26 AUGUST 2022

# CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

## HIGHLIGHTS

**Rainfall Prediction**

- *Heavy rainfall is predicted for central and sabaragamuwa provinces and less rainfall is expected for the rest of the country during 26th - 31st August.*

**Monitored Rainfalls**

- *During the last week,the average daily rainfall over Sri Lanka was 1.9 mm and hydro catchment areas have received 6.8 mm on average.*

**Monitored Wind**

- *From 16th- 22nd August, westerly to south-westerly of 10m/s winds were experienced at 850 mb level over the island. Upto 10m/s of south-westerlies expected for the next week.*

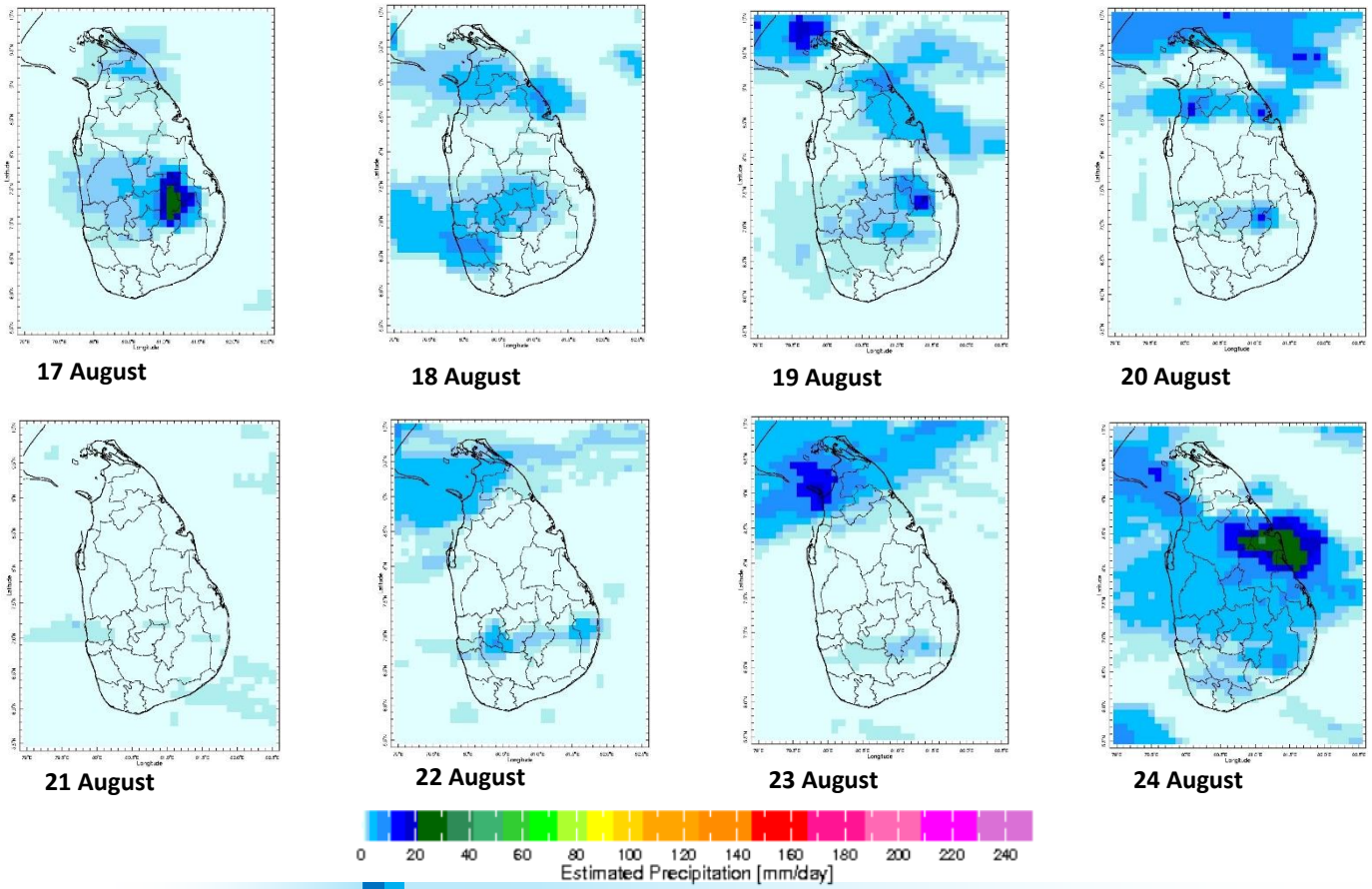
**Monitored Sea & Land Temp**

- *Sea surface temperature around Sri Lanka was above 0.5 ℃ to the north and south of Sri Lanka. Land surface temperature remained near normal.*

## Monitoring

### Rainfall

***Daily Estimates for Rainfall from 17th August – 24th August 2022***





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## Ocean State *(Text Courtesy IRI)*

***Pacific sea state: August 17, 2022***

Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean in mid-August. The tropical Pacific atmosphere is consistent with La Niña. A large majority of the models indicate, a La Niña is favored to continue through 2022 with the odds for La Niña decreasing into the Northern Hemisphere late summer (July - September 2022) before increasing through the Northern Hemisphere fall and early winter 2022.

***Indian Ocean State***

Sea surface temperature around Sri Lanka was above 0.5℃ to the north and south of Sri Lanka. Across the Indian Ocean, a classical negative Indian Ocean Dipole prevails as is typical during a La Niña.

# Predictions

## Rainfall

***14-day prediction: NOAA NCEP models***

**From 25th August – 31st August:**

Total rainfall by Provinces:

| Rainfall | Provinces |
|---|---|
| > 100 mm | Central, Sabaragamuwa |
| 95 mm | Southern, Western, Uva |
| 85 mm | Eastern |
| 75 mm | North-central, North-western, Northern |

**From 1st September – 7th September:**

Total rainfall by Provinces:

| Rainfall | Provinces |
|---|---|
| 85 mm | Sabaragamuwa, Central |
| 75 mm | Western |
| 65 mm | Southern, Uva, North-western |
| 55 mm | Eastern |
| 45 mm | North-central, Northern |

## MJO based OLR predictions

***For the next 15 days:***

MJO shall slightly enhance the rainfall during 25th August - 8th September.

# Interpretation

## Monitoring

***Rainfall:*** During the last two weeks, there had been fairly heavy rainfall over the following area: Nuwara Eliya

Daily Average Rainfall in the Met stations for previous week of (17th Aug - 24th Aug) = 1.9 mm
Rmax: 29.3 mm & Rmin: 0.0 mm.

| Region | Average rainfall for the Last 8 days |
|---|---|
| Northern Plains | 2.4 mm |
| Eastern | 1.3 mm |
| Western | 2.8 mm |
| Southern Plains | 0.0 mm |

The Hydro Catchment Areas recorded 6.8 mm of average rainfall for the last week
Rmax: 96.5 mm & Rmin: 0.0 mm.

***Wind:*** Westerly to South-westerly winds prevailed in the sea area and around the island last week.

***Temperatures:*** The temperature anomalies were above normal for the Sabaragamuwa and Central provinces, driven by the warm SST's.

## Predictions

***Rainfall:*** During the next week (26th - 31st August) heavy rainfall is predicted for Central and Sabaragamuwa provinces and fairly heavy rainfall is expected for the rest of the country.

***Temperatures:*** The temperature will remain slightly above normal to the East and North of the island during 26th August – 1st September.

***Teleconnections:***

La Niña - La Niña is favored to continue through 2022 with the odds for La Niña decreasing into the Northern Hemisphere late summer (July-September 2022) before increasing through the Northern Hemisphere fall and early winter 2022.

MJO shall slightly enhance the rainfall during 25th August - 8th September.

***Seasonal Precipitation:***

The precipitation forecast for the September-October-November season shows a higher tendency for below-normal precipitation for the country.

**Terminology for Rainfall Ranges**

| | Rainfall (During 24 hours of period) |
|---|---|
| Light Showers | Less than 12.5 mm |
| Light to Moderate | Between 12.5 mm and 25 mm |
| Moderate | Between 25 mm and 50 mm |
| Heavy | Between 50 mm and 100 mm |
| Heavy | Between 100 mm and 150 mm |
| Very Heavy | More than 150 mm |

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# Weekly Climate Bulletin for Sri Lanka

## Inside This Issue



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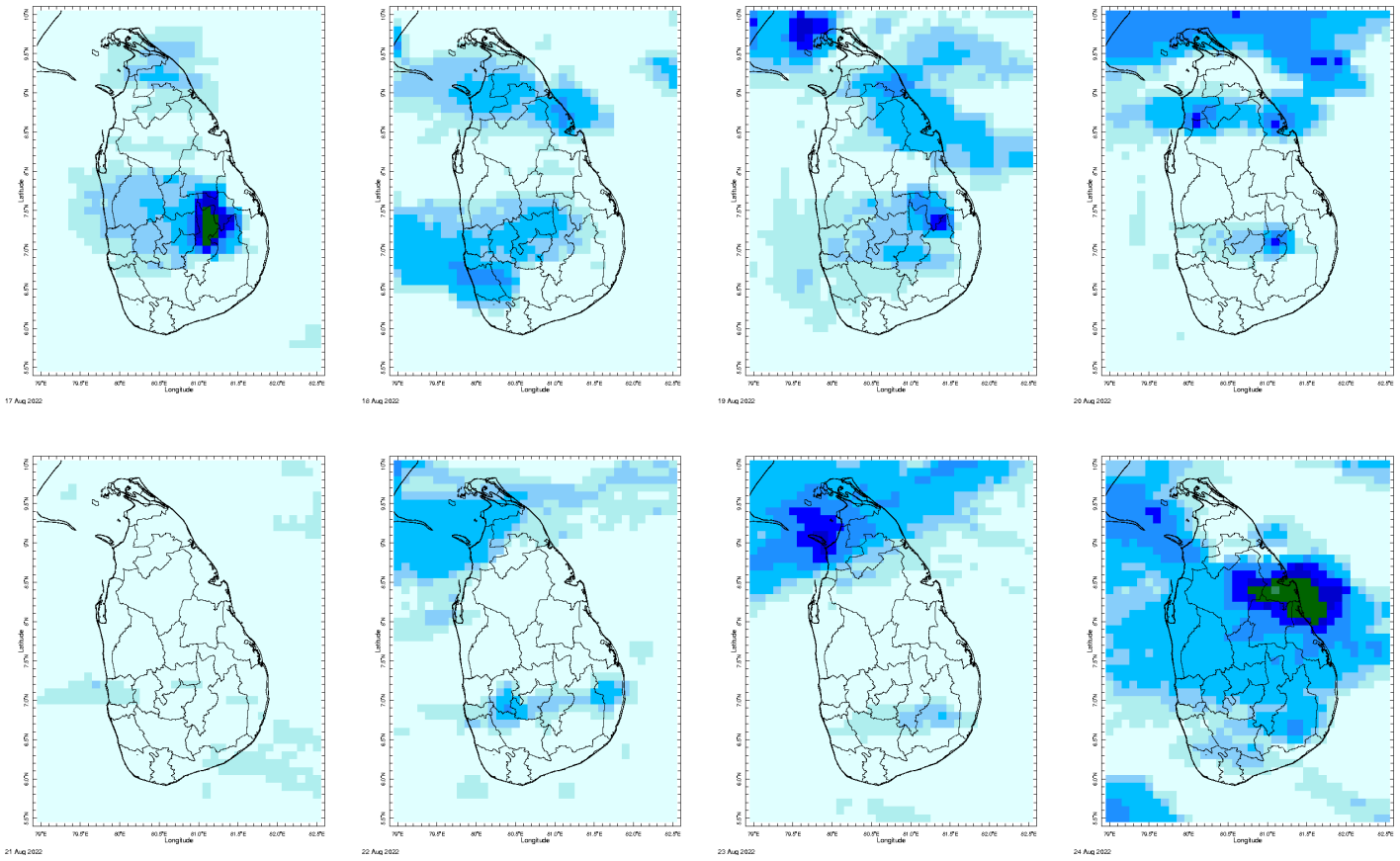
## MONITORING

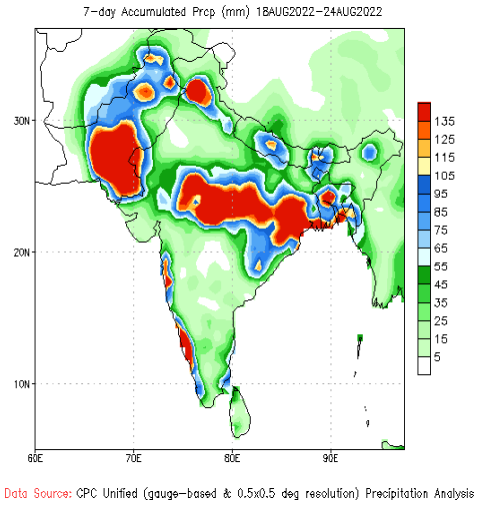
### Daily Rainfall Monitoring

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

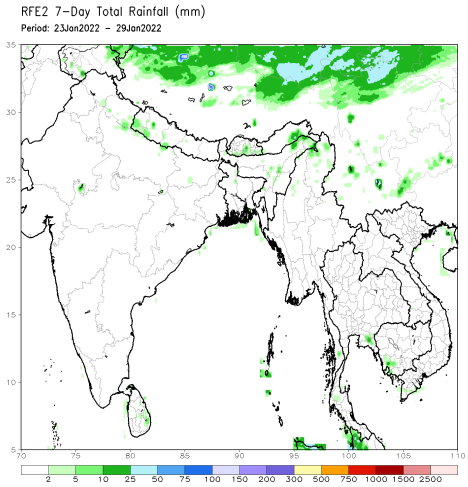


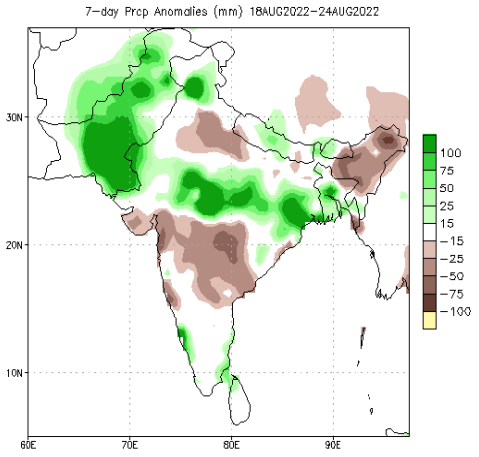
## Weekly Rainfall Monitoring

**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.**

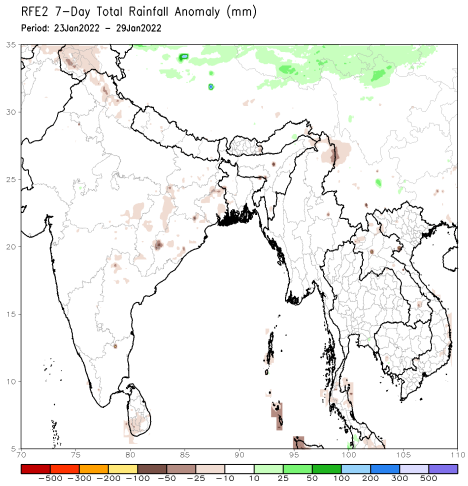



Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



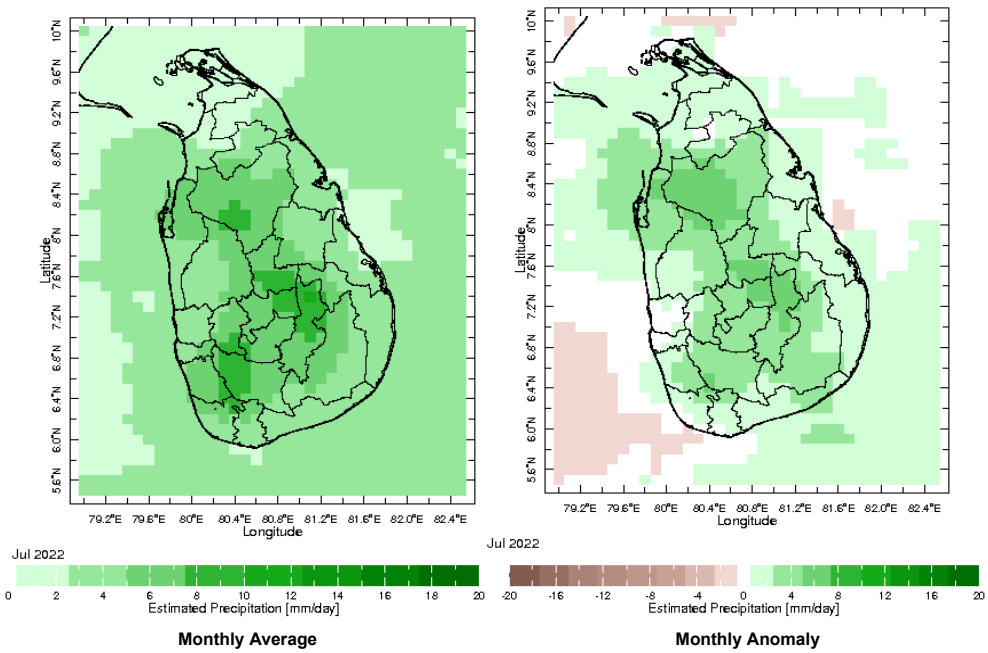




Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis
Climatology (1991-2020)



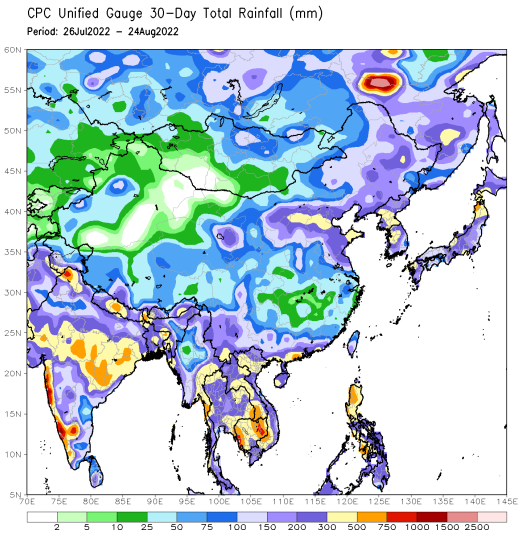

## Monthly Rainfall Monitoring

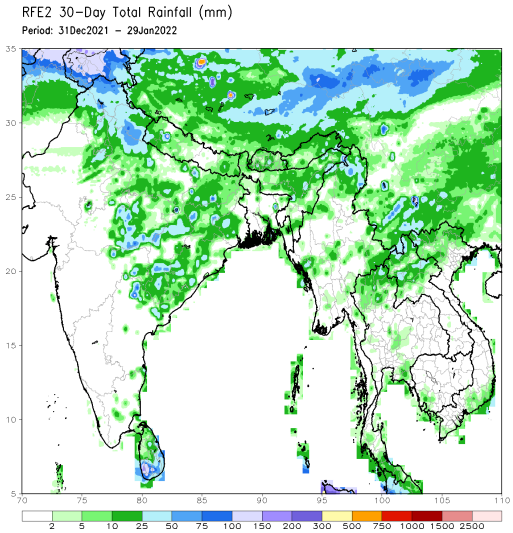
**The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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

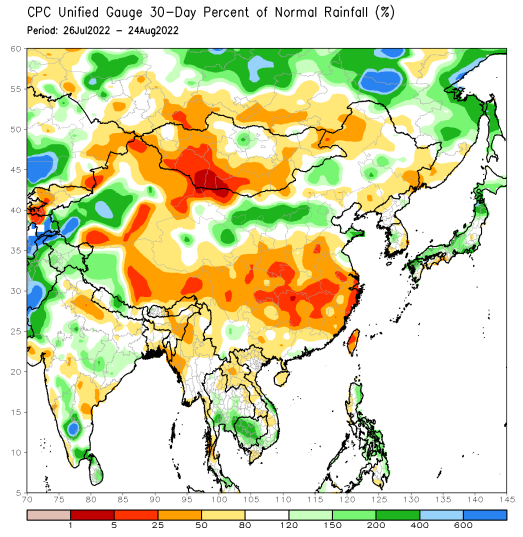


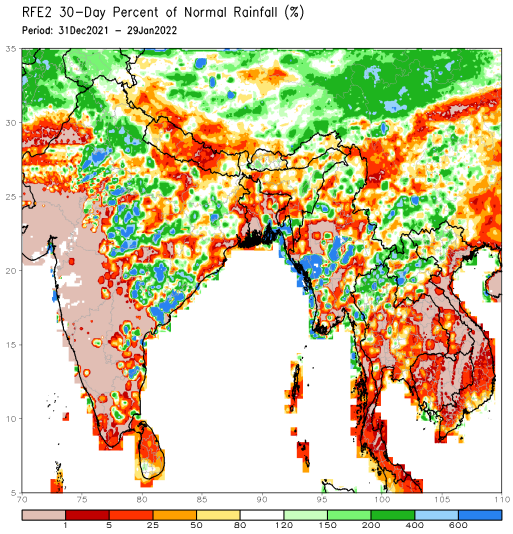

**Monthly Average** **Monthly Anomaly**

**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.**

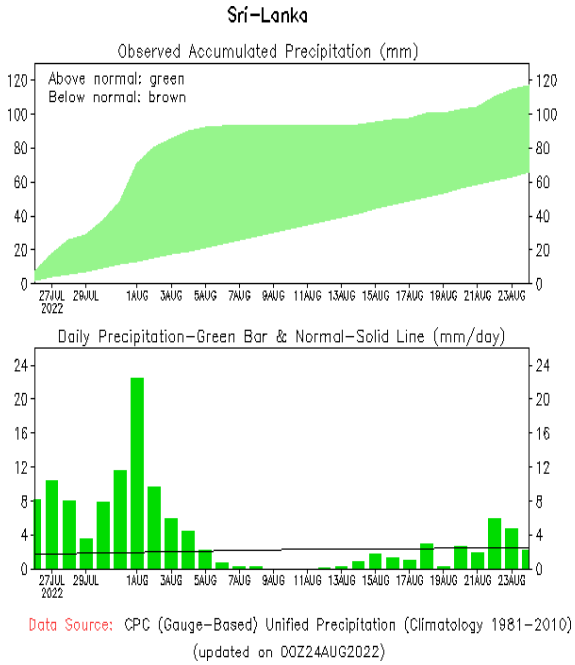


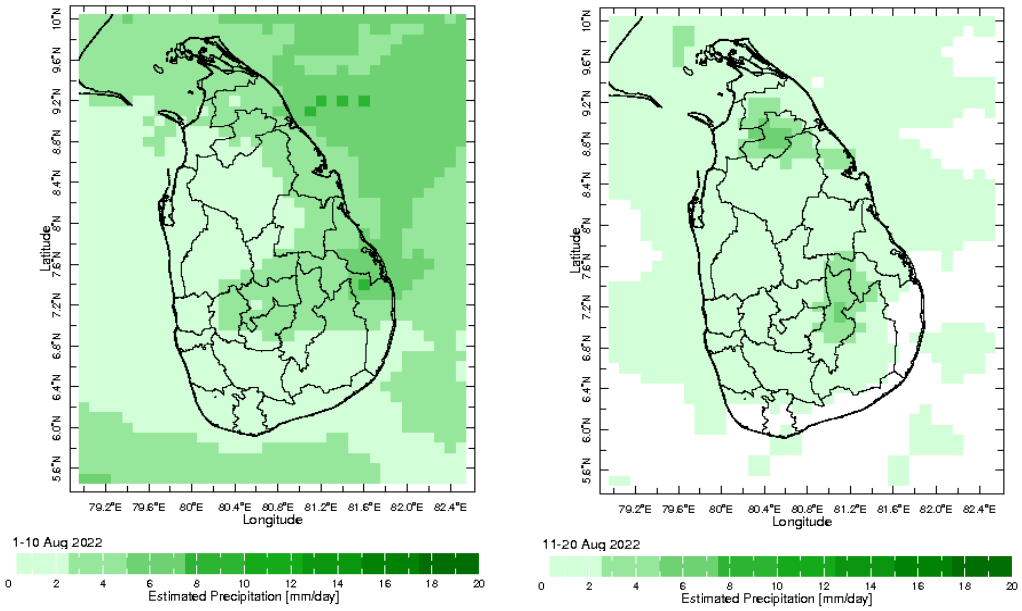



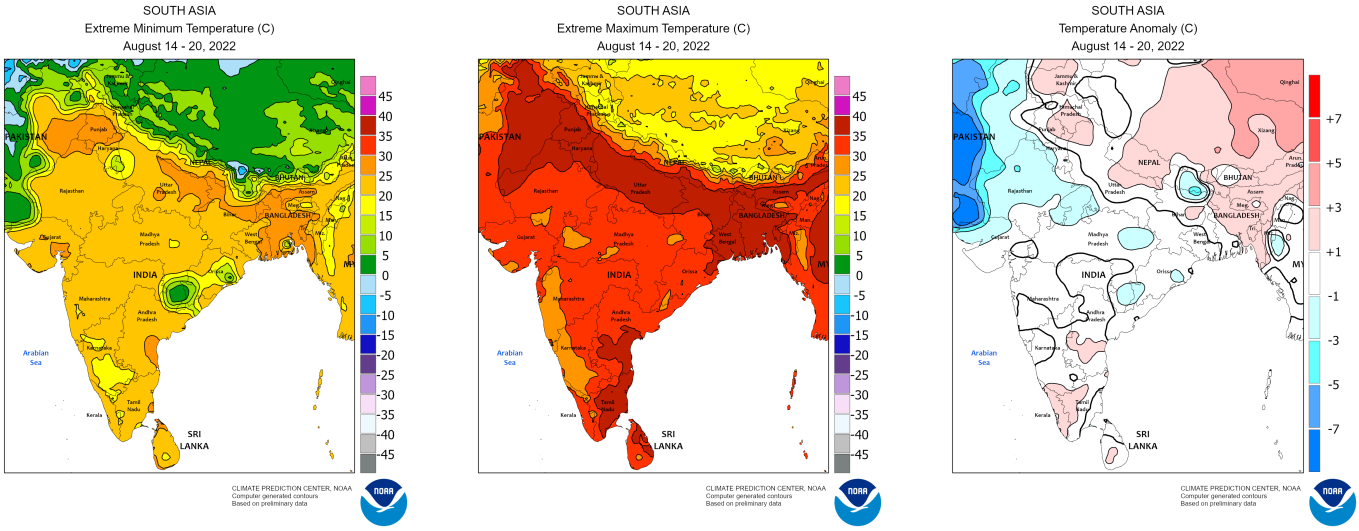

**The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.**



## Dekadal (10 Day) Satellite Derived Rainfall Estimates

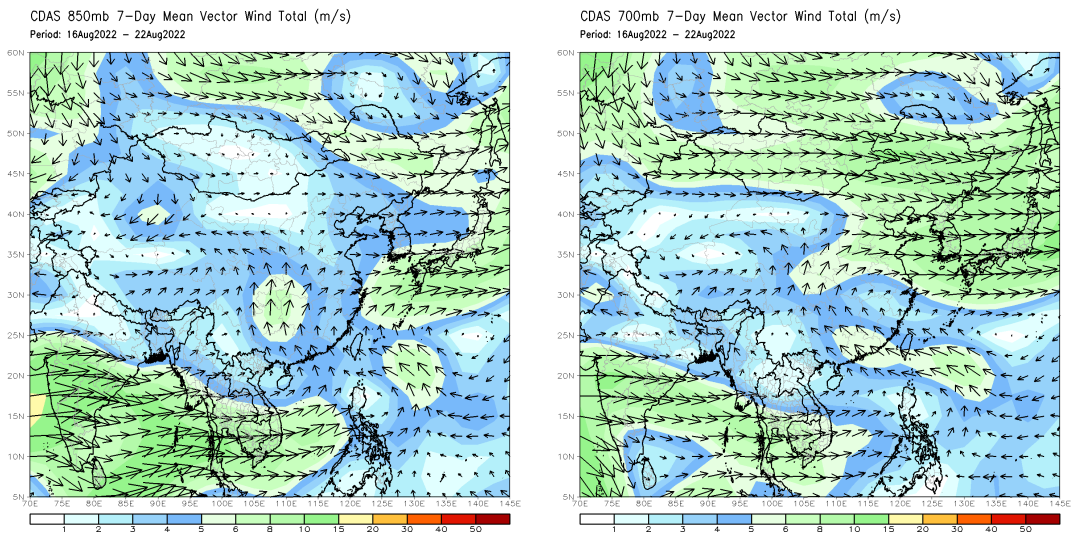



## Weekly Temperature Monitoring



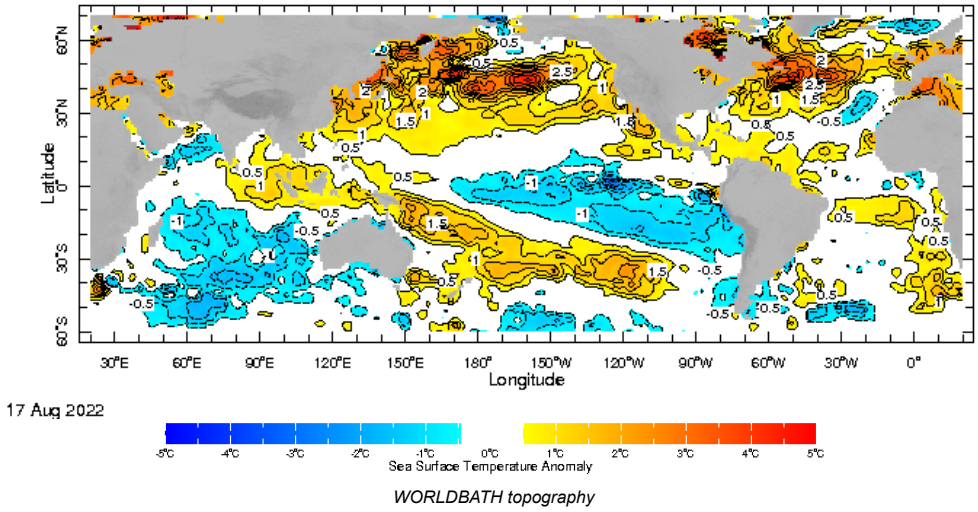

## Weekly Wind Monitoring

**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.**

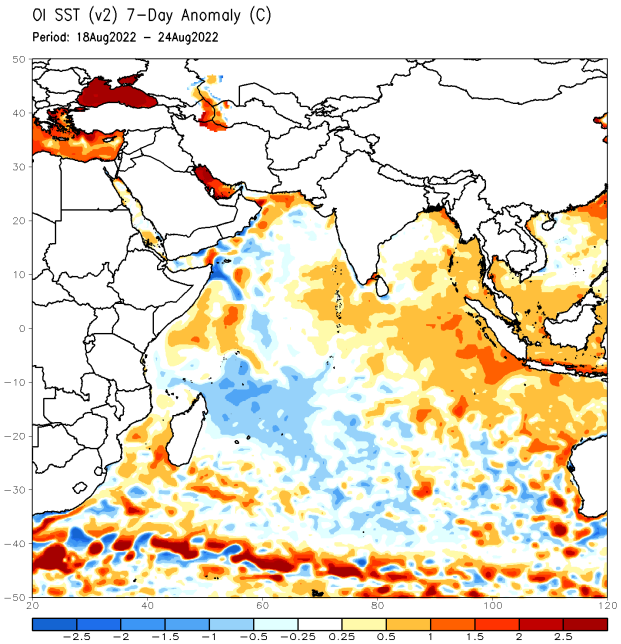


## Weekly Average SST Anomalies

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

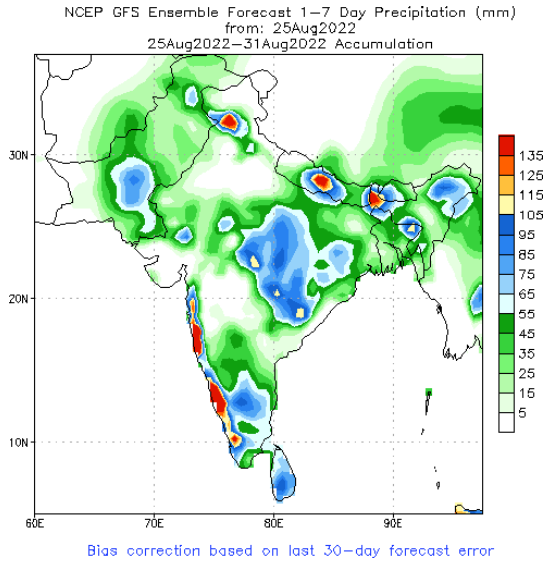


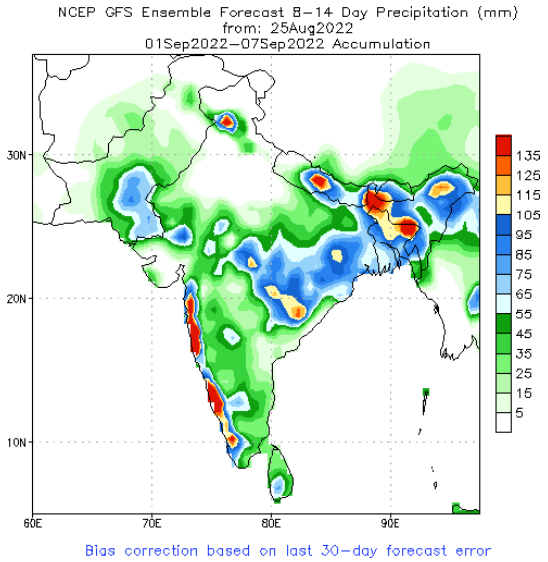

**Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC**



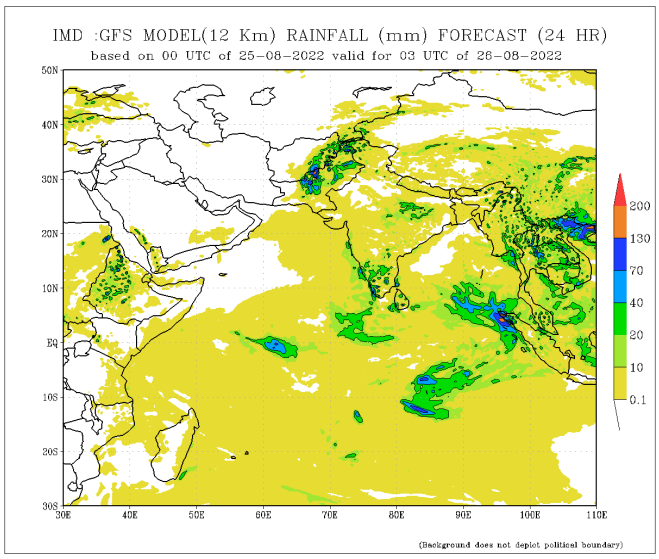
# PREDICTIONS

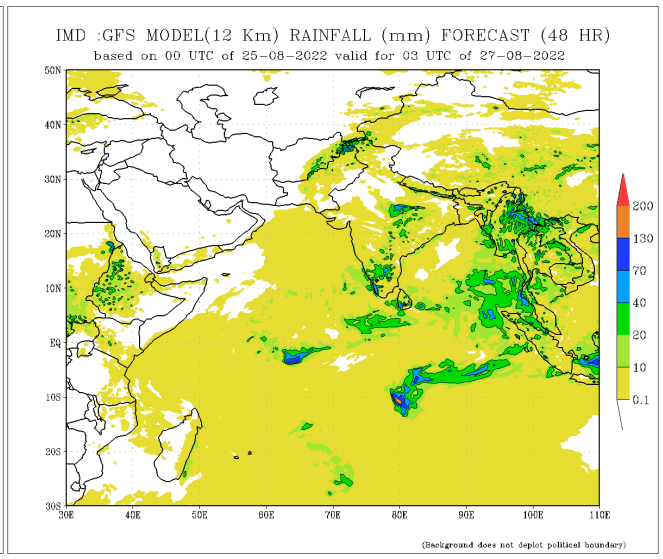
## NCEP GFS 1- 14 Day prediction

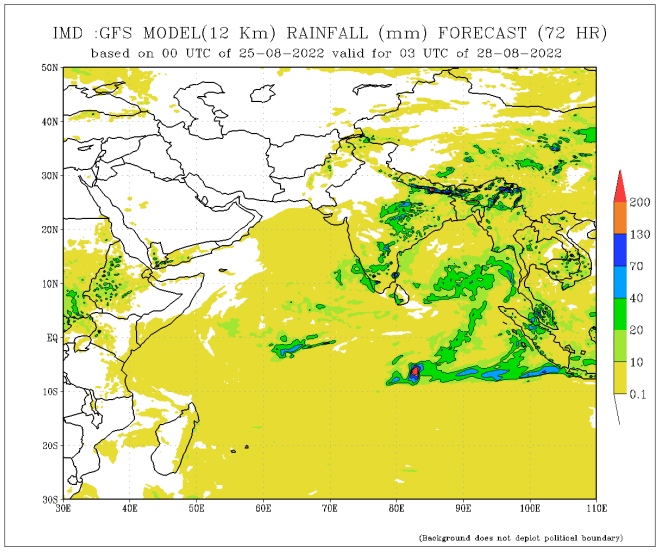


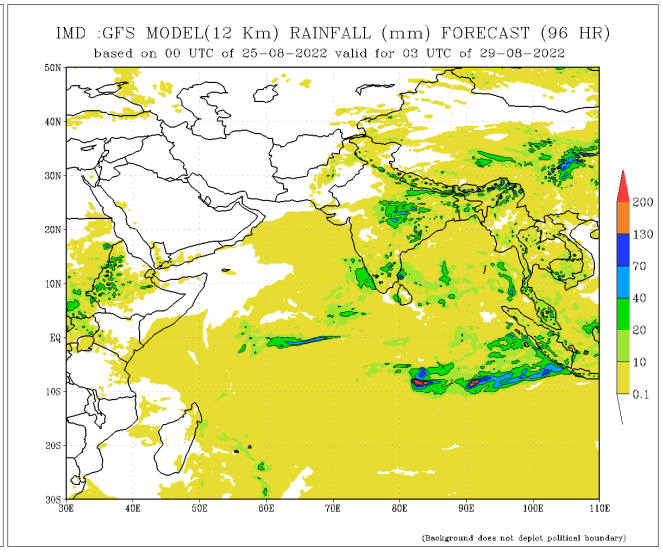



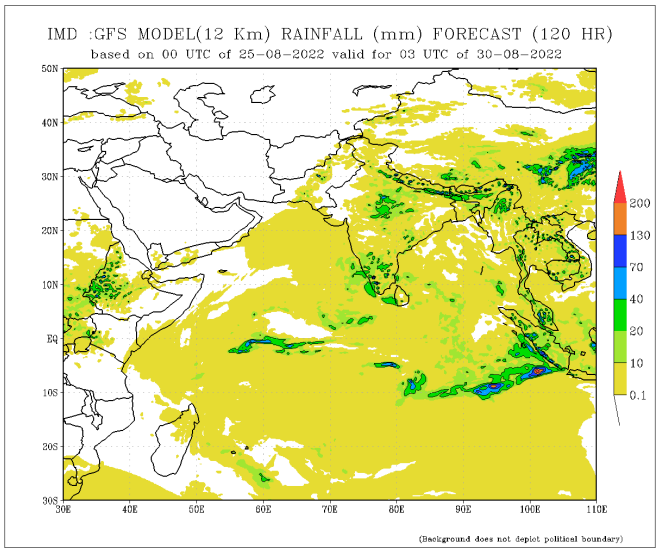

## IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

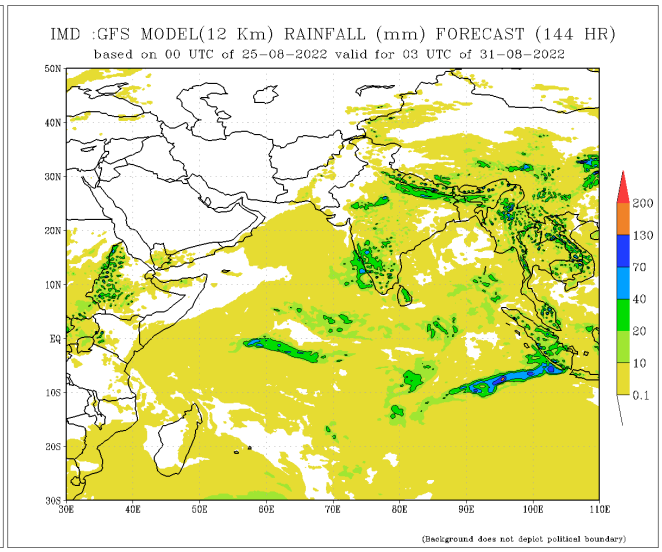


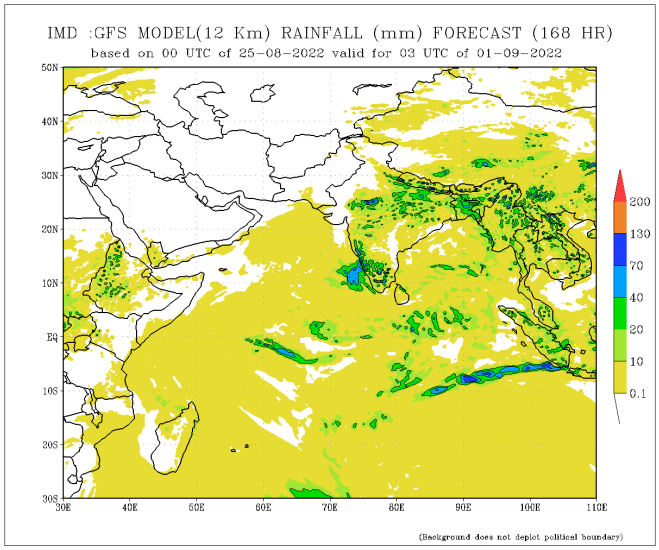



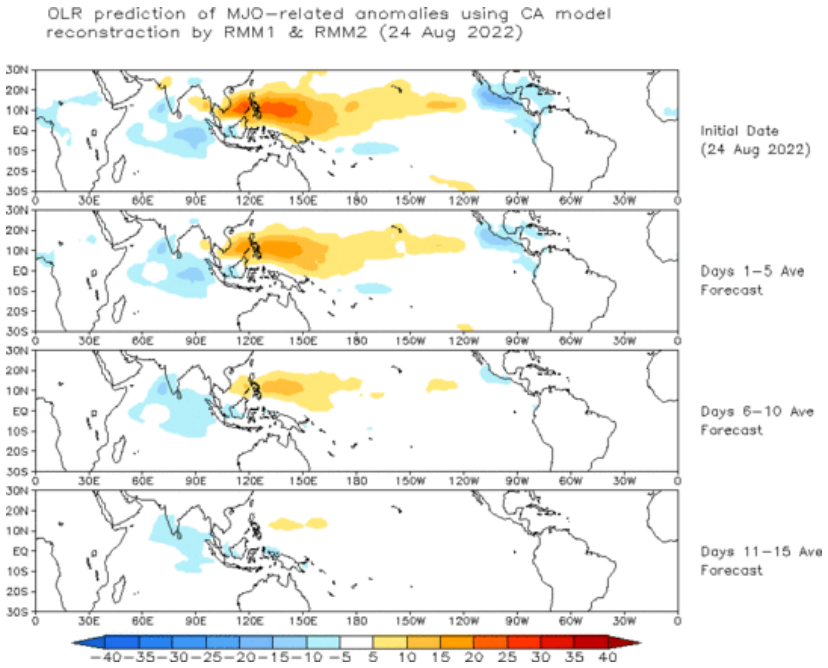


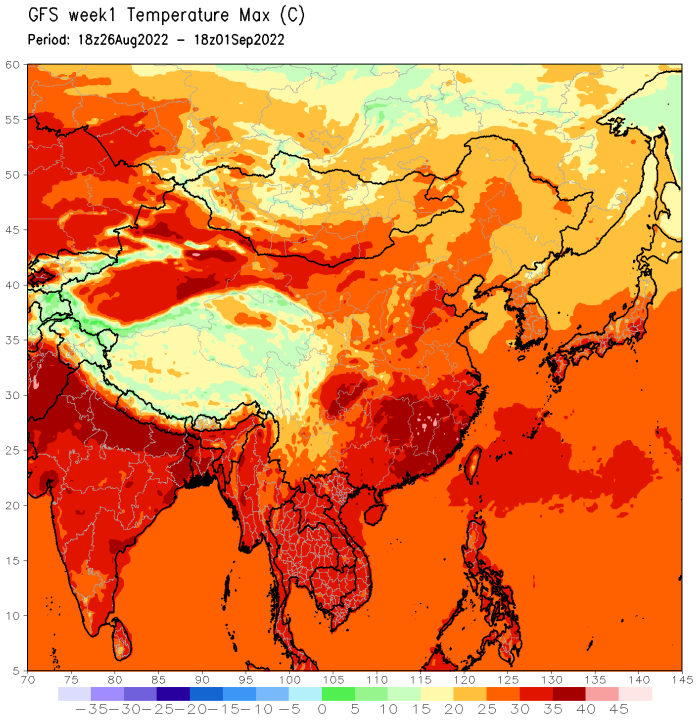

## Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

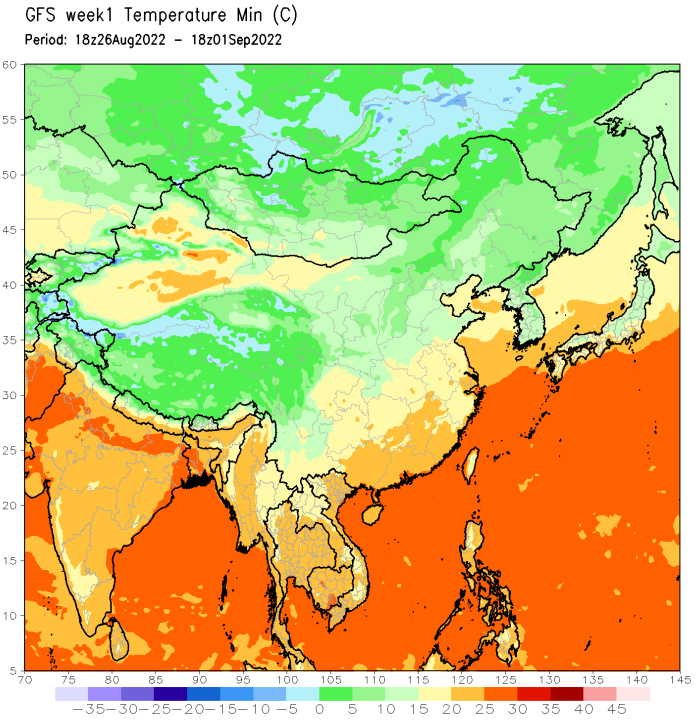
**The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO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



## Weekly Temperature Forecast

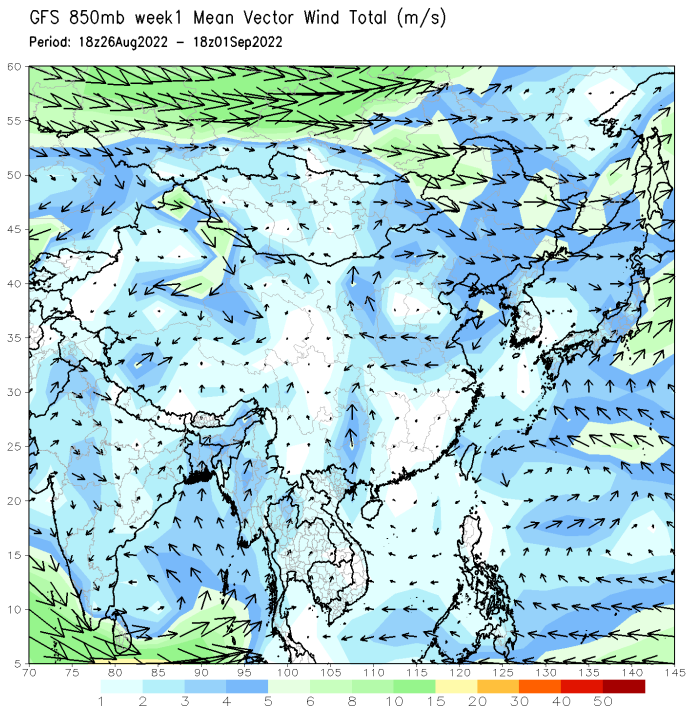
**Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)**

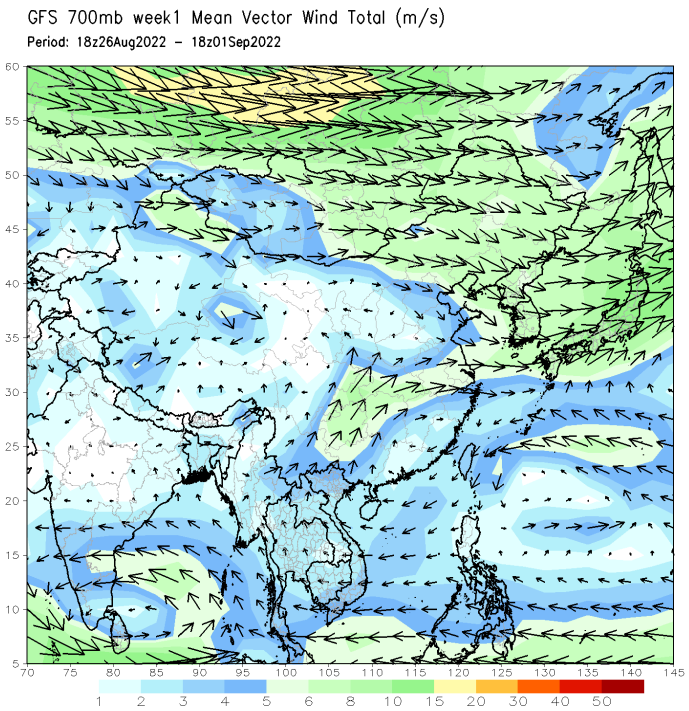



## Weekly Wind Forecast

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

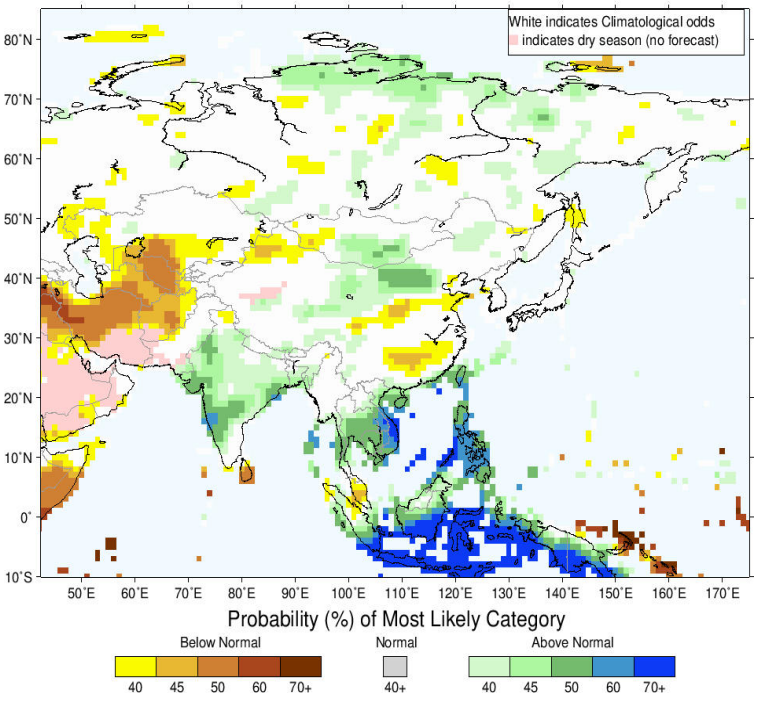


## Seasonal Rainfall and Temperature Forecast

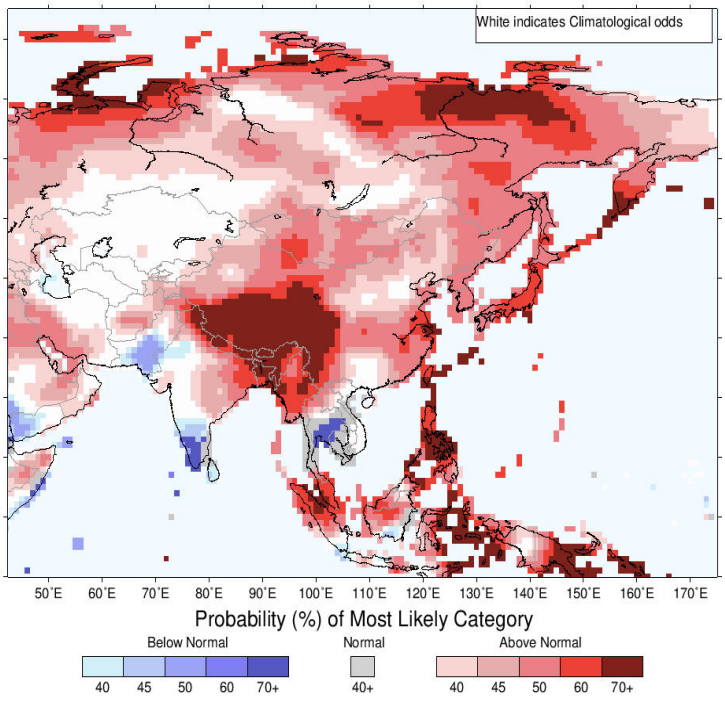
**Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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 September–October–November 2022, Issued August 2022




**Precipitation Forecast**

IRI Multi-Model Probability Forecast for Temperature for September–October–November 2022, Issued August 2022




**Temperature Forecast**


**About us**

FECT is a federation of 7 organizations registered in four countries which works in countries across the Indian Ocean Islands and its littoral. Over the last 20 years, we have had operations in Africa, South Asia, South-East Asia but now it is mostly in the Indian Ocean Islands.

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