

Experimental Climate Monitoring and Prediction

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24 April 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:

Northern regions of the island shall receive rainfall for the coming two days (25th and 26th April 2013) and North-eastern regions of the island shall receive rainfall during 23rd-29th April. Existing rainfall condition shall increasing with slight variation around 29th April and western slopes shall receive more rainfall. 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 5-55 mm during 16th-22nd April 2013. Maximum rainfall was observed on the 22nd April in Moneragala district. During 16th-21st almost entire Island received low rainfall compared to 22nd April.

Predictions

7-day prediction: North-eastern 2/3rd of the Island shall receive 5-55 mm of rainfall during 23rd-29th April.

IMD WRF Model Forecast & IRI forecast: For 25th of April 2013, IMD WRF model predicts less than 8 mm of rainfall for Northern Province and 8-36 mm for the Islets of Jaffna peninsula. Rainfall is not predicted for the rest of the regions. Then for the 26th of April, IMD WRF model predicts less than 3 mm of rainfall for Mannar district. NOAA model predicts similar rainfall condition (less than 25 mm) for the entire country during 23rd-28th April.

30 Days Prediction: Overall- Existing rainfall condition shall increasing with slight variation around 29th April. **Western Slopes** – The rainfall pattern existing in the island shall be present in this region with increase amount of rainfall. **Western Coast** – Existing rainfall condition shall reduces till 29th April and it shall increase thereon. **Eastern slopes** – Existing rainfall condition shall vary during 24th-30th April and it shall increase thereafter. **Eastern Coast** – Rainfall is not predicted till 1st of May. **Northern region-** Rainfall shall increase with different rates. **Southern Region-** Rainfall shall vary between 1-3 mm of daily rainfall for the period of 24th April-4th May 2013.

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

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

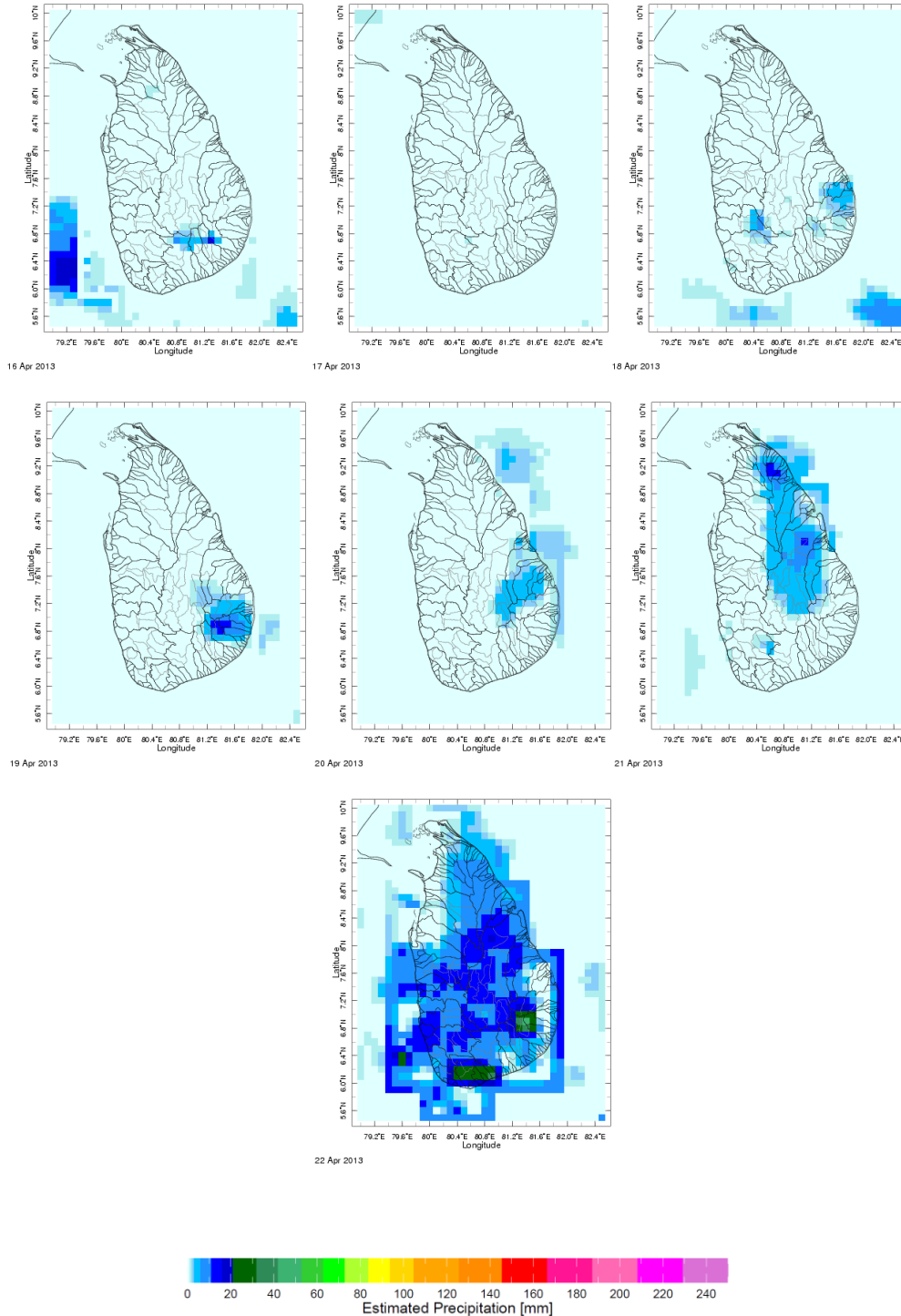
¹ International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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

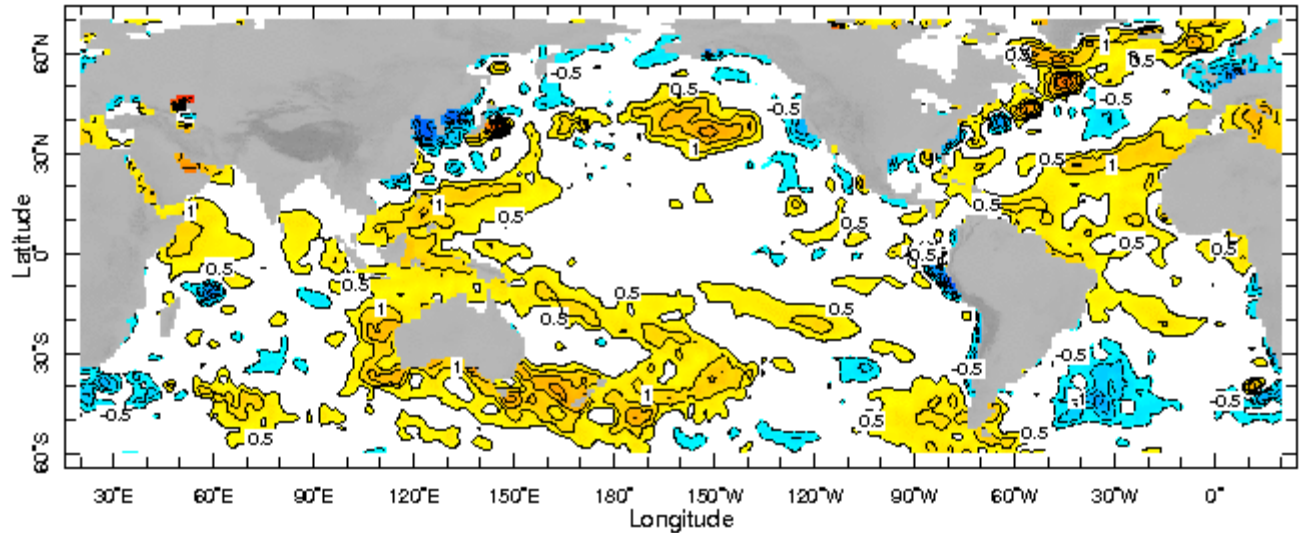
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 16th – 22nd April 2013 (Left-Right, Top-Bottom)



b) Weekly Average SST Anomalies

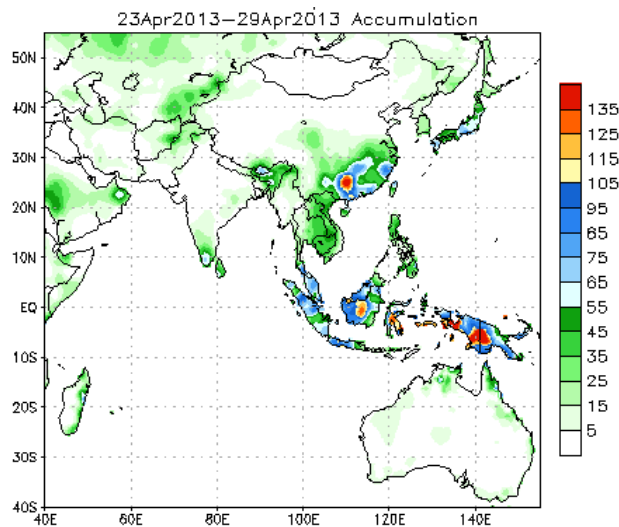


Weekly Average SST Anomalies ($^{\circ}$ C), 14th-20th April, 2013

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

2. Predictions

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

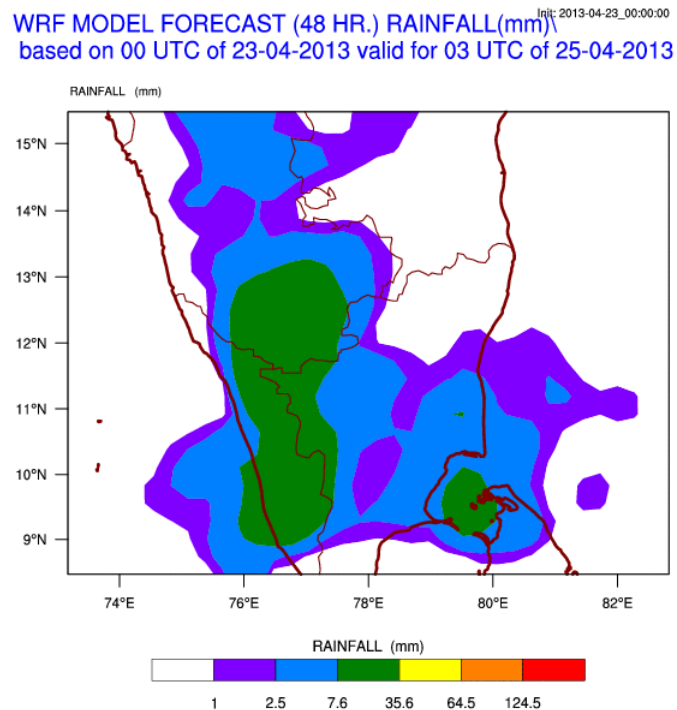


Bias correction based on last 30-day forecast error

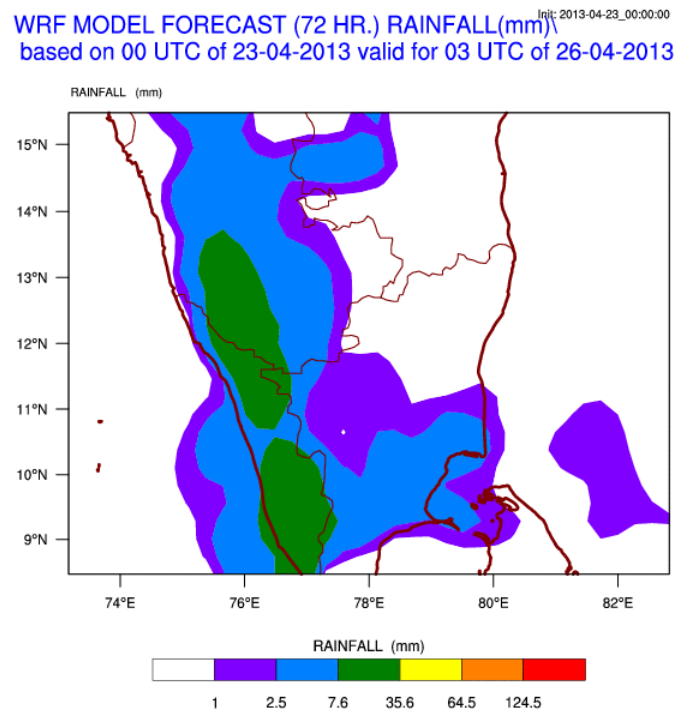
Source – NOAA Climate Prediction Center

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

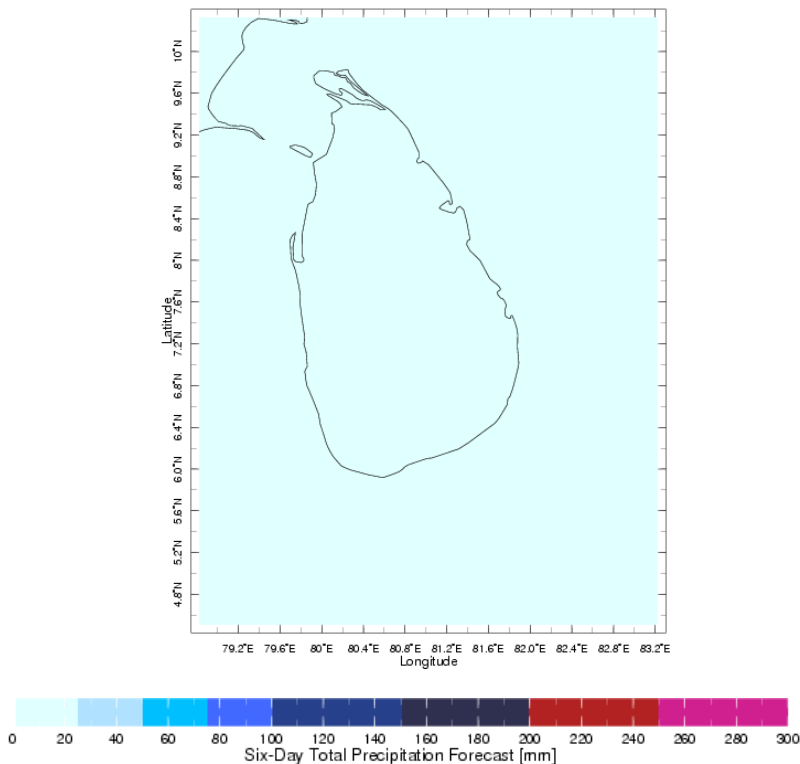
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 23-04-2013 valid for 03 UTC of 25-04-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 23-04-2013 valid for 03 UTC of 26-04-2013



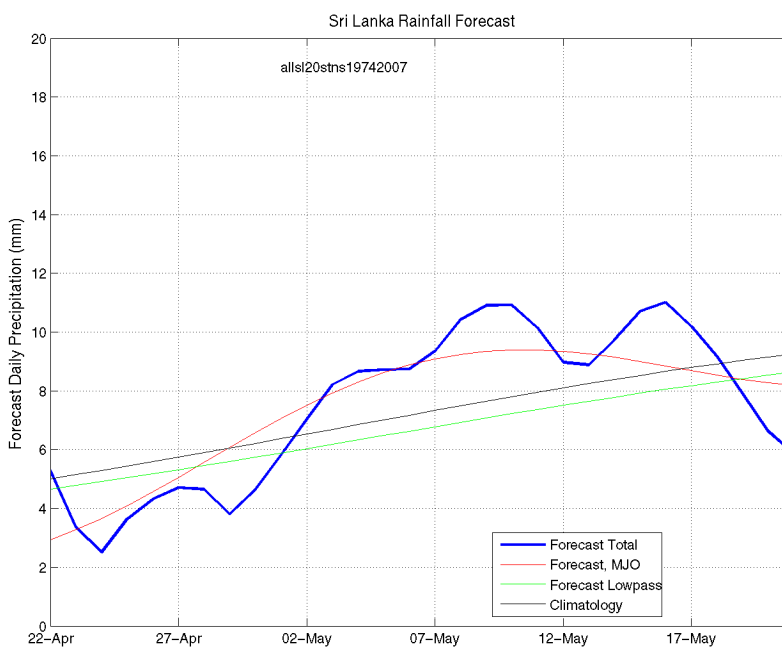
c) Weekly Precipitation Forecast for 23rd-28th April 2013 (Precipitation Forecast in Context Map Tool, IRI)



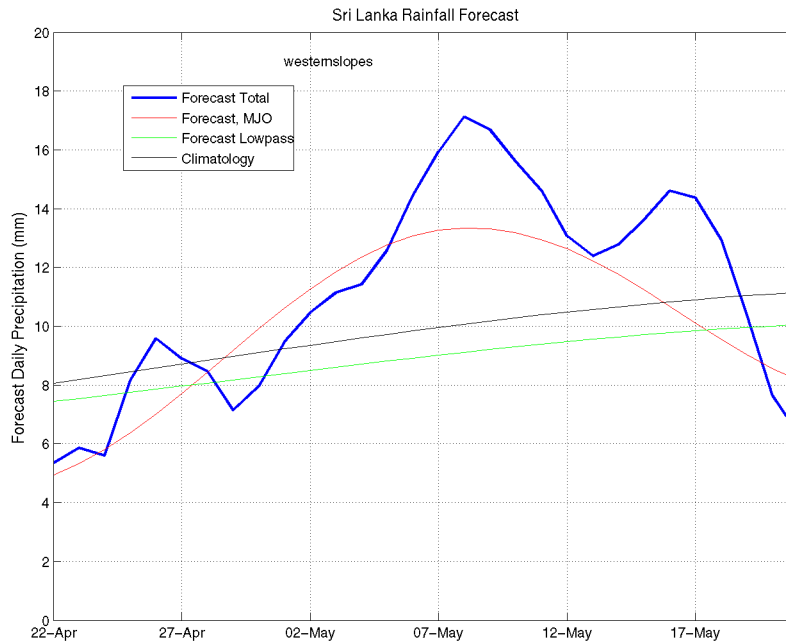
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 24th April, 2013

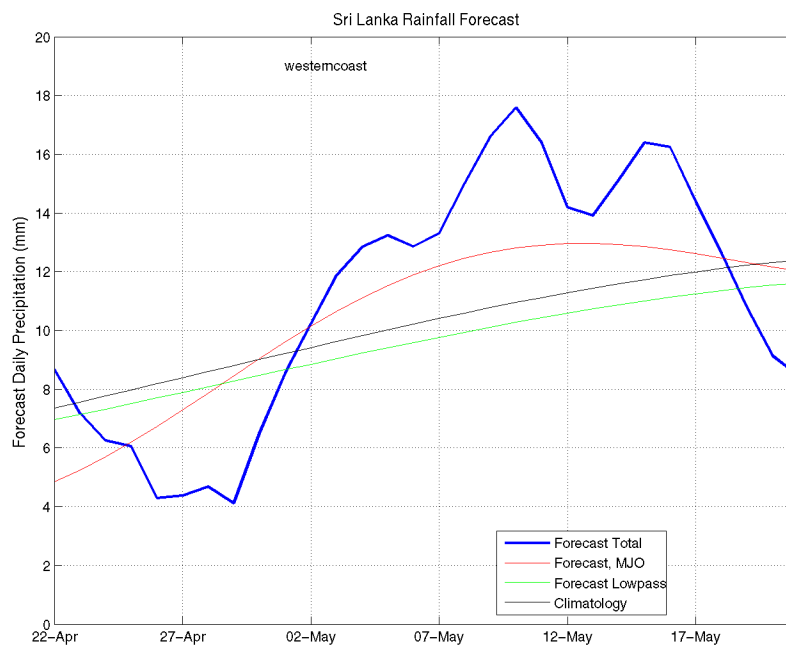
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



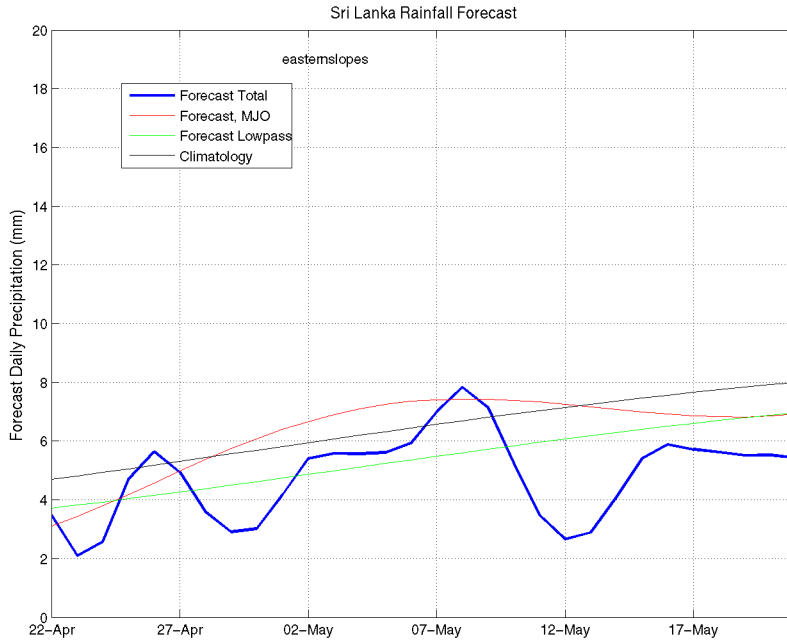
Western Slopes (Rainfall Scale from 0-20 mm/day)



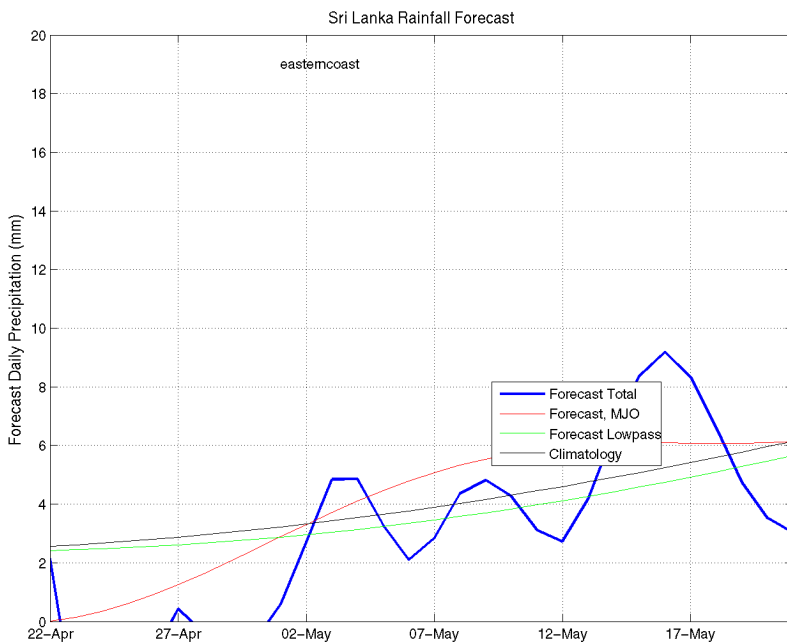
Western Coast (Rainfall Scale from 0-20 mm/day)



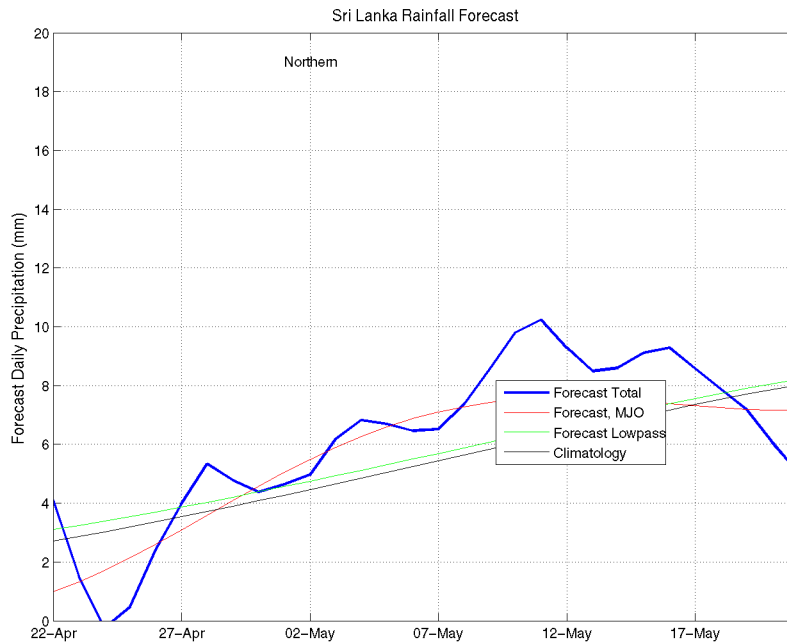
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



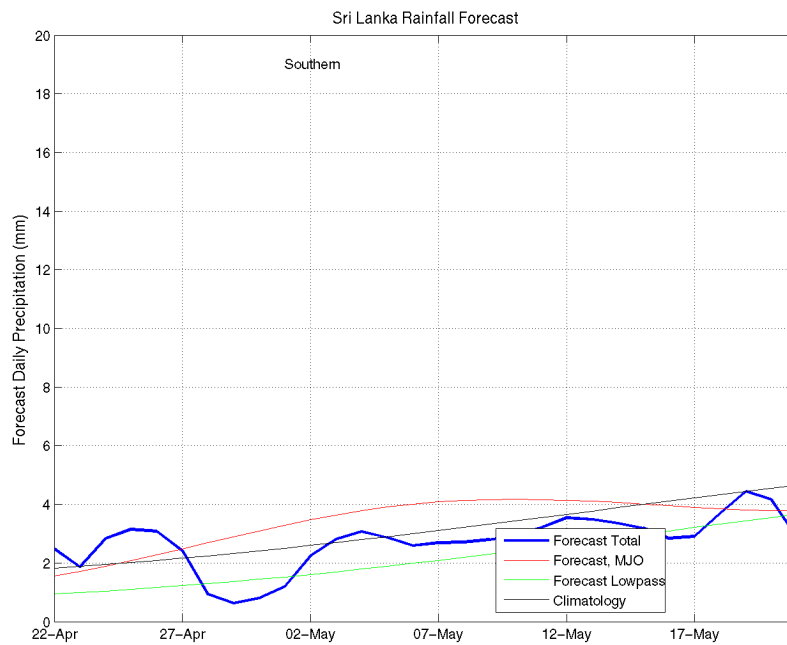
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

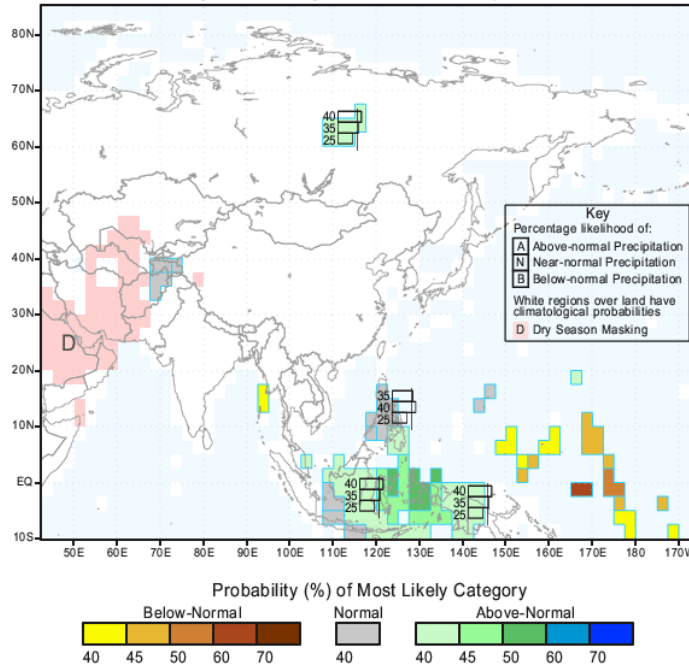


Southern Region (Rainfall Scale- from 0-20 mm/day)



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

