

Experimental Climate Monitoring and Prediction

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16 May 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/>

15 May, 2014 PACIFIC SEAS STATE

During April through mid-May the observed ENSO conditions moved from warm-neutral to the borderline of a weak El Niño condition. Most of the ENSO prediction models indicate a continued warming trend, with a transition to sustained El Niño conditions by the early northern summer.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Eastern and Southeastern seas of Sri Lanka showed +0.5°C anomaly during 4th-10th May 2014.

MJO STATE

MJO is at phase 2 and is likely to impact on Sri Lanka rainfall condition.

Highlights

Monitoring and Predictions:

Existing rainfall condition shall remain constant (8-10 mm/day) till the end of prediction period (15th-21st May) and No significant rainfall events are expected. However, few models predict dryer condition (less than 25 mm/6 days) than previous months for entire country during 15th-20th May 2014.

Summary

Monitoring

Weekly Monitoring: During 6th-12th May 2014, Sri Lanka received rainfall ranged 5-70 mm. During 6th-10th May, northern 2/3rd of the island received more rainfall compared to the rest of the island.

Monthly Monitoring: The border regions of Kurunegala and Anuradhapura and, Vavuniya and Mannar districts received above normal rainfall during April 2014 and rest of the districts received below normal rainfall during April 2014.

Predictions

14 day prediction: During 15th-28th May 2014, western districts of Sri Lanka shall receive 65-55 mm of rainfall and shall spread throughout the country in a reducing manner.

IMD WRF & IRI Model Forecast: For 17th of May, IMD WRF model predicts less than 8 mm/day of rainfall for Gampaha-Galle districts, Kegalle and Ratnapura districts and, is likely to spread in reducing manner towards nearby regions. For 18th of May, the model predicts less than 3 mm of rainfall for the borders of Trincomalee, Batticaloa, Monaragala, Badulla, Nuwara-Eliya and Ratnapura districts and for the same day rest of the island is likely to be dry. IRI model predicts dry condition (less than 25 mm/6 days) for entire country during 15th-20th May 2014.

30 Days Prediction: Overall- Existing rainfall condition shall remain constant (8-10 mm/day) till the end of prediction period (15th-21st May). **Western Slopes-** Existing rainfall condition shall decrease till 19th May and thereafter it shall increase slightly till 23rd. No significant rainfall events are expected. **Western Coast-** The rainfall pattern persisting in the western slopes shall observe in this region. **Eastern Slope-** The rainfall shall decrease gradually till 18th and increase gradually during the prediction period. **Eastern Coast-** The rainfall pattern persisting in the western slopes shall observe in this region with low rates of the rainfall trend. **Northern-** The rainfall condition shall remain constant (6-8 mm/day) during the prediction period. **Southern Region-** The rainfall pattern persisting in the entire country shall observe in this region (constant rainfall of 3-7 mm/day).

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on May 2014; for June 2014 to August 2014, there is a more than 70% probability for temperature to be above normal for Hambantota district and 60-70% probability for temperature to be above normal for rest of the regions in Sri Lanka 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

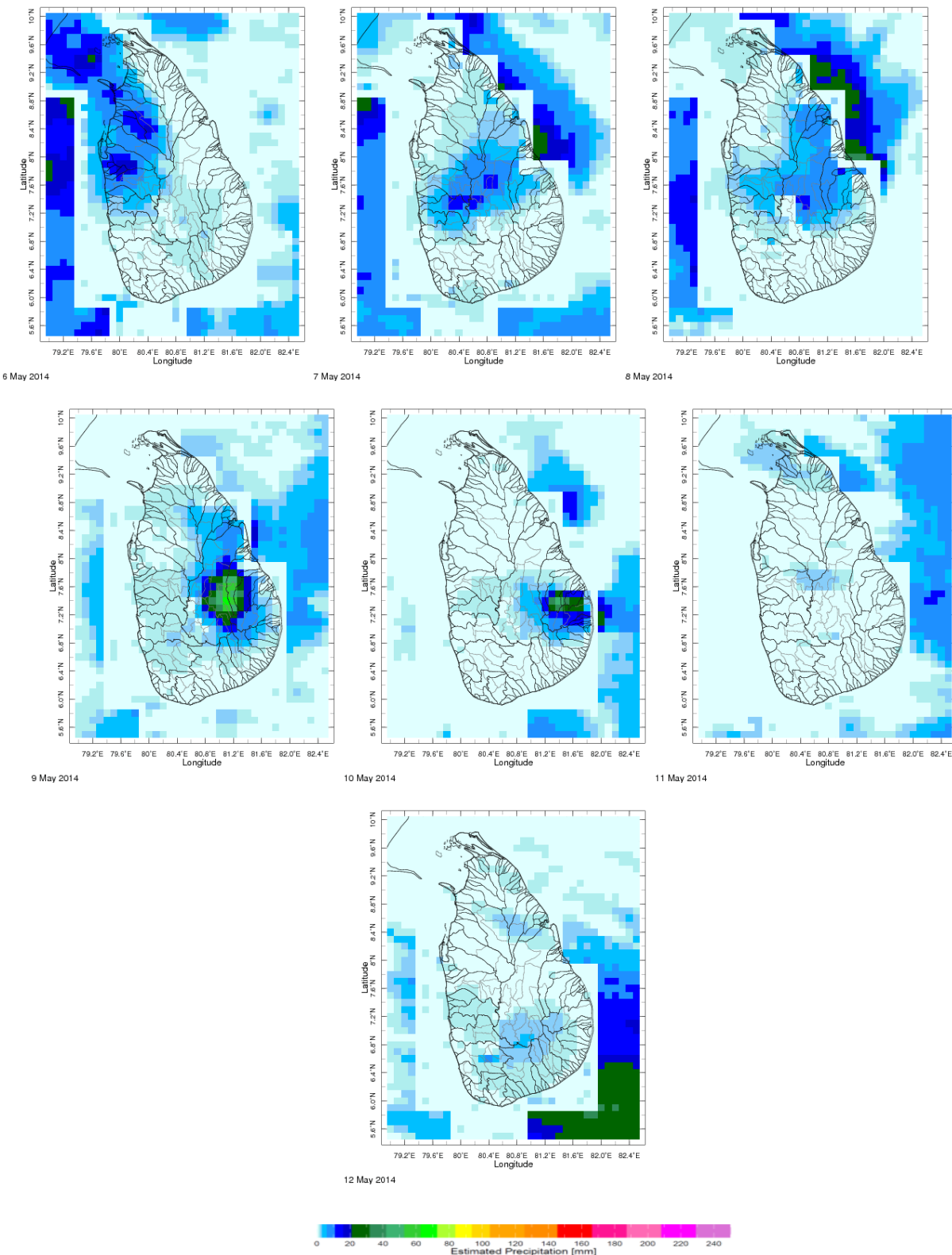
- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

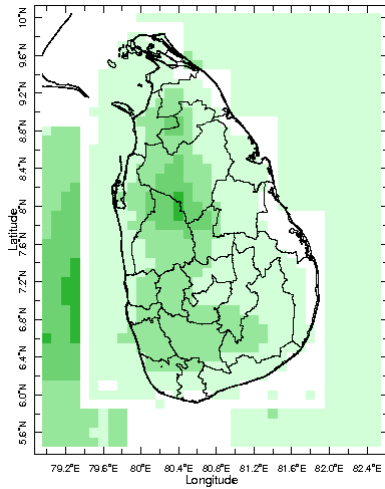
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

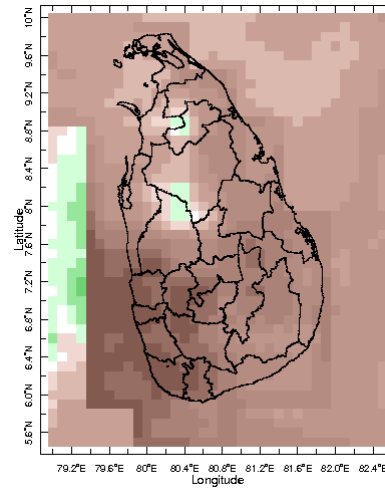
a) Daily Satellite Derived Rainfall Estimate Maps: 6th-12th May 2014 (Left-Right, Top-Bottom)



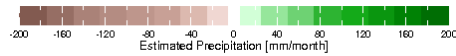
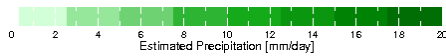
b) Monthly Satellite Derived Rainfall Estimates for April 2014 (Average – Left and Anomaly - Right)



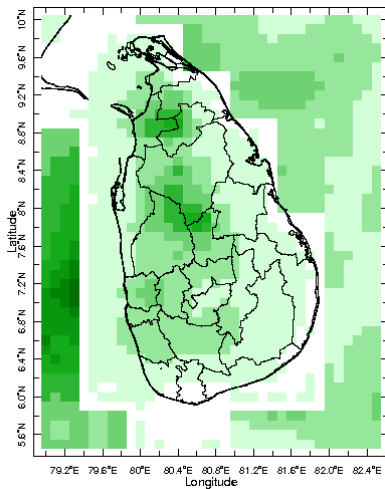
Apr 2014



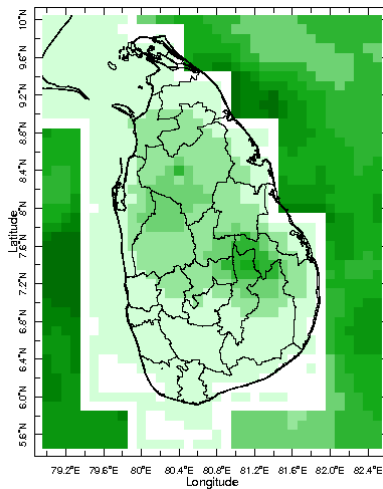
Apr 2014



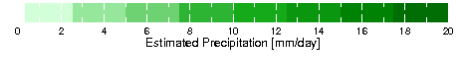
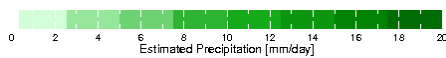
c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-30 April & 1-10 May, 2014)



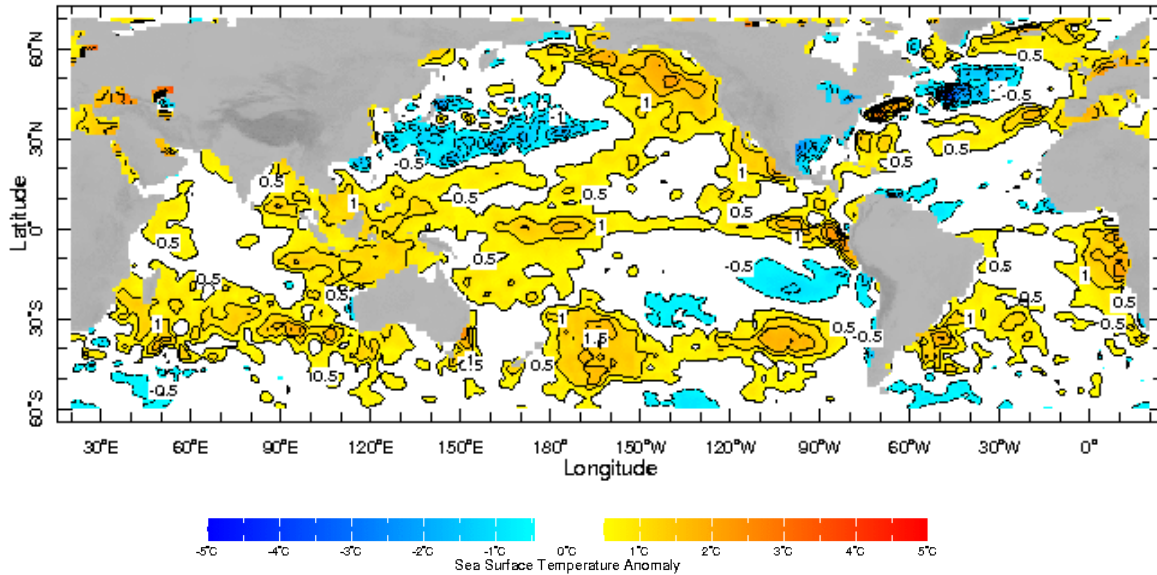
21-30 Apr 2014



1-10 May 2014



d) Weekly Average SST Anomalies



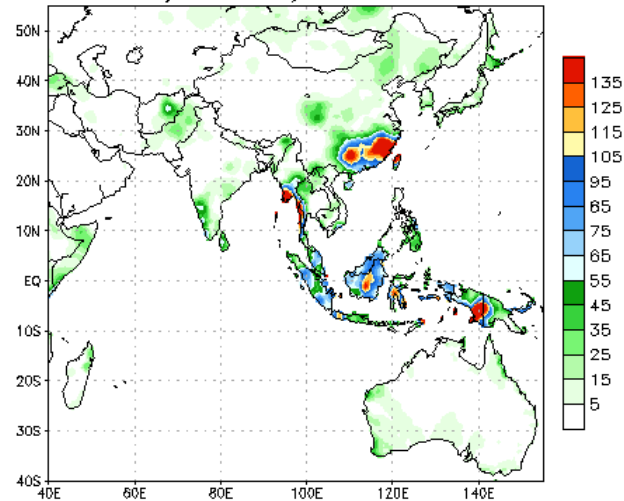
Weekly Average SST Anomalies ($^{\circ}$ C), 4th-10th May, 2014

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

2. Predictions

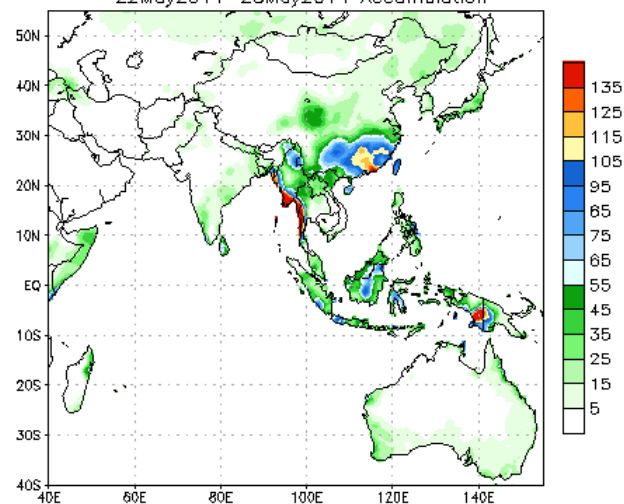
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 15May2014
15May2014-21May2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 15May2014
22May2014-28May2014 Accumulation

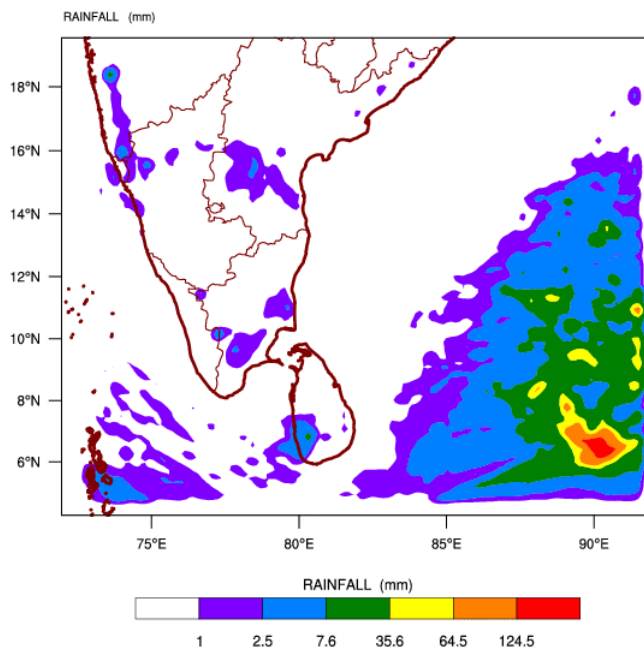


Bias correction based on last 30-day forecast error

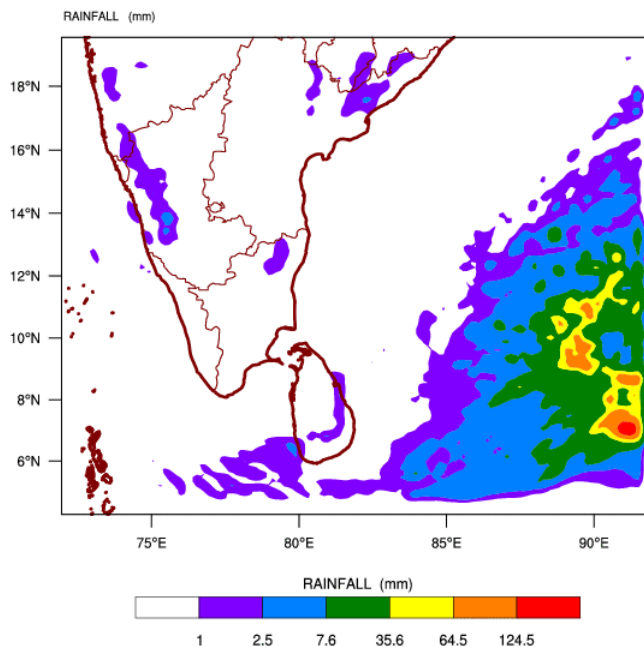
Source – NOAA Climate Prediction Center

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

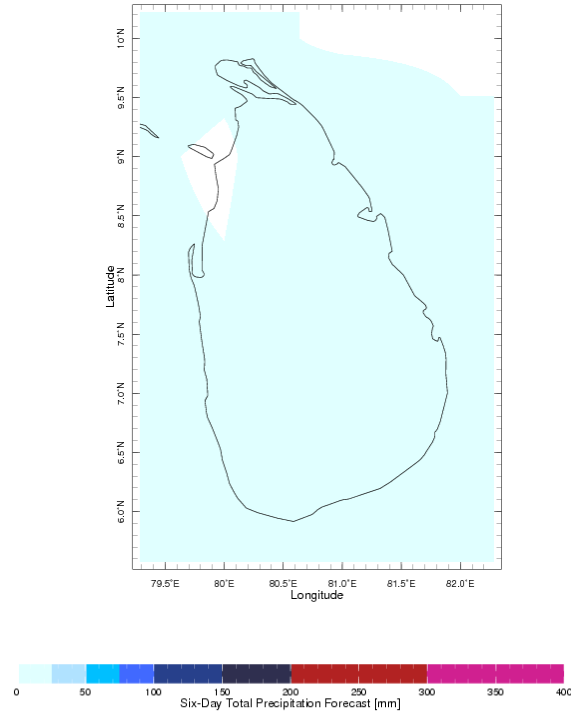
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 15-05-2014 valid for 03 UTC of 17-05-2014



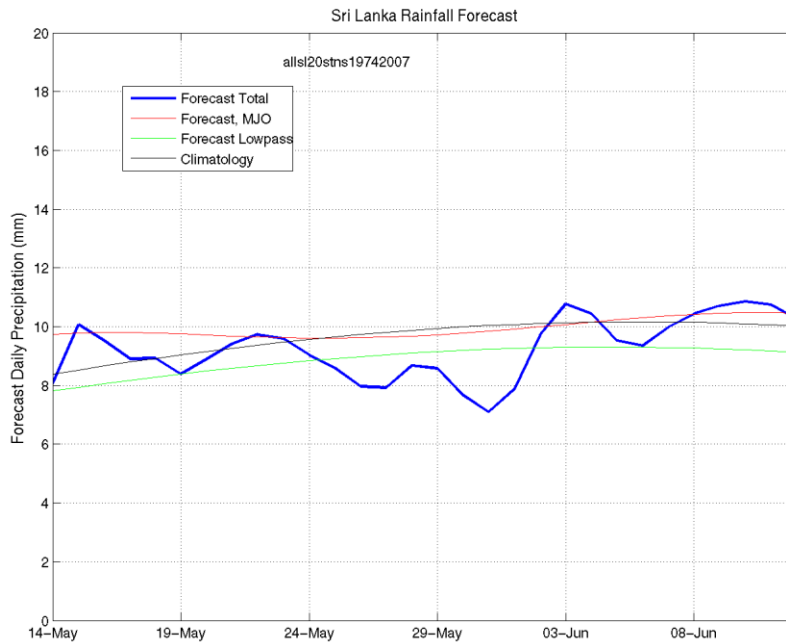
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 15-05-2014 valid for 03 UTC of 18-05-2014



c) Weekly Precipitation Forecast for 15th-20th May 2014 (Precipitation Forecast in Context Map Tool, IRI)

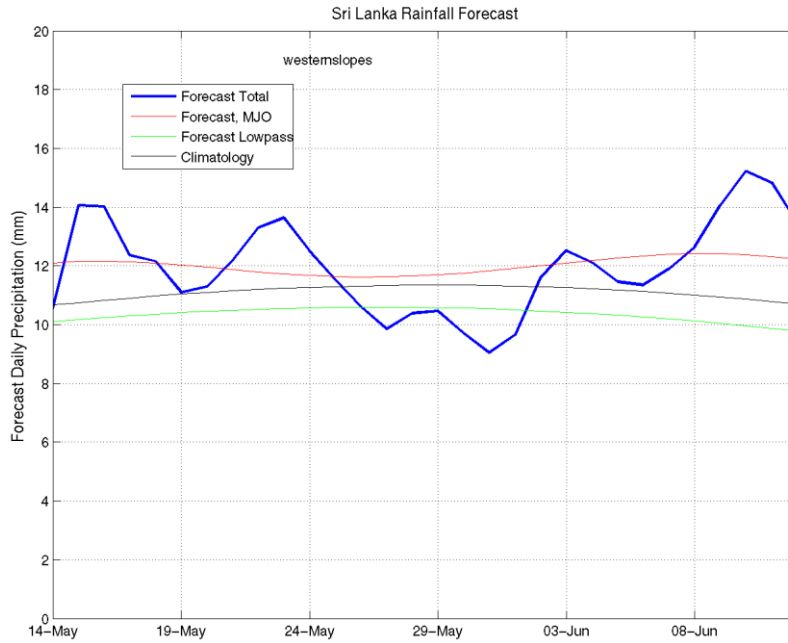


d) 1 month experimental predictions by Paul Roundy and L. Zubair
Predictions based on observed cloud cover and atmospheric waves. Issued 15th May, 2014

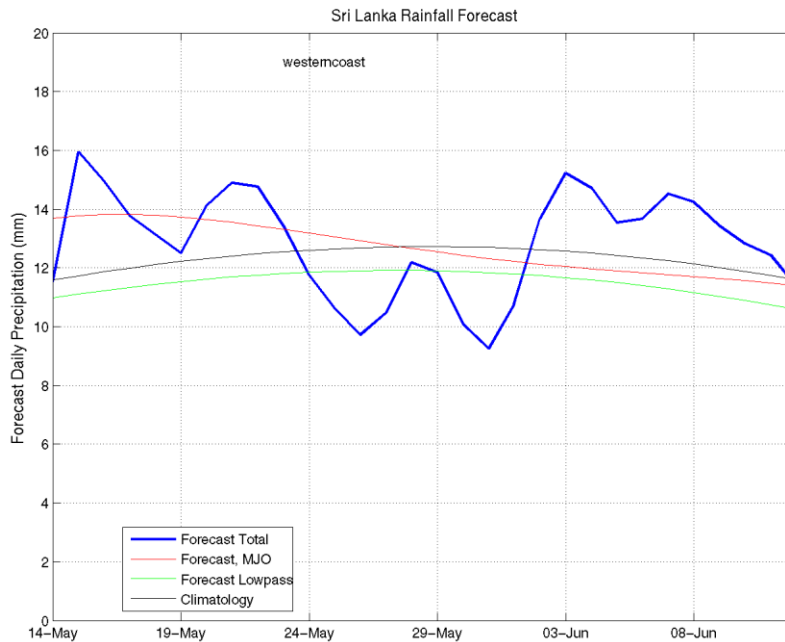


All Sri Lanka (Rainfall Scale from 0-20 mm/day)

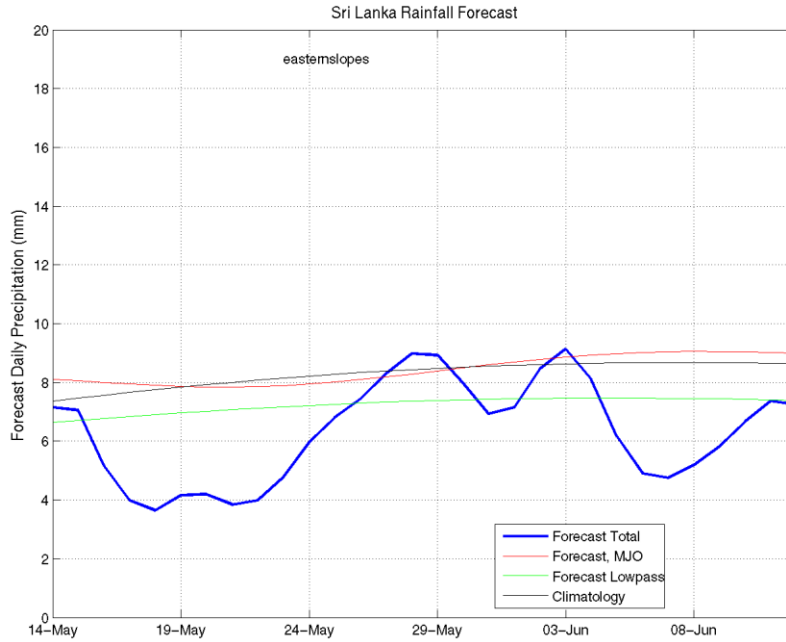
Western Slopes (Rainfall Scale from 0-20 mm/day)



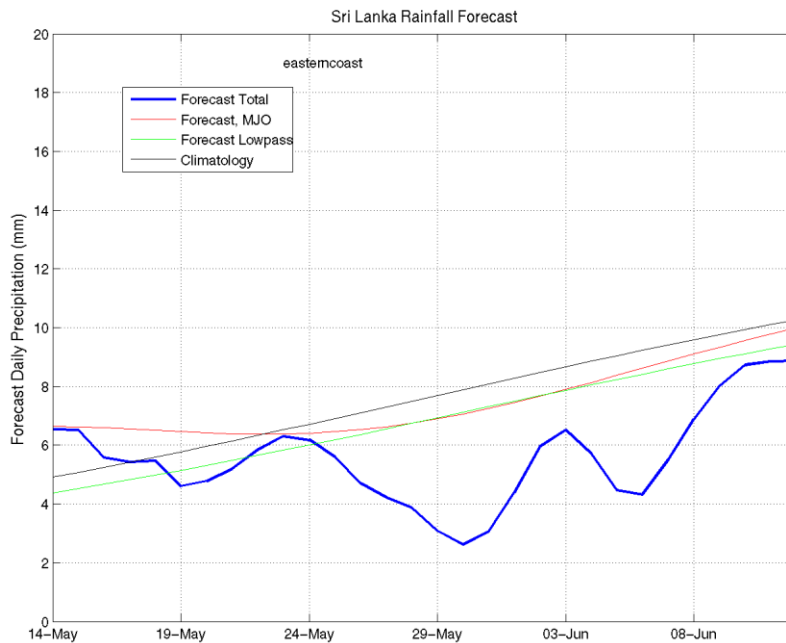
Western Coast (Rainfall Scale from 0-20 mm/day)



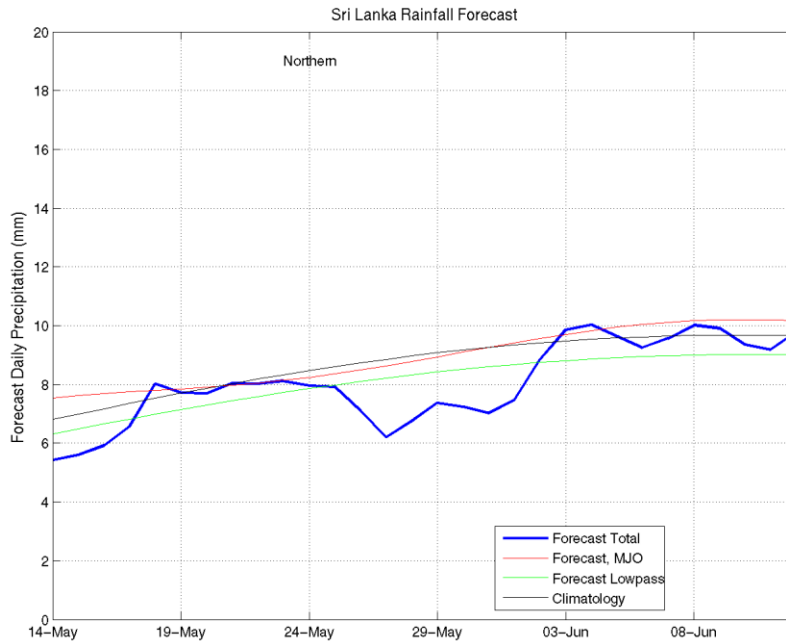
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



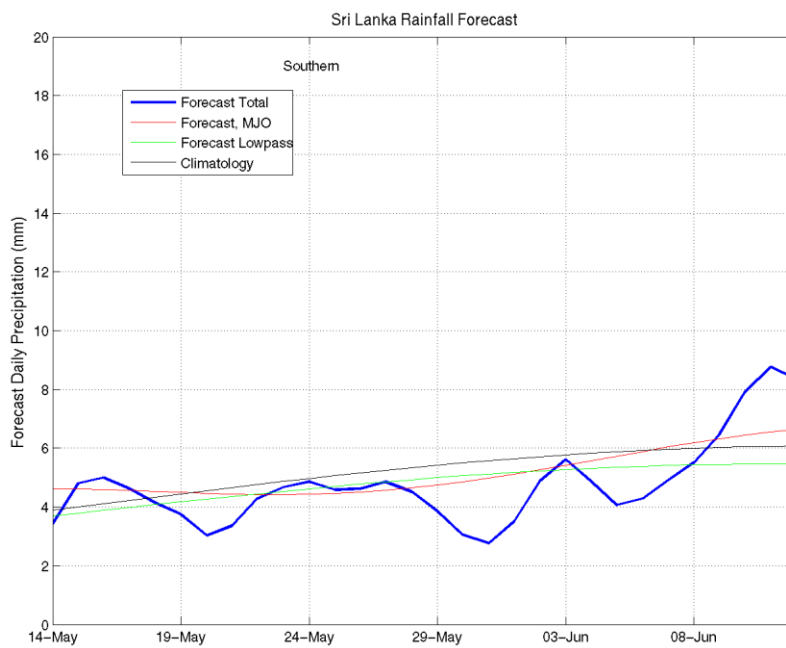
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

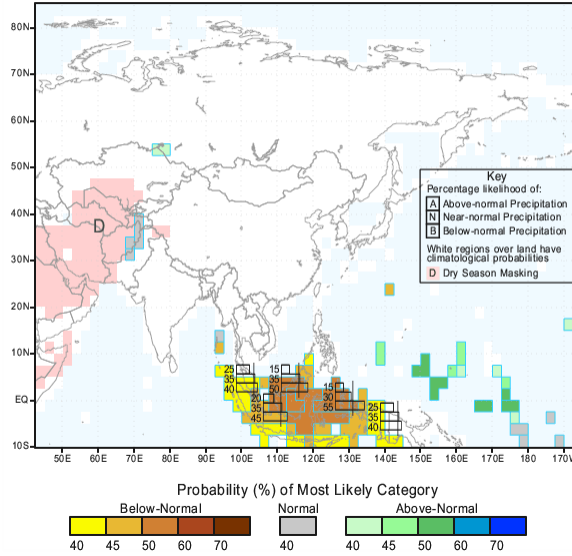


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for June-July-August 2014, Issued May 2014



IRI Multi-Model Probability Forecast for Temperature
for June-July-August 2014, Issued May 2014

