

Experimental Climate Monitoring and Prediction

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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

Significant amount of rainfall was only observed in south western region of the country on the 8th. Other than that the rest of the country did not receive much rainfall. Dry conditions were observed in the northern region of the country. In the next two weeks high rainfall is not expected in any part of the country. However there shall be light rainfall in most parts of the country.

Summary

Monitoring

Weekly Monitoring: During the time period 5th August – 11th August 2015, only light rainfall was observed throughout the country except on the 8th of August where up to 40 mm rain was observed. Other than that only less than 10 mm rainfall was observed in the country particularly in central and south western regions of the country. No rainfall was observed in northern regions of the country during 5th – 11th. Sea to the south of Sri Lanka received relatively higher rainfall during this period.

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 rainfall in south western region of the country during 12th – 25th August. During the first week, south western region shall receive rainfall up to 45 mm. The Jaffna peninsula shall receive up to 45 mm rainfall in the following week.

IMD WRF & IRI Model Forecast: According to the IMD WRF model Western region of the country shall receive rainfall up to 35 mm on 14th August and the eastern regions around Ampara shall receive light rainfall. The same rainfall pattern shall continue on the 15th as well. IRI CFS model predicts up to 50 mm total 6 day rainfall on the northern, north eastern, eastern, central and south western regions of the country during 12th- 17th August 2015. During this period there shall not be any heavy rainfall events in any part of the country.

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.

Inside this Issue

1. Monitoring

- Daily Satellite Derived Rain fall Estimates
- Monthly Rain fall Estimates
- Decadal (10 Day) Satellite Derived Rainfall Estimates
- Weekly Average SST Anomalies

2. Predictions

- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- Seasonal Predictions from IRI

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.

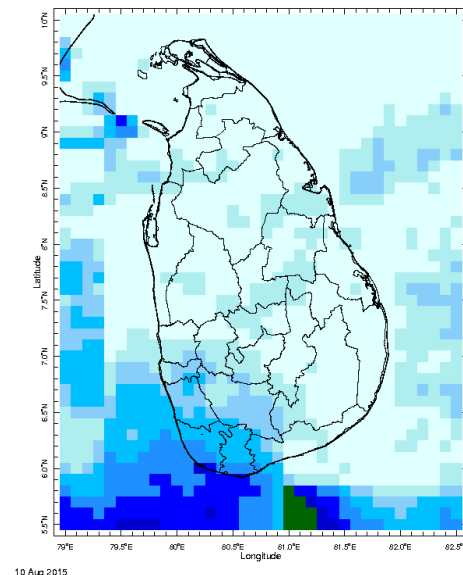
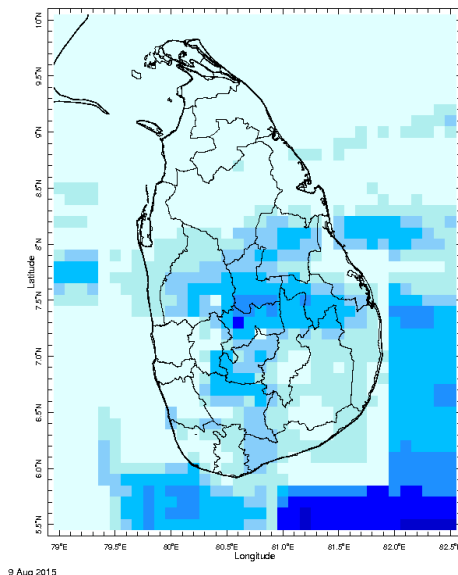
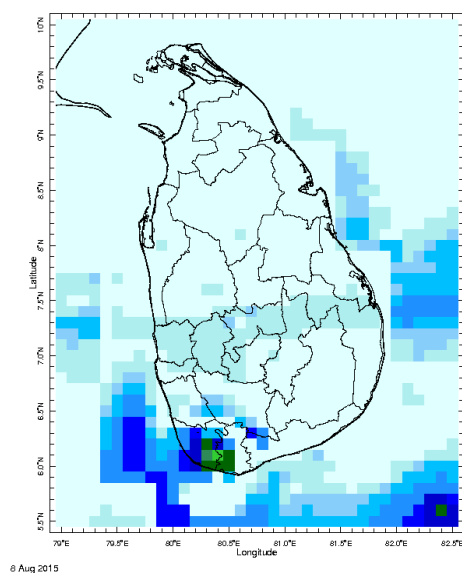
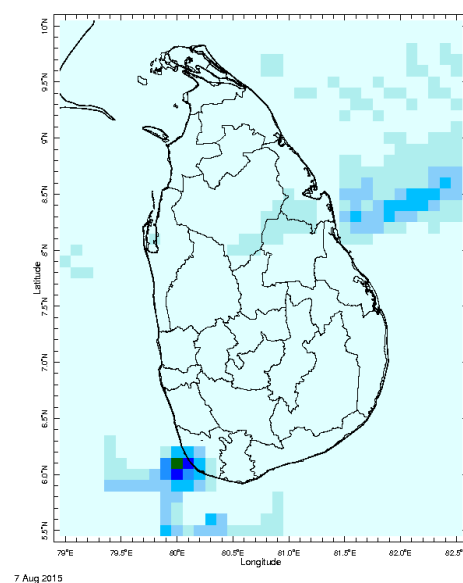
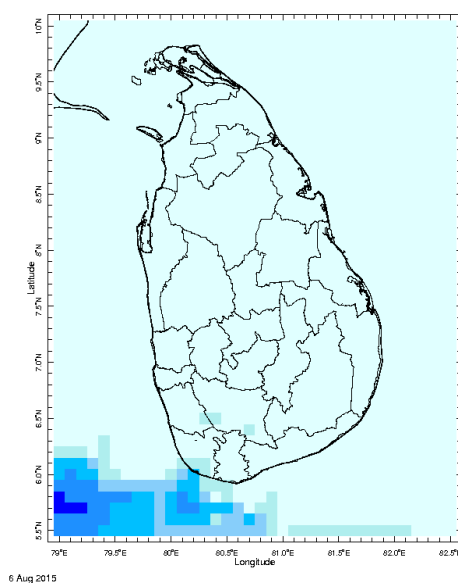
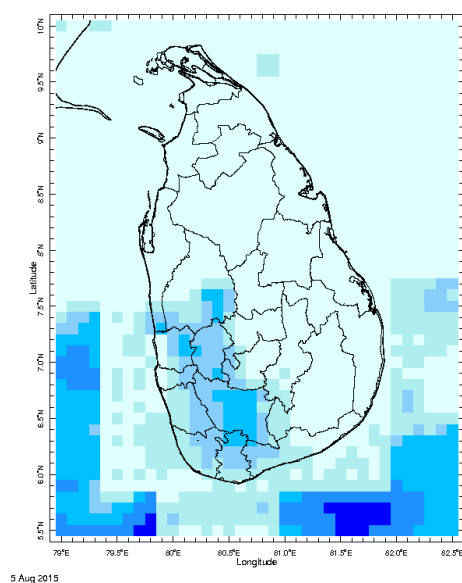
Weekly Hydro- Meteorological Report for Sri Lanka

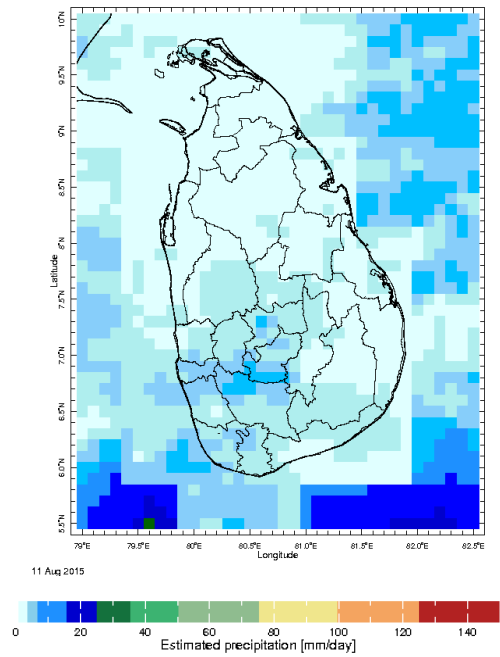
Inside This Issue

1. **Monitoring**
 - a. Daily Satellite derived Rainfall Estimates
 - b. Monthly Rainfall Estimates
 - c. Decadal (10 Day) Satellite Derived Rainfall Estimates
 - d. Weekly Average SST Anomalies
2. **Predictions**
 - a. NCEP GFS Ensemble 1-14 day predictions
 - b. WRF Model Forecast (48 hours and 72 Hours Ahead)
 - c. Weekly Precipitation Forecast from IRI
 - d. Seasonal Predictions from IRI

Daily Rainfall Monitoring

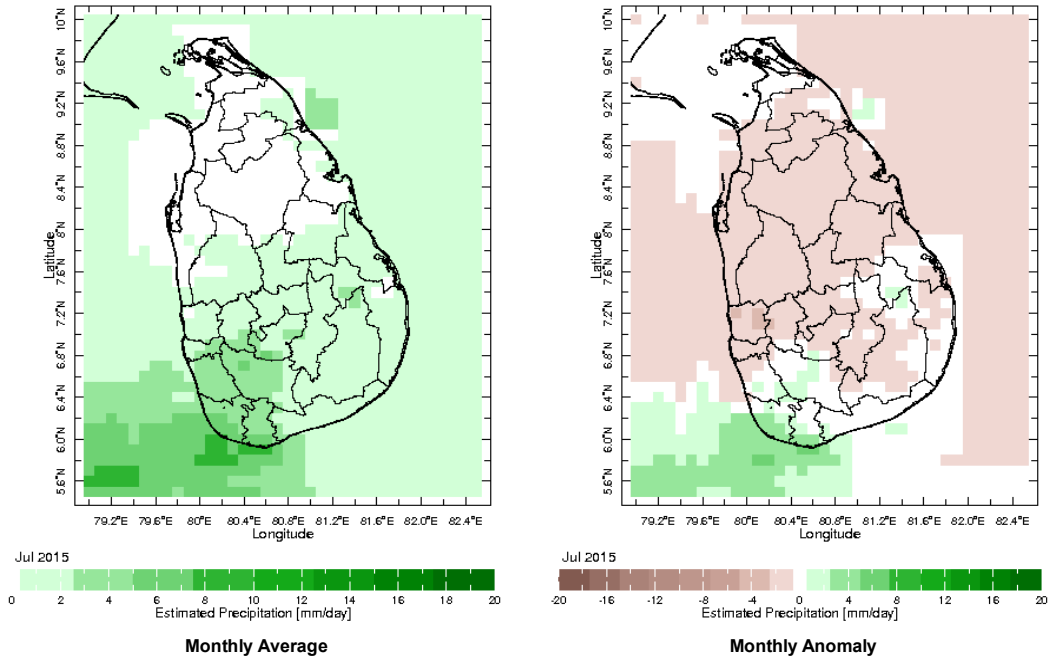
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



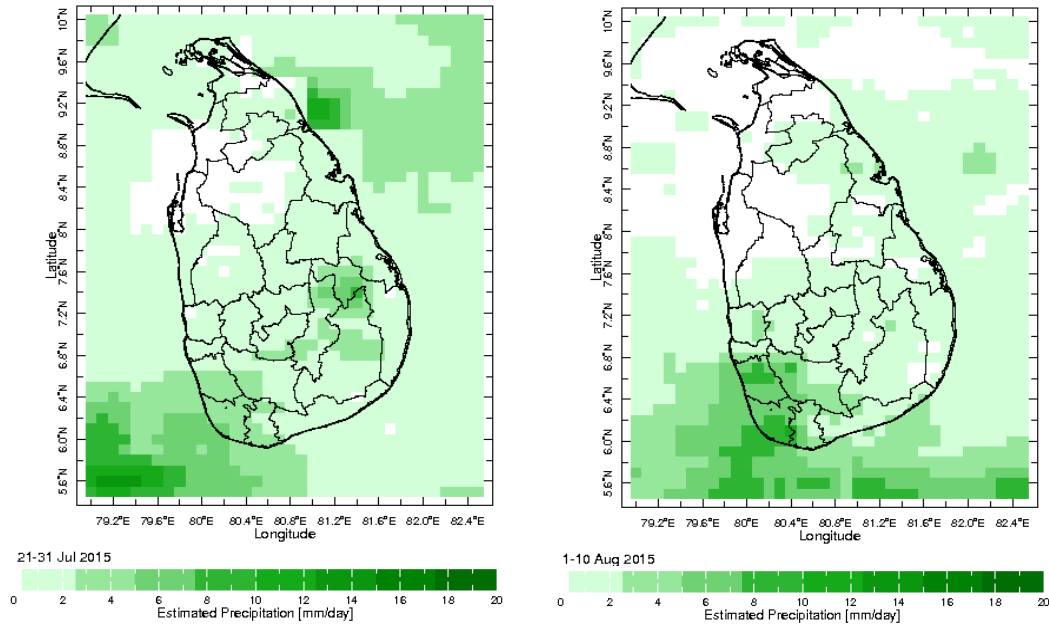


Monthly Rainfall Monitoring

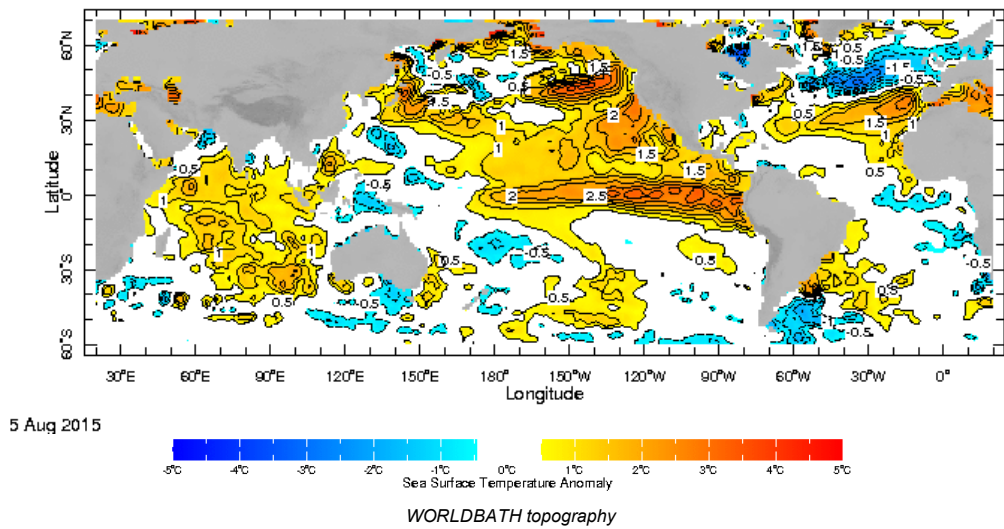
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



Dekadal (10 Day) Satellite Derived Rainfall Estimates

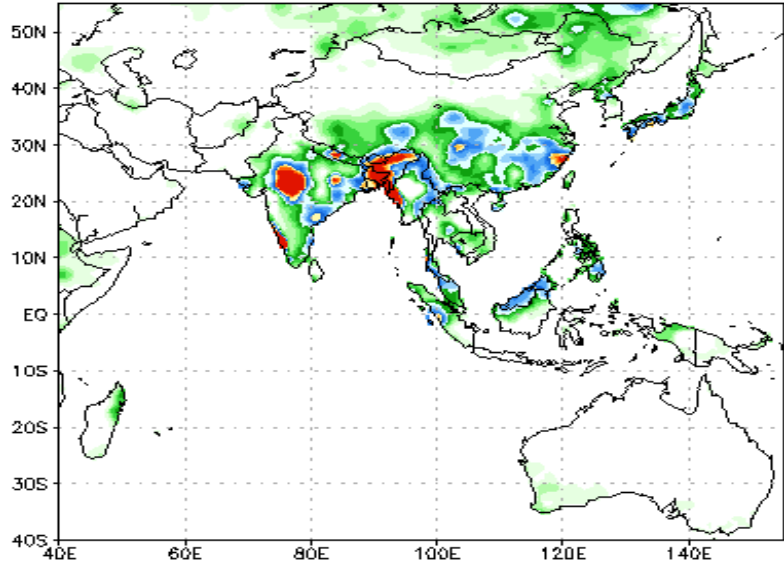


Weekly Average SST Anomalies



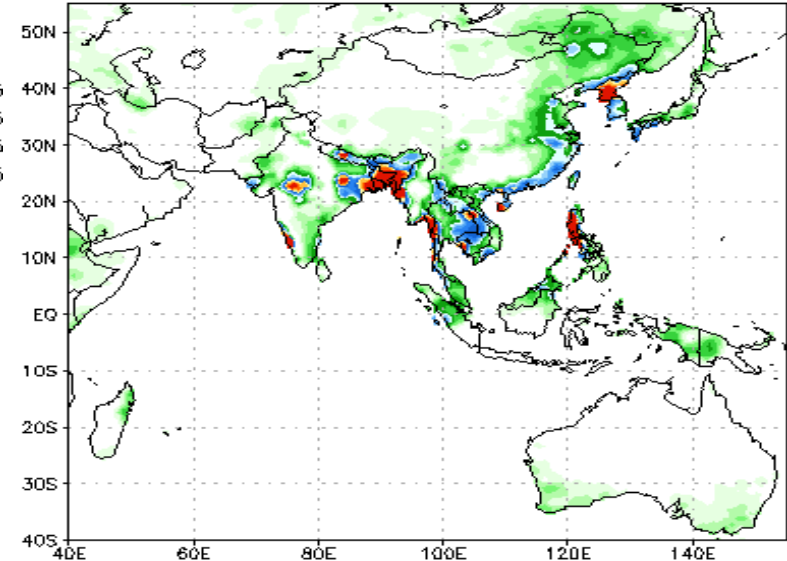
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1–7 Day Precipitation (mm)
from: 12Aug2015
12Aug2015–18Aug2015 Accumulation



Bias correction based on last 30–day forecast error

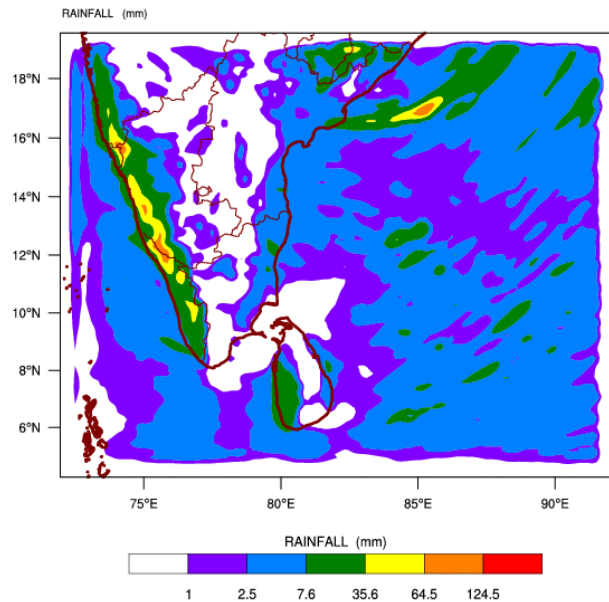
NCEP GFS Ensemble Forecast 8–14 Day Precipitation (mm)
from: 12Aug2015
19Aug2015–25Aug2015 Accumulation



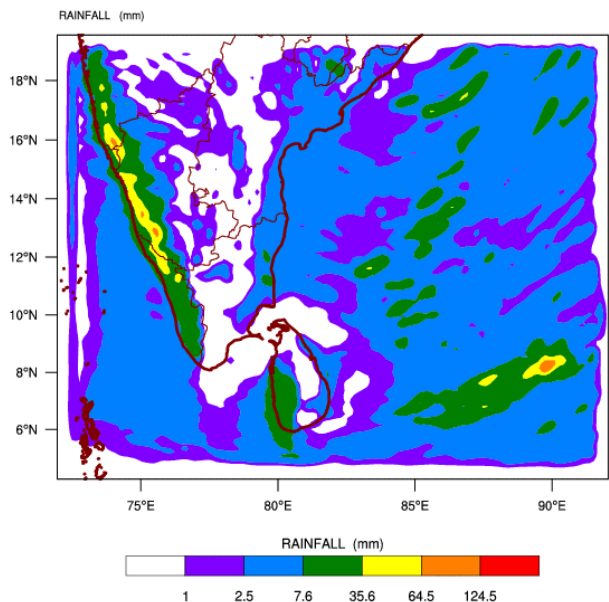
Bias correction based on last 30–day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 12-08-2015 valid for 03 UTC of 14-08-2015

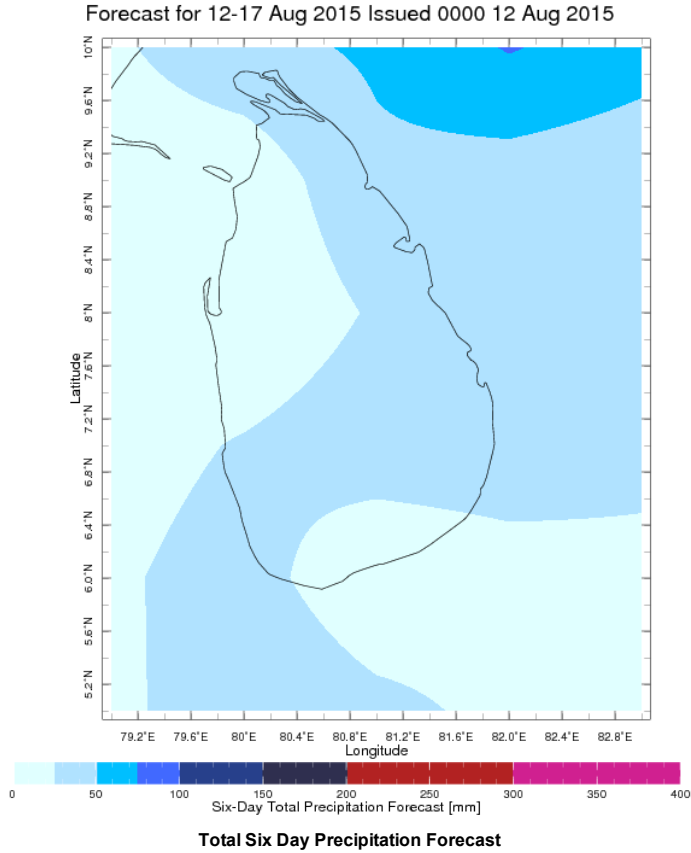
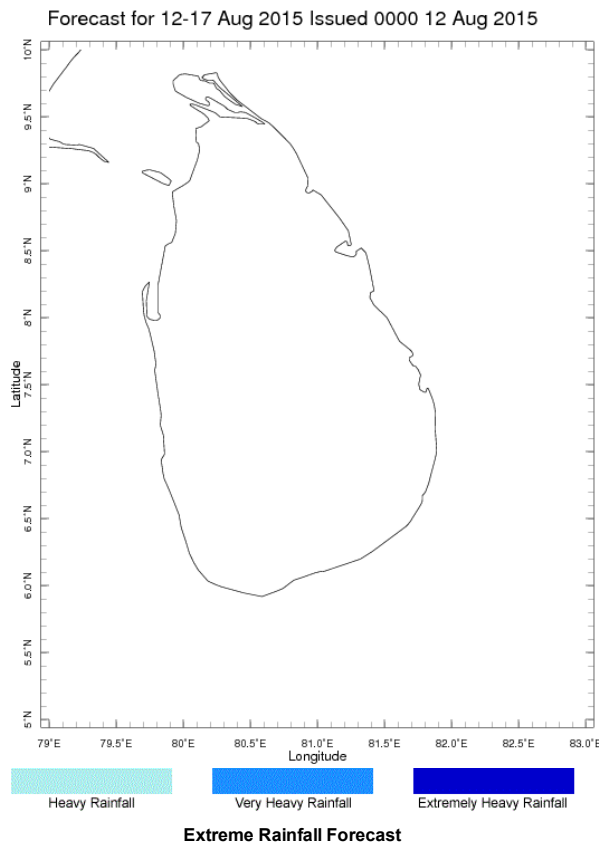


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 12-08-2015 valid for 03 UTC of 15-08-2015



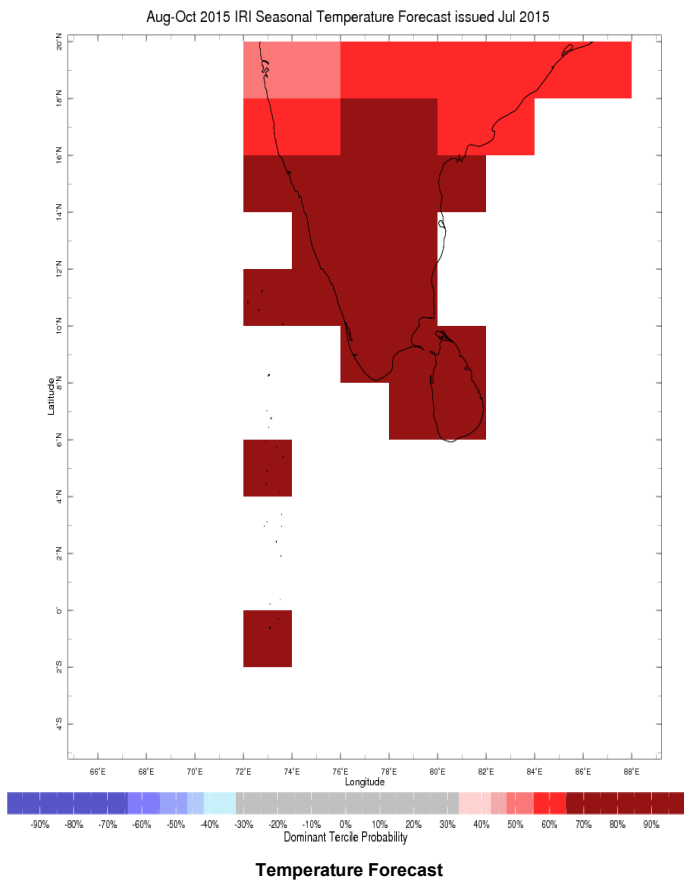
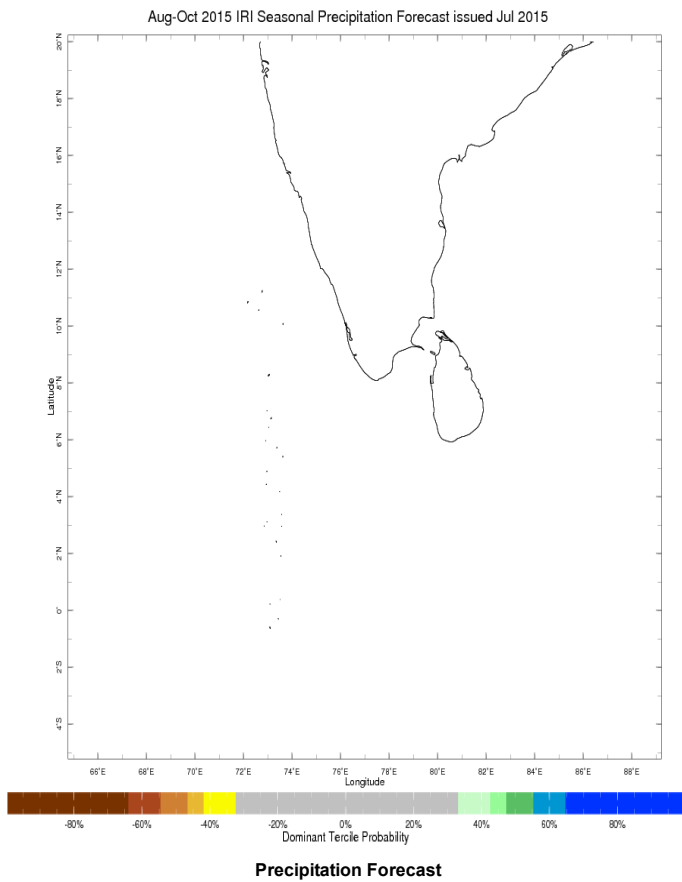
Weekly Rainfall Forecast

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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