

Experimental Climate Monitoring and Prediction

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26 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/>

December 19, 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 +1^oC anomaly and rest of the seas around Sri Lanka showed neutral seas surface temperature during 24th-30th November 2013.

MJO STATE

Highlights

Monitoring and Predictions:

A decrease trend in rainfall observed over the country from 14th -23rd December. However, Eastern provinces are likely to experience significant rainfall during 28th and 29th December. The models predict dry conditions over the other parts of the country.

Summary

Monitoring

Weekly Monitoring: During 15th December Eastern province got rainfall ranged 10-30 mm/day. Maximum rainfall observed on 15th December for Batticaloa, Polonnaruwa and some parts of Ampara 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 26th December-1st January 2014, entire Sri Lanka received rainfall below 5 mm.

IMD WRF & IRI Model Forecast: For 28th of December, IMD WRF model predicts less than 7.5 mm of rainfall for Eastern and provinces and rest of the regions shall remain dry. For 29th of December, IMD WRF model predicts less than 7.5 mm of rainfall for Western and central province. IRI model predicts dry condition over the country.

30 Days Prediction: Overall- Rainfall shall decrease gradually till 30th of December. **Western Slopes** –Rainfall shall decrease gradually during 25th-30th December and it shall decrease gradually thereafter. **Western Coast** – Rainfall shall vary below 4 mm/day till 30th December. **Eastern Slopes**– Rainfall shall decrease gradually till 30th of December below 2mm/day. **Eastern Coast** – The rainfall is not predicted from 27th December to 3rd January.. Thereafter it shall decrease. **Northern region-** The rainfall decreases and rainfall is not predicted between 27th December to 3rd January. **Southern Region-** The rainfall is likely increasing between 2-6 mm/day till 30th 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

1. Monitoring

- 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

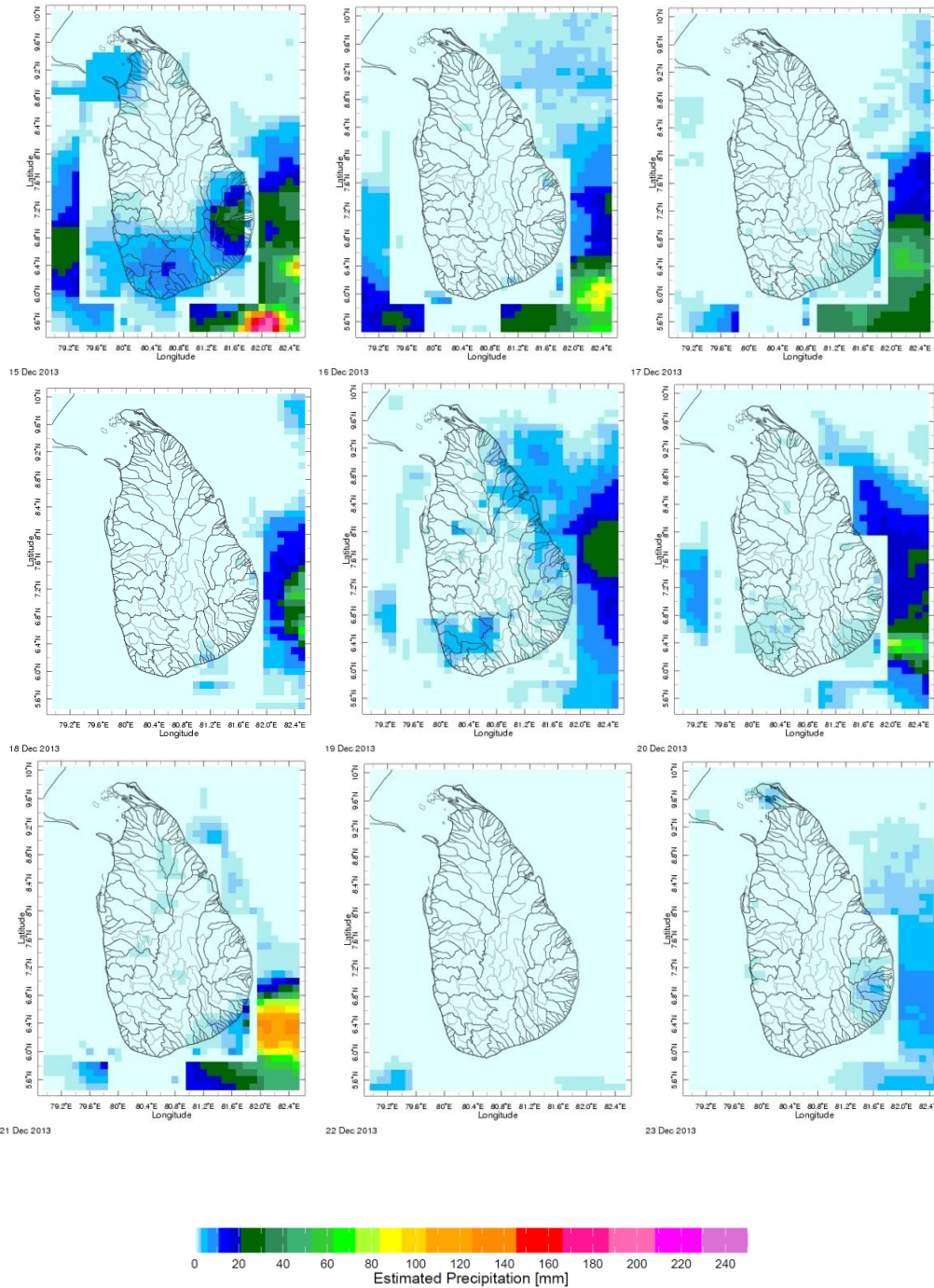
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

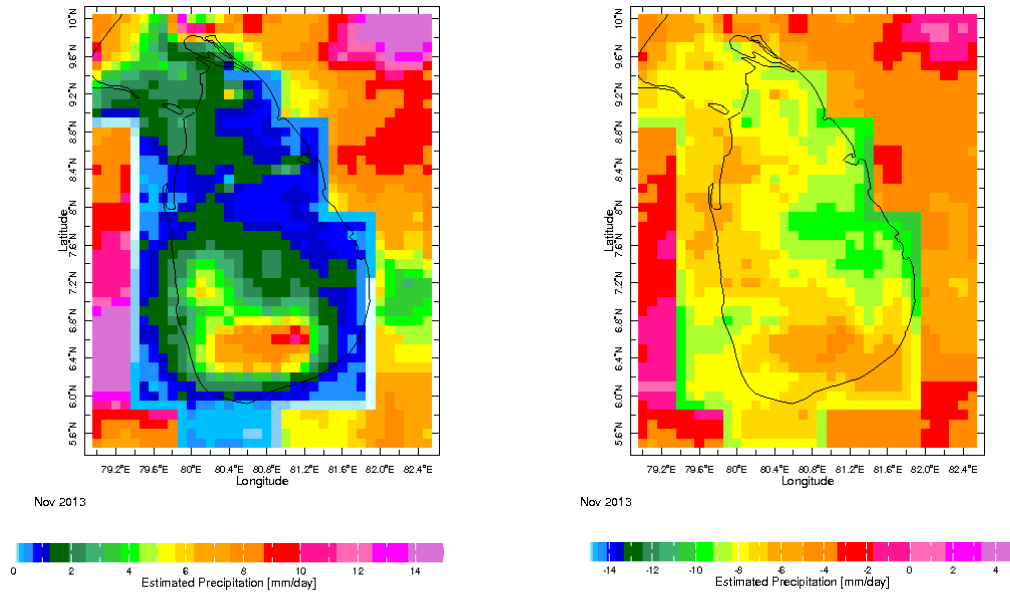
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

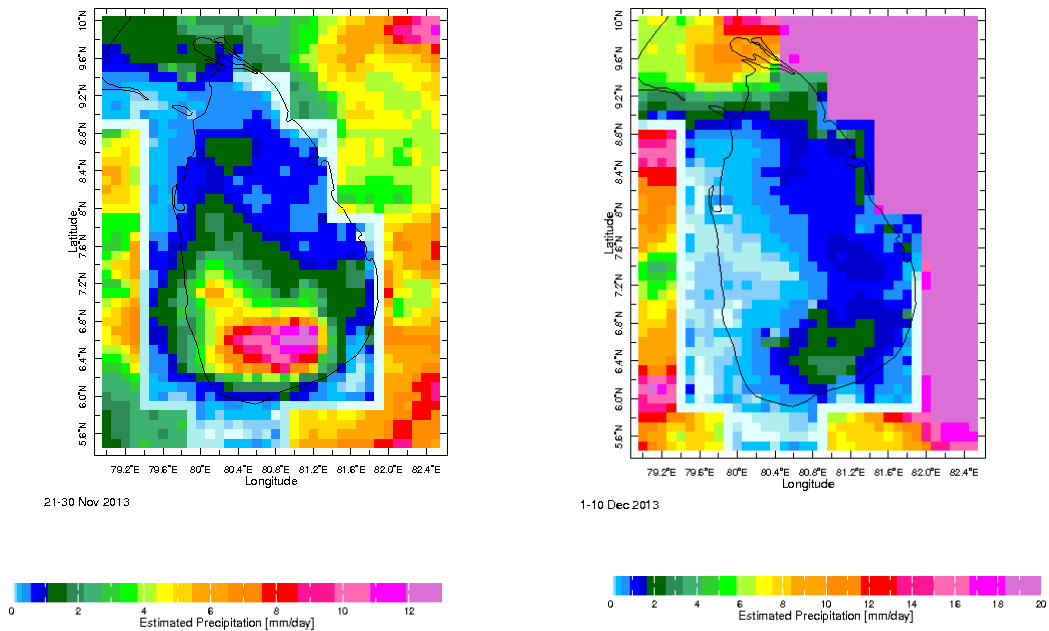
a) Daily Satellite Derived Rainfall Estimate Maps: 14th-23rd December 2013 (Left-Right, Top-Bottom)



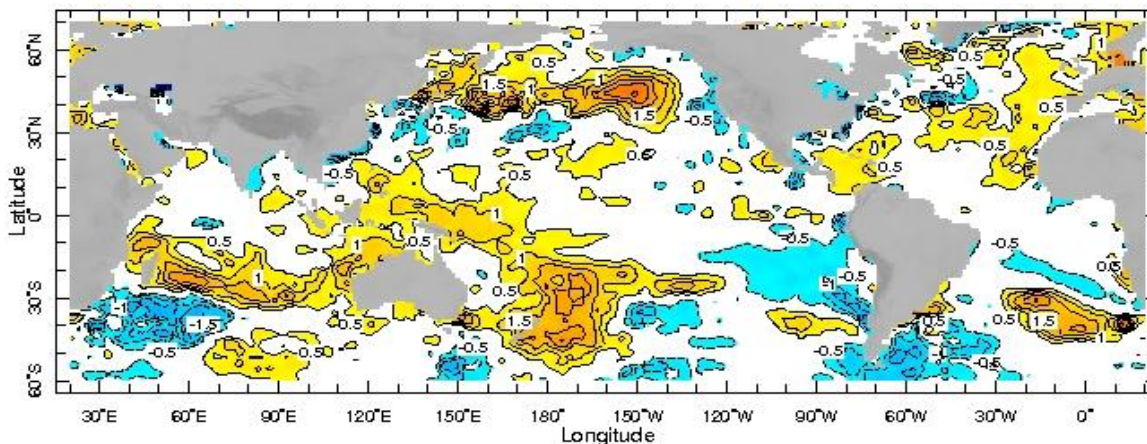
b) Monthly Satellite Derived Rainfall Estimates for November 2013 (Total – Left and Anomaly - Right)



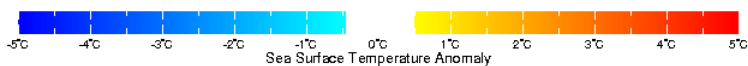
c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-30 November & 01-10 December, 2013)



b) Weekly Average SST Anomalies



15-21 Dec 2013



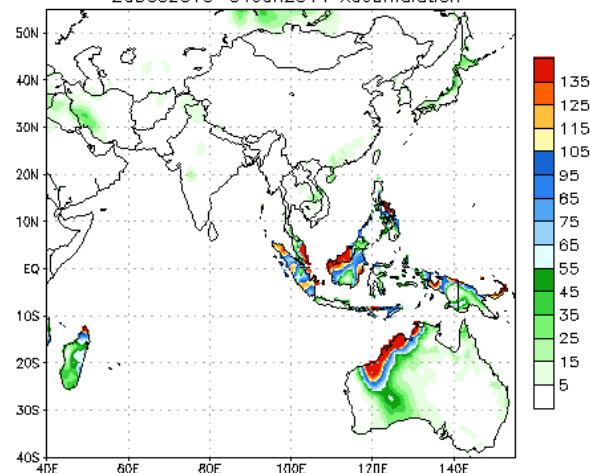
Weekly Average SST Anomalies (°C), 15th-21st December, 2013

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: 26Dec2013
26Dec2013-01Jan2014 Accumulation

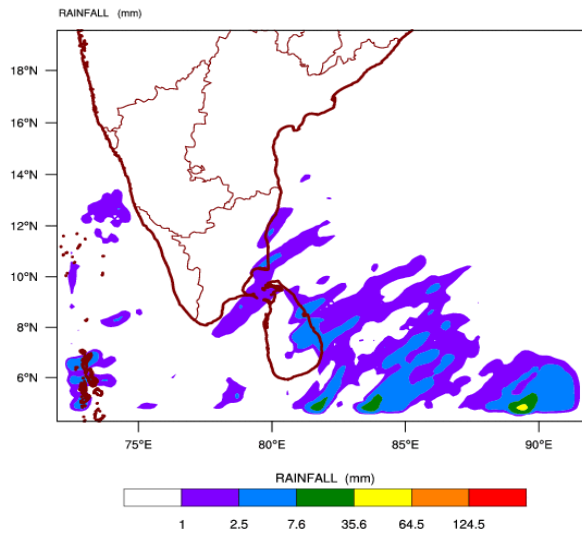


Bias correction based on last 30-day forecast error

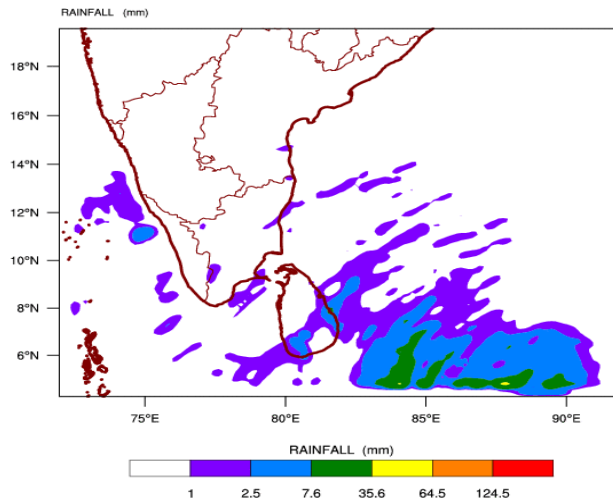
Source – NOAA Climate Prediction Center

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

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 26-12-2013 valid for 03 UTC of 28-12-2013

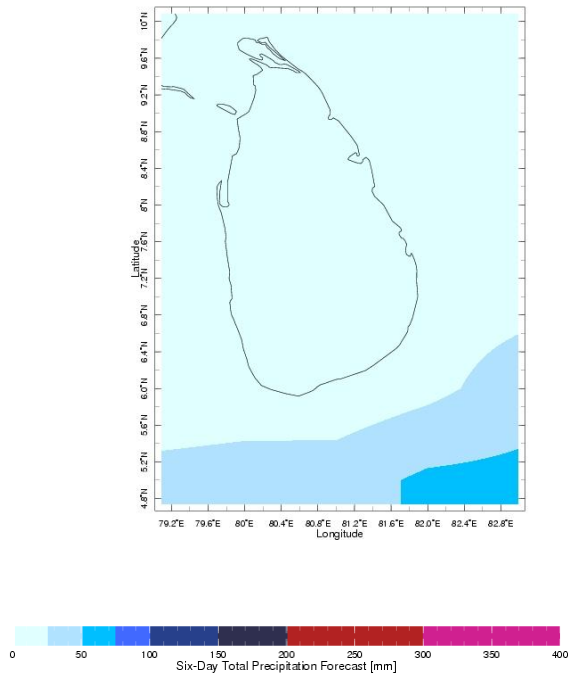


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 26-12-2013 valid for 03 UTC of 29-12-2013



b) Weekly Precipitation Forecast for 25th-30th December 2013 (Precipitation Forecast in Context Map Tool, IRI)

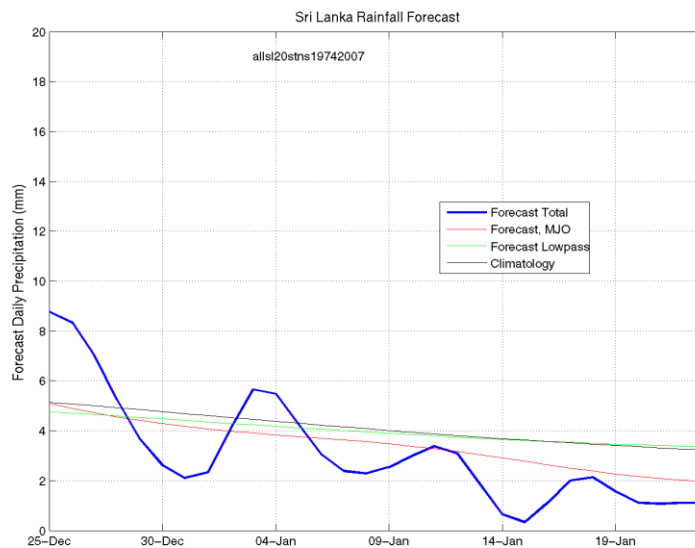
Forecast for 25-30 Dec 2013 Issued 0000 25 Dec 2013



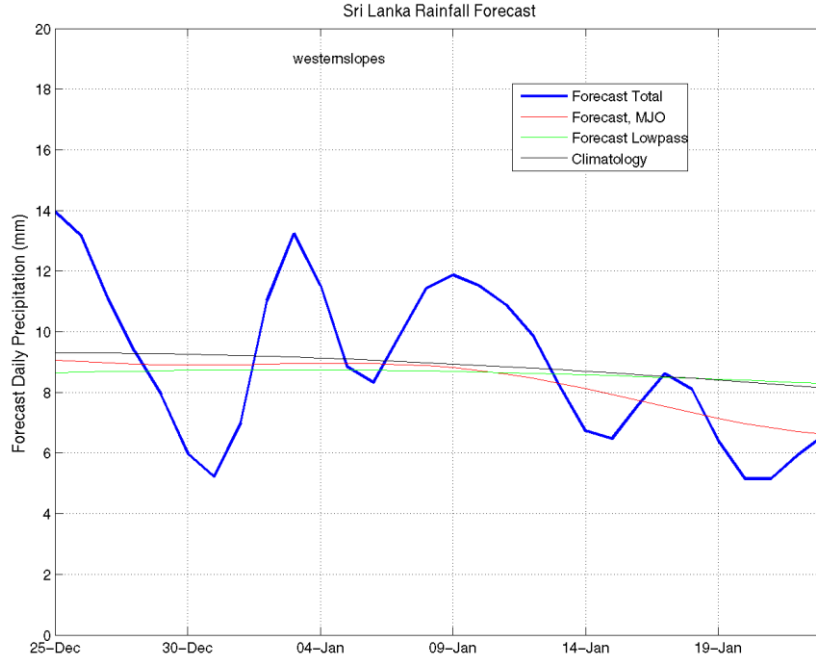
d) 1 month experimental predictions by Paul Roundy and L. Zubair

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

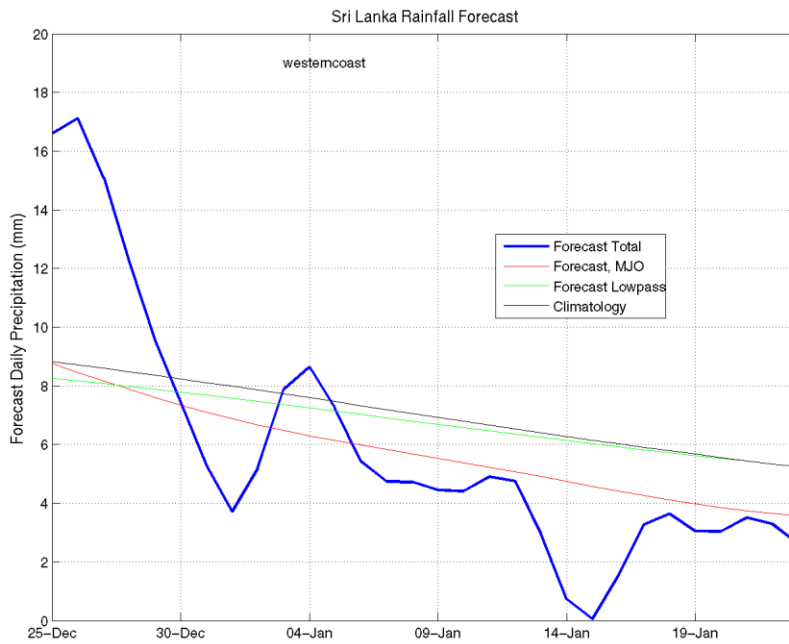
All Sri Lanka (Rainfall Scale from 0-20mm/day)



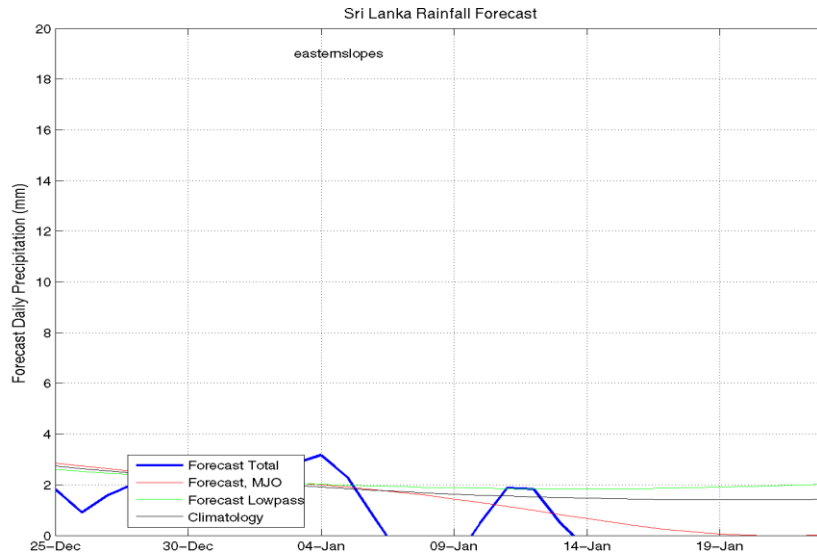
Western Slopes (Rainfall Scale from 0-20 mm/day)



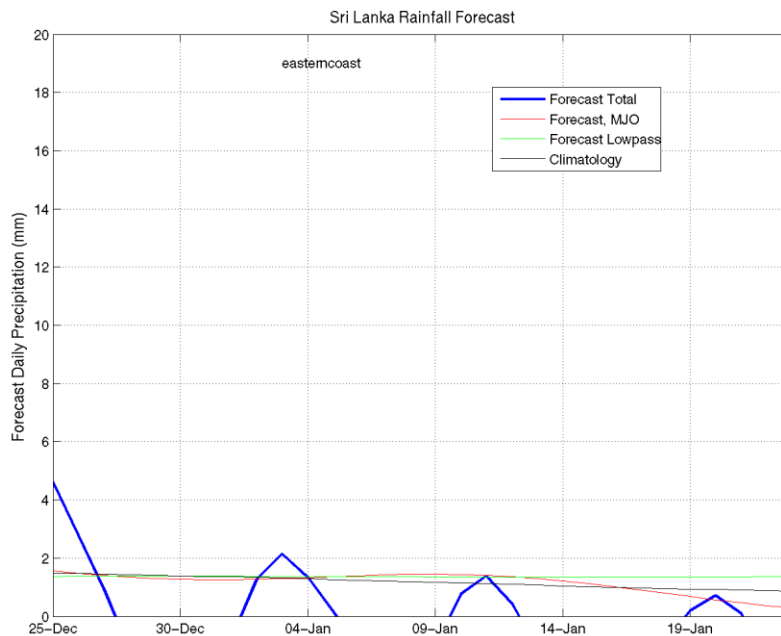
Western Coast (Rainfall Scale from 0-20 mm/day)



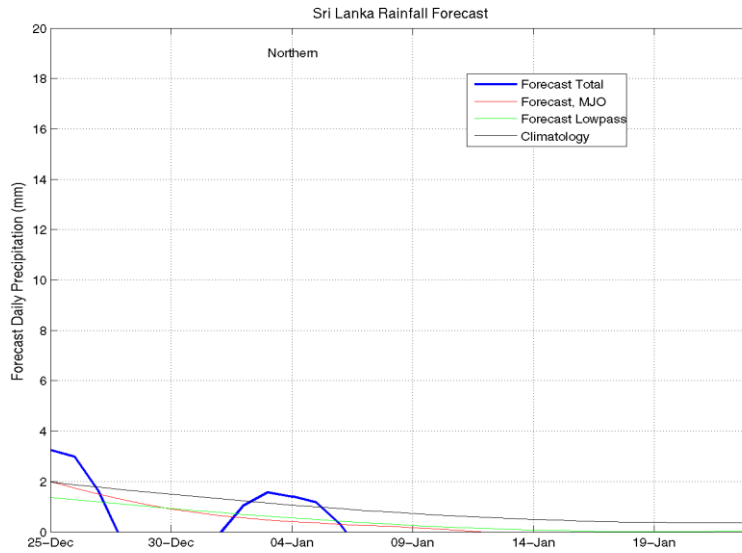
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



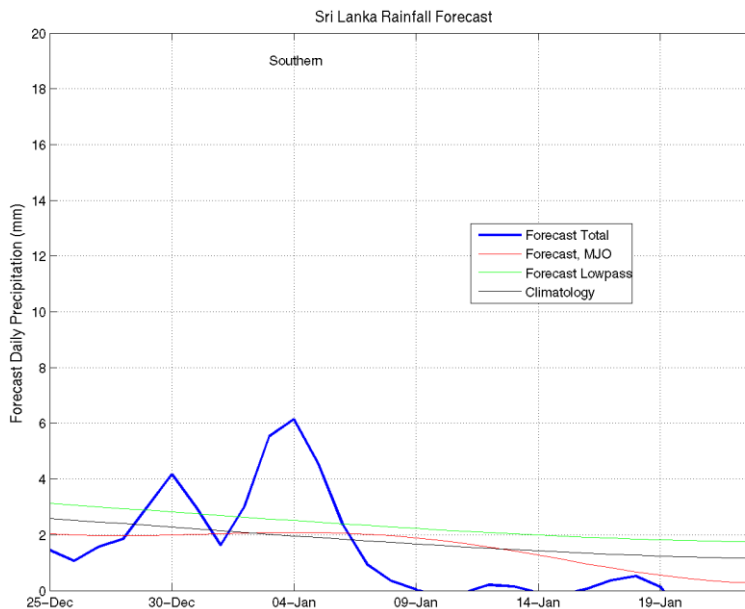
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

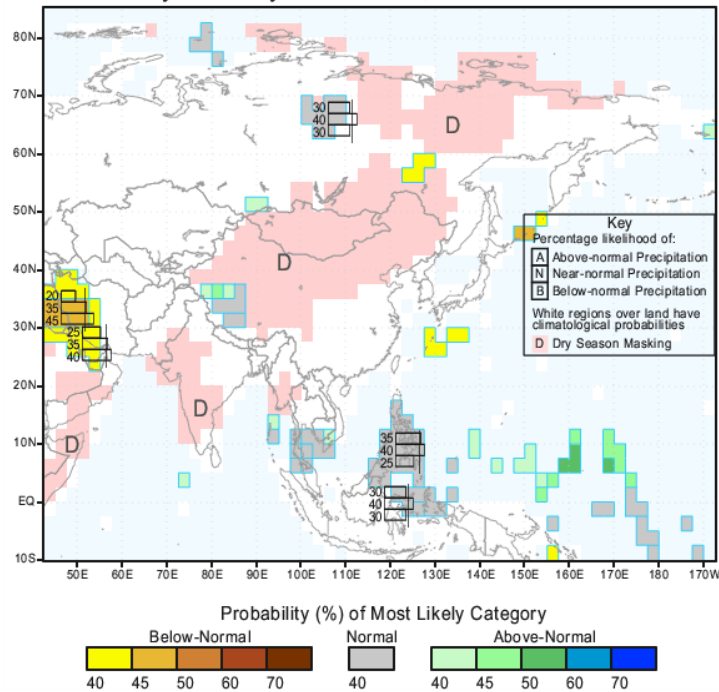


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

