

Experimental Climate Monitoring and Prediction

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10 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/>

19 June, 2014 PACIFIC SEAS STATE

During May through mid-June 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 of northern summer.

(Text Courtesy IRI)

INDIAN OCEAN STATE

A neutral sea surface temperature anomaly was observed around Sri Lanka

MJO STATE

MJO is at phase 4 in the maritime continent and shall enhance precipitation slightly.

Highlights

Monitoring and Predictions:

Less rainfall compared to the previous week was observed during 2nd – 8th July 2014. Sea around the country shows a neutral sea surface temperature anomaly. Heavy rainfall events are not expected during the next 5 day period.

Summary

Monitoring

Weekly Monitoring: On the 2nd of July no rainfall was observed in the country. Thereafter rainfall was observed in coastal areas around Trincomalee on the 3rd and area around Ratnapura on the 4th while the rest of the country was dry during these two days. During the next two days the entire country received rainfall with more rain in northern parts of the island. Highest rainfall recorded during this week (2nd to 8th July) was observed in Monaragala district on the 6th. Up to 40 mm rainfall was observed in this area. Rainfall decreased on the 7th with dry conditions observed in most parts of the country. Central and Ratnapura regions received rainfall on the 8th. During this period the sea North-east of the country received a high amount of rainfall.

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: More rainfall is expected (up to 55 mm) during the fortnight starting from 8th July 2014.

IMD WRF & IRI Model Forecast: According to the IMD WRF model the western half of the country shall receive rainfall on the 11th while highest rainfall of 65 mm is expected in Ratnapura. Rainfall shall decrease on the 12th. IRI models predict rainfall up to 75 mm in the South western regions of Sri Lanka during 9th -14th of July. No extreme rainfall is expected during this period.

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

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- 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

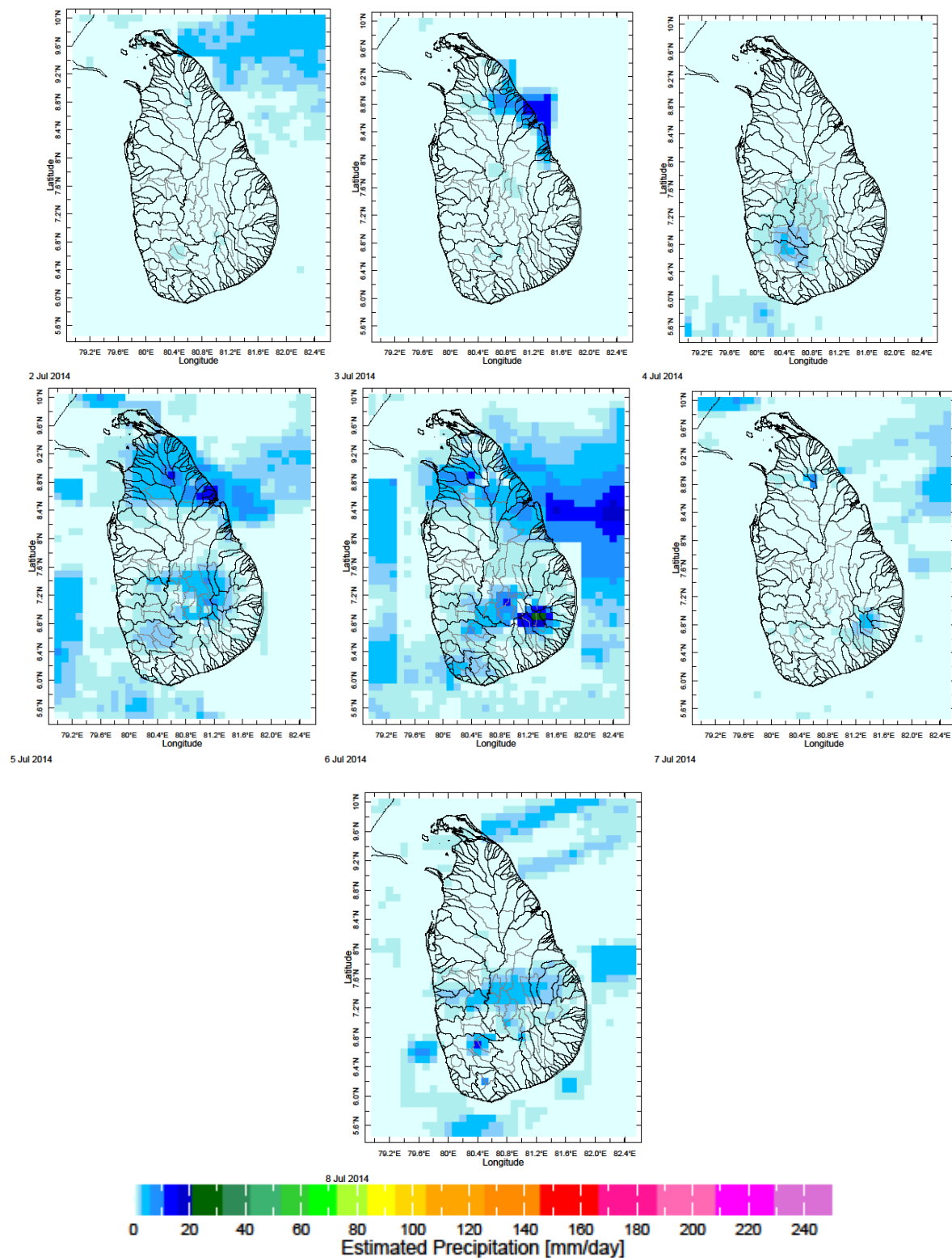
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

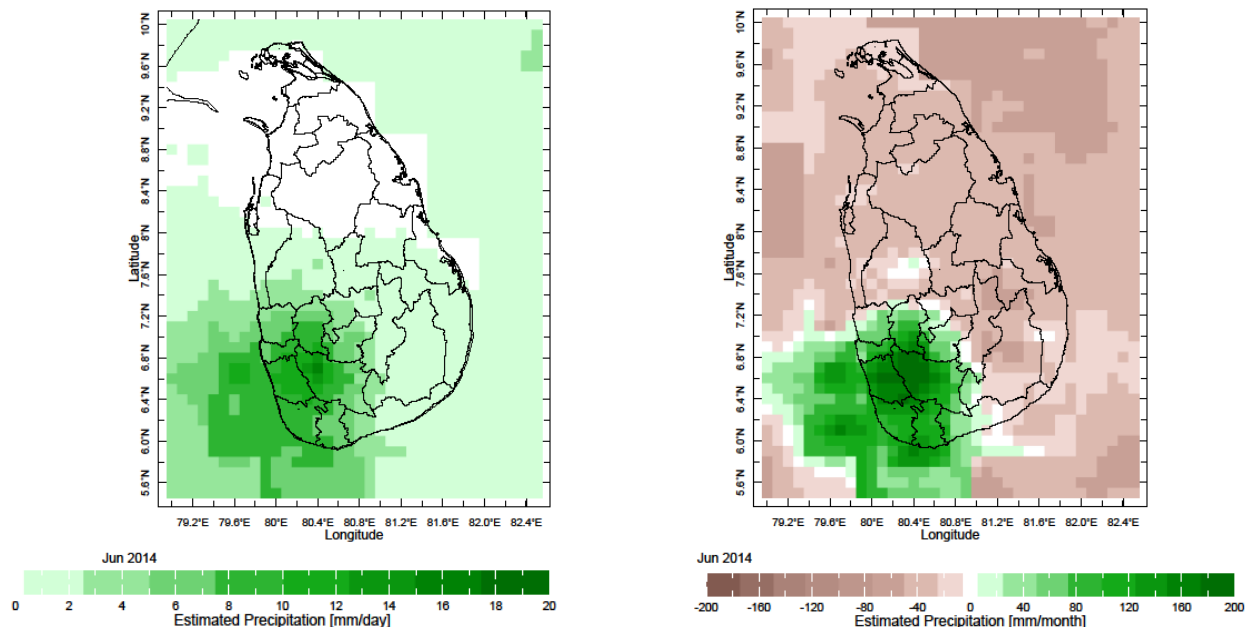
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

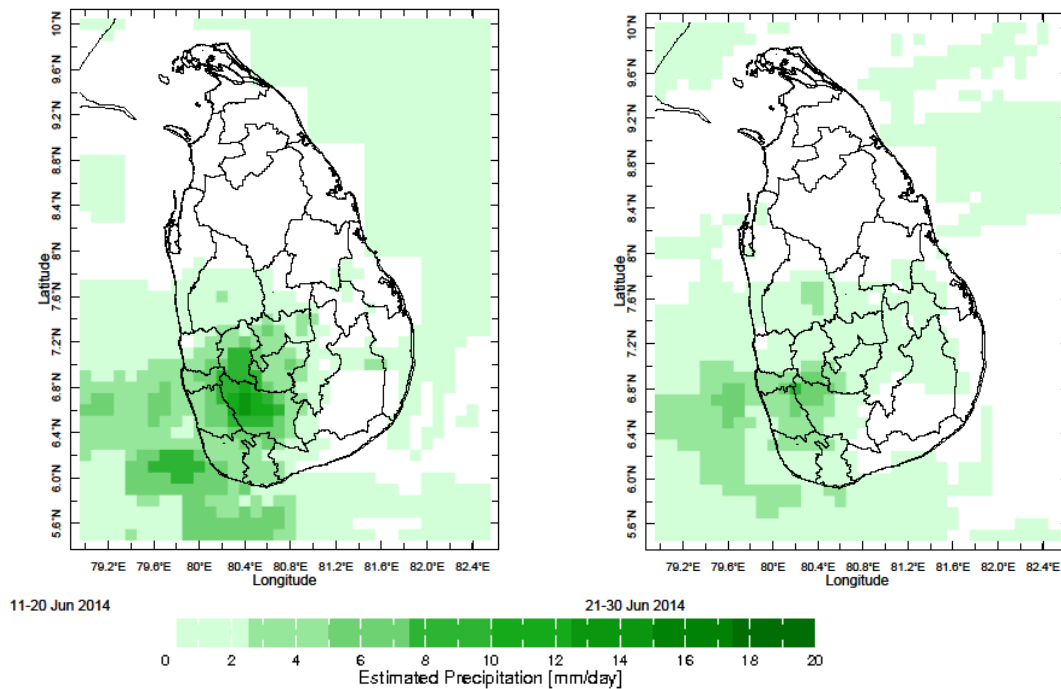
a) Daily Satellite Derived Rainfall Estimate Maps: 2nd -8th July 2014 (Left-Right, Top-Bottom)



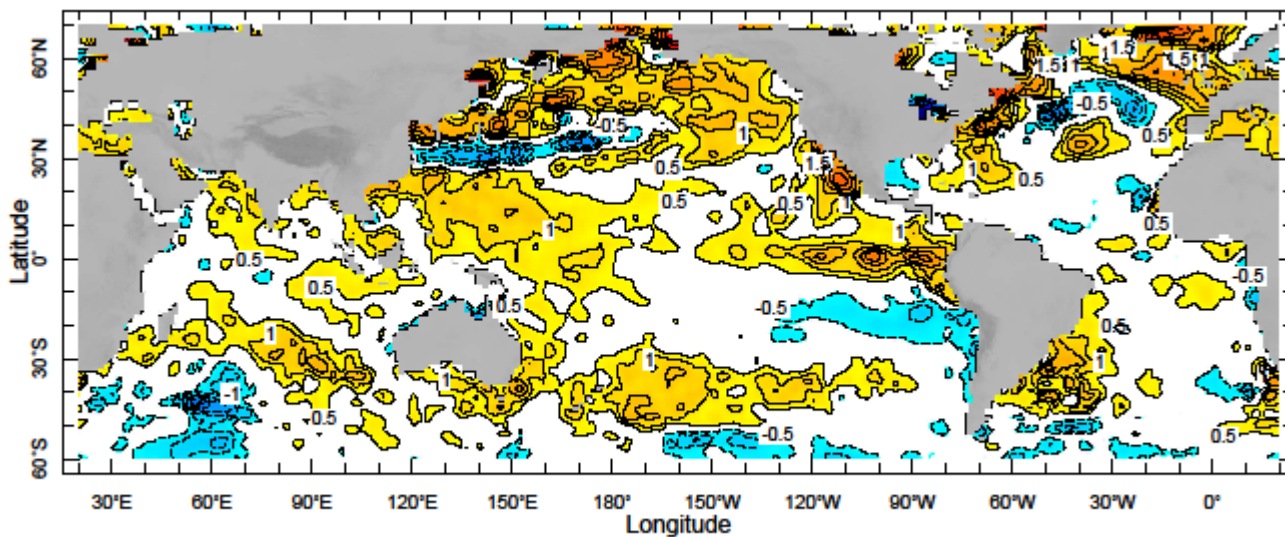
b) Monthly Satellite Derived Rainfall Estimates for June 2014 (Average – Left and Anomaly - Right)



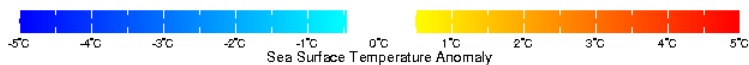
c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (11-20 & 21- 30 June, 2014)



d) Weekly Average SST Anomalies



29 Jun 2014 - 5 Jul 2014



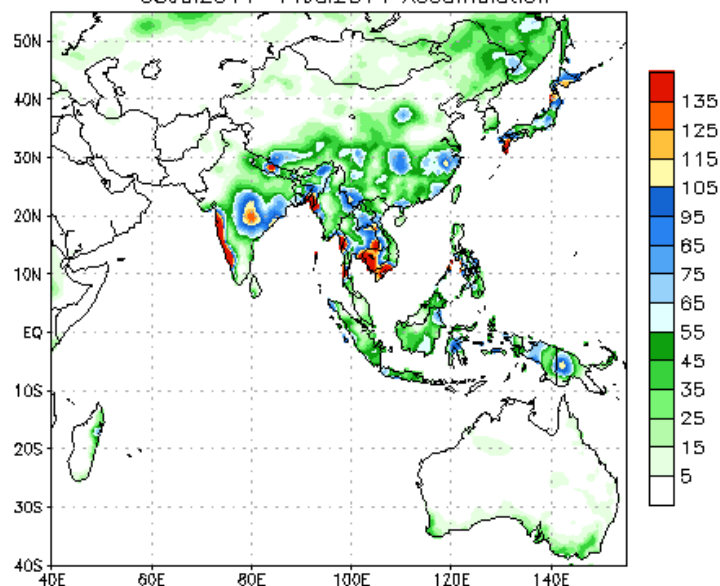
Weekly Average SST Anomalies ($^{\circ}\text{C}$), 29th June- 5th July, 2014

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

2. Predictions

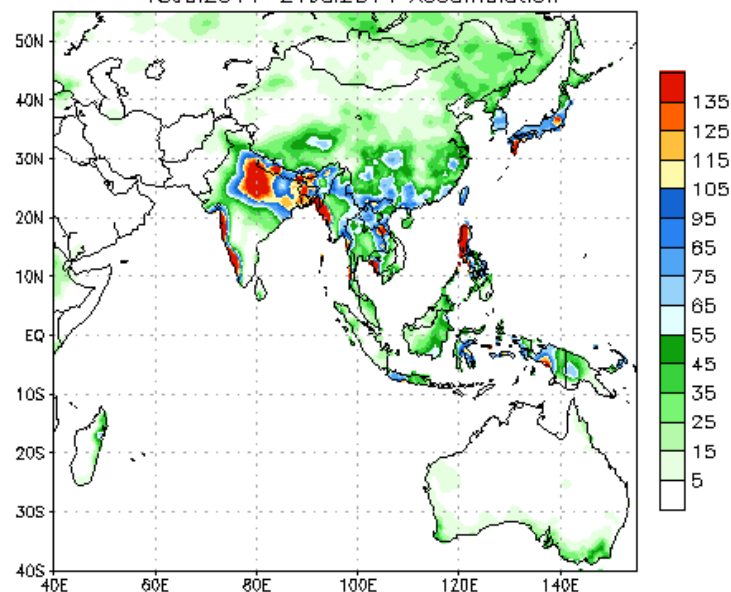
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 08Jul2014
08Jul2014-14Jul2014 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 08Jul2014
15Jul2014-21Jul2014 Accumulation

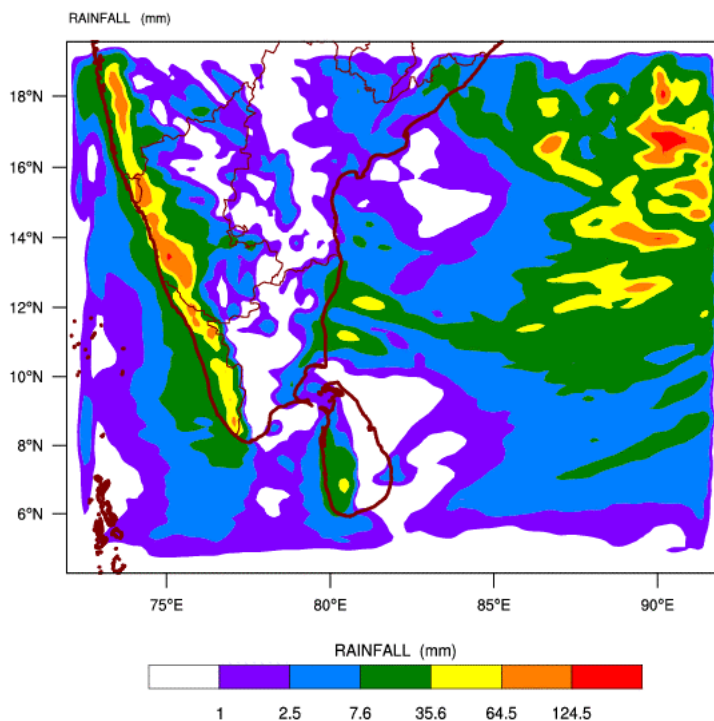


Bias correction based on last 30-day forecast error

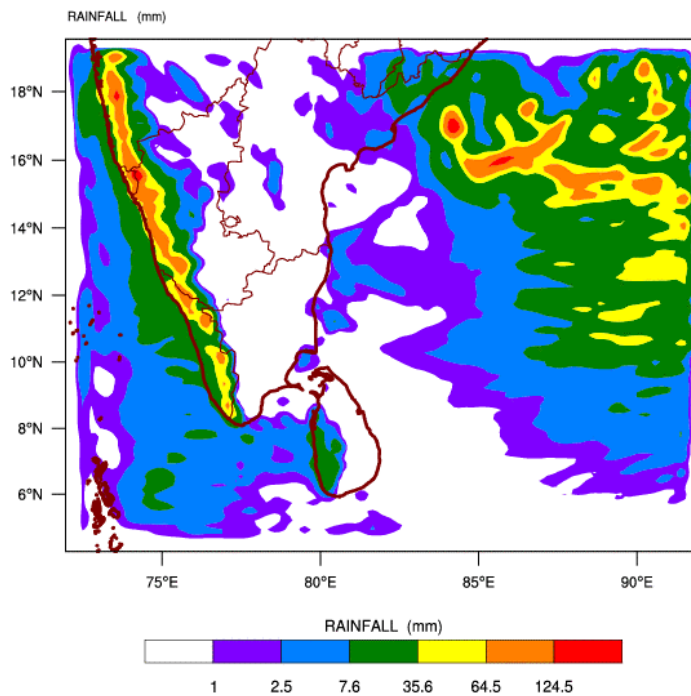
Source – NOAA Climate Prediction Center

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

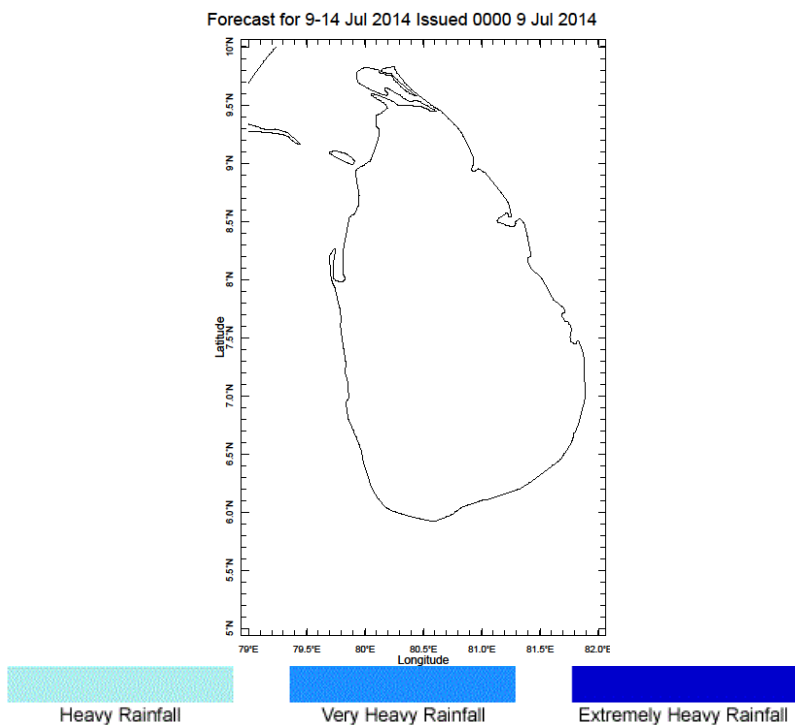
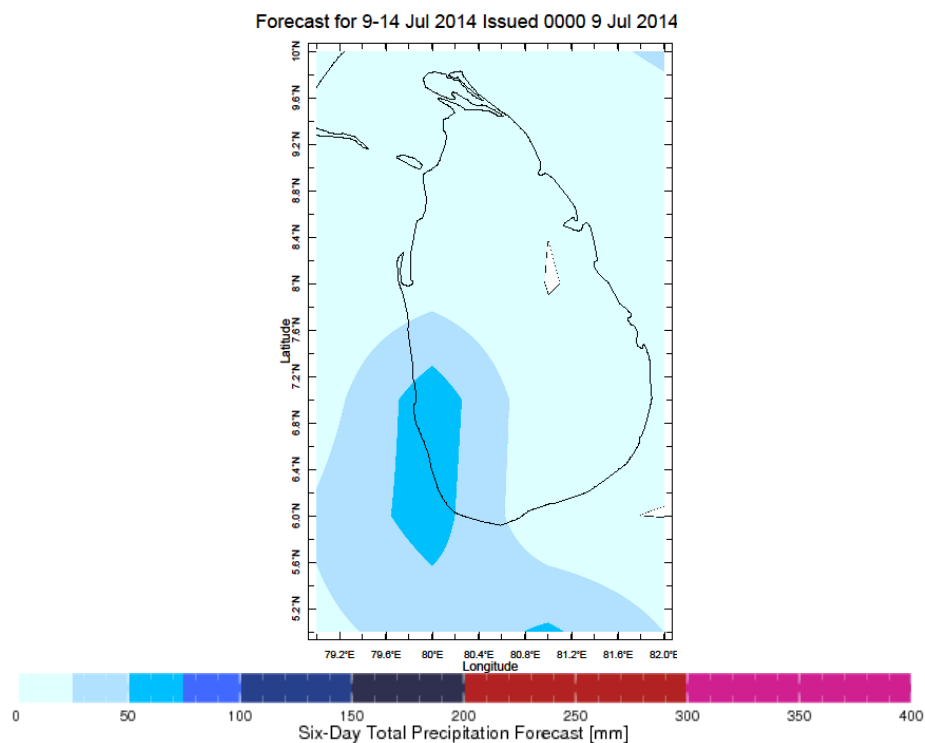
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 09-07-2014 valid for 03 UTC of 11-07-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 09-07-2014 valid for 03 UTC of 12-07-2014

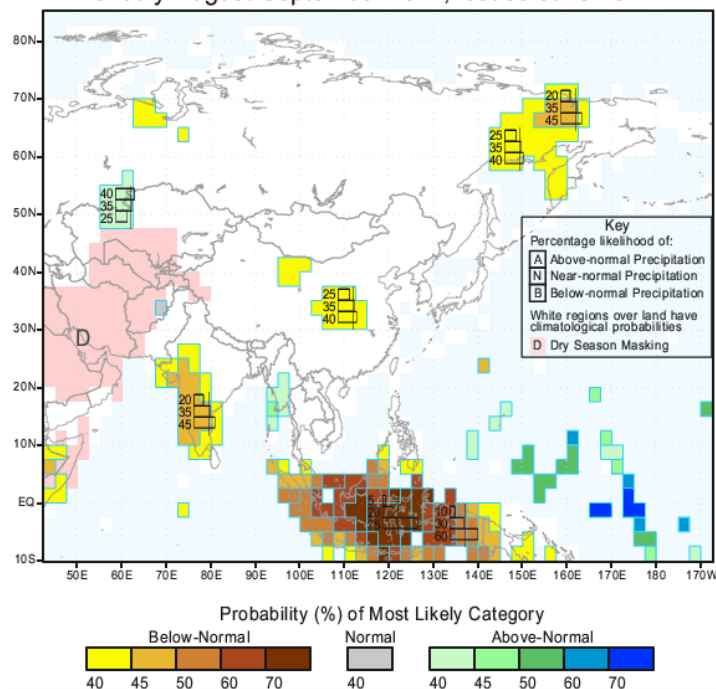


c) Weekly Precipitation Forecast for 9th -14th July 2014 (Precipitation Forecast in Context Map Tool, IRI)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

