

## Experimental Climate Monitoring and Prediction

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21 May 2015

### FECT BLOG

Past reports available at  
<http://fectsl.blogspot.com/> and

<http://fectsl.wordpress.com/>

### FECT WEBSITES

<http://www.climate.lk> and  
<http://www.tropicalclimate.org/>

### May 14, 2015 PACIFIC SEAS STATE

During April through early-May 2015 the SST met the threshold for weak Niño conditions. Most of the atmospheric variables now indicate an El Niño pattern, including weakened trade winds, low Southern Oscillation Index and excess rainfall in the vicinity of the dateline. The consensus of ENSO prediction models indicate weak El Niño conditions during the April-June 2015 season in progress, likely strengthening during summer and lasting through 2015.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

0.5 °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

Relatively high rainfall was observed during 12<sup>th</sup>- 18<sup>th</sup> May 2015 in Sri Lanka. Heavy rainfall was observed in Vavuniya and Puttalam districts during this period. The rest of the country received up to 30 mm rainfall as well. NOAA models predict a continuation in high rainfall during the next two weeks.

### Summary

#### Monitoring

**Weekly Monitoring:** During the time period 12<sup>th</sup> May – 18<sup>th</sup> May 2015, the rainfall was observed up to 30 mm/day and it showed a decrease when compared to the previous week. The average rainfall received throughout the whole week was up to 10-30 mm/day and the northern region of the country received a rainfall of 30 mm/day. In 12<sup>th</sup> May the Northern and North Central provinces received heavy rainfall, which was the highest in the week, of 130 mm in Vavuniya. In the next few days Northern and North East provinces received rainfall up to 30 mm and since 15<sup>th</sup> May the rainfall decreased gradually up to 10 mm/day. On 16<sup>th</sup> and 17<sup>th</sup> May rainfall up to 30 mm was received into the North, North East and North West provinces while Puttalam district and the adjacent sea received up to 90 mm rainfall. On the 18<sup>th</sup> May the whole country received an average rainfall of 10 mm/day while Northern region of Ratnarura District showed a rainfall up to 30 mm.

**Monthly Monitoring:** In the month May 2015, the entire country received above average rainfall while Jaffna, Kilinochchi, Trincomalee, Batticaloa, Ampara and Hambanthota received below average rainfall.

#### Predictions

**14 day prediction:** NOAA NCEP models predict high rainfall up to 30 mm/day in the entire the country except North Eastern region during the next fortnight.

**IMD WRF & IRI Model Forecast:** According to the IMD WRF model, Western and Southern regions of the country shall receive rainfall up to 35 mm and the rest of the country shall not receive any rainfall on 22<sup>nd</sup> and 23<sup>rd</sup> May. NOAA CFS models do not predict a significant amount of rainfall in Sri Lanka during 20<sup>th</sup>- 25<sup>th</sup> May 2015

**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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<sup>1</sup> 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.

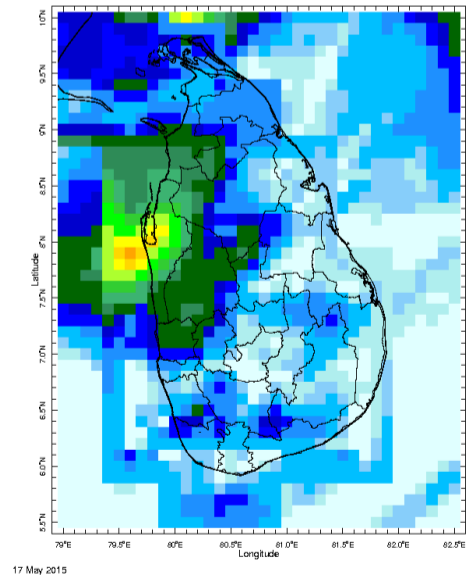
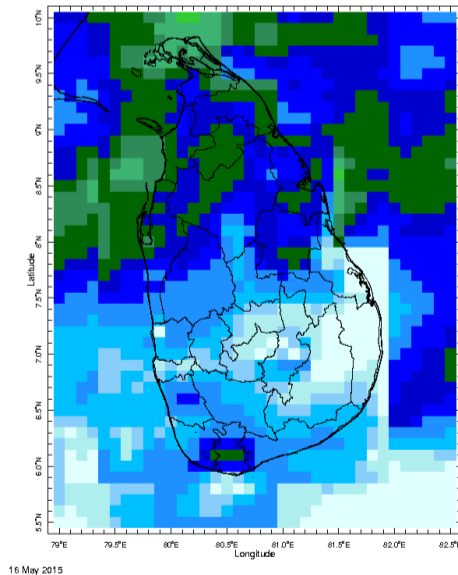
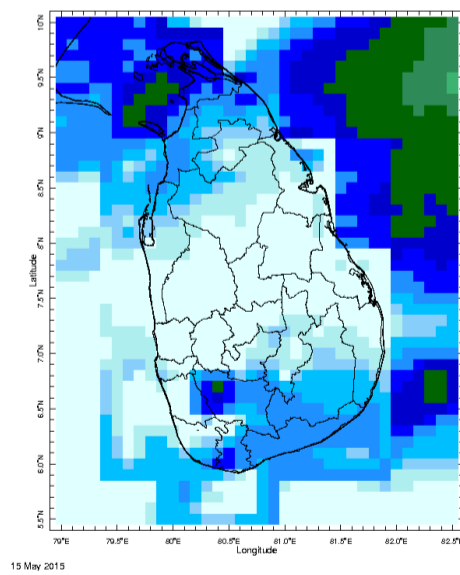
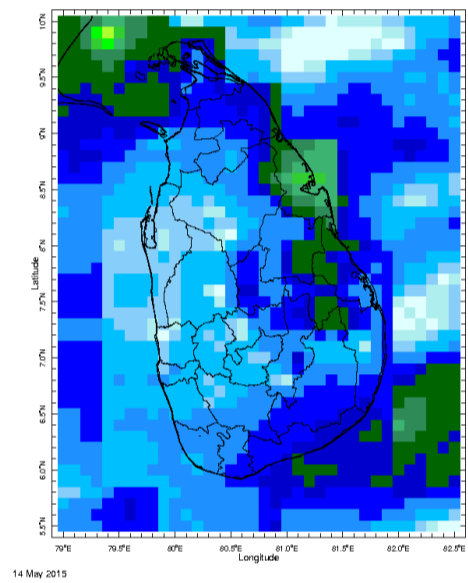
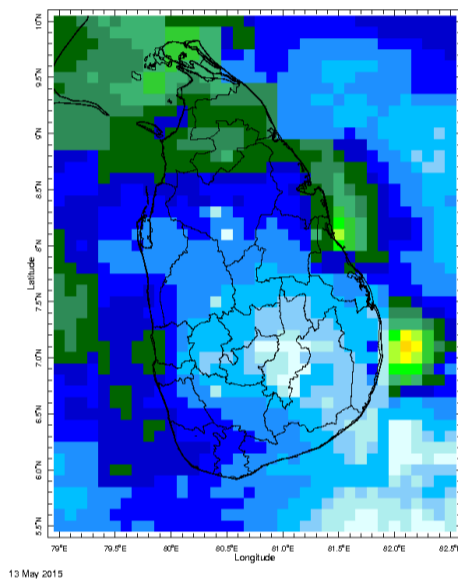
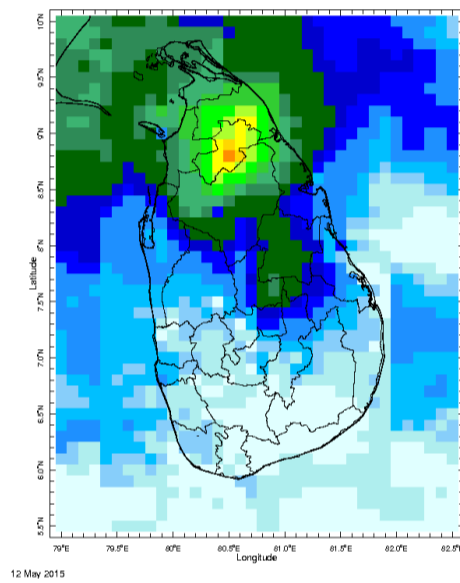
**Weekly Hydro- Meteorological Report for Sri Lanka**

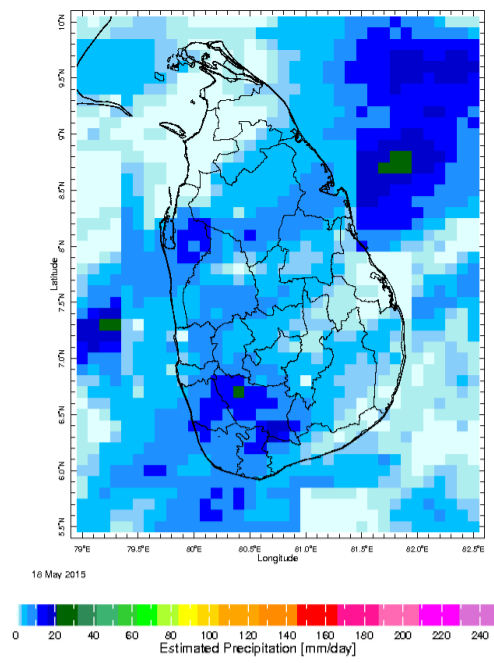
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**Daily Rainfall Monitoring**

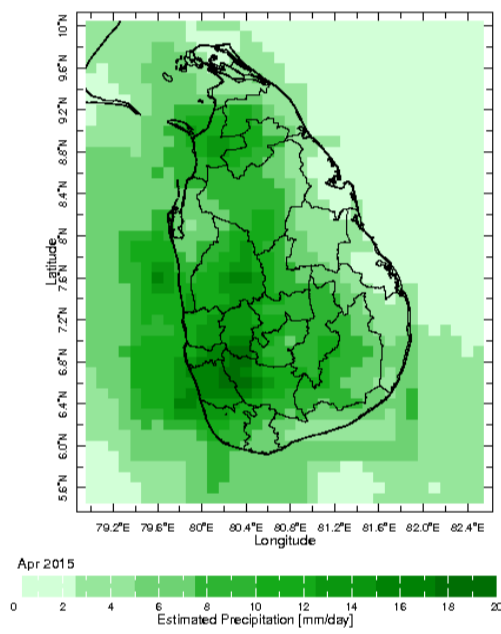
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



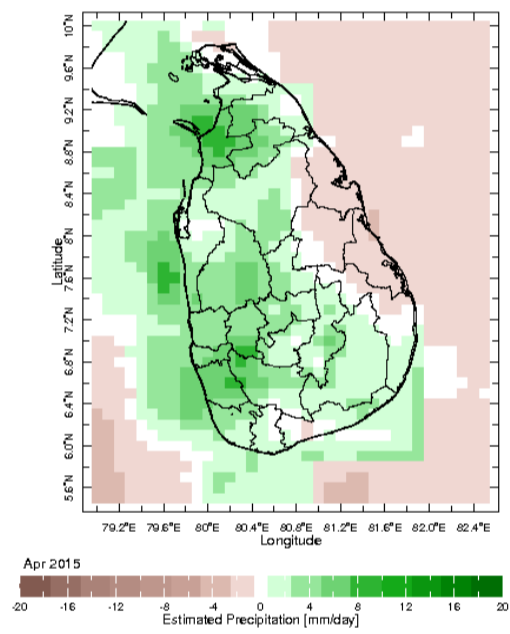


## Monthly Rainfall Monitoring

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

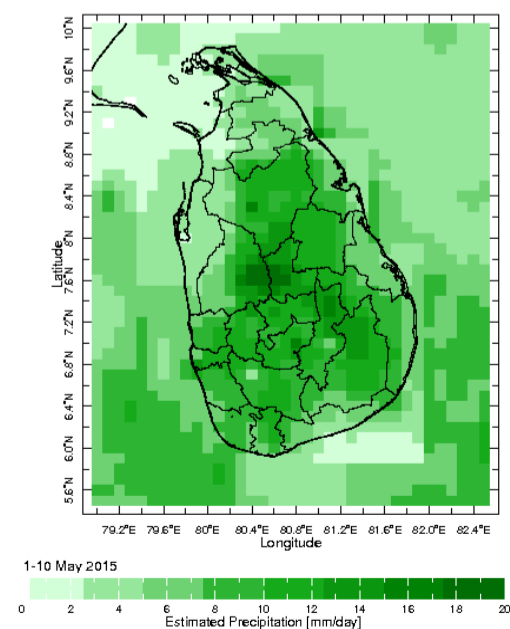
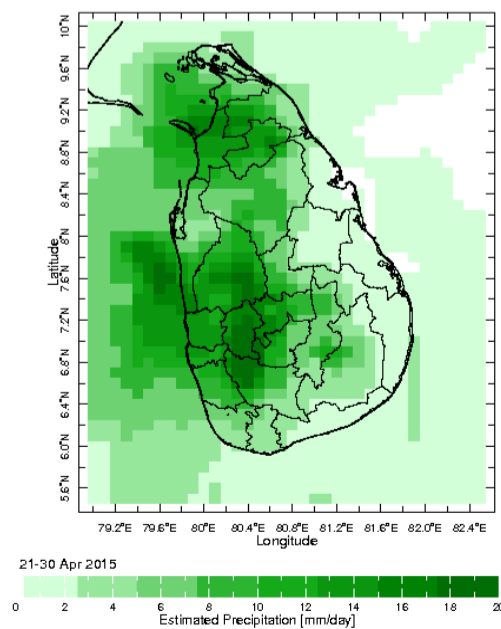


Monthly Average

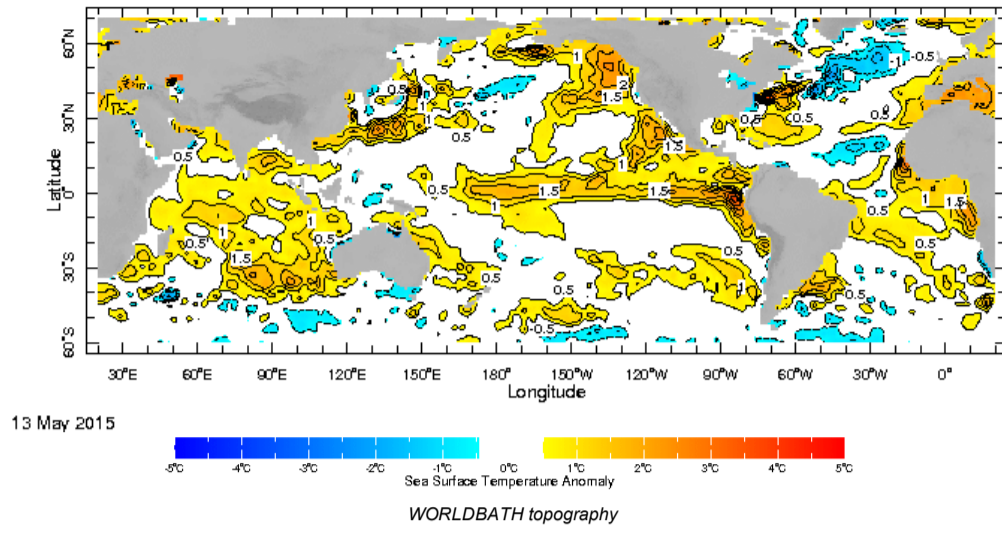


Monthly Anomaly

## Dekadal (10 Day) Satellite Derived Rainfall Estimates

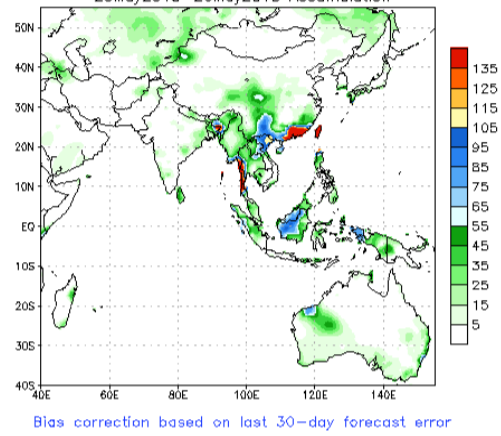


**Weekly Average SST Anomalies**

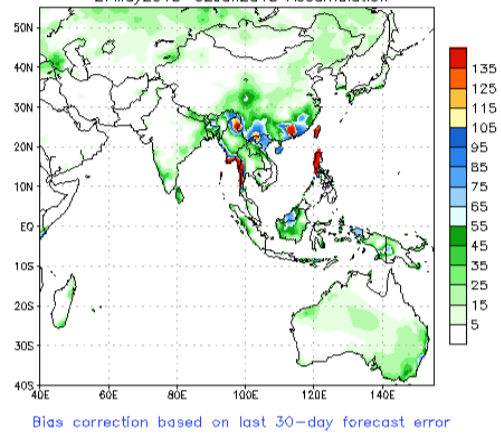


**NCEP GFS 1- 14 Day prediction**

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)  
from: 20May2015  
20May2015-26May2015 Accumulation

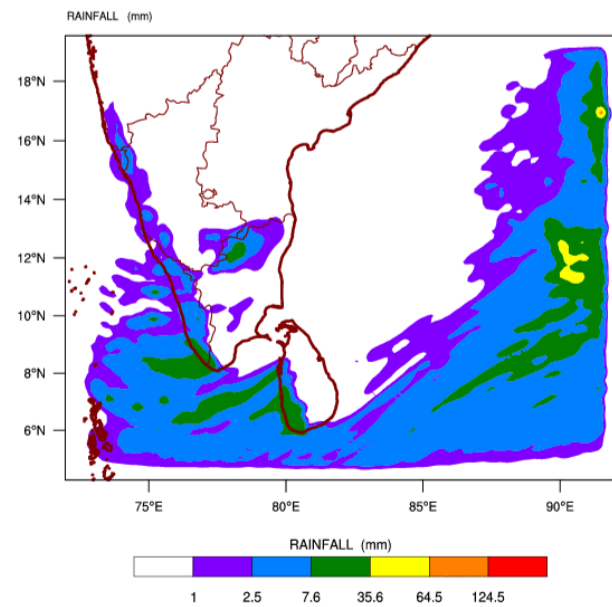


NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)  
from: 20May2015  
27May2015-02Jun2015 Accumulation

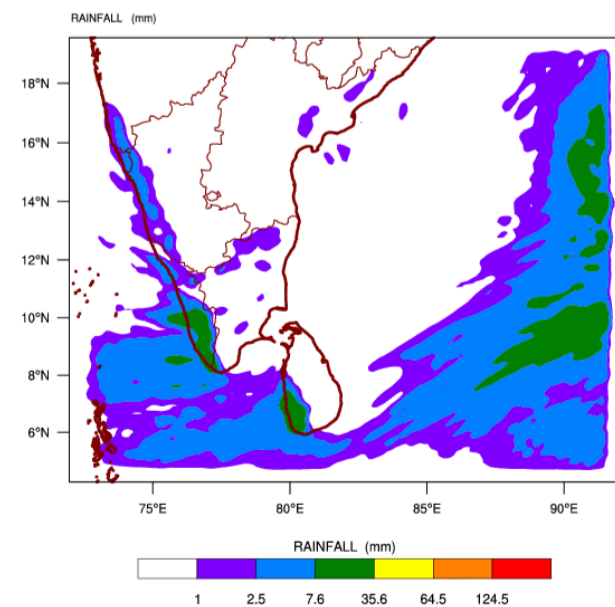


**WRF Model Forecast (from IMD Chennai)**

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\  
based on 00 UTC of 20-05-2015 valid for 03 UTC of 22-05-2015

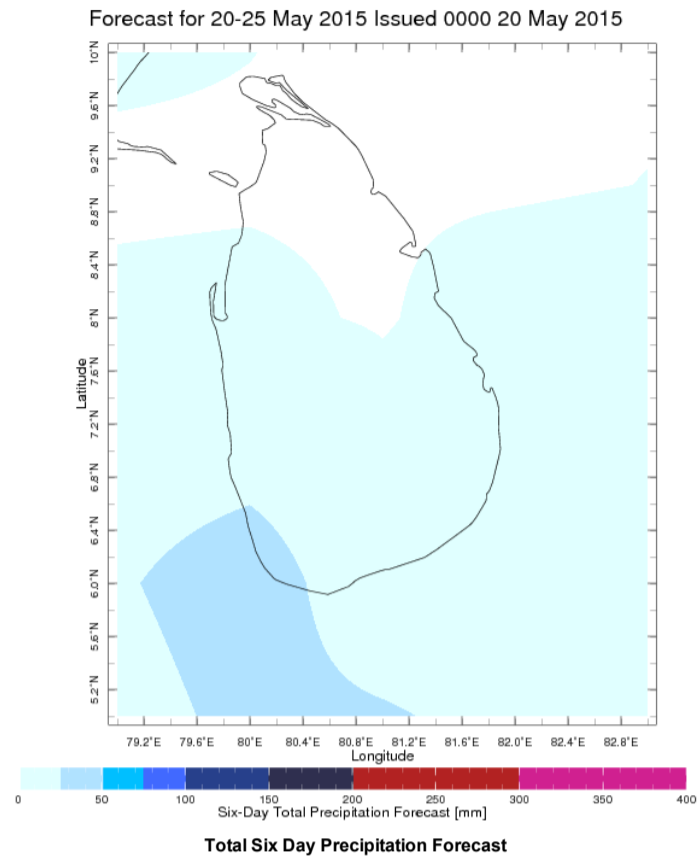
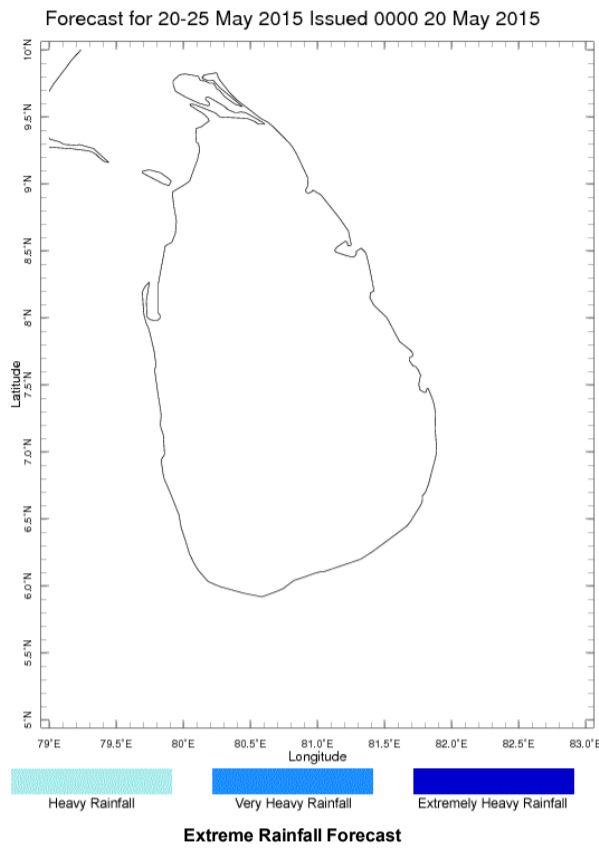


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\  
based on 00 UTC of 20-05-2015 valid for 03 UTC of 23-05-2015



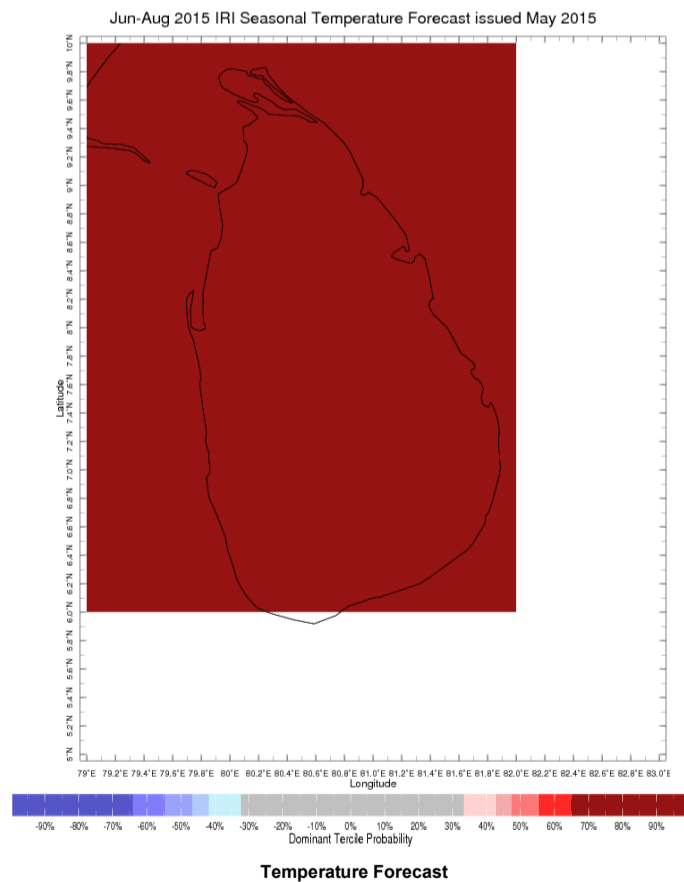
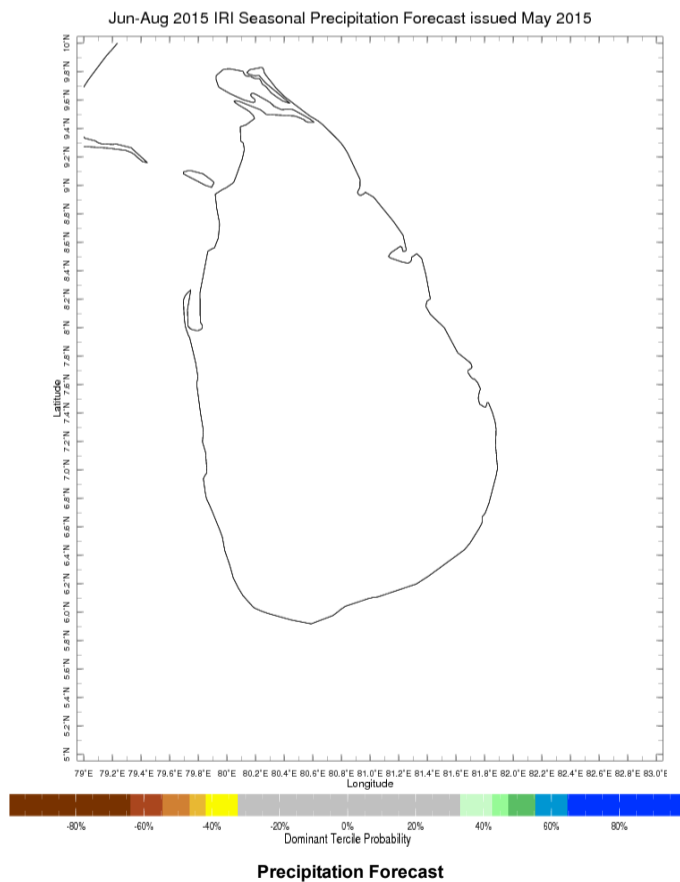
## Weekly Rainfall Forecast

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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