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

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

15 March 2013

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February 21, 2013

PACIFIC SEAS STATE

During January and February the observed ENSO conditions have leaned towards La-Nina, but remained in the neutral range. Most of the ENSO prediction models call for neutral ENSO conditions through most of the second quarter of 2013, beyond which there is great uncertainty due to the time of year.
(Text Courtesy IRI)

INDIAN OCEAN STATE

The Indian Ocean around Maldives particular to the South continues to have a warm anomaly.

Highlights

Monitoring and Predictions:

Entire country shall receive less than 20 mm of rainfall during 13th-18th March, but higher magnitude of rainfall is predicted for the western coastal districts of Sri Lanka. Hambantota district shall be dry on 17th March 2013 and Nuwara Eliya district shall receive 65 mm of rainfall.

Summary

Monitoring

Weekly Monitoring: Rainfall ranged between 5-145 mm during 6th-12th March 2013. Maximum rainfall was observed on the 6th and 11th March for the Kurunegala and Kalutara districts, respectively. However, during 6th-9th March more or less entire country received rainfall.

Predictions

7-day prediction: Entire country shall receive 5-55mm of rainfall during 13th-19th March.

IMD WRF Model Forecast & IRI forecast: For 16th of March 2013, IMD WRF model predicts 36-65 mm of rainfall for Nuwara Eliya district and 3-36 mm of rainfall for the entire country. For the 9th of March, IMD WRF model predicts 3-36 mm of rainfall for the entire country except for Hambantota district (less than 1 mm). But high magnitude of the rain shall concentrate to the western coastal districts of Sri lanka. NOAA model predicts less than 20 mm of constant rainfall condition for entire Sri Lanka from 13th -18th March.

30 Days Prediction: Overall- Rainfall shall increase slightly during 14th-18th March and shall remain more or less constant (4 mm/day) during 18th-27th March. *Western Slopes* – The rainfall shall increase gradually with different rates till 21st of March. *Western Coast* – The rainfall pattern existing in the western slopes shall be present in this region, but increasing rate shall be more than the western slopes.*Eastern slopes* - Rainfall is not predicted during 14th-19th and thereafter rainfall shall starts to increase. *Eastern Coast* – Rainfall is not predicted during 14th-16th and thereafter rainfall shall increase significantly during 16th-19th. *Northern region*- The rainfall pattern existing in the entire country shall be present in this region. *Southern Region*- Rainfall shall remain constant (more or less less than 2 mm/day) during 14th-20th March.

Seasonal Prediction: As per IRI Multi Model Probability Forecast issued on February 2013; for March 2013 to May 2013, there is a 40% 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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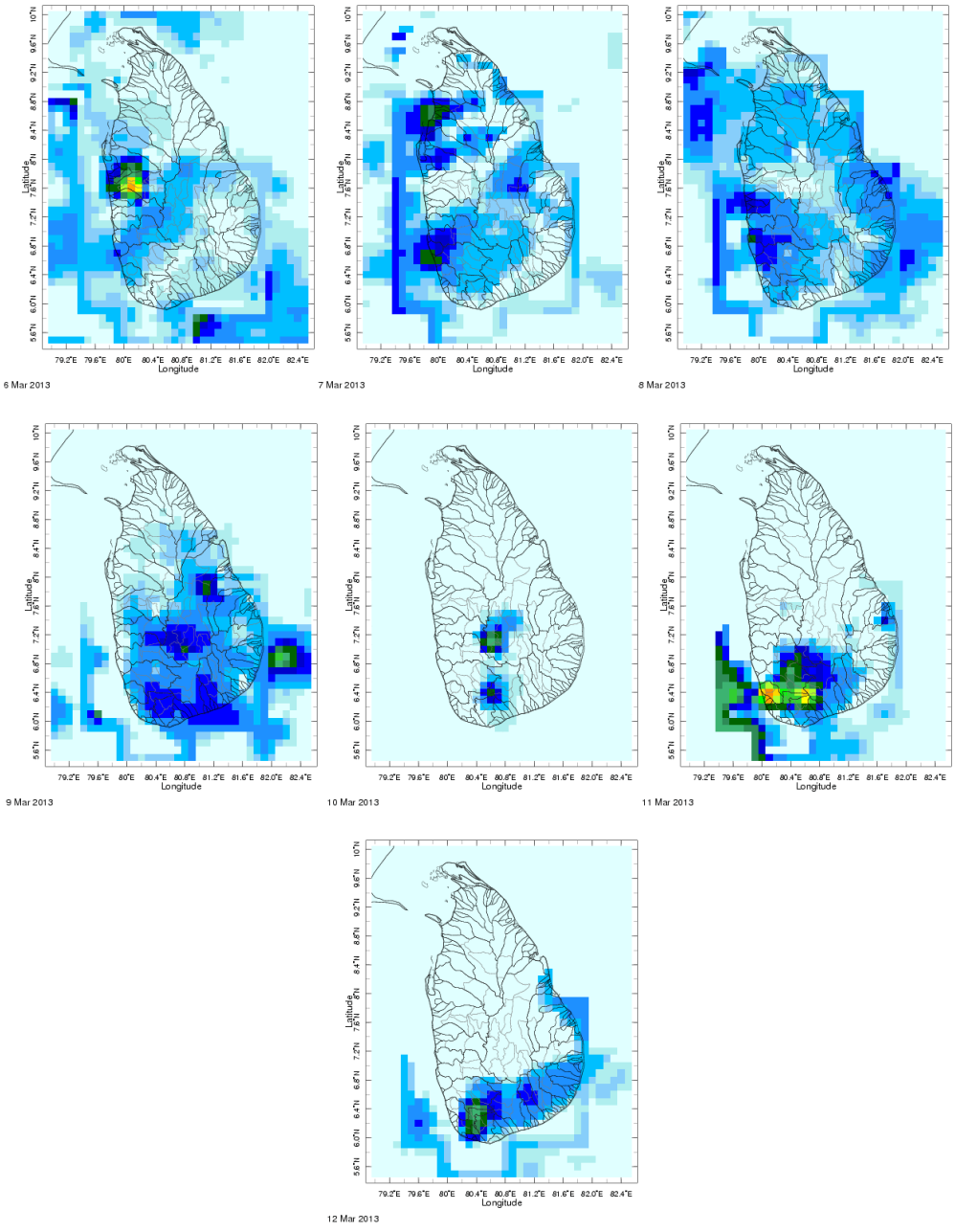
1. Monitoring

a) *Daily Satellite Derived Rainfall Estimate* Maps: *6th-12th March 2013 (Left-Right, Top-Bottom)*



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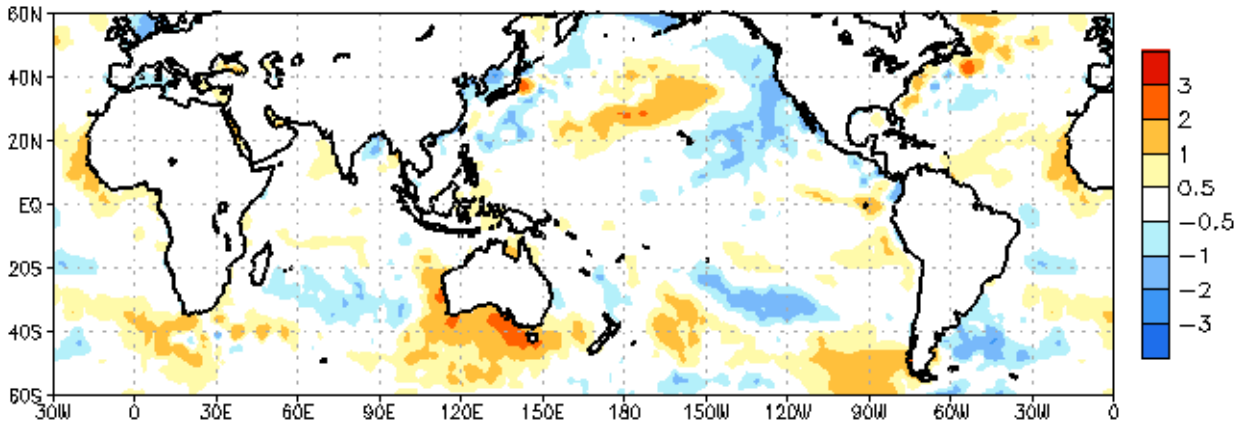
b) Weekly Average SST Anomalies

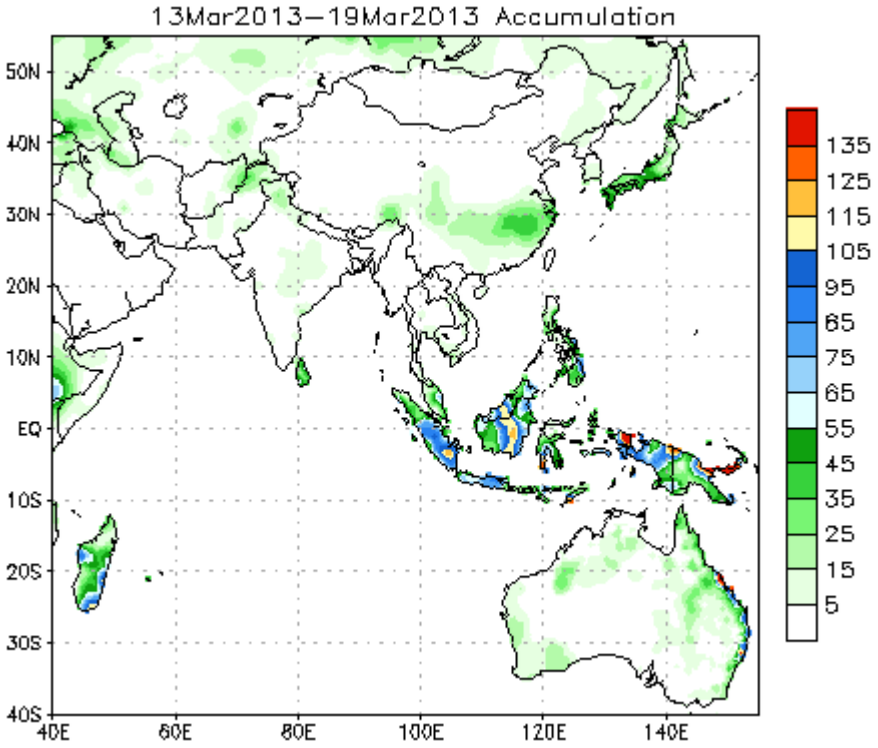


Weekly Average SST Anomalies (^{0}C), 6th March, 2013

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

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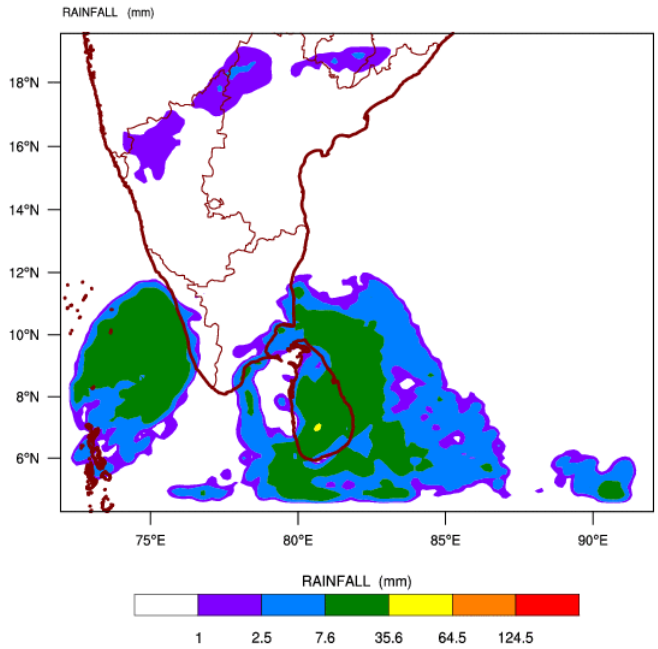
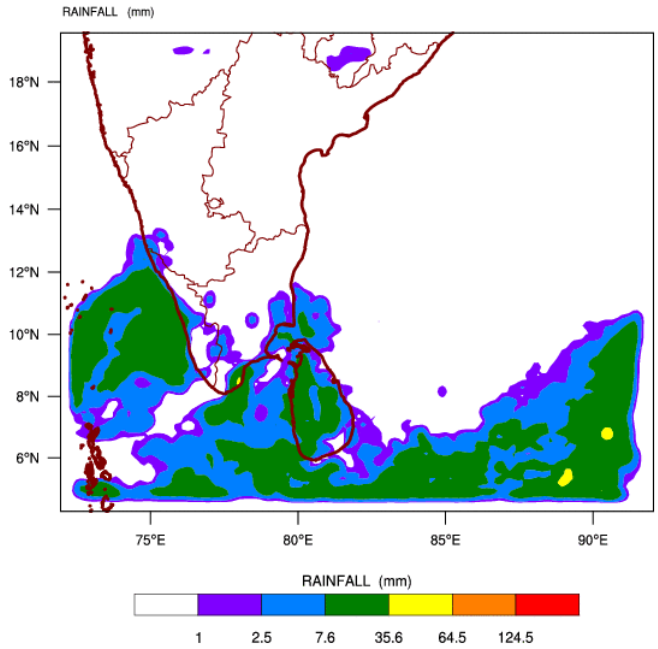
b) *WRF model forecast* Regional Meteorological Center, Chennai, Indian Meteorological Department)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 14-03-2013 valid for 03 UTC of 16-03-2013



WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 14-03-2013 valid for 03 UTC of 17-03-2013



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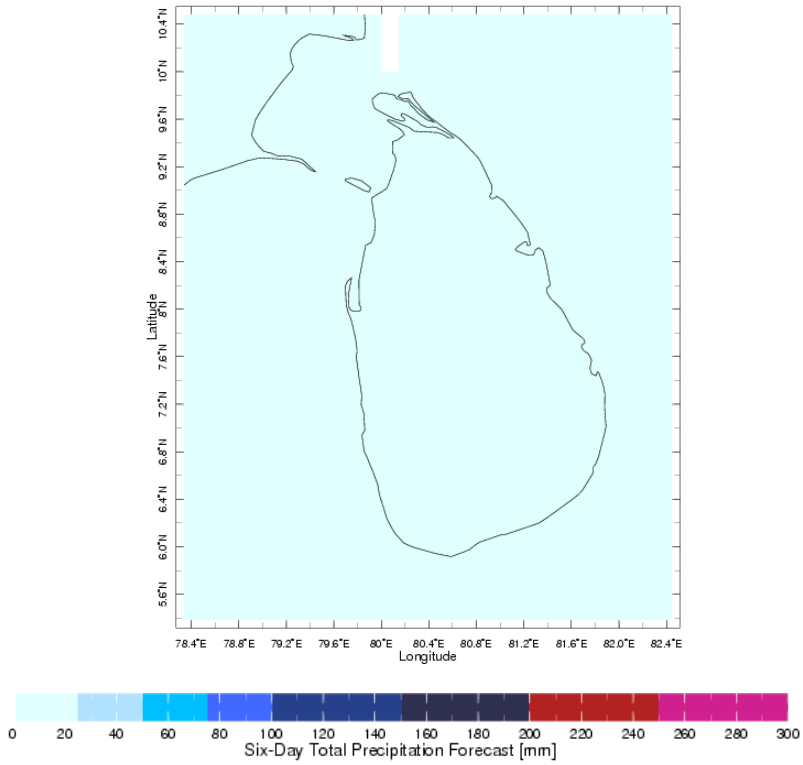
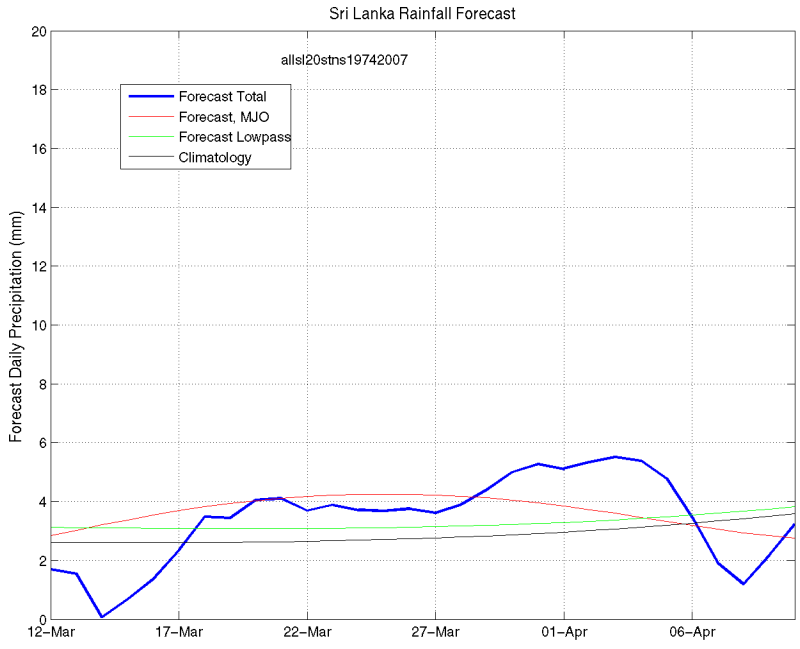
c) *Weekly Precipitation Forecast for 13th-18th March 2013 (Precipitation Forecast in Context Map Tool, IRI)*



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

Predictions based on observed cloud cover and atmospheric waves. Issued 14th March, 2013

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



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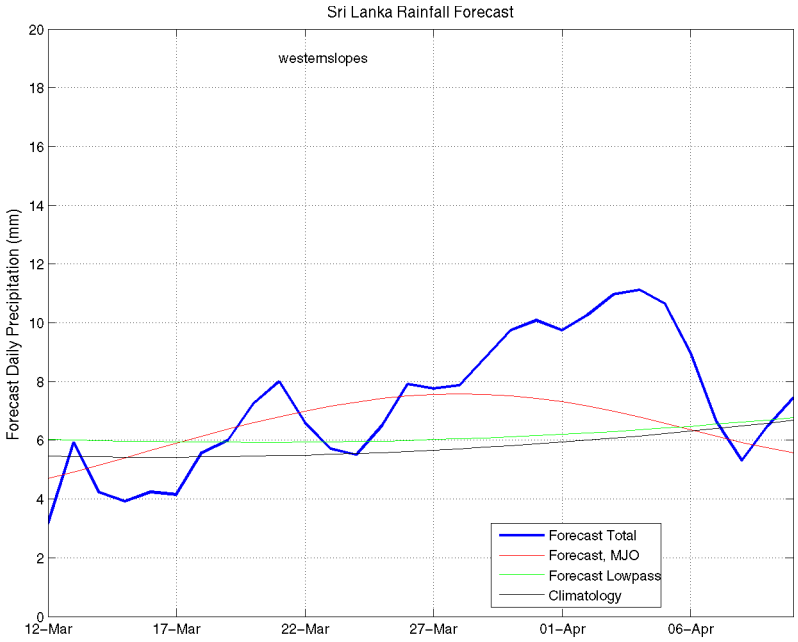
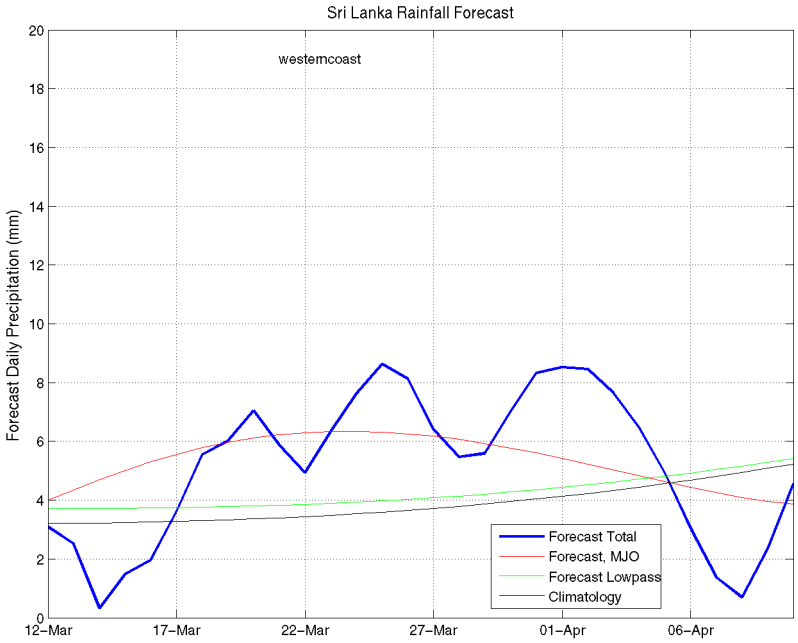
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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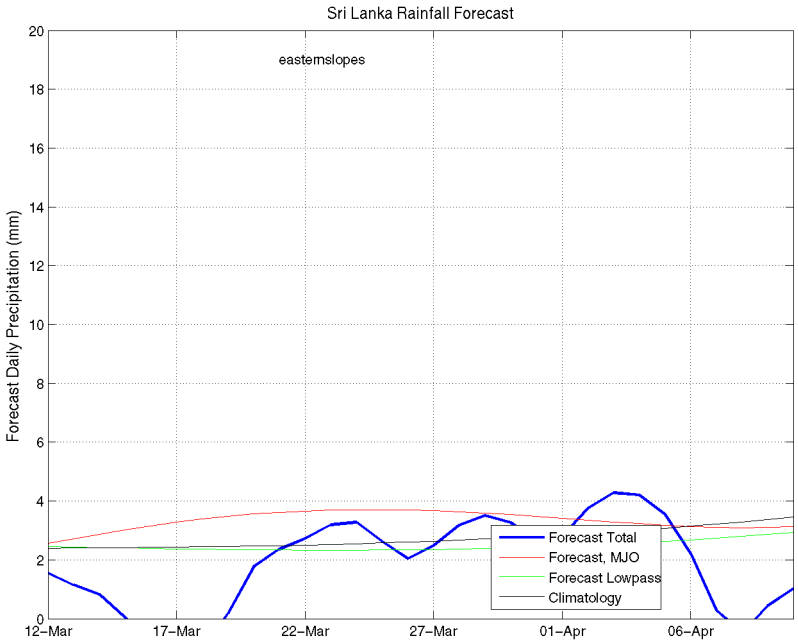
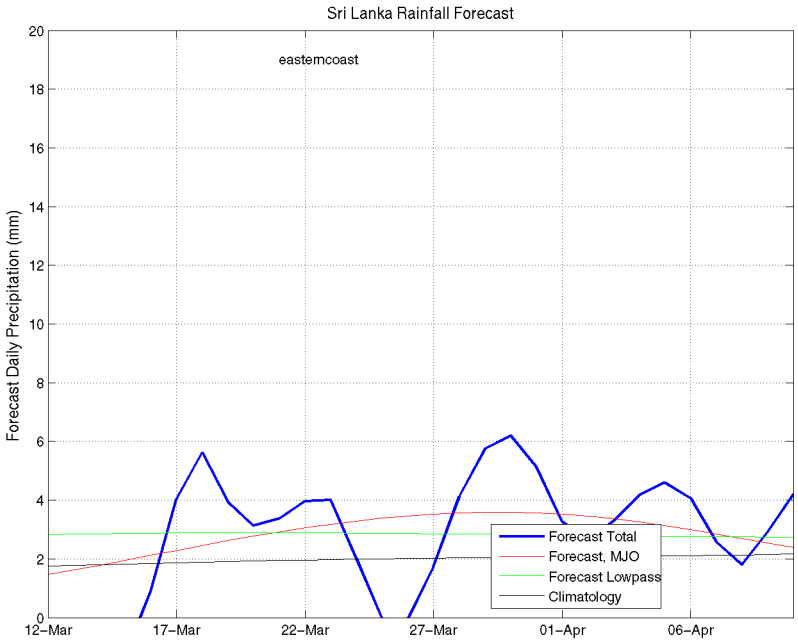
Eastern Slopes (Rainfall Scale- from 0-20 mm/day)



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



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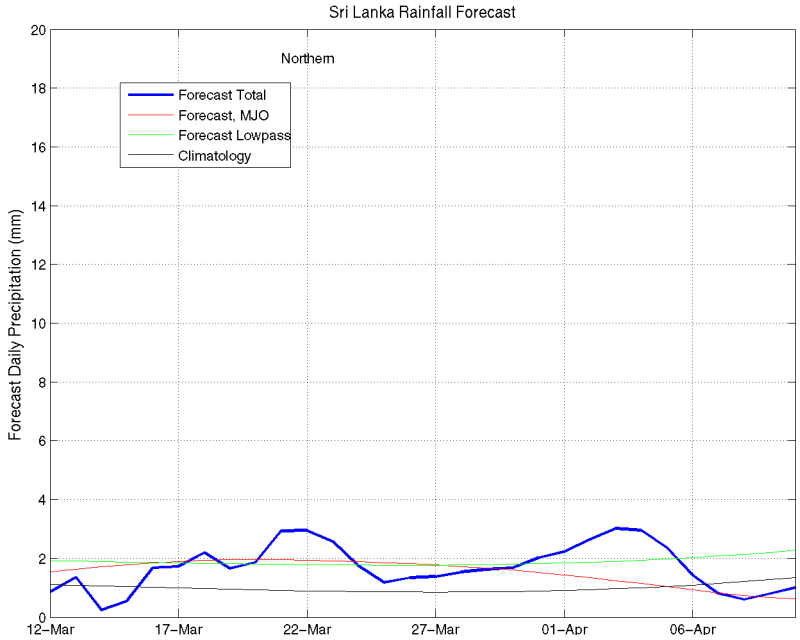
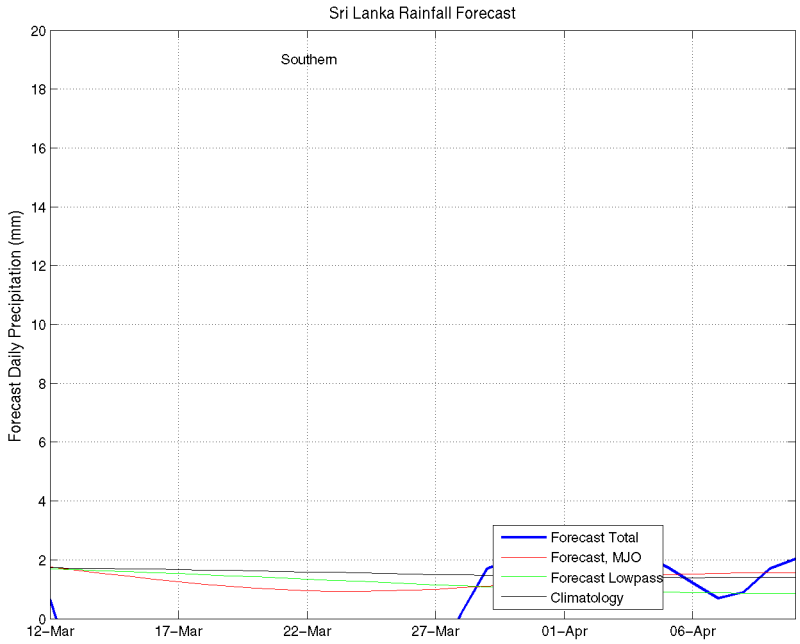
Northern Region (Rainfall Scale- from 0-20 mm/day)



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



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e) Seasonal Rainfall and Temperature Predictions from IRI