FECT Foundation for Environment Climate and Technology
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Experimental Climate Monitoring and Prediction

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

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

23 August 2012

FECT BLOG

Past reports available at http://fectsl.blogspot.com/

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http://www.tropicalclimate.org/

ENSO Update

16 August 2012

More than 75% of the ENSO prediction models predict El Ni .no conditions during the August-October season, Continuing through the rest of 2012. Meanwhile, about 20% of the models still indicate persistence of ENSO-neutral conditions. No models indicate a re-emergence of La Ni .na conditions.

(IRI)

Summary[2]

Monitoring

***Weekly Monitoring*:** During the last week (15th- 21st August) rainfall ranged between 0mm- 50 mm. 5mm-50mm rainfall was experienced in the Western, South Western, Central and some parts of the Northern region during 15th - 17th August. Dry conditions prevailed during 19th-20th while a scattered rainfall between 5mm-10mm was experienced particularly in the lower part of the Mahaweli basin and some parts of the western region.

***Monthly Monitoring*:** During July, southern half of the island experienced a below average rainfall with an increased below average particularly in the Western and South Western regions. It clearly reflects the deficit of the South West Monsoon rainfall up to now. The rest of the island experienced an above average rainfall with a higher intensity in the Trincomalee district while some parts of the Moneragala district also experienced an above average rainfall.

Predictions

***7 Day Prediction*:** For the coming week an accumulated rainfall of 05mm - 45 mm is predicted for the whole island with more rainfall for the South Western, Western and Southern regions.

IMD WRF Model Forecast & IRI forecast: On the 25th of August IMD WRF model predicts rainfall between 1mm-125mm, with high rainfall (36mm-125mm) for the Gampaha, Colombo, Kalutara and Galle districts. The higher rainfall up to about 125mm is predicted particularly for Colombo and Kalutara districts. 1mm-36mm rainfall is predicted for Batticaloa, Ampara and some parts of Badulla and Moneragala Districts. Same predictions are made on the 26th with the maximum rainfall of 125mm shall be further spread to Galle and Matara districts. NOAA models forecast up to 50mm for the northern half of the country while up to 20mm rainfall for the rest of the country.

1 Month Prediction: *Overall* there shall be no high rainfalls expected. A rapid decrease of rainfall shall be expected till the 24th of August followed by a rapid increase by 25th. Thenafter it shall again decrease rapidly till the 27th. Rainfall shall increase dramatically till the 31st of August and thenafter quite steady conditions shall be observed till the 8th of September. *Westernslopes*- A rapid increase of rainfall till the 25th shall be expected followed by a rapid dicrease till the 27th. Thenafter rainfall shall show an increasing trend with some fluctuations till the 8th of September. It shall agin show a sudden drop till the 10th followed by a rapid increase till the 13th. Peak rainfalls shall be expected on the 25th of Aug, 8th and 13th of September.*Eastern slopes*- A rapid increase of rainfall shall be expected after 26th of August till the 30th . Thenafter it shall decrease slowly till the 8th September followed by a rapid drop till the 10th. Again it shall increase rapidly till the 14th. *Northern*- Highly fluctuated rainfall shall be expected during coming month of period. Maximum rainfall shall not exceed 4mm.

***Seasonal Prediction*:** As per IRI Multi Model Probability Forecast for September 2012 to November 2012, issued in July 2012, there is a 50%-60% probability for temperature to be above normal in the country while the rainfall is to be climatological.

Inside this Issue

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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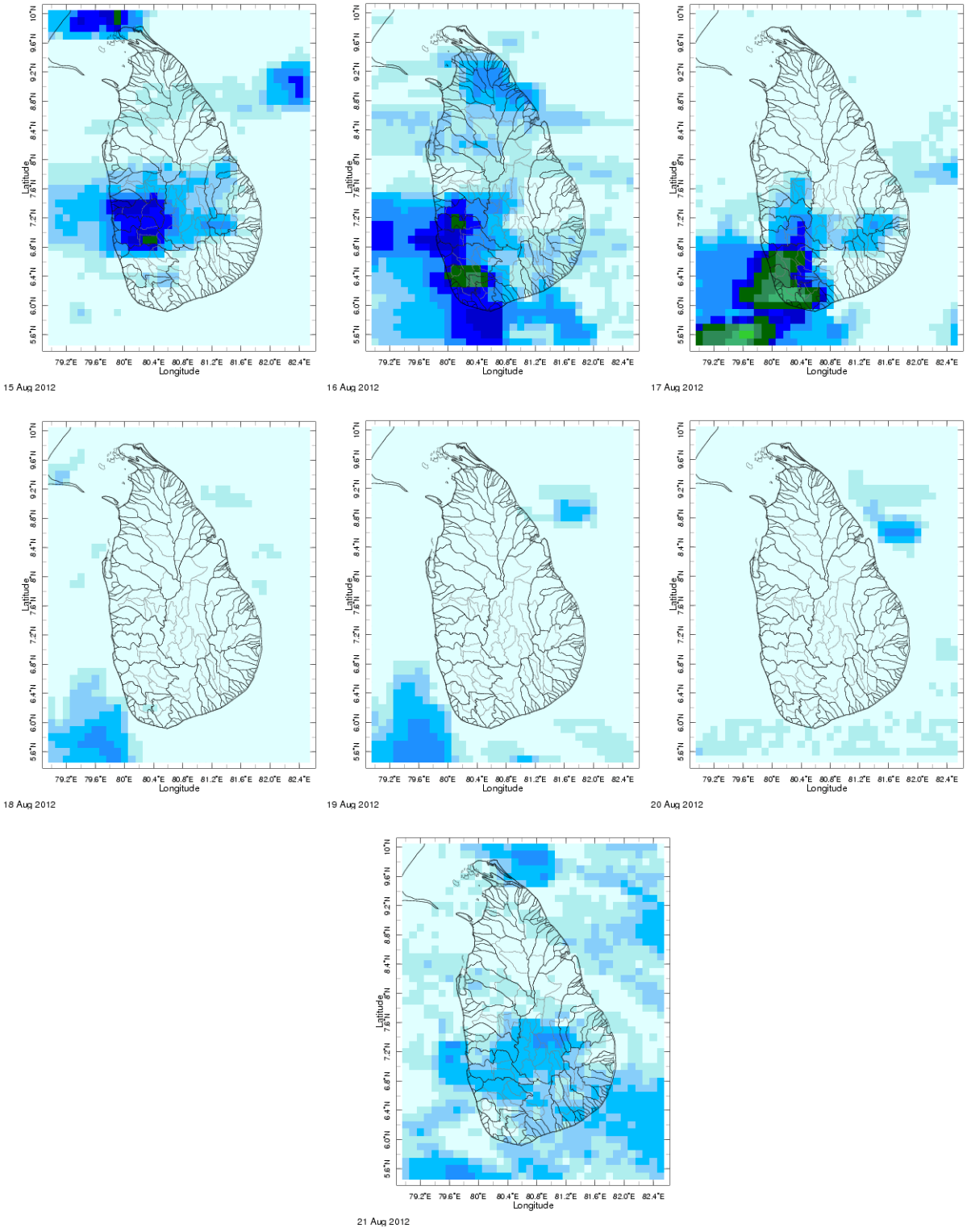
1. Monitoring

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



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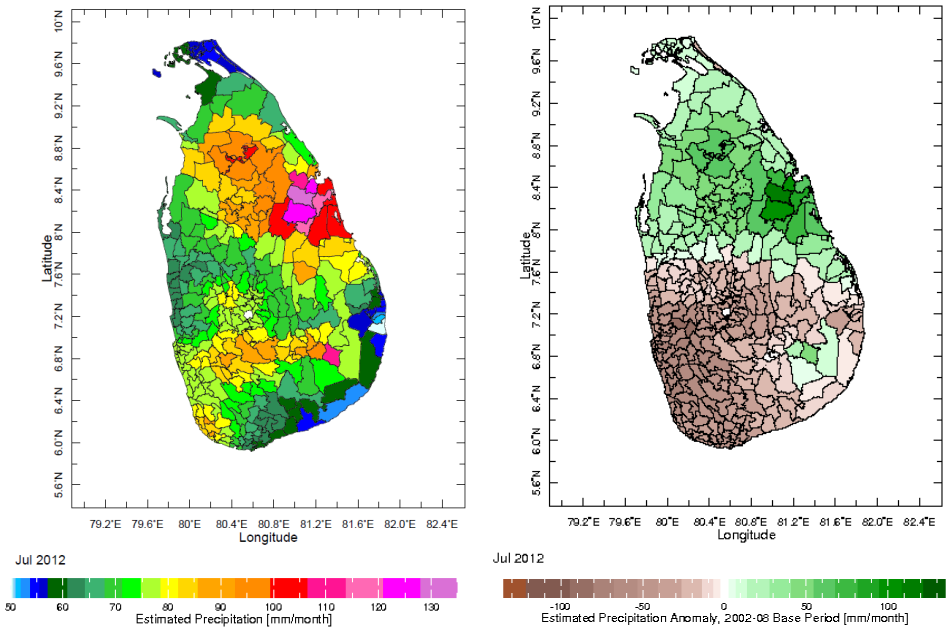
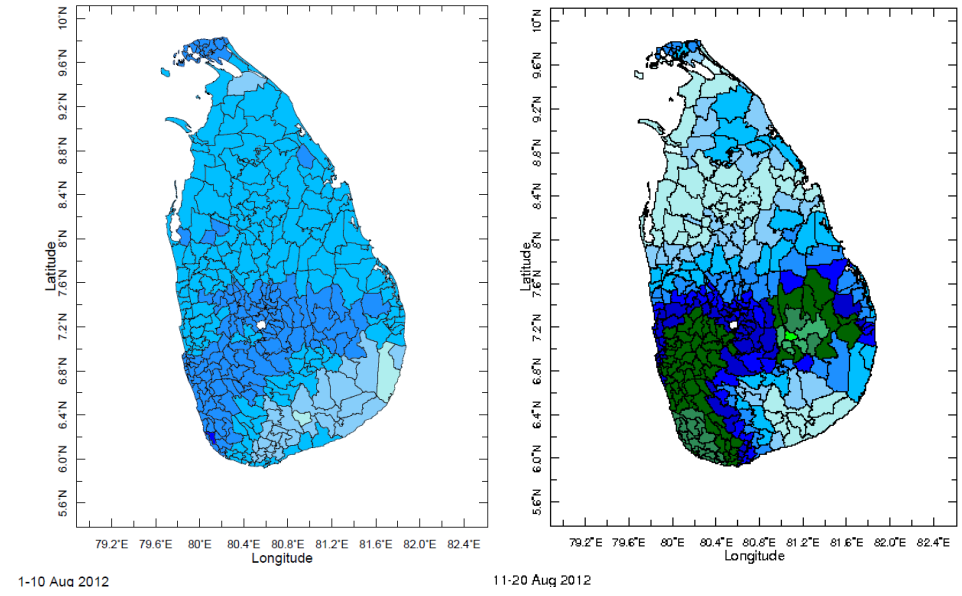
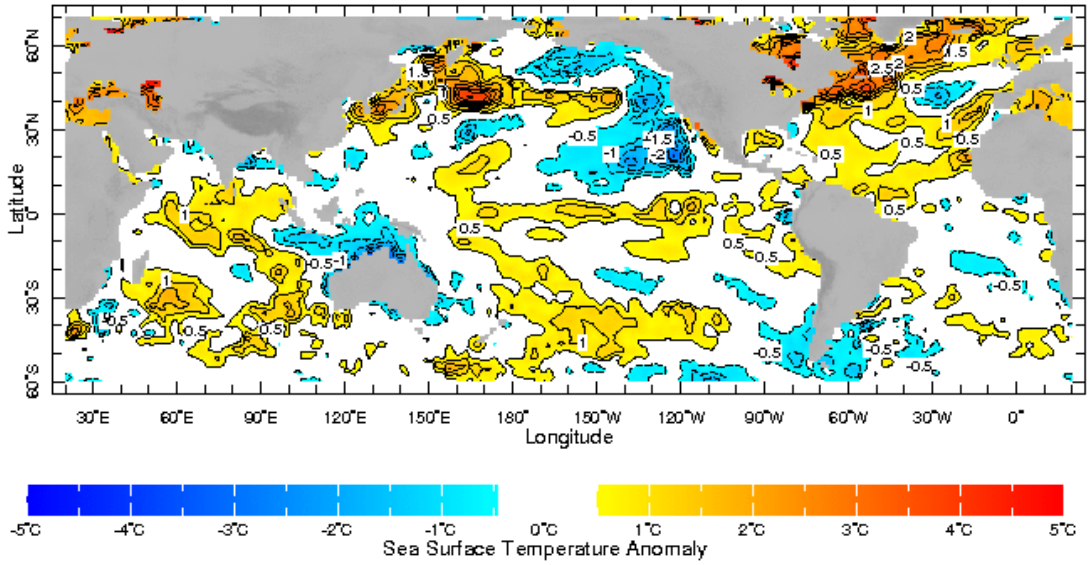
b) Monthly Satellite Derived Rain fall Estimates for July 2012 (Total – Left and Anomaly -Right)



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



d) Weekly Average SST Anomalies

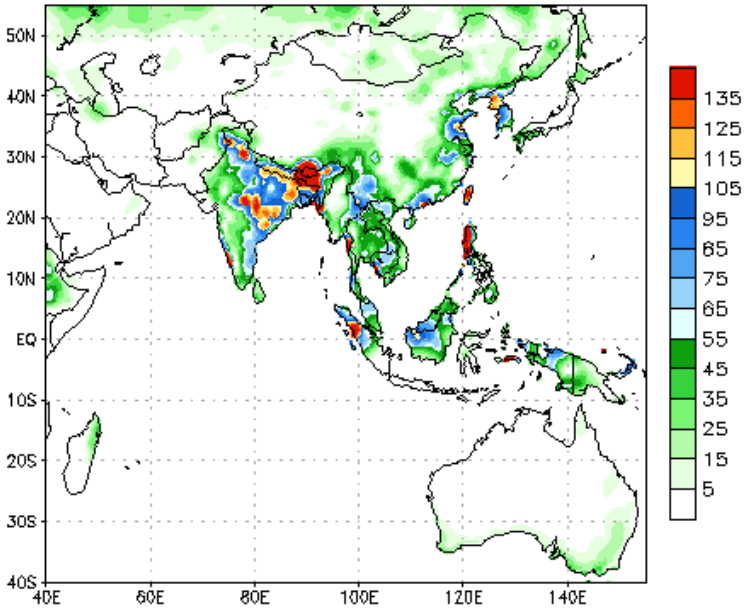


Weekly Average SST Anomalies (^{0}C), 12th -18th August, 2012

Data Source: NCEP Environmental monitoring center (Climatology 1971-2000)

2. Predictions

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



During next week, an accumulated rainfall of 5 mm - 45 mm is predicted for the whole island.

Source – NOAA Climate Prediction Center

Map: Predicted accumulation of rainfall. (20th– 26th August, 2012 week)

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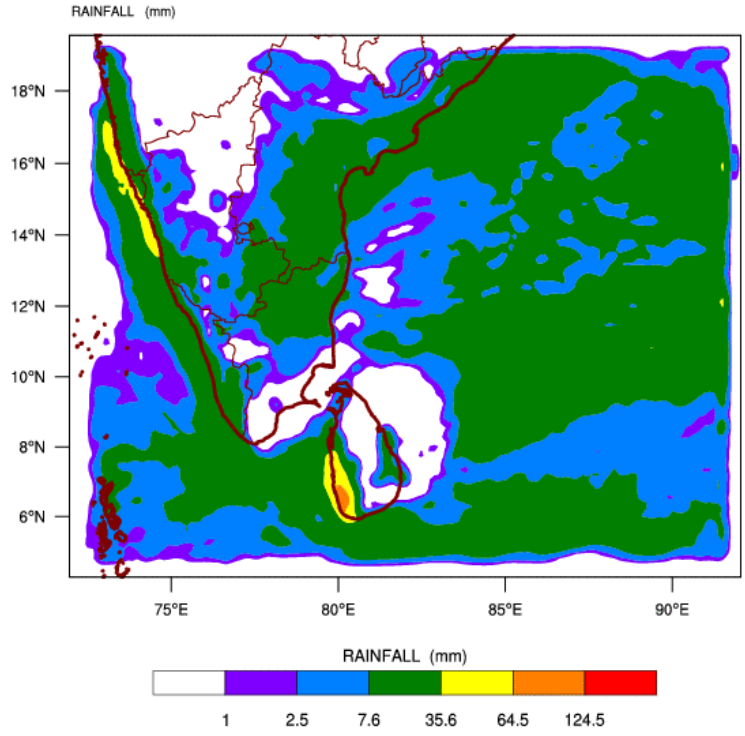
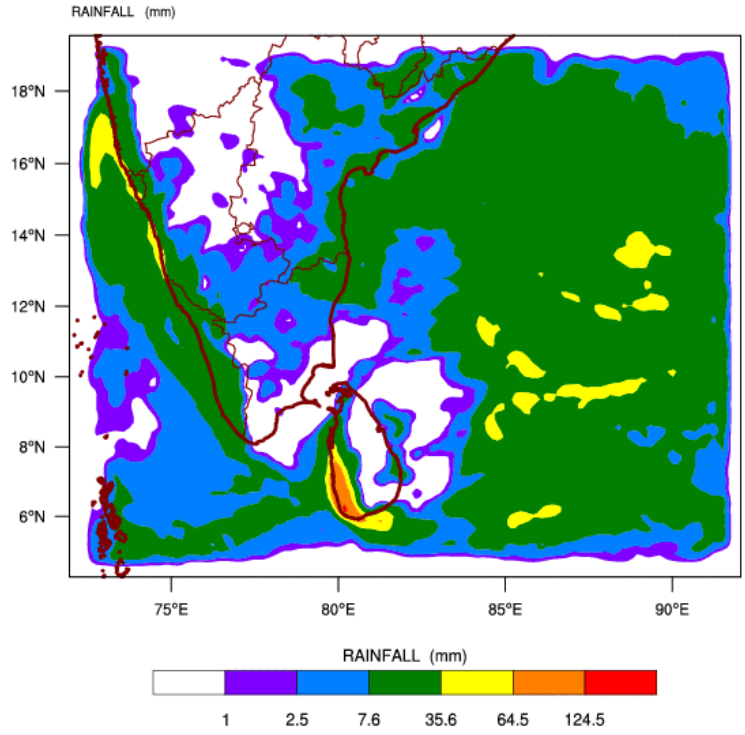
b) WRF Model Forecast **(Regional Meteorological Center, Chennai, Indian Meteorological Department)**

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 23-08-2012 valid for 03 UTC of 25-08-2012



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 23-08-2012 valid for 03 UTC of 26-08-2012



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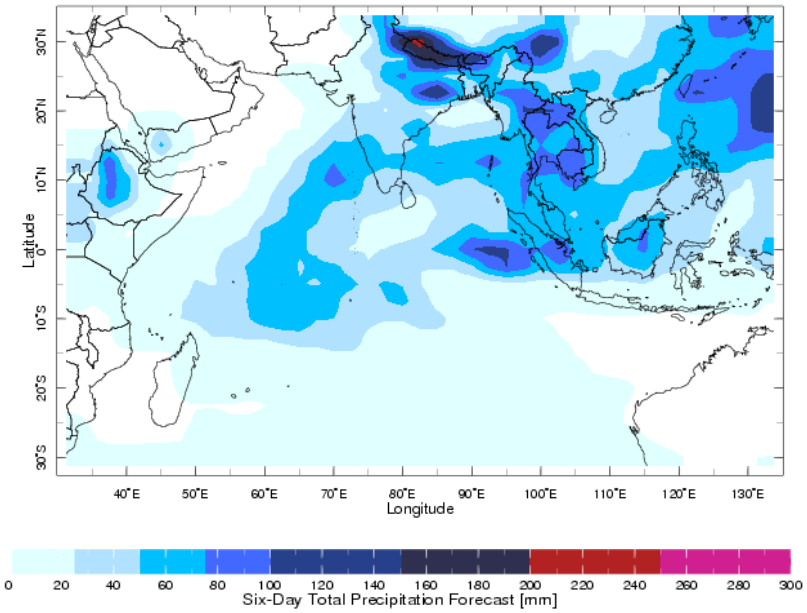
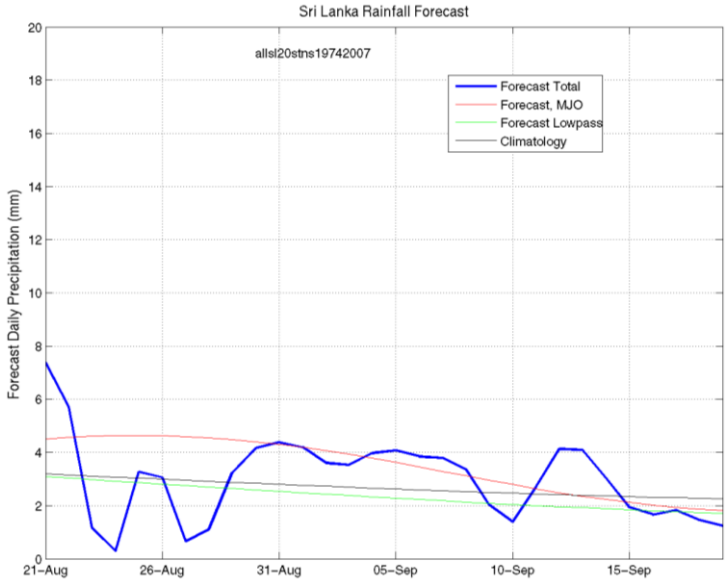
c) Weekly Precipitation Forecast for 22-27 August 2012 (Precipitation Forecast in Context Map Tool, IRI)



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

Predictions based on observed cloud cover and atmospheric waves. Issued 22nd August, 2012

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



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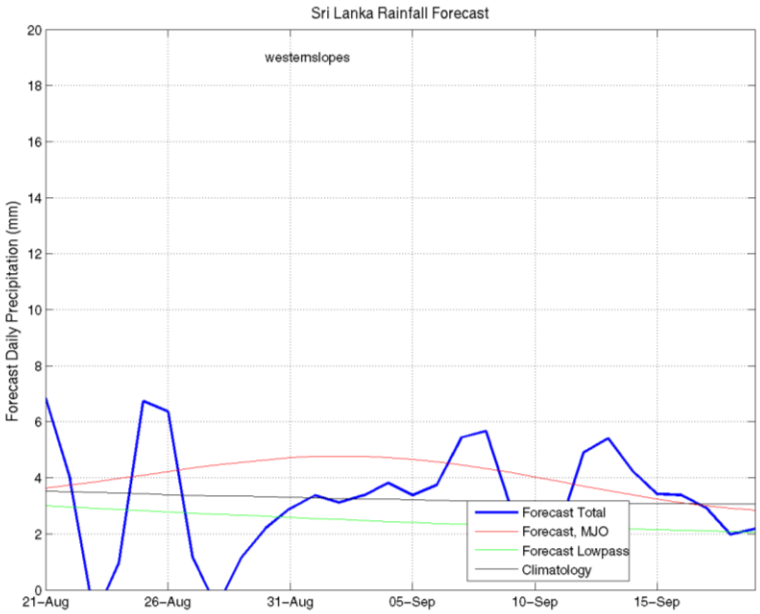
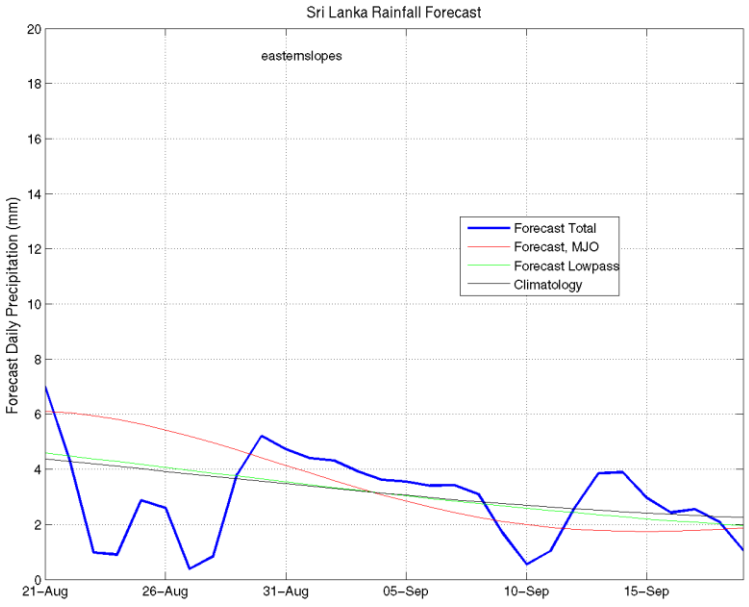
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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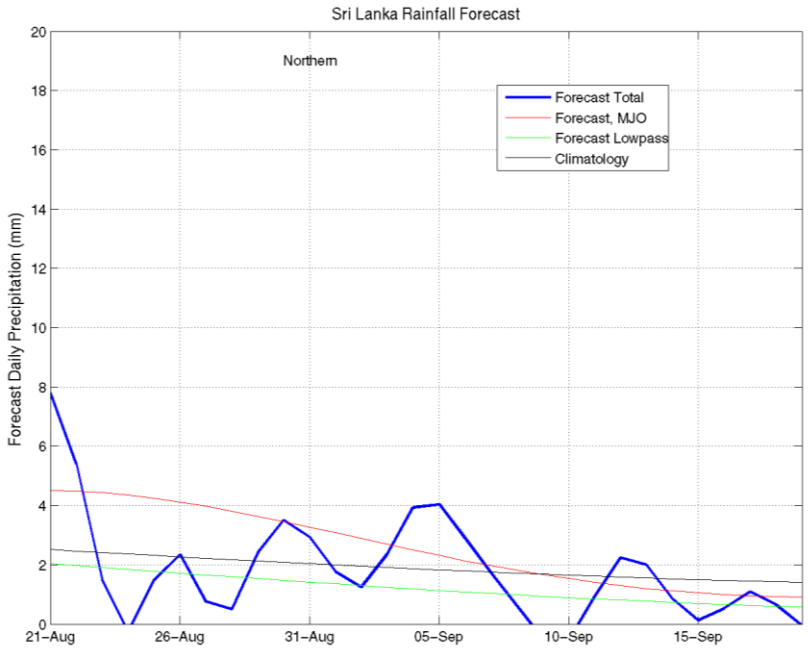
Northern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI