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# **Experimental Climate Monitoring and Prediction**

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## 9 July 2015

### FECT BLOG

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http://fectsl.wordpress.com/

FECT WEBSITES

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

## June 18, 2015 PACIFIC SEAS STATE

During late May through early-June 2015 the SST was at a moderate El Niño level. The atmospheric variables support the El Niño pattern, including weakened trade winds and excess rainfall in the eastcentral tropical Pacific. The consensus of ENSO prediction models indicate continuation of moderate El Niño conditions during the June-August 2015 season in progress, likely strengthening further between summer and fall, and lasting into early 2016.

(Text Courtesy IRI)

## INDIAN OCEAN STATE

1.5 <sup>o</sup>C above average temperature was observed around Sri Lanka and the anomaly goes further up towards the south sea.

## MJD STATE

MJD is in Phase 7 and therefore shall suppress rainfall in Sri Lanka in a significant manner.

### Highlights

During 30<sup>th</sup> June – 6<sup>th</sup> July 2015 Western, Eastern and Southern provinces mostly received rainfall up to 20 mm. Rainfall up to 20 mm was observed in Western, North Western, Eastern and Uva provinces on 30<sup>th</sup> June and 1<sup>st</sup> July. On 2<sup>nd</sup> July western region of Ampara received rainfall up to 30 mm and on 4<sup>th</sup> July heavy rainfall up to 70 mm was observed in the ocean near Galle. NOAA models predict high rainfall in south western and southern regions of the country in the next fortnight.

#### Summary Monitoring

**Weekly Monitoring:** During the time period 30<sup>th</sup> June – 6<sup>th</sup> July 2015, slight amounts of rainfall were observed in the country. On 30<sup>th</sup> June Kurunegala, Gampaha, Colombo and Ampara received rainfall up to 20 mm and on 1<sup>st</sup> July, northern region of Moneragala received rainfall up to 20 mm. Western region of Ampara had rainfall up to 30 mm on 2<sup>nd</sup> July while western region of Ratnapura, eastern region of Nuwara Eliya received rainfall up to 20 mm. On 3<sup>rd</sup> July the ocean near Galle received rainfall up to 20 mm while Ampara, Moneragala and western province received light rainfall up to 15 mm. Heavy rainfall was observed in the ocean near Galle up to 70 mm on 4<sup>th</sup> July while Kegalle and Gampaha received rainfall up to 20 mm. On 5<sup>th</sup> July, rainfall decreased and only Kalutara and the ocean near Southern province received light rainfall up to 15 mm was observed in the southern region of Kalutara district.

**Monthly Monitoring:** In the month June 2015, western, Sabaragamuwa and south eastern regions of the country received above average rainfall of up to 8 mm/day. The rest of the country received below average rainfall during this month.

### Predictions

**14** day prediction: NOAA NCEP models predict high rainfall in southern region of the country during  $8^{th} - 21^{st}$  July. Up to 85 mm total rainfall is expected during each week.

*IMD WRF &IRI Model Forecast:* According to the IMD WRF model Western region of the country shall receive rainfall up to 35 mm/day while Kegalle district shall receive rainfall up to 65 mm on  $10^{\text{th}}$  July. The rest of the country shall receive slight amounts of rainfall. The rainfall shall continue on  $11^{\text{th}}$  July and Kegalle district shall receive rainfall up to 125 mm while Gampaha, Colombo, southern region of Kurunegala shall receive rainfall up to 65 mm and the rest of the country shall receive slight rainfall. IRI CFS model also predicts high rainfall in Western province on  $8^{\text{th}} - 13^{\text{th}}$  July.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast for July to September, the total 3 month precipitation has a 40% chance of being below average. The 3 month temperature has more than 70-80% likelihood in the entire country of being in the above-normal tercile during this period.

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<sup>1</sup> International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

Official hydro-meteorological statements are provided by the Sri Lanka Department of Meteorology and Department of Irrigation.



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# Weekly Hydro- Meteorological Report for Sri Lanka

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### **Daily Rainfall Monitoring**

The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.





### Monthly Rainfall Monitoring

The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places with above average rainfall. Darker shades show higher magnitudes in rainfall



### Dekadal (10 Day) Satellite Derived Rainfall Estimates





NCEP GFS 1-14 Day prediction







WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\ based on 00 UTC of 08-07-2015 valid for 03 UTC of 11-07-2015



#### Weekly Rainfall Forecast

Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.



#### Seasonal Rainfall and Temperature Forecast

Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile – that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile probability levels. The upper side of the color bar shows the colors used for increasingly strong probabilities when the dominant tercile is the above-normal tercile, while the lower side shows likewise for the below-normal tercile. The gray color indicates an enhanced probability for the near-normal tercile (nearly always limited to 40%).





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