

Experimental Climate Monitoring and Prediction

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FECT BLOG

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PACIFIC SEAS STATE

January 10, 2013

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

(Text Courtesy IRI)

INDIAN OCEAN STATE

For the period of January to March 2013, there shall be 43% of cumulative probability to have warm SST over tropical Indian Ocean which shall aggravate unusual weather patterns.

Highlights

Monitoring and Predictions:

Heavy rainfall is not expected for the entire country during 15th-22nd January. However, Eastern segment of Sri Lanka shall receive high rainfall compared to rest of Sri Lanka. The monthly predictions indicates substantial amount of rainfall for the entire country around 22nd-30th. However, present rainfall condition shall diminish after January.

Summary

Monitoring

Weekly Monitoring: From 9th-14th January 2013, rainfall ranged between 5-90 mm with the highest amount of precipitation observed in Badulla district on the 10th of January. During 9th-11th, more or less the entire country received rainfall. However, rainfall subsided on 14th and the entire country was dry.

Predictions

7-day prediction: During the period 16th-22nd January 2013, Southern half of Sri Lanka shall receive 5-55 mm of rainfall. For the same period, North-eastern regions shall expect 55-95 mm of rainfall

IMD WRF Model Forecast & IRI forecast: For the 18th of January 2013, IMD WRF model predicts less than 8 mm of rainfall for Badulla and Moneragala districts. Rainfall shall spread towards Ampara, Batticaloa, Polonnaruwa and Vavuniya districts with a decreasing trend (rainfall of less than 2.5 mm). On 19th of January 2013, IMD WRF model predicts rainfall same as the previous day (18th January). However, rainfall shall spread towards Ampara and Batticaloa districts only. No heavy rainfall is predicted for entire Sri Lanka from the NOAA models for the period of 15th-20th January.

30 Days Prediction: Overall- Significant amount of rainfall (6-10 mm of daily forecast) is expected during 22nd-30th January. Rainfall shall reduce after 30th January. However, except for the western regions, rainfall shall decrease on 25th January onwards. **Western Slopes-** When compared to the rest of the regions, western slopes shall receive higher amount of rainfall. During the month of January, more than 10 mm of daily forecast rainfall is predicted during 21st January-1st February. However, extreme rainfall of more than 18 mm shall be observed on 24th and 29th. Rainfall shall be lower during the first 2 weeks of February than January. **Western Coast-** More than 8 mm of daily forecast of rainfall is predicted for 22nd-25th and 28th-30th January. Thereafter rainfall shall reduce. **Eastern slopes-** Daily rainfall shall vary between 3-7 mm during 20th-29th and extreme event shall be present around 24th. **Eastern Coast-** Extreme amount of rainfall (7 mm) shall be received around 23rd. **Northern and Southern regions-** Extreme amount of rainfall (6 mm) shall be received around 24th.

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

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

2. Predictions

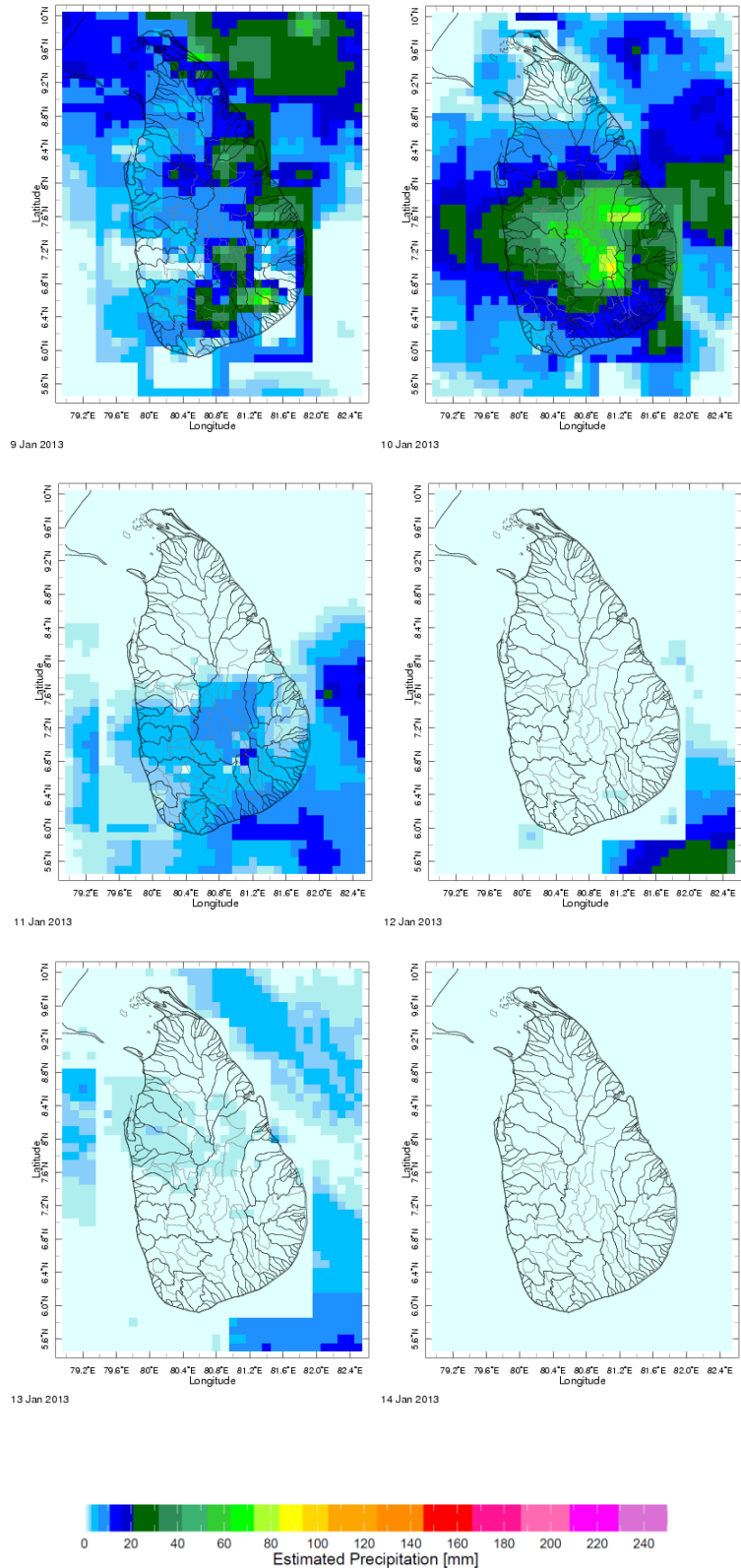
- NCEP GFS Ensemble 1-7 day predictions
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

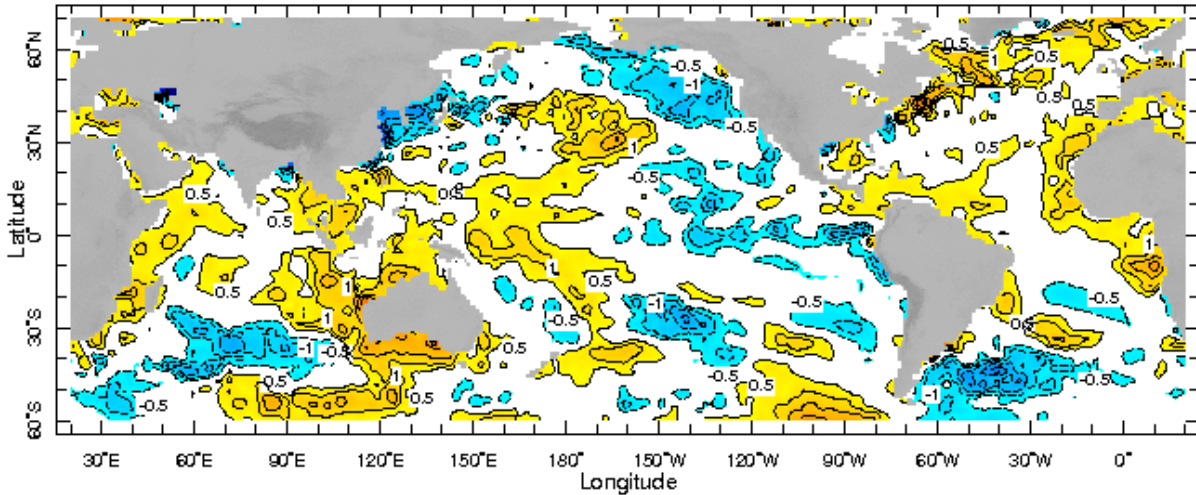
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 9th–14th January 2013 (Left-Right, Top-Bottom)



b) Weekly Average SST Anomalies

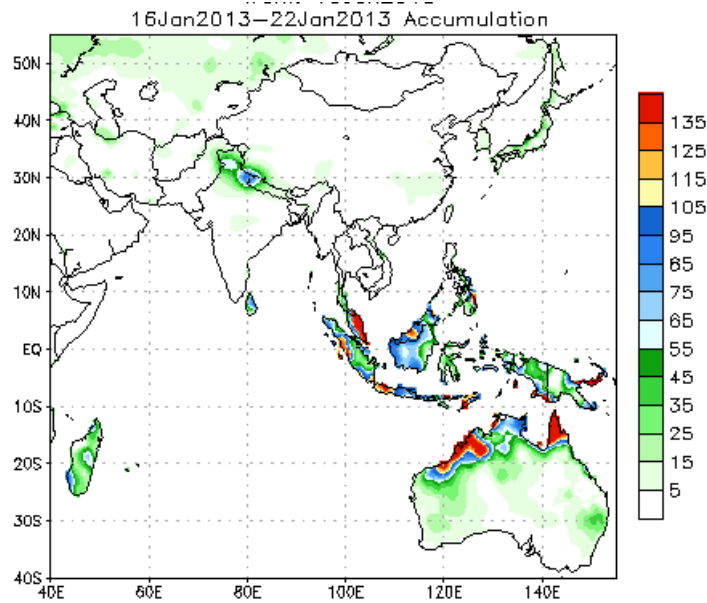


Weekly Average SST Anomalies ($^{\circ}$ C), 6th-12th January, 2013

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

2. Predictions

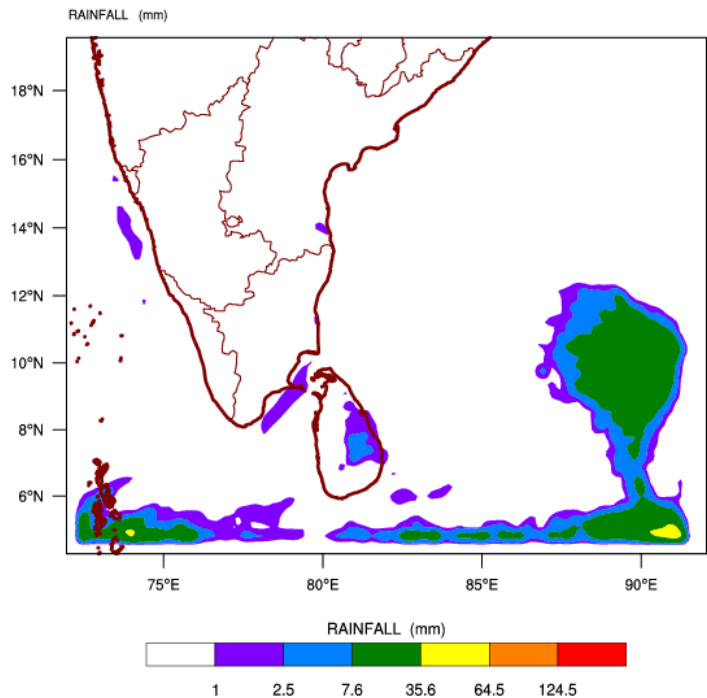
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



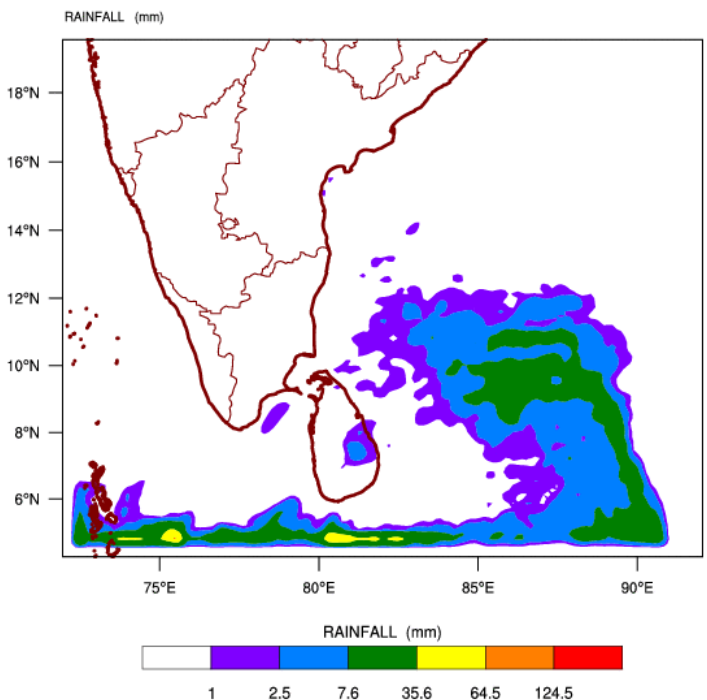
Source – NOAA Climate Prediction Center

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

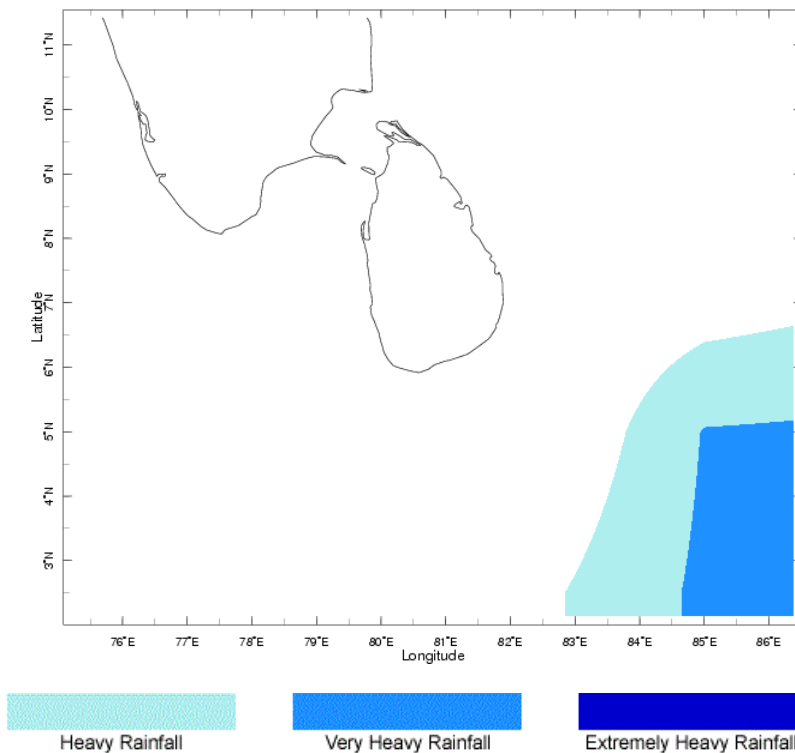
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 16-01-2013 valid for 03 UTC of 18-01-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 16-01-2013 valid for 03 UTC of 19-01-2013



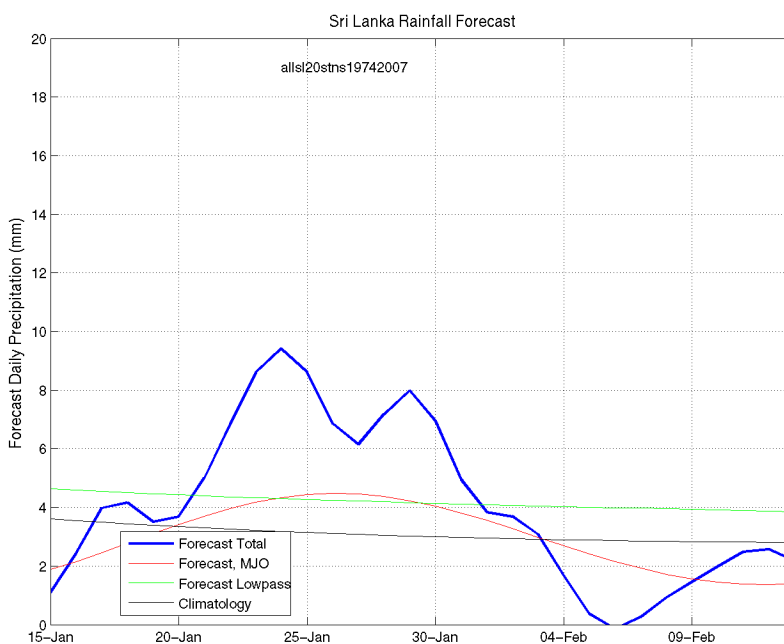
c) Weekly Precipitation Forecast for 15th-20th January 2013 (Precipitation Forecast in Context Map Tool, IRI)



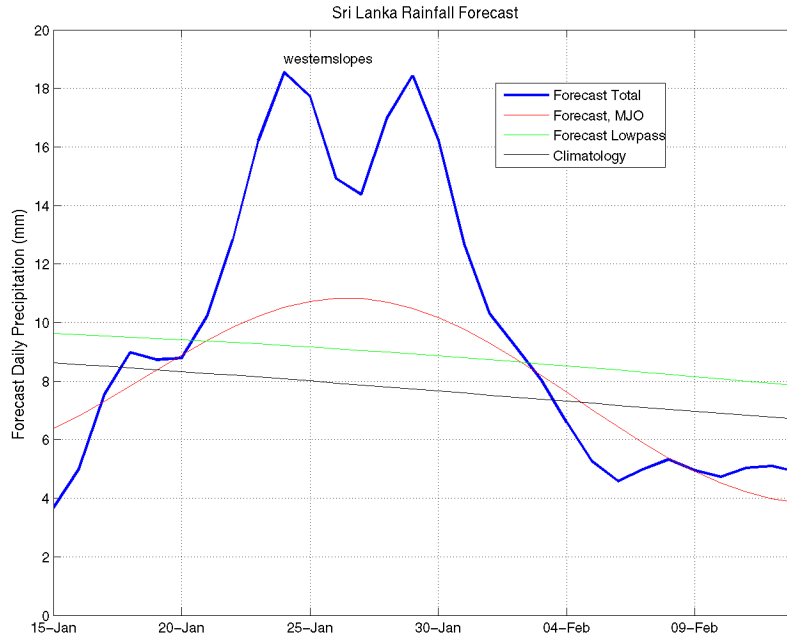
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 16th January, 2013

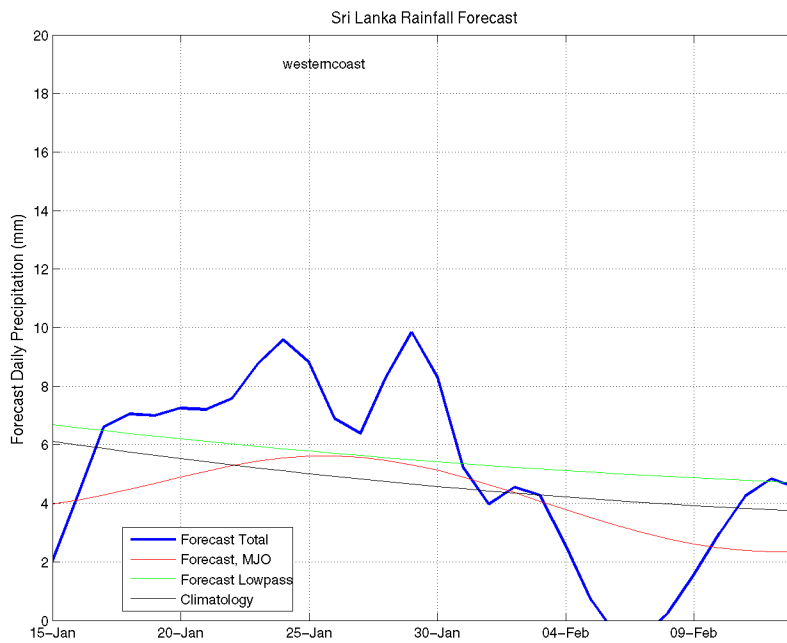
All Sri Lanka (Rainfall Scale from 0-20mm/day)



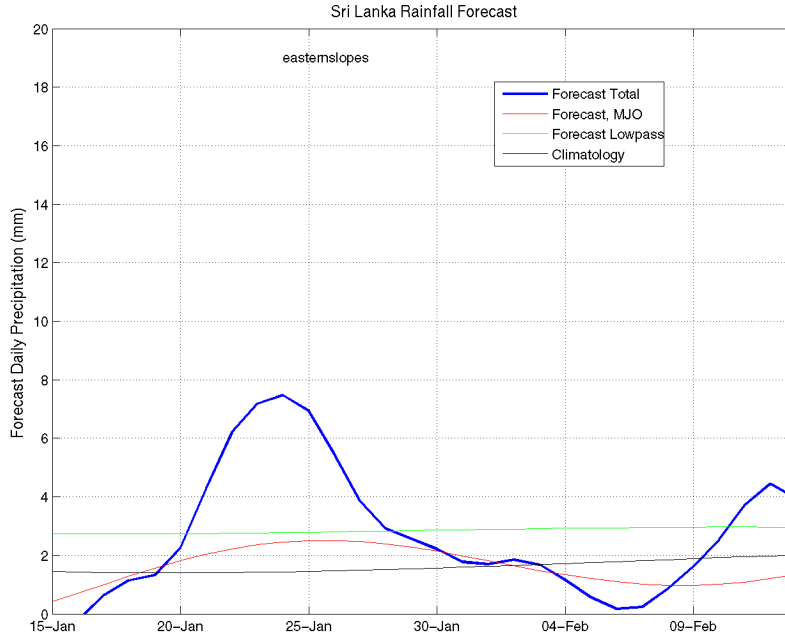
Western Slopes (Rainfall Scale from 0-20 mm/day)



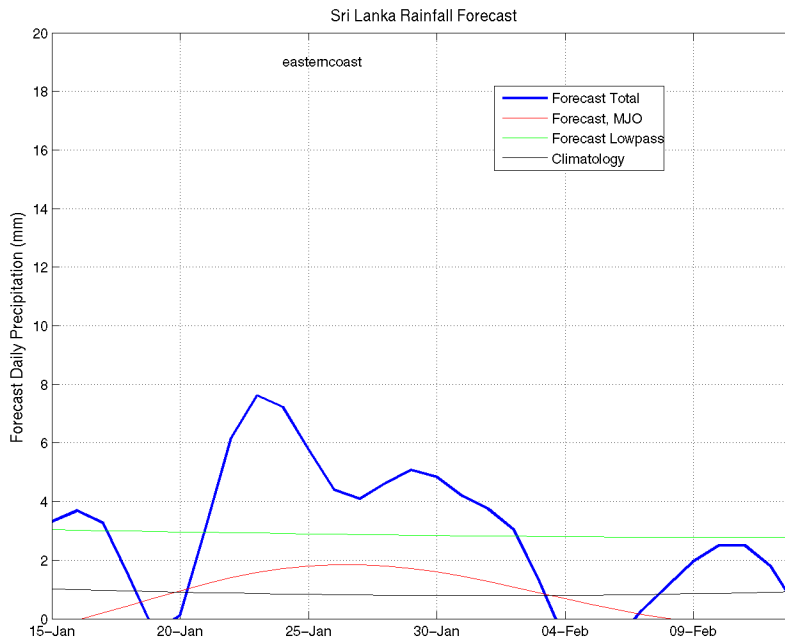
Western Coast (Rainfall Scale from 0-20 mm/day)



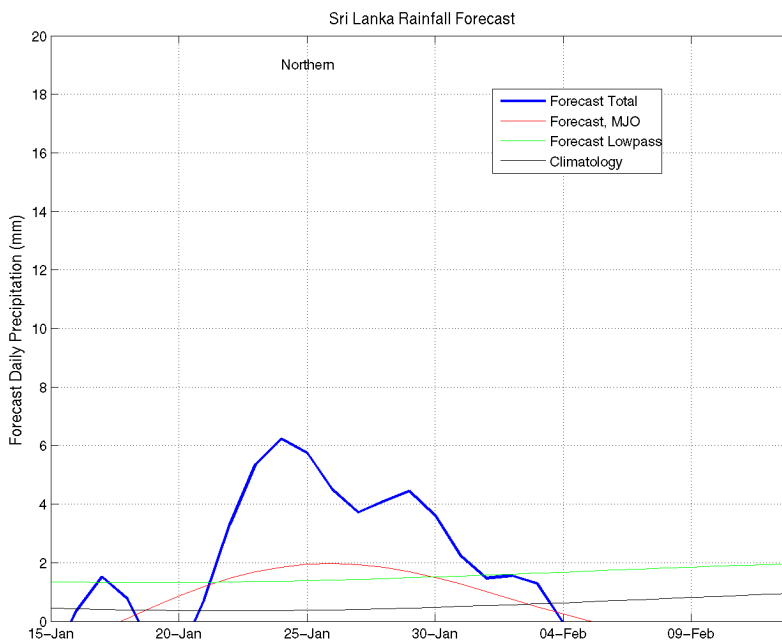
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



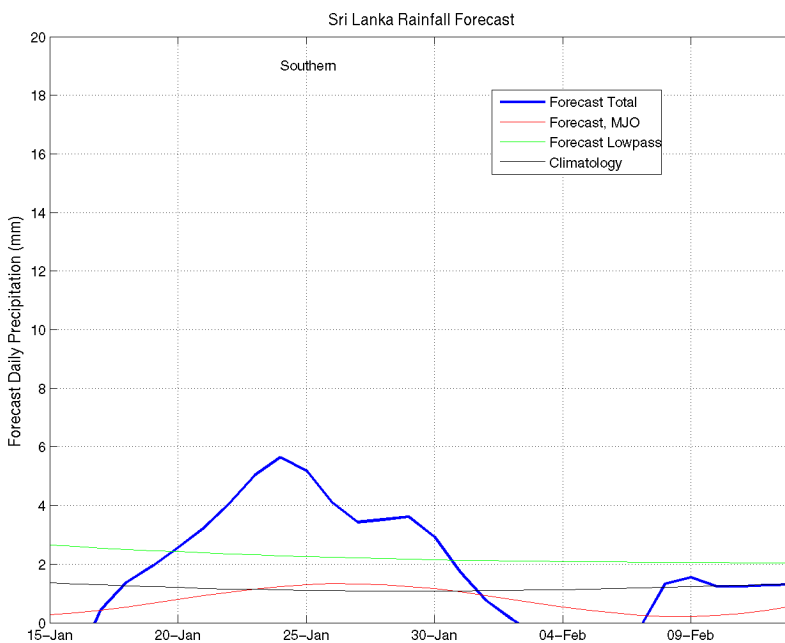
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

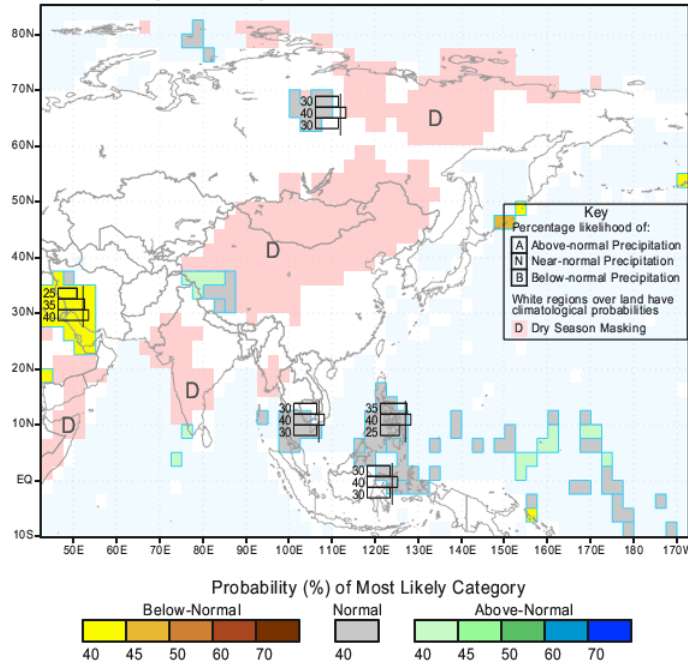


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

