

Experimental Climate Monitoring and Prediction

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29 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

Seas around Sri Lanka showed neutral sea surface temperature during 18th-24th May 2014.

MJO STATE

MJO is at phase 2 and shall impact on Sri Lanka rainfall.

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 19th-26th May 2014, Sri Lanka received rainfall ranged 5-40 mm. Maximum of 40 mm received for small patches in Batticaloa and Badulla on 20th and 26th May 2014, respectively. Entire week was dry, except for few scattered regions of Sri Lanka received insignificant amount of rainfall.

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 28th May-10th June 2014, Kalutara, Ratnapura and Monaragala districts shall receive 65-55 mm of rainfall and shall spread throughout the country in a reducing manner. However entire country shall receive rainfall of 35-55 mm.

IMD WRF & IRI Model Forecast: For 30th of May, IMD WRF model predicts less than 36 mm/day of rainfall for Gampaha-Galle coastal districts and is likely to spread in reducing manner towards eastward regions of Sri Lanka. Batticaloa, Ampara and Monaragala districts shall receive less than 8 mm/day of rainfall for the same day and rest of the country shall receive less than 1 mm/day of rainfall. For 31st of May, the model predicts same amount of rainfall Gampaha-Galle as observe on 30th and rest of the country shall receive less than 1 mm/day of rainfall. IRI model predicts rainfall of less than 25 mm/6 days for Galle, Kalutara, Ratnapura, Nuwara-Eliya and Badulla districts during 28th May-2nd June 2014.

30 Days Prediction: Overall- Existing rainfall condition shall decrease in different rates till 7th June 2014. **Western Slopes -** The rainfall shall increase in different rates till 5th June and significant rainfall is likely to observe during 2nd-4th June 2014. **Western Coasts –** Significant rainfall event is likely to observe during 30th & 31st May. Rainfall shall decrease gradually till the end of May. Thereafter it shall increase gradually till 5th and is likely to observe significant rainfall event during 2nd-5th June. **Eastern Slopes and Coasts-** The rainfall pattern persisting in the entire country shall observe in this region. Significant dry condition is likely to observe during the beginning of June 2014. **Northern-** The rainfall shall decrease gradually till the end of May and shall remain constant till 7th June. **Southern Region-** Existing rainfall pattern shall persists till 4th June and decrease gradually thereafter till 11th June.

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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- Daily Satellite Derived Rain fall Estimates
- Monthly Rain fall Estimates
- Decadal (10 Day) Satellite Derived Rainfall Estimates
- Weekly Average SST Anomalies

2. Predictions

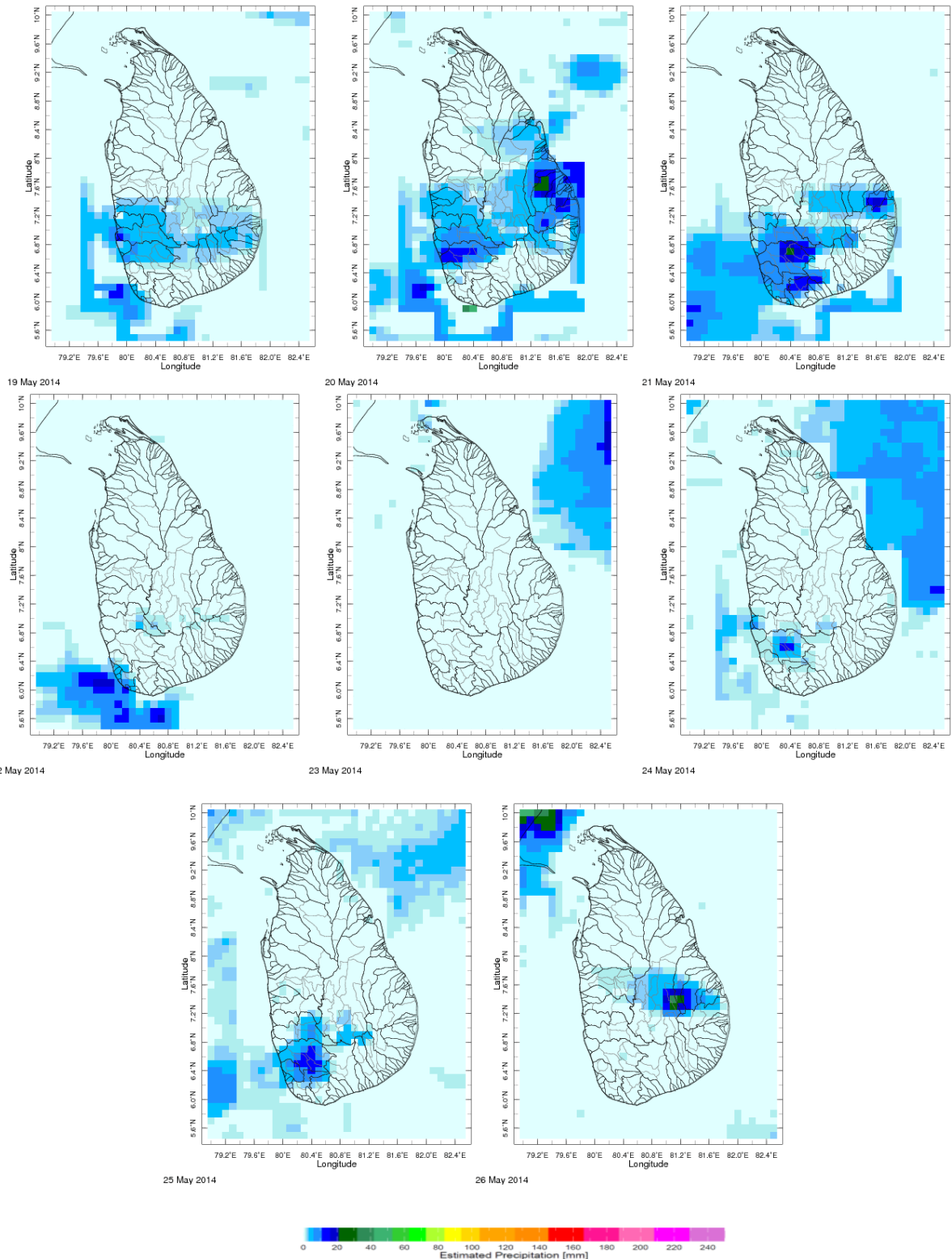
- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

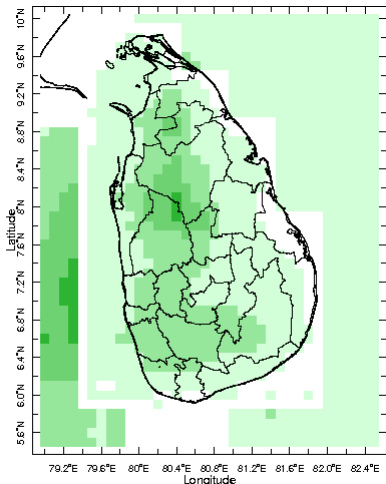
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

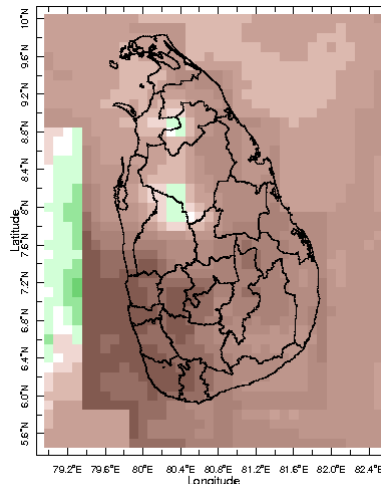
a) Daily Satellite Derived Rainfall Estimate Maps: 19th-26th May 2014 (Left-Right, Top-Bottom)



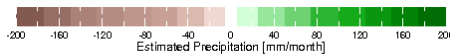
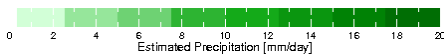
b) Monthly Satellite Derived Rainfall Estimates for April 2014 (Average – Left and Anomaly - Right)



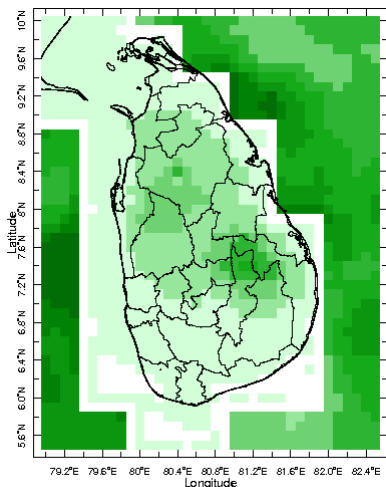
Apr 2014



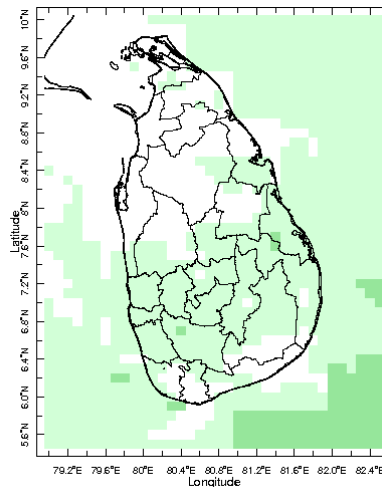
Apr 2014



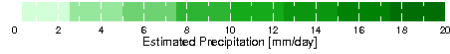
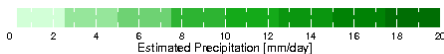
c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 May & 11-20 May, 2014)



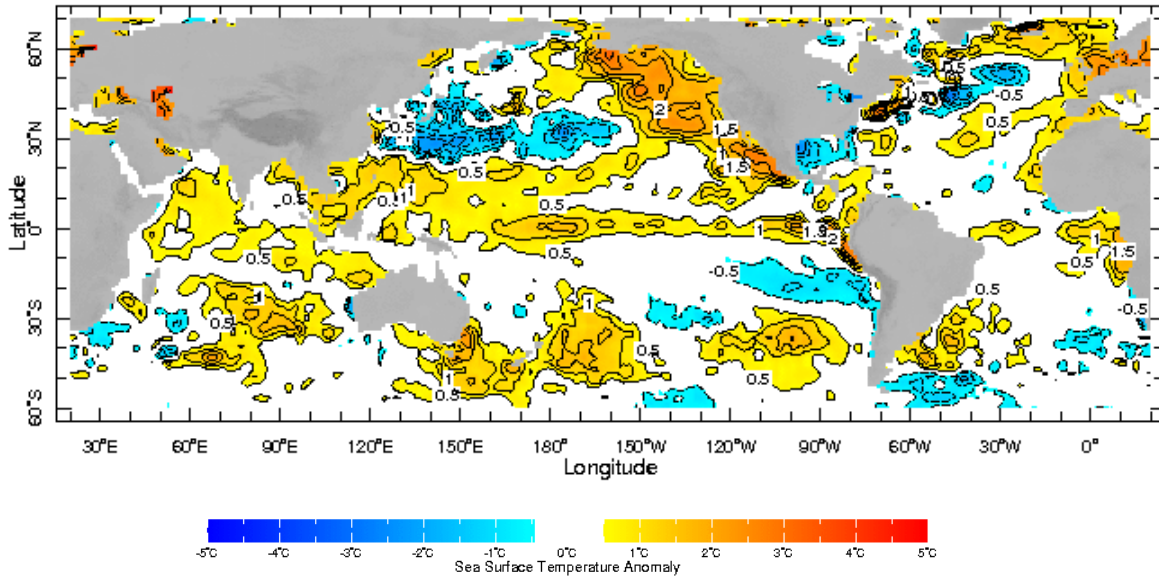
1-10 May 2014



11-20 May 2014



d) Weekly Average SST Anomalies



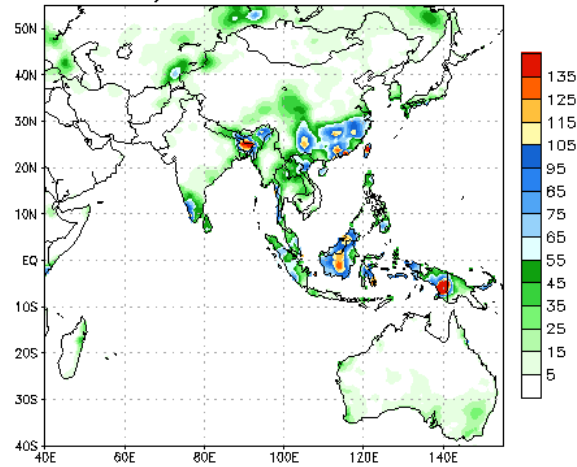
Weekly Average SST Anomalies ($^{\circ}$ C), 18th-24th May, 2014

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

2. Predictions

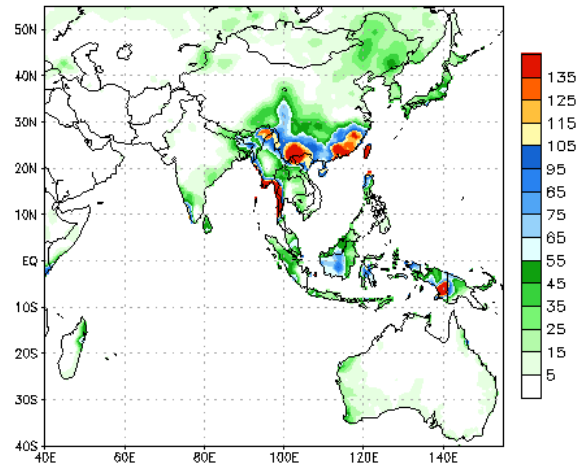
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 28May2014
28May2014-03Jun2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 28May2014
04Jun2014-10Jun2014 Accumulation

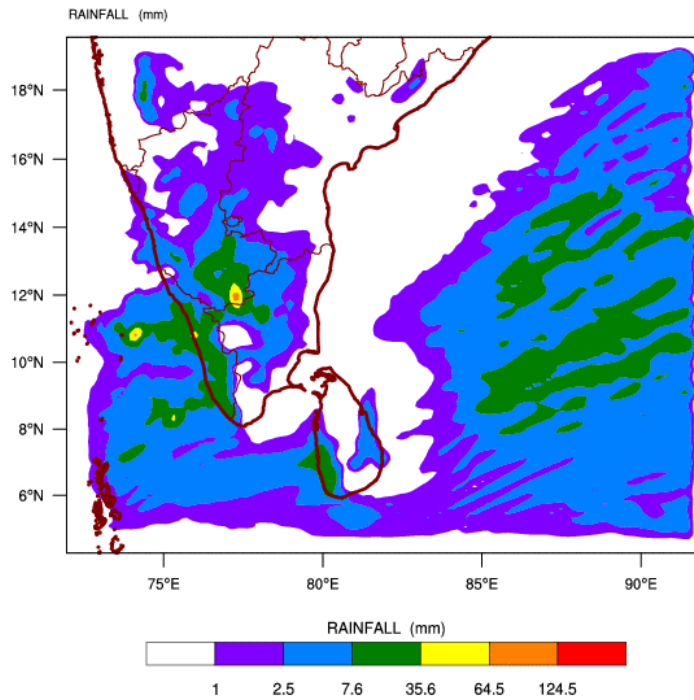


Bias correction based on last 30-day forecast error

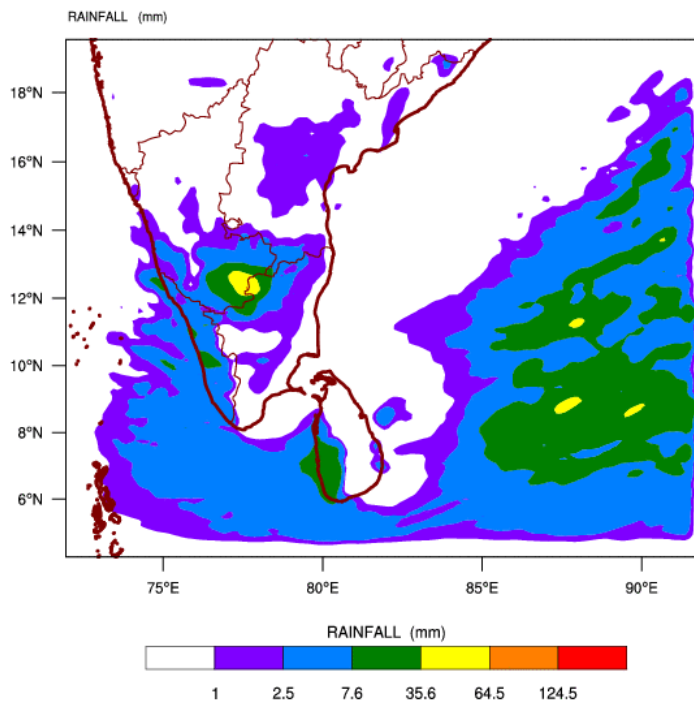
Source – NOAA Climate Prediction Center

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

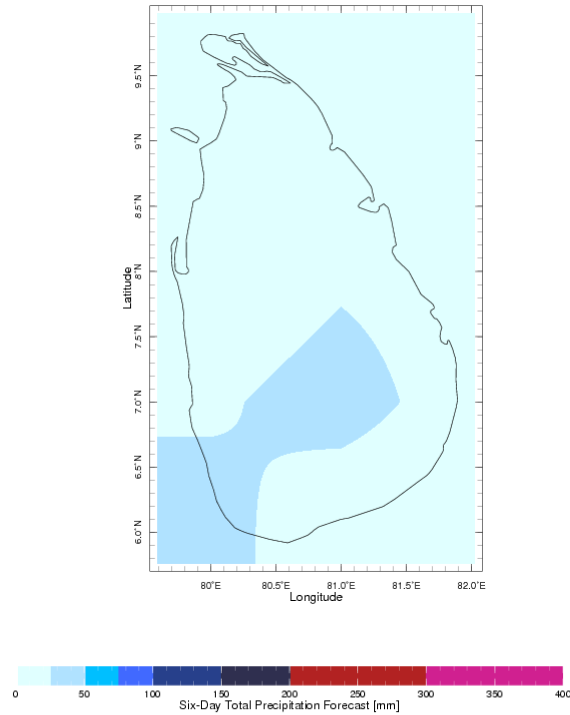
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 28-05-2014 valid for 03 UTC of 30-05-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 28-05-2014 valid for 03 UTC of 31-05-2014

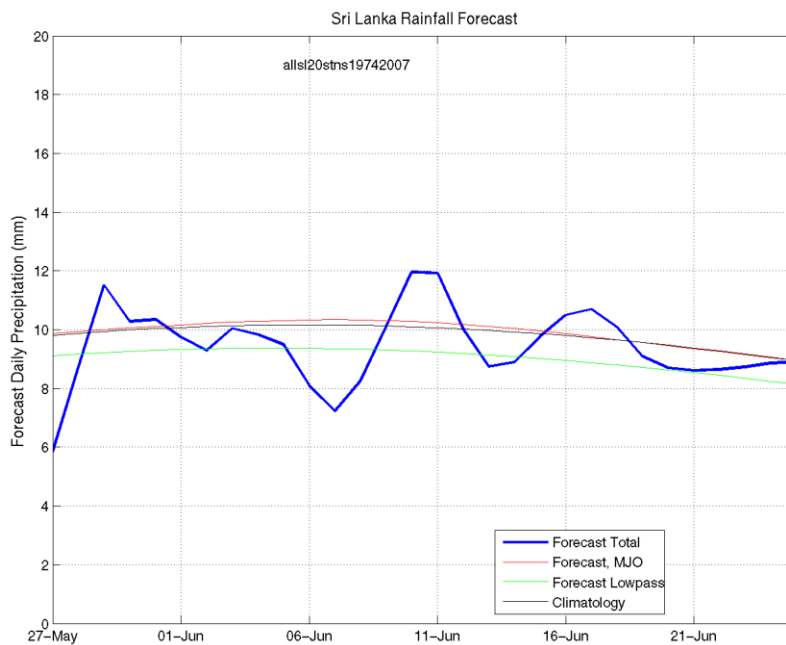


c) Weekly Precipitation Forecast for 28th May-2nd June 2014 (Precipitation Forecast in Context Map Tool, IRI)



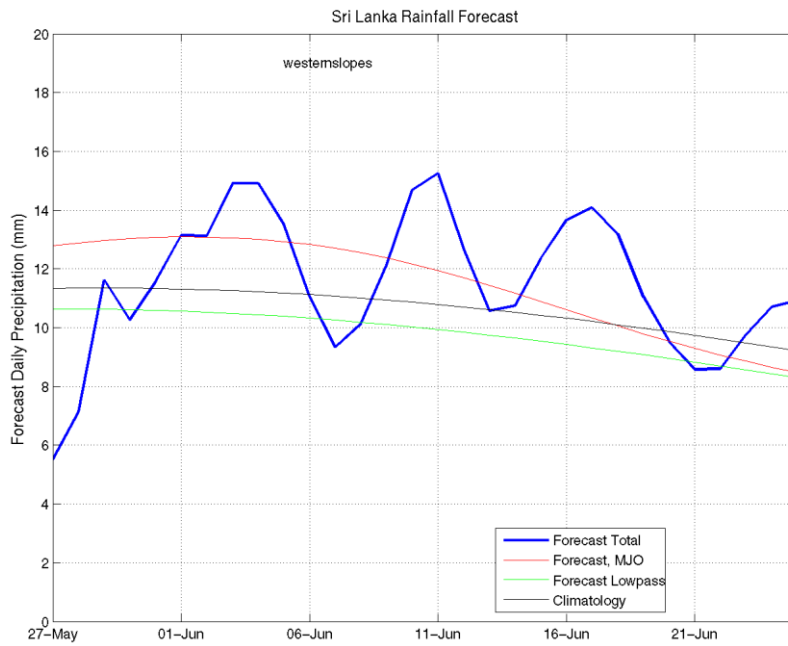
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 28th May, 2014

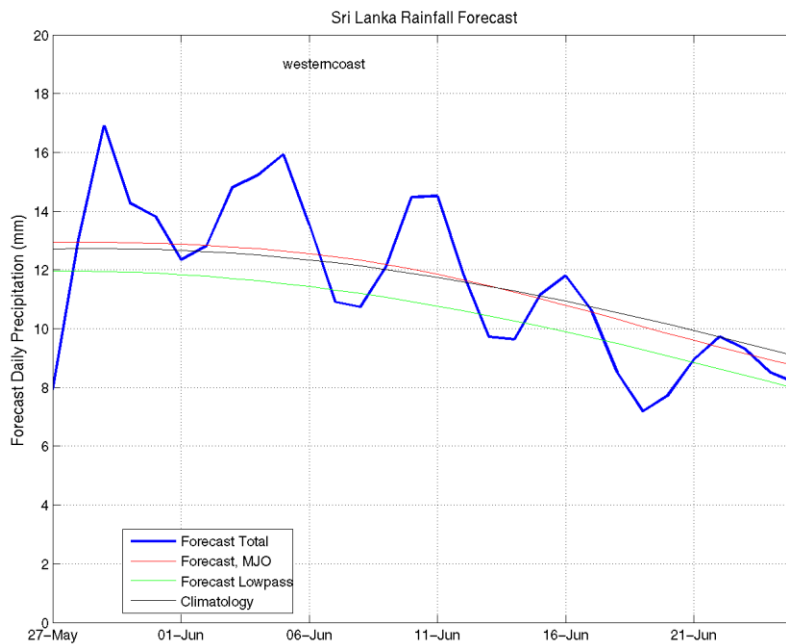


All Sri Lanka (Rainfall Scale from 0-20 mm/day)

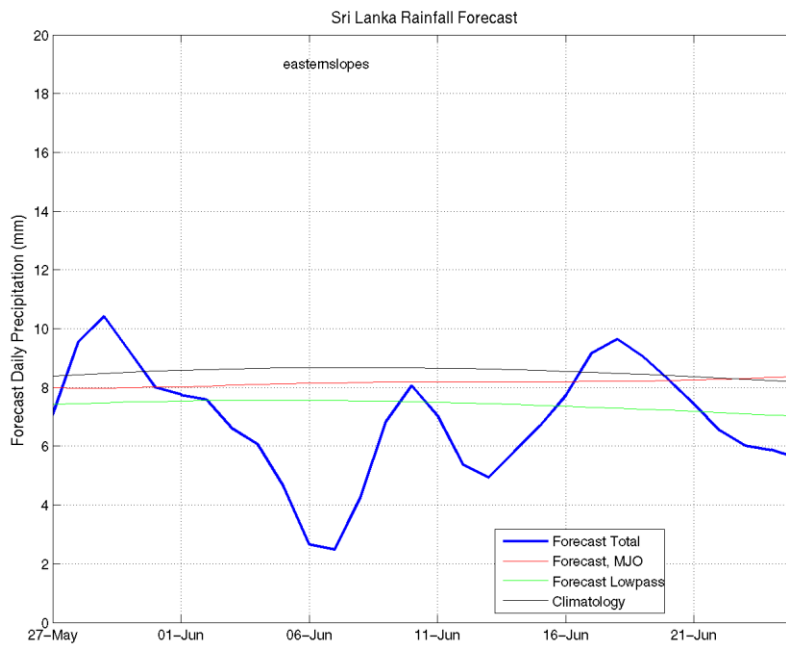
Western Slopes (Rainfall Scale from 0-20 mm/day)



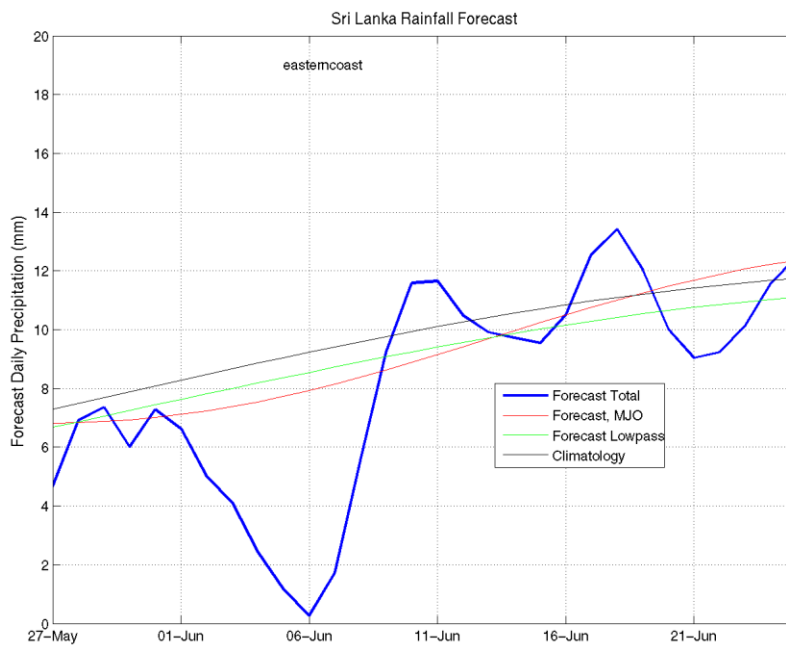
Western Coast (Rainfall Scale from 0-20 mm/day)



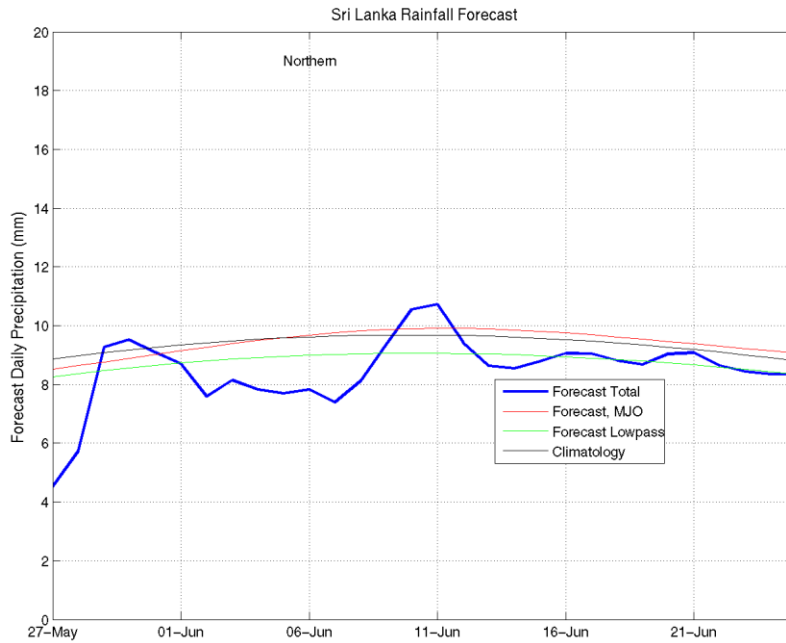
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



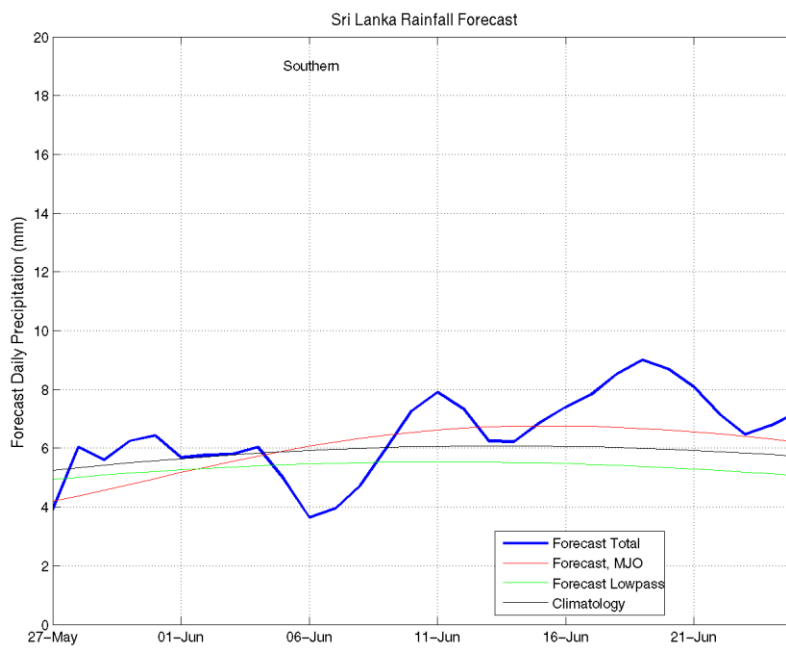
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

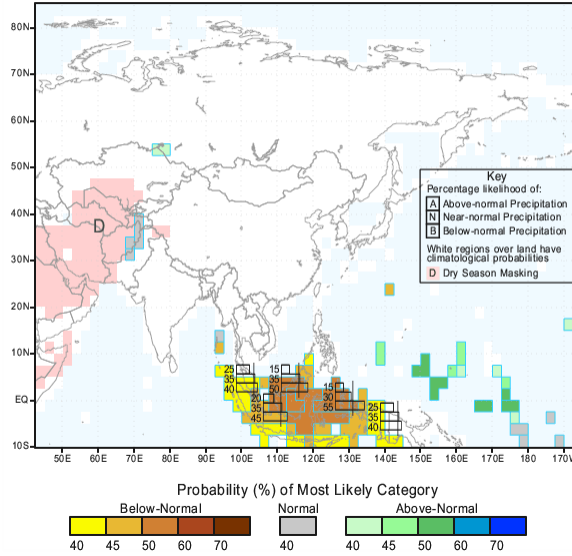


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

