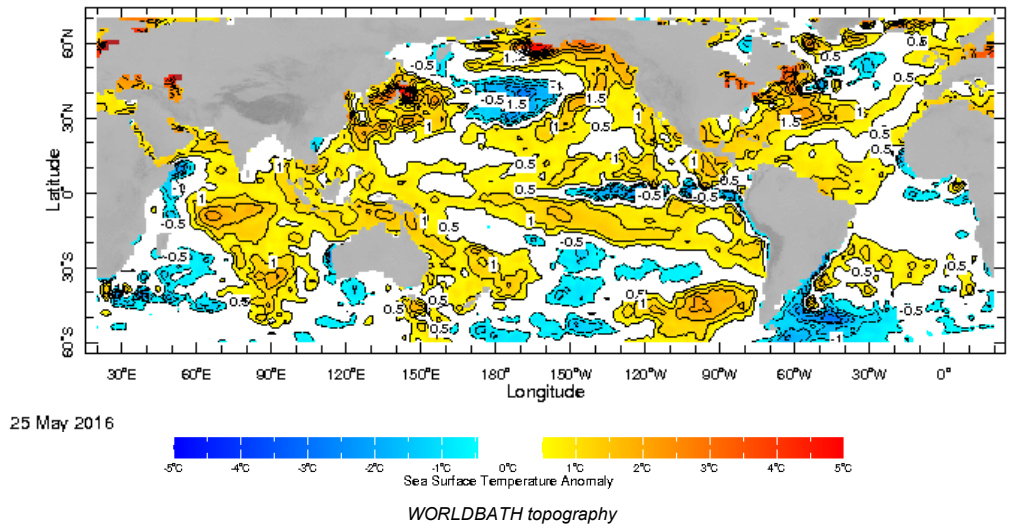
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

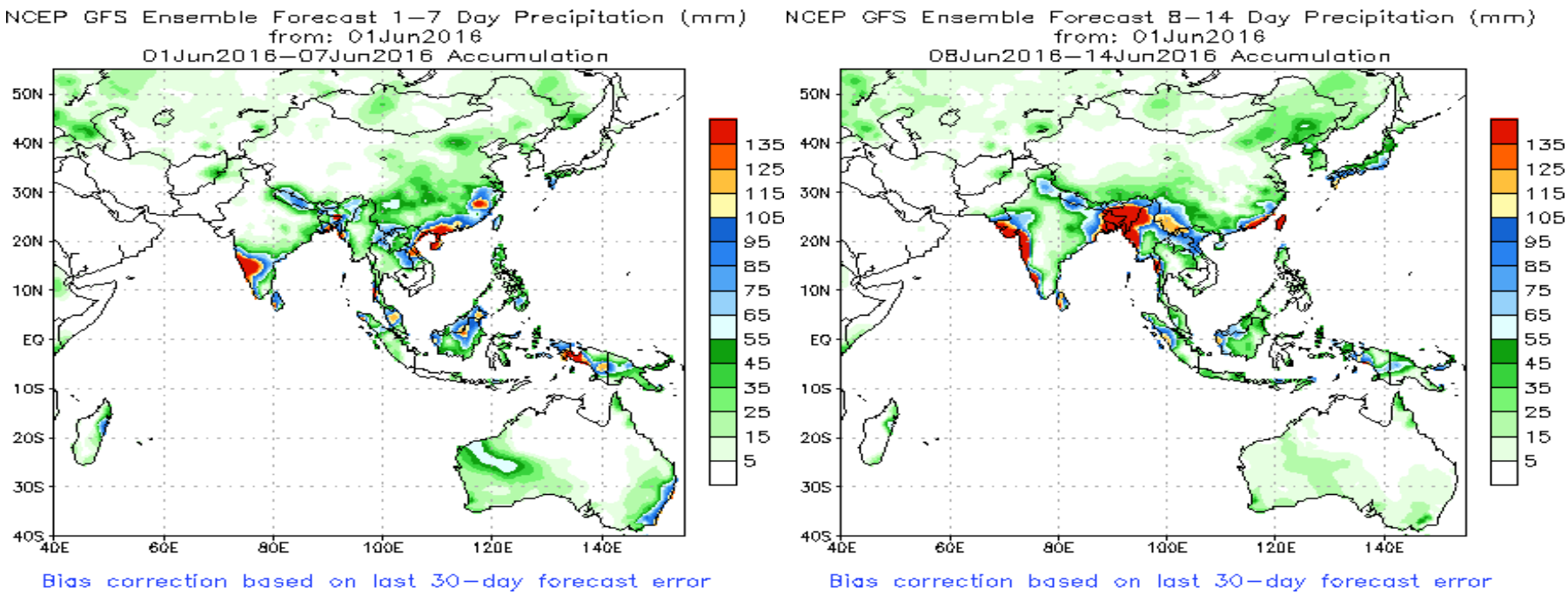




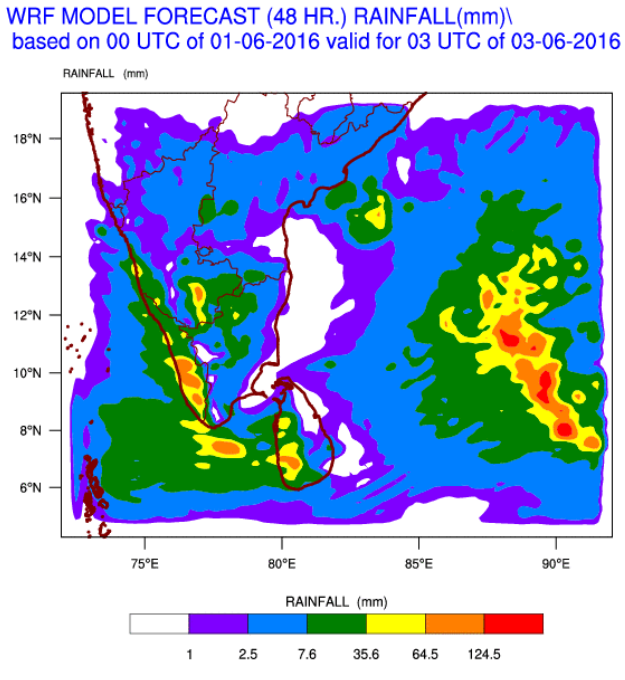
Weekly Average SST Anomalies

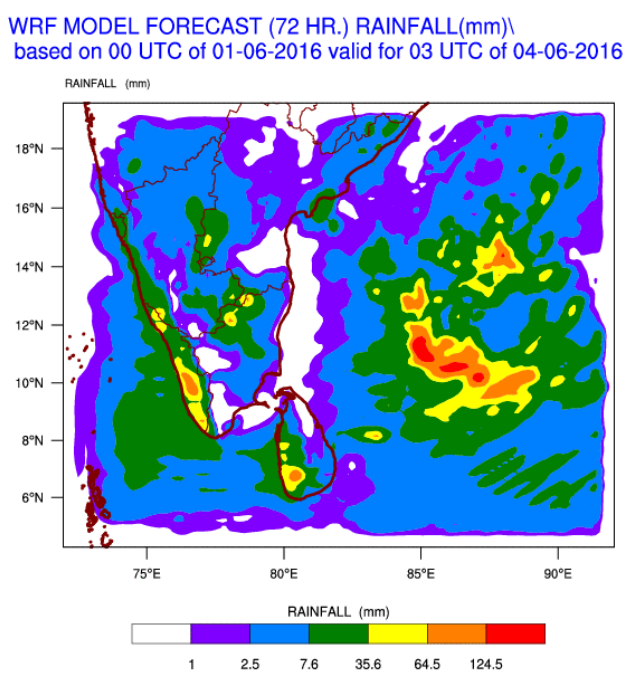


NCEP GFS 1- 14 Day prediction



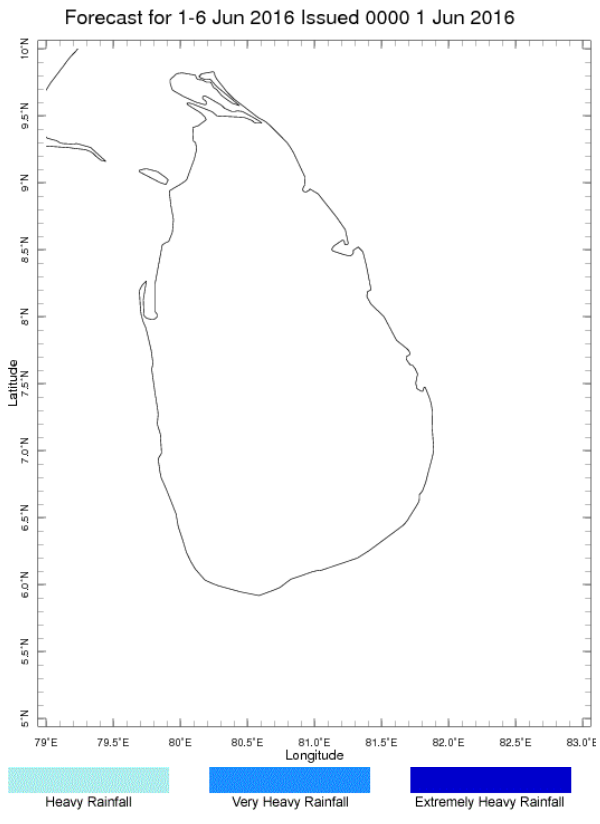
WRF Model Forecast (from IMD Chennai)



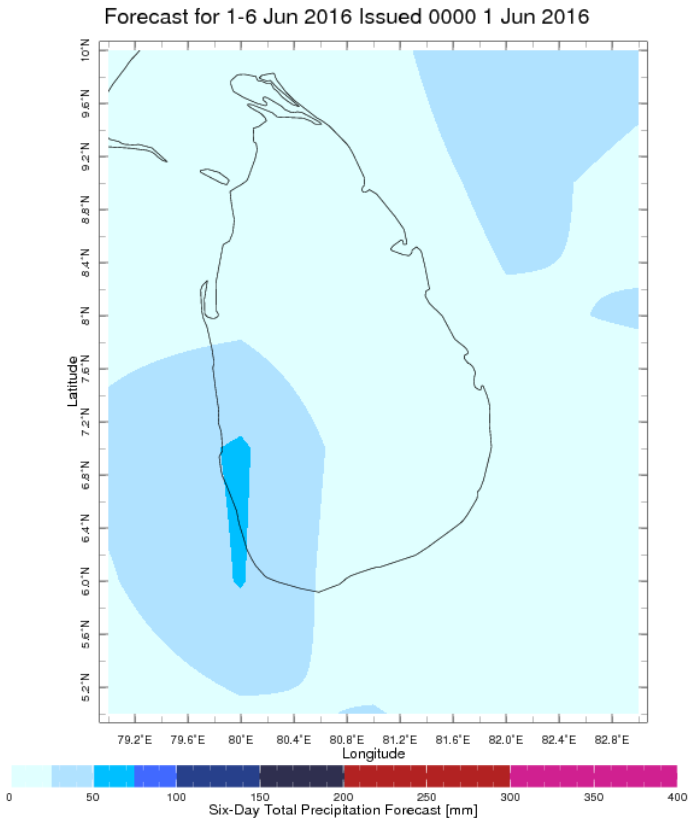


Weekly Rainfall Forecast

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.



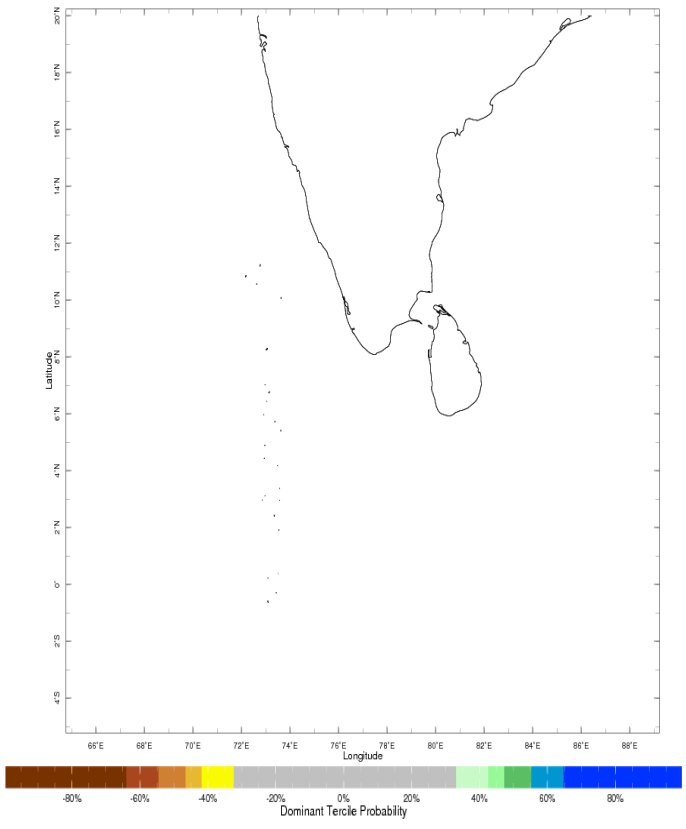
Extreme Rainfall Forecast



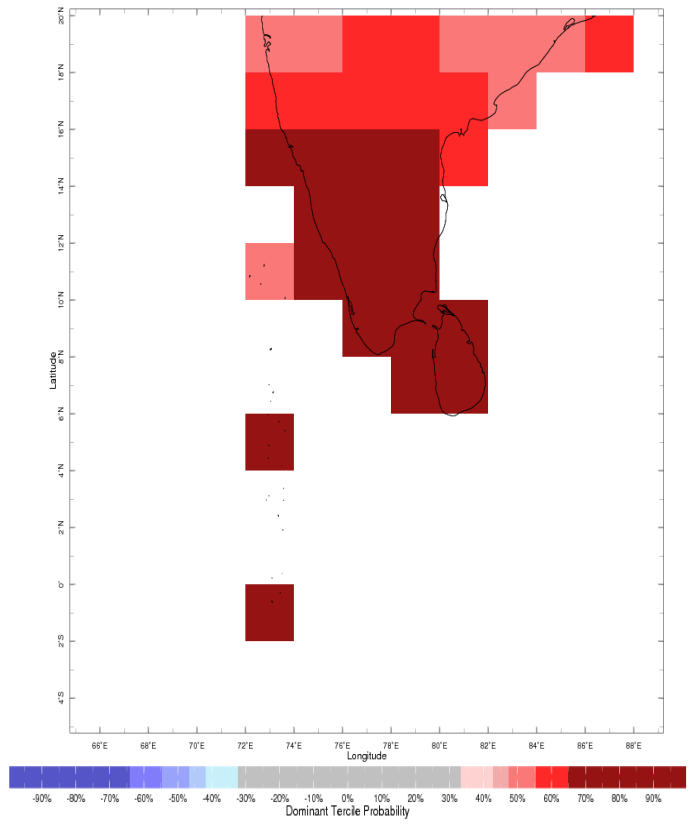
Total Six Day Precipitation Forecast

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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