FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
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Experimental Climate Monitoring and Prediction

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

by: Madhura Weerasekera, Sewwandhi Chandrasekara, Sanjaya Ratnayake, Zeenas Yahiya, Lareef Zubair and Michael Bell (FECT and IRI[1])

09 February 2012

FECT BLOG

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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)

Summary[2]

Monitoring

***Weekly Monitoring*:** During the previous week (01st–06th February) rainfall ranged between 0-70 mm. High rainfall was observed more or less for the entire country on the 05th & 06th compared to the rest of the week. Maximum rainfall of 70 mm was observed on 05th February for Ampara.

***Monthly Monitoring*:** During January above average rainfall was experienced particularly in the districts of Gampaha, Colombo, Kalutara and Galle.

Predictions

***7 Day Prediction*:** For the coming week, the NCEP Global Forecast System predicts accumulated rainfall ranging between 35 mm-45 mm particularly for the Western regions of Sri Lanka.

IMD WRF Model Forecast & IRI forecast: WRF model predicts 1 mm-36 mm rainfall for the coastal band between Kalutara and Mannar districts and a shift to the central hills on the 10th of February. For the same day 1 mm-8 mm of rainfall is predicted for Anuradhapura, Polonnaruwa and Batticaloa districts. Less than 3 mm of rainfall is predicted for the Ampara district. On the 11th 1 mm-8 mm is predicted for Gampaha, Kegalle, Ratnapura, and Galle districts while 1 mm-36 mm is predicted for few regions in Matara and Nuwara Eliya. NOAA NCEP CFS predictions (delivered via IRI map tool) predict 5 mm-20 mm rainfall during 07th -12th February for the whole country.

1 Month Prediction: *Overall*, from 08th-12th February rainfall shall increase gradually & then shall decrease continuosly till the 26th while showing minute peak on 22nd February. Threafter rainfall shall increase gradually. For the western slopes there shall be more amount of rainfall compared to other regions of Sri Lanka. However during 08th-12th rainfall shall increase drastically. During 12th-20th February rainfall shall decrease gradually. Thereafter Rainfall shall increase again. For the eastern slopes rainfall shall increase gradually during 08th-11th & shall decrease gradually during 11th-17th February. Rainfall is not predicted for the period of 17th-25th & from thereon rainfall shall increase drastically. For the nothern regions during 8th-12th rainfall shall increase & during 12th-17th it shall decrease. Rainfall shall be constant during 17th-22nd February & it shall increase thereon.

***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

[1] 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.

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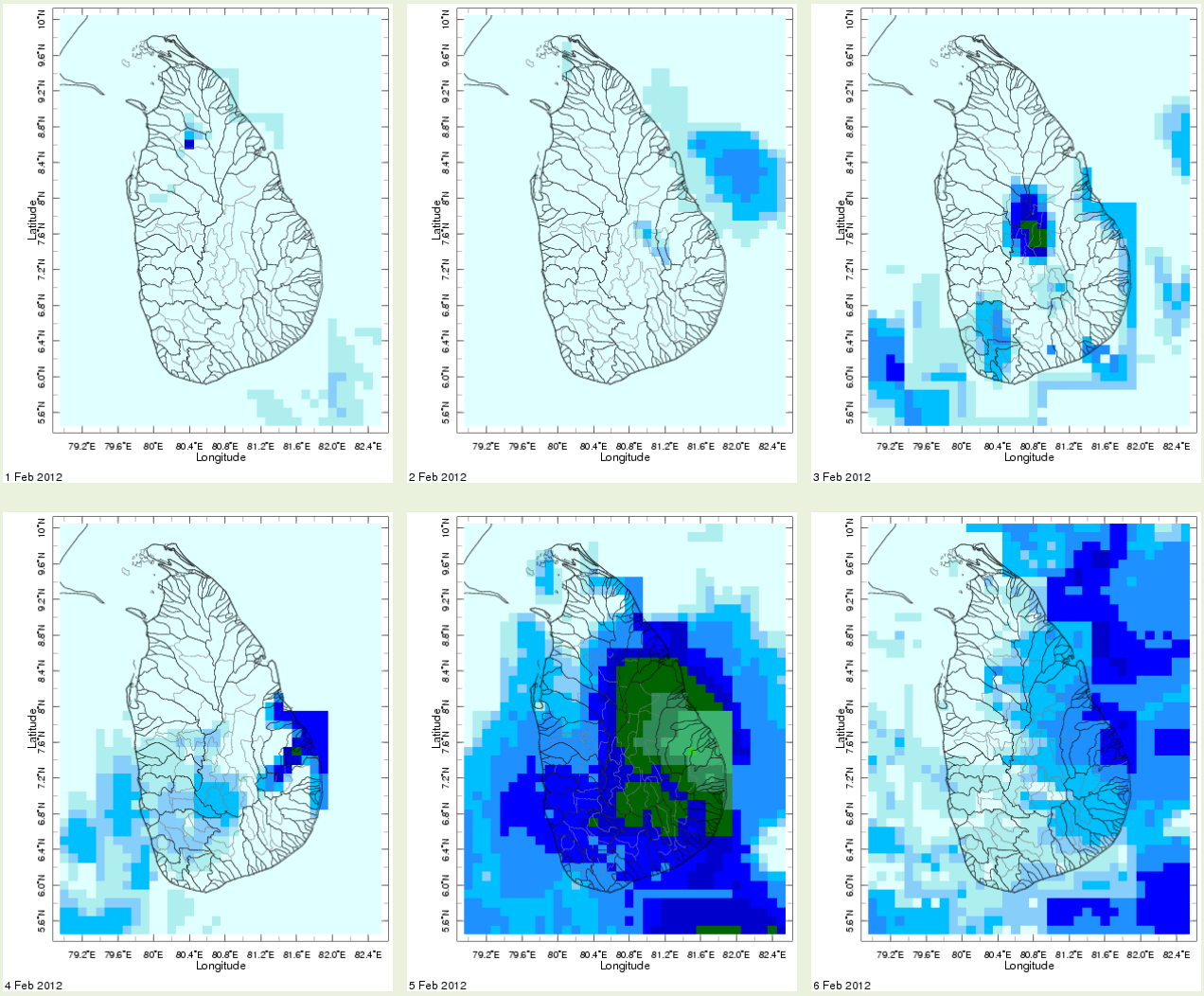
1. Monitoring

a) Daily Satellite Derived Rainfall Estimate **Maps: *01st February –06th February, 2012 (Left-Right, Top-Bottom)***



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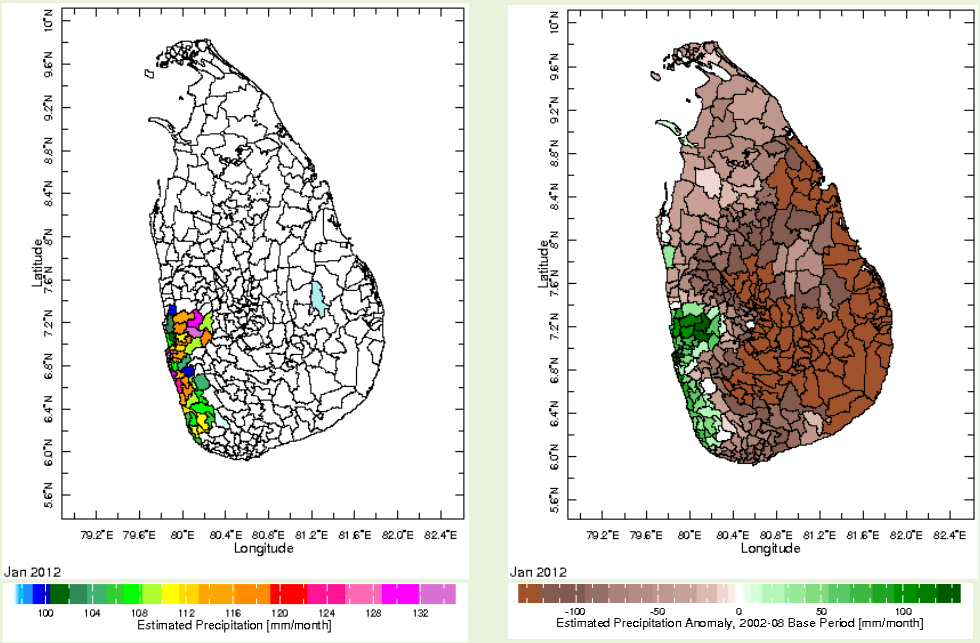
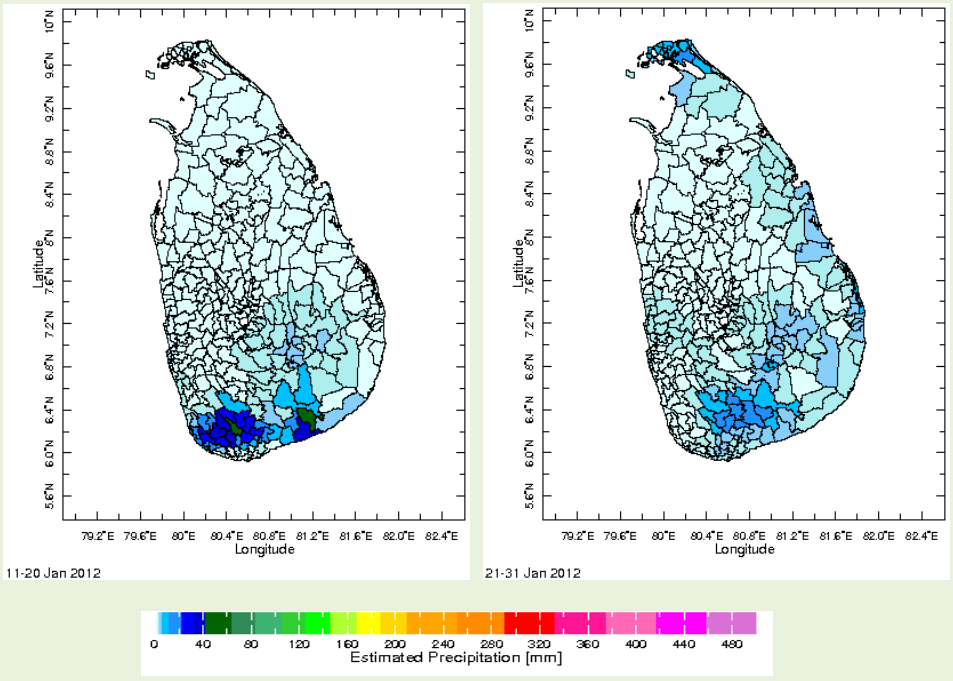
b) Monthly Satellite Derived Rain fall Estimates for January 2012 (Total – Left and Anomaly -Right)



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



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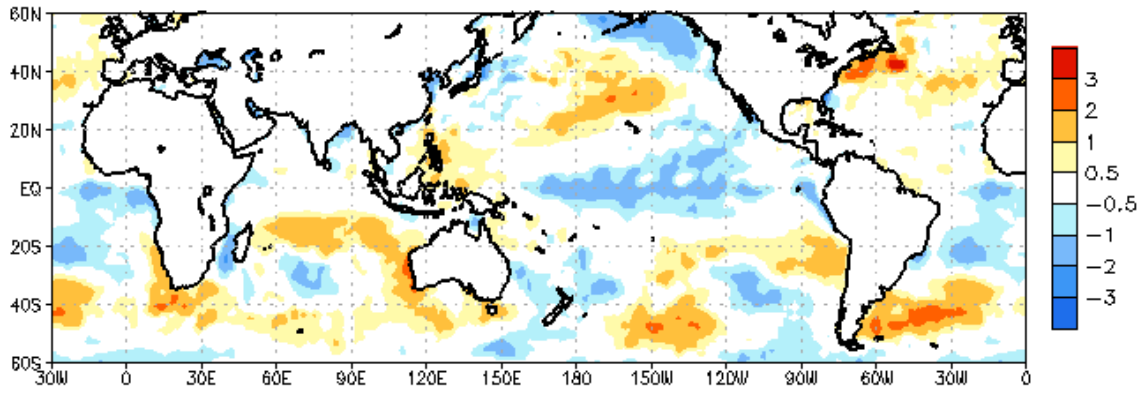
d) Weekly Average SST Anomalies

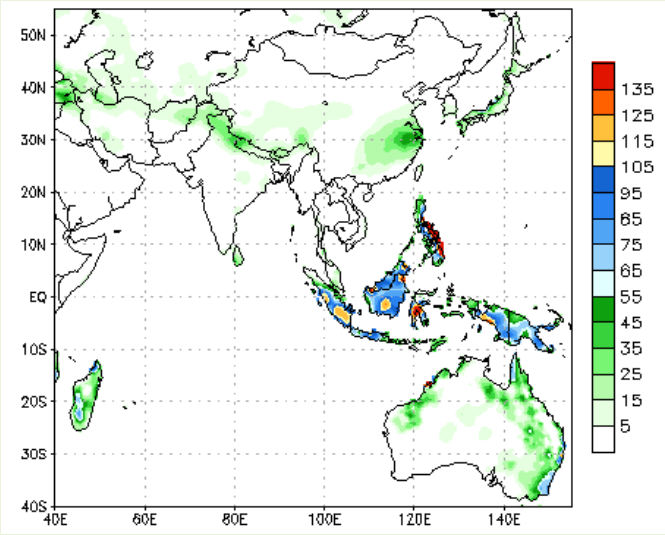


Weekly Average SST Anomalies (^{0}C), 01st February, 2012

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 35 mm-45 mm is predicted for the western province of Sri Lanka.

Source – NOAA Climate Prediction Center

Map: Predicted accumulation of rainfall. (08th – 14th Feb, 2012 week)

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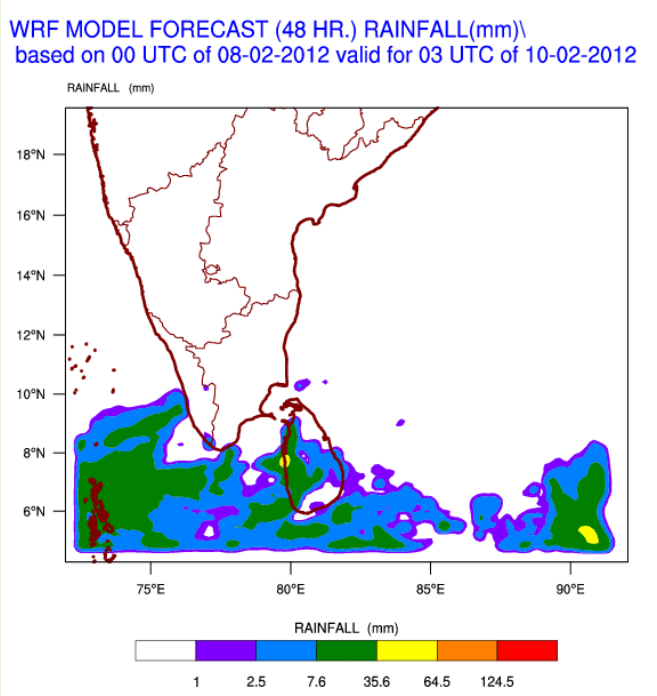
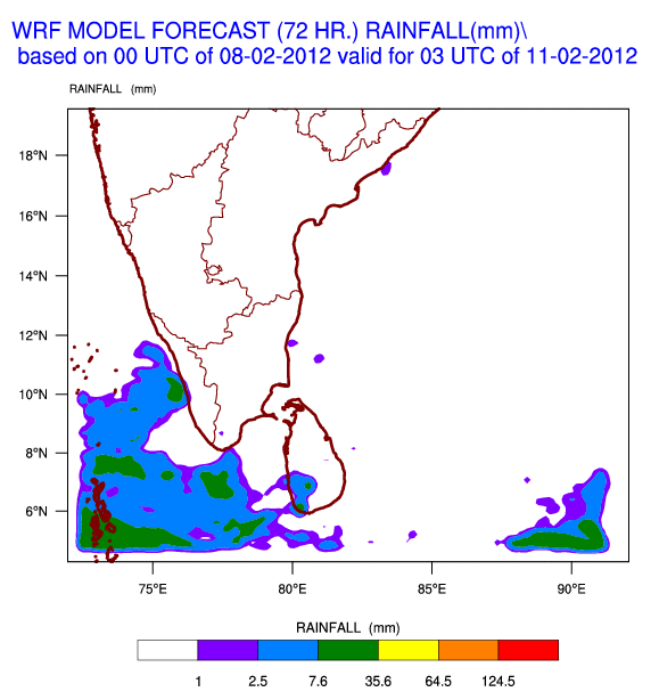
b) WRF Model Forecast **(Regional Meteorological Center, Chennai, Indian Meteorological Department)**





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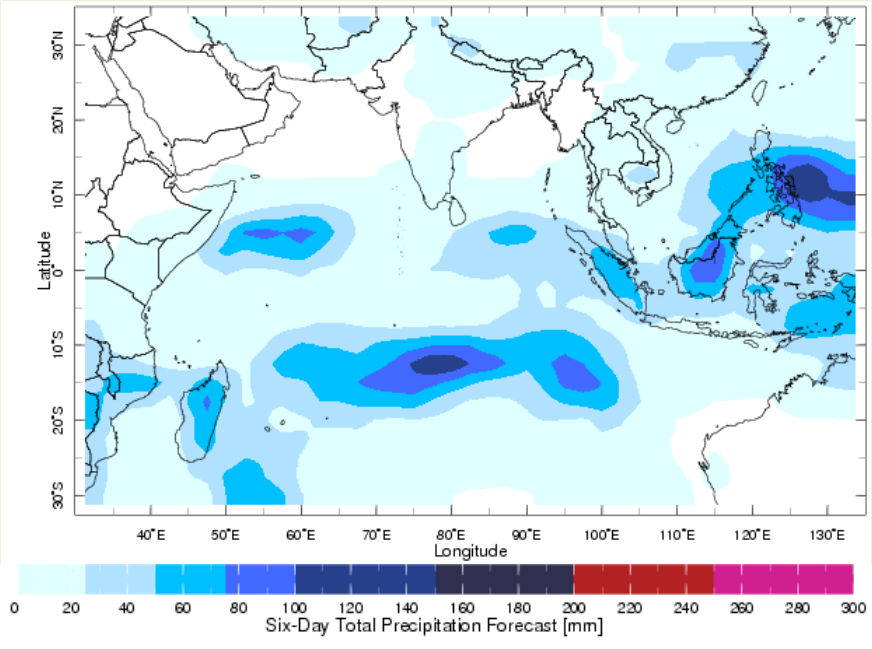
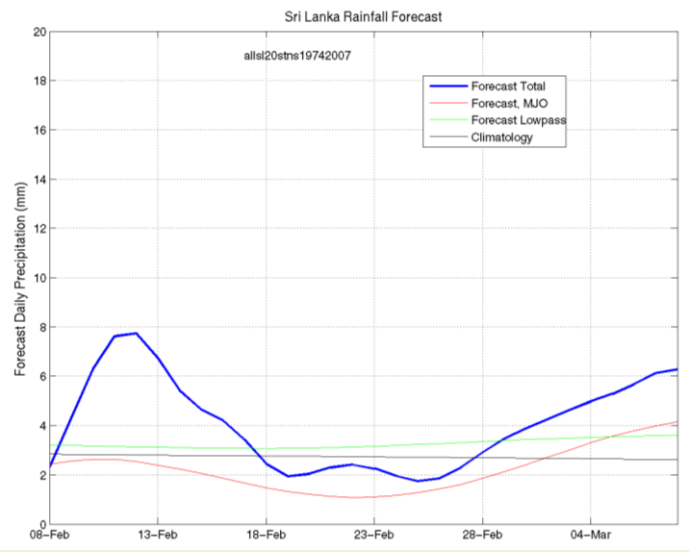
c) Weekly Precipitation Forecast for 07-12 Feb 2012(Precipitation Forecast in Context Map Tool, IRI)



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

Predictions based on observed cloud cover and atmospheric waves. Issued 09th February, 2012

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



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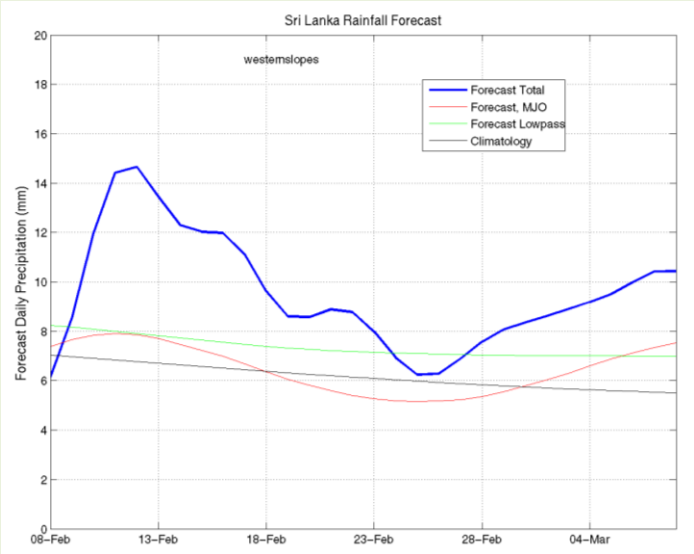
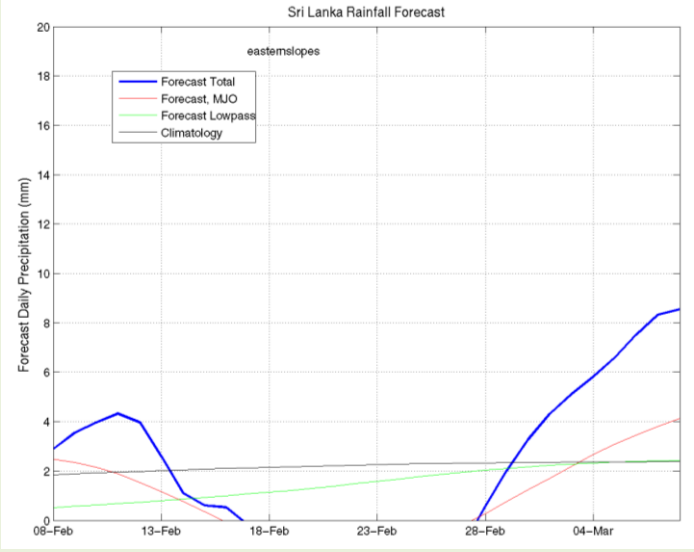
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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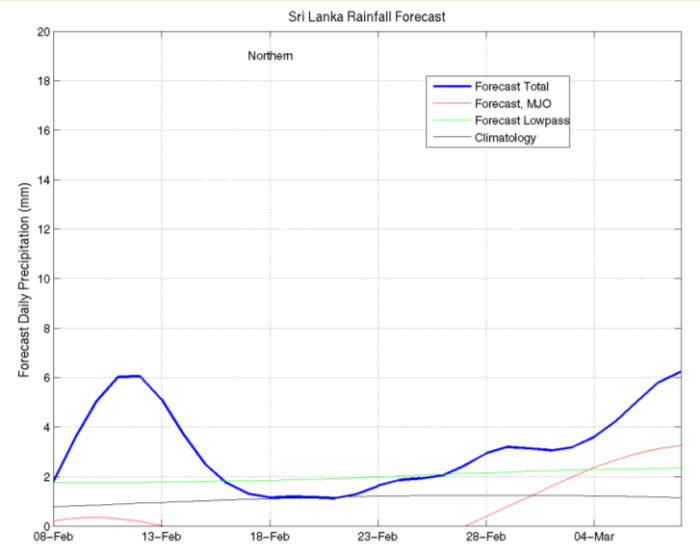
Northern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI