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])

30 April 2014

FECT BLOG

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http://www.climate.lk and
http://www.tropicalclimate.org/

17 April, 2014

PACIFIC SEAS STATE

During March through mid-April the observed ENSO conditions moved from cool-neutral to warm-neutral. All of the ENSO prediction models indicate a warming trend, with neutral ENSO during northern spring 2014 transitioning to El Niño conditions by the middle of northern summer.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Eastern seas of Sri Lanka showed +0.5^{0}C anomaly during 20th-26th April 2014.

MJO STATE

MJO is neutral.

Highlights

Monitoring and Predictions:

A significant rainfall event is likely to observe for most of the regions during 9th-11th May. However, eastern coast shall receive dry condition during 5th-7th May. For the coming two days (1st & 2nd May), the regions located at central axis of Sri Lanka shall expect heavy rainfall.

Summary

Monitoring

***Weekly Monitoring*:** During 21st-27th April 2014, Sri Lanka received rainfall ranged 5-80 mm. The maximum amount of rainfall observed for the boarder of Mannar, Mullaitivu and Vavuniya districts. However, entire country received rainfall, except for coastal districts of Jaffna-Batticaloa-Galle, received no rainfall.

***Monthly Monitoring*:** Southwest regions of Sri Lanka received more average rainfall compared to the rest of the regions during March 2014. However during February 2014, entire country experienced below normal rainfall and highest negative anomaly recorded at Ratnapura district.

Predictions

14 day prediction: During 29th April-5th May 2014, southwestern regions shall receive less than 65 mm/day of rainfall and shall spread towards entire country in a reducing manner. During 6th-12th May 2014, western half of the island shall receive rainfall of less than 45 mm/day and rest of the regions shall receive less than 5 mm/day of rainfall.

IMD WRF &IRI Model Forecast: For 1st of May, IMD WRF model predicts significant (65 mm/day) of rainfall for the central areas of Ratnapura, Nuwara-Eliya and Kegalle districts and shall decrease towards entire country (less than 8 mm/day). For 2nd of May, the model predicts significant rainfall as 1st of May for the centrals of Badulla, Nuwara-Eliya, Kandy, Matale and Anuradhapura districts. IRI model predicts 150-200 mm/6 days of rainfall for the small patch in Badulla district and shall spread towards entire country in a reducing manner (29th April-4th May 2014).

30 Days Prediction: Overall- Existing rainfall condition shall increase till 3rd May and decrease in a same rate till 5th. Thereafter it shall increase gradually till it show significant rainfall event during 9th-11th May. ***Western Slopes-*** The rainfall is likely to increase drastically till 3rd and expect significant rainfall event on same day. Therafter the rainfall pattern persisting in the entire country shall be observed. ***Western Coast-*** The rainfall pattern persisting in the entire country shall be observed in this region with more rainfall. ***Eastern Slope-*** Existing rainfall shall vary between 3-7 mm during coming week (1st-8th May). ***Eastern Coast-*** Existing rainfall shall increase gradually till 3rd May. But significant dry condition is likely to observe during 5th-7th May. ***Northern-*** The rainfall pattern persisting in the entire country shall be observed in this region. ***Southern Region-*** The rainfall pattern persisting in the eastern coast shall be observed in this region.

***Seasonal Prediction*:** As per IRI Multi Model Probability Forecast issued on April 2014; for May 2014 to July 2014, there is a 45-55% probability for temperature to be above normal 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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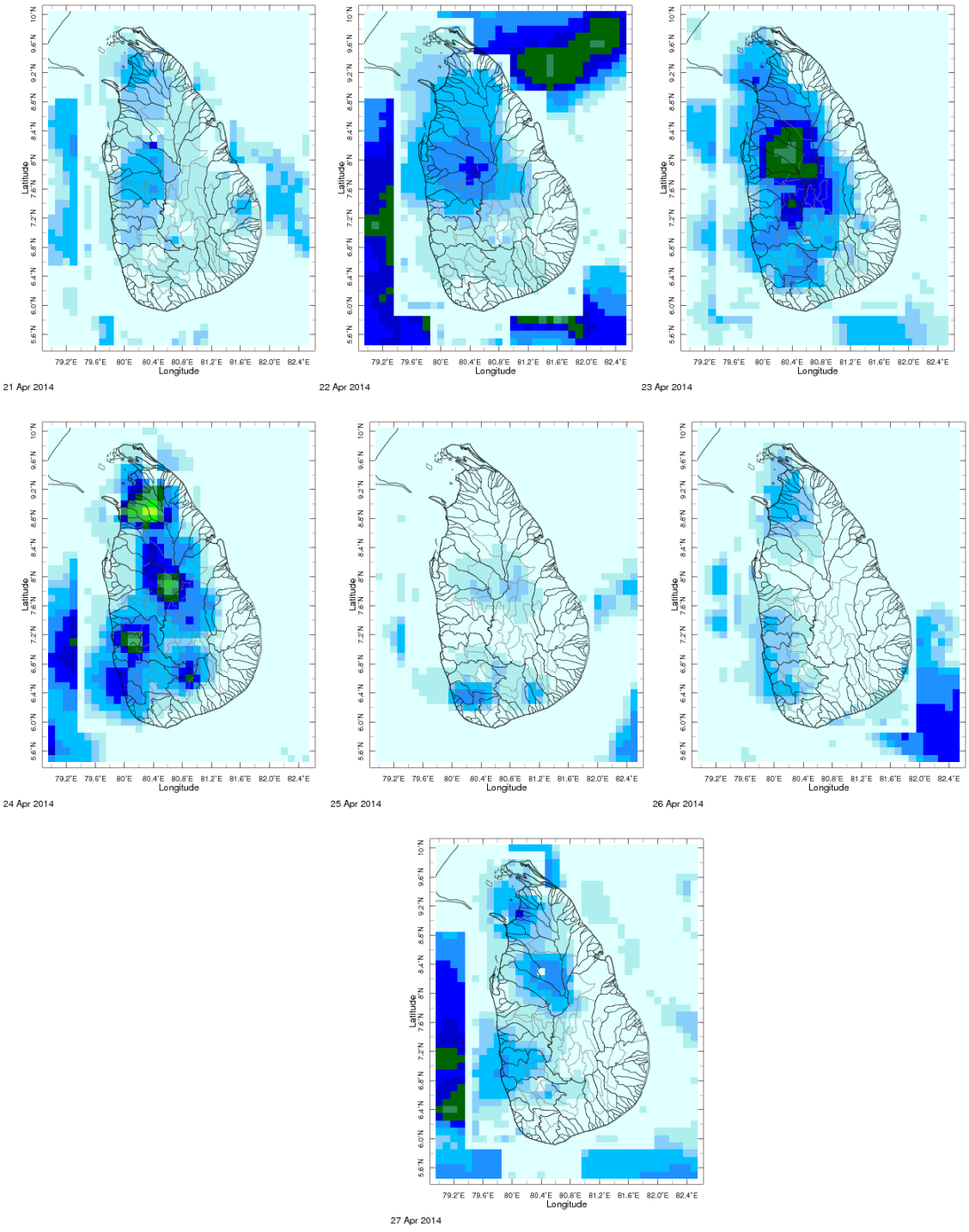
1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 21st-27th April *2014 (Left-Right, Top-Bottom)*



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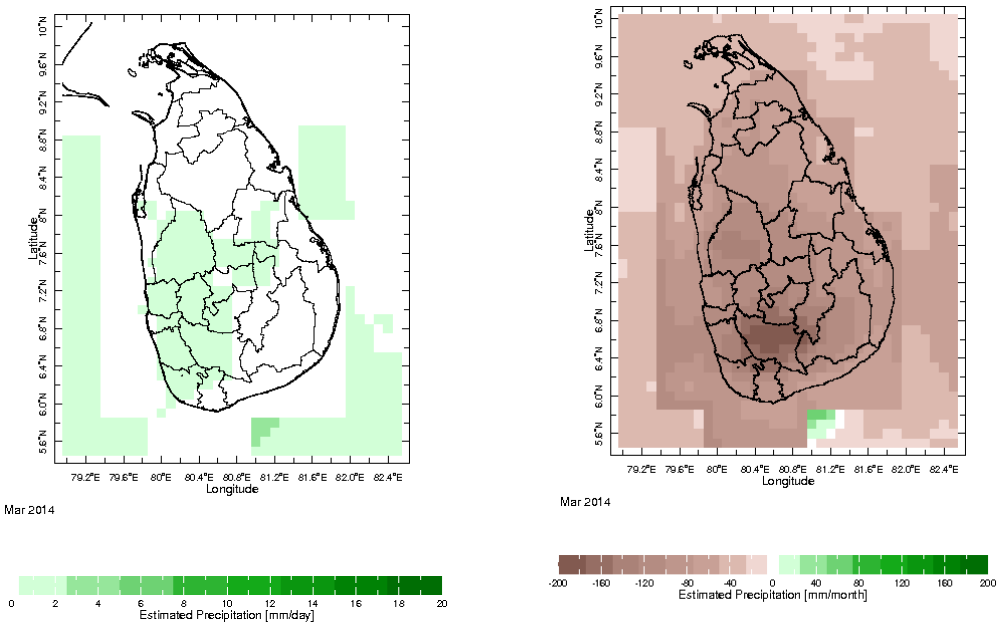
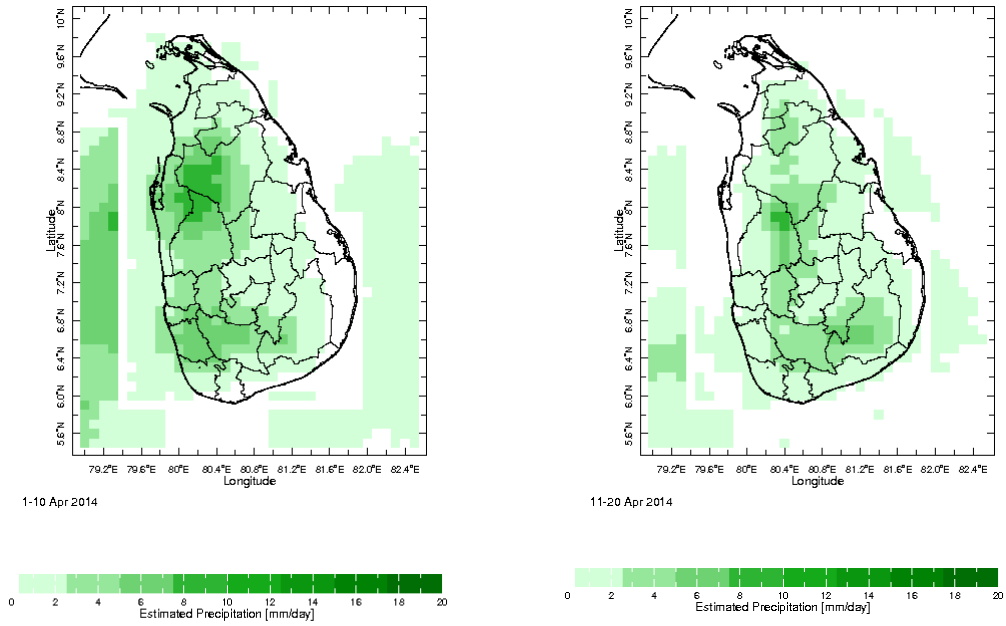
b) Monthly Satellite Derived Rainfall Estimates for March 2014 (Average – Left and Anomaly - Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (01-10 April & 11-20 April, 2014)



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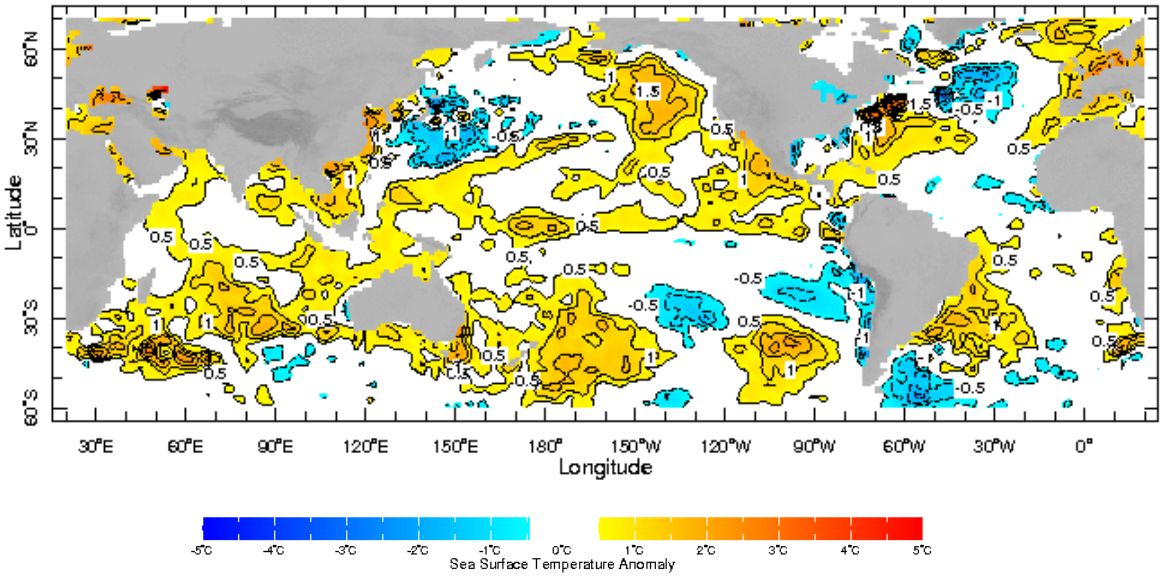
d) Weekly Average SST Anomalies



Weekly Average SST Anomalies (^{0}C), 20th-26th April, 2014

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

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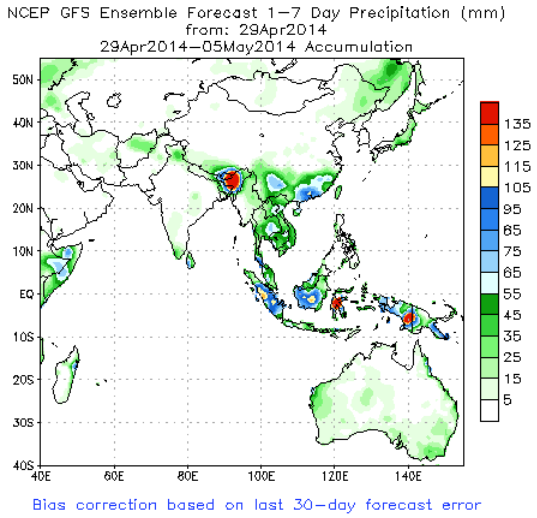
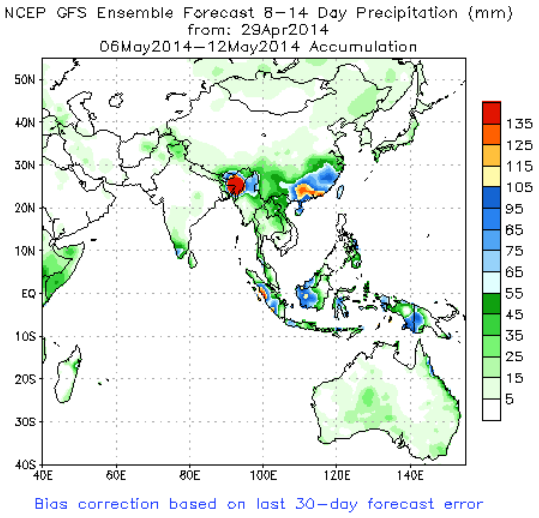
2. Predictions

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

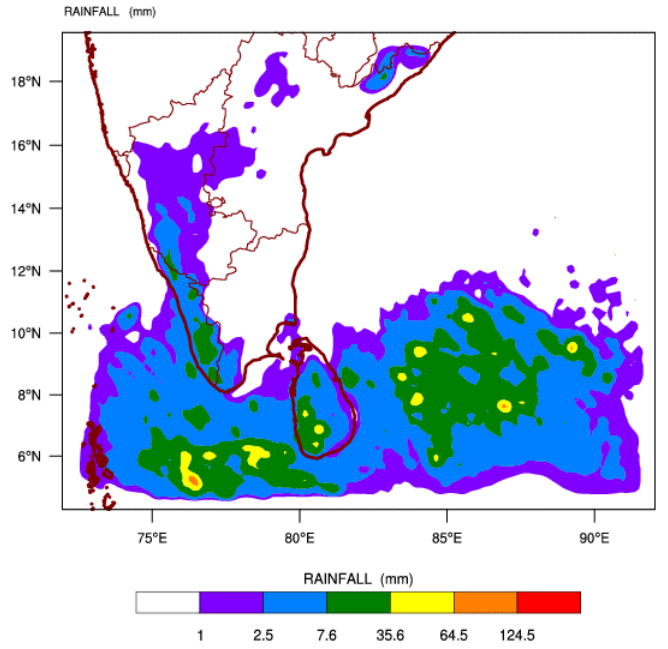




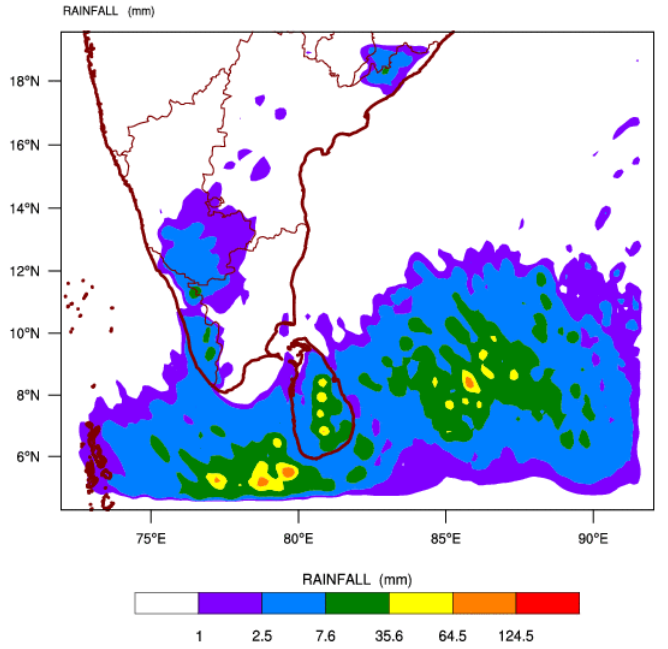
Source – NOAA Climate Prediction Center

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

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 29-04-2014 valid for 03 UTC of 01-05-2014



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 29-04-2014 valid for 03 UTC of 02-05-2014



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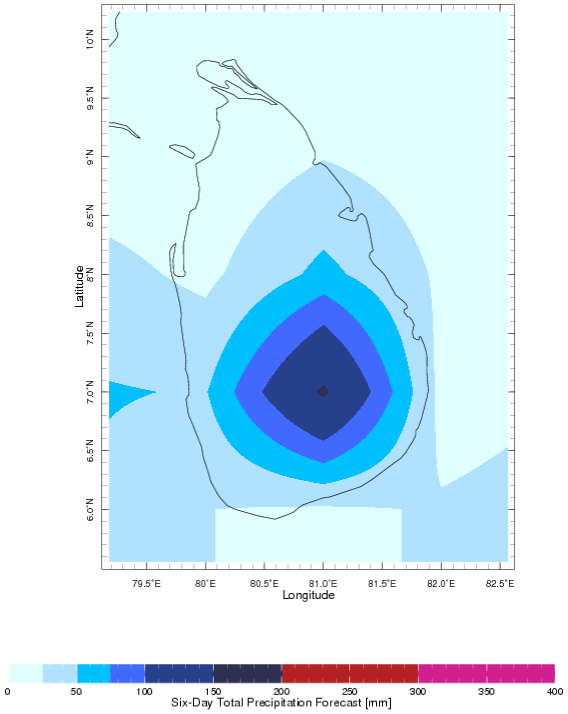
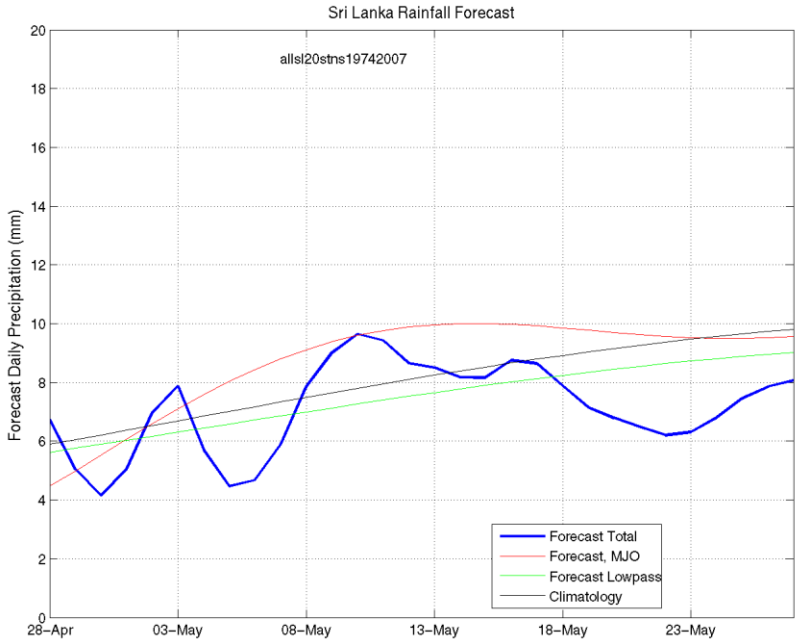
c) Weekly Precipitation Forecast for 29th April-4th May 2014 (Precipitation Forecast in Context Map Tool, IRI)



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

Predictions based on observed cloud cover and atmospheric waves. Issued 29th April, 2014



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

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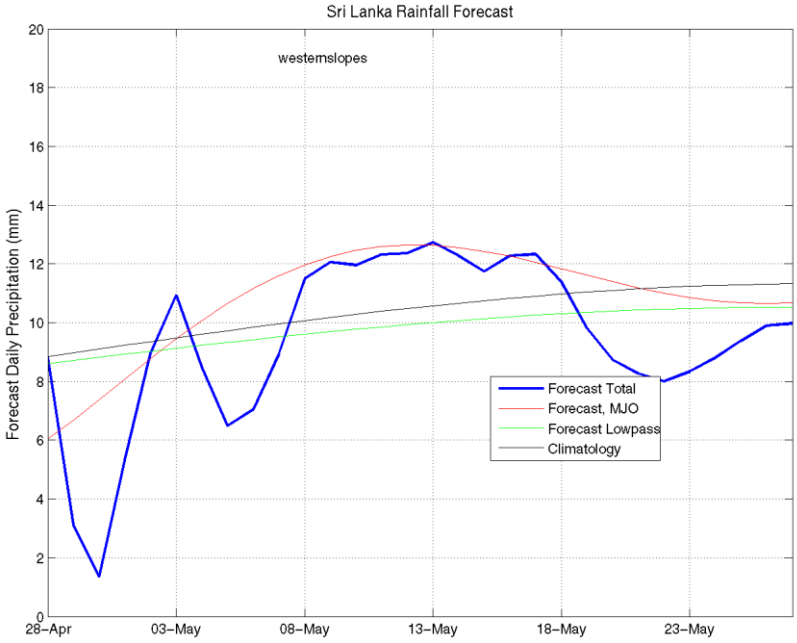
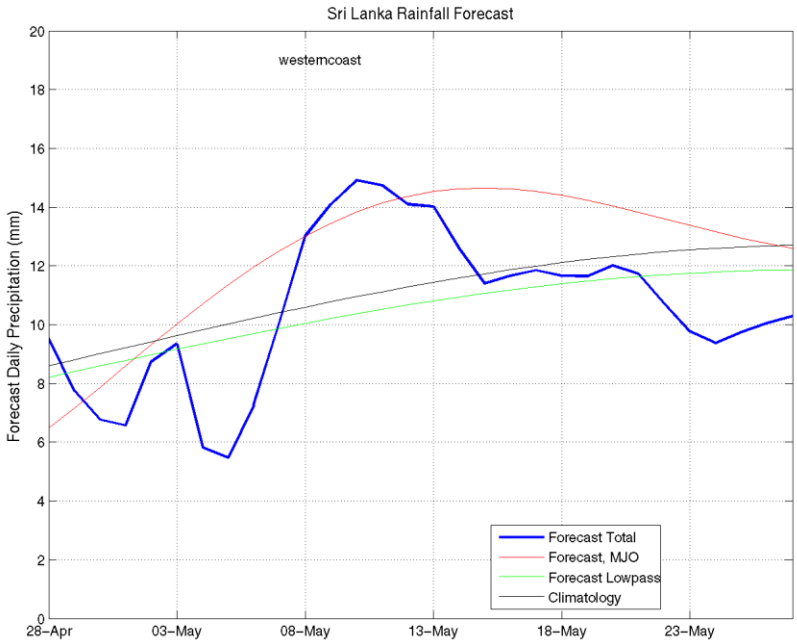
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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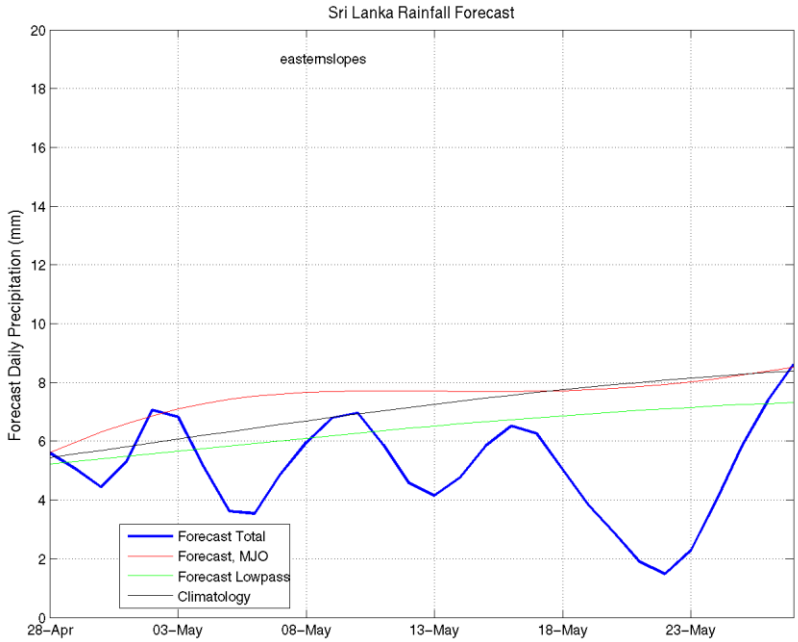
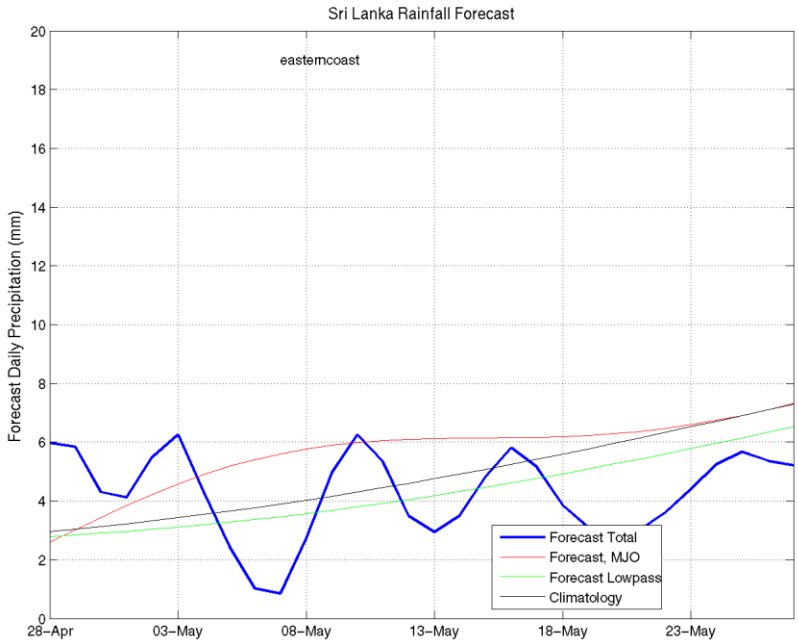
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



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



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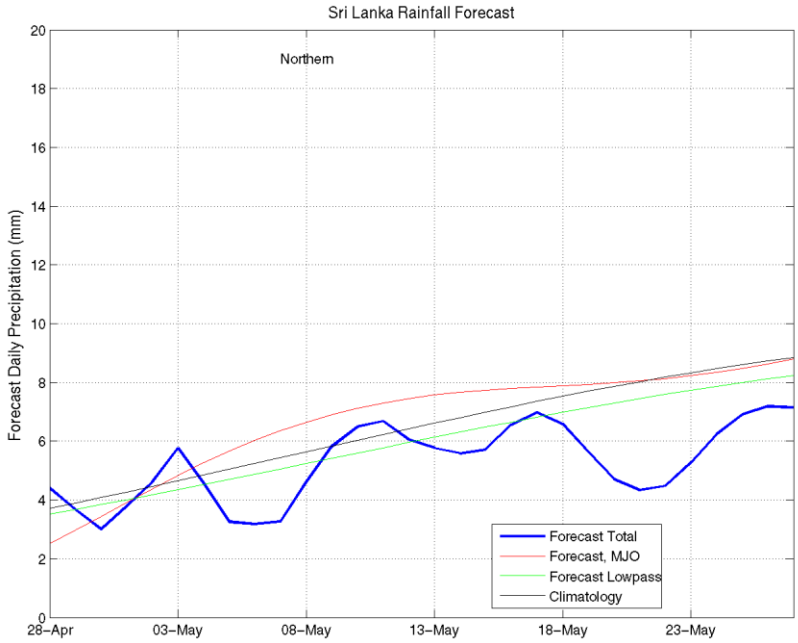
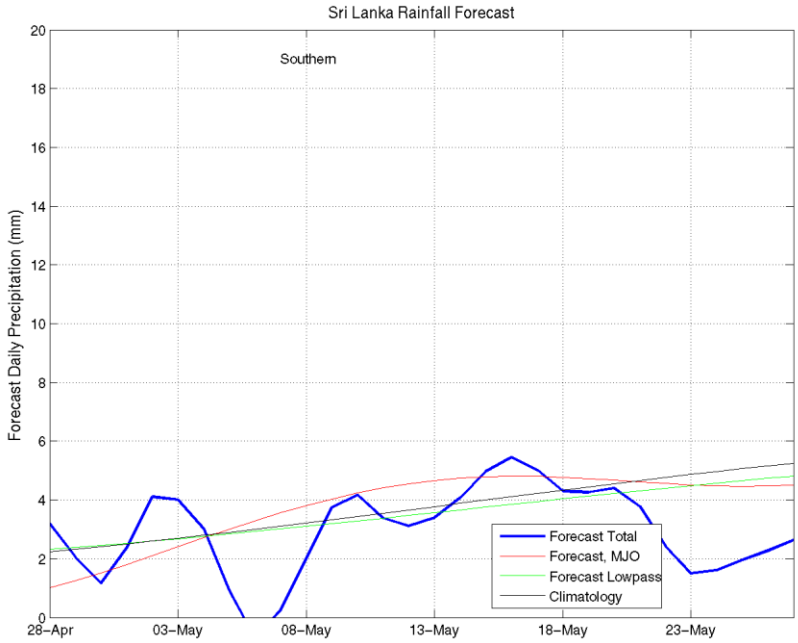
Northern Region (Rainfall Scale- from 0-20 mm/day)



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



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e) Seasonal Rainfall and Temperature Predictions from IRI