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Experimental Climate Monitoring and Prediction

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17 September 2015

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September 10, 2015

PACIFIC SEAS STATE

During late August through early-September 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 ^{0}C above average temperature was observed around Sri Lanka. Indian Ocean Dipole is also active.

MJO STATE

MJO is in phase 4 therefore shall slightly enhance the rainfall in Sri Lanka.

Highlights

Up to 30 mm rainfall was observed in few parts of the country during the time period 8th-14th September. Rainfall was mostly observed in western and south western regions of the country. Western region of the country received heavy rainfall on 10th September up to 70 mm. Every prediction model predict high rainfall in western and south western regions during the next week.

Summary

Monitoring

***Weekly Monitoring*:** During 8th -14th of September, only few regions in the country received rainfall. On 8th September rainfall up to 20 mm received in Ratnapura and on 9th September, ocean near Puttalam received rainfall up to 40 mm while some regions of Anuradhapura, Kegalle and Ratnapura received rainfall up to 20 mm. On 10th September heavy rain up to 70 mm observed in the ocean near Colombo while Colombo, Gampaha and Kalutara received rainfall up to 40 mm. Rainfall up to 20 mm observed in Kalutara, Colombo, western region of Ratnapura, southern regions of Kurunegala and Matale, northern regions of Kandy and Badulla on 11th September. On 12th September the entire country did not receive rainfall and on 13th September, only western region of Badulla received rainfall up to 30 mm. On 14th September, rainfall up to 30 mm observed in the western region of Ratnapura district.

***Monthly Monitoring*:** In August 2015 most of south western, north western and north central regions received above average rainfall. Colombo district, central and eastern provinces received below average rainfall. Highest rainfall was observed in Ratnapura district. Southern sea of the country also received above average rainfall during this month.

Predictions

14 day prediction: NOAA NCEP models predict relatively high rainfall in the south western region of the country compared to the rest of the country during 16th-22nd September. South western region shall receive total rainfall up to 75 mm during the week while rest of the country shall receive total rainfall up to 55 mm. Same rainfall conditions are expected to continue during 23rd-29th September.

IMD WRF & IRI Model Forecast: According to the IMD WRF model there shall be heavy rainfall up to 125 mm in Ratnapura on 18th September while Galle, Kalutara and Kegalle shall receive rainfall up to 65 mm. The western region of the country shall receive rainfall up to 35 mm and the rest of the country shall also receive slight amounts of rainfall. Same conditions shall remain on 19th September. IRI CFS models predict total rainfall up to 200 mm in south-western ocean during 16th-21st September. Total rainfall up to 150 mm shall receive in the south western region of the country during this period.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for October to December, the total 3 month precipitation has 50% likelihood of being above average. 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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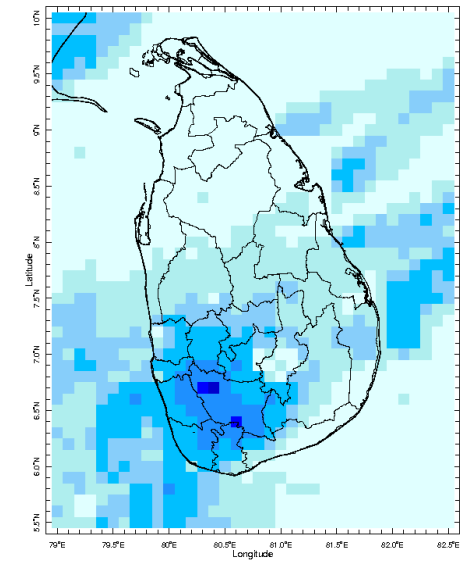
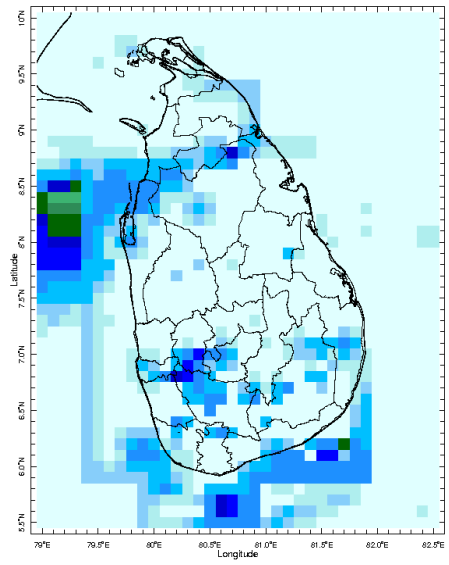
Daily Rainfall Monitoring

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



8 Sep 2015



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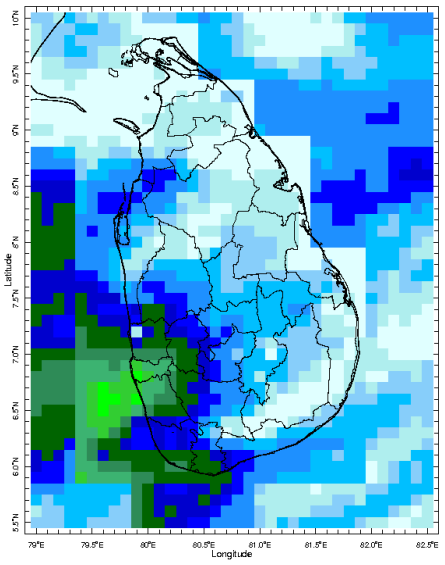

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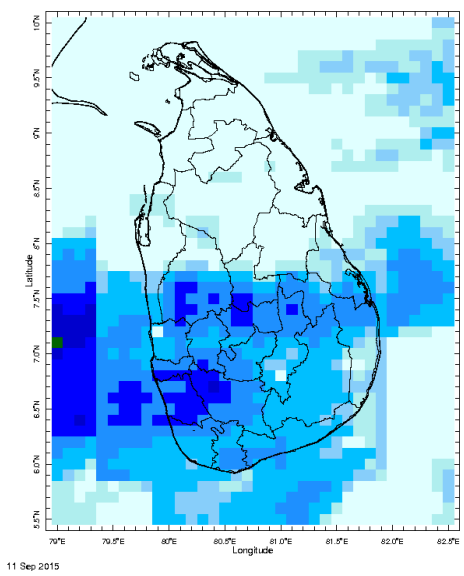

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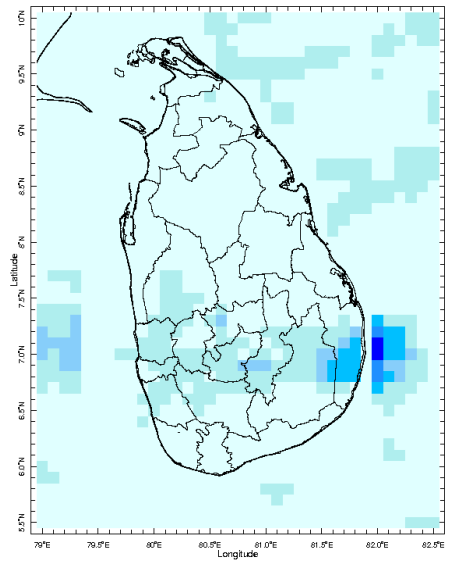

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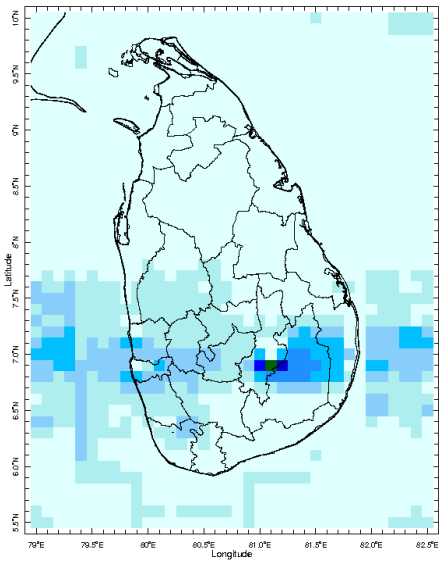

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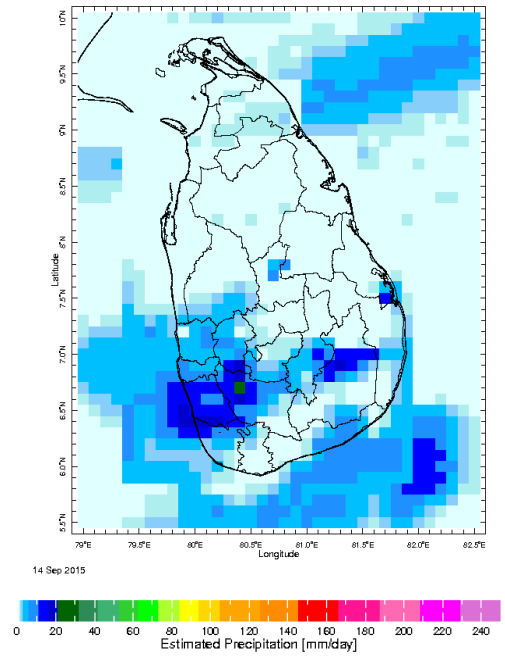
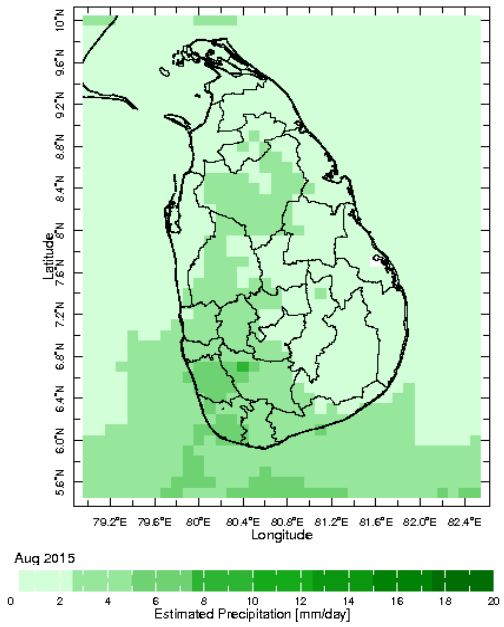
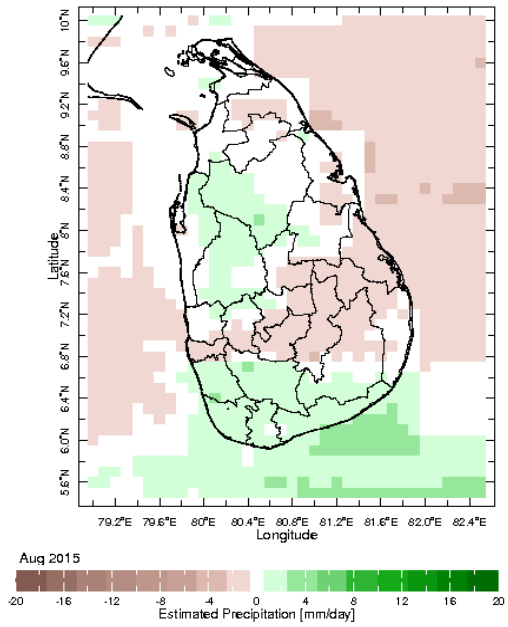


Monthly Rainfall Monitoring

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

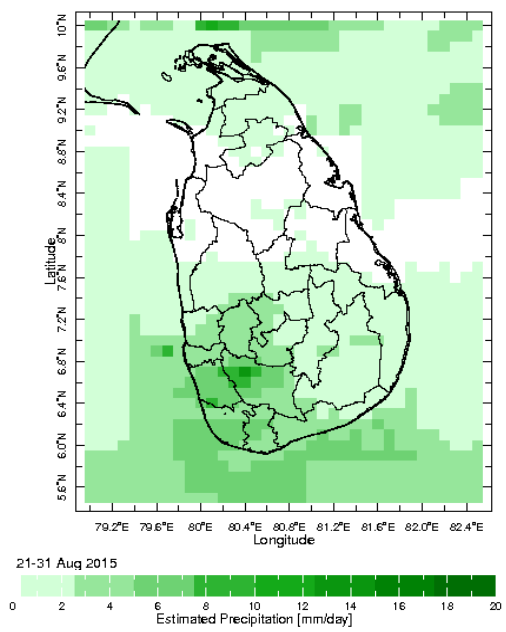


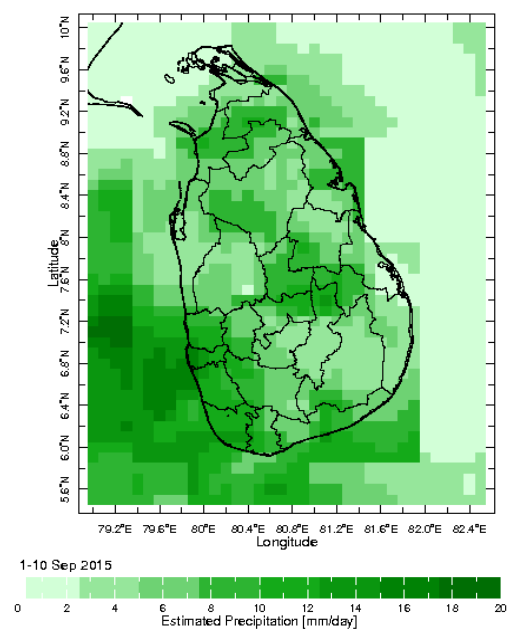
Monthly Average



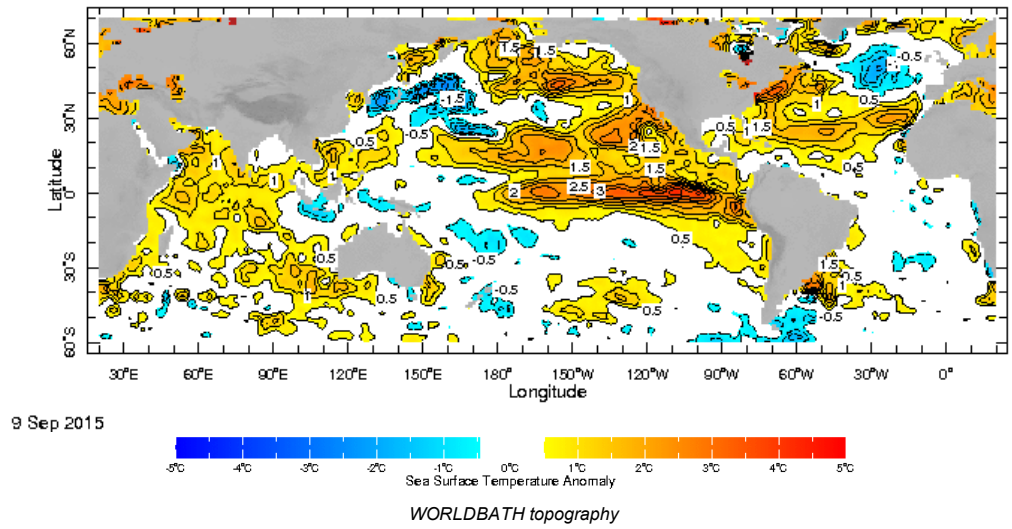
Monthly Anomaly

Dekadal (10 Day) Satellite Derived Rainfall Estimates

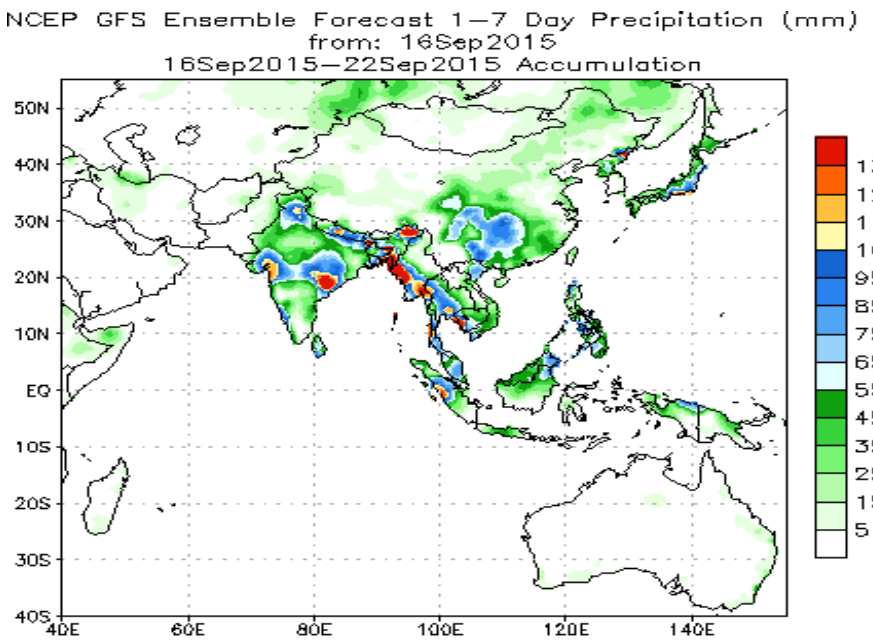


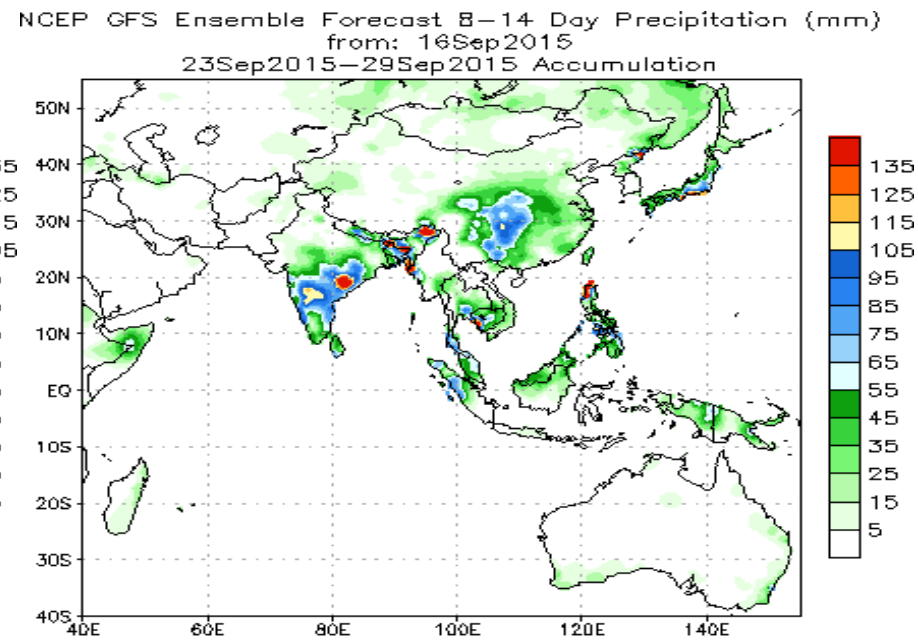


Weekly Average SST Anomalies

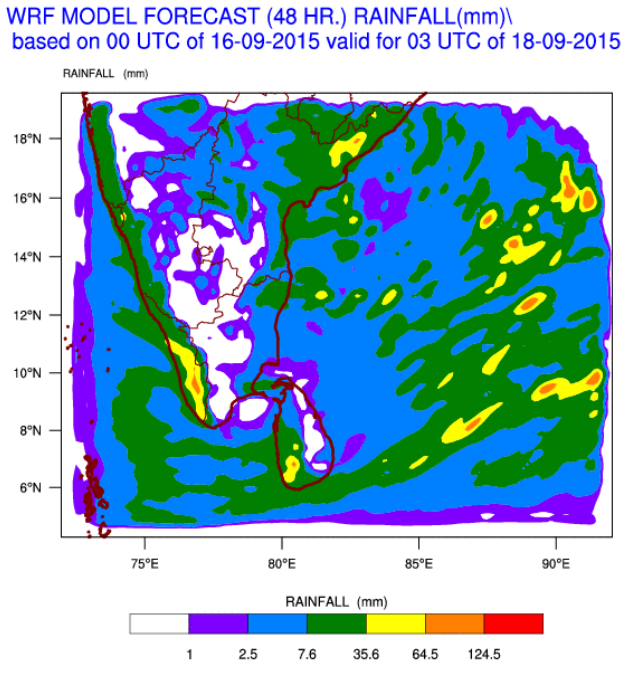


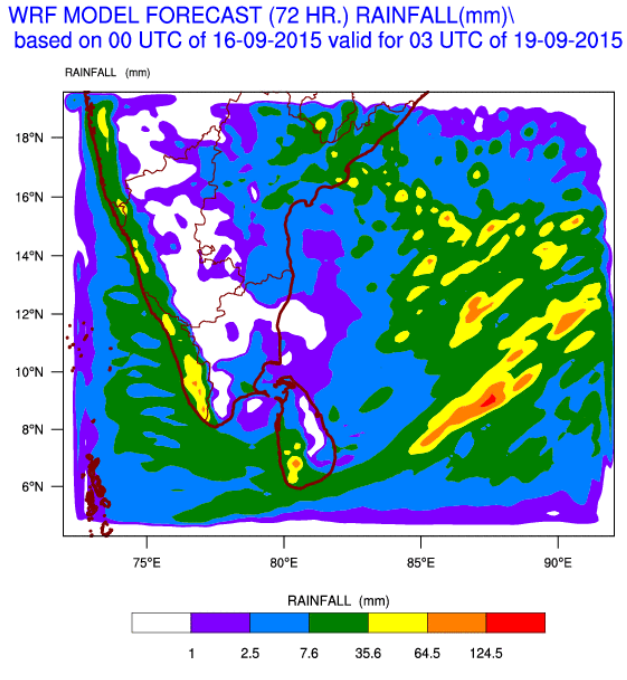
NCEP GFS 1- 14 Day prediction





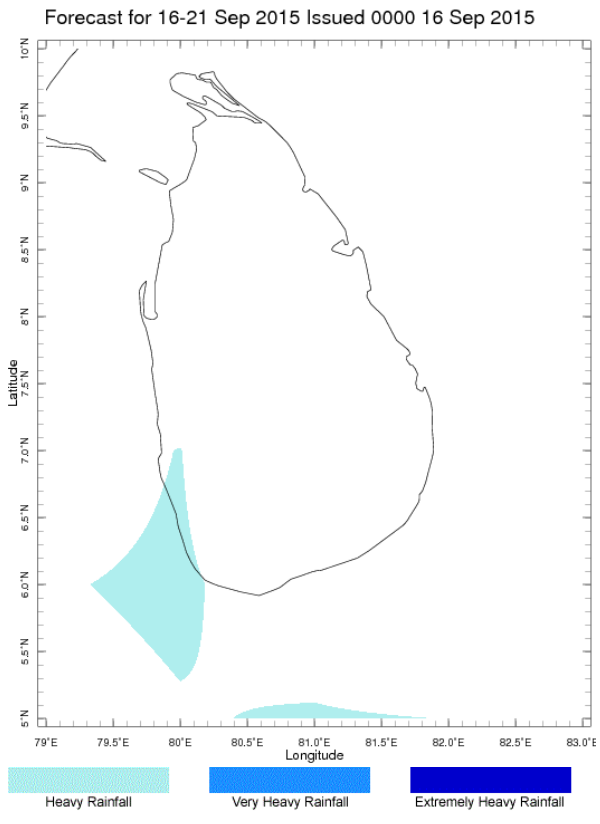
WRF Model Forecast (from IMD Chennai)



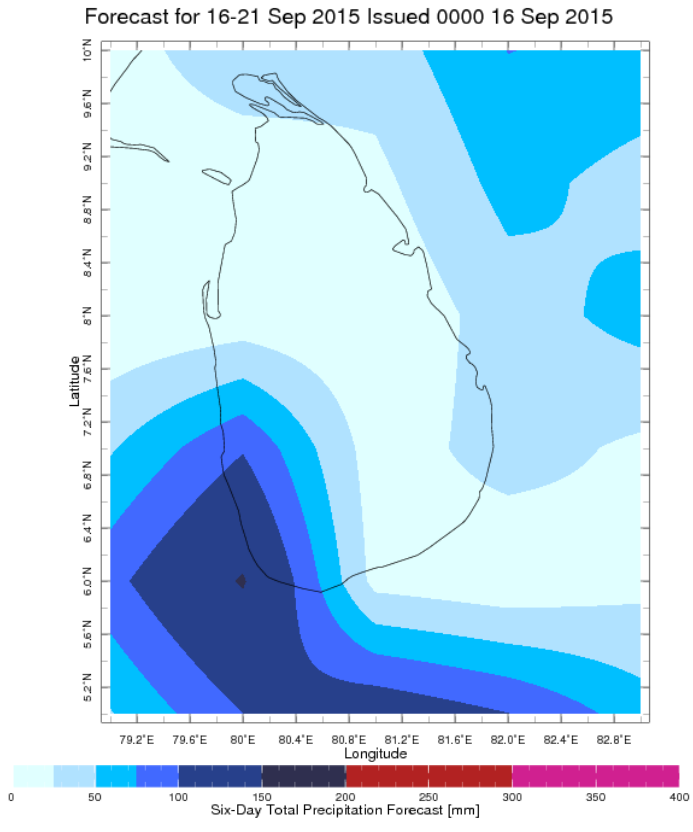


Weekly Rainfall Forecast

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.



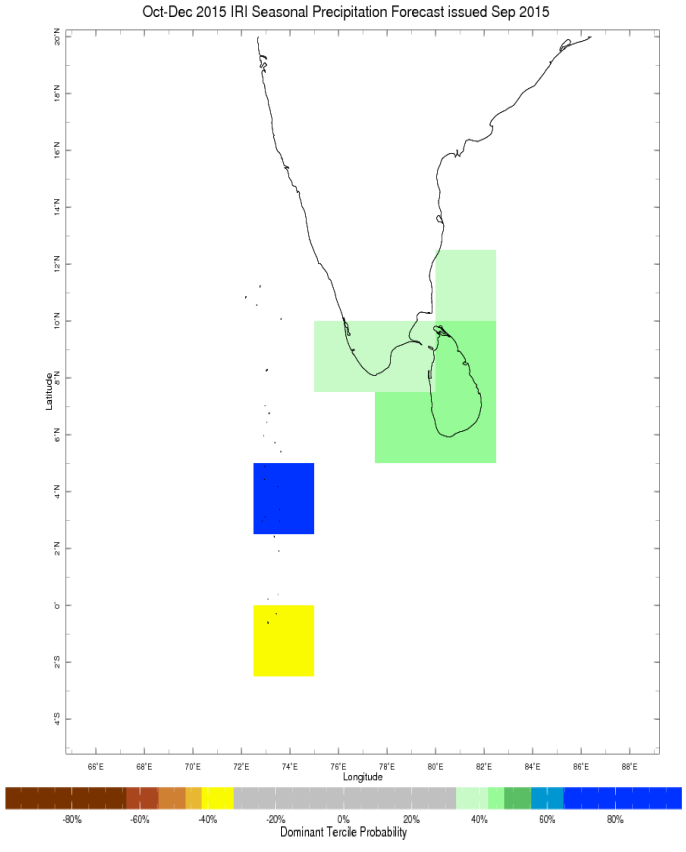
Extreme Rainfall Forecast



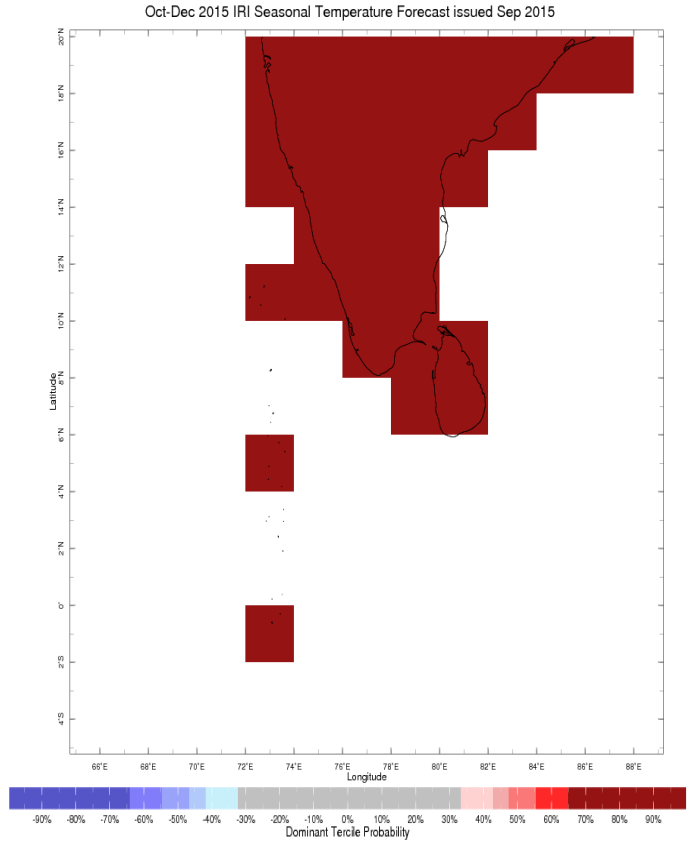
Total Six Day Precipitation Forecast

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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