

Experimental Climate Monitoring and Prediction

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FECT BLOG

Past reports available at
<http://fects.l.blogspot.com/>

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<http://www.climate.lk>

and

<http://www.tropicalclimate.org/>

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 4th-5th 2013, SST shall be warmer over tropical Indian Ocean than the Bay of Bengal.

Highlights

Monitoring and Predictions:

Rainfall accumulation of more than 135 mm is expected for the 2nd-8th January for the entire country. 1/3rd of Southern Sri Lanka shall receive extremely heavy rainfall, and heavy showers shall be experienced in the remaining regions of Sri Lanka. The monthly predictions point to significantly high rainfall on the 22nd of January for the entire country, however considerable amount of rainfall shall persist during the month of January for entire Sri Lanka.

Summary

Monitoring

Weekly Monitoring: From 24th December 2012-1st January 2013, rainfall ranged between 5-145 mm with the highest amount of precipitation observed in the Galle district on the 25th of December. During 24th-27th more or less the entire country received heavy rainfall compared to the period of 25th December-1st January 2013.

Predictions

7-day prediction: During the period 2nd-8th January 2013, the entire country shall receive more than 135 mm rainfall.

IMD WRF Model Forecast & IRI forecast: For the 5th of January 2013, IMD WRF model predicts less than 36 mm of rainfall for Batticaloa and Polonnaruwa districts. Rainfall shall spread with a decreasing trend towards northern parts of Sri Lanka. For the same day less than 2.5 mm of rainfall is predicted for the Galle district. For the 6th of January 2013, less than 8 mm of rainfall is predicted for Batticaloa, Ampara and Badulla districts. NOAA models forecast extremely heavy rainfall for the southern part of the country and very heavy rainfall for the remaining regions.

30 Days Prediction: Overall- Ongoing heavy rainfall shall persist till 5th January 2013 and rainfall shall decrease during 5th-10th. Rainfall shall increase on the 22nd and 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 18 mm is expected on the 22nd of January. **Western Coast-** Rainfall shall remain constant for the period of 2nd-20th January and vary in the range between 5-9 mm. The heaviest rainfall of the month is expected on the 22nd. **Eastern slopes-** Significant heavy rainfall is not predicted for this region, but there shall be a significant increase in the rainfall on the 22nd. **Eastern Coast-** Compared with the eastern slopes more rainfall shall be observed for this season with a similar rainfall pattern. **Northern & Southern-** Significant heavy rainfall is not predicted for these regions, but there shall be a significant increase in the rainfall on the 22nd.

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.

Inside this Issue

1. Monitoring

- Daily Satellite Derived Rain fall Estimates
- Weekly Average SST Anomalies

2. Predictions

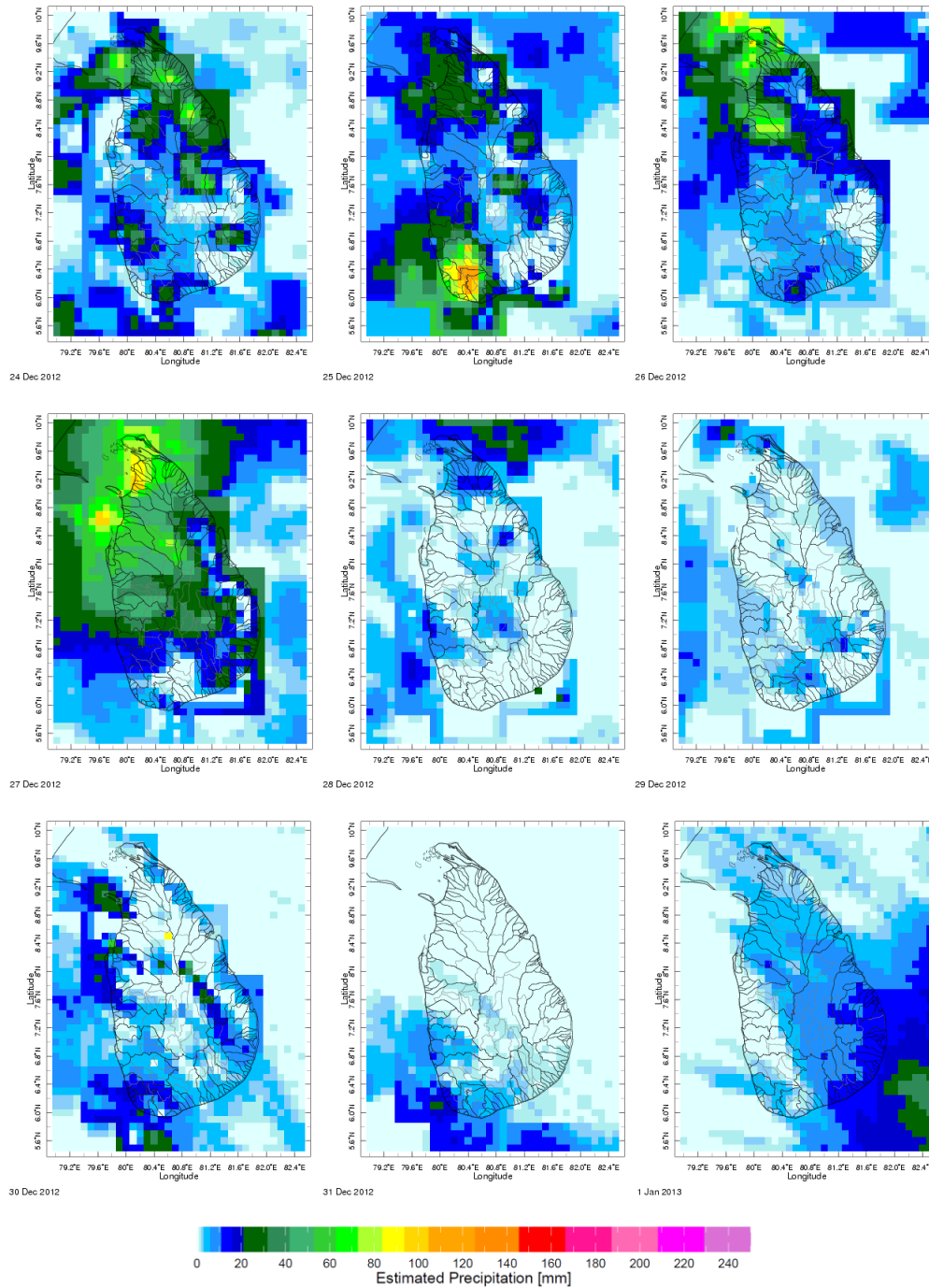
- NCEP GFS Ensemble 1-7 day predictions
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

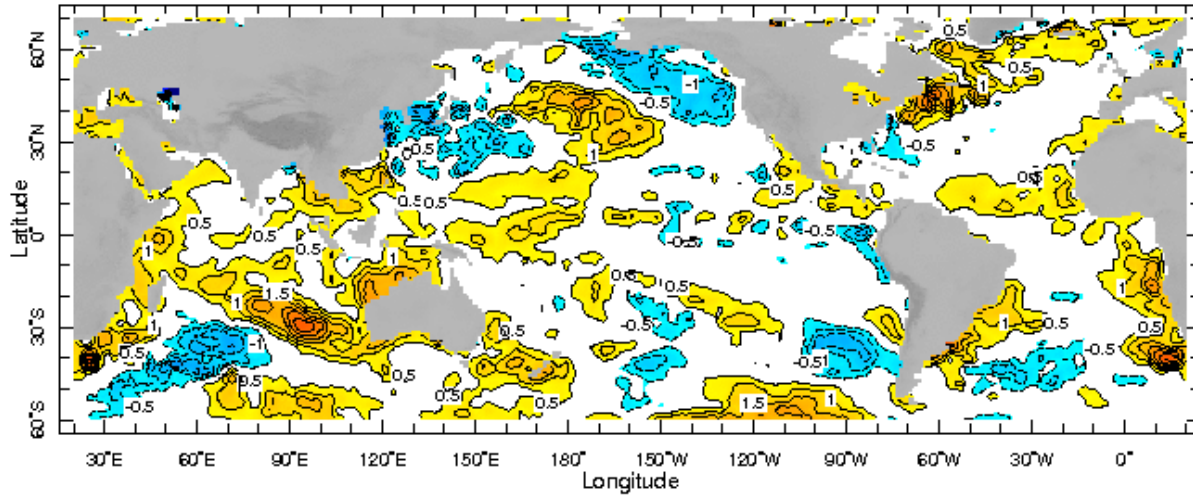
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 24th December 2012–1st January 2013 (Left-Right, Top-Bottom)



b) Weekly Average SST Anomalies

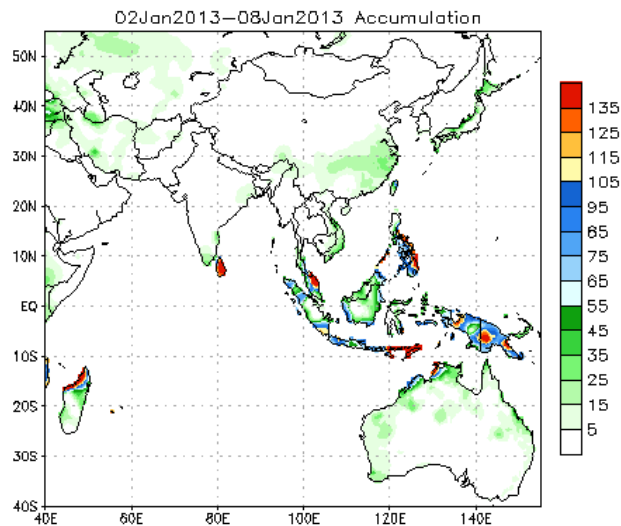


Weekly Average SST Anomalies ($^{\circ}$ C), 23rd-29th December, 2012

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

2. Predictions

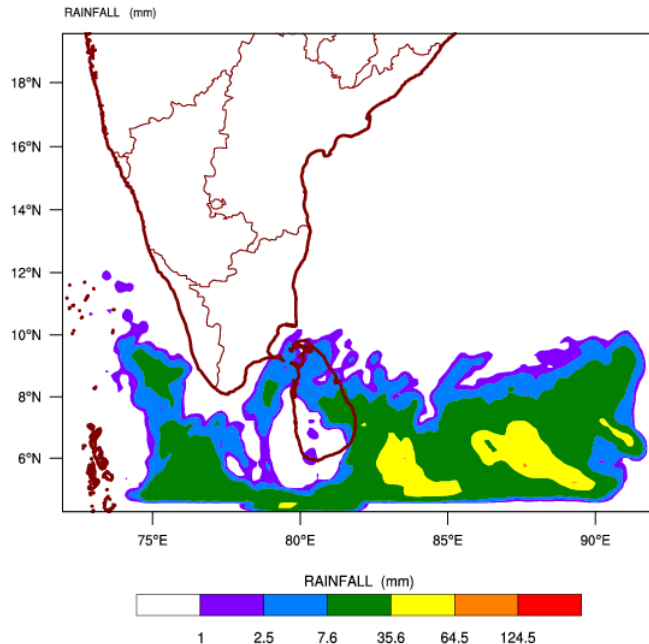
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



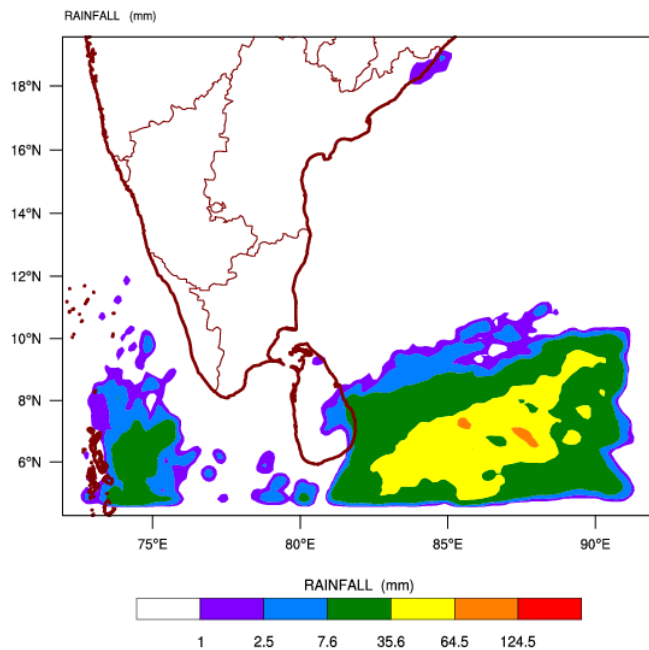
Source – NOAA Climate Prediction Center

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

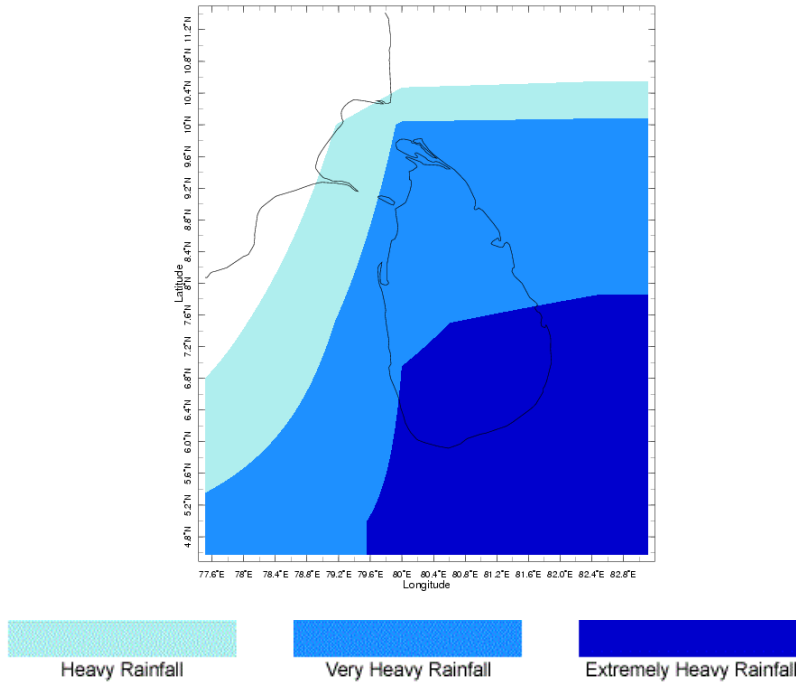
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 03-01-2013 valid for 03 UTC of 05-01-2013



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



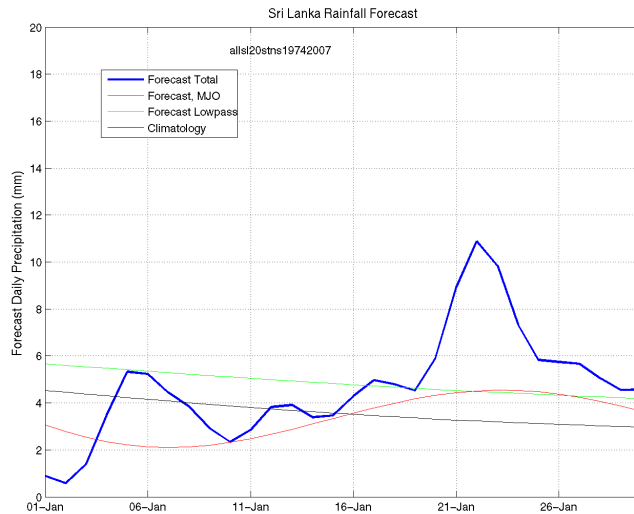
c) Weekly Precipitation Forecast for 1st-6th January 2013 (Precipitation Forecast in Context Map Tool, IRI)



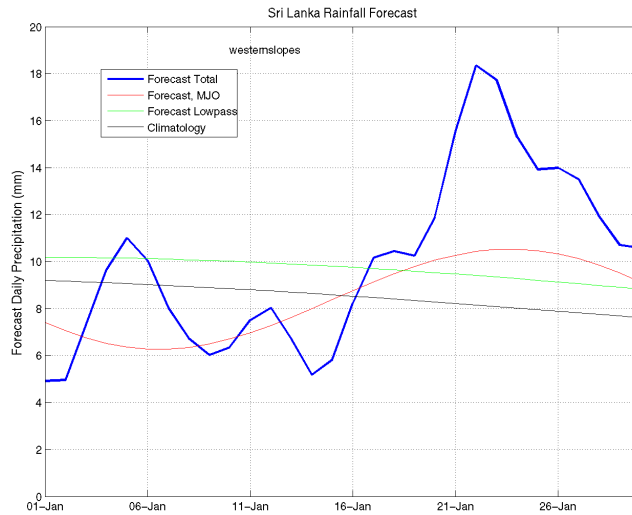
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 3rd January, 2013

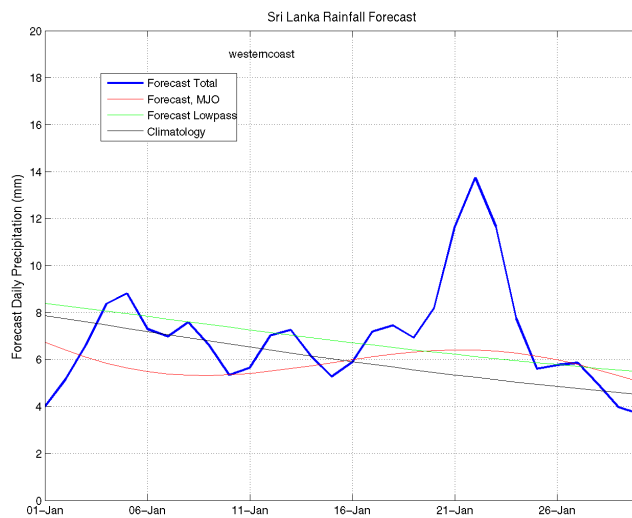
All Sri Lanka (Rainfall Scale from 0-20mm/day)



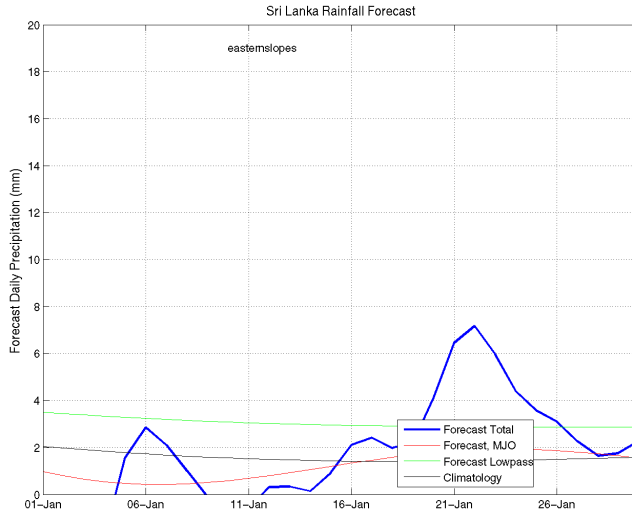
Western Slopes (Rainfall Scale from 0-20 mm/day)



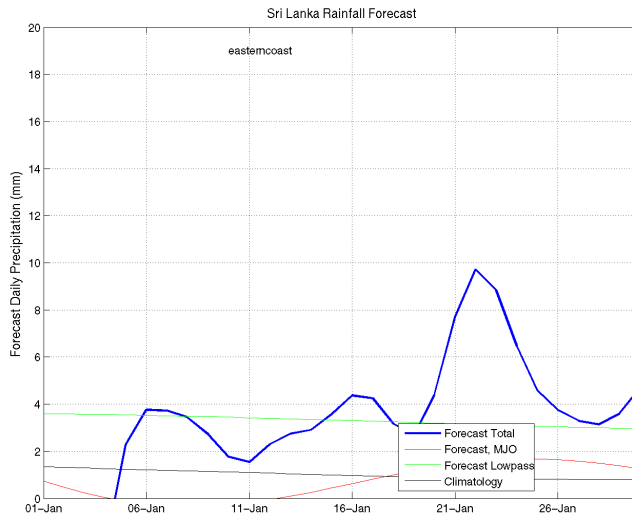
Western Coast (Rainfall Scale from 0-20 mm/day)



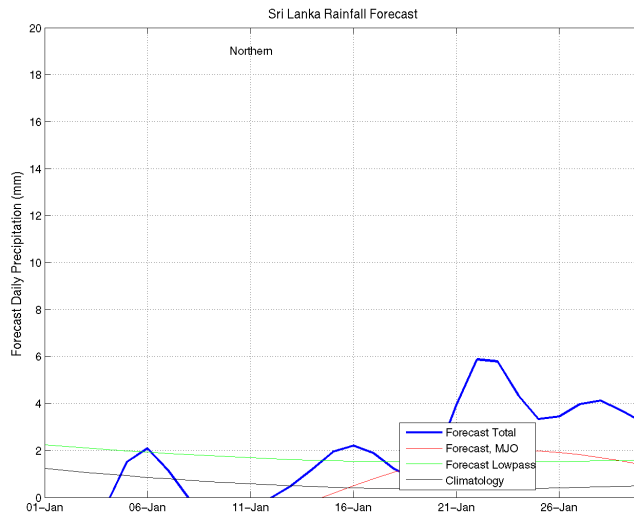
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



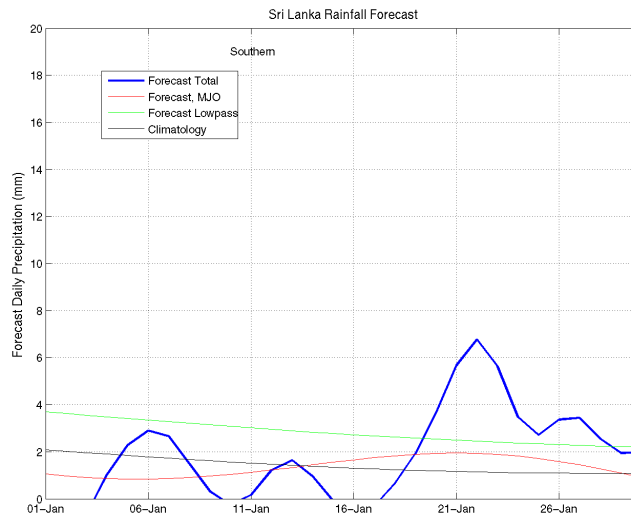
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

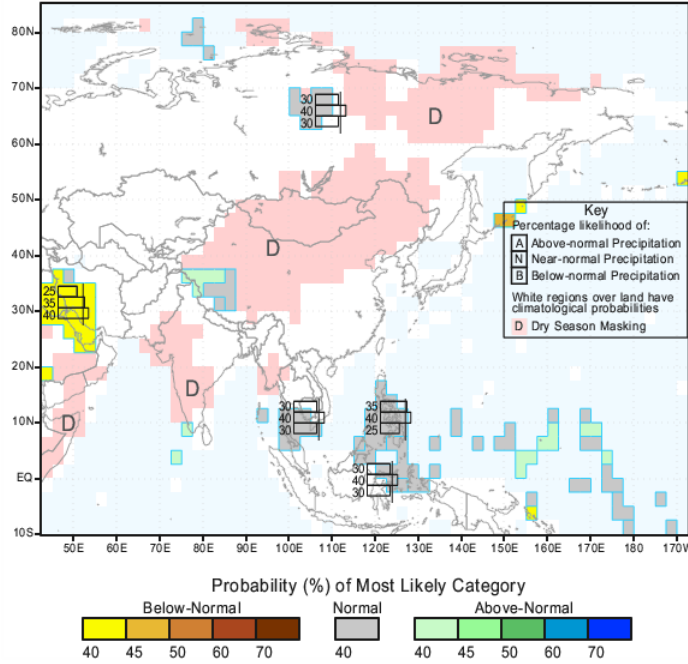


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

