FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

Experimental Climate Monitoring and Prediction

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

31 October 2013

FECT BLOG

Past reports available at http://fectsl.blogspot.com/and

http://fectsl.wordpress.com/

FECT WEBSITES

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

October 17, 2013

PACIFIC SEAS STATE

During September through October the observed ENSO conditions remained neutral. Most of the ENSO prediction models indicate a continuation of neutral ENSO through 2013 & the first quarter of 2014. A long lasting mean disagreement between statistical and dynamical models (statistical leaning cooler, dynamical warmer) has diminished. The average forecast of all models indicates a gradual warming tendency during the first half of the 2014.

(Text Courtesy IRI)

INDIAN OCEAN STATE

The sea surface temperature around Sri Lanka was neutral during 20th-26th October 2013.

MJO STATE

MJO is at neutral phase and shall not influence Sri Lanka rainfall.

Highlights

Monitoring and Predictions:

Rainfall shall increase till 1st of November and shall remain more or less constant till 17th. However, western regions shall expect significant rainfall events during 5th-7th November. Heavy rainfall is likely to observe for the Moneragala, Badulla districts and nearby regions during coming two days (1st & 2nd November).

Summary

Monitoring

***Weekly Monitoring*:** During 23rd-28th October 2013, rainfall ranged less than 20 mm/day. Rainfall was concentrated mostly to Moneragala, Ampara districts and eastern sides of Sri Lanka.

***Monthly Monitoring*:** Jaffna and Batticaloa districts received an above average rainfall during the month of September.

Predictions

7-day prediction: Entire country shall receive less than 105 mm/day of rainfall, except for Northern, Northeastern and Eastern coastal districts of Sri Lanka. However, entire country shall receive rainfall during 30th October-5th November 2013.

IMD WRF Model Forecast & IRI forecast: For 1st of November, IMD WRF model predicts less than 65 mm of rainfall for parts of Ampara, Moneragala and Badulla districts and shall spread to island wide in a reducing manner. For the same day, western coastal regions shall receive less 1mm of rainfall. For 2nd of October, model predicts less than 65 mm/day of rainfall for parts of Galle and Hambantota district and shall spread towards northern regions in a reducing manner. However, NOAA model predicts heavy rainfall for Moneragala, Badulla districts and nearby regions during 29th October-3rd November 2013.

30 Days Prediction: Overall- Rainfall shall increase till 1st of November and shall vary between 3-7 mm/day till 17th. ***Western Slopes*** – The rainfall pattern persisting in the entire country shall be observed in this region with high amount of rainfall. However, significant rainfall events (peaks and troughs) are likely to observer within short period of time during 1st-17th November. ***Western Coast*** – The rainfall pattern persisting in the entire country shall be observed in this region with significant rainfall event around 5th-7th November. ***Eastern Slopes***– Rainfall is likely to increase gradually till 15th November, but rainfall shall not vary more than 6 mm/day. ***Eastern Coast*** – The rainfall pattern persisting in the entire country shall be observed in this region with low amount of rainfall. ***Northern region***- The rainfall shall increase gradually till 1st of November and shall decrease till 9th. ***Southern Region***- The rainfall pattern persisting in the entire country shall be observed in this region, with low amount of rainfall.

***Seasonal Prediction*:** As per IRI Multi Model Probability Forecast issued on October 2013; for November, December 2013 to January 2014, 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

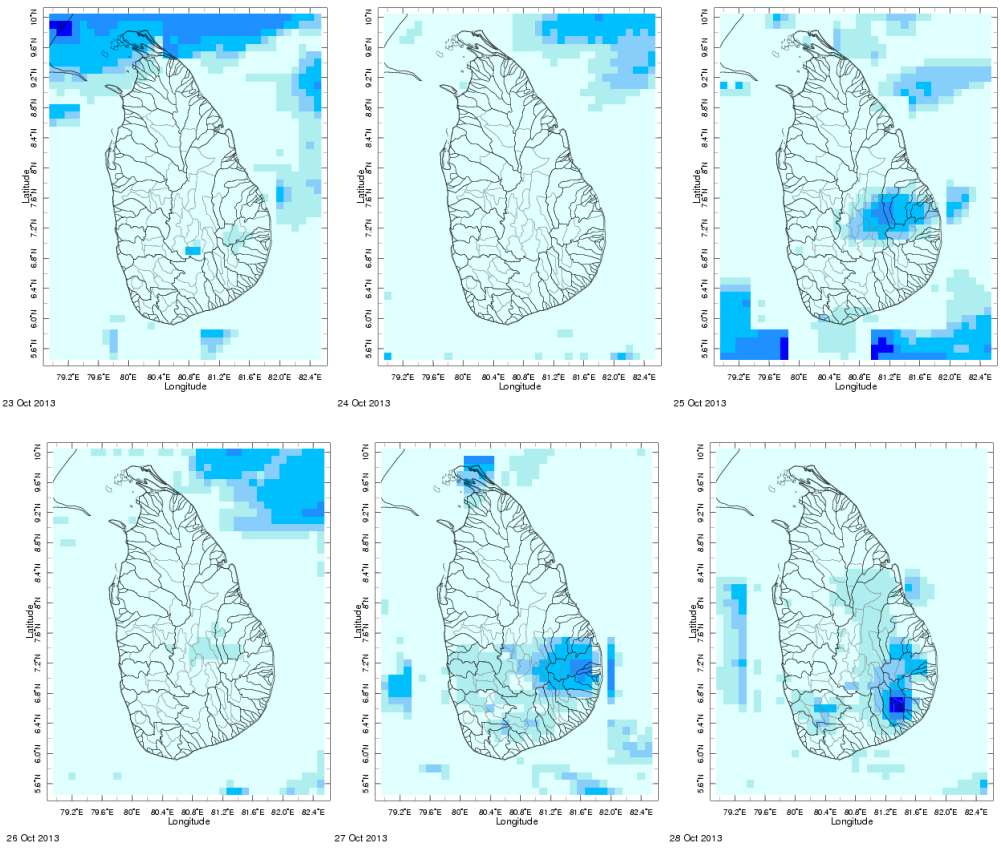
[1] International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

[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.

FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

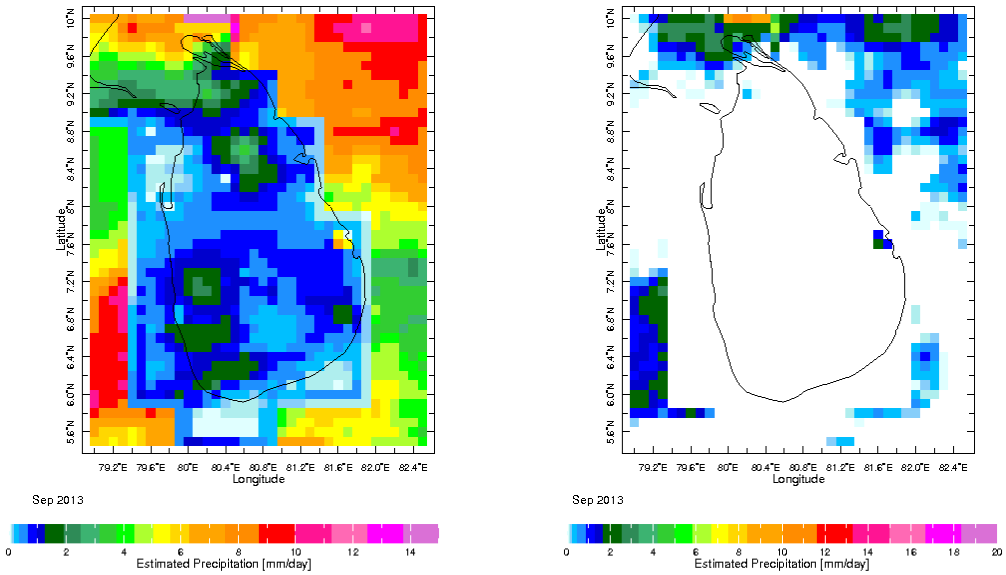
1. Monitoring

a) Daily Satellite Derived Rainfall Estimate Maps: 23rd-28th October *2013 (Left-Right, Top-Bottom)*

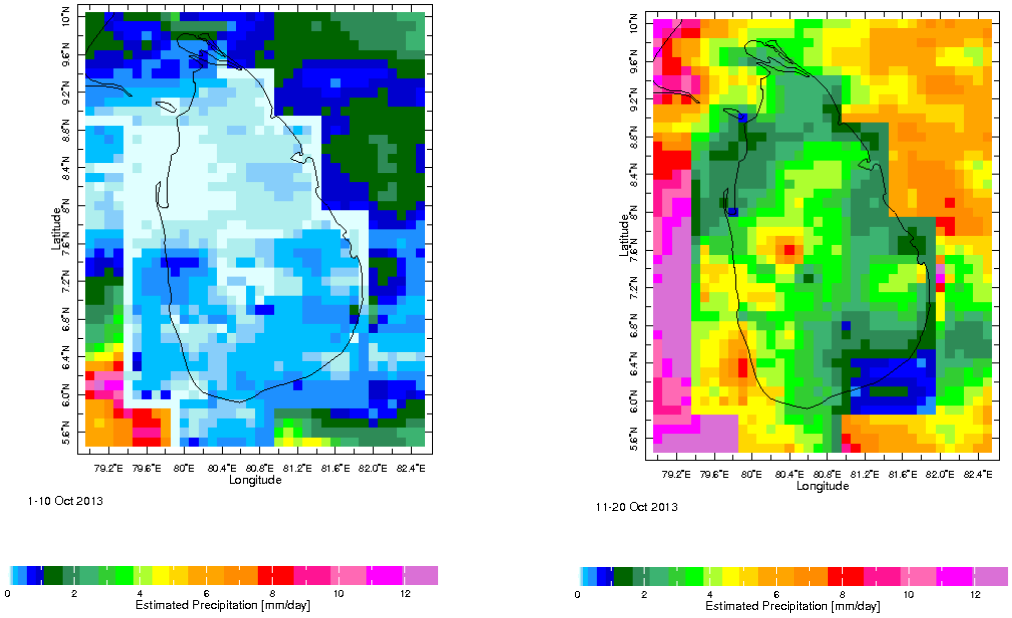


FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority,
Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

b) Monthly Satellite Derived Rainfall Estimates for September 2013 (Total – Left and Anomaly - Right)

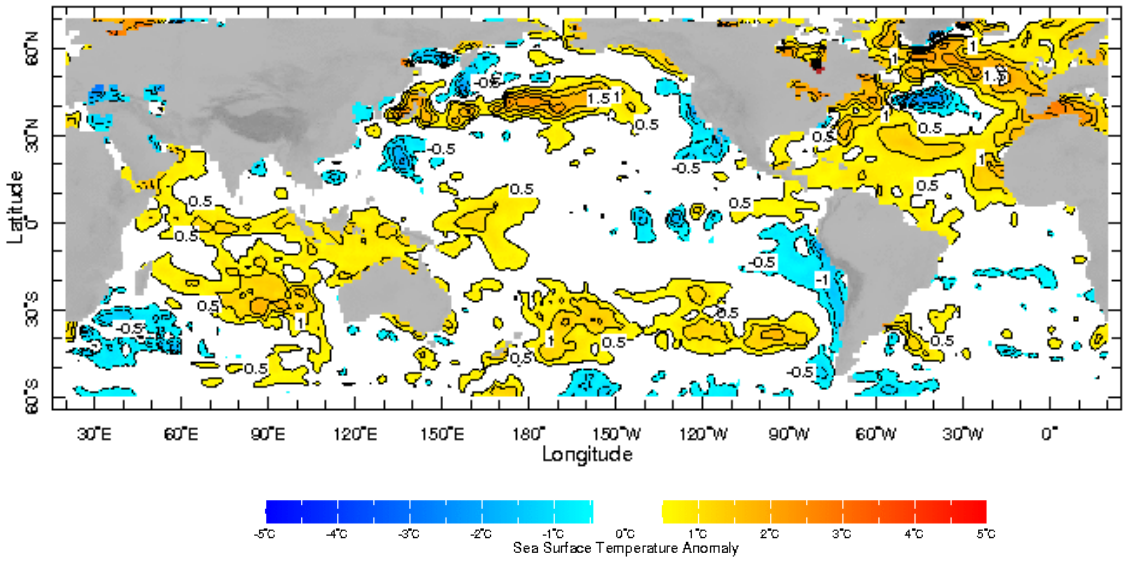


c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (01-10 October & 11-20 October, 2013)



FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

b) Weekly Average SST Anomalies

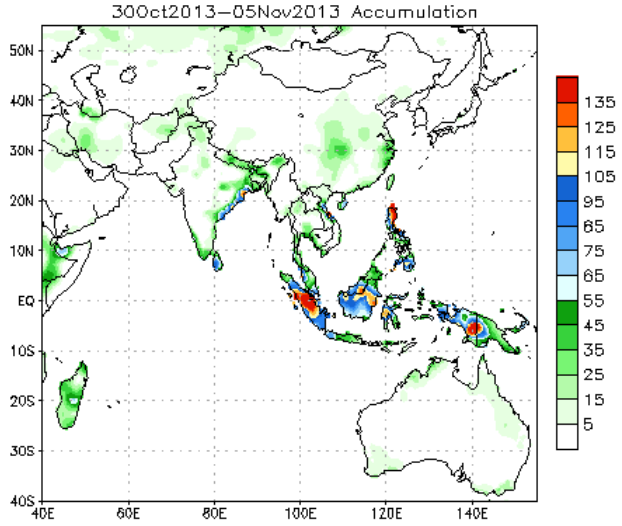


Weekly Average SST Anomalies (^{0}C), 20th-26th October, 2013

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

2. Predictions

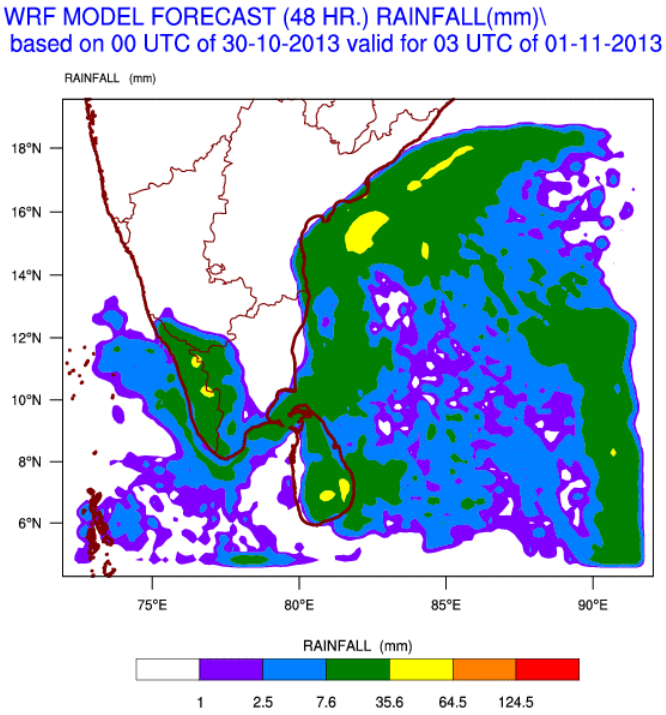
a) NCEP GFS Ensemble 1-7 day predictions, NOAA, Climate Prediction Centre, USA.

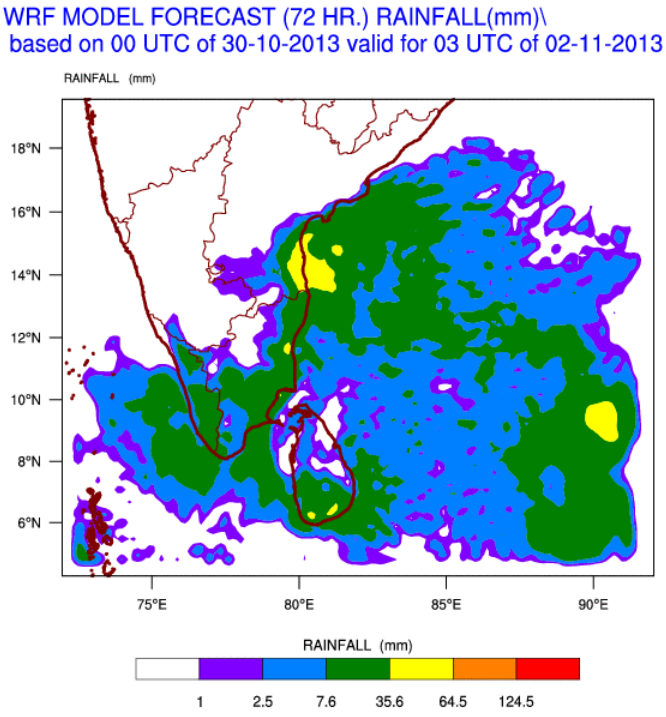


Source – NOAA Climate Prediction Center

FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

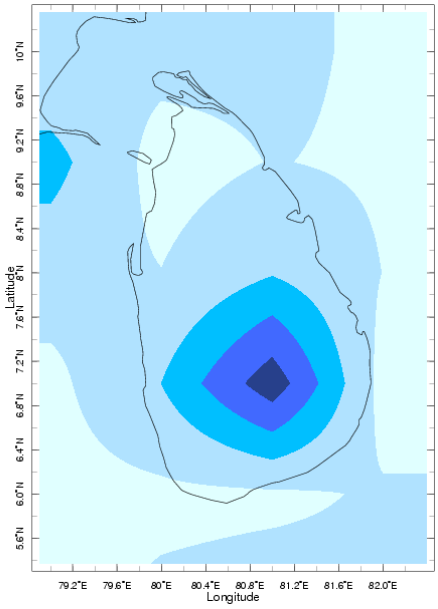
b) *WRF model forecast* RegionalMeteorological Center,Chennai, Indian Meteorological Department)





FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

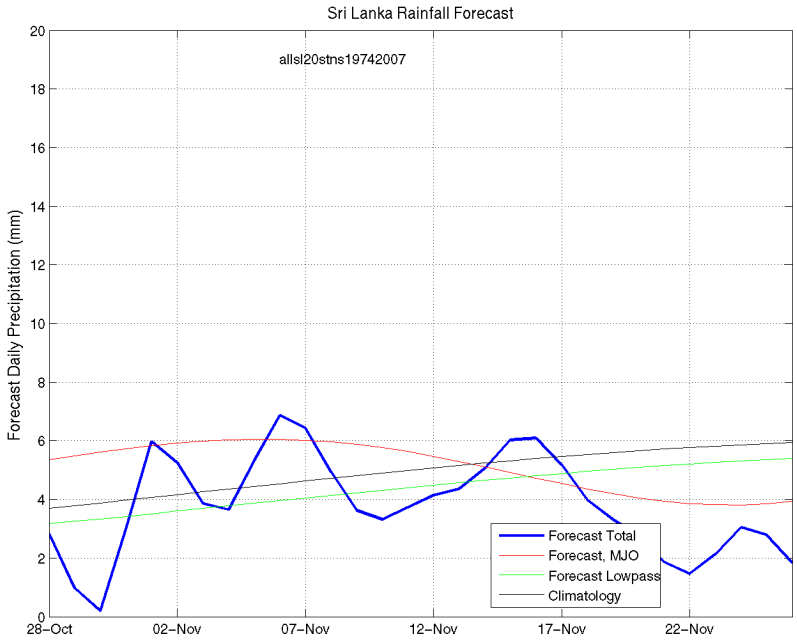
c) Weekly Precipitation Forecast for 29th October-3rd November 2013 (Precipitation Forecast in Context Map Tool, IRI)



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

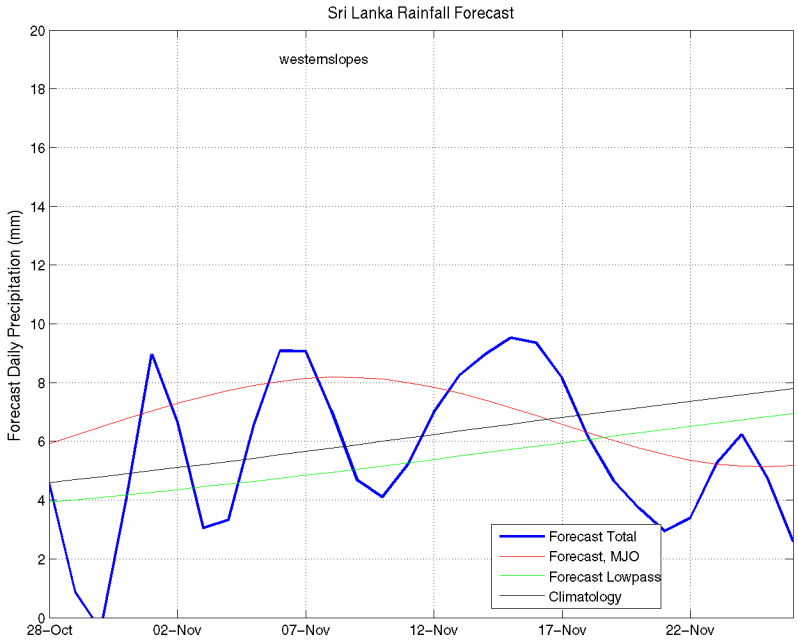
Predictions based on observed cloud cover and atmospheric waves. Issued 31st October, 2013

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

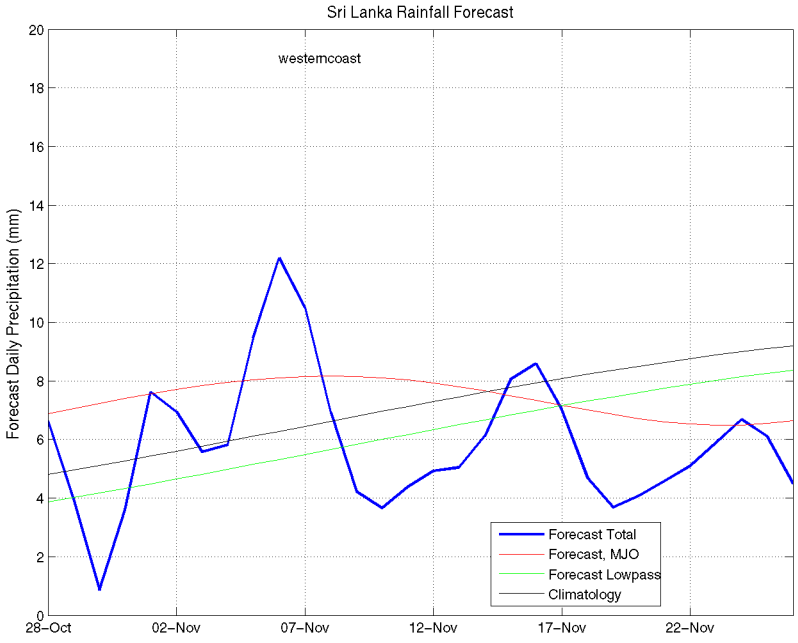


FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

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

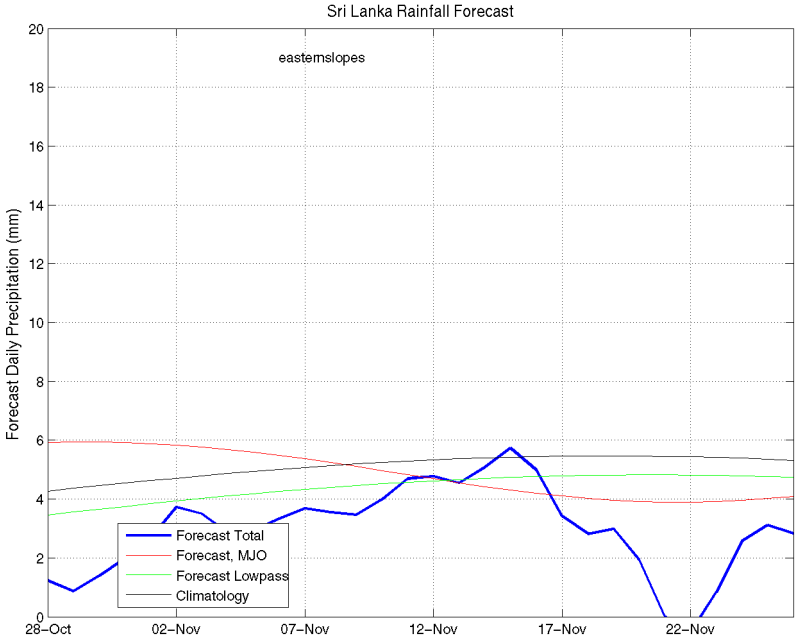


Western Coast (Rainfall Scale from 0-20 mm/day)

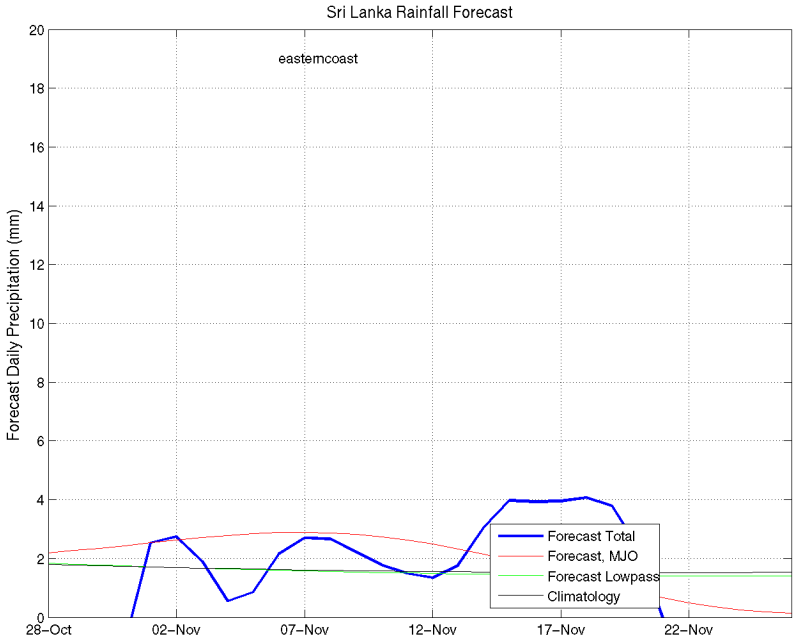


FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

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

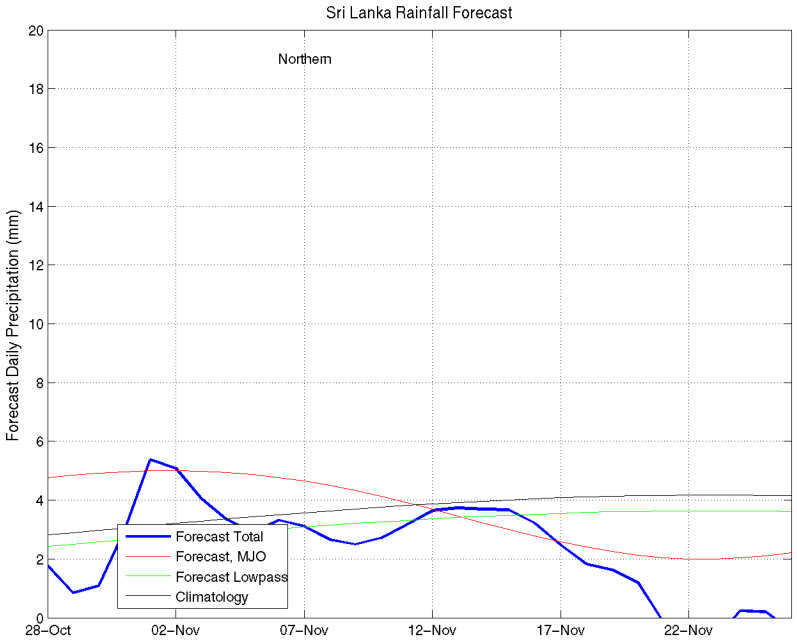


Eastern Coast (Rainfall Scale- from 0-20 mm/day)

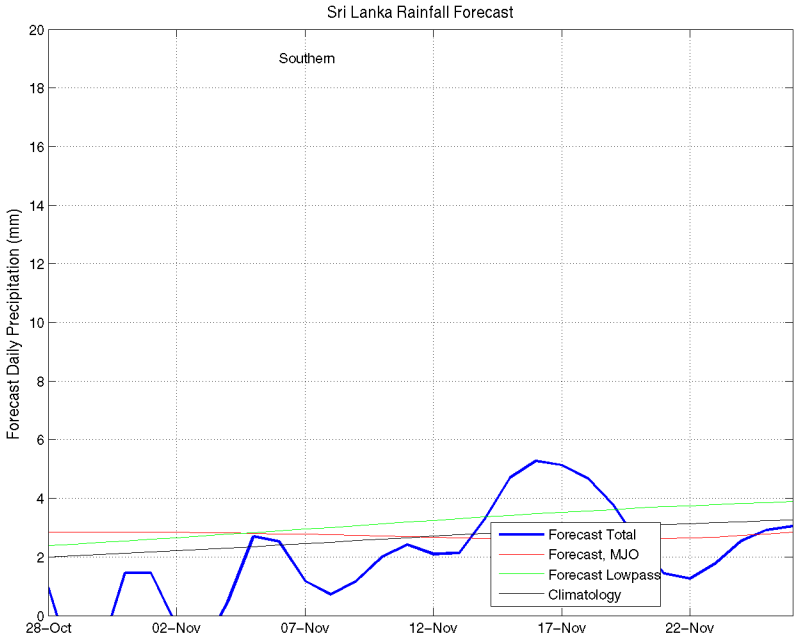


FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

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



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



FECT Foundation for Environment Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, 4922992 E-mail climate@sltnet.lk Web Site http://www.climate.lk

e) Seasonal Rainfall and Temperature Predictions from IRI