Experimental Climate Monitoring and Prediction

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

1 August 2013

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July 18, 2013
PACIFIC SEAS STATE

During June through early July the observed ENSO conditions remained neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO through the remainder of 2013. However a few (mainly statistical) models call for cooling towards borderline or weak La-Nina conditions for northern autumn into winter. While a few others (mainly dynamical) forecast developing El-Nino conditions during this same time frame.

(Text Courtesy IRI)

INDIAN OCEAN STATE

The sea surface temperature of Bengal Bay Sri Lanka was cold during 21st-27th July 2013.

MJO STATE

MJO is neutral and not influences Sri Lanka rainfall.

Highlights

Monitoring and Predictions:

Rainfall was quite heavy in June in the Southern half of Sri Lanka, and July is predicted to be lower although with wetter Southwestern regions in the next week. Compared to the rest of the island, the coastal belts of Galle to Gampaha is likely to receive heavier rainfall on coming three days (2nd, 3rd and 4th of August). Ongoing rainfall shall decrease further. Rainfall is not predicted till 5th August. Rainfall shall increase gradually during 5th-12th August. Significant rainfall events are not expected during next week period (2nd-12th August).

Summary

Monitoring

Weekly Monitoring: Rainfall ranged between 5-165 mm during 23rd-29th July 2013. Maximum rainfall observed for small regions in Ampara district on 26th July. However, entire country was wet during 23rd-26th compared to 27th-29th.

Monthly Monitoring: Southern half of the Sri Lanka received an above average rainfall during the month of June. The entire country received less than 15 mm of daily rainfall, with Ratnapura district receiving the highest rainfall during the month (14 mm/day).

Predictions

7-day prediction: Southwestern regions of the island shall receive 55-65 mm of rainfall and shall spread northeastward in a reducing manner during 31st July-6th August 2013.

IMD WRF Model Forecast & IRI forecast: For 2nd, 3rd & 4th of August, IMD WRF model predicts less than 36 mm of rainfall for Galle to Gampaha, Kegalle and Ratnapura districts it shall spread towards nearby regions in a reducing manner. NOAA model predicts dry condition for the entire country during 29th July-3rd August.

30 Days Prediction: Overall- Ongoing rainfall shall decrease further. Rainfall is not predicted till 5th August. Rainfall shall increase gradually during 5th-12th August. Significant rainfall events are not expected during next week period (2nd-12th August). However, the amount of rainfall shall be lower than the observed rainfall on month of June 2013. *Western Slopes –* The rainfall pattern persisting in the entire country shall be observed in this region. *Western Coast –* Rainfall is not predicted till 10th August. *Eastern Slopes–* Decreasing trend of the rainfall shall persist till 4th August. Thereafter rainfall shall vary with different rates (below 4 mm/day) till 10th. *Eastern Coast –* The rainfall shall decrease till 9th and it shall increase during 9th-12th. *Northern region-* Existing rainfall shall decrease till 3rd and thereafter it shall increase gradually till 11th. *Southern Region-* The rainfall is not predicted during 1st-2nd, 3rd-6th and 8th-9th. In-between rainfall shall not considerable. After 9th rainfall is likely to be increase.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on July 2013; for August 2013 to October 2013, there is a 50-70% probability for temperature to be above normal in the country while the rainfall is to be climatological.
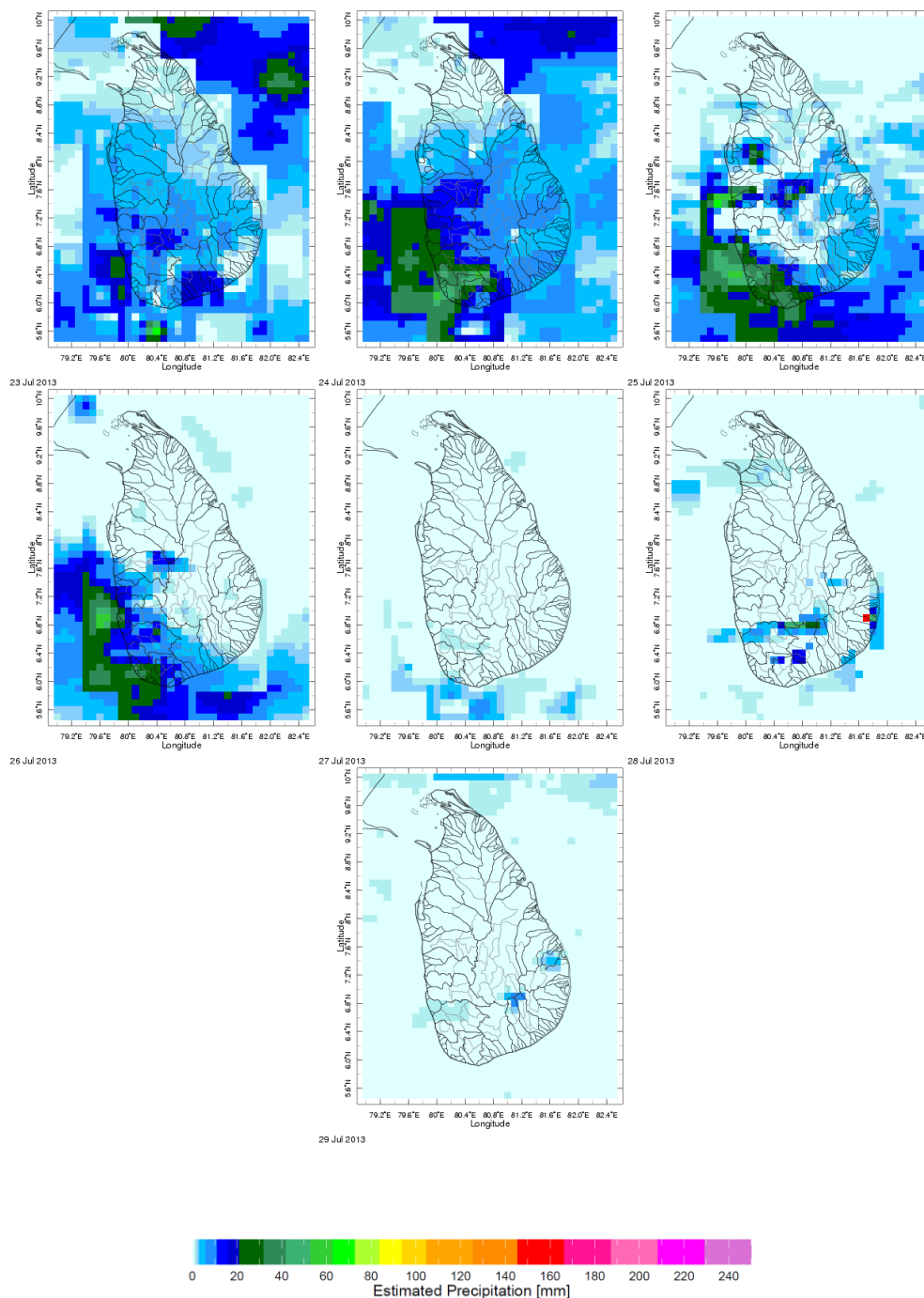
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[1] International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.
[2] These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.
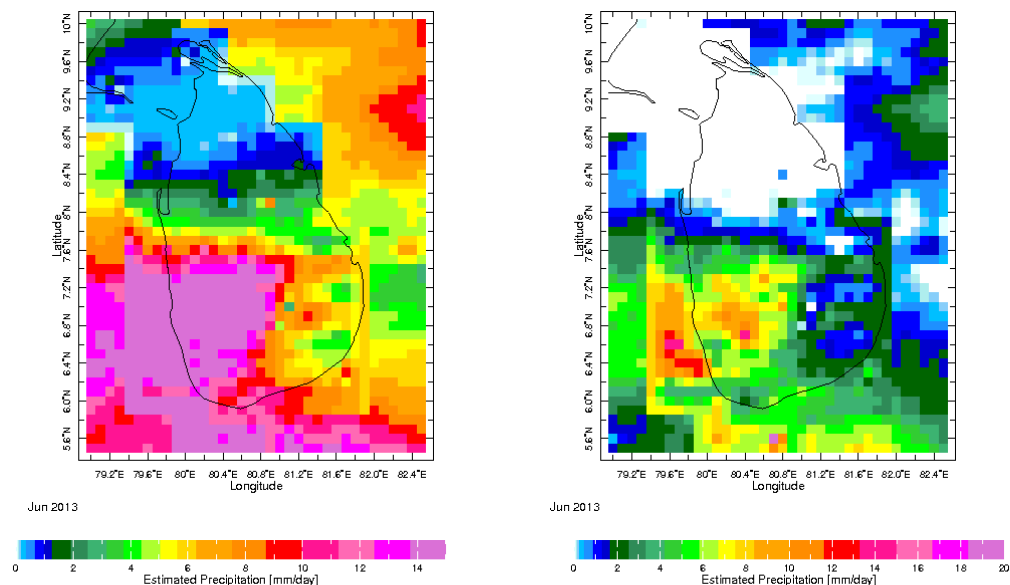Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.
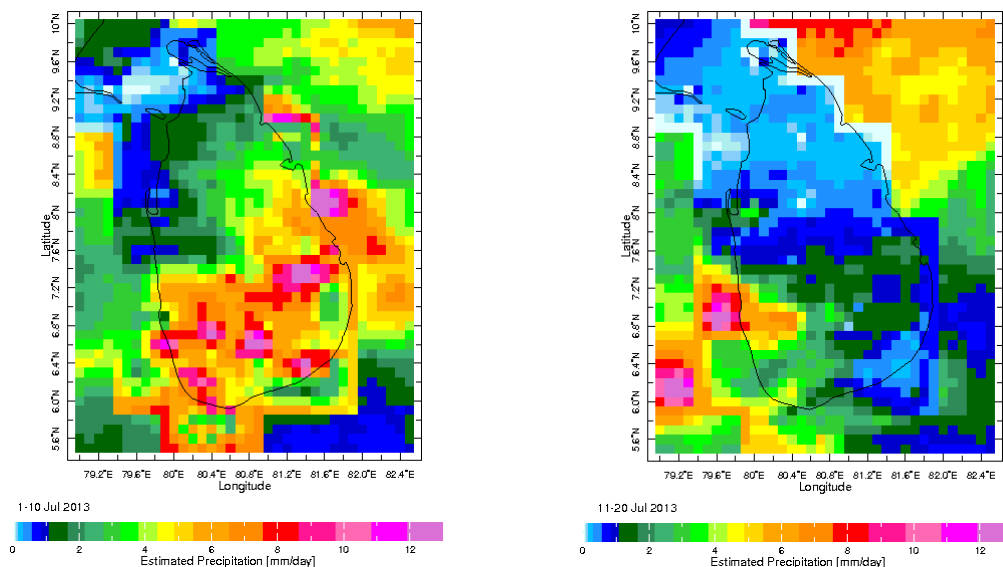
1. Monitoring

a) *Daily Satellite Derived Rainfall Estimate* Maps: 23rd-29th July 2013 (Left-Right, Top-Bottom)

a) ***Daily Satellite Derived Rainfall Estimate*** Maps: 23rd-29th July 2013 (Left-Right, Top-Bottom)

23 Jul 2013   24 Jul 2013   25 Jul 2013

26 Jul 2013   27 Jul 2013   28 Jul 2013

29 Jul 2013

0   20   40   60   80   100   120   140   160   180   200   220   240
Estimated Precipitation [mm]

FECT Foundation for Environment Climate and Technology

c/o, Maintenance Office, Mahaweli Authority,
Digana Village, Rajawella, Sri Lanka.

Phone (+94) 81-2376746, 4922992   E-mail climate@sltnet.lk   Web Site   http://www.climate.lk

b) Monthly Satellite Derived Rainfall Estimates for June 2013 (Total – Left and Anomaly -Right)

c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 July & 11-20 July, 2013)
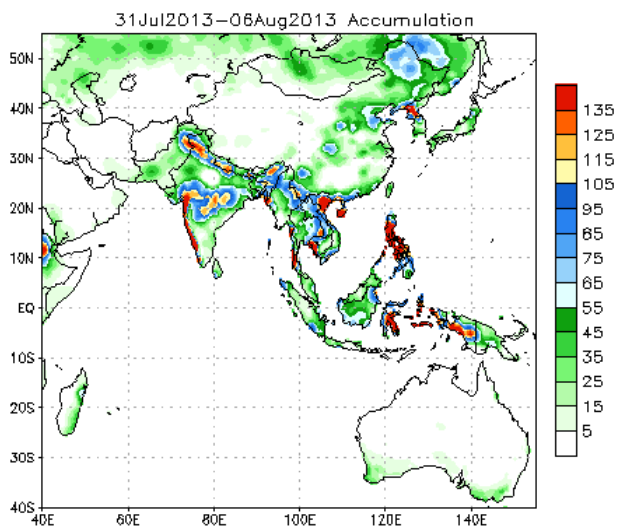
b) Weekly Average SST Anomalies
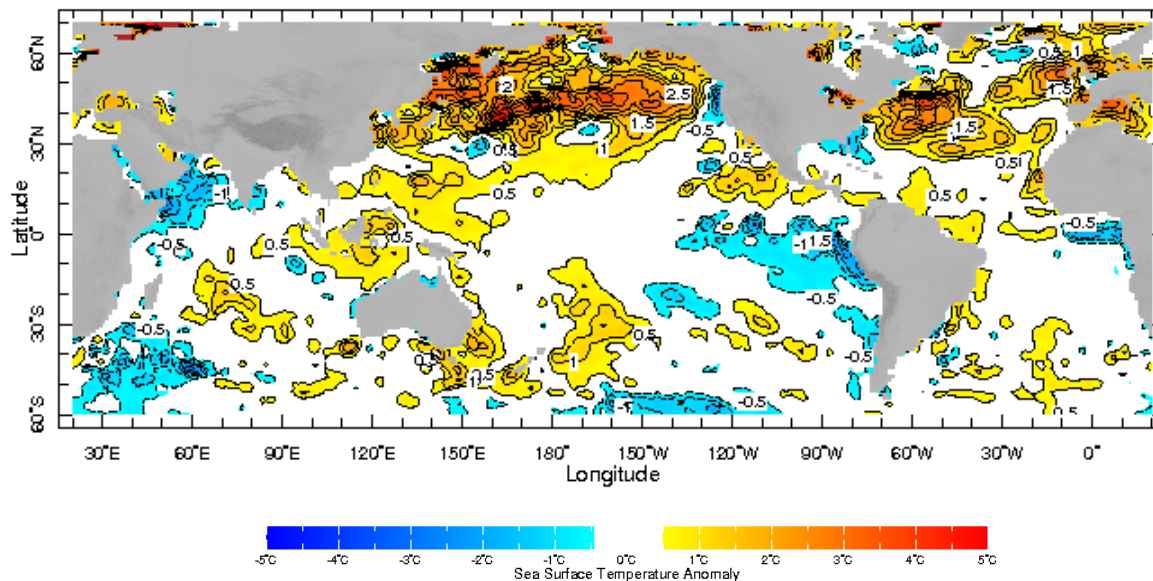
Weekly Average SST Anomalies (^{0}C), 21st-27th July, 2013

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

2. Predictions

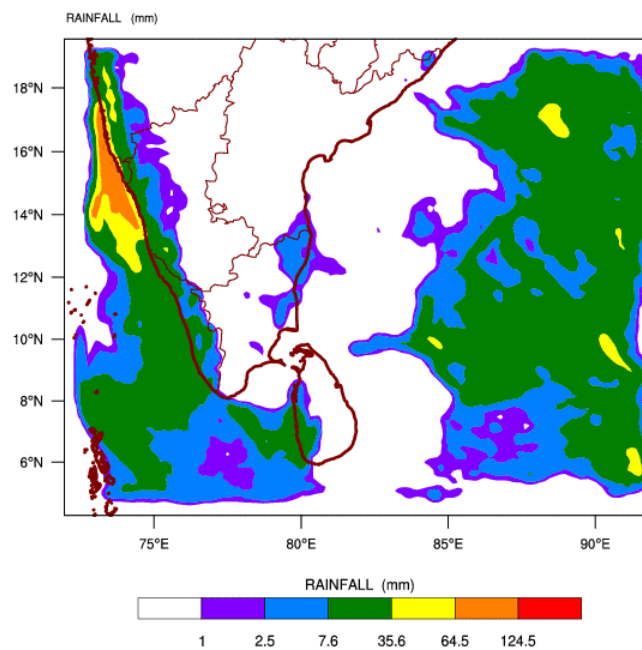### a)   NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.

b) *WRF model forecast* RegionalMeteorological Center,Chennai, Indian Meteorological Department)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 01-08-2013 valid for 03 UTC of 03-08-2013
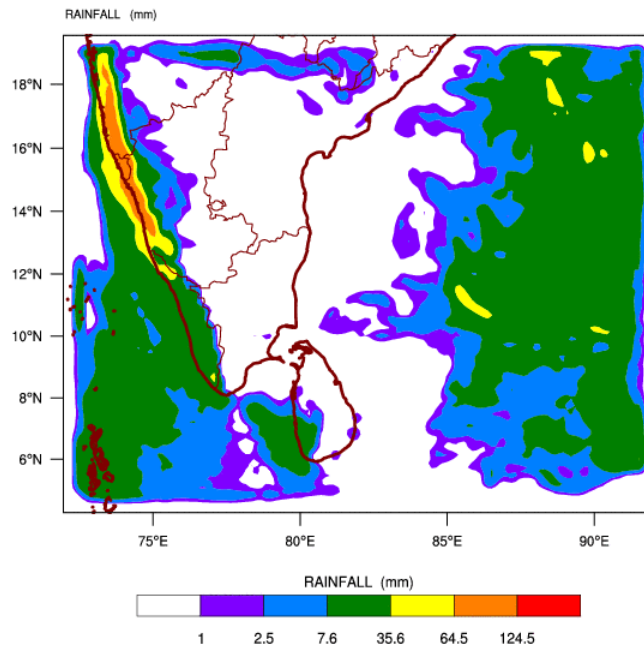
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 01-08-2013 valid for 03 UTC of 04-08-2013

c)   *Weekly Precipitation Forecast for 29th July-3rd August 2013 (Precipitation Forecast in Context Map Tool, IRI)*
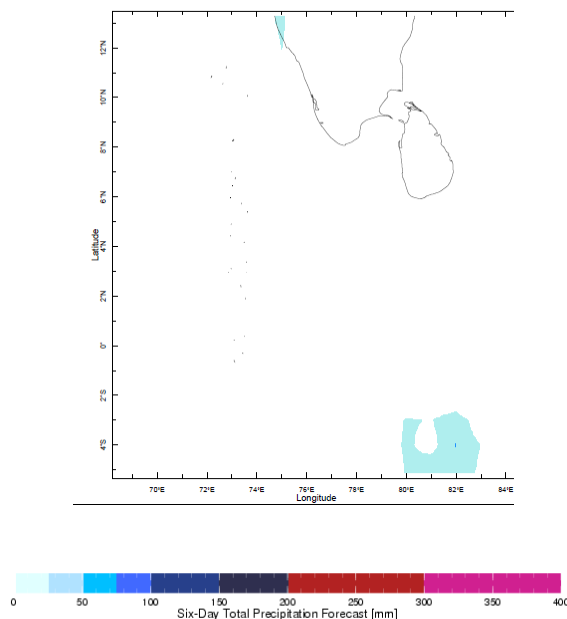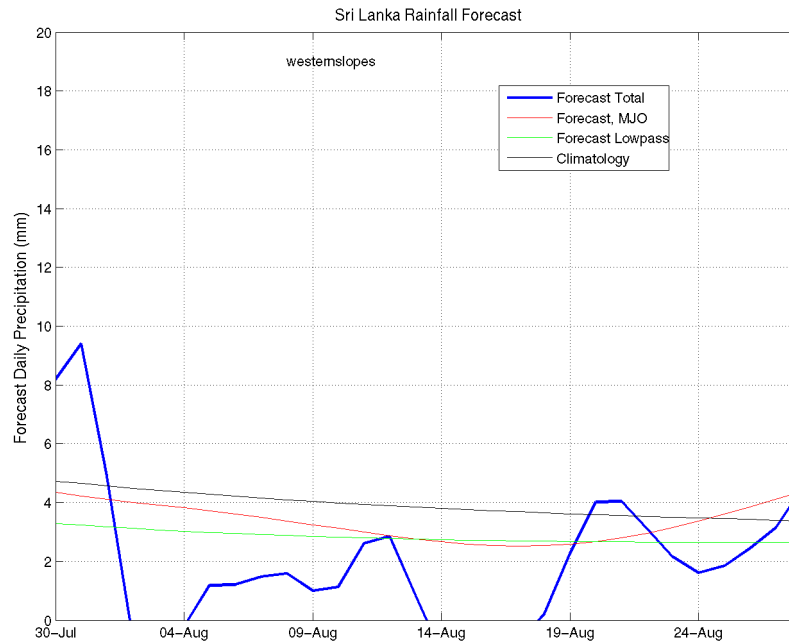

d) 1 month experimental predictions by Paul Roundy and L. Zubair
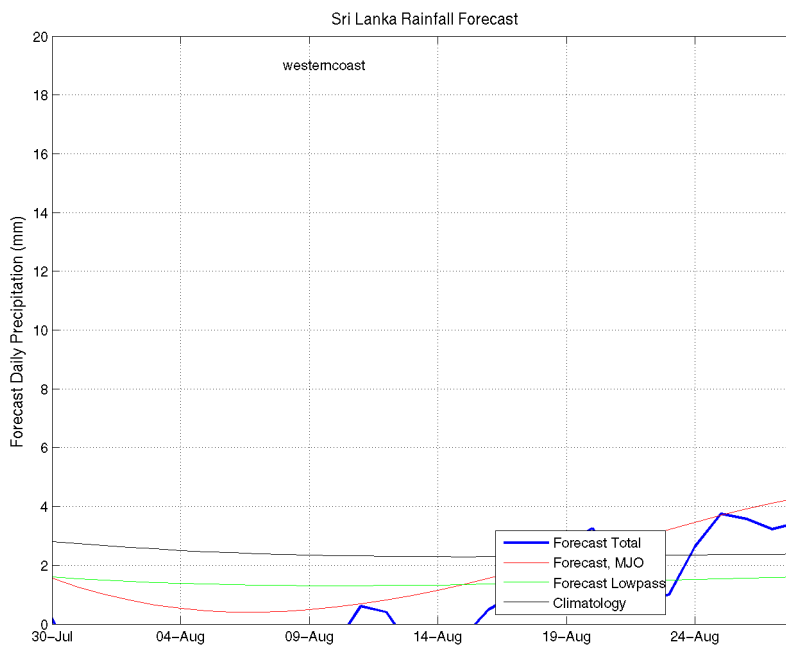Predictions based on observed cloud cover and atmospheric waves. Issued 1st August, 2013

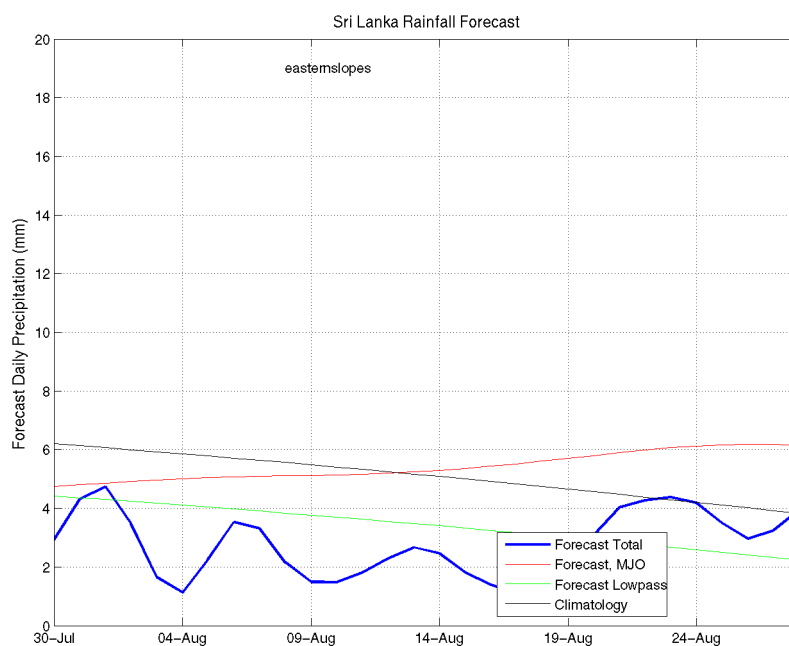**All Sri Lanka (Rainfall Scale from 0-20mm/day)**

Page 6
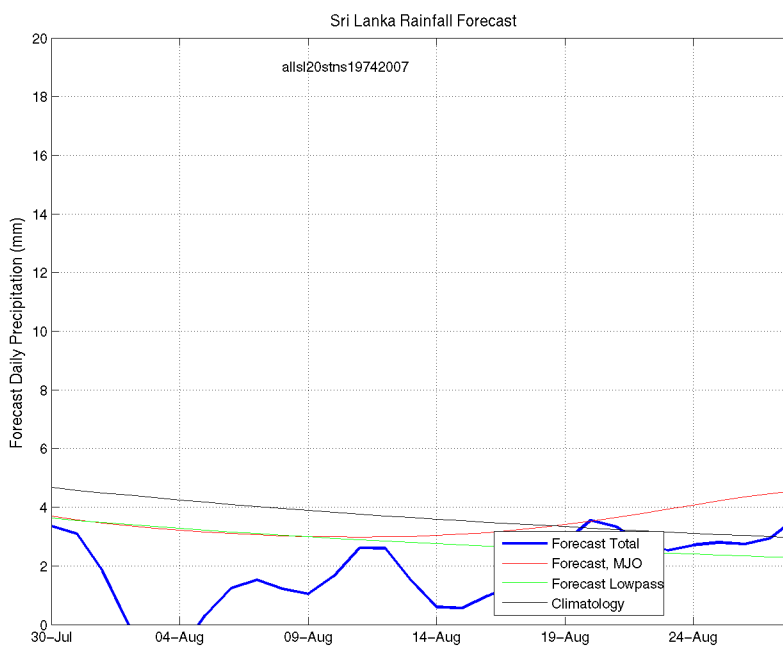
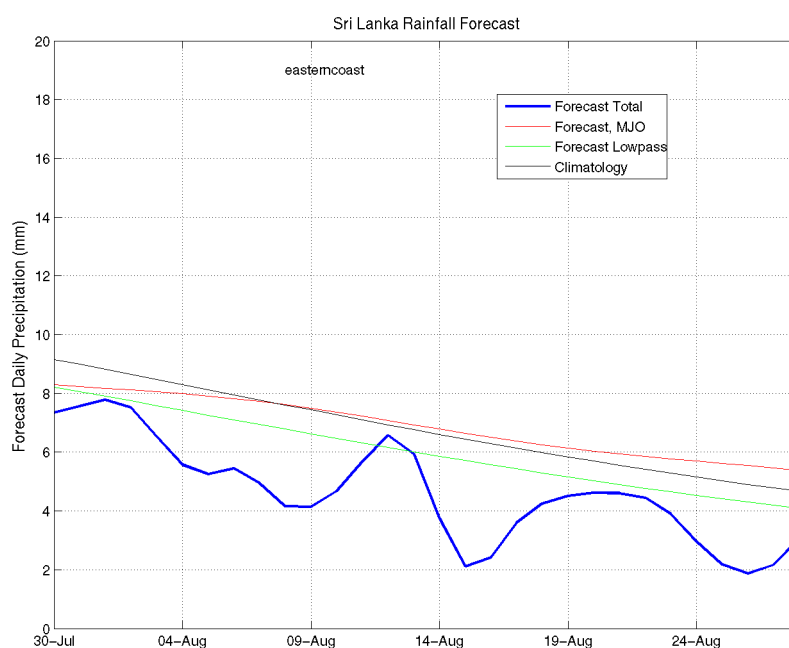*Western Slopes (Rainfall Scale from 0-20 mm/day)*
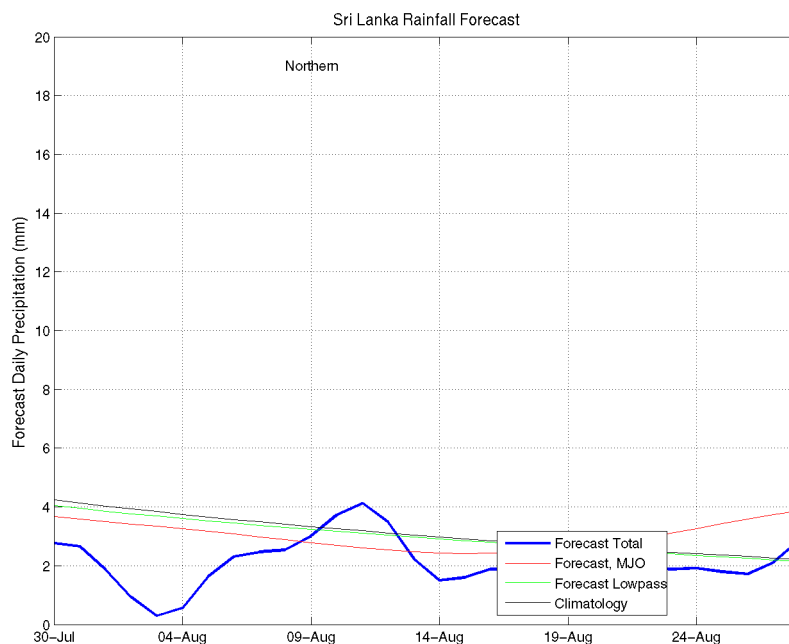

Western Coast (Rainfall Scale from 0-20 mm/day)

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

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

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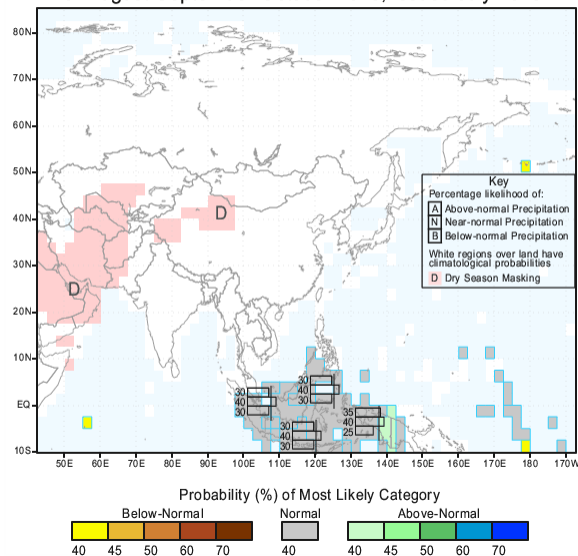*Northern Region (Rainfall Scale- from 0-20 mm/day)*

Southern Region (Rainfall Scale- from 0-20 mm/day)
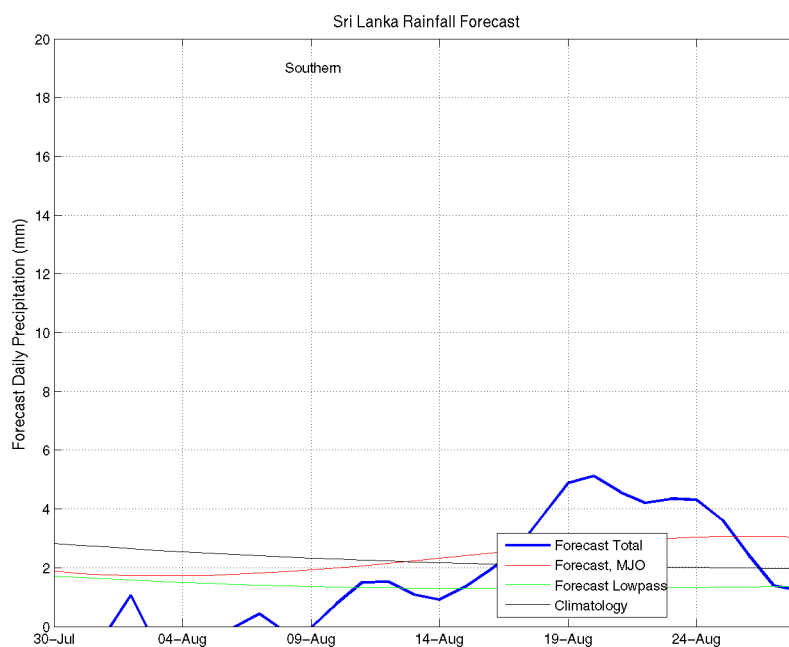
e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation for August-September-October 2013, Issued July 2013

IRI Multi-Model Probability Forecast for Temperature for August-September-October 2013, Issued July 2013