

Experimental Climate Monitoring and Prediction

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18 June 2015

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June 10, 2015 PACIFIC SEAS STATE

During late May through early-June 2015 the SST was at a weak to moderate Niño level. The atmospheric variables also indicate an El Niño pattern, including weakened trade winds, low Southern Oscillation Index and excess rainfall in the central tropical Pacific. The consensus of ENSO prediction models indicate weak to moderate El Niño conditions during the May-July 2015 season in progress, likely strengthening during summer and lasting through 2015.

(Text Courtesy IRI)

INDIAN OCEAN STATE

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

MJO STATE

MJO phase is in 3 therefore shall enhance rainfall in Sri Lanka.

Highlights

During 10th – 16th June 2015 Western, Central and North provinces received rainfall up to 20-40 mm. In 11th, 15th, and 16th June, rainfall up to 30 mm was observed in the ocean near Western and Eastern provinces. Rainfall up to 30 mm was observed in Vavuniya, Galle, Puttalam, Kurunegala, Badulla, Kalutara, Nuwara Eliya, Ratnapura and Western province on 10th, 11th, 14th, 15th and 16th June. NOAA models predict high rainfall in Western region of the country in the next fortnight.

Summary

Monitoring

Weekly Monitoring: During the time period 10th June – 16th June 2015, Western, Central and Northern regions of the country mostly received rainfall. On the 10th June, rainfall up to 20 mm was observed in Jaffna district. On the 11th June, Western province, Galle, Puttalam, Kurunegala and Badulla districts received rainfall up to 20-30 mm and the rest of the country received light rainfall. On 12th, 13th, 14th and 15th June, there were no significant rainfall was observed in the entire country but Kalutara and some regions in Moneragala district received rainfall up to 30 mm. On the 16th June, Western province, Kegalle, Ratnapura, Nuwara Eliya, Southern region of Kurunegala and Southern region of Badulla districts observed rainfall up to 30 mm. The ocean around Western and Eastern provinces received rainfall up to 30 mm on 11th, 15th and 16th June.

Monthly Monitoring: In the month May 2015, most of the country received above average rainfall while Colombo, Gampaha, Kalutara, Galle, and the western regions of Kegalle, Ratnapura, Matara, Kandy and Nuwara Eliya districts received below average rainfall.

Predictions

14 day prediction: NOAA NCEP models predict high rainfall in western region of the country during 17th – 30th June. Up to 45 mm total rainfall is expected during the first week. The rainfall shall decrease up to 30 mm in the following week and western, southern and eastern region of the country shall receive rainfall.

IMD WRF & IRI Model Forecast: According to the IMD WRF model Kurunegala and Ratnapura districts shall receive rainfall up to 65 mm/day while the entire western half of the country shall receive rainfall up to 35 mm on 19th June and the rest of the country shall not receive rainfall. The rainfall shall be continued on 20th June and Ratnapura district shall receive rainfall up to 65 mm and the rest of the country shall not receive rainfall. IRI CFS model also predicts high rainfall in Western province and Galle district on 22nd – 27th June.

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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- Weekly precipitation forecast (IRI)
- Seasonal Predictions from IRI

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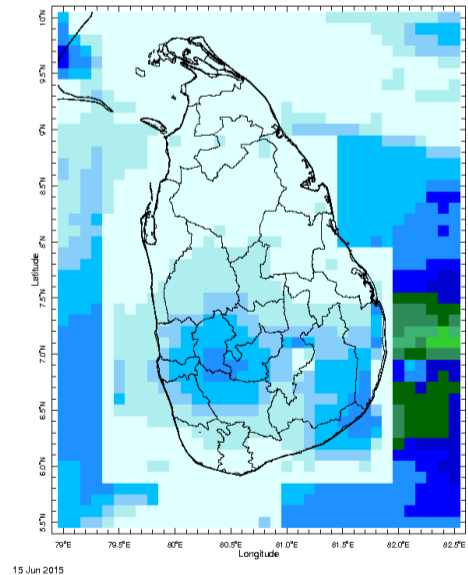
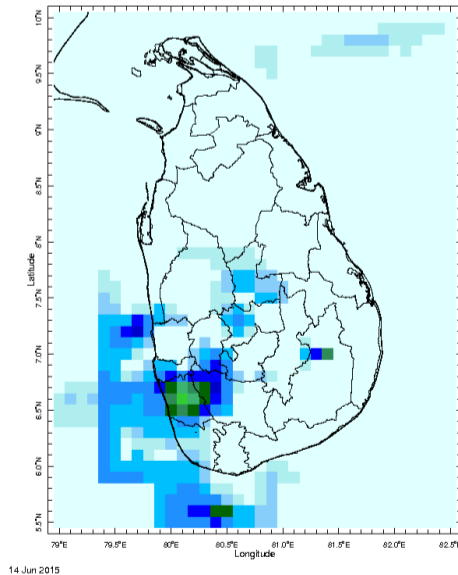
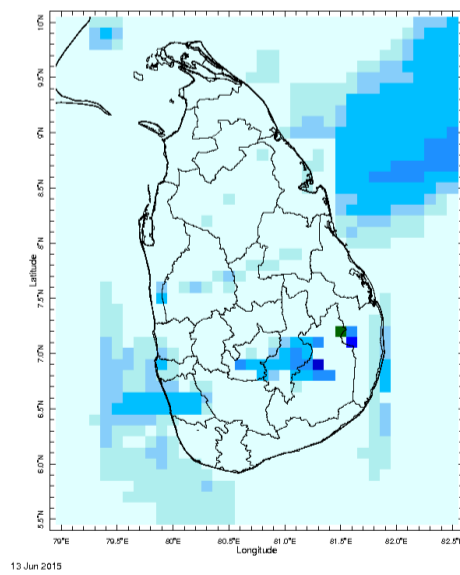
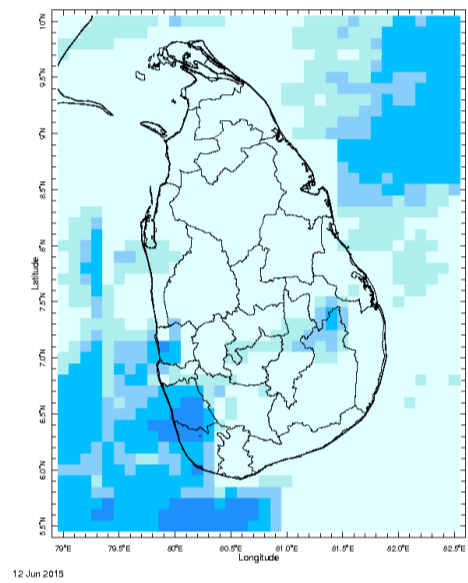
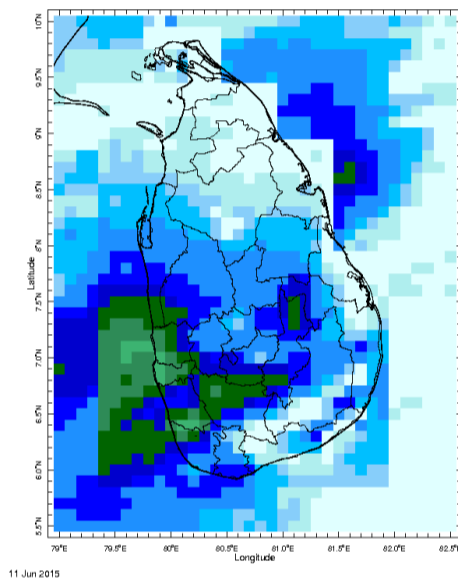
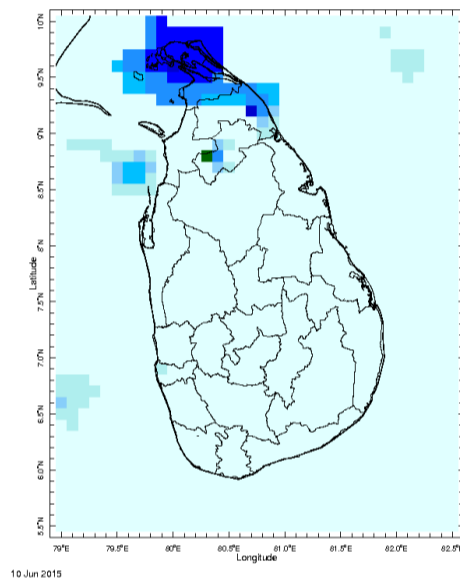
Weekly Hydro- Meteorological Report for Sri Lanka

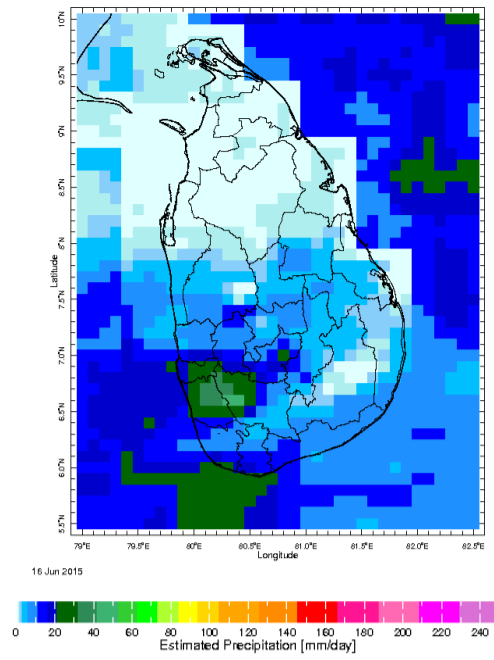
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Daily Rainfall Monitoring

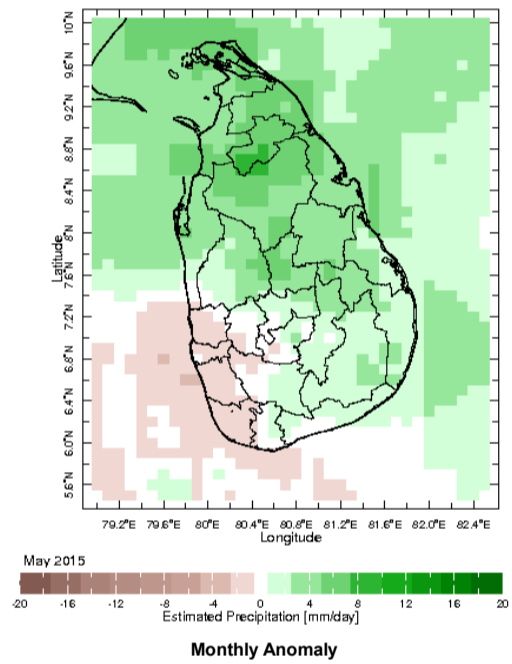
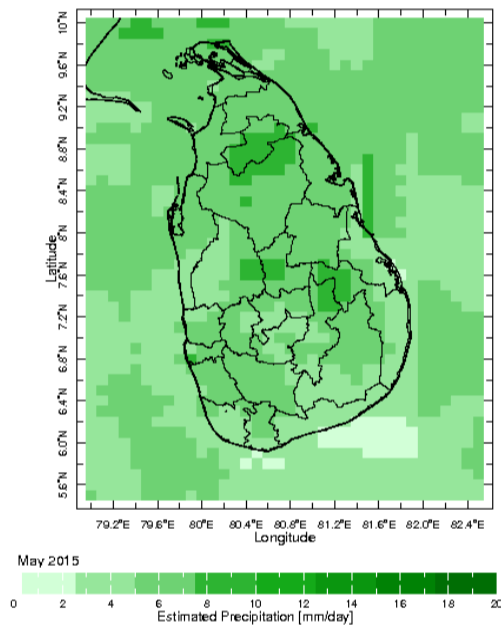
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



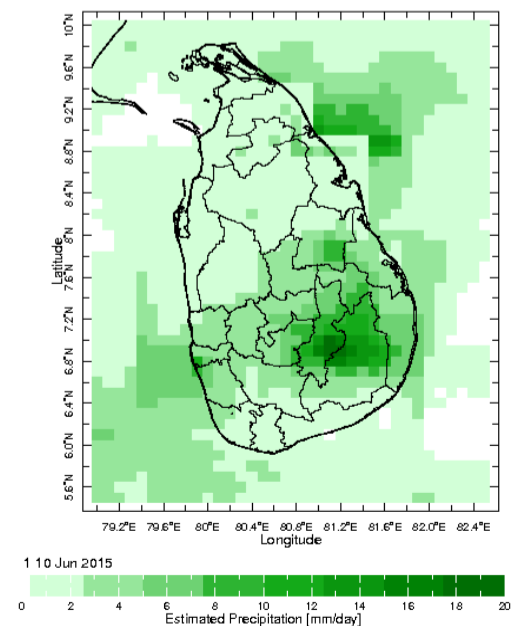
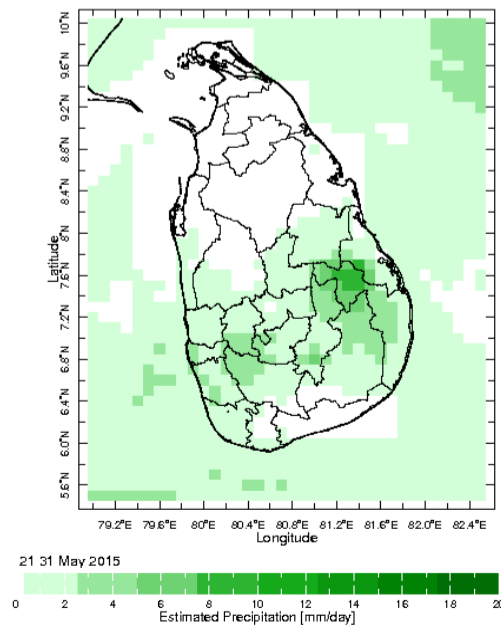


Monthly Rainfall Monitoring

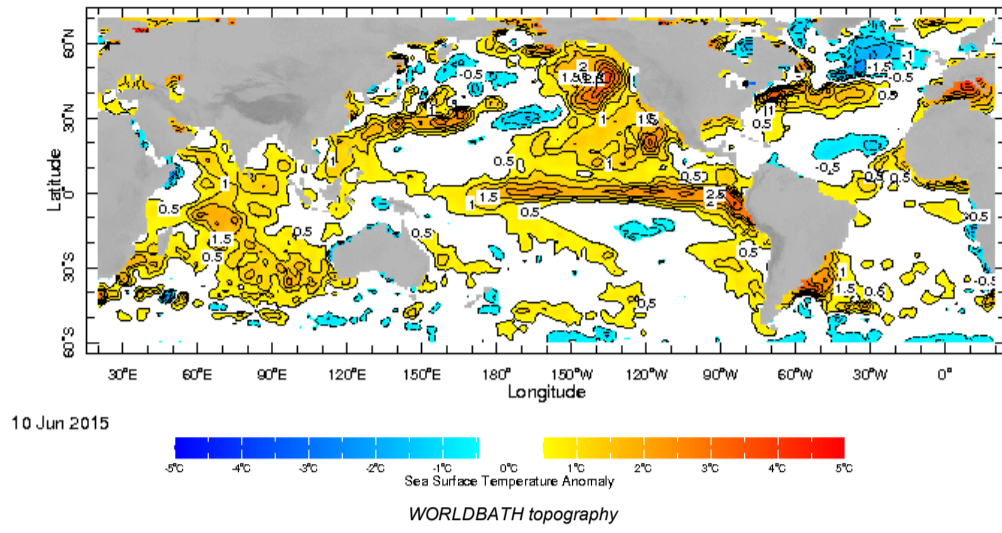
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



Dekadal (10 Day) Satellite Derived Rainfall Estimates

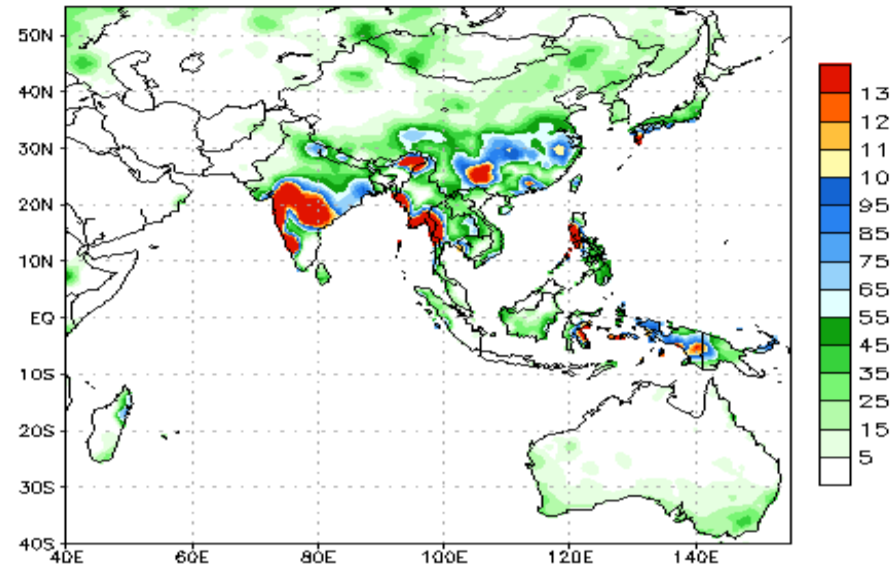


Weekly Average SST Anomalies

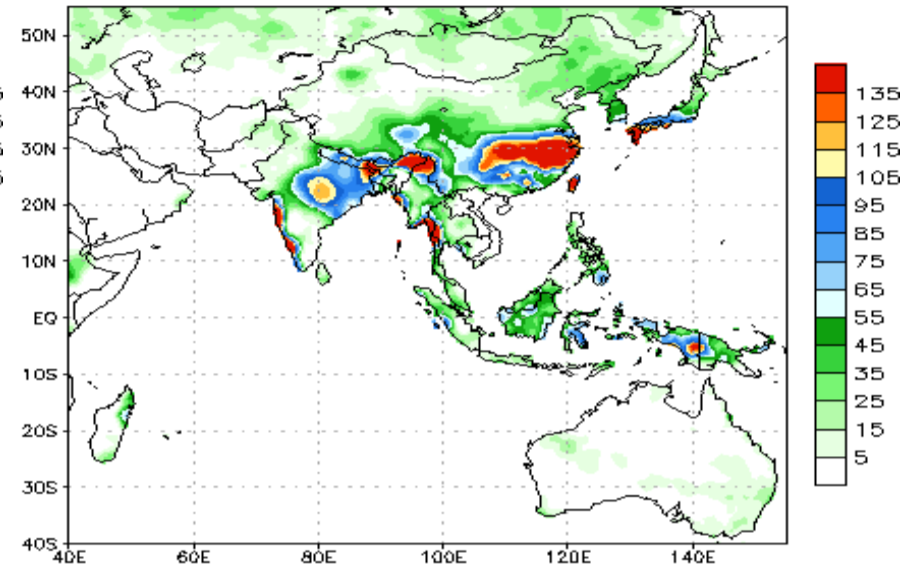


NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1–7 Day Precipitation (mm)
from: 17Jun2015
17Jun2015–23Jun2015 Accumulation



NCEP GFS Ensemble Forecast 8–14 Day Precipitation (mm)
from: 17Jun2015
24Jun2015–30Jun2015 Accumulation

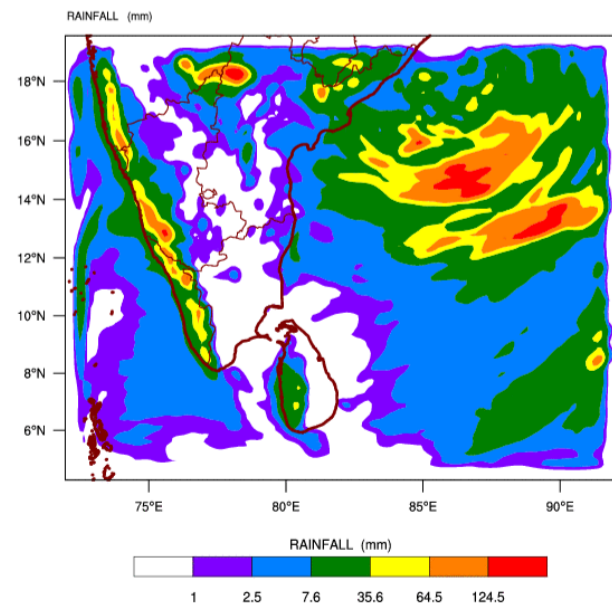


Bias correction based on last 30-day forecast error

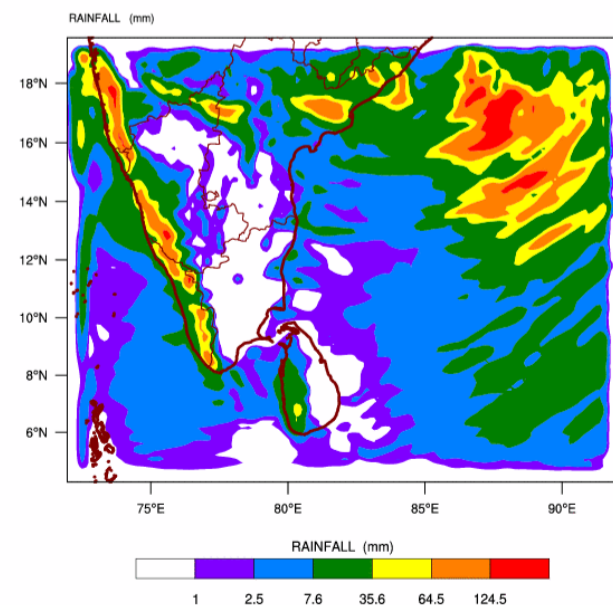
Bias correction based on last 30-day forecast error

WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 17-06-2015 valid for 03 UTC of 19-06-2015

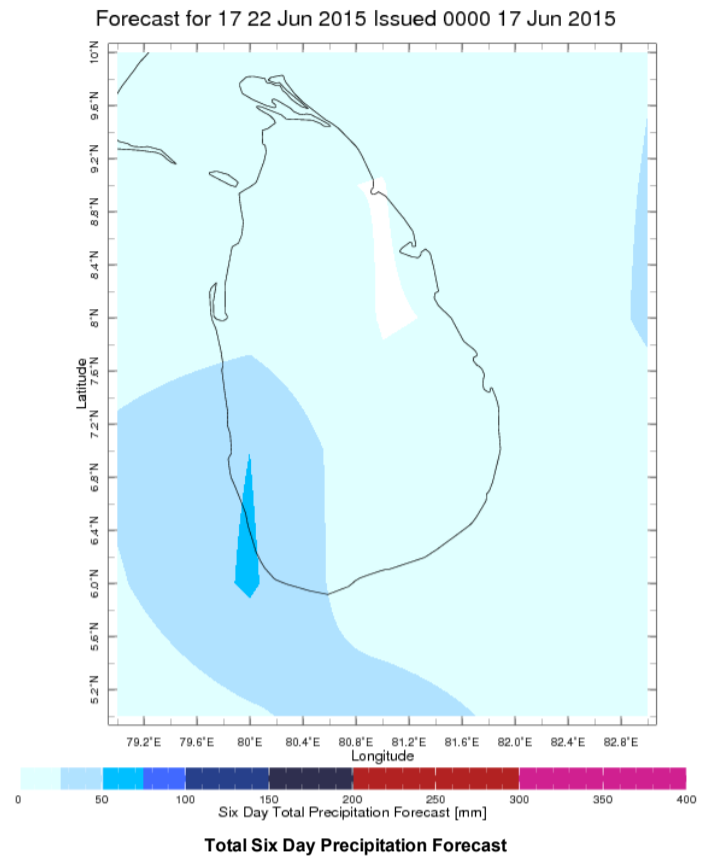
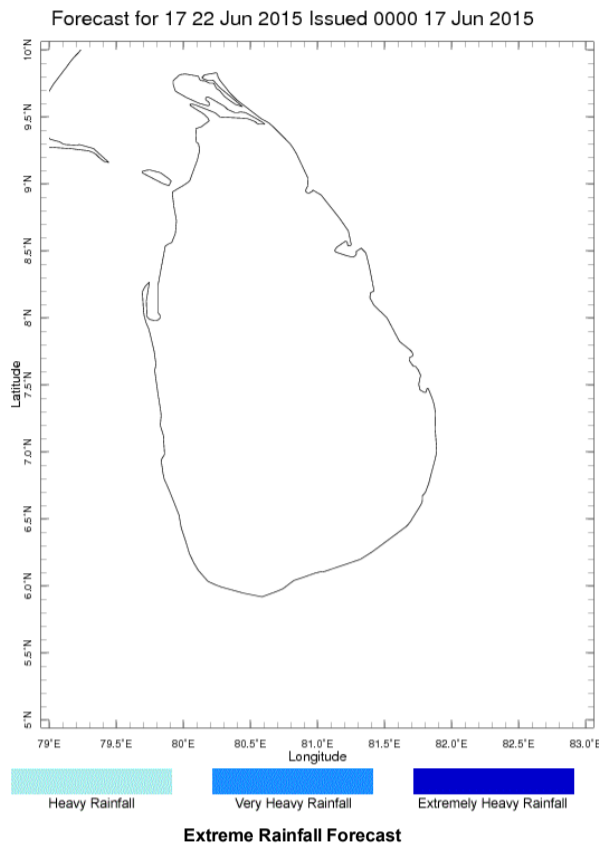


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 17-06-2015 valid for 03 UTC of 20-06-2015



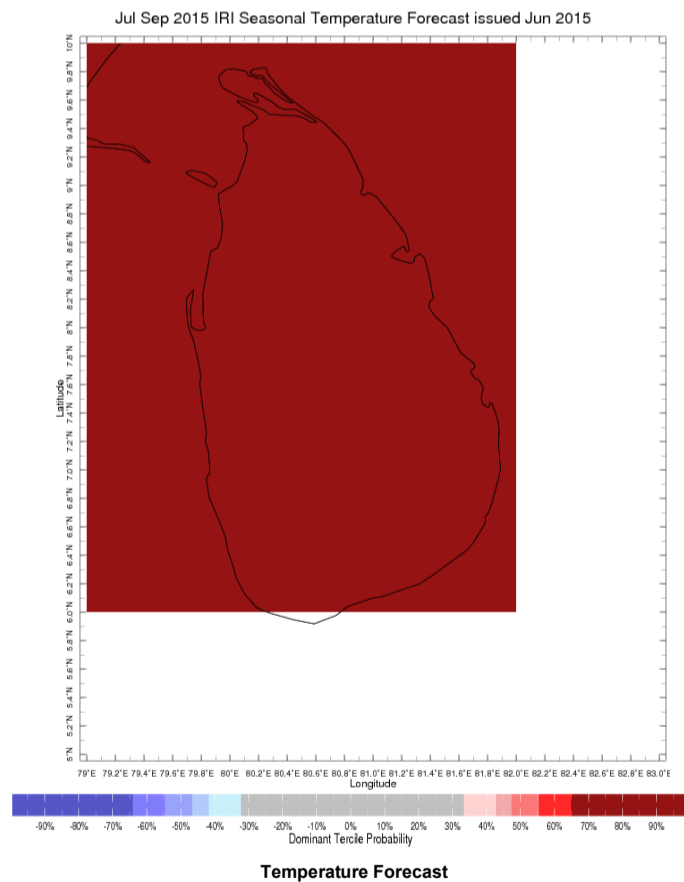
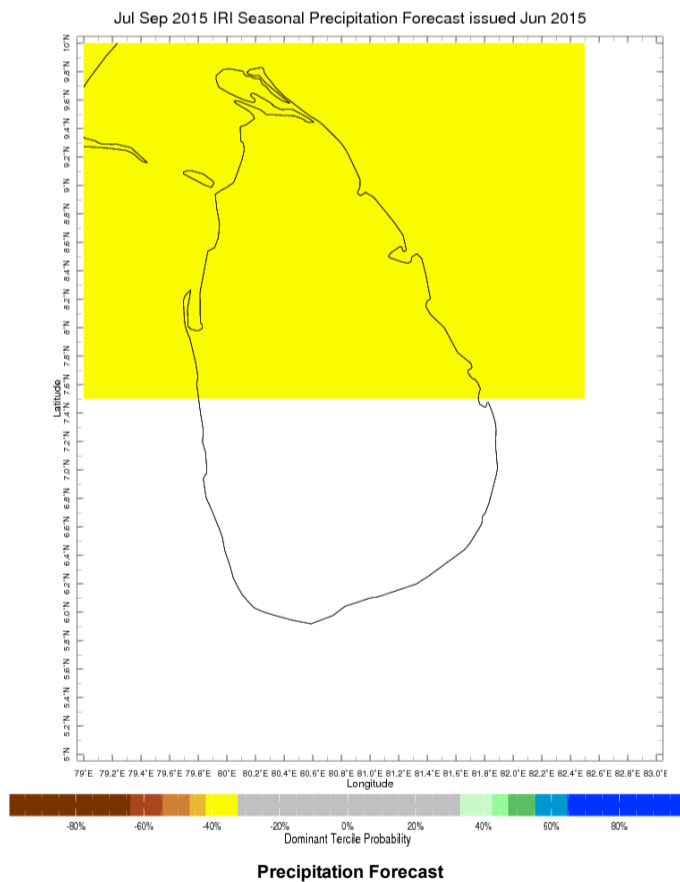
Weekly Rainfall Forecast

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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