

## Experimental Climate Monitoring and Prediction

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30 January 2014

### 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/>

### 16 January, 2014 PACIFIC SEAS STATE

During November through early December the observed ENSO conditions remained neutral.

Most of the ENSO prediction models indicate a continuation of neutral ENSO into early 2014.

During northern spring and Summer a warming tendency is seen in both dynamical and statistical models.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

Northern sea of Sri Lanka showed neutral sea surface temperature and -1°C anomaly for rest of the seas around Sri Lanka during 19<sup>th</sup> - 25<sup>th</sup> January 2014.

### MJO STATE

MJO is not active in the Indian Ocean but in the Pacific.

### Highlights

#### Monitoring and Predictions:

During 21<sup>st</sup> to 26<sup>th</sup> January entire country experienced dry condition. In the coming week Models predicts rainfall less than 55 mm/week for the island except in the western province.

#### Summary

#### Monitoring

**Weekly Monitoring:** During the week entire country experienced dry condition throughout.

**Monthly Monitoring:** Ampara, Batticaloa, Badulla, Monaragala and Jaffna districts received highest average rainfall during the month of December 2013.

#### Predictions

**14 day prediction:** During 28<sup>th</sup> January to 3<sup>rd</sup> February 2014, Sri Lanka shall receive rainfall less than 55 mm except western province. During 4<sup>th</sup> to 10<sup>th</sup> February country shall remain dry.

**IMD WRF & IRI Model Forecast:** For 30<sup>th</sup> of January, IMD WRF model predicts heavy rainfall over the entire country except in the western province ranging between 2.5 to 35.6 mm/day. Similar condition shall remain for the 31<sup>st</sup> January. Model predicts heavy rainfall for the Matara and Galle districts up to 64.5 mm/day. IRI model predicts rainfall less than 50mm/day for the country except for western and north western provinces for the coming week.

**30 Days Prediction: Overall-** Rainfall shall increase gradually for the first week of February. The rainfall shall vary less than 5mm/day. Similar rainfall pattern prevails for **Western Slopes. For Western Coast, Northern, Southern and Eastern** parts of the country continuous data is not available for the first week of February.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast issued on December 2013; for December 2013 to March 2014, there is a 50-60% probability for temperature to be above normal in the country while the rainfall is to be climatological.

### side this Issue

#### Monitoring

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

#### Predictions

- NCEP GFS Ensemble 1-14 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

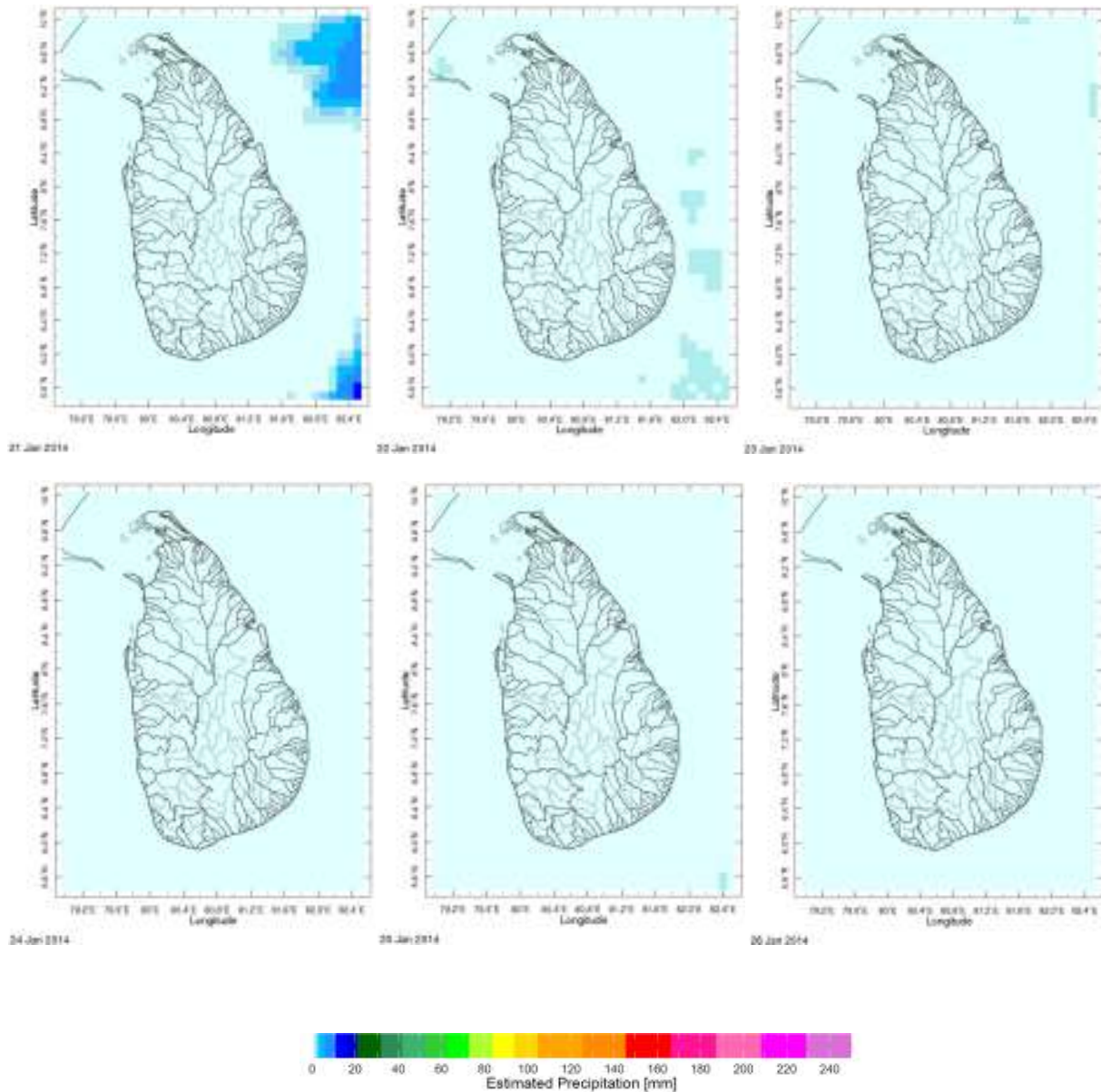
<sup>1</sup> International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

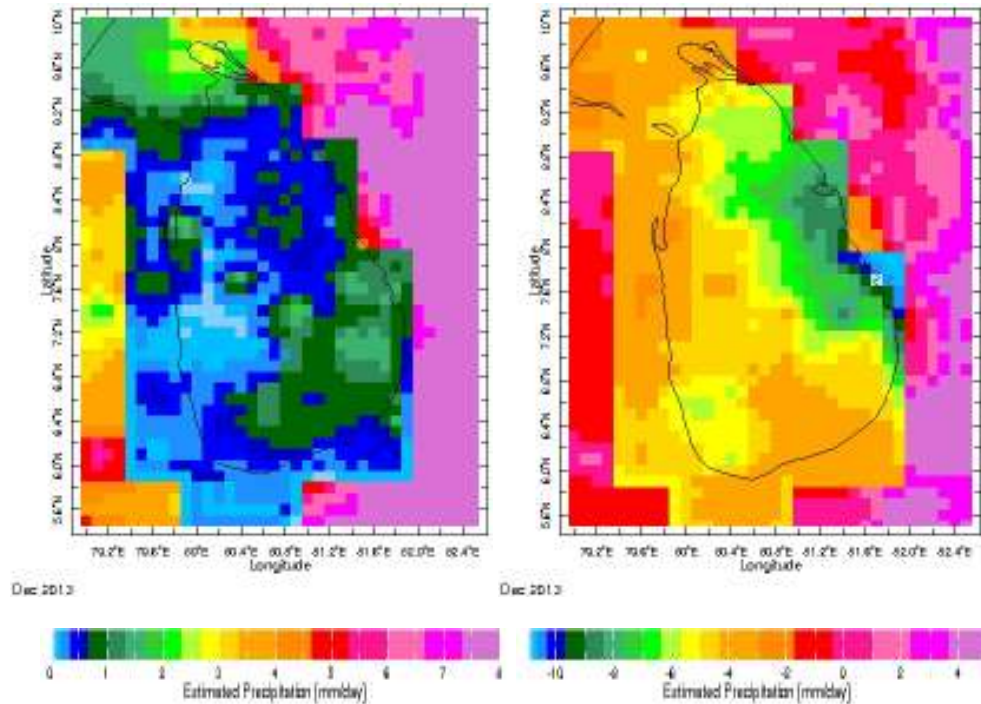
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

## 1. Monitoring

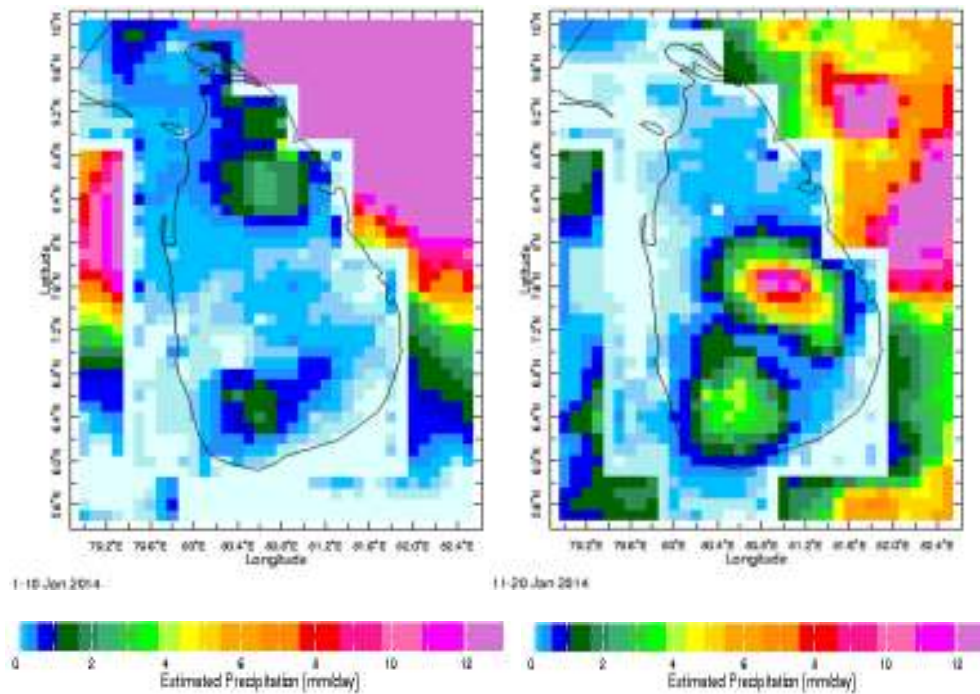
*a) Daily Satellite Derived Rainfall Estimate Maps: 21<sup>st</sup>-26<sup>th</sup> January 2014 (Left-Right, Top-Bottom)*



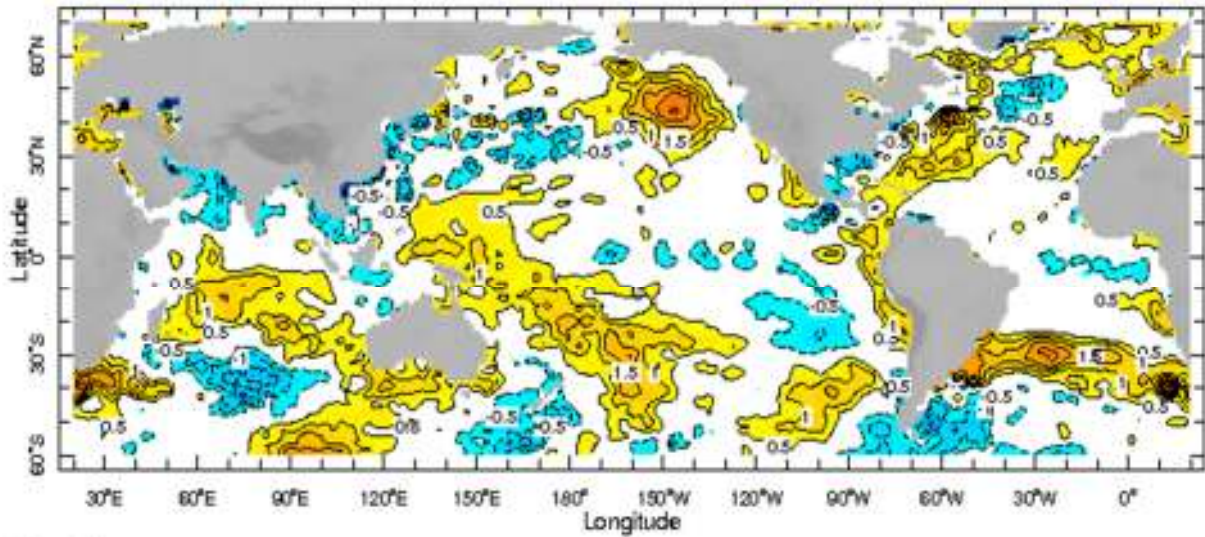
**b) Monthly Satellite Derived Rainfall Estimates for December 2013 (Total – Left and Anomaly - Right)**



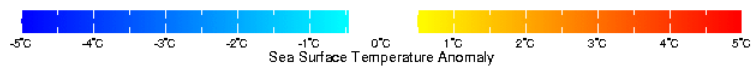
**c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 January, 2013 & 11-20 January, 2014)**



*d) Weekly Average SST Anomalies*



19-25 Jan 2014

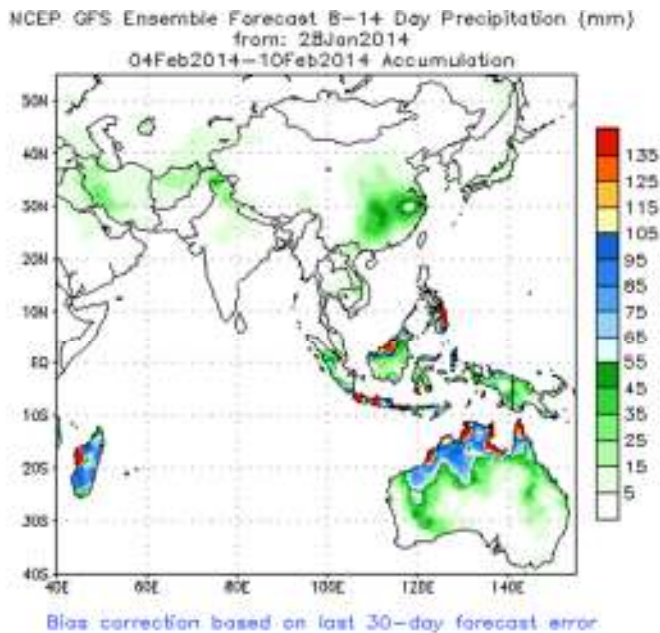
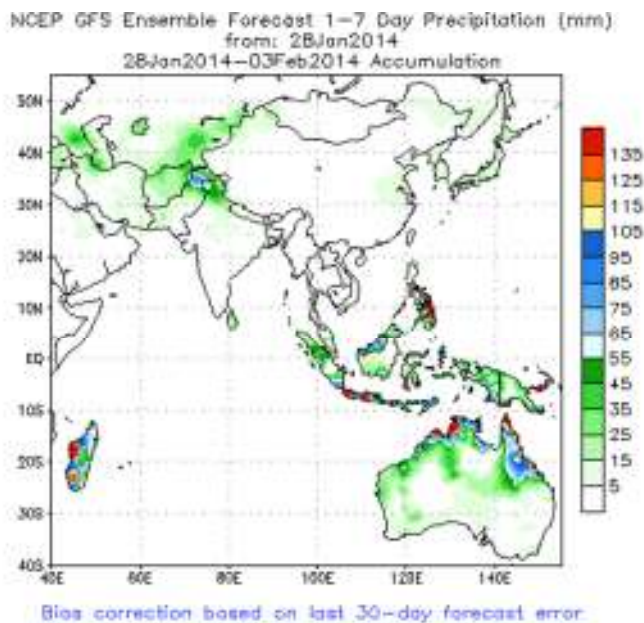


**Weekly Average SST Anomalies (°C), 19<sup>th</sup>- 25<sup>th</sup> January, 2014**

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

## 2. Predictions

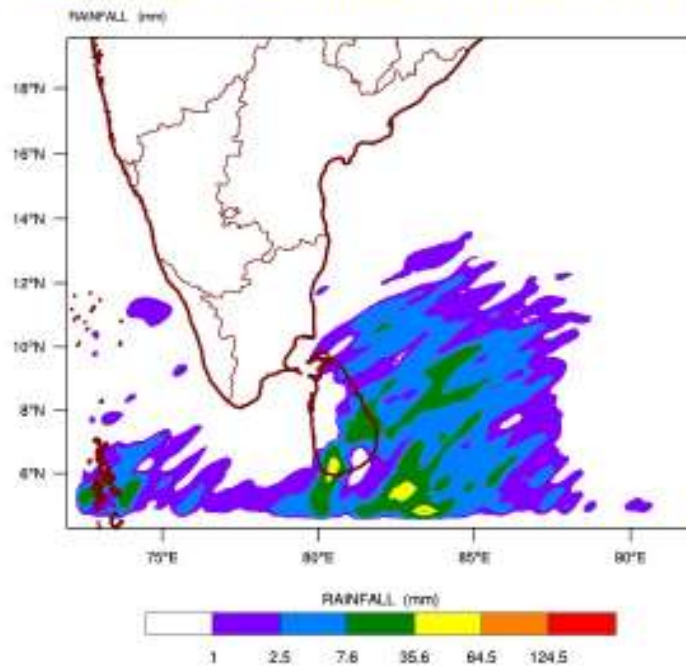
### a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.



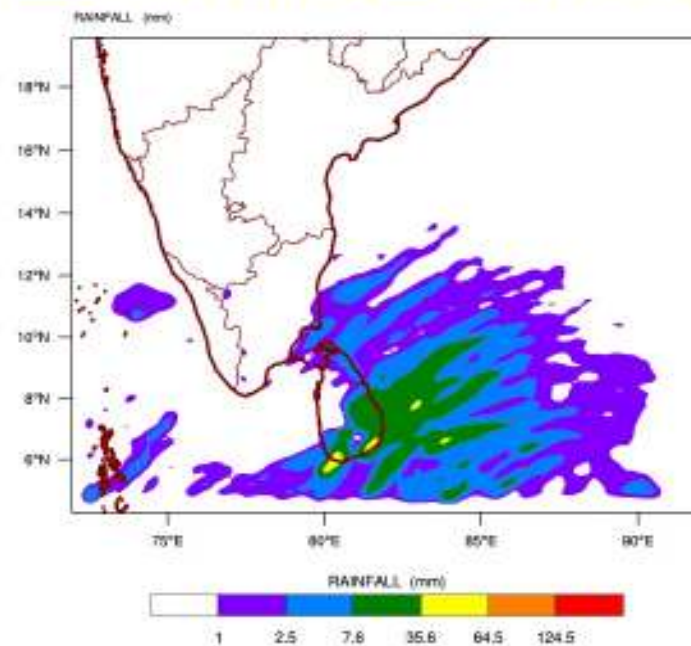
Source – NOAA Climate Prediction Center

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

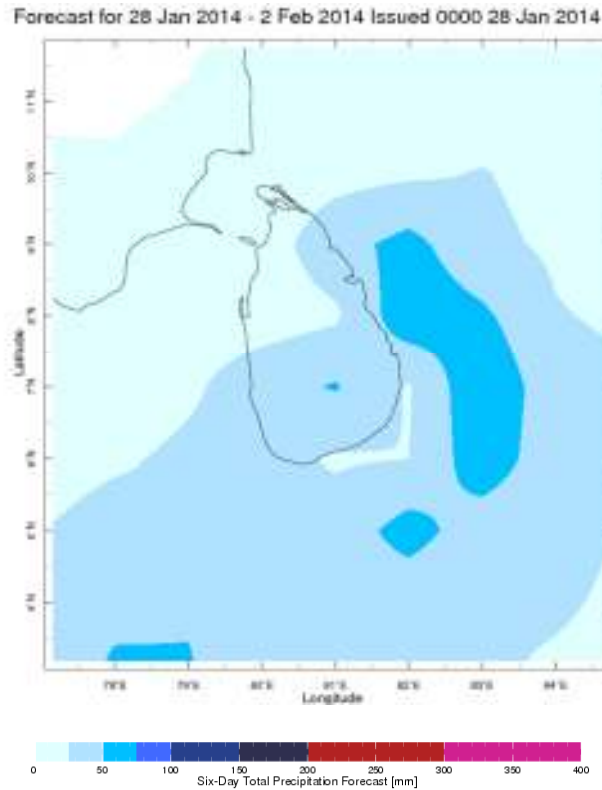
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\  
based on 00 UTC of 28-01-2014 valid for 03 UTC of 30-01-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\  
based on 00 UTC of 28-01-2014 valid for 03 UTC of 31-01-2014



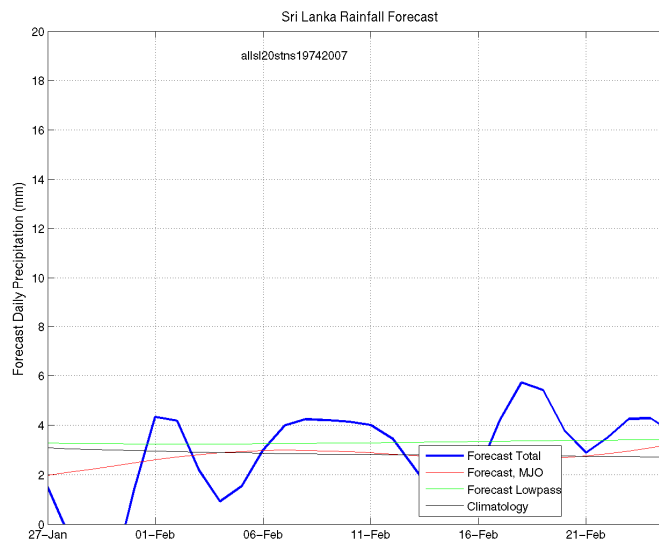
**c) Weekly Precipitation Forecast for 22<sup>th</sup> -27<sup>th</sup> January 2014 (Precipitation Forecast in Context Map Tool, IRI)**



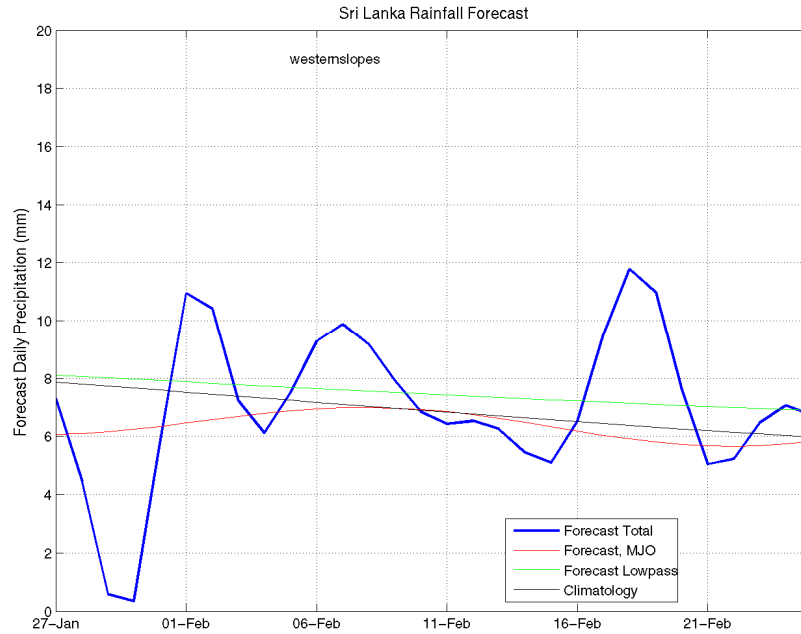
**d) 1 month experimental predictions by Paul Roundy and L. Zubair**

Predictions based on observed cloud cover and atmospheric waves. Issued 28<sup>th</sup> January, 2014

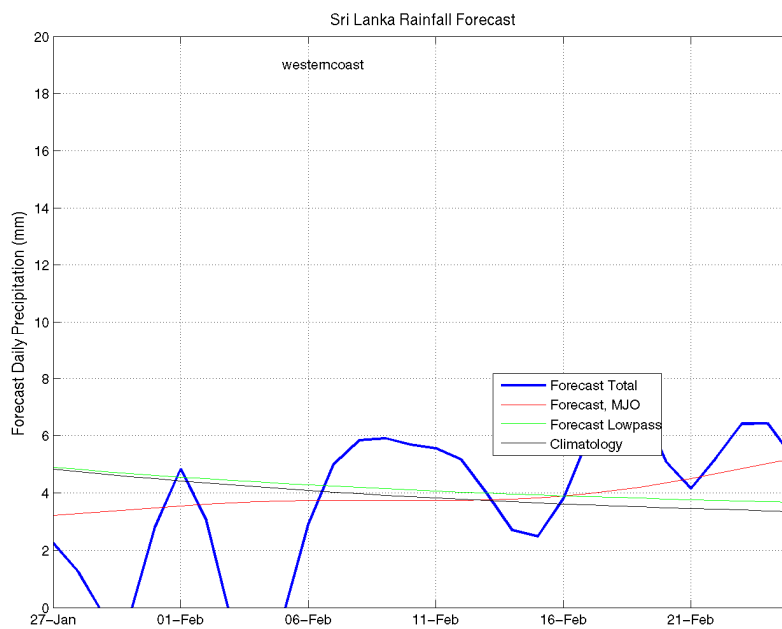
**All Sri Lanka (Rainfall Scale from 0-20 mm/day)**



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

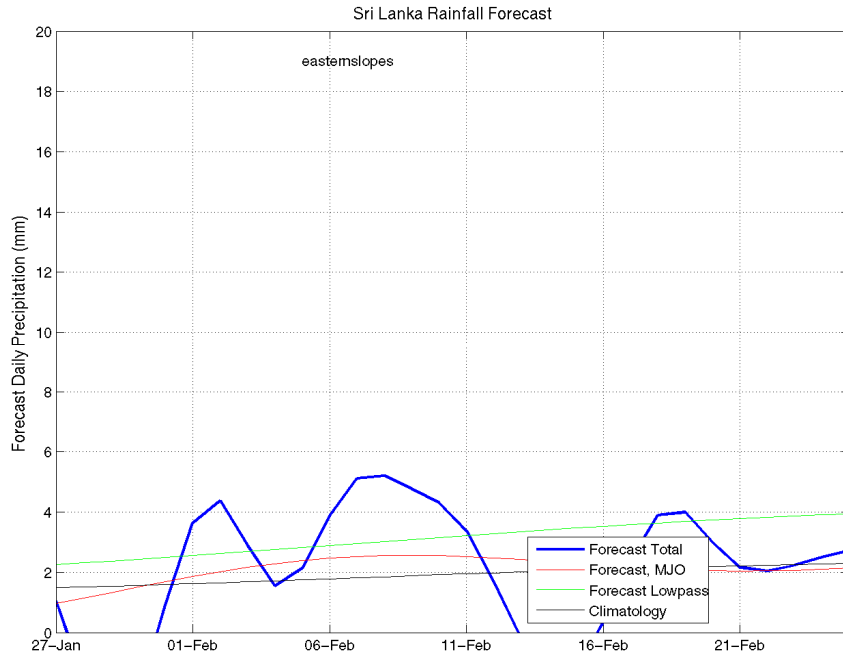


**Western Coast (Rainfall Scale from 0-20 mm/day)**

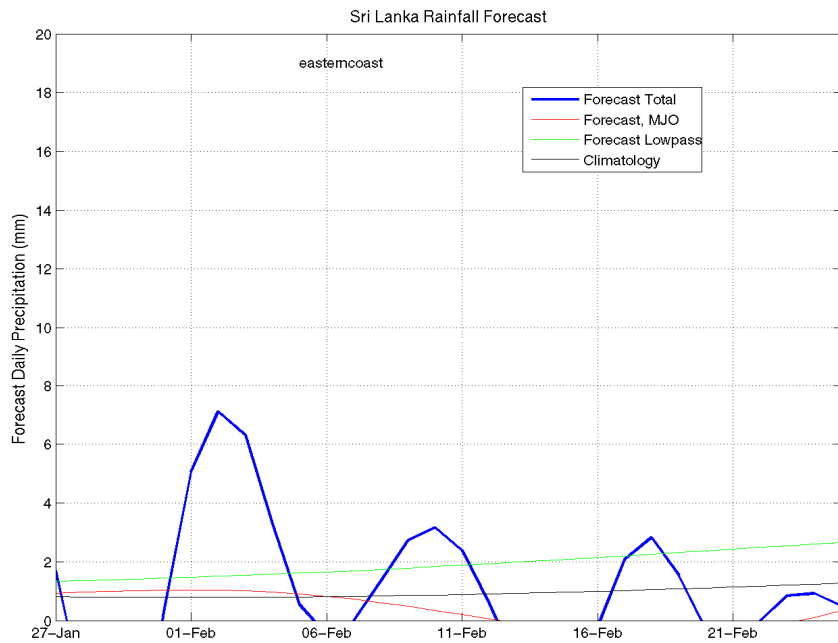




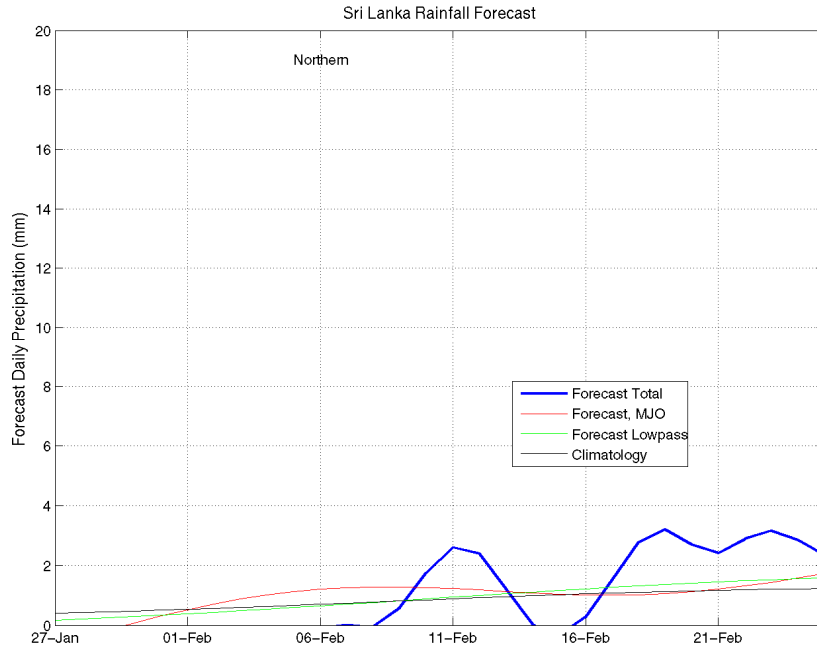
**Eastern Slopes (Rainfall Scale- from 0-20 mm/day)**



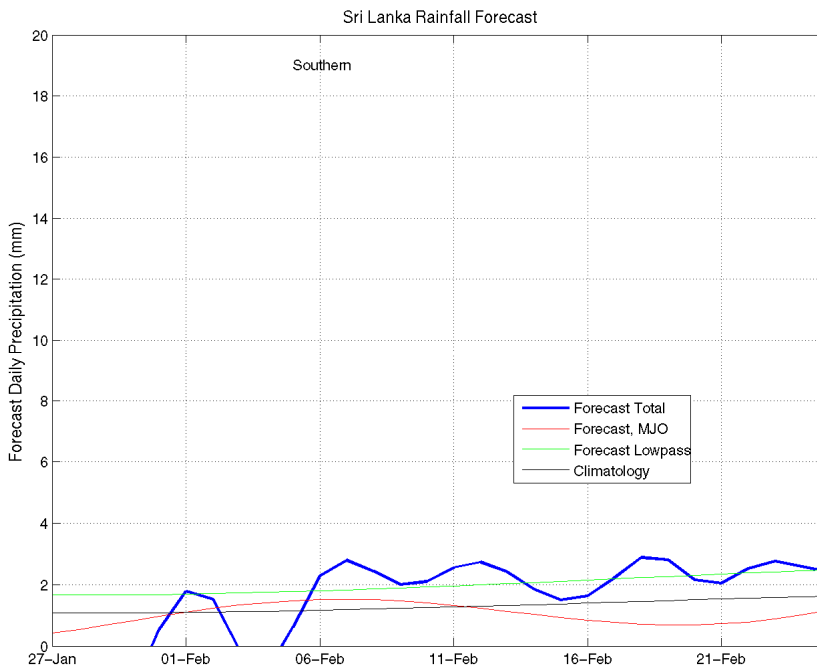
**Eastern Coast (Rainfall Scale- from 0-20 mm/day)**



**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*

