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

(Prepared for the Water Management Secretariat of the Mahaweli Authority)

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5 March 2013

FECT BLOG

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ENSO Update

15 December 2011

A majority of the ENSO prediction model call for a week or moderate strength La Nina to continue through the Northern Hemisphere winter 2011-2012 and begin gradually weakening after peaking during the December to January period.

(Text Courtesy IRI)

Summary[2]

Monitoring

***Weekly Monitoring*:** During the previous week (11th – 17th January) rainfall ranged between 5 mm-120 mm. Maximum of 120 mm was observed on 11th January 2012 for Hambanthota district. Rest of the week less than 5 mm of rainfall was received in scattered places and rainfall was not significant throughout the entire island.

***Monthly Monitoring*:** During December above average rainfall was experienced particularly in the districts of Ampara, Batticaloa, Trincomalee, Polonnaruwa, eastern part of Anuaradapra district and Jaffna Peninsula. Most of this rain fell on the 1st and 2nd dekads of the month. The rainfall was below average in the rest of the country.

Predictions

***7 Day Prediction*:** For the coming week, the NCEP Global Forecast System predicts low amount of accumulated rainfall ranging less than 5 mm for the entire island.

IMD WRF Model Forecast & IRI forecast For the 20th January WRF model predicts rainfall less than 2.5 mm for places at Badulla & Batticaloa districts. The model predicts rainfall less than 7.6 mm for the places at Galle, Ratnapura, Badulla, Batticaloa & Ampara districts for the 21st January.

1 Month Prediction: For the entire island rainfall shall increase gradually during 18th-24th January & it shall decrease gradually till 6th February. Thereon rainfall shall increase again. For the western slopes the same rainfall pattern shall exists with high amount of rainfall. For the eastern slopes rainfall shall increase during 18th-24th & shall increase during 24th-28th January. For the period of 28th January-8th February rainfall is not predicted. Thereafter rainfall shall increase significantly. In the northern regions rainfall shall increase during 20th-24th January & it shall decrease gradually till 3rd February. Thereon rainfall shall increase again.

***Seasonal Prediction*:** As per IRI Multi Model Probability Forecast for January 2012 to March 2012, issued in December 2011, there is 50%-80% probability for temperature to be normal for entire Sri Lanka, while 45%-50% the precipitation to be above normal.

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[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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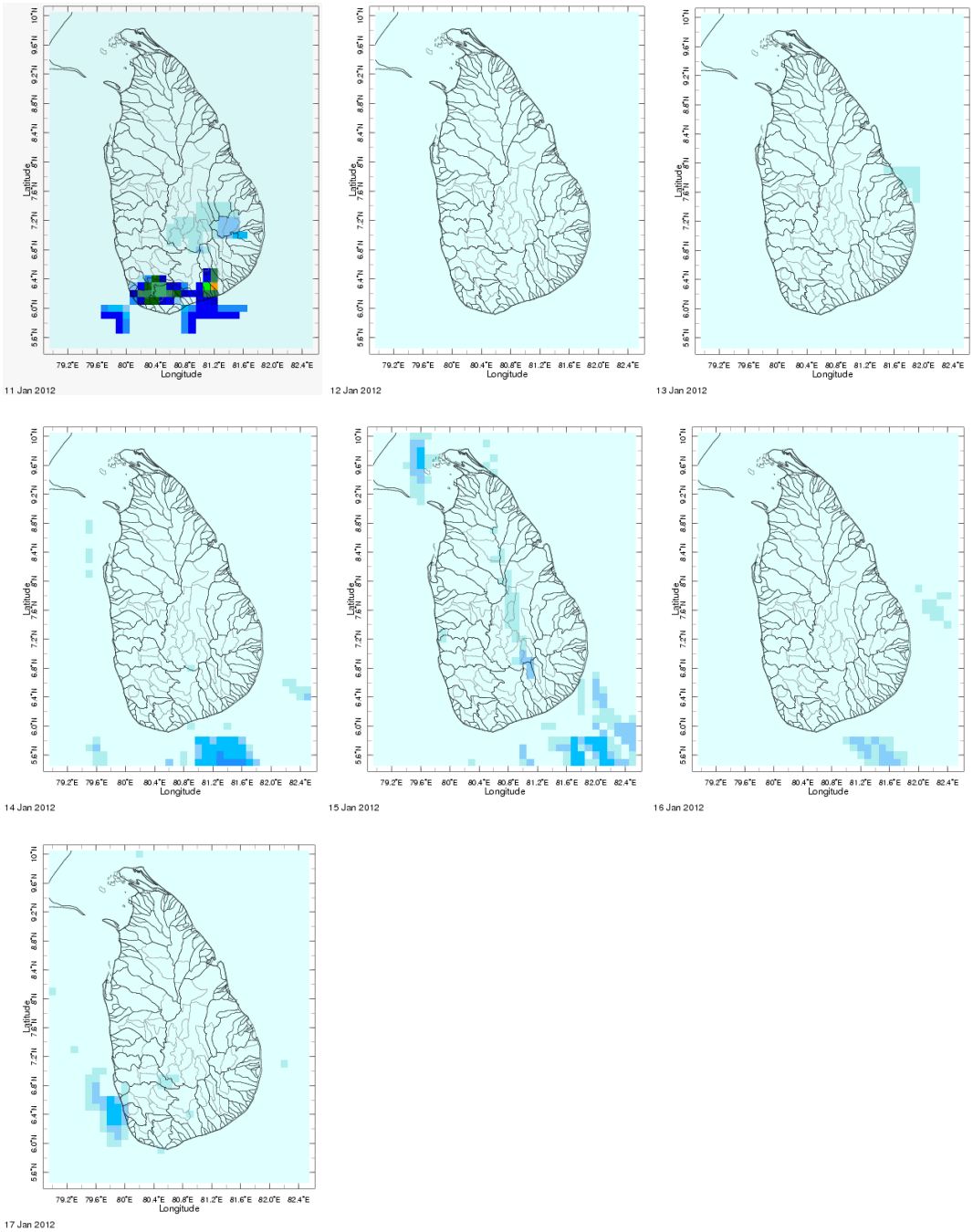
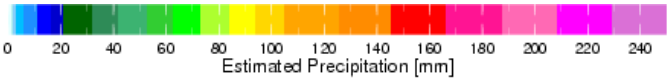
1. Monitoring

a) Daily Satellite Derived Rainfall Estimate **Maps:** ***11th January – 17th January, 2011 (Left-Right, Top-Bottom)***





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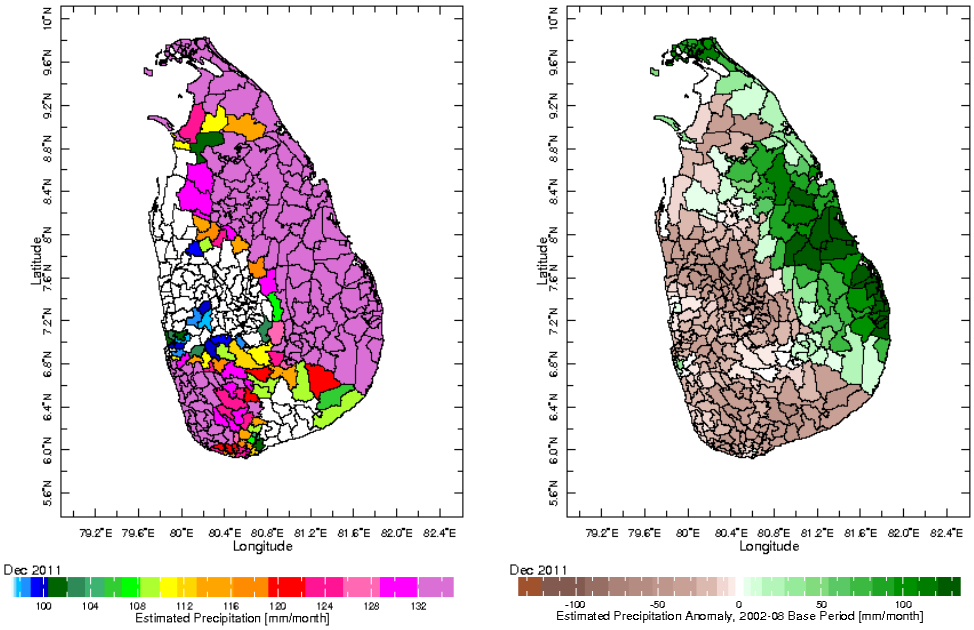
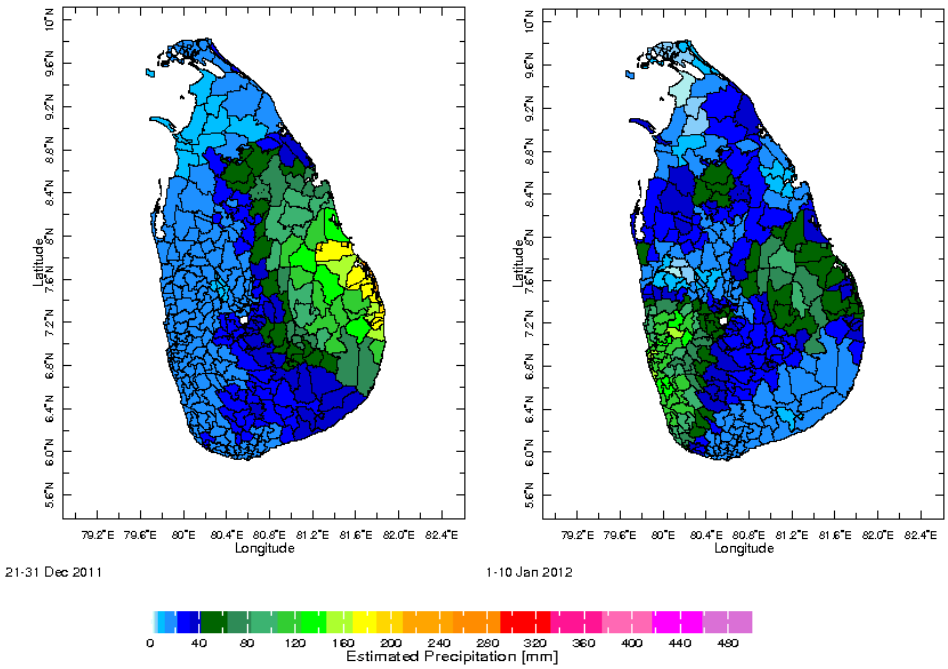
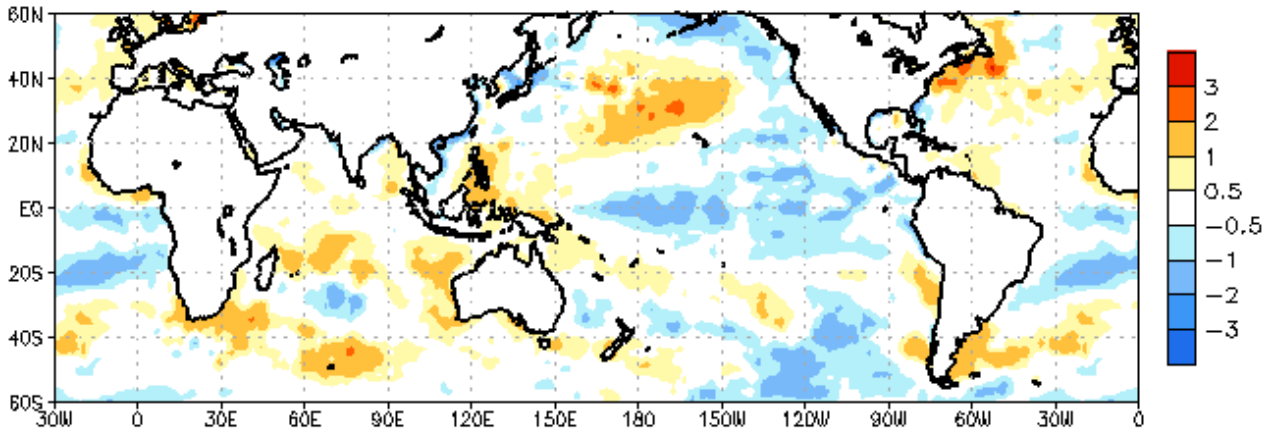
b) Monthly Satellite Derived Rain fall Estimates for December 2011 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (21-31 December, 2011 & 1-10 January, 2012)



d) Weekly Average SST Anomalies

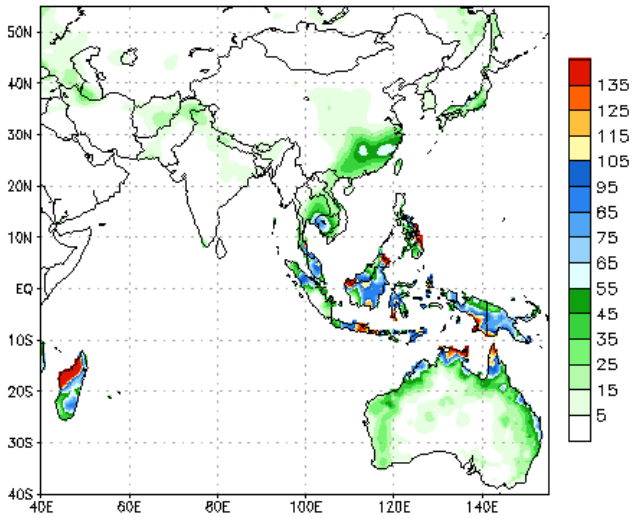


Weekly Average SST Anomalies (^{0}C), 11th January, 2012

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.

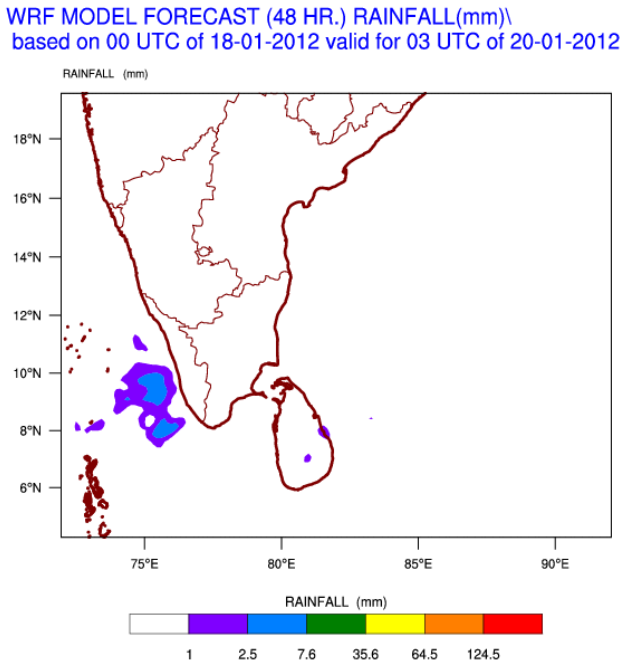


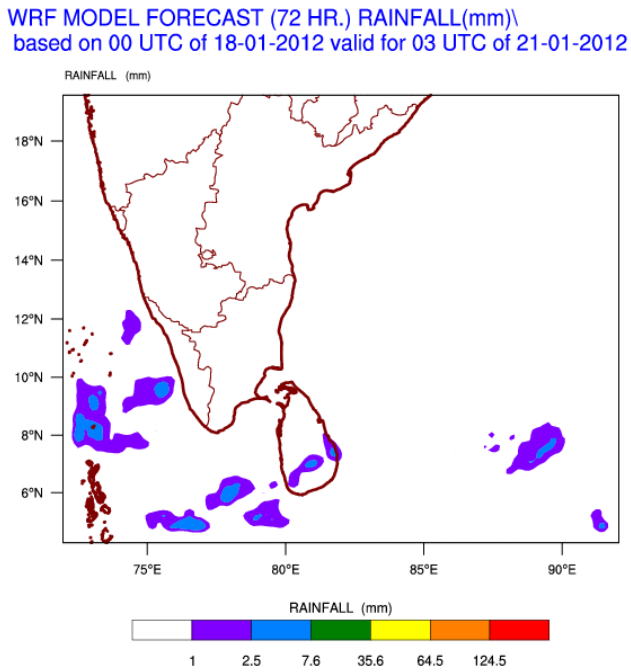
During next week, an accumulated rainfall of less than 5mm is predicted for the entire Island.

Source – NOAA Climate Prediction Center

Map: Predicted accumulation of rainfall. (18th – 24th Jan, 2012 week)

b) WRF Model Forecast **(Regional Meteorological Center, Chennai, Indian Meteorological Department)**





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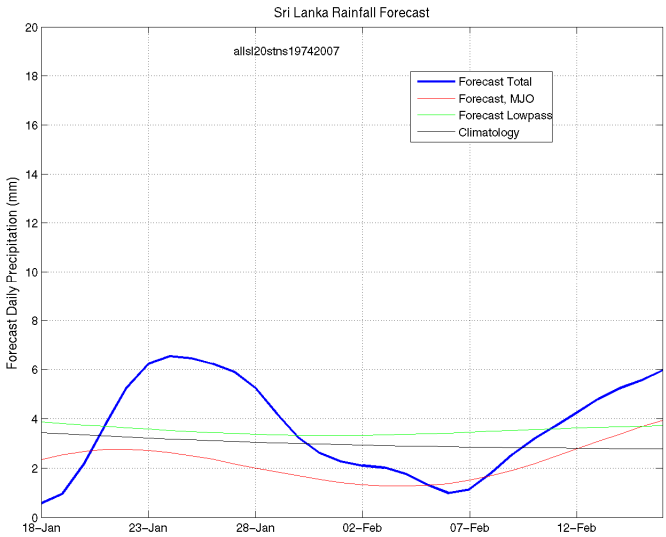
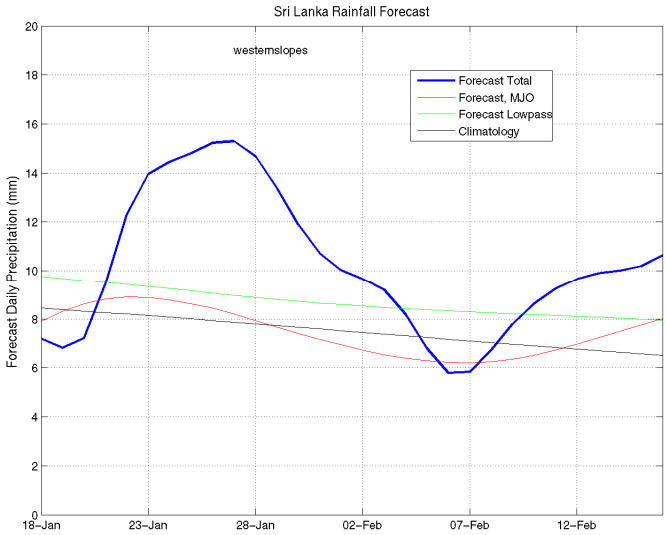
c) 1 month experimental predictions by Paul Roundy and L. Zubair

Predictions based on observed cloud cover and atmospheric waves. Issued 12th January, 2012

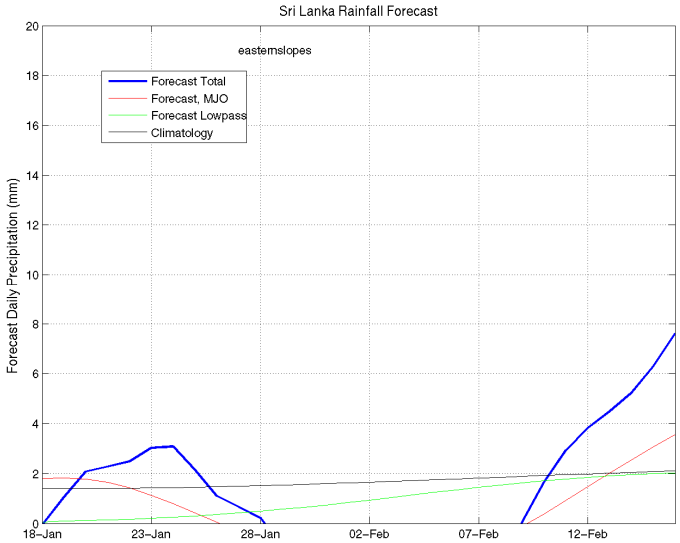
All Sri Lanka (Rainfall Scale from 0-20 mm/day)



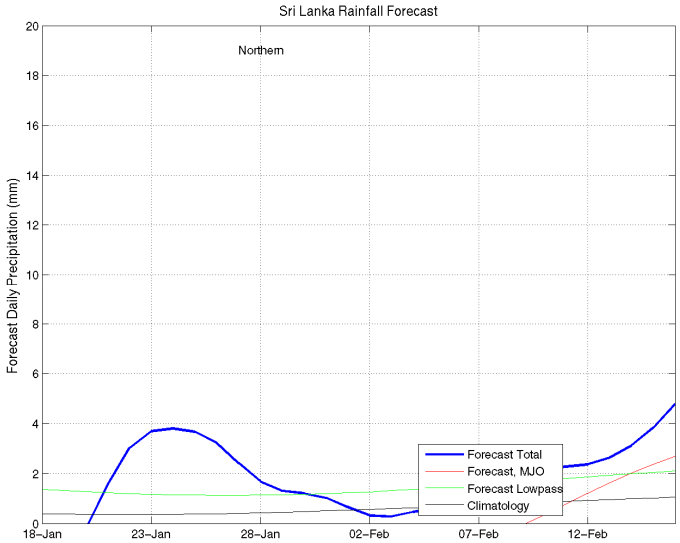
Western Slopes (Rainfall Scale from 0-20 mm/day)



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



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



d) Seasonal Rainfall and Temperature Predictions from IRI