

## 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)

3 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 (26<sup>th</sup> October to 1<sup>st</sup> November, 2011) rainfall ranged between 0-140 mm. On the 28<sup>th</sup> maximum rainfall of 140 mm was observed for Moneragala district.

**Monthly Monitoring:** During September, below-average rainfall experienced high regional variation with deficits up to 100 mm in the Northern, North-central and Southern provinces while there was above average rainfall more than 100 mm for some parts of Kegalle and Ratnapura district.

**7 Day Prediction:** For the coming week the NCEP Global Forecast System predicts accumulated rainfall of 115- 135 mm for the entire island.

**1 Month Prediction:** During 2<sup>nd</sup>-4<sup>th</sup> November rainfall shall increase drastically & shall decrease rapidly till the 6<sup>th</sup>. It will remain reasonably constant during 7<sup>th</sup>-12<sup>th</sup> & again shall decrease during 12<sup>th</sup>-14<sup>th</sup>. It will increase gradually from 14<sup>th</sup> -20<sup>th</sup> followed by slow increase with minor fluctuations and however considerable rainfall will be experienced. For the western slopes similar pattern shall exist during 2<sup>nd</sup>-6<sup>th</sup> & again drastically increase during 6<sup>th</sup>-8<sup>th</sup>. Thereafter it shall decrease rapidly till the 15<sup>th</sup> followed by increase of rainfall and high rainfall will be experienced after 19<sup>th</sup> till the end of November. For the eastern slopes, during 2<sup>nd</sup>-13<sup>th</sup> rainfall shall decrease with different rates. Rainfall shall increase during 13<sup>th</sup>-20<sup>th</sup> & thereafter shall remain more or less constant. For the eastern coasts rainfall shall increase during 2<sup>nd</sup>-5<sup>th</sup> & shall drastically decrease till 8<sup>th</sup> November. Again rainfall shall increase during 9<sup>th</sup>-11<sup>th</sup> & thereon shall remain constant with minor fluctuations till the 20<sup>th</sup>. Thereafter rainfall shall decrease dramatically.

**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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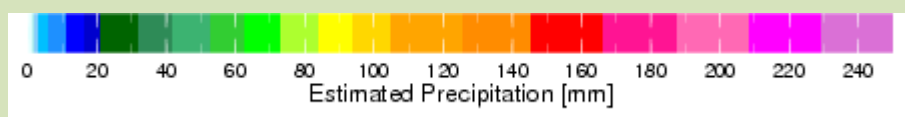
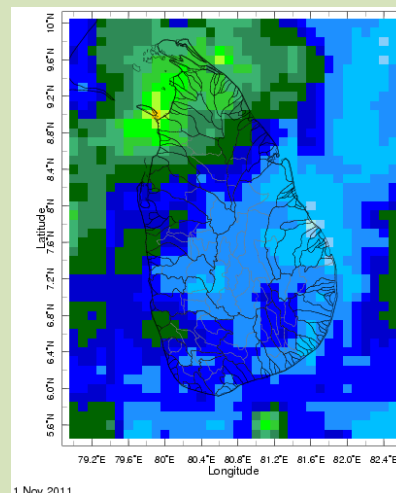
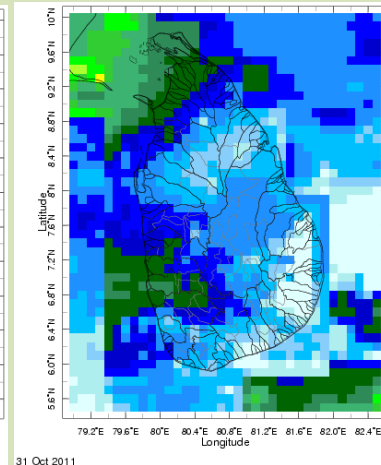
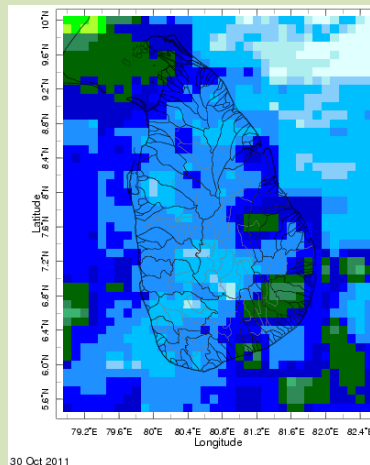
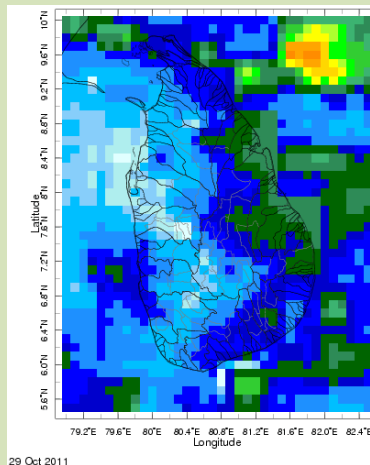
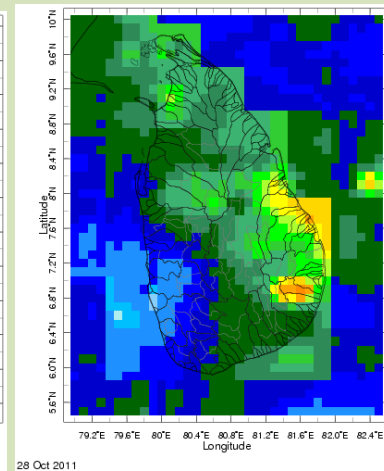
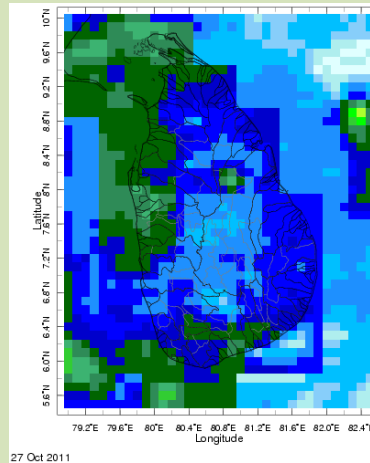
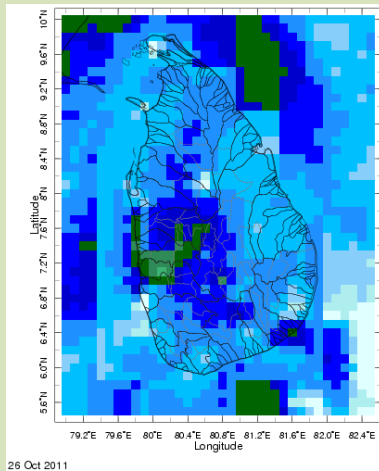
International Research Institute for Climate and Society.

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

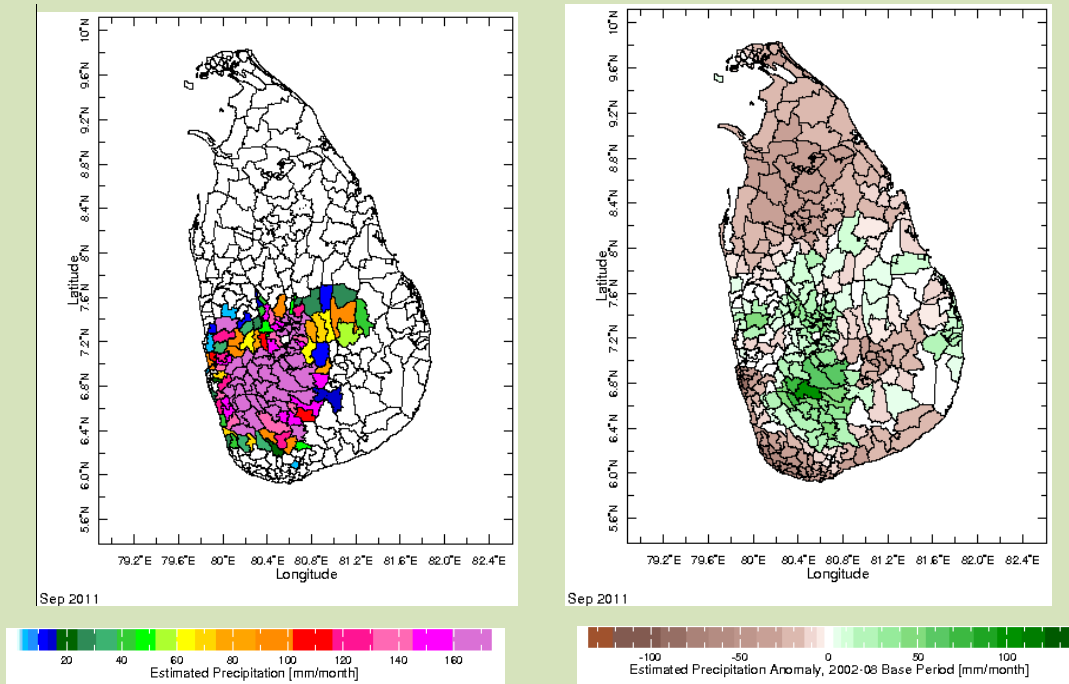
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

## 1. Rainfall Monitoring

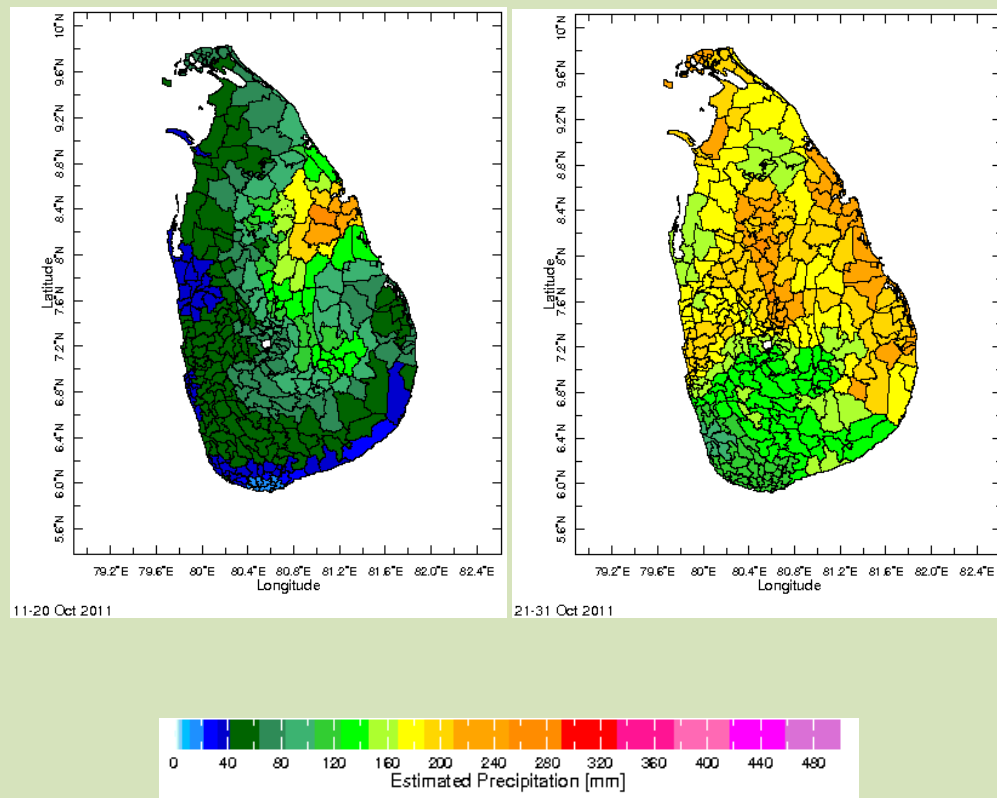
### a) Daily Satellite Derived Rainfall Estimate Maps: 26<sup>th</sup> October– 1<sup>st</sup> November, 2011 (Left-Right, Top-Bottom)



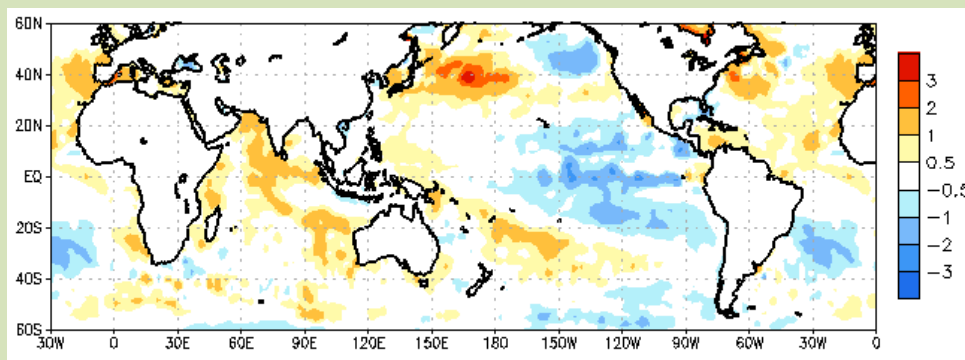
**b) Monthly Satellite Derived Rain fall Estimates for September 2011 (Total – Left and Anomaly -Right)**



**c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (October 11-20, 2011 and October 21-30, 2011)**



## d) Weekly Average SST Anomalies

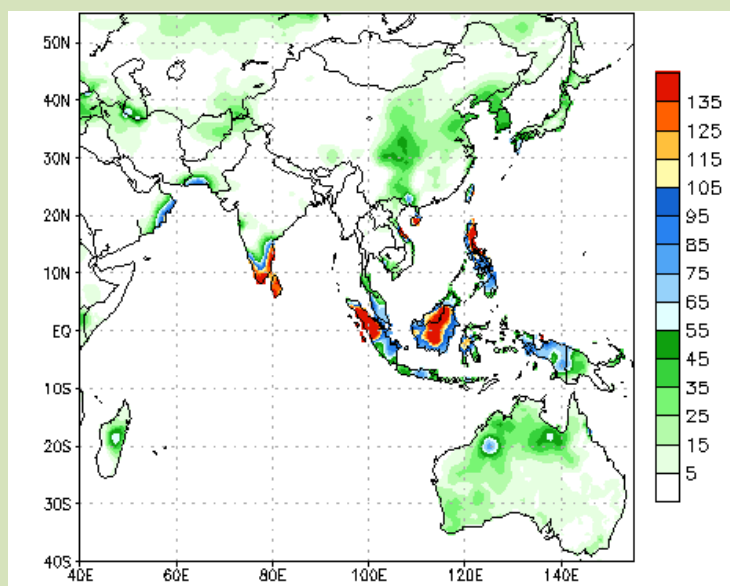


Weekly Average SST Anomalies ( $^{\circ}\text{C}$ ), 26<sup>th</sup> October, 2011

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 115- 135 mm is predicted for the entire island.

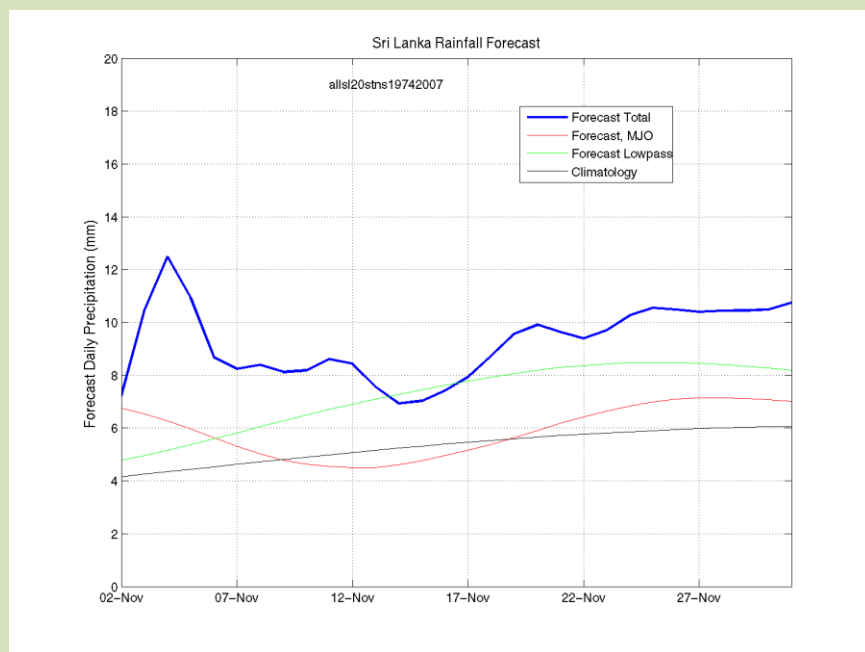
Source – NOAA Climate Prediction Center

Map: Predicted accumulation of rainfall. (31<sup>st</sup> October– 6<sup>th</sup> November, 2011 week)

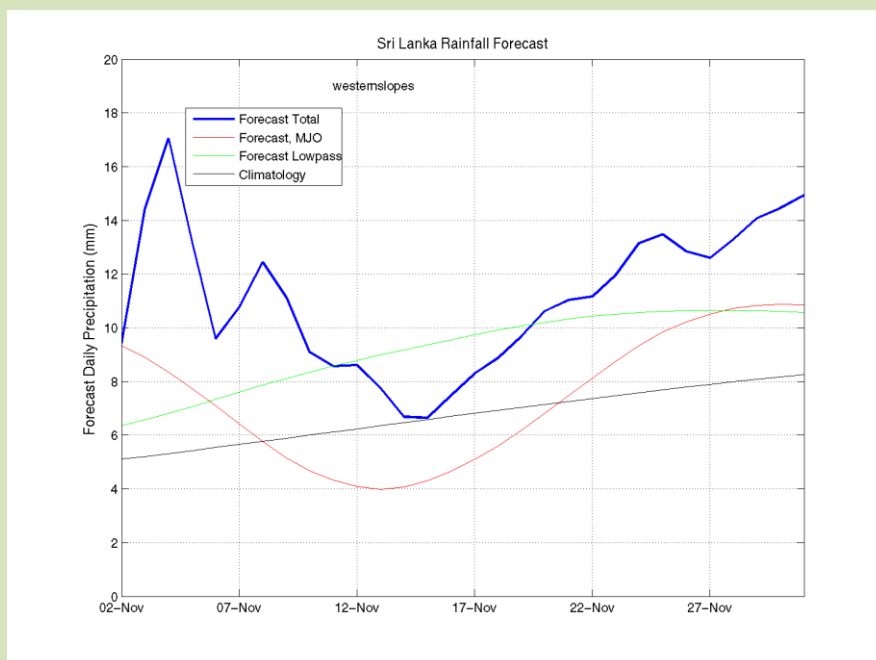
## c) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 3<sup>rd</sup> November, 2011

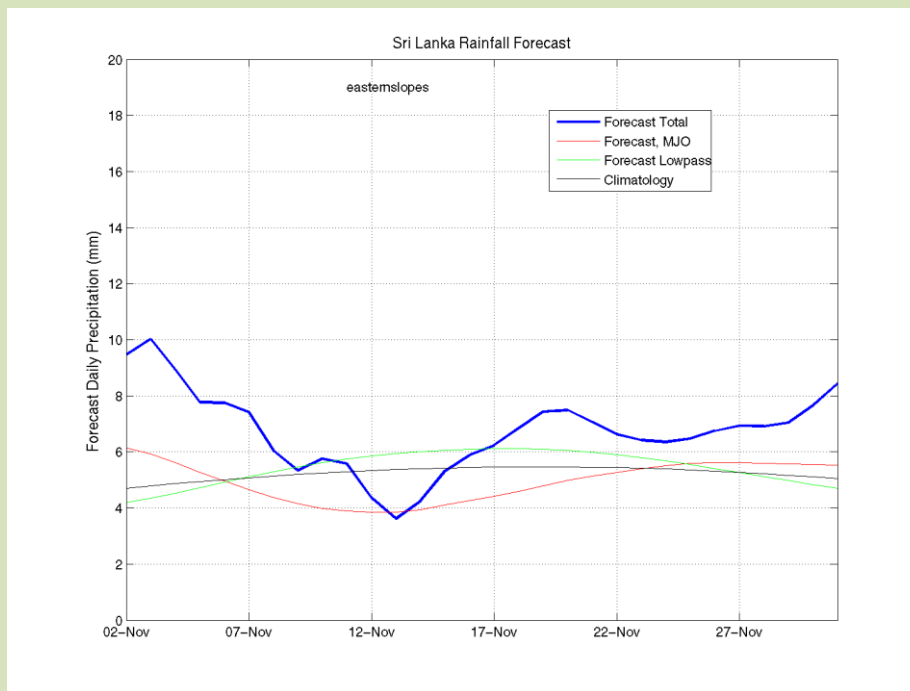
### All Sri Lanka (Rainfall Scale from 0-20 mm/day)



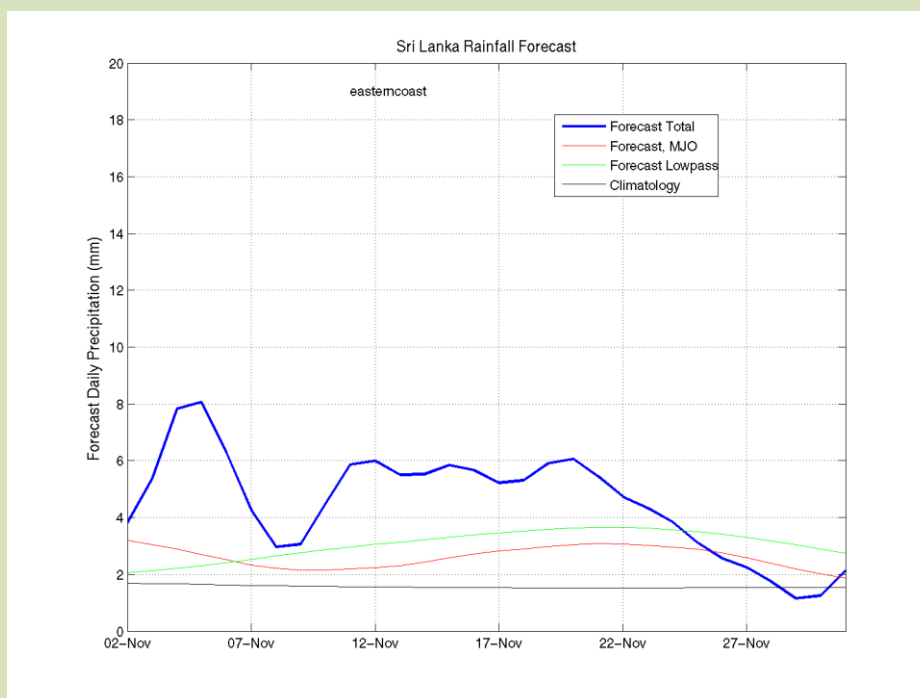
### Western Slopes (Rainfall Scale from 0-20 mm/day)



**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

