

## Experimental Climate Monitoring and Prediction

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8 May 2013

### 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/>

### April 18, 2013 PACIFIC SEAS STATE

During March through mid-April the observed ENSO conditions remained in the neutral ENSO conditions. Most of the ENSO prediction models indicate a continues of neutral ENSO into northern autumn, but a few statistical models call for cooling towards weak La-Nina conditions & even smaller set of dynamical models predict warming toward borderline El-Nino conditions.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

The Indian Ocean around Sri Lanka particular to the Bay of Bengal continues to have a warm anomaly up to 0.5°C.

### Highlights

#### Monitoring and Predictions:

*Existing rainfall shall continue till 9<sup>th</sup> and South-western regions of Sri Lanka shall receive more rainfall in the coming week (7<sup>th</sup>-13<sup>th</sup> May, 2013) Entire country shall receive peak rainfall around 9<sup>th</sup> May, compared to rainfall observed on previous week.*

### Summary

#### Monitoring

**Weekly Monitoring:** Rainfall ranged between 5-145 mm during 29<sup>th</sup> April-5<sup>th</sup> May 2013. Maximum rainfall was observed on the 5<sup>th</sup> May in Gampaha district. During this period, more or less the entire country experienced rainfall and heavy rainfall concentrated to South-western regions of the Island.

#### Predictions

**7-day prediction:** Entire country shall expect more than 55 mm of rainfall and South-western regions shall receive significantly heavy rainfall (more than 135 mm) during 7<sup>th</sup>-13<sup>th</sup> May 2013.

**IMD WRF Model Forecast & IRI forecast:** For 9<sup>th</sup> of May 2013, IMD WRF model predicts less than 8 mm of rainfall for Trincomalee district shall spreads in reducing manner toward nearby districts. For the same day rest of the island shall receive less than 1 mm of rainfall. Then for the 10<sup>th</sup> of May, IMD WRF model predicts less than 1 mm of rainfall for the island. However, for 9<sup>th</sup> & 10<sup>th</sup> IMD WRF model is unable to predict rainfall for the Southern half of the island. NOAA model predicts no significant heavy rainfall for the entire country during 7<sup>th</sup>-13<sup>th</sup> May.

**30 Days Prediction: Overall-** Existing rainfall condition (9-12 mm/day) shall continue till 11<sup>th</sup> of May. There shall be significant rainfall event around 9<sup>th</sup> of May. Thereafter rainfall shall gradually decrease. **Western Slopes** – The rainfall pattern existing in the entire country shall be present in this region. Peak in rainfall is expected around 9<sup>th</sup> May (more than 20 mm/day) and thereafter rainfall shall decrease, but amount of rainfall shall be high compared to other regions. **Western Coast** – The rainfall pattern existing in the entire country shall be present in this region. **Eastern slopes** – The rainfall pattern existing in the entire country shall be present in this region. But the amount of rainfall is low compared to other regions and rainfall shall increase after 12<sup>th</sup> May. **Eastern Coast** – Existing rainfall shall continue and there shall be significant rainfall event around 16<sup>th</sup>. **Northern region-** The rainfall pattern existing in the entire country shall be present in this region. **Southern Region-** The rainfall pattern existing in the entire country shall be present in this region, with low amount of rainfall.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast issued on April 2013; for May 2013 to July 2013, there is a 45-50% 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
- Weekly Average SST Anomalies

#### 2. Predictions

- NCEP GFS Ensemble 1-7 day predictions
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

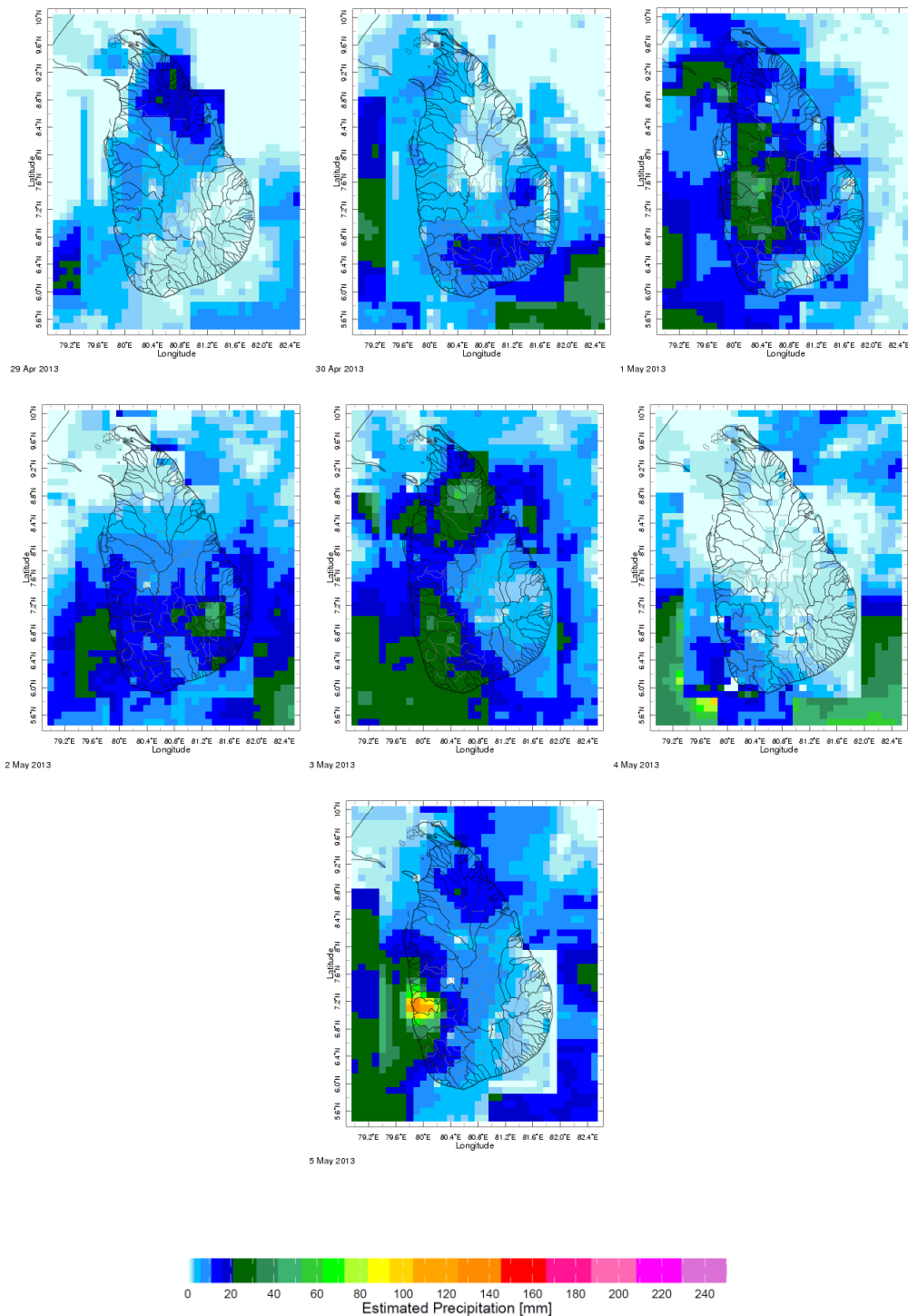
<sup>1</sup> International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

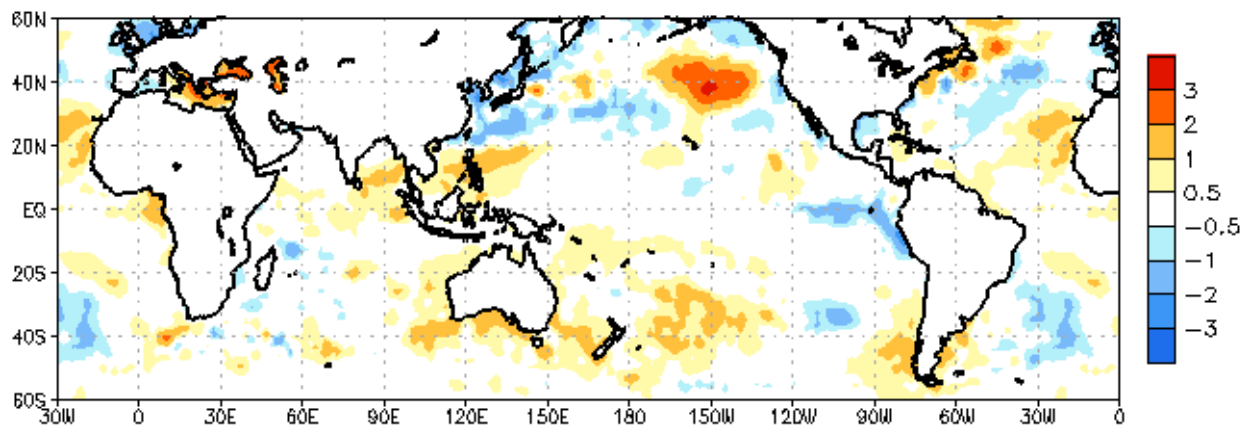
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

## 1. Monitoring

### a) Daily Satellite Derived Rainfall Estimate Maps: 29<sup>th</sup> April– 5<sup>th</sup> May 2013 (Left-Right, Top-Bottom)



**b) Weekly Average SST Anomalies**

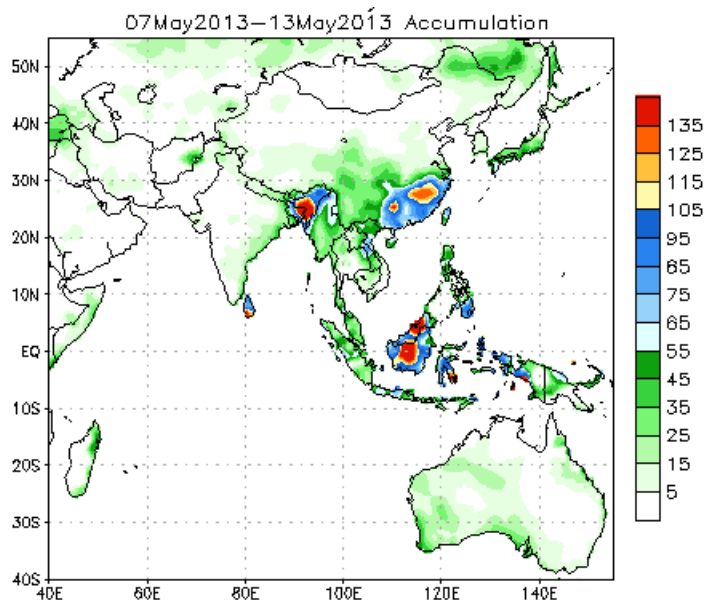


Weekly Average SST Anomalies ( $^{\circ}\text{C}$ ), 1<sup>st</sup> May, 2013

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

## 2. Predictions

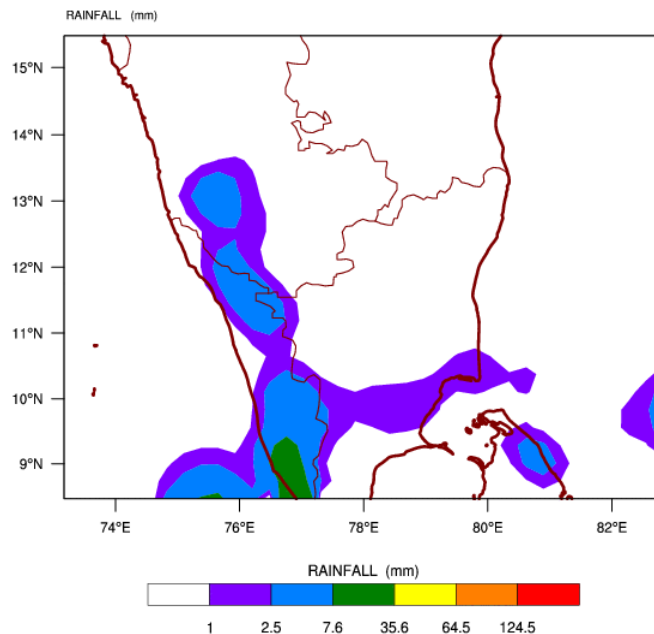
**a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.**



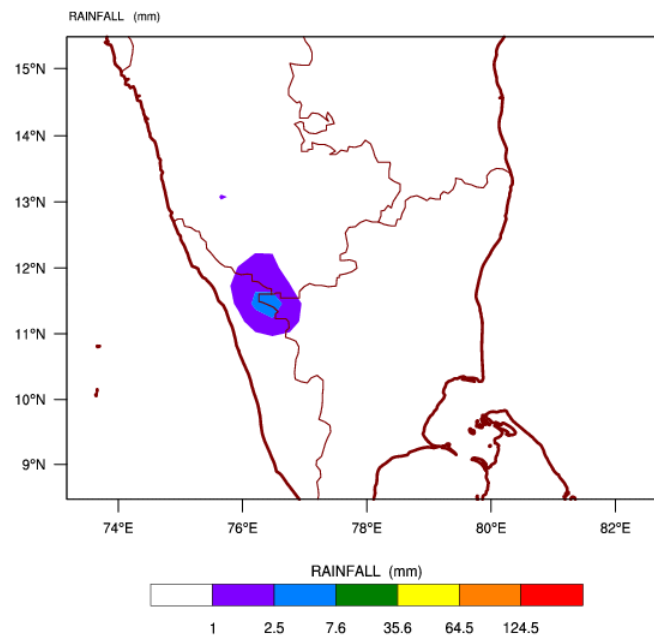
Source – NOAA Climate Prediction Center

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

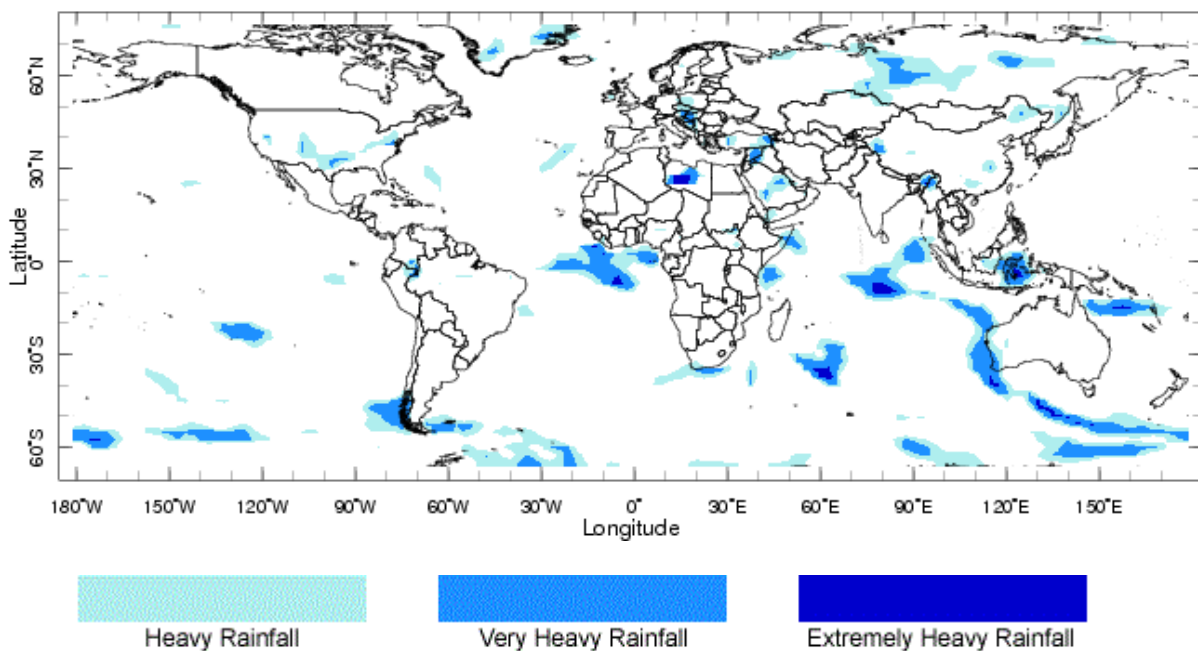
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)  
based on 00 UTC of 07-05-2013 valid for 03 UTC of 09-05-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)  
based on 00 UTC of 07-05-2013 valid for 03 UTC of 10-05-2013



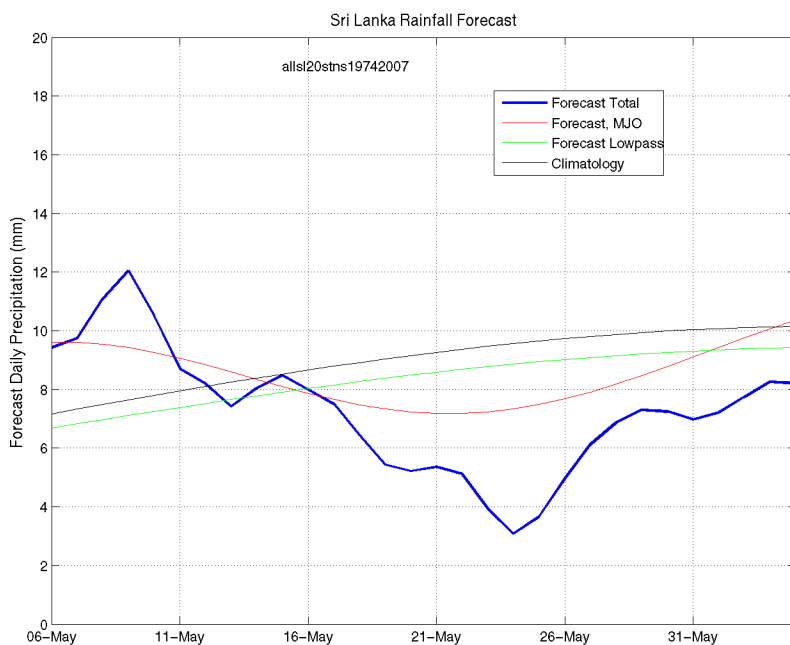
**c) Weekly Precipitation Forecast for 7<sup>th</sup>-12<sup>th</sup> May 2013 (Precipitation Forecast in Context Map Tool, IRI)**



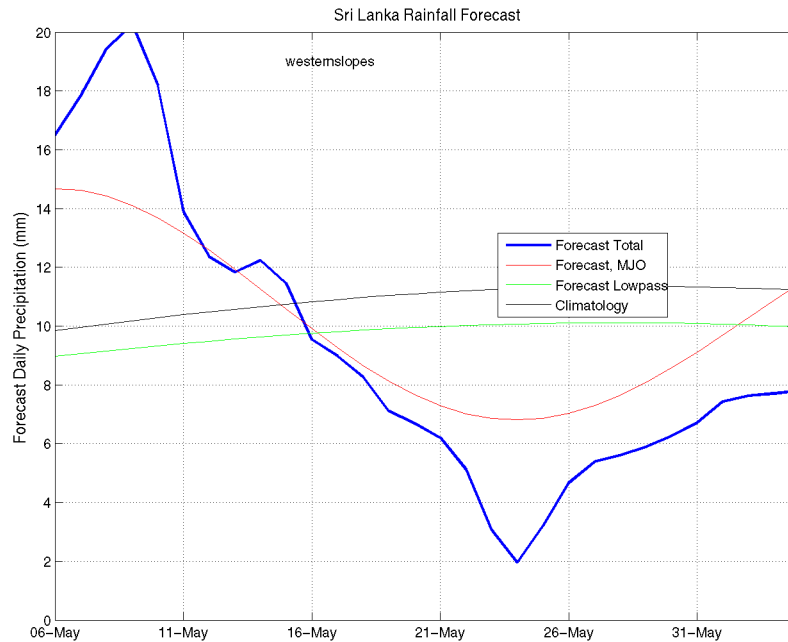
**d) 1 month experimental predictions by Paul Roundy and L. Zubair**

Predictions based on observed cloud cover and atmospheric waves. Issued 8<sup>th</sup> May, 2013

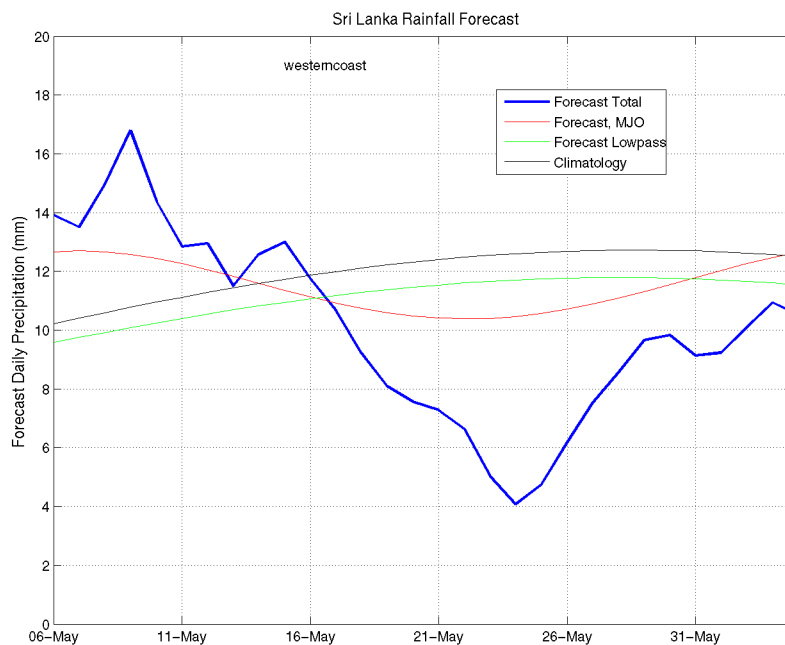
**All Sri Lanka (Rainfall Scale from 0-20 mm/day)**



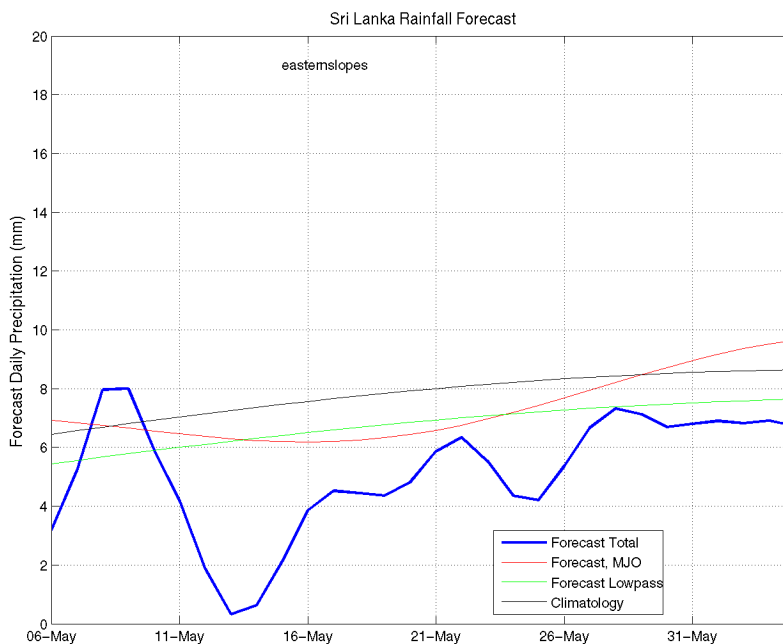
## Western Slopes (Rainfall Scale from 0-20 mm/day)



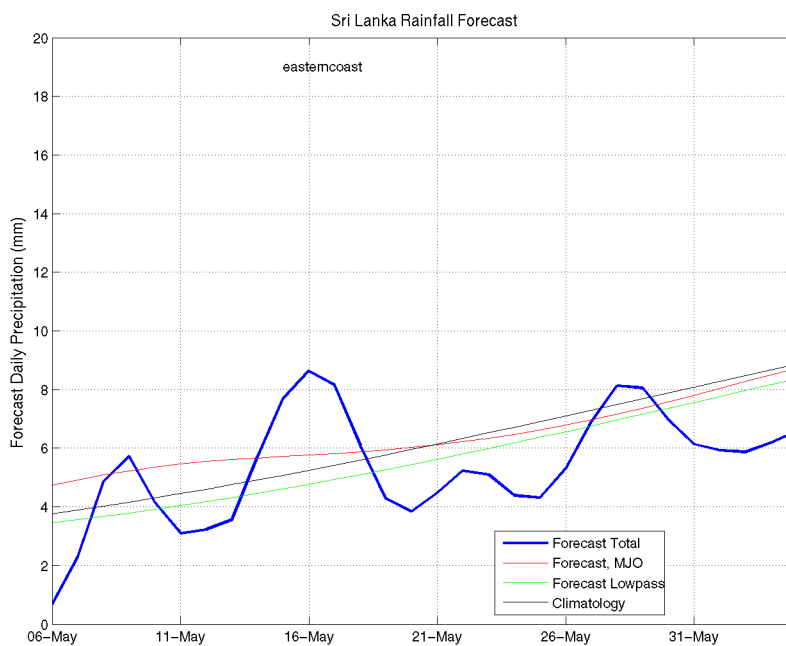
## Western Coast (Rainfall Scale from 0-20 mm/day)



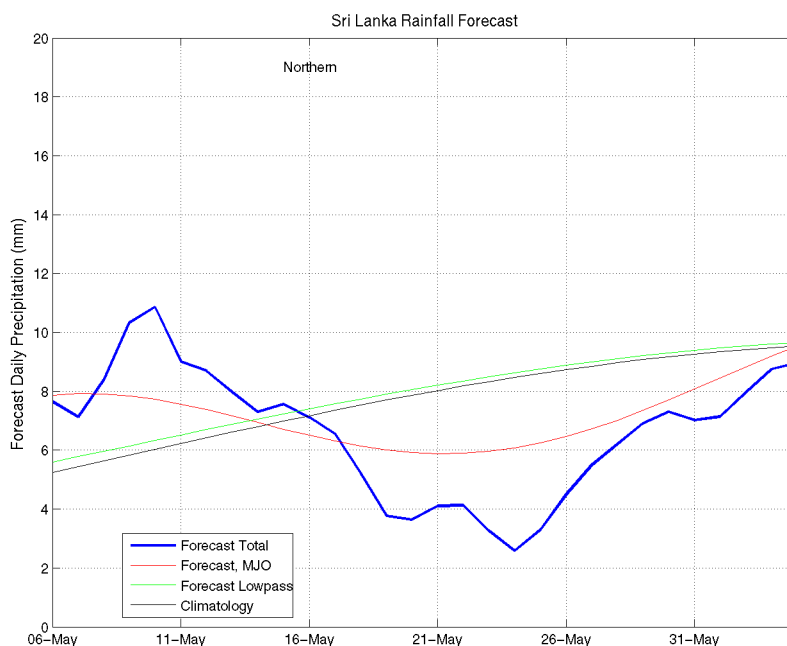
## Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



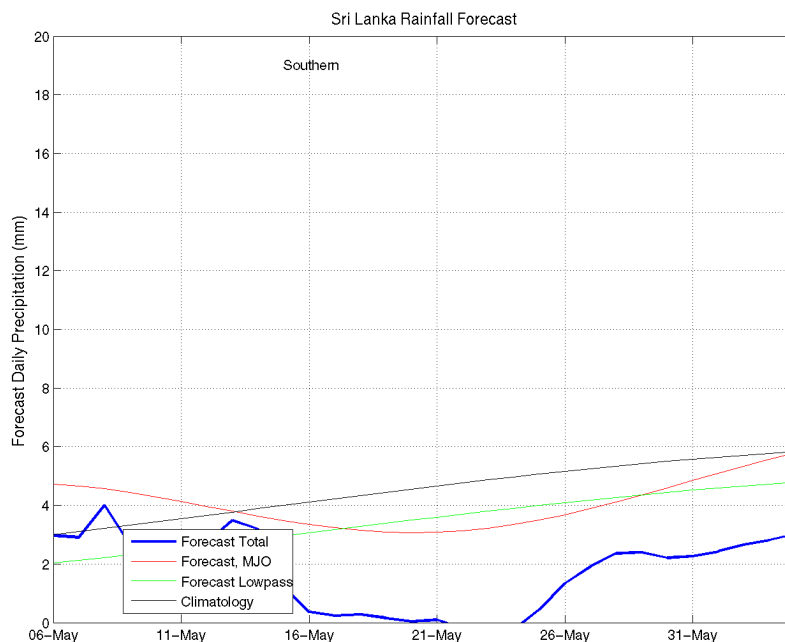
## Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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



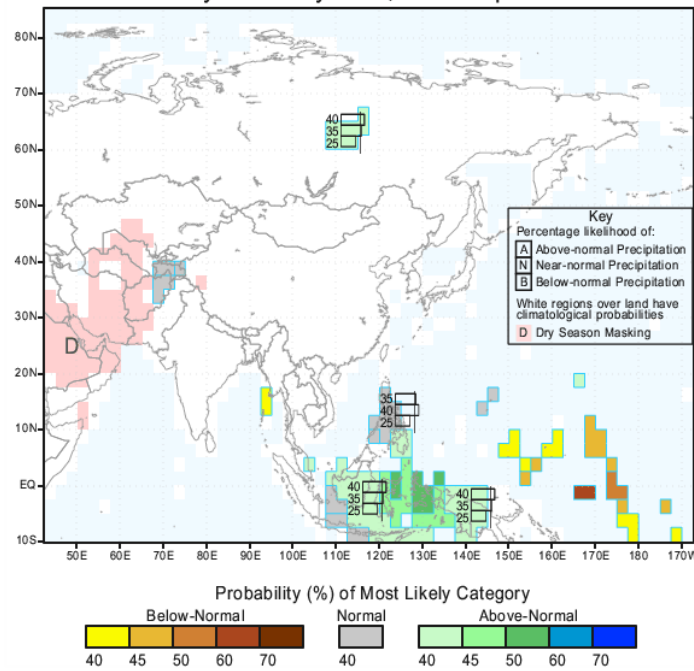
**Southern Region (Rainfall Scale- from 0-20 mm/day)**





## e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation  
for May-June-July 2013, Issued April 2013



IRI Multi-Model Probability Forecast for Temperature  
for May-June-July 2013, Issued April 2013

