

Experimental Climate Monitoring and Prediction

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12 June 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

Seas around Sri Lanka showed neutral sea surface temperature during 1st-7th June 2014.

MJO STATE

MJO is at phase 4

Highlights

Monitoring and Predictions:

Existing rainfall condition shall decrease in different rates till 7th June 2014. However, western slopes and coasts are likely to observe significant rainfall event during 2nd-5th June 2014. For the eastern slopes and coasts significant dry condition is likely to observe during the beginning of June 2014.

Summary

Monitoring

Weekly Monitoring: During 4th-9th June 2014, only South western to Central regions of Sri Lanka received rainfall. This observed rainfall ranged between 0- 40 mm and highest rainfall events were observed on the 4th and the 8th of June. On the 10th of June the weather condition of entire Sri Lanka was completely devoid of rainfall.

Monthly Monitoring: The average rainfall received by the entire country was less than 8 mm/day. The highest observed rainfall was in the Northern parts of Ampara and Badulla districts. Except for these regions and the Anuradhapura district less than average rainfall was observed all over Sri Lanka. During the first ten days of June, very high rainfall averaging up to 20 mm/day was observed in south western regions of Sri Lanka.

Predictions

14 day prediction: During the next two weeks south western regions of the country shall receive further rainfall up to 55 mm.

IMD WRF & IRI Model Forecast: Western half of Sri Lanka shall receive rainfall up to 35 mm during 17th of June and shall increase further up to 65 mm by the 18th of June. Little or no rainfall is expected on the eastern half of the country during this period.

30 Days Prediction: The existing rainfall conditions shall decrease until the 19th of June. A decreasing trend in rainfall is evident during the next 30 days in the entire country.

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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- Weekly Average SST Anomalies

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- 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

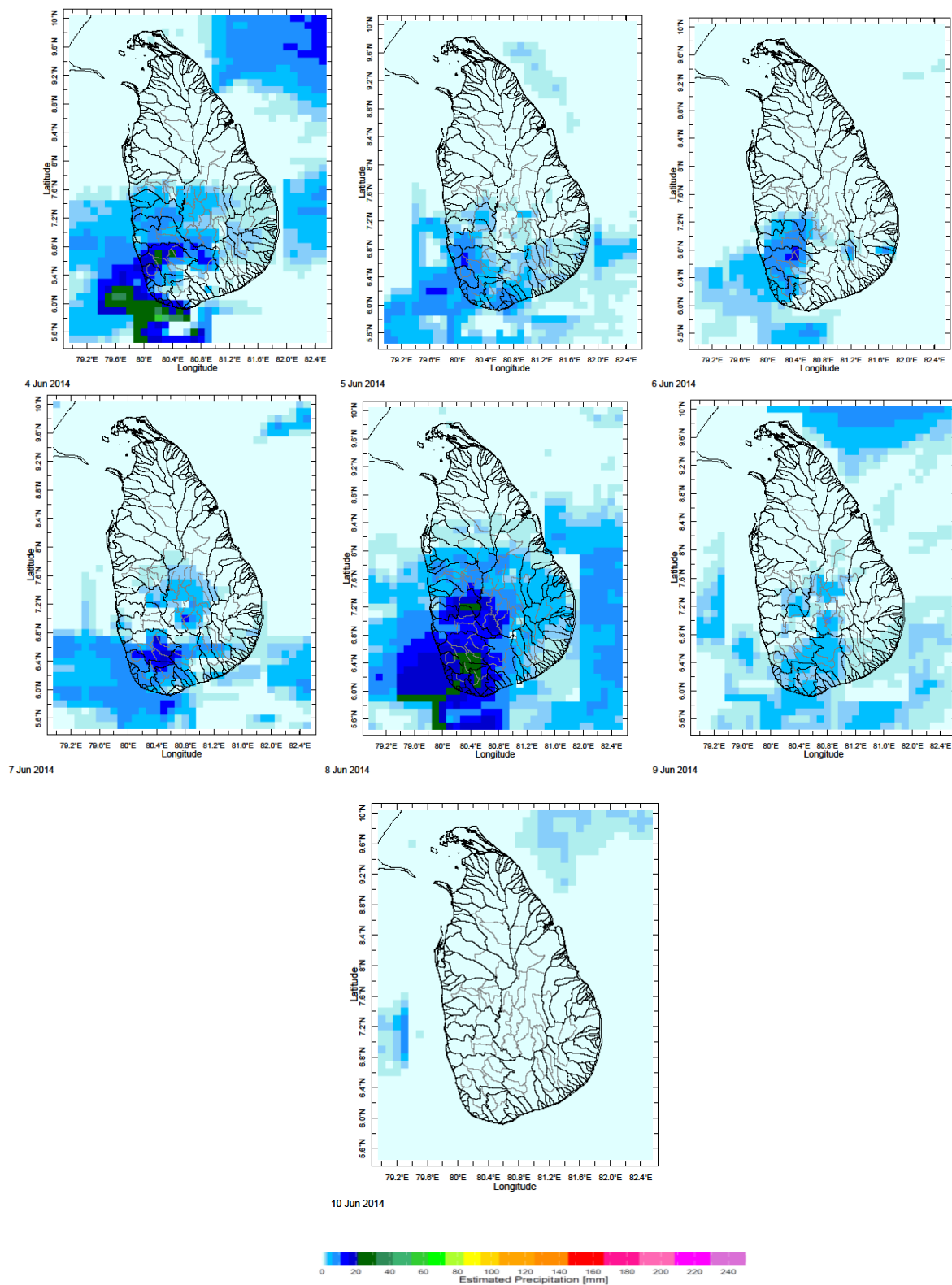
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

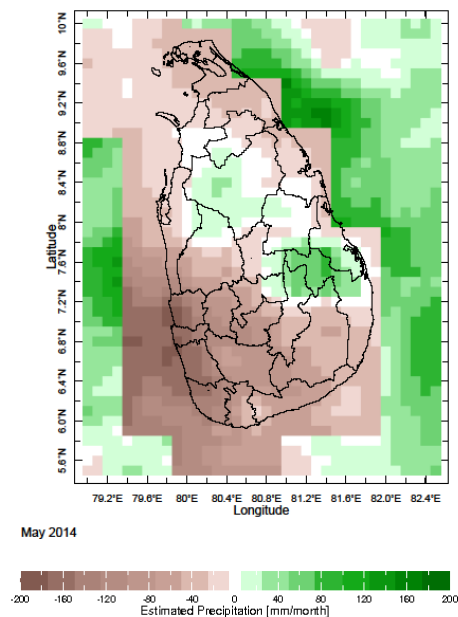
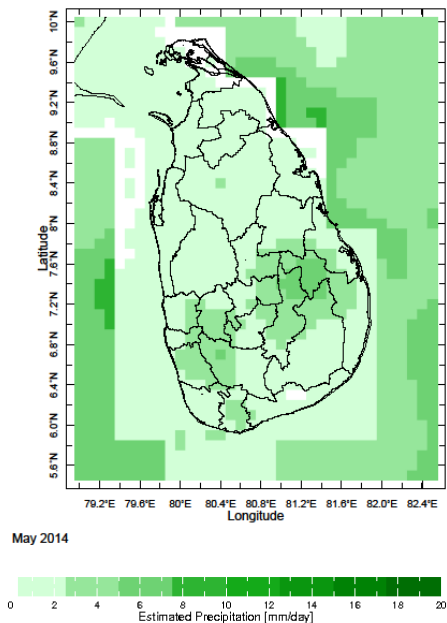
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

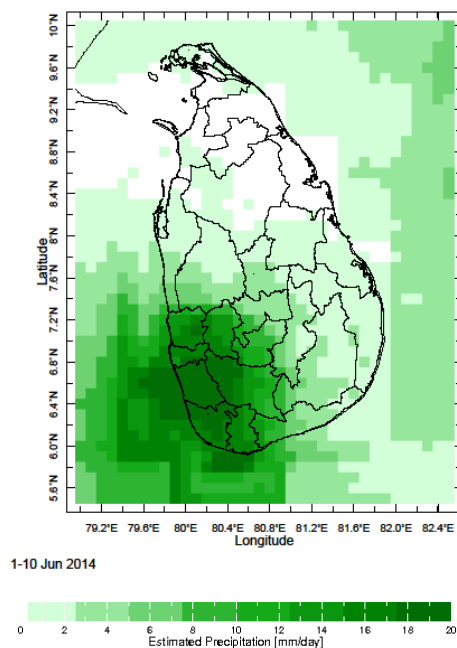
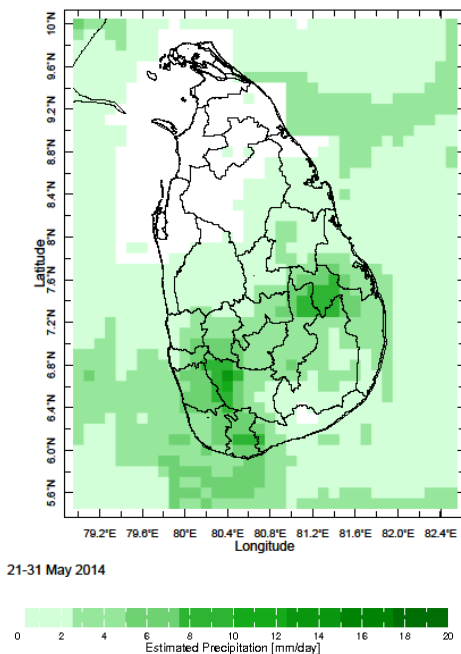
a) Daily Satellite Derived Rainfall Estimate Maps: 4th-10th June 2014 (Left-Right, Top-Bottom)



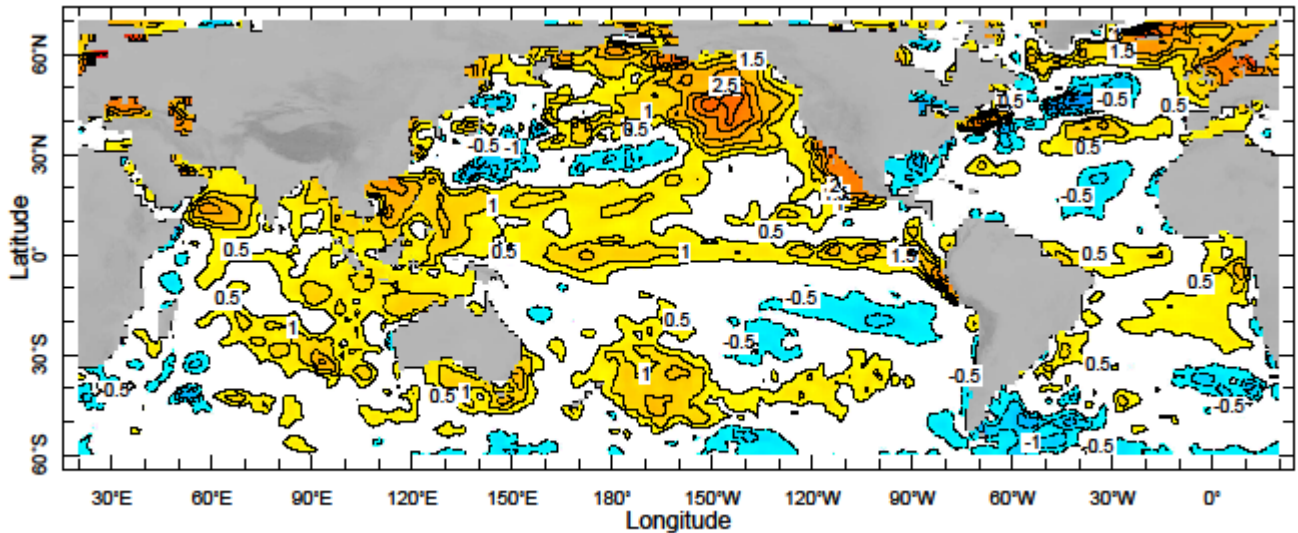
b) Monthly Satellite Derived Rainfall Estimates for May 2014 (Average – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-31 May & 1-10 June, 2014)



d) Weekly Average SST Anomalies



1-7 Jun 2014



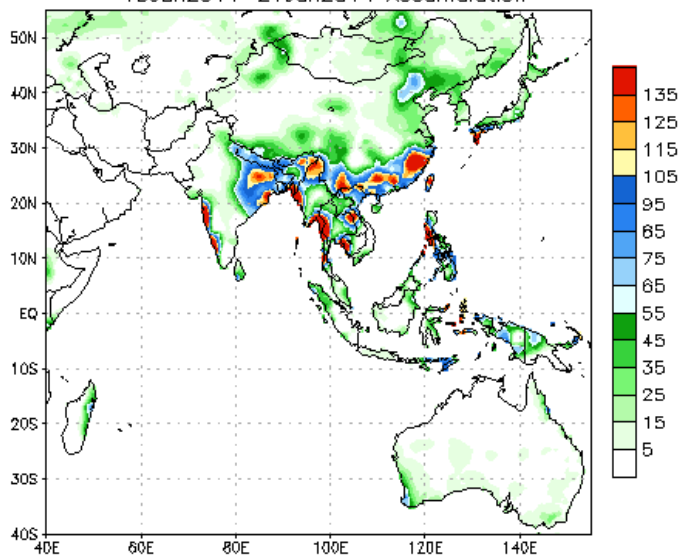
Weekly Average SST Anomalies (°C), 1st-7th June, 2014

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

2. Predictions

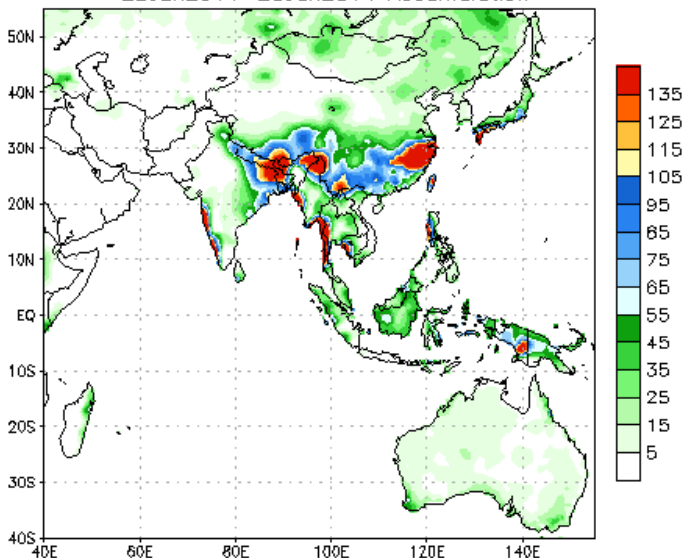
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 15Jun2014
15Jun2014-21Jun2014 Accumulation



Bias correction based on last 30-day forecast error

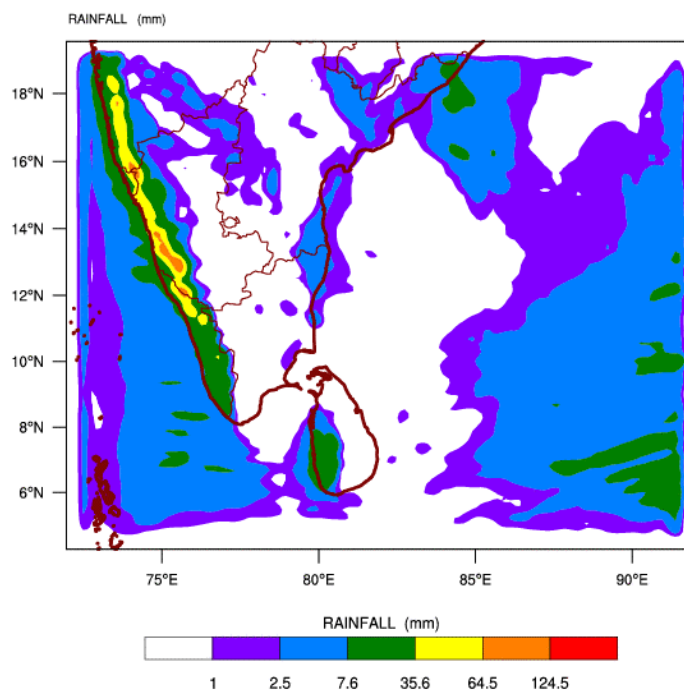
NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 15Jun2014
22Jun2014-28Jun2014 Accumulation



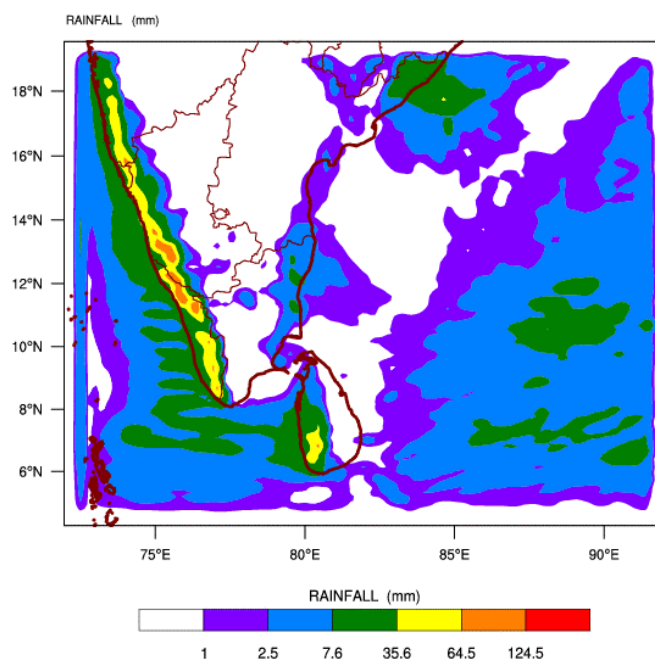
Bias correction based on last 30-day forecast error

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

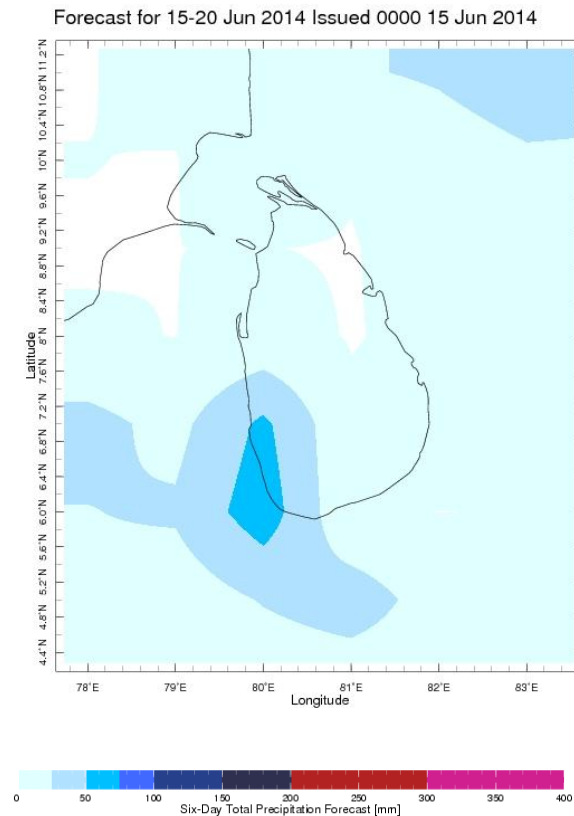
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 15-06-2014 valid for 03 UTC of 17-06-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 15-06-2014 valid for 03 UTC of 18-06-2014



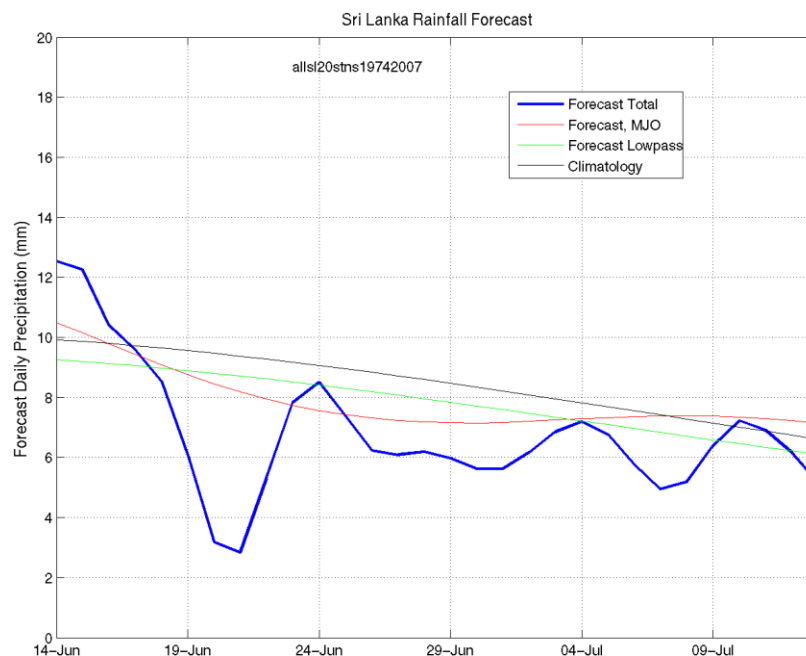
c) Weekly Precipitation Forecast for 15th -20th June 2014 (Precipitation Forecast in Context Map Tool, IRI)



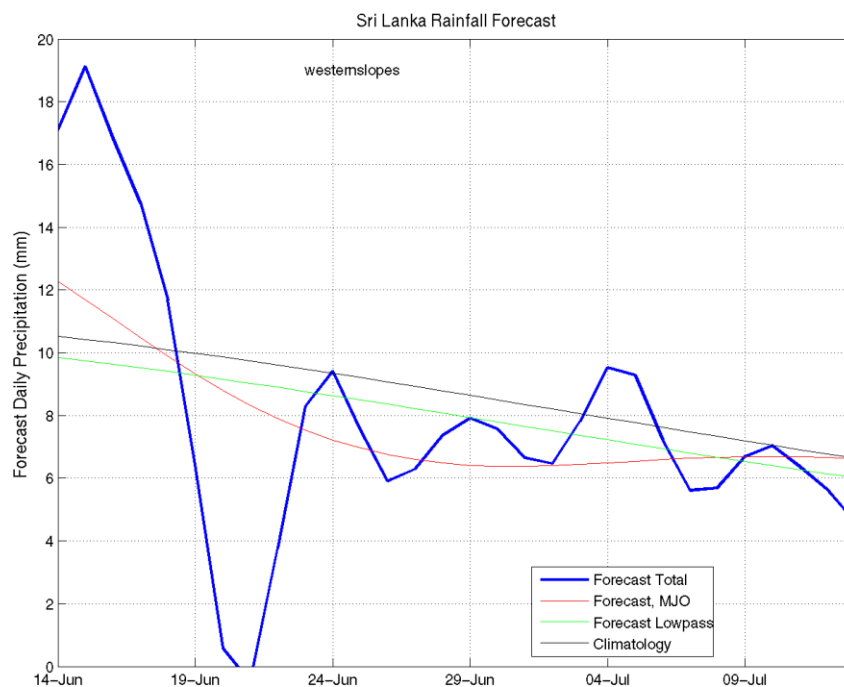
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 16th June, 2014

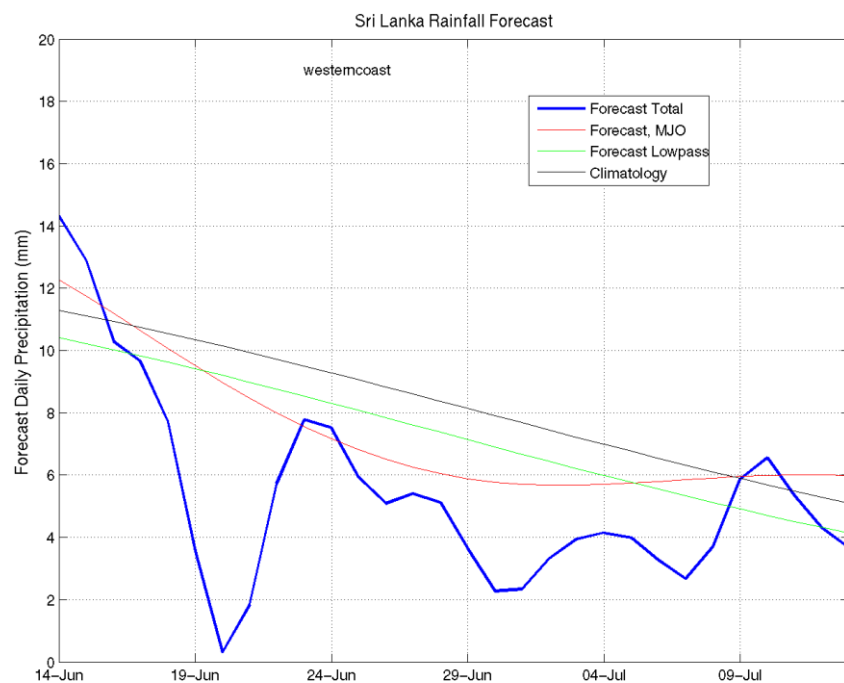
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



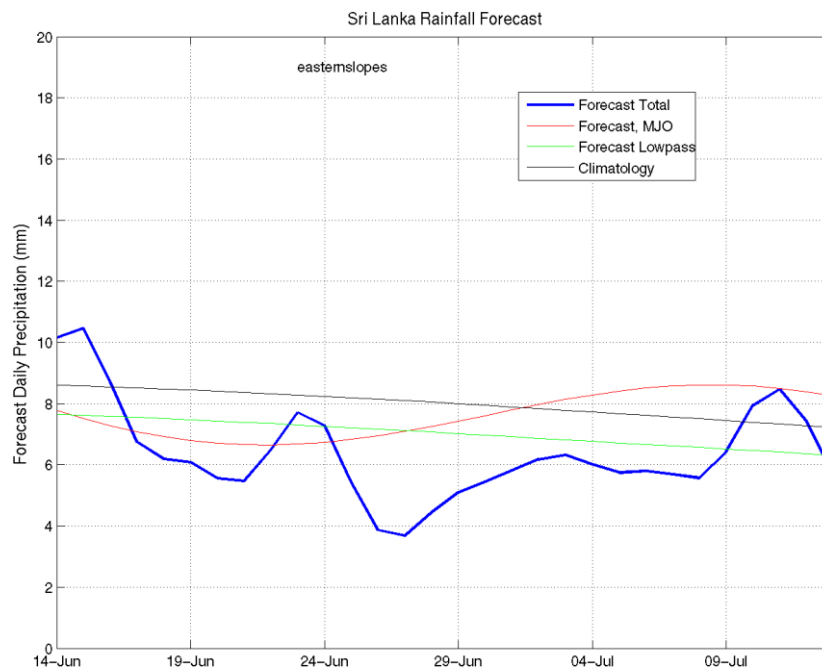
Western Slopes (Rainfall Scale from 0-20 mm/day)



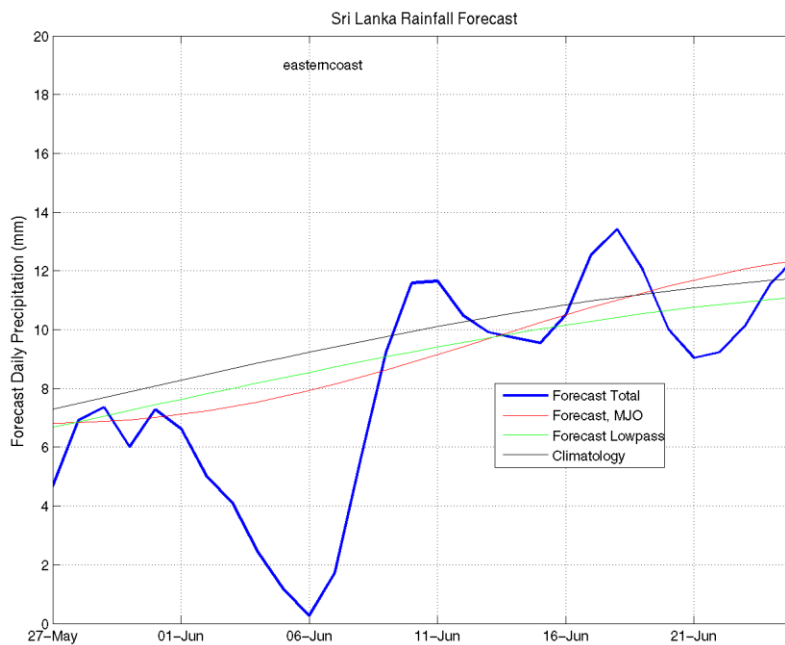
Western Coast (Rainfall Scale from 0-20 mm/day)



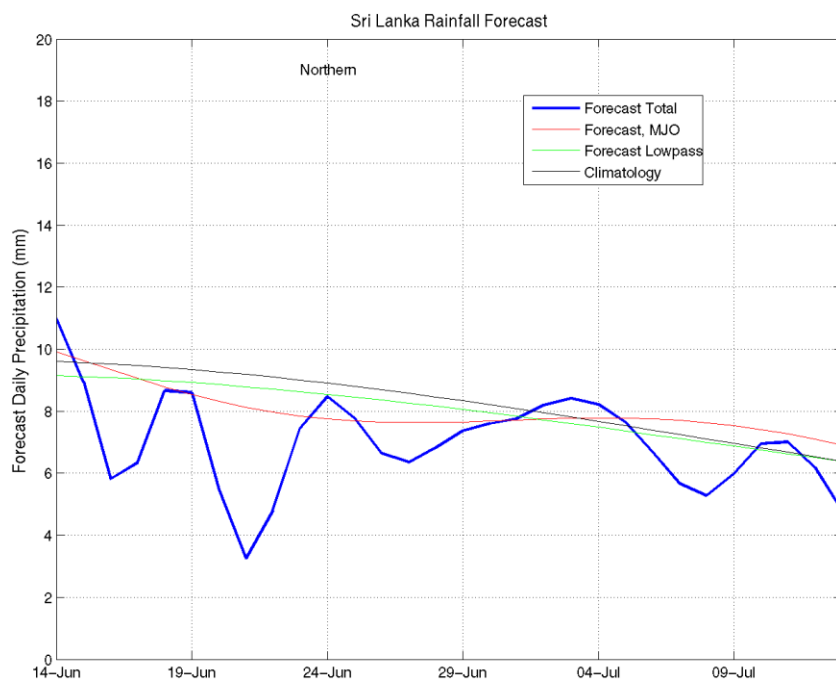
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



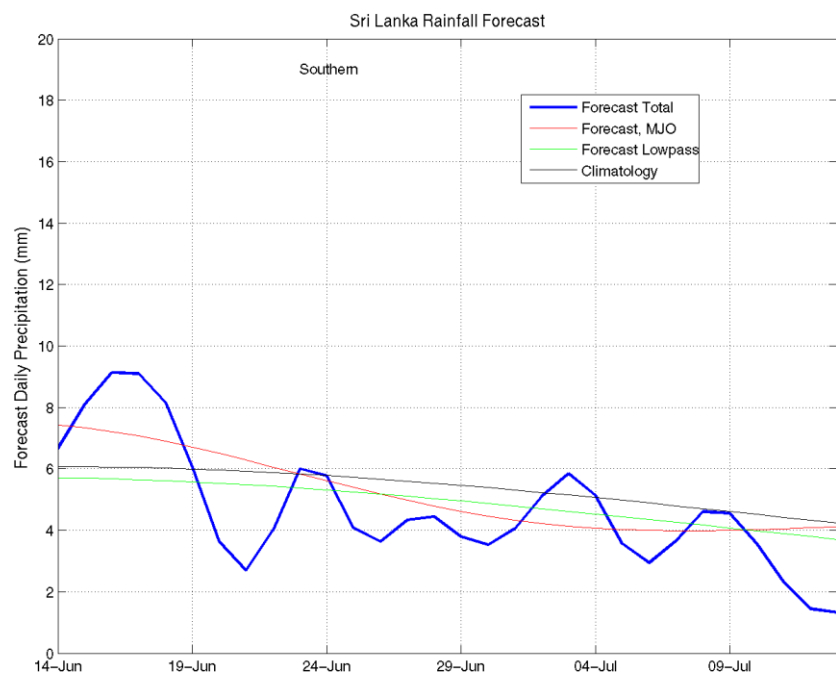
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

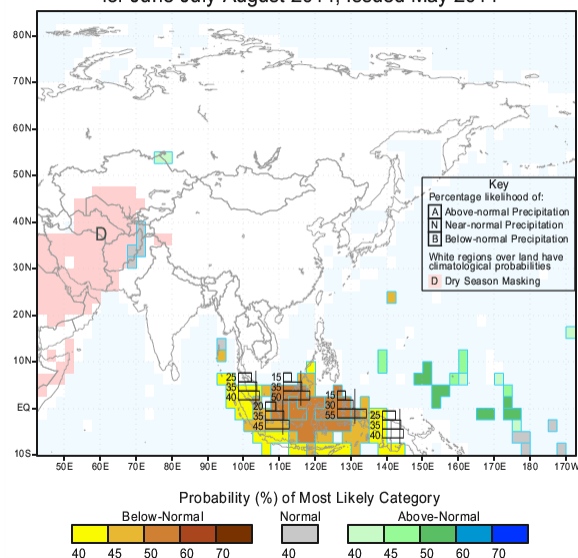


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

