

Experimental Climate Monitoring and Prediction

by: Prabodha Agalawatte, Sewwandhi Chandrasekara, Zeenas Yahiya,
Lareef Zubair and Michael Bell (FECT and IRI¹)

19 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/>

5 June, 2014 PACIFIC SEAS STATE

During April through 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 0.5°C higher than average sea surface temperature.

MJO STATE

MJO is at phase 4

Highlights

Monitoring and Predictions:

The South Western region of the country, particularly Kalutara and Ratnapura districts shall continue to receive high rainfall during this week. Some models predict rainfall in the entire western half of the country during the next few days. The rest of the country shall not receive a significant amount of rainfall during the next couple of weeks. The Sea surface temperature around the country is warmer than usual. Sustained El Nino conditions are predicted by June- July of this year.

Summary

Monitoring

Weekly Monitoring: During 10th – 16th June 2014 heavy rainfall was only observed on the 11th and 12th of June in South Western regions of Sri Lanka. Seas toward south west of the country also received rainfall during these two days. On the 13th light rainfall was observed in North central region of the country as well as in seas north east of the country. Highest rainfall during this week was observed on the 12th in Kalutara and Ratnapura districts.

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 this week (18th- 24th June) south western regions of the country shall receive further rainfall up to 75 mm. There shall be a reduction in the rainfall during the next week (25th June- 1st July) and rainfall for the week is expected only in south western region.

IMD WRF & IRI Model Forecast: According to the IMD WRF model the western half of Sri Lanka shall continue to receive rainfall up to 65 mm during 20th of June and shall expand to entire southern Sri Lanka on the 21st. Highest rainfall is expected in Kalutara and Ratnapura districts. Rainfall prediction from the IRI for 18th-23rd June also specify a similar rainfall pattern.

30 Days Prediction: The decreasing rainfall trend is still evident in the entire country except in the eastern coast.

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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- Decadal (10 Day) Satellite Derived Rainfall Estimates
- Weekly Average SST Anomalies

2. Predictions

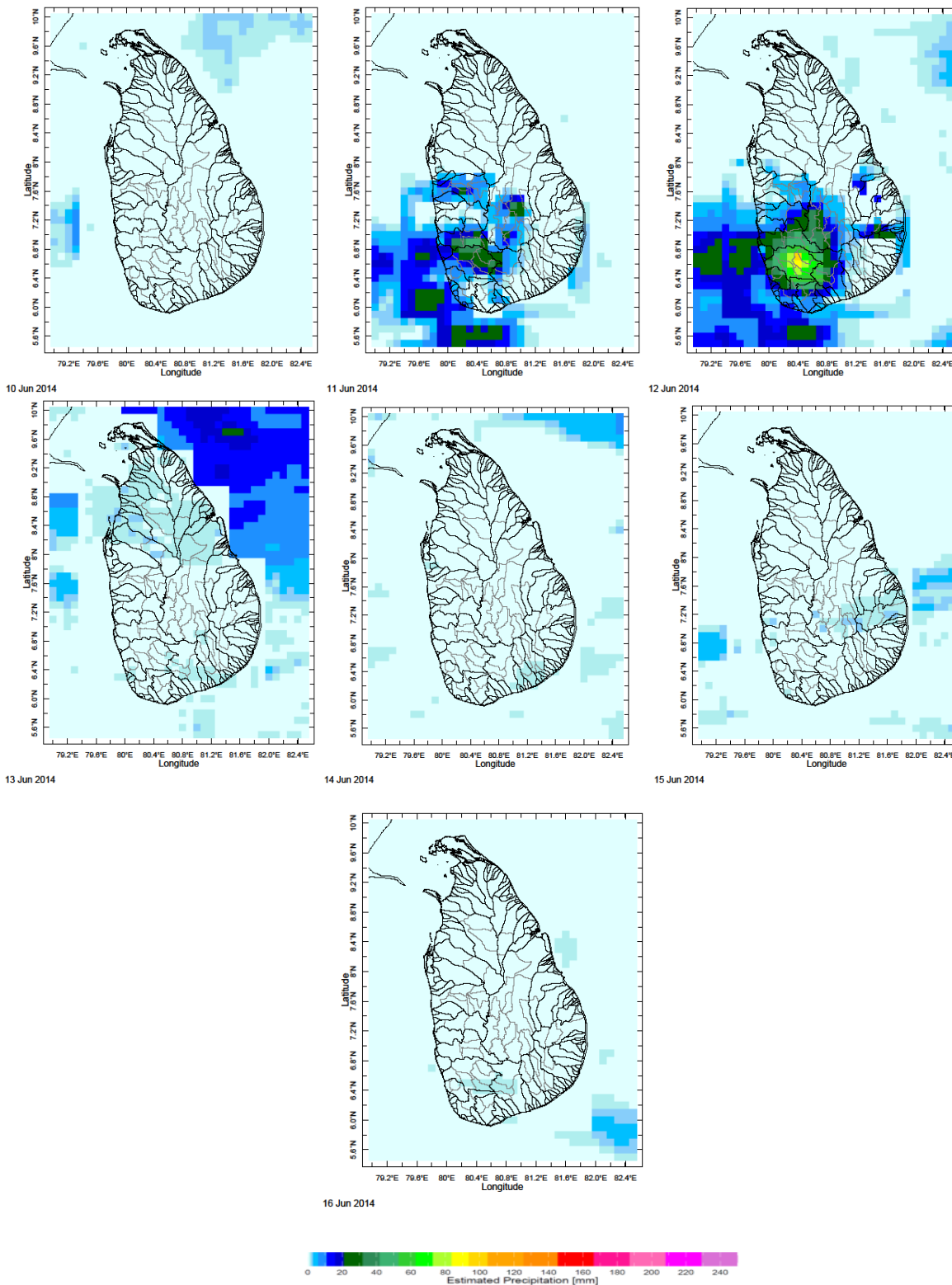
- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

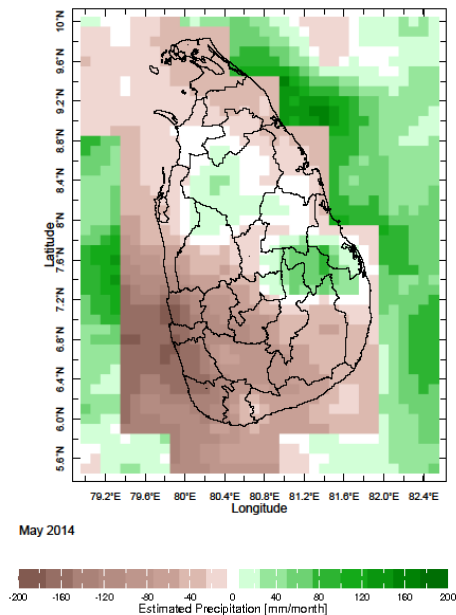
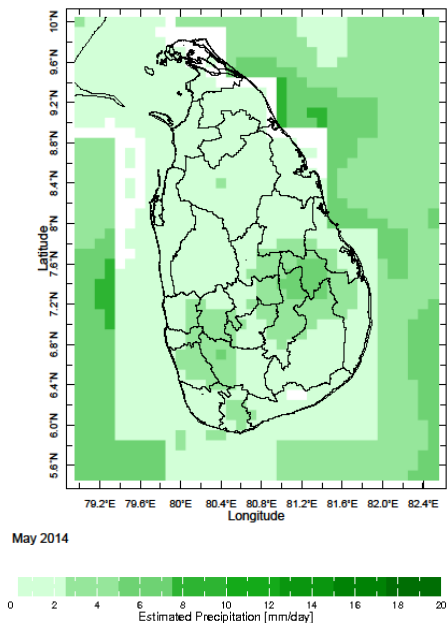
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

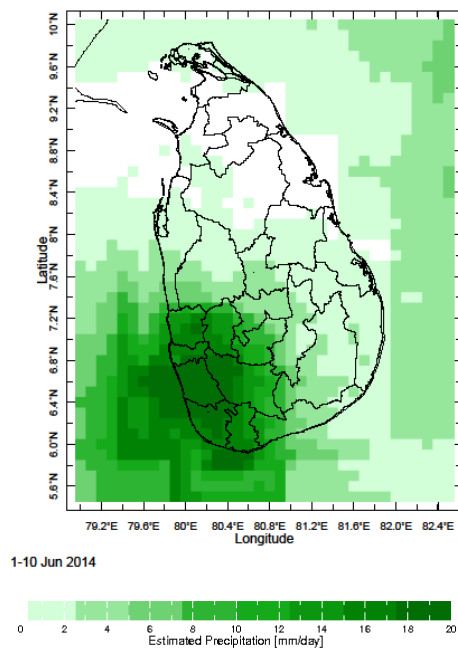
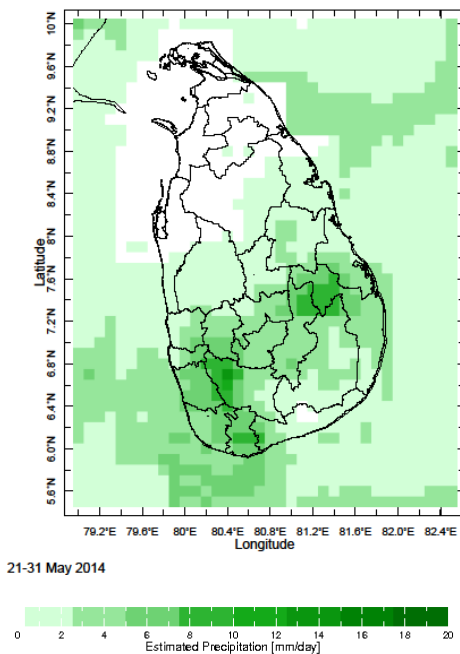
a) Daily Satellite Derived Rainfall Estimate Maps: 10th – 16th June 2014 (Left-Right, Top-Bottom)



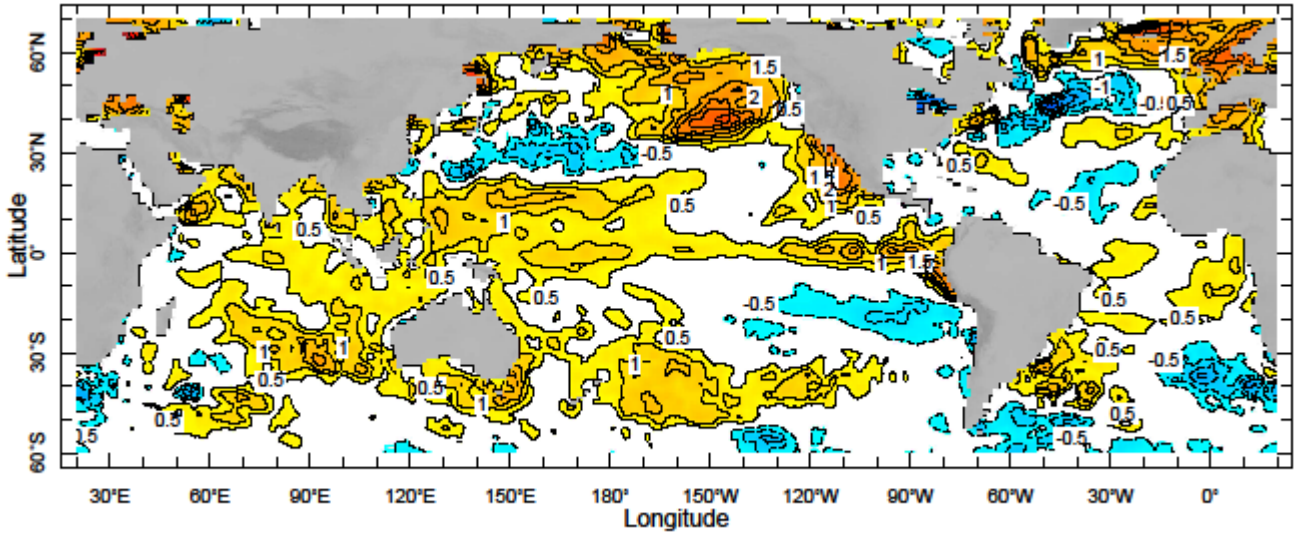
b) Monthly Satellite Derived Rainfall Estimates for May 2014 (Average – Left and Anomaly - Right)



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



d) Weekly Average SST Anomalies



8-14 Jun 2014



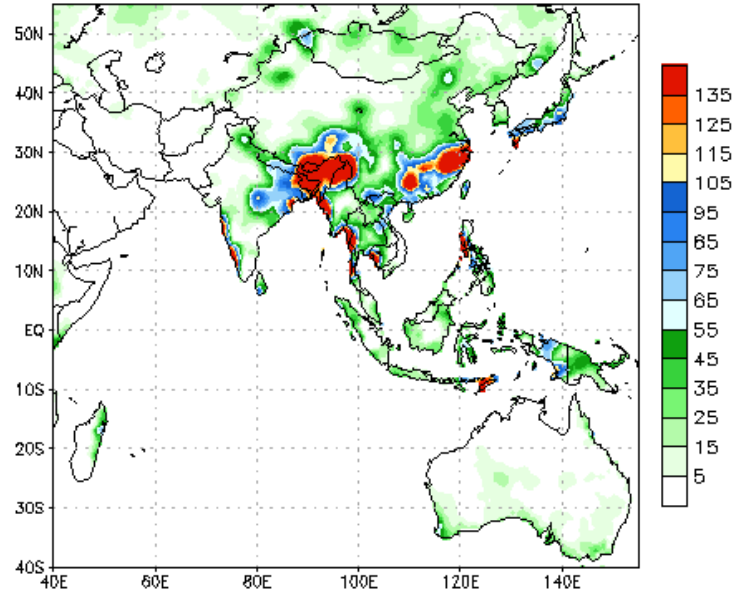
Weekly Average SST Anomalies (°C), 1st-7th June, 2014

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

2. Predictions

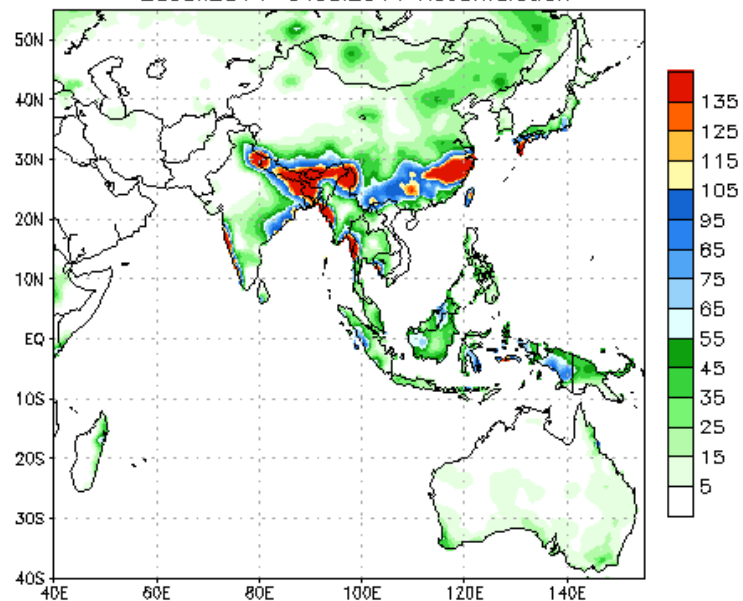
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 18Jun2014
18Jun2014-24Jun2014 Accumulation



Bias correction based on last 30-day forecast error

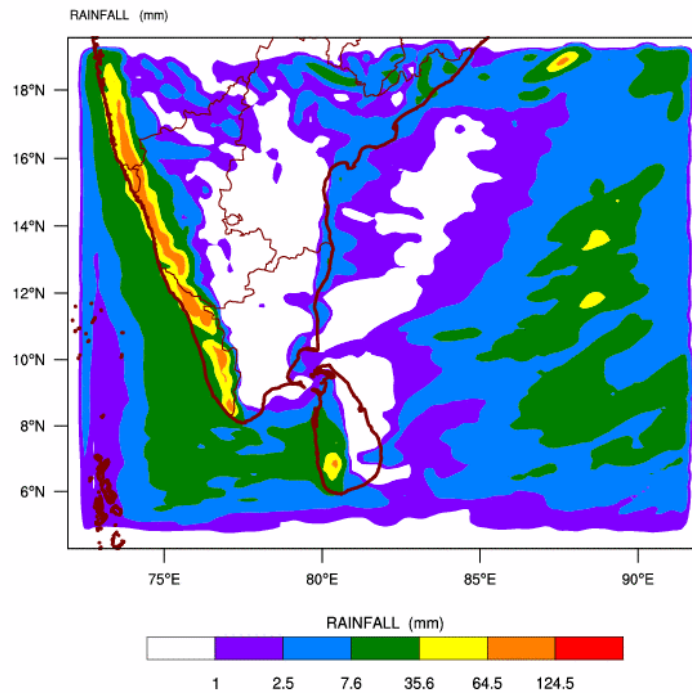
NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 18Jun2014
25Jun2014-01Jul2014 Accumulation



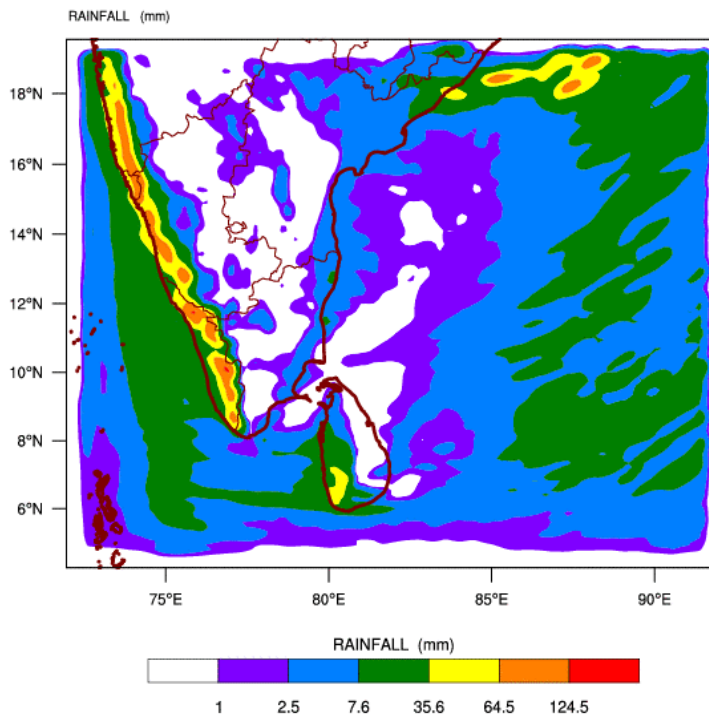
Bias correction based on last 30-day forecast error

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

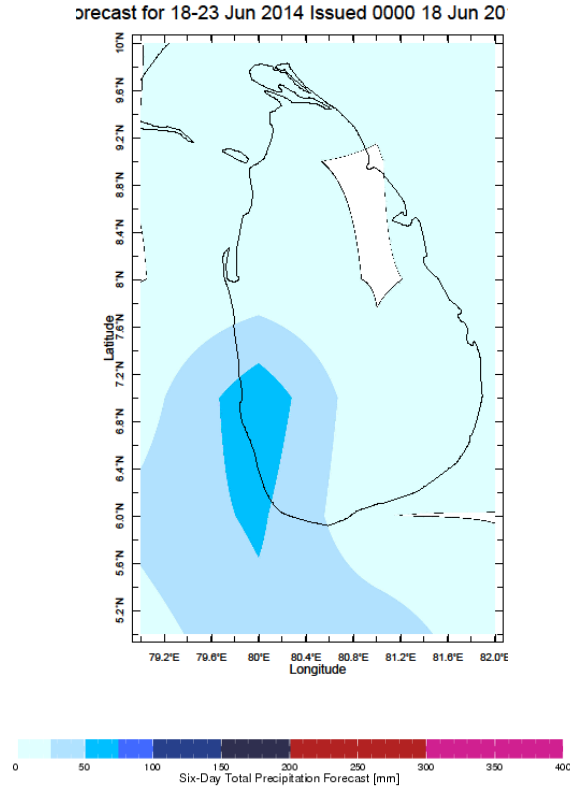
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 18-06-2014 valid for 03 UTC of 20-06-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 18-06-2014 valid for 03 UTC of 21-06-2014



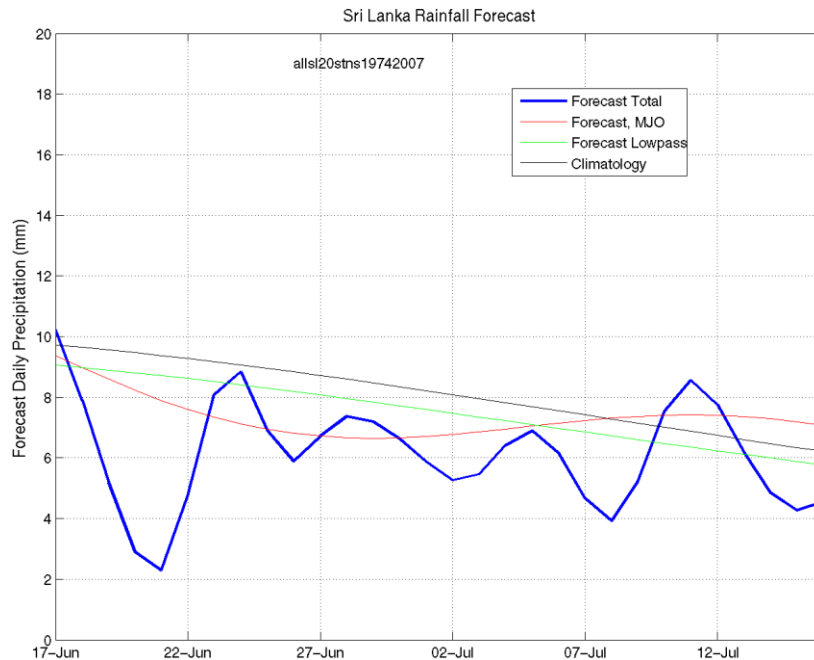
c) Weekly Precipitation Forecast for 18th -23rd June 2014 (Precipitation Forecast in Context Map Tool, IRI)



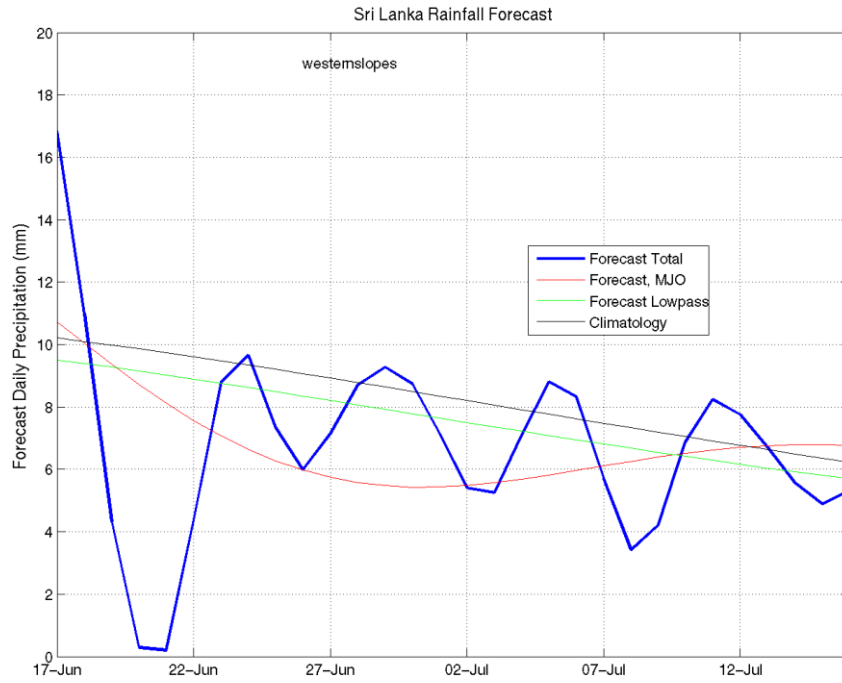
d) 1 month experimental predictions by Paul Roundy and L. Zubair

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

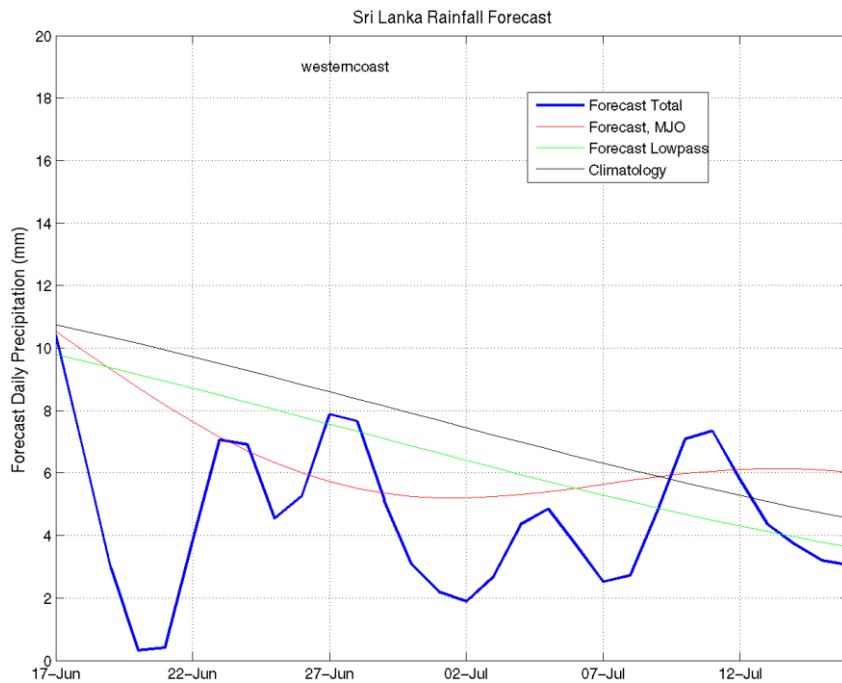
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



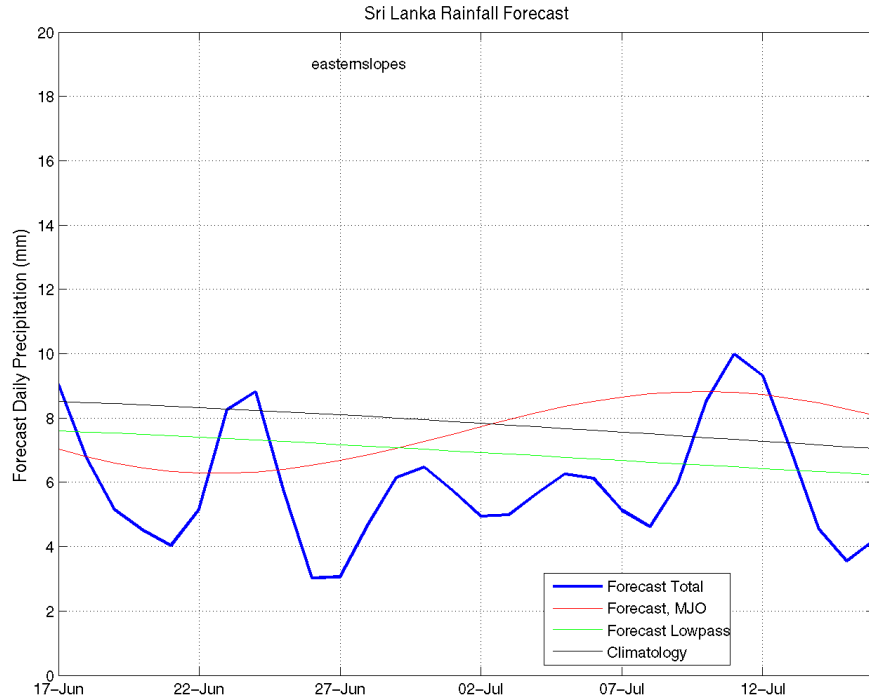
Western Slopes (Rainfall Scale from 0-20 mm/day)



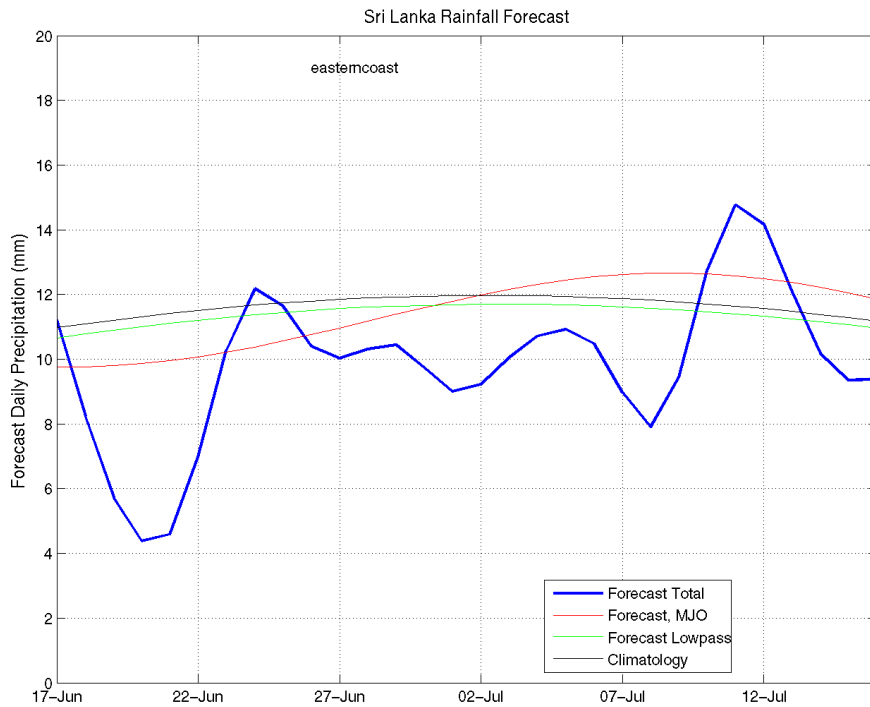
Western Coast (Rainfall Scale from 0-20 mm/day)



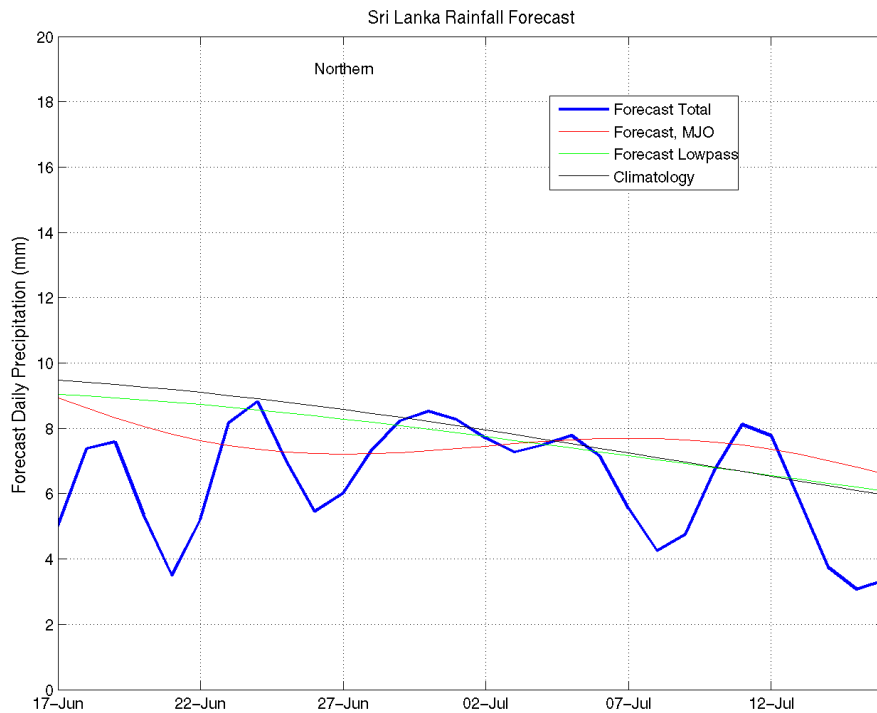
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



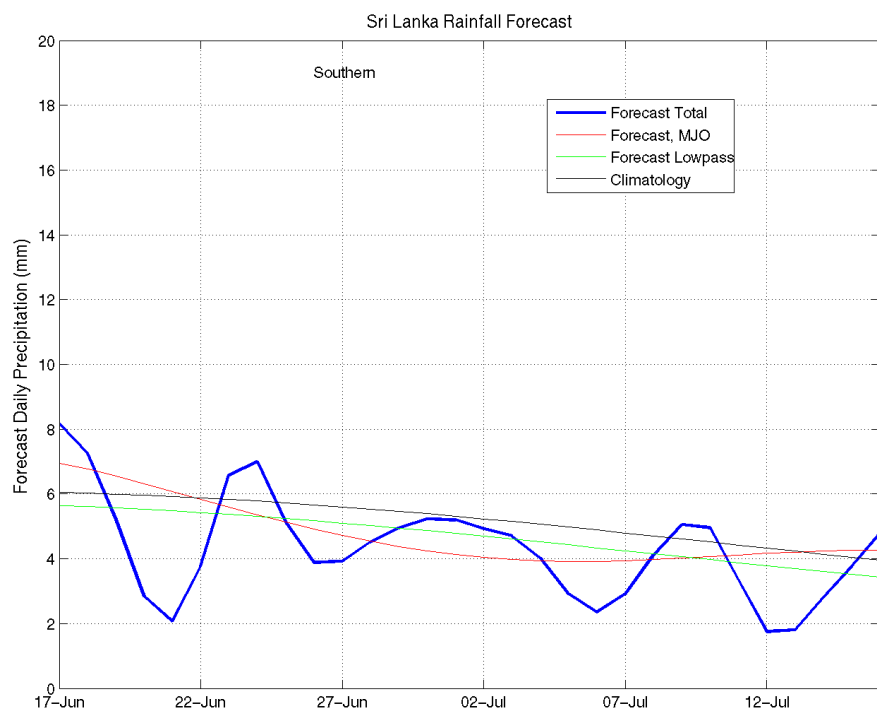
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

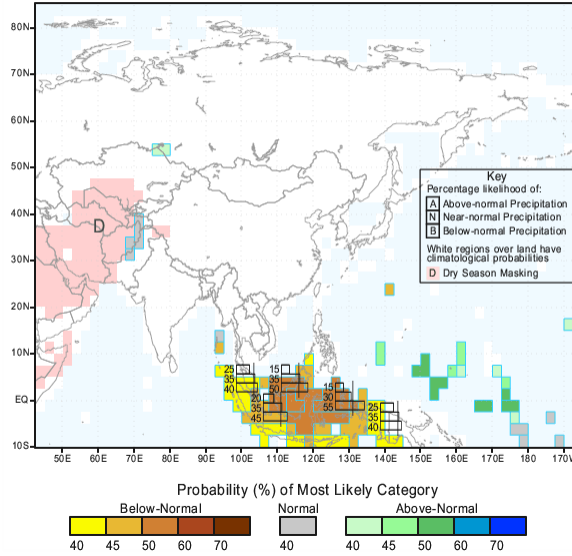


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

