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Experimental Climate Monitoring and Prediction

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2 November 2012

FECT BLOG

*Highlights*² Monitoring and Prediction

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

and

http://fectsl.wordpress.com/

FECT WEBSITES

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

PACIFIC SEAS STATE

October 18, 2012

More than 80% of the ENSO prediction models predict El Nino SST conditions during the September- November season, continuing into Northern winter 2012-13. Among those predicting El Nino, very few predict more than a weak event. (Text Courtesy IRI)

INDIAN OCEAN STATE

October 18, 2012

The tropical Indian Ocean shows unusually warm anomalies in the Arabian Sea and at the same latitudes to South of the Equator. The Indian Ocean Dipole shows a warm positive phase. These are likely to alter climate drastically. The tropical storm that started to the West of Sri Lanka propagated North-Westwards drenching the Northeastern seaboard in particular and the rest of the island considerably as well as it intensified to cyclonic speeds. This is an early start to the cyclone that usually lasts from November till February– there has only been one that has made landfall in Sri Lanka recorded during October for the past 140 years. The anomalously warm sea surfaces to the east of Sri Lanka is one of the factors that contributes to enhanced cyclogenesis. The forecasts for the next week are for continued wet weather but only reaching a weekly accumulation of about 75mm.

Summary

Monitoring

Weekly Monitoring: During $25^{th} - 30^{th}$ October Sri Lanka received very high amount of rainfall especially due to the tropical storm NILAM-12. Rainfall ranged between 0- 180 mm with highest amount of precipitation observed in Trincomalee area on the 29^{th} of October 2012. On the 27^{th} South Western parts received high rainfall and on 28^{th} and 29^{th} Jaffna Peninsula and North Eastern parts of the country received extremely high rainfall while rest of the country also received very high rainfall. High rainfall continued to persist in North Eastern and South Western regions while rainfall in other parts reduced considerably compared to the previous couple of days.

Monthly Monitoring: In September, Central and South Eastern regions of the country received below average rainfall and the rest of the country received above average rainfall. Western, South Western and Jaffna peninsula regions were particularly wetter than normal.

Predictions

7-day prediction: During this week, North and South eastern regions shall receive 35- 55 mm rainfall and the rest of the country shall receive rainfall up to 65 mm.

IMD WRF Model Forecast & IRI forecast: Updates of WRF model predictions are not available at this time. NOAA models forecast 70 mm of rain for the entire country.

1 Month Prediction: Overall- Rainfall shall decrease gradually during 25th-29th & it shall increase gradually during 29th October-2nd November. Thereafter again rainfall shall decrease till 4th November. Thereafter rainfall shall increase gradually till 11th November. Western Slopes- Rainfall shall graduall decrease until 1st of November. Then it shall graduall increase to a maximum around the 10th. Thereafter rainfall shall decrease. Eastern slopes- Rainfall shall gradually increase till 11th November. Then it shall gradually increase till 11th November. November. Rainfall shall graduall decrease until 30th. Then it shall gradually increase till 11th November. Northern- Rainfall shall decrease until 29th of October and fluctuate thereafter until 20th of November.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for November 2012 to January 2013, issued in October 2012, there is a 50%-60% probability for temperature to be above normal in the country while the rainfall is to be climatological.

Inside this Issue

1. Monitoring

- a. Daily Satellite Derived Rain fall Estimates
- b. Monthly Rain fall Estimates
- c. Decadal (10 Day) Satellite Derived Rainfall Estimates
- d. Weekly Average SST Anomalies

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- a. NCEP GFS Ensemble 1-7 day predictions
- b. IMD WRF model Forecasts
- c. Weekly precipitation forecast (IRI)
- d. 1 month experimental predictions by Paul Roundy and L. Zubair
- e. Seasonal Predictions from IRI

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: 25th -30th October, 2012 (Left-Right, Top-Bottom)



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b) Monthly Satellite Derived Rainfall Estimates for September 2012 (Total – Left and Anomaly -Right)



c) Dekadal (10 Day) Satellite Derived Rainfall Estimates (1-10 & 11-20 October, 2012)



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d) Weekly Average SST Anomalies



Weekly Average SST Anomalies (⁰C), 21st - 27th Oct, 2012 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) Weekly Precipitation Forecast for 31st Oct -05th Nov 2012 (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 24th October, 2012

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



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



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



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



e) Seasonal Rainfall and Temperature Predictions from IRI





d) Seasonal Rainfall and Temperature Predictions from IRI Cntd...



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