

Experimental Climate Monitoring and Prediction

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August 20, 2015 PACIFIC SEAS STATE

During late July through early-August 2015 the SST was at a strong El Niño level. All atmospheric variables support the El Niño pattern, including weakened trade winds and excess rainfall in the east-central tropical Pacific. The consensus of ENSO prediction models indicate continuation of strong El Niño conditions during the August-October 2015 season in progress. Some further strengthening into fall is likely, with the event lasting into spring 2016.

(Text Courtesy IRI)

INDIAN OCEAN STATE

1 °C above average temperature was observed around Sri Lanka.

MJO STATE

MJO is on phase 2 and therefore shall enhance rainfall conditions in Sri Lanka.

Highlights

High amounts of rainfall was observed in the previous week in the northern region of the country. The rest of the country received mostly light rainfall in the previous week with some exceptions where heavy rainfall was observed. Many rainfall prediction models predict heavy rainfall in western, south western and southern regions of the country as well as the southern sea in the next few days.

Summary

Monitoring

Weekly Monitoring: On the 18th of August Jaffna, Kilinochchi, Mannar, Anuradhapura and Kalutara districts received up to 40 mm rainfall. Mullaitivu, Vavuniya, Trincomalee, Puttalam, Kurunegala, Gampaha and Ratnapura districts received light rainfall during this day. No rainfall was observed on the 19th August in any part of the country. Mahiyangana and surrounding areas received up to 40 mm rainfall on the 20th August while the rest of the country did not receive any rainfall. Only light rainfall was observed on the 21st August and on 22nd and 23rd up to 30 mm rainfall was observed in Kalutara and Ratnapura districts. Then on the 24th the southern half of the country received light rainfall while the northern half remained dry.

Monthly Monitoring: In the month July 2015, south western region of the country received above average rainfall of up to 6 mm/day. The rest of the country received below average rainfall during this month.

Predictions

14 day prediction: NOAA NCEP models predict up to 75 mm rainfall during 26th August- 1st September 2015 in the south western region of the country. During the following week (2nd- 8th September) the entire country shall receive up to 45 mm rainfall. Please note that these amounts are the predicted total rainfalls for the entire week.

IMD WRF & IRI Model Forecast: According to the IMD WRF model the southern, south western and western regions of Sri Lanka shall receive high rainfall on the 28th and 29th of August. On the 29th Heavy rainfall up to 65 mm is expected in Galle/ Ambalangoda region. Rest of above mentioned regions shall receive up to 35 mm rainfall during this day. Rainfall shall be less on the 29th with western and south western coastal regions expected to receive up to 35 mm rainfall. IRI CFS models predict up to 100 mm rainfall in south western regions of the country during 26th – 31st August. Coastal Regions and the sea near Galle shall receive up to 150 mm rainfall during this period. Very high rainfall is expected in the southern sea.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for September to November, 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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- Seasonal Predictions from IRI

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

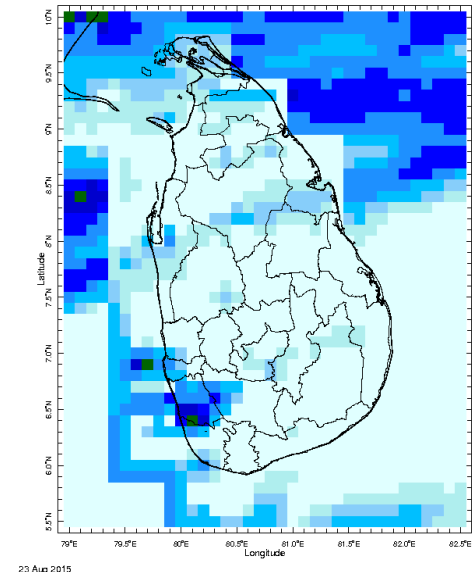
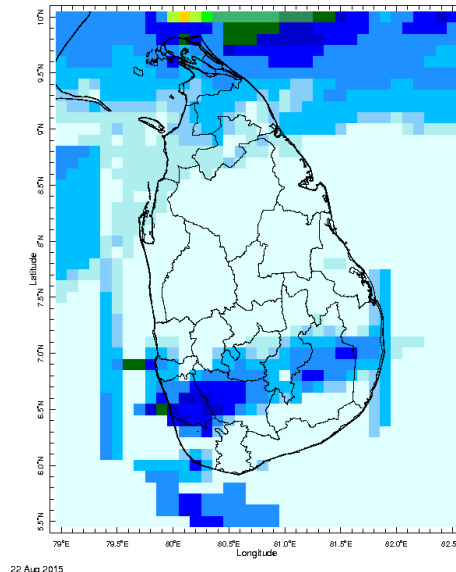
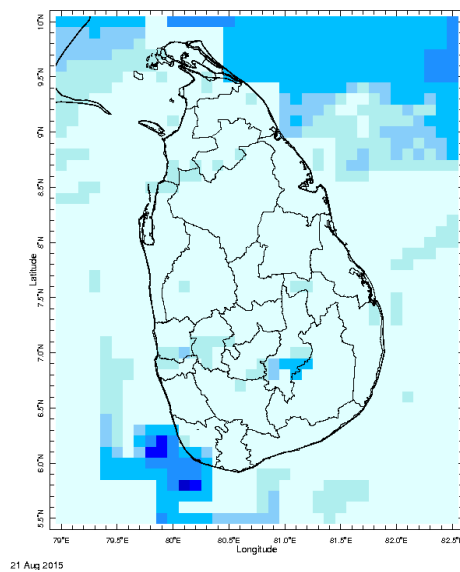
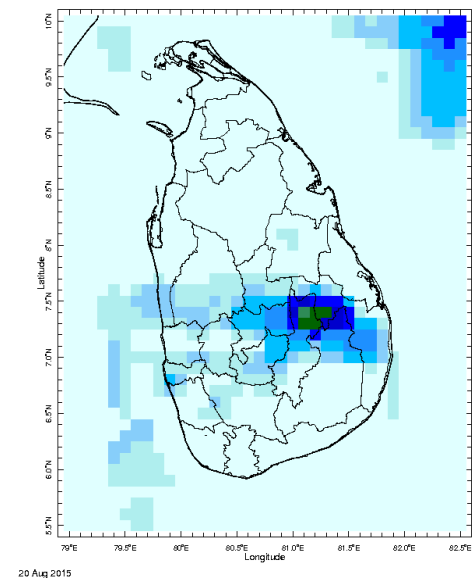
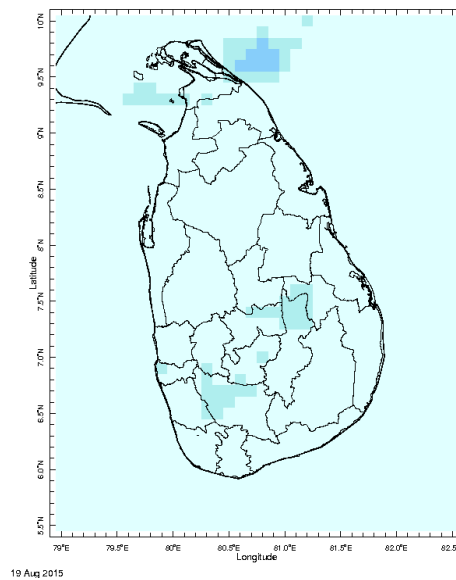
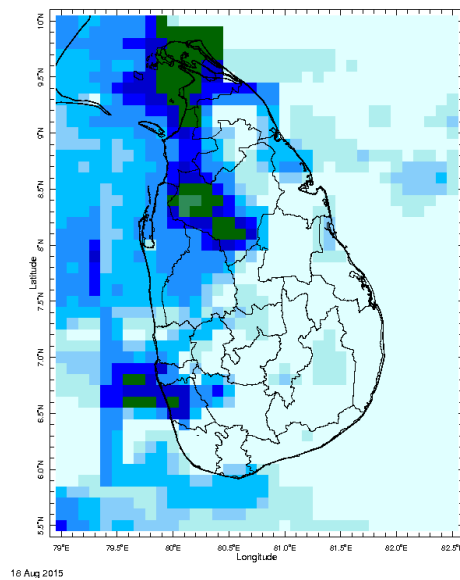
Weekly Hydro- Meteorological Report for Sri Lanka

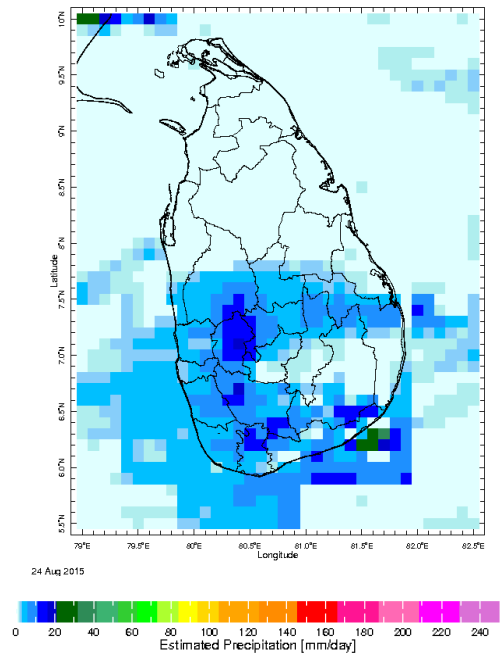
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Daily Rainfall Monitoring

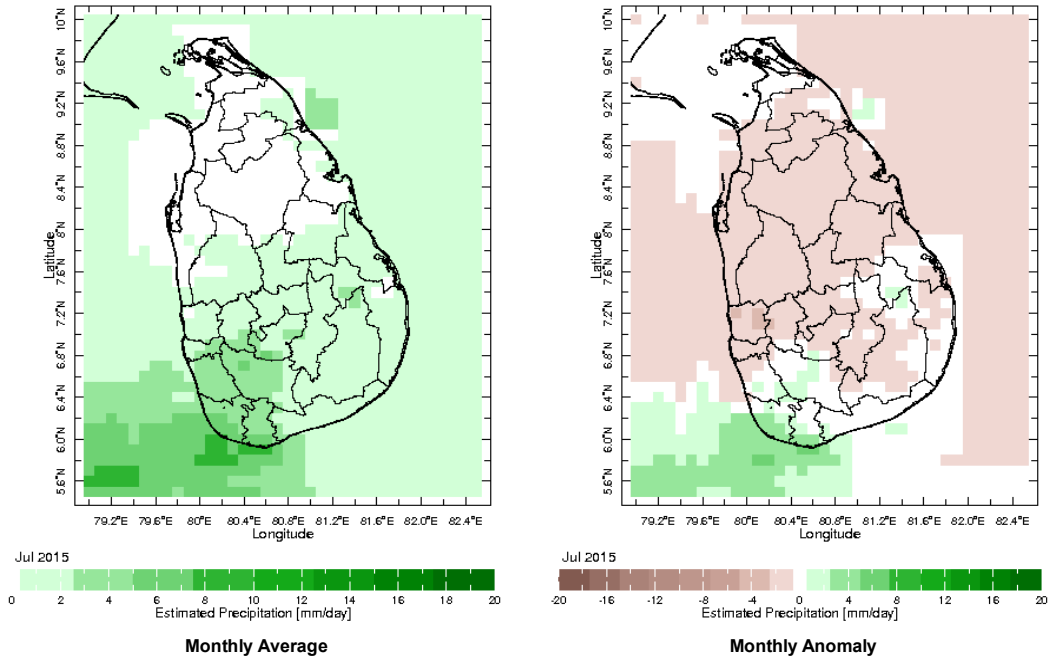
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



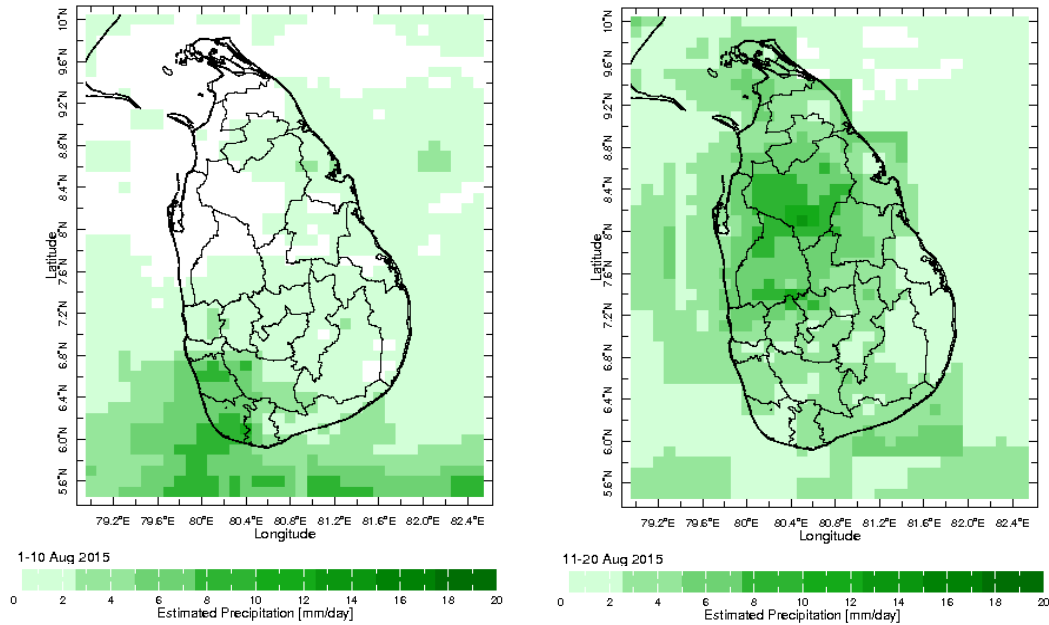


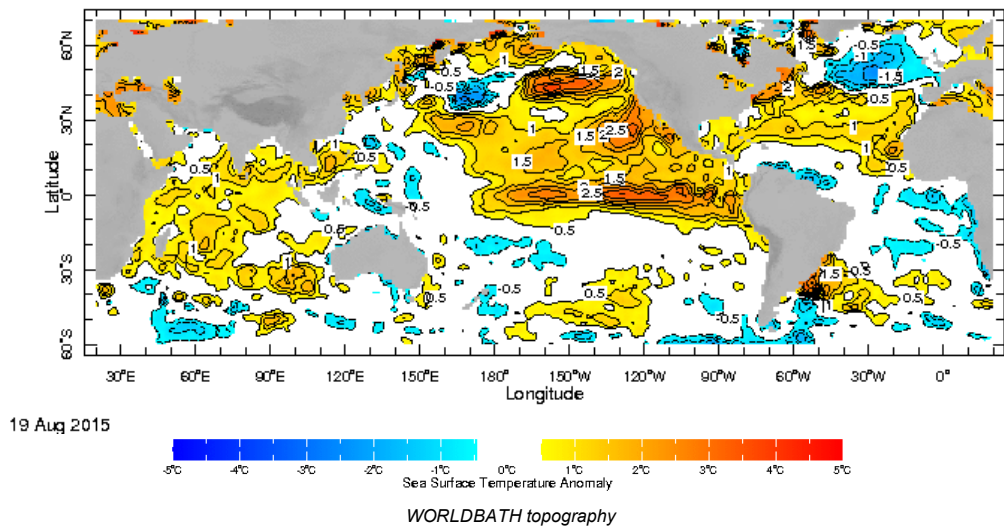
Monthly Rainfall Monitoring

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

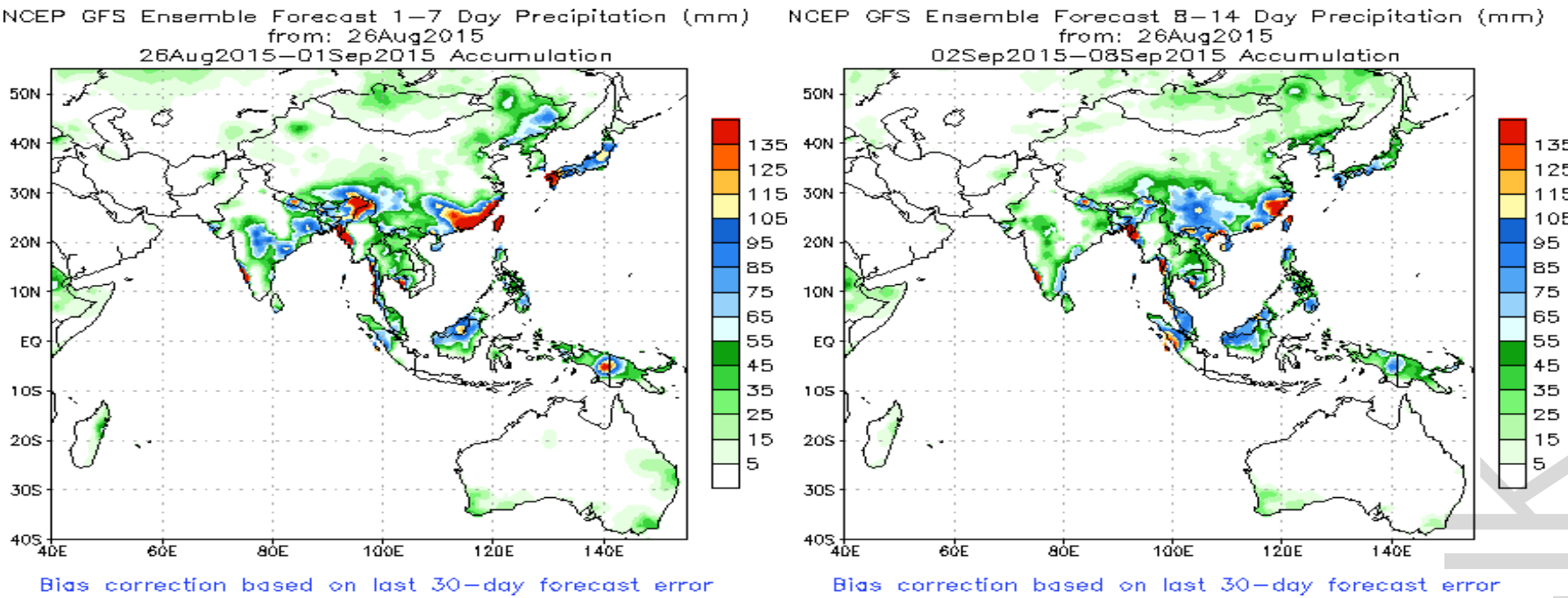


Dekadal (10 Day) Satellite Derived Rainfall Estimates



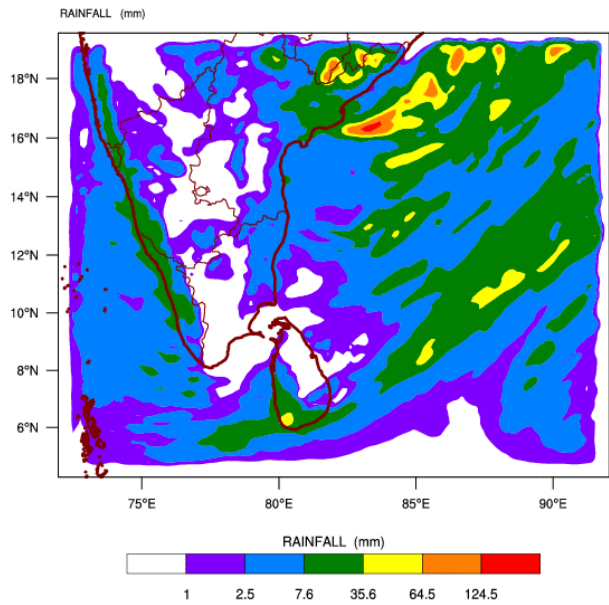


NCEP GFS 1- 14 Day prediction

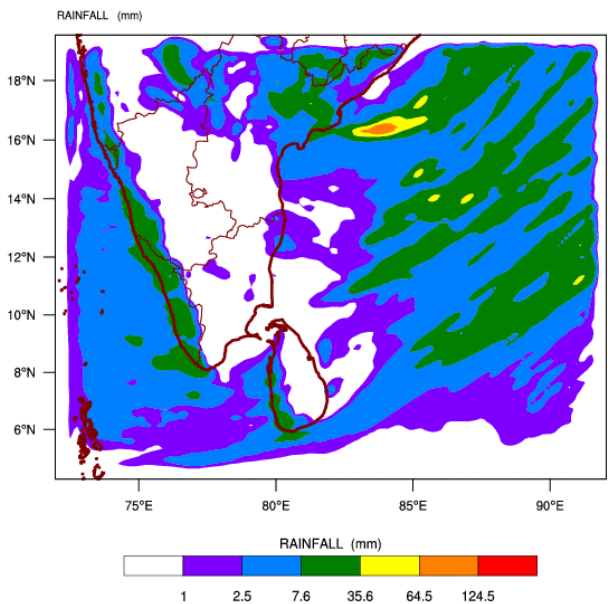


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 26-08-2015 valid for 03 UTC of 28-08-2015

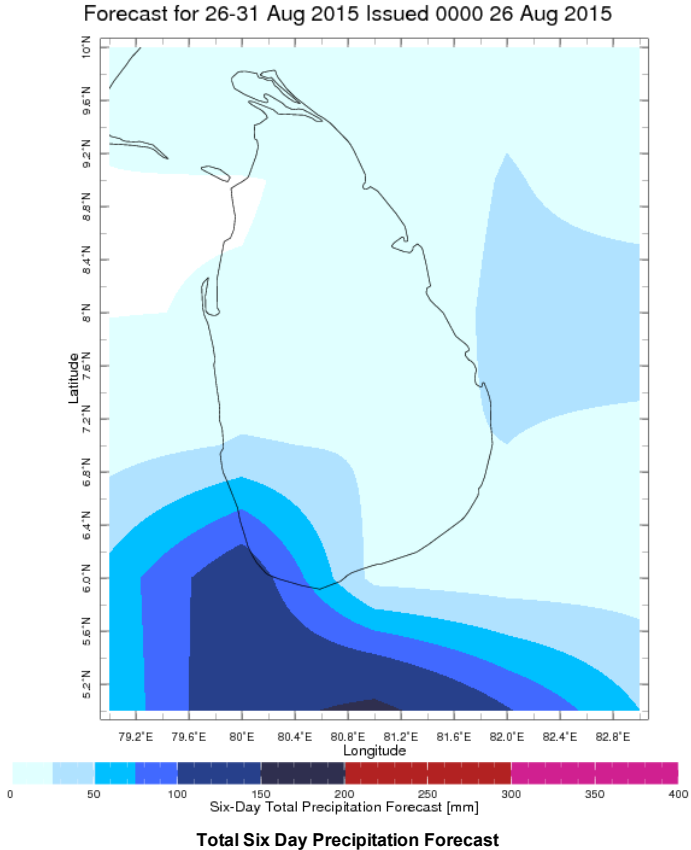
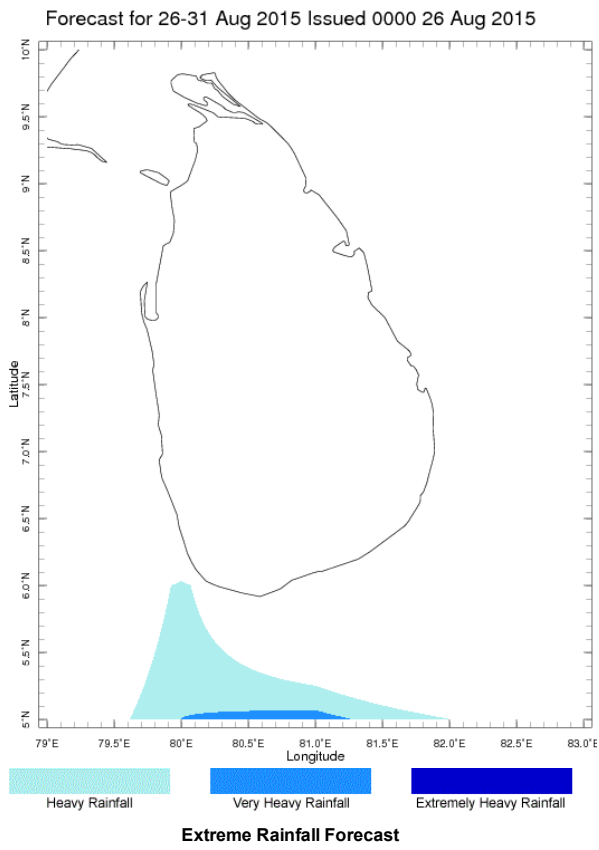


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 26-08-2015 valid for 03 UTC of 29-08-2015



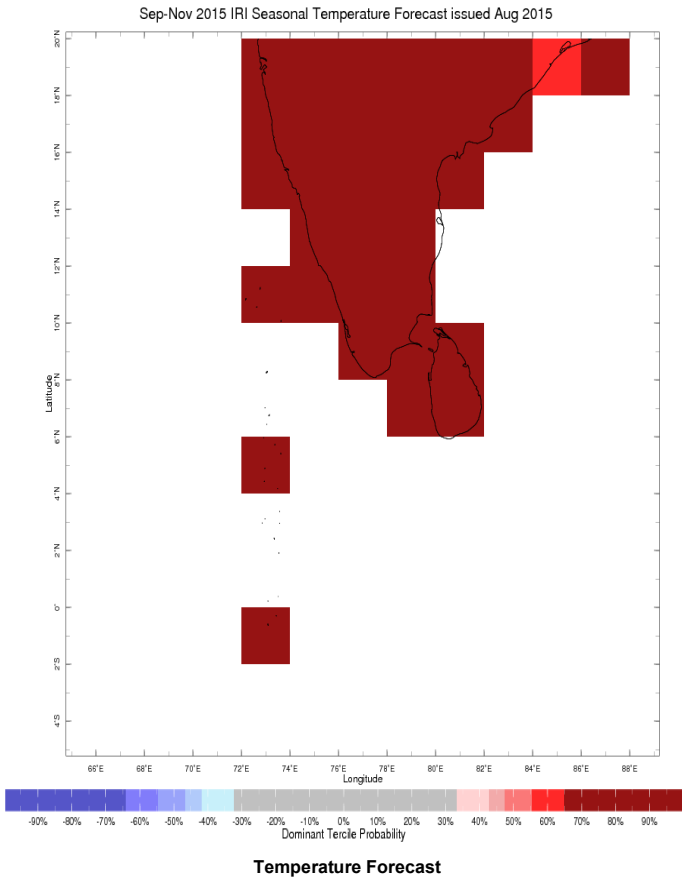
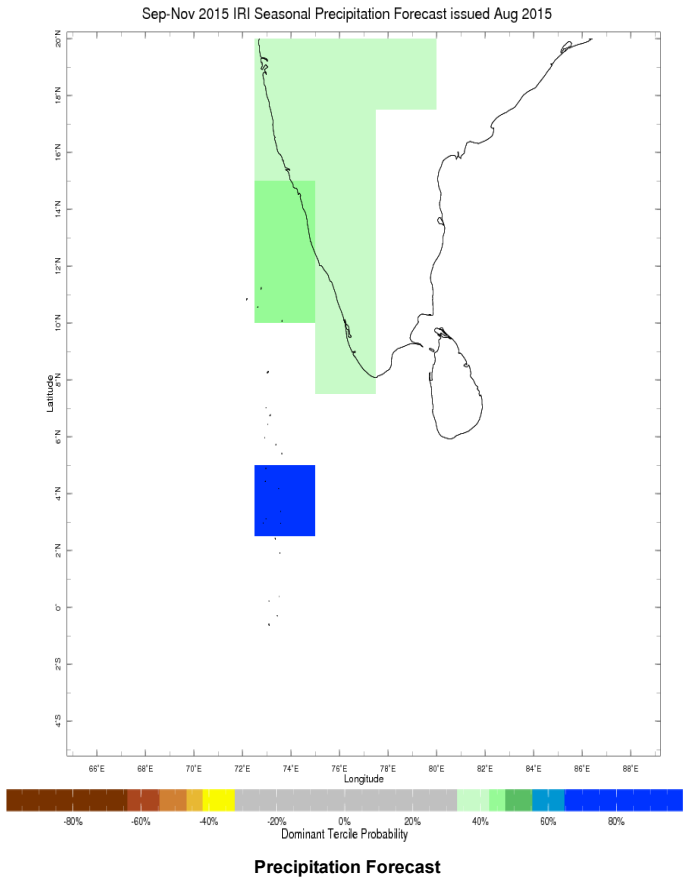
Weekly Rainfall Forecast

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.



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%).



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