

## Experimental Climate Monitoring and Prediction

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11 September 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/>

### 4 September, 2014 PACIFIC SEAS STATE

During July through August the observed ENSO conditions were neutral. Most of the ENSO prediction models indicate warming to El Niño levels coming around early northern fall, peaking at weak strength during winter 2014-15 and lasting into the first few months of 2015.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

Around 1<sup>o</sup> C above average sea surface temperature was observed around Sri Lanka.

### MJO STATE

MJO is weak and therefore shall not influence the rainfall in Sri Lanka.

### Highlights

#### Monitoring and Predictions:

Rainfall was observed in the southern half of Sri Lanka as well as Jaffna peninsula during 2<sup>nd</sup> – 8<sup>th</sup> September. No rainfall was observed in north-central region of the country during this period. Highest rainfall was observed in the area surrounding Ampara. Rainfall expected in the coming week is predicted to be below than the historical average.

### Summary

#### Monitoring

**Weekly Monitoring:** During 2<sup>nd</sup>- 8<sup>th</sup> of September rainfall was mostly observed in the southern half of the country. On the 2<sup>nd</sup> rainfall was observed (up to 40 mm) in a band from Colombo to Ampara across the central mountain with higher rainfall observed in the eastern side. Similar rainfall pattern was observed on the 3<sup>rd</sup> and 4<sup>th</sup> with a decrease in rainfall in the western side and central mountains. On the 5<sup>th</sup> up to 40 mm rainfall was observed concentrated in areas around Chilaw, Ampara and the Jaffna peninsula. Southern regions received rainfall on the 6<sup>th</sup> with up to 30 mm rainfall observed in Ratnapura. On the 7<sup>th</sup> light rainfall was observed in western parts of the country. Rainfall was observed in the same regions on the 8<sup>th</sup> with increased amounts up to 50 mm.

**Monthly Monitoring:** An above average rainfall was observed throughout the country with higher precipitation observed in the south-western regions of Sri Lanka during August. Highest rainfall during this month was observed in Ratnapura district.

#### Predictions

**14 day prediction:** Up to 75 mm rainfall is expected in South-Western and southern Sri Lanka during the fortnight from 10<sup>th</sup> – 23<sup>rd</sup> September.

**IMD WRF & IRI Model Forecast:** According to the IMD WRF model western and south western regions of the country shall receive up to 35 mm rainfall and eastern side of the country shall receive rainfall up to 7.5 mm on the 12<sup>th</sup> and 13<sup>th</sup>. IRI models predict up to 50 mm total rainfall for 6 days from 10<sup>th</sup>- 15<sup>th</sup> in south western region and up to 75 mm total rainfall in south-western coastal regions and the adjacent sea. But heavy rainfall events are not expected during these six days.

**Seasonal Prediction** As per IRI Multi Model Probability Forecast issued in August for the season September to November 2014, Rainfall shall remain climatological while the temperature shall be above normal with 60- 70% probability.

### 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

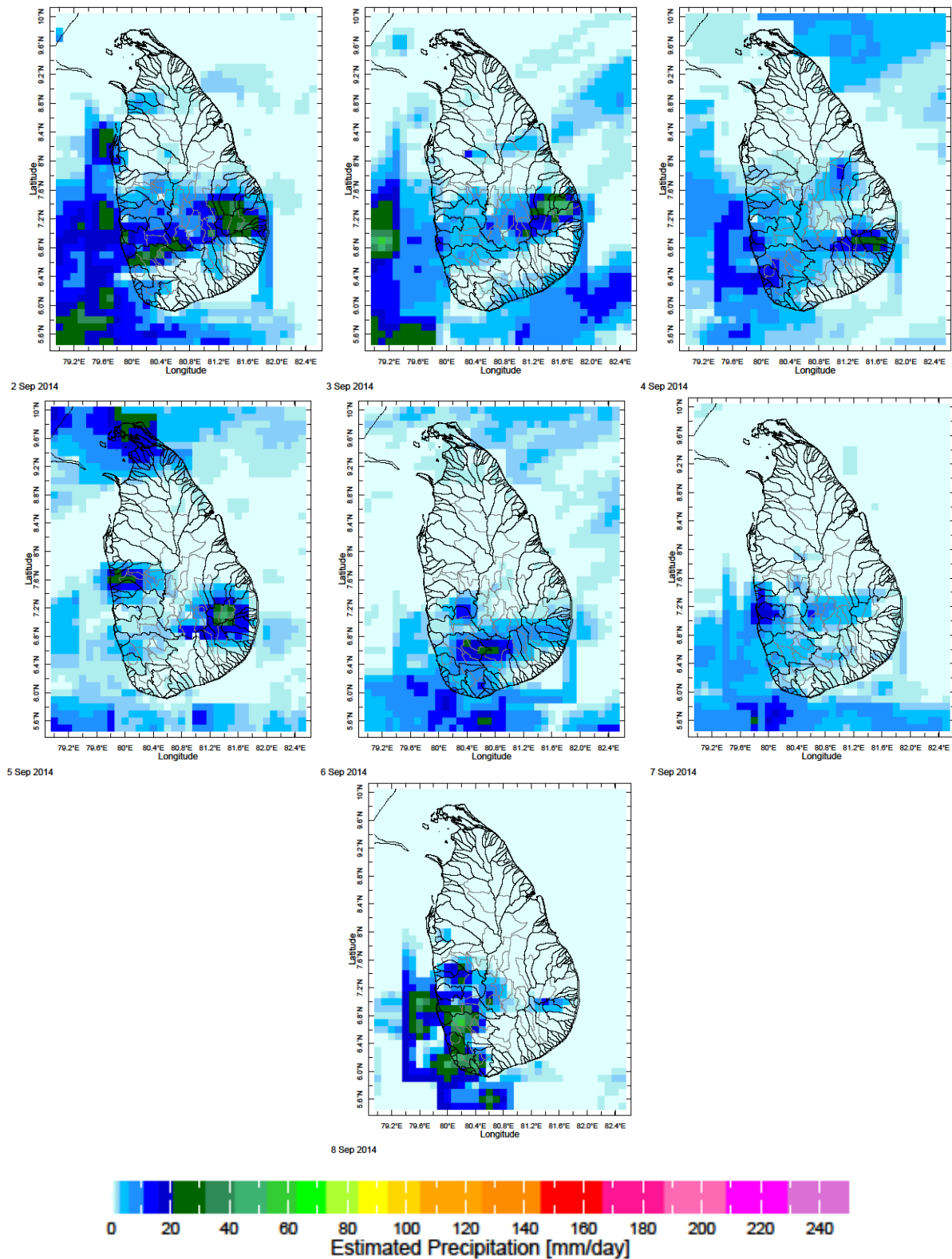
<sup>1</sup> International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

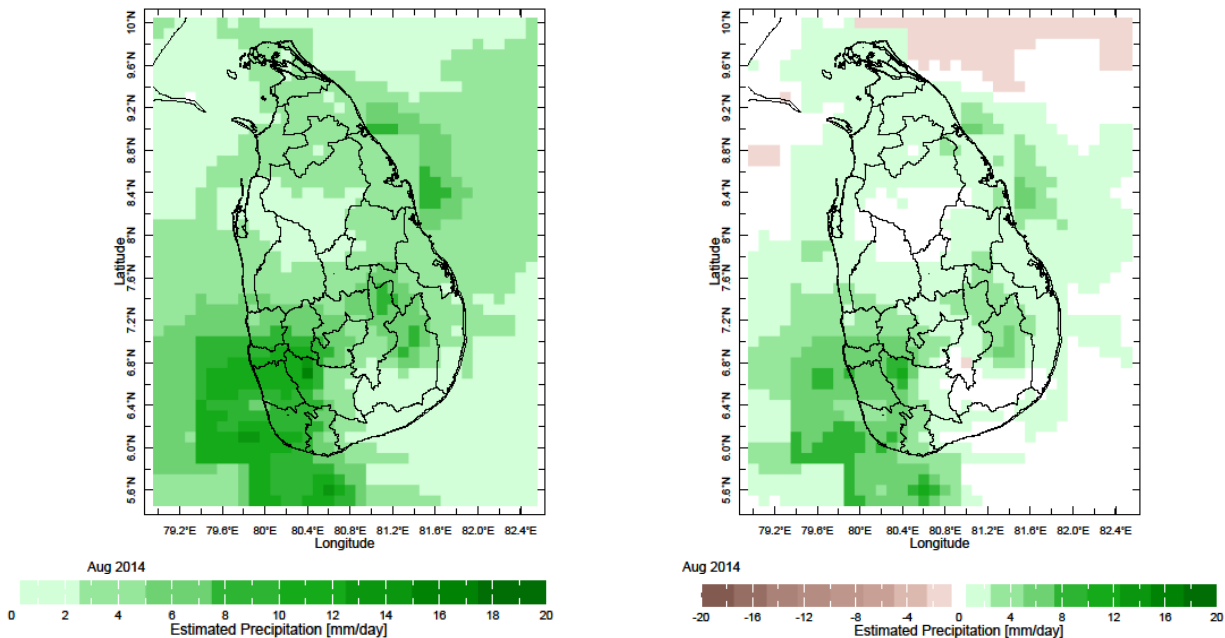
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

## 1. Monitoring

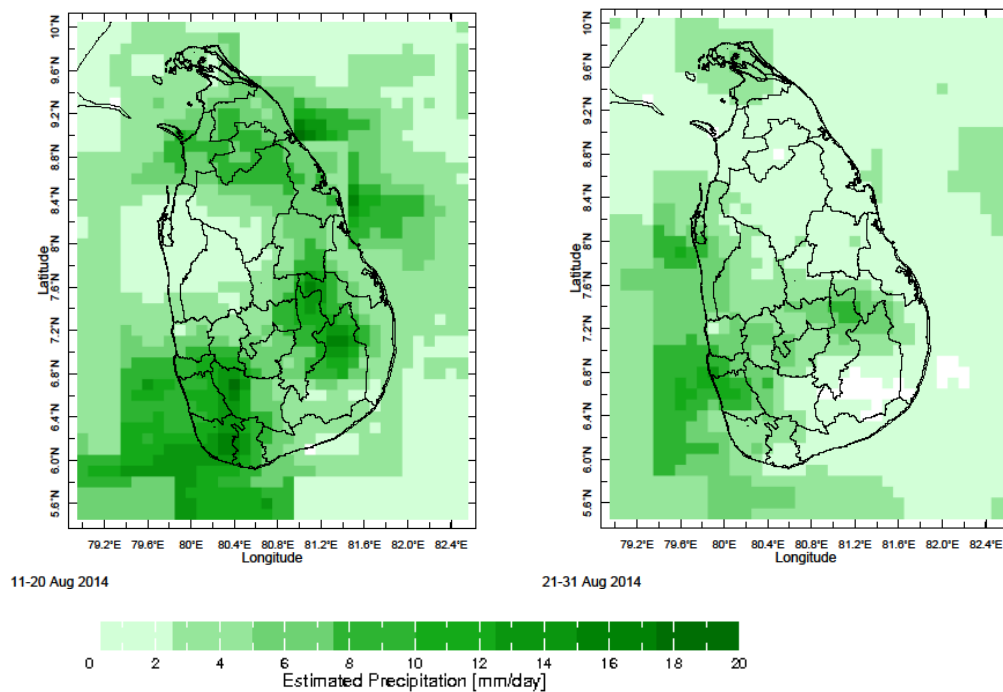
### a) Daily Satellite Derived Rainfall Estimate Maps: 2<sup>nd</sup> – 8<sup>th</sup> September 2014 (Left-Right, Top-Bottom)



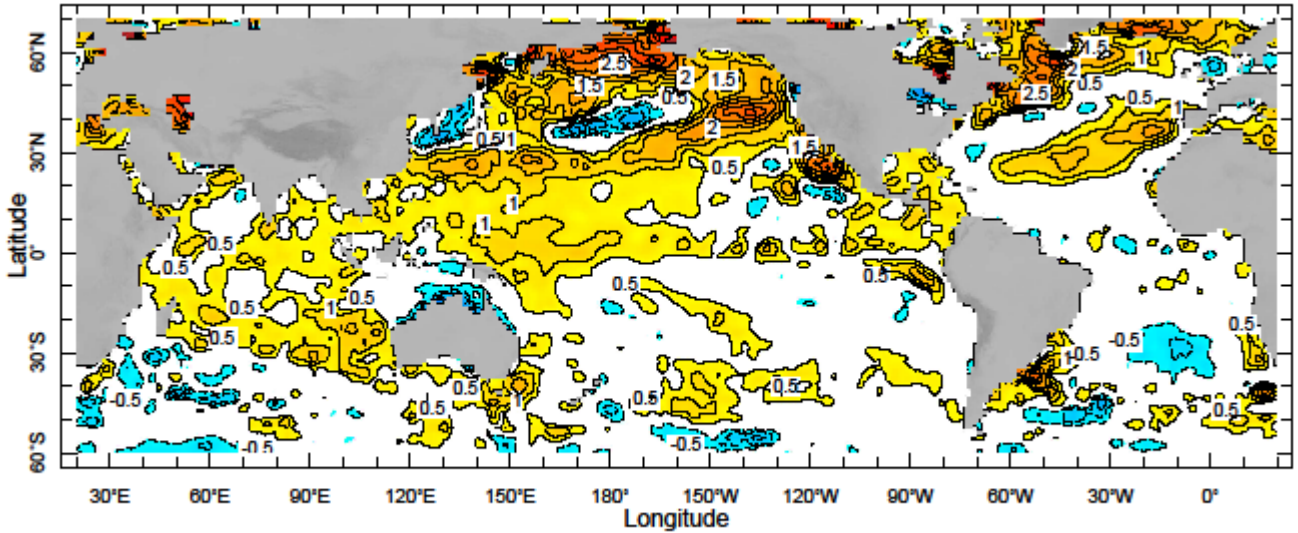
**b) Monthly Satellite Derived Rainfall Estimates for August 2014 (Average – Left and Anomaly - Right)**



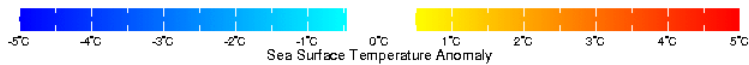
**c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (11- 20 and 21-31 Aug, 2014)**



**d) Weekly Average SST Anomalies**



24-30 Aug 2014



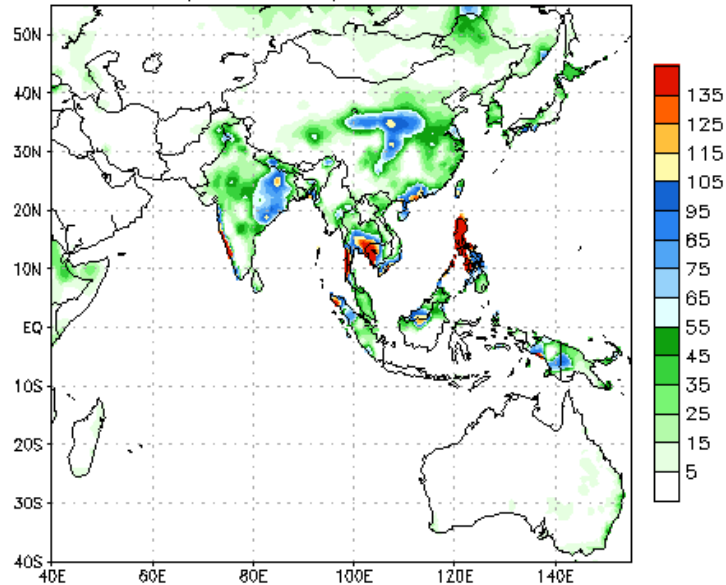
**Weekly Average SST Anomalies (°C), 24<sup>th</sup> – 30<sup>th</sup> August, 2014**

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

## 2. Predictions

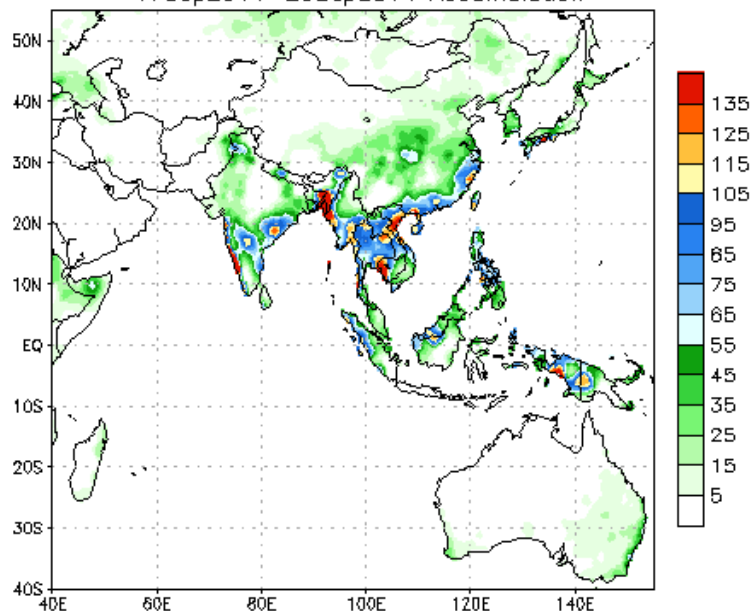
### a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)  
from: 10Sep2014  
10Sep2014-16Sep2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)  
from: 10Sep2014  
17Sep2014-23Sep2014 Accumulation

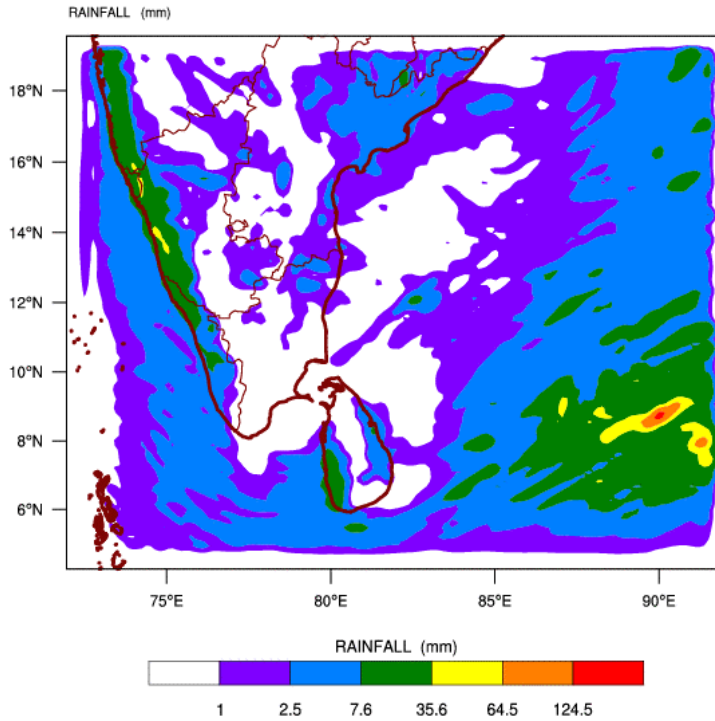


Bias correction based on last 30-day forecast error

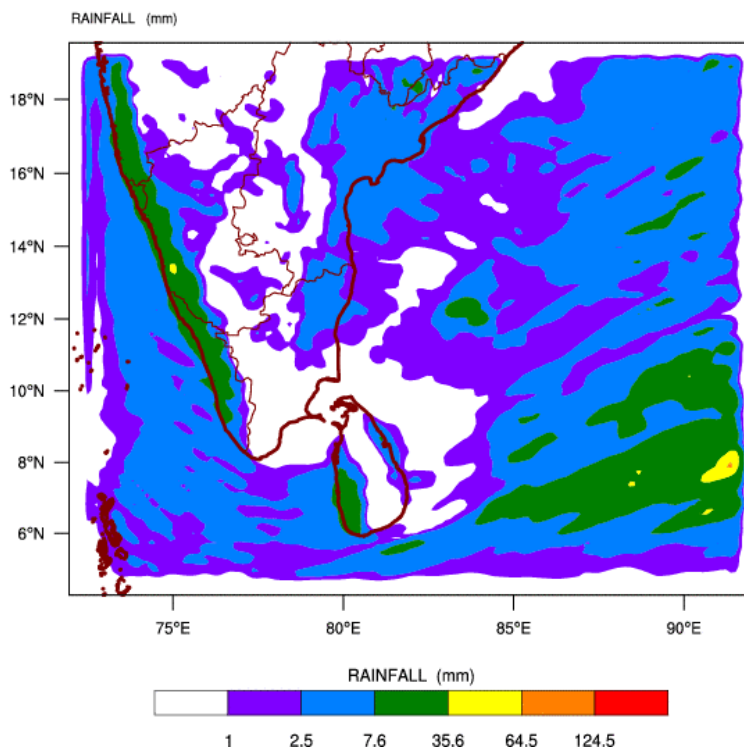
Source – NOAA Climate Prediction Center

**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 10-09-2014 valid for 03 UTC of 12-09-2014



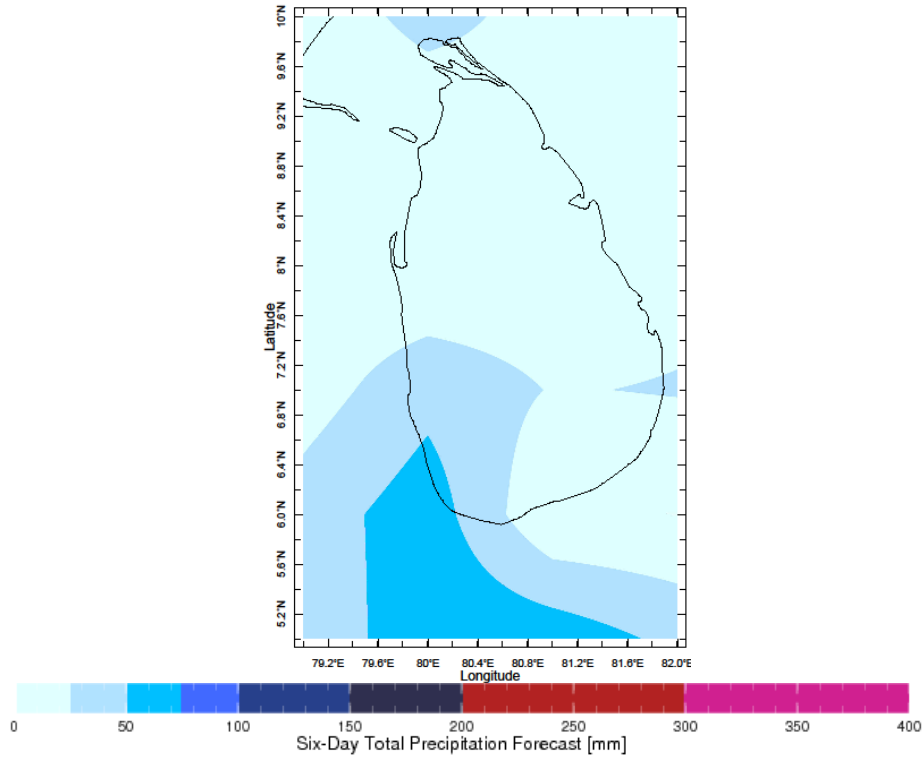
WRF MODEL FORECAST (72 HR.) RAINFALL(mm)  
based on 00 UTC of 10-09-2014 valid for 03 UTC of 13-09-2014



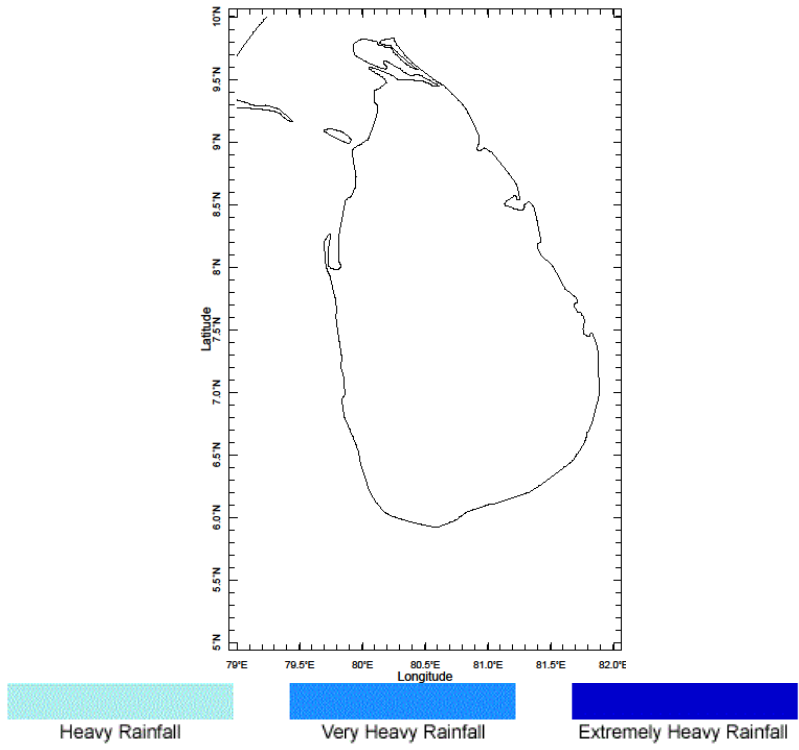


**c) Weekly Precipitation Forecast for 10<sup>th</sup>- 15<sup>th</sup> September 2014 (Precipitation Forecast in Context Map Tool, IRI)**

Forecast for 10-15 Sep 2014 Issued 0000 10 Sep 2014

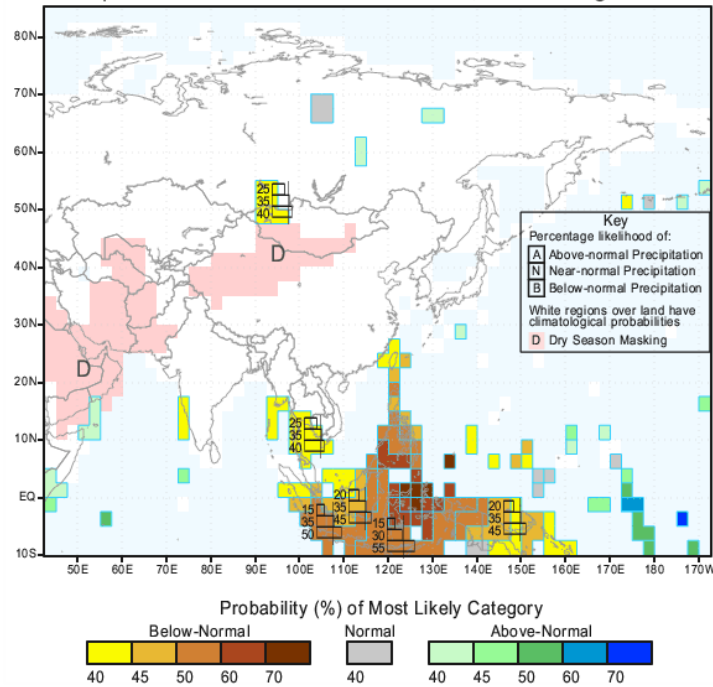


Forecast for 10-15 Sep 2014 Issued 0000 10 Sep 2014



*e) Seasonal Rainfall and Temperature Predictions from IRI*

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



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

