

## Experimental Climate Monitoring and Prediction

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21 February 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/>

### February 7, 2013 PACIFIC SEAS STATE

Most of the ENSO prediction models predict natural ENSO conditions through the first half of 2013. During January the observed SST conditions have become below average, but in the neutral range.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

In the Pacific, the El Nino state has weakened to neutral although there is weak warming remnant in the El Nino index areas. The unusually warmer sea surfaces of the Arabian Sea/Central Western and South-Eastern Indian Ocean remain.

### Highlights

#### Monitoring and Predictions:

Except for the eastern coastal belt of Sri Lanka, there shall be no rainfall for the period from 20<sup>th</sup>-26<sup>th</sup> February. Certain parts Batticaloa and Ampara districts shall receive rainfall less than 2.5 mm, on the 22<sup>nd</sup> & 23<sup>rd</sup> February 2013. However a drastic drop in rainfall shall be experienced during 21<sup>st</sup>-23<sup>rd</sup> and shall gradually increase thereafter.

### Summary

#### Monitoring

**Weekly Monitoring:** Rainfall ranged between 5-145 mm during 13<sup>th</sup>-19<sup>th</sup> February 2013. Maximum rainfall was observed on the 13<sup>th</sup> February in the eastern boundary of the Hambantota district. Dry conditions prevailed throughout the country on the 15<sup>th</sup> of February.

#### Predictions

**7-day prediction:** Eastern coastal belt of Sri Lanka shall receive 0-35 mm of rainfall during 20<sup>th</sup>-26<sup>th</sup> February, and no rainfall is recorded for the rest of the country.

**IMD WRF Model Forecast & IRI forecast:** For 22<sup>nd</sup> of February 2013, IMD WRF model predicts less than 2.5 mm of rainfall for a small area in the Batticaloa district, and less than 1 mm of rainfall for the entire country. For the 23<sup>rd</sup> of February, IMD WRF model predicts less than 1 mm of rainfall for the entire country, and less than 2.5 mm rainfall for a small area in the Ampara district. NOAA model predicts rainfall for the Southern 1/3<sup>rd</sup> of the country from 20<sup>th</sup>-25<sup>th</sup> February.

**30 Days Prediction: Overall-** Existing rainfall shall drop during 21<sup>st</sup>-23<sup>rd</sup> February. Thereafter rainfall shall increase gradually till 4<sup>th</sup> March. **Western Slopes** – Existing rainfall shall drop drastically (10 mm/day to 2 mm/day) during 21<sup>st</sup>-23<sup>rd</sup> February. Thereafter rainfall shall increase gradually to more than 10 mm/day during 23<sup>rd</sup> February-6<sup>th</sup> March. **Western Coast** - Existing rainfall shall reach more or less 0 mm/day on 22<sup>nd</sup> and shall increase gradually till it reaches 8 mm/day. **Eastern slopes & Eastern Coast** – The rainfall pattern existing in the entire country shall be present in these two regions. **Northern region-** Constant amount of rainfall shall persist through last two weeks of February. **Southern Region-** The rainfall pattern existing in the entire country shall be present in this region.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast issued on January 2013; for February 2013 to April 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
- Weekly Average SST Anomalies

#### 2. Predictions

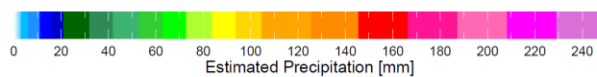
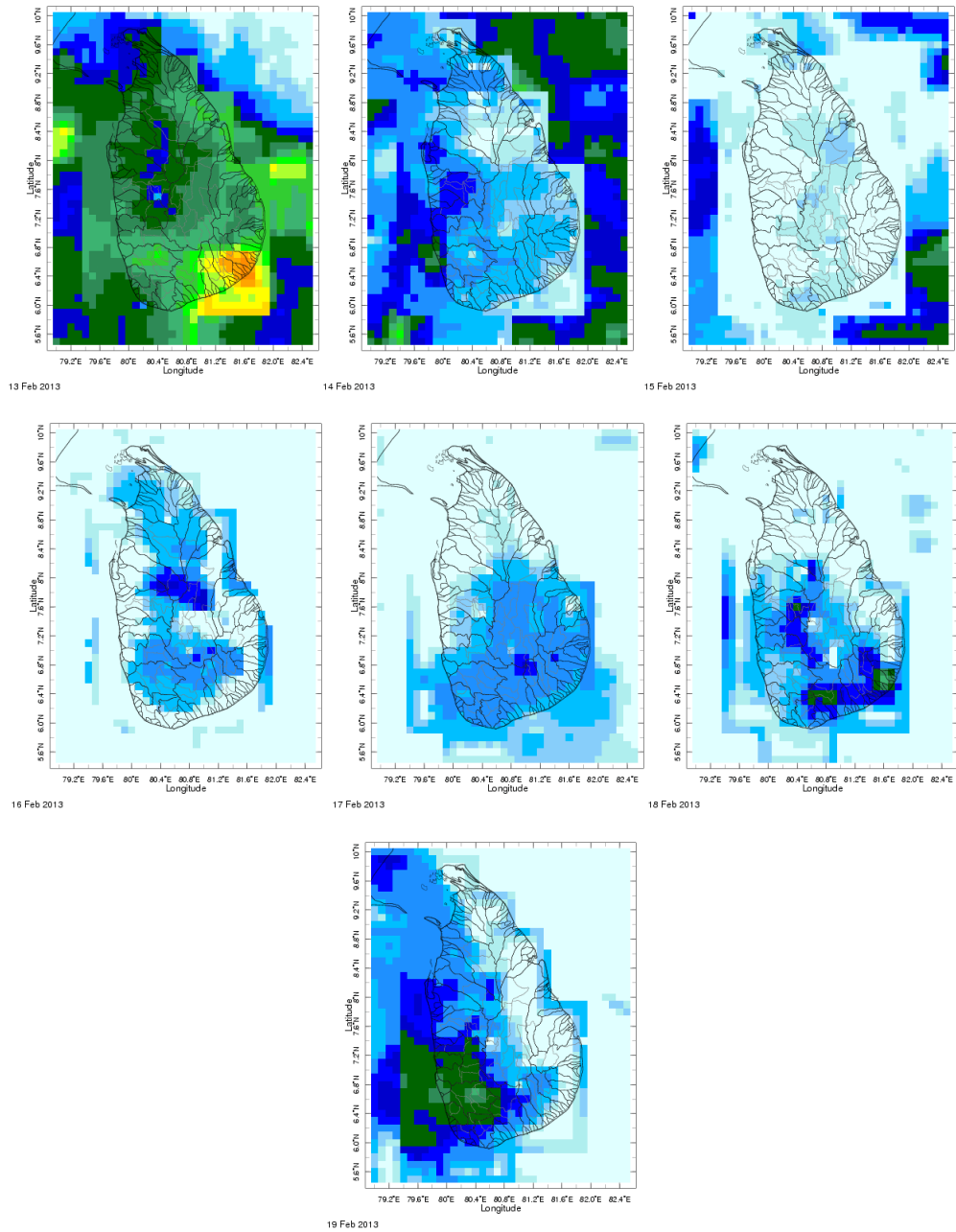
- NCEP GFS Ensemble 1-7 day predictions
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

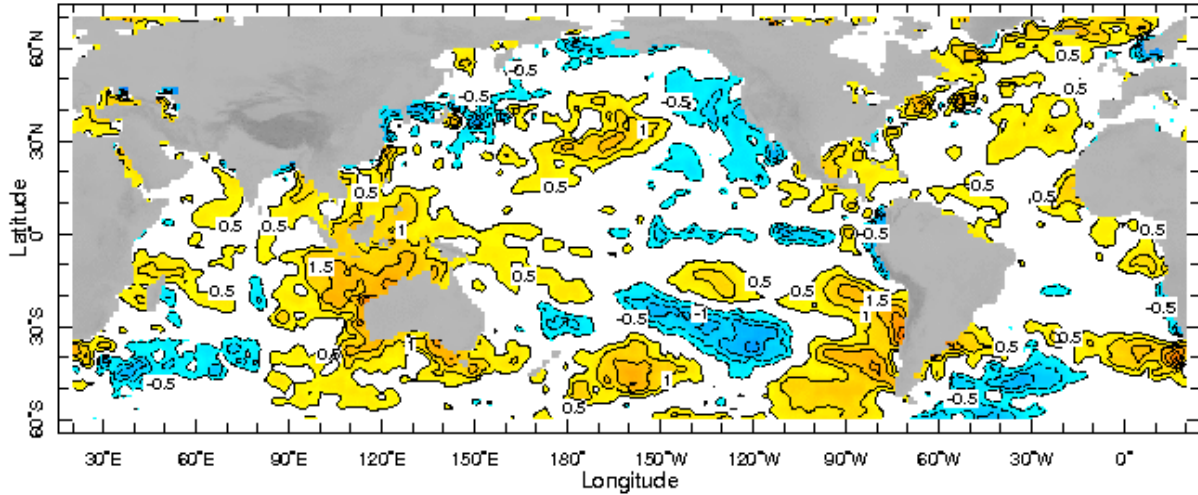
<sup>2</sup> These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

## 1. Monitoring

### a) Daily Satellite Derived Rainfall Estimate Maps: 13<sup>th</sup>-19<sup>th</sup> February 2013 (Left-Right, Top-Bottom)



**b) Weekly Average SST Anomalies**

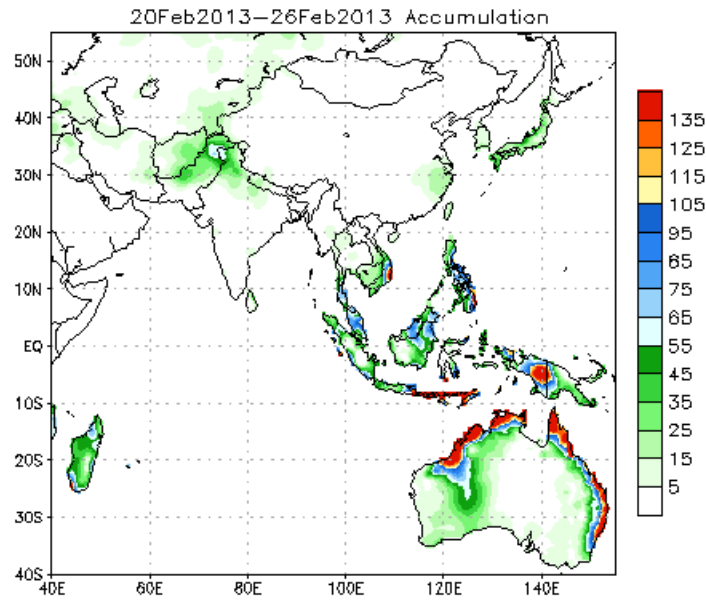


Weekly Average SST Anomalies ( $^{\circ}\text{C}$ ), 10<sup>th</sup>-16<sup>th</sup> February, 2013

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

**2. Predictions**

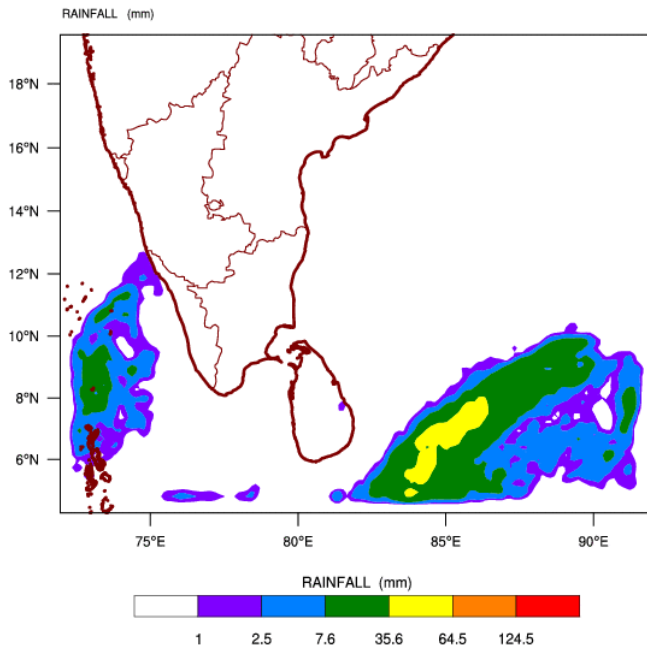
**a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.**



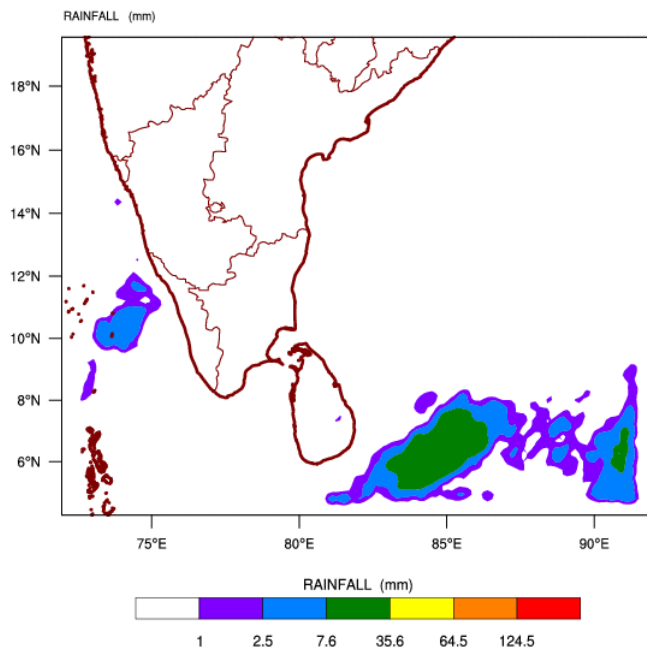
Source – NOAA Climate Prediction Center

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

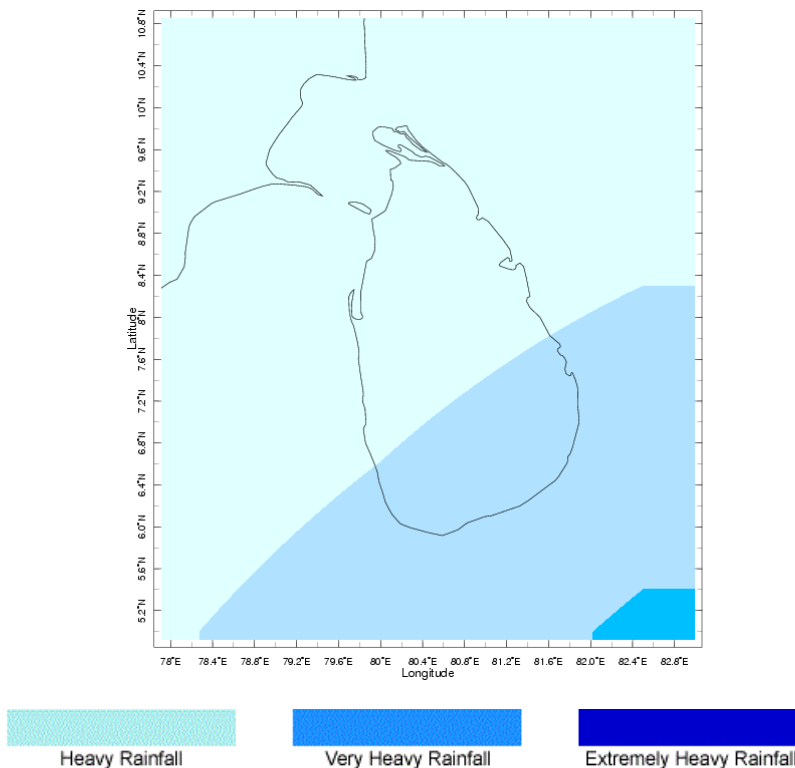
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)  
based on 00 UTC of 20-02-2013 valid for 03 UTC of 22-02-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)  
based on 00 UTC of 20-02-2013 valid for 03 UTC of 23-02-2013



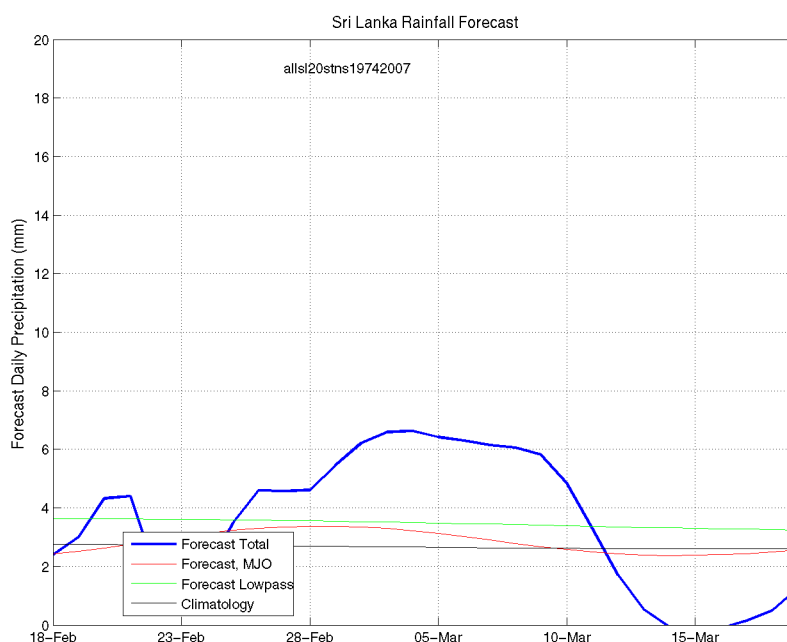
**c) Weekly Precipitation Forecast for 20<sup>th</sup>-25<sup>th</sup> February 2013 (Precipitation Forecast in Context Map Tool, IRI)**



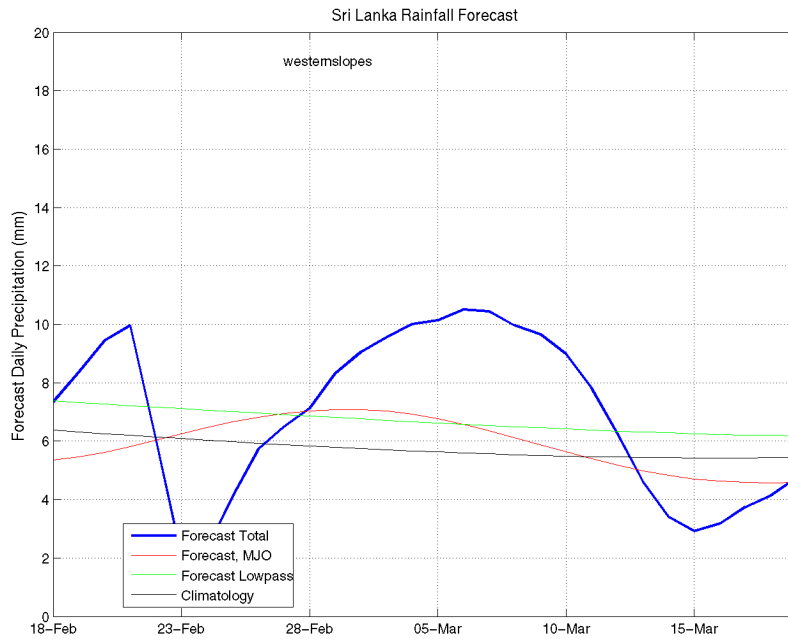
**d) 1 month experimental predictions by Paul Roundy and L. Zubair**

Predictions based on observed cloud cover and atmospheric waves. Issued 20<sup>th</sup> February, 2013

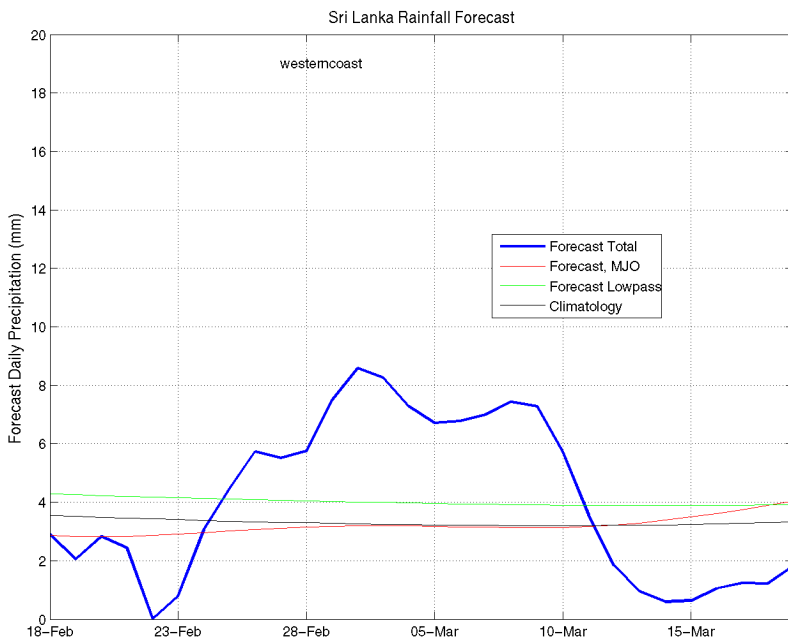
**All Sri Lanka (Rainfall Scale from 0-20 mm/day)**



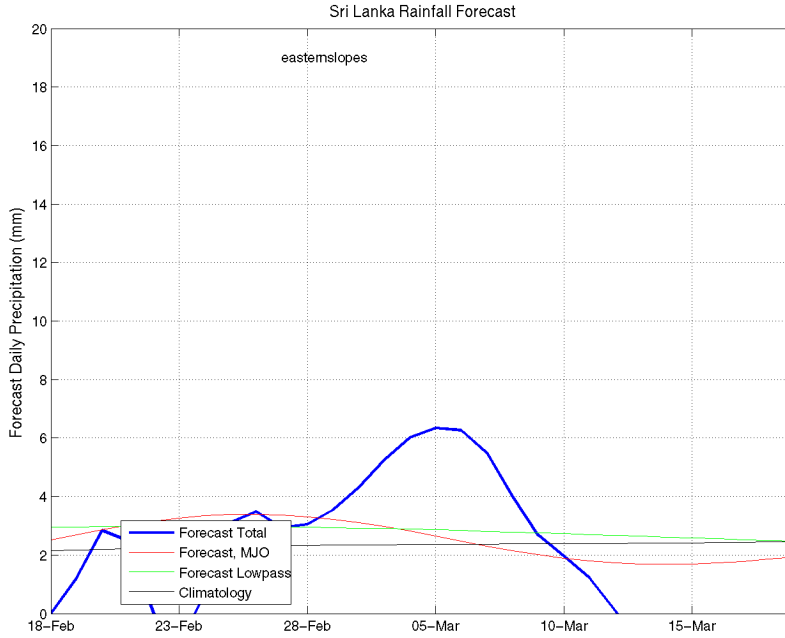
**Western Slopes (Rainfall Scale from 0-20 mm/day)**



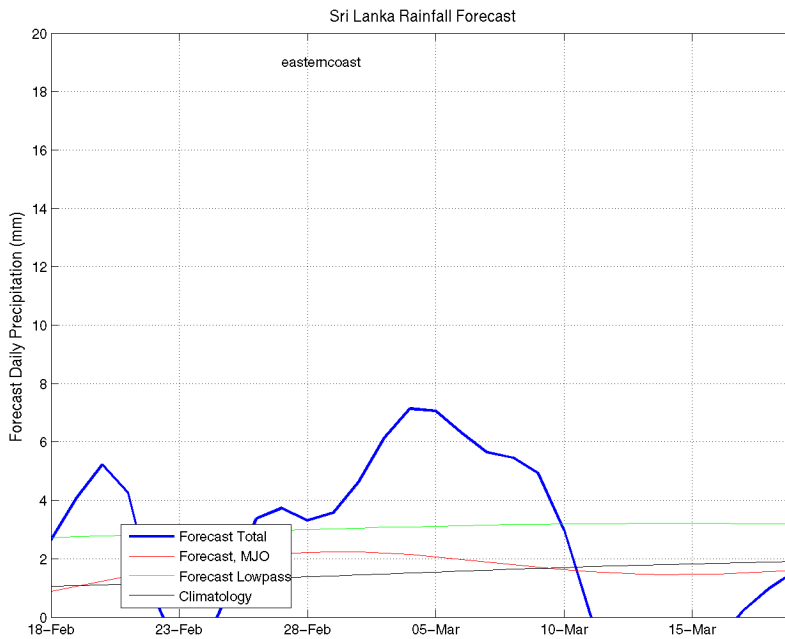
**Western Coast (Rainfall Scale from 0-20 mm/day)**



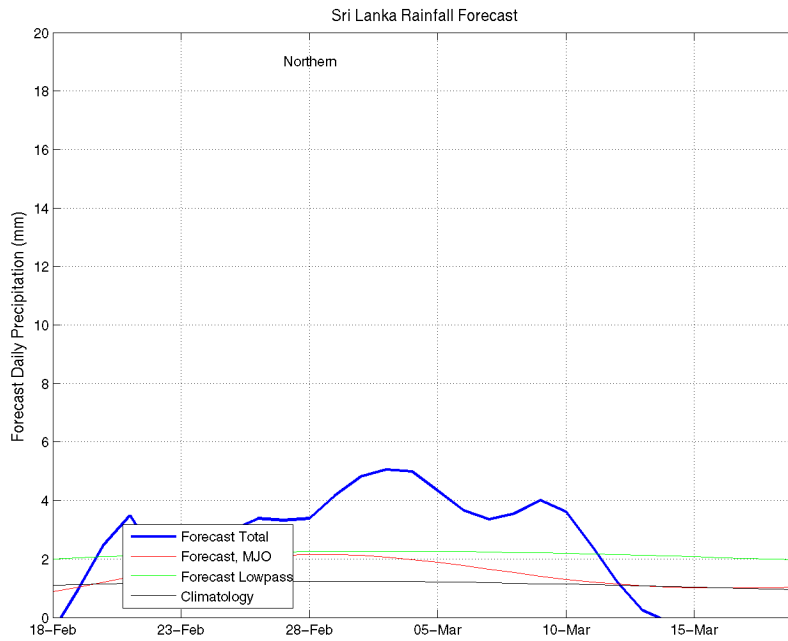
**Eastern Slopes (Rainfall Scale- from 0-20 mm/day)**



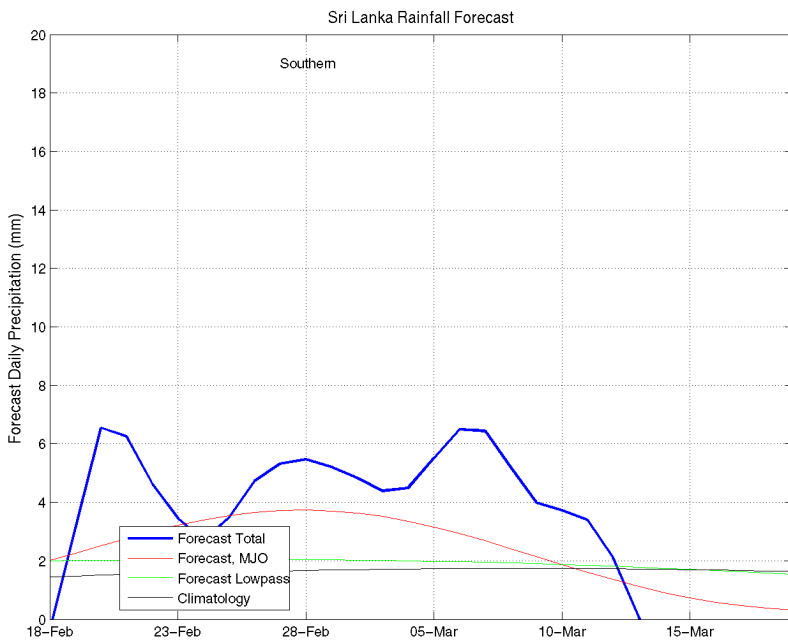
**Eastern Coast (Rainfall Scale- from 0-20 mm/day)**



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



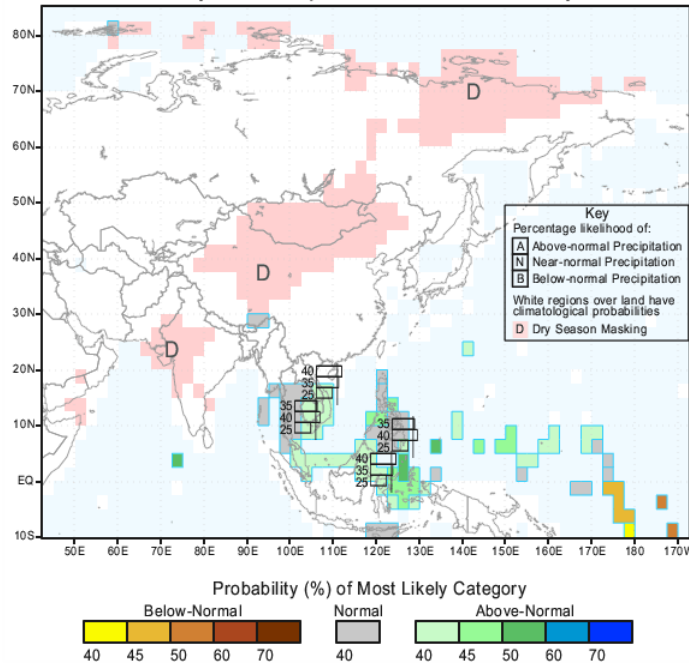
**Southern Region (Rainfall Scale- from 0-20 mm/day)**





*e) Seasonal Rainfall and Temperature Predictions from IRI*

IRI Multi-Model Probability Forecast for Precipitation  
for February-March-April 2013, Issued January 2013



IRI Multi-Model Probability Forecast for Temperature  
for February-March-April 2013, Issued January 2013

