

Experimental Climate Monitoring and Prediction

by: Sewwandhi Chandrasekara, Prabodha Agalawatte, Sanjaya Ratnayake, Zeenas Yahiya,
Lareef Zubair and Michael Bell (FECT and IRI¹)

29 May 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/>

May 16, 2013 PACIFIC SEAS STATE

During March through May the observed ENSO conditions remained in the neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO into northern autumn. However few models, mainly but not exclusively statistical models call for cooling towards borderline or weak La-Nina conditions during the coming northern summer season into the latter part of the 2013.
(Text Courtesy IRI)

INDIAN OCEAN STATE

The cold anomaly which was observed in the Indian Ocean around Sri Lanka has shifted towards a non-anomalous state.

Highlights

Monitoring and Predictions:

In the coming week, Southwestern regions shall experience significant amount of rainfall, especially in the Galle district, heavy rainfall shall be observed in the coming two days (30th and 31st May). However, in most of regions of Sri Lanka, existing rainfall shall decrease during 31st May-2nd June. Thereafter it shall gradually increase till 10th of May. However, northern & southern regions shall not experience the same phenomena as other regions.

Summary

Monitoring

Weekly Monitoring: Rainfall ranged between 5-145 mm during 21st-27th May 2013. Maximum rainfall was concentrated on the 22nd May for a small part of Galle district. Rest of the days of the week received rainfall of 5-10 mm/day.

Predictions

7-day prediction: South-western regions shall receive 55-95 mm of rainfall & rest of the island shall receive 5-55 mm of rainfall during 28th May -3rd June 2013.

IMD WRF Model Forecast & IRI forecast: For 30th May, IMD WRF model predicts more than 125 mm of rainfall for the Southwestern coastal regions & it shall spread in a reducing manner towards Jaffna & Hambantota districts along the coastal belts. For the same day, model predicts less than 1 mm of rainfall for the eastern half of the island. For 31st May, model predicts more the 125 mm of rainfall for Galle district & rainfall shall spread as the previous day. For the same day, Batticaloa & Ampara districts shall receive less than 8 mm of rainfall. NOAA model predicts less than 50 mm of rainfall for the entire country, except for the Northern regions (less than 20 mm) during 28th May -2nd June.

30 Days Prediction: Overall- Existing rainfall shall decrease during 31st May-2nd June. Thereafter it shall gradually increase till 10th of May. **Western Slopes** – The rainfall pattern existing in the entire country shall be present in this region. But significant rainfall trough shall be observed around 2nd June. **Western Coast** – The rainfall pattern existing in the entire country shall be present in this region. **Eastern Slopes** – Existing rainfall condition shall persists till the end of May & rainfall shall gradually decrease till 17th June. **Eastern Coast** – The rainfall shall decrease drastically till 2nd June & gradually increase thereafter. **Northern region-** The rainfall shall increase till the end of May & shall reduce gradually till 2nd June. Thereafter once again it shall increase, but significant rainfall events shall not be expected in this period. **Southern Region-** The rainfall pattern existing in Northern region shall be present in this region.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on May 2013; for June 2013 to August 2013, there is a 60-70% 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
- Weekly Average SST Anomalies

2. Predictions

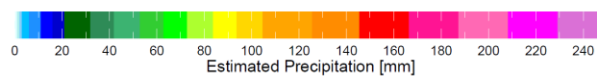
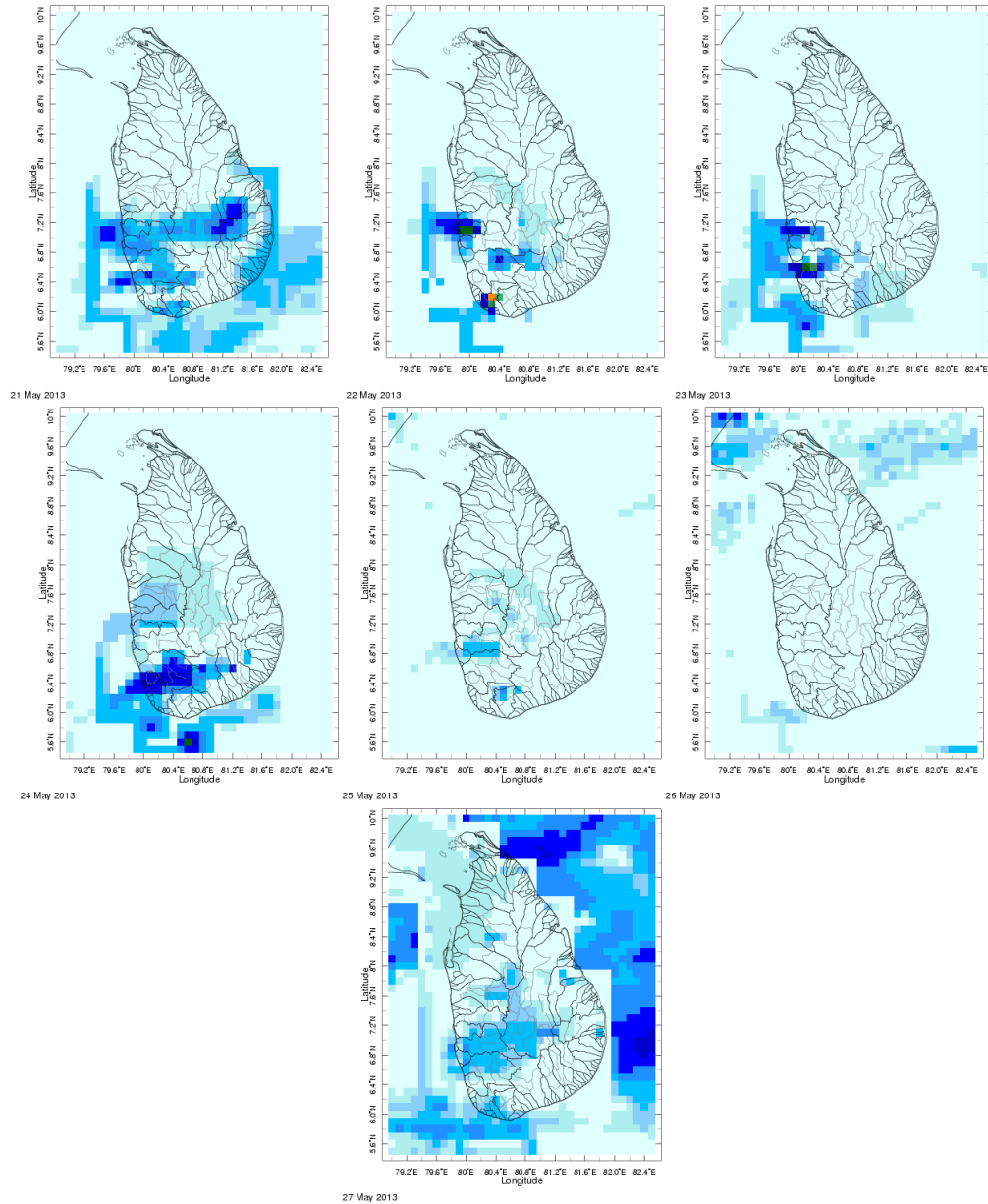
- NCEP GFS Ensemble 1-7 day predictions
- Weekly precipitation forecast (IRI)
- 1 month experimental predictions by Paul Roundy and L. Zubair
- Seasonal Predictions from IRI

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

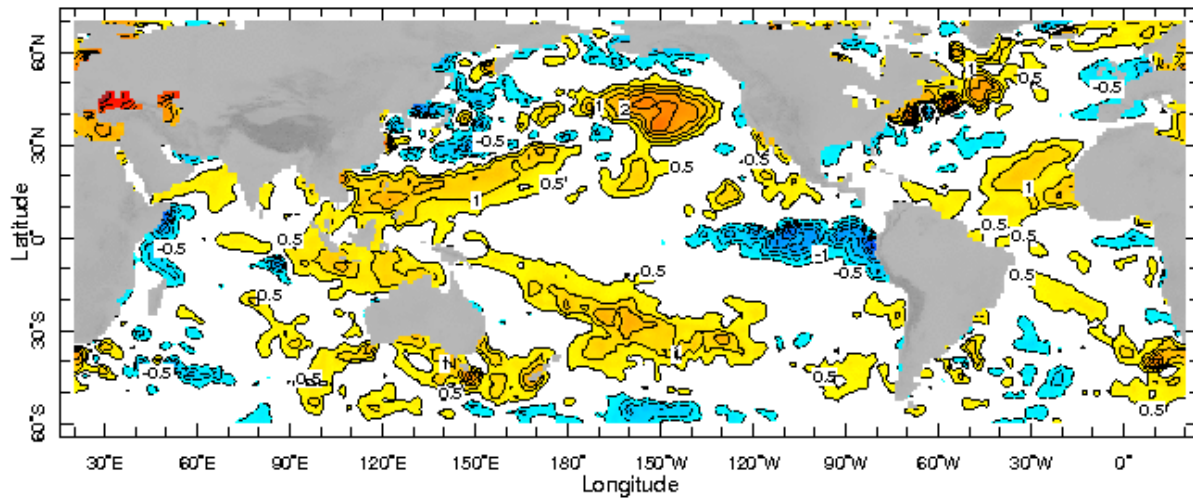
² These interpretations of hydro-meteorological conditions for the Mahaweli basins are provided for the use of the WMS/MASL.

1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 21st May–27th May 2013 (Left-Right, Top-Bottom)



b) Weekly Average SST Anomalies

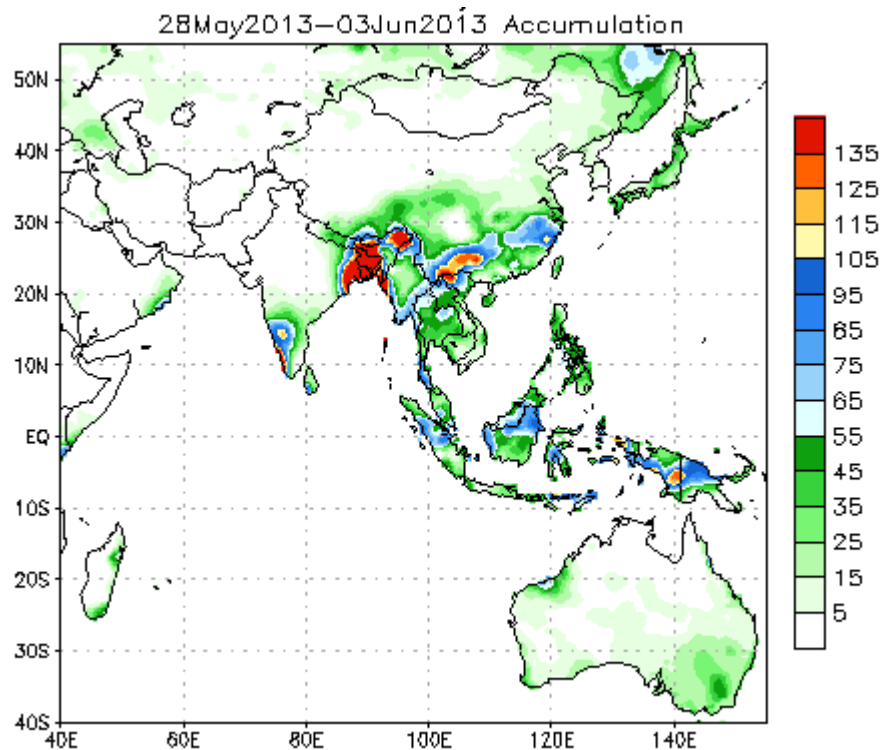


Weekly Average SST Anomalies ($^{\circ}$ C), 19th-25th May, 2013

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

2. Predictions

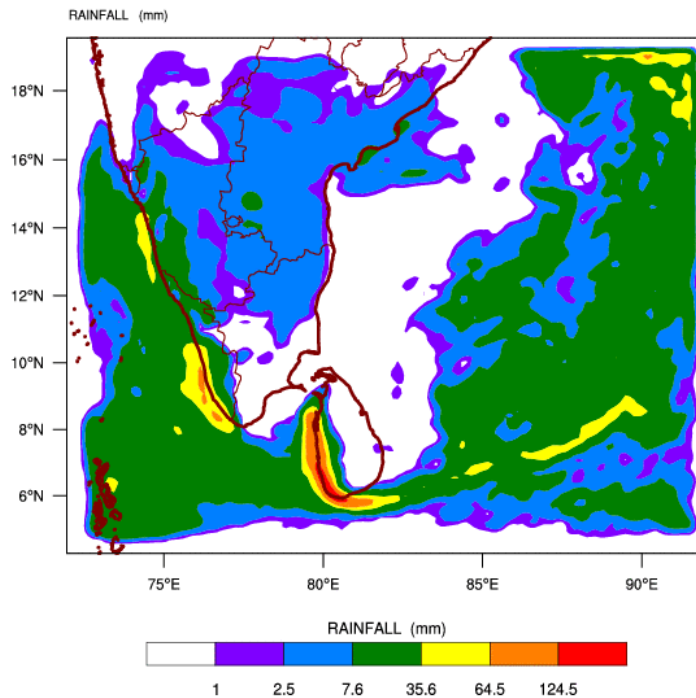
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.



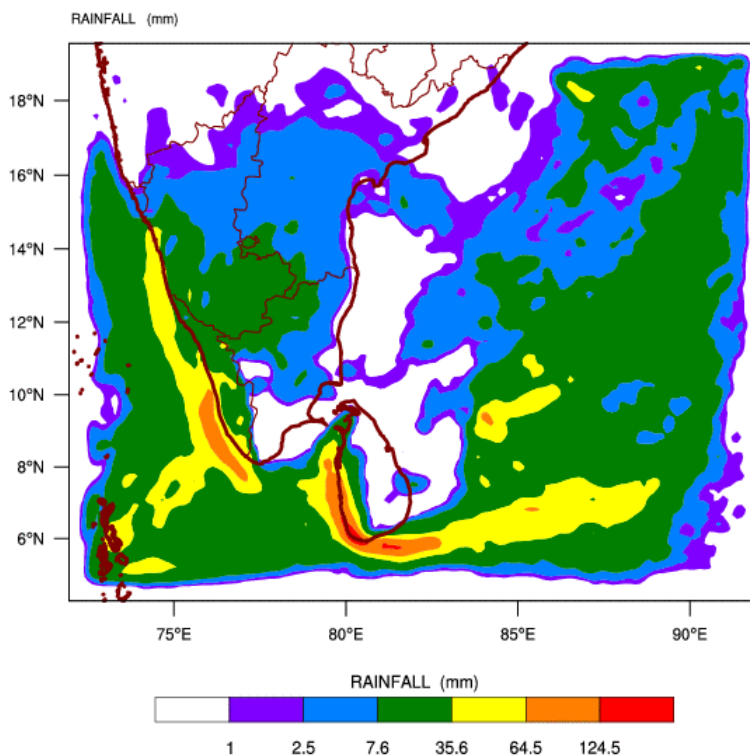
Source – NOAA Climate Prediction Center

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

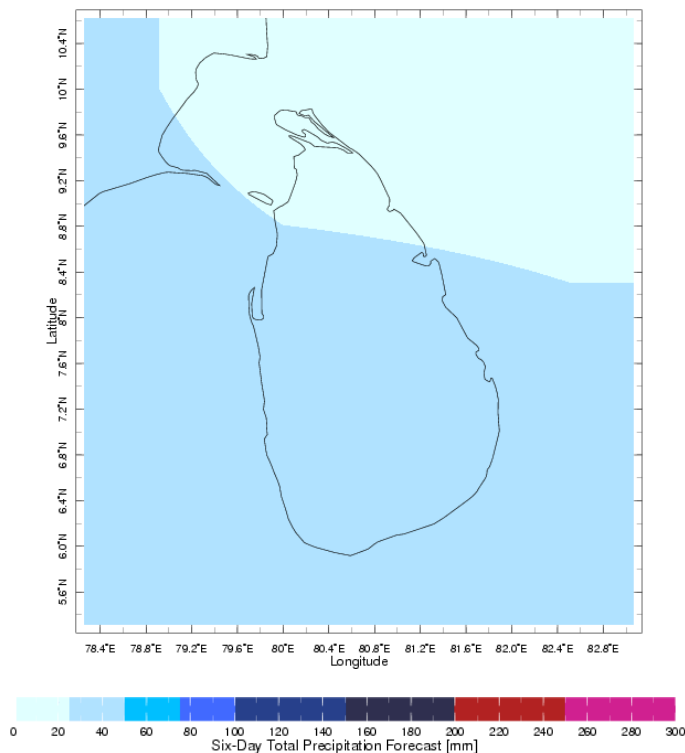
WRF MODEL FORECAST (48 HR.) RAINFALL(mm)
based on 00 UTC of 28-05-2013 valid for 03 UTC of 30-05-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)
based on 00 UTC of 28-05-2013 valid for 03 UTC of 31-05-2013



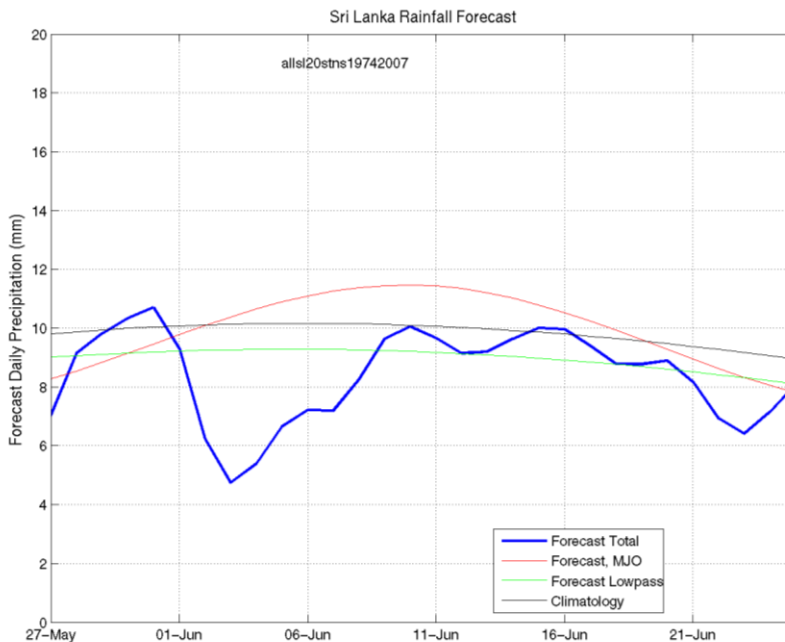
c) Weekly Precipitation Forecast for 28th May -2nd June 2013 (Precipitation Forecast in Context Map Tool, IRI)



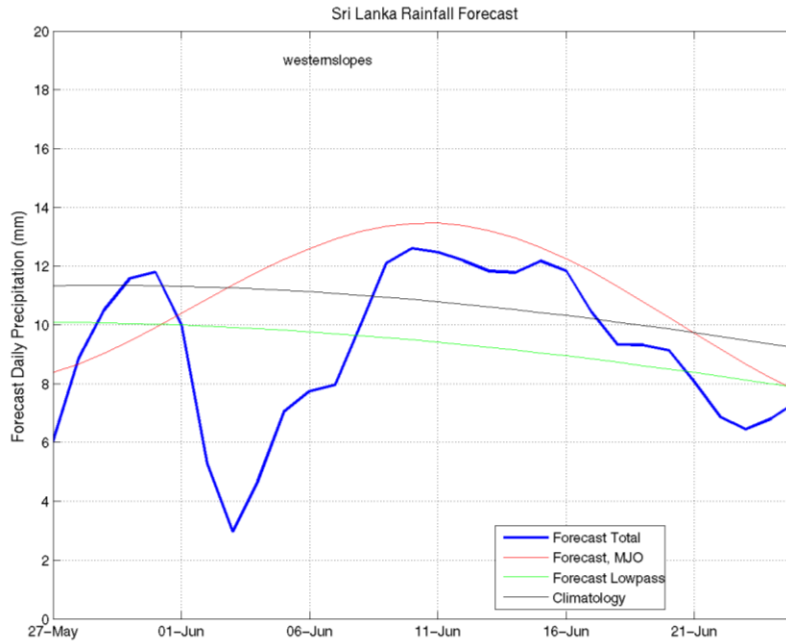
d) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 29th May, 2013

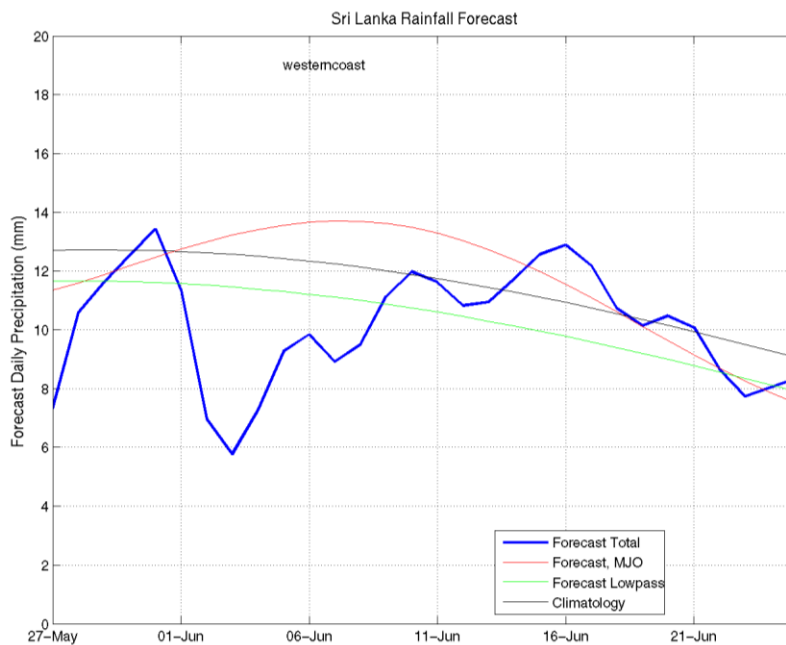
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



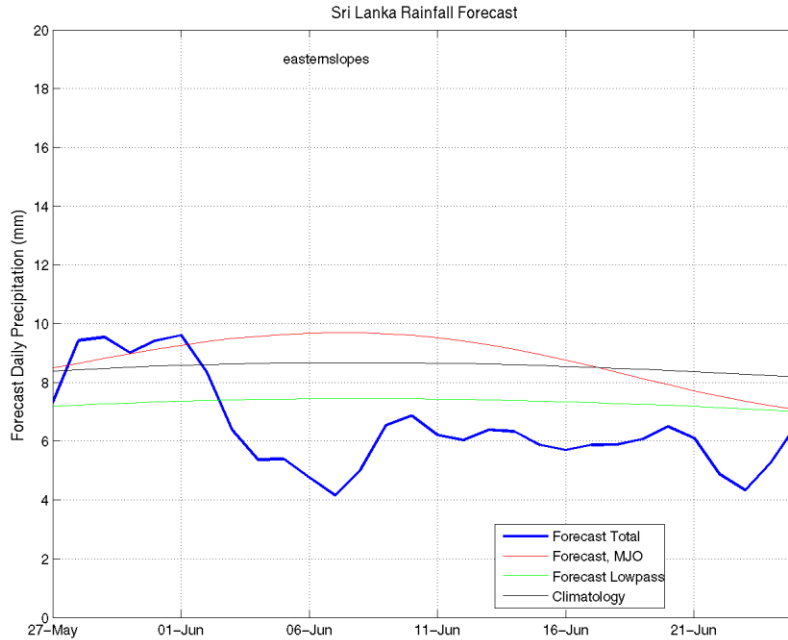
Western Slopes (Rainfall Scale from 0-20 mm/day)



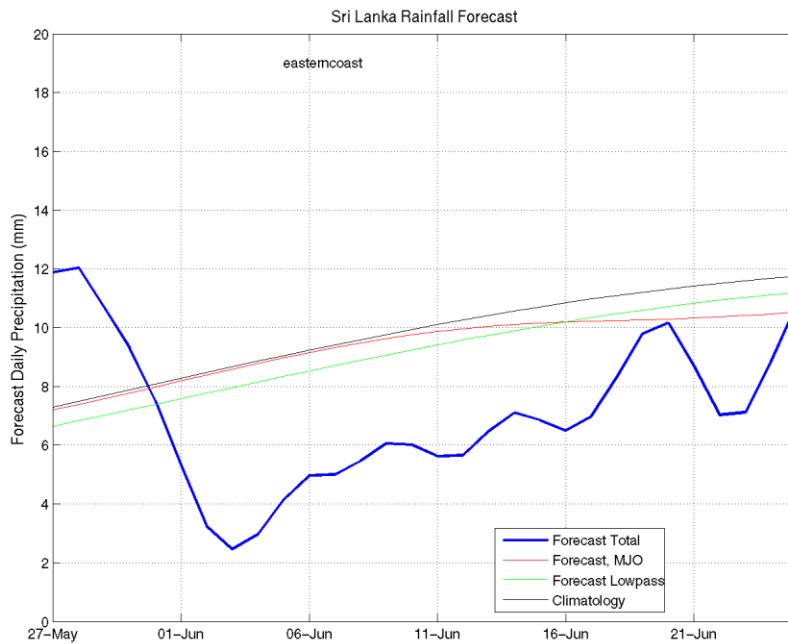
Western Coast (Rainfall Scale from 0-20 mm/day)



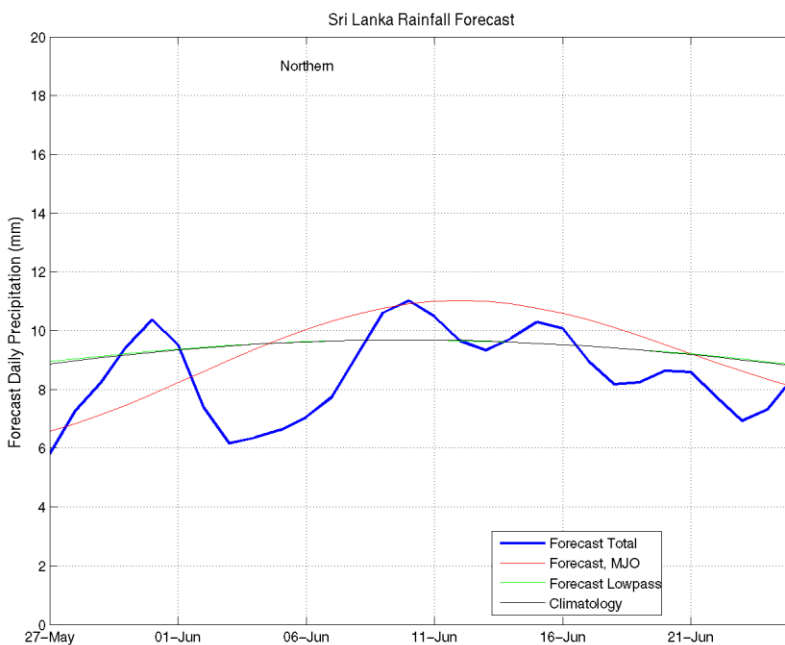
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



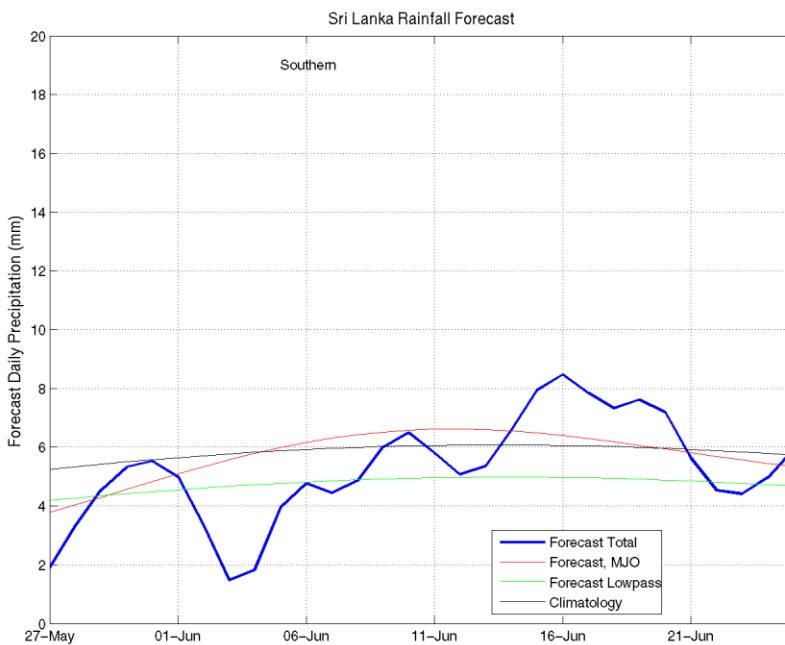
Eastern Coast (Rainfall Scale- from 0-20 mm/day)



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

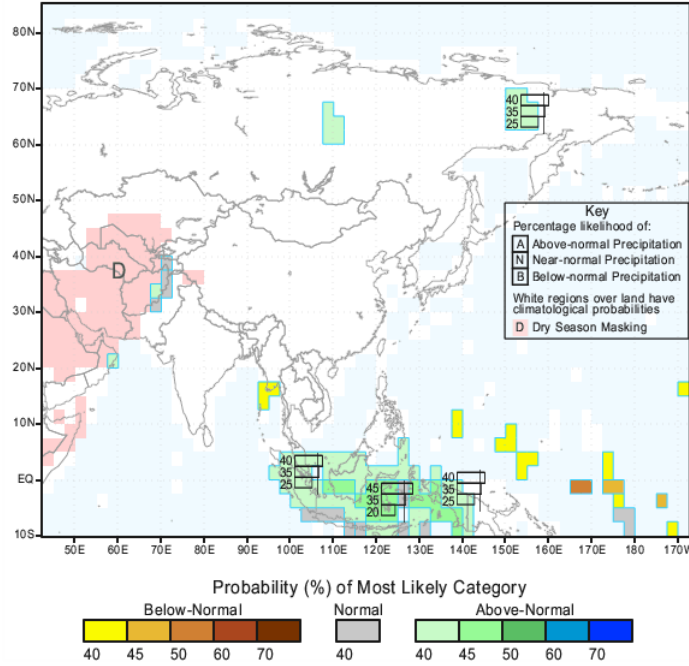


Southern Region (Rainfall Scale- from 0-20 mm/day)



e) Seasonal Rainfall and Temperature Predictions from IRI

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



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

