

Experimental Climate Monitoring and Prediction

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13 March 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/>

6 March, 2014 PACIFIC SEAS STATE

During January through February the observed ENSO conditions moved to the borderline of cool-neutral and weak La Nina.

However, most of the ENSO prediction models continue to indicate neutral ENSO into northern spring 2014. During late 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 2nd-8th March 2014.

MJO STATE

MJO is neutral.

Highlights

Monitoring and Predictions:

Existing rainfall condition (less than 4 mm/day) is likely to remain constant till 20th March for the entire country. However, Eastern slopes, Eastern coasts and southern regions are likely to observe increasing pattern of rainfall after 15th of March 2014. For the 13th & 14th regions in Ampara and Batticaloa districts shall receive rainfall compared to the rest of the regions in Sri Lanka.

Summary

Monitoring

Weekly Monitoring: During 5th-7th March 2014, most of the regions in Sri Lanka received rainfall of less than 5 mm compared to the previous weeks. However, Hambantota, Matara and Ampara districts were dry during the entire week.

Monthly Monitoring: Ratnapura district received the highest average rainfall during February 2014 (more than 5mm/day of average rainfall). However during February 2014, entire country experienced below normal rainfall and highest negative anomaly recorded at Batticaloa and Ampara district.

Predictions

14 day prediction: During 12th-18th March 2014, Southern half of the island shall receive less than 55 mm of rainfall/week. During 19th-25th March, entire Sri Lanka shall receive rainfall of less than 55 mm/week, except for Colombo district and Jaffna peninsula shall receive no or less than 5 mm/week rainfall.

IMD WRF & IRI Model Forecast: For 13th & 14th of March, IMD WRF model predicts insignificant amount of rainfall (less than 3 mm/day) for the regions in Ampara and Batticaloa districts and rest of the regions of the island shall remain dry. IRI model predicts 25-50 mm/6 days of rainfall only for Ampara district for the coming week (12th-17th March 2014).

30 Days Prediction: Overall- Existing rainfall condition (less than 4mm/day) is likely to remain constant till 20th March. **Western Slopes and Coast-** The rainfall condition is likely to vary drastically during 13th-17th (i.e. with insignificant rainfall peaks and troughs with in small time interval) and thereafter it shall decrease gradually. **Western Coast-** Rainfall shall decrease gradually till 22nd. **Eastern Slopes-** Existing rainfall shall decrease gradually till 15th and increase thereafter till 19th. **Eastern Coast-** The rainfall pattern persisting in the Eastern slopes shall be observed in this region. **Northern-** Rainfall shall decrease gradually till 20th March. **Southern Region-** The rainfall is likely to increase gradually after 15th March 2014.

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.

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

2. Predictions

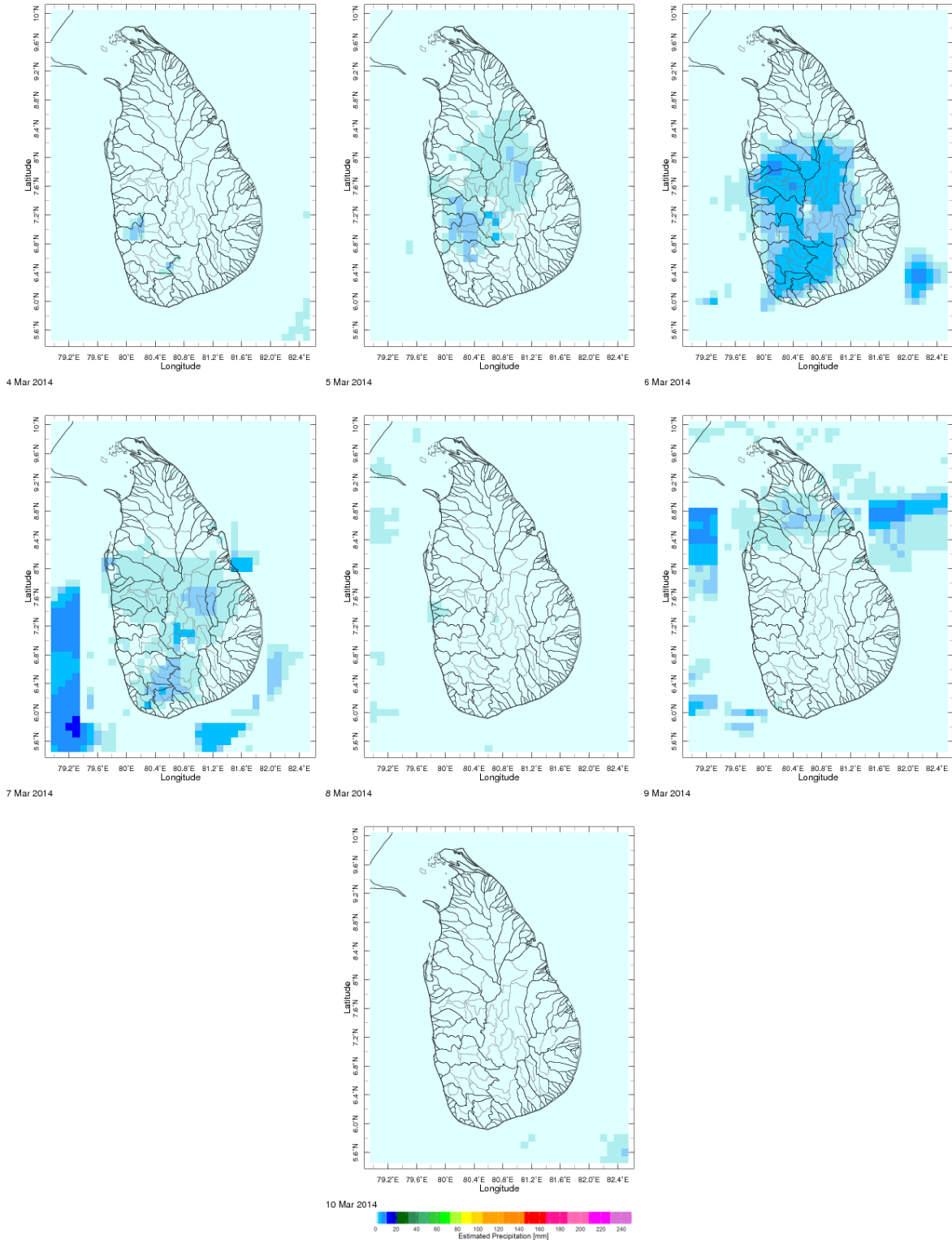
- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

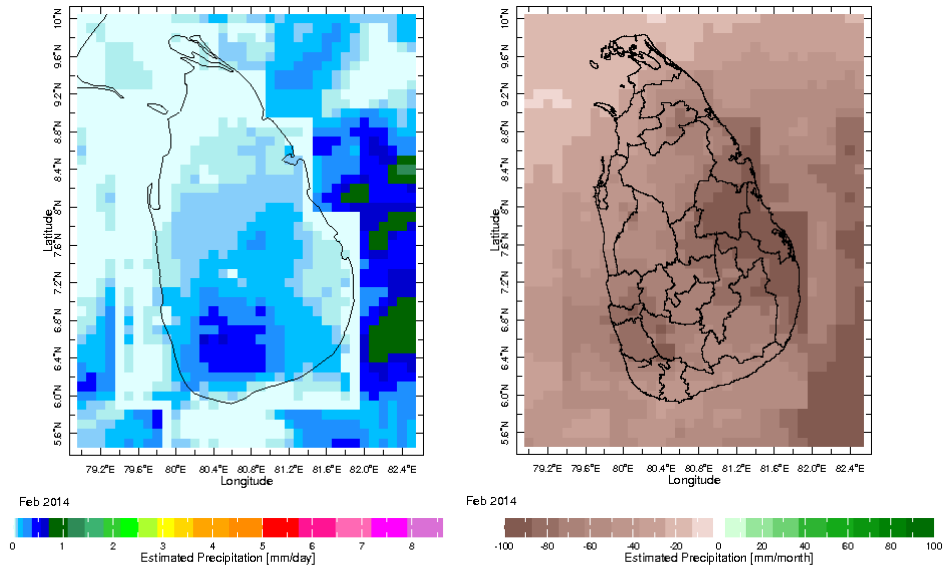
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

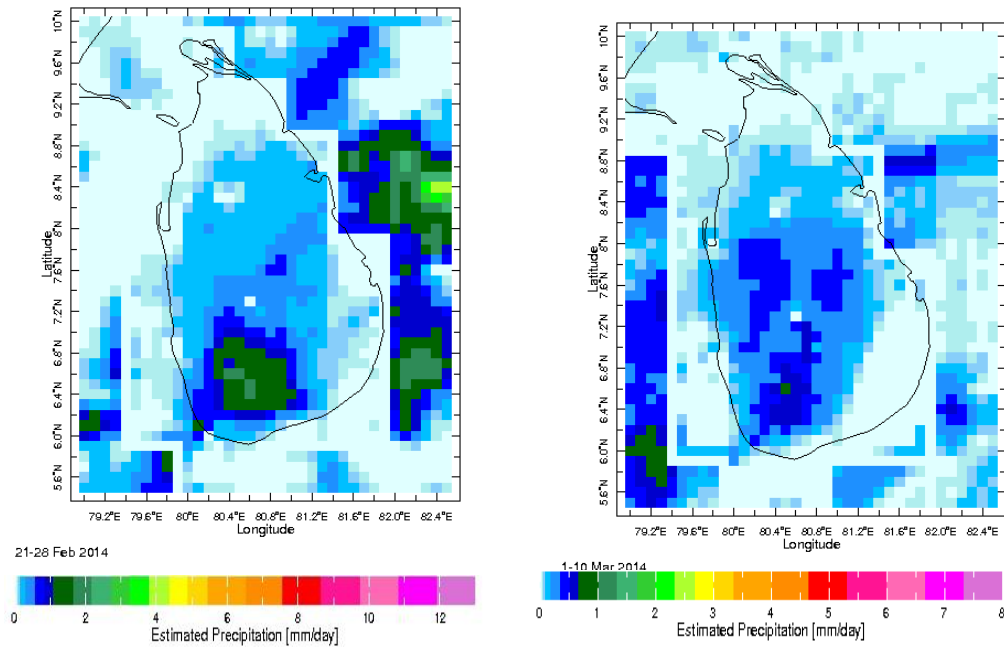
a) Daily Satellite Derived Rainfall Estimate Maps: 4th-10th March 2014 (Left-Right, Top-Bottom)



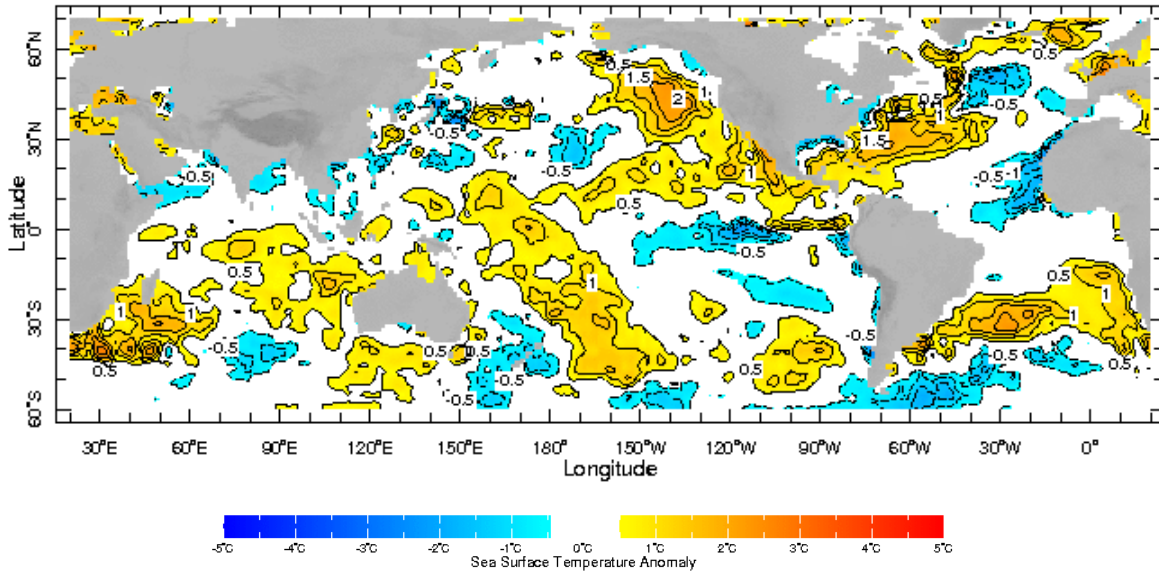
b) Monthly Satellite Derived Rainfall Estimates for February 2014 (Average – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-28 February & 1-10 March, 2014)



d) Weekly Average SST Anomalies



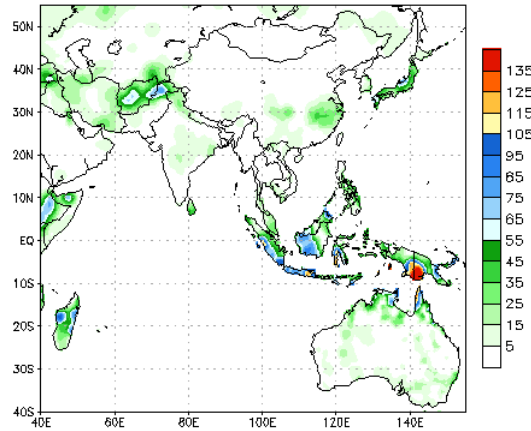
Weekly Average SST Anomalies ($^{\circ}\text{C}$), 2nd-8th March, 2014

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

2. Predictions

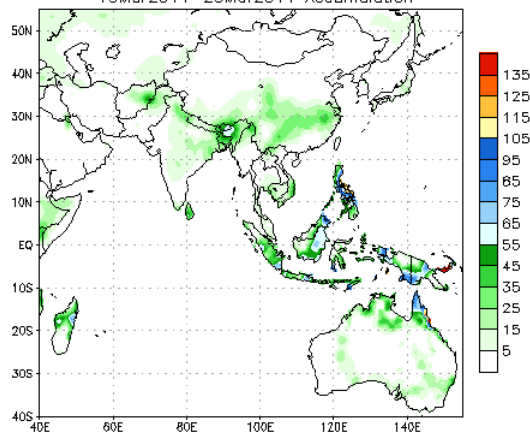
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 12Mar2014
12Mar2014-18Mar2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 12Mar2014
19Mar2014-25Mar2014 Accumulation

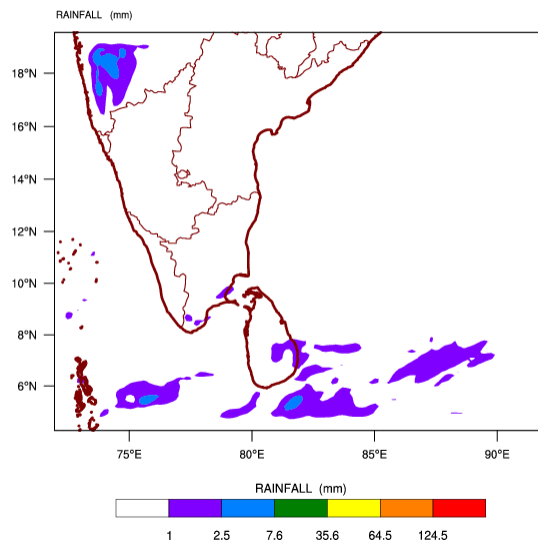


Bias correction based on last 30-day forecast error

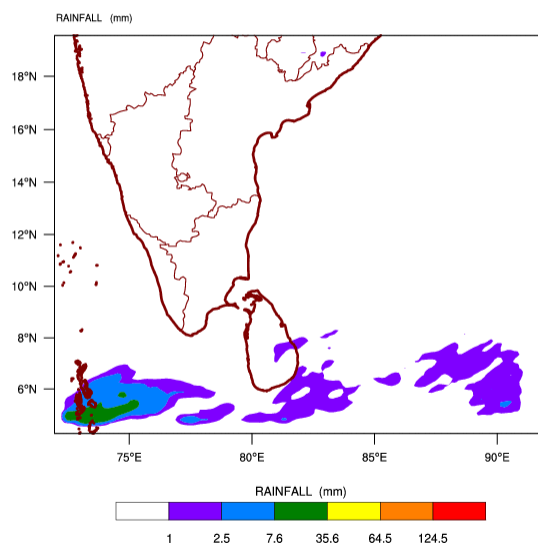
Source – NOAA Climate Prediction Center

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

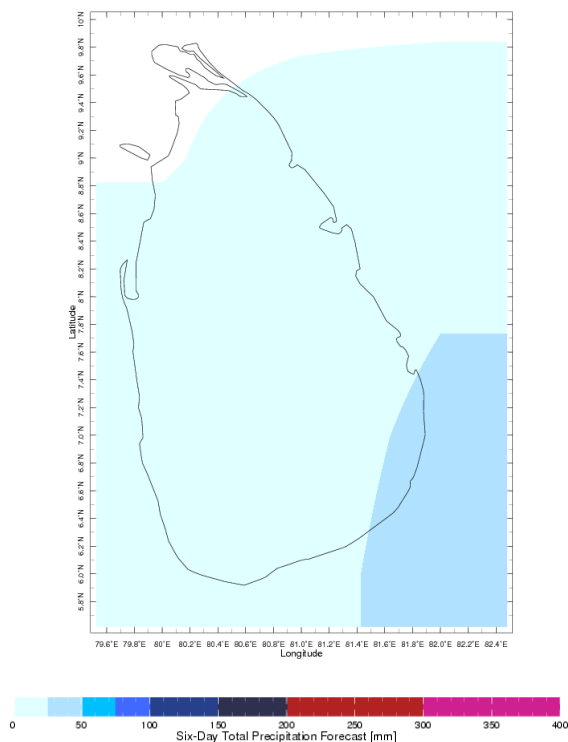
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 11-03-2014 valid for 03 UTC of 13-03-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 11-03-2014 valid for 03 UTC of 14-03-2014



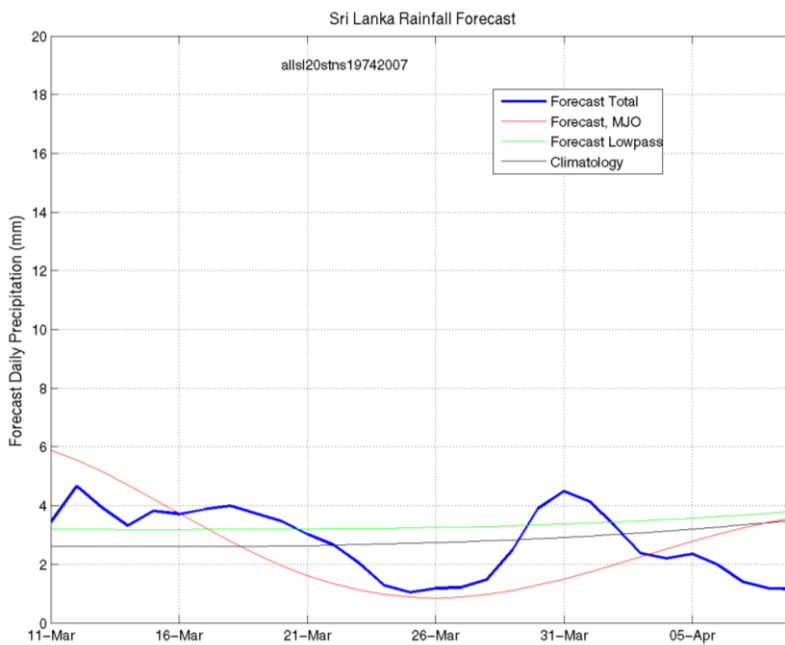
c) Weekly Precipitation Forecast for 12th-17th March 2014 (Precipitation Forecast in Context Map Tool, IRI)



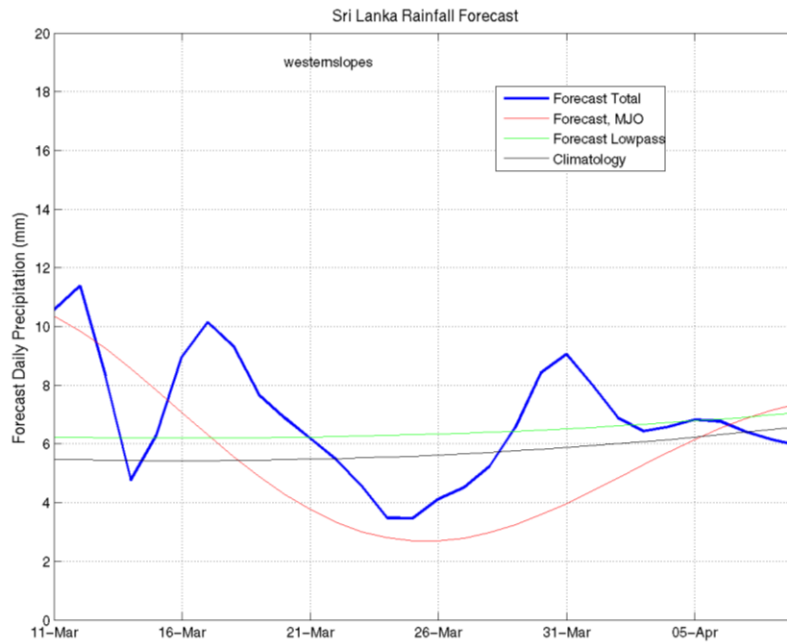
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 12th March, 2014

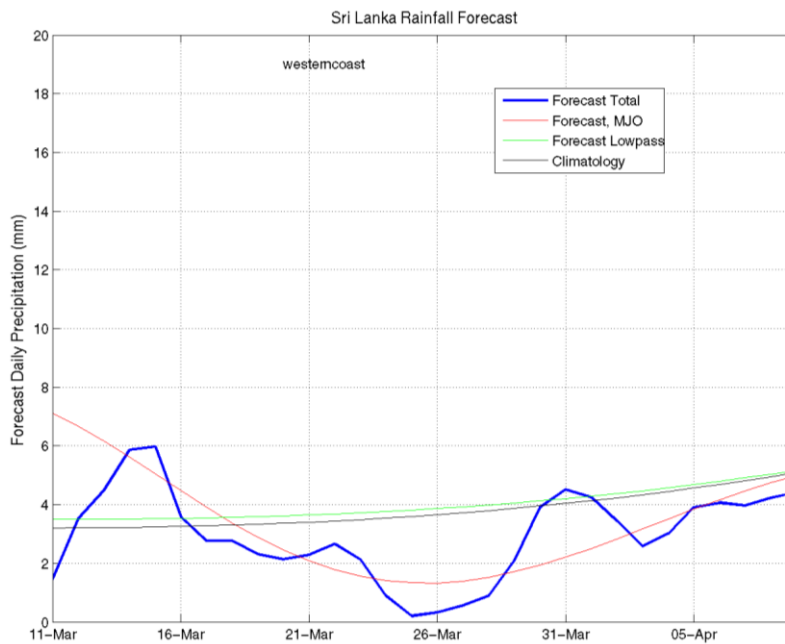
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



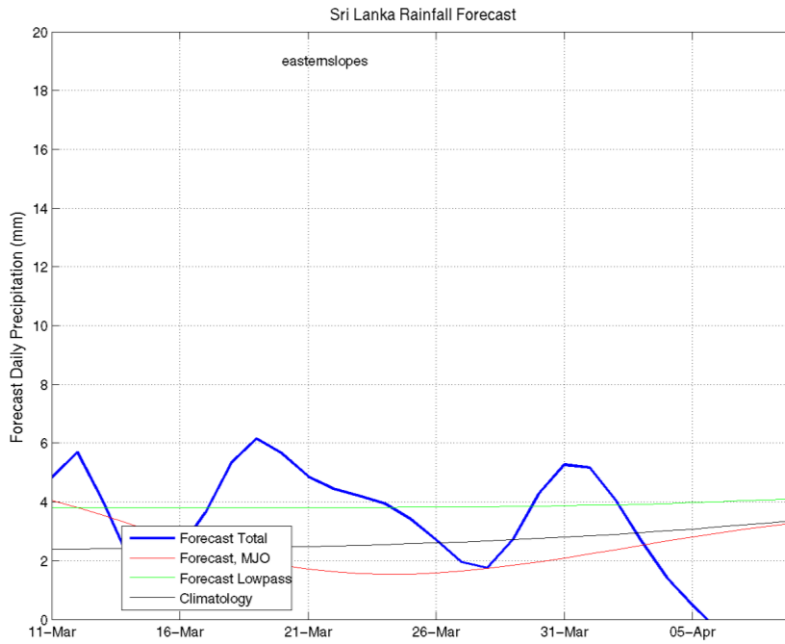
Western Slopes (Rainfall Scale from 0-20 mm/day)



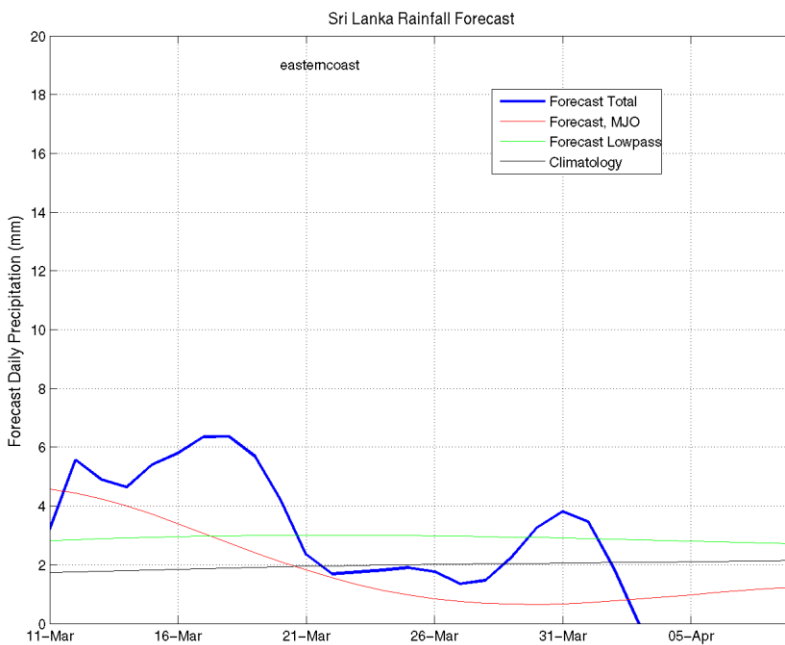
Western Coast (Rainfall Scale from 0-20 mm/day)



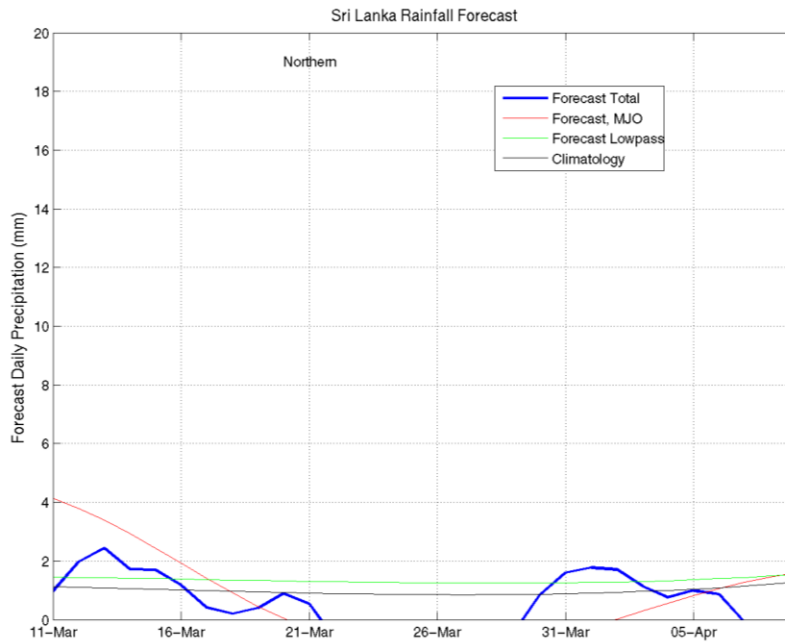
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



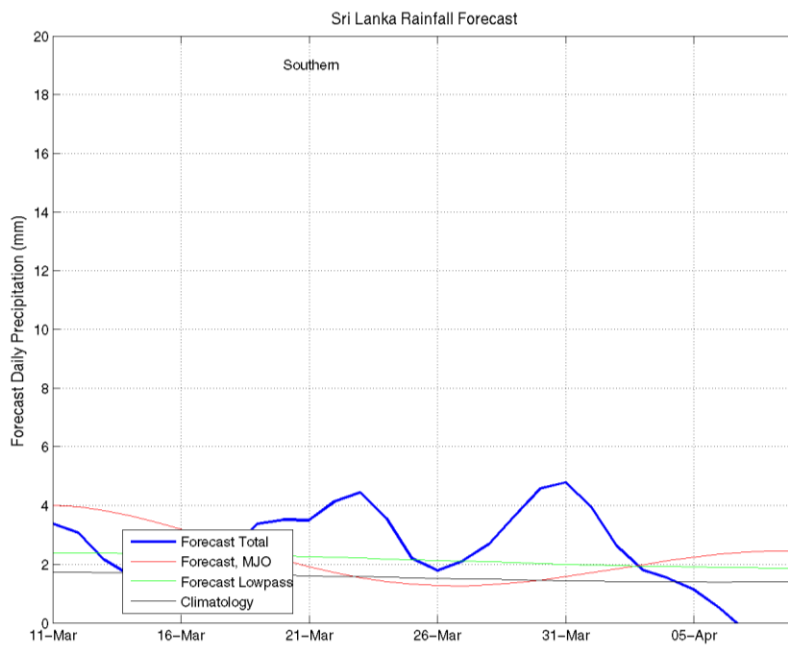
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

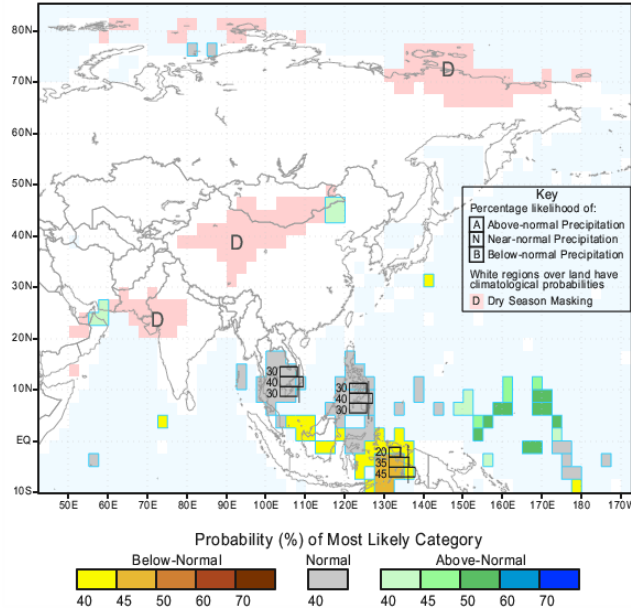


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

