

Experimental Climate Monitoring and Prediction

by: Akram Kamiss, Prabodha Agalawatte, Sewwandhi Chandrasekara, Zeenas Yahiya,
Lareef Zubair and Michael Bell (FECT and IRI¹)

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July 16, 2015 PACIFIC SEAS STATE

During late June through mid-July 2015 the SST was at a moderate 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 moderate, and likely becoming strong, El Niño conditions during the July-September 2015 season in progress. Further strengthening between summer and fall is likely, with the event lasting into early 2016.

(Text Courtesy IRI)

INDIAN OCEAN STATE

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

MJO STATE

MJO continues to be weak and therefore shall not have a significant impact on the rainfall in Sri Lanka.

Highlights

South western, south eastern and north eastern regions of the country received rainfall while rest of the country did not receive significant amount of rainfall on 28th July – 3rd August 2015. Rainfall up to 50 mm observed in the ocean near Trincomalee and on 29th July, rainfall up to 90 mm was observed in Trincomalee and rainfall up to 80 mm was observed in Moneragala and Ampara. NOAA models predict high rainfall in south western, northern and central regions of the country in the next fortnight.

Summary

Monitoring

Weekly Monitoring: During the time period 28th July – 3rd August 2015, the entire country was not observed significant amount of rainfall except south eastern, north eastern region and south western region which received high rainfall. On 28th July ocean near Trincomalee received rainfall up to 50 mm and on 29th July, ocean near Trincomalee received rainfall up to 90 mm while northern region of Moneragala and Ampara observed rainfall up to 80 mm. On 30th, 31st July and 1st August, the whole country did not receive significant amounts of rainfall and on 2nd August, Trincomalee received rainfall up to 30 mm while ocean near Trincomalee received rainfall up to 50 mm. On 3rd August rainfall up to 30 mm was observed in Kalutara while ocean near south eastern region received rainfall up to 30 mm.

Monthly Monitoring: In the month July 2015, western and sabaragamuwa regions 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 high rainfall in south western region of the country during 5th – 18th August. During the first week, south western region shall receive rainfall up to 45 mm while rest of the country shall receive slight amounts of rainfall. Rainfall up to 45 mm shall receive in the following week in northern and central regions while south western region shall receive rainfall up to 75 mm.

IMD WRF & IRI Model Forecast: According to the IMD WRF model Western region of the country shall receive rainfall up to 35 mm on 7th August. The rest of the country shall not receive significant amounts of rainfall. Western region of the country shall receive rainfall up to 35 mm on 8th August and Kalutara, Ratnapura and Galle shall receive rainfall up to 65 mm while slight amounts of rainfall shall be observed in the rest of the country. IRI CFS model predicts high rainfall in south western region up to 90 mm total rainfall on 5th– 10th August.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for August to October, 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.

Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

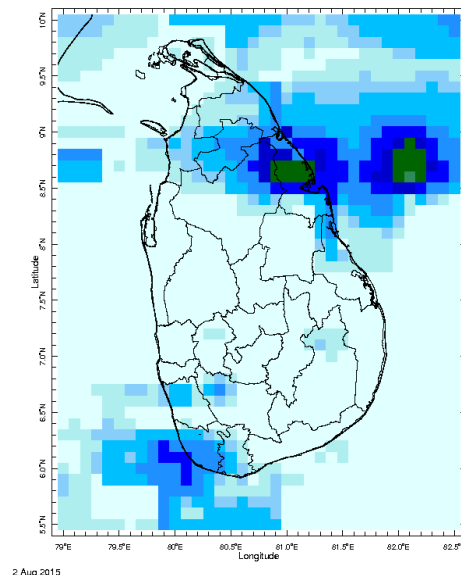
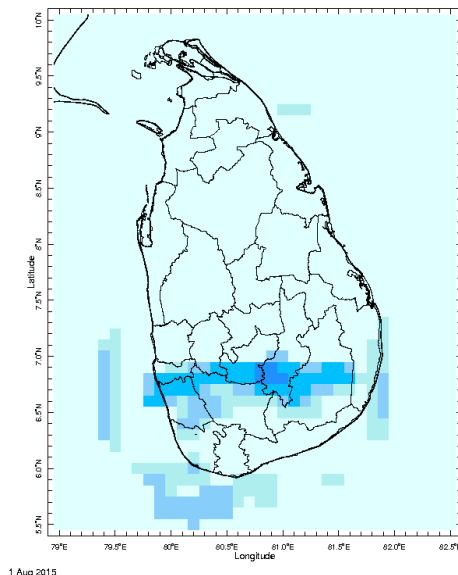
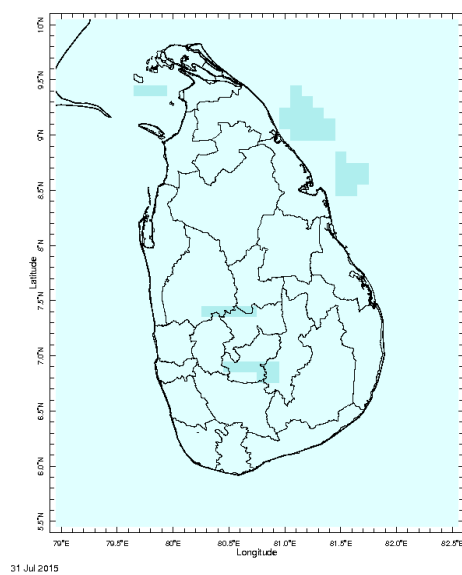
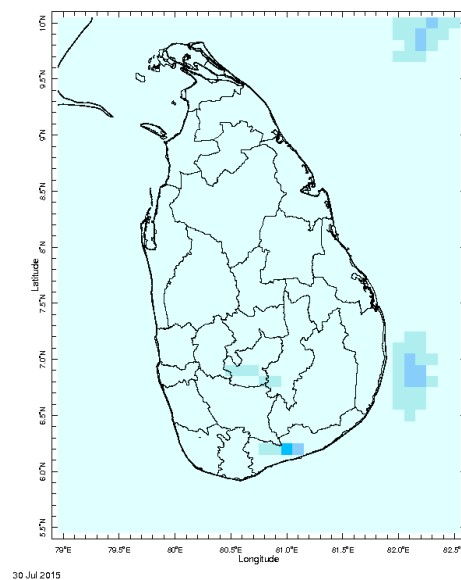
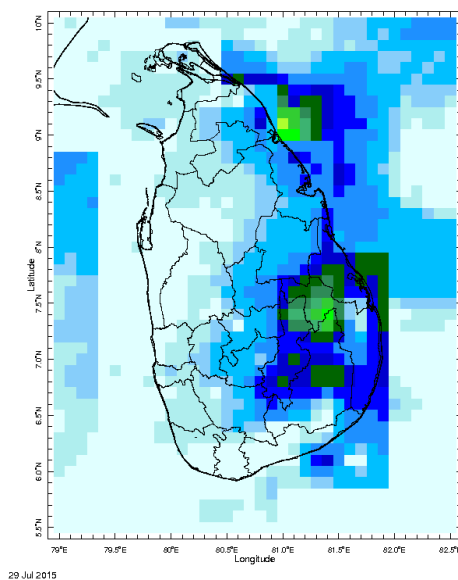
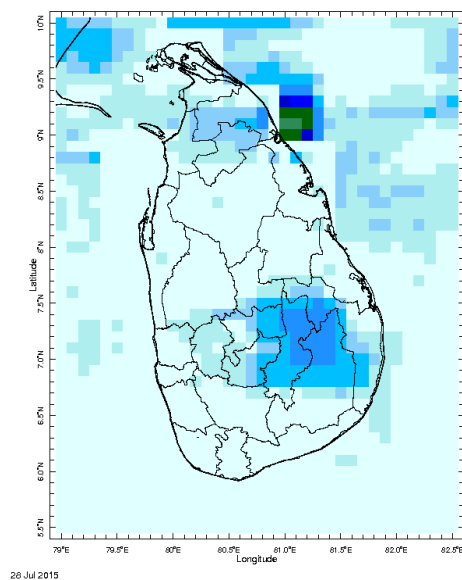
Weekly Hydro- Meteorological Report for Sri Lanka

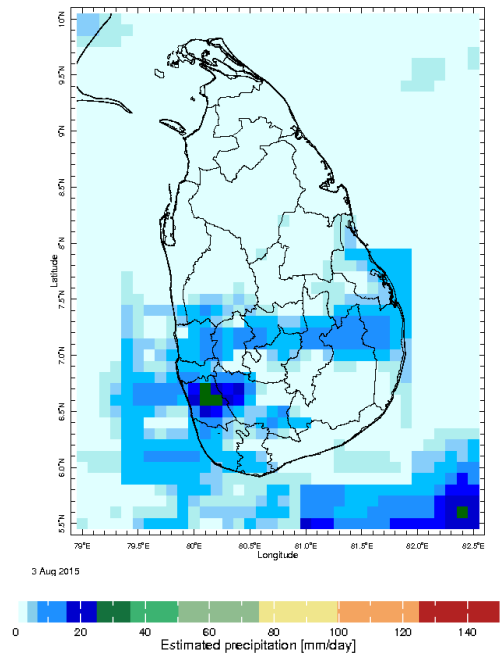
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Daily Rainfall Monitoring

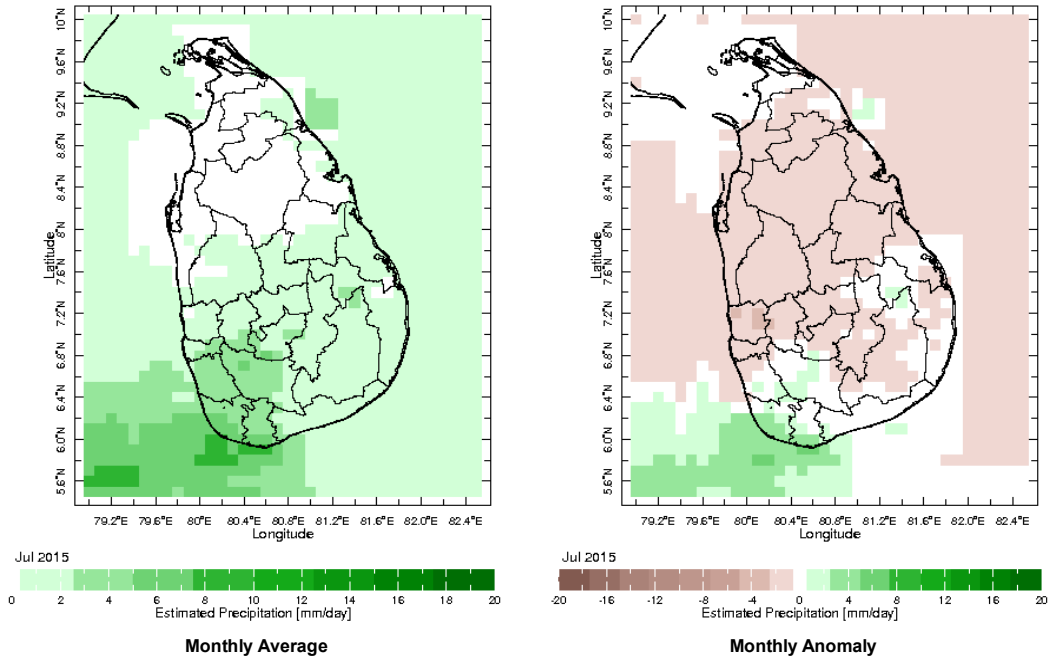
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



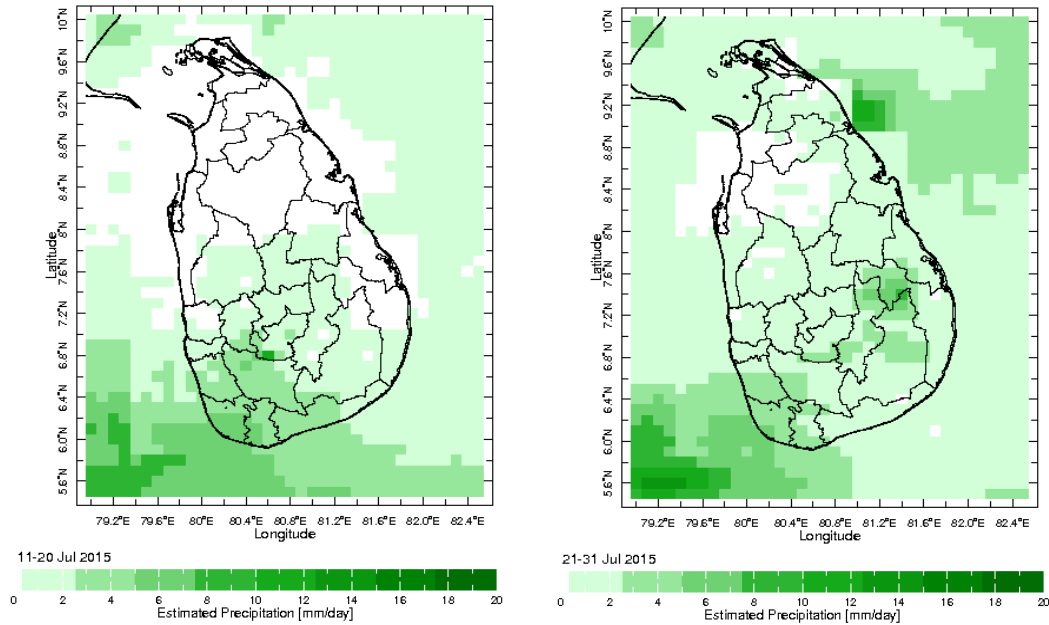


Monthly Rainfall Monitoring

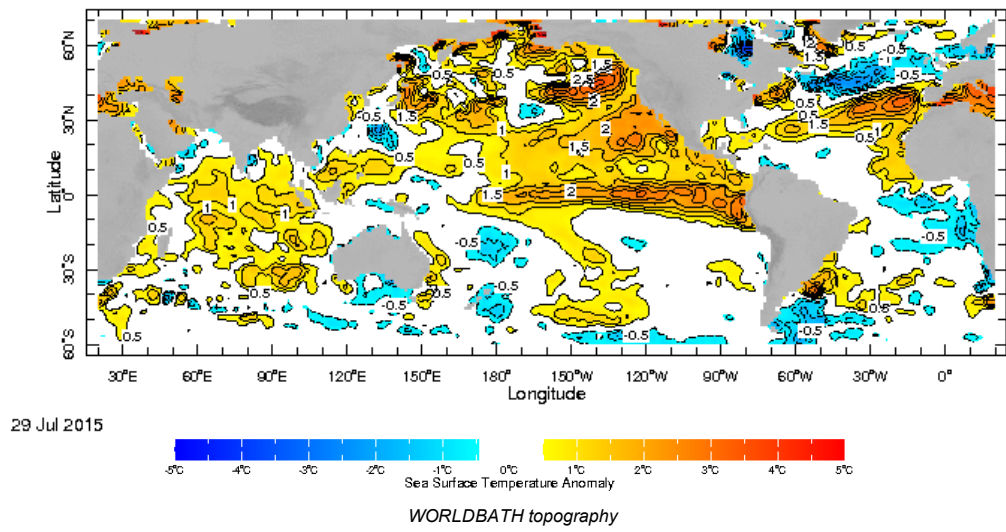
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places with above average rainfall. Darker shades show higher magnitudes in rainfall



Dekadal (10 Day) Satellite Derived Rainfall Estimates

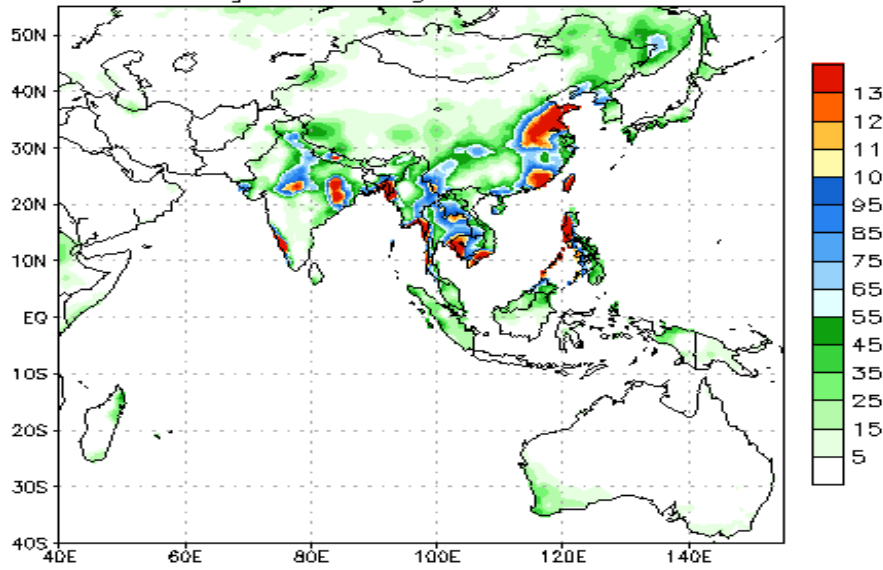


Weekly Average SST Anomalies



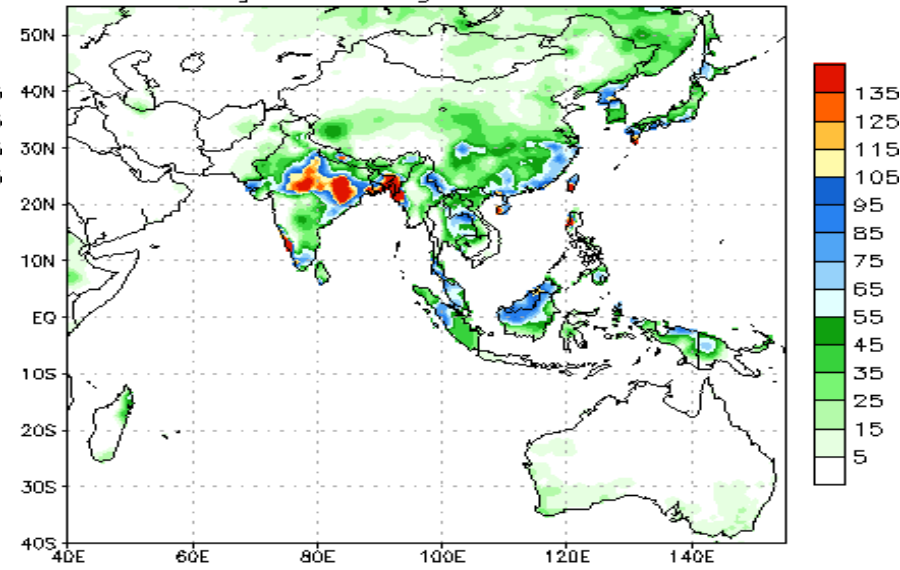
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1–7 Day Precipitation (mm)
from: 05Aug2015
05Aug2015–11Aug2015 Accumulation



Bias correction based on last 30–day forecast error

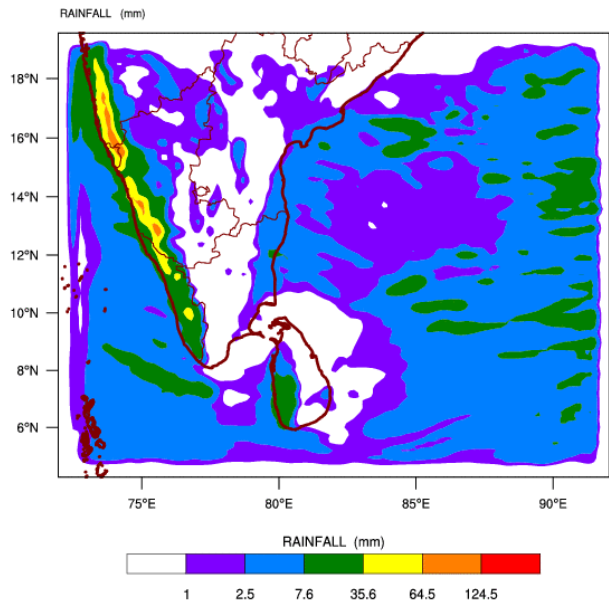
NCEP GFS Ensemble Forecast 8–14 Day Precipitation (mm)
from: 05Aug2015
12Aug2015–18Aug2015 Accumulation



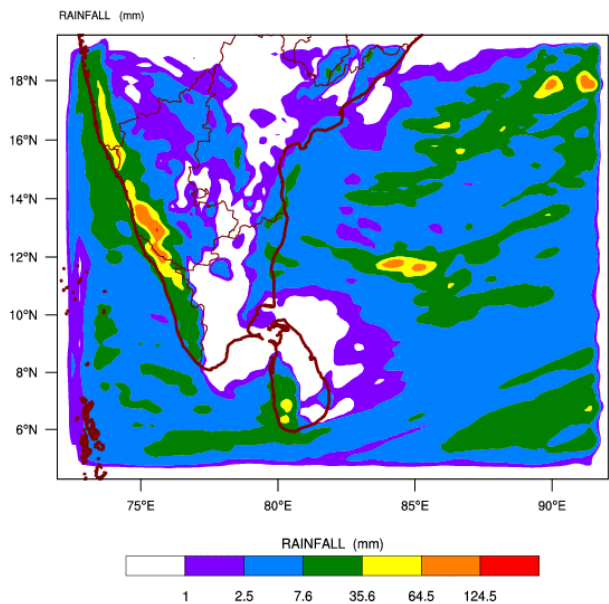
Bias correction based on last 30–day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 05-08-2015 valid for 03 UTC of 07-08-2015

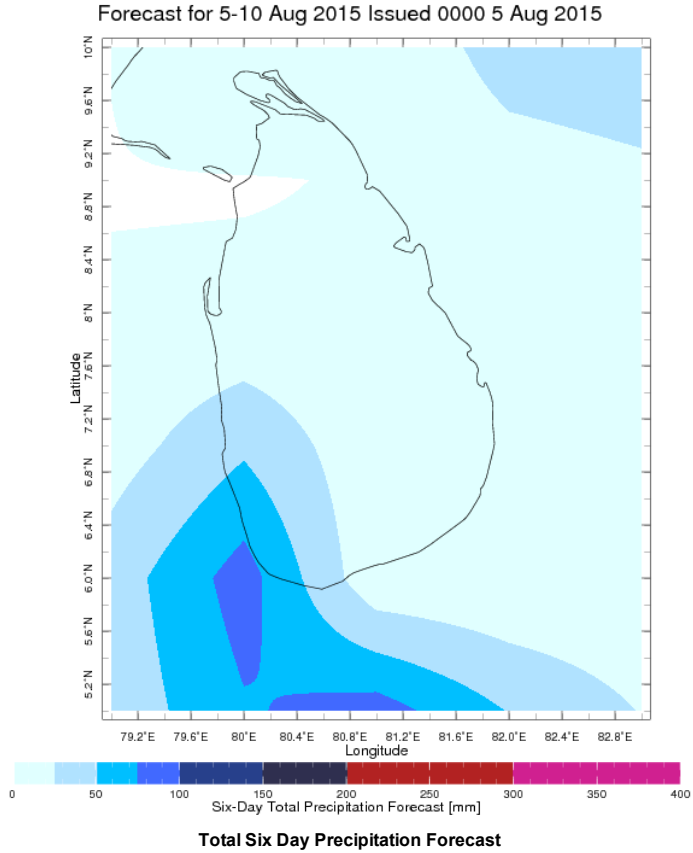
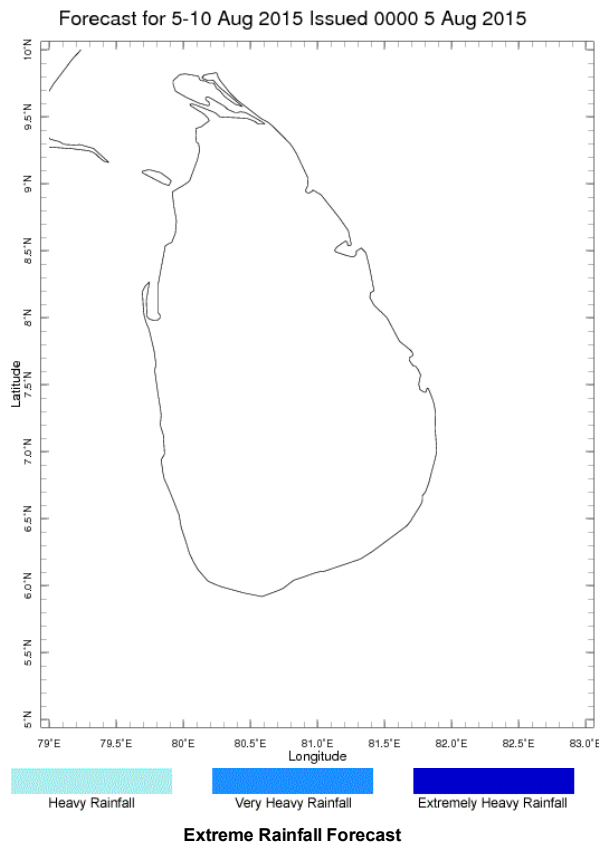


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 05-08-2015 valid for 03 UTC of 08-08-2015



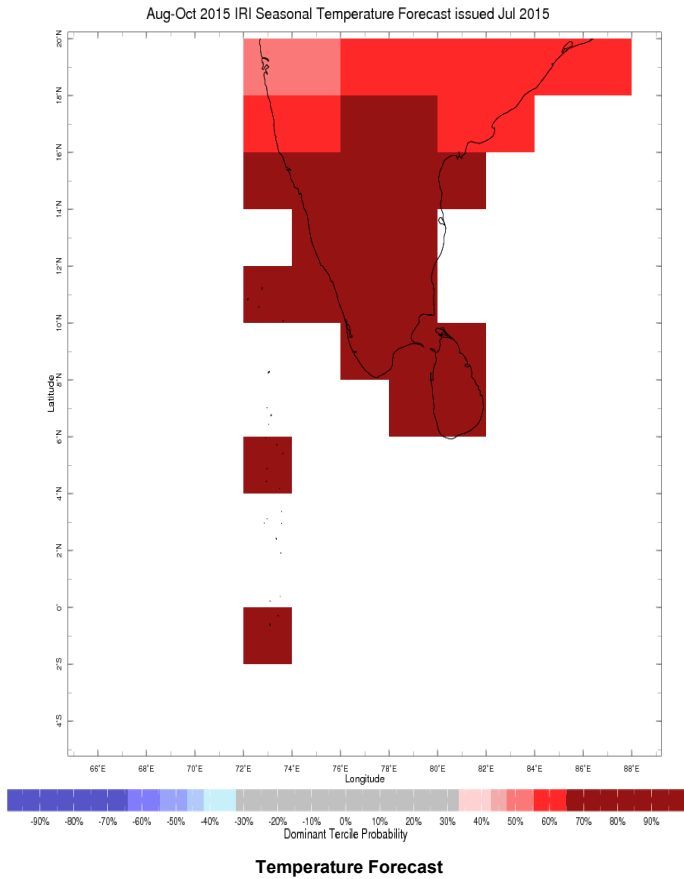
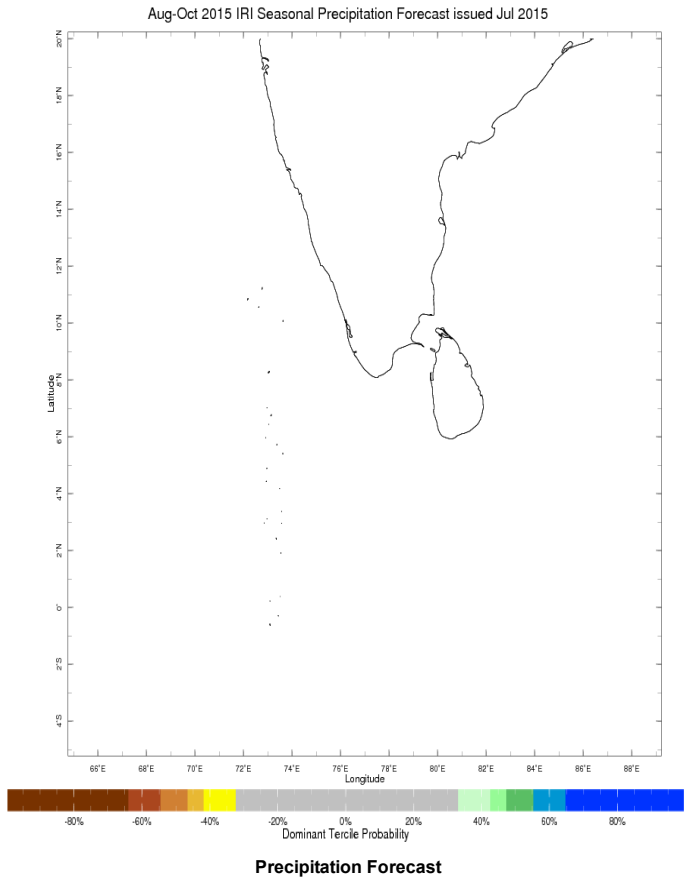
Weekly Rainfall Forecast

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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