

Experimental Climate Monitoring and Prediction

(Prepared for the Water Management Secretariat of the Mahaweli Authority)

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(FECT and IRI¹)

24 May 2012

FECT BLOG

Past reports available at
<http://fects.blogspot.com/>

and

<http://fects.wordpress.com/>

FECT WEBSITE

<http://www.climate.lk>

and

<http://www.tropicalclimate.org/>

ENSO Update

17 May 2012

Slightly more than half of the ENSO prediction models predict El Nino conditions developing around the July-September season, continuing through the rest of 2012. However 40-45% of the models indicate persistence of ENSO neutral conditions. Currently, no models indicate a re-emergence of La Nina conditions.

(IRI)

Summary² Monitoring

Weekly Monitoring: During the week of 15th May-21st May rainfall ranged between 0-10 mm. During 15th-17th no rainfall was observed for the entire country. However during 18th-21st May there was rainfall compared to the period of 15th-17th, but rainfall was observed for the scattered places over Sri Lanka.

Monthly Monitoring: During April, the entire island has shown an above average rainfall.

Predictions

7 Day Prediction: During next week, an accumulated rainfall of 5 mm -55 mm is predicted for the South-western regions of the island.

IMD WRF Model Forecast & IRI forecast: For the 26th May 2012, WRF Model Predicts less than 65 mm rainfall for Kalutara and Colombo districts and rainfall shall spread towards Gampaha, Kegalle, Ratnapura and Galle districts in a reducing pattern. On 27th May, less than 36 mm rainfall is predicted for the Kalutara and Colombo districts and 8 mm rainfall is predicted for the Gampaha and Ratnapura. IRI models forecast less than 25 mm, 45-75 mm and 25-45 mm of rainfall for the Northern, Southern and in between regions of Sri Lanka, respectively.

1 Month Prediction: Overall, from 24th-26th May 2012, rainfall shall increase and then it shall decrease gradually till the 2nd June. There onwards rainfall shall increase gradually with minor fluctuation between 5th - 8th June followed by a gradual increase till the 20th June. *Western Slopes-* Rainfall received for western slopes is high compared to the other regions of Sri Lanka. A rapid increase of rainfall shall be expected during 24th-26th May and shall decrease gradually till 8th June with minor peaks on 29th May and 4th June. There onwards rainfall shall increase gradually. *Eastern Slopes-* Rainfall shall decrease gradually during 24th May-7th June and shall increase gradually thereafter. *Northern Region-* Rainfall shall increase during 24th-26th and shall decrease till 31st May. Rainfall shall show constant during 31st May-5th June 2012 and thereafter rainfall shall increase gradually.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for June 2012 to August 2012, issued in May 2012, there is a 45%-50% probability for temperature to be above normal for the country. There is 40% probability for rainfall to be climatological.

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- Weekly Average SST Anomalies

2. Predictions

- NCEP GFS Ensemble 1-7 day predictions, NOAA, CPC, USA
- IMD WRF Model Forecast
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

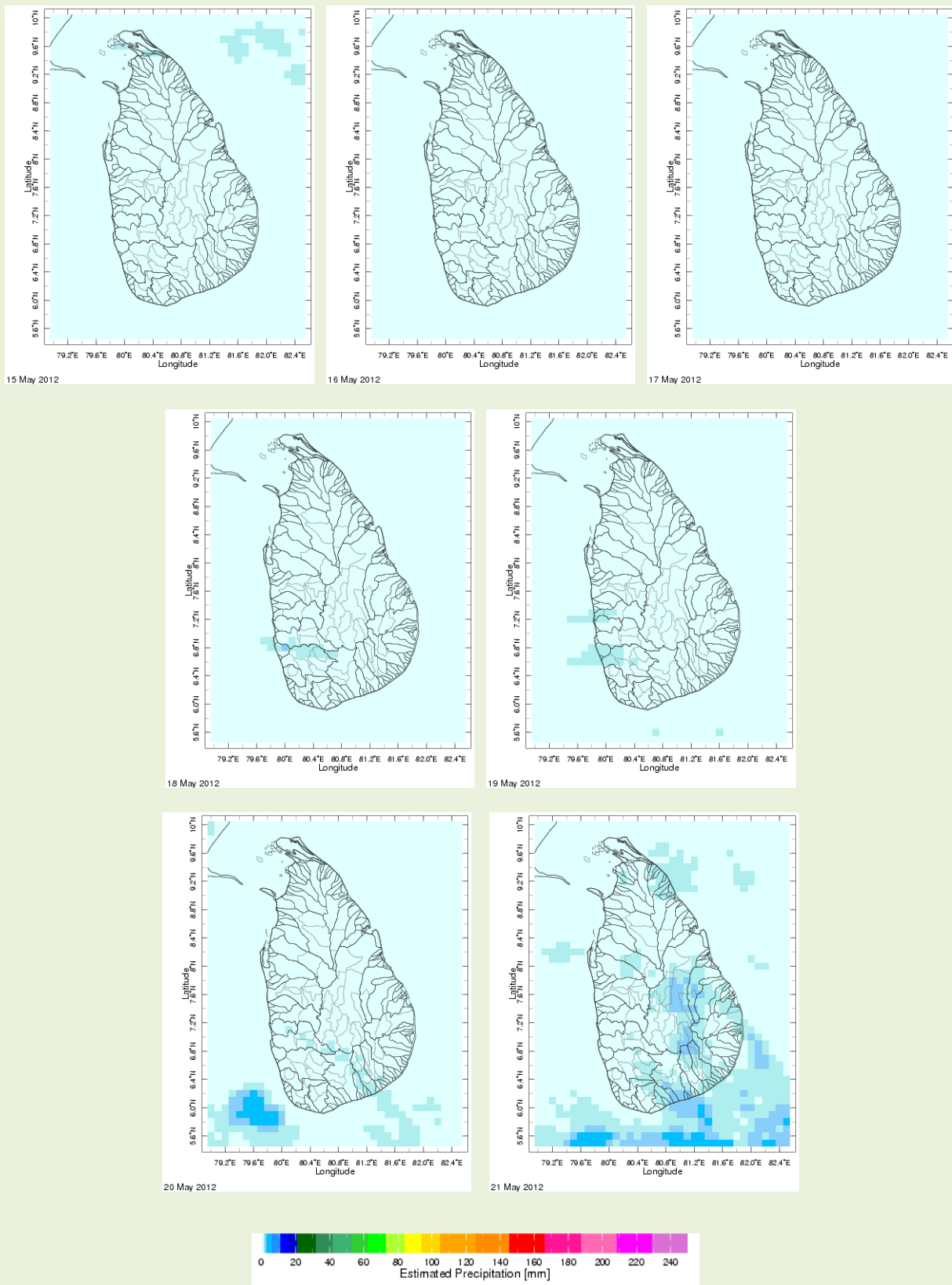
International Research Institute for Climate and Society.

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

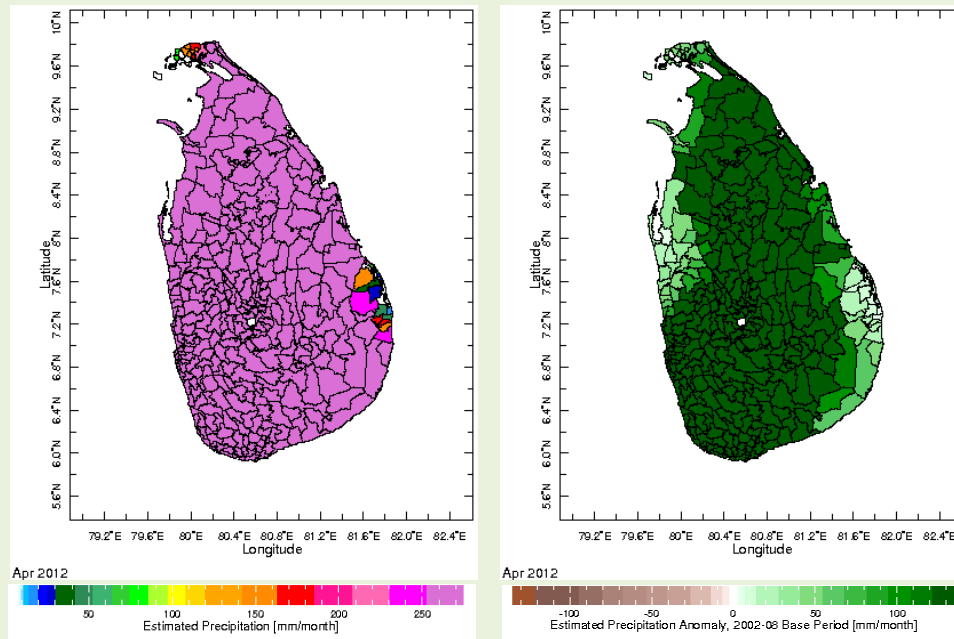
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

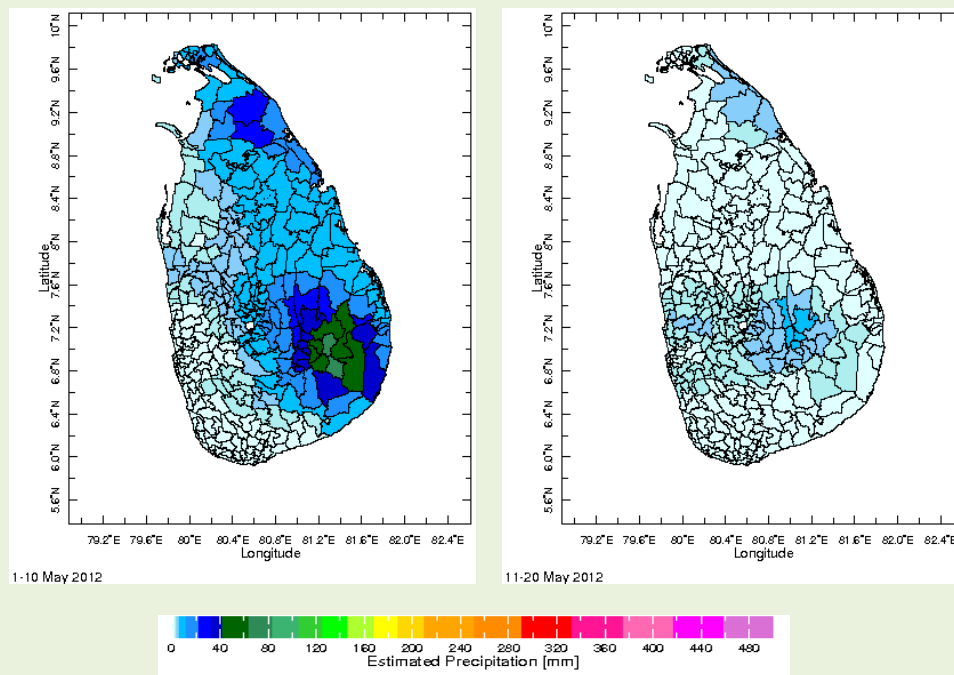
a) Daily Satellite Derived Rainfall Estimate Maps: 15th May –21st May, 2012 (Left-Right, Top-Bottom)



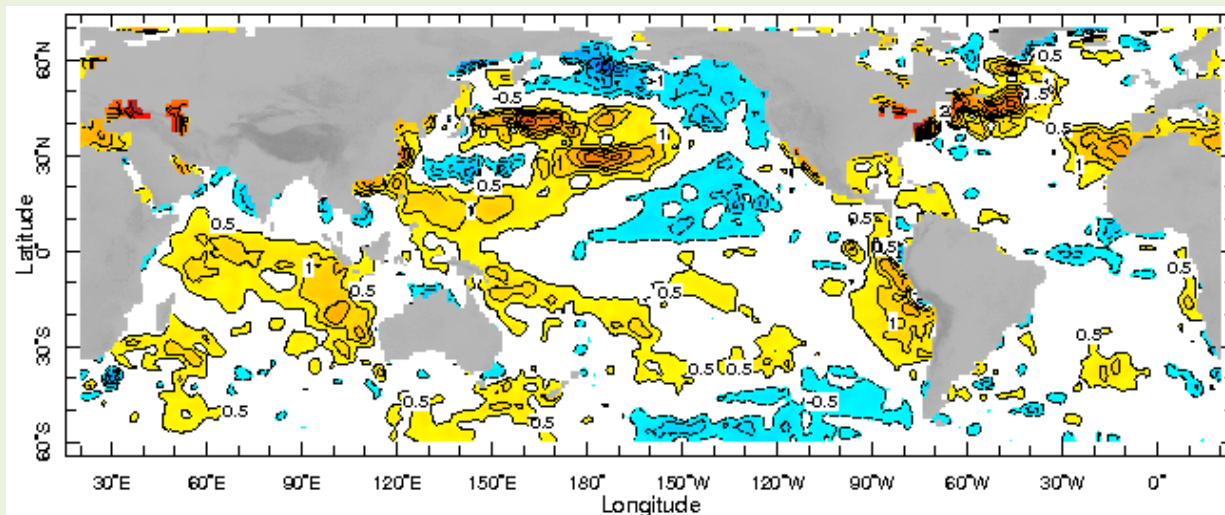
b) Monthly Satellite Derived Rain fall Estimates for April 2012 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (01-10 May &, 11-20 May 2012)



d) Weekly Average SST Anomalies

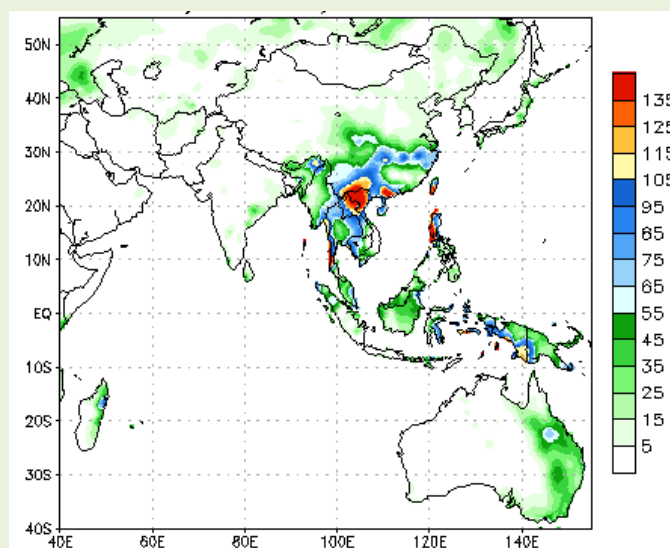


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 13th May – 19th May, 2012

Data Source: NCEP Global Sea Surface Temperature Analysis (Climatology 1979-1995)

2. Predictions

a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



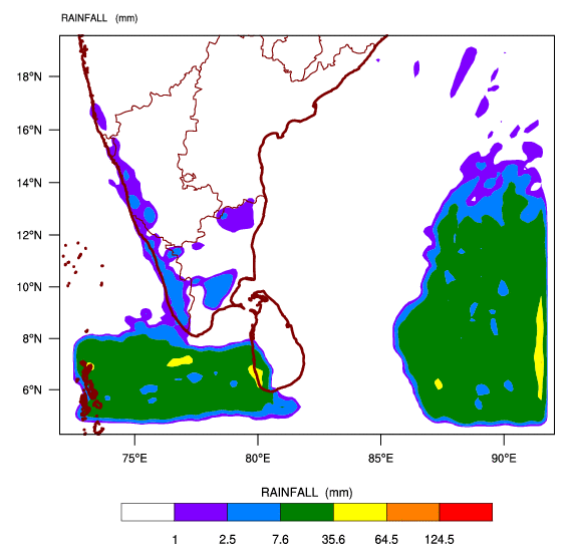
During next week, an accumulated rainfall of 5 mm -55 mm is predicted for the South-western regions of the island.

Source – NOAA Climate Prediction Center

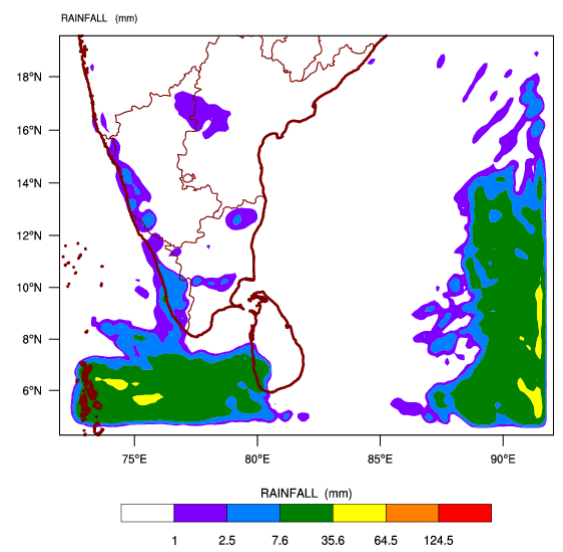
Map: Predicted accumulation of rainfall. (23rd May– 29th May, 2012 week)

b) WRF Model Forecast (Regional Meteorological Center, Chennai, Indian Meteorological Department)

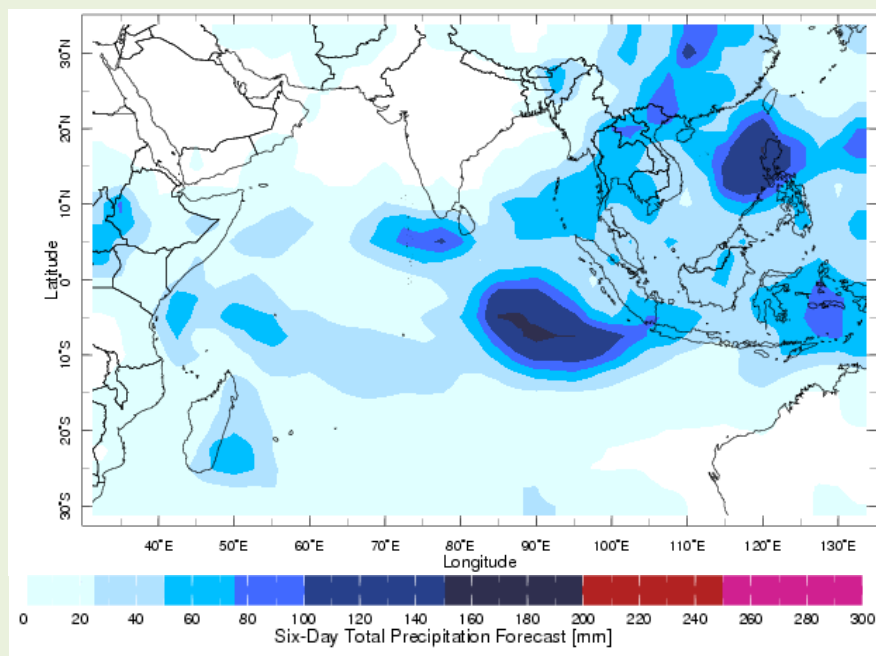
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 24-05-2012 valid for 03 UTC of 26-05-2012



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 24-05-2012 valid for 03 UTC of 27-05-2012



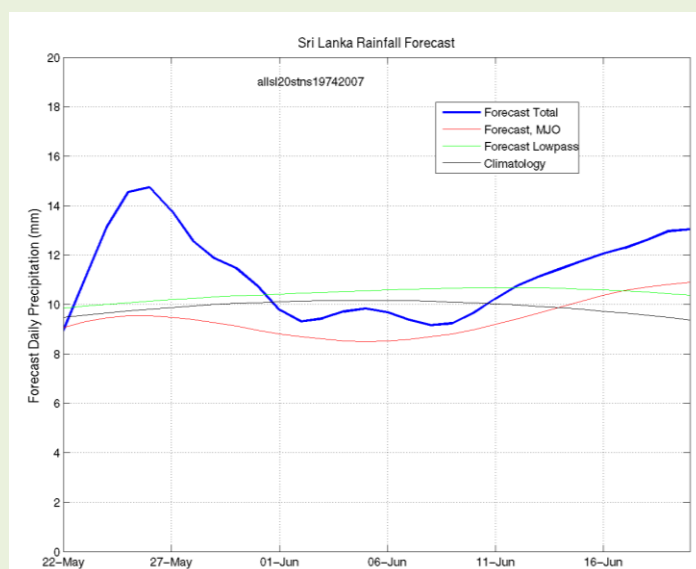
c) Weekly Precipitation Forecast for 22 May - 27 May 2012 (Precipitation Forecast in Context Map Tool, IRI)



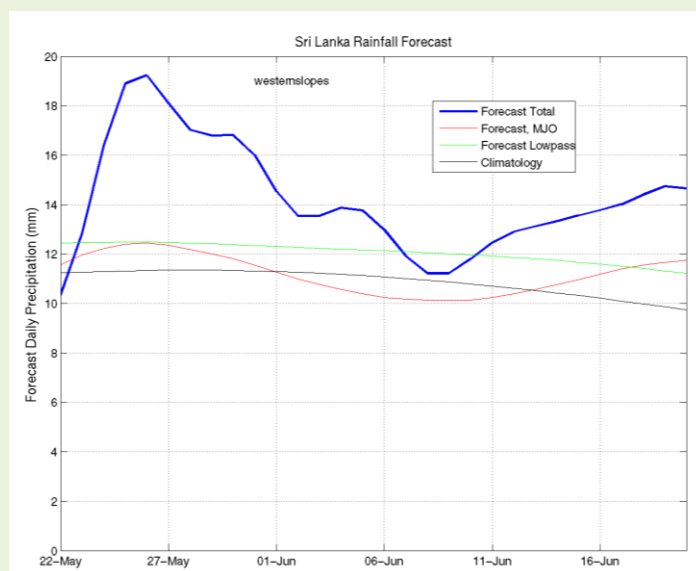
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 23rd May, 2012

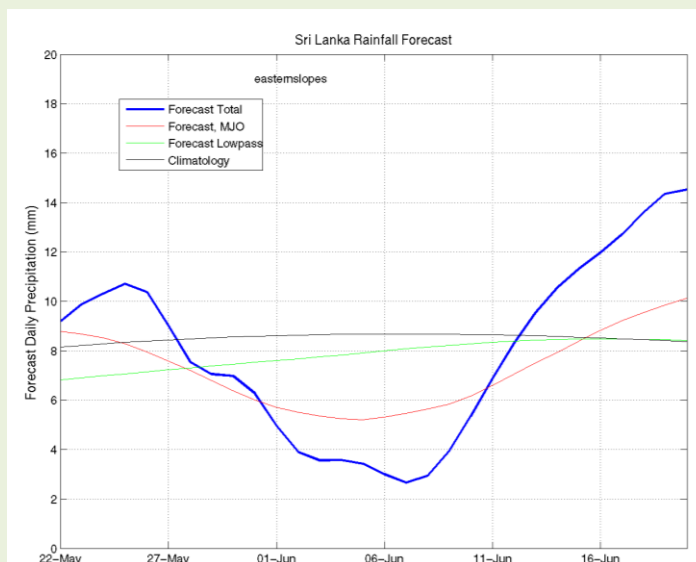
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



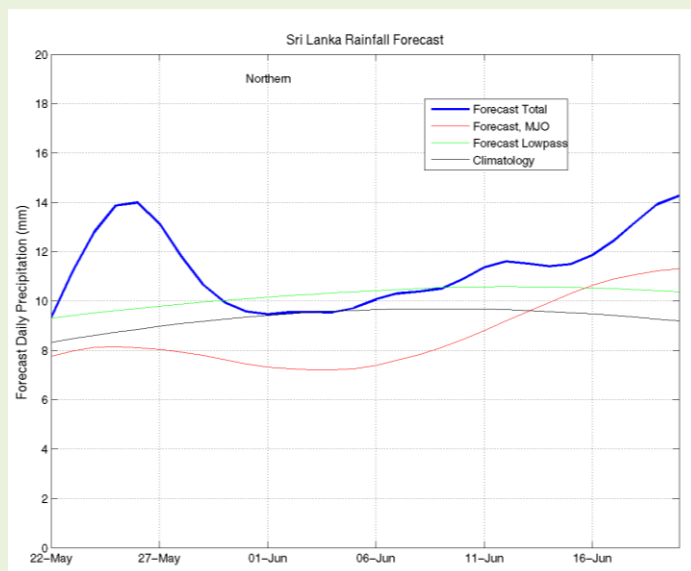
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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



e) Seasonal Rainfall and Temperature Predictions from IRI

