

Experimental Climate Monitoring and Prediction

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27 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 16th-22nd March 2014.

MJO STATE

MJO is neutral.

Highlights

Monitoring and Predictions:

Existing rainfall condition shall vary frequently (less than 4mm/day) till 5th April 2014. However, Eastern slopes and coasts are likely to observe increasing pattern of rainfall till 29th March and it shall decrease thereafter.

Summary

Monitoring

Weekly Monitoring: During 18th-24th March 2014, Sri Lanka received comparatively more rainfall than the previous weeks. However, maximum rainfall observed on 20th for Kegalle district. On 19th entire country received rainfall of 5-10 mm/day. Rainfall started to decrease during end of the 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 28th March-1st April 2014, Entire country receive no rainfall, except for Galle shall receive 15-25 mm of rainfall/week. During 2nd-8th April, Colombo, Gampaha and Kalutara districts shall receive 55-65 mm of rainfall/week and shall spread towards entire country in a reducing pattern.

IMD WRF & IRI Model Forecast: For 28th of March, IMD WRF model predicts less than 8 mm of rainfall for Puttalam-Matara coastal districts and their nearby districts, Ampara and Batticaloa districts. For 29th of March, the model predicts same rainfall pattern as on 28th, except Ampara and Batticaloa shall not receive rainfall. IRI model predicts 5-25 mm/6 days of rainfall for entire country except for Jaffna, Killinochchi, Mullaitivu, Vavuniya and Mannar districts shall receive rainfall of less than 5 mm/6 days for the coming week (26th-31st March 2014).

30 Days Prediction: Overall- Existing rainfall condition shall vary frequently (less than 4mm/day) till 5th April 2014. **Western Slopes-** The rainfall pattern persisting in the entire country shall be observed in this region, with less than 10 mm/day. **Western Coast-** Rainfall shall decrease gradually till 29th and thereafter it shall increase gradually till 5th April. **Eastern Slopes-** Existing rainfall shall increase gradually till 29th and decrease thereafter till 15th. **Eastern Coast-** Existing rainfall shall increase drastically till 29th and decrease thereafter. **Northern-** Rainfall is not predicted till 29th and thereafter it shall increase gradually. **Southern Region-** The rainfall pattern persisting in the entire country shall be observed in this region, with less than 5 mm/day.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on March 2014; for April 2014 to June 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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- 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

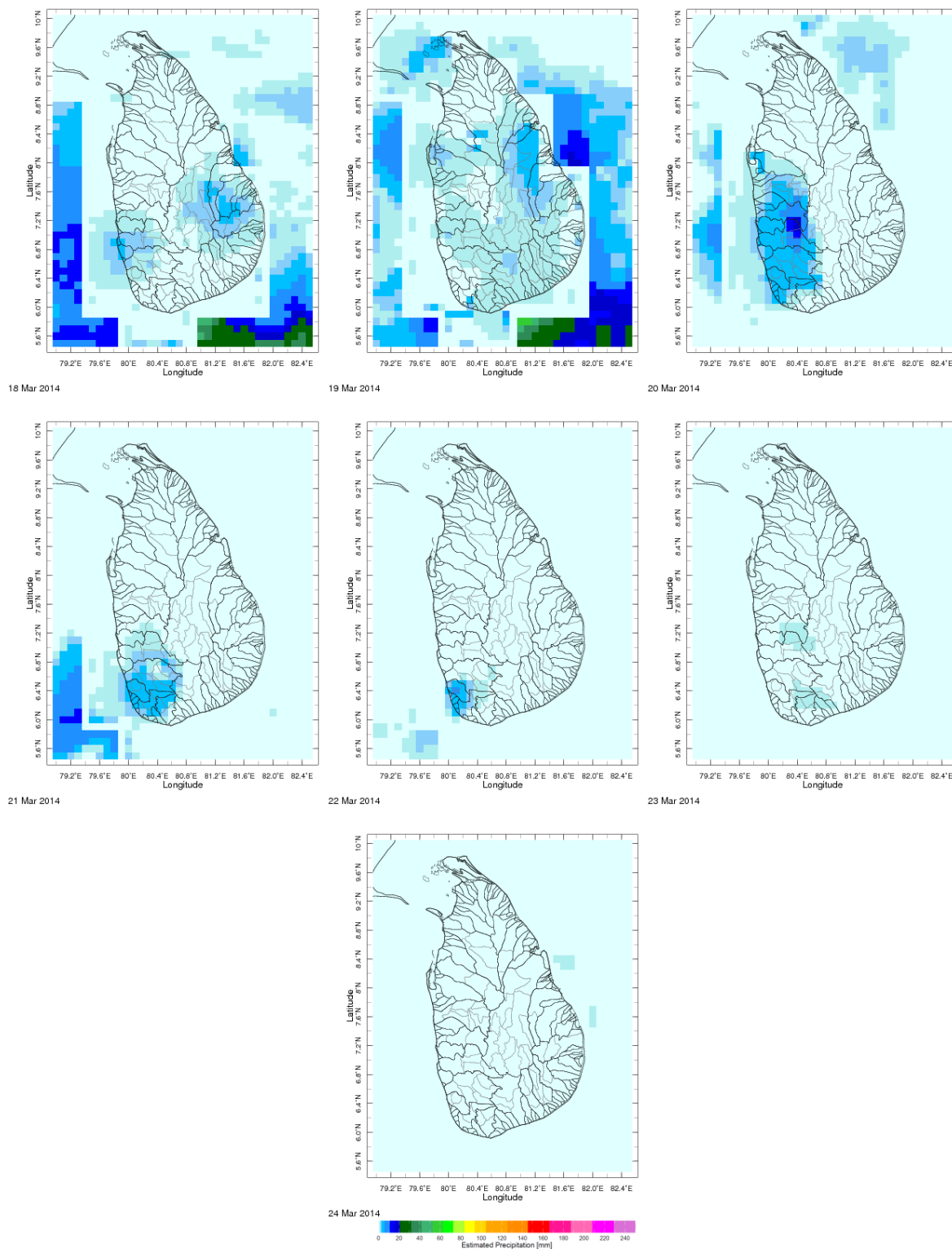
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

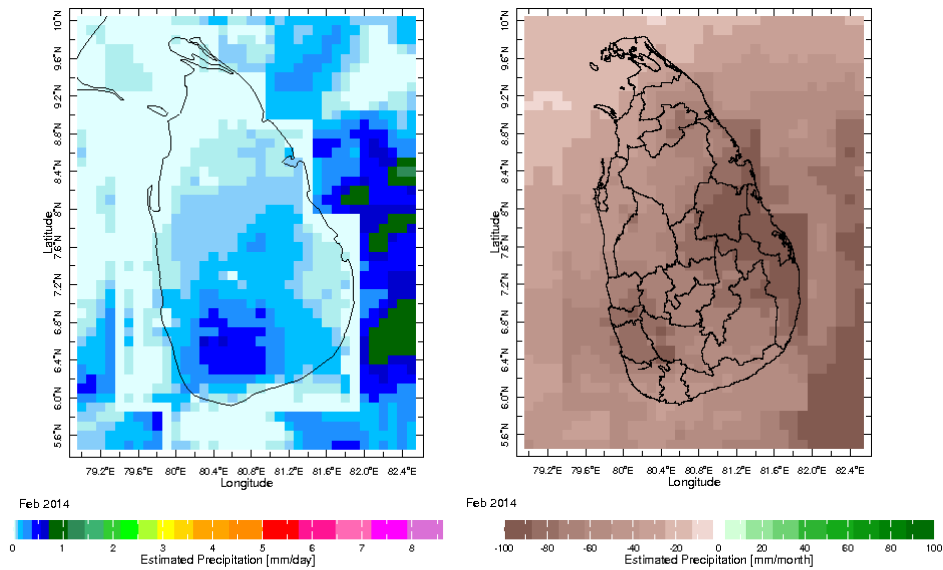
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

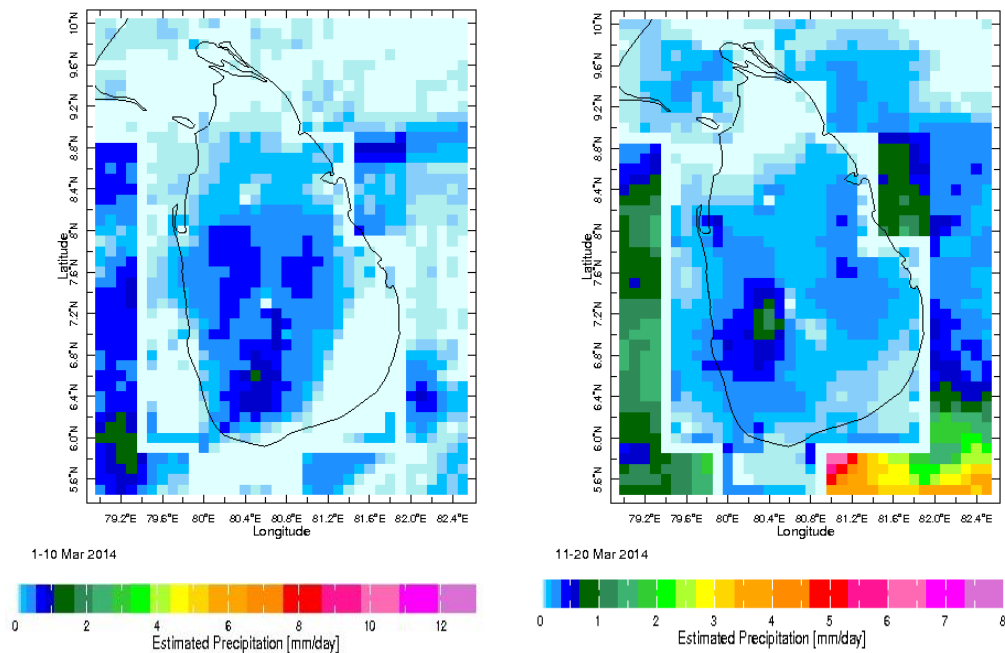
a) Daily Satellite Derived Rainfall Estimate Maps: 18th-24th March 2014 (Left-Right, Top-Bottom)



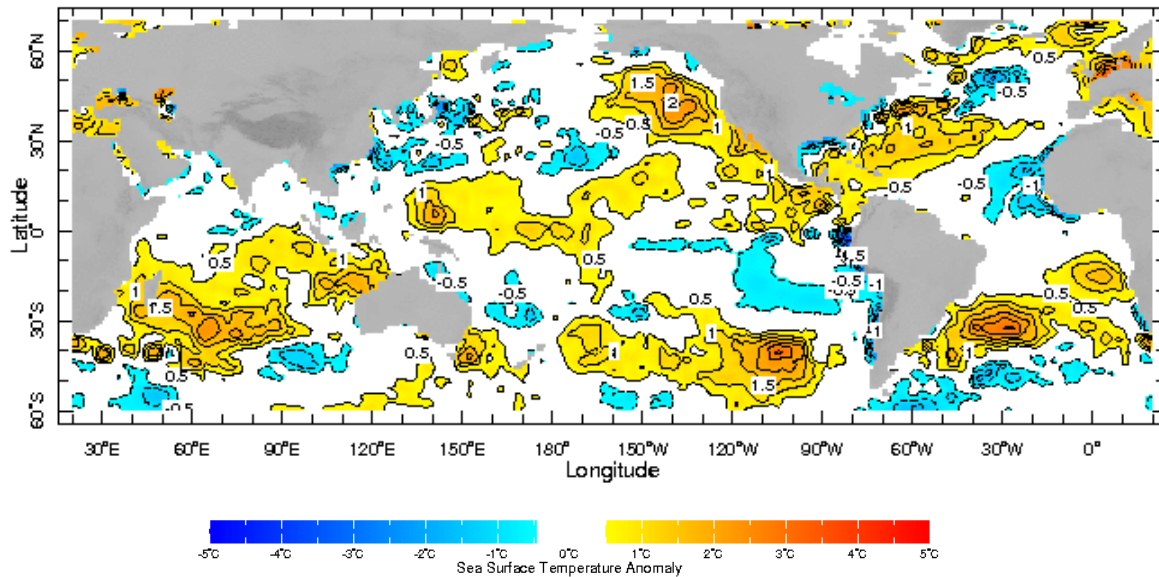
b) Monthly Satellite Derived Rainfall Estimates for February 2014 (Average – Left and Anomaly - Right)



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



d) Weekly Average SST Anomalies

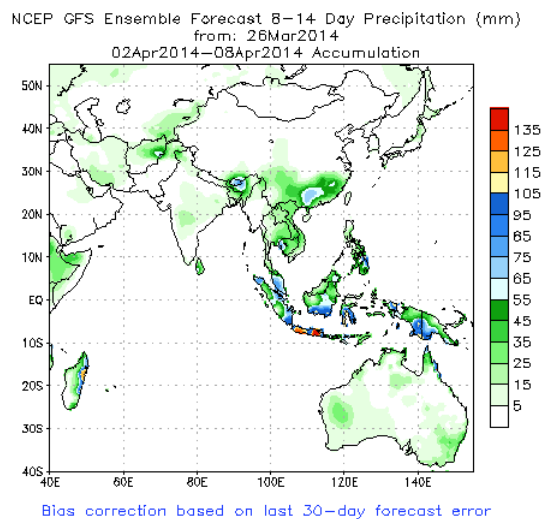
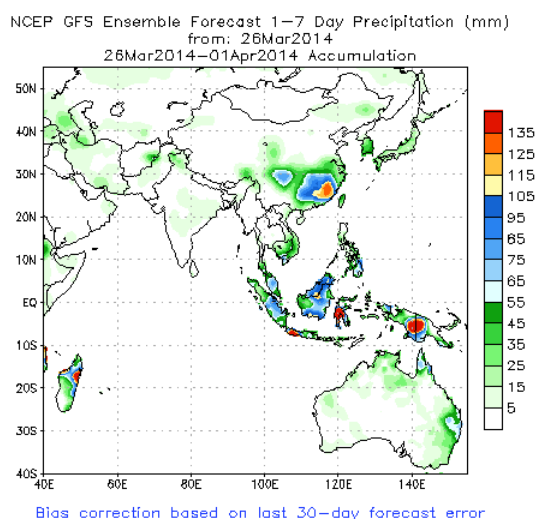


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 16th-22nd March, 2014

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

2. Predictions

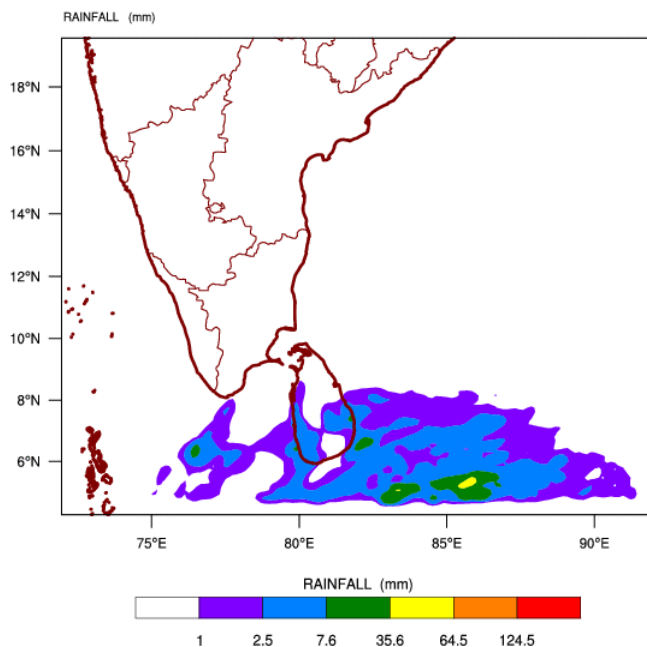
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.



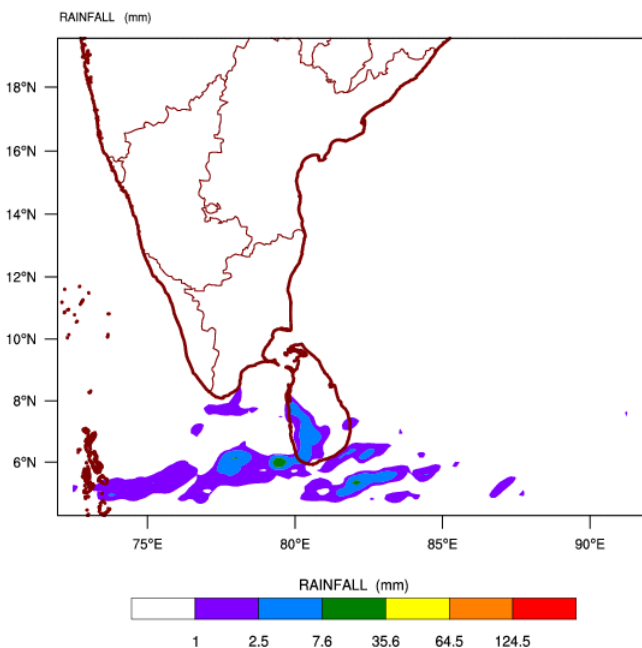
Source – NOAA Climate Prediction Center

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

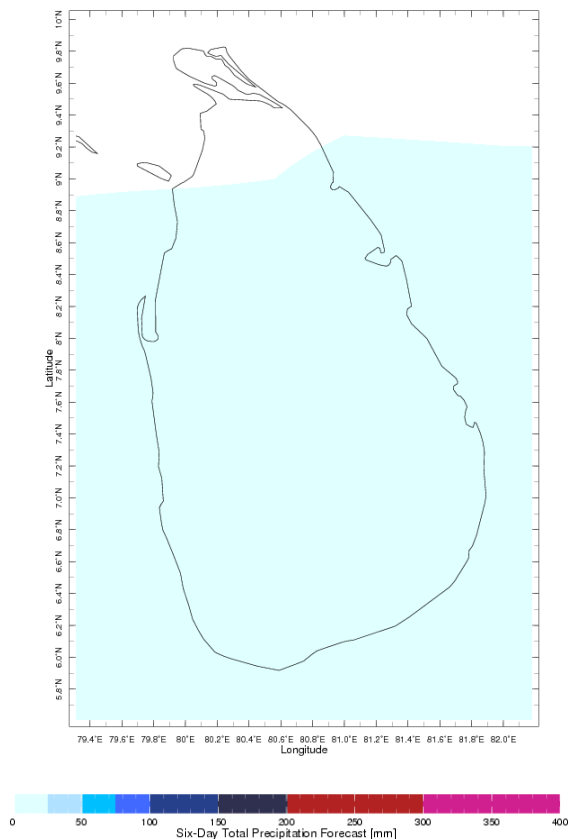
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 26-03-2014 valid for 03 UTC of 28-03-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 26-03-2014 valid for 03 UTC of 29-03-2014



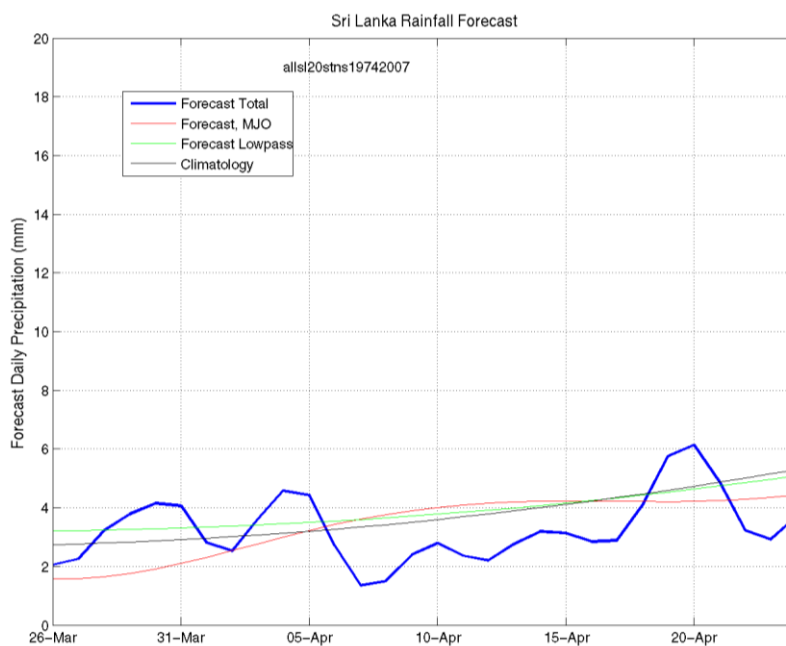
c) Weekly Precipitation Forecast for 26th-31st March 2014 (Precipitation Forecast in Context Map Tool, IRI)



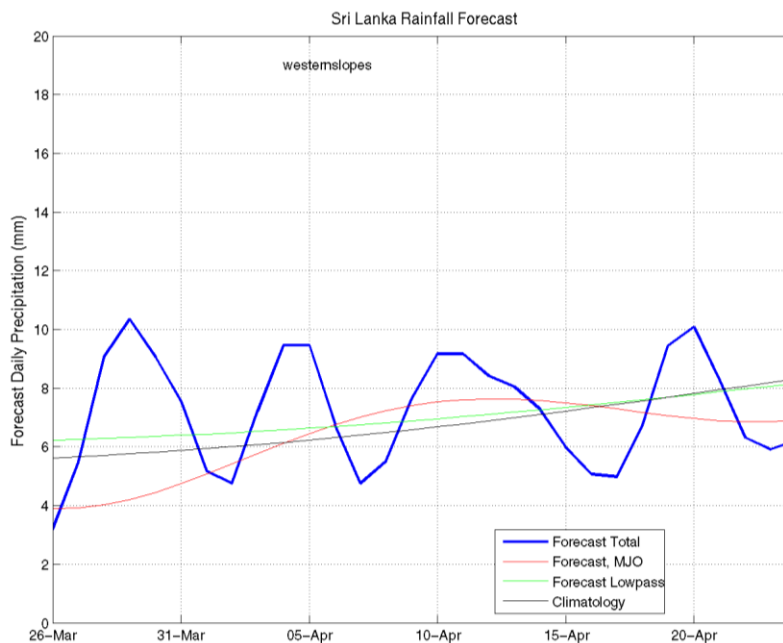
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 27th March, 2014

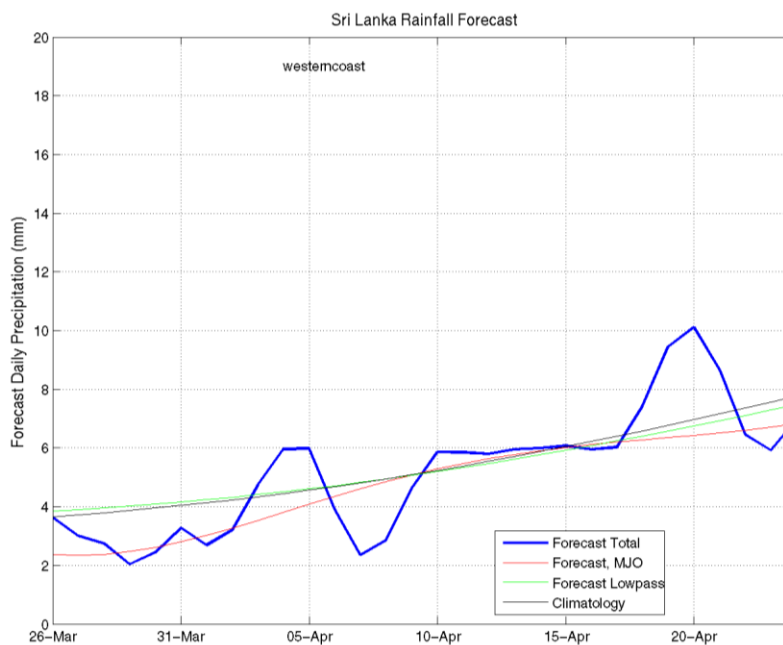
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



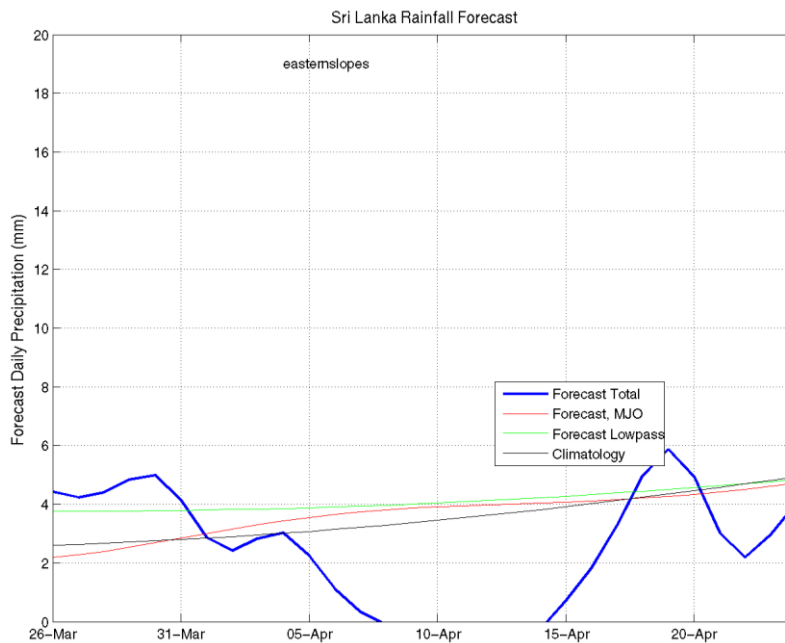
Western Slopes (Rainfall Scale from 0-20 mm/day)



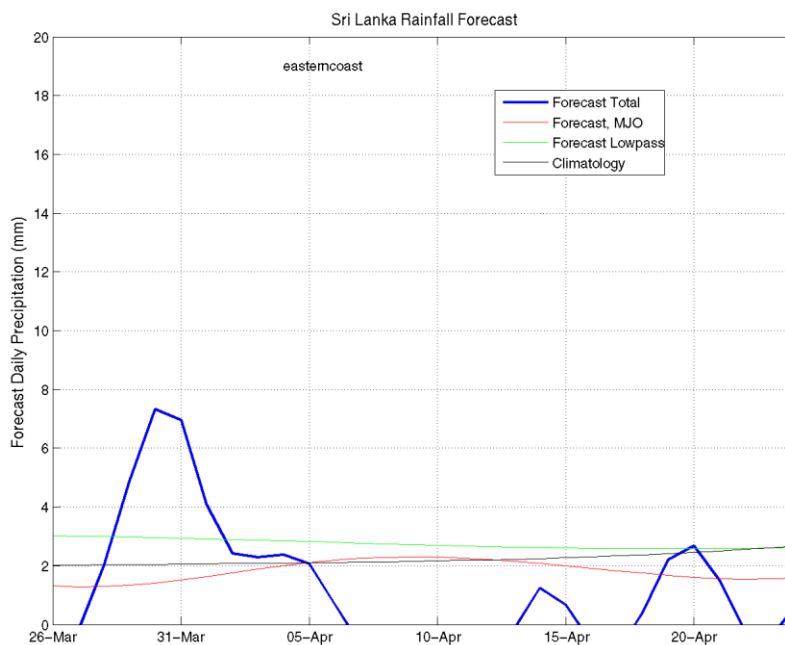
Western Coast (Rainfall Scale from 0-20 mm/day)



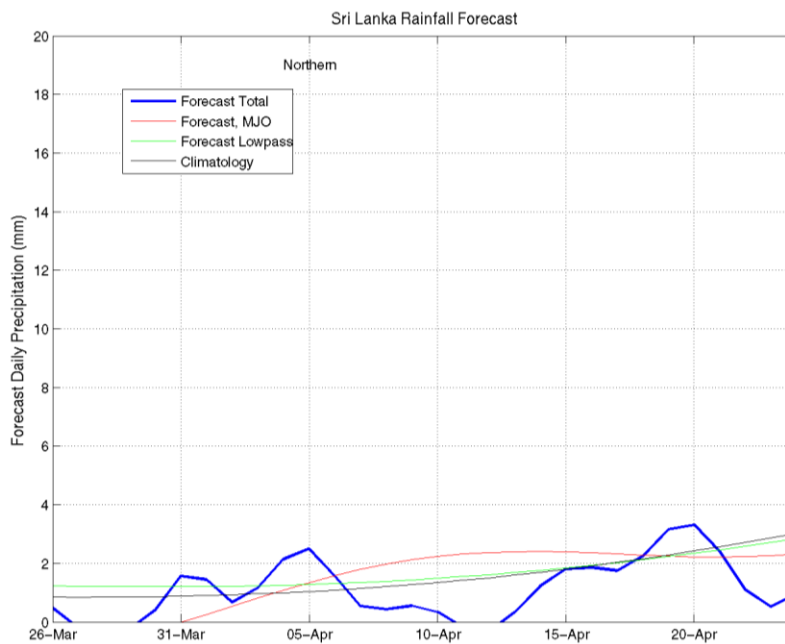
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



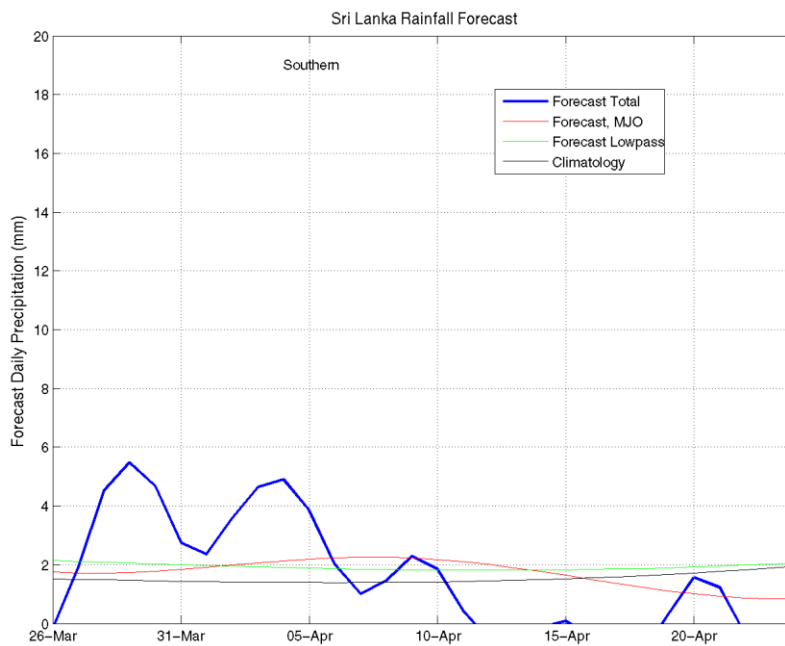
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

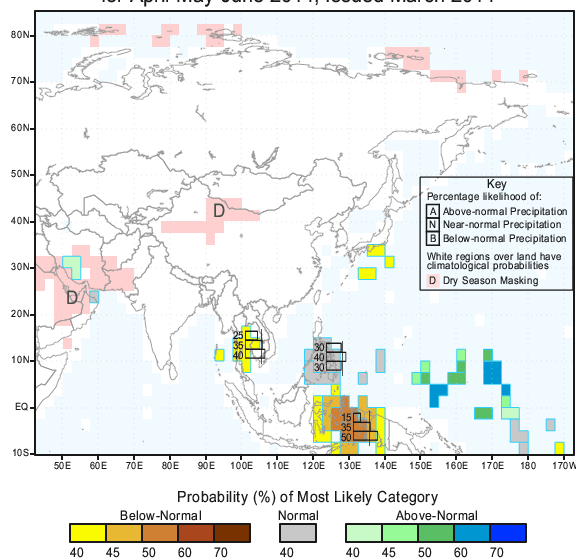


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

