

Experimental Climate Monitoring and Prediction

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27 February 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 in to early 2014.

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

(Text Courtesy IRI)

INDIAN OCEAN STATE

The seas around Sri Lanka showed neutral sea surface temperature during 16th-22nd February 2014.

MJO STATE

MJO is neutral.

Highlights

Monitoring and Predictions:

Existing rainfall condition is likely to decrease after 1st of March 2014. However, western slopes shall observe significant rainfall events during 28th February-4th March 2014. The boarder of Ratnapura and Nuwara-Eliya shall experience heavy rainfall on 28th February 2014.

Summary

Monitoring

Weekly Monitoring: During the week entire country experienced dry condition throughout, except on 23rd February most parts of Sri Lanka received less than 10 mm of rainfall.

Monthly Monitoring: Matale district received the highest average rainfall during January 2014 (more than 5mm/day). However during January 2014, entire country experienced below normal rainfall and highest negative anomaly recorded at western half of the island.

Predictions

14 day prediction: During 26th February-4th March 2014, Southwestern regions shall receive less than 15 mm of rainfall and rest of the regions shall receive less than 5 mm of rainfall. During 5th-11th March, Sri Lanka shall receive rainfall below 35 mm, where Southwestern regions shall experience more rainfall.

IMD WRF & IRI Model Forecast: For 28th of February, IMD WRF model predicts less than 65 mm of rainfall for the border of Ratnapura and Nuwara-Eliya districts. For the same day Southwestern regions shall experience less than 36 mm of rainfall and rest of the island shall experience dry condition. For 1st of March, Galle, Matara and Ampara district shall experience less than 8 mm or rainfall and rest of the country shall experience dry condition. IRI model predicts rainfall less than 25 mm/week for the entire country for the coming week (26th February-3rd March 2014).

30 Days Prediction: Overall- Existing rainfall condition is likely to decrease after 1st of March 2014. **Western Slopes-** Significant rainfall events are likely to experience during 28th February-4th March 2014. Thereafter rainfall shall decrease gradually. **Western Coast-** Existing rainfall shall remain constant till 1st of March and it shall decrease thereafter. **Eastern Slopes-** Rainfall shall decrease gradually. **Eastern Coast-** Rainfall shall vary below 5 mm/day during coming week (28th February-6th March 2014). **Northern-** Rainfall shall decrease gradually. **Southern Region-** Existing rainfall shall increase gradually till 3rd March and thereafter it shall decrease gradually.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on February 2014; for March 2014 to May 2014, there is a 40-45% 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 1-14 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

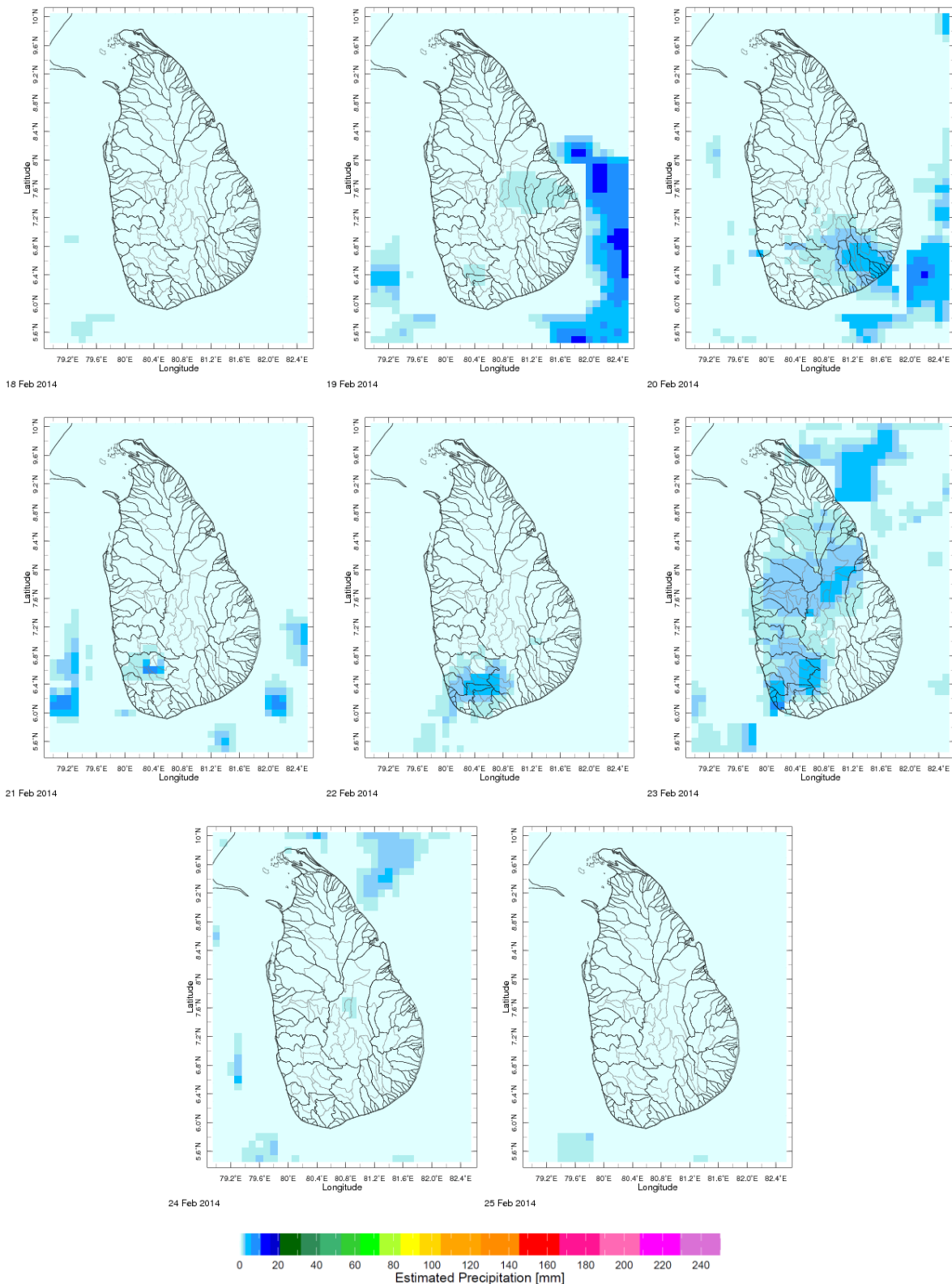
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

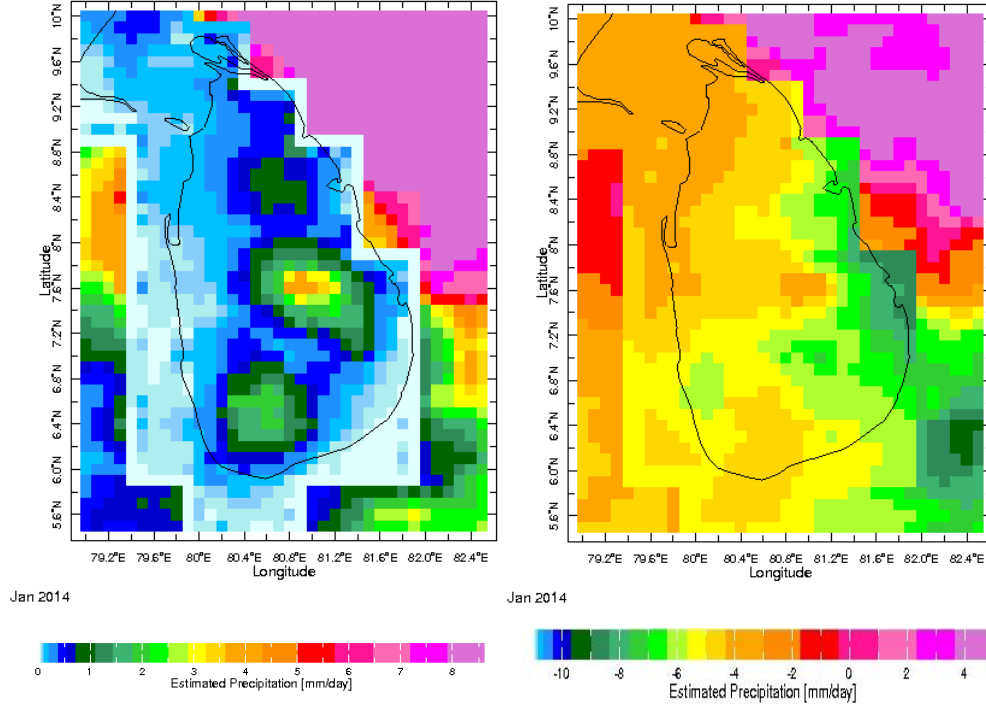
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

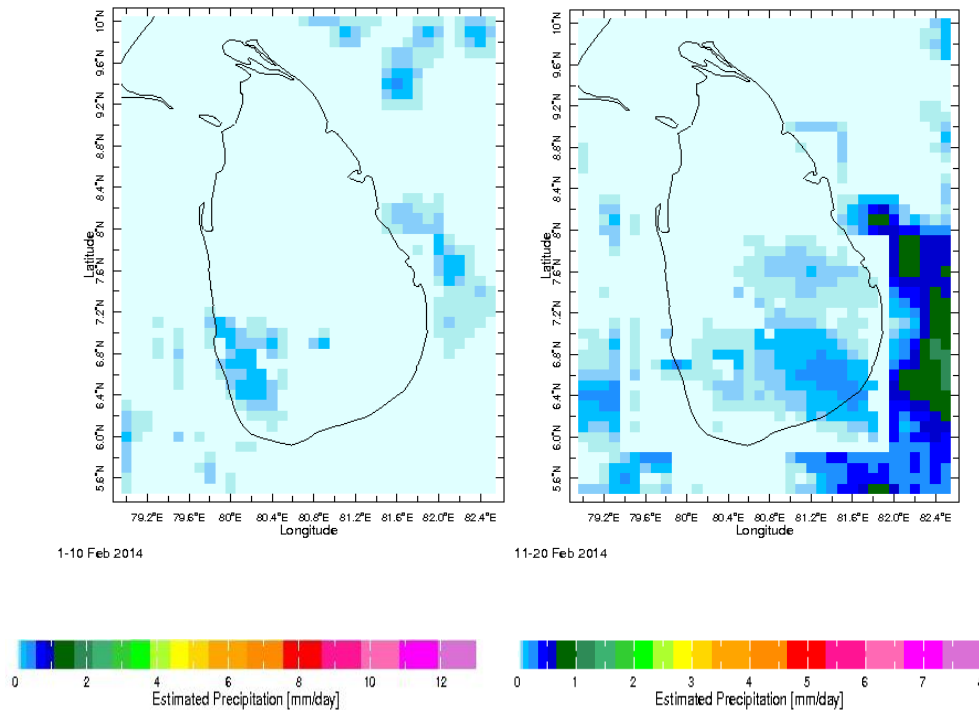
a) Daily Satellite Derived Rainfall Estimate Maps: 18th-25th February 2014 (Left-Right, Top-Bottom)



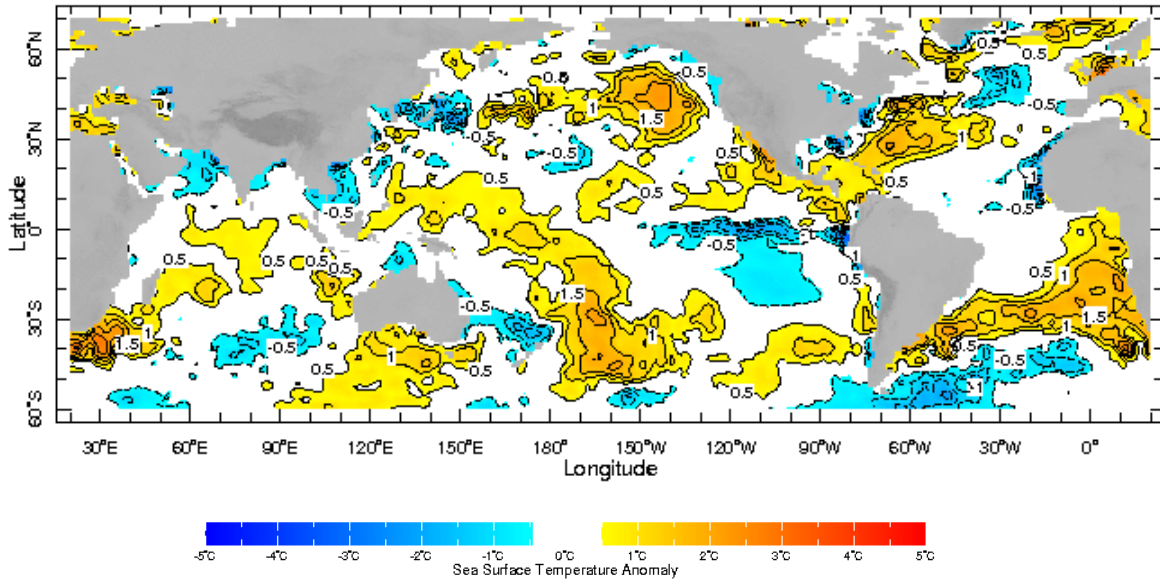
b) Monthly Satellite Derived Rainfall Estimates for January 2014 (Average – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (01-10 February & 11-20 February, 2014)



d) Weekly Average SST Anomalies



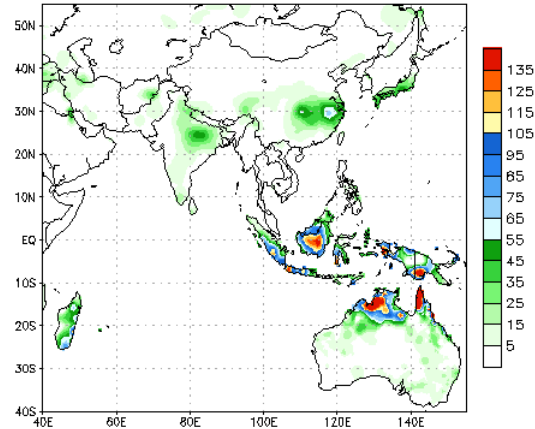
Weekly Average SST Anomalies (°C), 16th-22nd February, 2014

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

2. Predictions

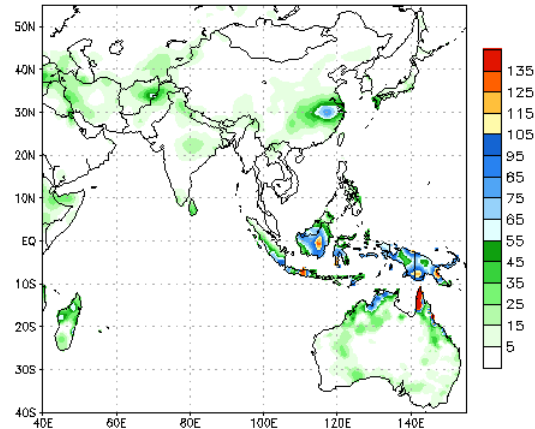
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 26Feb2014
26Feb2014-04Mar2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 26Feb2014
05Mar2014-11Mar2014 Accumulation

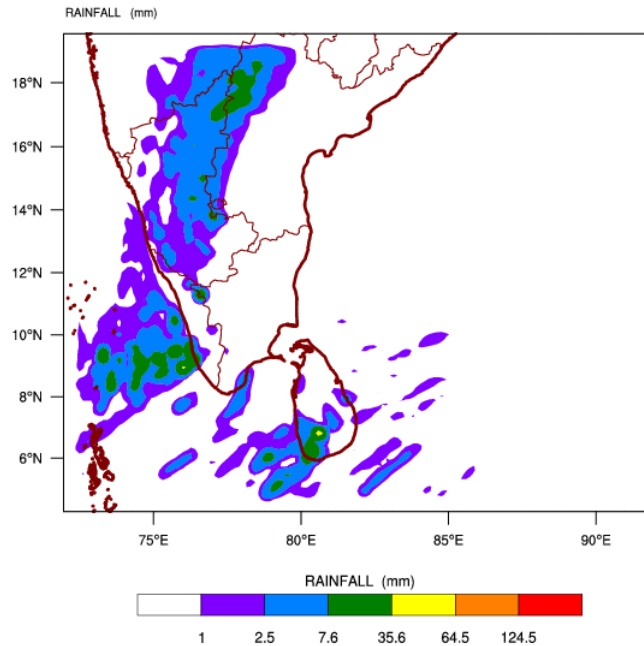


Bias correction based on last 30-day forecast error

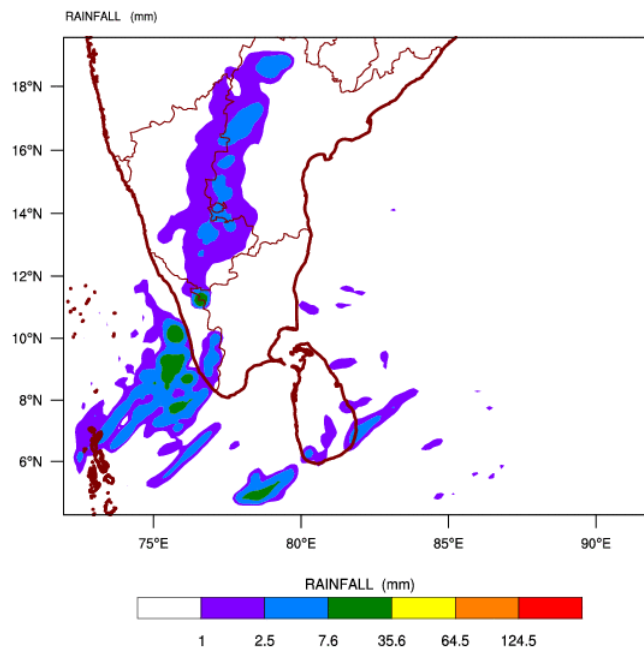
Source – NOAA Climate Prediction Center

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

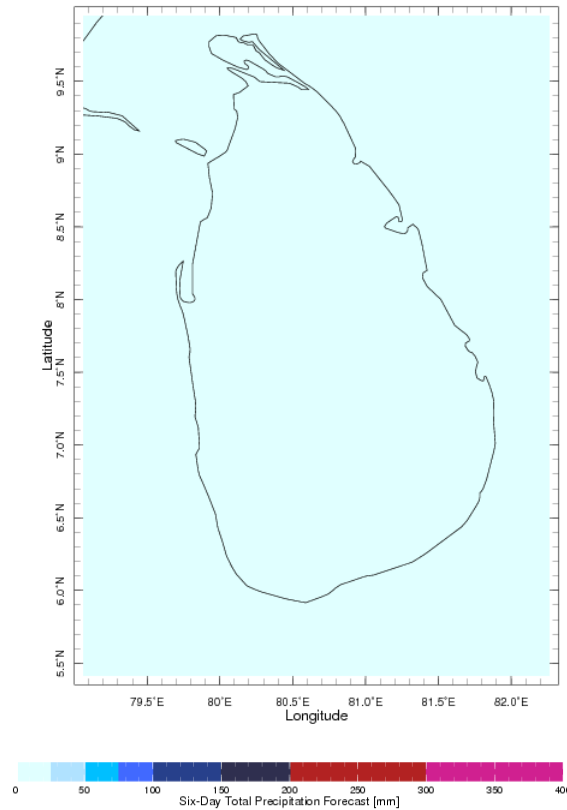
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 26-02-2014 valid for 03 UTC of 28-02-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 26-02-2014 valid for 03 UTC of 01-03-2014



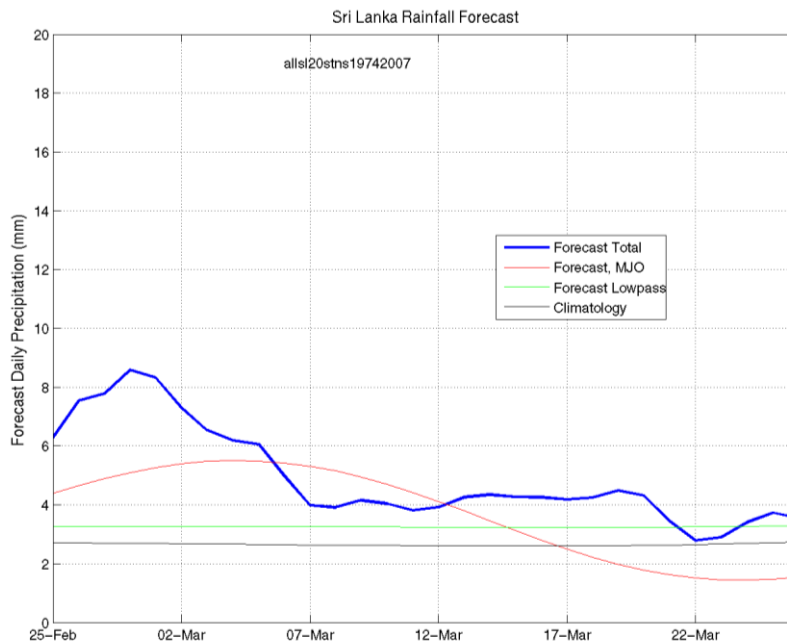
c) Weekly Precipitation Forecast for 26th February-3rd March 2014 (Precipitation Forecast in Context Map Tool, IRI)



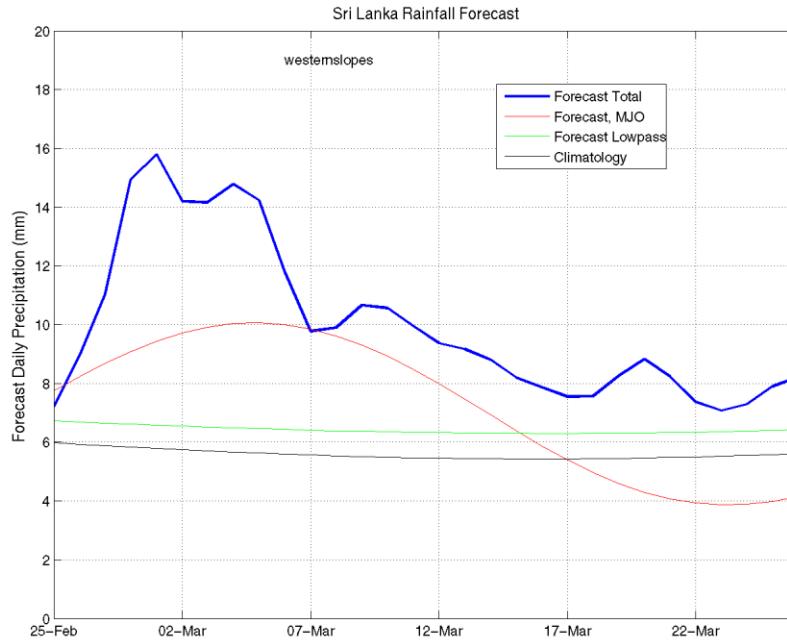
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 26th February, 2014

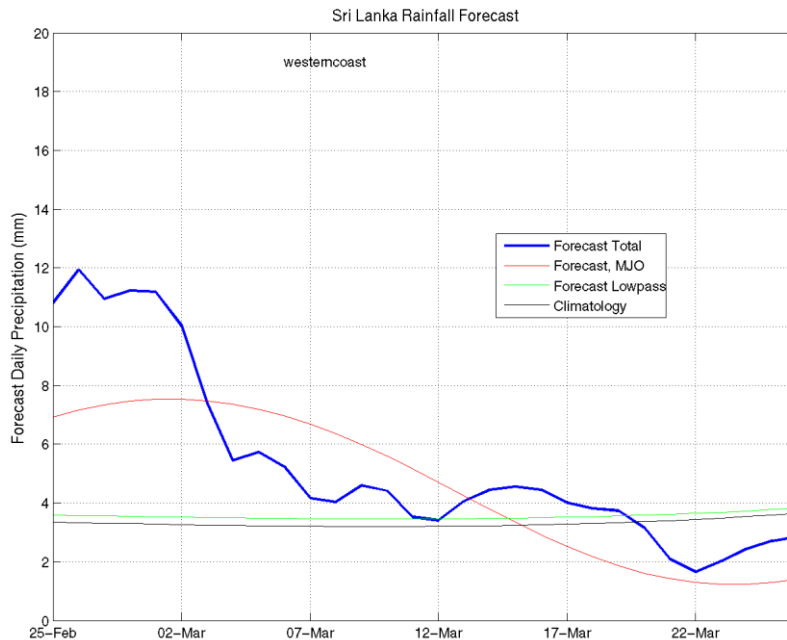
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



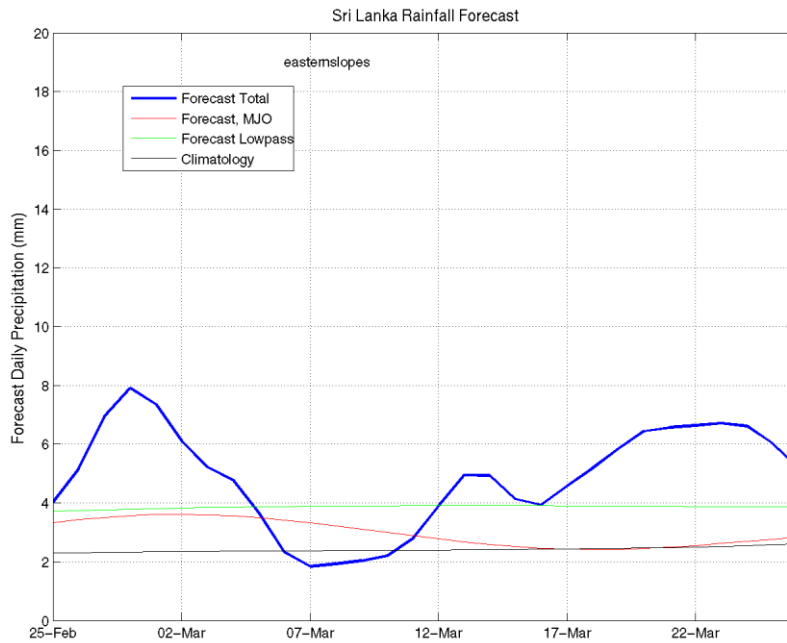
Western Slopes (Rainfall Scale from 0-20 mm/day)



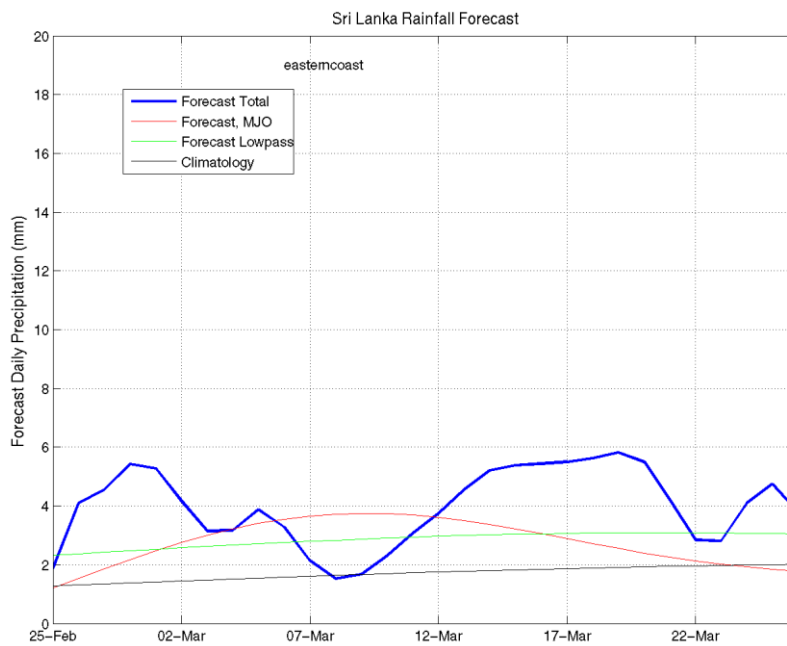
Western Coast (Rainfall Scale from 0-20 mm/day)



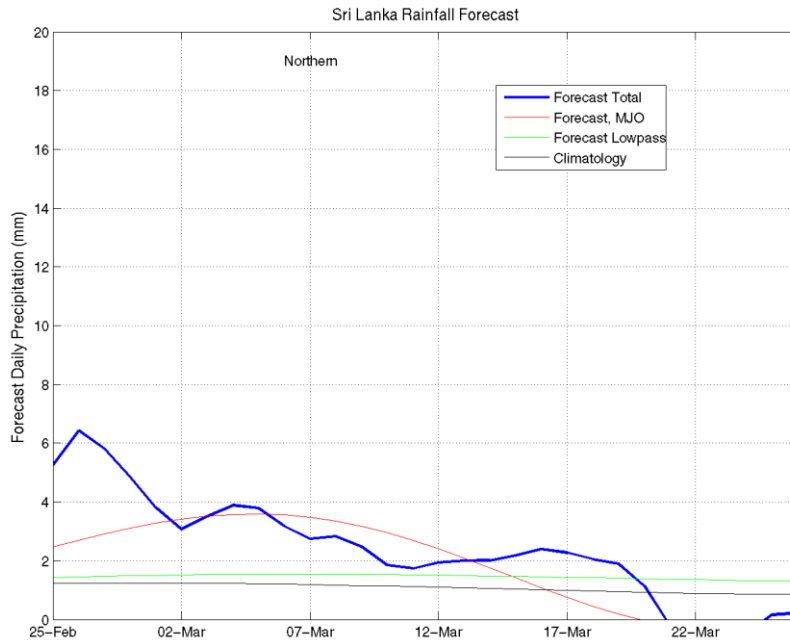
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



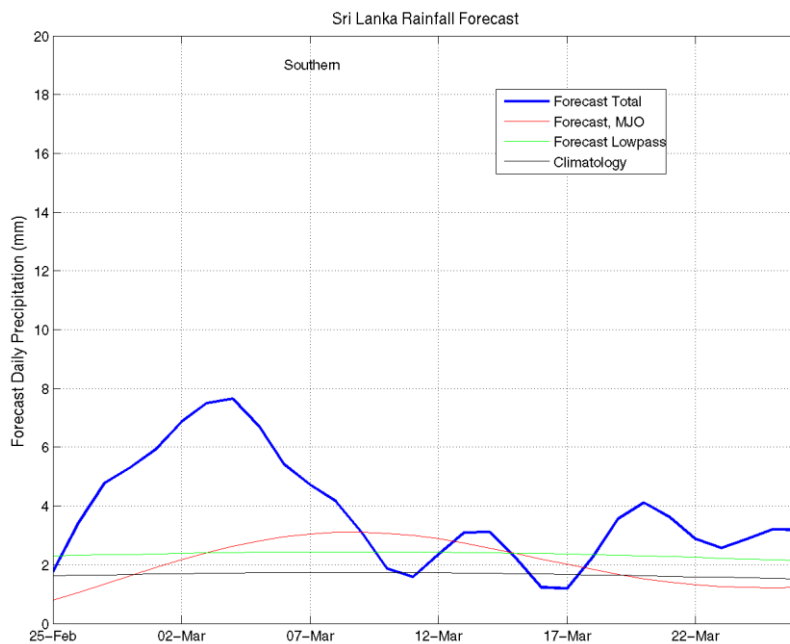
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

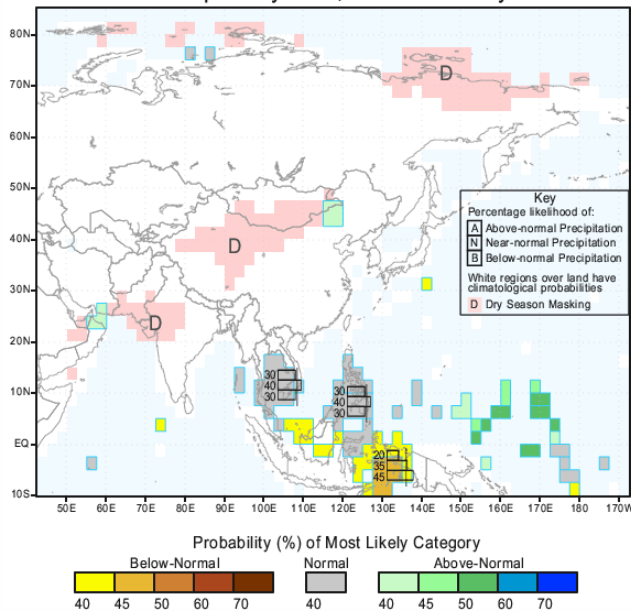


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for March-April-May 2014, Issued February 2014



IRI Multi-Model Probability Forecast for Temperature
for March-April-May 2014, Issued February 2014

