

Experimental Climate Monitoring and Prediction

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20 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 9th-15th March 2014.

MJO STATE

MJO is at phase 2 & will move in to phase 3 which shall influence rainfall of Sri Lanka.

Highlights

Monitoring and Predictions:

Existing rainfall condition further decrease till 22nd March and remain constant till 28th of March. For western slopes and Southern regions, existing rainfall is likely to increase after 23rd March till 29th March 2014. However, on 21st Kegalle and Ratnapura districts shall receive more rainfall than the entire country. For the coming week (18th-23rd March), Badulla district is likely to expect heavy rainfall.

Summary

Monitoring

Weekly Monitoring: During 11th-16th March 2014, entire country was dry. On 17th March, Anuradhapura district received insignificant amount of rainfall (less than 5 mm rainfall/day).

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 19th-25th March, southwestern regions of the Island shall receive rainfall of less than 55 mm/week. During 26th March-1st April 2014, entire country is likely to expect less than 15 mm/week rainfall.

IMD WRF & IRI Model Forecast: For 21st of March, IMD WRF model predicts high amount of rainfall (less than 65 mm/day) for the parts of Kegalle and Ratnapura districts. For the same day southern 2/3rd of the island shall receive less than 35 mm/day rainfall. For 22nd of March, model predicts less than 65 mm/day rainfall for patches in Colombo, Galle and N'Eliya districts and for the same day western regions shall receive less than 35 mm/day rainfall. IRI model predicts 100-150 mm/6 days of rainfall for Badulla district and rainfall shall spread in a reducing pattern towards near by districts for the coming week (18th-23rd March 2014).

30 Days Prediction: Overall- Existing rainfall condition further decrease till 22nd March and remain constant till 28th of March. **Western Slopes-** Existing rainfall condition further decrease till 22nd March and it shall increase gradually till 29th March. **Western Coasts-** The rainfall pattern persisting in the entire country shall be observed in this region. **Eastern Slopes-** The rainfall pattern persisting in the entire country shall be observed in this region, with high amount of rainfall. **Eastern Coast-** Existing rainfall condition further decrease gradually till 27th March. **Northern-** Existing rainfall condition further decrease till 23rd March and thereafter rainfall is not predicted till 28th. **Southern Region-** The rainfall pattern persisting in the western slopes shall be observed in this region.

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

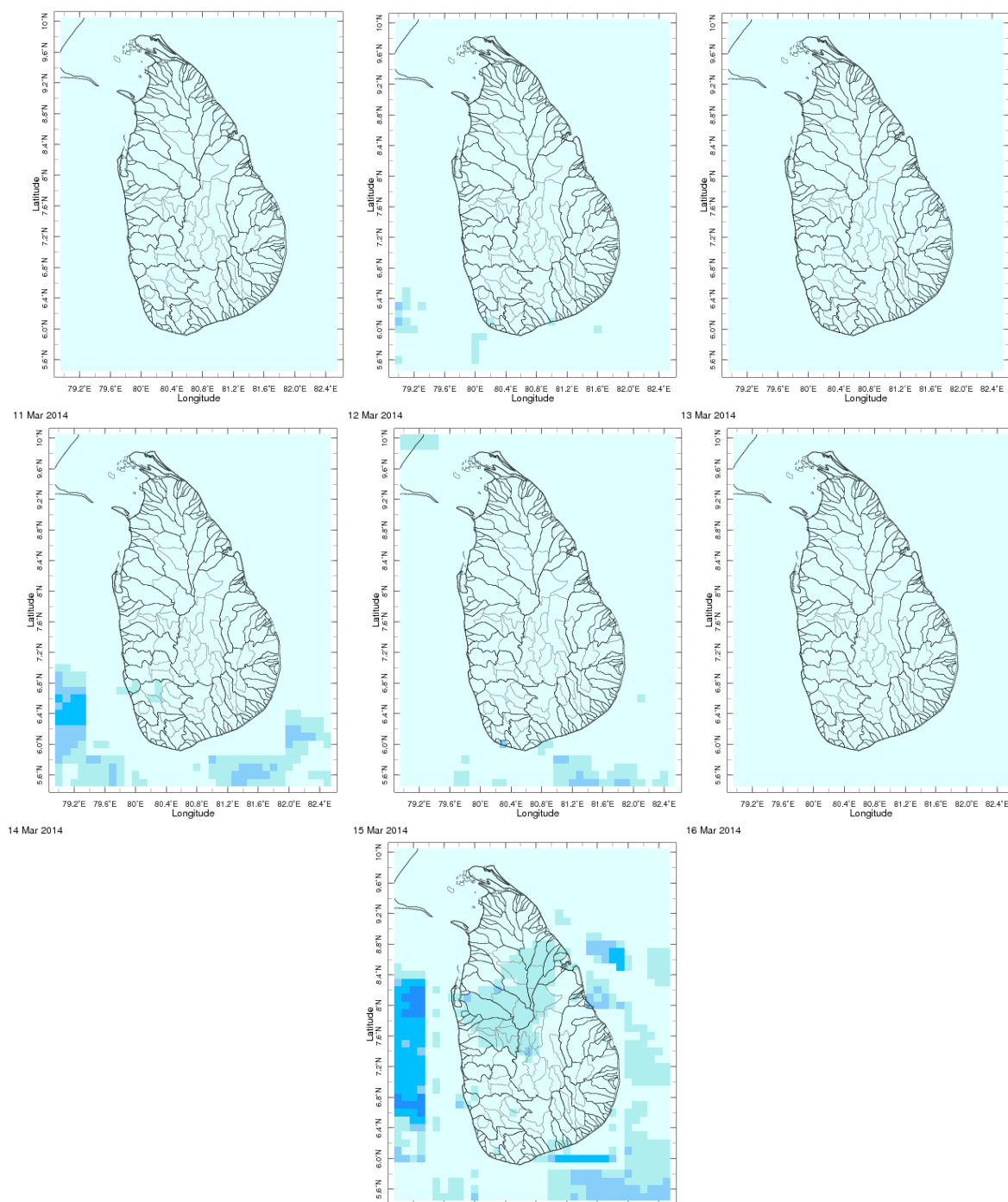
- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

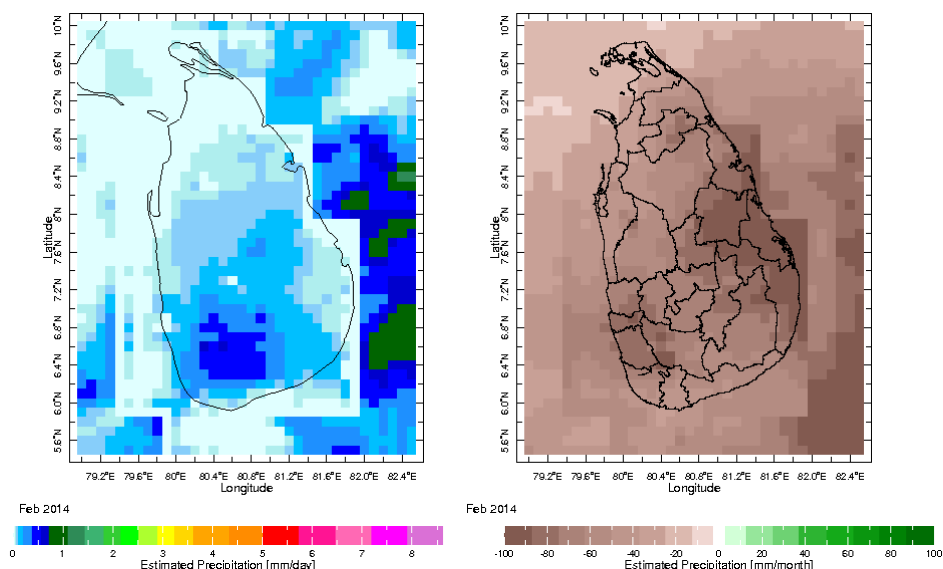
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

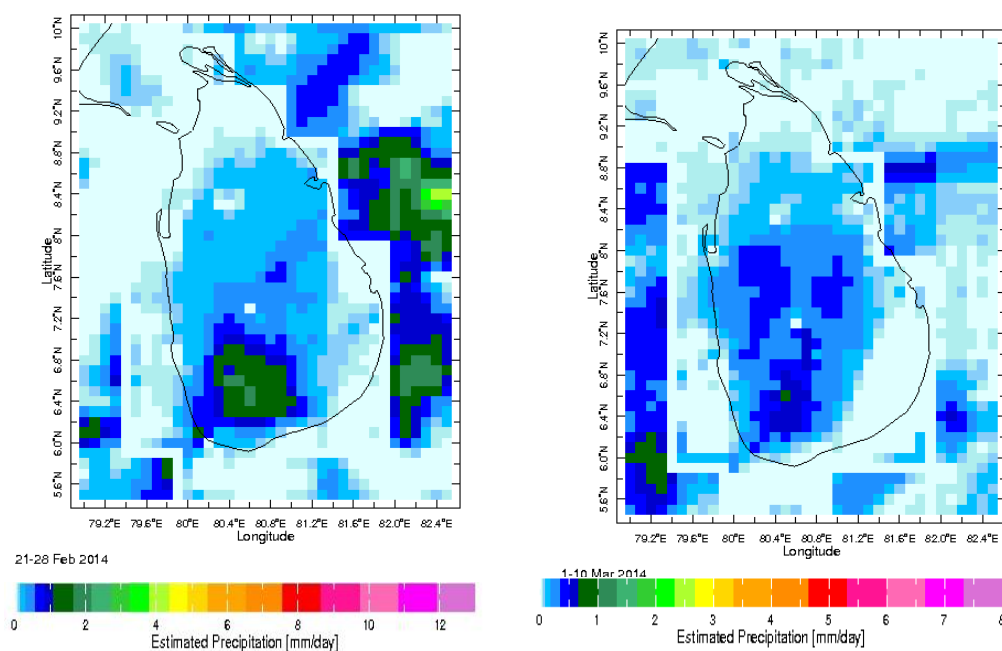
a) Daily Satellite Derived Rainfall Estimate Maps: 11th-17th March 2014 (Left-Right, Top-Bottom)



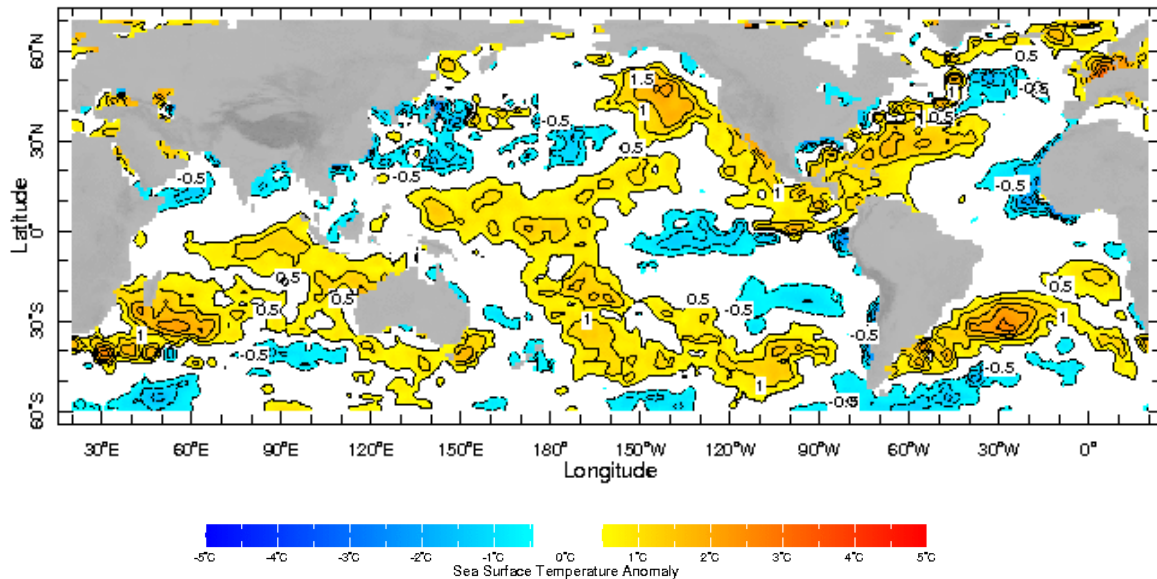
b) Monthly Satellite Derived Rainfall Estimates for February 2014 (Average – Left and Anomaly - Right)



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



d) Weekly Average SST Anomalies

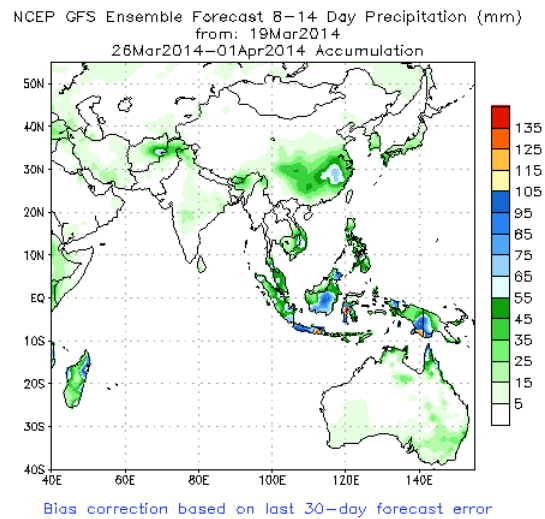
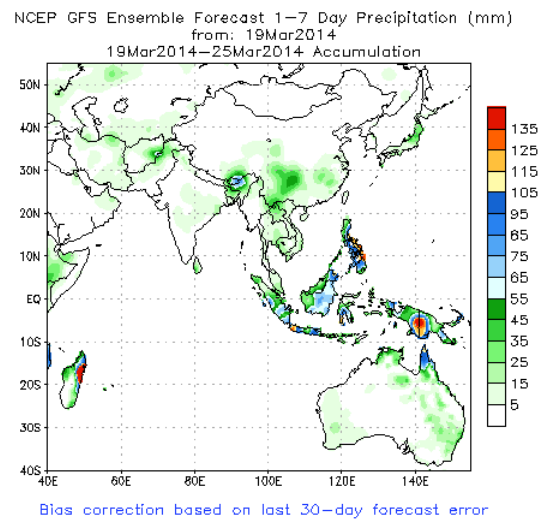


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 9th-15th March, 2014

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

2. Predictions

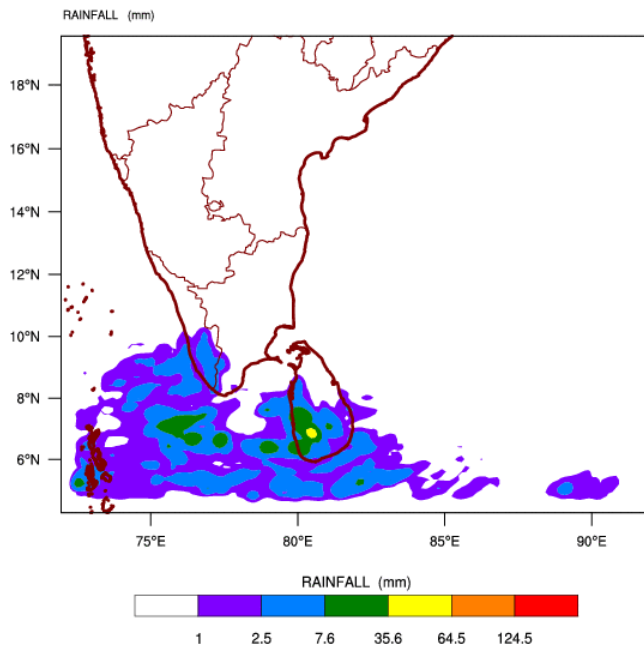
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.



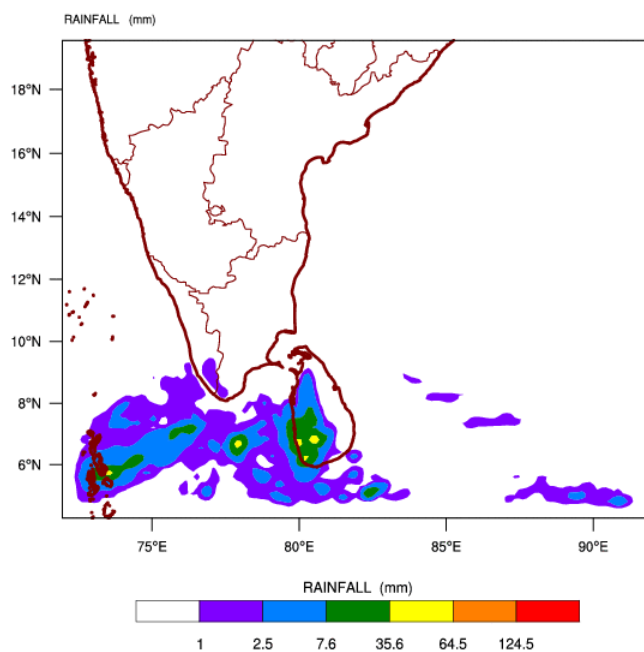
Source – NOAA Climate Prediction Center

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

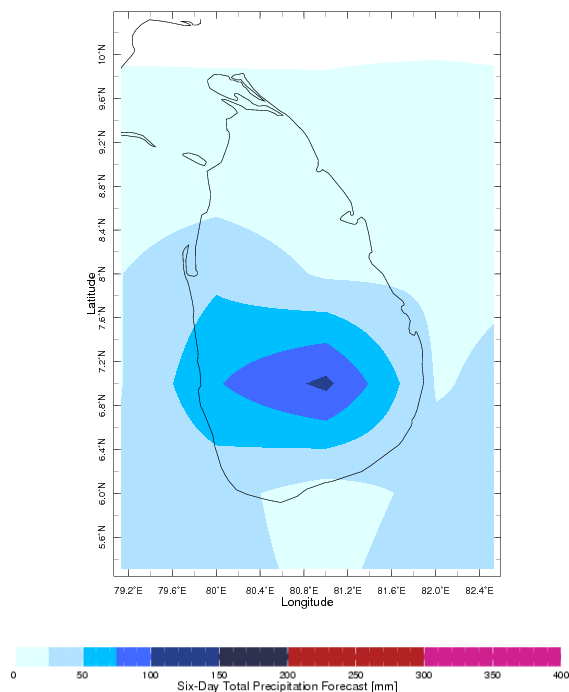
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 19-03-2014 valid for 03 UTC of 21-03-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 19-03-2014 valid for 03 UTC of 22-03-2014



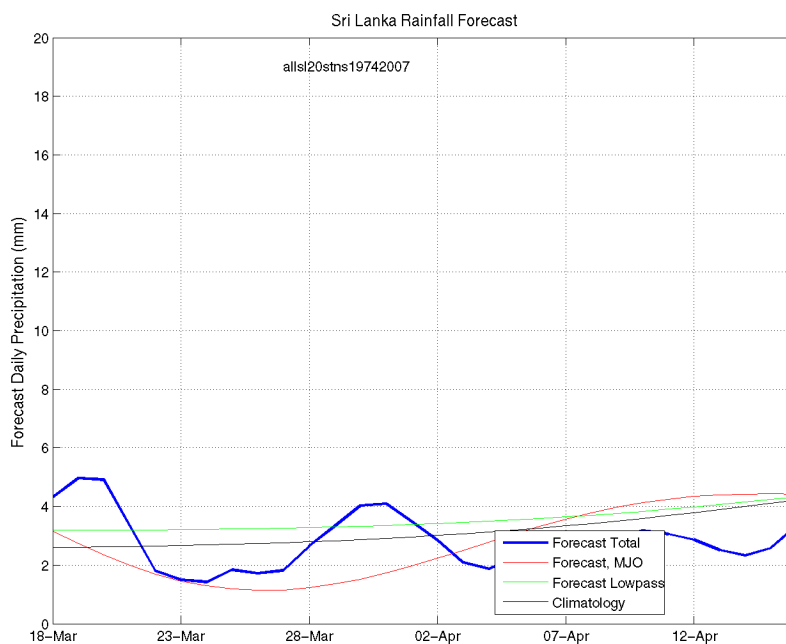
c) Weekly Precipitation Forecast for 18th-23rd March 2014 (Precipitation Forecast in Context Map Tool, IRI)



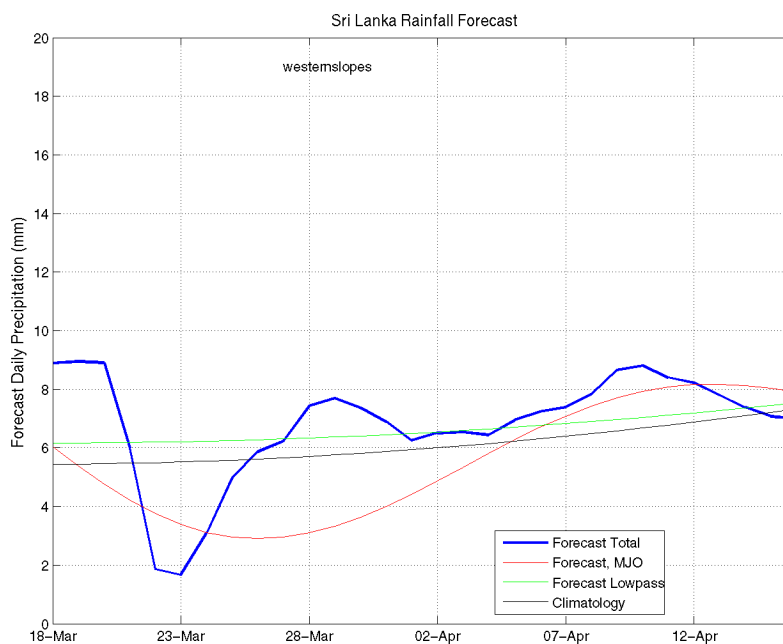
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 19th March, 2014

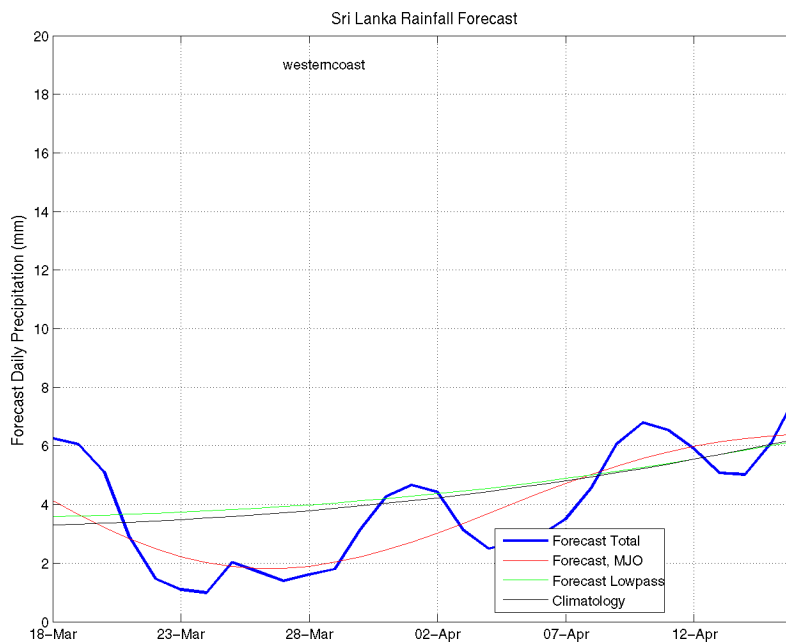
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



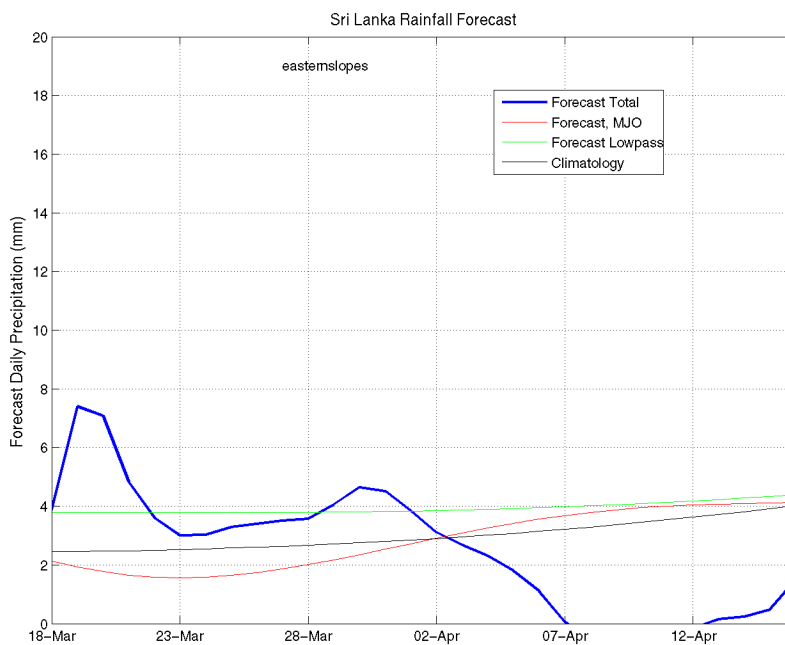
Western Slopes (Rainfall Scale from 0-20 mm/day)



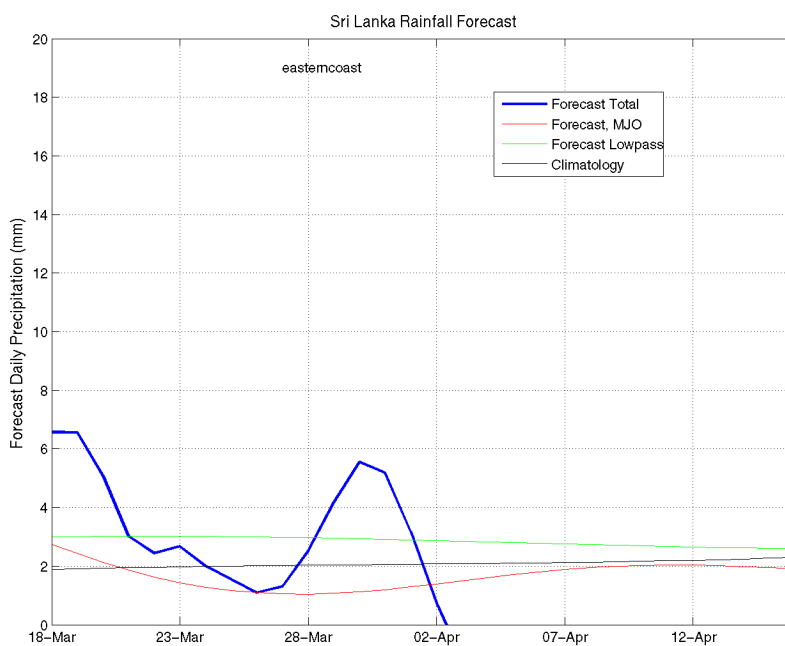
Western Coast (Rainfall Scale from 0-20 mm/day)



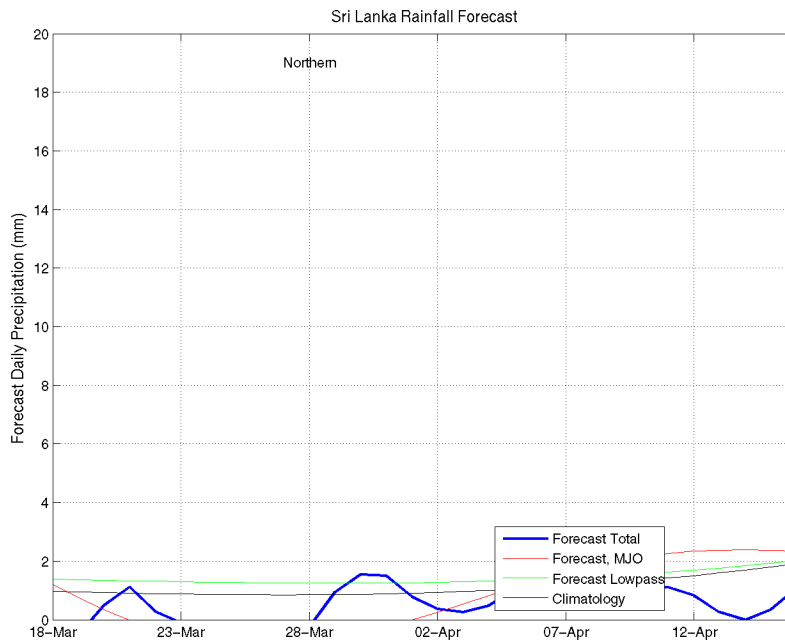
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



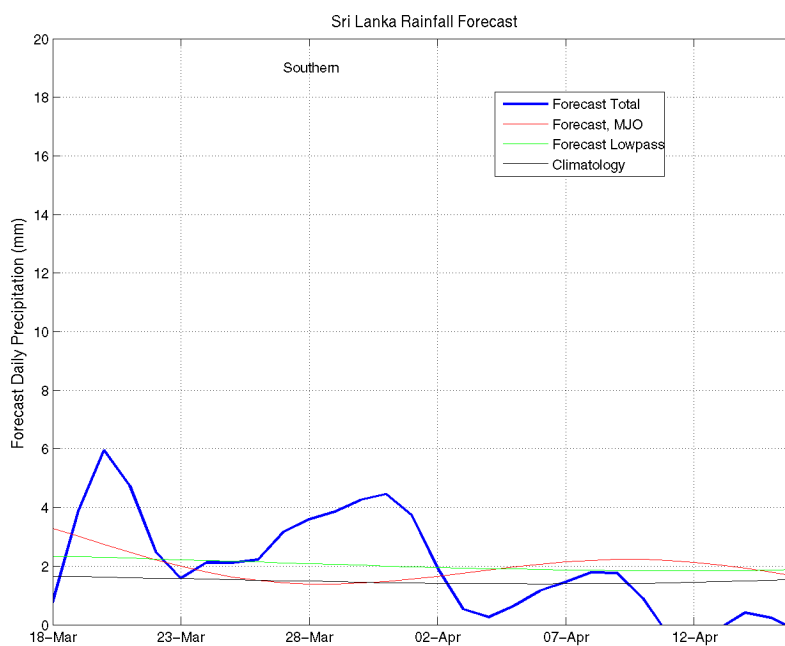
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

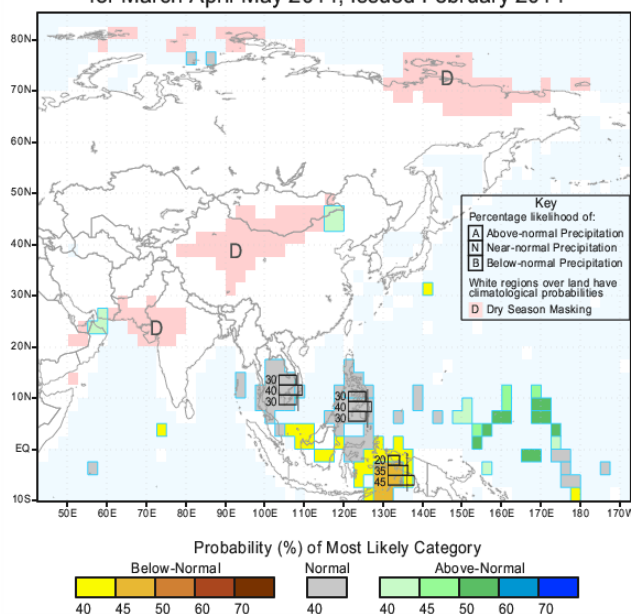


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

