FECT Foundation for Environment Climate and Technology
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Experimental Climate Monitoring and Prediction

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

21 May 2014

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http://fectsl.wordpress.com/

FECT WEBSITES

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

15 May, 2014
PACIFIC SEAS STATE

During April through mid-May the observed ENSO conditions moved from warm-neutral to the borderline of a weak El Niño condition. Most of the ENSO prediction models indicate a continued warming trend, with a transition to sustained El Niño conditions by the early northern summer.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Seas around Sri Lanka showed neutral sea surface temperature during 11th-17th May 2014.

MJO STATE

MJO is at neutral phase.

Highlights

Monitoring and Predictions:

Existing rainfall condition shall increase gradually till 27th May and significant rainfall event is likely to experience during 26th-28th May 2014. Thereafter rainfall shall decrease gradually till the end of prediction period (21st-29th May 2014). However, for the eastern slopes rate of increase of rainfall is higher than the rate predicted for the entire country during 21st-27th May. For coming two days (22nd & 23rd May) Gampaha-Galle districts, Kegalle and Ratnapura districts are likely to experience more rainfall than the rest of the districts in Sri Lanka.

Summary

Monitoring

***Weekly Monitoring*:** During 12th-18th May 2014, Sri Lanka received rainfall ranged 5-10 mm. Southern half of the island received rainfall on 12th and thereafter entire country showed dry condition.

***Monthly Monitoring*:** The border regions of Kurunegala and Anuradhapura and, Vavuniya and Mannar districts received above normal rainfall during April 2014 and rest of the districts received below normal rainfall during April 2014.

Predictions

14 day prediction: During 20th-26th May 2014, western districts of Sri Lanka shall receive 65-55 mm of rainfall and shall spread throughout the country in a reducing manner. During 27th May-2nd June, western half of the island shall receive 65-55 mm of rainfall and shall spread towards eastern half of the island in a reducing manner.

IMD WRF &IRI Model Forecast: For 22nd & 23rd of May, IMD WRF model predicts less than 36 mm/day of rainfall for Gampaha-Galle districts, Kegalle and Ratnapura districts and, is likely to spread in reducing manner towards nearby regions. However, on 23rd insignificant patch in the central Ratnapura shall receive heavy rainfall (less 65 mm/day). IRI model predicts dry condition (less than 25 mm/6 days) for entire country during 20th-25th May 2014.

30 Days Prediction: Overall- Existing rainfall condition shall increase gradually till 27th May and significant rainfall event is likely to experience during 26th-28th May 2014. Thereafter rainfall shall decrease gradually till the end of prediction period (21st-29th May 2014). ***Western Slopes and Coasts-*** The rainfall pattern persisting in the entire country shall observe in this region with high amount of rainfall. ***Eastern Slope-*** The rainfall pattern persisting in the entire country shall observe in this region. But the rate of increase of rainfall is higher than the rate predicted for the entire country. ***Eastern Coast-*** The rainfall pattern persisting in the entire country shall observe in this region. ***Northern-*** The rainfall pattern persisting in the entire country shall observe in this region. ***Southern Region-*** The rainfall pattern persisting in the entire country shall observe in this region.

***Seasonal Prediction*:** As per IRI Multi Model Probability Forecast issued on May 2014; for June 2014 to August 2014, there is a more than 70% probability for temperature to be above normal for Hambantota district and 60-70% probability for temperature to be above normal for rest of the regions in Sri Lanka in the country while the rainfall is to be climatological.

Inside 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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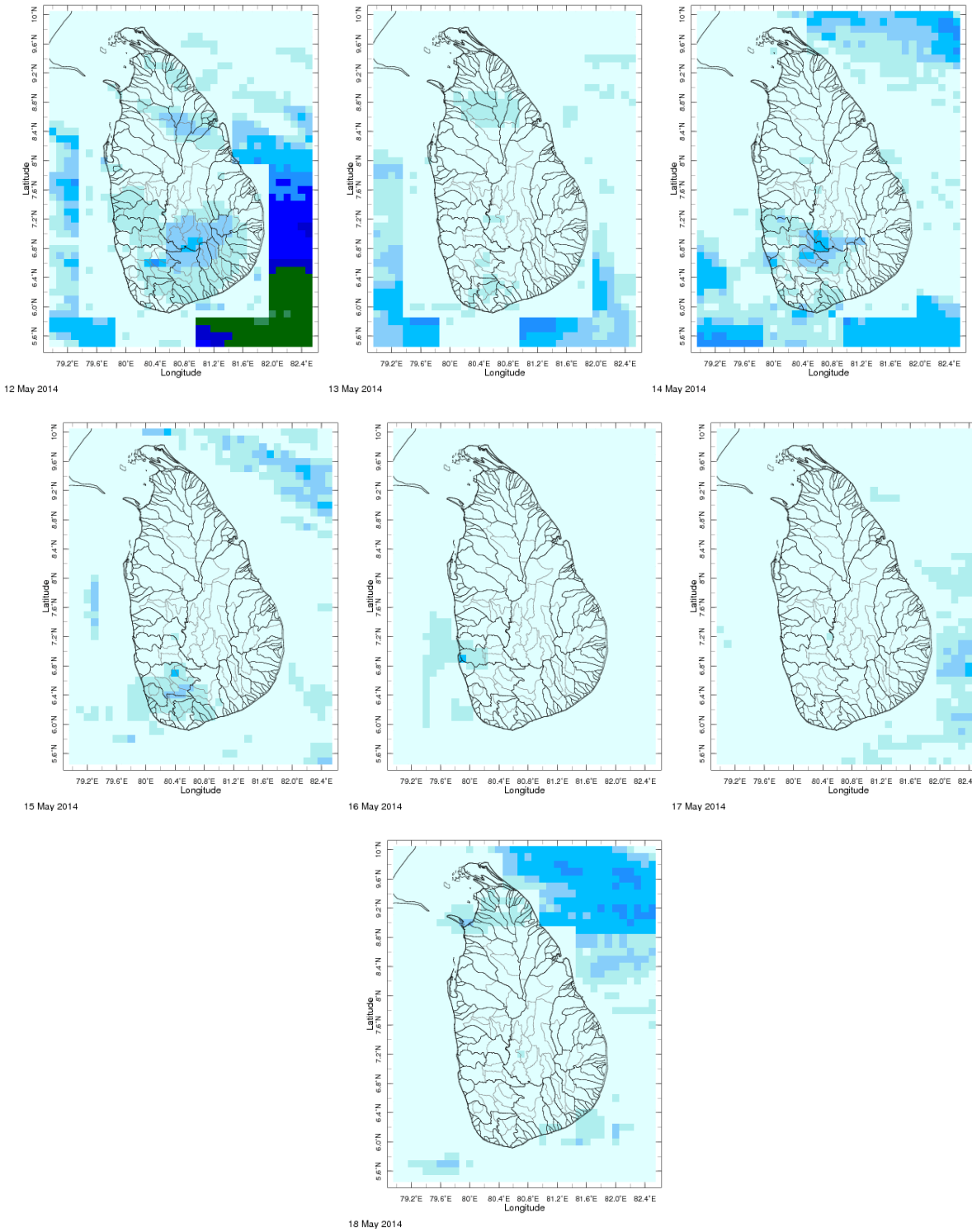
1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 12th-18th May *2014 (Left-Right, Top-Bottom)*



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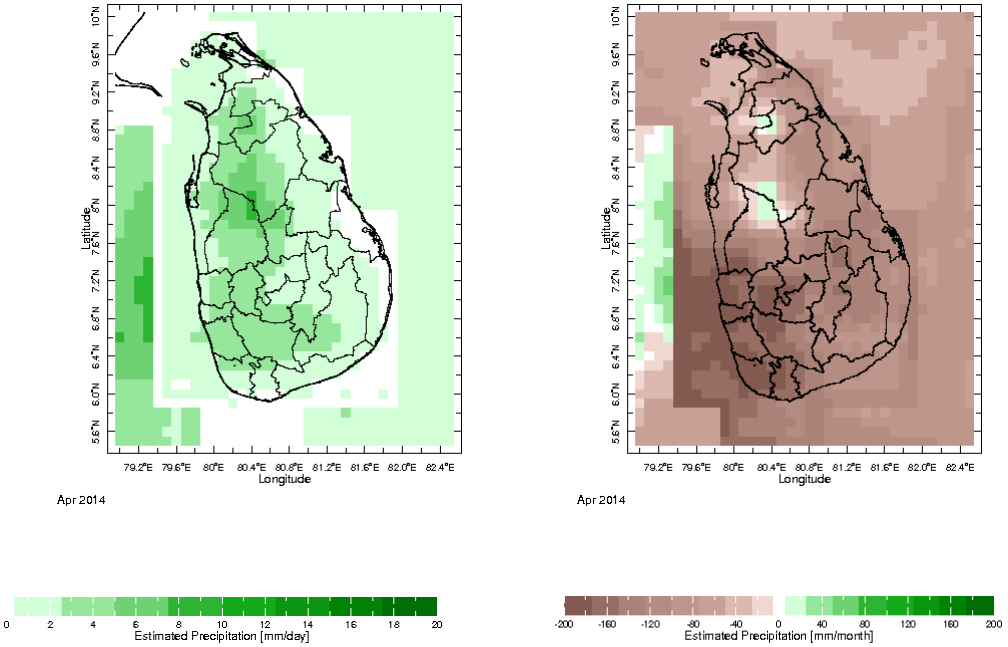
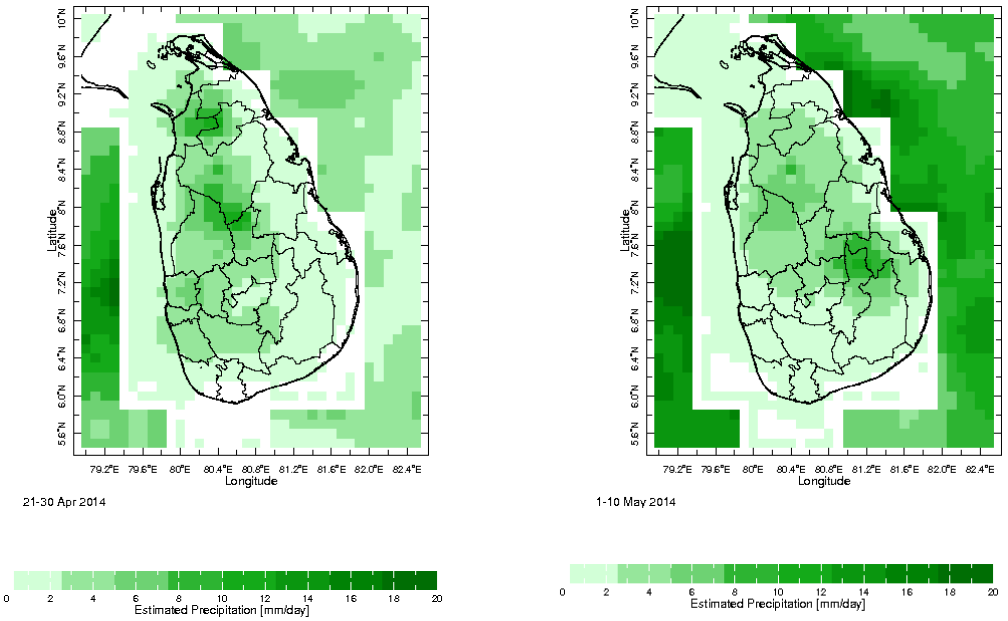
b) Monthly Satellite Derived Rainfall Estimates for April 2014 (Average – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-30 April & 1-10 May, 2014)



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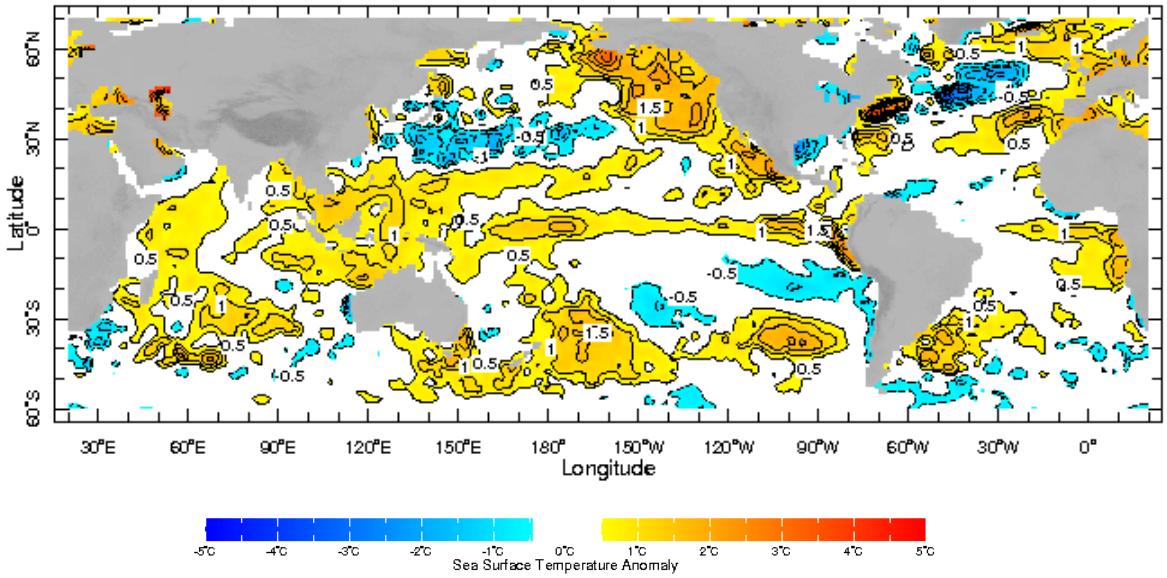
d) Weekly Average SST Anomalies



Weekly Average SST Anomalies (^{0}C), 11th-17th May, 2014

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

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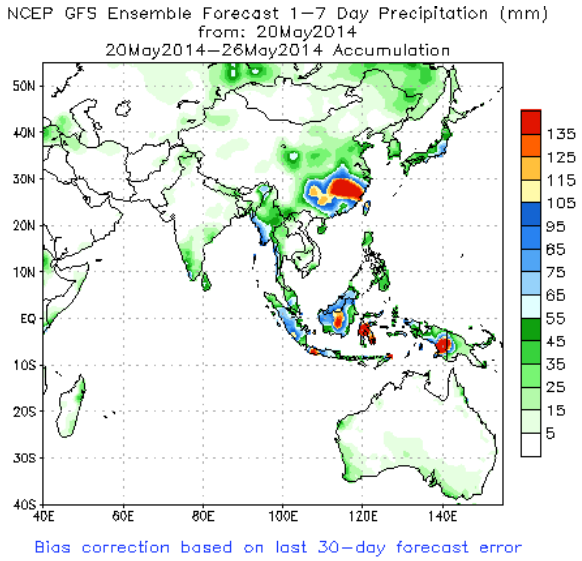
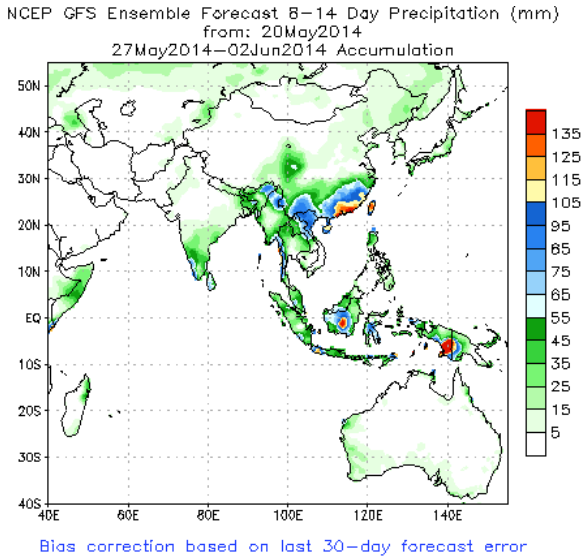
2. Predictions

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





Source – NOAA Climate Prediction Center

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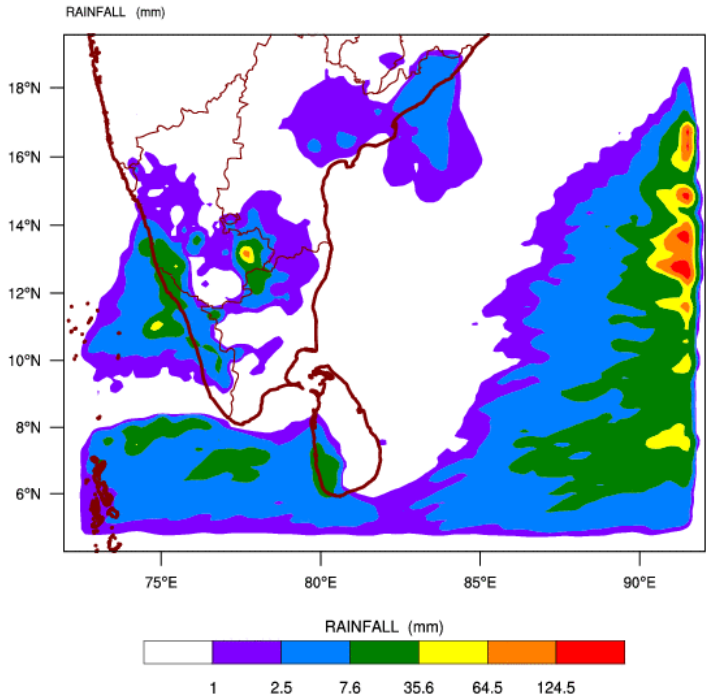
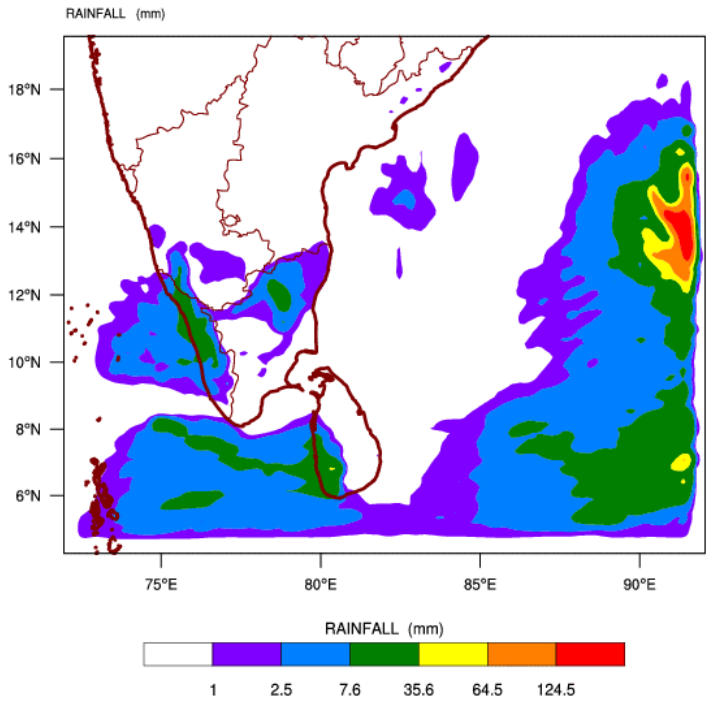
b) WRF model forecast **Regional Meteorological Center, Chennai, Indian Meteorological Department)**

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 20-05-2014 valid for 03 UTC of 22-05-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 20-05-2014 valid for 03 UTC of 23-05-2014



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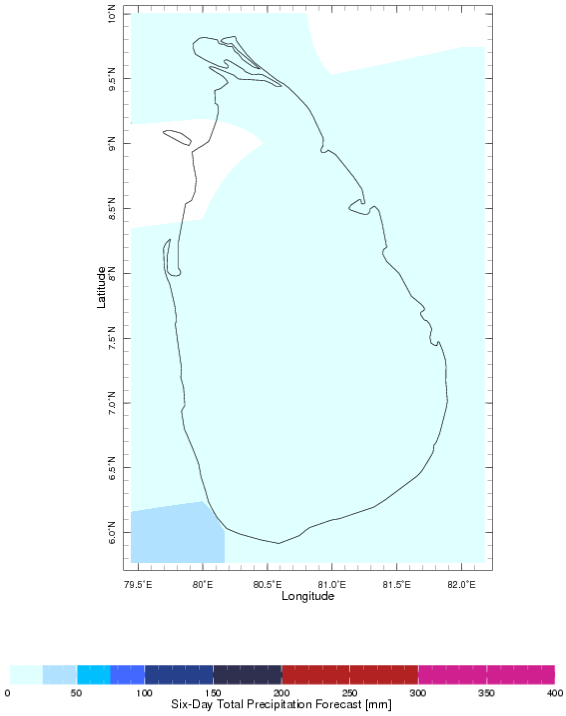
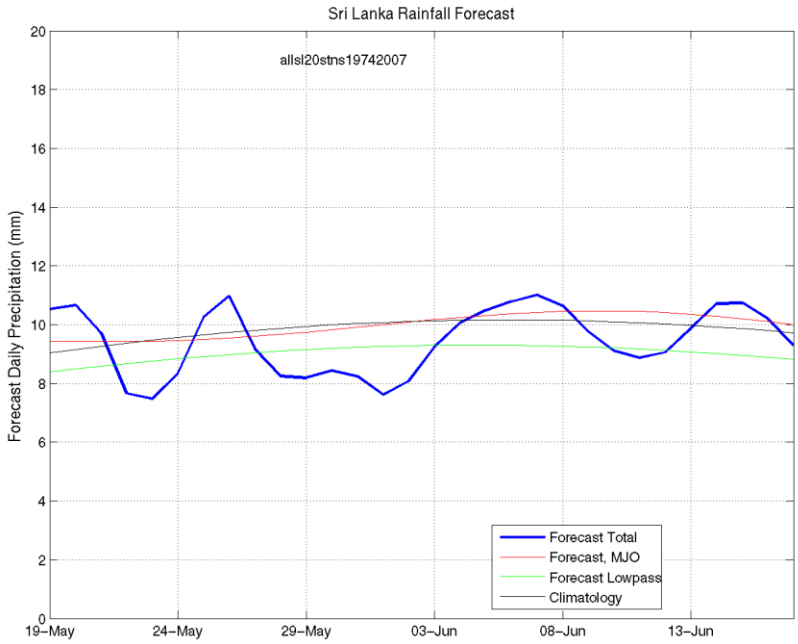
c) Weekly Precipitation Forecast for 20th-25th May 2014 (Precipitation Forecast in Context Map Tool, IRI)



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

Predictions based on observed cloud cover and atmospheric waves. Issued 21st May, 2014



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

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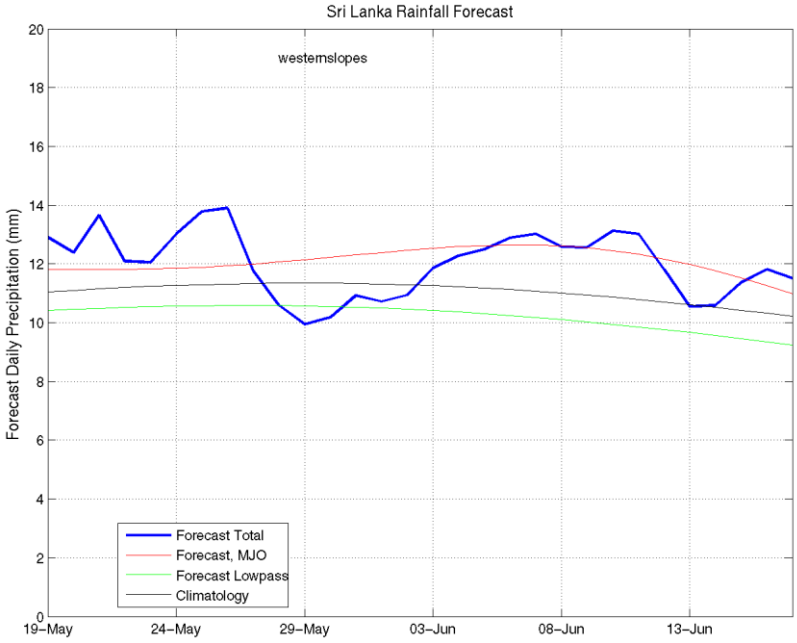
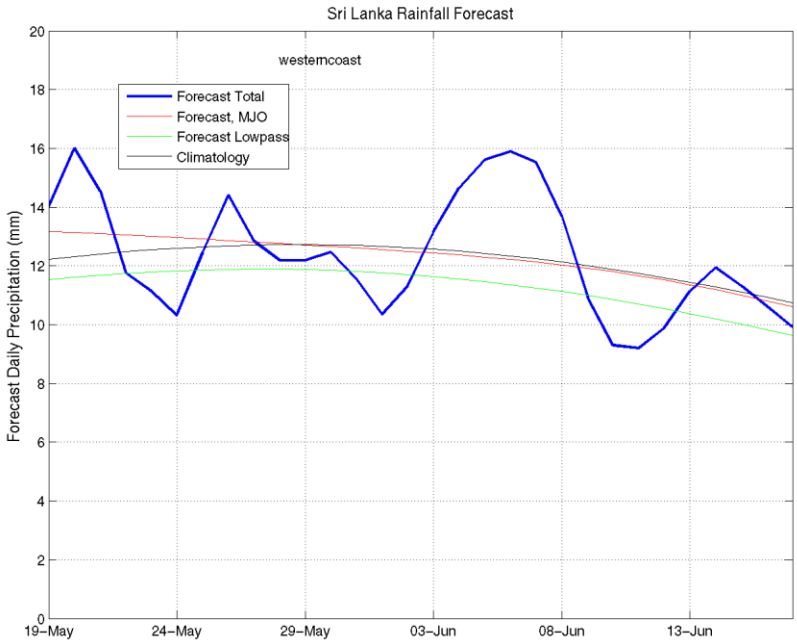
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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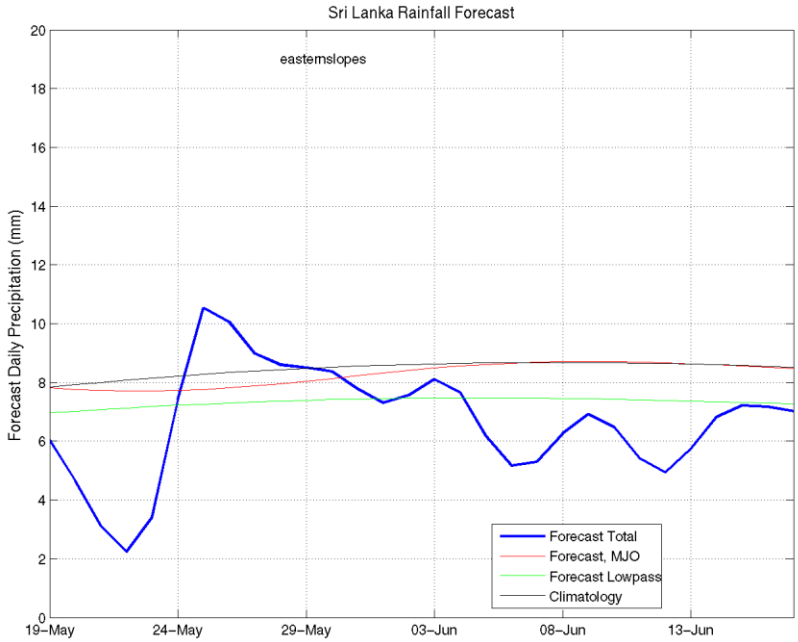
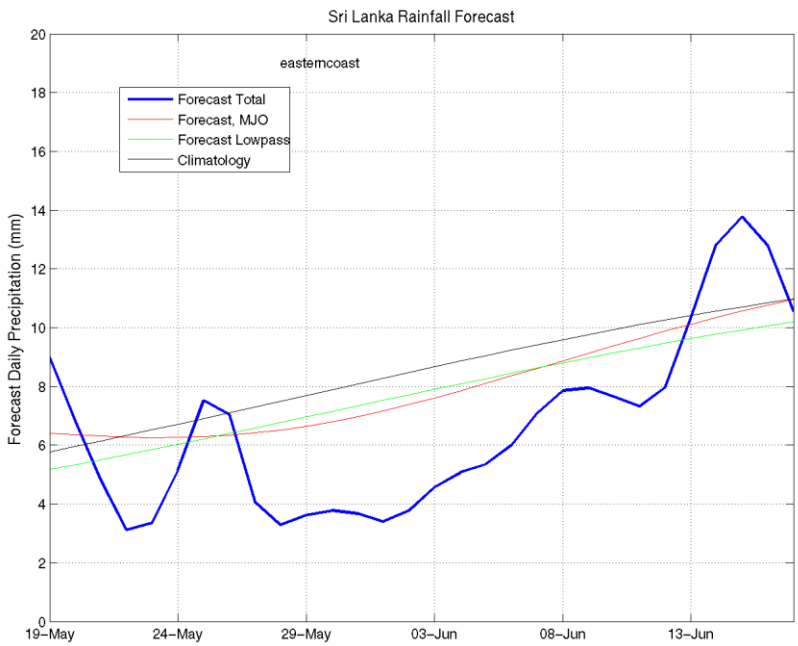
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



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



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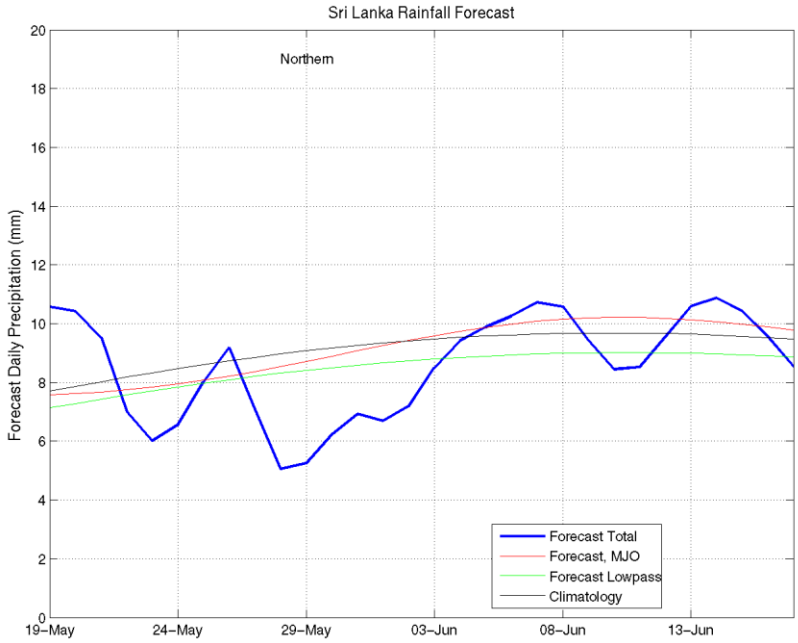
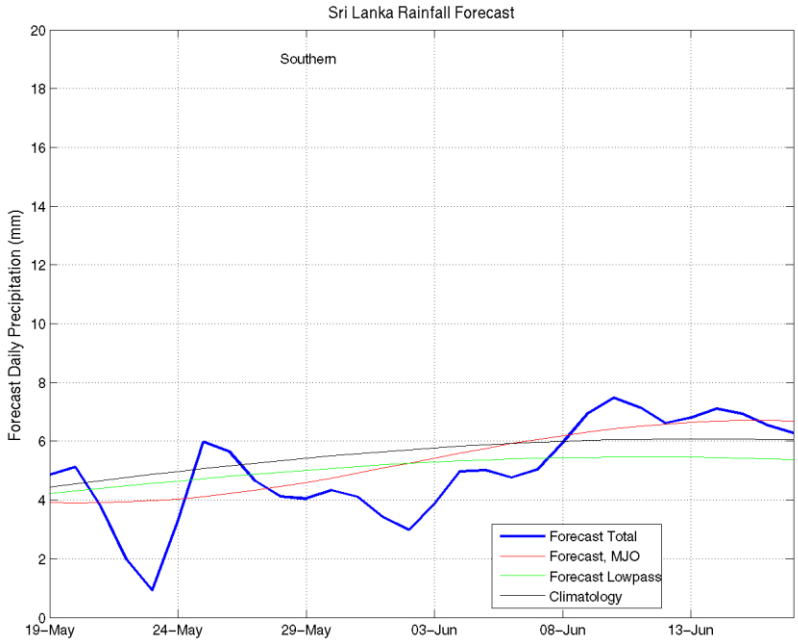
Northern Region (Rainfall Scale- from 0-20 mm/day)



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



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e) Seasonal Rainfall and Temperature Predictions from IRI