

Experimental Climate Monitoring and Prediction

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FECT BLOG

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

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

FECT WEBSITES

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

July 5, 2013 PACIFIC SEAS STATE

During June through early July the observed ENSO conditions remained neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO through the remainder of 2013. However few (mainly statistical) models call for cooling towards borderline or weak La-Nina conditions for northern autumn into winter. While a few others (mainly dynamical) forecast developing El-Nino conditions during this same time frame.

(Text Courtesy IRI)

INDIAN OCEAN STATE

The sea surface temperature around Sri Lanka was neutral during 14th-20th July 2013.

MJO STATE

MJO is neutral and entering phase 4 and is likely to enter phase 5 both of which not influences Sri Lanka rainfall.

Highlights

Monitoring and Predictions:

Rainfall was quite heavy in June in the Southern half of Sri Lanka, and July is predicted to be lower although with wetter Southern regions in the next week. Compared to the rest of the island, the coastal belts of Galle to Kalutara is likely to receive heavier rainfall on coming two days (26th and 27th of July). Ongoing rainfall shall decrease gradually till 2nd August with different rates. However, eastern coasts shall receive significant rainfall events around 28th July & 2nd August.

Summary

Monitoring

Weekly Monitoring: Rainfall ranged between 5-60 mm during 16th-22nd July 2013. Maximum rainfall observed for small regions in Southwestern regions of Sri Lanka on 17th & 22nd July. However, entire country experienced lower rainfall throughout the week compared to month of June 2013.

Monthly Monitoring: Southern half of the Sri Lanka received an above average rainfall during the month of June. The entire country received less than 15 mm of daily rainfall, with Ratnapura district receiving the highest rainfall during the month (14 mm/day).

Predictions

7-day prediction: Southern half of the island shall receive 5-55 mm of rainfall and shall spread northward in a reducing manner during 24th-30th July 2013.

IMD WRF Model Forecast & IRI forecast: For 26th of July, IMD WRF model predicts less than 65 mm of rainfall for coastal regions of Galle to Kalutara districts and it shall spread towards North-South directions of coasts & central hills in a reducing manner. For the 27th of July, coastal regions of Kalutara to Gampaha districts shall receive less than 35 mm of rainfall and it shall spread towards Jaffna and Matara districts & nearby regions in a reducing manner. NOAA model predicts more rainfall for the Galle to Kalutara districts during 23rd-28th July compared to rest of the regions of Sri Lanka.

30 Days Prediction: Overall- Ongoing rainfall shall decrease gradually till 2nd August with different rates. Significant rainfall events are not expected during next week period (26th July-1st August). However, the amount of rainfall shall be lower than the observed rainfall on month of June 2013. **Western Slopes** – The ongoing rainfall pattern shall decrease till 28th & shall increase till 31st July. Thereafter it shall decrease again. Significant rainfall events are not expected. **Western Coast** – The rainfall is likely to be decrease drastically. Rainfall is not predicted during 26th-28th & 1st-9th August. Slight amount of rainfall is likely to present during 28th July-1st August. **Eastern Slopes**– The rainfall shall increase till 28th & shall decrease till 3rd August with different rates. **Eastern Coast** – The rainfall pattern persisting in the eastern slopes shall be observed in this region. But predicted average rainfall is higher compared to month of June & significant rainfall events are predicted around 28th July & 2nd August. **Northern region-** The rainfall shall vary around 2-4 mm/day till 2nd August. **Southern Region-** The rainfall shall decrease till 27th July & rainfall is not predicted till 6th August.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on July 2013; for August 2013 to October 2013, there is a 50-70% probability for temperature to be above normal in the country while the rainfall is to be climatological.

Inside this Issue

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

2. Predictions

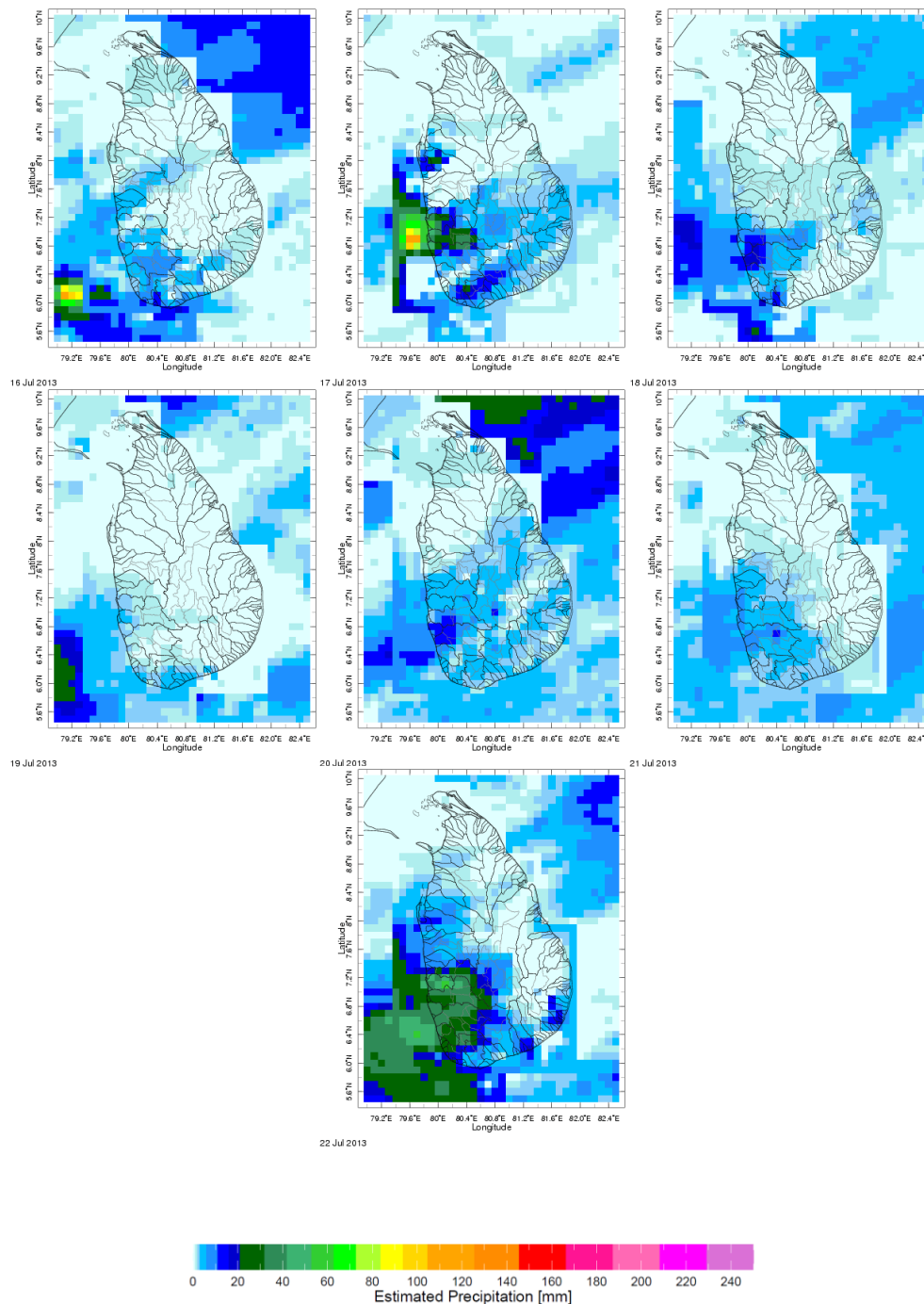
- NCEP GFS Ensemble 1-7 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

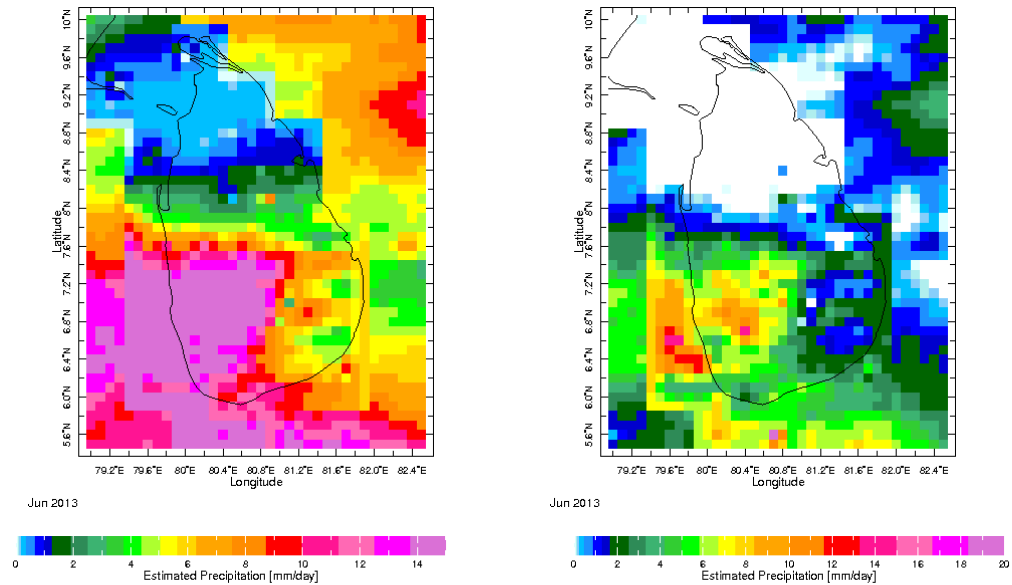
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

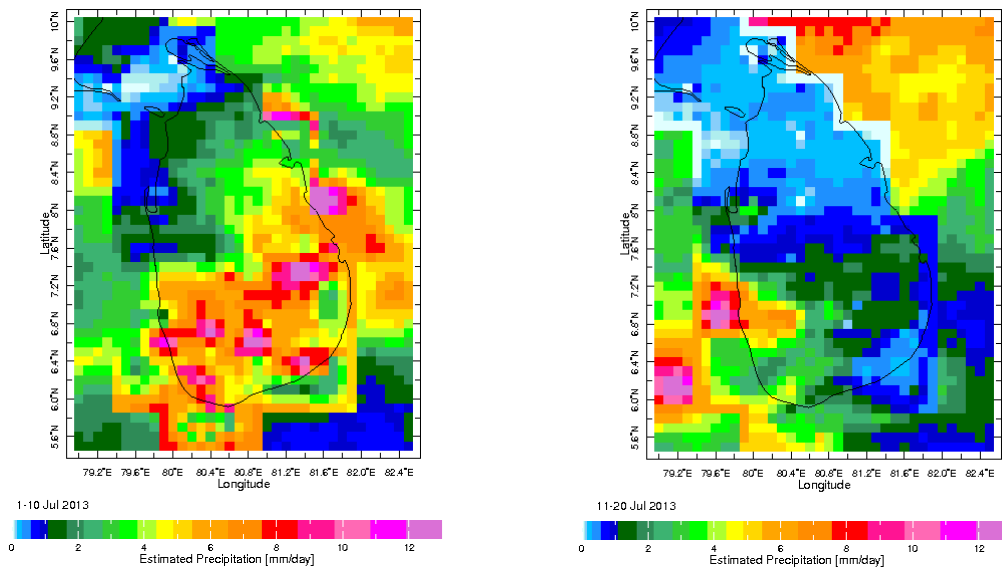
a) Daily Satellite Derived Rainfall Estimate Maps: 16th-22nd July 2013 (Left-Right, Top-Bottom)



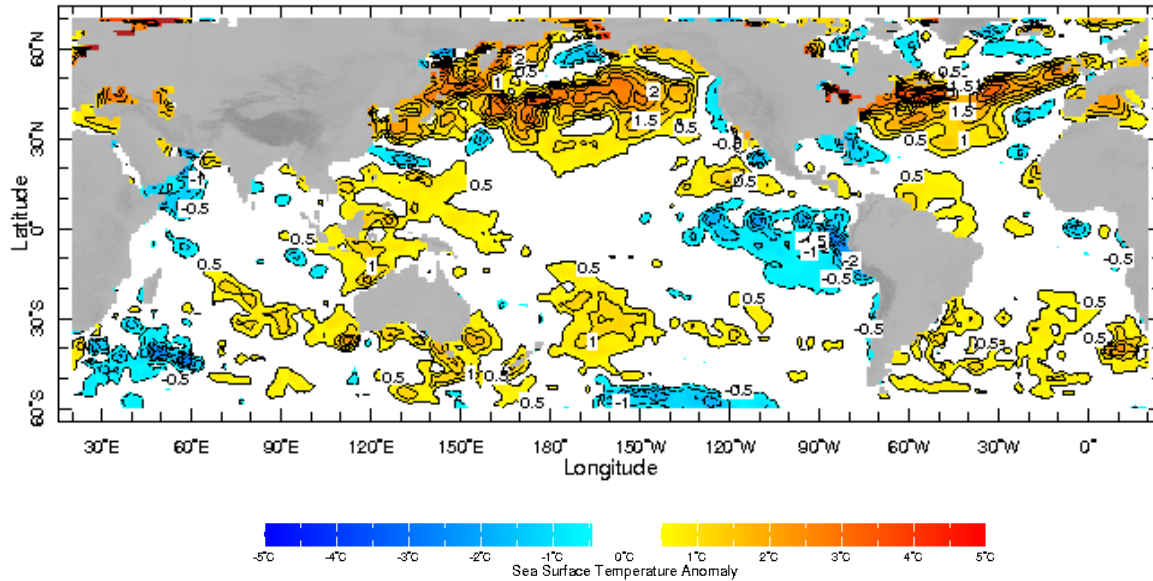
b) Monthly Satellite Derived Rainfall Estimates for June 2013 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 July & 11-20 July, 2013)



b) Weekly Average SST Anomalies

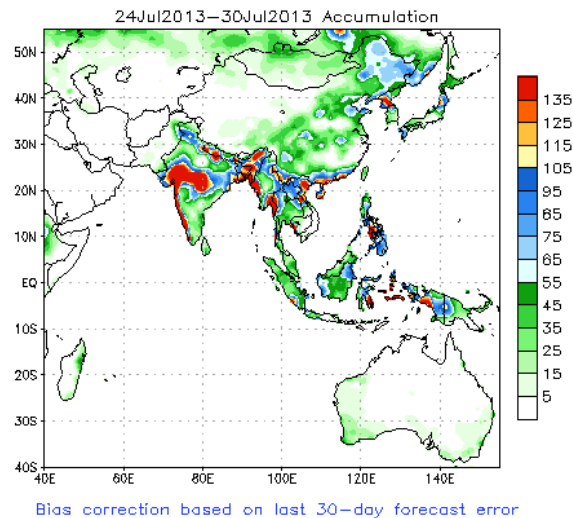


Weekly Average SST Anomalies ($^{\circ}$ C), 14th-20th July, 2013

Data Source: NCEP Environmental monitoring center (Climatology 1971-2000)

2. Predictions

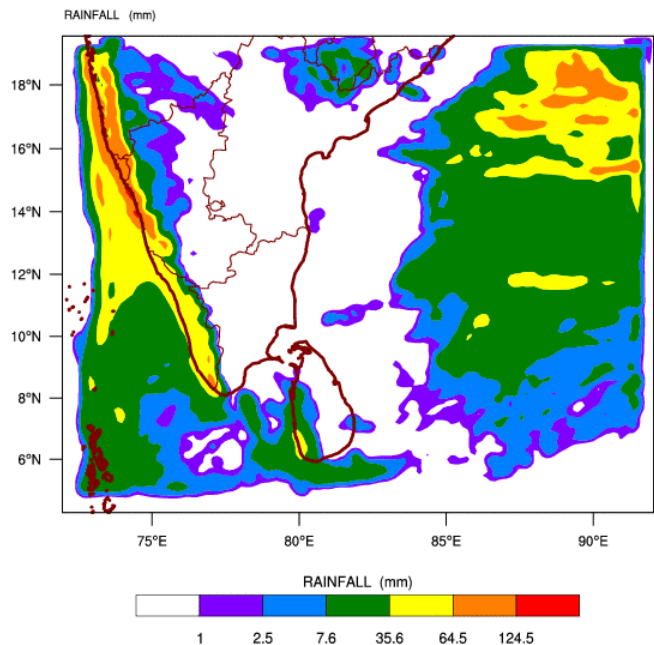
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



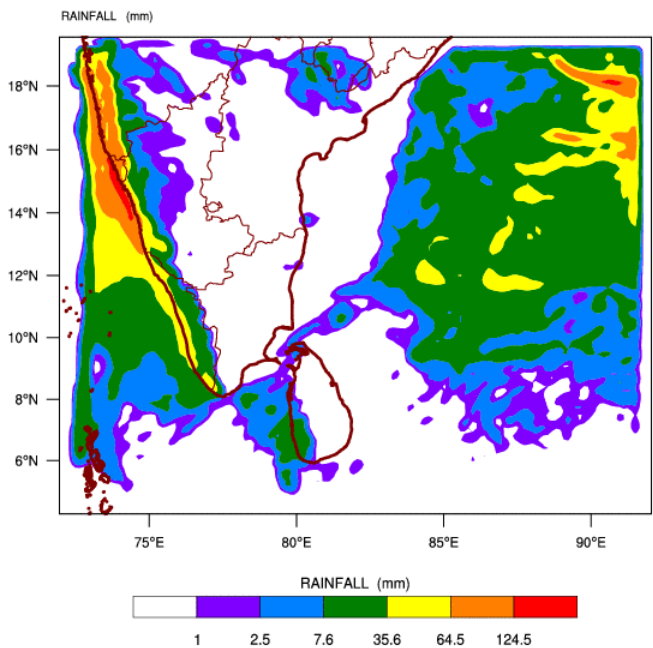
Bias correction based on last 30-day forecast error

b) *WRF model forecast* Regional Meteorological Center, Chennai, Indian Meteorological Department)

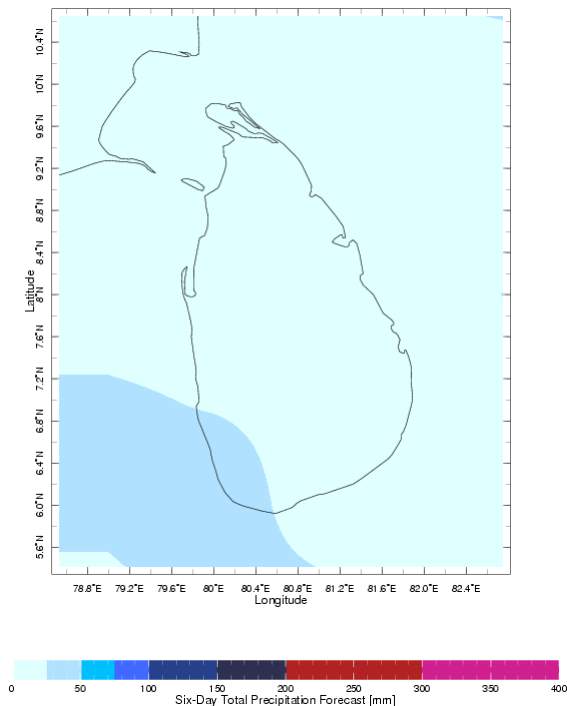
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 24-07-2013 valid for 03 UTC of 26-07-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 24-07-2013 valid for 03 UTC of 27-07-2013



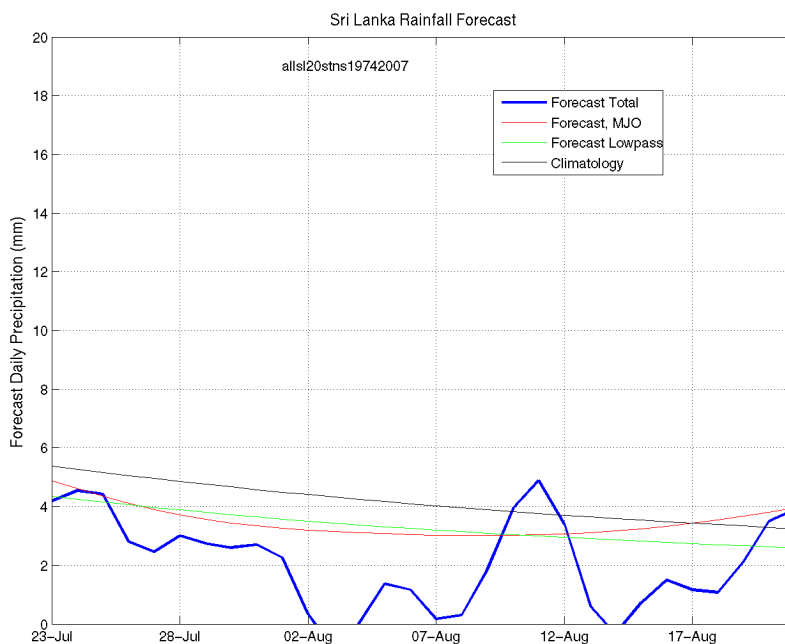
c) Weekly Precipitation Forecast for 23rd-28th July 2013 (Precipitation Forecast in Context Map Tool, IRI)



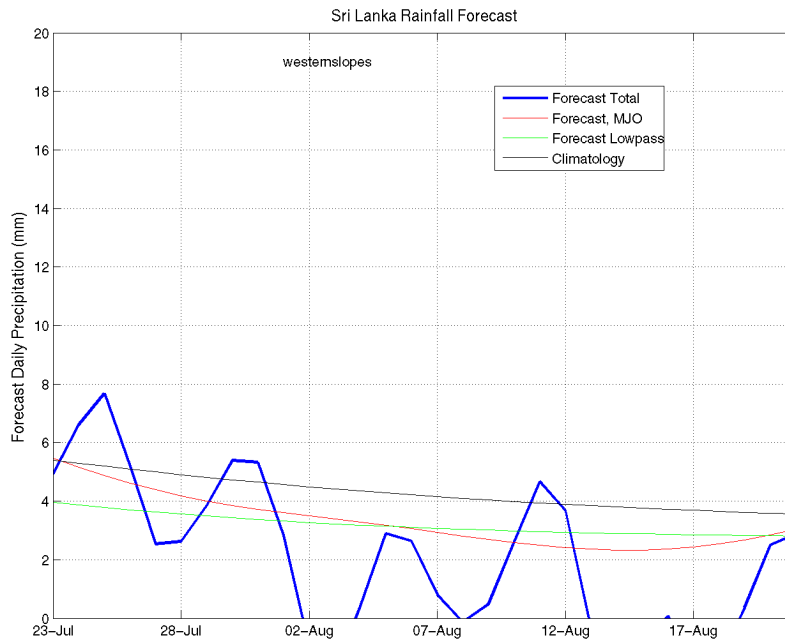
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 25th July, 2013

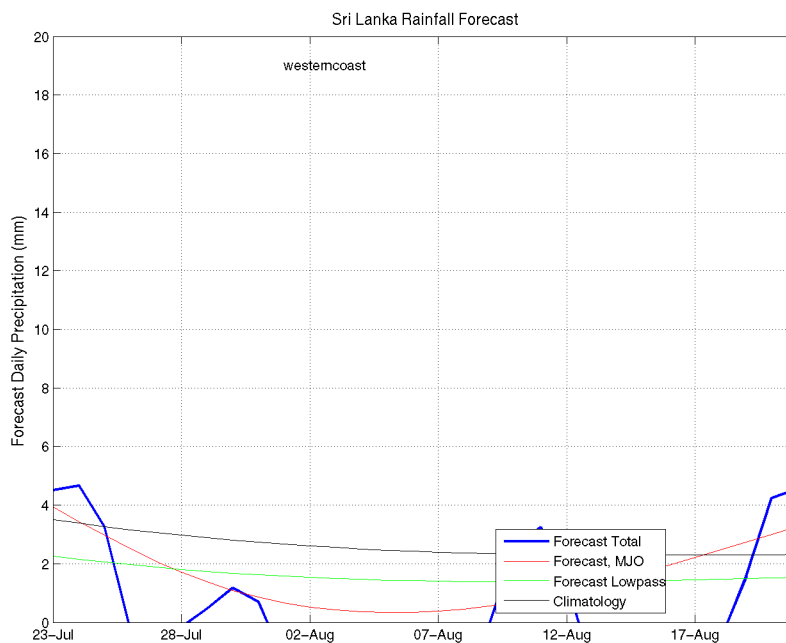
All Sri Lanka (Rainfall Scale from 0-20mm/day)



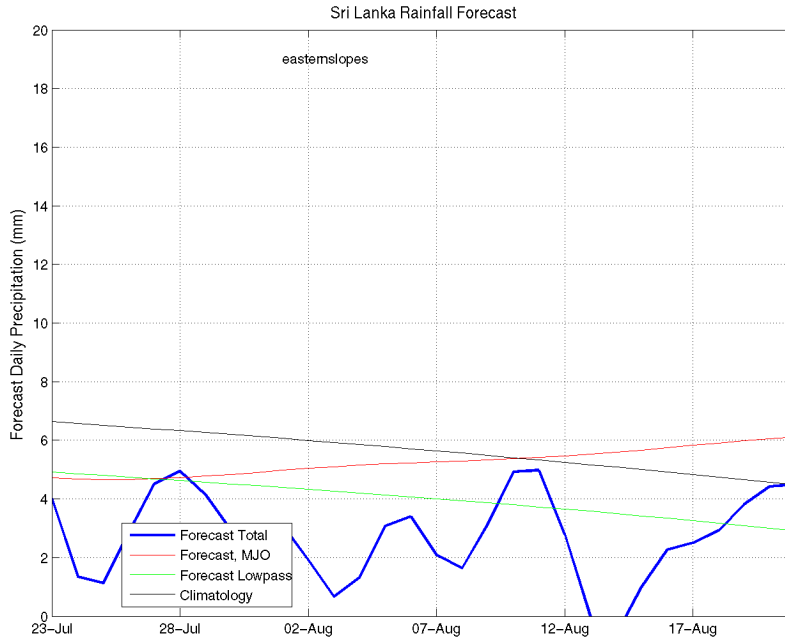
Western Slopes (Rainfall Scale from 0-20 mm/day)



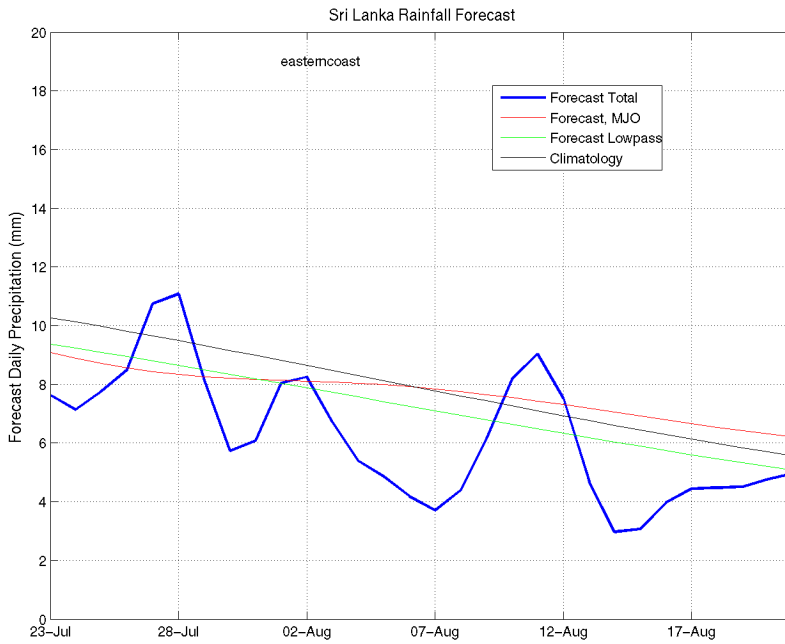
Western Coast (Rainfall Scale from 0-20 mm/day)



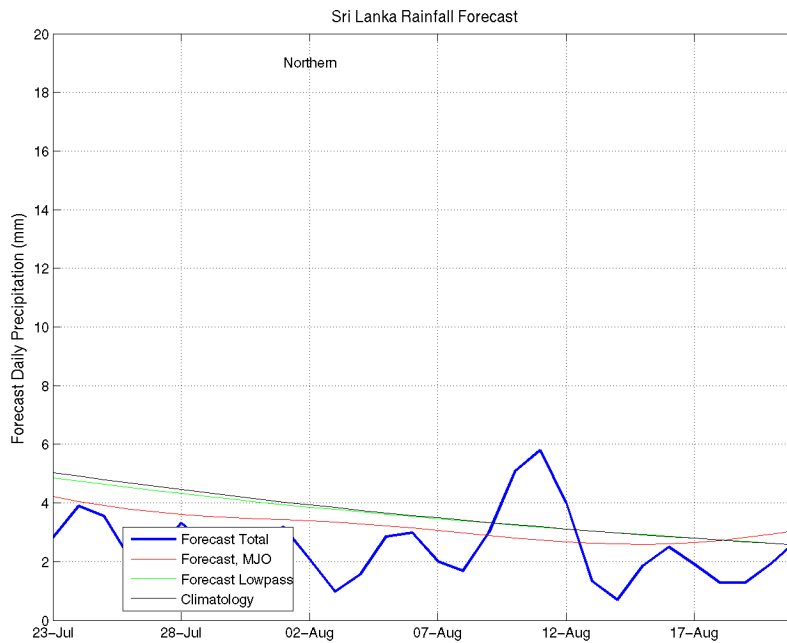
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



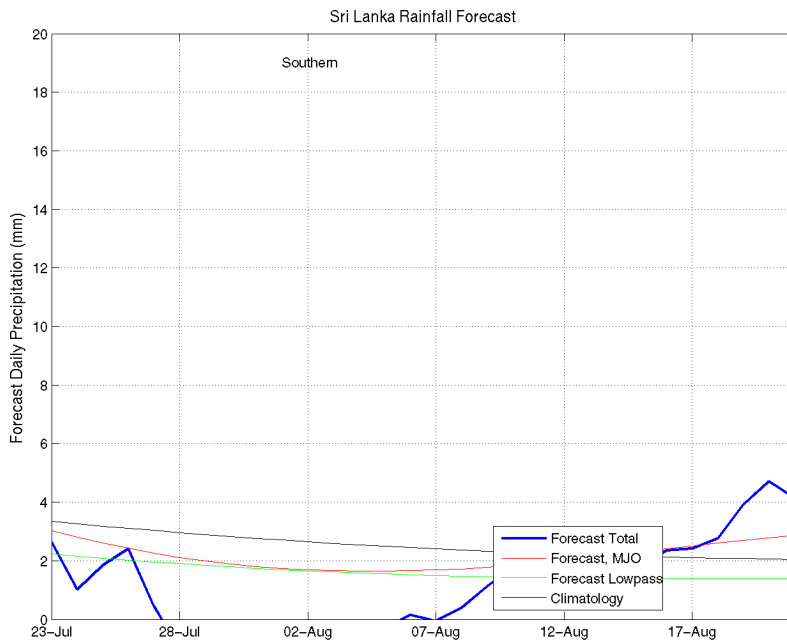
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



Northern Region (Rainfall Scale- from 0-20 mm/day)

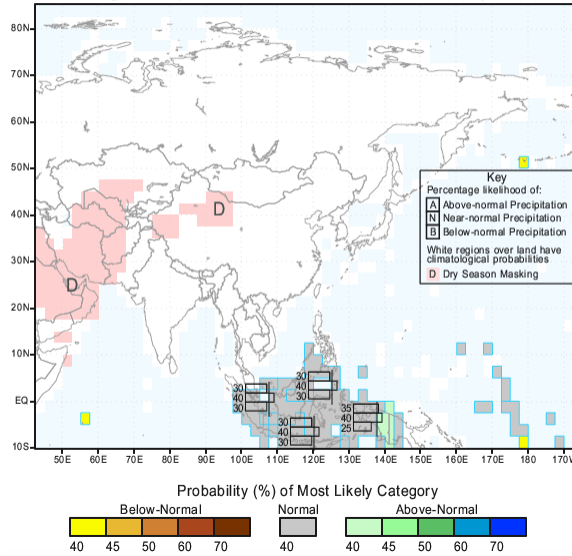


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for August-September-October 2013, Issued July 2013



IRI Multi-Model Probability Forecast for Temperature
for August-September-October 2013, Issued July 2013

