

Experimental Climate Monitoring and Prediction

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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/>

9 October, 2014 PACIFIC SEAS STATE

During September through early October the observed ENSO conditions moved to those of a borderline El Niño. Most of the ENSO prediction models indicate weak El Niño conditions during the September-November season in progress, strengthening slightly and peaking at weak strength during winter 2014-15 and lasting into the first few months of 2015.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Around 0.5°C above average sea surface temperature was observed towards the west coast.

MJO STATE

MJO is in Phase 8 in the Western Hemisphere and therefore shall slightly enhance the rainfall in Sri Lanka.

Highlights

Monitoring and Predictions:

Heavy rainfall was observed throughout the country and mostly around the south-west and northern regions during the previous week and very high rainfall shall continue in the entire country during next week as well. The western sea of Sri Lanka shows an above average sea surface temperature.

Summary

Monitoring

Weekly Monitoring: From 08th to 10th of October heavy rainfall was observed throughout the country averaging up to 20 mm. During 11th to 13th, rainfall was observed only around the south-west region. On 14th of October very high rainfall was observed in northern-central region averaging around 40 mm-60 mm. Ratnapura, Polonnaruwa and Trincomalee and surrounding areas received the highest rainfalls (up to 140 mm) during the week.

Monthly Monitoring: An average rainfall of 6 mm-10 mm was observed throughout the country with higher precipitation observed in the south-western regions of Sri Lanka during September. Highest rainfall during this month was observed in Ratnapura district. Also the decadal rainfall average was decreased from 18 mm to 10 mm within a week.

Predictions

14 day prediction: The south-west region shall receive total rainfall more than 135 mm during 15th October to 21st October. Rainfall is expected to increase throughout the country during 22nd to 28th of October resulting in very high rainfall more than 135 mm in total.

IMD WRF & IRI Model Forecast: According to the IMD WRF model the entire country shall receive high rainfall on the 17th of October. By 18th of October the south-west and central regions shall receive a very high rainfall around 64.5 mm-124.5 mm with the rest of the country receiving an average of 2.5 mm-7.6 mm. Heavy rainfall continues in the Indian Ocean as previous week. Extremely heavy rainfall is expected during 15th – 20th October in the central region of the country.

Seasonal Prediction As per IRI Multi Model Probability Forecast issued in September for the season October to December 2014, Rainfall shall remain climatological while the temperature shall be above normal with a high 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

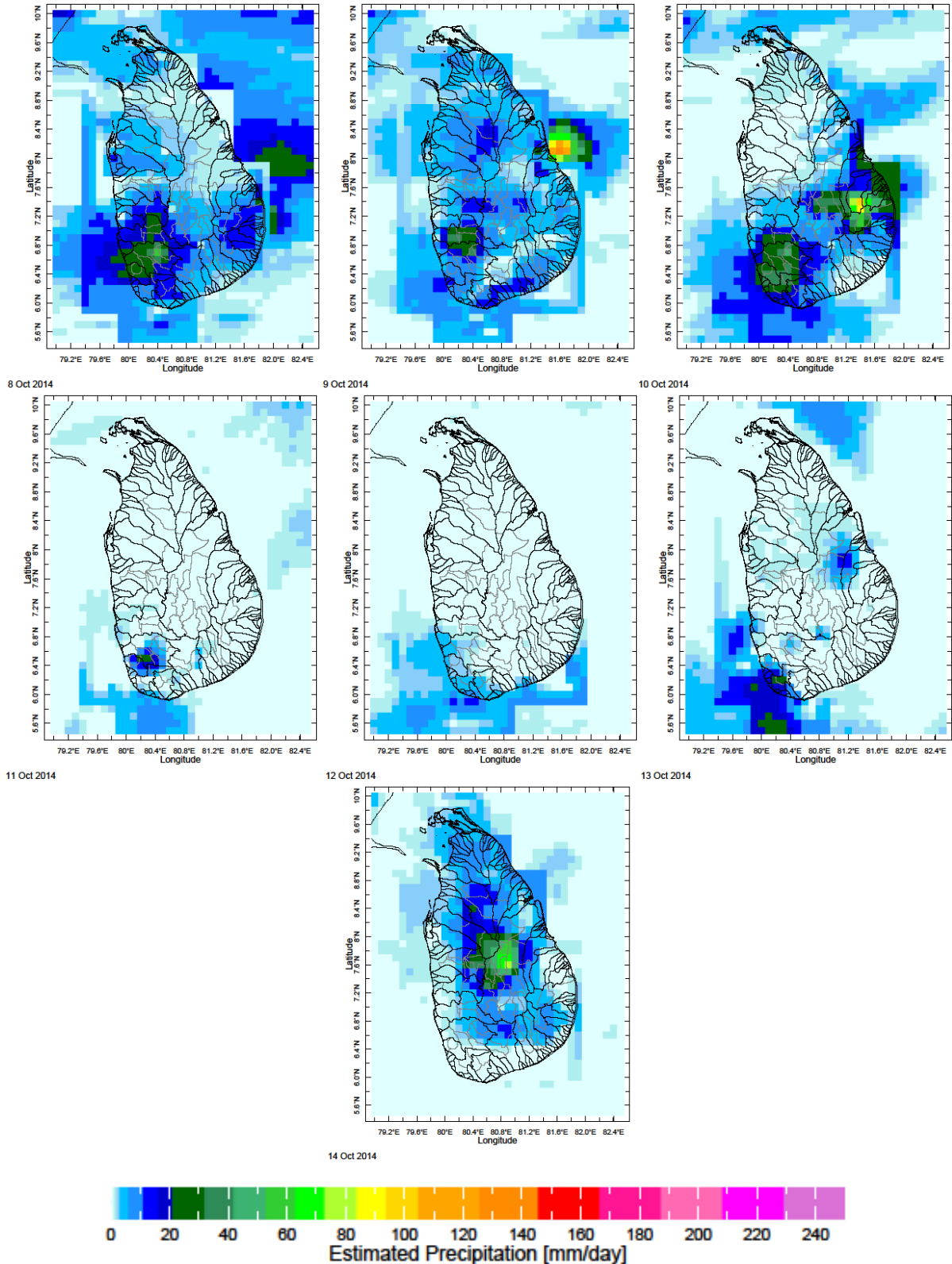
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

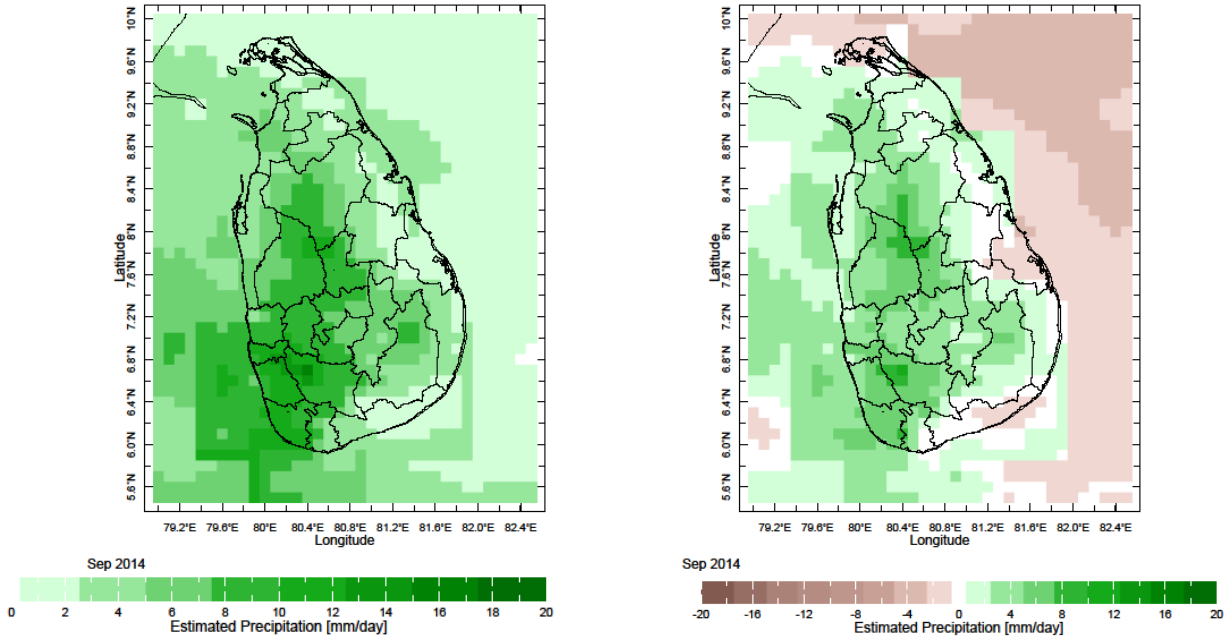
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

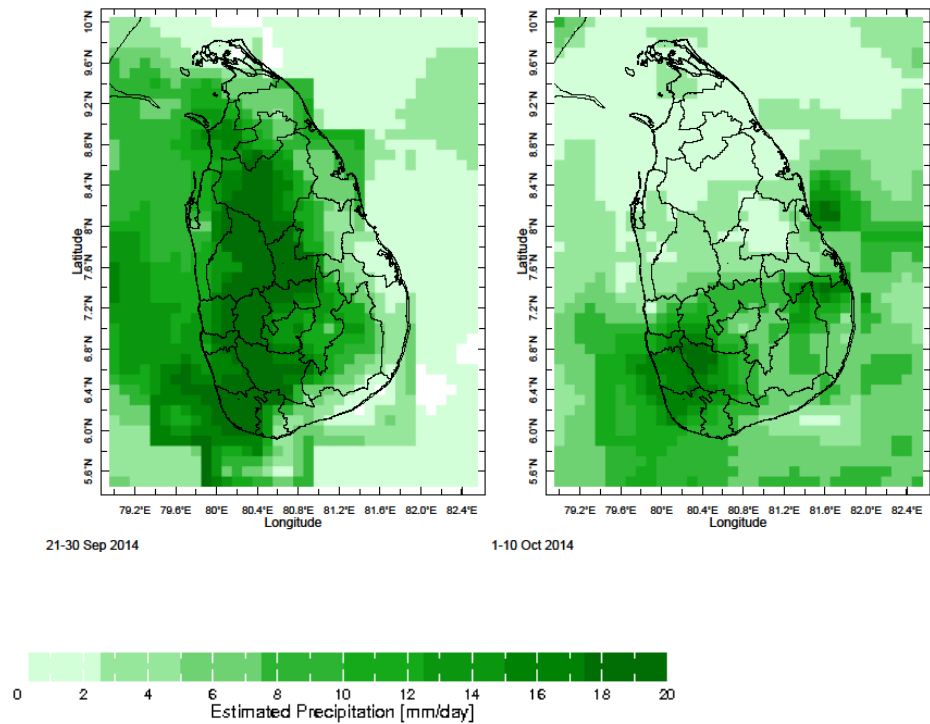
a) *Daily Satellite Derived Rainfall Estimate Maps: 08th – 14th October 2014 (Left-Right, Top-Bottom)*



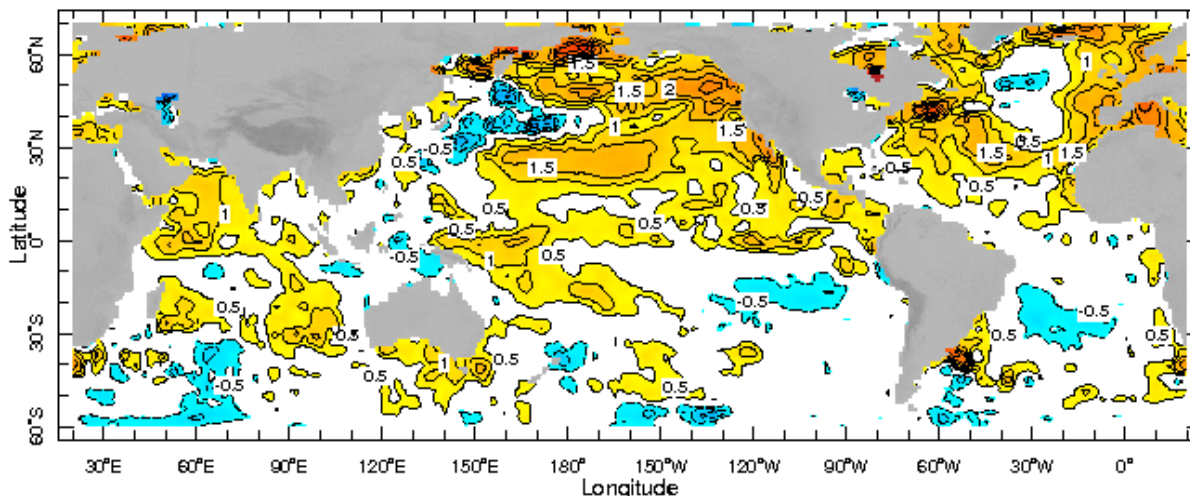
b) Monthly Satellite Derived Rainfall Estimates for September 2014 (Average – Left and Anomaly - Right)



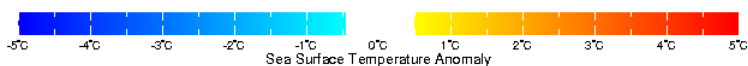
c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-30 Sep and 1-10 Oct, 2014)



d) Weekly Average SST Anomalies



5-11 Oct 2014



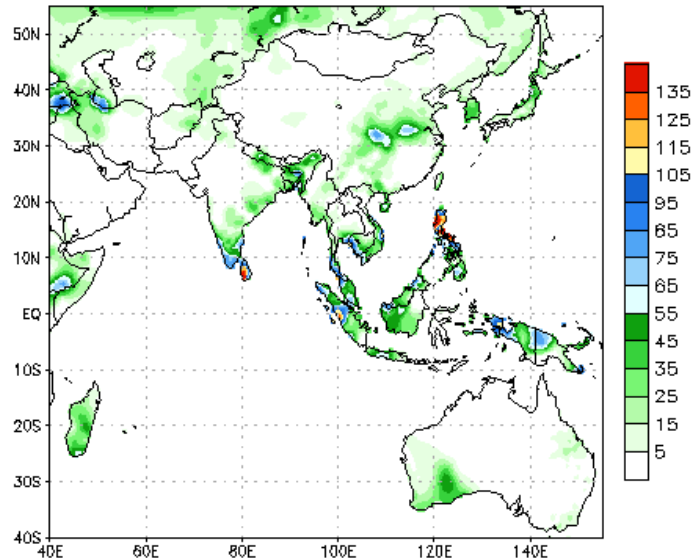
Weekly Average SST Anomalies ($^{\circ}\text{C}$), 05th October – 11th October, 2014

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

2. Predictions

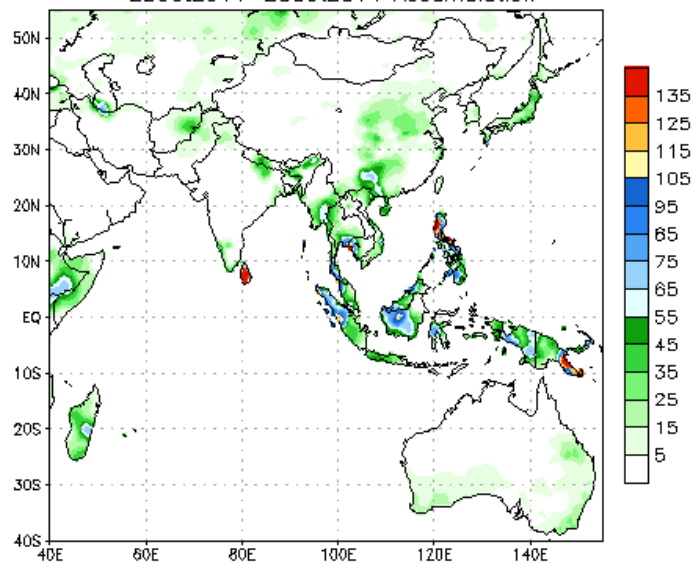
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 15Oct2014
15Oct2014-21Oct2014 Accumulation



Bias correction based on last 30-day forecast error

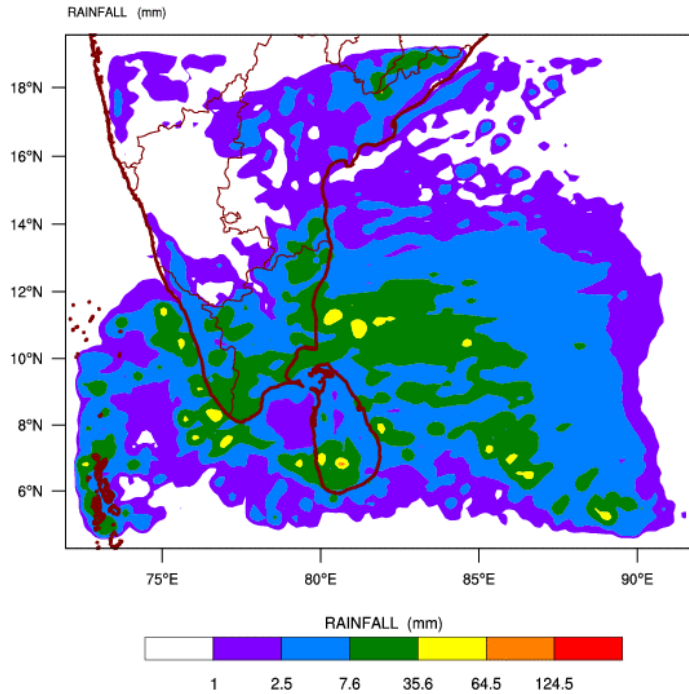
NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 15Oct2014
22Oct2014-28Oct2014 Accumulation



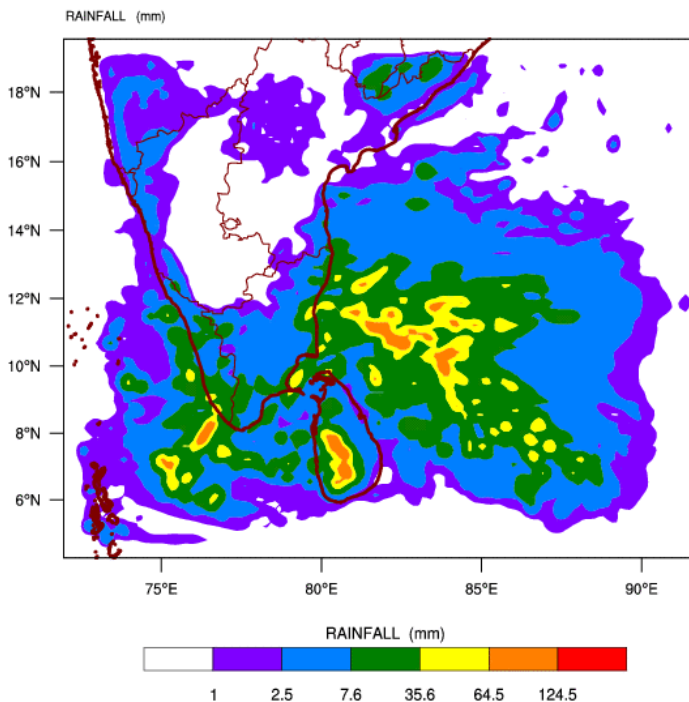
Bias correction based on last 30-day forecast error

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

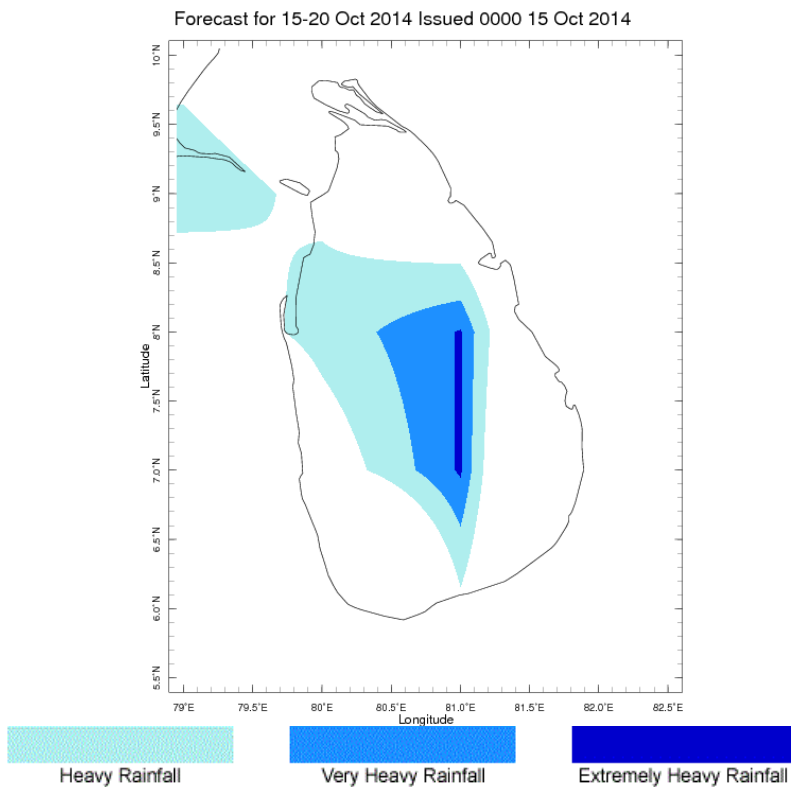
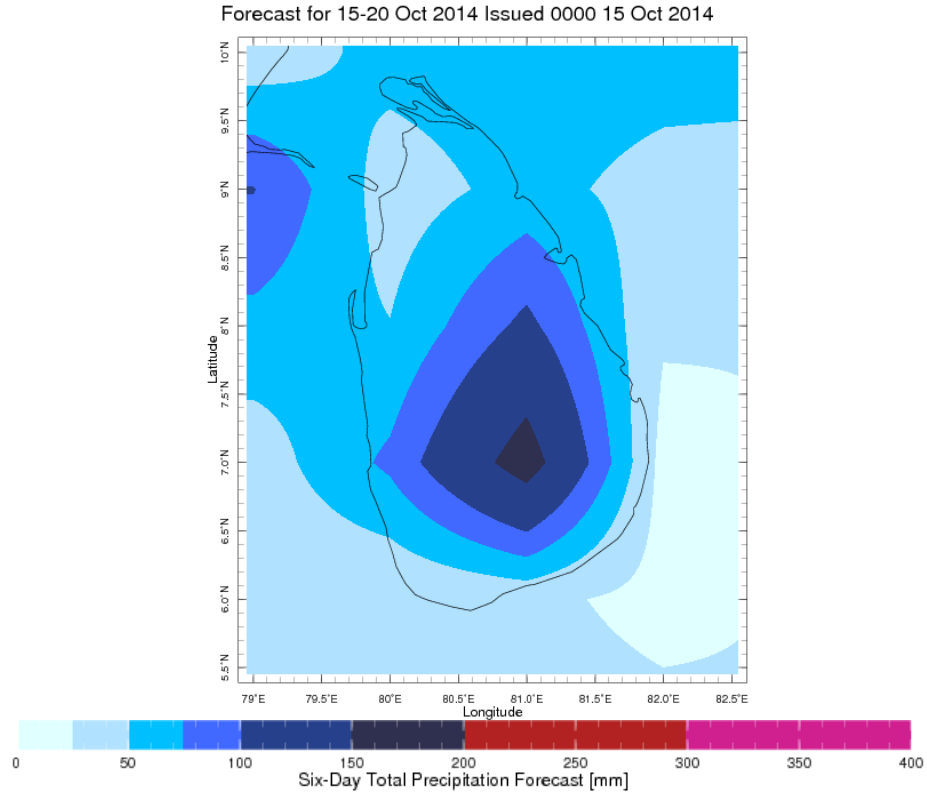
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 15-10-2014 valid for 03 UTC of 17-10-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 15-10-2014 valid for 03 UTC of 18-10-2014

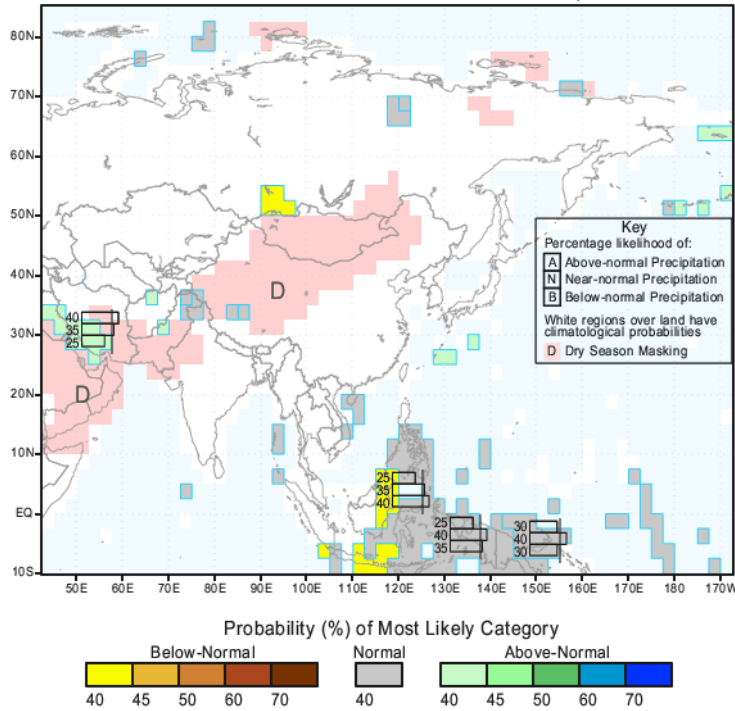


c) Weekly Precipitation Forecast for 15th - 20th October 2014 (Precipitation Forecast in Context Map Tool, IRI)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

