

**30 October
2020**

EXPERIMENTAL CLIMATE MONITORING AND PREDICTION

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HIGHLIGHTS

Rainfall Prediction



• Between 5th-11th Nov: up to 65 mm rainfall will be experienced by the southwest of the island. Dry tendency can be expected in the coming month due to suppression to MJO and La Nina.

Monitored Rainfalls



• Between 21st - 27th Oct: up to 160 mm in Moneragala, Badulla, and Ratnapura districts on 27th Oct.

Monitored Wind



• From 21st - 27th Oct: up to 10 km/h northwesterly winds were experienced by the southern half of island.

Monitored Sea Surface

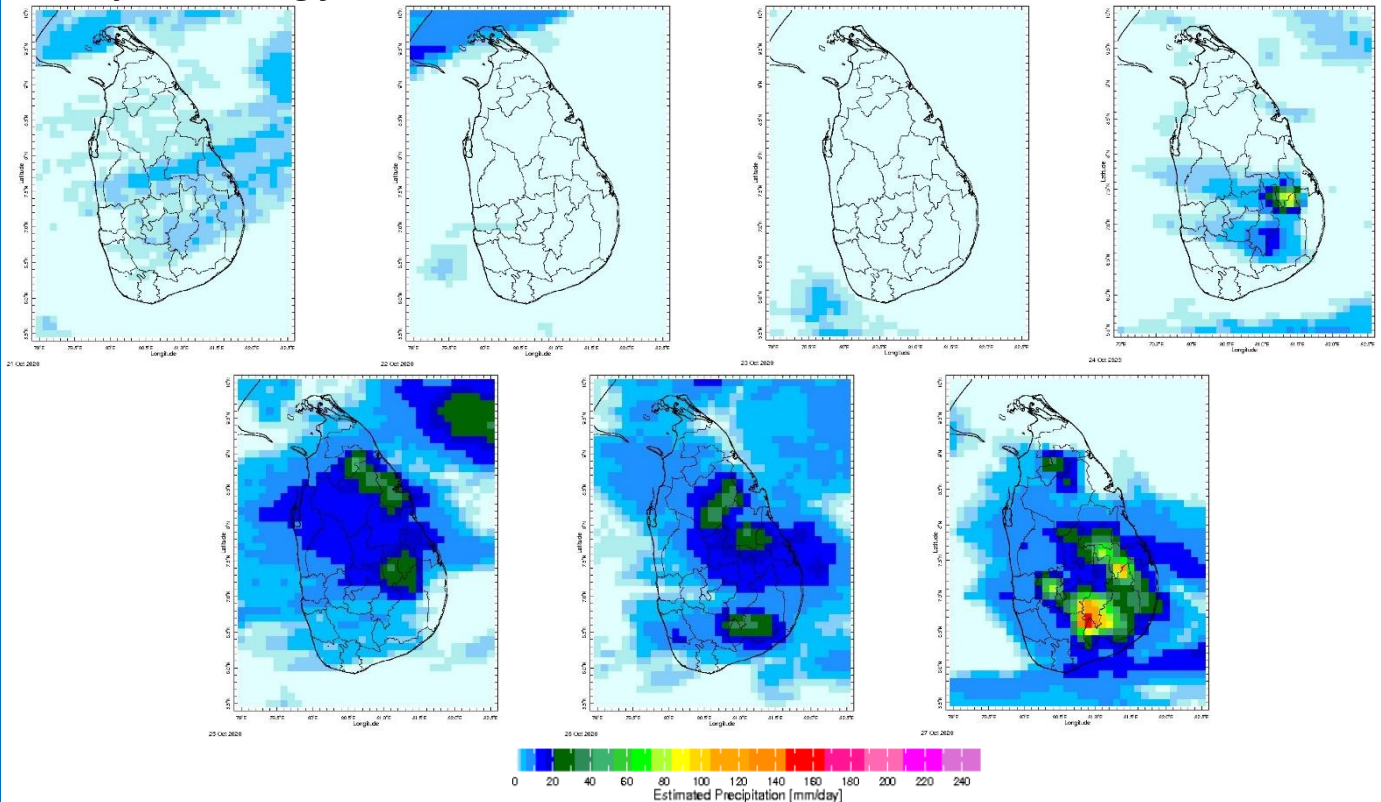


• Less than 0.5^oC above average sea surface temperature was observed in the seas around Sri Lanka.

Monitoring

Rainfall

Weekly Monitoring from 21st- 27th October





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Date	Daily Maximum Rainfall
21 st October	Up to 10 mm in Jaffna district.
22 nd October	Up to 10 mm in Jaffna district
23 rd October	No rainfall.
24 th October	Up to 90 mm in Moneragala and Ampara districts.
25 th October	Up to 50 mm in Vavuniya and Anuradhapura districts.
26 th October	Up to 40 mm in Anuradhapura, Polonnaruwa, Trincomalee, Moneragala, Badulla, and Ratnapura districts.
27 th October	Up to 160 mm in Moneragala, Badulla, and Ratnapura districts.

Total Rainfall for the Past Week

The RFE 2.0 tool shows total up to 150 – 200 mm in Moneragala, Badulla, Ratnapura and Ampara districts; up to 100 – 150 mm in Vavuniya and Anuradhapura districts; up to 75 -100 mm in Nuwara Eliya, and Polonnaruwa districts; up to 50 – 75 mm in Mannar, Mullaitivu, Trincomalee, Batticaloa, Matale, Kandy, Hambantota and Kurunegala; up to 25 – 50 mm in Gampaha, Kurunegala and Puttalam districts; up to 10 – 25 mm in Matara, Galle, Kalutara, Colombo and Jaffna districts; and up to 5 – 10 mm in Kilinochchi district.

Above rainfall average up to 50 – 100 mm in Moneragala, Badulla, Ratnapura and Ampara districts; up to 25 – 50 mm in Nuwara Eliya, Anuradhapura and Vavuniya districts; Below rainfall average up to 50 – 100 mm in Galle, Matara, Kalutara, Colombo, Gampaha, Kegalle, Kandy, Matale, Kurunegala, Puttalam, Batticaloa, Puttalam, Trincomalee, Mannar, Mullaitivu, Kilinochchi and Jaffna; and up to 25 – 50 mm in Hambantota district.

Monthly Monitoring

During September – Above average rainfall conditions up to 12 mm in Badulla and Moneragala districts; up to 8 mm in Mannar district; up to 5 mm in Ampara, Polonnaruwa, Batticaloa, Trincomalee, Anuradhapura, Kilinochchi, Mullaitivu, Vavuniya and Jaffna districts; up to 4 mm in Puttalam, Kurunegala, Gampaha, Matale, Kandy, Nuwara Eliya, Ratnapura and Hambantota districts; and up to 2 mm in Colombo, Kalutara, Galle, Matara and Kegalle districts.

Ocean State (Text Courtesy IRI)

Pacific sea state: October 21, 2020

Equatorial Eastern Pacific SST decreased to near the La Niña threshold in late-October, and the atmospheric variables were either ENSO-neutral or indicative of weak La Niña conditions. The average of the forecasts of many models just short of the borderline of weak La Niña SST conditions through fall, becoming slightly weaker beginning in early winter.

Indian Ocean State

Less than 0.5 °C above average sea surface temperature was observed in the seas around Sri Lanka.



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Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 29th October – 4th November: Total rainfall up to 55 mm in Galle, Ratnapura, Kegalle and Colombo districts; up to 45 mm in Matara, Nuwara Eliya and Gampaha districts; up to 35 mm in Hambantota, Moneragala, Badulla, Puttalam, Kurunegala and Kandy districts; up to 25 mm in Matale, Ampara, Batticaloa, Polonnaruwa, Anuradhapura and Trincomalee districts; and up to 15 mm in Vavuniya, Mullaitivu and Jaffna districts.

From 5th – 11th November: Total rainfall up to 65 mm in Galle, Ratnapura, Kegalle, Gampaha and Colombo districts; up to 55 mm Nuwara Eliya, Kurunegala, Kandy and Puttalam districts; up to 45 mm in Matara and Matale districts; up to 35 mm in Hambantota, Moneragala, Ampara, Badulla, Batticaloa, Polonnaruwa, Anuradhapura, Trincomalee, Vavuniya, Kilinochchi, Mullaitivu and Jaffna districts; and 25 mm in Mannar district.

NOAA Model Forecast:

From 24th – 29th September: Total rainfall up to 75 mm in Badulla district; up to 50 mm in Ampara, Moneragala, Ratnapura, Nuwara Eliya, Kandy, Matale, Polonnaruwa, Anuradhapura, Batticaloa, Trincomalee, Vavuniya, Mullaitivu, Kilinochchi and Jaffna districts; and up to 25 mm in Mannar, Puttalam, Kurunegala, Kegalle, Gampaha, Colombo, Kalutara, Galle, Matara and Hambantota districts.

MJO based OLR predictions

For the next 15 days:

MJO shall significantly suppress during 28th oct – 6th Nov and slightly suppress during 7th – 11th Nov.

¹ International Research Institute for Climate and Society, Columbia University Water Center, Earth Institute at Columbia University, New York.



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Weekly Climate Bulletin - Sri Lanka

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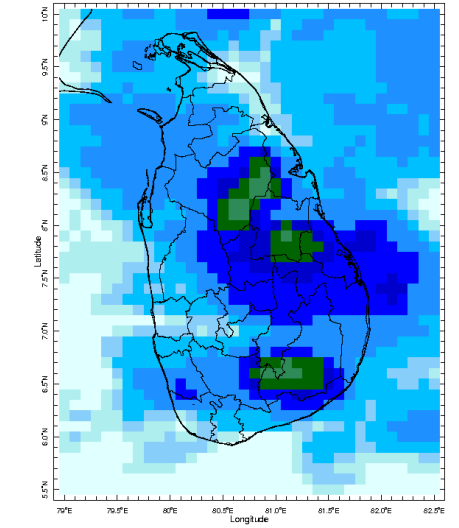
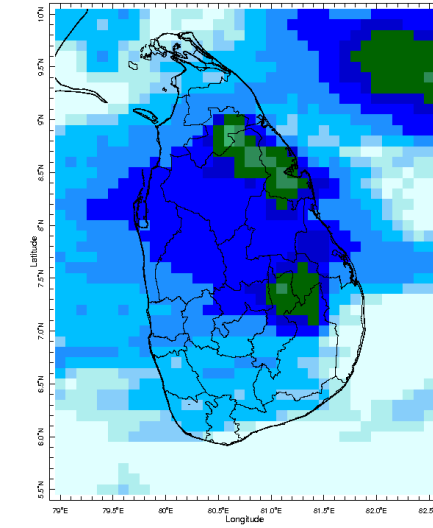
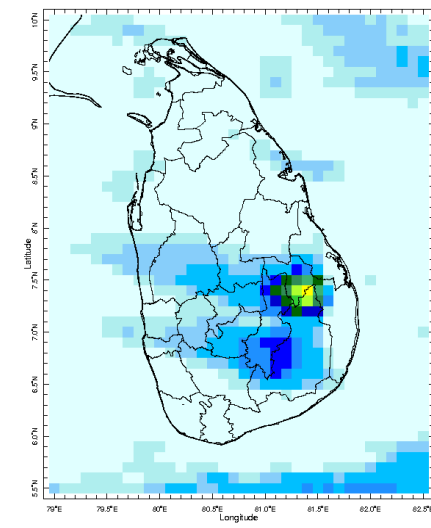
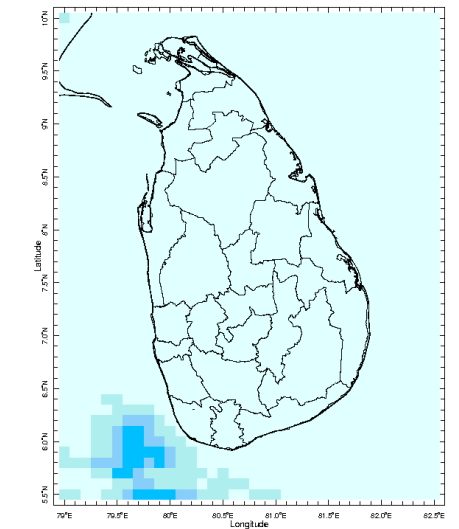
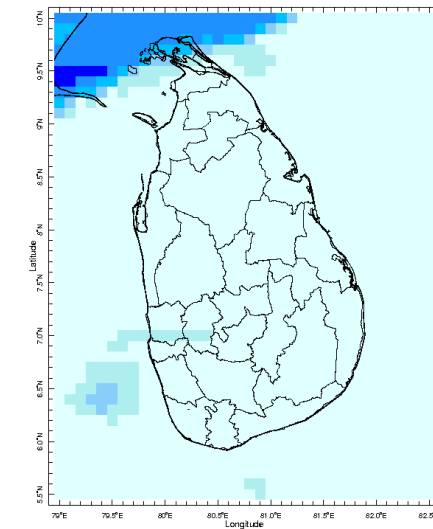
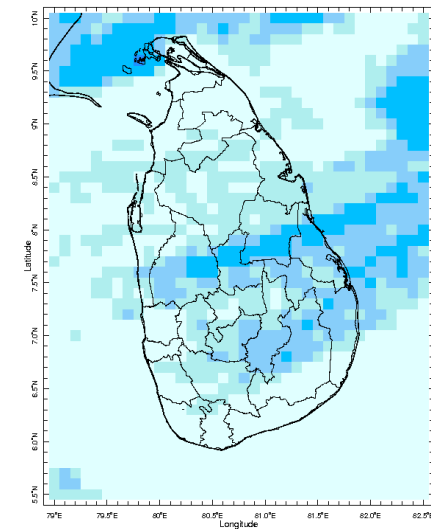
1. **Monitoring**
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 - c. Monthly Rainfall Monitoring
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 - e. Weekly Temperature Monitoring
 - f. Weekly Wind Monitoring
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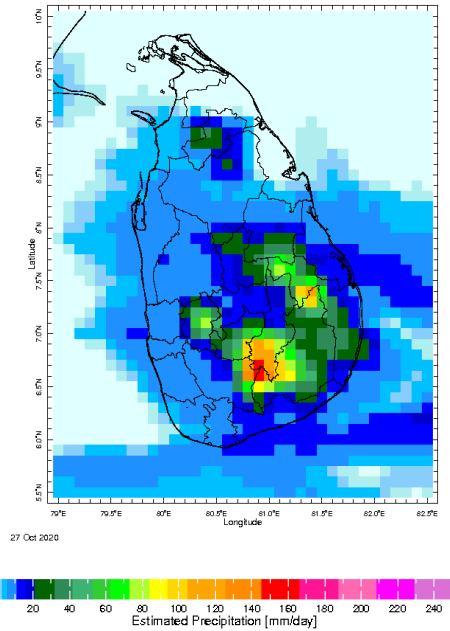


MONITORING

Daily Rainfall Monitoring

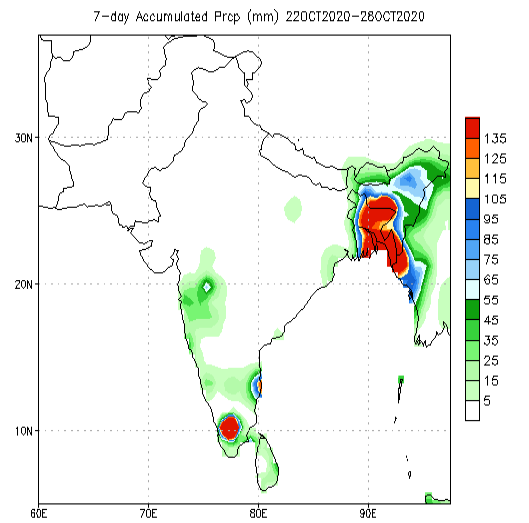
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



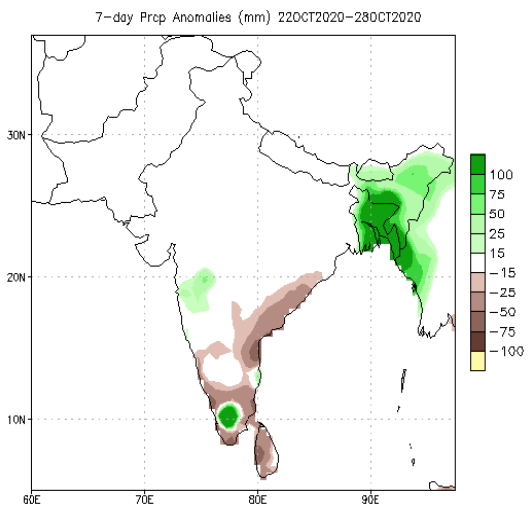
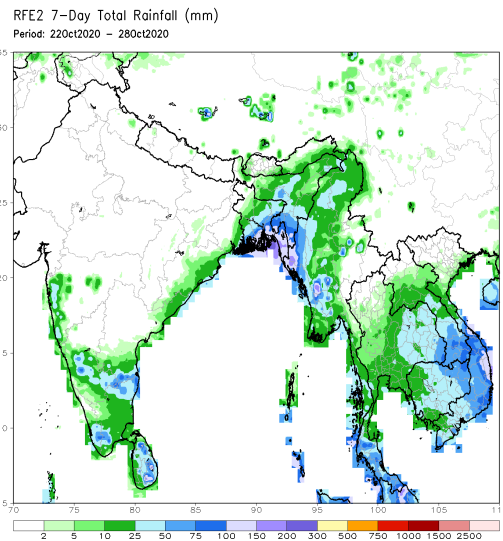


Weekly Rainfall Monitoring

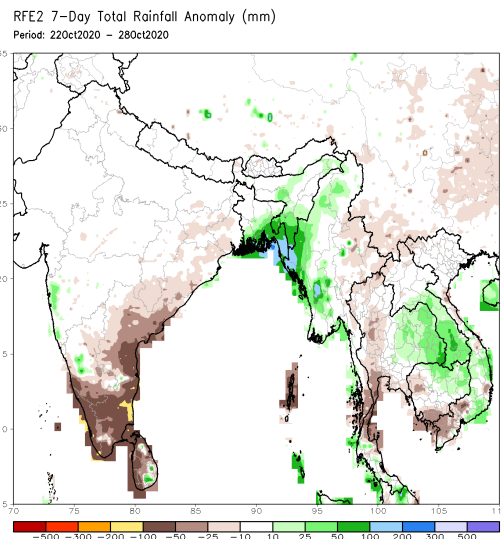
The following figures show the total satellite observed rainfall in the last week in Sri Lanka. The figure in the left is the total 7-day rainfall from NOAA Climate Prediction Center (CPC) Unified Precipitation Analysis and the figure in the right is the total 7-day rainfall from CPC RFE 2.0 Satellite Rainfall Estimates. The bottom two figures are the respective anomalies.



Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis

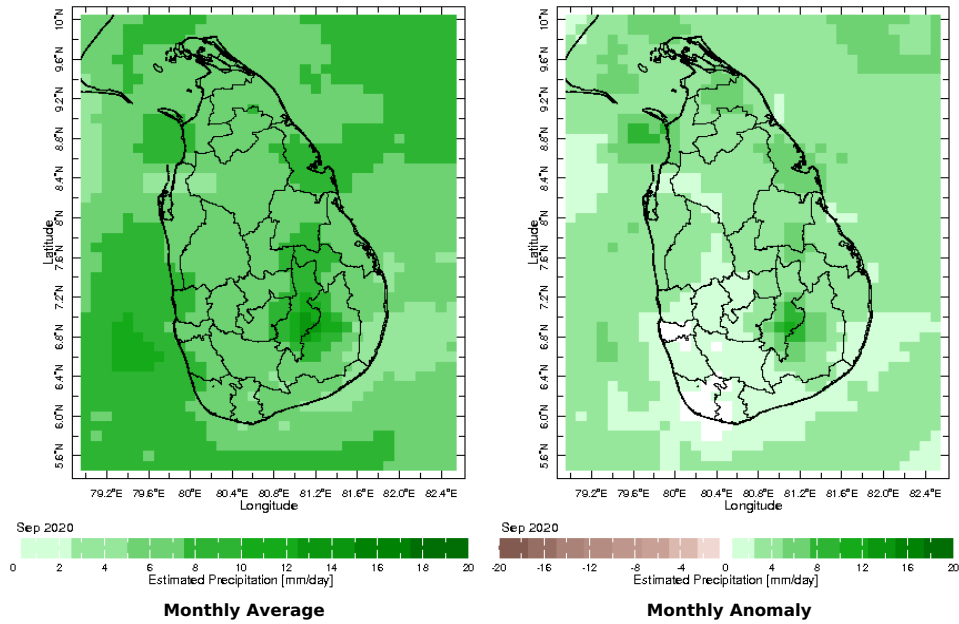


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Climatology (1981-2010)

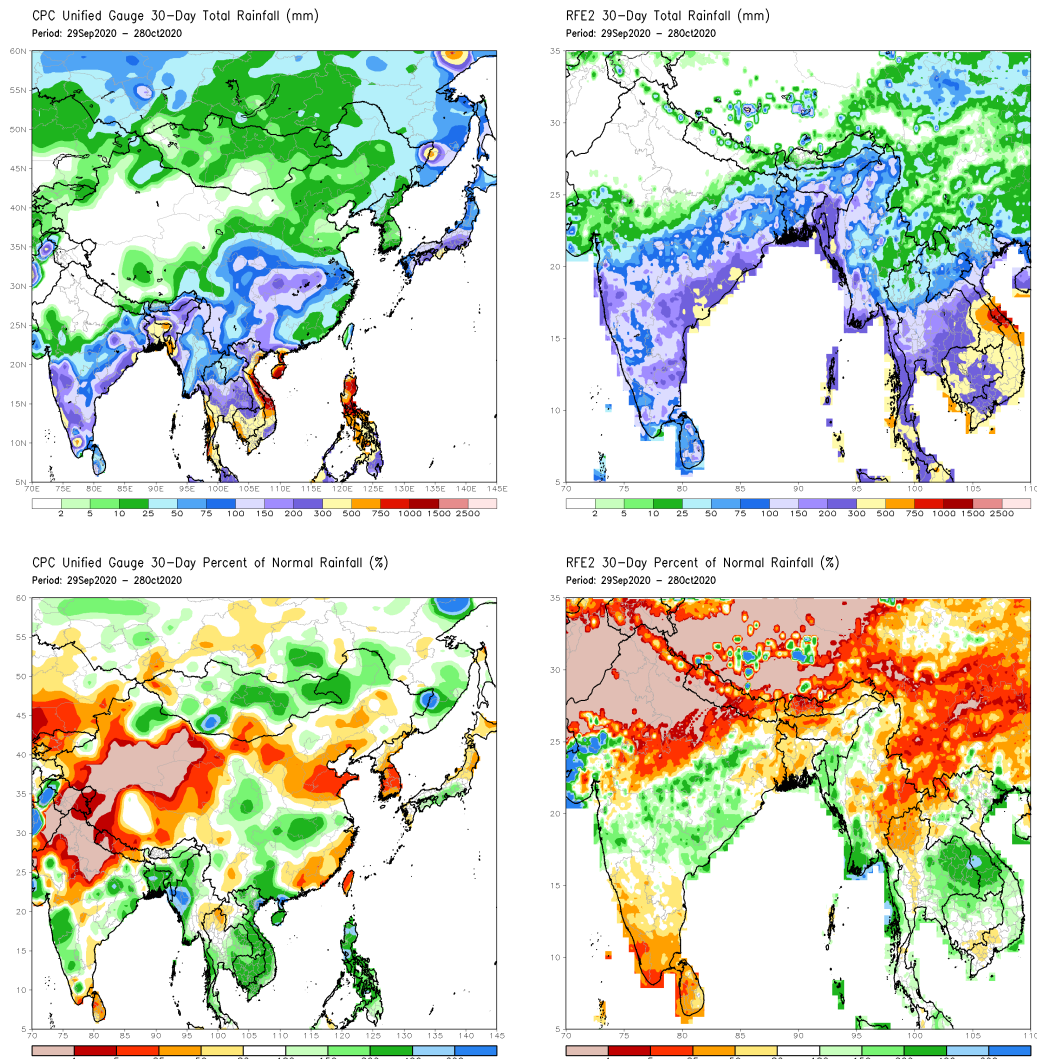


Monthly Rainfall Monitoring

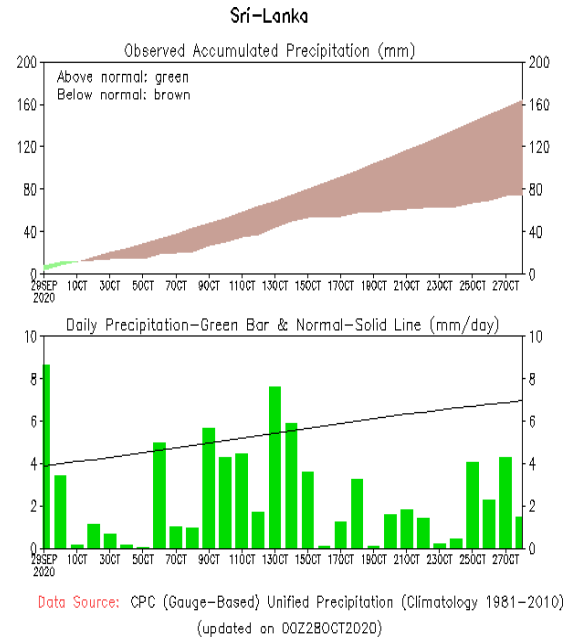
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



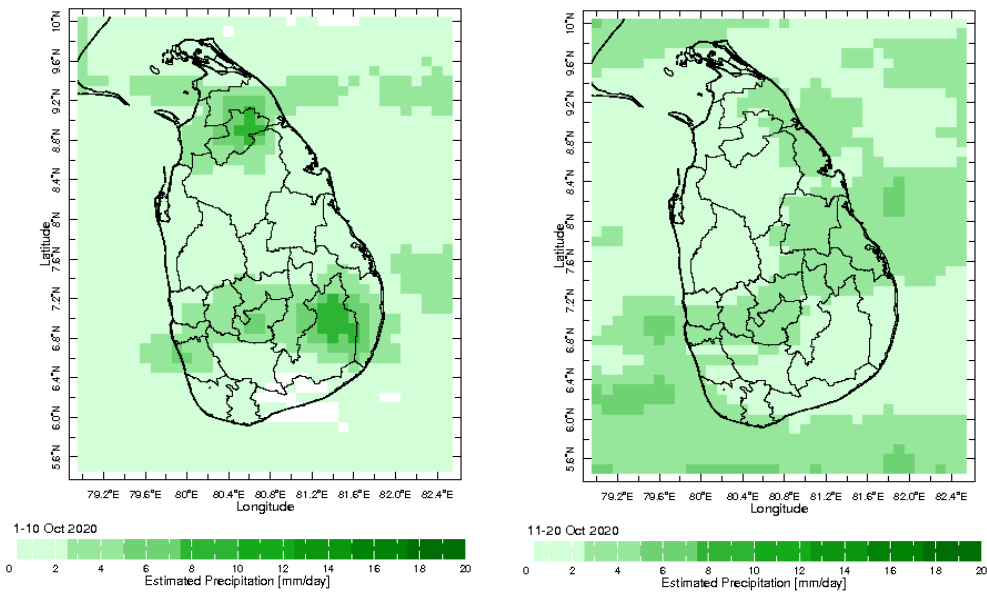
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in the past 30 days compared to normal rainfall in this period.



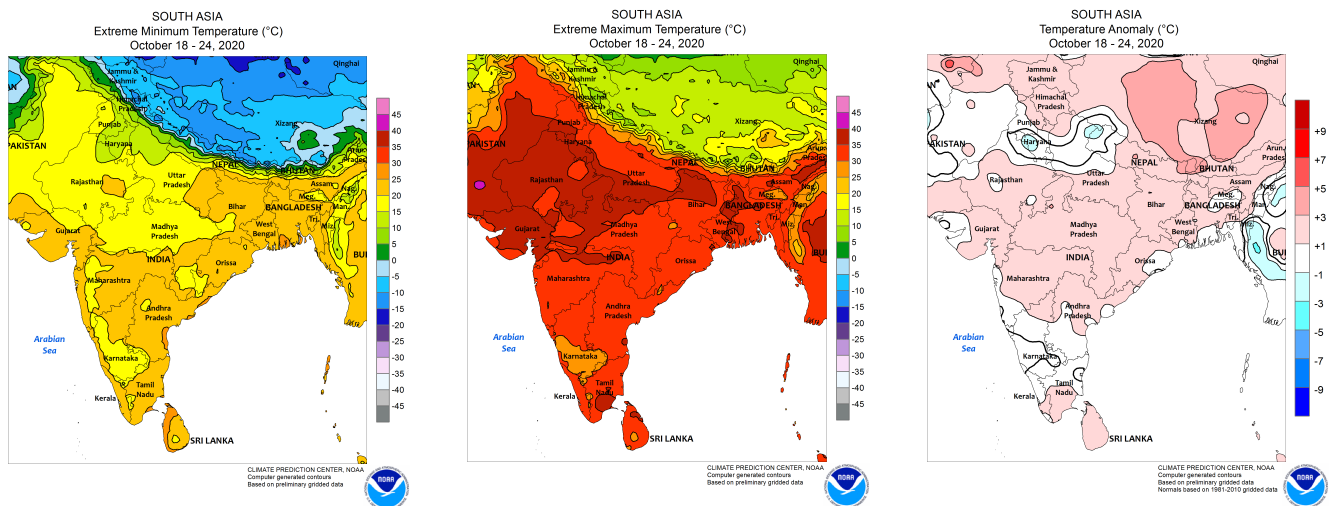
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

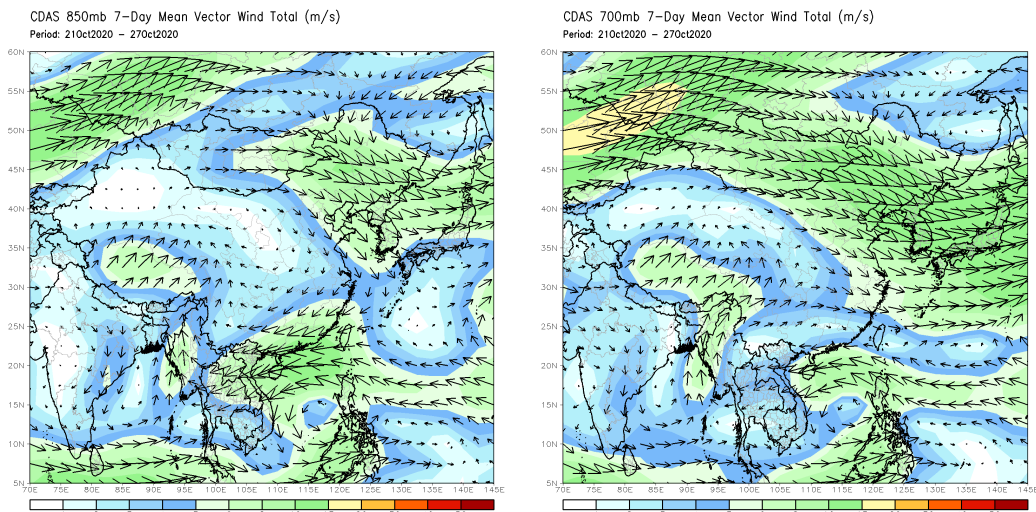


Weekly Temperature Monitoring



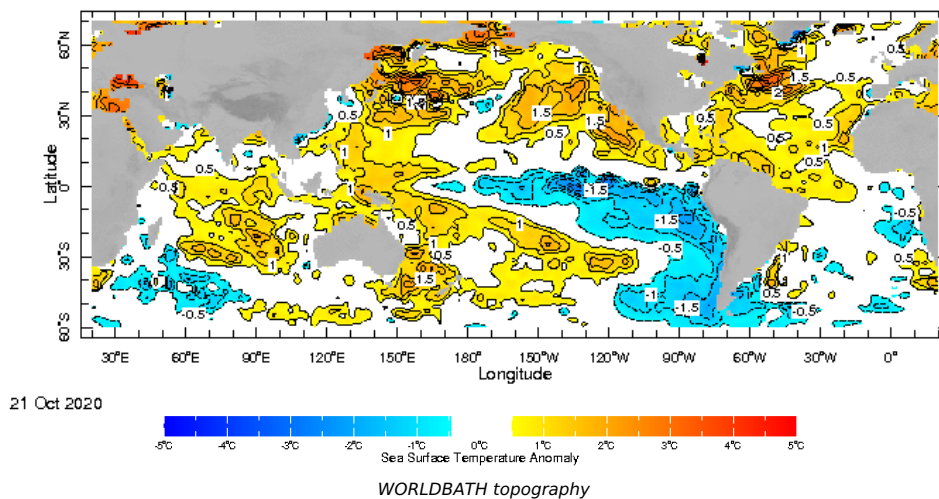
Weekly Wind Monitoring

The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.

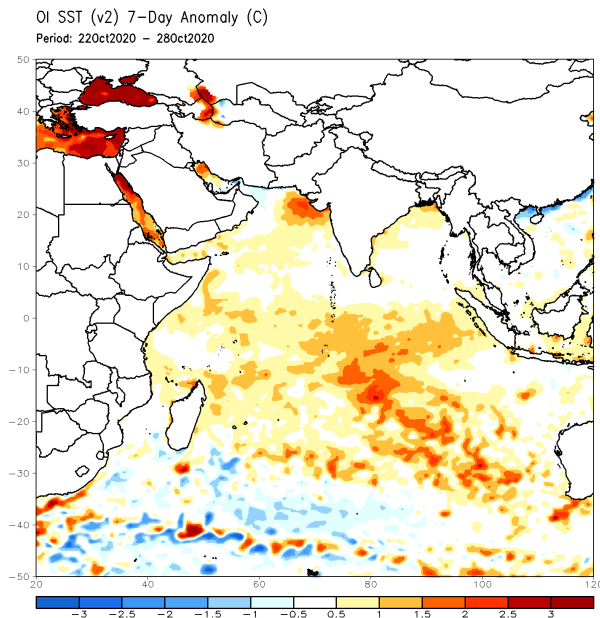


Weekly Average SST Anomalies

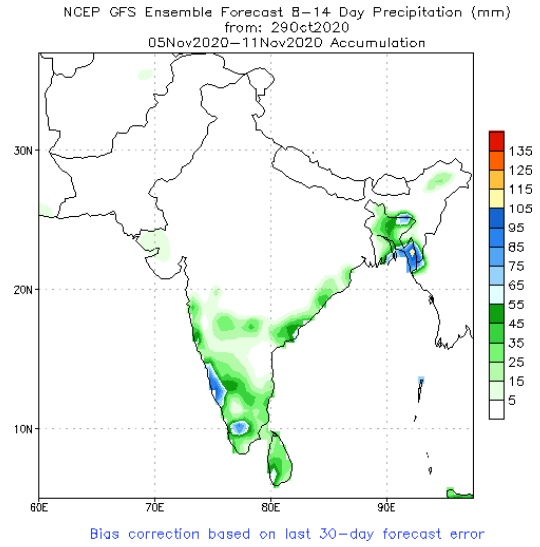
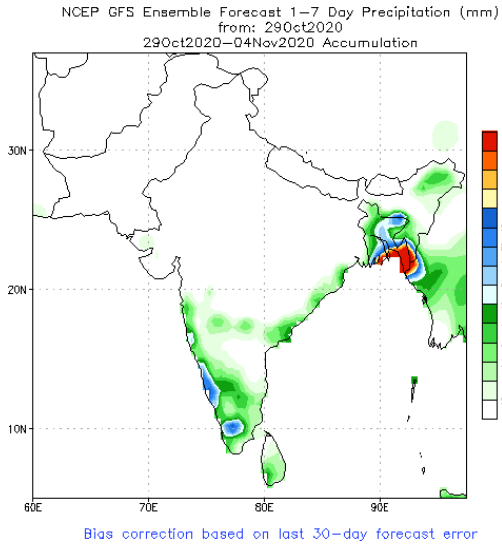
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



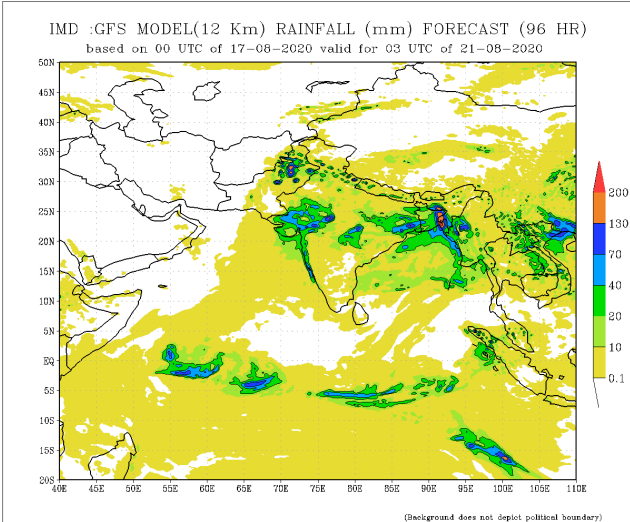
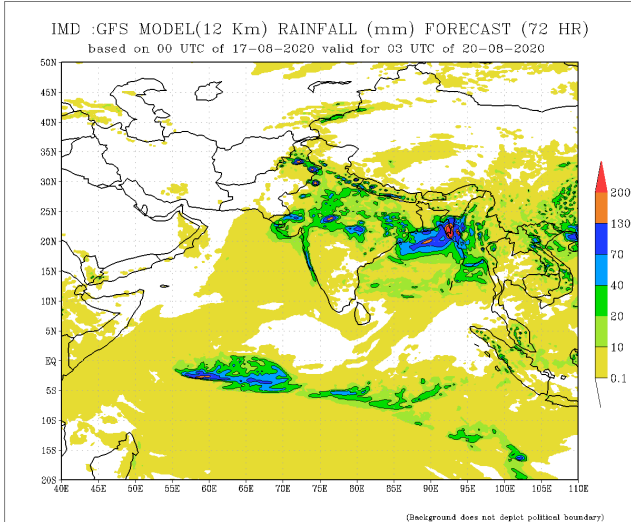
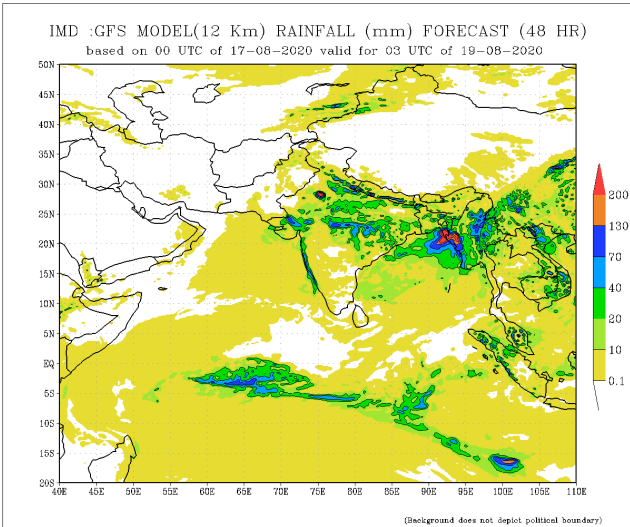
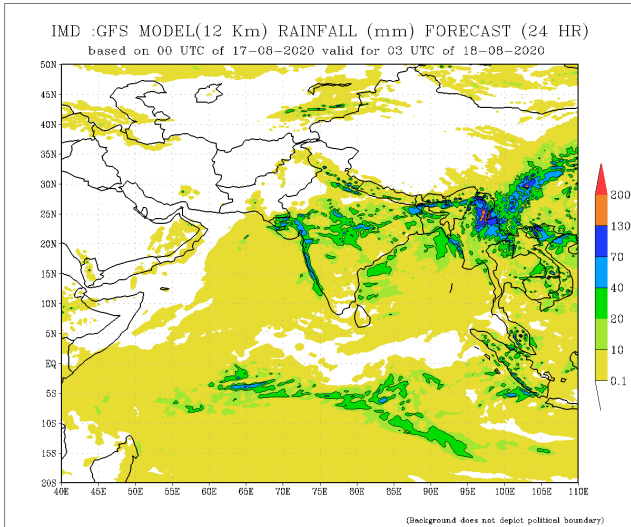
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

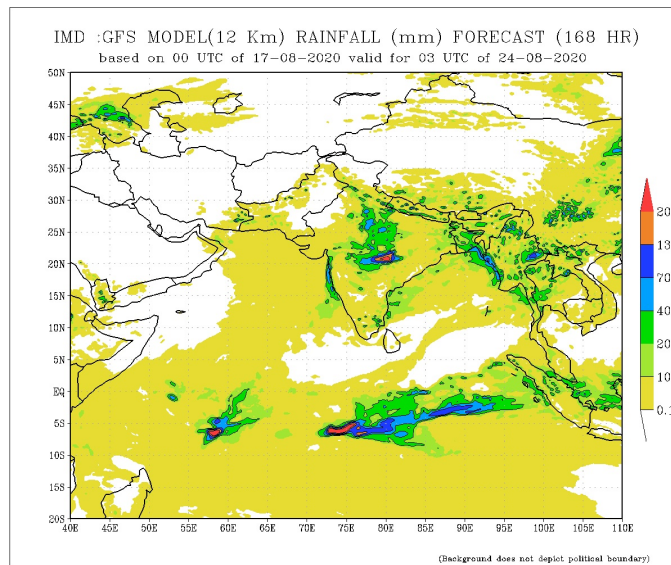
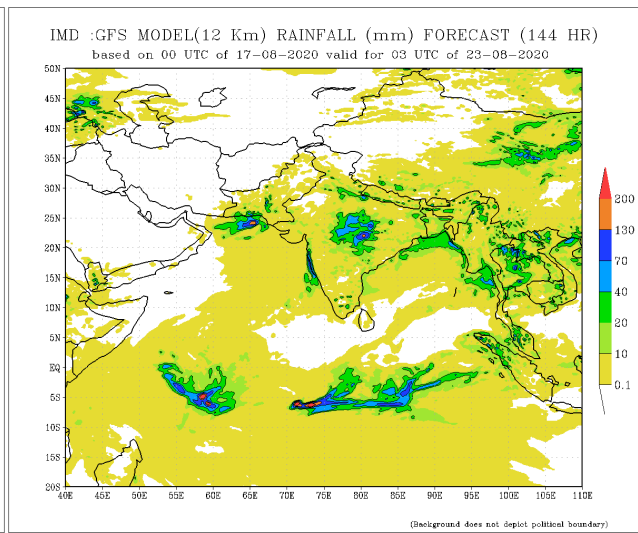
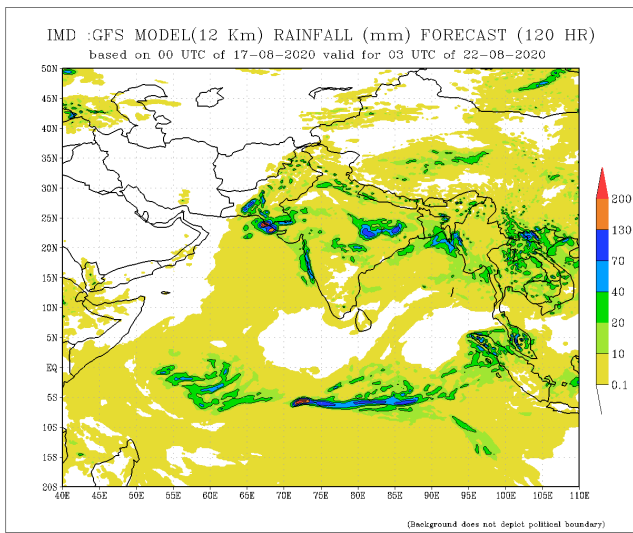


NCEP GFS 1- 14 Day prediction



IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

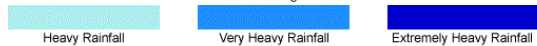
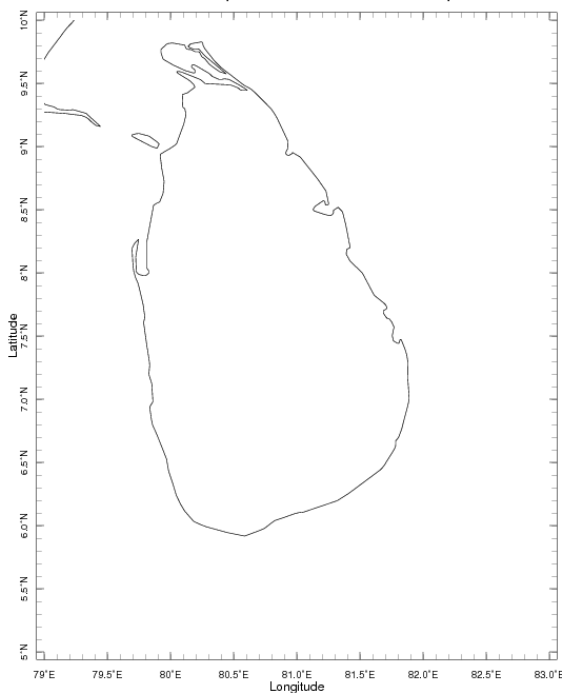




Weekly Rainfall Forecast from IRI

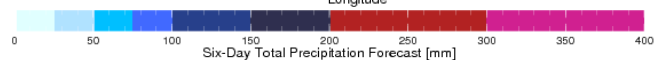
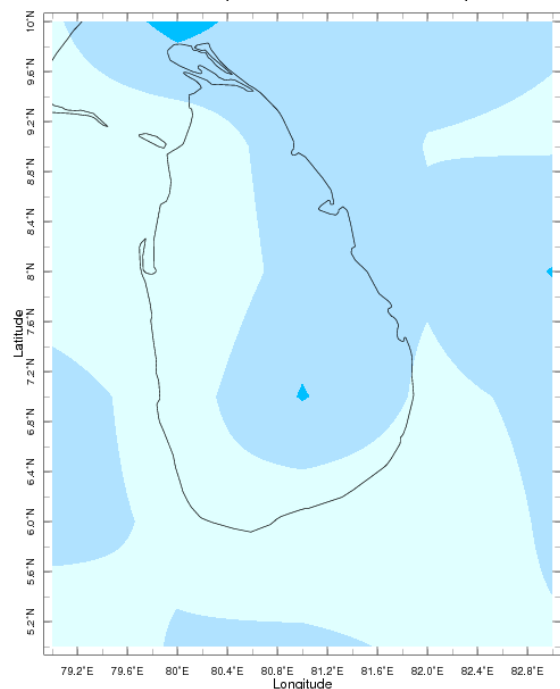
Total rainfall forecast from the IRI for next six days is provided in figures below. The figure to the left shows the expectancy of heavy rainfall events during these six days while the figure to the right is the prediction of total rainfall amount during this period.

Forecast for 24-29 Sep 2020 Issued 0000 24 Sep 2020



Extreme Rainfall Forecast

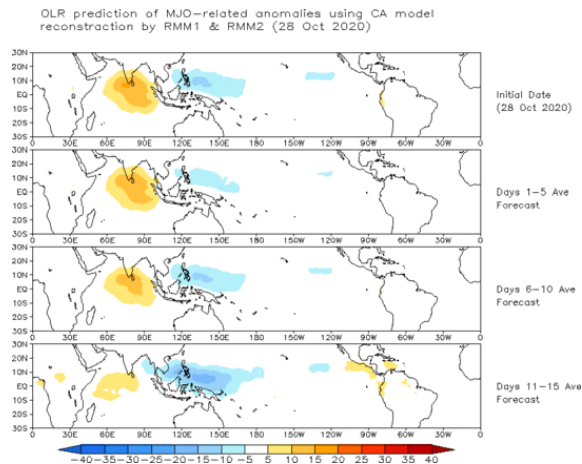
Forecast for 24-29 Sep 2020 Issued 0000 24 Sep 2020



Total Six Day Precipitation Forecast

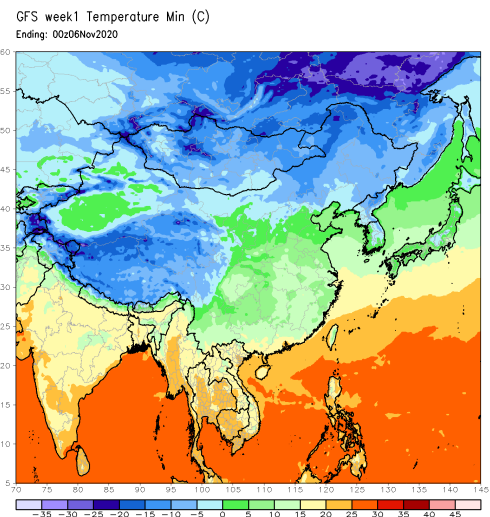
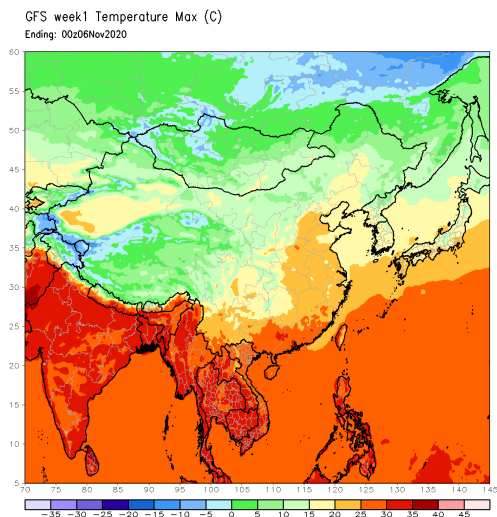
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated anomolous OLR for the next 15 days from the Constructed Analogue (CA) model forecasts.



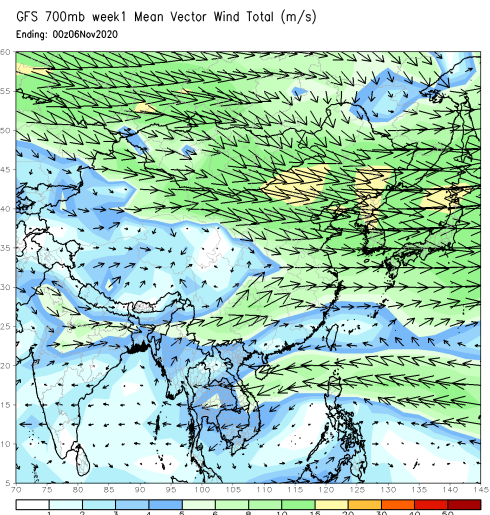
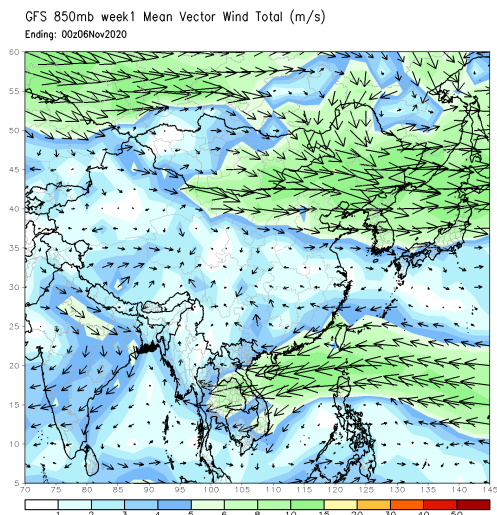
Weekly Temperature Forecast

Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)



Weekly Wind Forecast

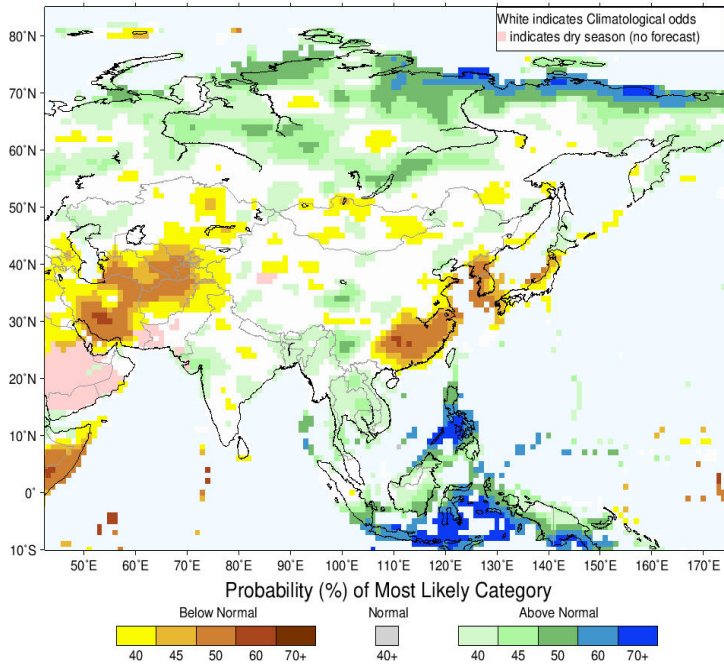
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



Seasonal Rainfall and Temperature Forecast

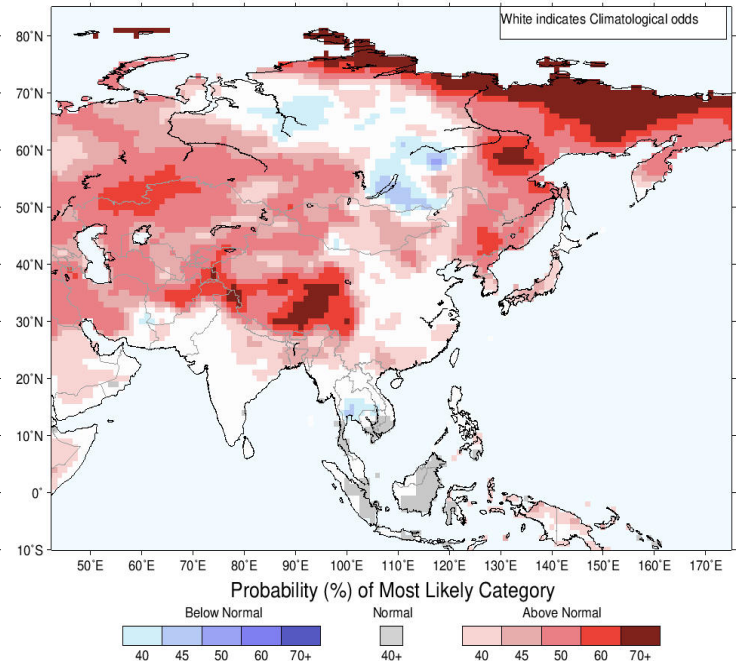
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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%).

IRI Multi-Model Probability Forecast for Precipitation for October–November–December 2020, Issued September 2020



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for October–November–December 2020, Issued September 2020



Temperature Forecast

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