

## Experimental Climate Monitoring and Prediction

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21 January 2016

### FECT BLOG

Past reports available at  
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<http://www.climate.lk> and  
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### January 14, 2016 PACIFIC SEAS STATE

During mid-December 2015 the tropical Pacific SST was at a strong El Niño level. All atmospheric variables strongly support the El Niño pattern, including weakened trade winds and excess rainfall in the east central tropical Pacific. The consensus of ENSO prediction models indicate continuation of strong El Niño conditions during the December-February 2015-16 season in progress. Further strengthening is possible, but unlikely, into mid-winter 2015-16, with the event slowly weakening during spring 2016.

(Text Courtesy IRI)

### INDIAN OCEAN STATE

Neutral Sea Surface temperature was observed around Sri Lanka.

### MJO STATE

MJO shall be in phase 3 in the next few days therefore shall slightly enhance rainfall in Sri Lanka.

### Highlights

*Apart from the ocean around the eastern province receiving slight amounts of rainfall on 13<sup>th</sup> and 14<sup>th</sup> of January, no significant rainfall was observed during 13<sup>th</sup> – 19<sup>th</sup> January in the entire country. NOAA NCEP models predict slight increase of rainfall during next week in northern and central regions of the country. MJO shall be in phase 3 and rainfall conditions shall be enhanced slightly in Sri Lanka.*

### Summary

#### Monitoring

**Weekly Monitoring:** Mild showers up to 10 mm was observed around the eastern ocean near Kalkudah on 13<sup>th</sup> and 14<sup>th</sup> January. No significant rainfall was observed anywhere in the country during 13<sup>th</sup> – 19<sup>th</sup> January.

**Monthly Monitoring:** In December, Northern Province, northern regions of Central, Uva and Sabaragamuwa provinces, northern part of Ampara, Colombo and Polonnaruwa received above average rainfall. Below average rainfall was experienced in the eastern province, southern province, northern region of Mannar, north eastern region of Anuradhapura, western region of Mullaitivu and the ocean around Trincomalee to Ampara, Galle to Hambantota.

#### Predictions

**14 day prediction:** NOAA NCEP models predict rainfall up to 45 mm in northern, north western, north eastern and central regions of the country; and up to 25mm in Southern region during 20<sup>th</sup> – 26<sup>th</sup> January. The rainfall shall decrease gradually and the entire country shall experience dry weather conditions from 27<sup>th</sup> January – 2<sup>nd</sup> February.

**IMD WRF & IRI Model Forecast:** According to the IMD WRF model, eastern coastal region around Batticaloa, Mullaitivu and the northern region of Badulla are expected to receive slight amounts of rainfall on 22<sup>nd</sup> January, rest of the country shall experience dry weather conditions. On 23<sup>rd</sup> January, rainfall is expected to increase and coastal region around Batticaloa and Ampara shall receive rainfall up to 35 mm while northern region of Matale, Kurunegala and southern region of Puttalam are also expected to receive slight amounts of rainfall. IRI CFS models predict total rainfall up to 75 mm around the ocean near Kalkudah during 20<sup>th</sup> to 25<sup>th</sup> January 2016.

**Seasonal Prediction:** As per IRI Multi Model Probability Forecast for February to April, the total 3 month precipitation has 40% likelihood in north eastern areas and 50% likelihood in the rest of the country 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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- NCEP GFS Ensemble 1-14 day predictions
- WRF model forecast Regional Meteorological Center, Chennai, Indian Meteorological Department)
- Weekly precipitation forecast (IRI)
- Seasonal Predictions from IRI

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

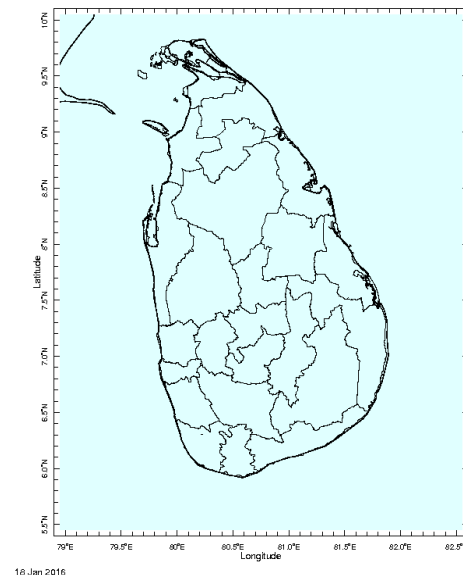
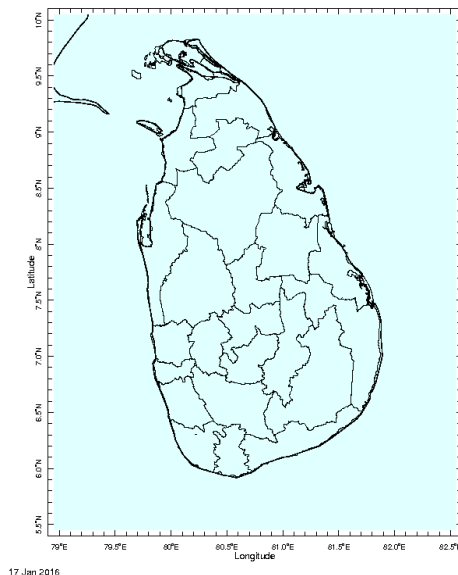
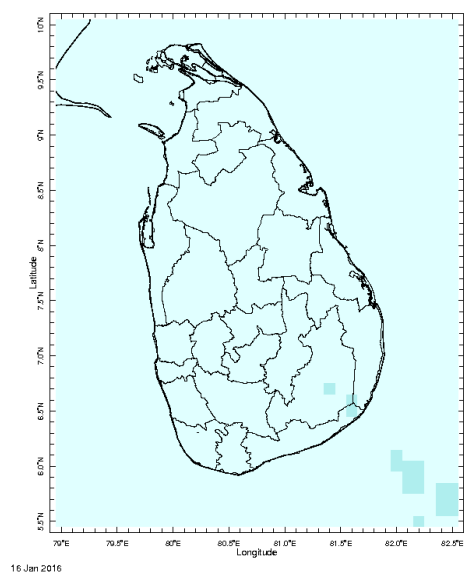
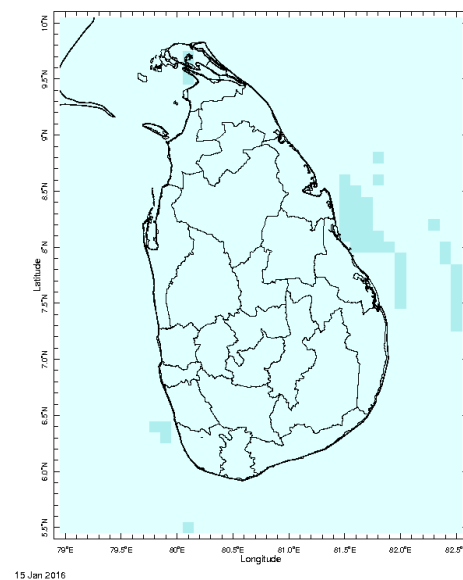
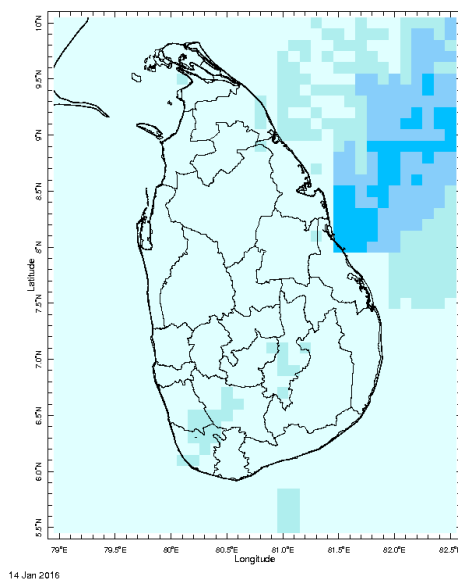
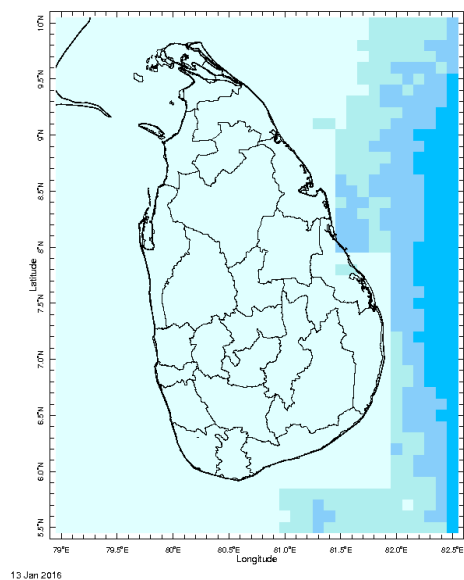
## Weekly Hydro- Meteorological Report for Sri Lanka

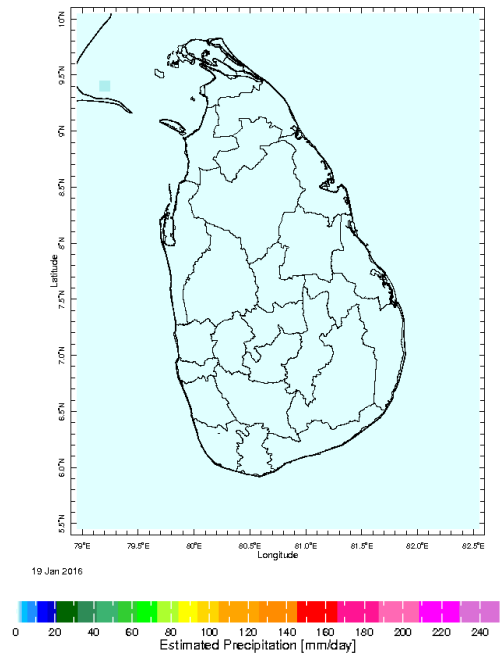
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### Daily Rainfall Monitoring

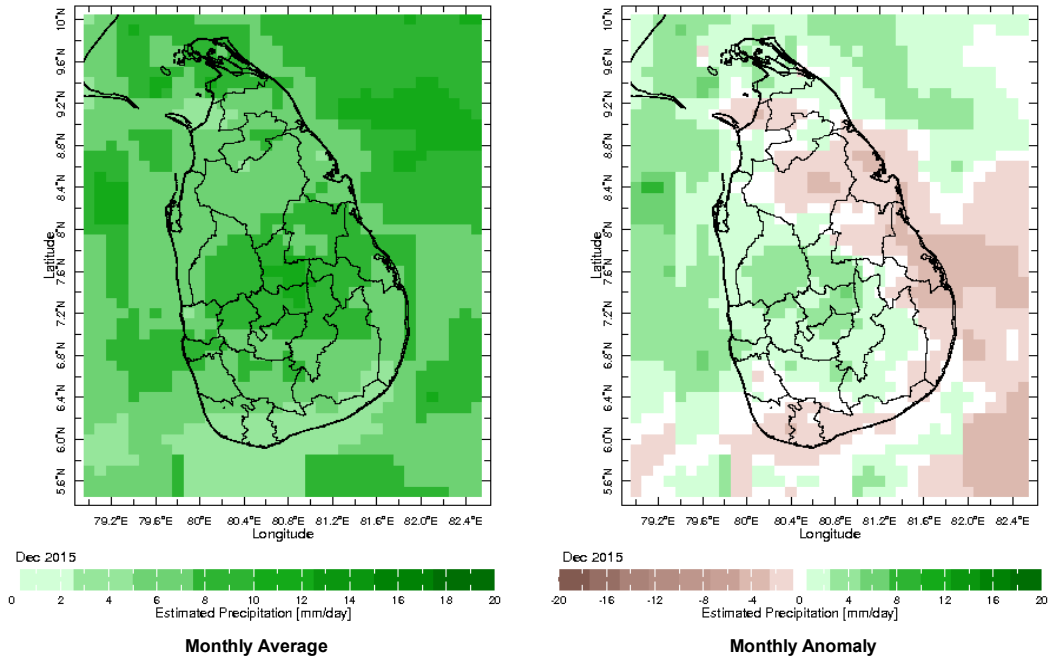
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



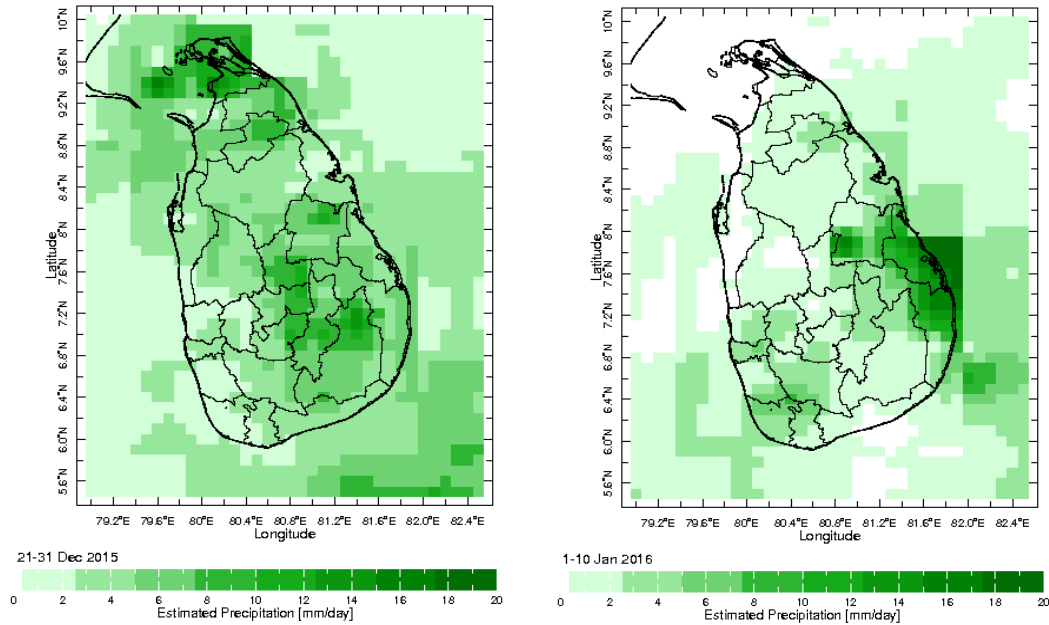


Monthly Rainfall Monitoring

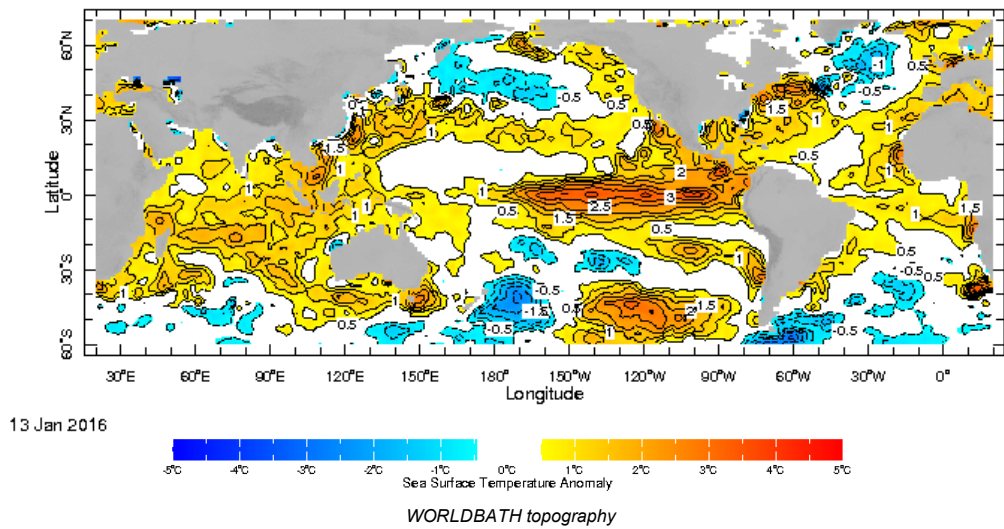
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



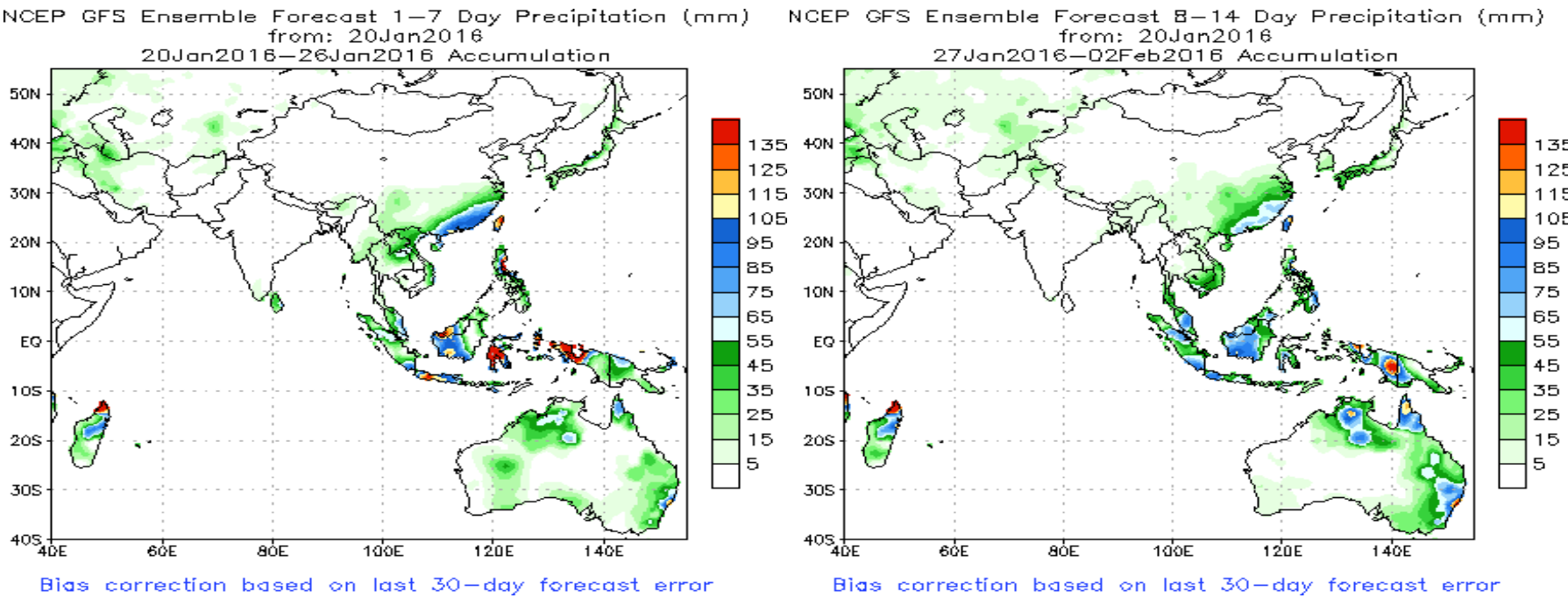
Dekadal (10 Day) Satellite Derived Rainfall Estimates



Weekly Average SST Anomalies

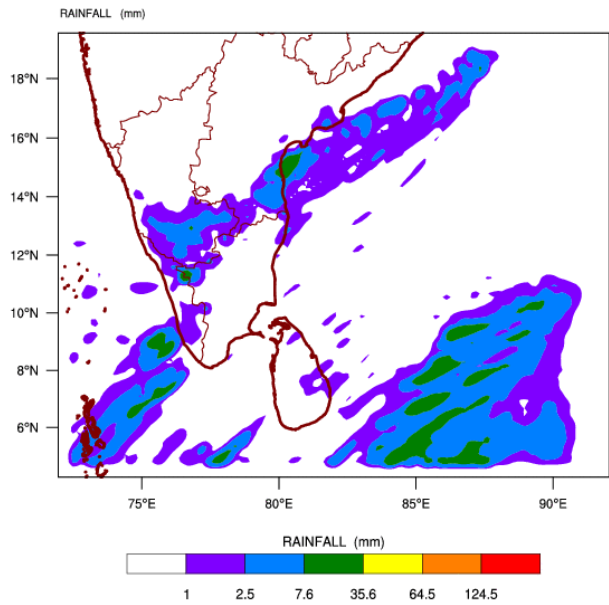


NCEP GFS 1- 14 Day prediction

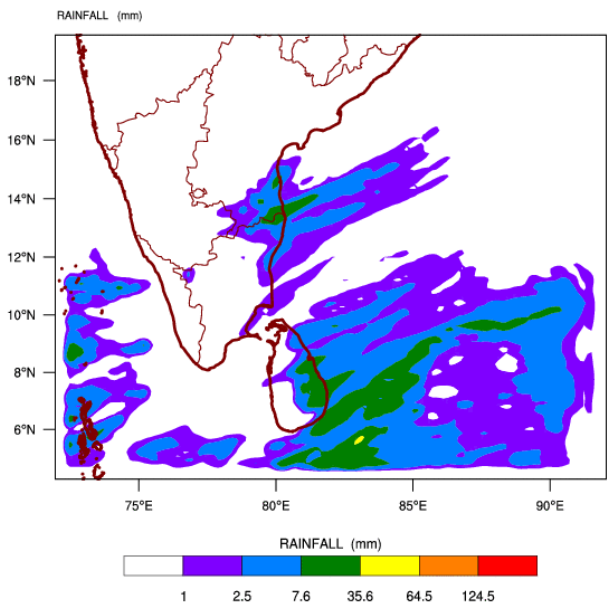


WRF Model Forecast (from IMD Chennai)

WRF MODEL FORECAST (48 HR.) RAINFALL(mm)\  
based on 00 UTC of 20-01-2016 valid for 03 UTC of 22-01-2016

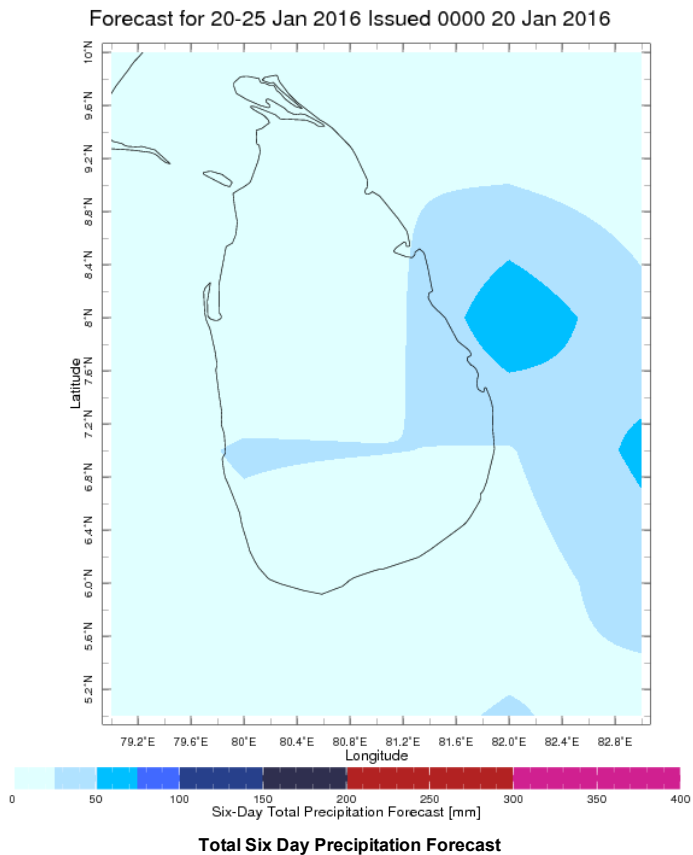
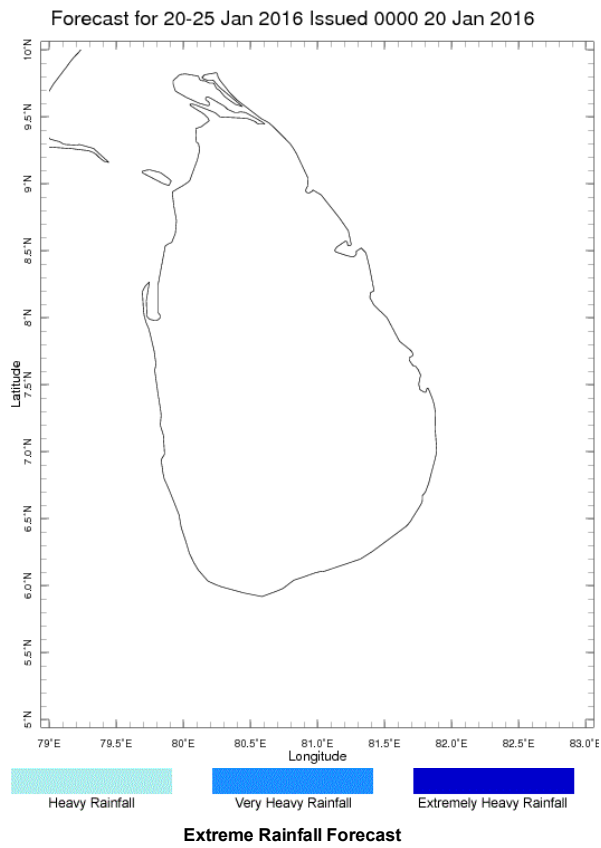


WRF MODEL FORECAST (72 HR.) RAINFALL(mm)\  
based on 00 UTC of 20-01-2016 valid for 03 UTC of 23-01-2016



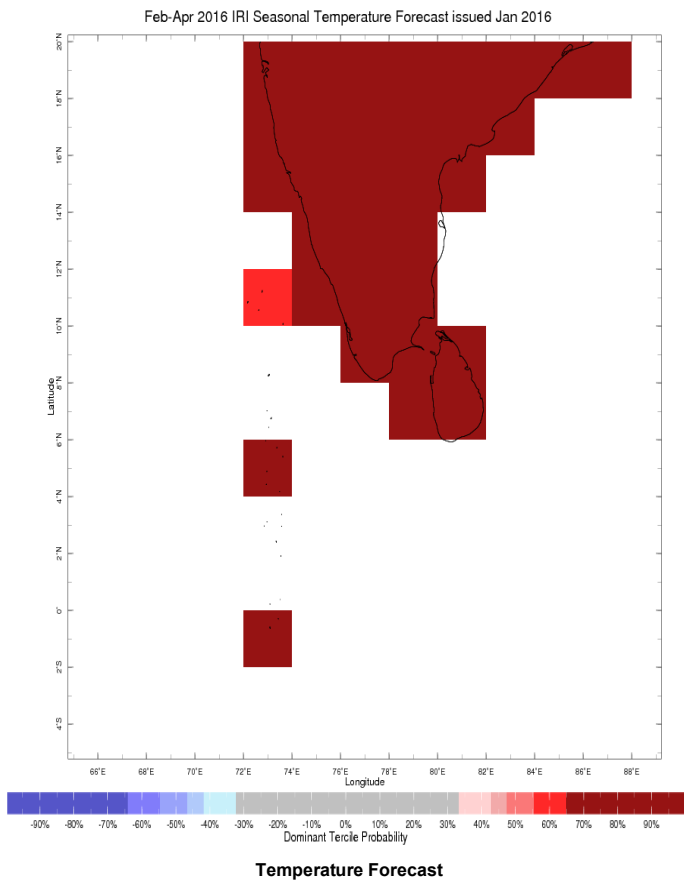
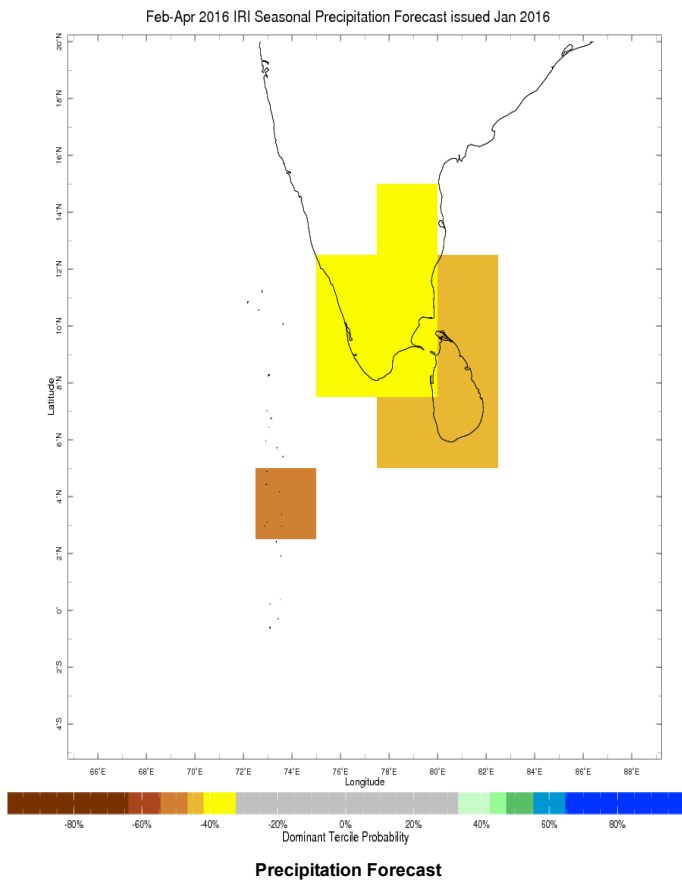
Weekly Rainfall Forecast

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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