

Experimental Climate Monitoring and Prediction

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5 September 2013

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/>

August 15, 2013 PACIFIC SEAS STATE

During July through early August the observed ENSO conditions remained neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO through the remainder of 2013 & into early 2014. However, a 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 some warming towards borderline or weak El-Nino conditions for this same time frame.

(Text Courtesy IRI)

INDIAN OCEAN STATE

The sea surface temperature around Sri Lanka was neutral during 25th-31st August 2013.

MJO STATE

MJO is at phase 1 and it is likely to enter phase 2 in next few days which influences Sri Lanka rainfall.

Highlights

Monitoring and Predictions:

Puttalam to Kalutara districts are likely to receive heavy rainfall on coming two days (6th & 7th September). However, Jaffna, Batticaloa, Northern Ampara and Badulla districts shall receive high amount of predicted rainfall during 2nd-7th. Ongoing rainfall is likely to increase gradually during 29th August-1st September. Thereafter rainfall shall decrease till 7th. For the entire country, ongoing rainfall is likely to increase gradually till 10th September and shall remain more or less constant (4-6 mm/day) during 10th-13th. No significant rainfall events are predicted for the entire country, except for the western coasts and eastern slopes during 12th-14th and 9th-11th September, respectively.

Summary

Monitoring

Weekly Monitoring: Weekly monitoring of rainfall for previous week (28th August-5th September) was not available. However, during 21st-27th August 2013, rainfall ranged between 5-80 mm. Entire country received rainfall during 27th August, except for coastal districts of Northern, Northeastern, Eastern, Southeastern and South of the island, which was dry.

Monthly Monitoring: Southwestern regions of Sri Lanka received an above average rainfall during the month of July. The entire country received less than 15 mm of daily rainfall, with Colombo and Gampaha districts receiving the highest rainfall during the month (14 mm/day).

Predictions

7-day prediction: Southern 2/3rd of the island shall receive 5-55 mm of rainfall and remaining parts of the island shall receive 55-85 mm of rainfall during 4th-10th September 2013.

IMD WRF Model Forecast & IRI forecast: For 6th of September, IMD WRF model predicts less than 36 mm of rainfall for the coastal regions of Puttalam-Kalutara districts and shall spread to nearby regions (including Jaffna peninsula) in a reducing manner. For 7th of September, same model predicts less than 65 mm of rainfall for the coastal regions of Puttalam-Colombo districts and shall spread to nearby regions in a reducing manner. NOAA model predicts high rainfall (25-50 mm/week) for Jaffna, Batticaloa, Northern Ampara and Badulla districts during 2nd-7th September.

30 Days Prediction: Overall- Ongoing rainfall is likely to increase gradually till 10th September and shall remain more or less constant (4-6 mm/day) during 10th-13th September. No significant rainfall events are expected. **Western Slopes** – Rainfall is likely to increase gradually till 13th September and no significant rainfall events are expected. **Western Coast** – The rainfall pattern persisting in western slopes shall be observed in this region and significant event is likely to observe during 12th-14th September. **Eastern Slopes**– Rainfall shall increase drastically till 10th September and shall decrease in same rate thereafter. However, significant rainfall event is likely to experience during 9th-11th September. **Eastern Coast** – The rainfall pattern persisting in western slopes shall be observed in this region, with low amount of rainfall. **Northern region-** The rainfall pattern persisting in western slopes shall be observed in this region, with low amount of rainfall. **Southern Region-** Rainfall is likely to increase after 8th and shall persist till 13th. Comparatively low amount of rainfall shall observe in this region.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on August 2013; for September 2013 to November 2013, there is a 50-60% probability for temperature to be above normal in the country while the rainfall is to be climatological.

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

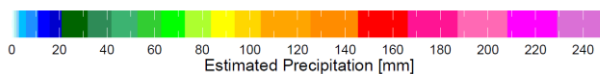
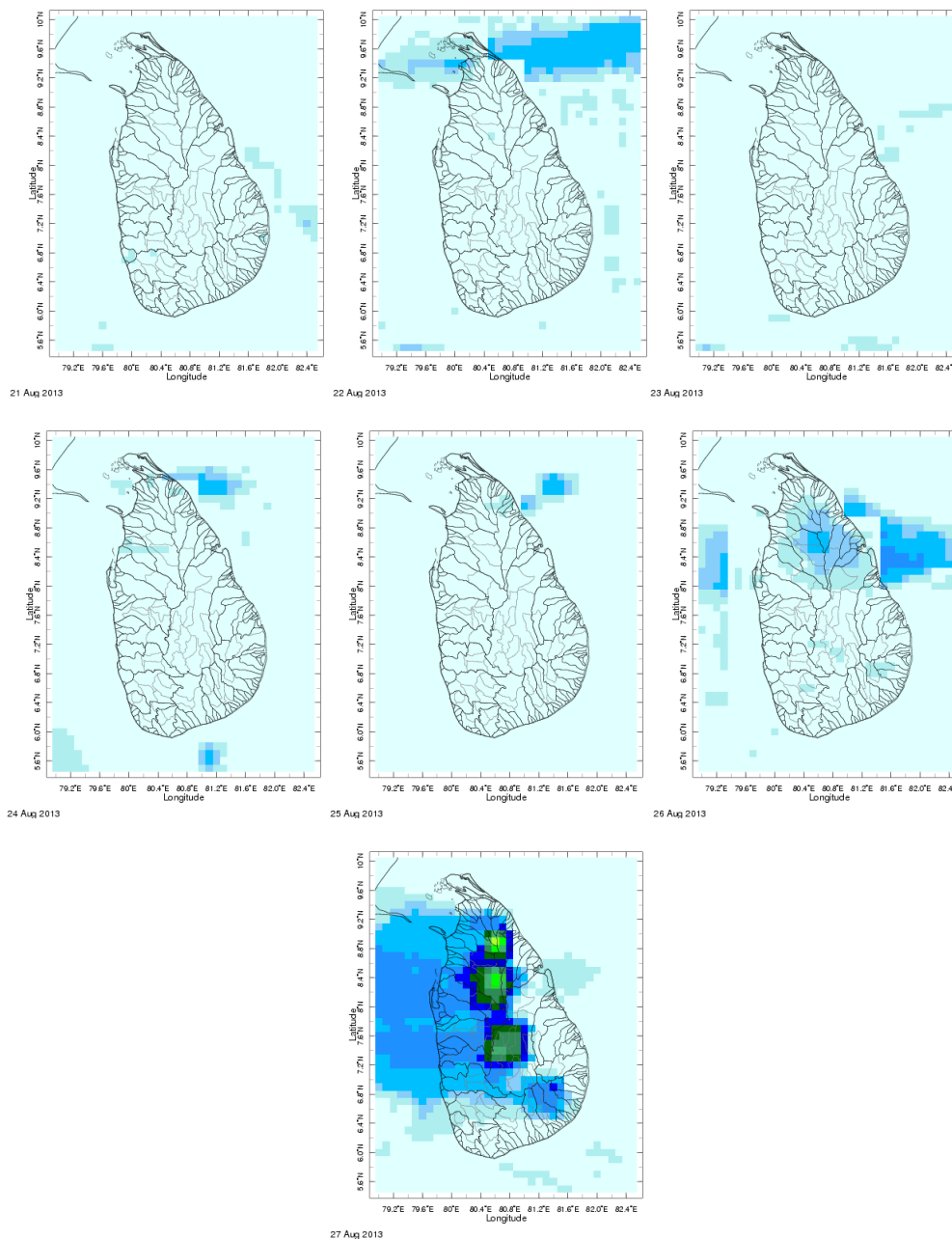
- NCEP GFS Ensemble 1-7 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

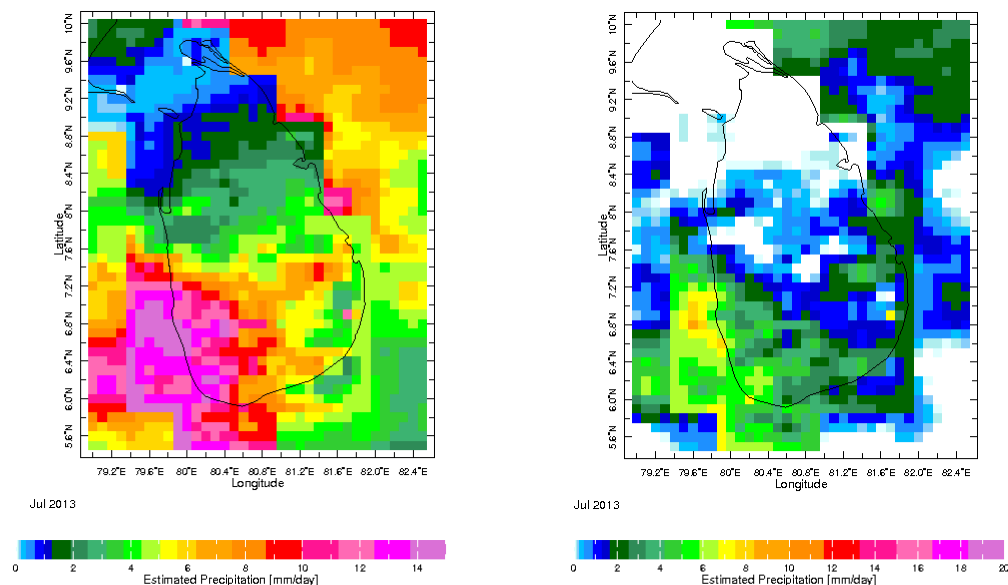
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

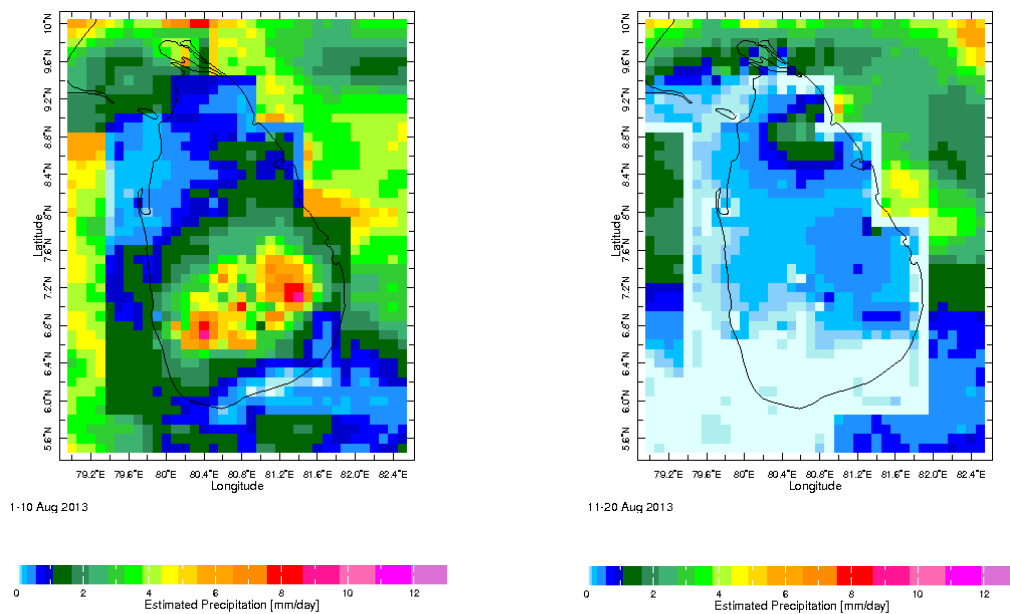
a) Daily Satellite Derived Rainfall Estimate Maps: 21st-27th August 2013 (Left-Right, Top-Bottom)



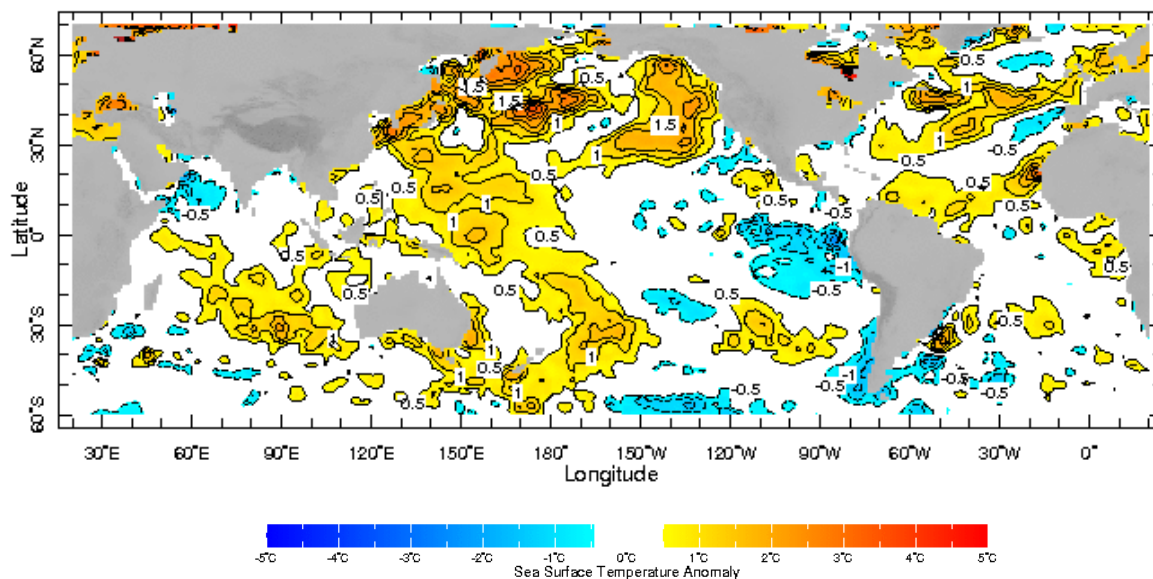
b) Monthly Satellite Derived Rainfall Estimates for July 2013 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (01-10 August & 11-20 August, 2013)



b) Weekly Average SST Anomalies

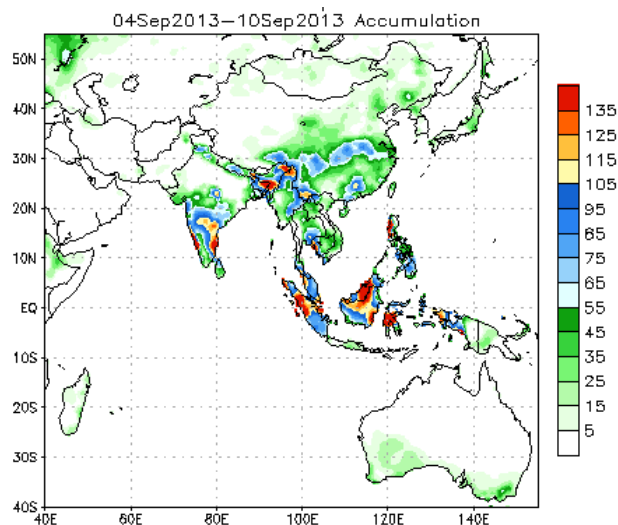


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 25th-31st August, 2013

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

2. Predictions

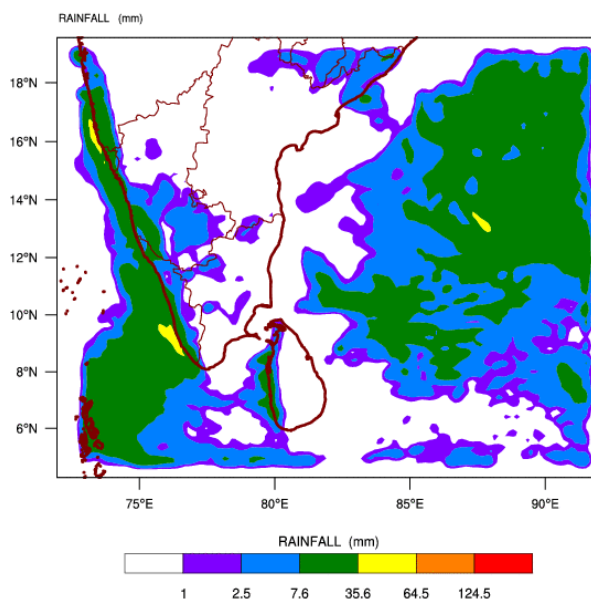
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



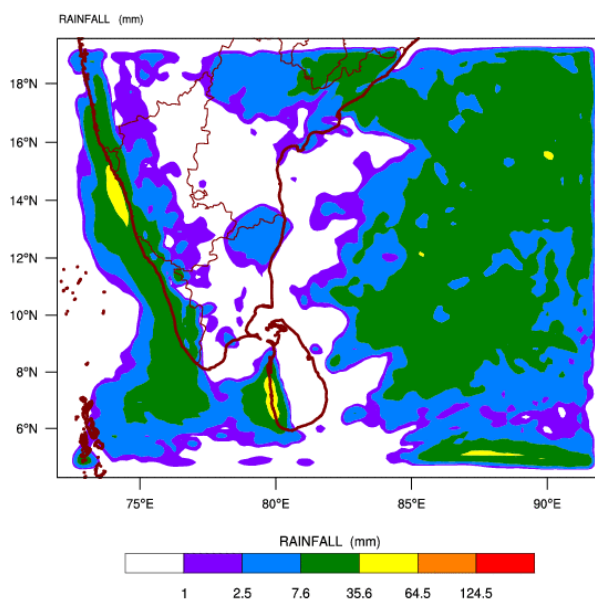
Source – NOAA Climate Prediction Center

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

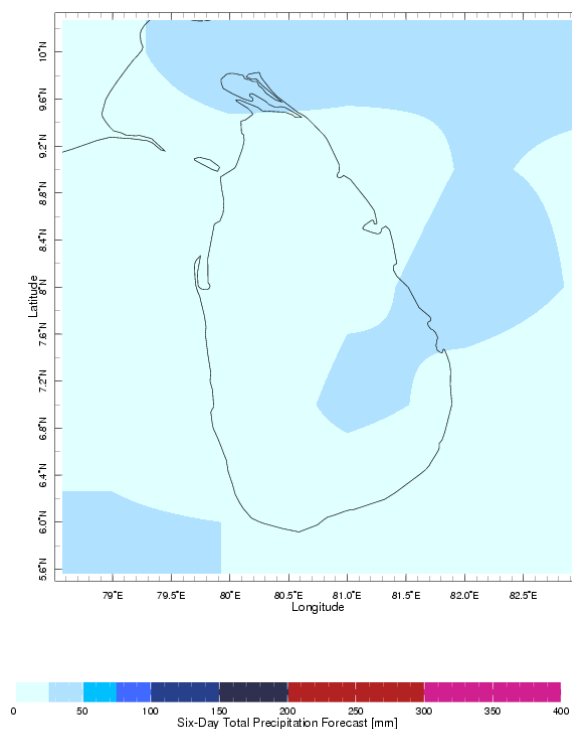
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 04-09-2013 valid for 03 UTC of 06-09-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 04-09-2013 valid for 03 UTC of 07-09-2013



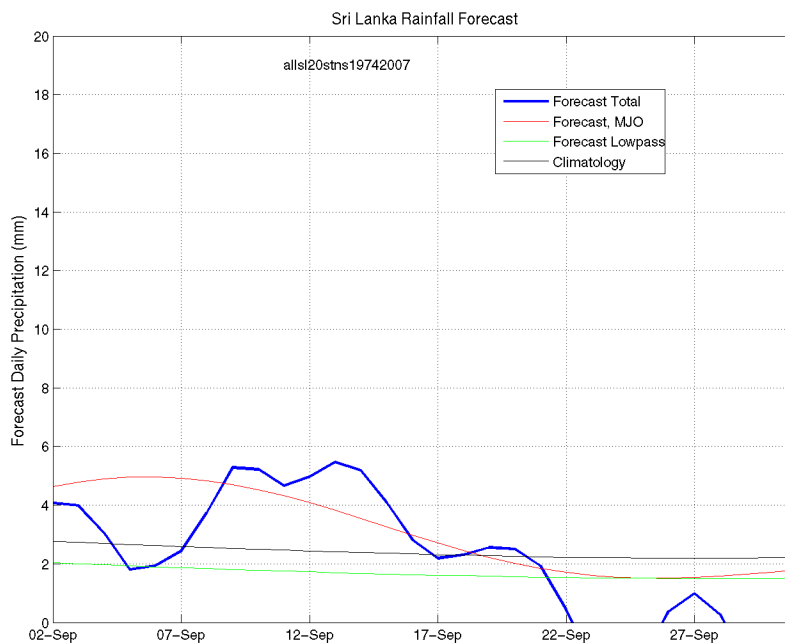
c) Weekly Precipitation Forecast for 2nd-7th September 2013 (Precipitation Forecast in Context Map Tool, IRI)



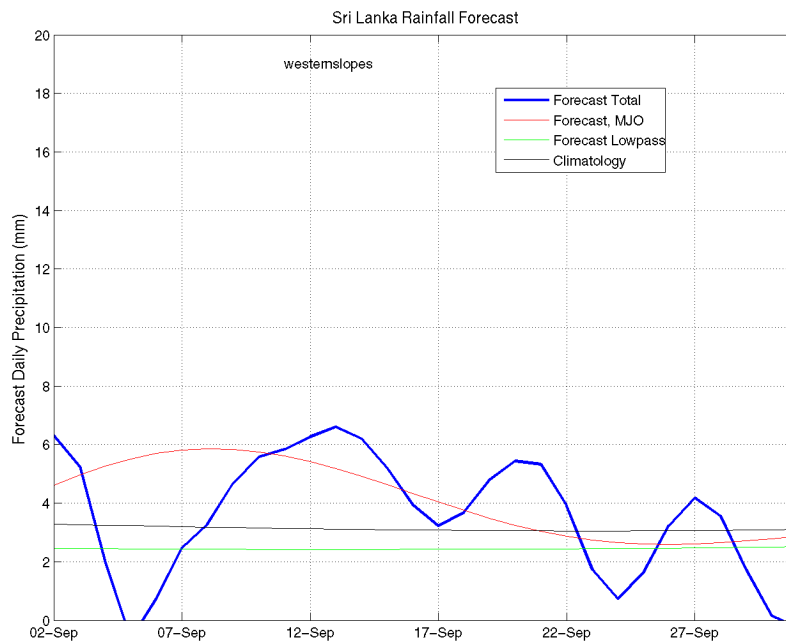
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 4th September, 2013

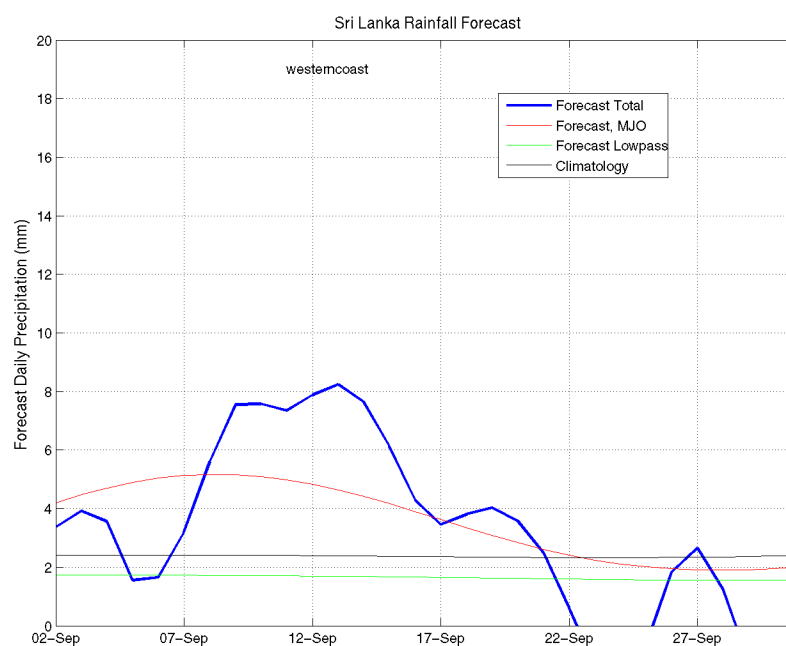
All Sri Lanka (Rainfall Scale from 0-20mm/day)



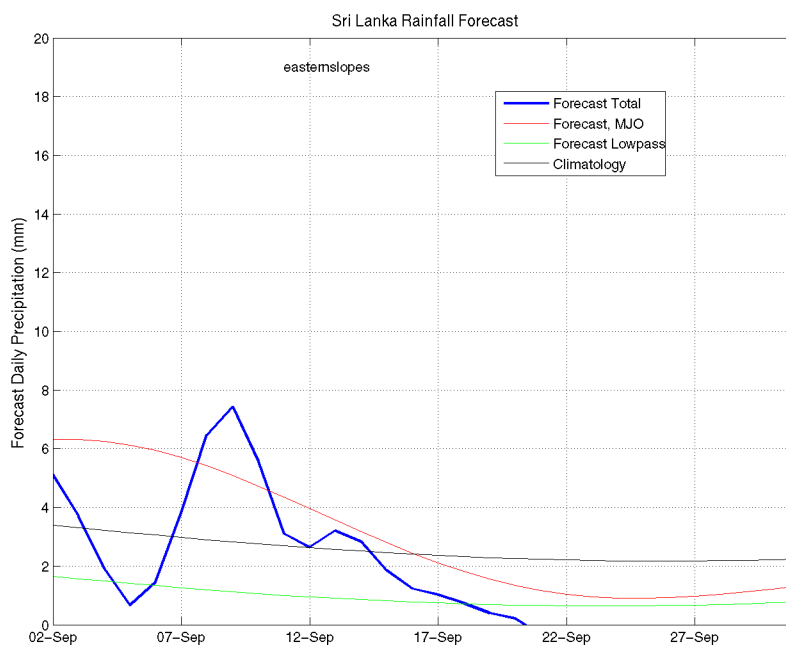
Western Slopes (Rainfall Scale from 0-20 mm/day)



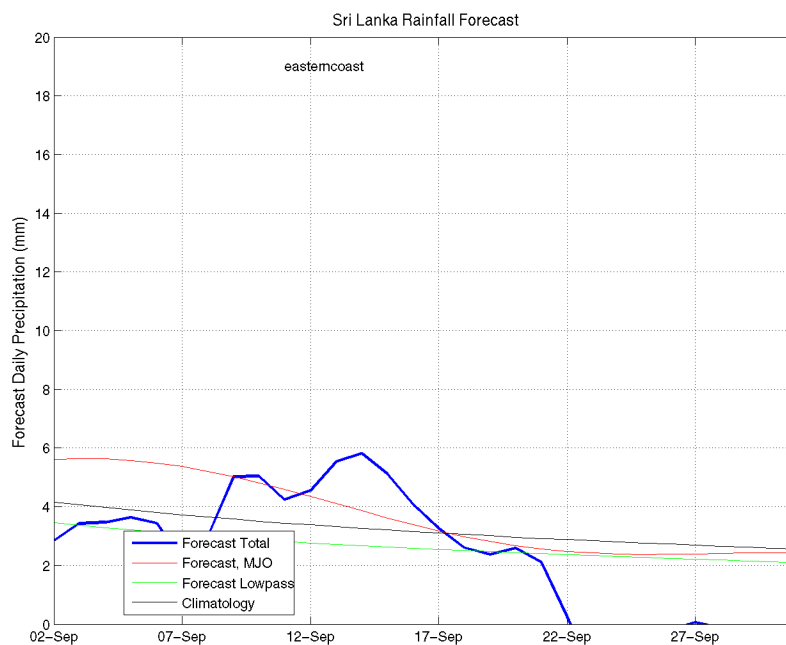
Western Coast (Rainfall Scale from 0-20 mm/day)



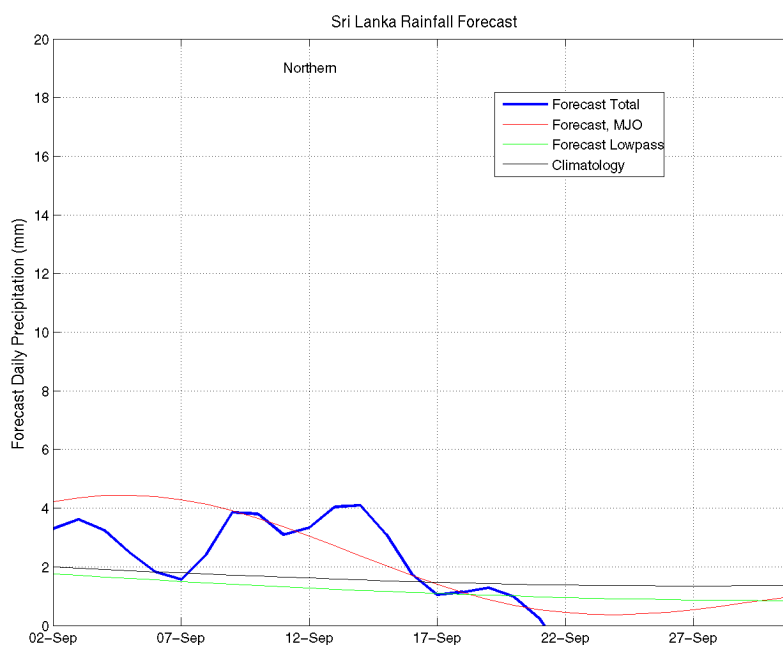
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



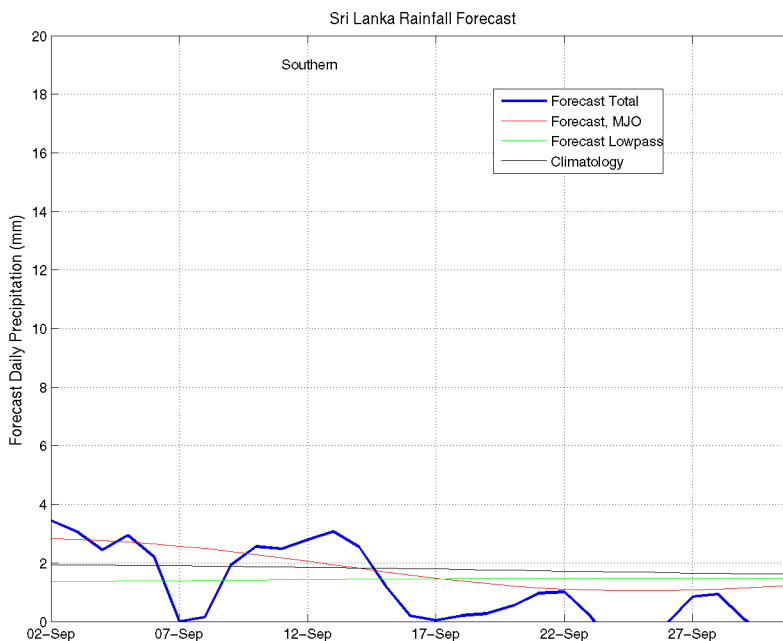
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

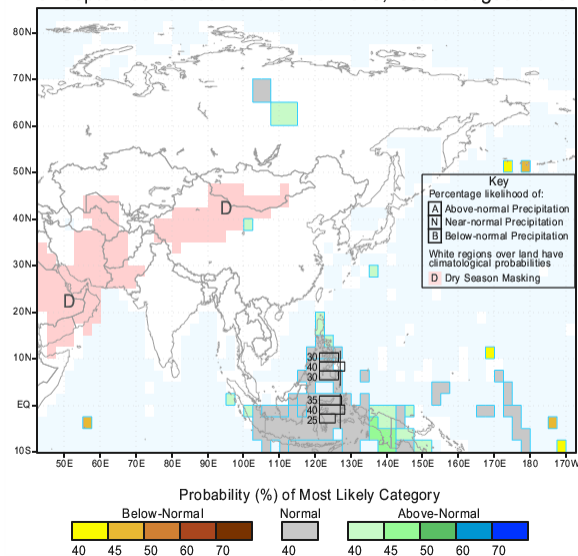


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

