

Experimental Climate Monitoring and Prediction

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

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7 June 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 last week (30th May- 04th June) rainfall ranged between 5mm-20mm. A scattered rainfall was observed in the most parts of the island particularly in the southern half except northern region on the 30th of May. Some parts of the Southwestern region received up to a 15mm of rainfall on the 1st June. There was no significant rainfall during rest of the week.

Monthly Monitoring: During the month of May some part of the Galle, Matara, Ratnapura and Hambantota districts experienced above average rainfall but the surplus is below 30mm. A below average rainfall was for the rest.

Predictions

7 Day Prediction: For the coming week, an accumulated rainfall of 5mm- 55mm is predicted for the Southwestern and Western regions of the island.

IMD WRF Model Forecast & IRI forecast: WRF Model Predicts 1mm-65mm rainfall particularly for the Southwestern, Western and Northwestern regions on the 9th of June. The same conditions are predicted on the 10th but high rainfall of about 65mm shall be expected particularly for the Colombo, Gampaha and Kalutara districts. IRI models forecast predicts up to 20mm of rainfall for the entire island.

1 Month Prediction: Overall a rapid increase of rainfall shall be observed till the 8th of June. Thenafter it shall decrease dramatically till the 16th followed by a quite steady conditions for a week. Again it shall slowly increase up to the first week of the July. However wet conditions shall be expected with some fluctuations. *Western slopes-* Nearly the same pattern shall be expected but with an increased rainfall. A rapid increase of rainfall shall be observed till the 9th of July. Thenafter it shall decrease dramatically with few fluctuations till the 23rd followed by a gradual increase. *Eastern slopes-* Rainfall shall decrease dramatically with few fluctuations till the 22nd. Thenafter a rapid increase shall be experienced and wet conditions shall be expected towards the end of the month. *Northern region-* Wet conditions shall be expected till the 11th of June followed by steady conditions till the 30th. Then after it 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.

Inside this Issue

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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 1-7 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

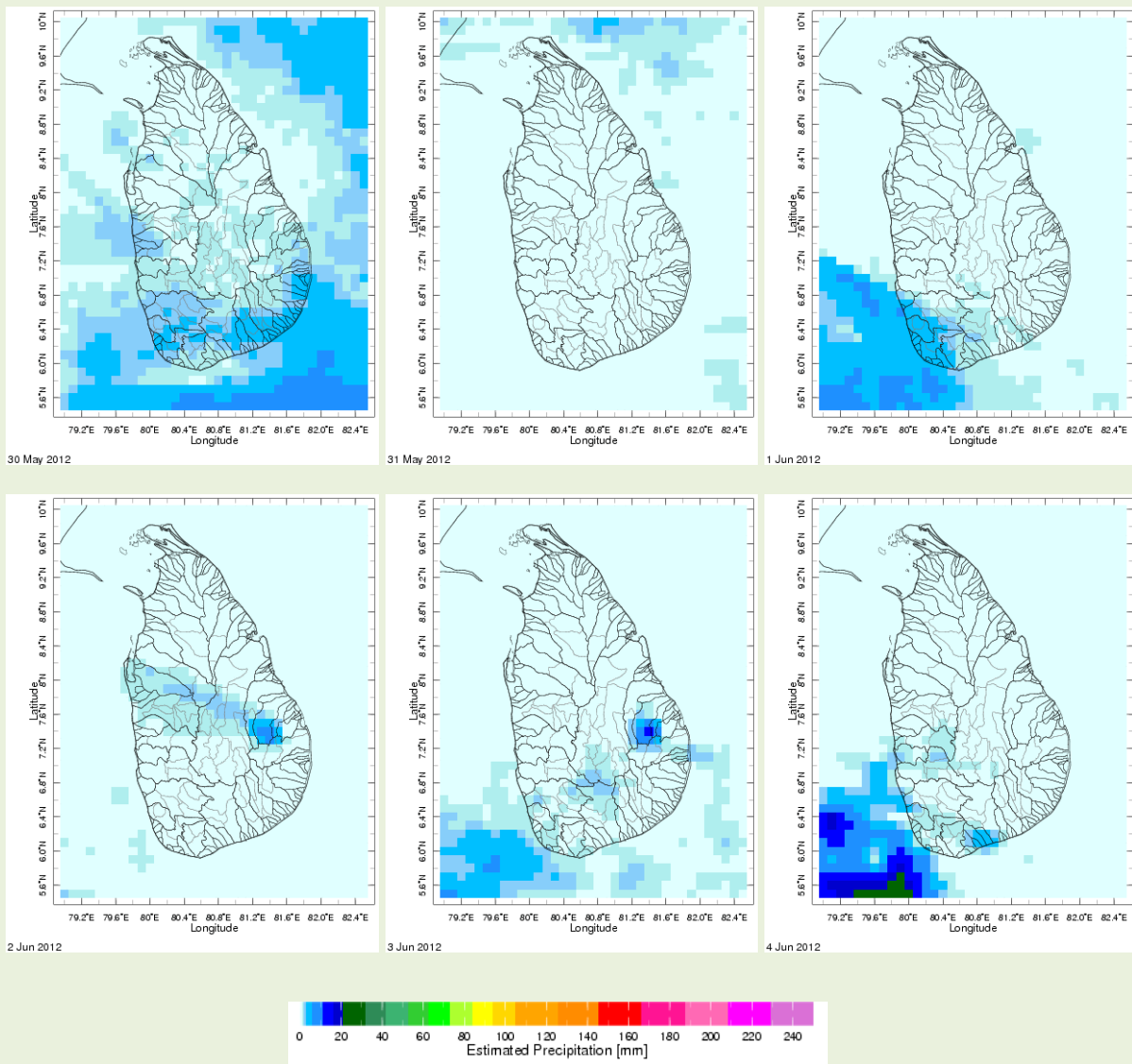
International Research Institute for Climate and Society.

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

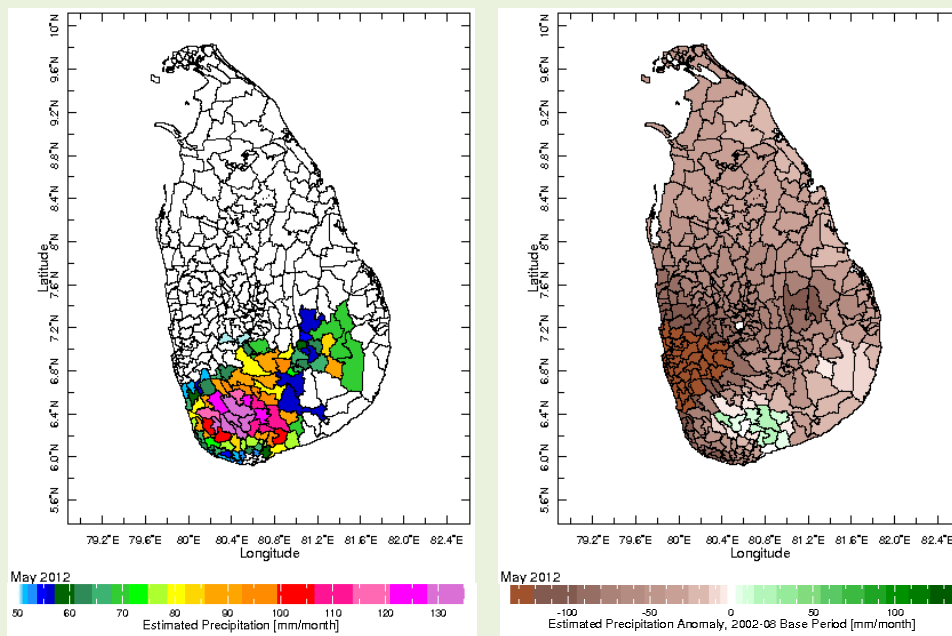
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

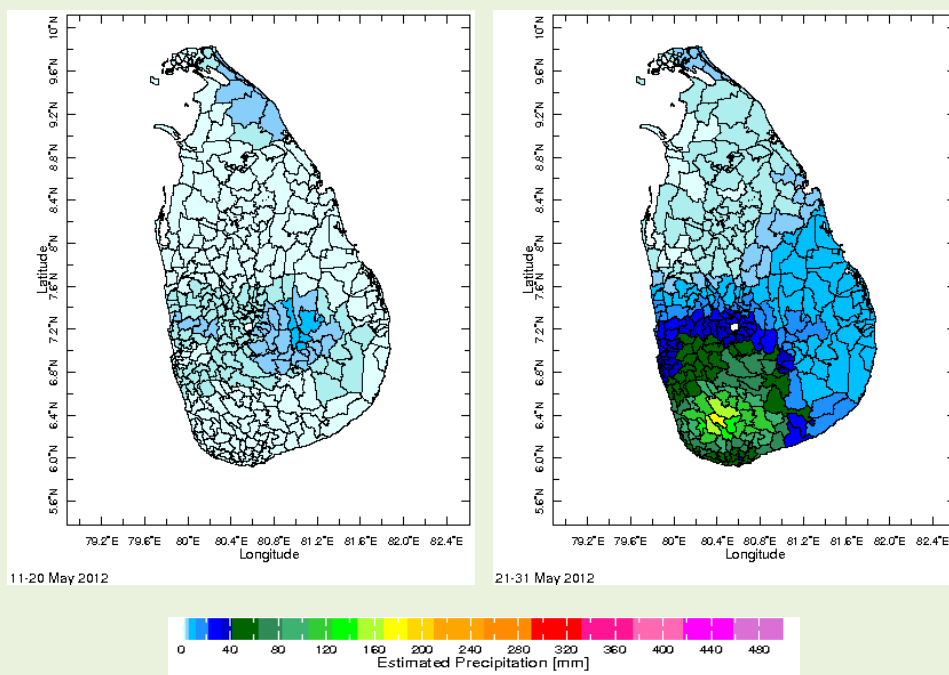
a) Daily Satellite Derived Rainfall Estimate Maps: 30th May –04th June, 2012 (Left-Right, Top-Bottom)



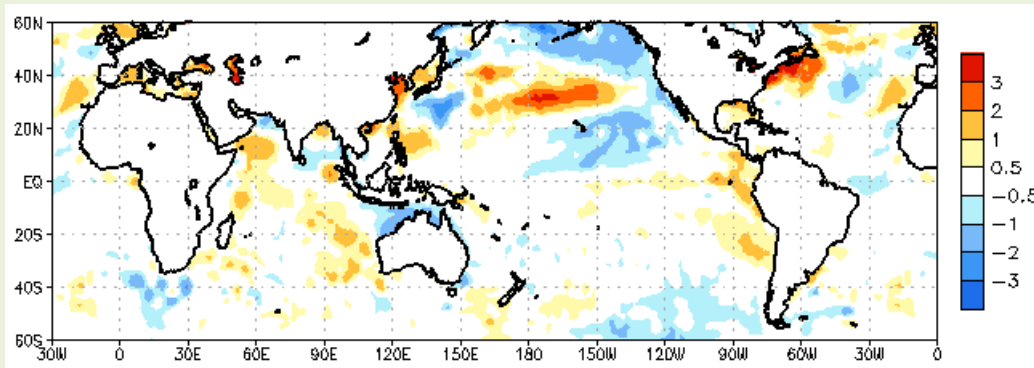
b) Monthly Satellite Derived Rain fall Estimates for May 2012 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (11-20 May & 21-31 May, 2012)



d) Weekly Average SST Anomalies

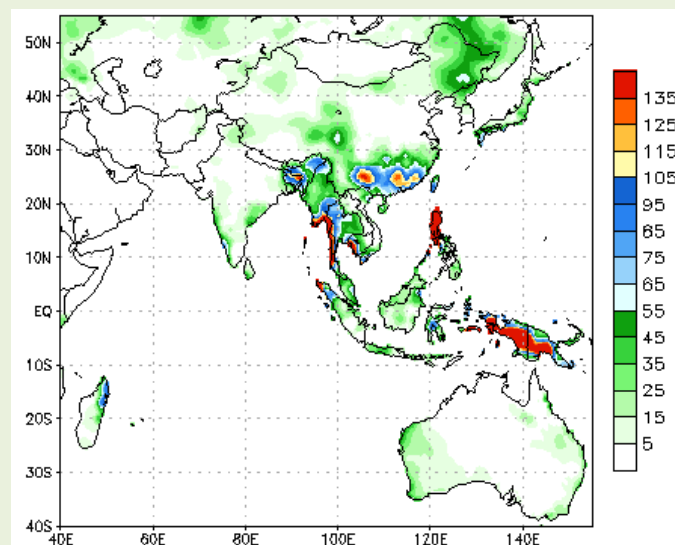


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 30th May, 2012

Data Source: NCEP Global Sea Surface Temperature Analysis (Climatology 1981-2010)

2. Predictions

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



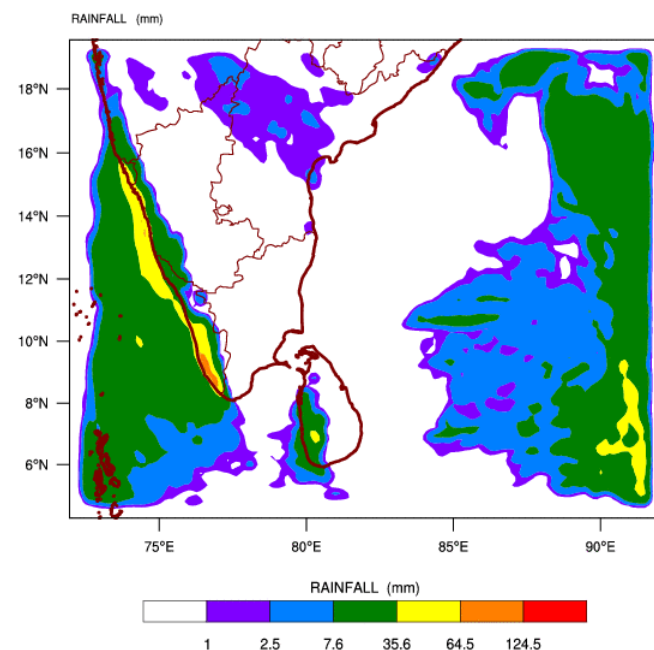
During next week, an accumulated rainfall of 5 mm -55 mm is predicted particularly for the Southwestern and western regions.

Source – NOAA Climate Prediction Center

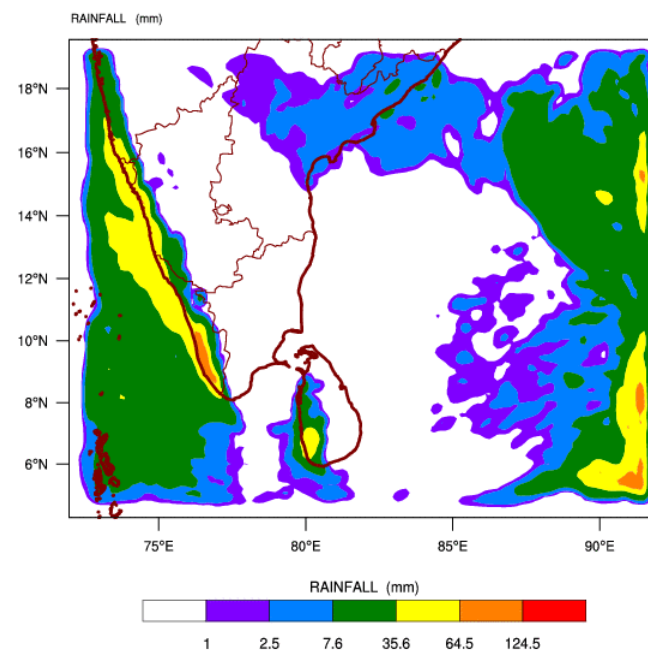
Map: Predicted accumulation of rainfall. (04nd June– 10th June, 2012 week)

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

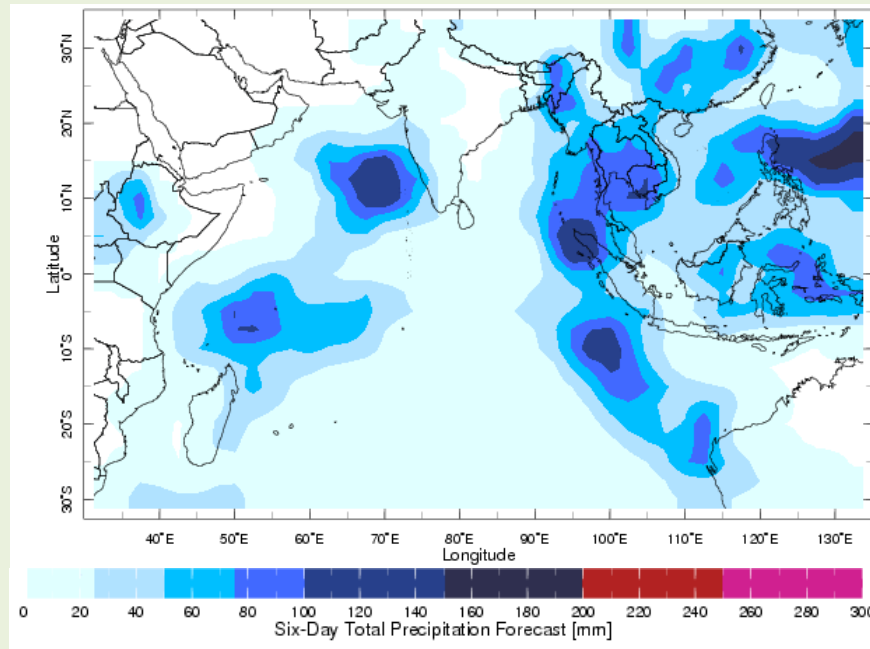
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 07-06-2012 valid for 03 UTC of 09-06-2012



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 07-06-2012 valid for 03 UTC of 10-06-2012



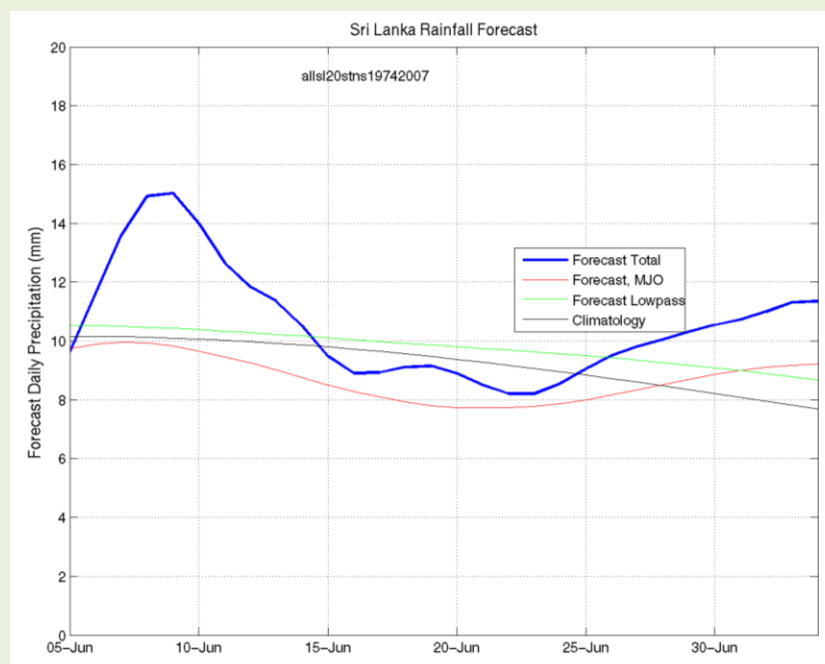
c) Weekly Precipitation Forecast for 05 -10 June 2012 (Precipitation Forecast in Context Map Tool, IRI)



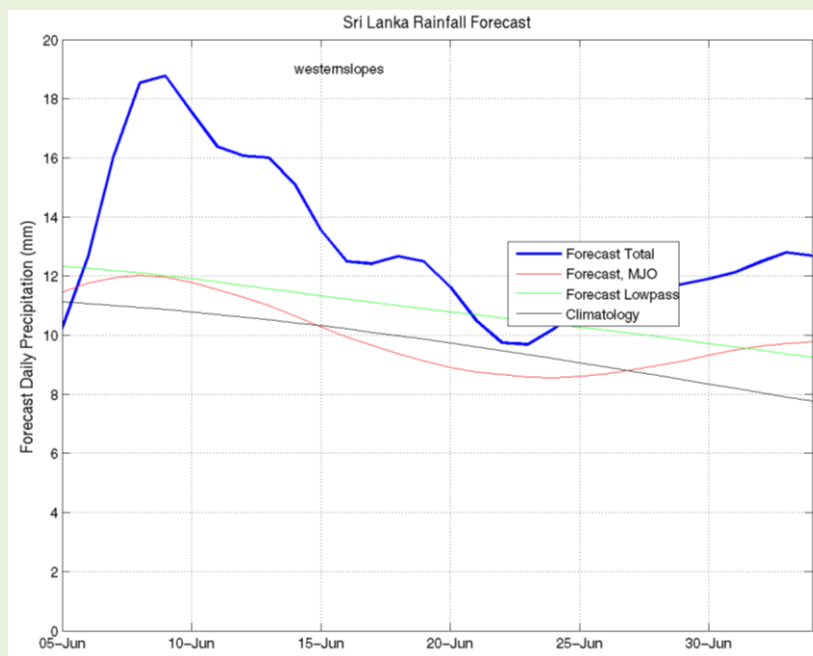
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 07th June, 2012

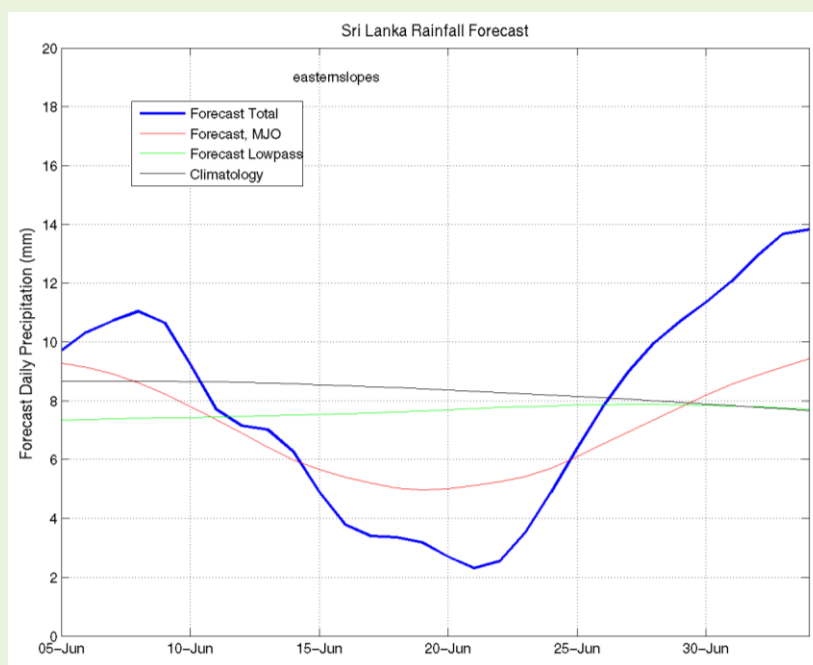
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



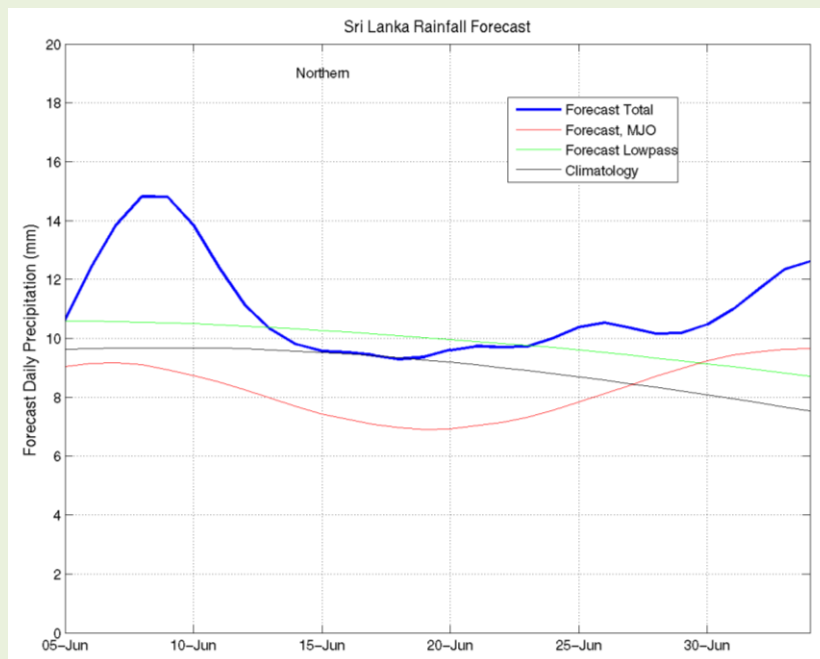
Western Slopes (Rainfall Scale from 0-20 mm/day)



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

