FECT Foundation for Environment Climate and Technology

c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.

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Experimental Climate Monitoring and Prediction

by: Revathy,M.S.,Sewwandhi Chandrasekara, Prabodha Agalawatte, Zeenas Yahiya, Lareef Zubair and Michael Bell (FECT and IRI[1])

6 February 2014

FECT BLOG

Past reports available at http://fectsl.blogspot.com/and

http://fectsl.wordpress.com/

FECT WEBSITES

http://www.climate.lkand
http://www.tropicalclimate.org/

16 January, 2014

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 neutral sea surface temperature and -1^{0}C anomaly for rest of the seas around Sri Lanka during 26th January -1st February 2014.

MJO STATE

MJO is neutral.

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Highlights

Monitoring and Predictions:

During 27th January to 4th February entire country experienced dry condition. In the coming week Models predicts rainfall less than 25mm/week for the island except in the northern and northwestern provinces.

Summary

Monitoring

***Weekly Monitoring*:** During the week entire country experienced dry condition throughout.

***Monthly Monitoring*:** Ampara, Matale and Ratnapura districts received rainfall during the month of January 2014 within the range 1 to 4 mm/day.

Predictions

14 day prediction: During 5th to 11th February 2014, Sri Lanka shall have a dry condition throughout. During 12th to 18th February Northern parts of the country shall receive rainfall less than 35 mm/week.

IMD WRF & IRI Model Forecast: For 7th of February, IMD WRF model predicts dry conditions over the entire country. For 8th February Batticaloa district shall receive moderate rainfall up to 2.5 mm/day. Other parts of the country shall remain dry. IRI model predicts rainfall less than 25mm/day for the country except for northern and north western provinces for the coming week.

30 Days Prediction: Overall- Rainfall shall vary between 2 to 4 mm/day till 12th February. ***Western Slopes***- Rainfall shall vary between 6 to 12 mm/day and there will be a slight increase in the rainfall till 12th February**.** ***Western Coast*** shall follow the similar pattern within the range 2 to 8 mm/day. For ***Northern* and *Eastern*** parts of the country continous data is not available.***Southern Region***- A slight increase in the rainfall can be seen in the southern parts.

***Seasonal Prediction*:** As per IRI Multi Model Probability Forecast issued on January 2014; for February 2014 to April 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

[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.

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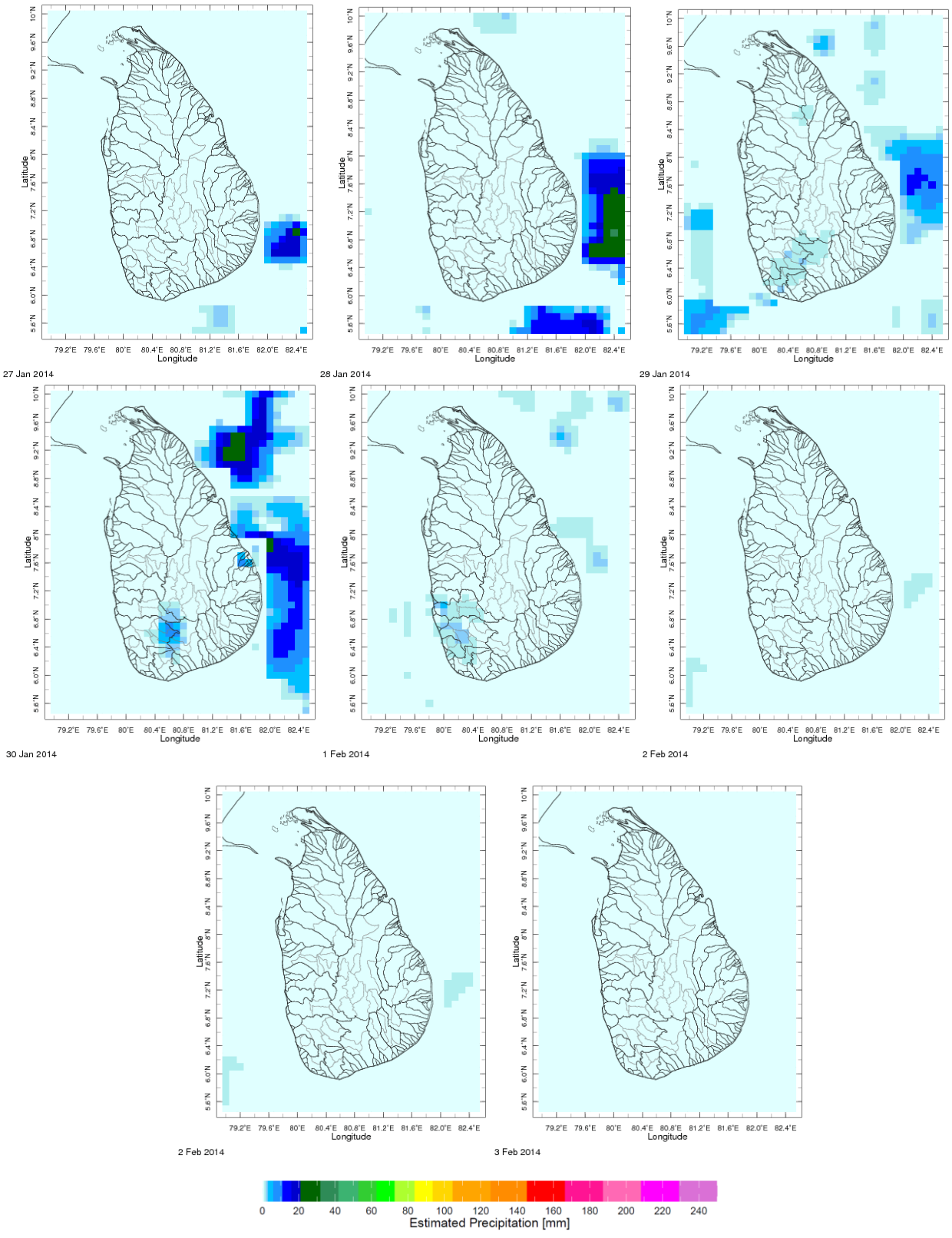
1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 21st-26th January *2014 (Left-Right, Top-Bottom)*



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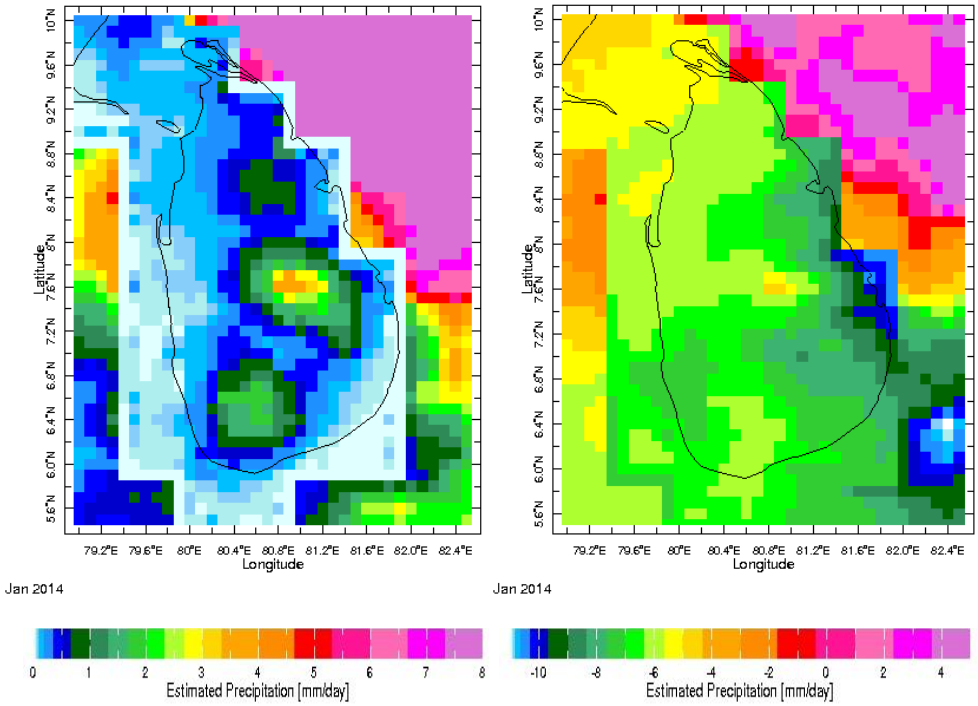
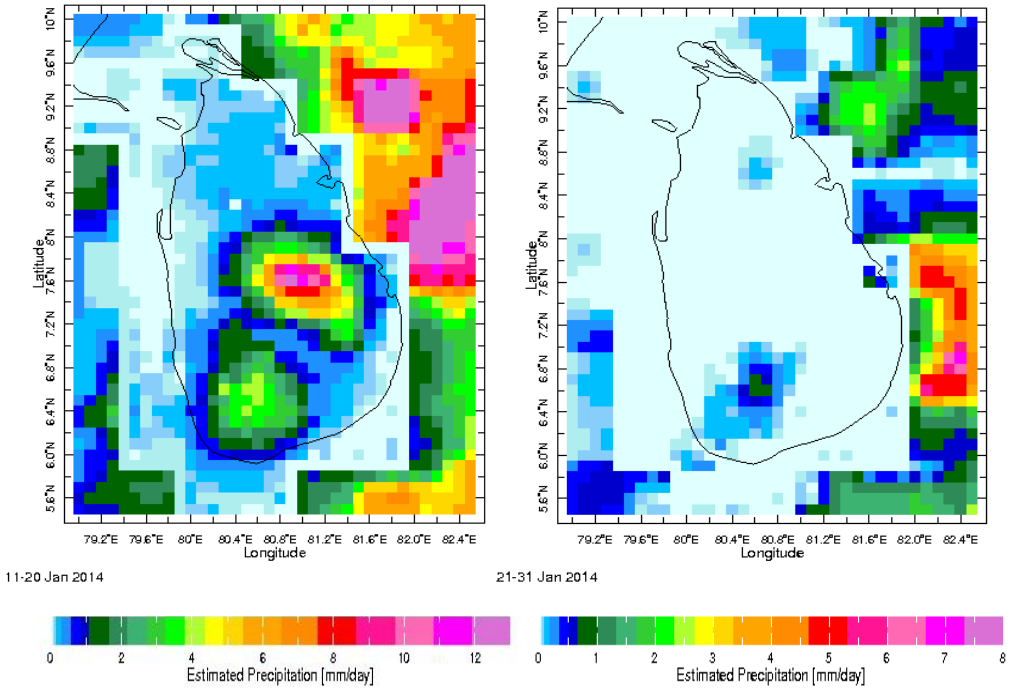
b) Monthly Satellite Derived Rainfall Estimates for December 2013 (Total – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 January, 2013 & 11-20 January, 2014)



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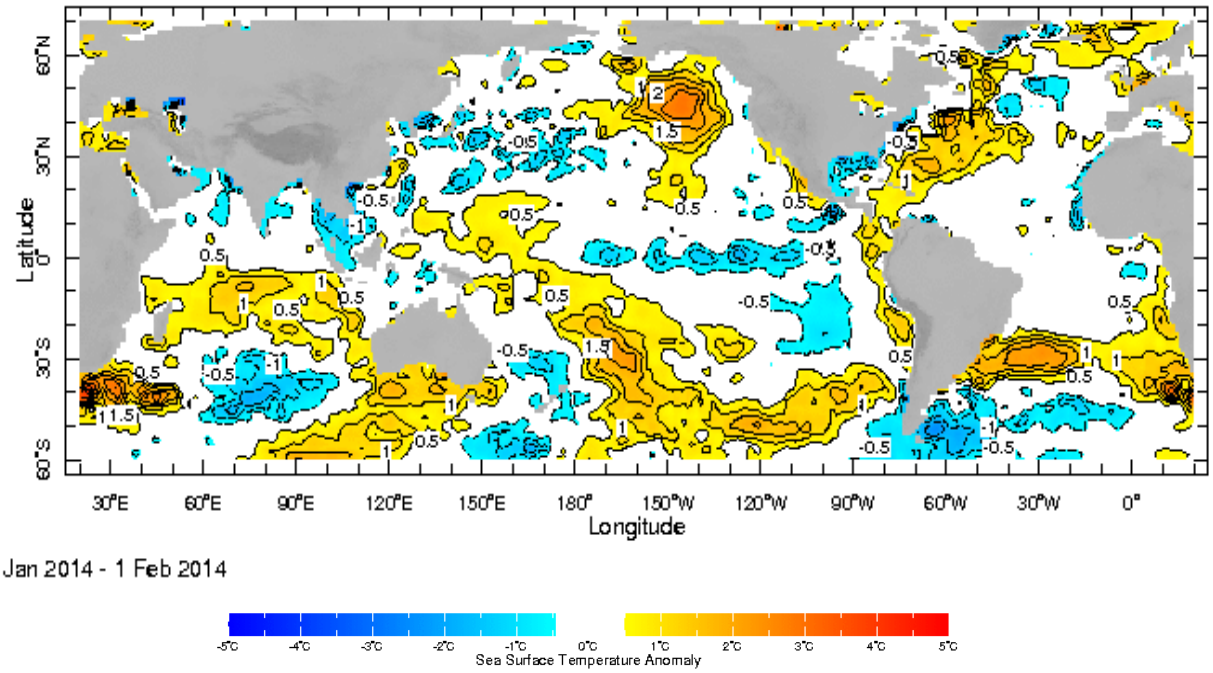
d) Weekly Average SST Anomalies



Weekly Average SST Anomalies (^{0}C), 26th- 1st February, 2014

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

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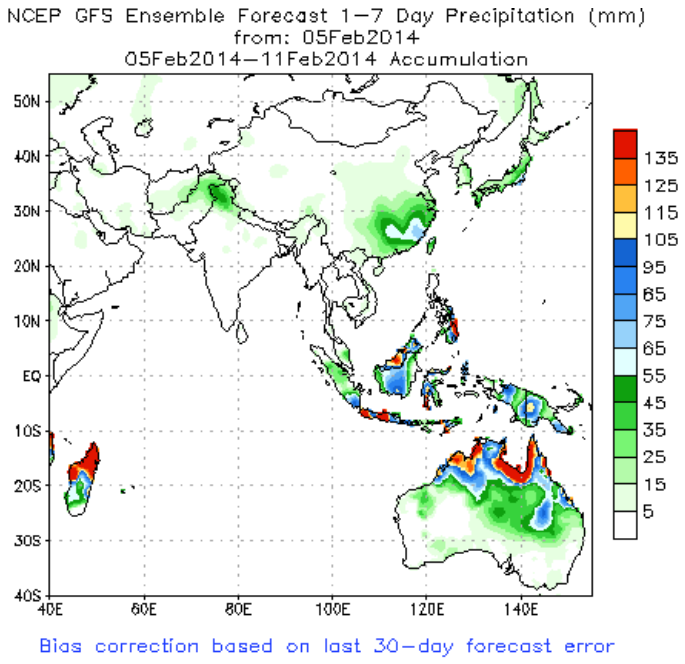
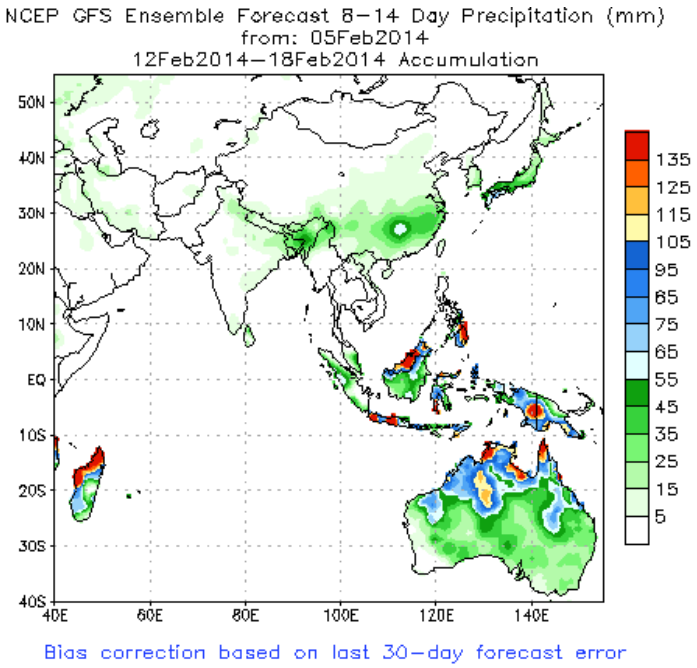
2. Predictions

a) NCEP GFS Ensemble 1-14 day predictions, NOAA, Climate Prediction Centre, USA.





Source – NOAA Climate Prediction Center

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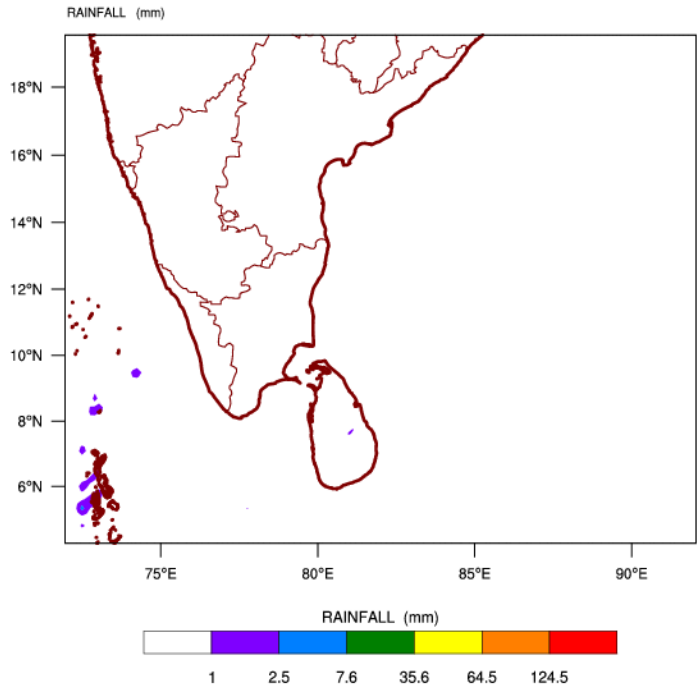
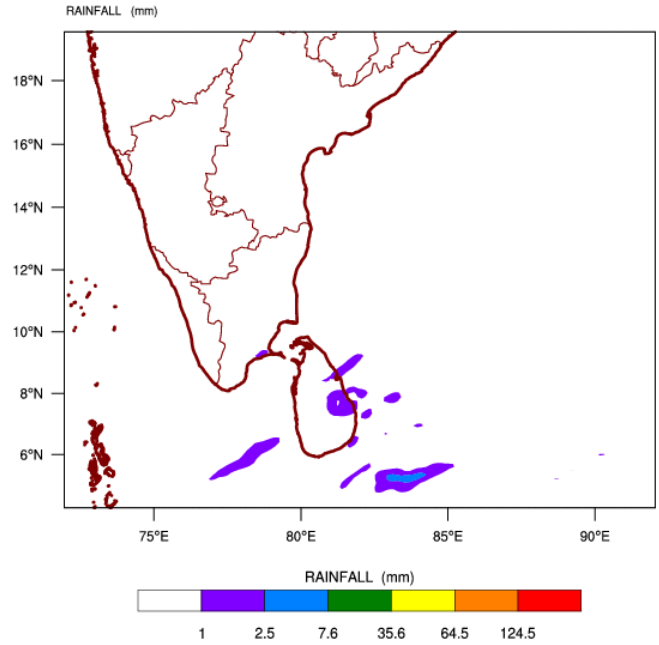
b) WRF model forecast **Regional Meteorological Center, Chennai, Indian Meteorological Department)**

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 05-02-2014 valid for 03 UTC of 07-02-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 05-02-2014 valid for 03 UTC of 08-02-2014



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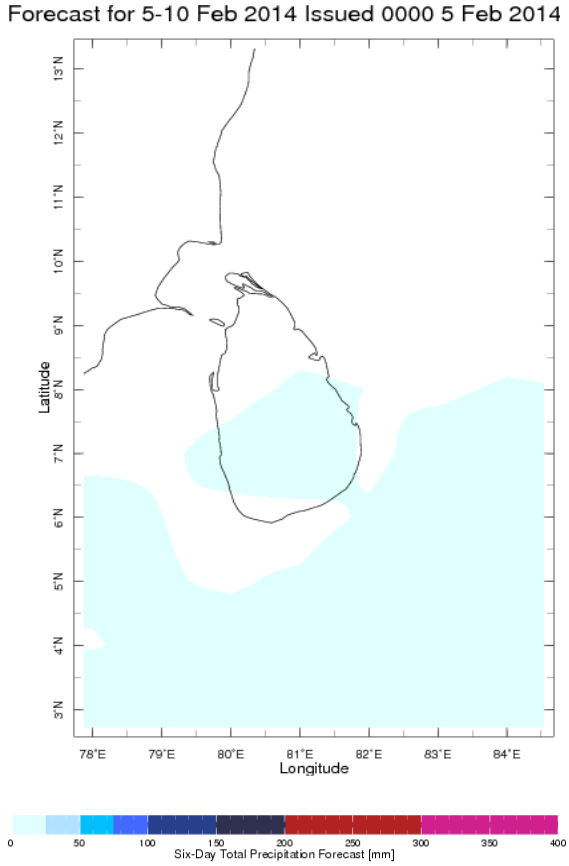
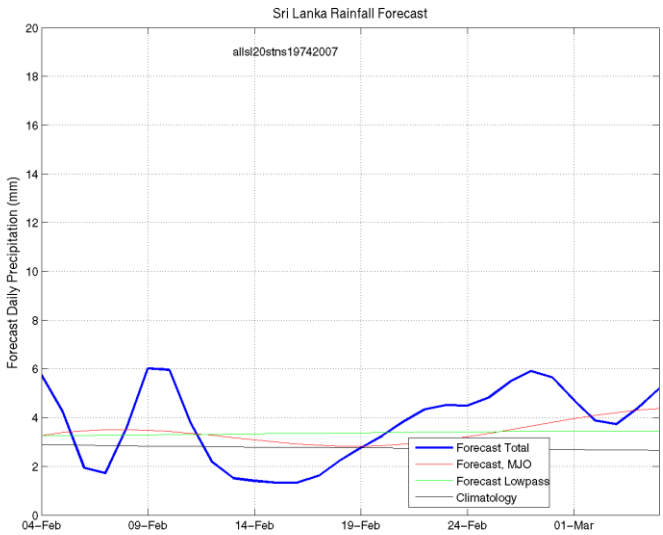
c) Weekly Precipitation Forecast for 22th -27th January 2014 (Precipitation Forecast in Context Map Tool, IRI)



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

Predictions based on observed cloud cover and atmospheric waves. Issued 5th February, 2014

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



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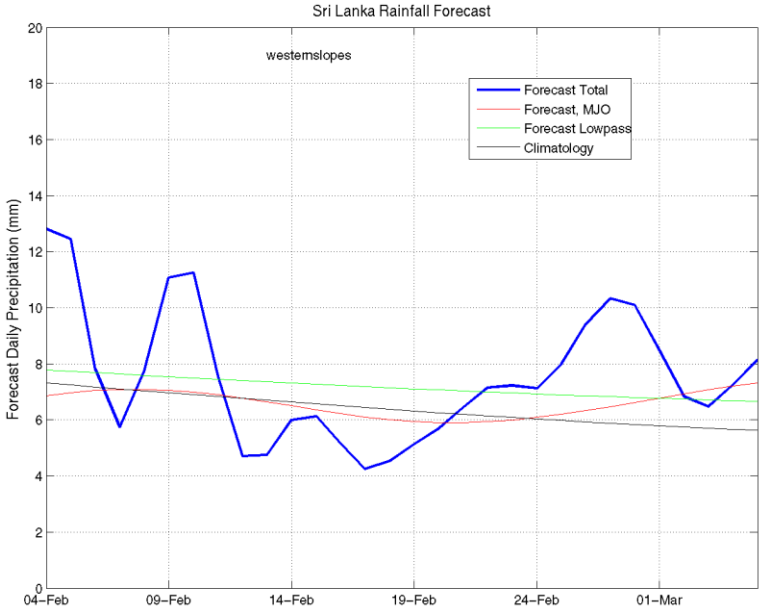
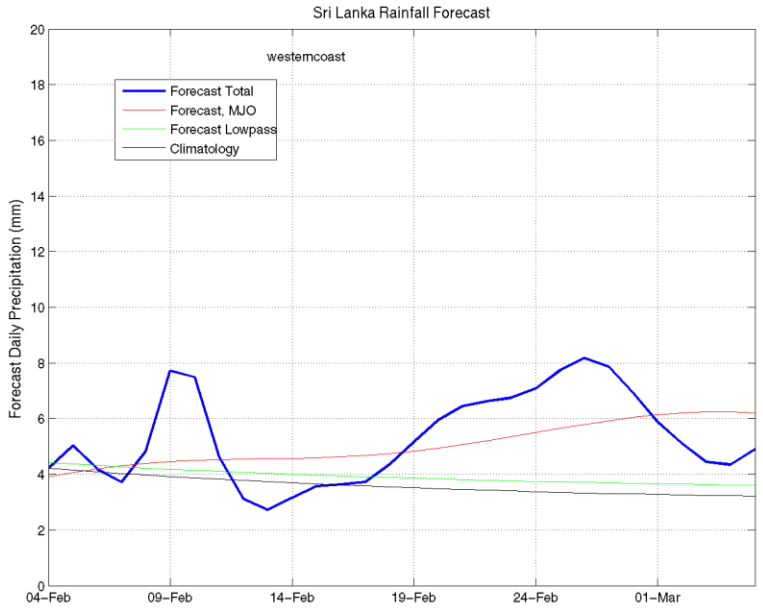
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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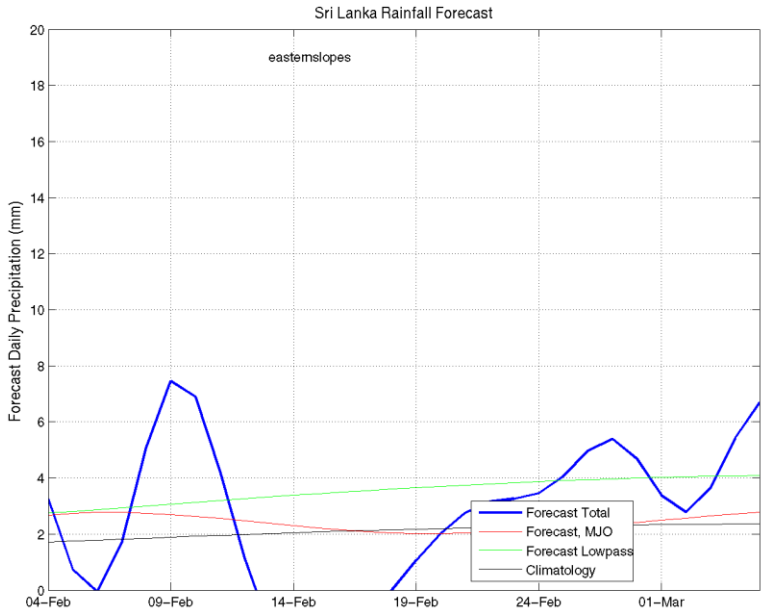
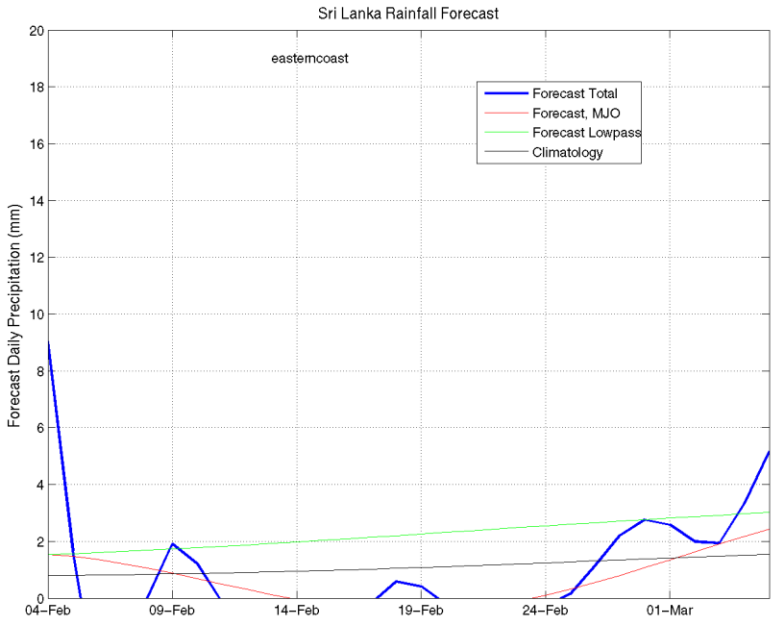
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



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



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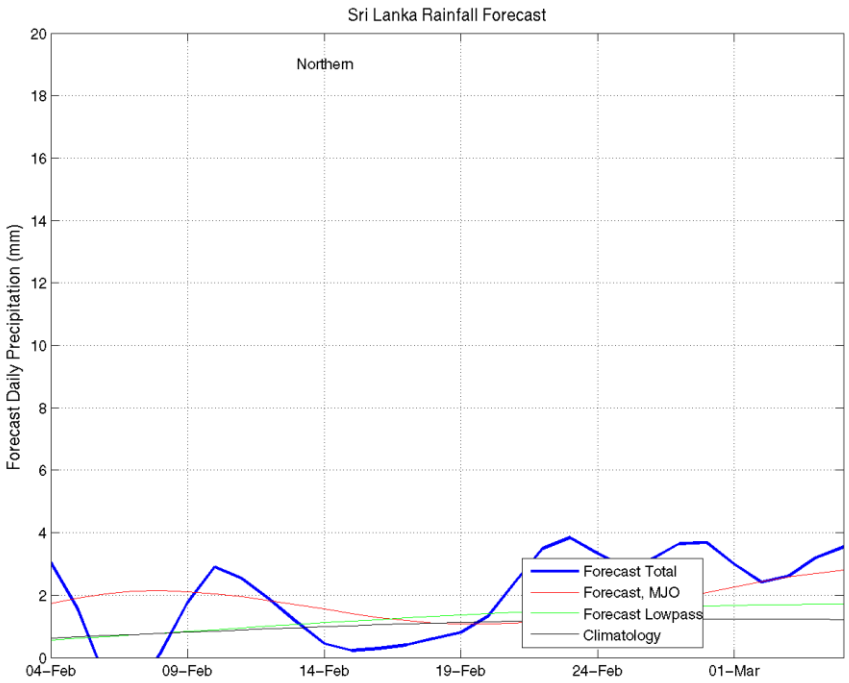
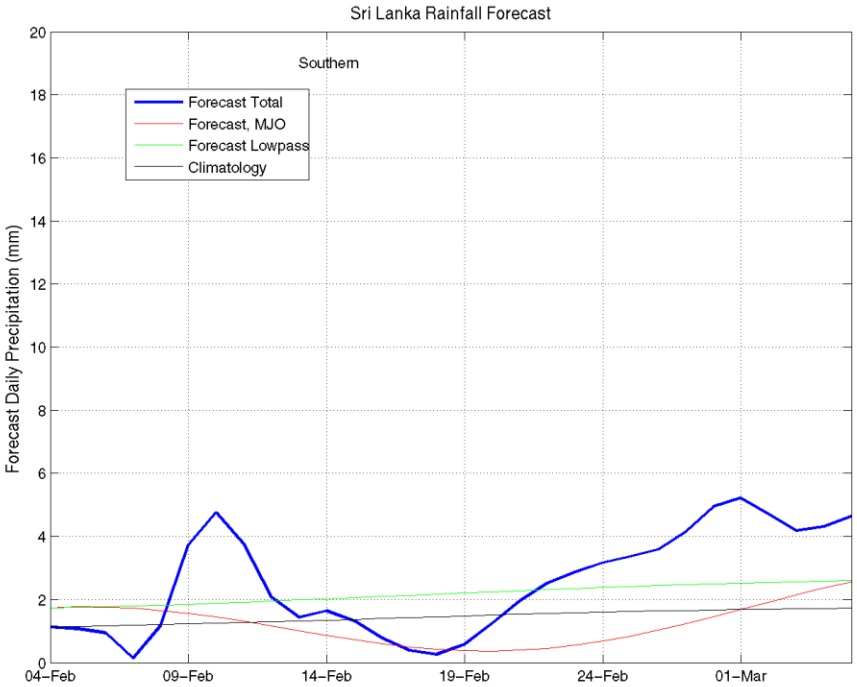
Northern Region (Rainfall Scale- from 0-20 mm/day)



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



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e) Seasonal Rainfall and Temperature Predictions from IRI