

Experimental Climate Monitoring and Prediction

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

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(FECT and IRI¹)

2 February 2012

FECT BLOG

Past reports available at
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ENSO Update

19 January 2012

A majority of the ENSO prediction models call for a weak or moderate strength La Nina to continue through the Northern Hemisphere winter 2011-2012, and begin gradually weakening after peaking during the January-February period.

(IRI)

Summary² Monitoring

Weekly Monitoring: During the previous week (25th-30th January) dry conditions were experienced all almost all over the island. 5mm-20mm rainfall was experienced for Jaffna peninsula and Trincomalee district on the 26th and the 30th of January.

Monthly Monitoring: During December above average rainfall was experienced particularly in the districts of Ampara, Batticaloa, Trincomalee, Polonnaruwa, eastern part of Anuradapura district and Jaffna Peninsula. Most of this rain fell on the 1st and 2nd dekads of the month. The rainfall was below average in the rest of the country.

Predictions

7 Day Prediction: For the coming week, the NCEP Global Forecast System predicts low amount of accumulated rainfall ranging between 5mm-35mm particularly for the Western, South Western and Eastern Regions.

IMD WRF Model Forecast & IRI forecast: WRF model predicts 1mm-36mm rainfall for the Eastern half of the country except South Eastern part on the 3rd of February while more rainfall is predicted for the Batticaloa district. Same rainfall condition is predicted on the 4th. But it spreads to the North Western region too while more rainfall is predicted for Eastern region and Trincomalee district. NOAA NCEP CFS predictions (delivered via IRI map tool) predict 5mm-60mm rainfall during 30th January-4th February for the whole country.

1 Month Prediction: Overall, a rapid increase of rainfall shall be expected till the 5th February. Then after it shall decrease dramatically till the 12th followed by a quite steady conditions till the 19th. Again it shall increase gradually till the end of the month. However High rainfall conditions shall not be expected for the coming month of period. *Western slopes*-nearly the same pattern shall be observed with an increased rainfall. *Eastern slopes*-There shall be no significant rainfall during first two dekads (1-20 Feb). Then after a rapid increase shall be expected till the end of the month. *Northern region*-a rapid increase of rainfall shall be expected till the 4th followed by a rapid decrease till the 11th. Then after It shall increase gradually with minor fluctuations.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for January 2012 to March 2012, issued in December 2011, there is 50%-80% probability for temperature to be normal for entire Sri Lanka, while 45%-50% the precipitation to be above normal.

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

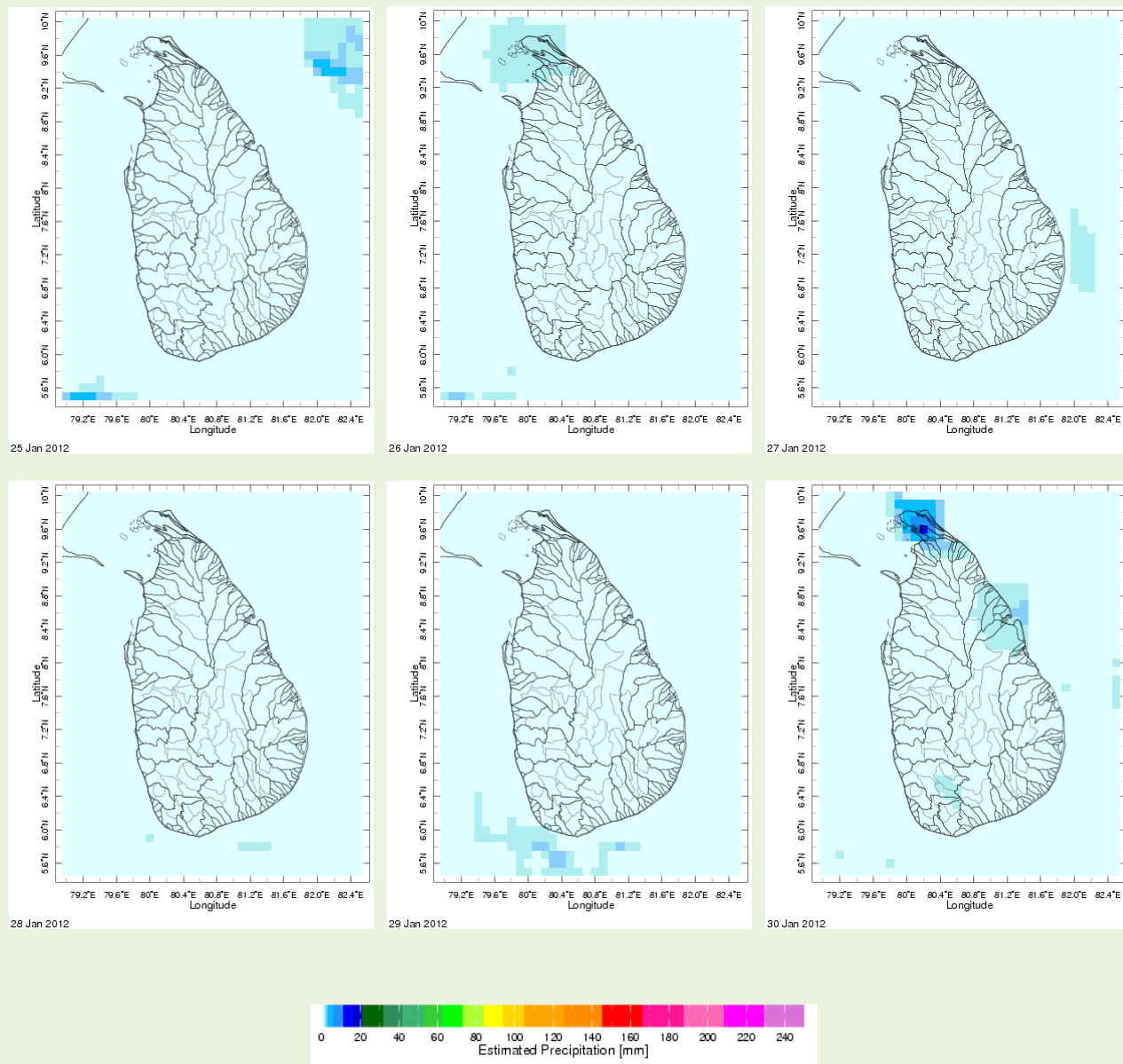
International Research Institute for Climate and Society.

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

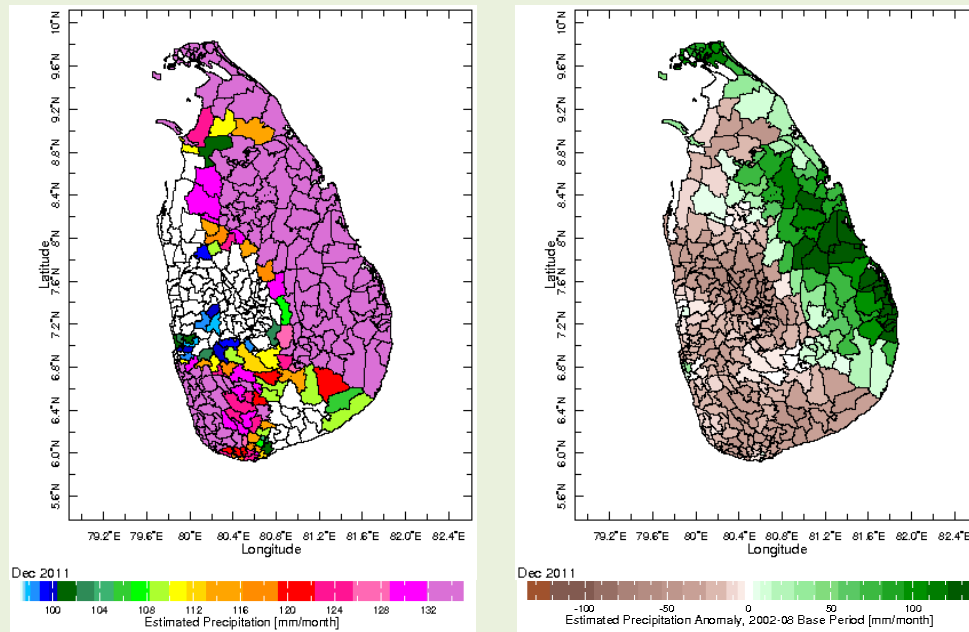
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

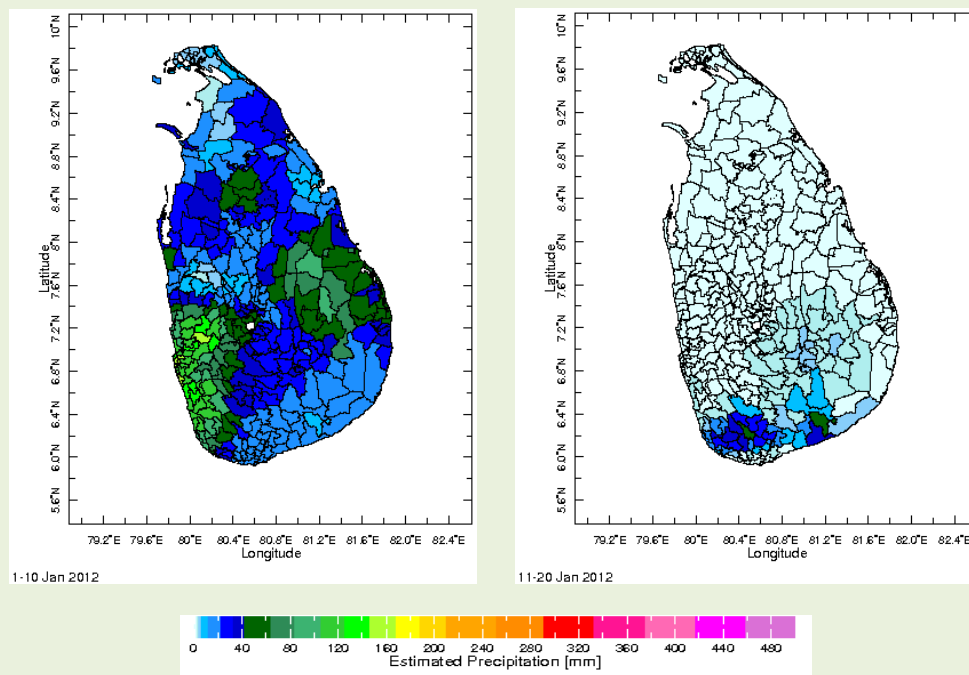
a) Daily Satellite Derived Rainfall Estimate Maps: 25th January – 30th January, 2012 (Left-Right, Top-Bottom)



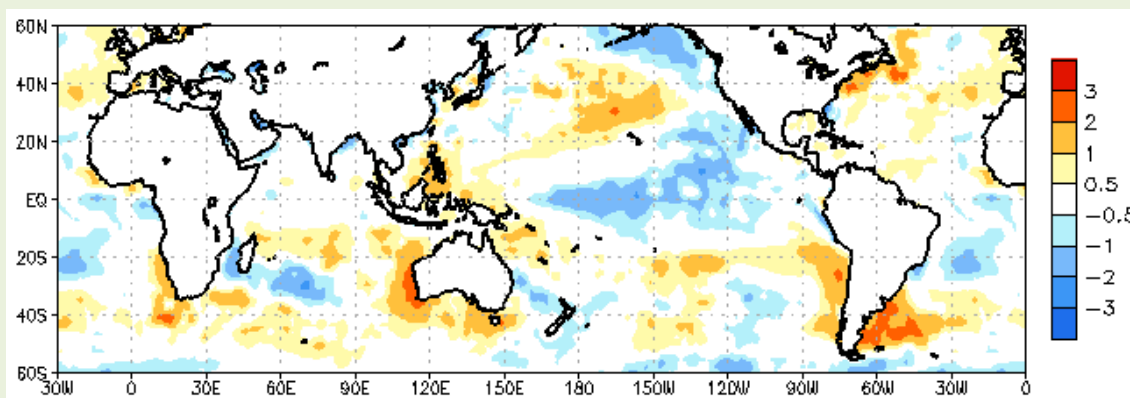
b) Monthly Satellite Derived Rain fall Estimates for December 2011 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 Jan & 11-20 Jan, 2012)



d) Weekly Average SST Anomalies

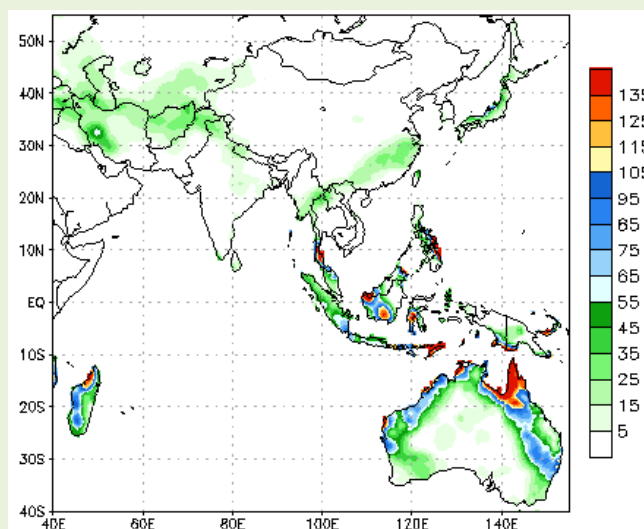


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 25th January, 2012

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.



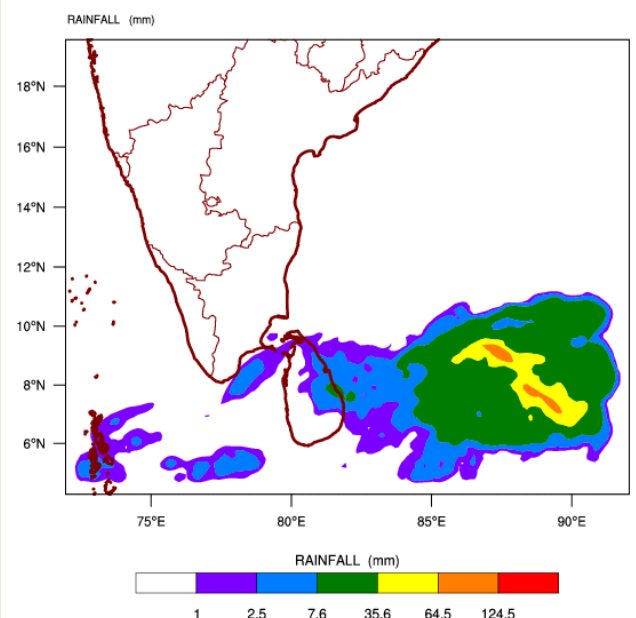
During next week, an accumulated rainfall of less than 5mm-35mm is predicted for the entire Island.

Source – NOAA Climate Prediction Center

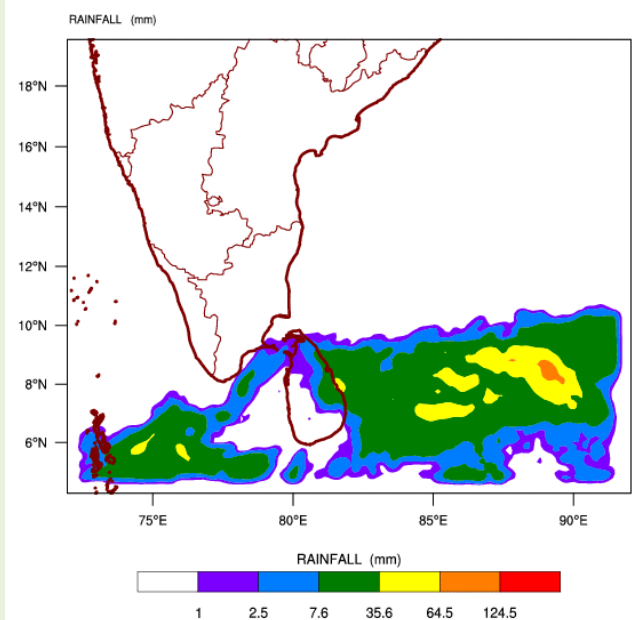
Map: Predicted accumulation of rainfall. (29th Jan– 04th Feb, 2012 week)

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

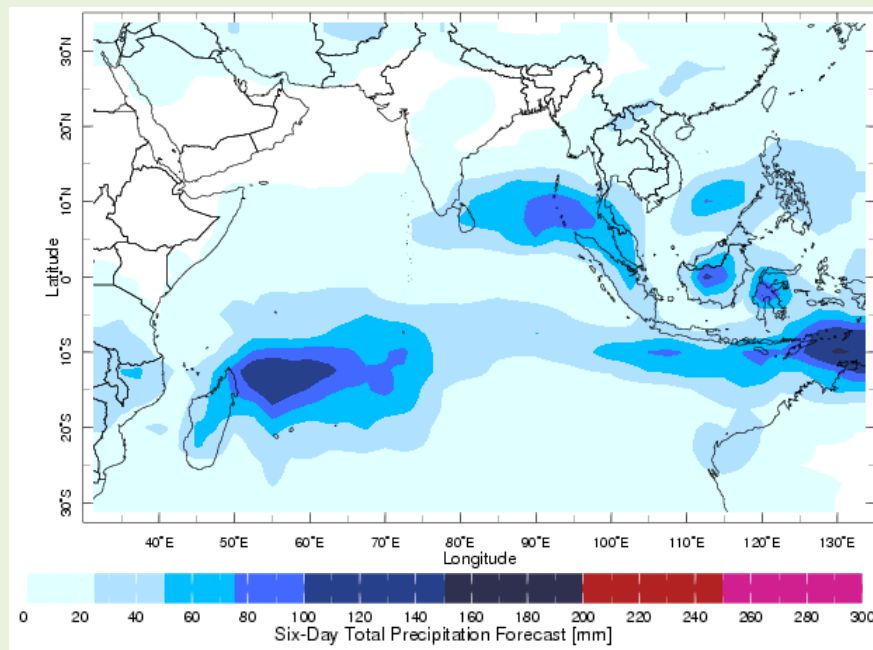
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 01-02-2012 valid for 03 UTC of 03-02-2012



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 01-02-2012 valid for 03 UTC of 04-02-2012



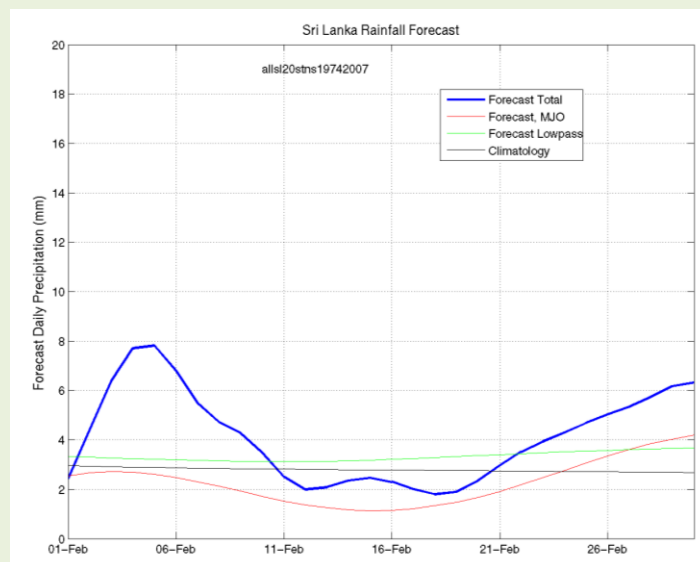
c) Weekly Precipitation Forecast for 30 Jan-04 Feb 2012(Precipitation Forecast in Context Map Tool, IRI)



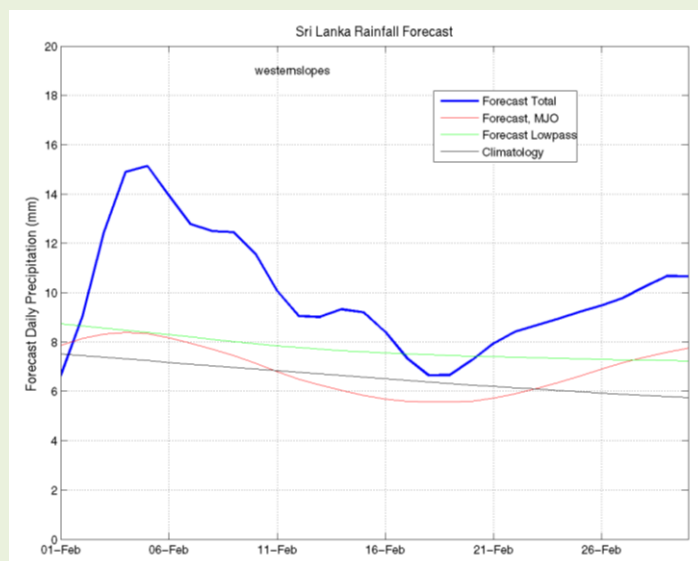
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 02nd February, 2012

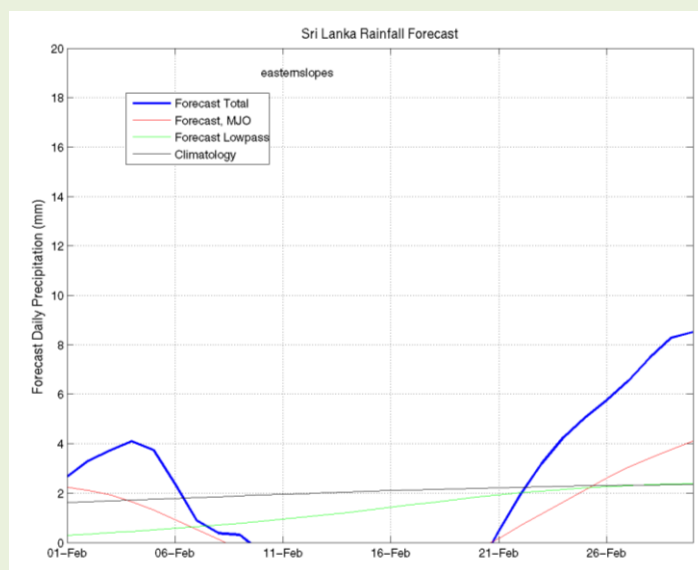
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



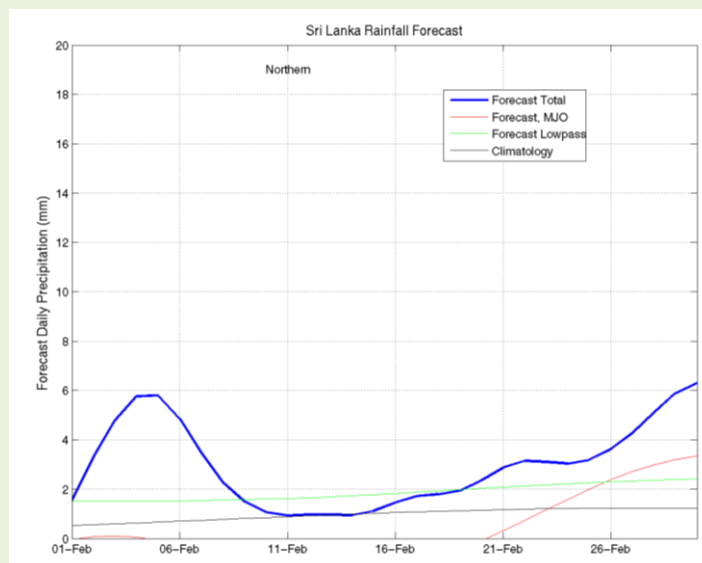
Western Slopes (Rainfall Scale from 0-20 mm/day)



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

