

## Experimental Climate Monitoring and Prediction

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31 July 2014

### FECT BLOG

Past reports available at  
<http://fectsl.blogspot.com/> and

<http://fectsl.wordpress.com/>

### FECT WEBSITES

<http://www.climate.lk> and  
<http://www.tropicalclimate.org/>

### 17 July, 2014 PACIFIC SEAS STATE

During June through early-July the observed ENSO conditions remained near the borderline of a weak El Niño condition in the ocean, but the atmosphere so far has shown little involvement. Most of the ENSO prediction models indicate more warming coming in the months ahead, leading to sustained El Niño conditions by the middle or late portion of northern summer.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

A 0.5°C positive sea surface anomaly was observed around Sri Lanka

### MJO STATE

MJO is at phase 7 in the Western Pacific and shall slightly suppress precipitation in Sri Lanka.

### Highlights

#### Monitoring and Predictions:

Rainfall was only observed on the 27<sup>th</sup> and 28<sup>th</sup> of July during the past week. In the next two weeks, the precipitation is expected to increase. Sea surface temperature around Sri Lanka has shifted from neutral to a positive anomaly.

### Summary

#### Monitoring

**Weekly Monitoring:** During 23<sup>rd</sup> – 25<sup>th</sup> July no rainfall was observed in any part of the country. On the 26<sup>th</sup> light rainfall was observed in south western region of the country as well as in the sea toward North East of the country. On the 27<sup>th</sup> rainfall increased covering the entire southern half of the country. Up to 50 mm of rainfall was observed on this day. Rainfall shifted towards south west on the 28<sup>th</sup> with heavy rainfall observed in the south western sea. Once again rainfall completely ceased on the 29<sup>th</sup>.

**Monthly Monitoring:** The southwest monsoon was active during the month of June. Due to this the south western region received higher rainfall than rest of the country. The entire southern half of the island received rainfall during this month but except for Colombo, Kaluthara, Galle, Matara, Ratnapura, Kegalle, western areas of Nuwara-Eliya and southern areas of Gampaha districts, rainfall received in the country was below-average. In the above mentioned districts up to 200 mm of excess rainfall, compared to the average rainfall received in the past during June, was observed.

#### Predictions

**14 day prediction:** Up to 45 mm rainfall is expected in the south western parts of the country during 30<sup>th</sup> July to 5<sup>th</sup> August. Rainfall shall be intensified during 6<sup>th</sup> – 12<sup>th</sup> August.

**IMD WRF & IRI Model Forecast:** According to the IMD WRF model western half of the country shall receive rainfall on the 1<sup>st</sup> and 2<sup>nd</sup> of August. Heavy rainfall is expected in the Gampaha district on the 1<sup>st</sup>. IRI models also predict up to 50 mm rainfall during 30<sup>th</sup> July to 4<sup>th</sup> August. No extreme rainfall events are expected during this period.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast issued on July 2014; for August 2014 to October 2014, the precipitation shall be climatological while there is a 70% chance that temperature shall be above normal.

### Inside this Issue

#### 1. Monitoring

- Daily Satellite Derived Rain fall Estimates
- Monthly Rain fall Estimates
- Decadal (10 Day) Satellite Derived Rainfall Estimates
- Weekly Average SST Anomalies

#### 2. Predictions

- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- Seasonal Predictions from IRI

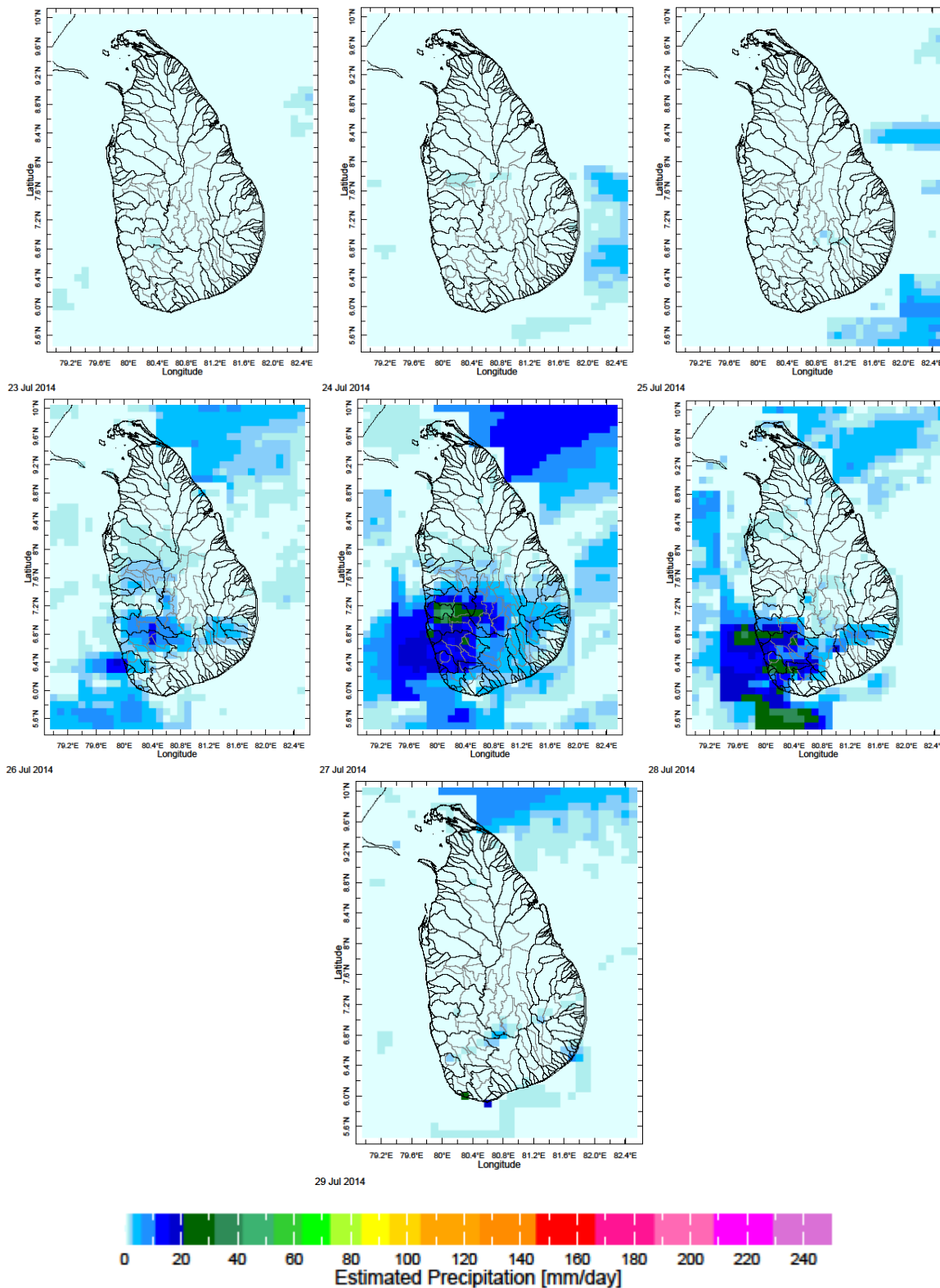
<sup>1</sup> International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

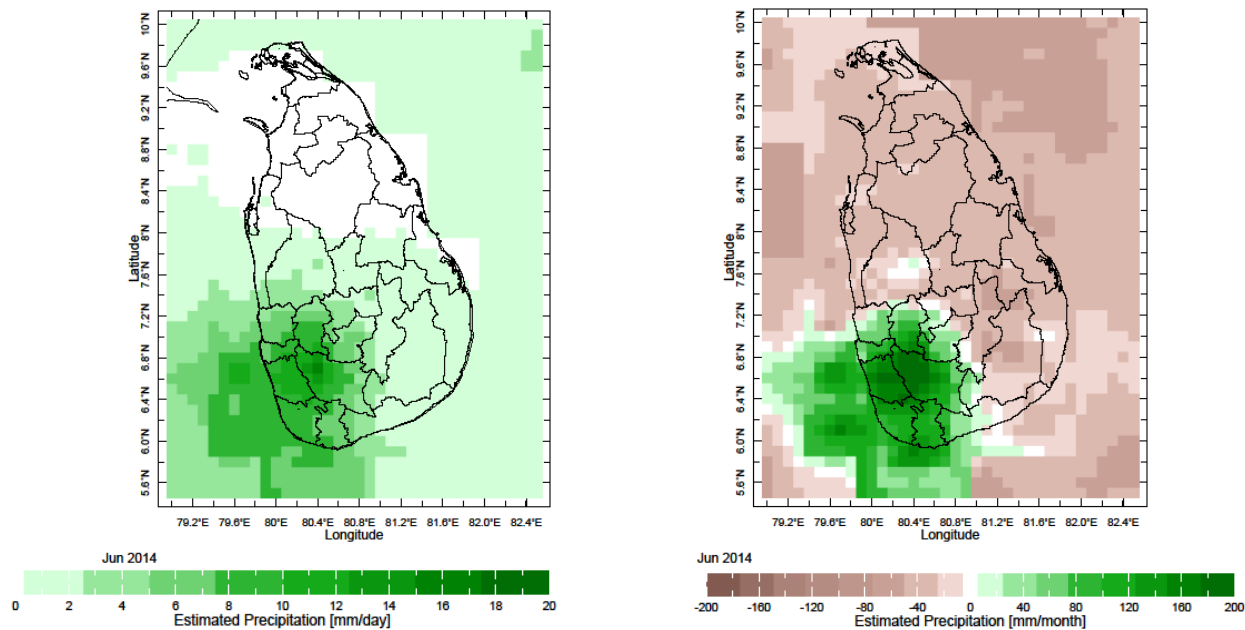
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

## 1. Monitoring

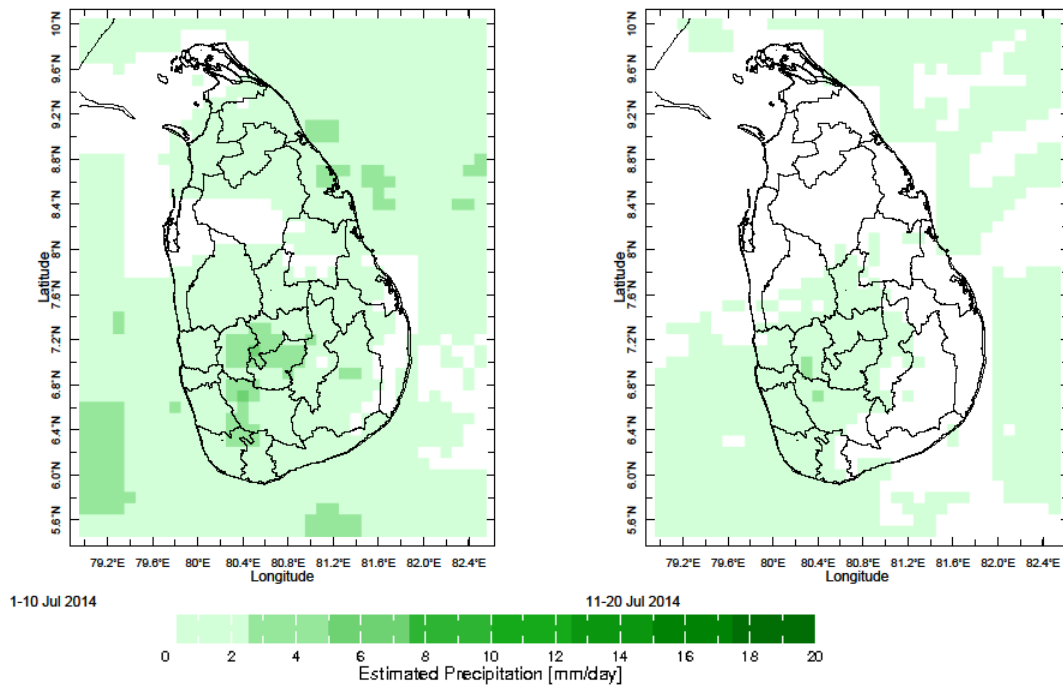
a) *Daily Satellite Derived Rainfall Estimate Maps: 23<sup>rd</sup> -29<sup>th</sup> July 2014 (Left-Right, Top-Bottom)*



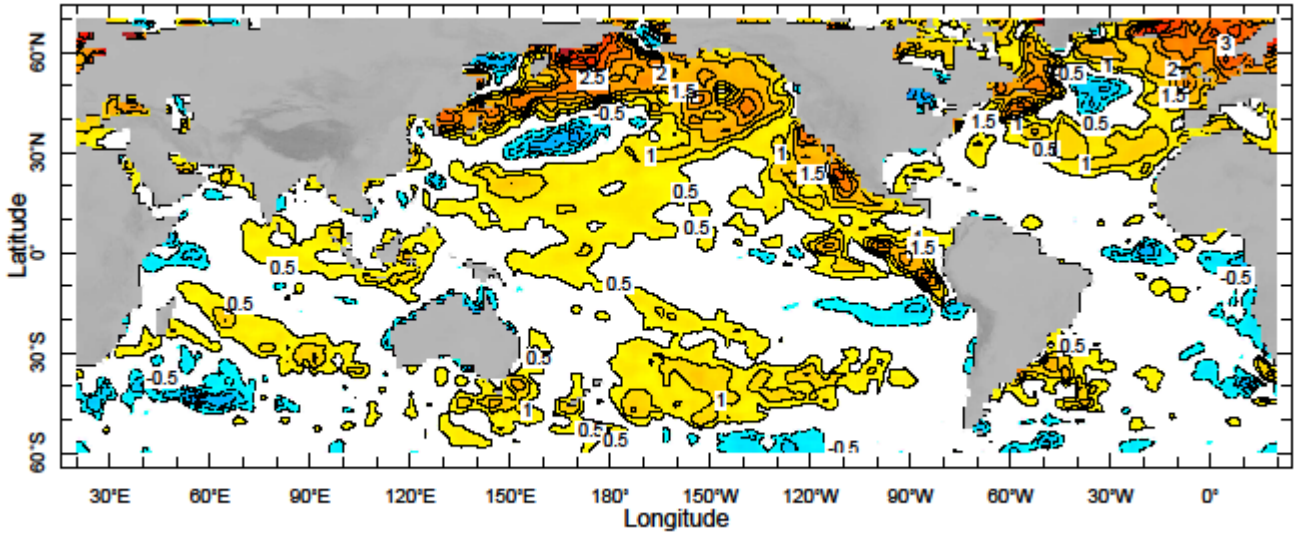
## b) Monthly Satellite Derived Rainfall Estimates for June 2014 (Average – Left and Anomaly - Right)



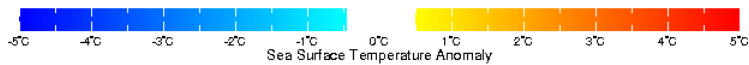
## c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1- 10 & 11- 20 July, 2014)



**d) Weekly Average SST Anomalies**



20-26 Jul 2014



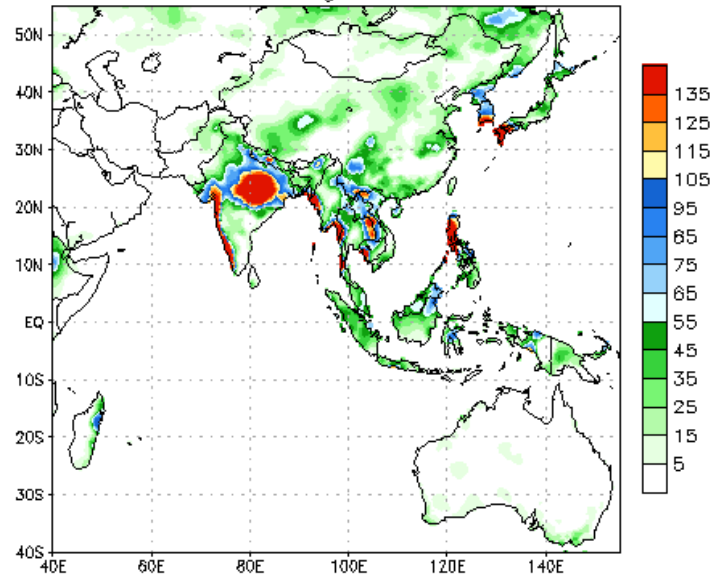
**Weekly Average SST Anomalies (°C), 20<sup>th</sup> - 26<sup>th</sup> July, 2014**

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

## 2. Predictions

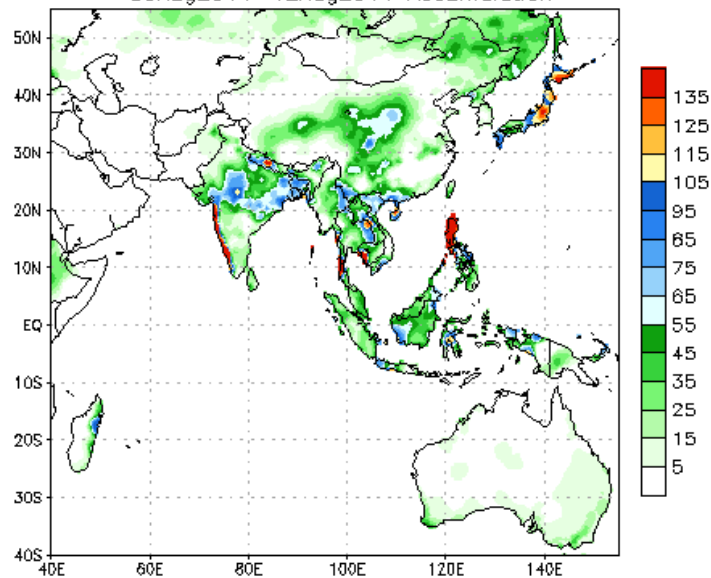
### a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)  
from: 30Jul2014  
30Jul2014-05Aug2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)  
from: 30Jul2014  
06Aug2014-12Aug2014 Accumulation

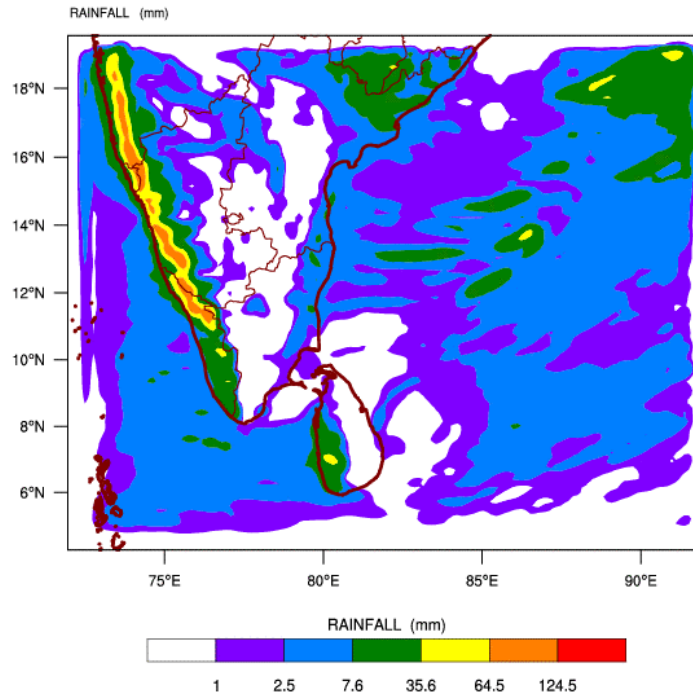


Bias correction based on last 30-day forecast error

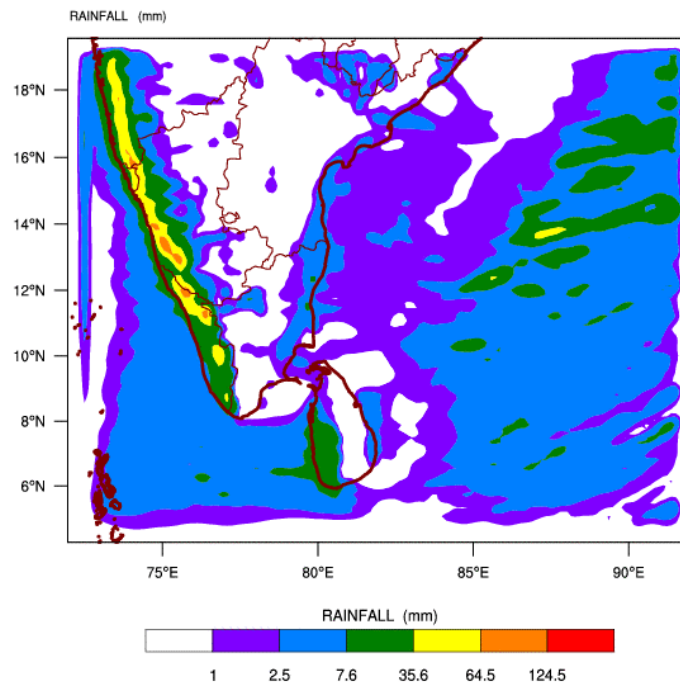
Source – NOAA Climate Prediction Center

**b) WRF model forecast from Regional Meteorological Center, Chennai of Indian Meteorological Department**

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)  
based on 00 UTC of 30-07-2014 valid for 03 UTC of 01-08-2014

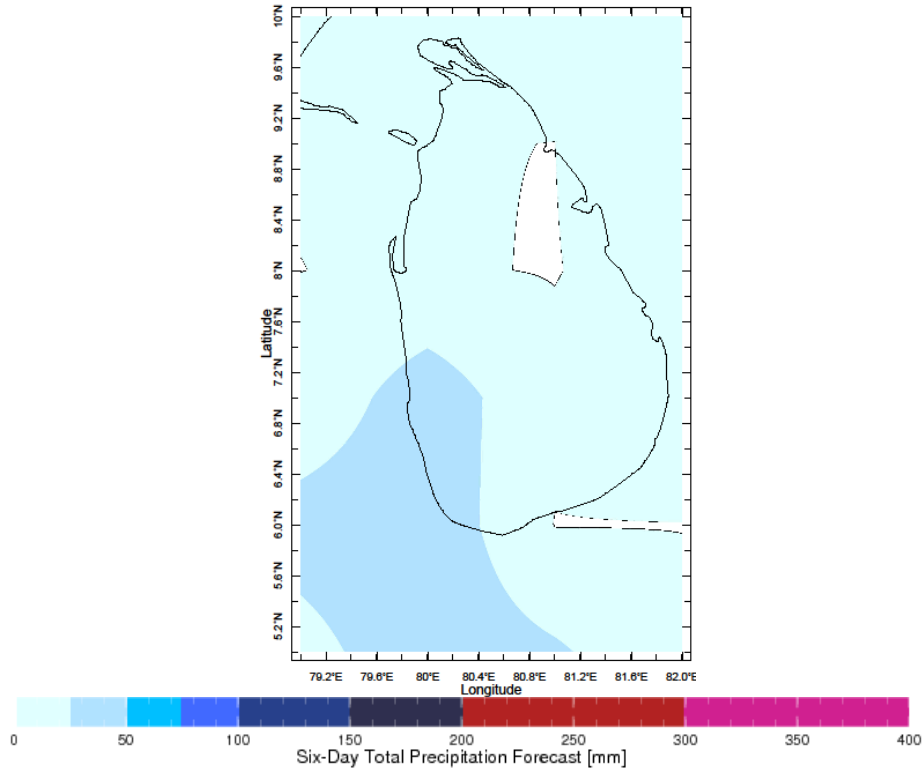


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)  
based on 00 UTC of 30-07-2014 valid for 03 UTC of 02-08-2014

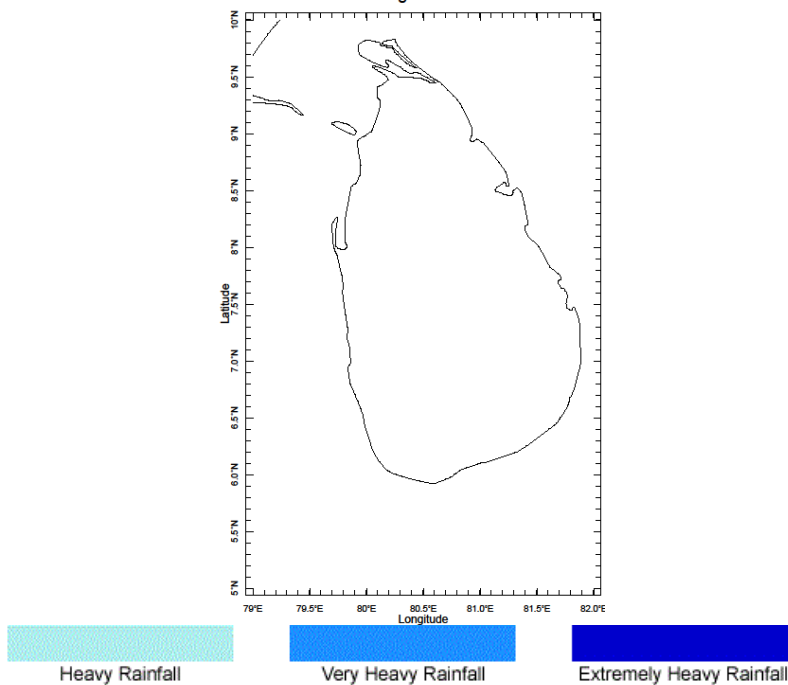


**c) Weekly Precipitation Forecast for 30<sup>th</sup> July -4<sup>th</sup> August 2014 (Precipitation Forecast in Context Map Tool, IRI)**

cast for 30 Jul 2014 - 4 Aug 2014 Issued 0000 30 Ju

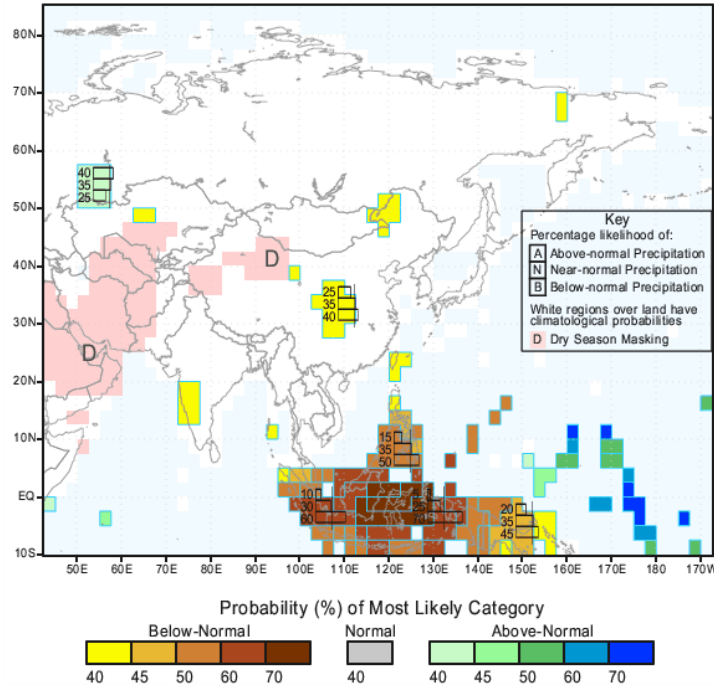


cast for 30 Jul 2014 - 4 Aug 2014 Issued 0000 30 Jul



*e) Seasonal Rainfall and Temperature Predictions from IRI*

IRI Multi-Model Probability Forecast for Precipitation  
for August-September-October 2014, Issued July 2014



IRI Multi-Model Probability Forecast for Temperature  
for August-September-October 2014, Issued July 2014

