

Experimental Climate Monitoring and Prediction

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9 January 2014

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/>

19 December, 2013 PACIFIC SEAS STATE

During November through early December the observed ENSO conditions remained neutral.

Most of the ENSO prediction models indicate a continuation of neutral ENSO into early 2014.

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

(Text Courtesy IRI)

INDIAN OCEAN STATE

Northern sea of Sri Lanka showed -1°C anomaly and rest of the seas around Sri Lanka showed neutral sea surface temperature during 29th December 2013-4th January 2014.

MJO STATE

MJO state is neutral.

Highlights

Monitoring and Predictions:

An increasing trend in rainfall observed over the northern part of the country from 3rd -5th January as a result of the formation of deep depression in Northwestern parts of the Sri Lankan Sea. However, Central and Southern provinces are likely to experience moderate rainfall during 7th and 12th January. The models predict rainy conditions between 7.5 and 35.5 mm over the country.

Summary

Monitoring

Weekly Monitoring: During 2nd to 6th January Northern coasts of the country received heavy rainfall ranged up to 80 mm/day. Maximum rainfall observed on 5th January for Jaffna, and some parts of Northern Province. Presence of a deep depression in the northern Sri Lankan sea imparts heavy rainfall conditions over the Jaffna district. Jaffna, Mullativu, Killinochchi and eastern districts experience almost similar rainy condition.

Monthly Monitoring: Ampara, Batticaloa, Badulla, Monaragala and Jaffna districts received highest average rainfall during the month of December 2013.

Predictions

7-day prediction: During 7th-12th January 2014, except the southern parts, Sri Lanka shall experience moderate rainy condition with rainfall less than 50 mm/day.

IMD WRF & IRI Model Forecast: For 10th of January, IMD WRF model predicts rainfall between 7.5 mm and 35.5 mm/day for Central and southern parts of the country and rest of the regions shall remain dry. For 9th of January, IMD WRF model predicts heavy rainfall more than 35.5 mm for almost all part of the country.

30 Days Prediction: Overall- Rainfall shall decrease gradually from 7th of January. The rainfall shall vary less than 5mm/day. **Western Slopes** –Rainfall shall decrease gradually from about 16mm during 7st-12th January. **Western Coast** – Similar pattern as Western slopes. Continuous data is not available for **Northern, Southern and Eastern** parts till 12th of January.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on December 2013; for December 2013 to March 2014, there is a 50-60% probability for temperature to be above normal in the country while the rainfall is to be climatological.

side this Issue

Monitoring

- Daily Satellite Derived Rain fall Estimates
- Monthly Rain fall Estimates
- Decadal (10 Day) Satellite Derived Rainfall Estimates
- Weekly Average SST Anomalies

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

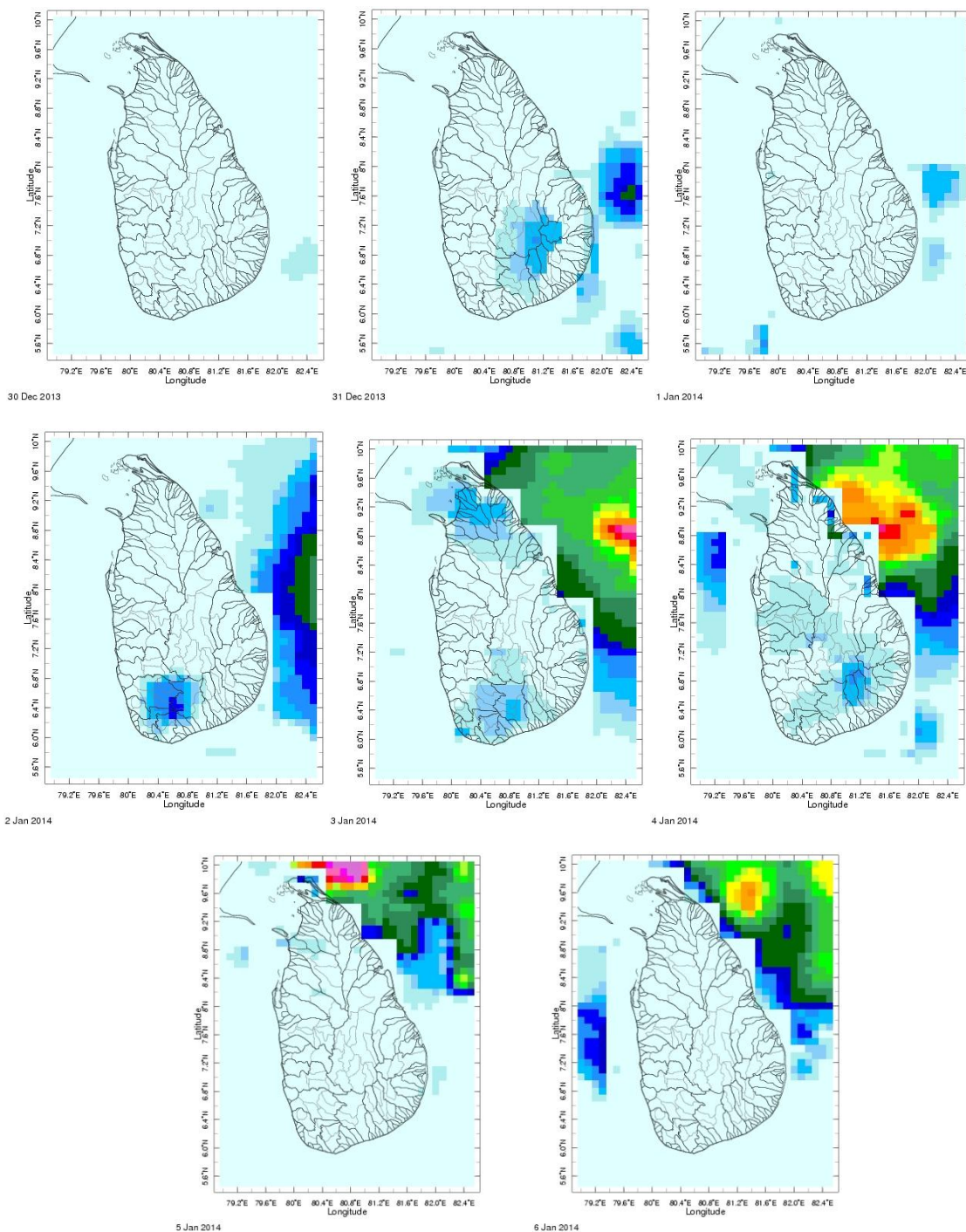
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

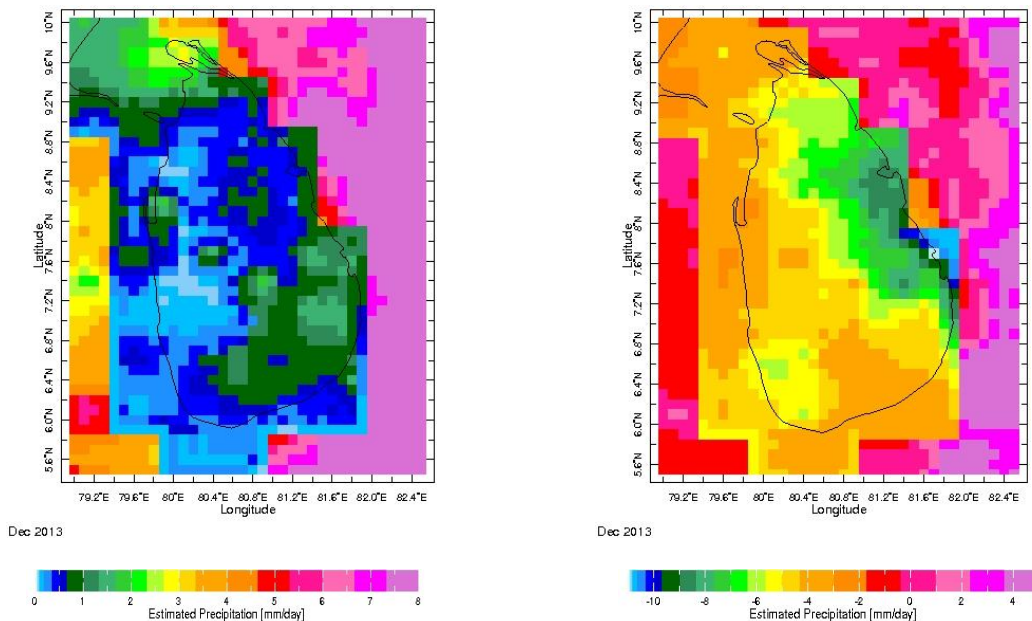
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

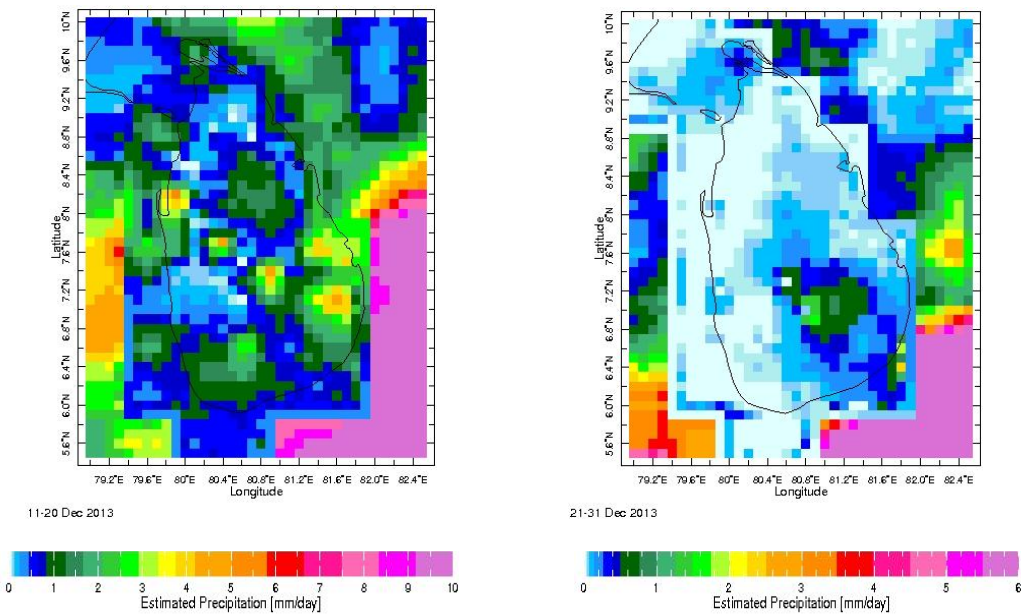
a) Daily Satellite Derived Rainfall Estimate Maps: 30th December 2013-6th January 2014 (Left-Right, Top-Bottom)



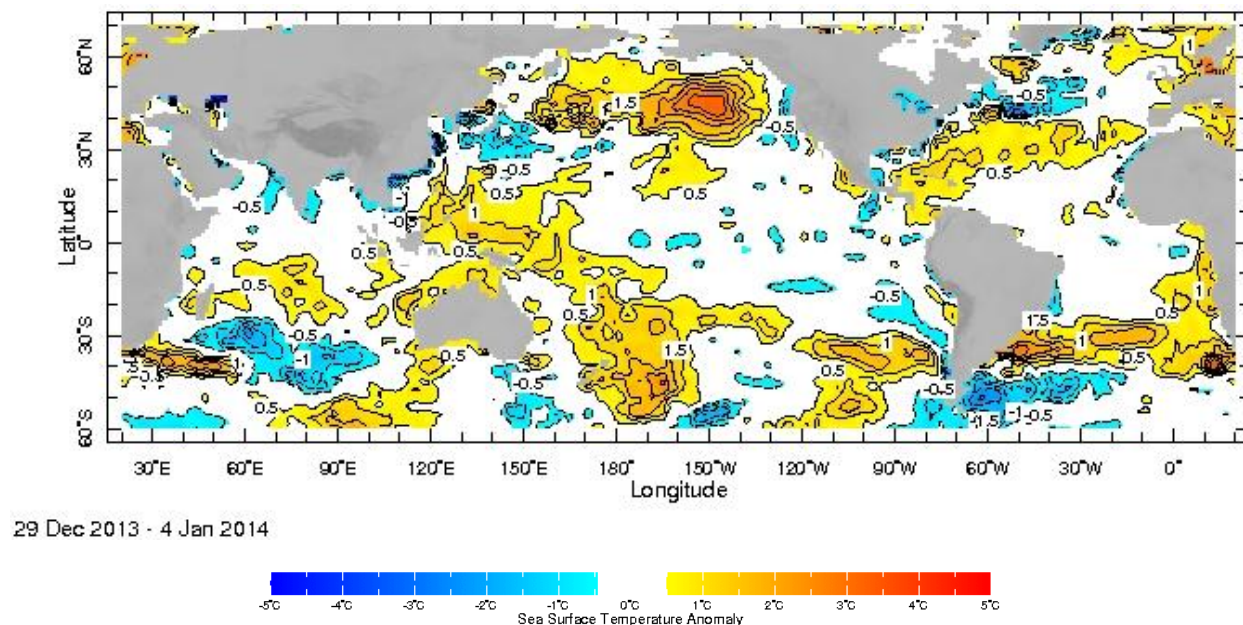
b) Monthly Satellite Derived Rainfall Estimates for December 2013 (Total – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 December & 11-20 December, 2013)



d) Weekly Average SST Anomalies



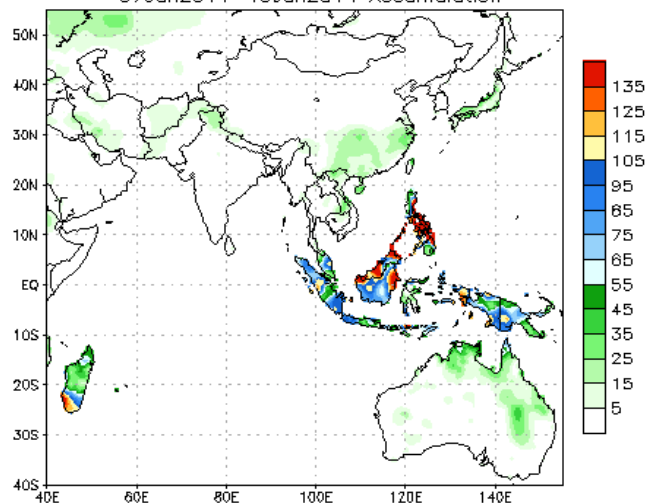
Weekly Average SST Anomalies ($^{\circ}\text{C}$), 29th December, 2013 - 4th January, 2014

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

2. Predictions

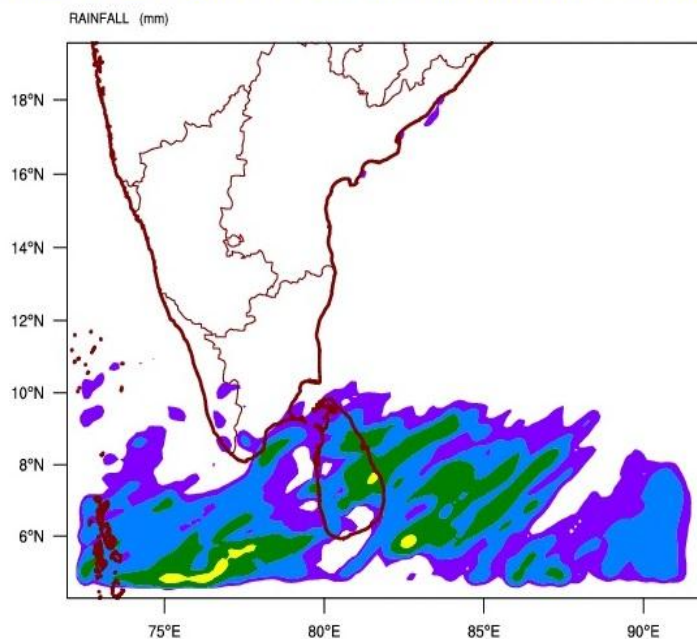
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 07Jan2014
07Jan2014-13Jan2014 Accumulation

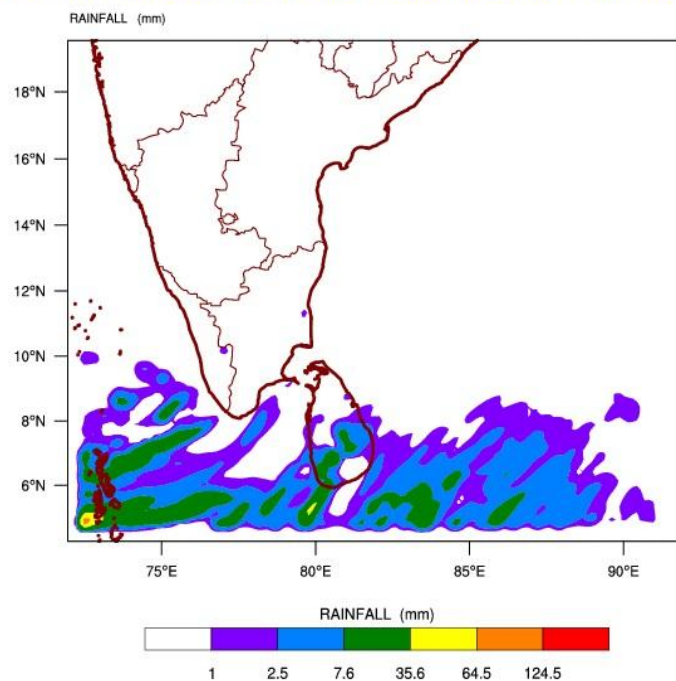


b) WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)

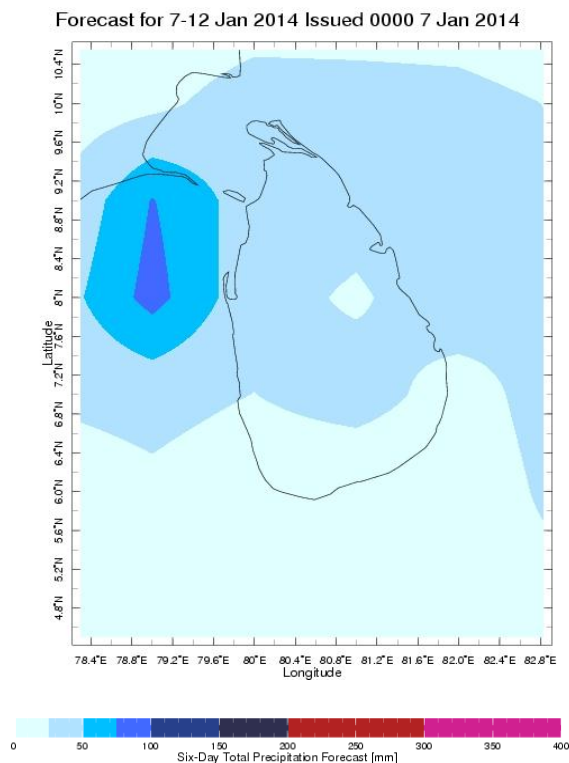
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 07-01-2014 valid for 03 UTC of 09-01-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 07-01-2014 valid for 03 UTC of 10-01-2014



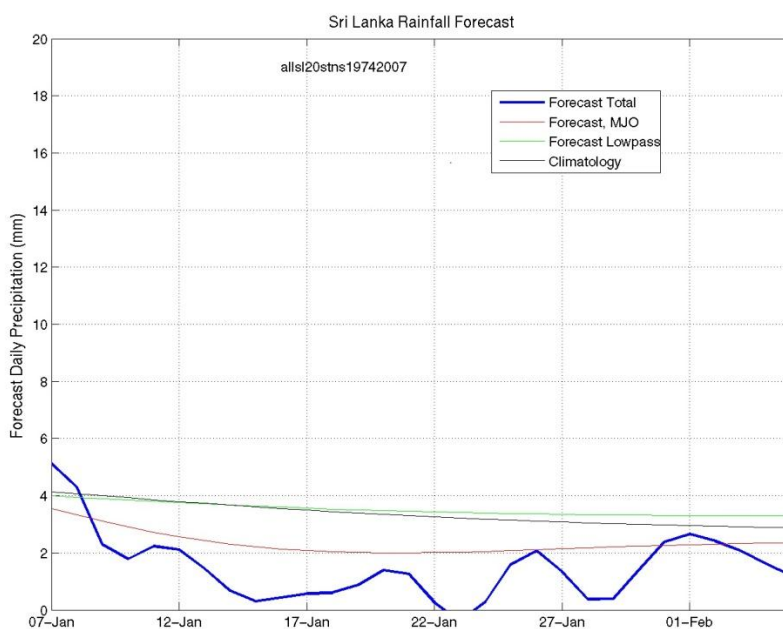
c) Weekly Precipitation Forecast for 7th -12th January 2014 (Precipitation Forecast in Context Map Tool, IRI)



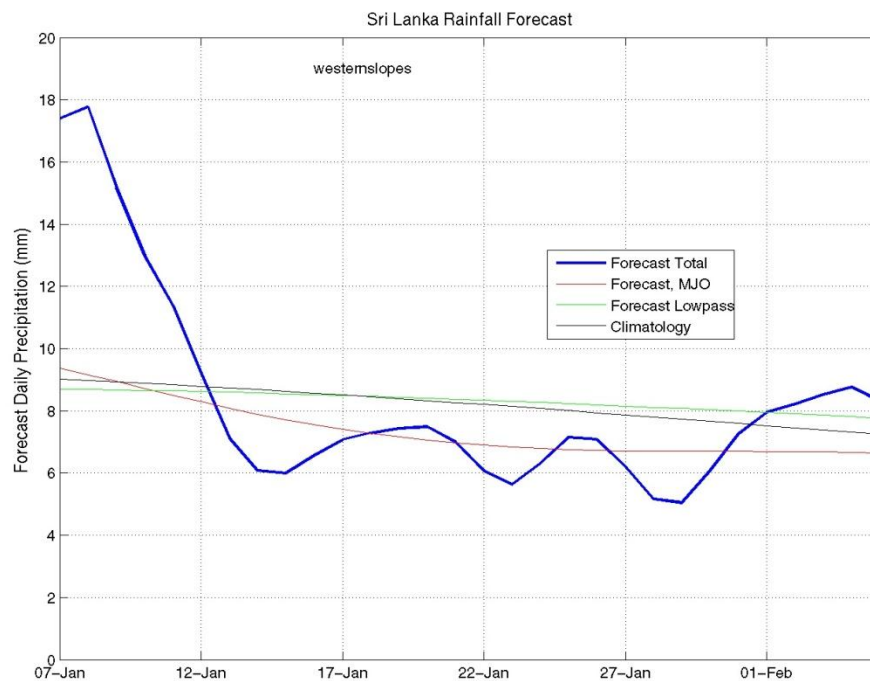
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 8th January, 2014

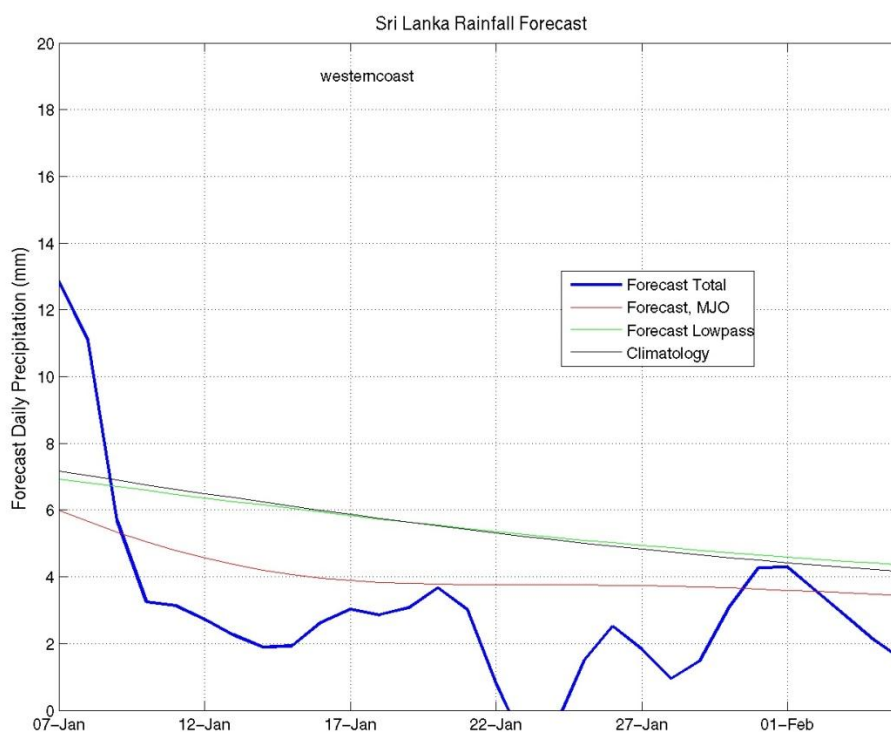
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



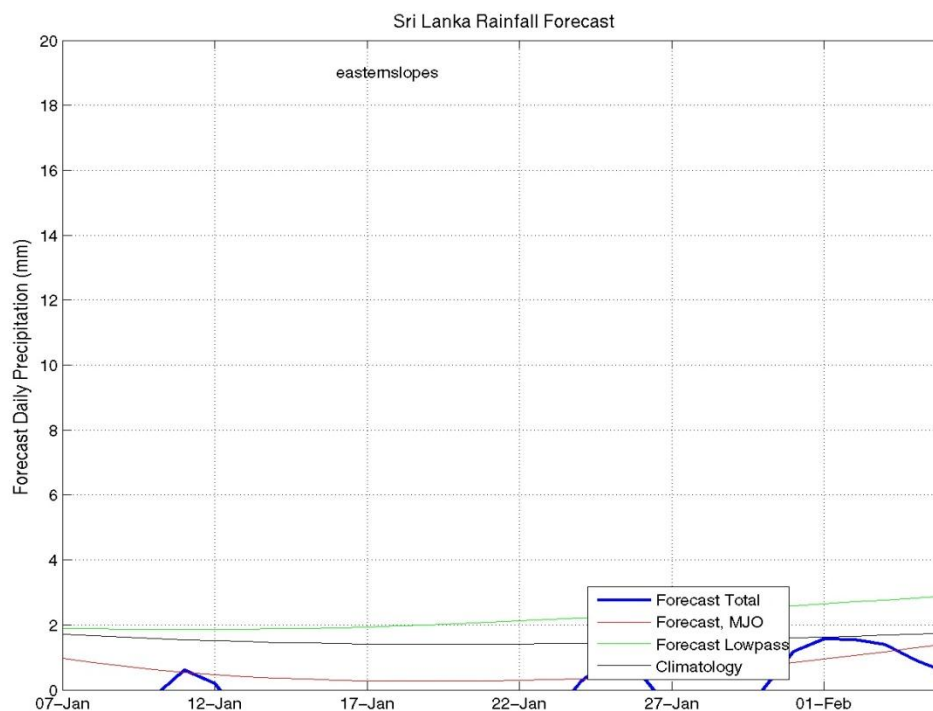
Western Slopes (Rainfall Scale from 0-20 mm/day)



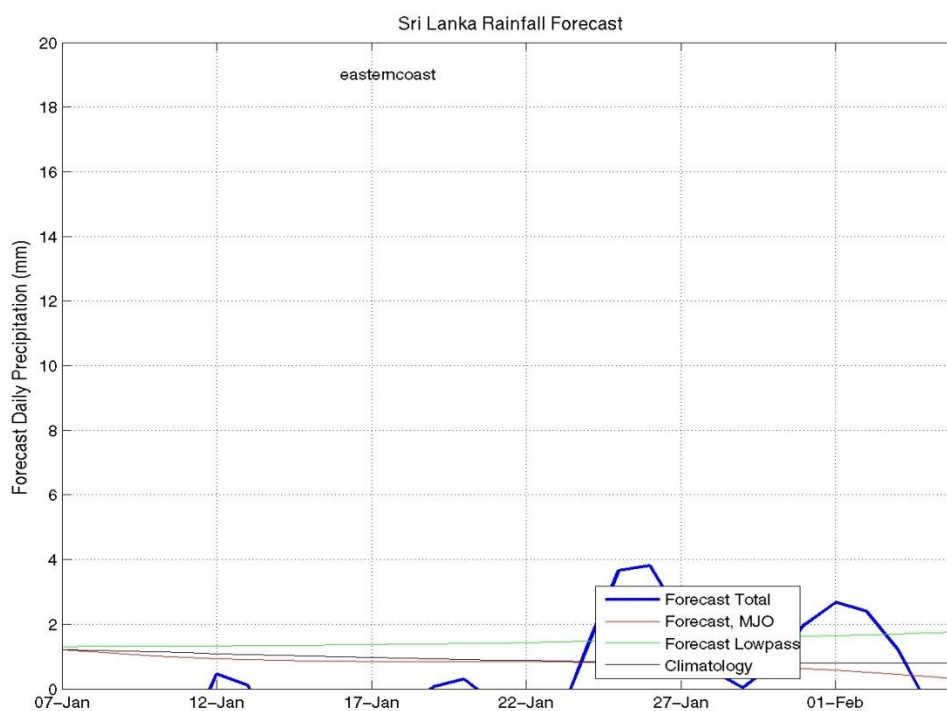
Western Coast (Rainfall Scale from 0-20 mm/day)



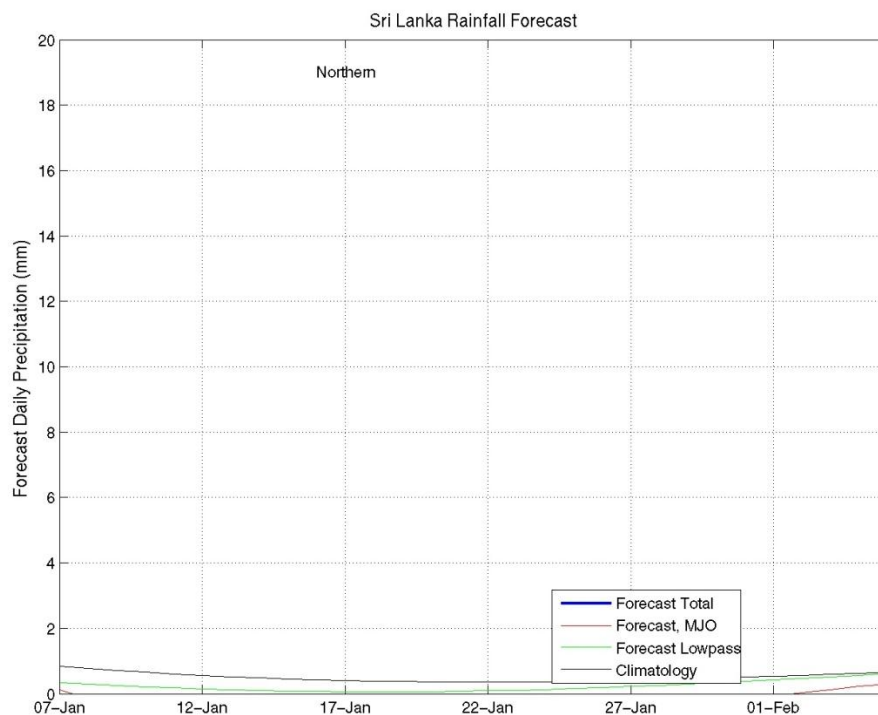
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



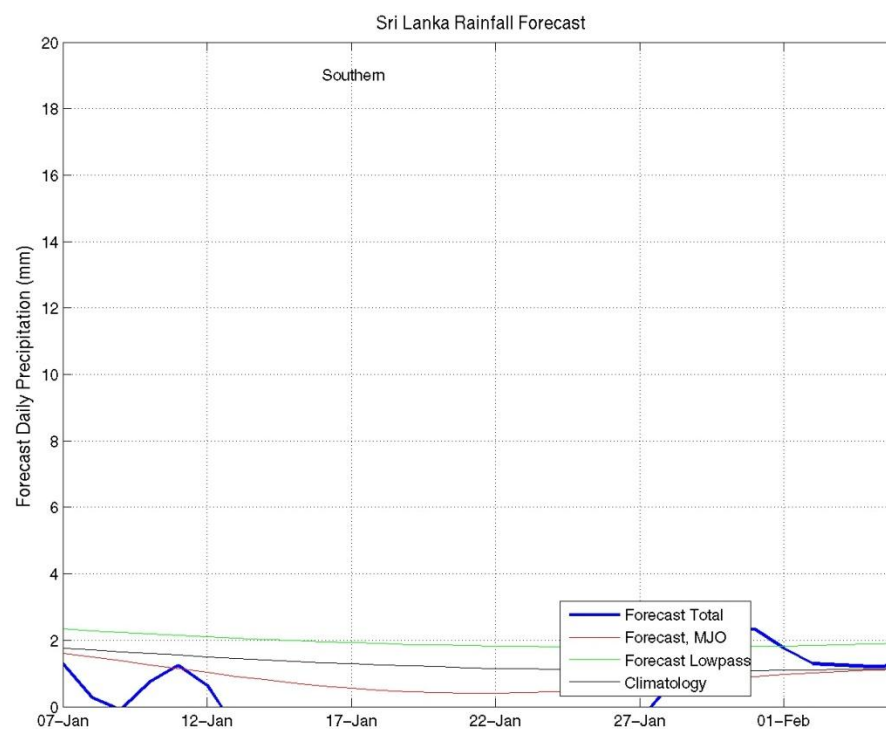
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

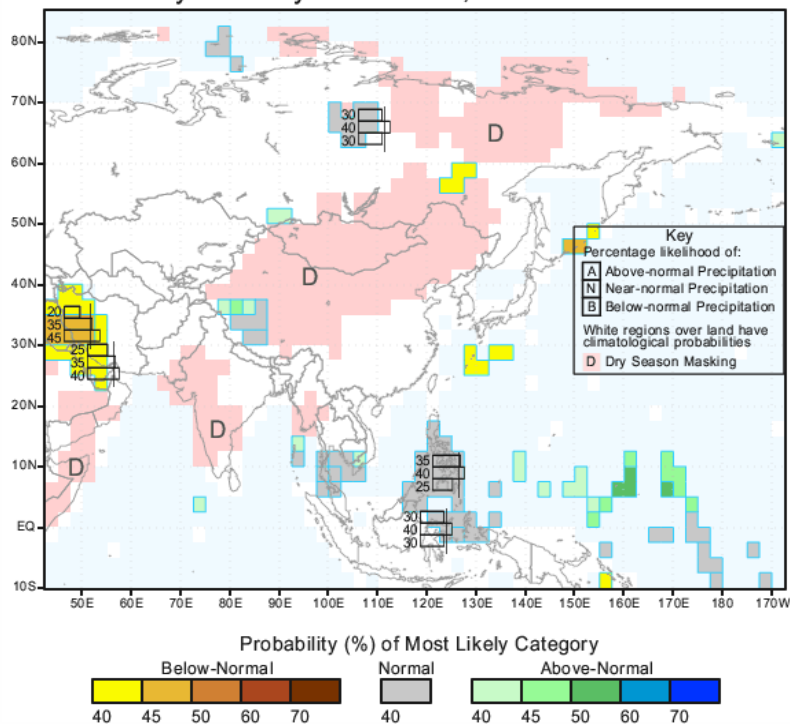


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

