

Experimental Climate Monitoring and Prediction

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2 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

Southern sea of Sri Lanka showed +1⁰C anomaly and rest of the seas around Sri Lanka showed neutral seas surface temperature during 22nd-28th December 2013.

MJO STATE

MJO state is neutral.

Highlights

Monitoring and Predictions:

A decrease in rainfall compared to normal was observed over the country from 24th -29th December. The North-Eastern provinces are likely to receive significant rainfall during 2nd and 3rd January. The models predict rainy conditions less than 7.5 mm over the other parts of the country during this period. Overall the first week of January is likely to have rainfall up to 35 mm for the 1-7th period.

Summary

Monitoring

Weekly Monitoring: During 24th December Central province got rainfall ranging from 5-10 mm/day. Maximum rainfall observed on 24th December for Kandy, and some parts of Badulla district. Rest of the days received lower amount of rainfall compared to the beginning of the week.

Monthly Monitoring: Nuwara-Eliya, Ratnapura and Monaragala districts received highest average rainfall during the month of November 2013.

Predictions

7-day prediction: During 1st -7th January 2014, entire Sri Lanka shall experience a mild rainfall condition less than 55 mm. Eastern parts of the country shall experience heavy rainfall compared to the other parts of the country.

IMD WRF & IRI Model Forecast: For 2nd of January, IMD WRF model predicts less than 2.5 mm of rainfall for Eastern province and rest of the regions shall remain dry. For 3rd of January, IMD WRF model predicts heavy rainfall more than 64.5 mm of rainfall for Eastern and central province. Rest of the country shall receive rainfall less than 7.5 mm/day. IRI model predicts heavy rainfall less than 100mm for the northern and northwestern provinces. Rest of the country will receive rainfall less than 75mm.

30 Days Prediction: Overall- Rainfall shall increase gradually till 3rd of January. After that rainfall shall decrease. **Western Slopes** – Rainfall shall increase gradually about 14mm during 1st-4th January and it shall decrease gradually thereafter. **Western Coast** – Rainfall shall increase up to 10 mm/day till 4th January. **Eastern Slopes**– Rainfall shall increase slightly till 3rd of January below 3mm/day. No data is available thereafter. **Eastern Coast** – The rainfall shall increase till 3rd January. Thereafter data is not available. **Northern region** shall follow the similar conditions as eastern coast. **Southern Region-** The rainfall is likely increasing between 2-6 mm/day till 3rd 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

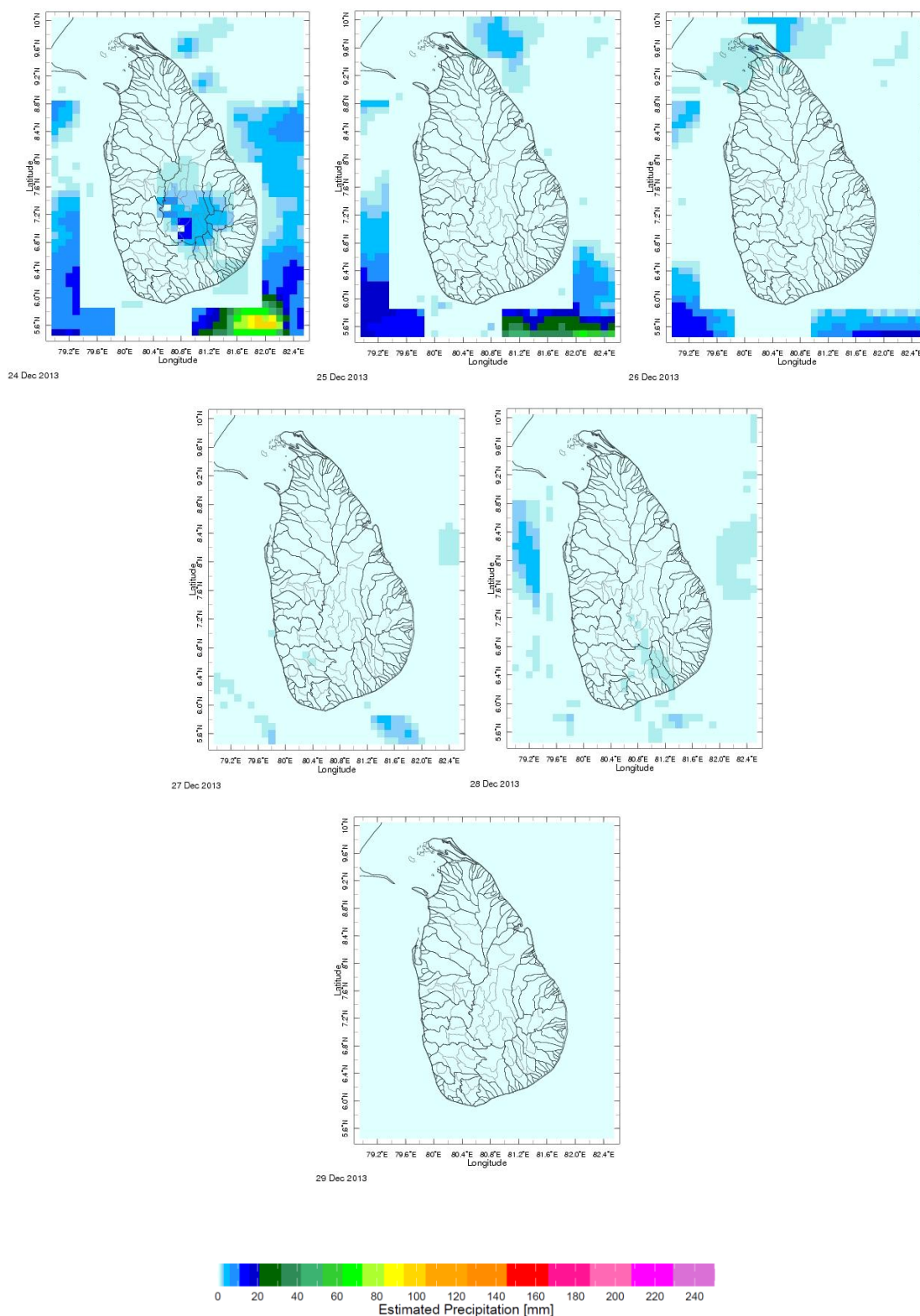
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

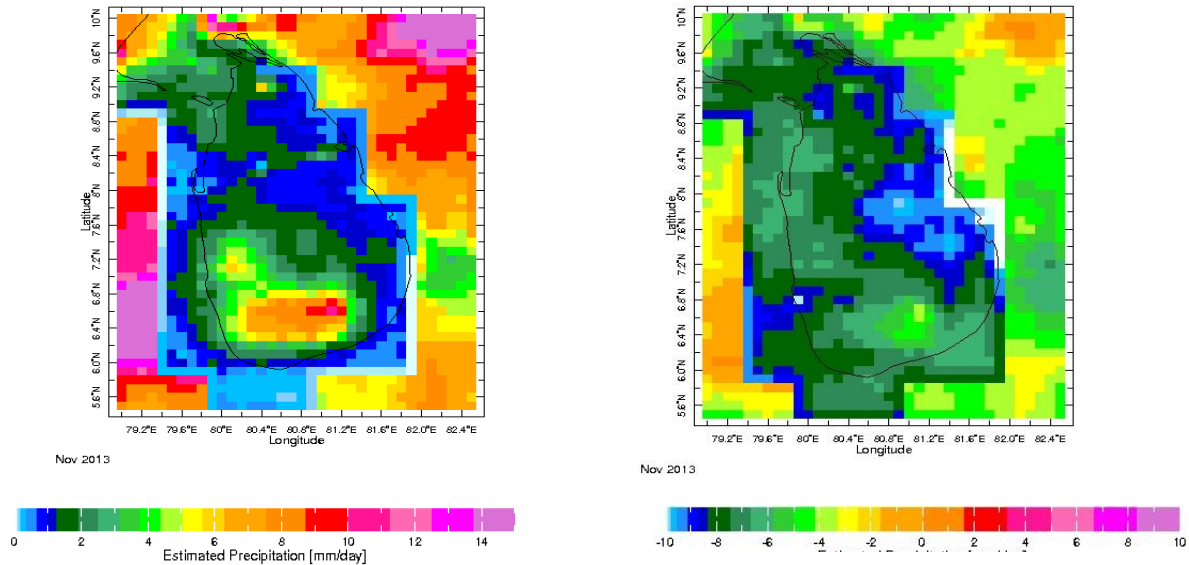
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

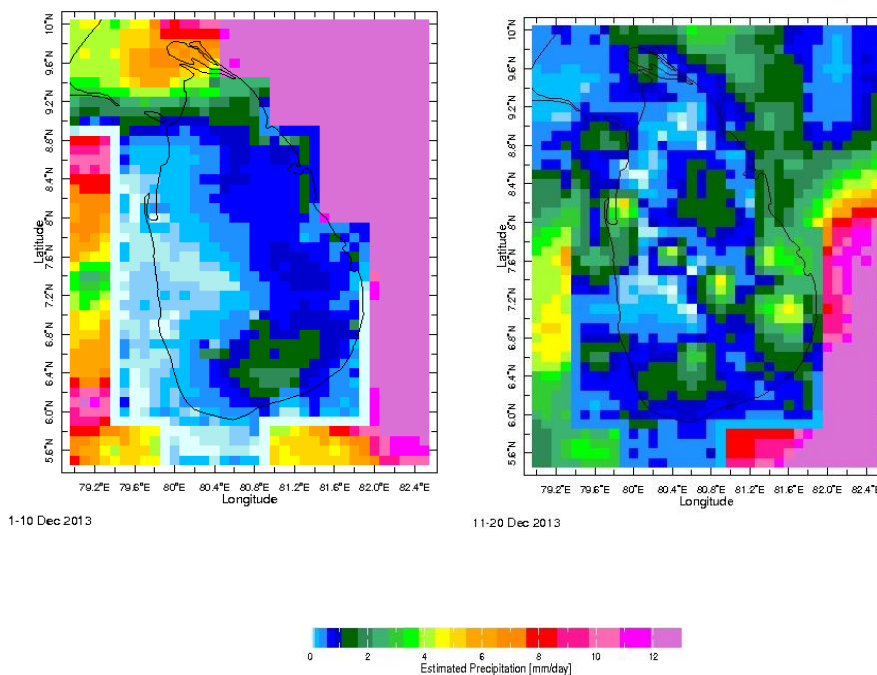
a) Daily Satellite Derived Rainfall Estimate Maps: 24th-29th December 2013 (Left-Right, Top-Bottom)



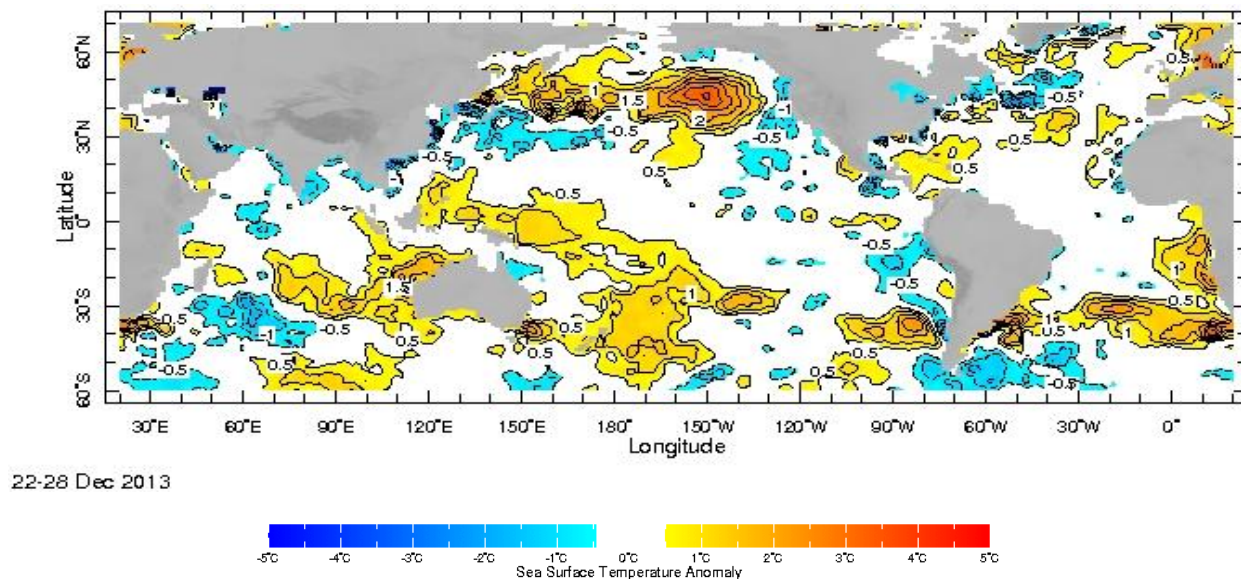
b) Monthly Satellite Derived Rainfall Estimates for November 2013 (Total – Left and Anomaly - Right)



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



d) Weekly Average SST Anomalies



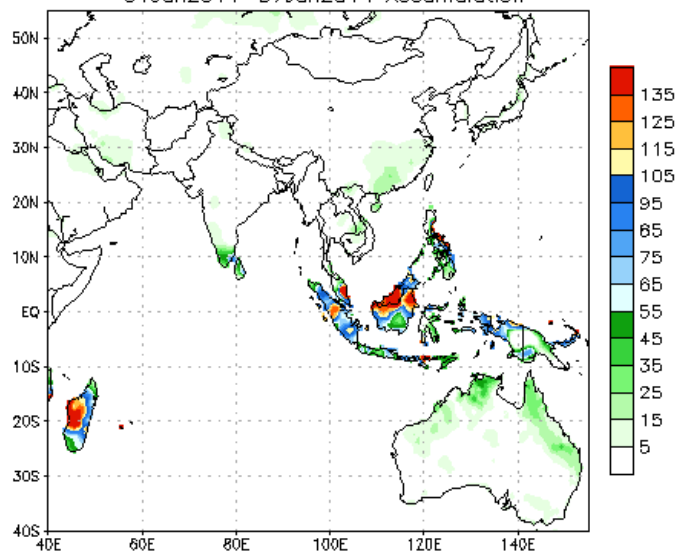
Weekly Average SST Anomalies ($^{\circ}\text{C}$), 22nd-28th December, 2013

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

2. Predictions

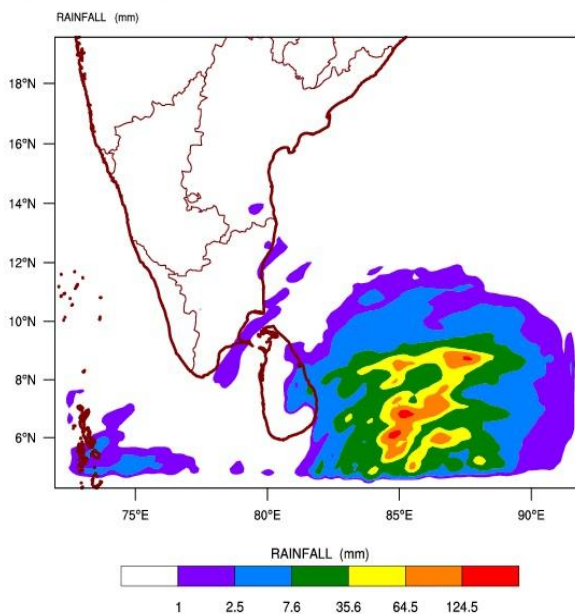
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 01Jan2014
01Jan2014-07Jan2014 Accumulation

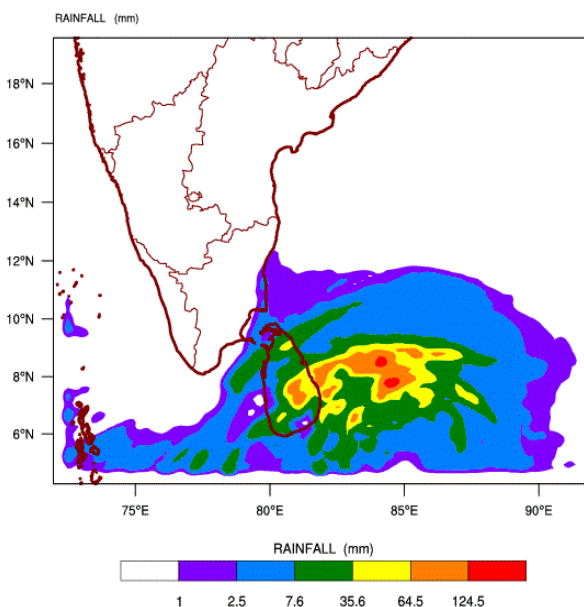


b) WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)

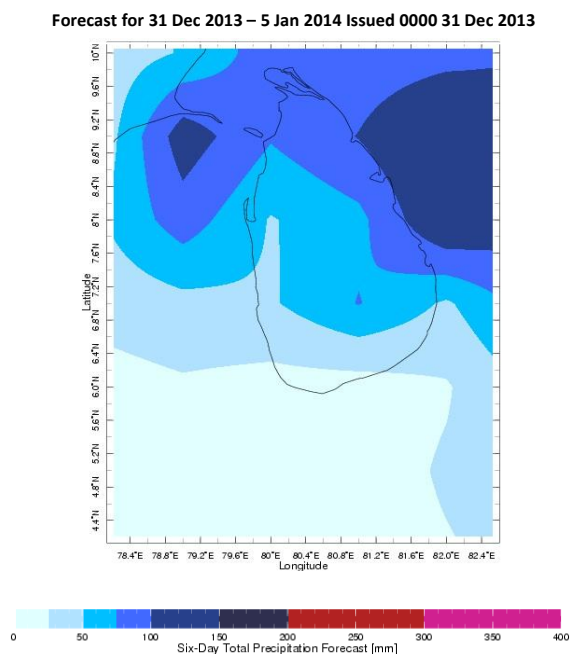
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 31-12-2013 valid for 03 UTC of 02-01-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 31-12-2013 valid for 03 UTC of 03-01-2014



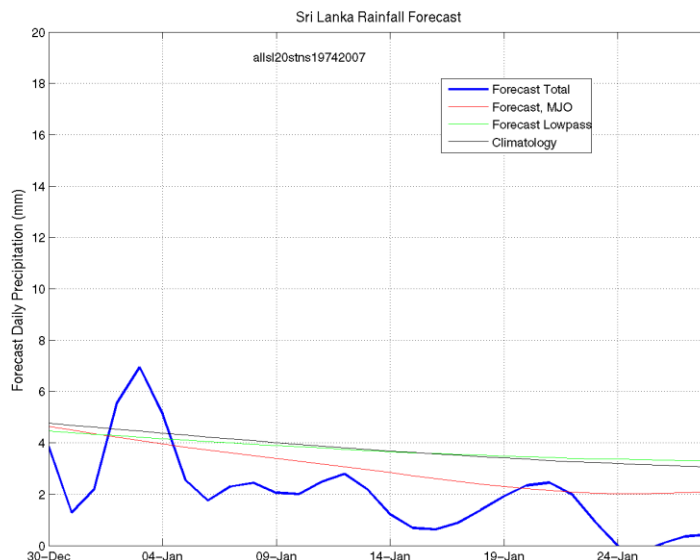
c) Weekly Precipitation Forecast for 31st -5th January 2014 (Precipitation Forecast in Context Map Tool, IRI)



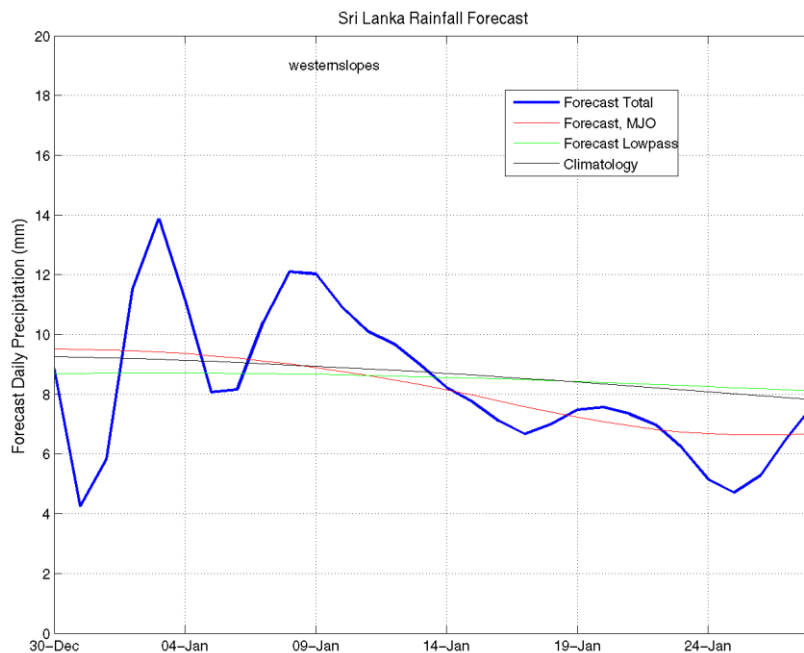
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 31st December, 2013

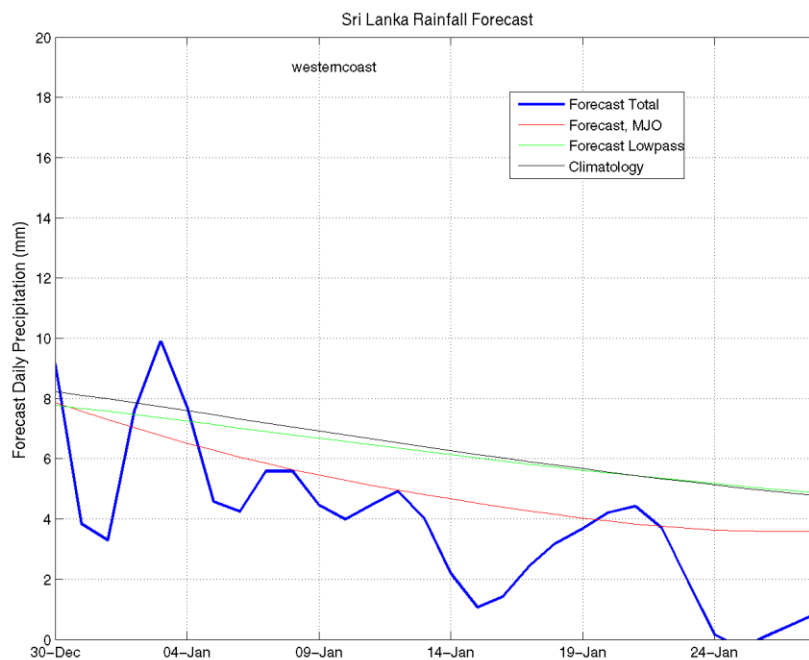
All Sri Lanka (Rainfall Scale from 0-20mm/day)



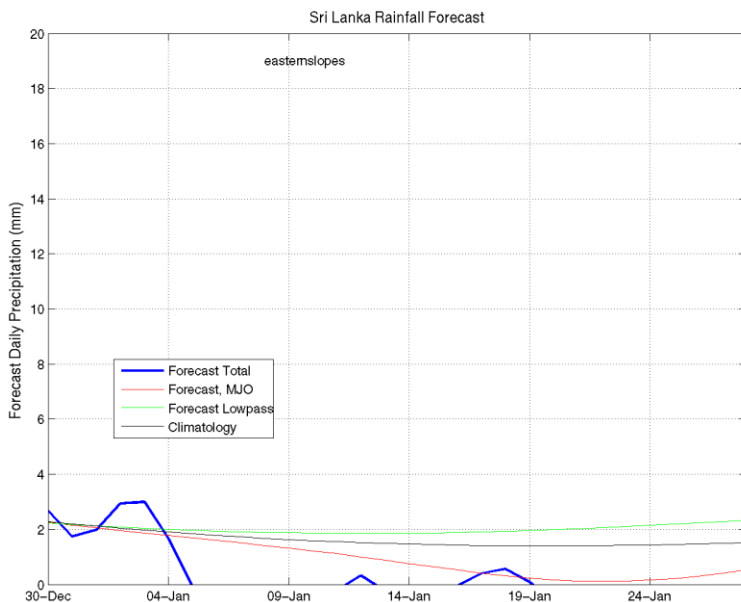
Western Slopes (Rainfall Scale from 0-20 mm/day)



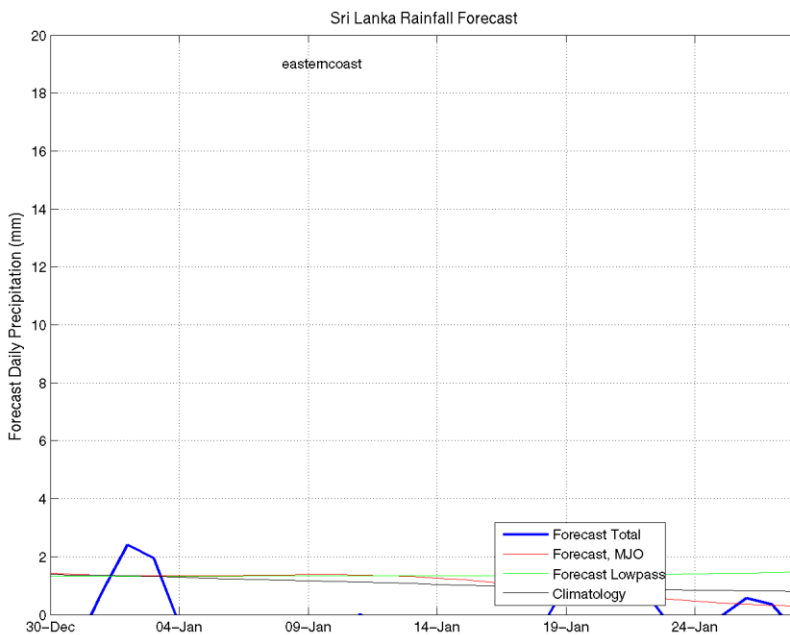
Western Coast (Rainfall Scale from 0-20 mm/day)



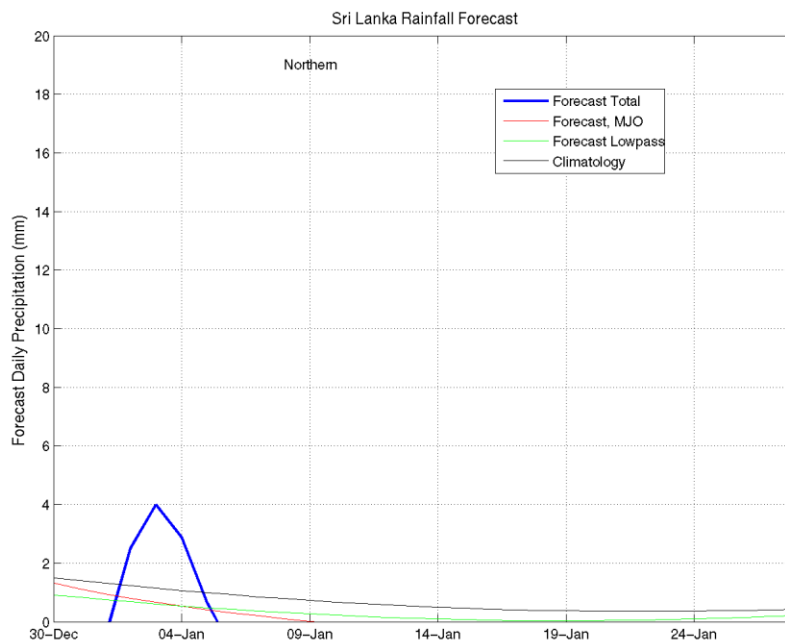
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



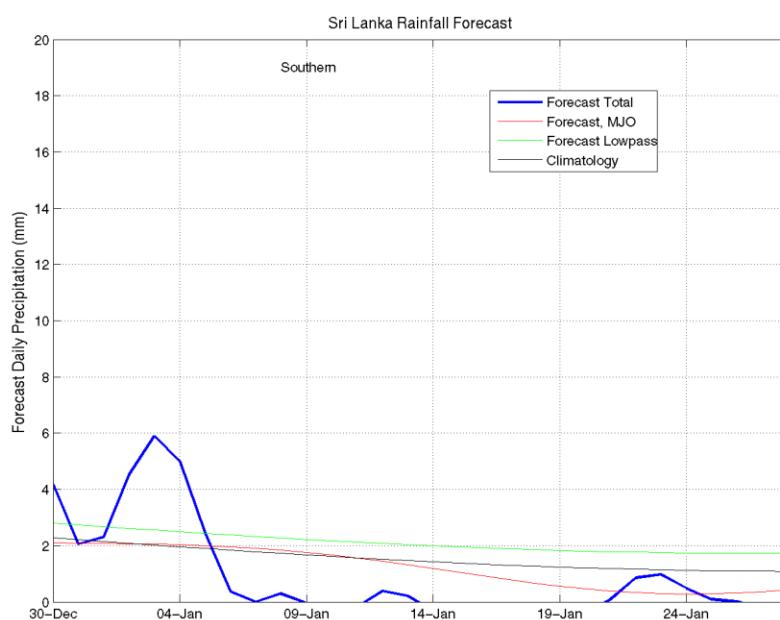
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

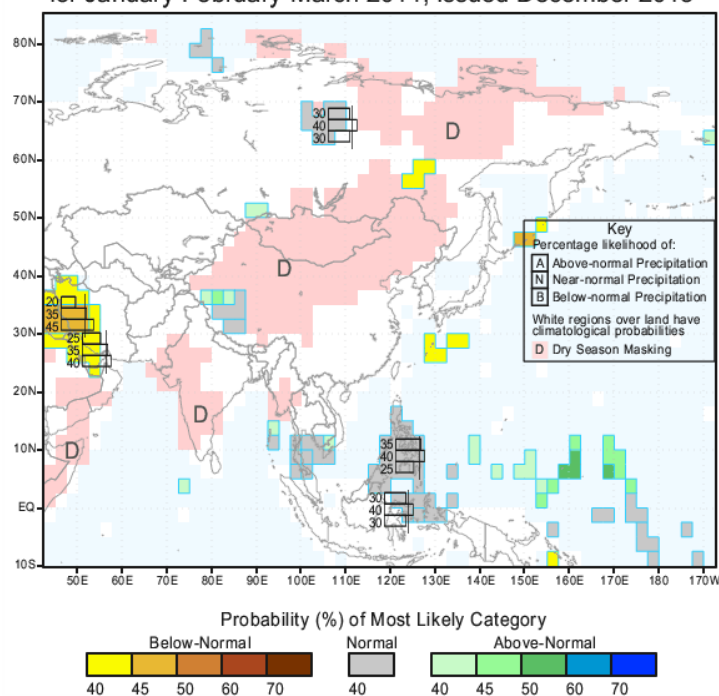


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

