

Experimental Climate Monitoring and Prediction

by: Prabodha Agalawatte, Sewwandhi Chandrasekara, Sanjaya Ratnayake, Zeenas Yahiya,
Lareef Zubair and Michael Bell (FECT and IRI¹)

7 January 2013

FECT BLOG

Past reports available at
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PACIFIC SEAS STATE

December 20, 2012

Most of the ENSO prediction models predict natural ENSO conditions through the first half of 2013. During early December the observed SST conditions have been in the neutral range.

(Text Courtesy IRI)

INDIAN OCEAN STATE

January 4th-5th, 2013

During January 2013, warmer SST shall be over tropical Indian Ocean than the Bay of Bengal which shall aggravate unusual weather patterns.

Highlights

Monitoring and Predictions:

Heavy rainfall accumulation is expected for the 6th-12th January for the North-eastern regions of Sri Lanka and moderate rainfall is expected for the rest of the island. Hambantota, Monaragala, Ampara and few regions of Batticaloa districts shall receive heavy rainfall for the 5th-10th January 2013. The monthly predictions point to significantly high rainfall around 22nd-25th January for the entire country, however higher amount of rainfall shall expect for the western slopes of Sri Lanka.

Summary

Monitoring

Weekly Monitoring: From 26th December 2012-3rd January 2013, rainfall ranged between 5-125 mm with the highest amount of precipitation observed in the Mannar district on the 27th of December. During 26th-27th December 2012 and 3rd January 2013 more or less the entire country received heavy rainfall compared to the period of 28th December-2nd January 2013.

Predictions

7-day prediction: During the period 2nd-8th January 2013, North-eastern regions of Sri Lanka shall receive more than 135 mm rainfall and 75-105 mm of rainfall shall expect for the remaining regions of Sri Lanka.

IMD WRF Model Forecast & IRI forecast: For the 8th of January 2013, IMD WRF model predicts less than 125 mm of rainfall for Batticaloa district. Rainfall shall spread with a decreasing trend towards western parts of Sri Lanka. For the same day less than 36 mm of rainfall is predicted for the Galle district. Remaining regions shall expect less than 1 mm of rainfall. For the 9th of January 2013, less than 125 mm of rainfall is predicted for North coastal belt of Trincomalee district. NOAA models forecast heavy rainfall for the Hambantota, Monaragala, Ampara and few regions of Batticaloa districts.

30 Days Prediction: Overall- Ongoing heavy rainfall shall starts to decrease till 10th January 2013 and rainfall shall increase thereafter. However, around 23rd-25th an extreme amount of rainfall is expected for the entire country. **Western Slopes-** When compared to rest of the regions, western slopes shall receive higher amount of rainfall. During the month of January, the heaviest daily rainfall of 17 mm is expected around the 23rd-25th of January. **Western Coast-** Extreme rainfall shall receive around 23rd-25th and end of January. **Eastern slopes-** For this region significant amount of rainfall is predicted during 23rd-25th January. **Eastern Coast-** Extreme rainfall shall receive around 23rd-25th and end of January. However, after the 20th January, daily rainfall shall remain in between 4-7 mm. **Northern & Southern regions-** Significant heavy rainfall is not predicted for these regions, but daily rainfall shall vary in between 1-5 mm durnig 20th-30th January.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for January 2013 to March 2013, issued in December 2012, there is a 60%-70% probability for temperature to be above normal in the country while the rainfall is to be climatological.

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2. Predictions

- NCEP GFS Ensemble 1-7 day predictions
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

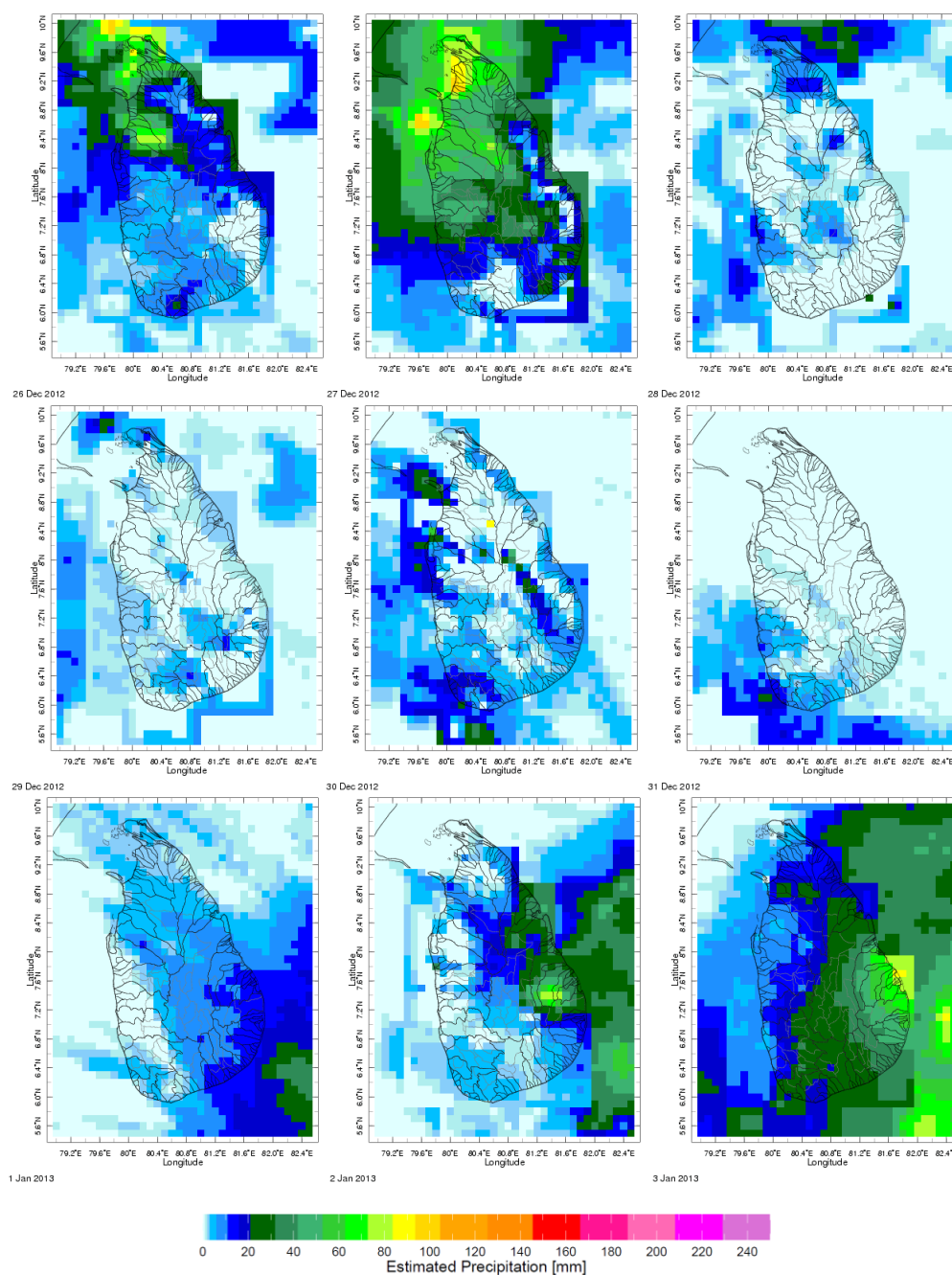
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

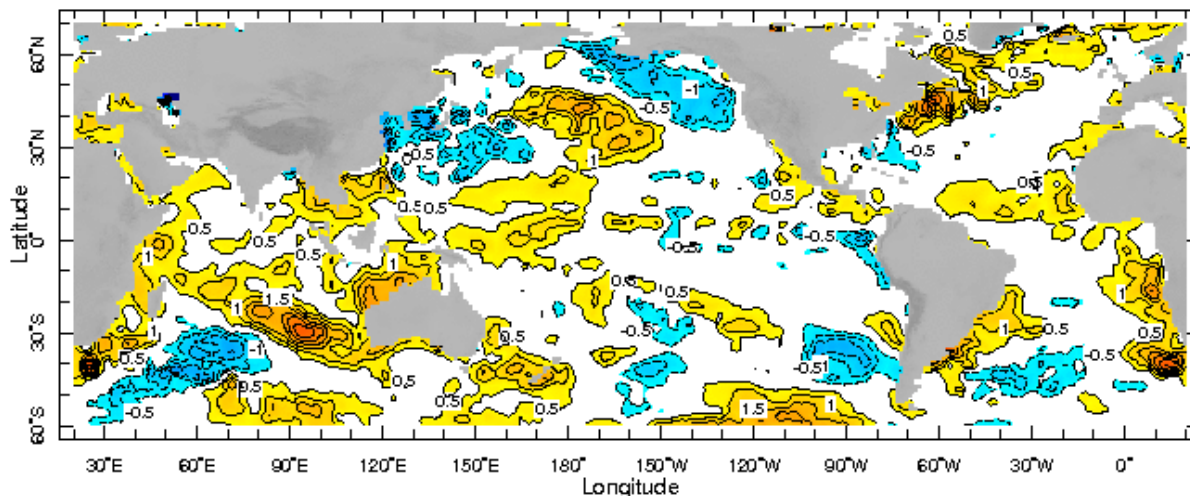
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 26th December 2012–3rd January 2013 (Left-Right, Top-Bottom)



b) Weekly Average SST Anomalies

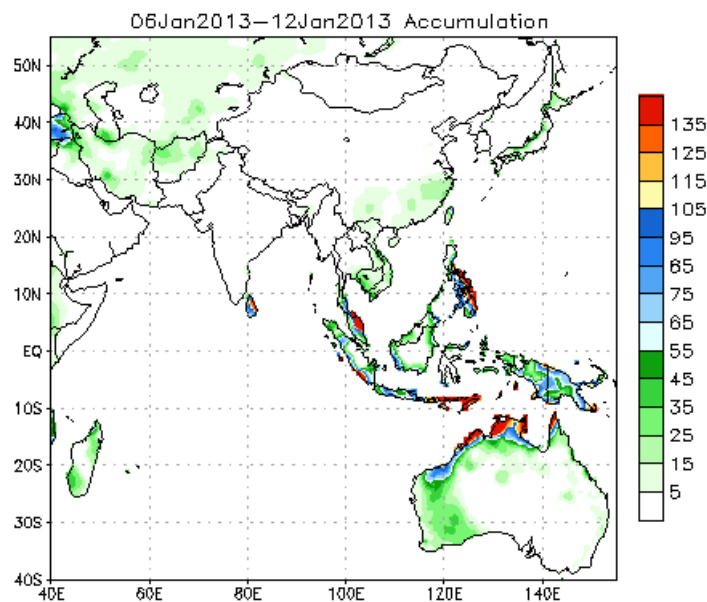


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 23rd-29th December, 2012

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

2. Predictions

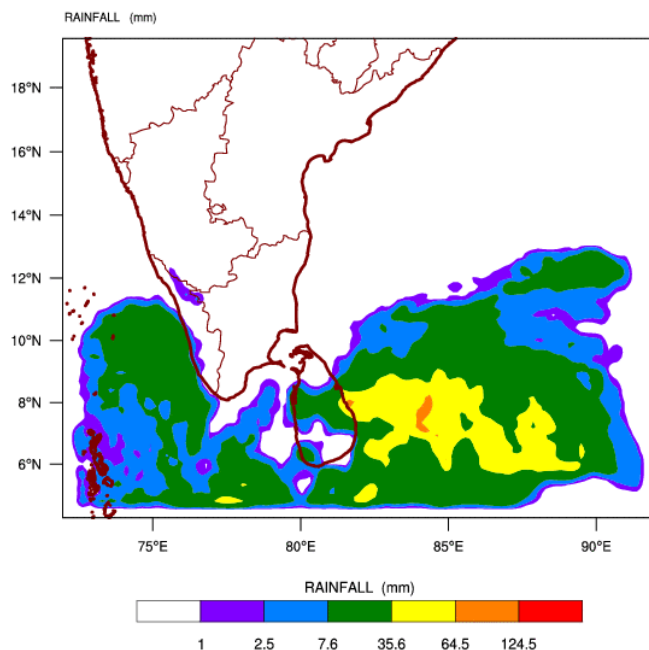
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



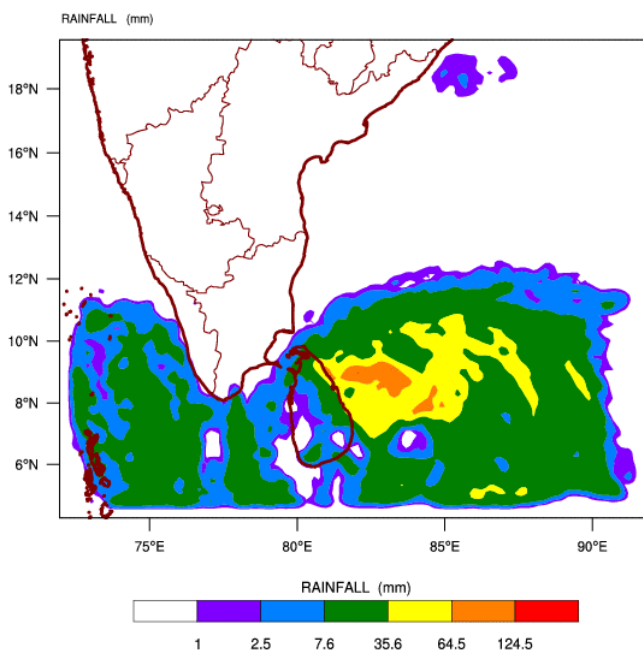
Source – NOAA Climate Prediction Center

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

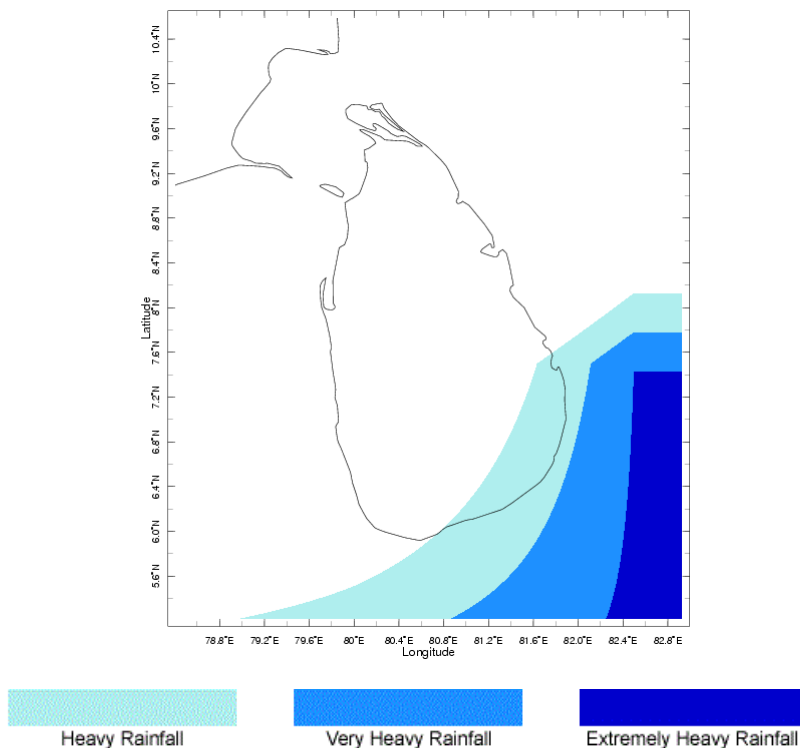
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 06-01-2013 valid for 03 UTC of 08-01-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 06-01-2013 valid for 03 UTC of 09-01-2013



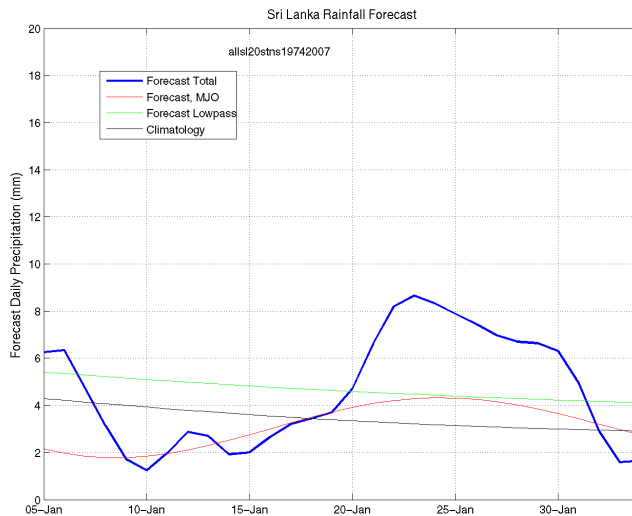
c) Weekly Precipitation Forecast for 5th-10th January 2013 (Precipitation Forecast in Context Map Tool, IRI)



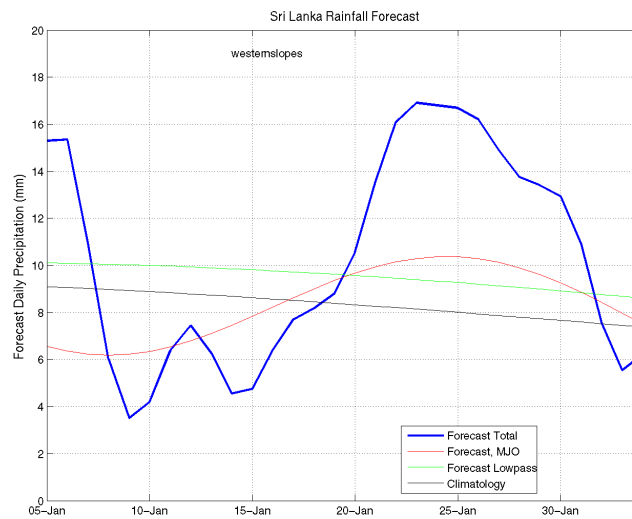
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 6th January, 2013

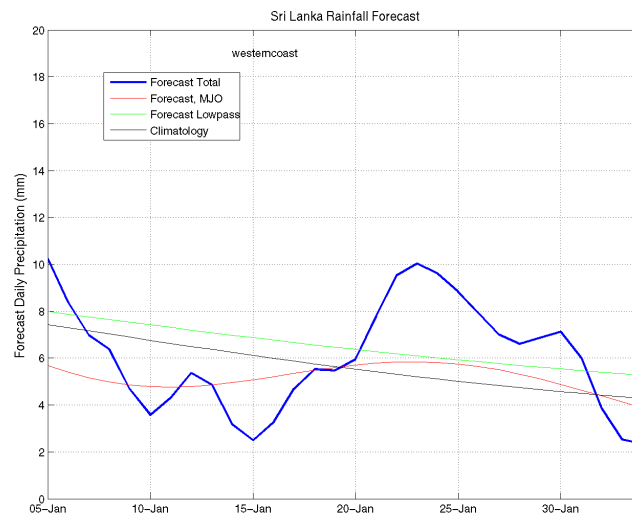
All Sri Lanka (Rainfall Scale from 0-20mm/day)



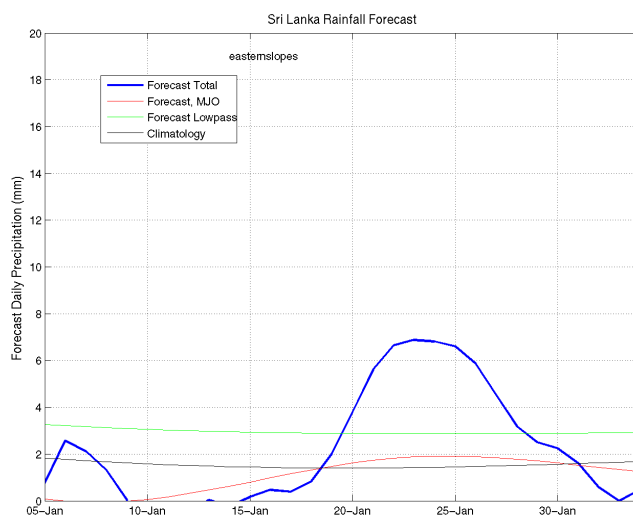
Western Slopes (Rainfall Scale from 0-20 mm/day)



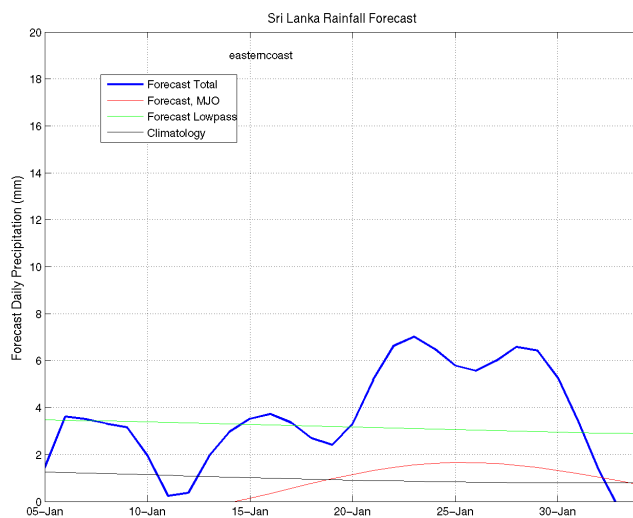
Western Coast (Rainfall Scale from 0-20 mm/day)



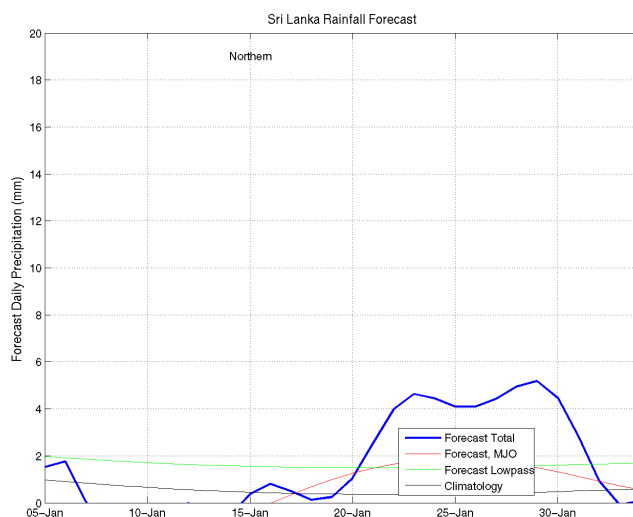
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



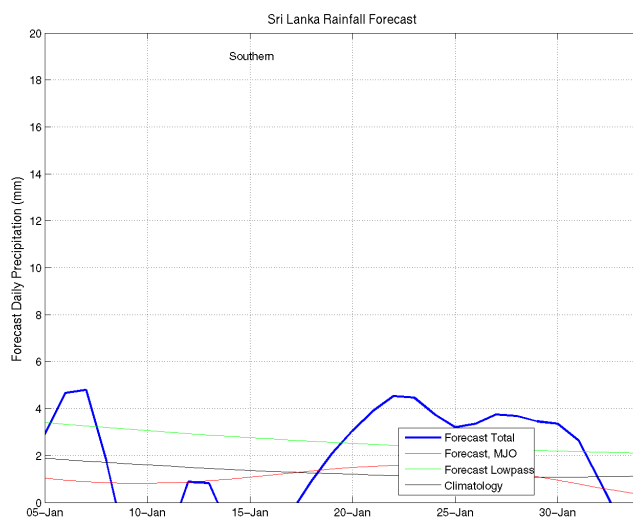
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



Northern Region (Rainfall Scale- from 0-20 mm/day)

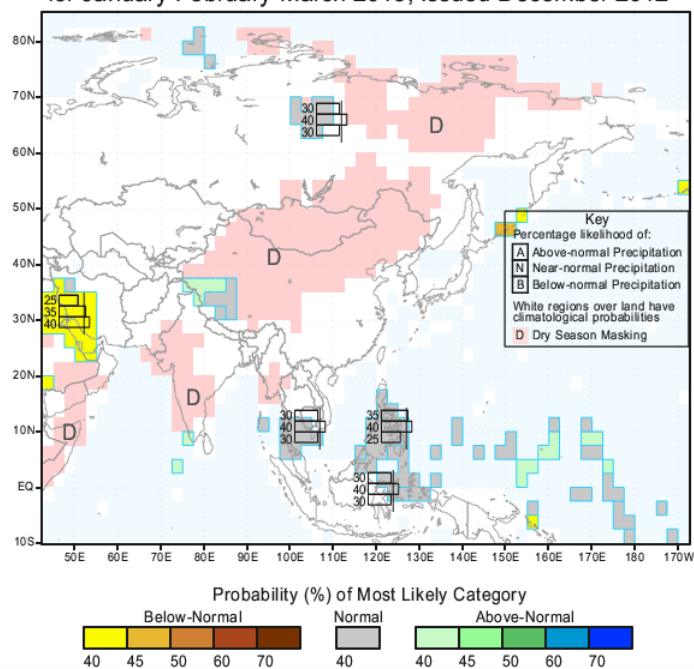


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for January-February-March 2013, Issued December 2012



IRI Multi-Model Probability Forecast for Temperature
for January-February-March 2013, Issued December 2012

