

Experimental Climate Monitoring and Prediction

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21 August 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/>

7 August, 2014 PACIFIC SEAS STATE

During June through 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

More than 1^oC above average sea surface temperature was observed around Maldives.

MJO STATE

MJO is at phase I and shall not affect the rainfall in Sri Lanka

Highlights

Monitoring and Predictions:

Heavy rainfall was observed in North Central and Eastern regions of the country ending the drought which persisted in these regions. Very high amounts of rainfall was observed in various parts of the country during the past week. More high rainfall is expected in the coming weeks with high confidence. Sustained El Nino conditions are expected by the end of this year. Sea surface temperature around Sri Lanka has further increased to 1^o C.

Summary

Monitoring

Weekly Monitoring: No rainfall was observed on the 13th of August and except in Matara and Galle regions, where up to 30 mm rainfall was observed, no rainfall was observed on the 14th as well. Heavy rainfall (excess of 140 mm) was then observed on the 15th in Trincomalee and Mulaitivu districts and nearby sea. Galle and Ratnapura districts also received up to 50 mm rainfall on the same day. The entirety of the country received rainfall on the 16th with North, North-Central, Eastern and South-Western regions receiving up to 60 mm rainfall. Rainfall conditions subsided on the 17th in the entire country except in South-Western region. Rainfall once again increased on the 18th with highest rainfall (up to 80 mm) observed in Ratnapura and Monaragala. On the 19th Rainfall was observed in various parts of the country, highest been observed in Polonnaruwa.

Monthly Monitoring: A less than average rainfall was observed throughout the country during July.

Predictions

14 day prediction: Up to 55 mm rainfall is expected in South-Western Sri Lanka during 20th- 26th August. Same amount of rain is expected during 27th August- 2nd September in a smaller region in the South-West.

IMD WRF & IRI Model Forecast: According to the IMD WRF model the entirety of Sri Lanka shall receive rainfall during 23rd and 24th August. Heavy rainfall up to 125 mm is expected in Ratnapura on the 23rd and in Colombo on the 24th. IRI models also predicts heavy rainfall throughout the country during 20th- 25th August with up to 200 mm rainfall in South-Western coastal region.

Seasonal Prediction As per IRI Multi Model Probability Forecast for August to October 2014, rainfall shall tend towards near-climatological across Maldives while the seasonal temperature this season shall tend towards the above normal tercile across the Maldives with a 70% probability.

Inside this Issue

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- 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

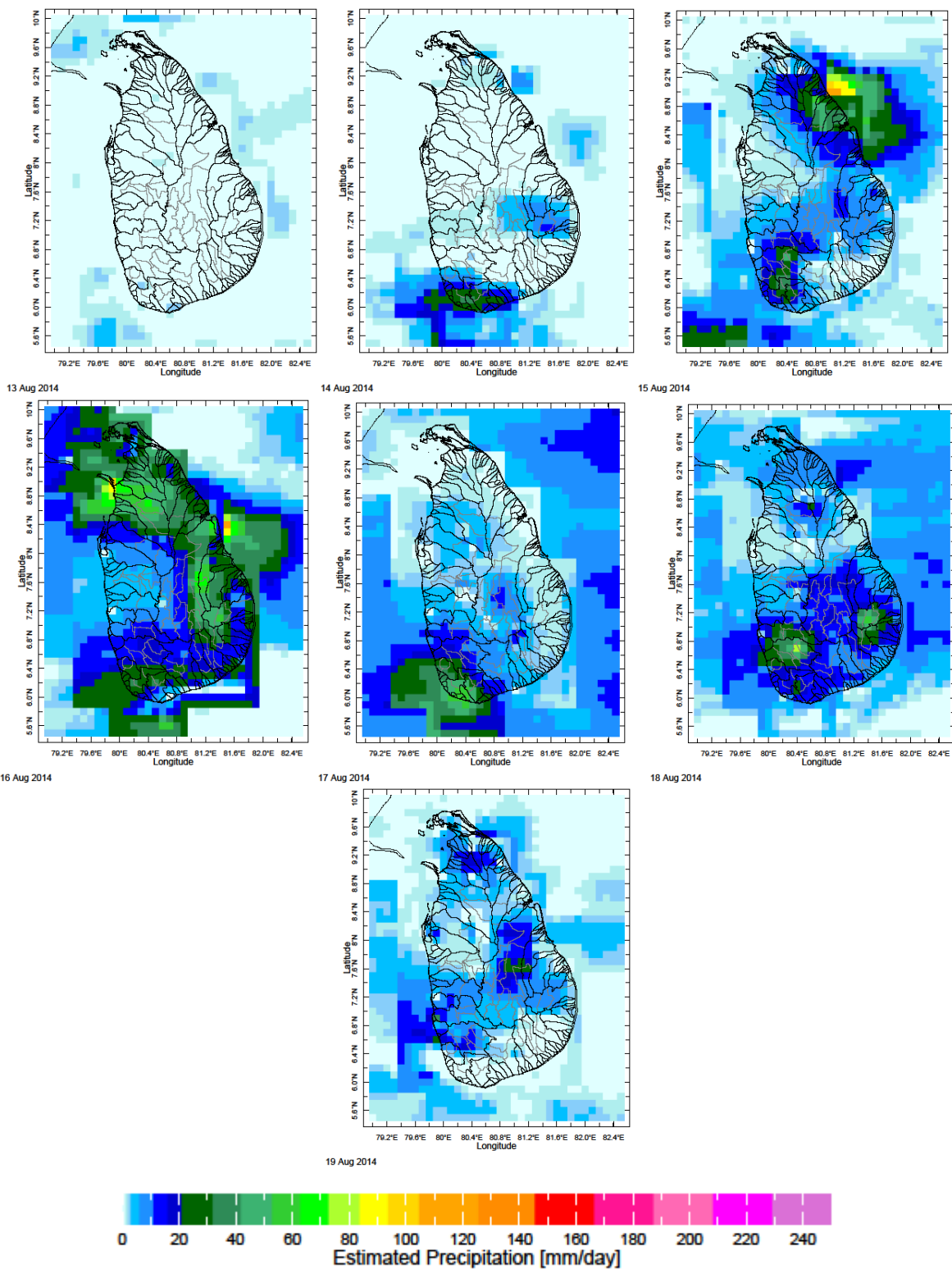
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

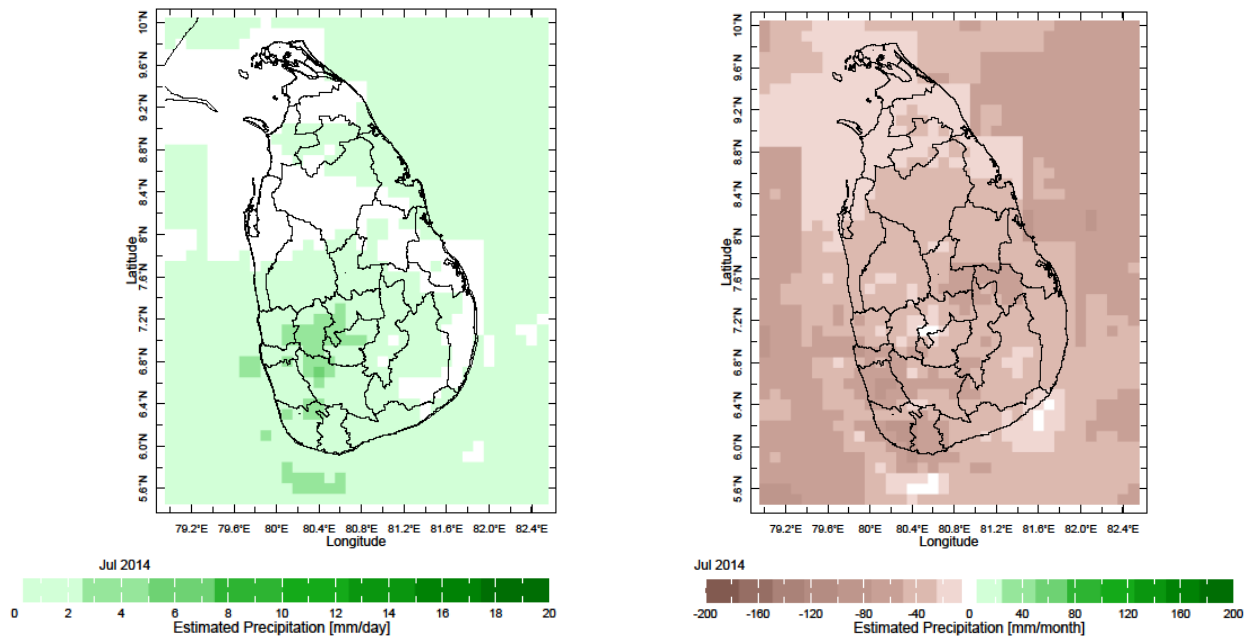
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

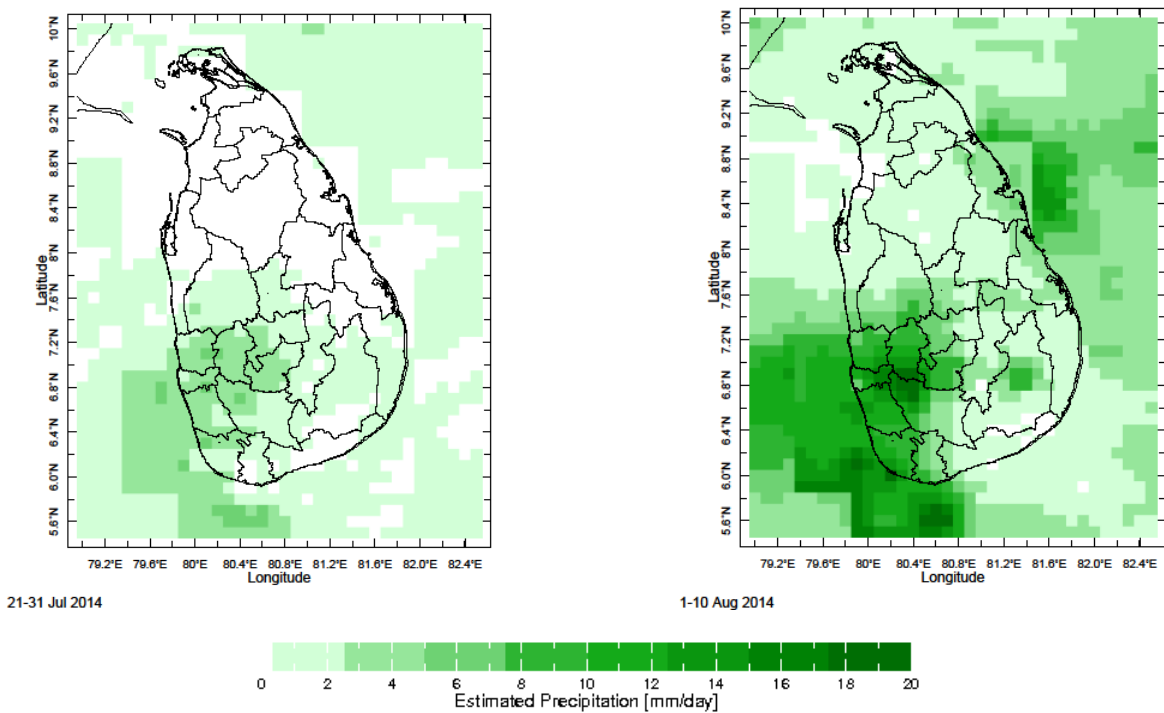
a) Daily Satellite Derived Rainfall Estimate Maps: 5th – 11th August 2014 (Left-Right, Top-Bottom)



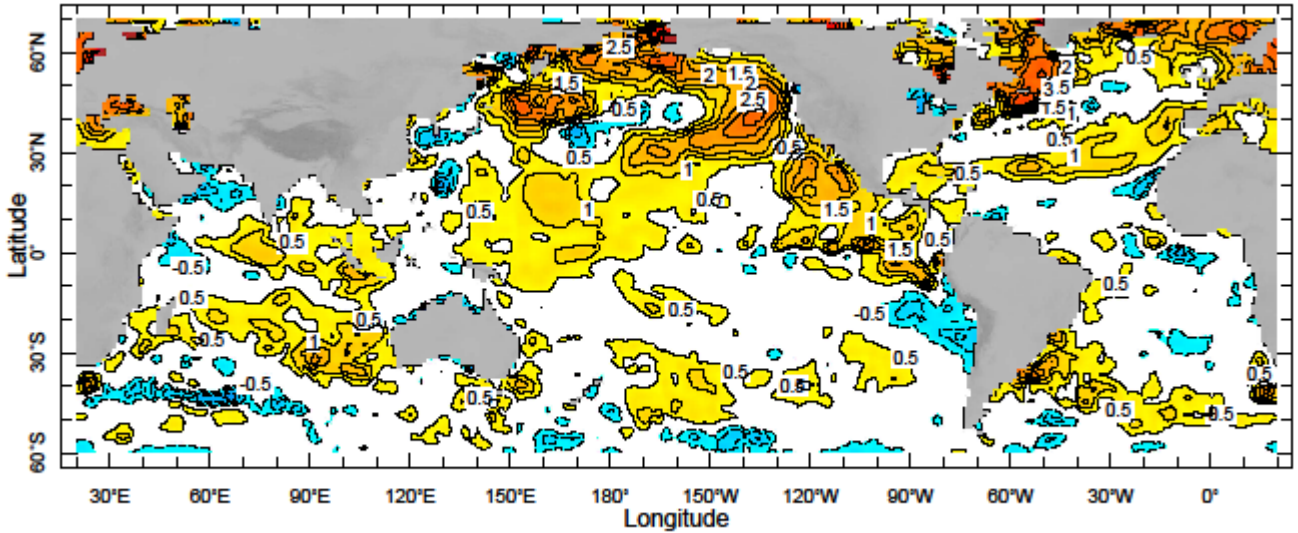
b) Monthly Satellite Derived Rainfall Estimates for July 2014 (Average – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21- 31 July and 1-10 Aug, 2014)



d) Weekly Average SST Anomalies



10-16 Aug 2014



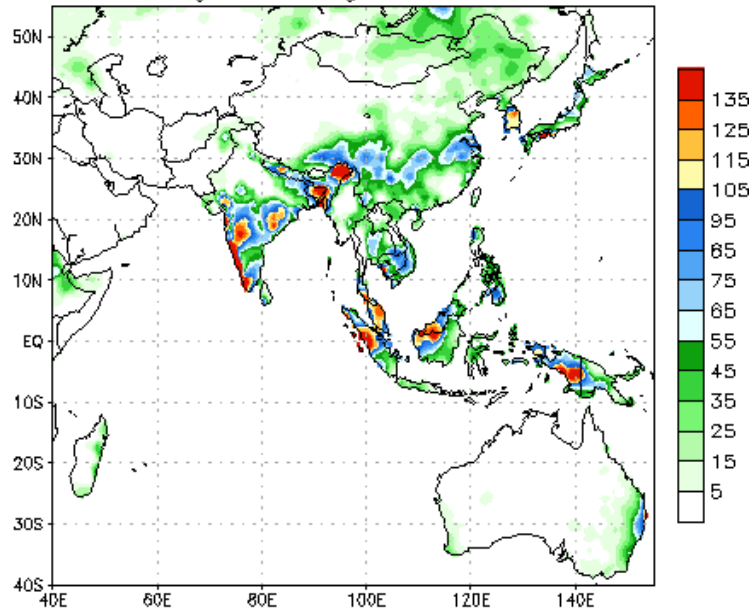
Weekly Average SST Anomalies (°C), 3rd – 9th August, 2014

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

2. Predictions

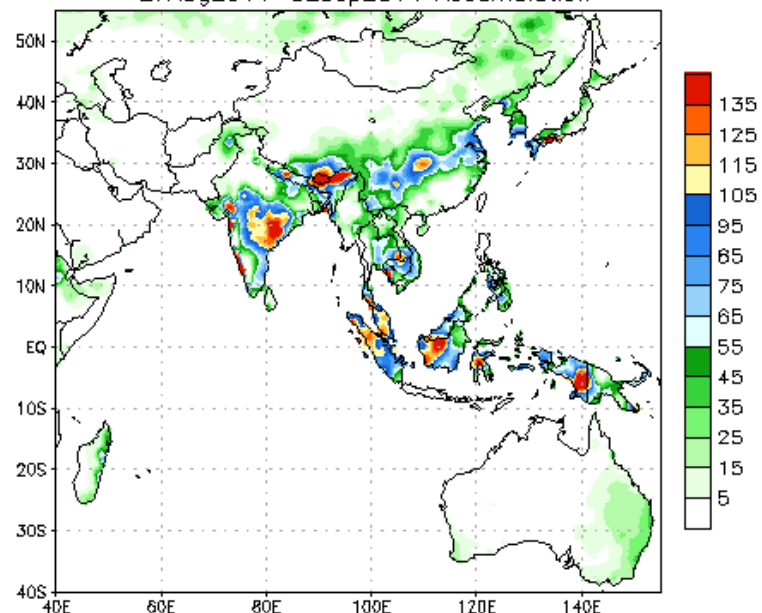
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 20Aug2014
20Aug2014-26Aug2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 20Aug2014
27Aug2014-02Sep2014 Accumulation

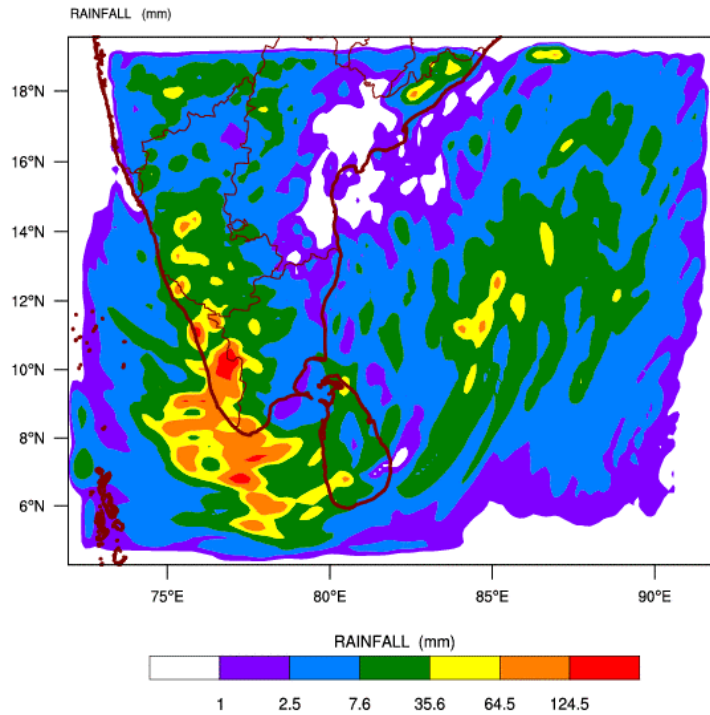


Bias correction based on last 30-day forecast error

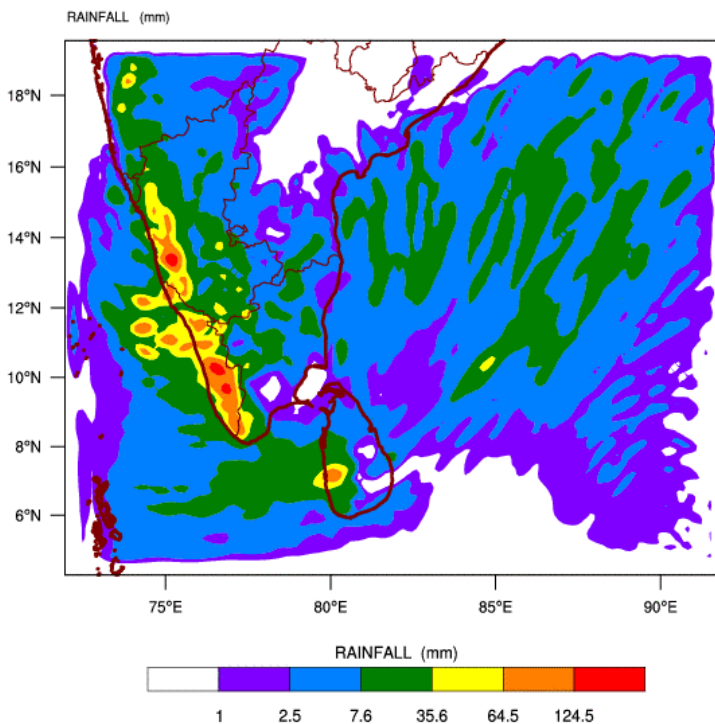
Source – NOAA Climate Prediction Center

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 21-08-2014 valid for 03 UTC of 23-08-2014

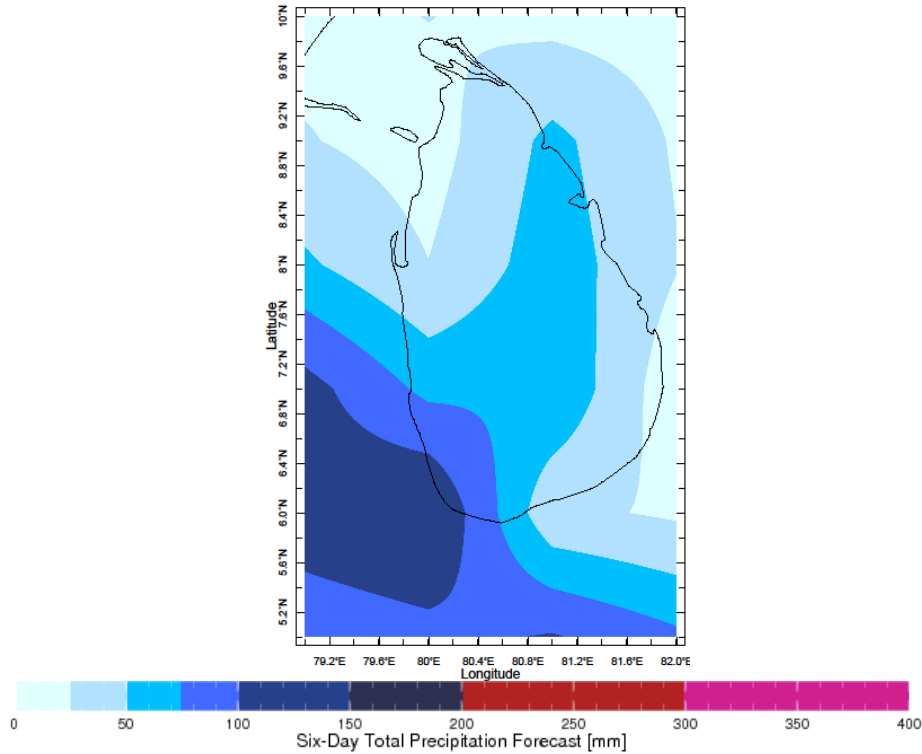


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 21-08-2014 valid for 03 UTC of 24-08-2014

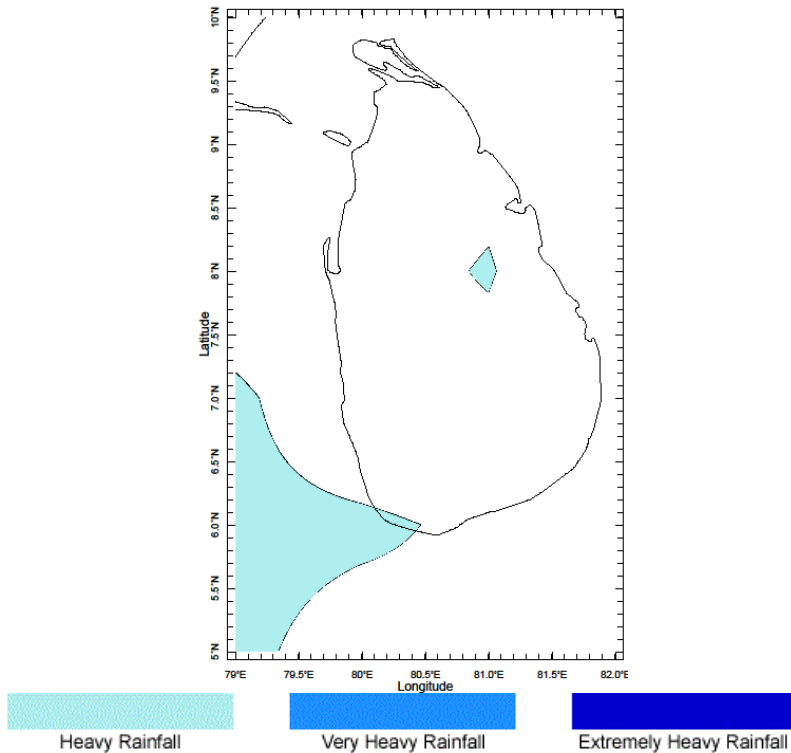


c) Weekly Precipitation Forecast for 13th -18th August 2014 (Precipitation Forecast in Context Map Tool, IRI)

recast for 20-25 Aug 2014 Issued 0000 20 Aug 20

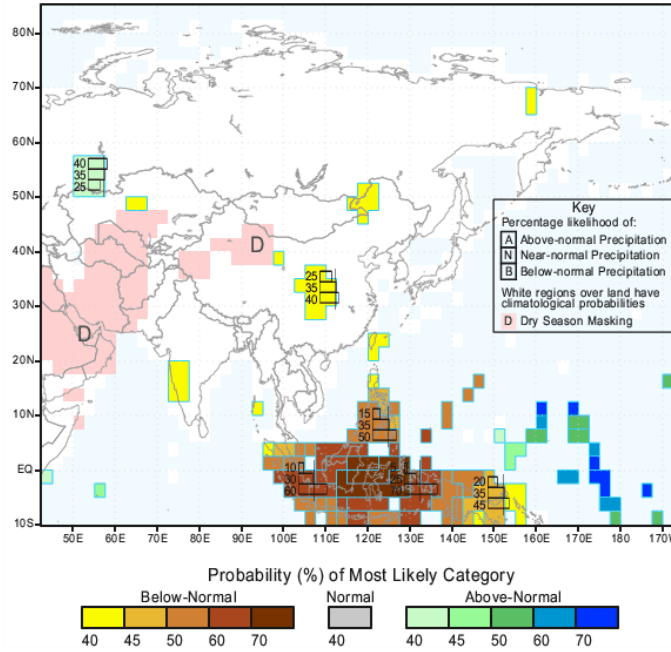


Forecast for 20-25 Aug 2014 Issued 0000 20 Aug 2014



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

