

Experimental Climate Monitoring and Prediction

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

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(FECT and IRI¹)

17 May 2012

FECT BLOG

Past reports available at
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ENSO Update

03 May 2012

Many of the ENSO prediction models predict neutral ENSO conditions from the April-June period through the remainder of 2012, implying an end to the 2011-12 La Nina. However, approximately 40% of models predict El Nino conditions developing by the July-September season and continuing through 2012.

(IRI)

Summary² Monitoring

Weekly Monitoring: During the week of 08th May-14th May rainfall ranged between 0-50 mm. On the 8th & 9th rainfall was observed for the Southeastern & Eastern regions & Mulativu & Vavuniya districts. On the 13th no rainfall was observed for the entire country.

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 Southern half of the island.

IMD WRF Model Forecast & IRI forecast: WRF Model Predicts less than 3 mm rainfall for the coastal regions of Puttalam, Gampaha & Colombo districts on 18th May 2012. On 19th less than 36 mm is predicted for the Colombo & Kalutara districts and spread till Kegalle, Ratnapura and Nuwara Eliya in a reducing pattern. IRI models forecast 25 mm of rainfall for the entire country.

1 Month Prediction: Overall, from 15th-19th May 2012, rainfall shall increase drastically and then it shall decrease gradually till the 26th. There onwards rainfall shall increase gradually with minor fluctuation between 26th May-2nd June followed by a gradual increase till the 14th June. *Western Slopes-* A rapid increase of rainfall shall be expected during 15th-19th May and reached to a peak on the 19th. During 19th May-2nd June rainfall shall decrease but there shall be minor peaks on 23rd and 28th May. There onwards rainfall shall increase. *Eastern Slopes-* Rainfall shall increase during 15th-18th May. Rainfall shall gradually decrease during 18th May-1st June and shall reach to the forecasted daily precipitation of 3 mm which is the lowest for the entire island. There onwards rainfall shall increase drastically. *Northern Region-* Rainfall shall increase during 15th-19th and shall decrease till 25th May. Thereafter rainfall shall increase gradually with low increasing rate.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for May 2012 to July 2012, issued in April 2012, there is a 40%-45% probability for temperature to be below normal particularly in the northern half of the country while 40% probability for it is to be normal in the southern half. There is 40% probability for rainfall to be climatological.

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

2. Predictions

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- IMD WRF Model Forecast
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

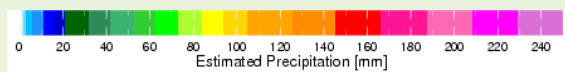
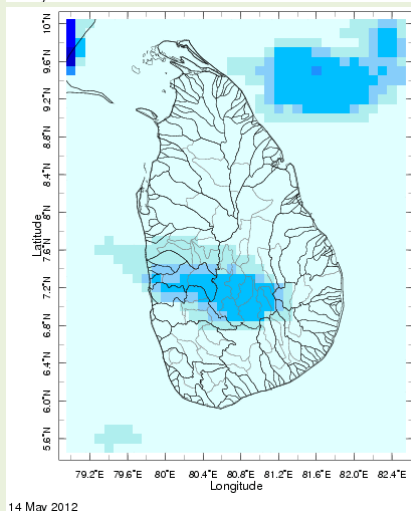
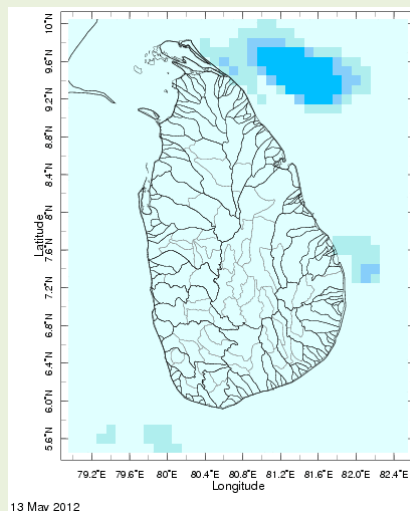
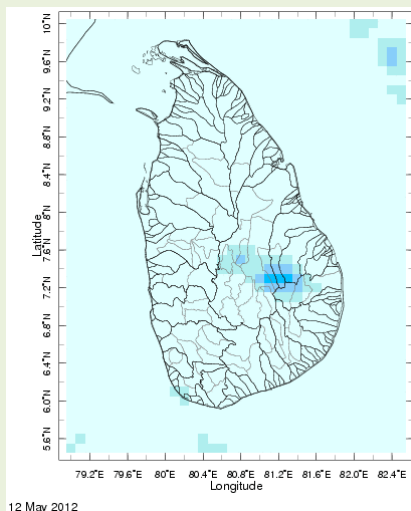
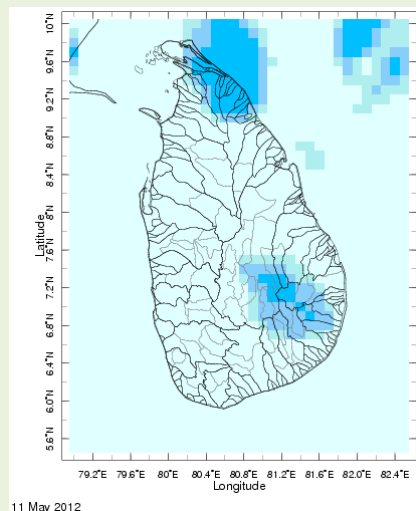
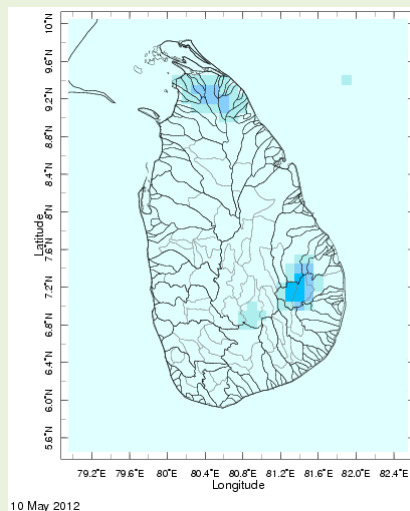
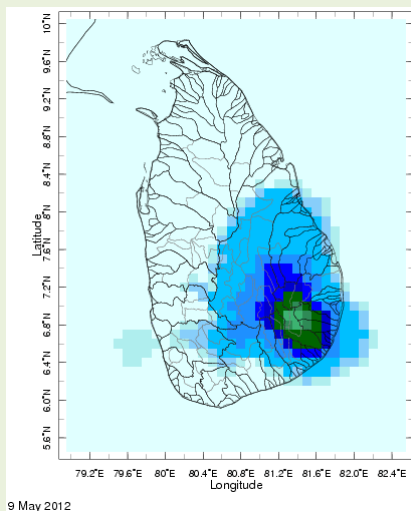
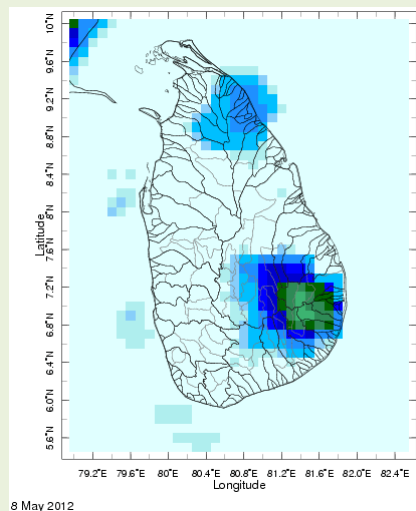
International Research Institute for Climate and Society.

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

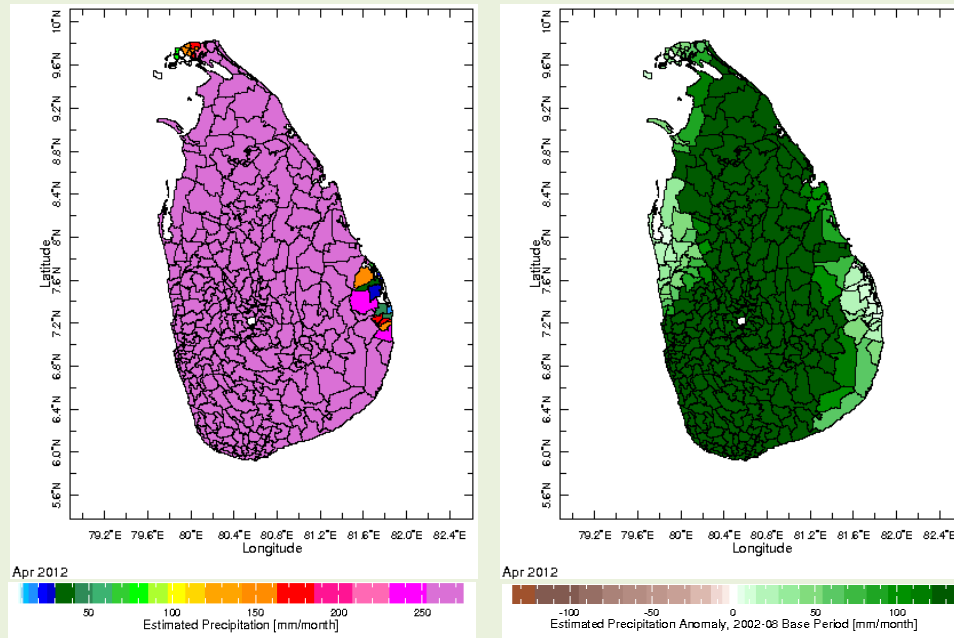
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

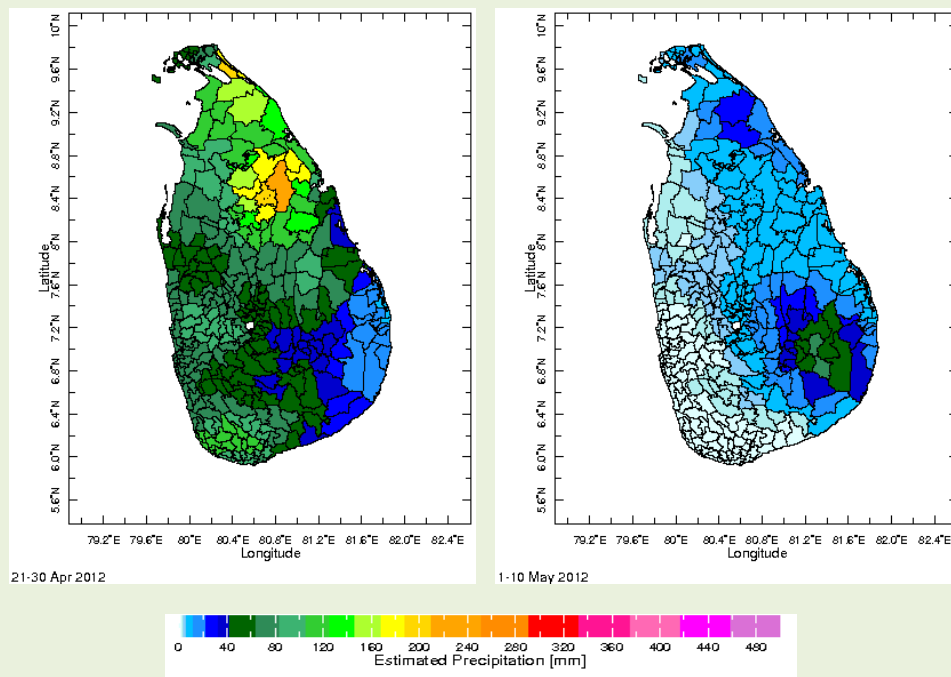
a) Daily Satellite Derived Rainfall Estimate Maps: 8th May –14th May, 2012 (Left-Right, Top-Bottom)



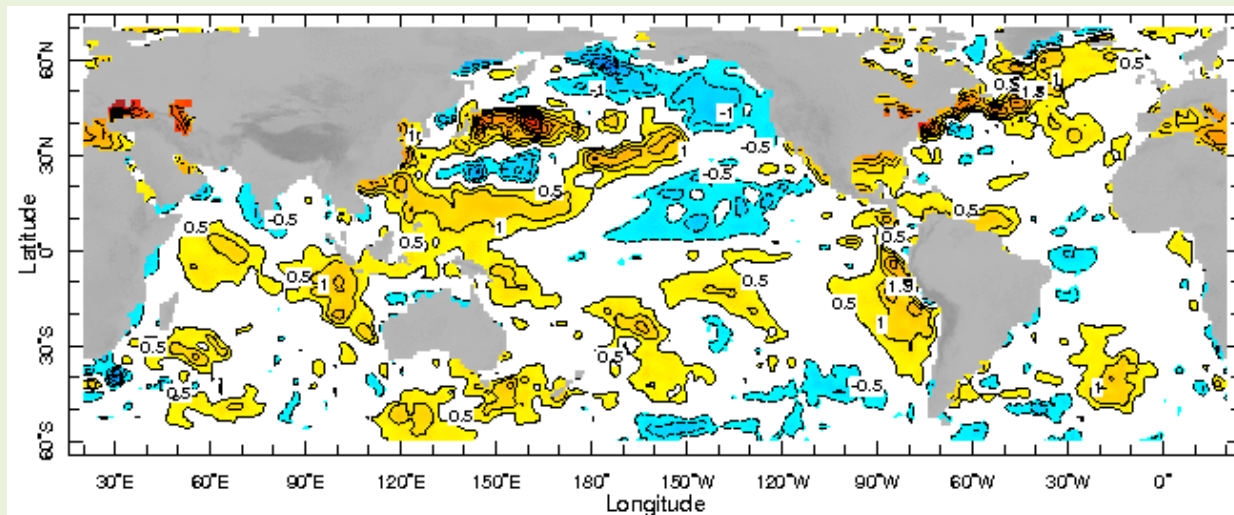
b) Monthly Satellite Derived Rain fall Estimates for April 2012 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-30 April & 01-10 May 2012)



d) Weekly Average SST Anomalies

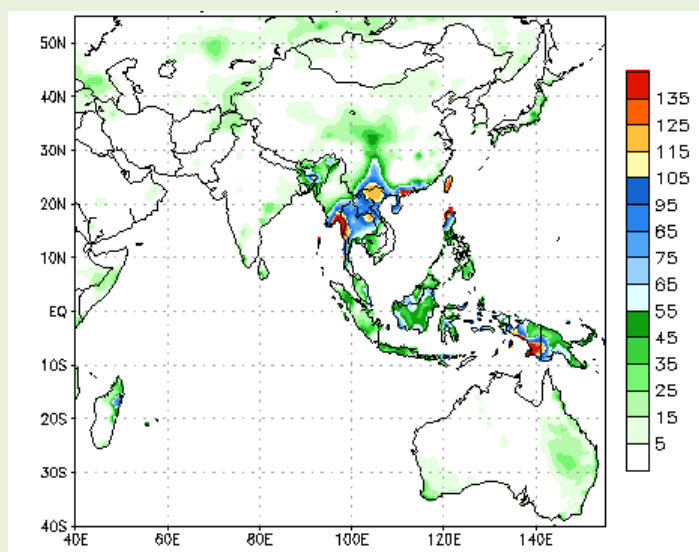


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 06th May – 12th May, 2012

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.



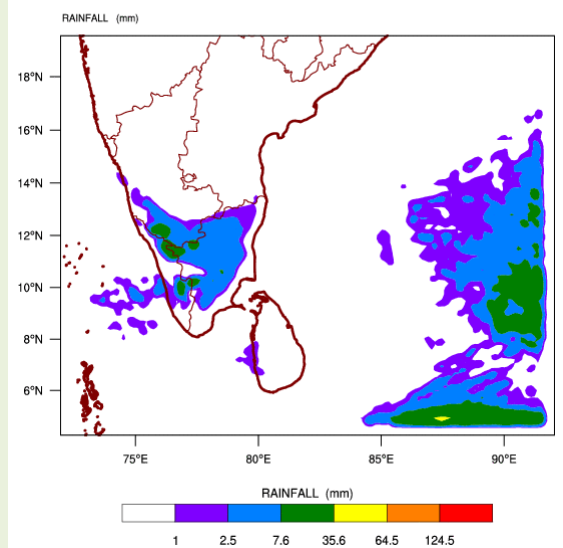
During next week, an accumulated rainfall of 5 mm -55 mm is predicted for the Southern half of the island.

Source – NOAA Climate Prediction Center

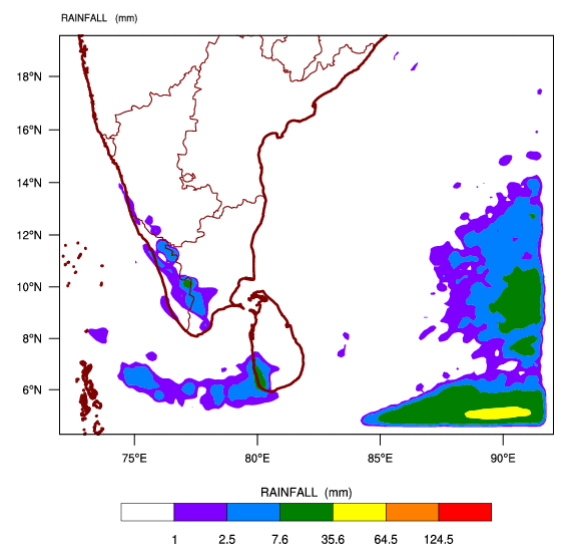
Map: Predicted accumulation of rainfall. (16th May– 22th May, 2012 week)

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

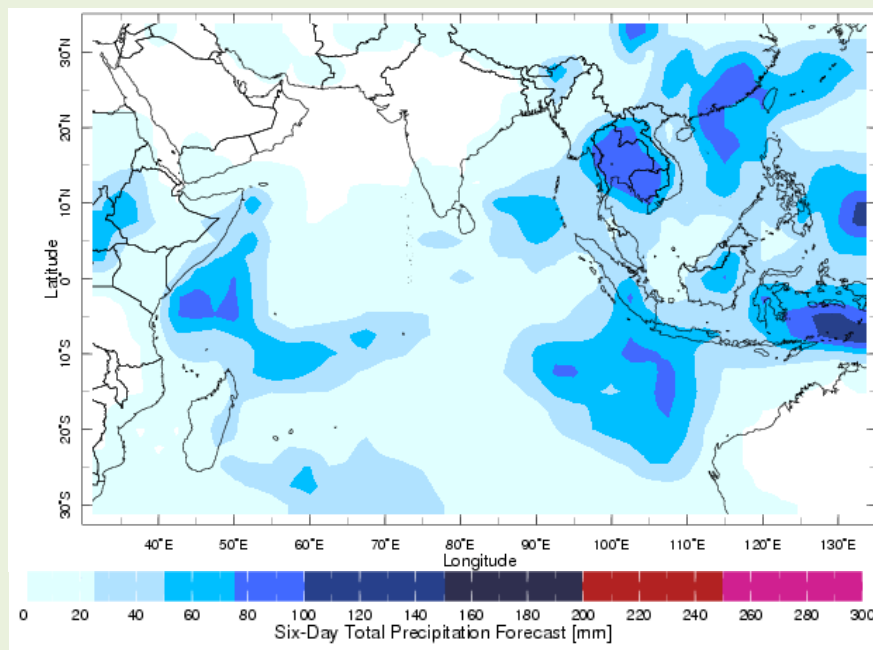
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 16-05-2012 valid for 03 UTC of 18-05-2012



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 16-05-2012 valid for 03 UTC of 19-05-2012



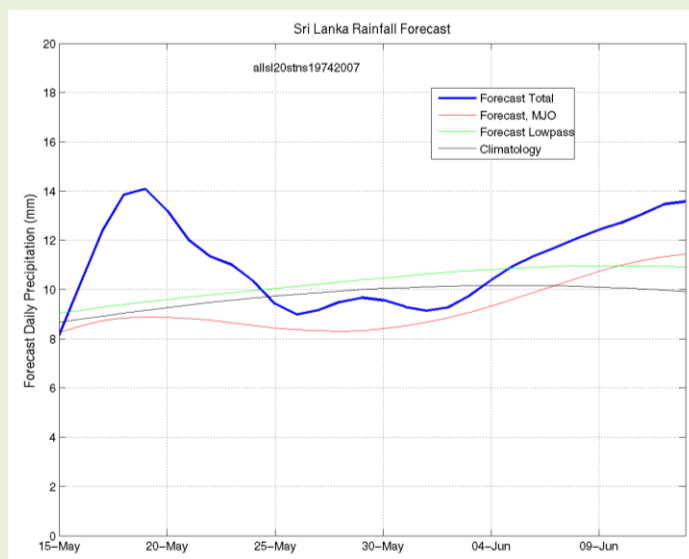
c) Weekly Precipitation Forecast for 15 May - 20 May 2012 (Precipitation Forecast in Context Map Tool, IRI)



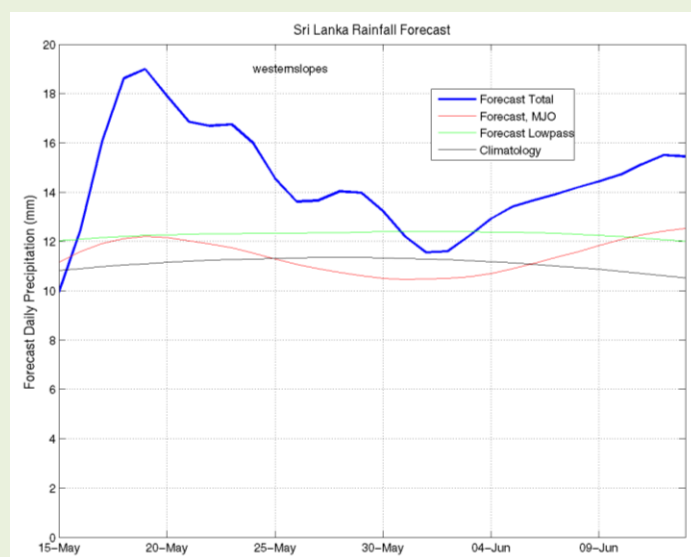
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 16th May, 2012

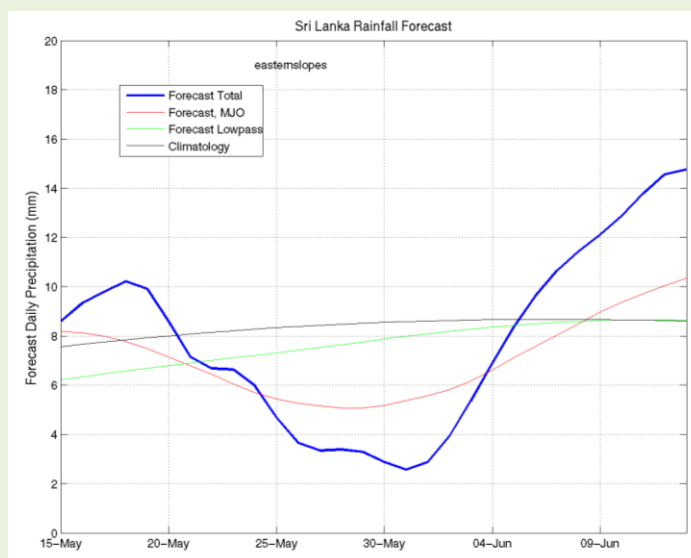
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



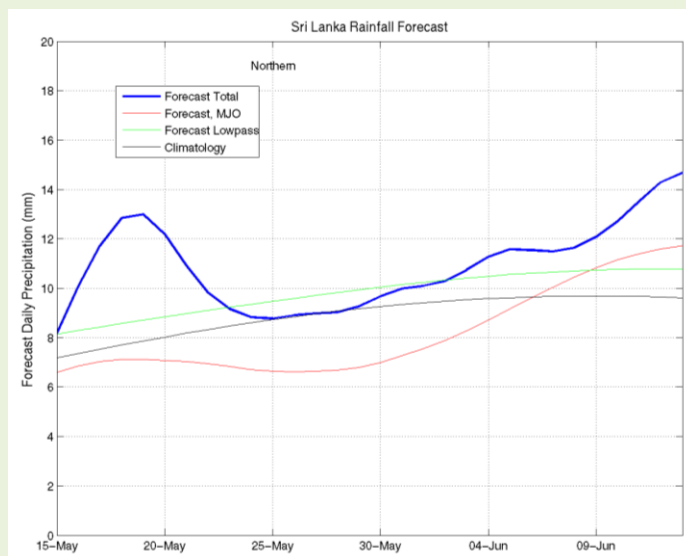
Western Slopes (Rainfall Scale from 0-20 mm/day)



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

