

Experimental Climate Monitoring and Prediction

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**September 17,
2015**

PACIFIC SEAS STATE

During late August through early September 2015 the tropical Pacific 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 September-November 2015 season in progress. Some further strengthening into later fall is possible, with the event lasting well into spring 2016.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Neutral sea surface temperature was observed around Sri Lanka.

MJO STATE

MJO is weak and therefore significant impact on rainfall is not expected.

Highlights

Up to 40 mm rainfall was observed in northern, north eastern, western, south western and southern regions of the country during the time period 29th September- 5th October. Southern region of Anuradhapura received heavy rainfall up to 110 mm on 25th September and rainfall up to 70 mm was observed in Badulla on 1st October and in Moneragala on 2nd October. Every prediction model predict increase of rainfall during the next week.

Summary

Monitoring

Weekly Monitoring: During 29th September – 5th October, few regions of the country received heavy rainfall. On 29th September heavy rainfall up to 110 mm was observed in southern region of Anuradhapura and in the ocean near Jaffna while rainfall up to 40 mm was observed in Hambantota. On 30th September Trincomalee, Galle and ocean near Colombo received rainfall up to 40 mm. On 1st October only Badulla received rainfall up to 70 mm and northern region of Moneragala received rainfall up to 70 mm on 2nd October. No rainfall was observed in any part of the country on 3rd October. Rainfall up to 90 mm was observed in Jaffna on 4th October while Ratnapura received rainfall up to 60 mm and Galle and Kalutara received rainfall up to 40 mm. No rainfall was observed in any part of the country on 5th October.

Monthly Monitoring: In September 2015 the entire country received above average rainfall while the ocean near northern and eastern provinces received below average rainfall.

Predictions

14 day prediction: NOAA NCEP models predict relatively high rainfall in south western region of the country compared to the rest of the country during 7th - 13th October. Total rainfall up to 85 mm is expected during the week in the south western region and total rainfall up to 55 mm is expected in the north eastern region. Rest of the country shall receive total rainfall up to 45 mm. These models predict the rainfall shall be increased significantly during 14th- 20th October and total rainfall up to 135 mm is expected in western region, total rainfall up to 125 mm is expected in north western, eastern and southern regions and the rest of the country shall receive total rainfall up to 95 mm.

IMD WRF & IRI Model Forecast: According to the IMD WRF model rainfall up to 35 mm is expected in Trincomalee on 9th October and any significant amount of rainfall is not expected for the rest of the country. Any part of the country shall not receive significant amount of rainfall on 10th October as well. IRI CFS models predict total rainfall up to 100 mm in south eastern region of the country during 7th - 12th October.

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.

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

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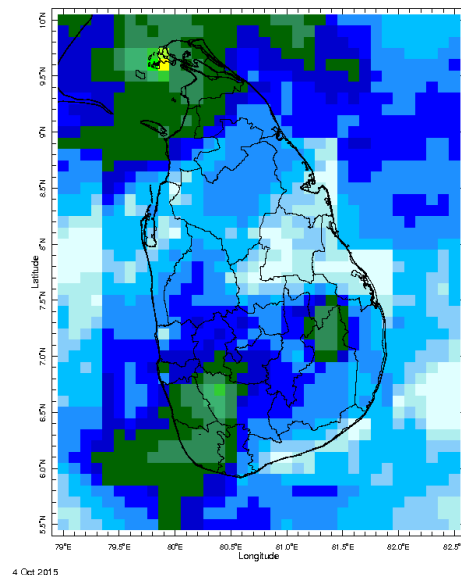
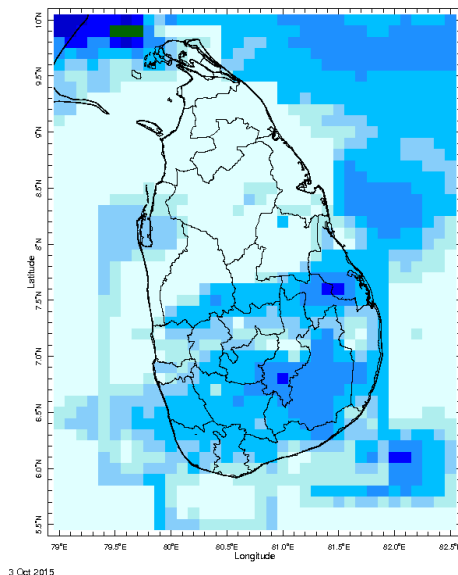
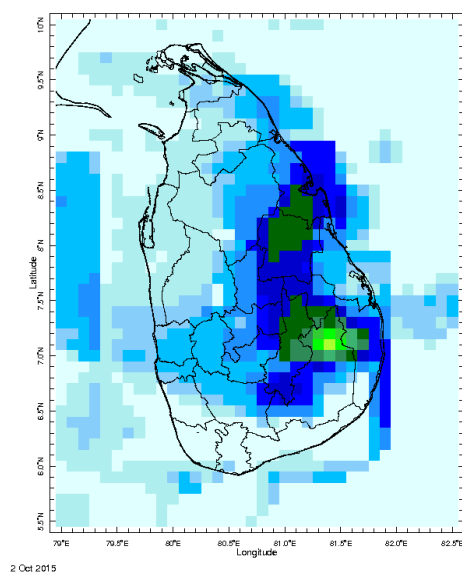
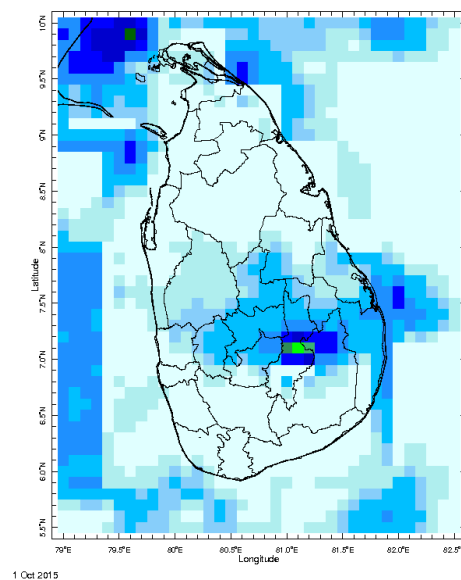
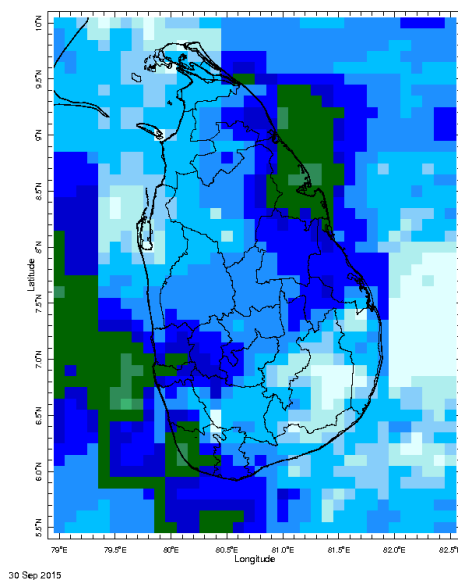
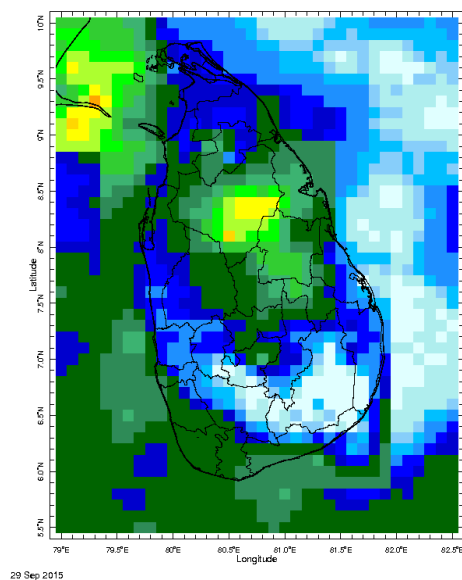
Weekly Hydro- Meteorological Report for Sri Lanka

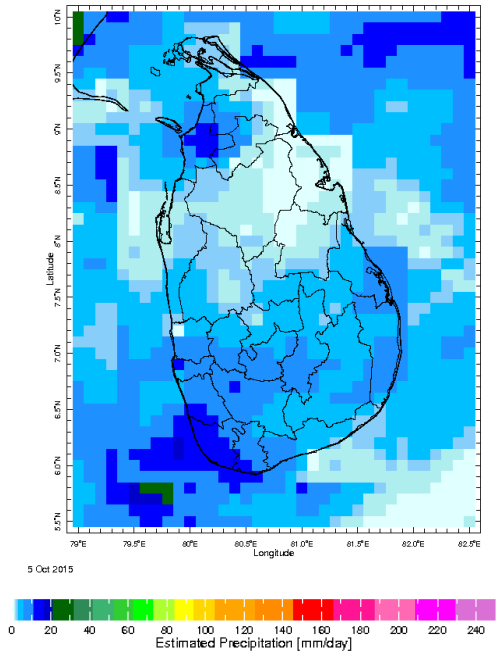
Inside This Issue

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

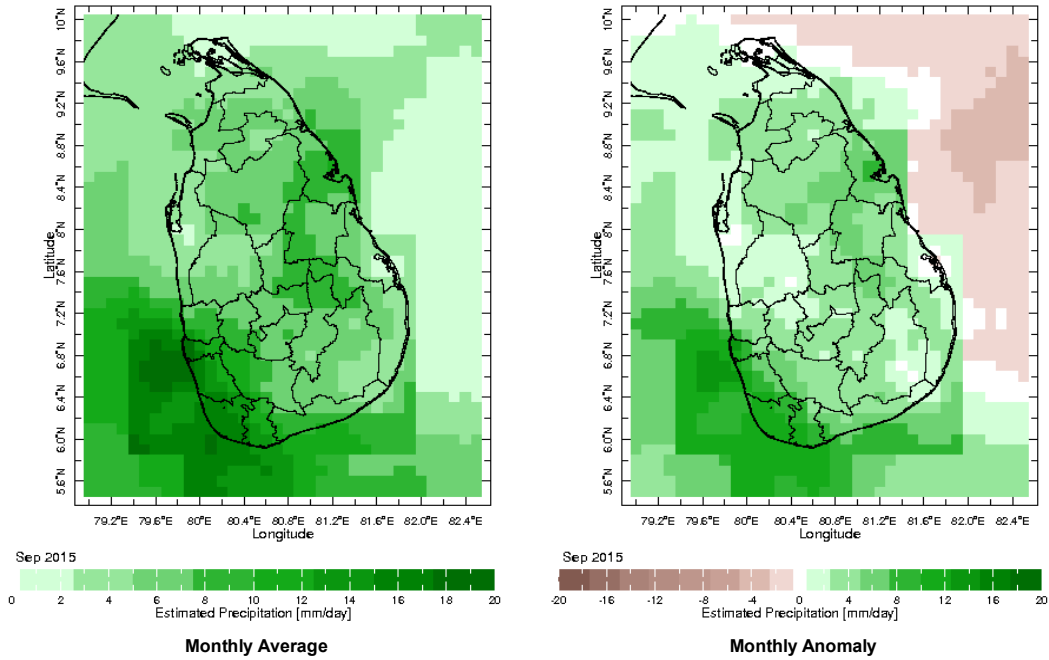
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



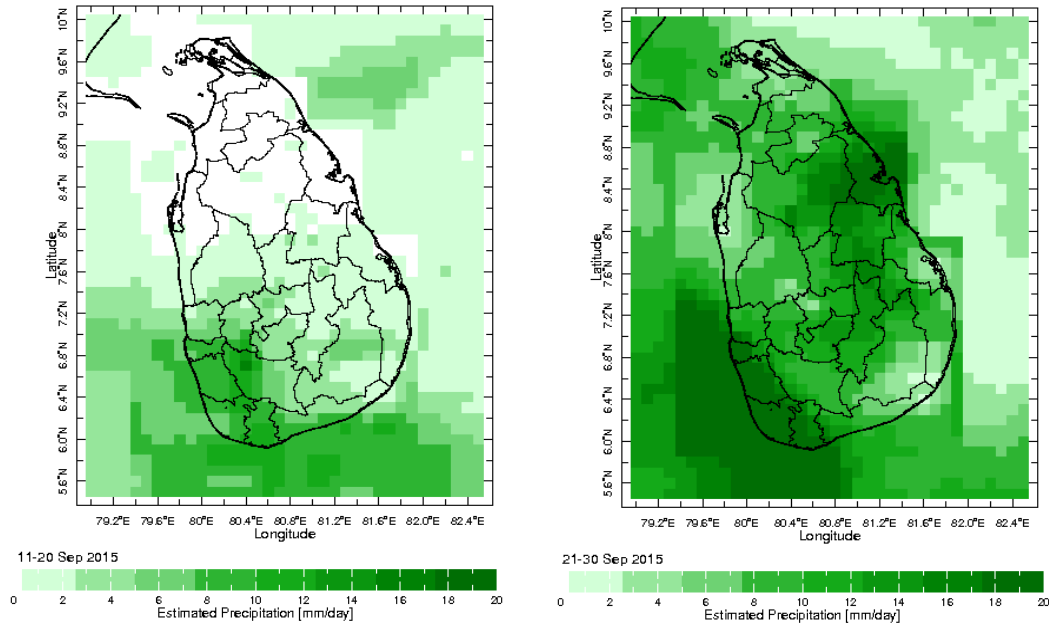


Monthly Rainfall Monitoring

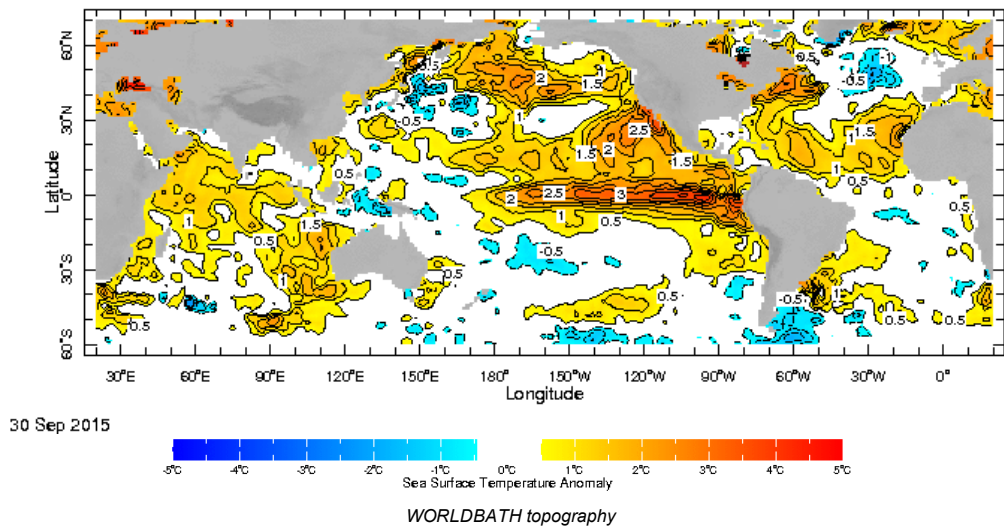
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



Dekadal (10 Day) Satellite Derived Rainfall Estimates

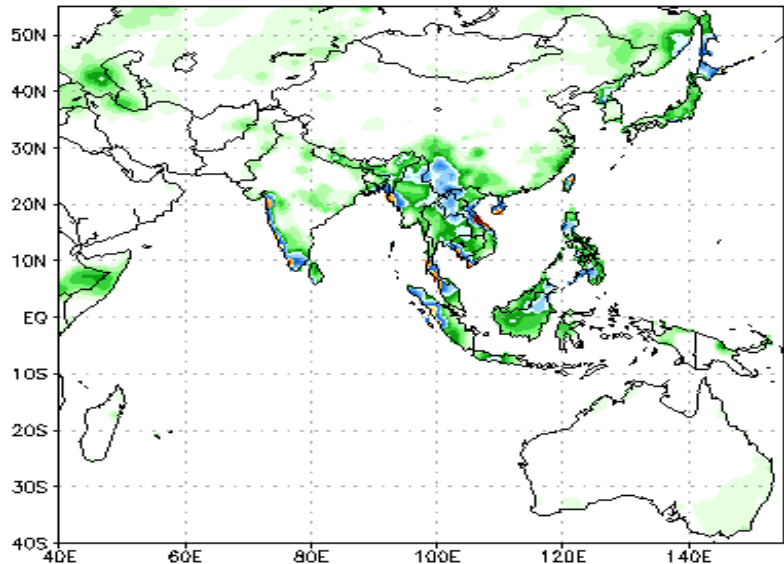


Weekly Average SST Anomalies



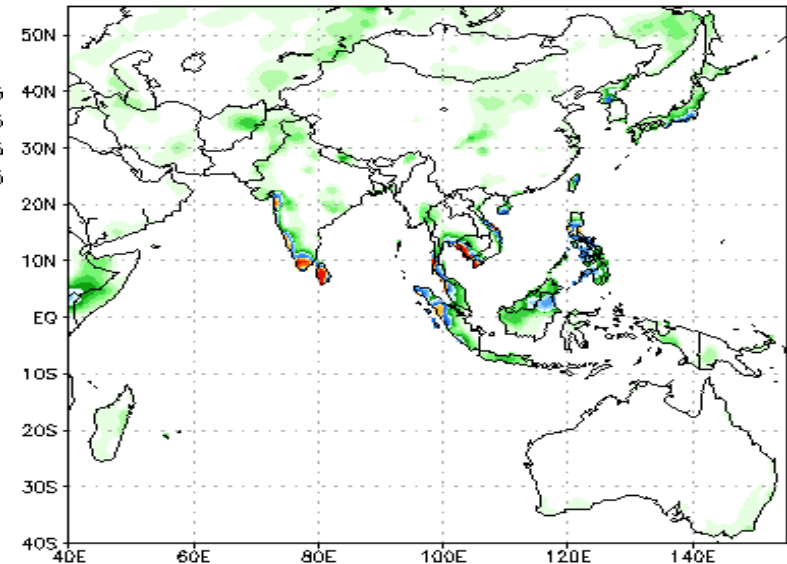
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1–7 Day Precipitation (mm)
from: 07Oct2015
07Oct2015–13Oct2015 Accumulation



Bias correction based on last 30–day forecast error

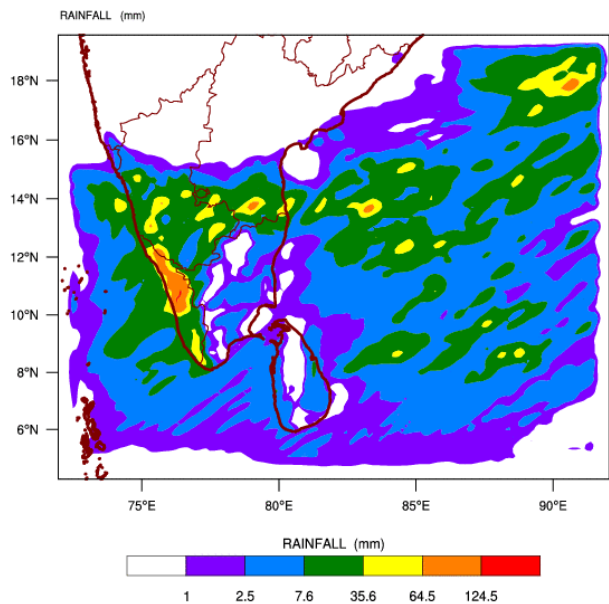
NCEP GFS Ensemble Forecast 8–14 Day Precipitation (mm)
from: 07Oct2015
14Oct2015–20Oct2015 Accumulation



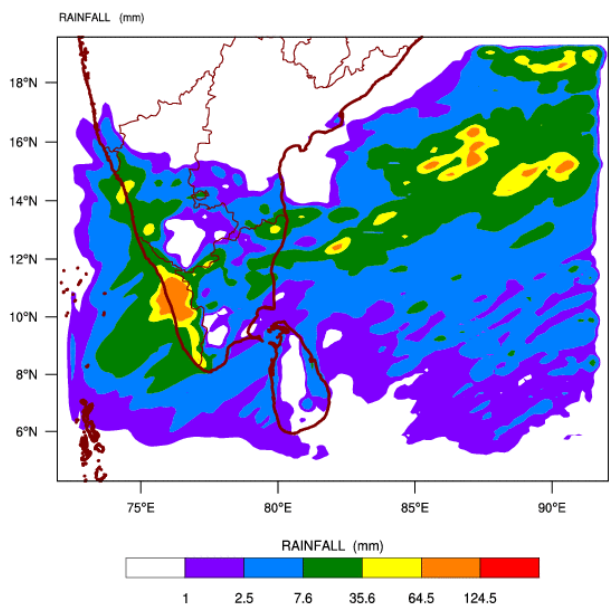
Bias correction based on last 30–day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 07-10-2015 valid for 03 UTC of 09-10-2015

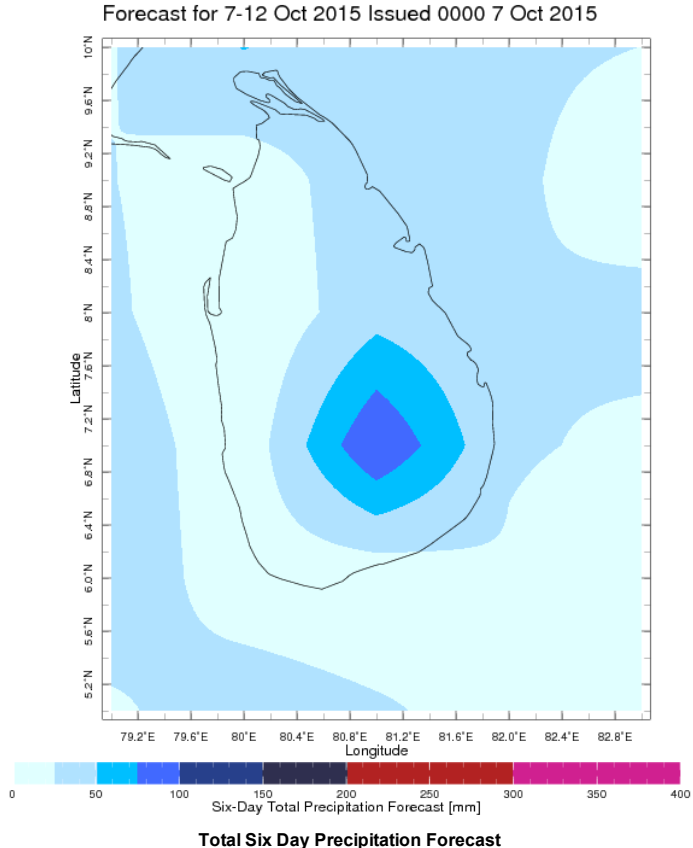
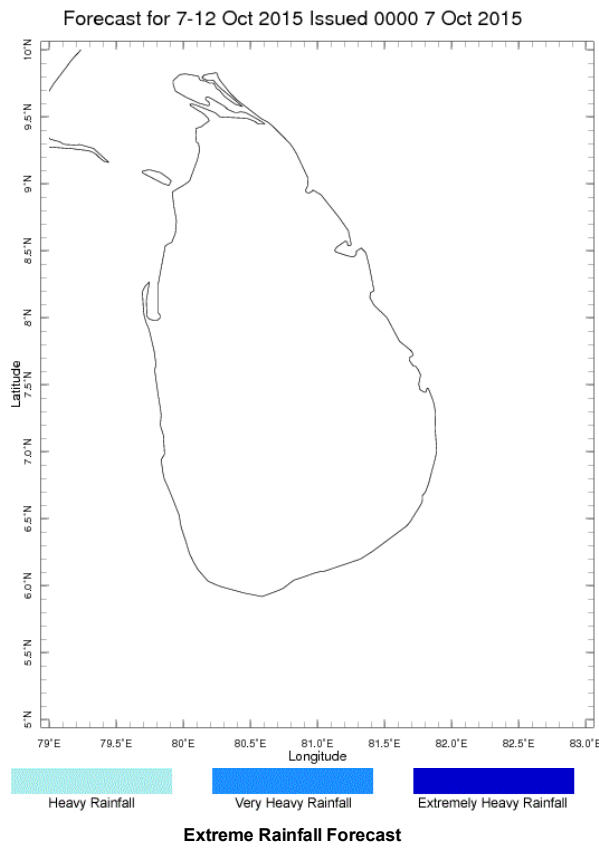


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 07-10-2015 valid for 03 UTC of 10-10-2015



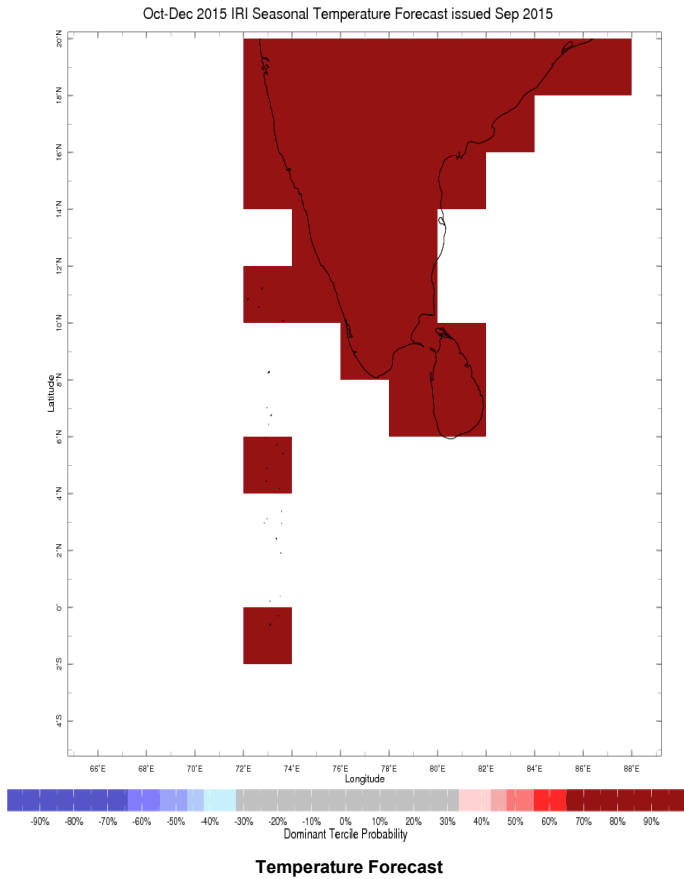
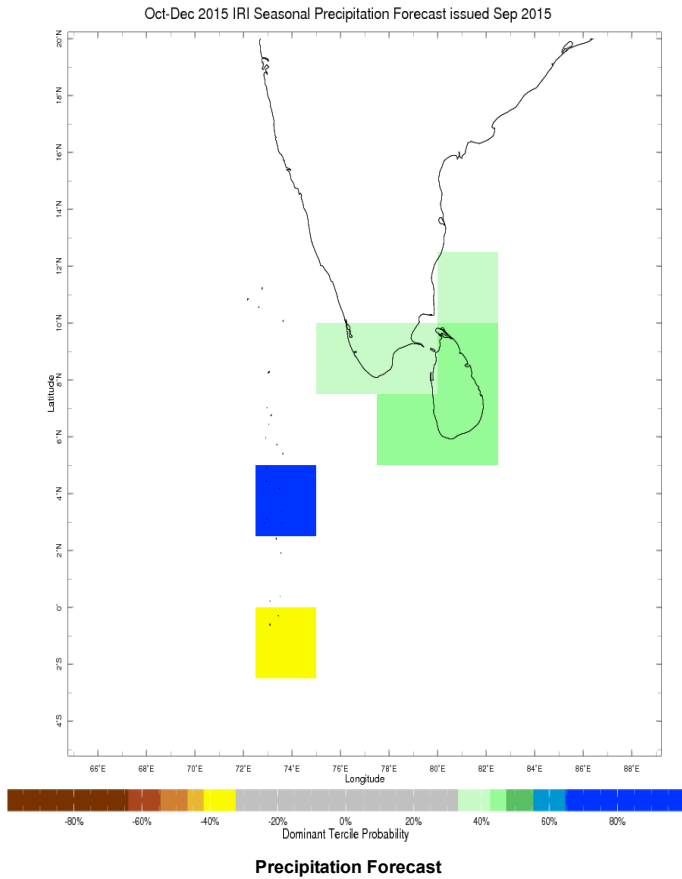
Weekly Rainfall Forecast

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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