

Experimental Climate Monitoring and Prediction

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13 December 2013

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/>

November 21, 2013 PACIFIC SEAS STATE

During October through mid-November the observed ENSO conditions remained neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO into the first quarter of 2014.

During northern spring and summer a warming tendency is seen in both dynamical and statistical models.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Southern sea of Sri Lanka showed +1⁰C anomaly and rest of the seas around Sri Lanka showed neutral seas surface temperature during 1st-7th December 2013.

MJO STATE

MJO is entering phase 3 and is likely to enter phase 4 during next week. This phenomenon shall influence Sri Lanka rainfall this week.

Highlights

Monitoring and Predictions:

Rainfall shall increase gradually till 15th of December 2013. However, Northern, North-central, and Central provinces are likely to experience moderate rainfall during coming week (10th-17th December 2013). For coming two days (13th & 14th December), Northwestern, Western and central provinces are likely to observe heavy rainfall and rainfall shall decrease towards the North.

Summary

Monitoring

Weekly Monitoring: During 2nd and 3rd December 2013, rainfall ranged 5-30 mm/day. Maximum rainfall observed on 2nd December for Killinochchi and Jaffna districts. Rest of the days received lower amount of rainfall compared to the beginning of the week. Heavy rainfall prevailed over the Northeastern Sea around Sri Lanka ranging up to 130 mm during the week.

Monthly Monitoring: Moneragala and Ratnapura district received highest average rainfall during the month of November 2013.

Predictions

7-day prediction: During 3rd-9th December 2013, entire Sri Lanka is expected to receive above 75 mm of rainfall. Rainfall is expected to decrease towards Southwest region and Central, North-central and Western provinces shall experience less than 55 mm of rainfall.

IMD WRF & NOAA CFS Model Forecast: For 13th of December, IMD WRF model predicts less than 36 mm of rainfall for Uva region and some parts of eastern province shall receive less than 2 mm of rainfall. For 14th of December, IMD WRF model predicts less than 65 mm of rainfall for North Western, Western, and Southern province and rainfall shall diminish towards the North of Sri Lanka. NOAA model predicts the heavy rainfall (more than 75 mm/week) for the Ampara and Batticaloa districts and shall decrease towards the southwest during 11th-17th December 2013.

30 Days Prediction: Overall- Rainfall shall increase gradually till 16th of December. **Western Slopes** – Rainfall shall increase gradually during 12th-15th December and it shall decrease prominently thereafter. **Western Coast** – Rainfall shall vary below 11 mm/day till 16th December. However, western slopes and western coasts shall receive same magnitude of the rainfall. **Eastern Slopes**– Rainfall shall increase gradually till 17th of December and decrease thereafter. **Eastern Coast** – The rainfall shall decrease gradually till 17th. **Northern region-** The rainfall gradually increases till 17th December. **Southern Region-** The rainfall rate gradually decreases below 2.5 mm till 17th December.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on November 2013; for December 2013 to February 2014, there is a 50-60% 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
- Monthly Rain fall Estimates
- Decadal (10 Day) Satellite Derived Rainfall Estimates
- Weekly Average SST Anomalies

2. Predictions

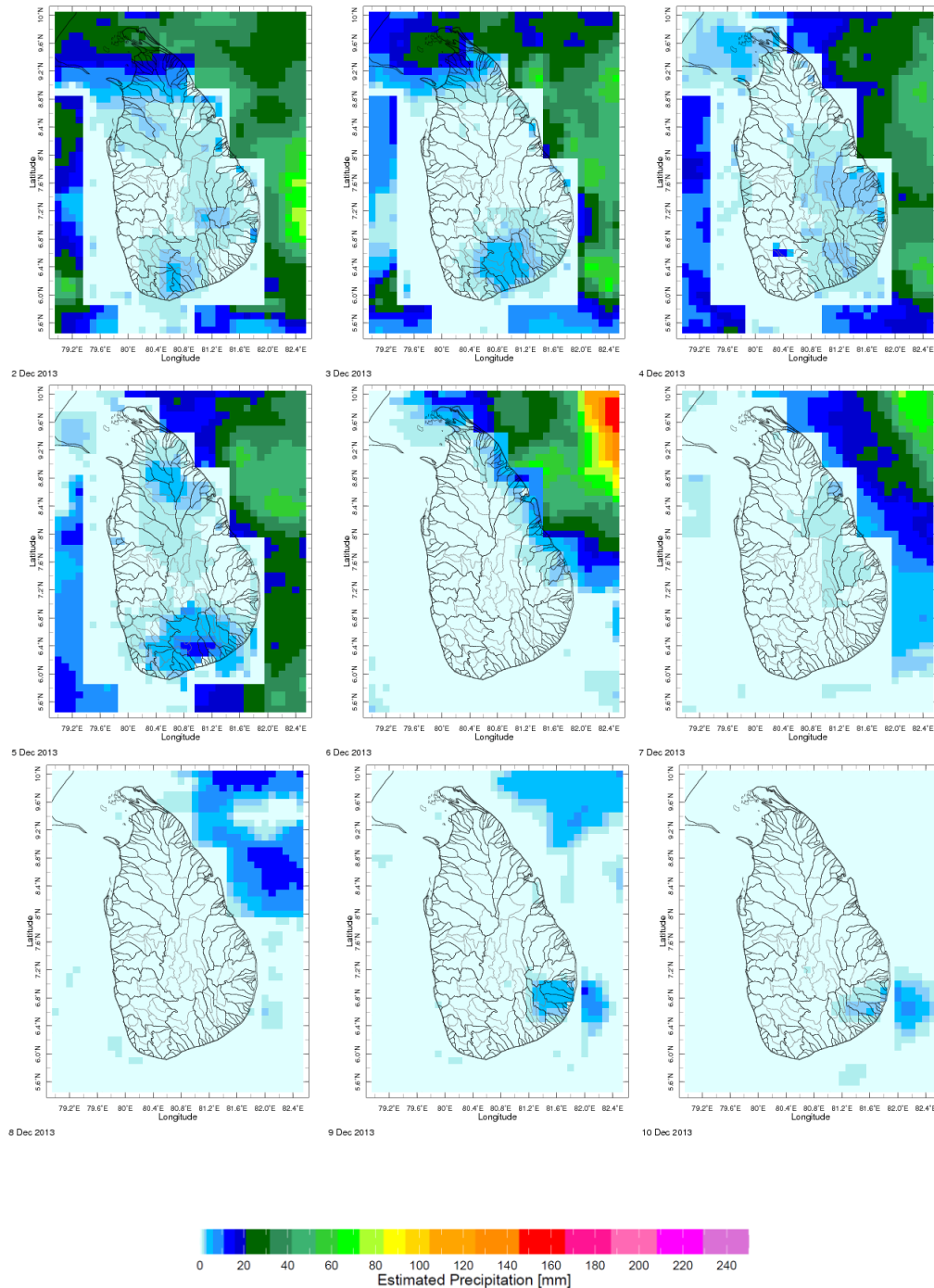
- NCEP GFS Ensemble 1-7 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

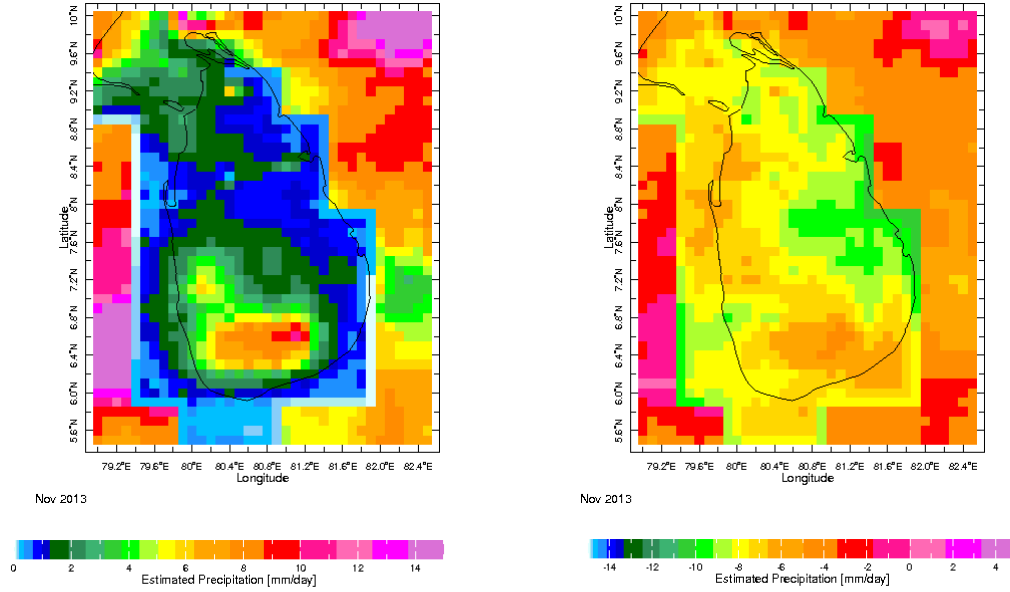
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

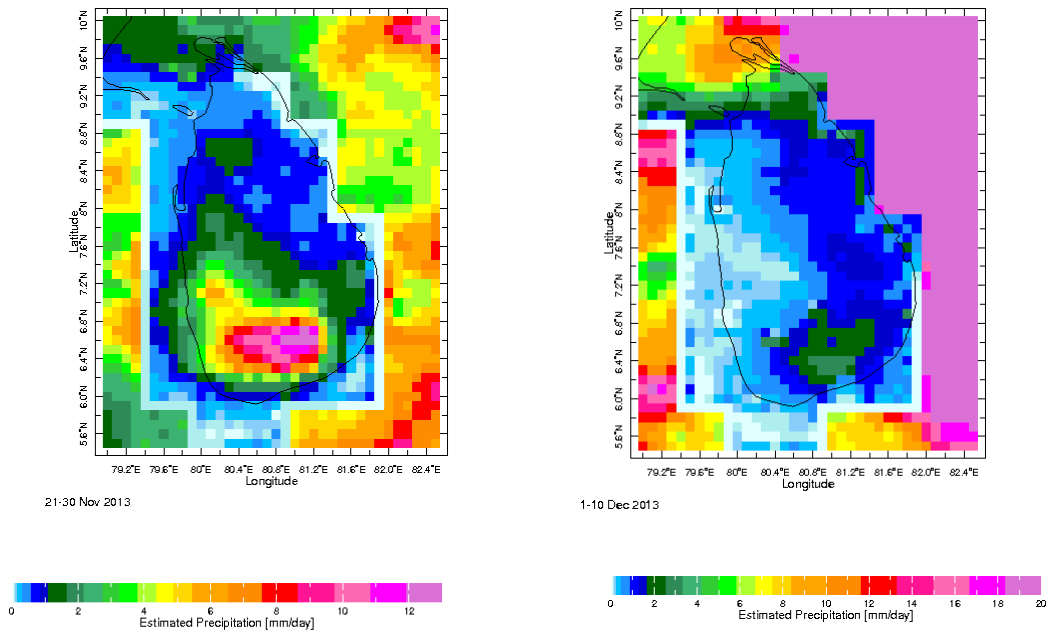
a) Daily Satellite Derived Rainfall Estimate Maps: 2nd-10th December 2013 (Left-Right, Top-Bottom)



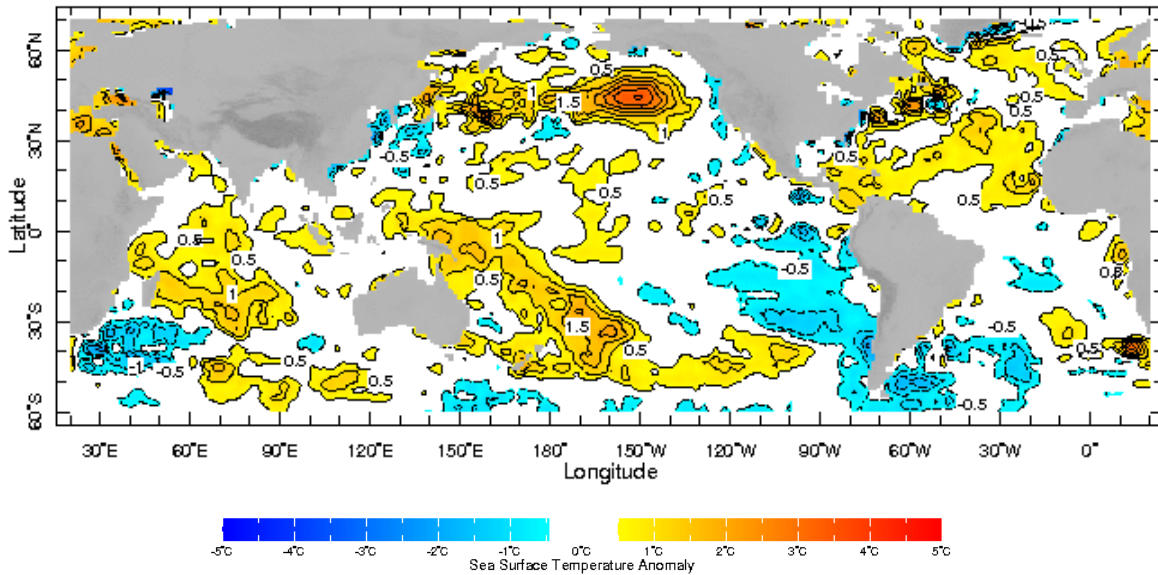
b) Monthly Satellite Derived Rainfall Estimates for November 2013 (Total – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-30 November & 01-10 December, 2013)



b) Weekly Average SST Anomalies

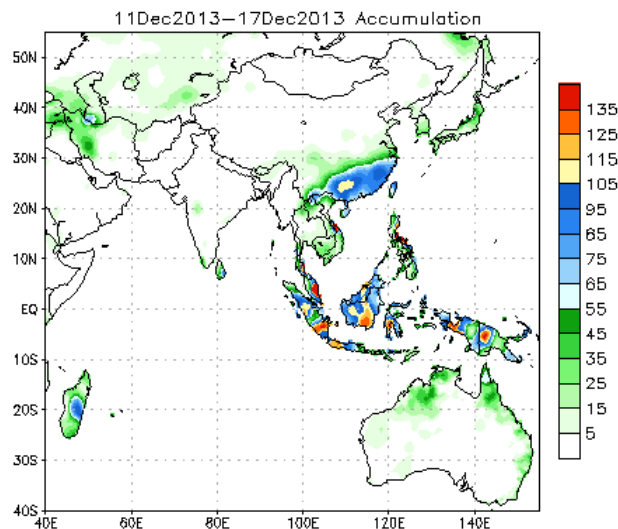


Weekly Average SST Anomalies ($^{\circ}$ C), 1st-7th December, 2013

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

2. Predictions

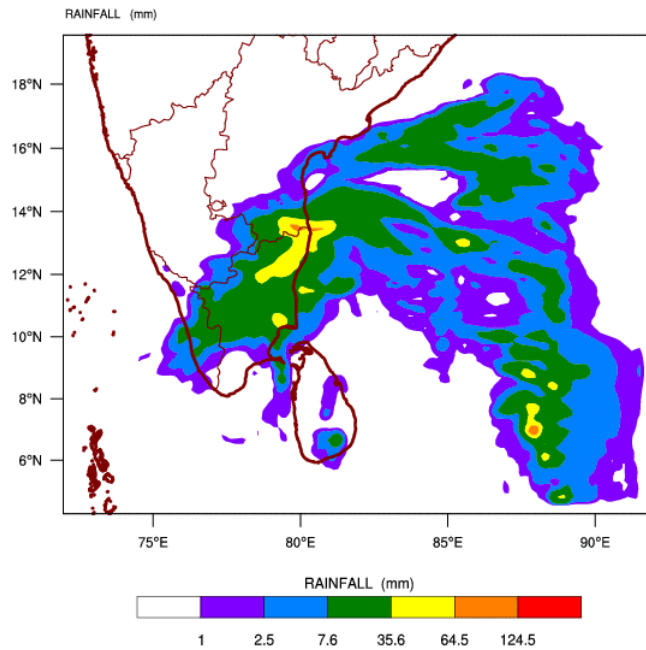
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



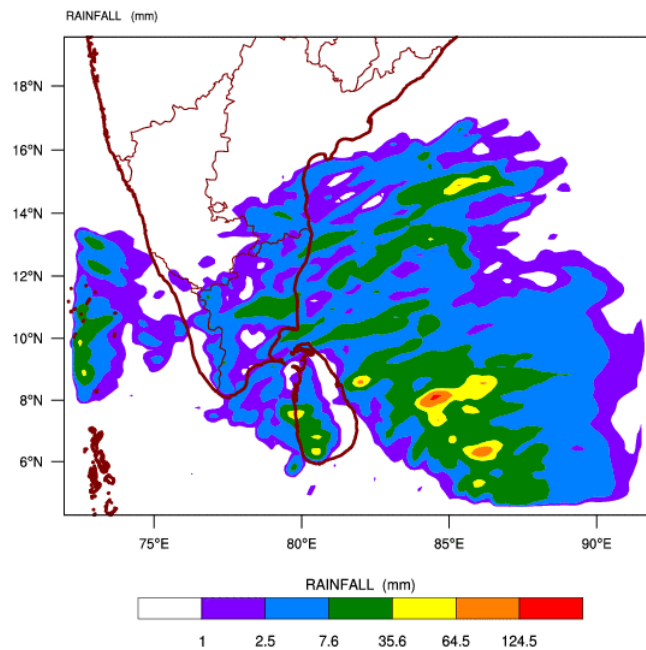
Source – NOAA Climate Prediction Center

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

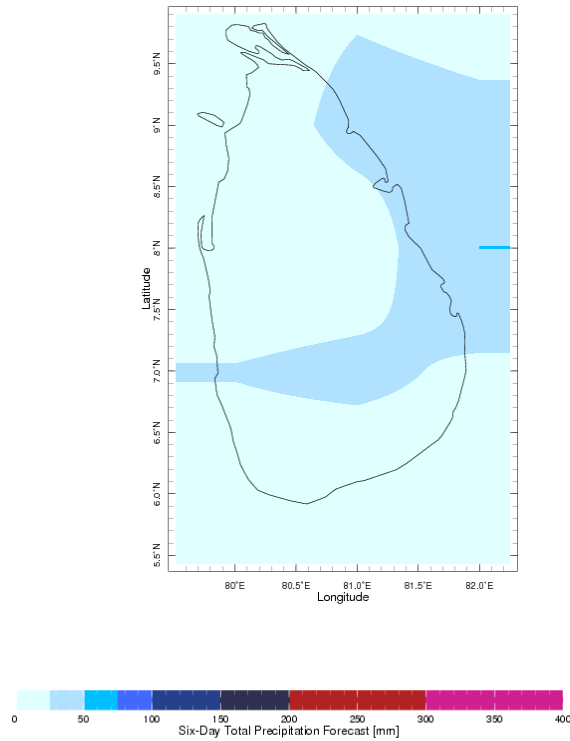
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 11-12-2013 valid for 03 UTC of 13-12-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 11-12-2013 valid for 03 UTC of 14-12-2013



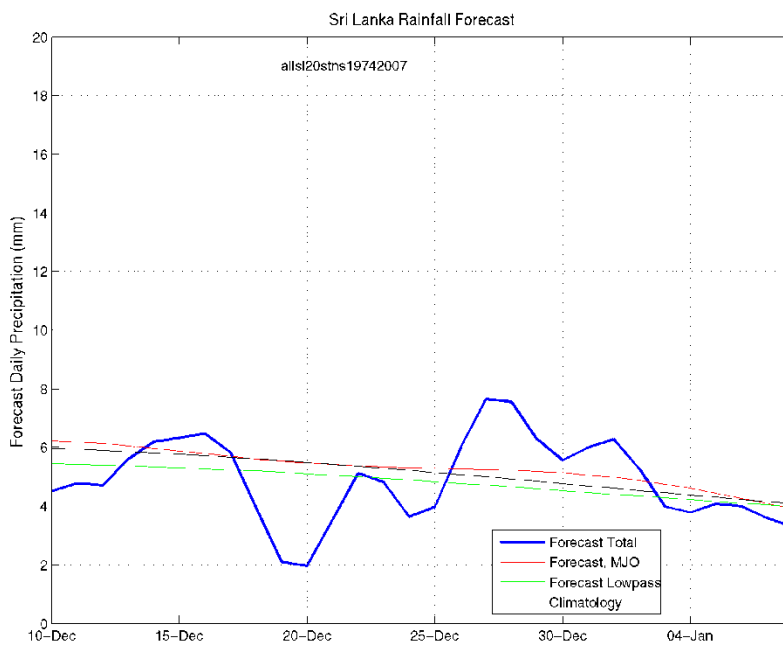
c) Weekly Precipitation Forecast for 10th-16th December 2013 (Precipitation Forecast in Context Map Tool, IRI)



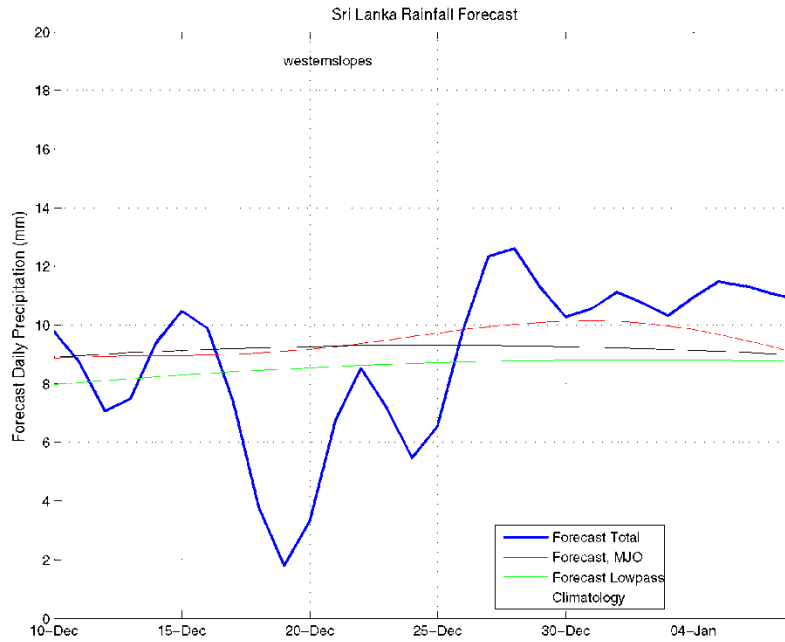
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 11th December, 2013

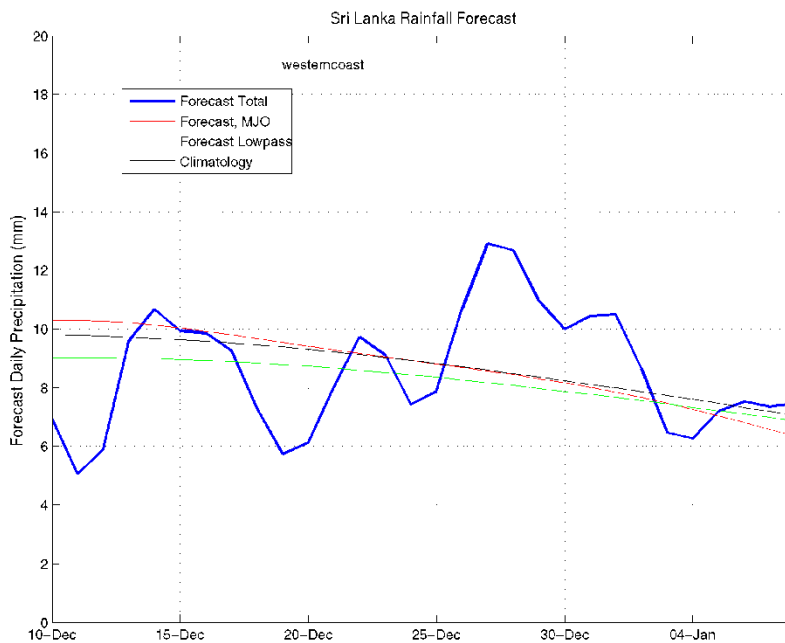
All Sri Lanka (Rainfall Scale from 0-20mm/day)



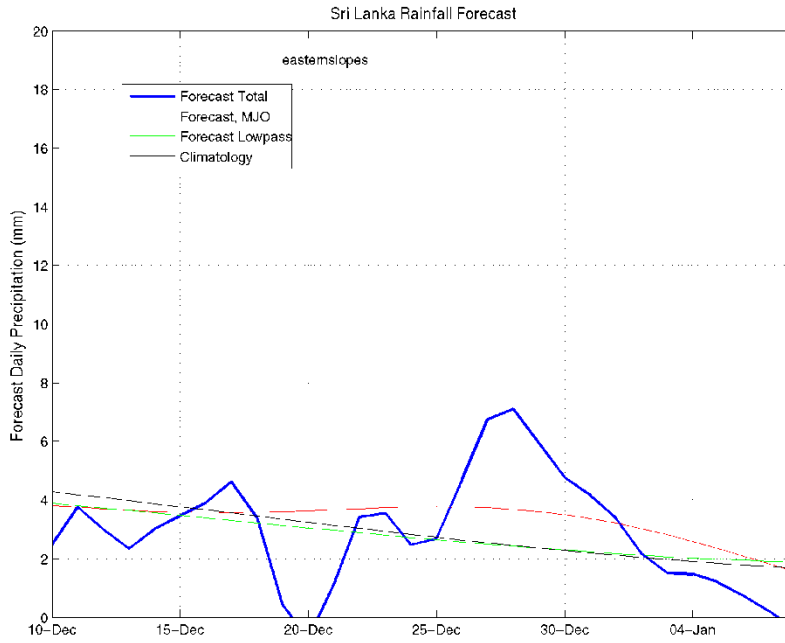
Western Slopes (Rainfall Scale from 0-20 mm/day)



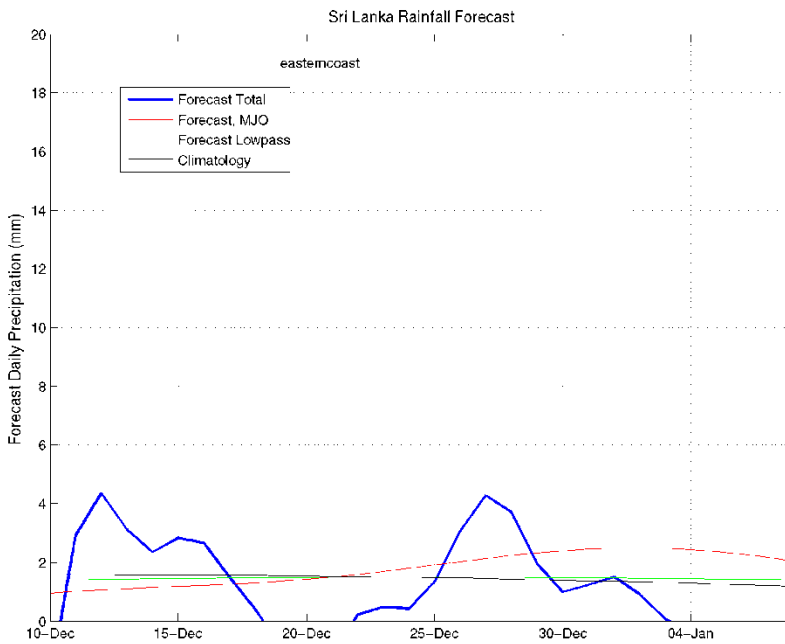
Western Coast (Rainfall Scale from 0-20 mm/day)



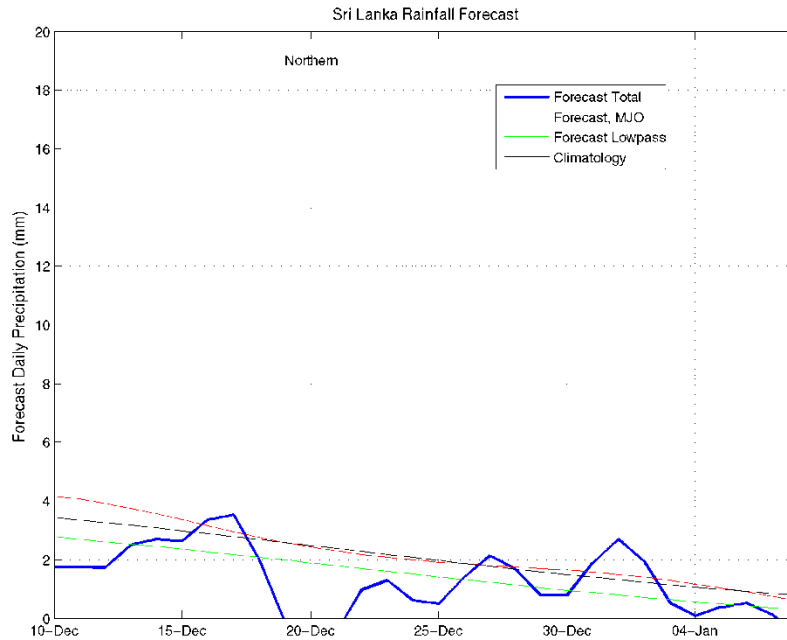
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



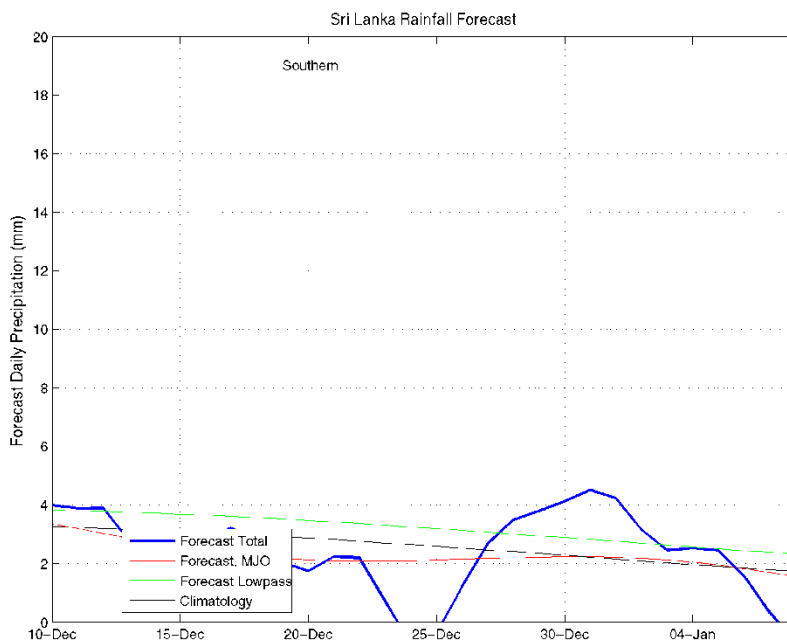
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

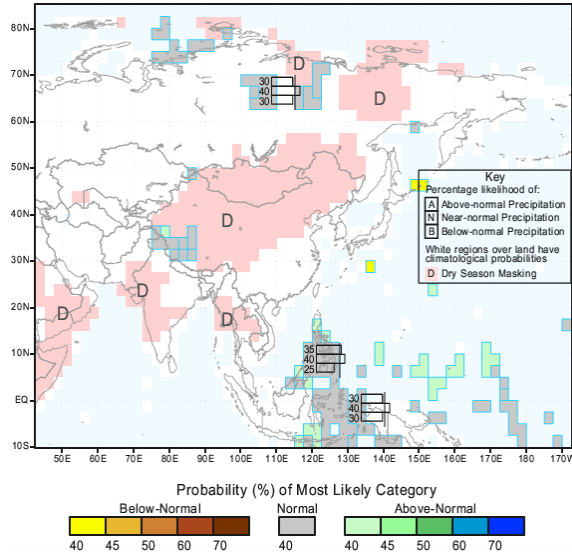


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for December-January-February 2014, Issued November 2013



IRI Multi-Model Probability Forecast for Temperature
for December-January-February 2014, Issued November 2013

