

Experimental Climate Monitoring and Prediction

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FECT BLOG

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March 19, 2015 PACIFIC SEAS STATE

During February through mid-March 2015 the SST just met the thresholds for weak Niño conditions. During the last month, some of the atmospheric variables began indicating an El Niño pattern more than they had been earlier, including trade wind weakening and excess rainfall migrating farther to the east. The consensus of ENSO prediction models indicate weak El Niño conditions during the March-May 2015 season in progress, continuing and strengthening El Niño toward mid-2015.

(Text Courtesy IRI)

INDIAN OCEAN STATE

Neutral sea surface temperature was observed in the sea around Sri Lanka.

MJO STATE

MJO is in phase 8 and therefore shall slightly suppress rainfall in Sri Lanka

Highlights

No rainfall was observed during the previous weeks but many climate models predict rainfall during the next week. NOAA/ CFS model predicts up to 100 mm total 6 day-rainfall in Badulla area in the next few days without any heavy rainfall events.

Summary

Monitoring

Weekly Monitoring: No rainfall was observed in any part of the country during 18th- 24th March 2015.

Monthly Monitoring: After a dry January, almost the entirety of the country received above average rainfall during February. Only places where less than average rainfall was observed are Puttalam, Kurunegala and Polonnaruwa districts. Batticaloa and Ratnapura areas received highest rainfall during this month. In March until the 10th, rainfall was mostly observed in the western and south-western parts of the country. During the next 10 days rainfall was observed in eastern parts of the country as well.

Predictions

14 day prediction: NOAA NCEP models predict rainfall during 25th- 31st March in the whole country up to 55 mm. Thereafter until 7th of April no rainfall is expected in the country.

IMD WRF & IRI Model Forecast: According to the IMD WRF model, up to 35 mm rainfall is expected on the 27th of March in the eastern side of the country. The rainfall is expected to increase on the 28th. Eastern to central region as well as south western region of the country shall receive up to 35 mm rainfall and the rest of the country shall also receive light rainfall. NOAA/CFS models predict Up to 100 mm rainfall in Badulla district and up to 75 mm rainfall in adjacent districts during 25th- 30th March 2015. However extreme rainfall events are not predicted during this period.

Seasonal Prediction: As per IRI Multi Model Probability Forecast for April to June, the total 3 month precipitation shall be climatological. The 3 month average temperature has more than 60- 70% likelihood of being in the above-normal tercile during this period.

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- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- 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.

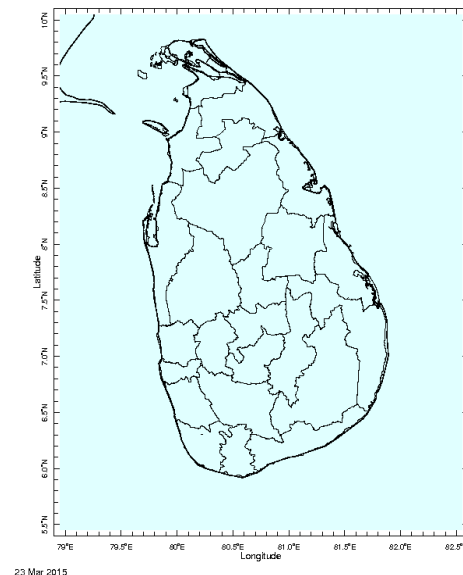
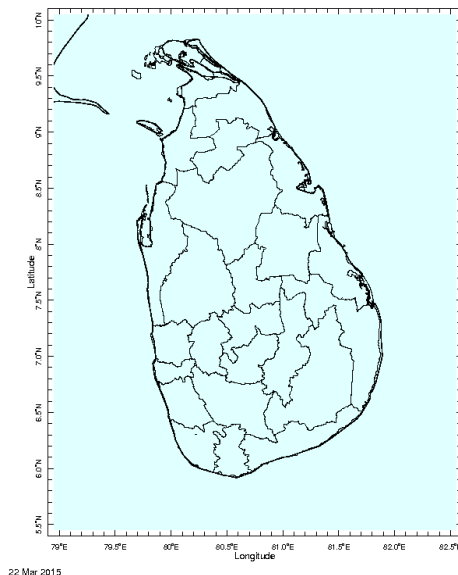
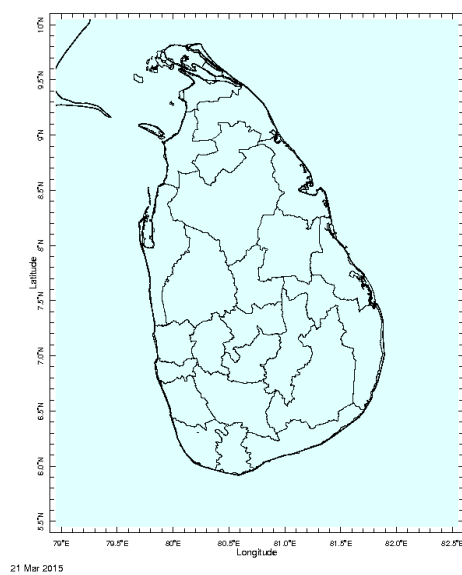
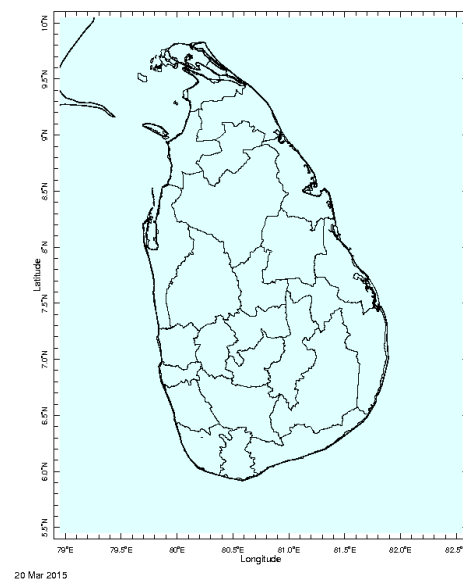
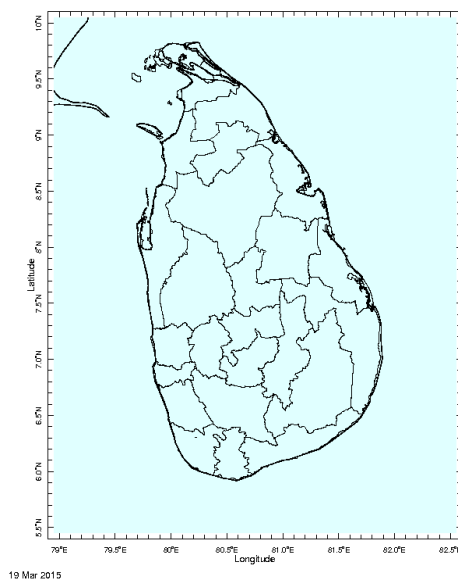
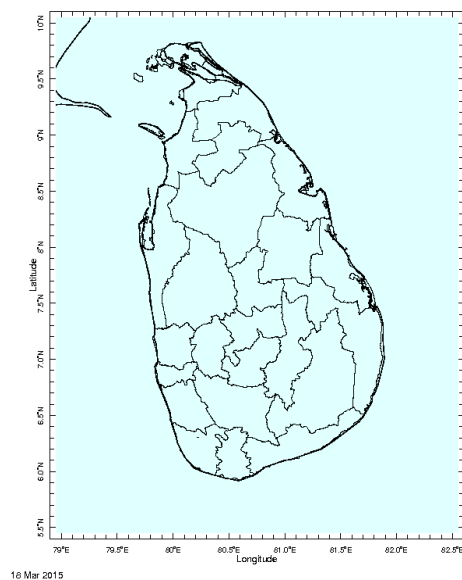
Weekly Hydro- Meteorological Report for Sri Lanka

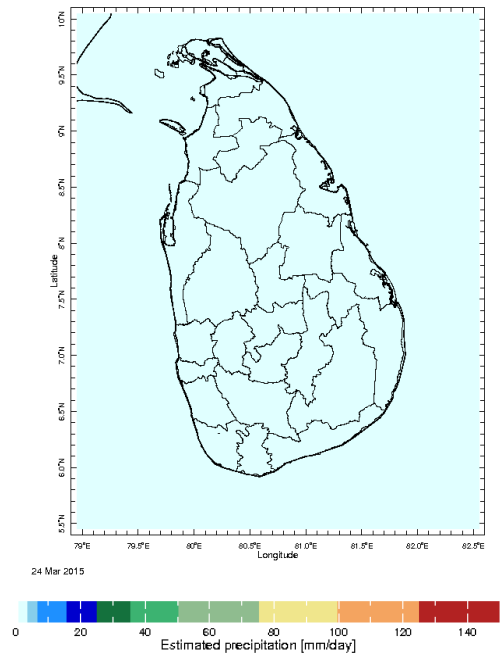
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Daily Rainfall Monitoring

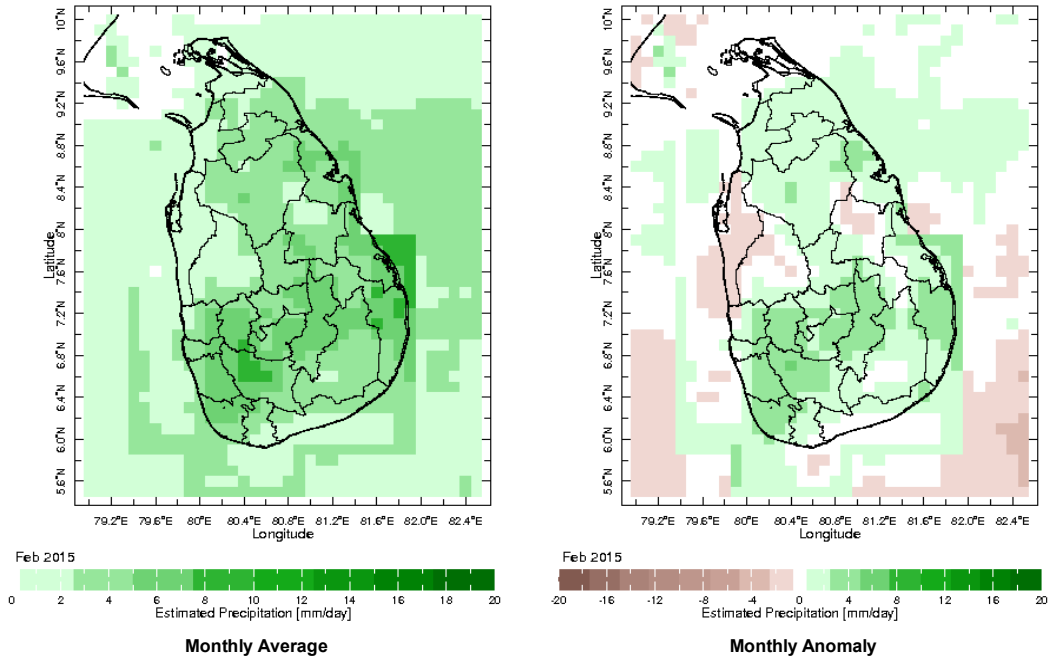
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



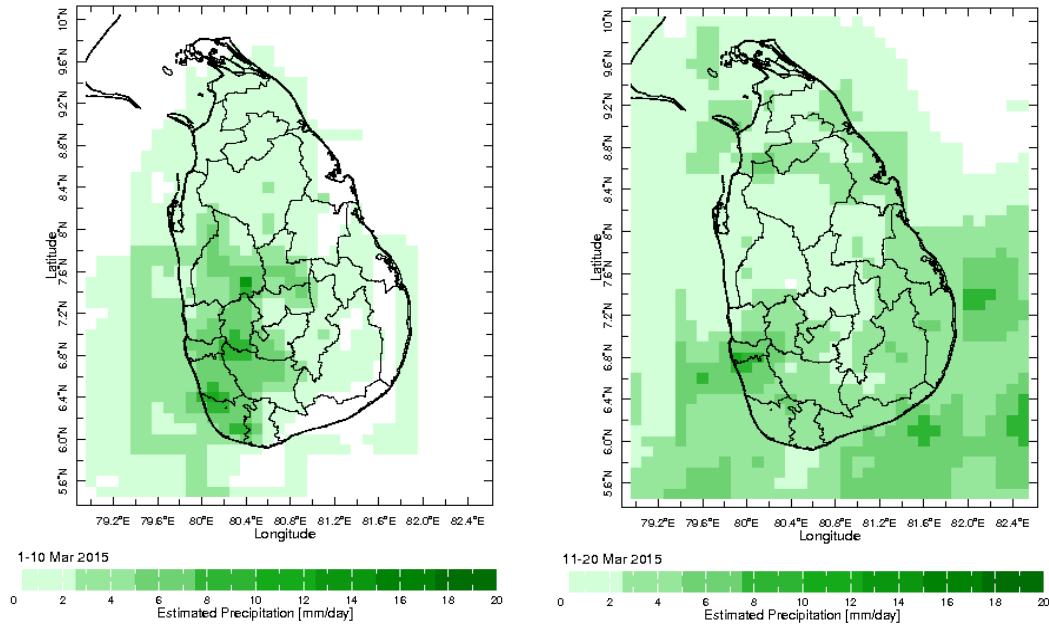


Monthly Rainfall Monitoring

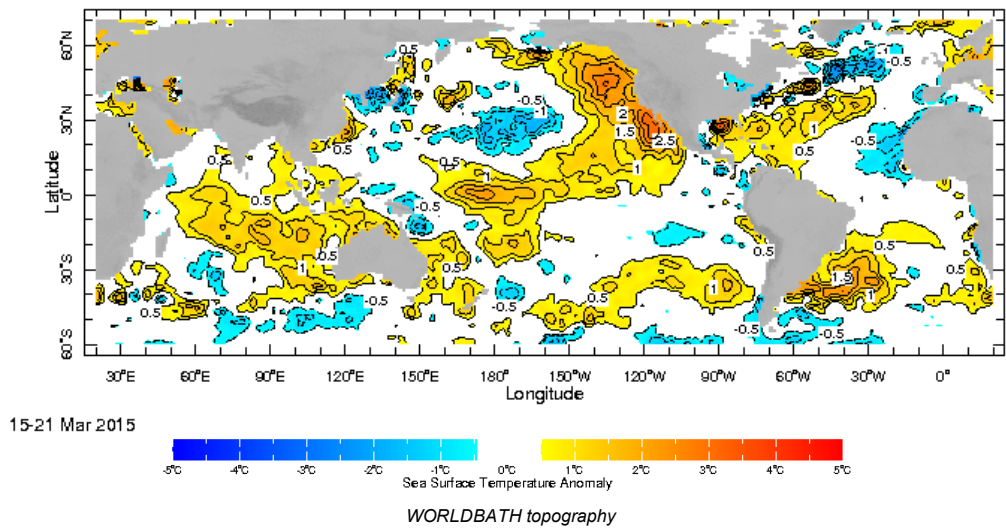
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



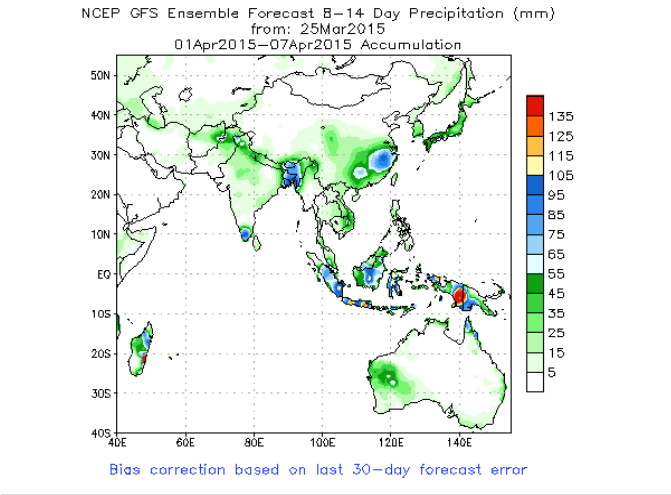
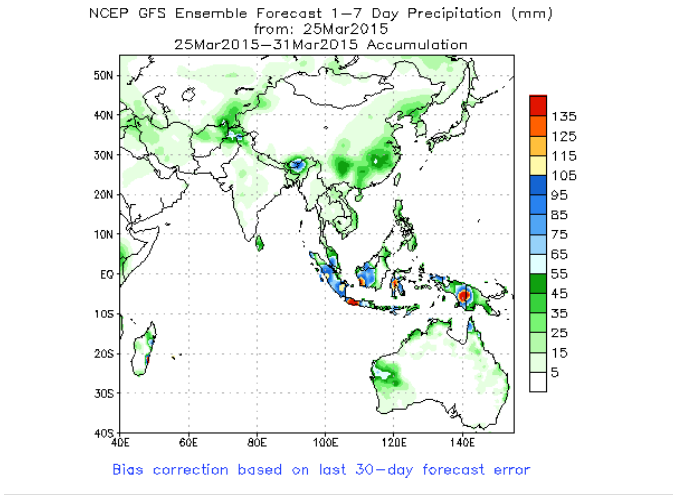
Dekadal (10 Day) Satellite Derived Rainfall Estimates



Weekly Average SST Anomalies

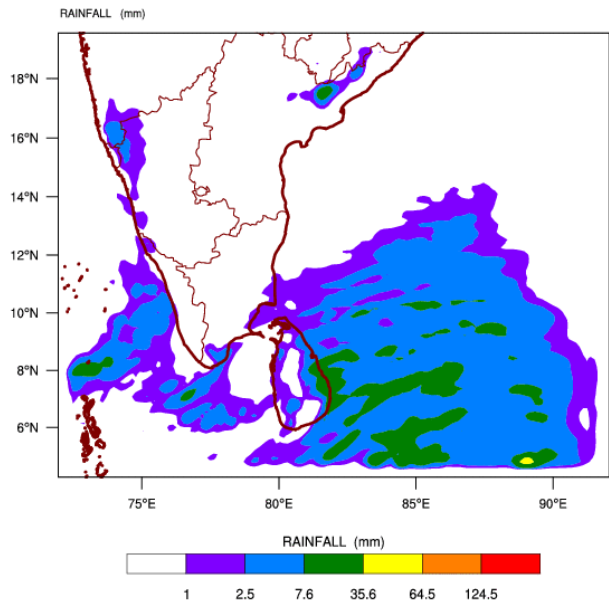


NCEP GFS 1- 14 Day prediction

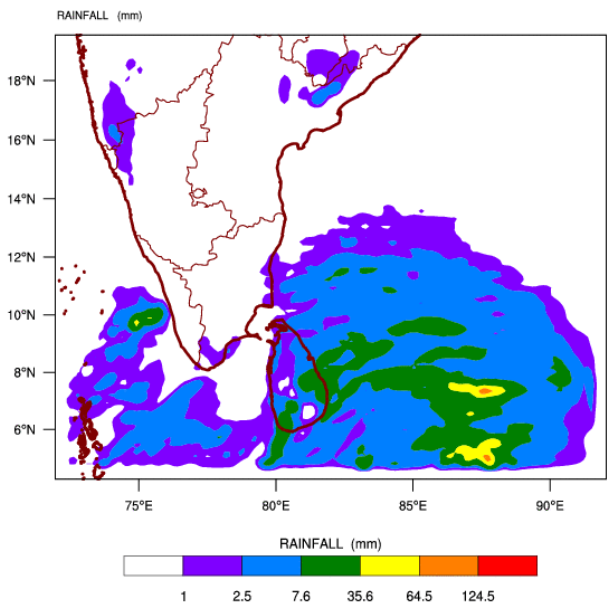


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\
based on 00 UTC of 25-03-2015 valid for 03 UTC of 27-03-2015

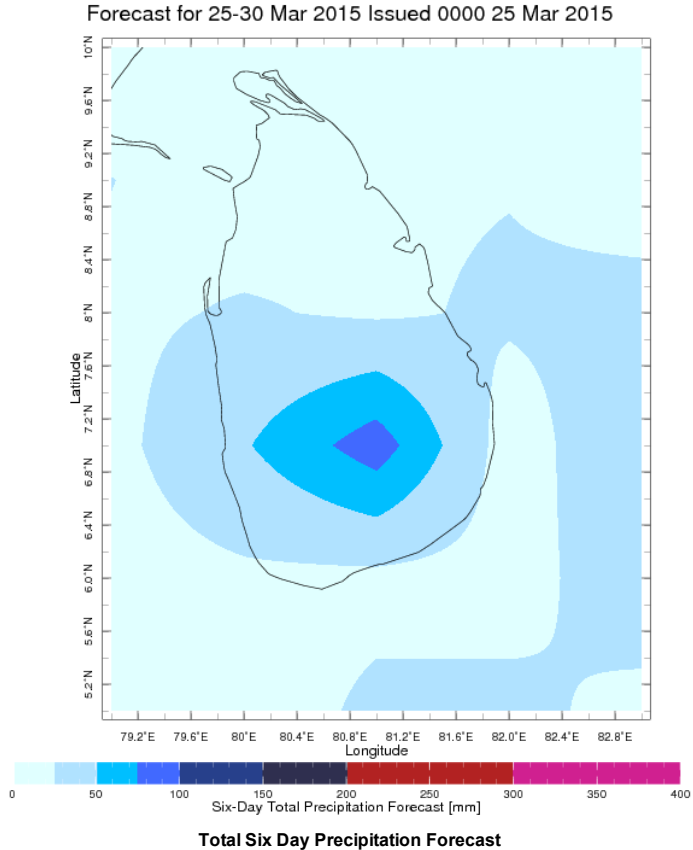
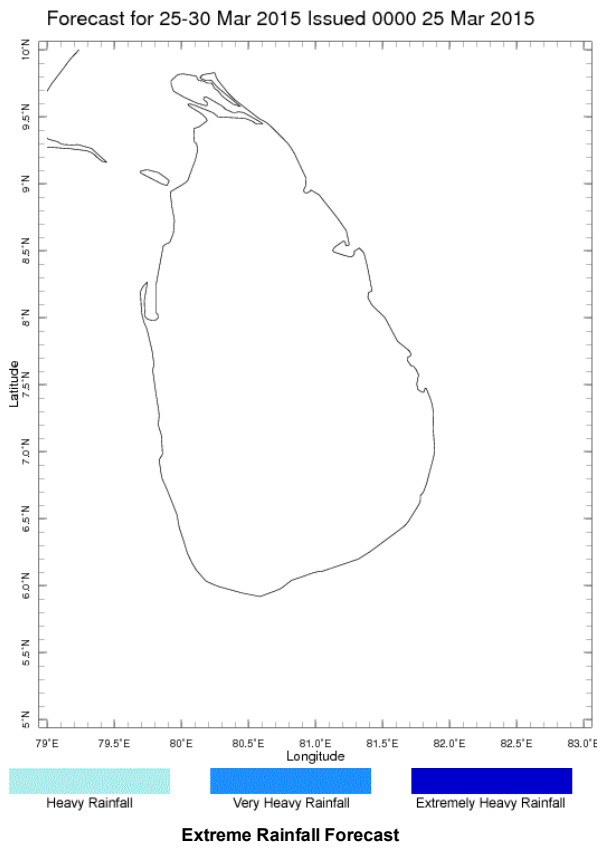


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\
based on 00 UTC of 25-03-2015 valid for 03 UTC of 28-03-2015



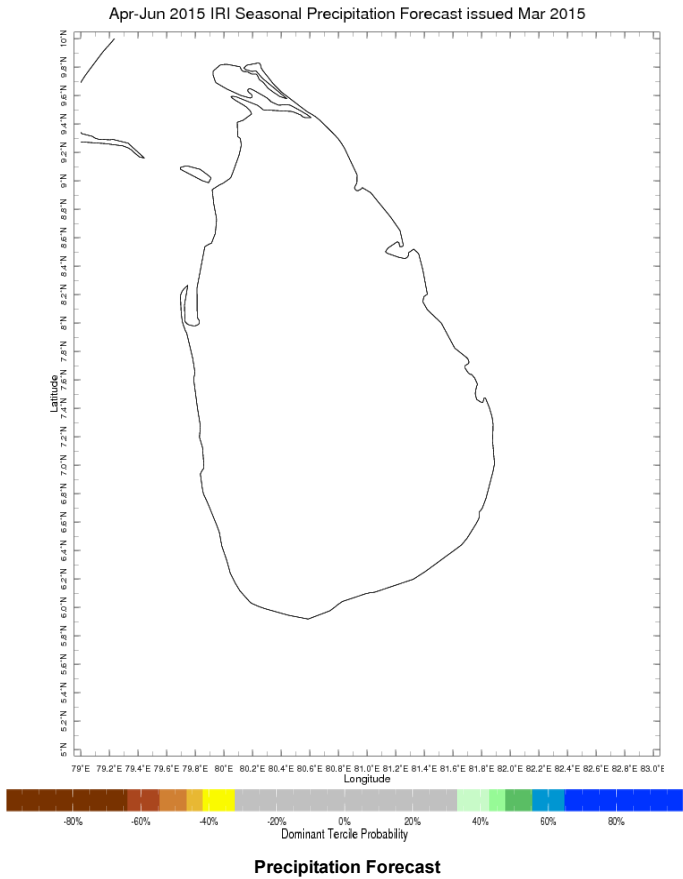
Weekly Rainfall Forecast

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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