

Experimental Climate Monitoring and Prediction

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2 May 2013

FECT BLOG

Past reports available at
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April 18, 2013 PACIFIC SEAS STATE

During March through mid-April the observed ENSO conditions remained in the neutral ENSO conditions. Most of the ENSO prediction models indicate a continues of neutral ENSO into northern autumn, but a few statistical models call for cooling towards weak La-Nina conditions & even smaller set of dynamical models predict warming toward borderline El-Nino conditions.

(Text Courtesy IRI)

INDIAN OCEAN STATE

The Indian Ocean around Sri Lanka particular to the Bay of Bengal continues to have a warm anomaly up to 0.5°C.

Highlights

Monitoring and Predictions:

South-western regions of Sri Lanka shall receive rainfall in the coming week (2nd-6th May, 2013) and on 3rd & 4th May, South-western coastal regions shall receive heavy rainfall compared to other regions of Sri Lanka. Western regions shall receive peak rainfall around 5th & 6th May. During May 2013 to July 2013, there is a 45-50% probability for temperature to be above normal in the country while the rainfall is to be climatological.

Summary

Monitoring

Weekly Monitoring: Rainfall ranged between 5-70 mm during 23rd-30th April 2013. Maximum rainfall was observed on the 24th April in Ratnapura district. During this period, more or less the entire country experienced rainfall.

Predictions

7-day prediction: Southern 2/3rd of the Island shall receive 5-95 mm of rainfall and 55-95 mm of rainfall shall concentrate towards South-western regions of the Island during 29th April-5th May 2013.

IMD WRF Model Forecast & IRI forecast: For 3rd of May 2013, IMD WRF model predicts 36-65 mm of rainfall in South-western coastal regions of Sri Lanka and 1-36 mm of rainfall is predicted for the rest of the island, except for minute regions at Kurunegala and Hambantota (Less than 1mm/day). Then for the 4th of May, IMD WRF model predicts 36-65 mm of rainfall in South-western coastal regions of Sri Lanka and rainfall shall concentrate towards the South-western regions of Sri Lanka. NOAA model predicts 25-75 mm of rainfall for the Southern 2/3rd of the island 1st-6th May.

30 Days Prediction: Overall- Existing rainfall condition (8-11 mm/day) shall continue till 15th of May. **Western Slopes** – Peaks in rainfall is expected around 6th May (17 mm/day) and rainfall shall continue till 12th. **Western Coast** – The rainfall shall increase gradually and shall reach a maximum around 5th (15 mm/day). **Eastern slopes** – The rainfall shall be low compared to western regions. Existing rainfall shall fluctuate (below 8 mm/day) during the prediction period. **Eastern Coast** – Existing rainfall shall continue till 7th & shall starts to increase gradually. **Northern region-** The rainfall pattern existing in the Eastern coast shall be present in this region. **Southern Region-** Rainfall shall fluctuate frequently below 4 mm/day during the prediction period.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on April 2013; for May 2013 to July 2013, there is a 45-50% probability for temperature to be above normal in the country while the rainfall is to be climatological.

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2. Predictions

- NCEP GFS Ensemble 1-7 day predictions
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

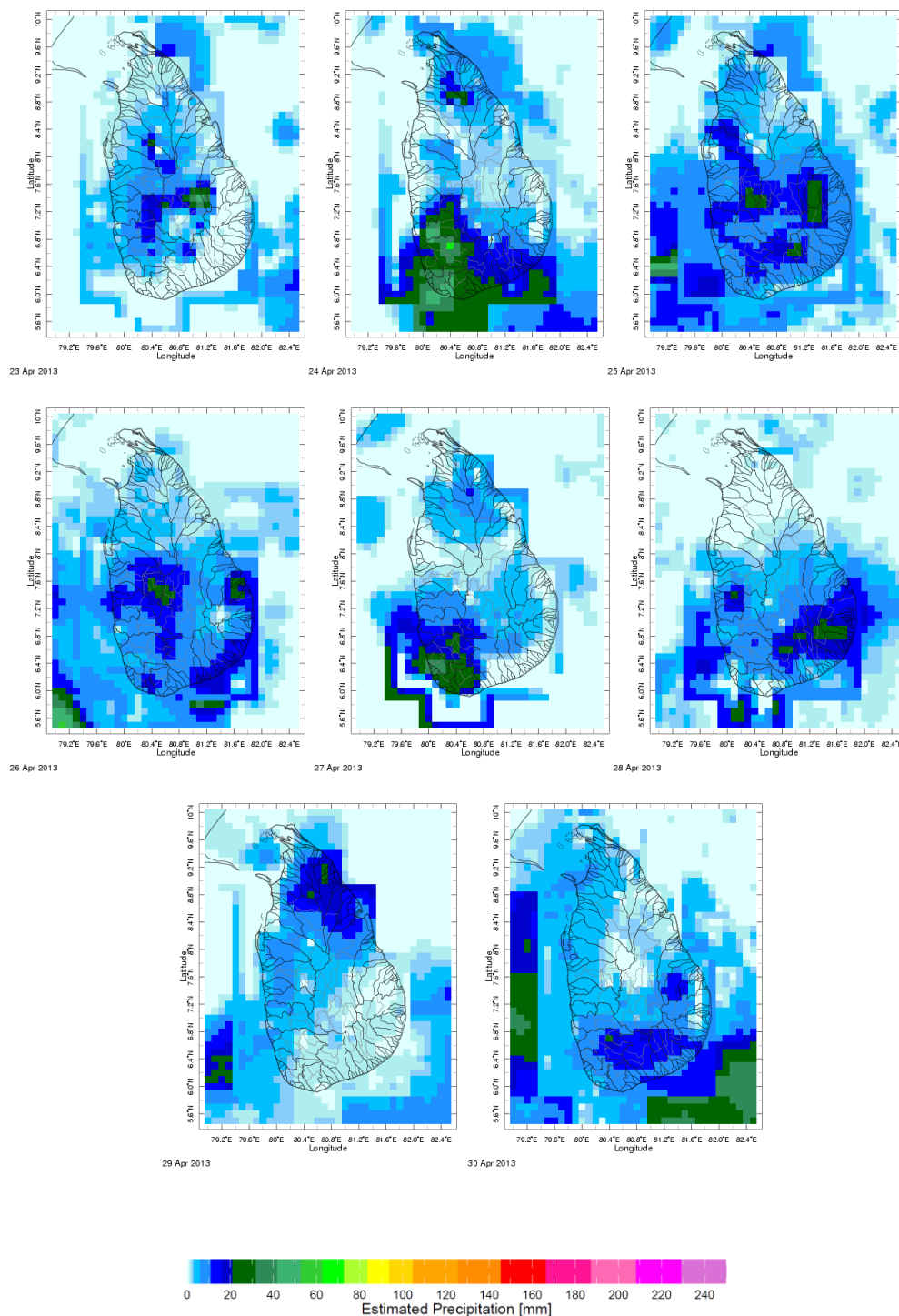
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

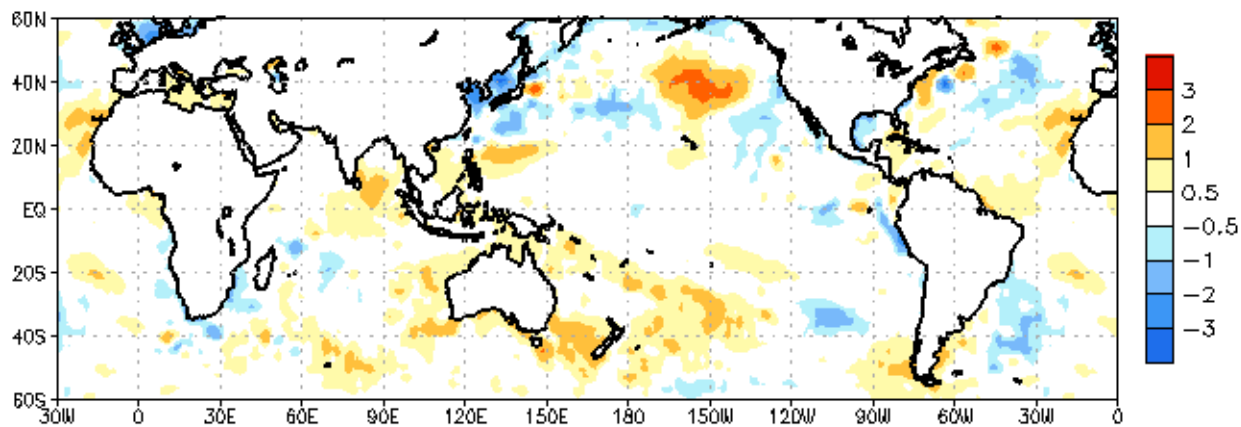
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 23rd – 30th April 2013 (Left-Right, Top-Bottom)



b) Weekly Average SST Anomalies

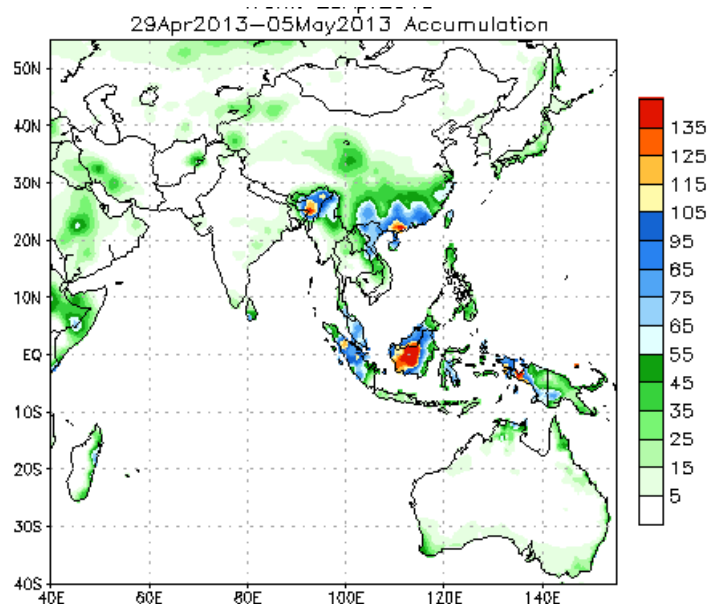


Weekly Average SST Anomalies ($^{\circ}\text{C}$), 24th April, 2013

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

2. Predictions

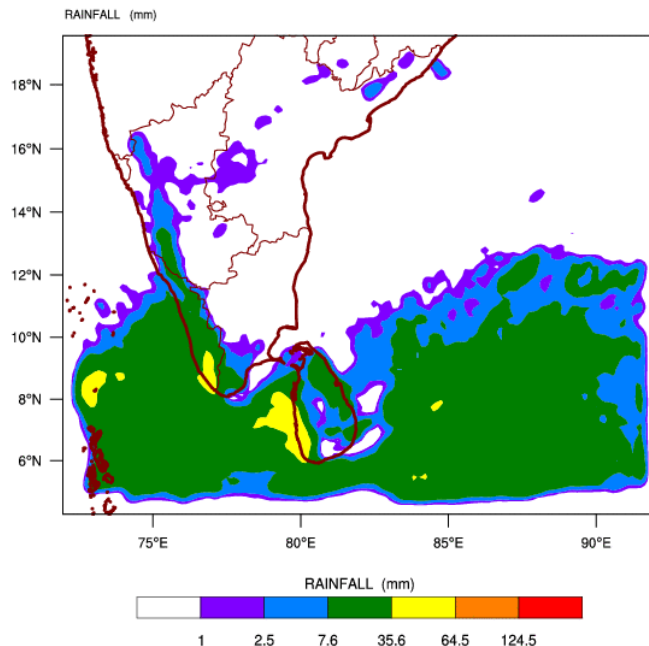
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



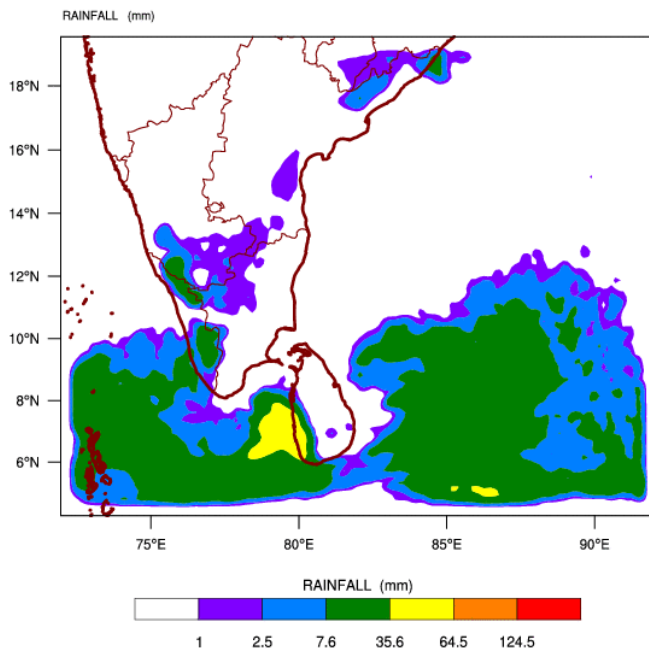
Source – NOAA Climate Prediction Center

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

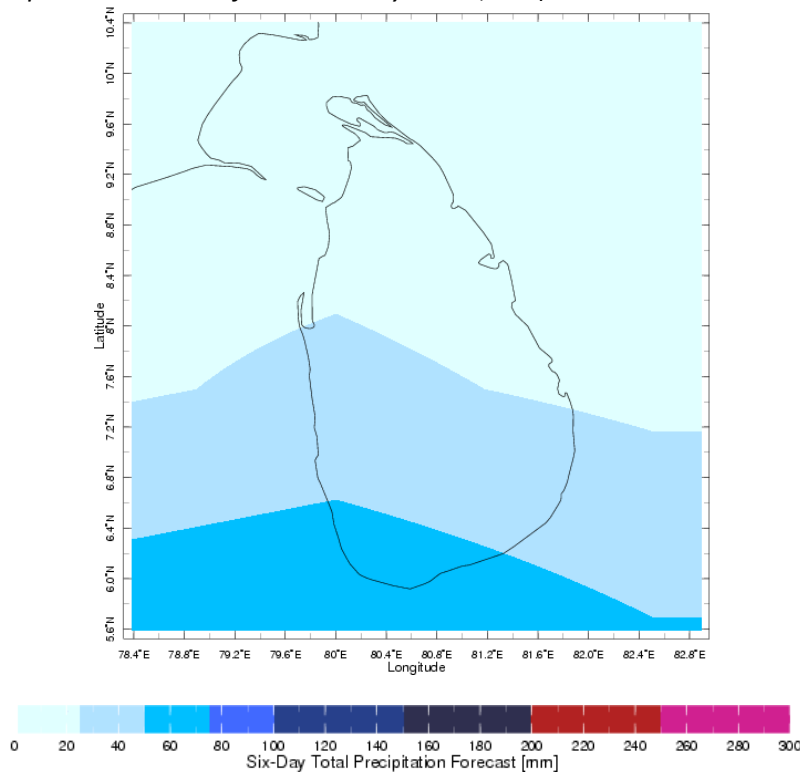
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 01-05-2013 valid for 03 UTC of 03-05-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 01-05-2013 valid for 03 UTC of 04-05-2013



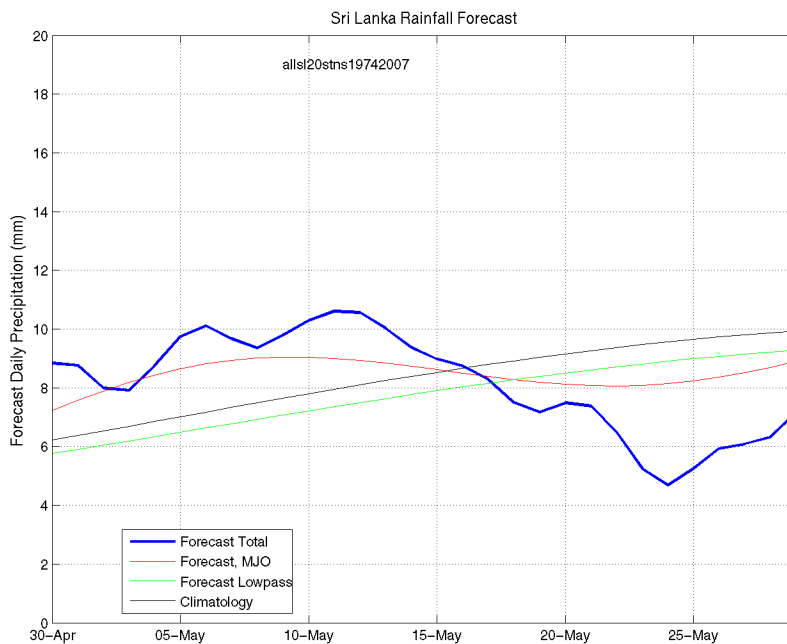
c) Weekly Precipitation Forecast for 1st-6th May 2013 (Precipitation Forecast in Context Map Tool, IRI)



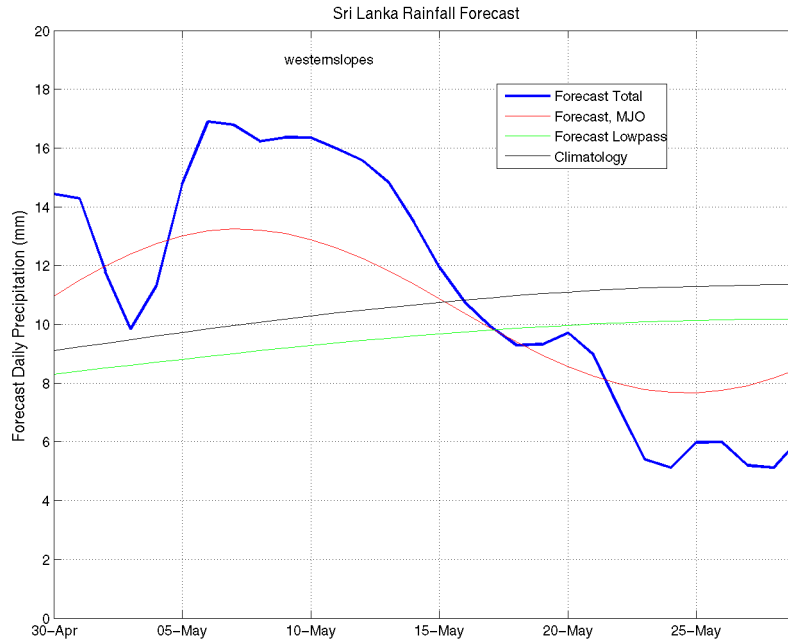
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 2nd May, 2013

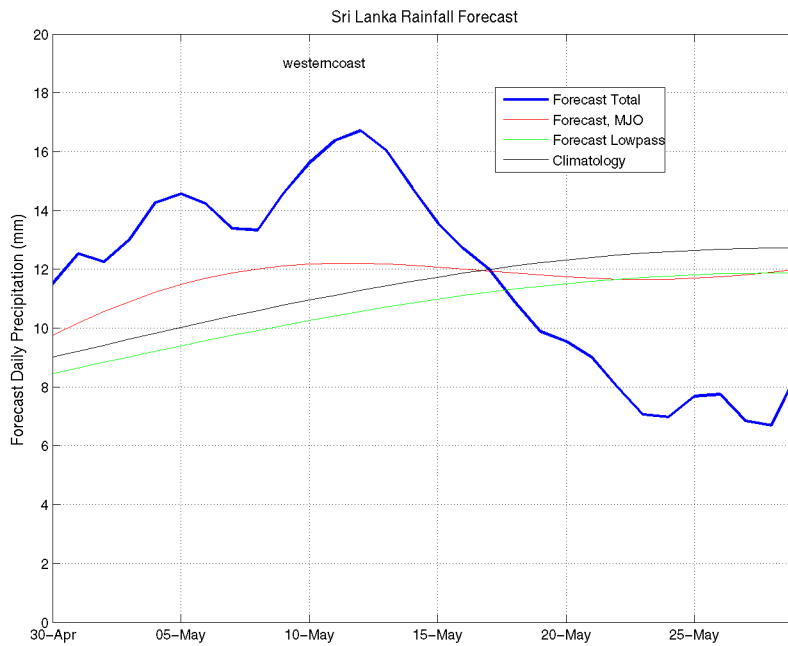
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



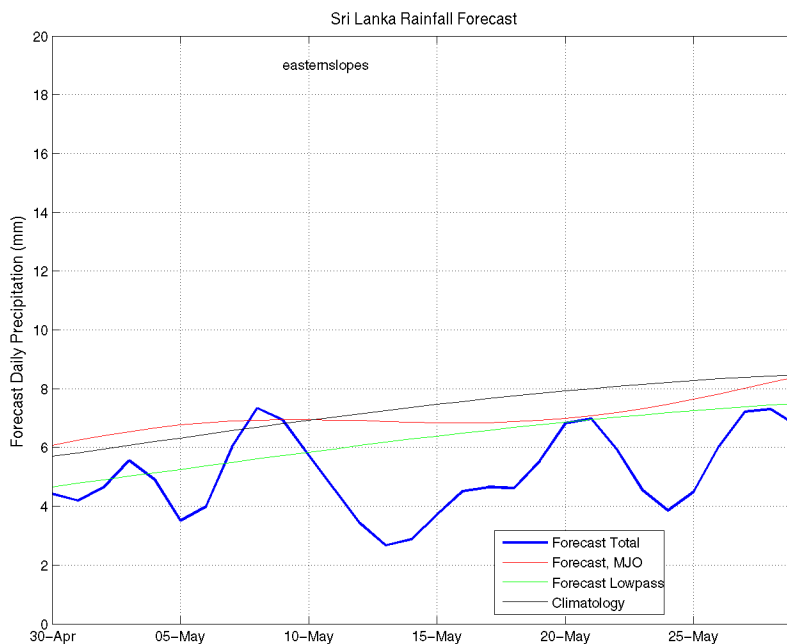
Western Slopes (Rainfall Scale from 0-20 mm/day)



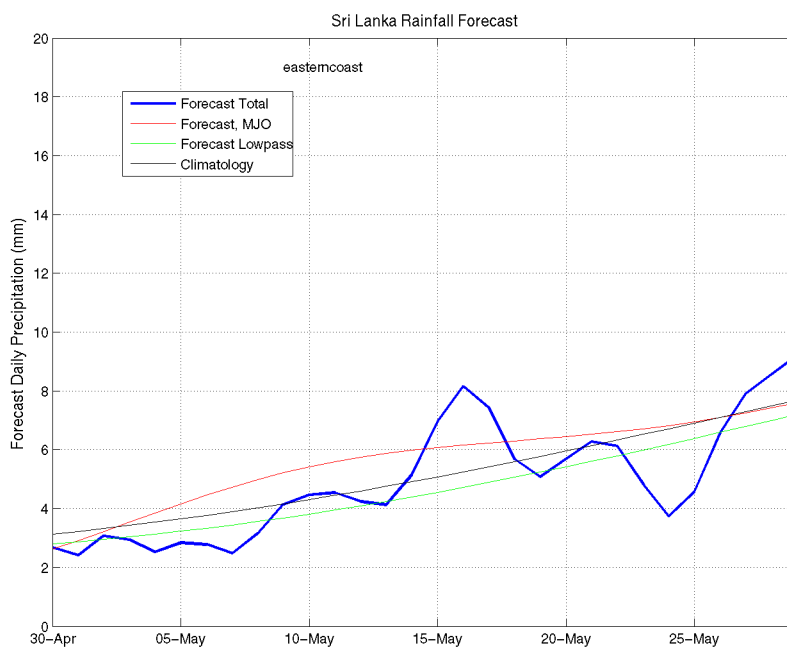
Western Coast (Rainfall Scale from 0-20 mm/day)



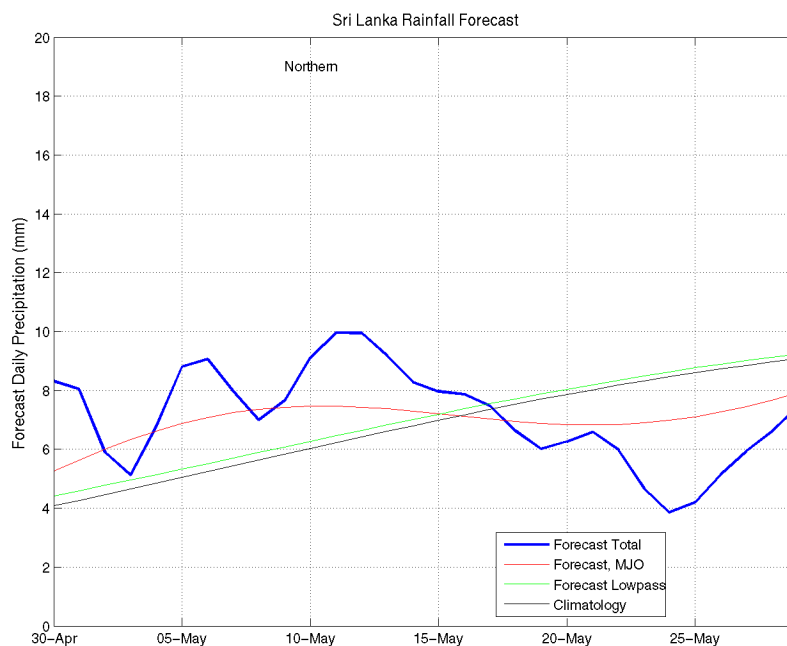
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



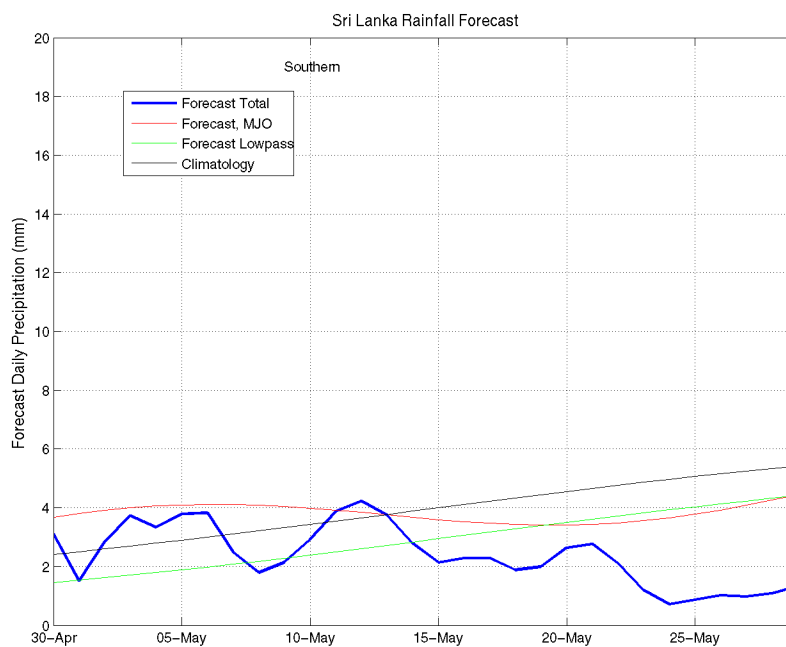
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

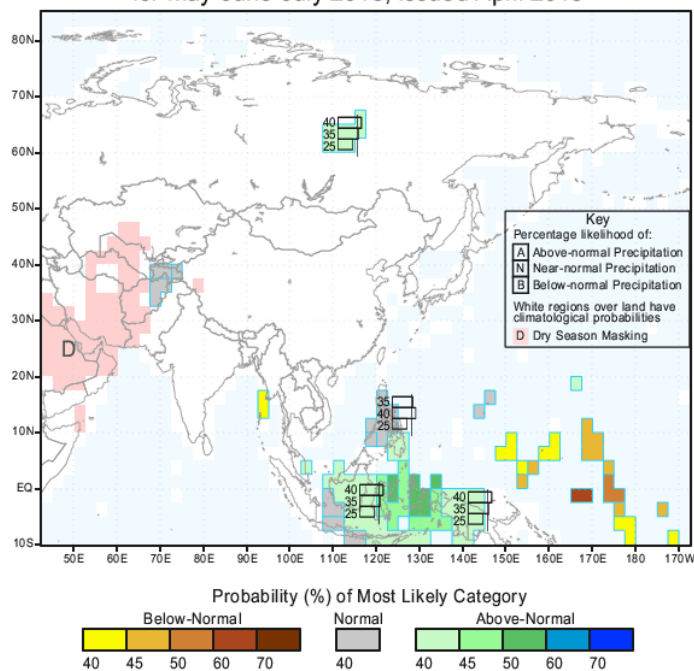


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for May-June-July 2013, Issued April 2013



IRI Multi-Model Probability Forecast for Temperature
for May-June-July 2013, Issued April 2013

