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# Experimental Climate Monitoring and Prediction

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**25 February 2016**

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## February 18, 2016
### PACIFIC SEAS STATE

During mid-February 2016 the tropical Pacific SST was still at a very strong El Niño level, having peaked in November and December. All atmospheric variables continue to support the El Niño pattern, including weakened trade winds and excess rainfall in the east-central tropical Pacific. Most ENSO prediction models indicate slowly weakening El Niño conditions over the coming several months, returning to neutral by late spring or early summer 2016, with a chance for La Niña development during fall.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

0.5$^0$C above average sea surface temperature was observed around Sri Lanka.

### MJO STATE

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

***Highlights***

*Mostly dry weather conditions were observed in the country where only north western, south eastern and western regions received rainfall during 17th – 23rd February. Rainfall up to 60 mm was observed around Wennappuwa and Negombo on 20th February. Moneragala on 17th February and Badulla on 18th February received rainfall up to 50 mm. NOAA NCEP model predict relatively high rainfall in southern region of the country in the next week and the rest of the country shall receive light rainfall. MJO is in phase 7 therefore shall suppress rainfall in Sri Lanka in a significant manner.*

***Summary***

**Monitoring**

***Weekly Monitoring*:** During the week 17th – 23rd February, western and south eastern regions of the country received rainfall. On 17th February, Badulla received rainfall up to 50 mm while western region of Ampara and ocean near Mullaitivu received rainfall up to 40 mm. Light rainfall was seen in the rest of the country on the same day. Rainfall up to 50 mm was observed in Moneragala on 18th February. Ginigathhena, Kalpitiya, Negombo and ocean near Kalutara received rainfall up to 30 mm on 19th February. Rainfall up to 60 mm was observed around Wennappuwa and Negombo on 20th February while Kuliyapitiya, Pannala and southern region of Kalutara received rainfall up to 30 mm. Entire country did not receive any rainfall on 21st – 23rd February.

***Monthly Monitoring*:** In January 2016 dry conditions were seen throughout the country. Below average rainfall was observed in the entire country except in Batticaloa district and some parts in Polonnaruwa, Trincomalee and Ratnapura districts where up to 4 mm/day rainfall was observed.

**Predictions**

***14 day prediction:*** NOAA NCEP models predict relatively high rainfall in southern and central regions of the country. Rainfall up to 85 mm is expected during 24th February – 1st March while north central and western regions shall receive rainfall up to 55 mm. Rest of the country shall receive rainfall up to 35 mm. These models predict that the rainfall shall decrease during 2nd – 8th March where only south western shall receive rainfall up to 35 mm.

***IMD WRF & IRI Model Forecast:*** According to the IMD WRF model, Galle shall receive rainfall up to 35 mm on 26th February while south western and south eastern and eastern coastal regions shall receive slight amounts of rainfall. Rest of the country shall not receive rainfall. On 27th February, eastern and south eastern regions shall receive rainfall up to 35 mm where northern, central, southern, western regions shall receive slight amounts of rainfall. IRI CFS models predict up to 100 mm total rainfall in the sea east of Kalmunai and up to 75 mm total rainfall around coastal region of Ampara during 24th – 29th February.

***Seasonal Prediction:*** As per IRI Multi Model Probability Forecast for March to May, the total 3 month precipitation has 40% likelihood 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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[1] International Research Institute for Climate and Society, Earth Institute at Columbia University, New York.

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# Weekly Hydro- Meteorological Report for Sri Lanka

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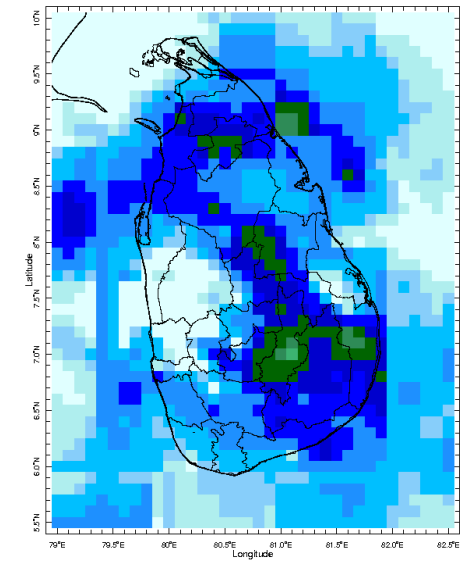
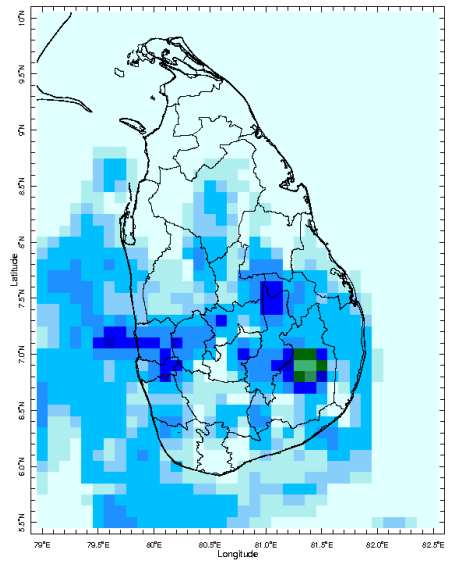
## Daily Rainfall Monitoring

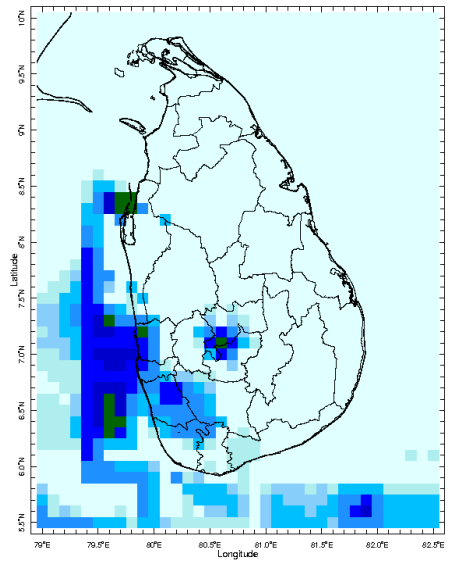
**The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.**




17 Feb 2016




18 Feb 2016

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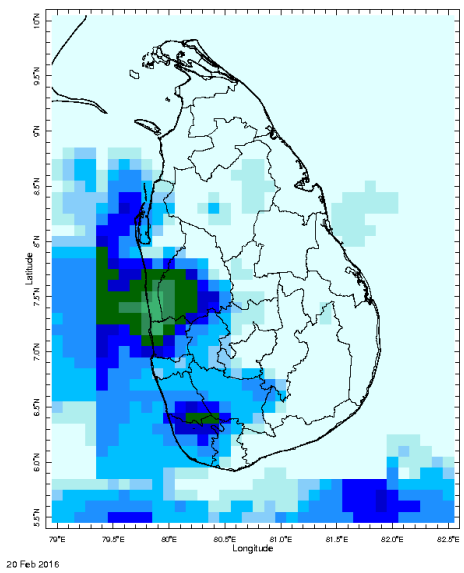
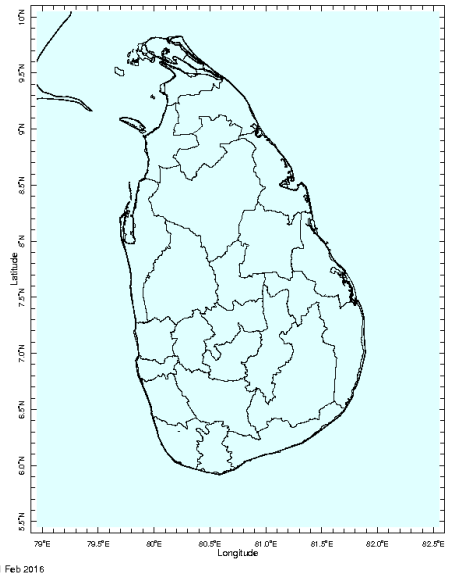
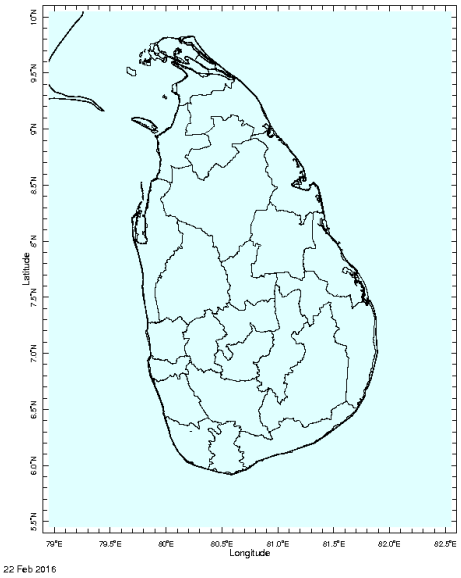


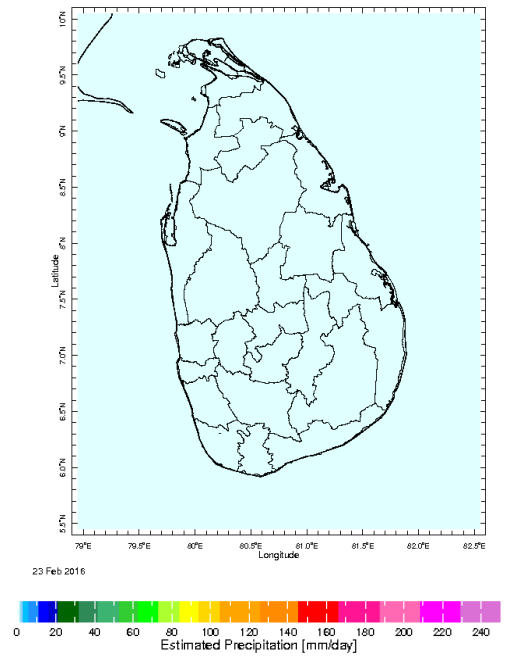

20 Feb 2016




21 Feb 2016

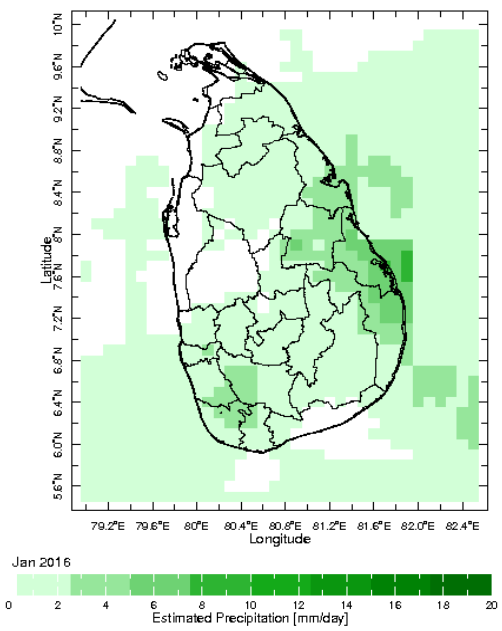



22 Feb 2016

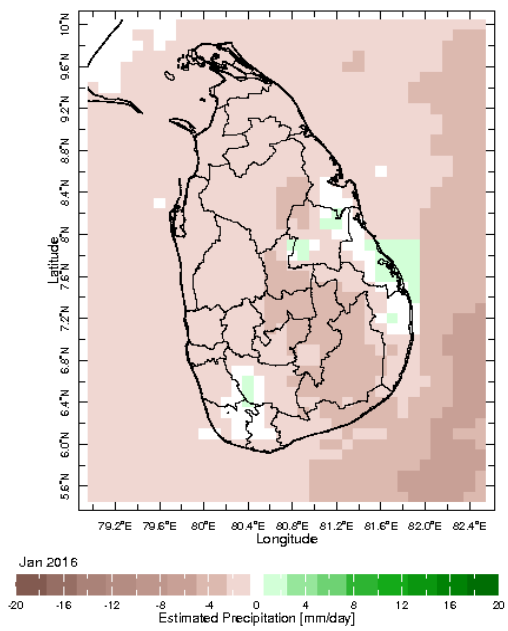



## Monthly Rainfall Monitoring

**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**

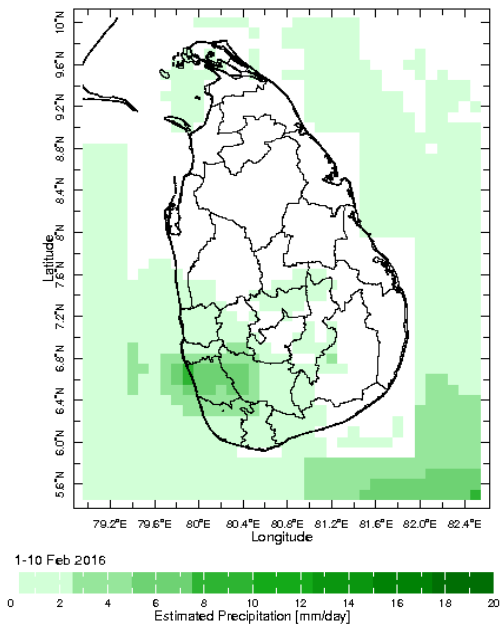


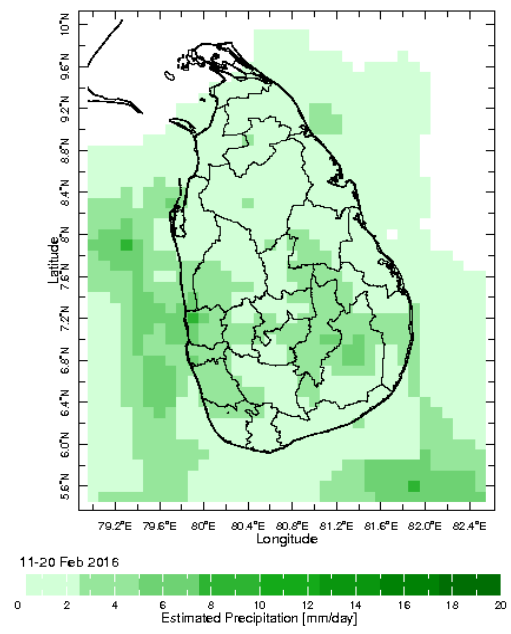

**Monthly Average**



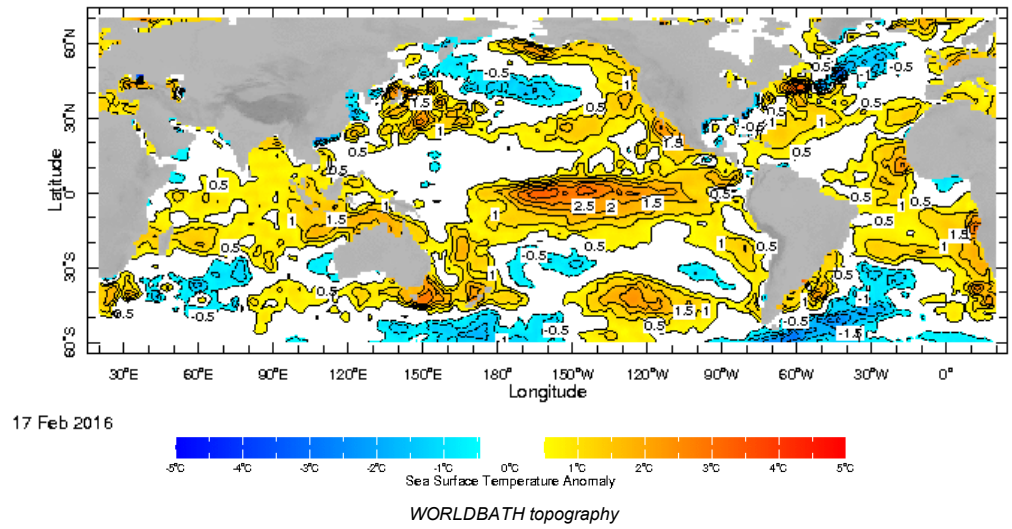

**Monthly Anomaly**

## Dekadal (10 Day) Satellite Derived Rainfall Estimates

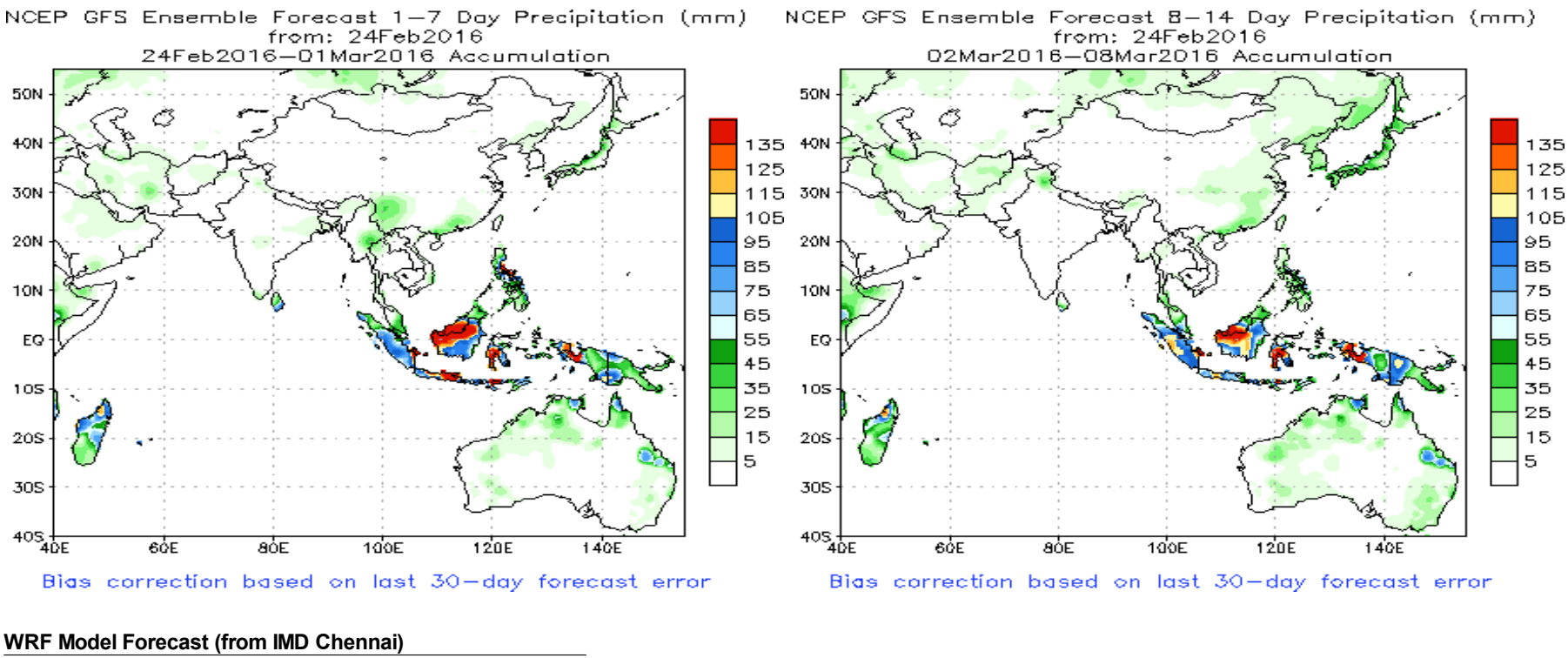


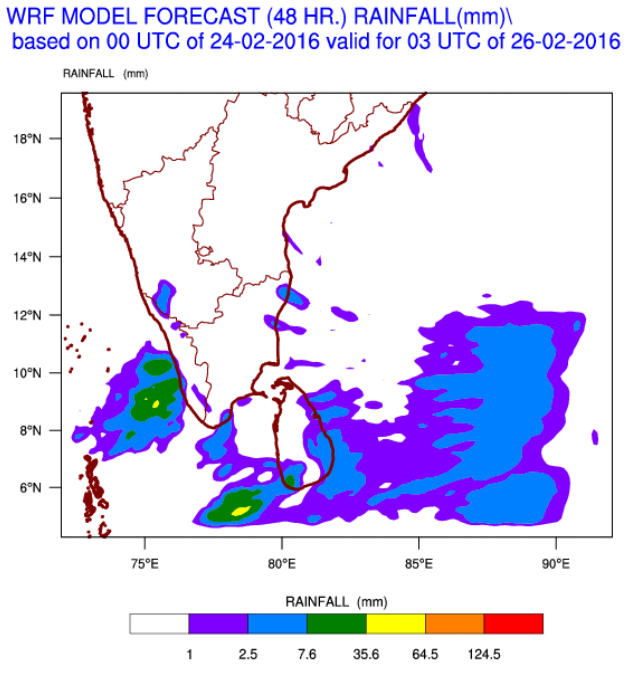
## Weekly Average SST Anomalies

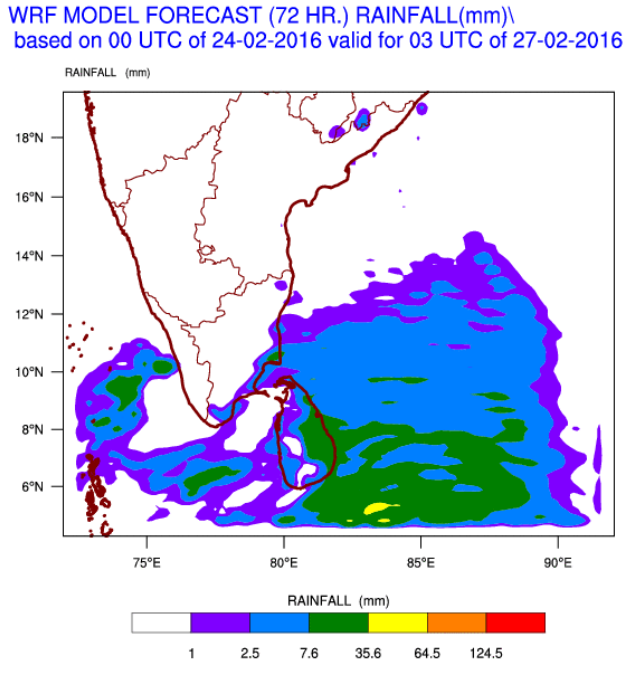



## NCEP GFS 1- 14 Day prediction



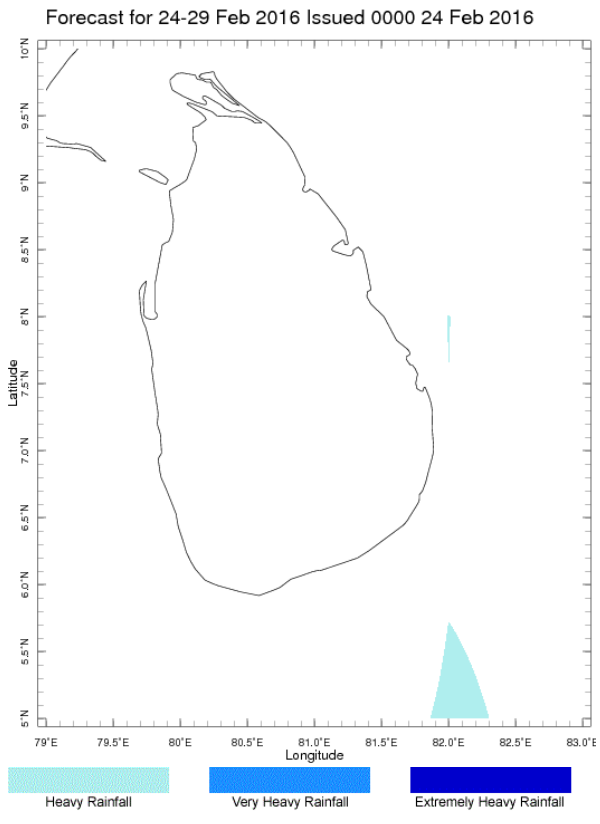

## WRF Model Forecast (from IMD Chennai)



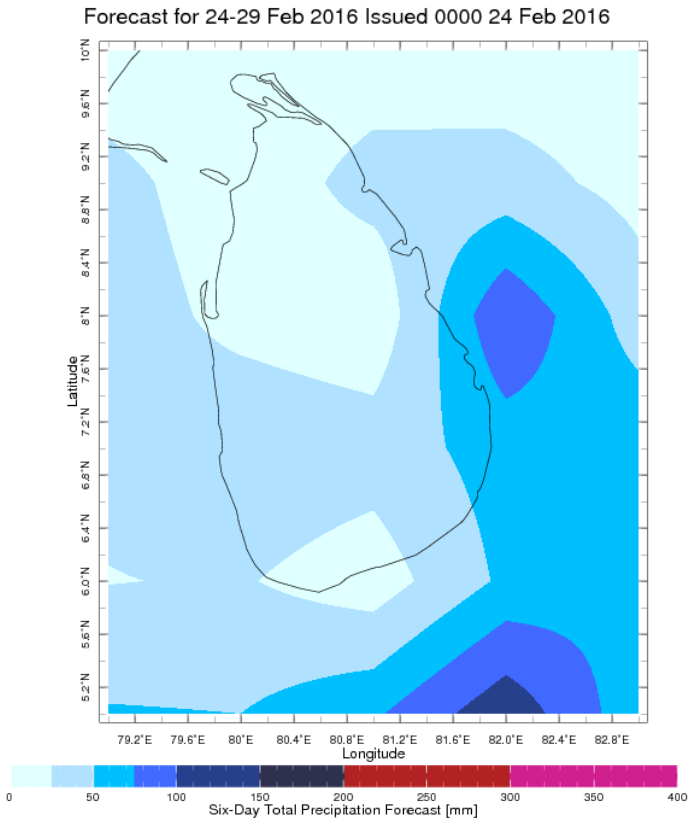



## Weekly Rainfall Forecast

**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.**



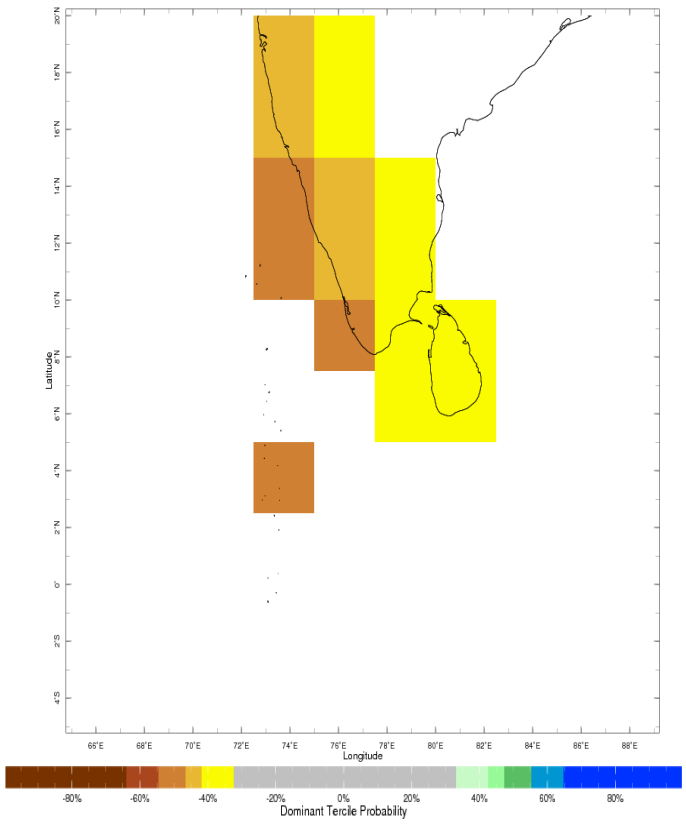

**Extreme Rainfall Forecast**



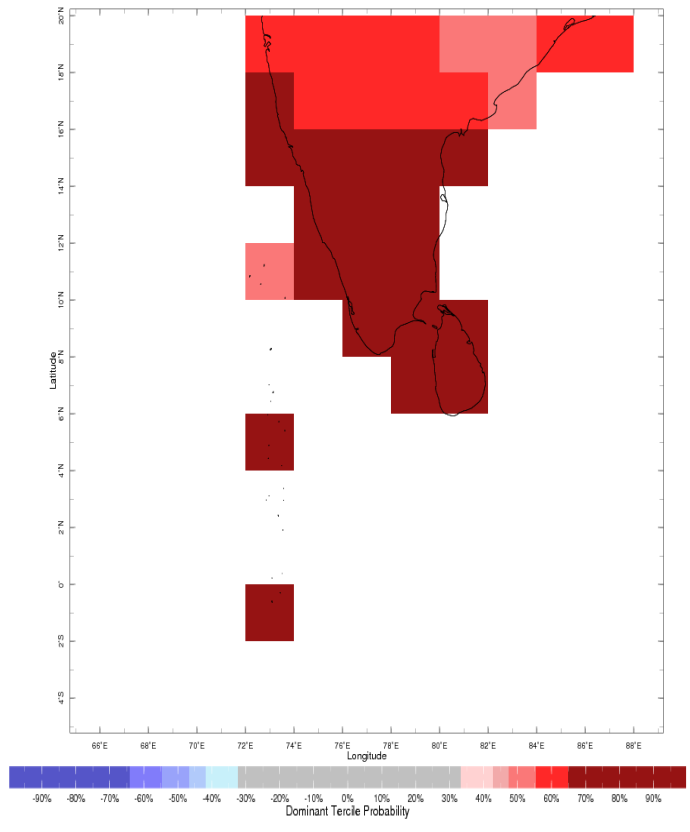

**Total Six Day Precipitation Forecast**

## 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%).**




**Precipitation Forecast**




**Temperature Forecast**

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