

## Experimental Climate Monitoring and Prediction

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

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(FECT and IRI)

17 November 2011

### FECT BLOG

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### ENSO Update

12 September  
2011

For the October - December season currently in progress, there is approximately 78% of probability of continuing La-Nina conditions, a 22% of probability for returning to neutral conditions, and virtually no chance to development of El-Nino conditions. Weak to moderate La-Nina conditions are the most likely scenario for the remainder of 2011, into the first couple of months of 2012.

(Text Courtesy IRI)

### Summary<sup>2</sup>

**Weekly Monitoring:** During the previous week (10<sup>th</sup> November to 15<sup>th</sup> November, 2011) rainfall ranged between 0-120 mm. Scattered rainfall was observed on the 12<sup>th</sup>, but northern part of the island received more rainfall. Clear Pattern of Rainfall was observed during 13<sup>th</sup>- 15<sup>th</sup> November, where rainfall concentrated to South Western and Western regions. South western region drenched with high rainfall up to a maximum of about 120mm on the 15<sup>th</sup>.

**Monthly Monitoring:** During October, above average rainfall was experienced particularly for the upper part of the Mahaweli basin and eastern part of the Island while the Western, North Western and South Western regions appeared to be below average.

**7 Day Prediction:** For the coming week the NCEP Global Forecast System predicts an accumulated rainfall of 5 mm to over 135 mm for the entire Island. North eastern and some parts of the eastern region will receive high rainfall (105mm to over 135mm) during this period.

**1 Month Prediction:** Overall, Rapid increase of rainfall will be observed after 17<sup>th</sup> till the 21<sup>st</sup> where the peak can be observed. Then after decreasing trend will be observed with fluctuations but fairly wet conditions will sustain till the 2<sup>nd</sup> week of December. For the western slopes it will show a rapid increase of rainfall after 17<sup>th</sup> till the 28<sup>th</sup> followed by a rapid decreasing trend till the 2<sup>nd</sup> week of December. However wet conditions will sustain from 20<sup>th</sup> November to second week of December. Eastern slopes will also show an increasing trend till the 01<sup>st</sup> December with a drop from 22<sup>nd</sup> to 24<sup>th</sup> followed by a gradual decreasing trend. Eastern coasts will show a decreasing trend with frequent fluctuations and not much wet conditions will be observed.

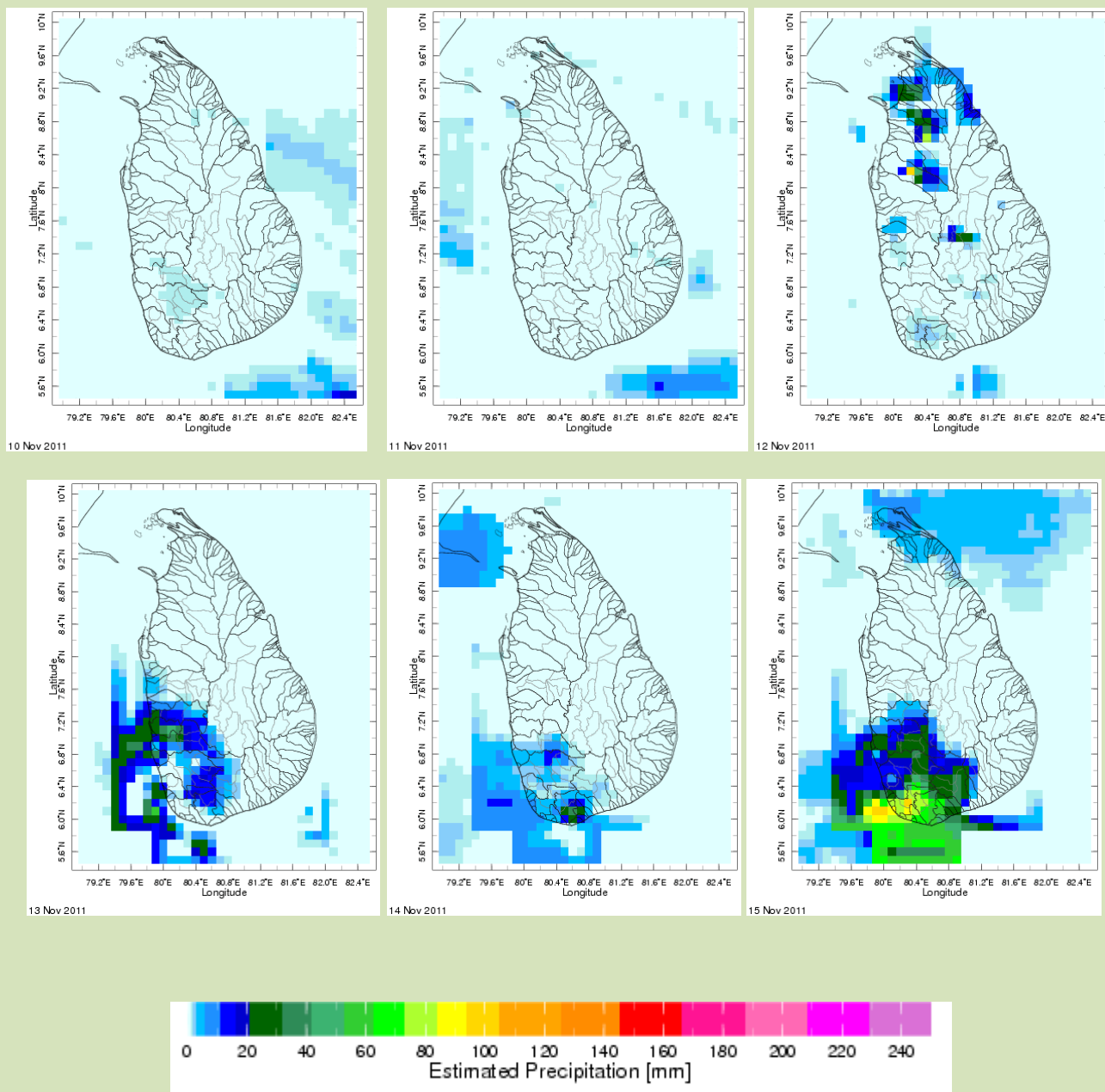
**Seasonal Prediction:** As per IRI Multi Model Probability Forecast for November 2011 to January 2012, issued in October 2011, there is 40% probability for temperature to be normal for entire Sri Lanka, while the precipitation is likely to be climatological.

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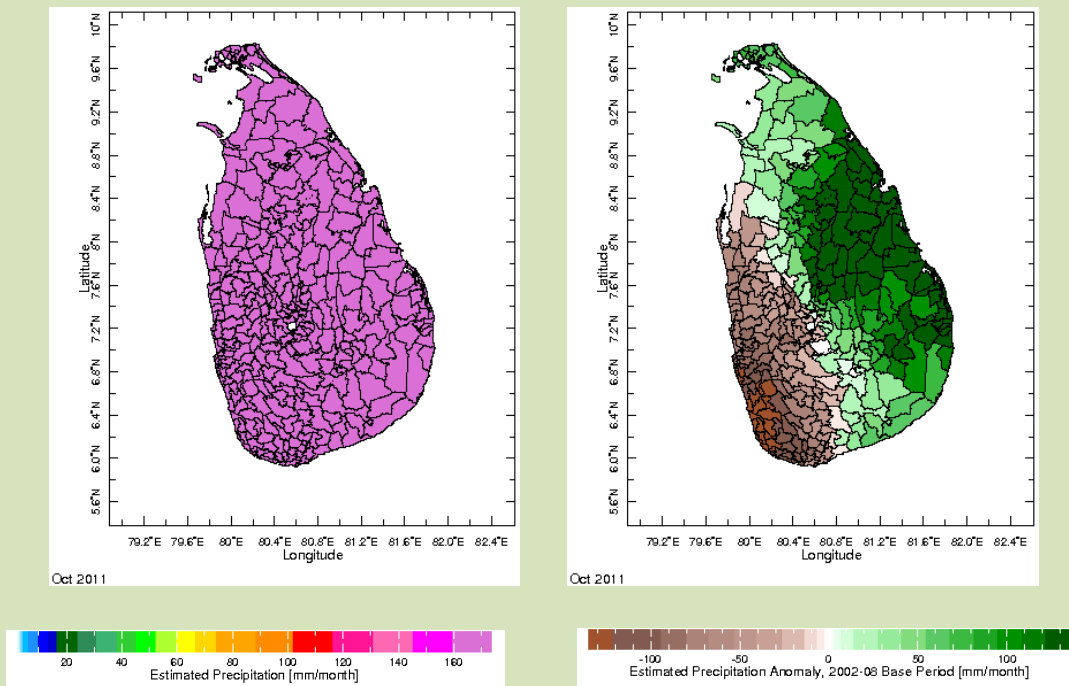
1. Rainfall Monitoring
  - a. Daily Satellite Derived Rain fall Estimates
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2. Rainfall Predictions
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  - b. 1 month experimental predictions by Paul Roundy and L. Zubair
  - c. Seasonal Predictions from IRI

## 1. Rainfall Monitoring

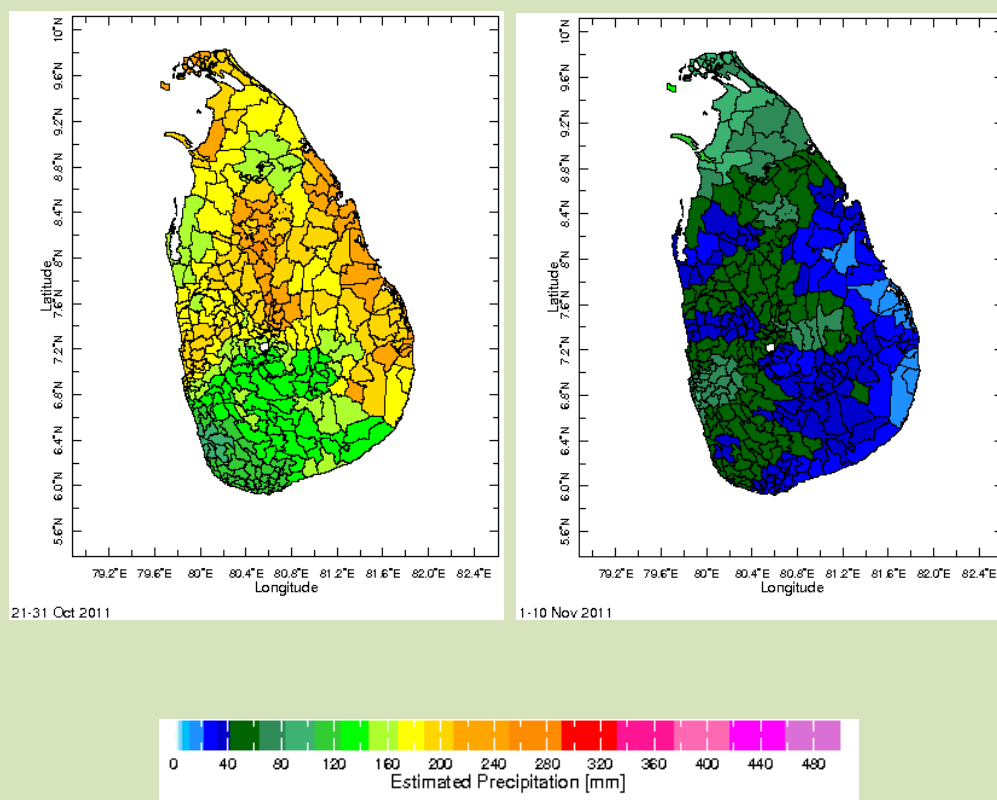
**a) Daily Satellite Derived Rainfall Estimate** Maps: 10<sup>th</sup> November – 15<sup>th</sup> November, 2011 (Left-Right, Top-Bottom)



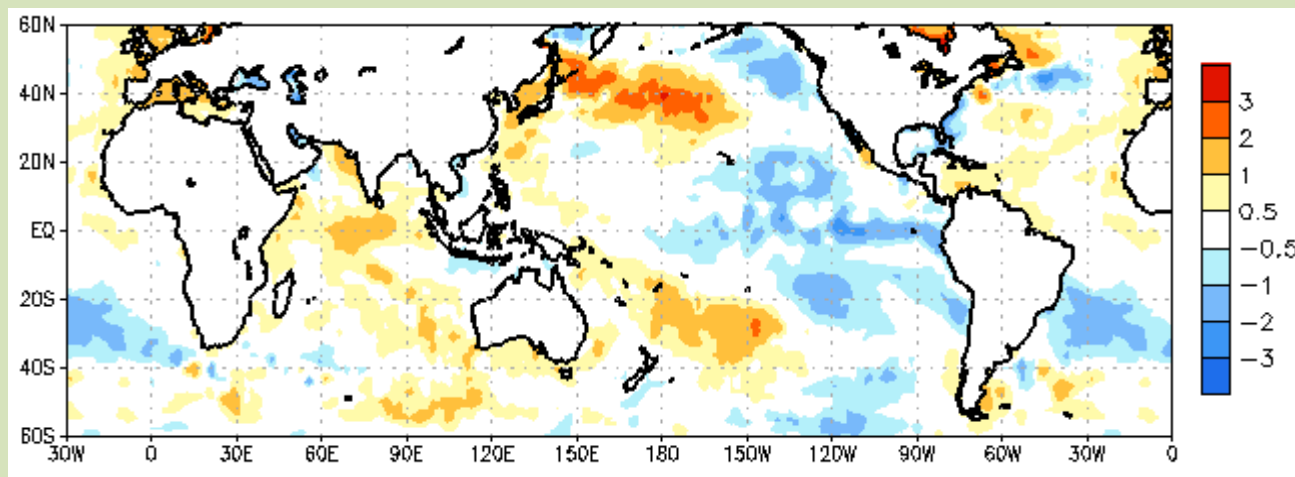
**b) Monthly Satellite Derived Rain fall Estimates for October 2011 (Total – Left and Anomaly -Right)**



**c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (October 21-30, 2011 and 1-10 November, 2011)**



## d) Weekly Average SST Anomalies

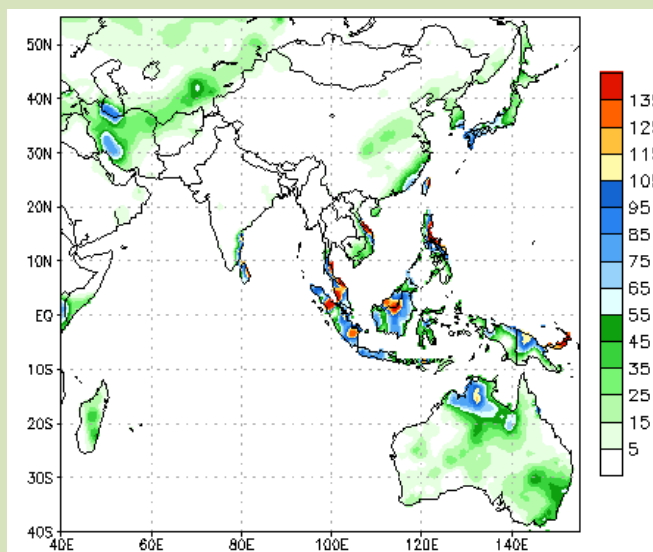


Weekly Average SST Anomalies ( $^{\circ}\text{C}$ ), 09<sup>th</sup> November, 2011

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 to over 135 mm is predicted for the entire Island.

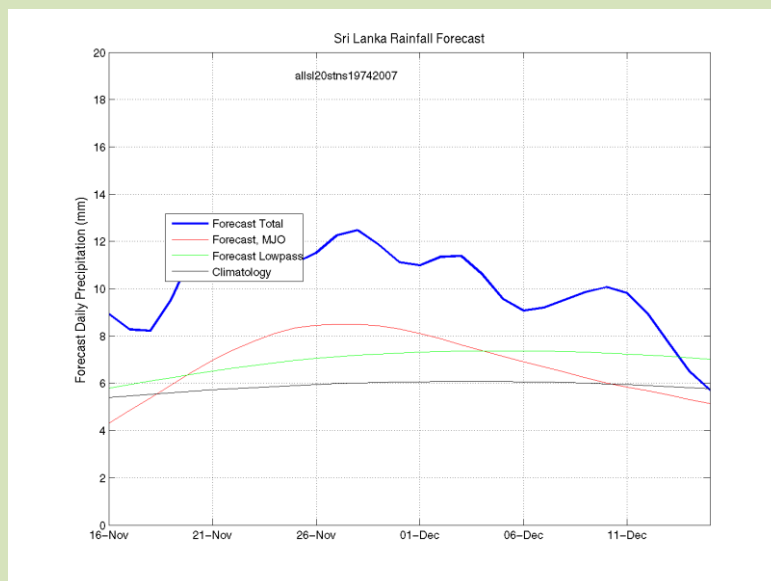
Source – NOAA Climate Prediction Center

Map: Predicted accumulation of rainfall. (16<sup>th</sup> November – 22<sup>nd</sup> November, 2011 week)

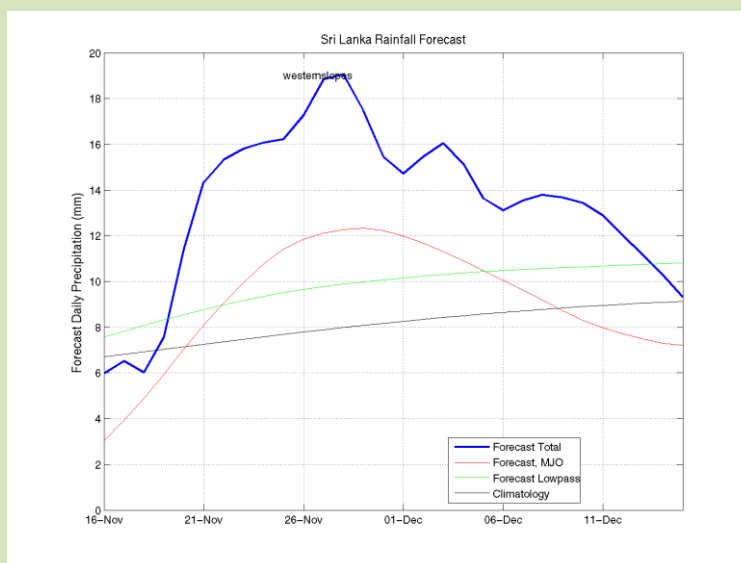
## c) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 17<sup>th</sup> November, 2011

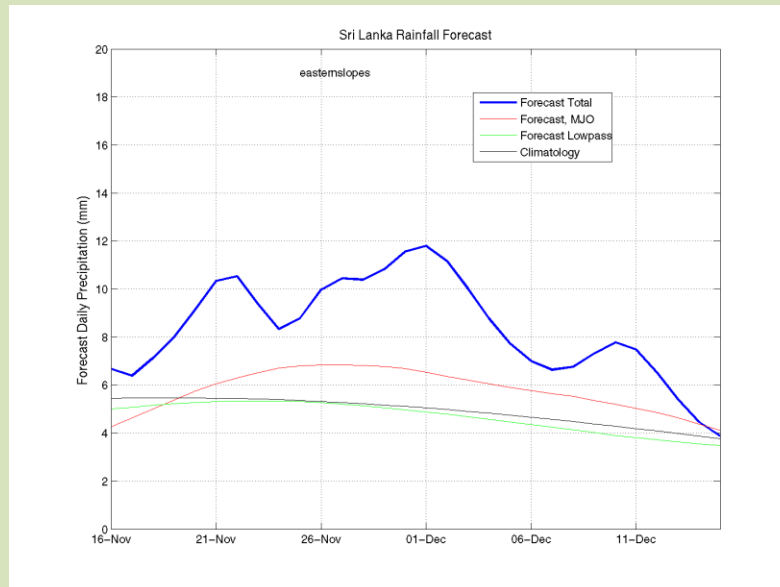
### All Sri Lanka (Rainfall Scale from 0-20 mm/day)



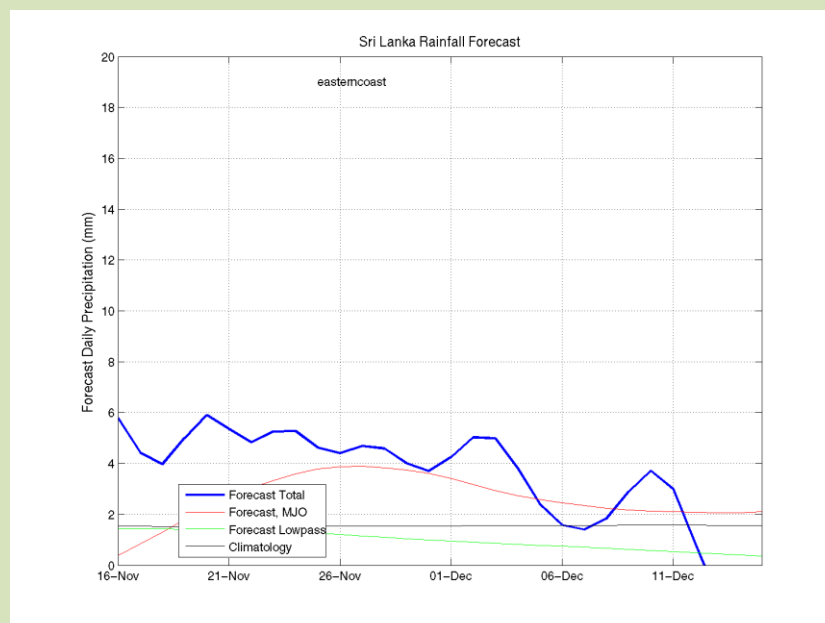
### Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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



## d) Seasonal Rainfall and Temperature Predictions from IRI

