

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/>

December 18, 2014 PACIFIC SEAS STATE

During November through early December the SST exceeded thresholds for weak Niño conditions, although only some of the atmospheric variables indicate an El Niño pattern. Most of the ENSO prediction models indicate weak El Niño conditions during the December-February season in progress, continuing through most or all of northern spring 2015.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Neutral SST was observed in the sea around Sri Lanka.

MJO STATE

MJO is in Phase 5-Maritime Continent and therefore shall suppress the rainfall in Sri Lanka.

Highlights

Monitoring and Predictions:

Less rainfall was observed throughout the country during the past week. Maximum rainfall for the week was observed in Badulla area on 31st December which was up to 30mm. During the next week rainfall is predicted to be lower than the previous weeks, but there shall be high rainfall in the eastern coast. Rainfall shall increase during 13th to 19th January for the most parts of the country.

Summary

Monitoring

Weekly Monitoring: With compared to the past week a significantly less rainfall was observed throughout the week 31st December – 5th January. Highest rainfall during this week was observed on 31st of December. On that day 30mm rainfall was observed in Badulla while rest of the country received rainfall up to 10mm. Thereafter rainfall has gradually decreased and completely ceased by 4th of January.

Monthly Monitoring: An average rainfall of 8mm to 20mm was observed throughout the country with higher precipitation observed in the central, north-eastern and eastern regions of Sri Lanka during December. Highest rainfall during this month was observed in Batticaloa district. Also the dekadal rainfall average increased from 12mm to 18mm within a week.

Predictions

14 day prediction: NOAA NCEP models predict that the north-central region shall receive rainfall up to 45mm and eastern region shall receive rainfall up to 75mm during 6th to 12th January. Rainfall shall increase throughout the country during 13th to 19th January resulting in rainfall above 125mm in eastern region.

IMD WRF & IRI Model Forecast: According to the IMD WRF model, no rainfall is predicted on 8th of January. Eastern costal area shall receive light rainfall on 9th January. During 5th – 10th January South-Western and region shall receive total rainfall up to 50 mm while significant rainfall is not expected in any other region of the country.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for December to February, the total 3 month precipitation shall be climatological. The 3 month average temperature has more than 70% likelihood of being in the above-normal tercile during this period.

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

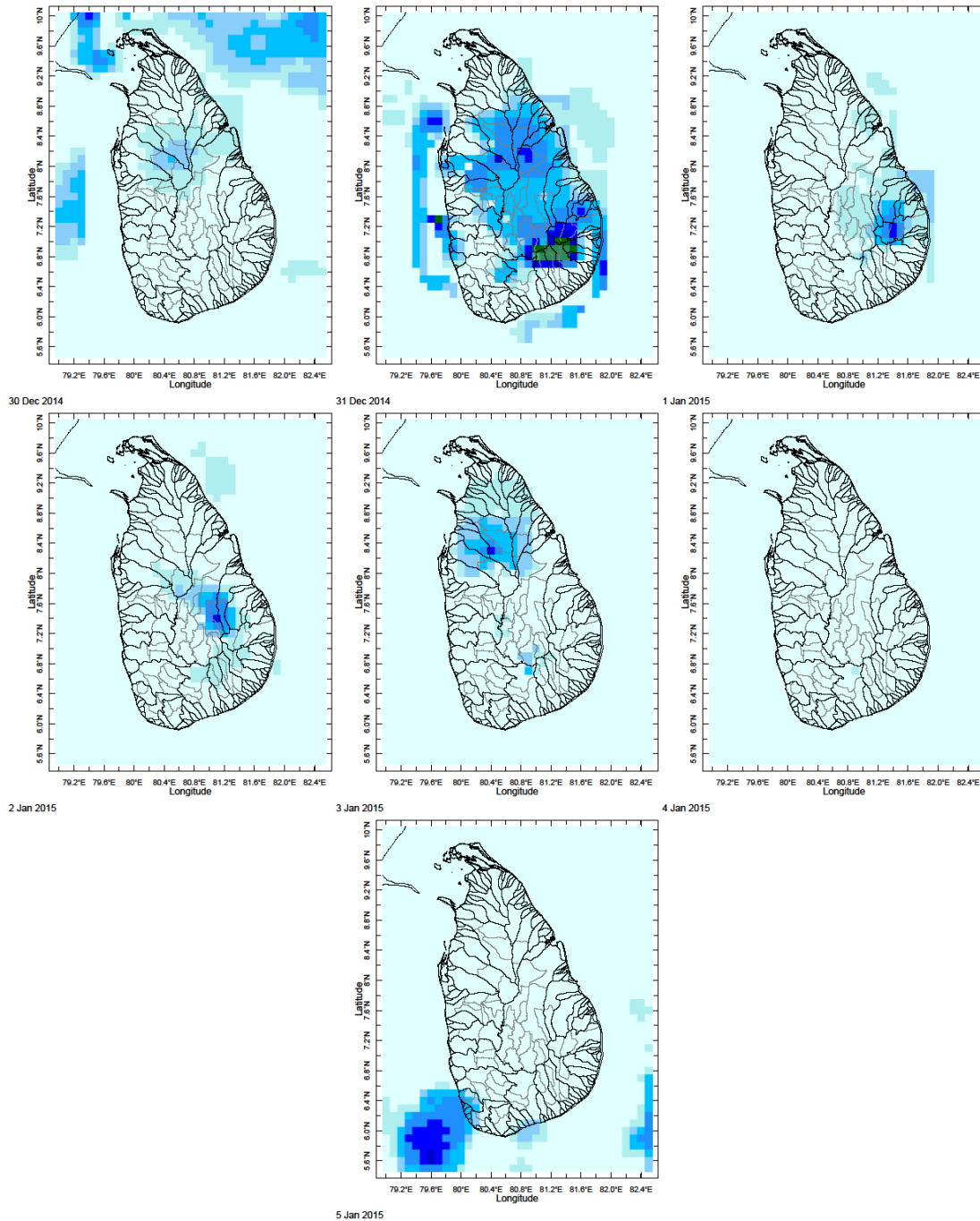
- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- Seasonal Predictions from IRI

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

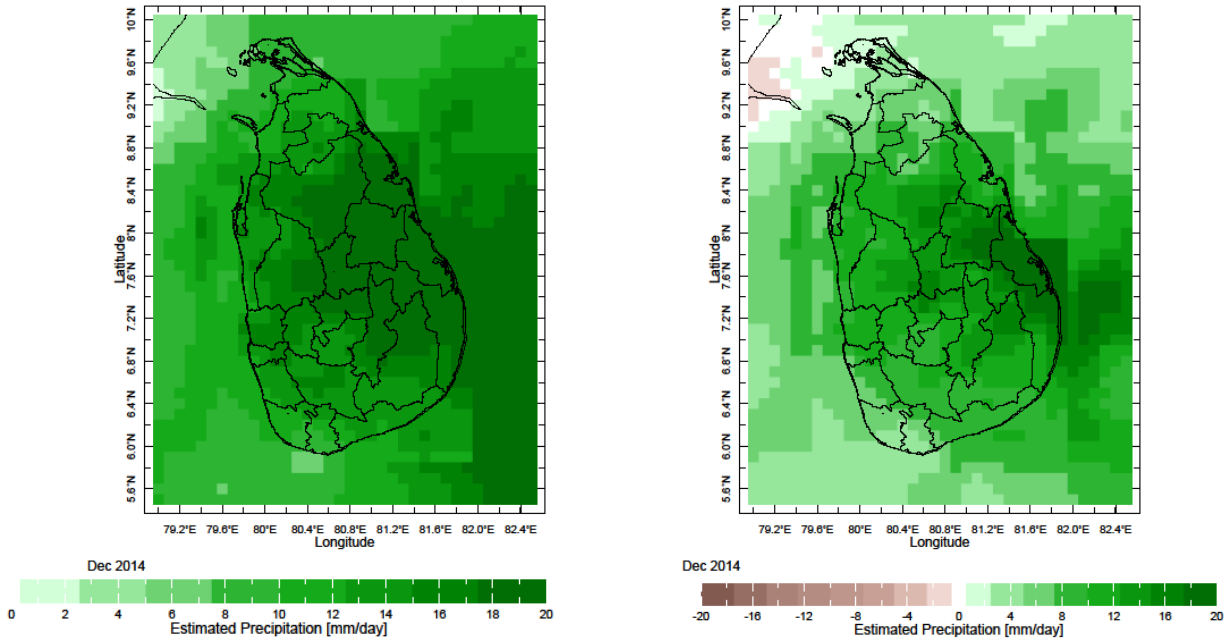
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

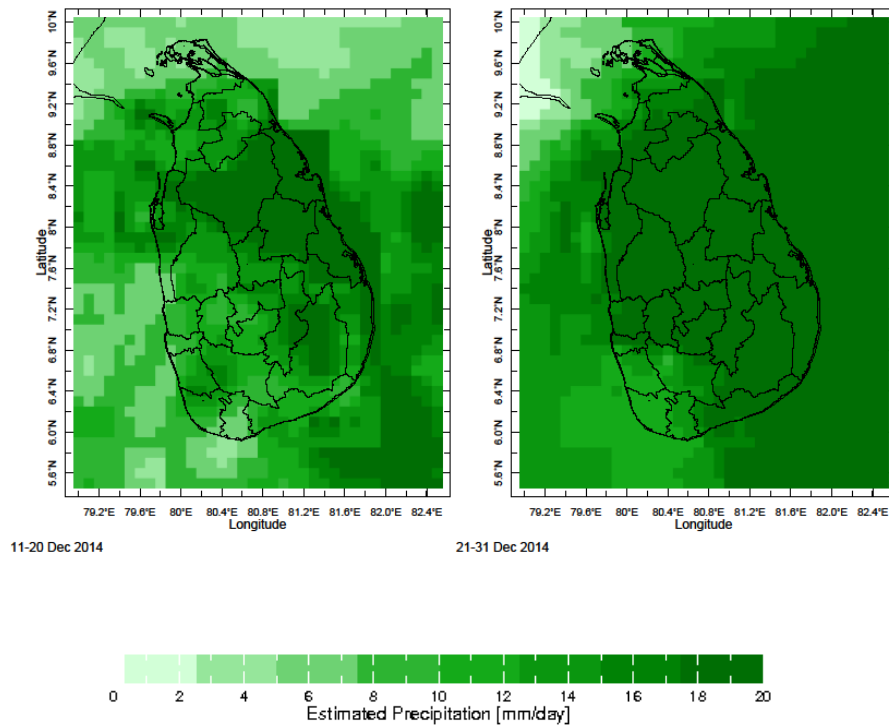
a) *Daily Satellite Derived Rainfall Estimate Maps: 30th December 2014 – 5th January 2015 (Left-Right, Top-Bottom)*



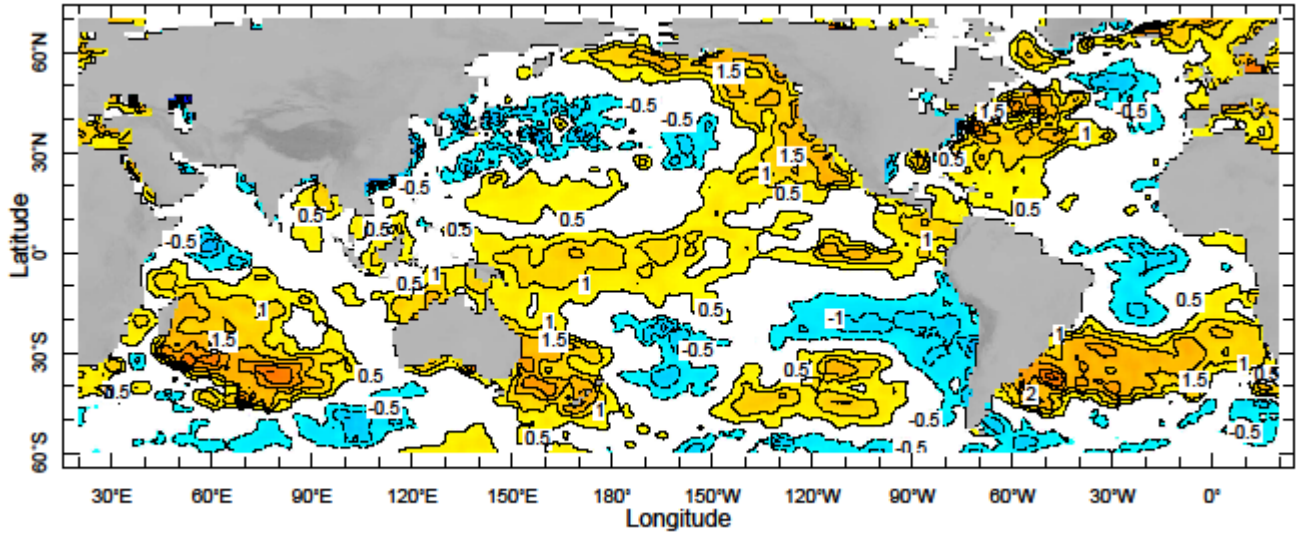
b) Monthly Satellite Derived Rainfall Estimates for December 2014 (Average – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (11-20 & 21-31 Dec, 2014)



d) Weekly Average SST Anomalies



28 Dec 2014 - 3 Jan 2015



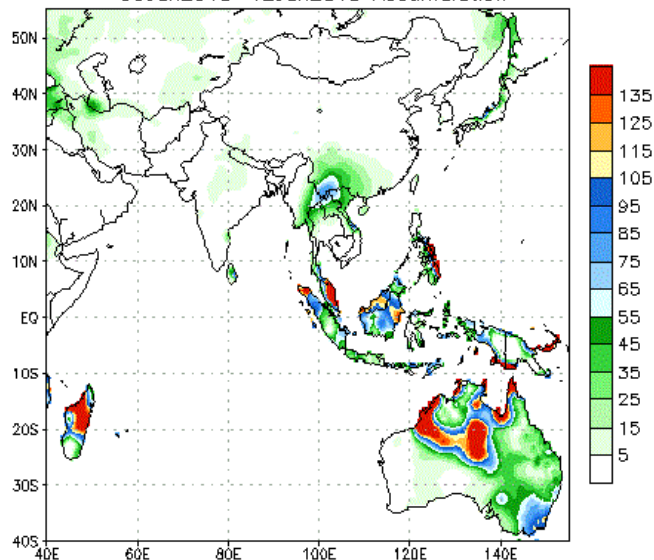
Weekly Average SST Anomalies ($^{\circ}$ C), 28th December, 2014 - 3rd January, 2015

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

2. Predictions

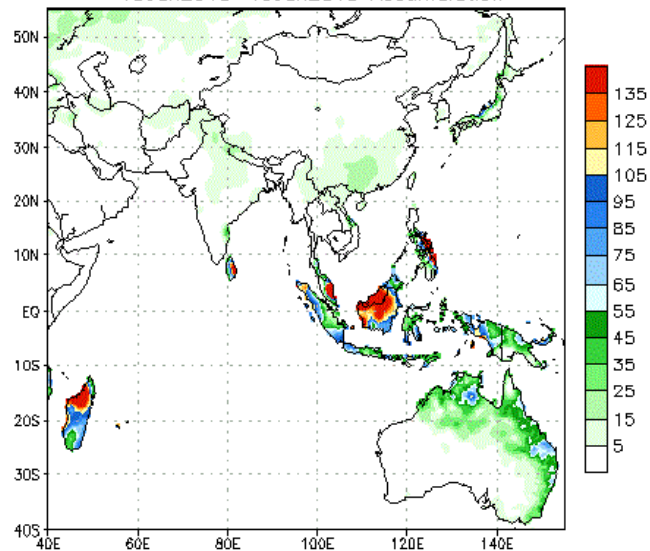
a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1–7 Day Precipitation (mm)
from: 06Jan2015
06Jan2015–12Jan2015 Accumulation



Bias correction based on last 30-day forecast error

NCEP GFS Ensemble Forecast 8–14 Day Precipitation (mm)
from: 06Jan2015
13Jan2015–19Jan2015 Accumulation

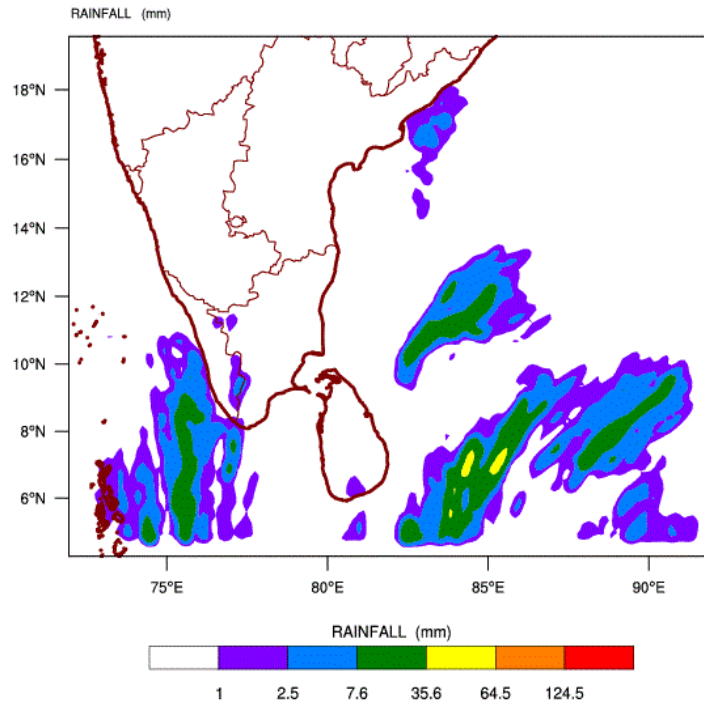


Bias correction based on last 30-day forecast error

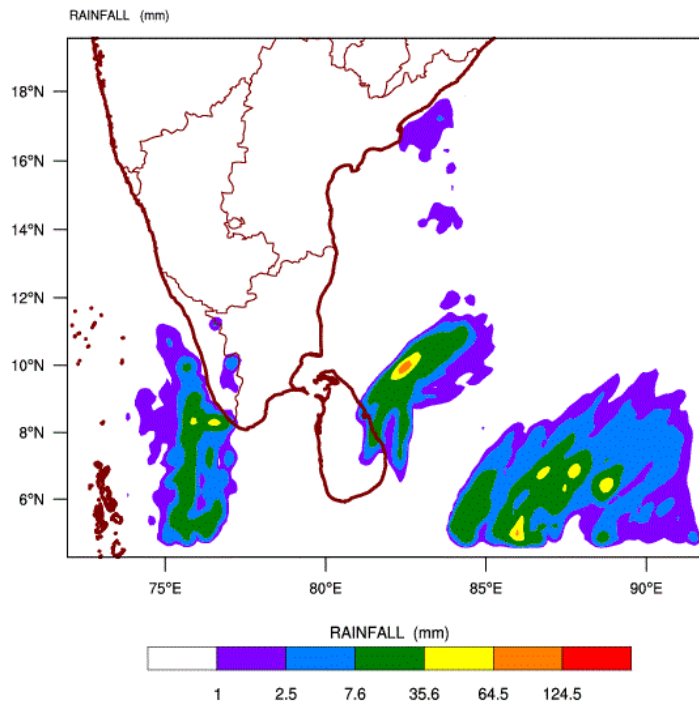
Source – NOAA Climate Prediction Center

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

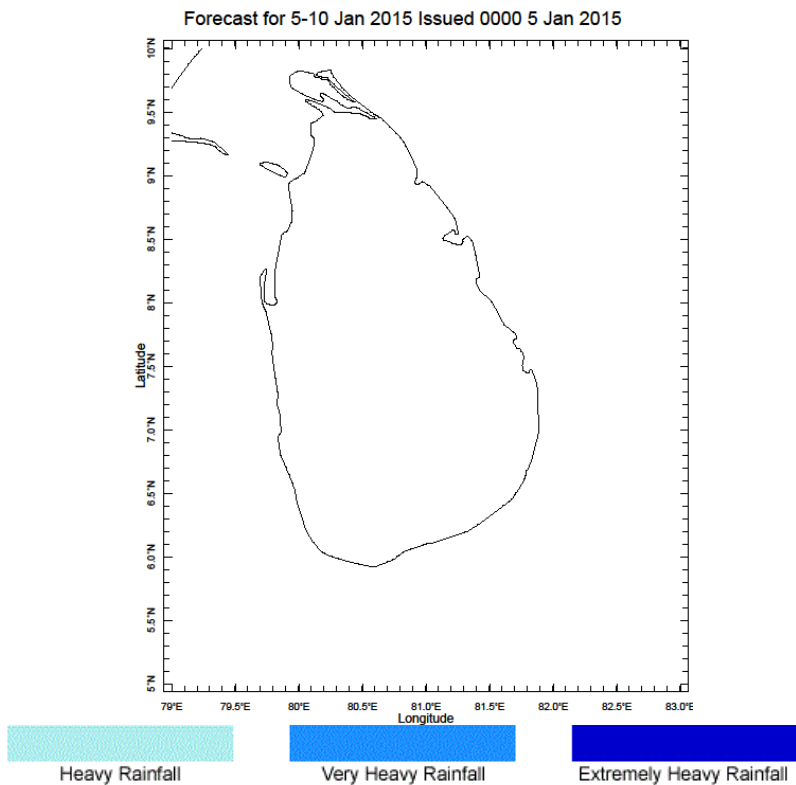
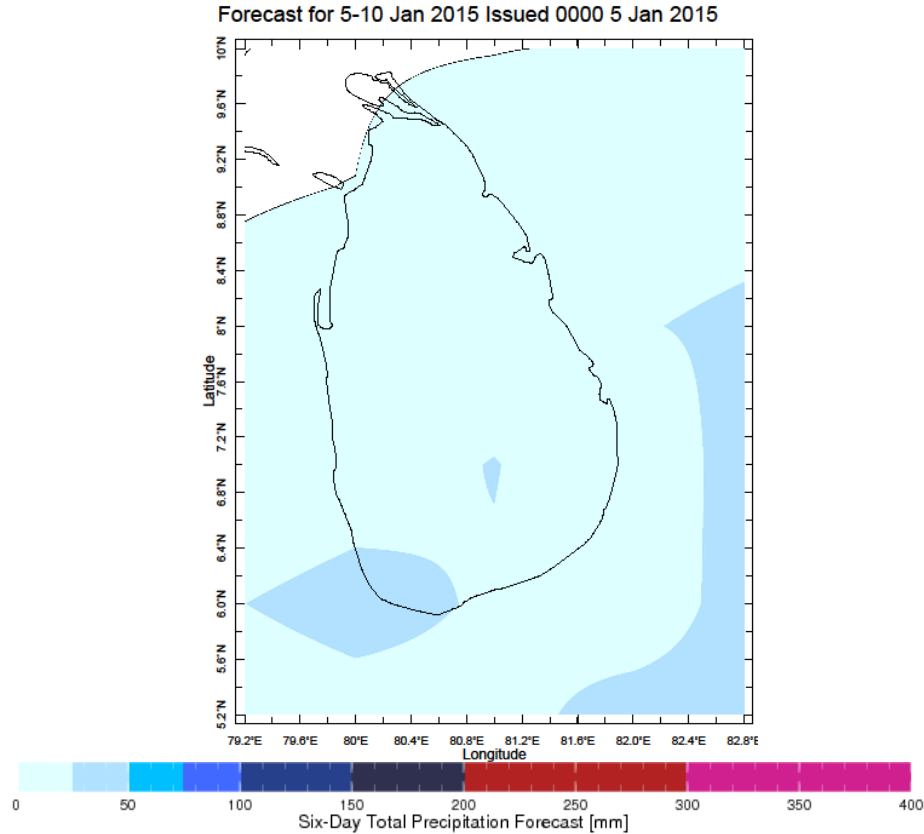
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 06-01-2015 valid for 03 UTC of 08-01-2015



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 06-01-2015 valid for 03 UTC of 09-01-2015

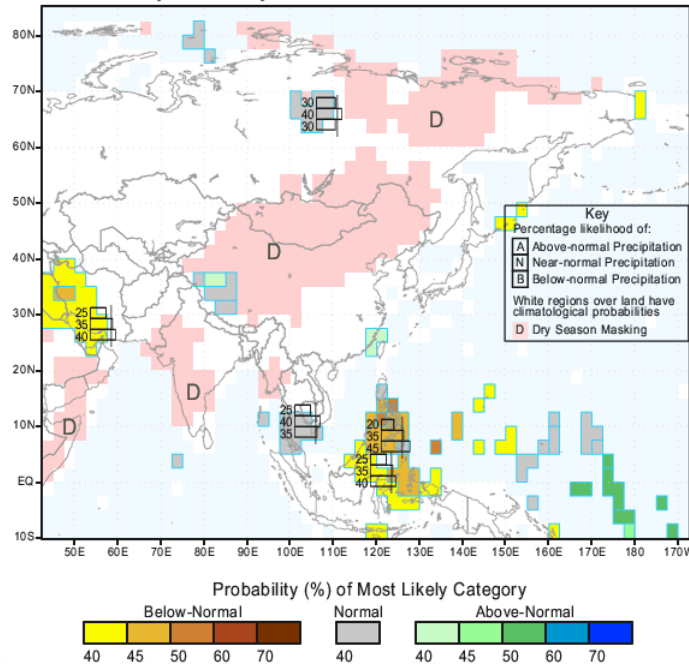


c) Weekly Precipitation Forecast for 5th – 10th January (Precipitation Forecast in Context Map Tool, IRI)



e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for January-February-March 2015, Issued December 2014



IRI Multi-Model Probability Forecast for Temperature
for January-February-March 2015, Issued December 2014

