

Experimental Hydro Meteorological Monitoring and Prediction

(Prepared for Water Management Secretariat, Mahaweli Authority)

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(FECT and IRI)

19 May 2011

FECT BLOG

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ENSO Update

19 May 2011

The moderate to strong La Niña conditions that were observed between mid-August 2010 and early February 2011 weakened during March and April, and dissipated to neutral conditions as of mid-May 2011. For the May-

July season currently in progress, there is an approximately 24% probability for returning to La Niña conditions, a 63% probability for remaining in neutral conditions, and a 13% probability for the development of El Niño conditions. Neutral conditions are the most likely scenario throughout the remainder of 2011, although development of El Niño conditions or re-emergence of La Niña conditions cannot be ruled out,

(Text Courtesy IRI)

Summary²

Weekly Monitoring: During the previous week (From 10th May to 16th May, 2011) low rainfall (0-20mm) was experienced in some parts of the island. On the 11th May 5-10mm rainfall was experienced in upper part of the Mahaweli basin and Suburbs. However in 13th May rainfall spread to Southern, Eastern, Western and Central Hill areas. Further, on 15th May, 05-50 mm rainfall was experienced to the same area. On 12th May 5-40mm rainfall experienced in Ratnapura area. There was no significant rainfall for the rest of the week.

Monthly Monitoring: During April, above average rainfall was experienced all over the island with the highest wet anomalies in the Colombo District, the Northern Puttalam and Kurunegala Districts the Western Anurhadhapura and Mannar Districts.

7 Day Prediction: For the coming week the NCEP Global Forecast System predicts accumulated rainfall below 55mm with higher accumulations the Western region.

3 Day IMD GFS meso-scale forecast:

IMD GFS Model predicts average 1-10mm rainfall for the coming 2 days for the Western and Southern and southwestern regions.

1 Month Prediction: Overall, from 19th May to 18th May rainfall will increase dramatically followed by a decrease till 22nd May. Then after it will increase gradually until the 7th June with minor fluctuations. Thenafter it will decrease gradually until 13th June. For the Western slopes the rainfall will decrease from 19th till 22nd May. Until 31st May there are only few fluctuations followed by a gradual increase from 31st May to 7th June. From 7th to 13th June it will show a gradual decrease. For the Eastern slopes it will show a dramatic decrease from 19th May till 23rd May. Then after a gradual increase till the 2nd June followed by decrease till the 10th June.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for May 2011 to July 2011, issued in April 2011, there are climatological probabilities for precipitation and temperature.

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 - c. IMD GFS meso-scale model
 - d. 1 month experimental predictions by Paul Roundy and L. Zubair
 - e. Seasonal Predictions from IRI

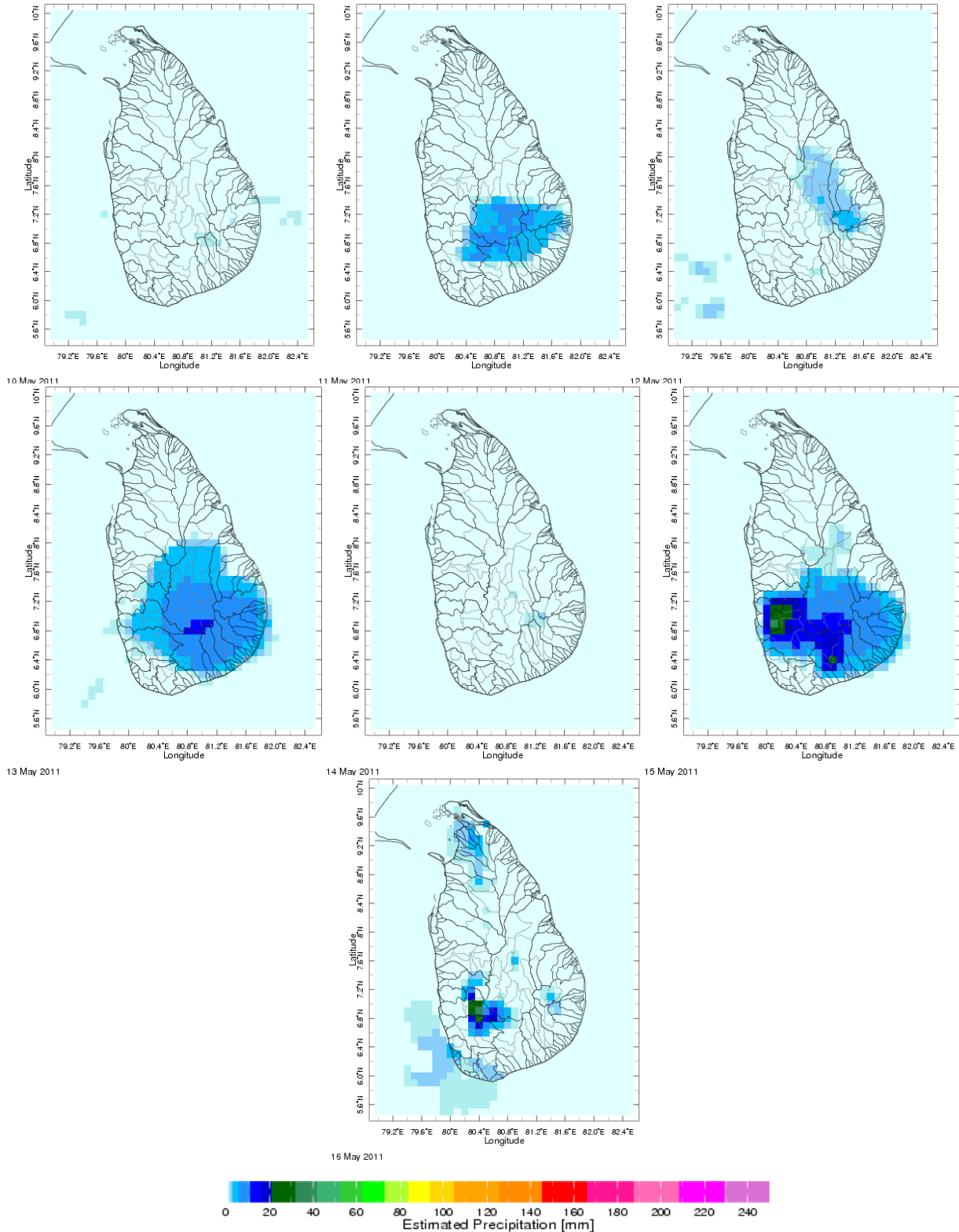
International Research Institute for Climate and Society.

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

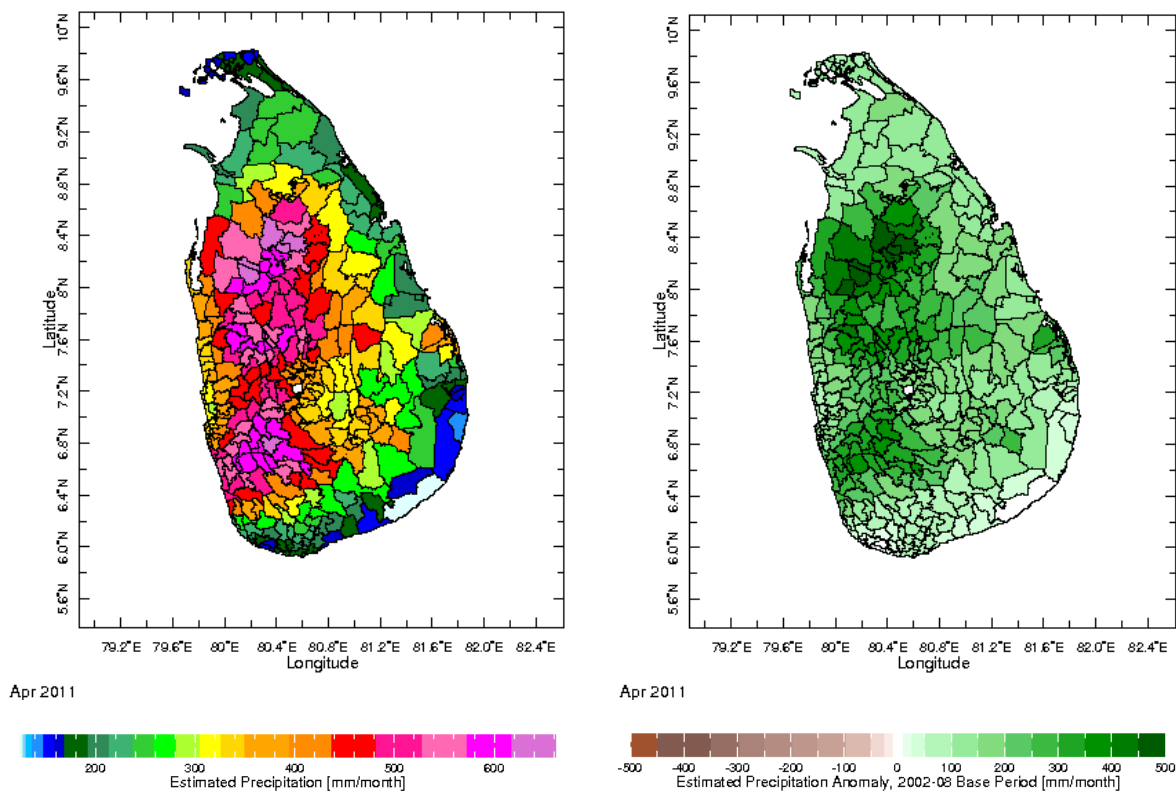
Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.

1. Rainfall Monitoring

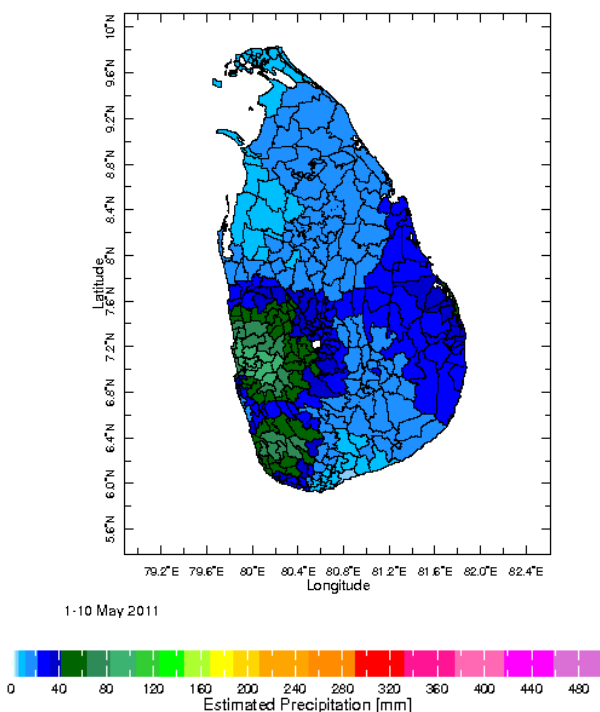
a) Daily Satellite Derived Rainfall Estimate Maps: 10th May – 16th May, 2011 (Left-Right, Top-Bottom)



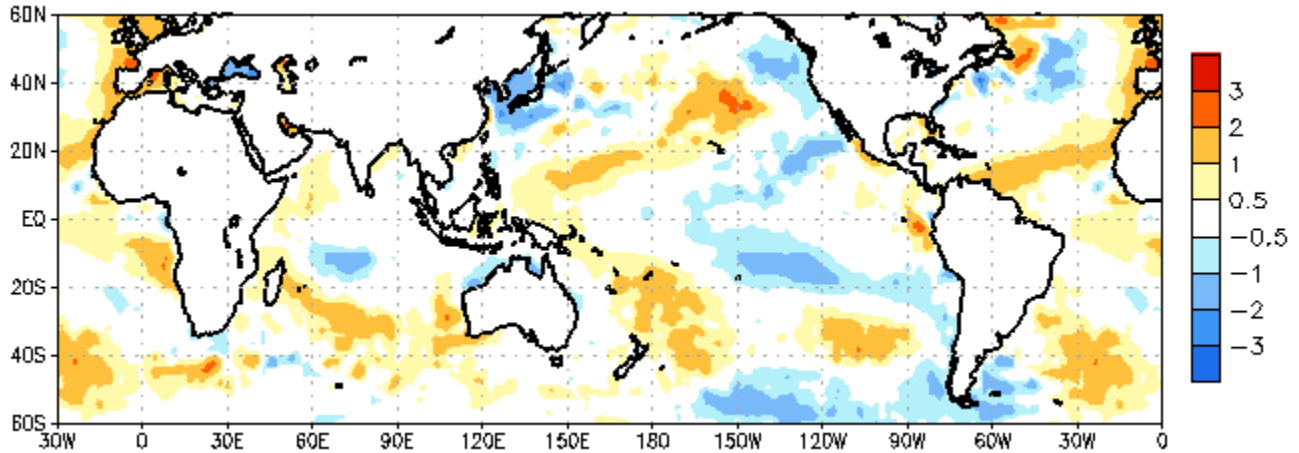
b) Monthly Satellite Derived Rain fall Estimates for April 2011 (Total – Left and Anomaly -Right)



c) 10 day (Dekadal) Satellite Derived Rain fall Estimates (21-30, April 2011)



d) Weekly Average SST Anomalies

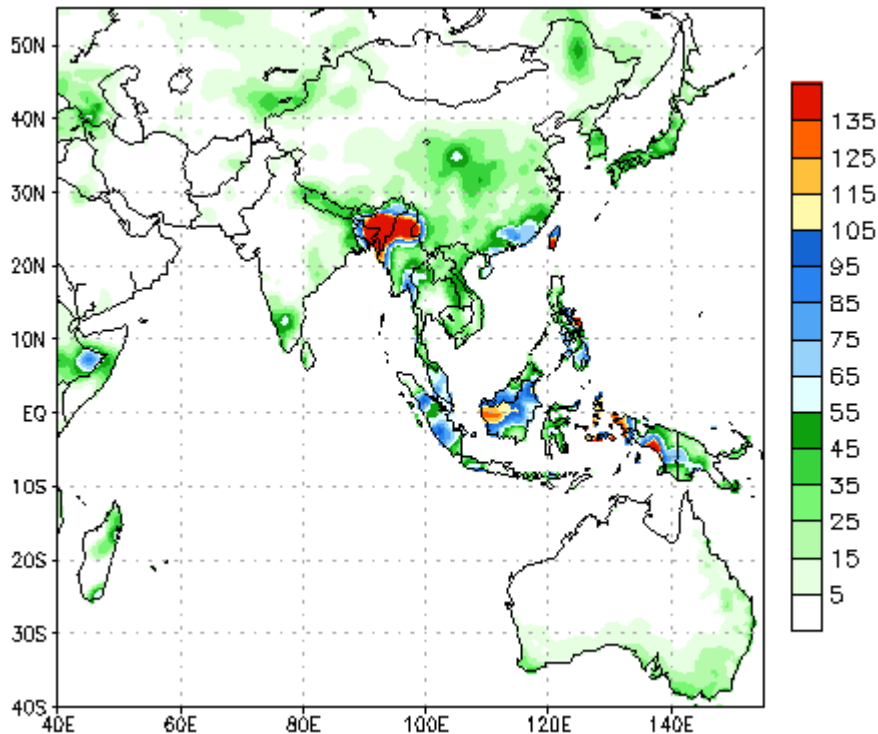


Weekly Average SST Anomalies ($^{\circ}$ C), 11th May, 2011

Data Source: NCEP Global Sea Surface Temperature Analysis (Climatology 1979-1995)

2. Predictions

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

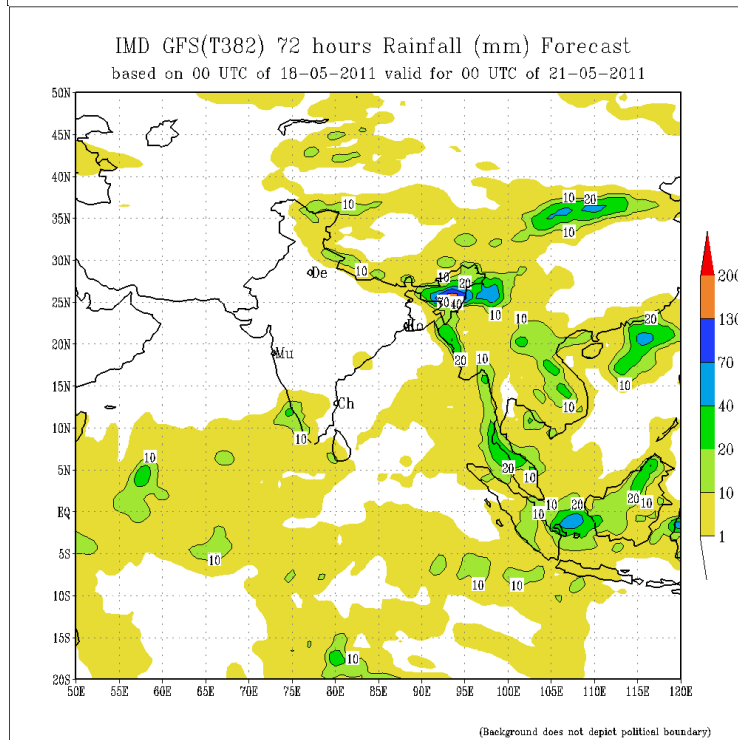
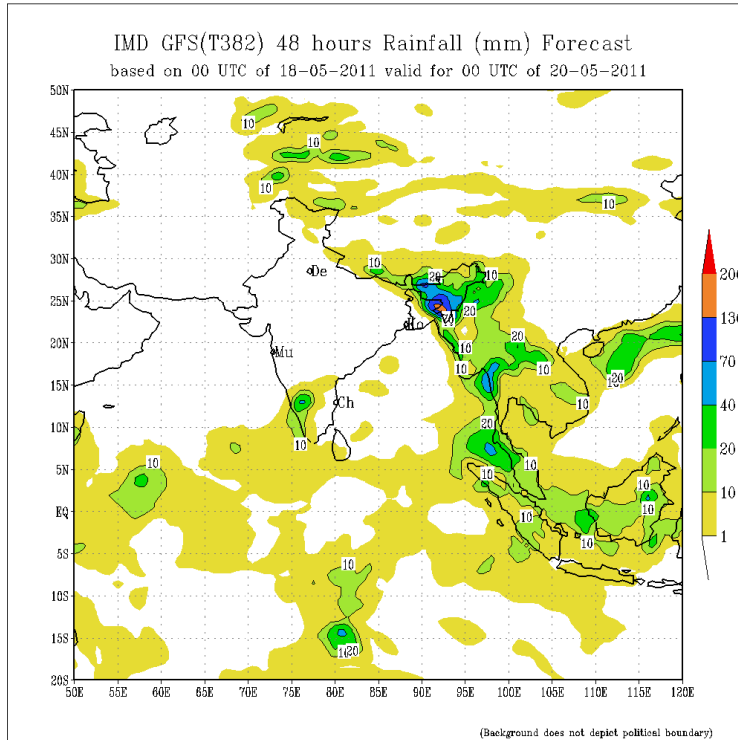


During next week, an accumulated rainfall below 55mm is predicted particularly for the western region.

Source – NOAA Climate Prediction Center

Map: Predicted accumulation of rainfall. (11th May-17th May, 2011 week)

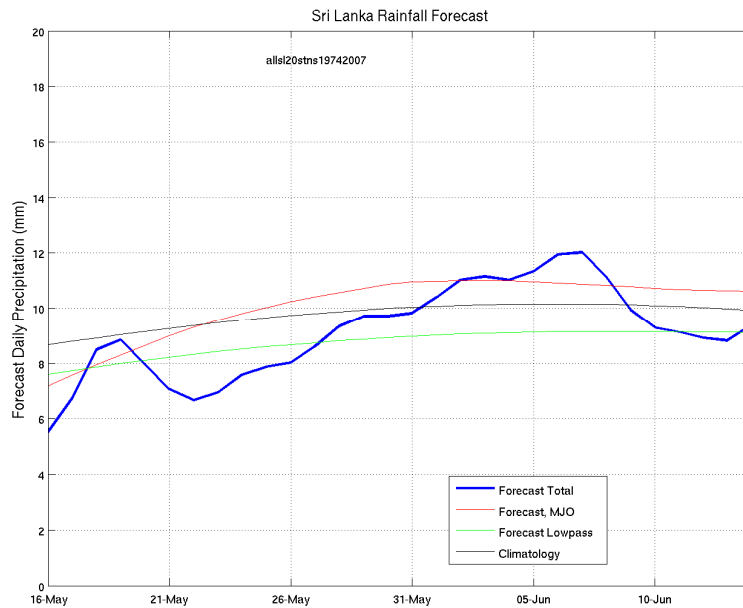
b) Rainfall Forecast for May 18th and May 19th from IMD GFS meso-scale model (issued 18th May, 2011)



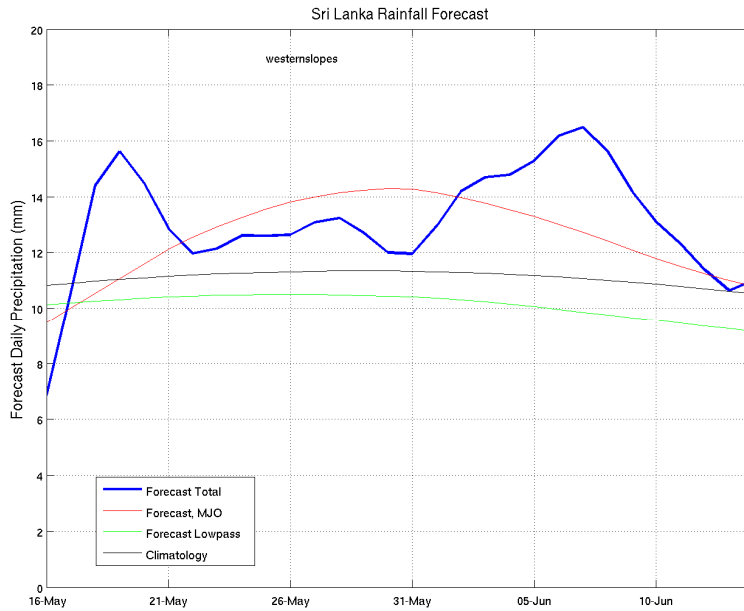
c) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 19th May, 2011

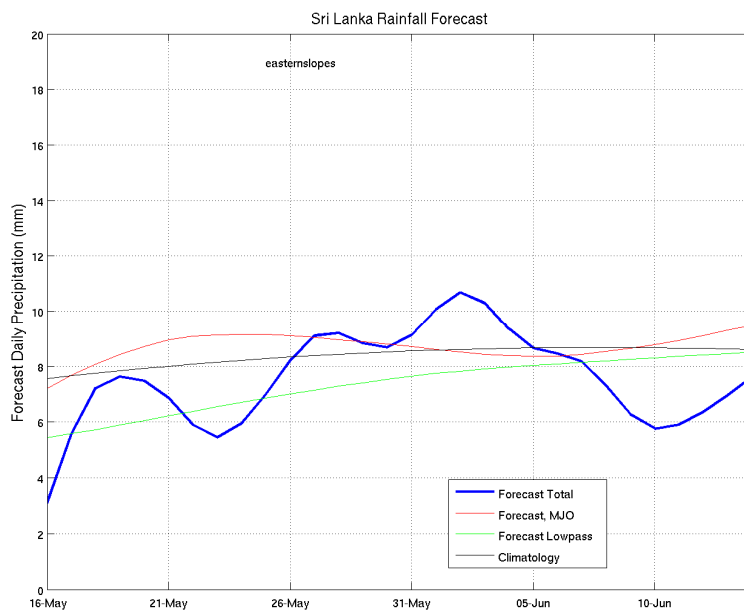
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



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

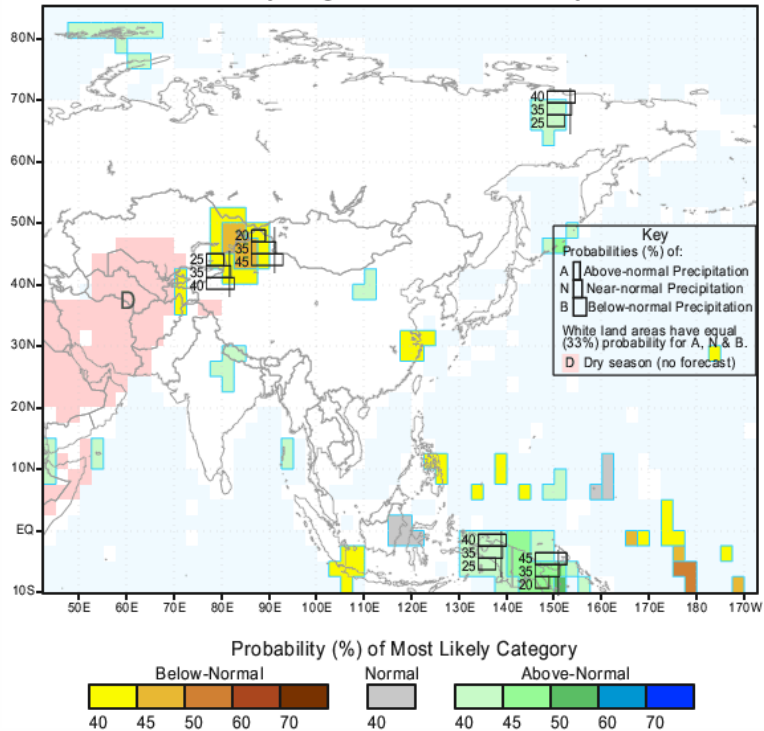


Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



d) Seasonal Rainfall and Temperature Predictions from IRI

IRI Multi-Model Probability Forecast for Precipitation
for June-July-August 2011, Issued May 2011



IRI Multi-Model Probability Forecast for Temperature
for June-July-August 2011, Issued May 2011

