

Experimental Climate Monitoring and Prediction

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FECT BLOG

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<http://www.climate.lk> and
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May 12, 2016 PACIFIC SEAS STATE

During early 2016 the positive tropical Pacific SST anomaly was quickly weakening, now indicating only a weak El Niño.

The atmospheric variables continue to support the El Niño pattern, but at much reduced strength. This includes just mildly weakened trade winds and excess rainfall in the central tropical Pacific, failing to extend eastward as it did in previous months. Most ENSO prediction models indicate a return to neutral by the end of May, with likely development of La Niña (of unknown strength) by fall.

(Text Courtesy IRI)

INDIAN OCEAN STATE

1°C above average sea surface temperature was observed around Sri Lanka.

MJO STATE

MJO phase is in 3 therefore shall slightly enhance rainfall in Sri Lanka.

Highlights

Most of the regions received high rainfall during 11th – 17th May while up to 200mm highest rainfall was seen in Colombo, Gampaha, Kalutara northern region of Anuradhapura on 15th May. Extreme rainfall conditions were seen in the entire country during the previous week. The rainfall is expected to decrease in the next week with heavy rainfall in south western region of the country. MJO phase is in 3 and shall slightly enhance rainfall.

Summary

Monitoring

Weekly Monitoring: On the 11th, eastern region of Gampaha, western region of Kegalle and the south eastern sea near Hambantota received up to 90 mm rainfall while surrounding districts and eastern, southern, western sea regions received up to 30 mm rainfall. Up to 40 mm rainfall was seen only in south eastern sea near Hambantota while the north east and eastern sea regions also received up to 30 mm rainfall. Eastern region of Kurunegala near Maho received up to 170 mm high rainfall while central region of Kurunegala, Dehiattakandiya and the sea east to Pottuvil received up to 90 mm rainfall on the 13th. The districts around Kurunegala received up to 40 mm rainfall on the same day. Up to 170 mm rainfall was seen in the sea near Pottuvil while Dehiattakandiya, Ampara and Batticaloa districts received up to 140 mm rainfall on the 14th. Up to 70 mm rainfall was seen in the entire country except northern region on the same day. On 15th May, Heavy rainfall was seen almost in the entire country. All the districts of northern province, Northern region of Anuradhapura, Trincomalee, all western region districts, Puttalam and sea west to western province received up to 200 mm rainfall while Kurunegala, Kegalle, Anuradhapura, Puttalam received up to 140 mm rainfall. Up to 90 mm rainfall was seen in other districts also on the 15th. Anuradhapura and surrounding districts and the northern sea region received up to 180 mm rainfall on 16th May while other districts also received up to 30 mm rainfall except southern region of the country. On 17th May, a significant reduction of the rainfall was seen in the entire country. Only Kurunegala town and Katana regions received high rainfall up to 90 mm, while central & western districts and the western sea of the country received up to 40 mm rainfall.

Monthly Monitoring: During April 2016 most regions of the country received below average rainfall except Ratnapura, eastern regions of Colombo and Gampaha. These districts received up to ~120mm monthly excess rainfall than the historical average.

Predictions

14-day prediction: NOAA NCEP models predict up to 115mm total rainfall in south western region while up to 55 mm total rainfall shall receive in northern and eastern regions of the country during 18th – 24th and 25th- 31st May. Central regions of the country shall receive up to 65mm total rainfall during these two weeks.

IMD WRF & IRI Model Forecast: According to the IMD WRF model, more than 125mm total rainfall shall have around Ratnapura while up to 65mm rainfall is expected in Colombo, Kalutara, Gampaha and Puttalam districts on the 19th. There shall be up to 125mm rainfall in Ratnapura and Kegalle districts while up to 65mm rainfall is expected in western region of the country on the 20th. The IRI CFS model predicts heavy rainfall around Galle while up to 200 mm total rainfall in Galle, Kalutara and up to 150 mm total rainfall in Colombo and Gampaha during 18th-23rd May.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for June to August, the total 3-month precipitation shall be climatological. 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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- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
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- Seasonal Predictions from IRI

¹ 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.

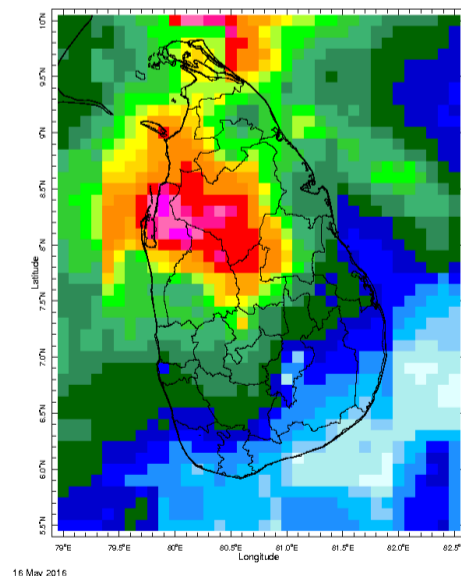
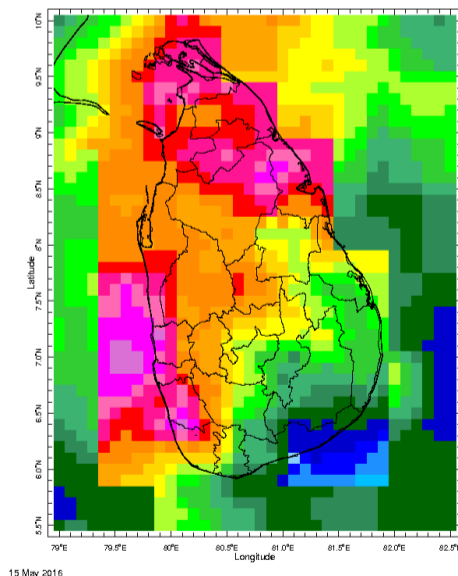
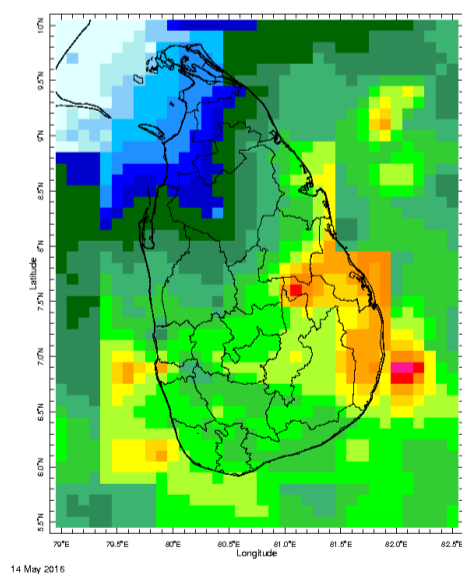
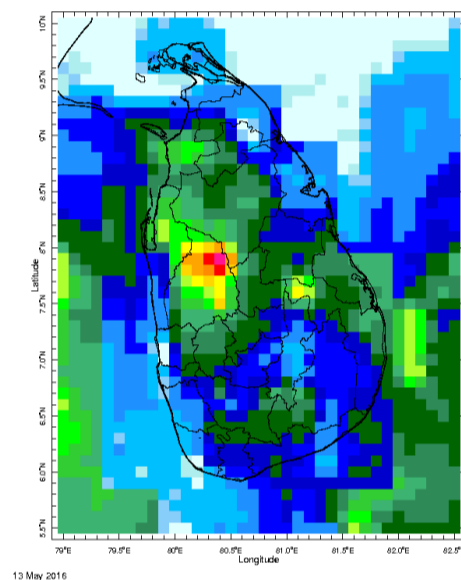
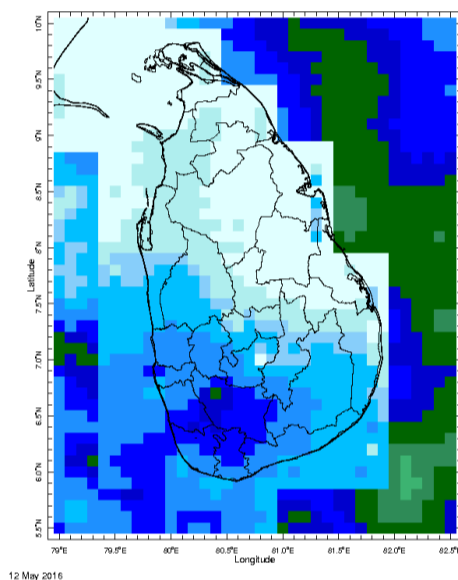
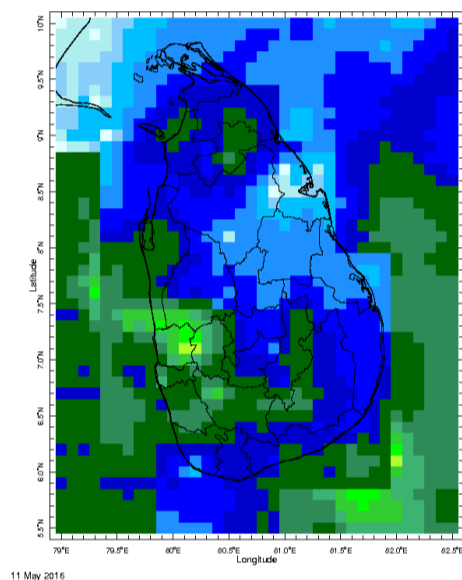
Weekly Hydro- Meteorological Report for Sri Lanka

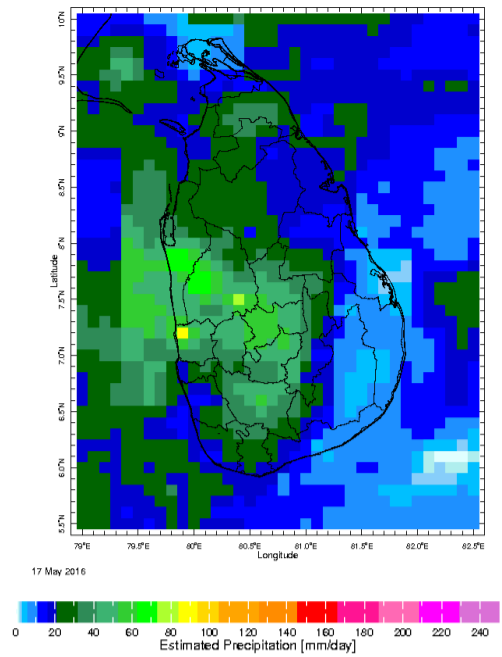
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Daily Rainfall Monitoring

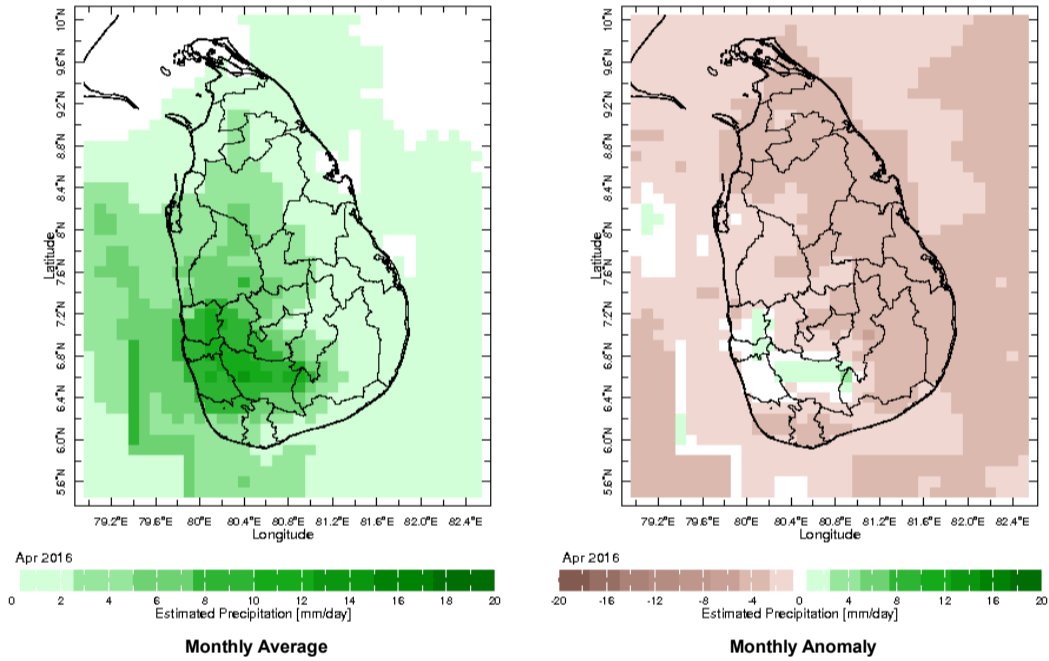
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



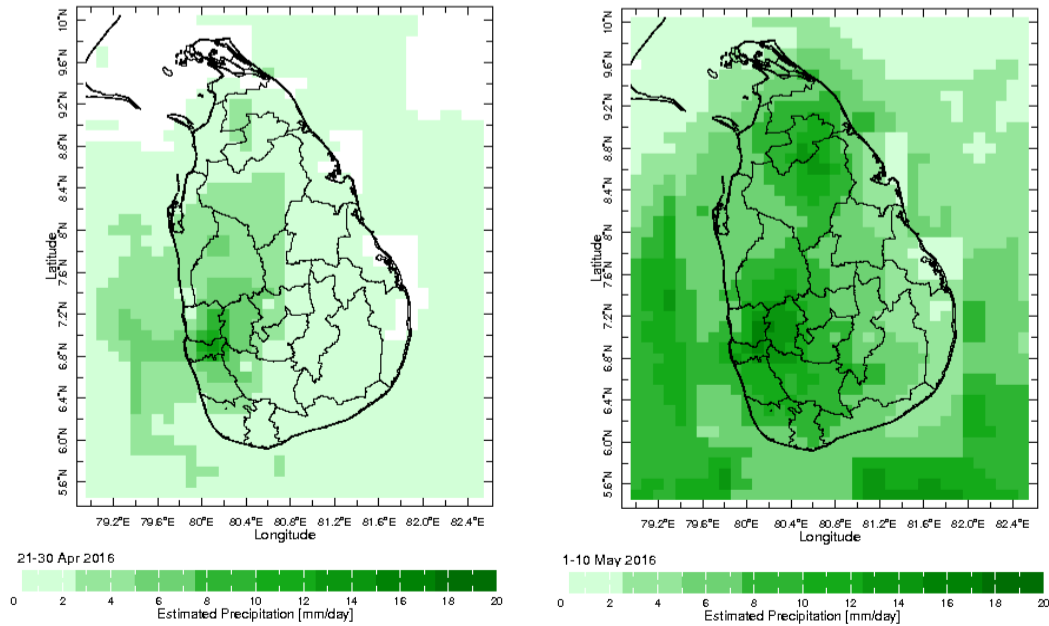


Monthly Rainfall Monitoring

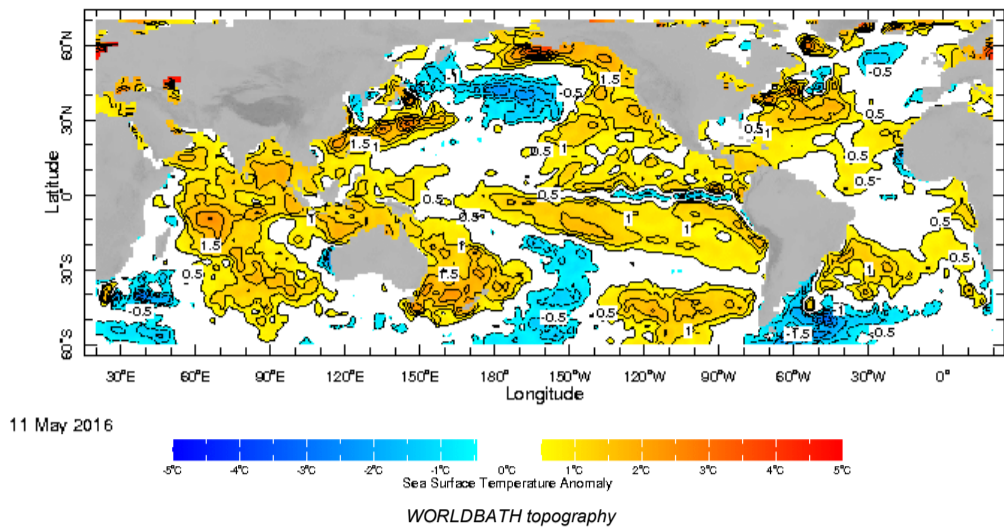
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



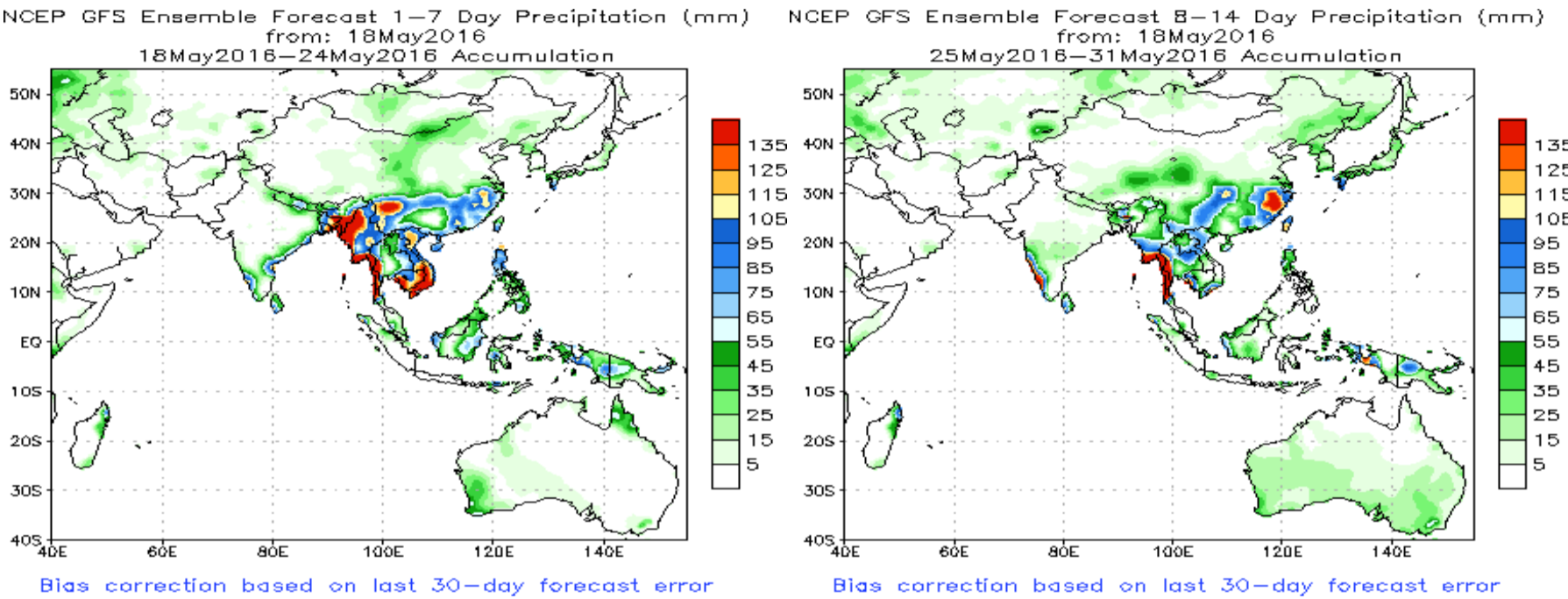
Dekadal (10 Day) Satellite Derived Rainfall Estimates



Weekly Average SST Anomalies

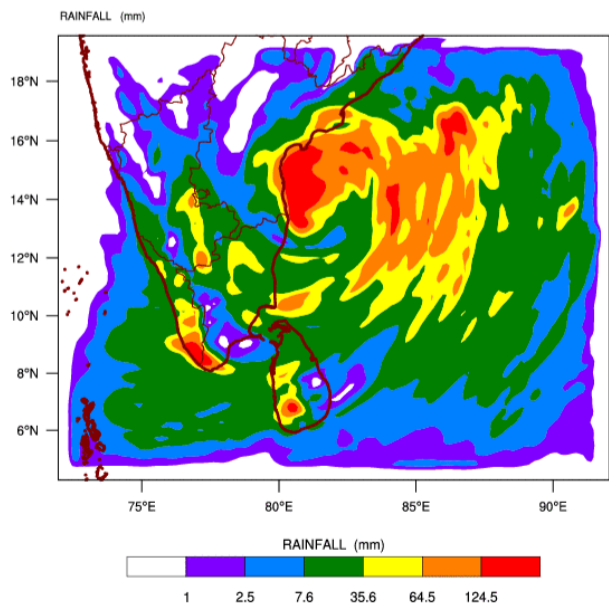


NCEP GFS 1- 14 Day prediction

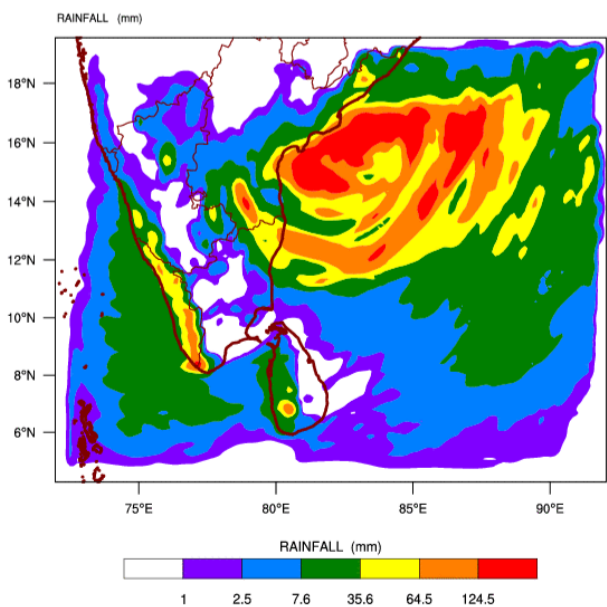


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 17-05-2016 valid for 03 UTC of 19-05-2016

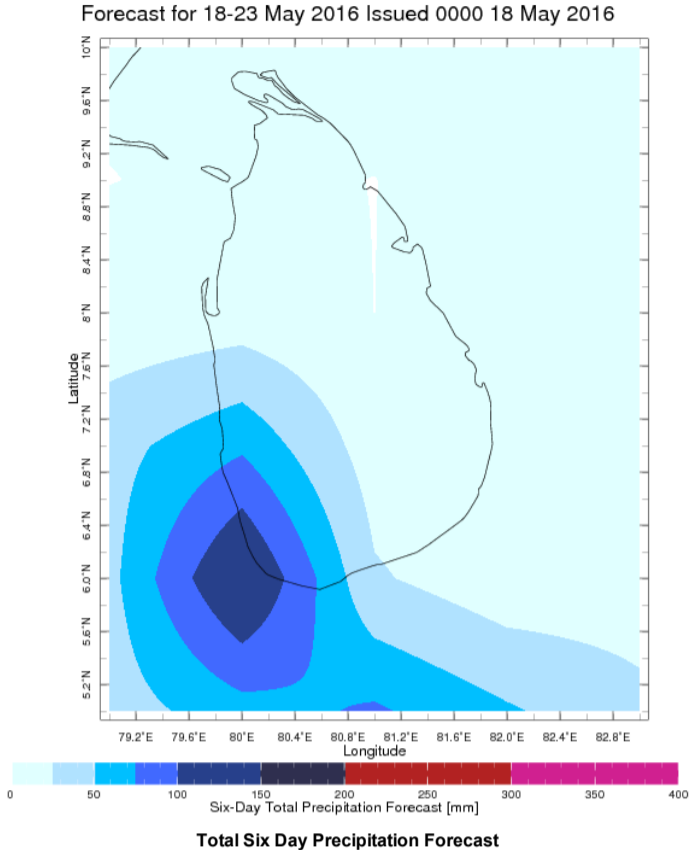
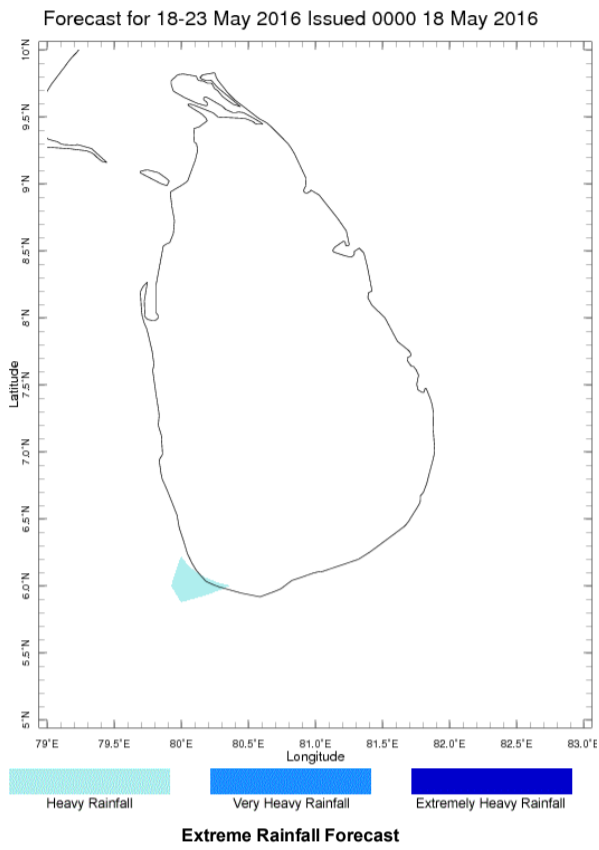


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 17-05-2016 valid for 03 UTC of 20-05-2016



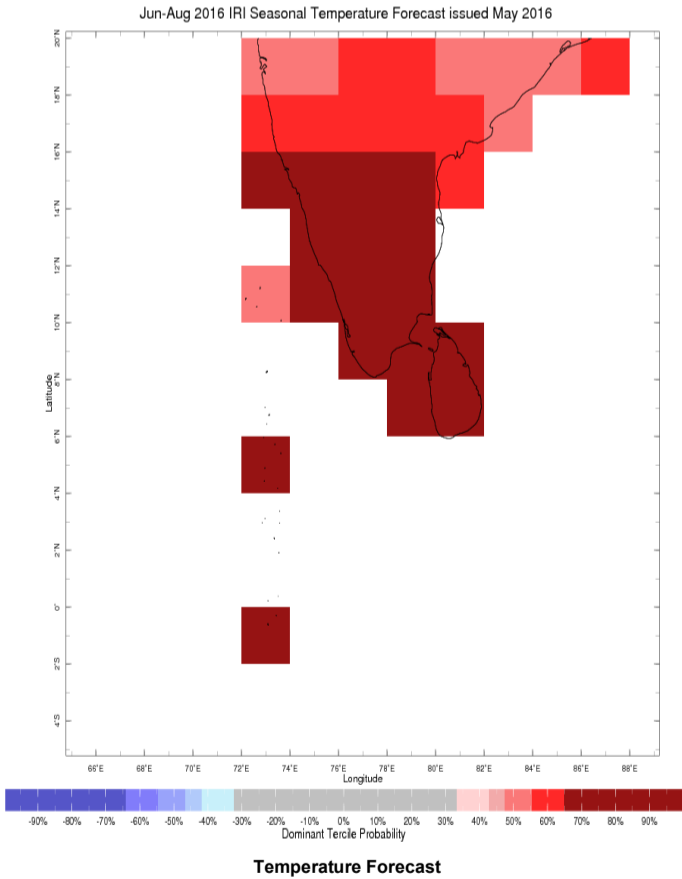
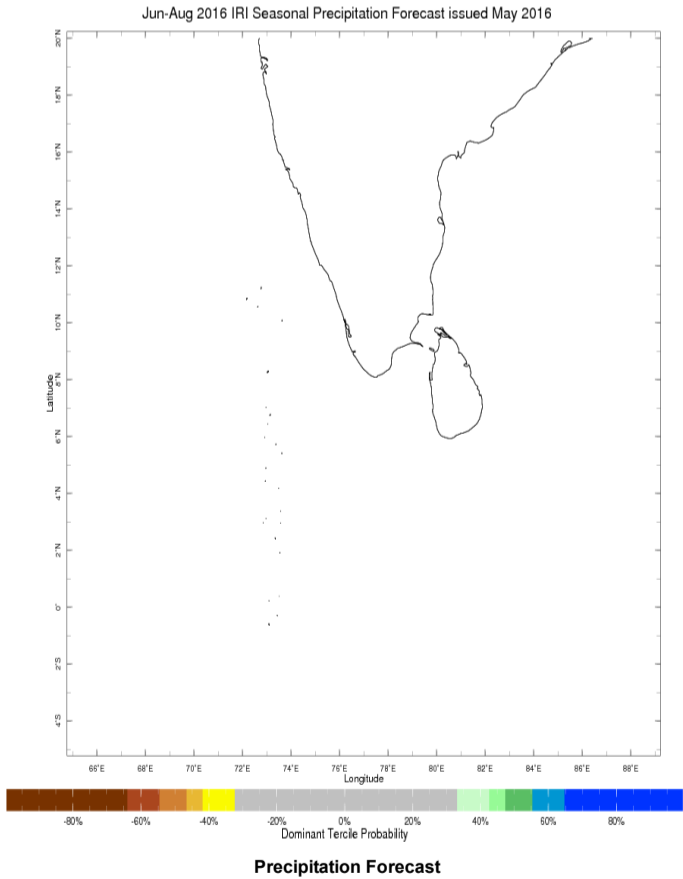
Weekly Rainfall Forecast

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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