

## Experimental Climate Monitoring and Prediction

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### 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 4, 2013 PACIFIC SEAS STATE

During February through March the observed ENSO conditions remained in the neutral ENSO conditions. Most of the ENSO prediction models call for neutral ENSO conditions through northern summer 2013, but some statistical models call for weak La-Nina while some dynamical models call for warming & possible weak El-Nino.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

The Indian Ocean around Sri Lanka particular to the South continues to have a warm anomaly up to 1°C. Warm SST conditions are spreading towards seas north of Sri Lanka.

### Highlights

#### Monitoring and Predictions:

Western half of the island shall receive rainfall and more rainfall shall be concentrated to Kalutara district during 9<sup>th</sup>-15<sup>th</sup> April. For the coming two days (11<sup>th</sup> & 12<sup>th</sup> April) Uva, Sabaragamuwa and Central provinces shall expect heavy rainfall compared to other regions of the island.

### Summary

#### Monitoring

**Weekly Monitoring:** Rainfall ranged between 5-32 mm during 2<sup>nd</sup>-7<sup>th</sup> March 2013. Maximum rainfall was observed on the 6<sup>th</sup> & 7<sup>th</sup> March in a part of Ratnapura district. On the 4<sup>th</sup> more or less entire country received rainfall between 5-20 mm.

#### Predictions

**7-day prediction:** Western half of the island shall 5-55 mm of rainfall and 45-55 mm of rainfall shall be concentrated to Kalutara district during 9<sup>th</sup>-15<sup>th</sup> April.

**IMD WRF Model Forecast & IRI forecast:** For 11<sup>th</sup> of April 2013, IMD WRF model predicts 8-36 mm of rainfall for Moneragala, Badulla, Ratnapura, Nuwara Eliya, Kegalle, Kandy, Matale, Anuradhapura, Batticaloa & Vavuniya districts and, spreads towards nearby regions in a reducing manner. In the same day, for the rest of the island less than 1 mm of rainfall is predicted. For the 12<sup>th</sup> of April, IMD WRF model predicts 8-36 mm of rainfall for the Badulla, Kandy and Nuwara Eliya and, shall spread towards nearby regions in a reducing manner. In the same day Northern and Western halves of the island shall receive less than 1 mm of rainfall. NOAA model predicts less than 20 mm of rainfall for entire country from 7<sup>th</sup>-14<sup>th</sup> April.

**30 Days Prediction: Overall-** During 10<sup>th</sup>-13<sup>th</sup> rainfall is not predicted. Thereafter rainfall shall increase gradually till 19<sup>th</sup>. **Western Slopes** – Existing rainfall shall increase drastically till 12<sup>th</sup> and thereafter it shall gradually decrease, but the rainfall shall remain in between 3-5 mm during 11<sup>th</sup>-19<sup>th</sup>. **Western Coast** – The rainfall pattern existing in the island shall be present in this region. **Eastern slopes** - The rainfall pattern existing in the island shall be present in this region. **Eastern Coast** – Rainfall is not predicted till 25<sup>th</sup>. **Northern region-** Rainfall is not predicted till 17<sup>th</sup>. **Southern Region-** Rainfall is not predicted till 25<sup>th</sup>. But there shall be less than 1 mm of daily rainfall during 12<sup>th</sup>-15<sup>th</sup>.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast issued on March 2013; for April 2013 to June 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

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- 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

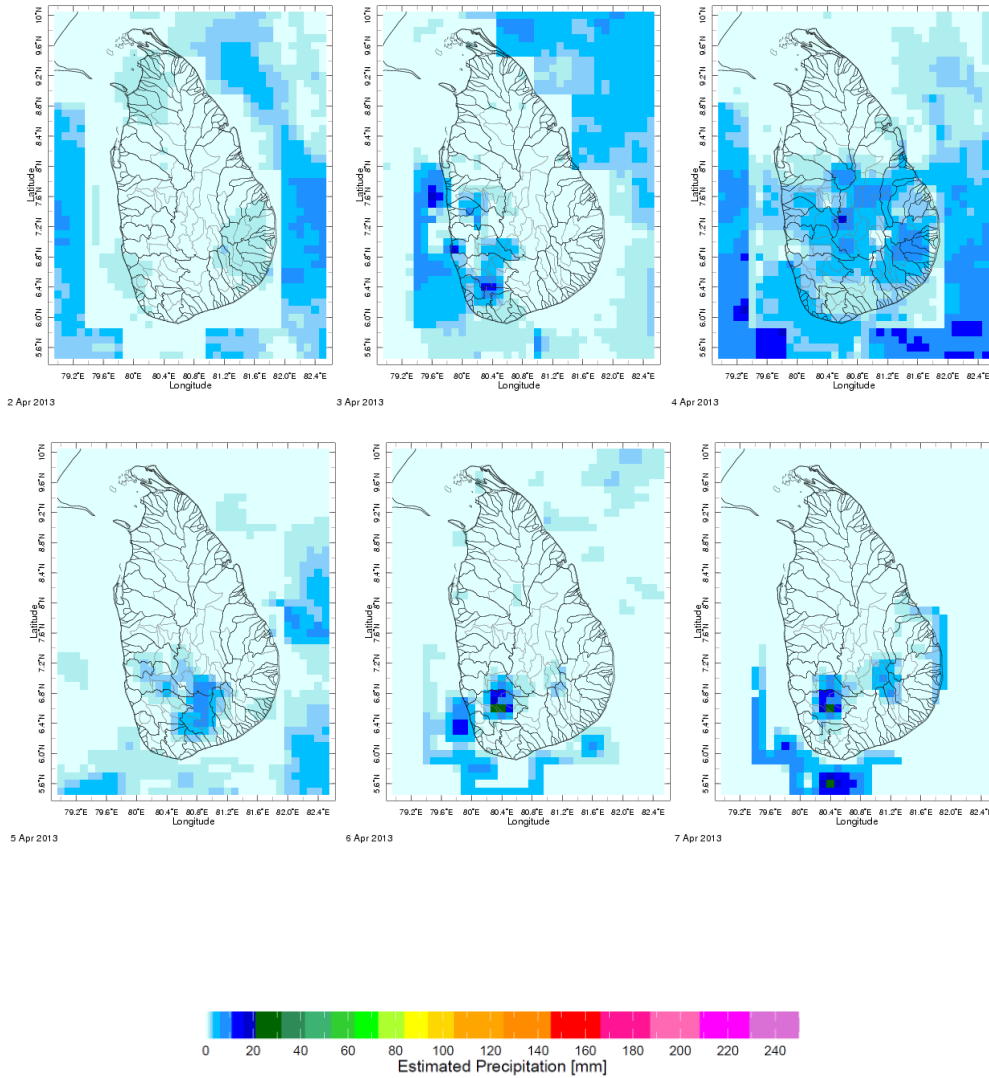
<sup>1</sup> International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

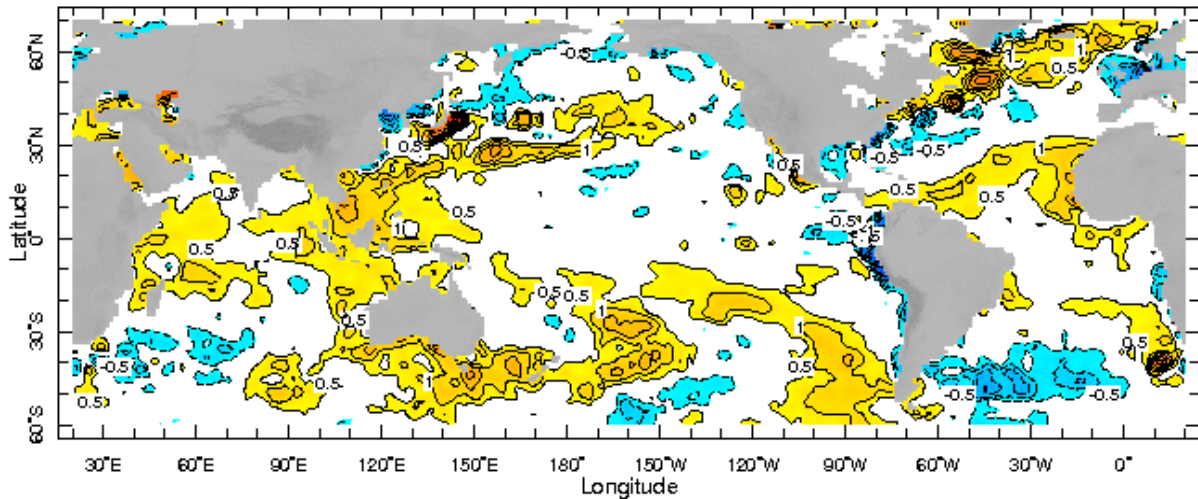
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

## 1. Monitoring

### a) Daily Satellite Derived Rainfall Estimate Maps: 2<sup>nd</sup> – 7<sup>th</sup> April 2013 (Left-Right, Top-Bottom)



**b) Weekly Average SST Anomalies**

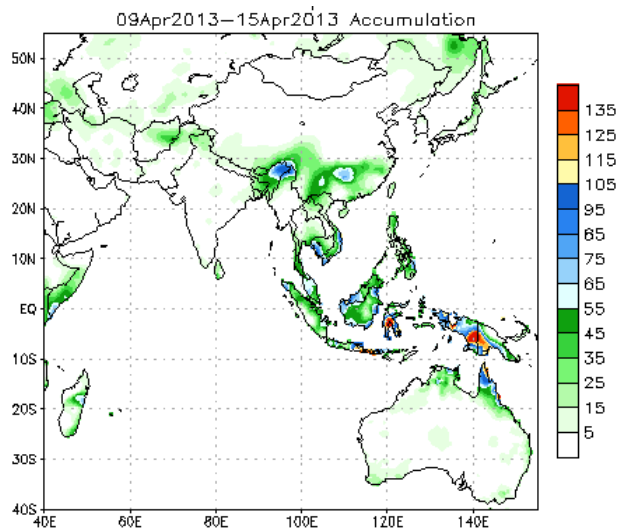


Weekly Average SST Anomalies ( $^{\circ}$ C), 31<sup>st</sup> March -6<sup>th</sup> April, 2013

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

**2. Predictions**

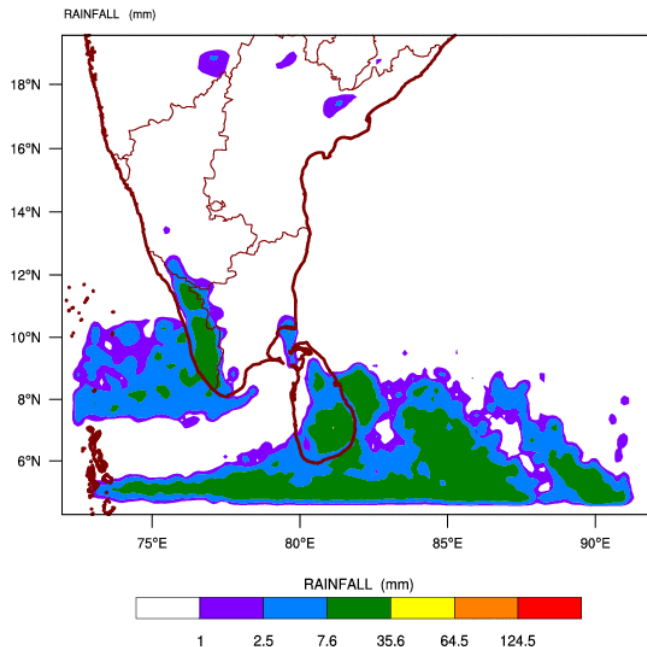
**a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.**



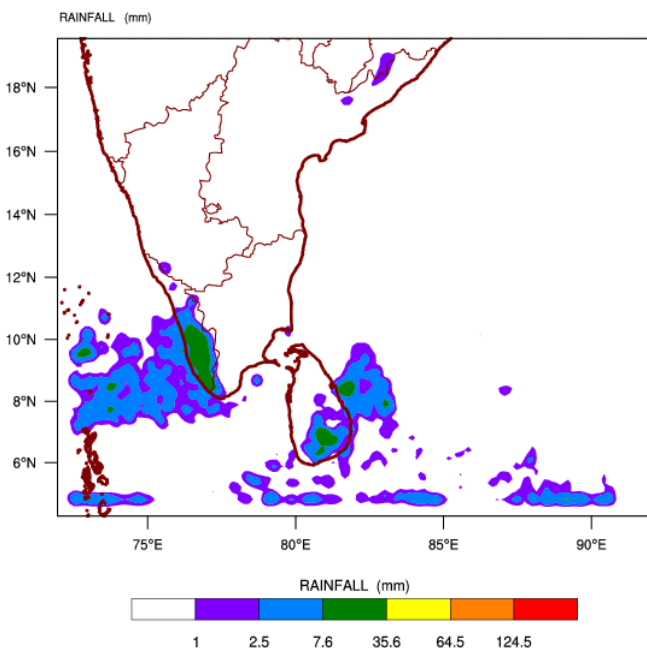
Source – NOAA Climate Prediction Center

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

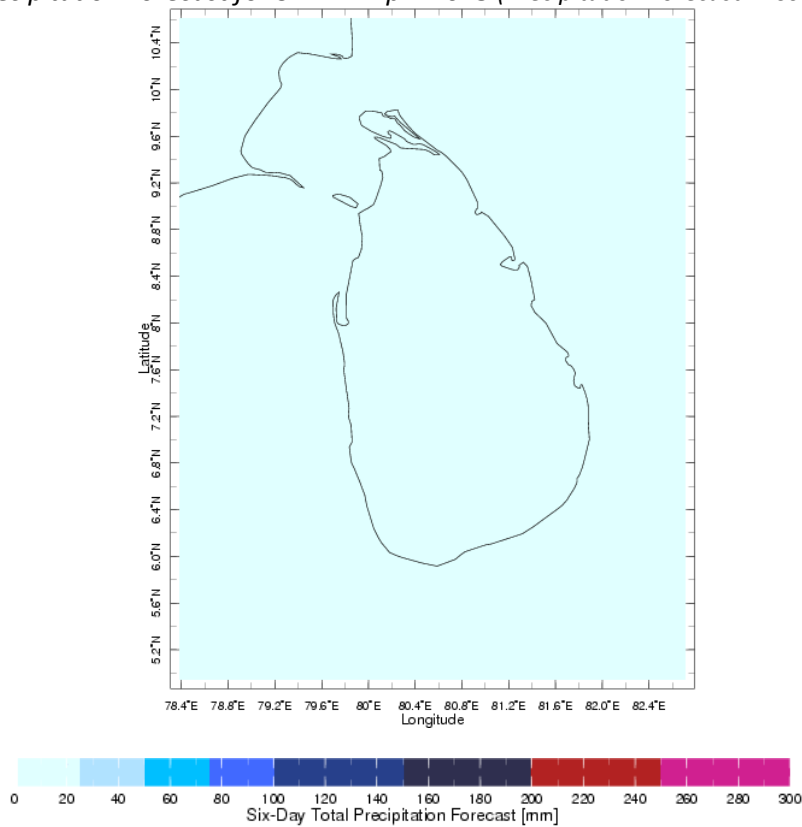
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)  
based on 00 UTC of 09-04-2013 valid for 03 UTC of 11-04-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)  
based on 00 UTC of 09-04-2013 valid for 03 UTC of 12-04-2013



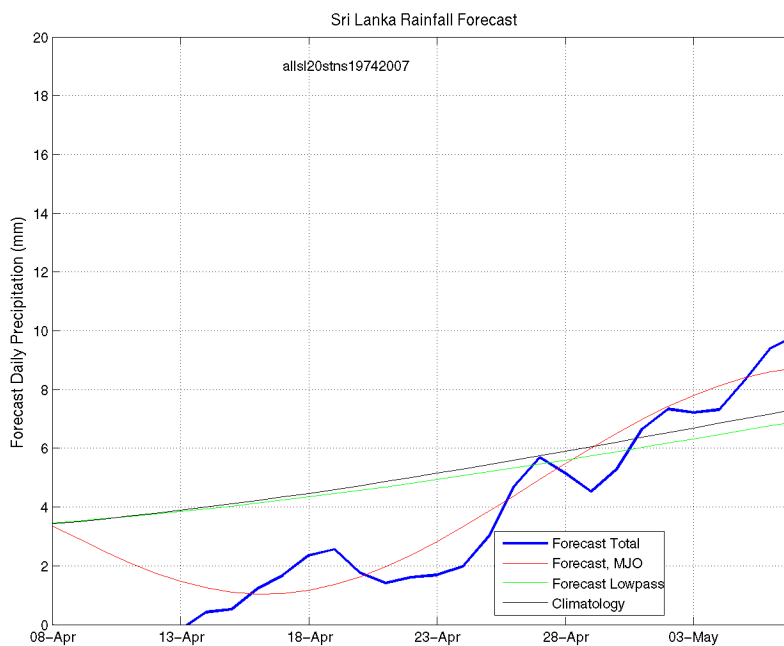
**c) Weekly Precipitation Forecast for 9<sup>th</sup>-14<sup>th</sup> April 2013 (Precipitation Forecast in Context Map Tool, IRI)**



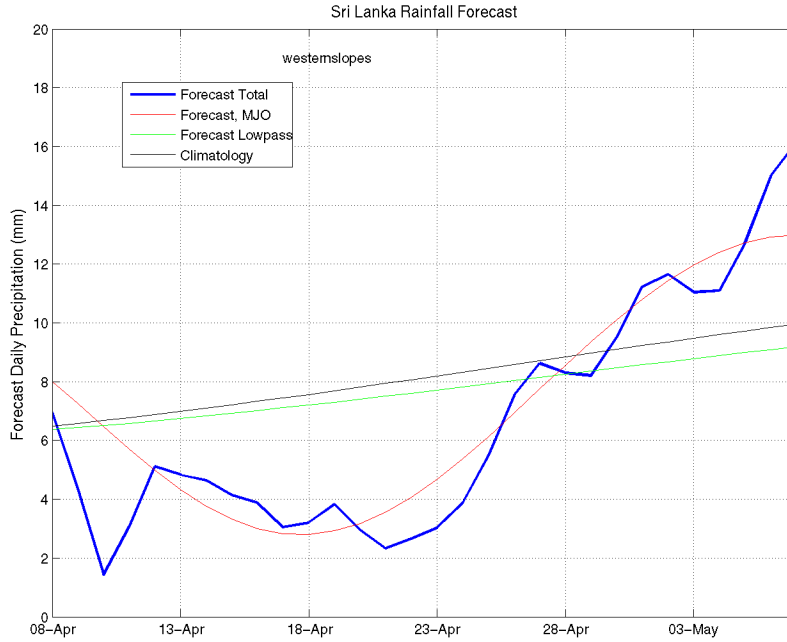
**d) 1 month experimental predictions by Paul Roundy and L. Zubair**

Predictions based on observed cloud cover and atmospheric waves. Issued 10<sup>th</sup> April, 2013

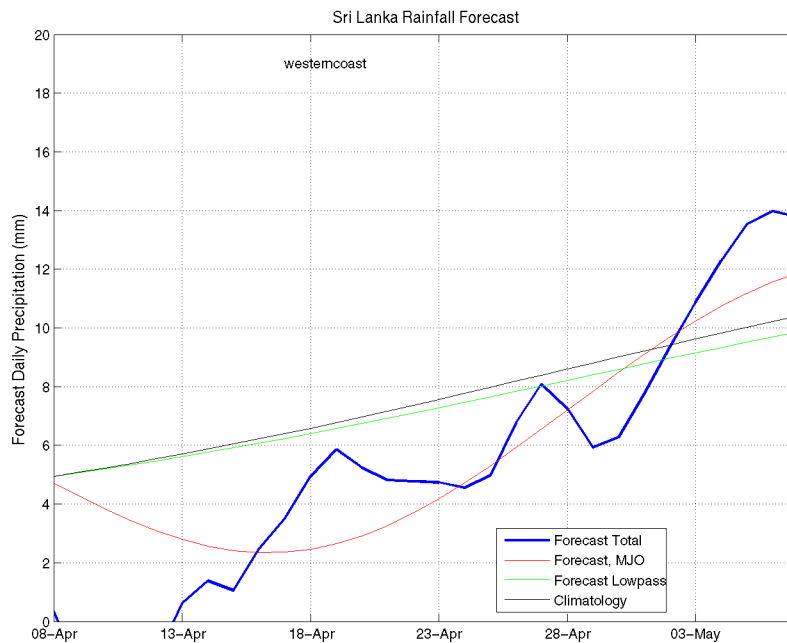
**All Sri Lanka (Rainfall Scale from 0-20 mm/day)**



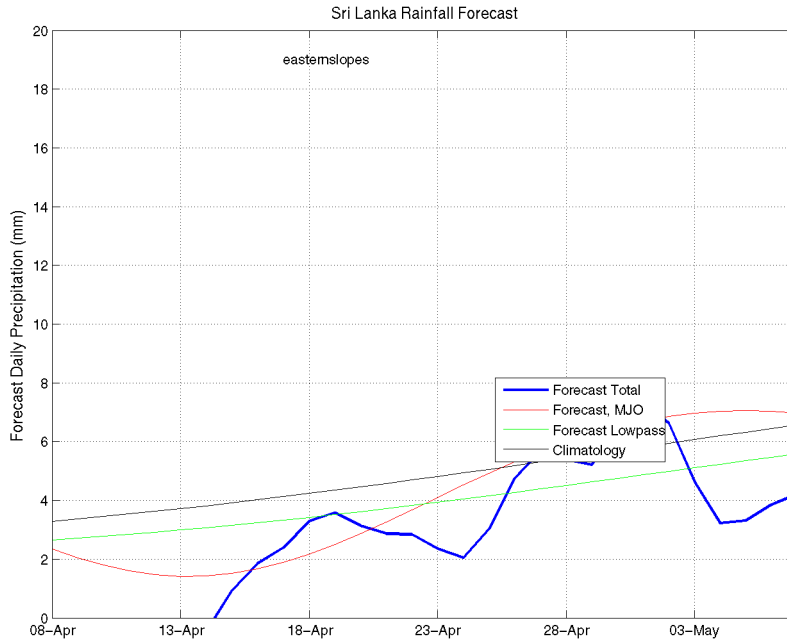
**Western Slopes (Rainfall Scale from 0-20 mm/day)**



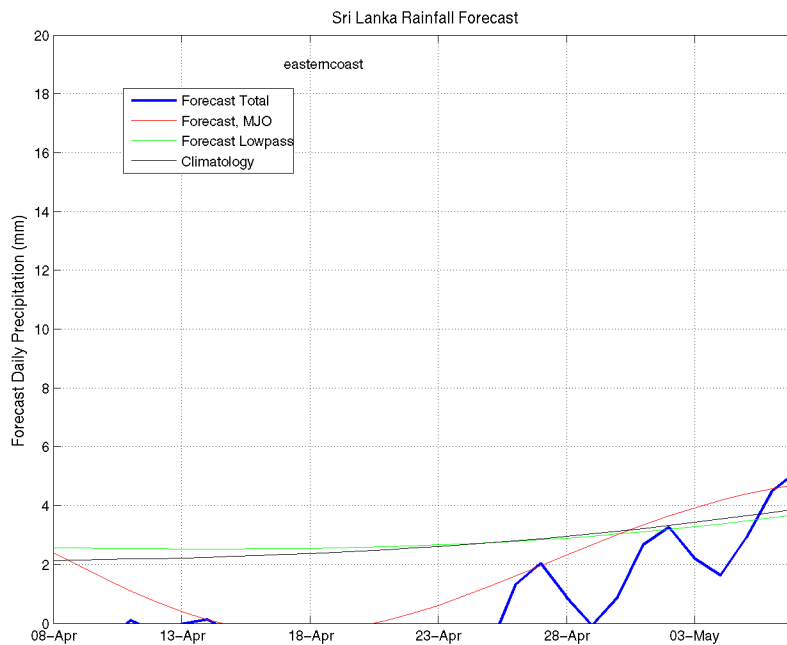
**Western Coast (Rainfall Scale from 0-20 mm/day)**



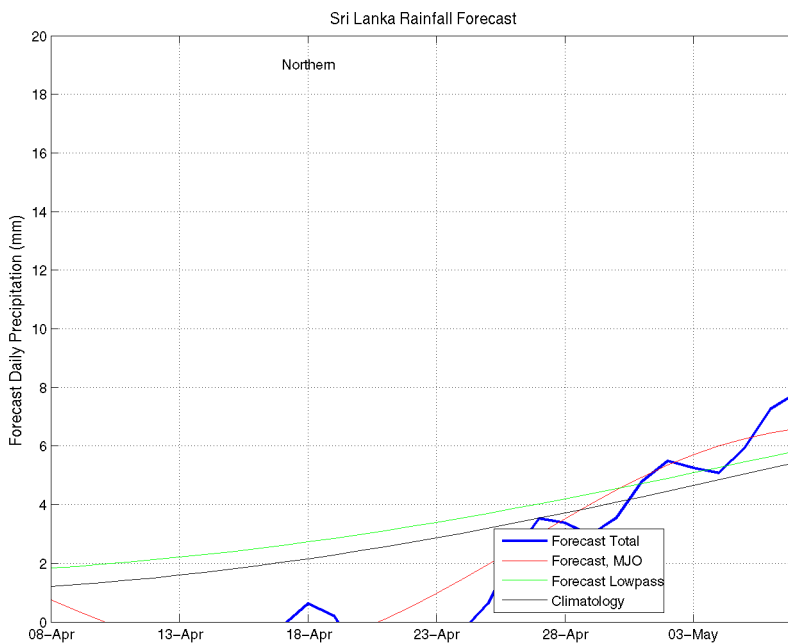
**Eastern Slopes (Rainfall Scale- from 0-20 mm/day)**



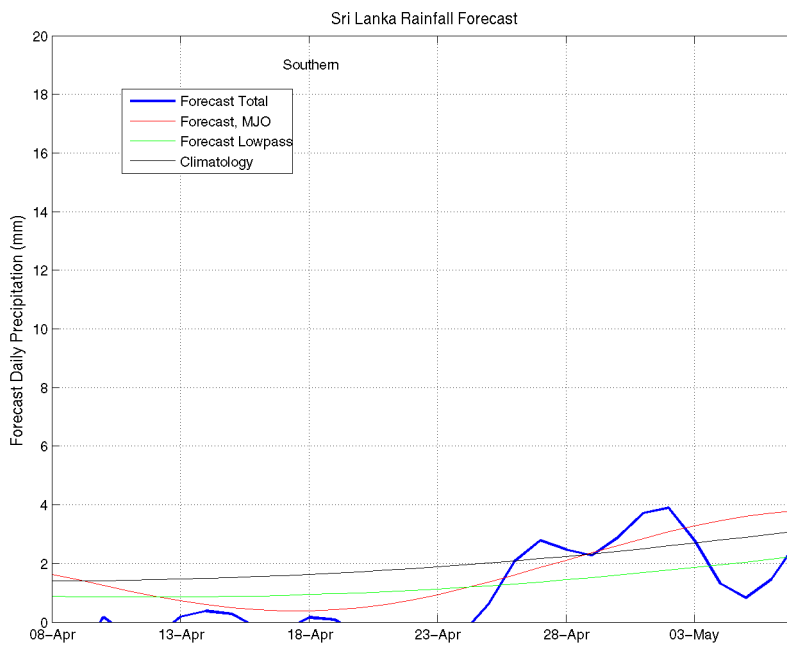
**Eastern Coast (Rainfall Scale- from 0-20 mm/day)**



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



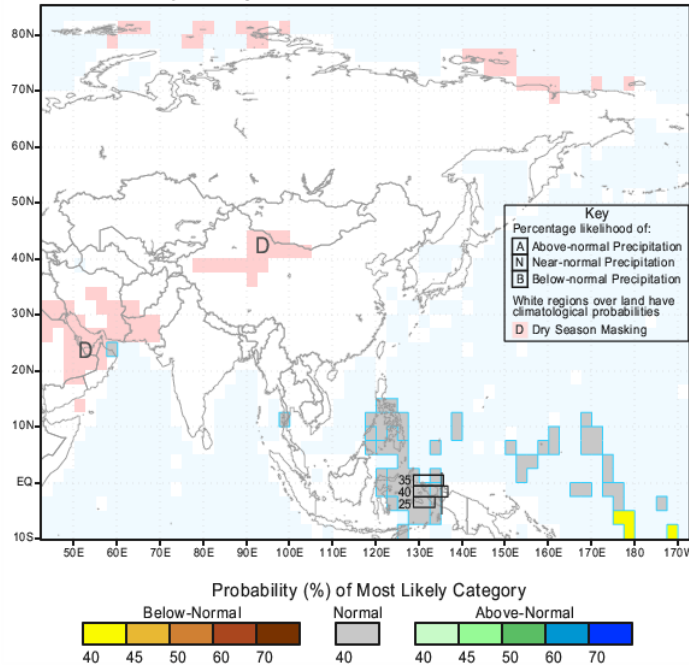
**Southern Region (Rainfall Scale- from 0-20 mm/day)**





*e) Seasonal Rainfall and Temperature Predictions from IRI*

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



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

