

## HIGHLIGHTS

## Rainfall Prediction



• Moderate rainfall is predicted for Central, North-central and Sabaragamuwa provinces and fairly heavy rainfall is expected for Jaffna districts during 5<sup>th</sup> - 11<sup>th</sup> August.

## Monitored Rainfalls



• During the last week, the average daily rainfall over Sri Lanka was 2.9 mm and hydro catchment areas have received 15 mm on average.

## Monitored Wind

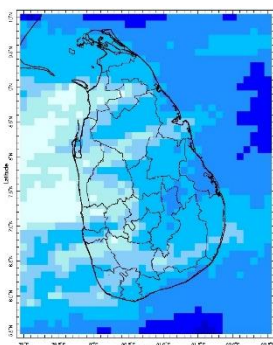


• From 2<sup>nd</sup> - 8<sup>th</sup> August, westerlies of 20 - 30 m/s winds were experienced at 850 mb level over the island. Up to 6 m/s of south-westerlies can be expected for the next week.

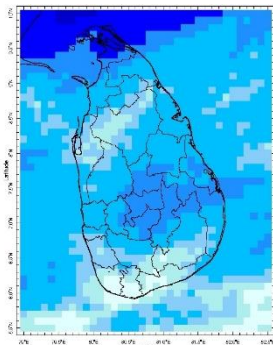
## Monitored Sea &amp; Land Temp



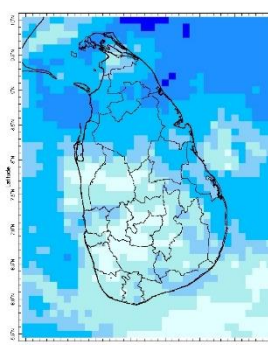
• Sea surface temperature was above 0.5 °C to the north and East of Sri Lanka. Land surface temperature remained near normal.

Monitoring  
RainfallDaily Estimates for Rainfall from 3<sup>rd</sup> August – 10<sup>th</sup> August 2022

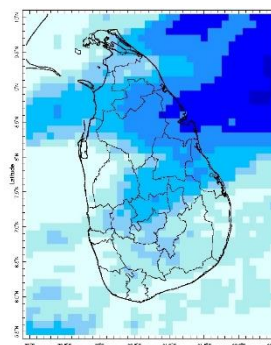
3 August



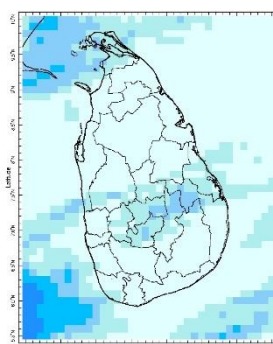
4 August



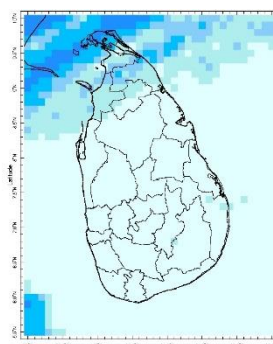
5 August



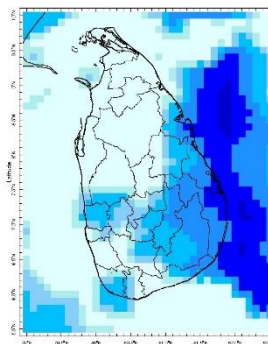
6 August



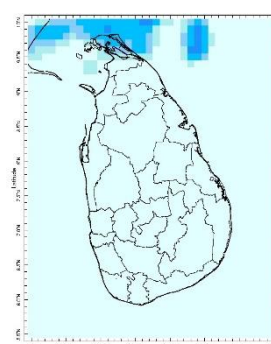
7 August



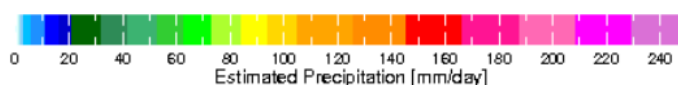
8 August



9 August



10 August



Federation for  
Environment, Climate  
& Technology

## Federation for Environment, Climate and Technology

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## Ocean State *(Text Courtesy IRI)*

### **Pacific sea state: August 3, 2022**

Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean in early-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°C to the north and east 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 11<sup>th</sup> August – 17<sup>th</sup> August:**

Total rainfall by Provinces:

Rainfall	Provinces
75 mm	Northern
35 mm	Central
25 mm	North-central, Sabaragamuwa
15 mm	Western, Eastern, North-western, Uva, Southern

**From 18<sup>th</sup> August – 24<sup>th</sup> August:**

Total rainfall by Provinces:

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

### MJO based OLR predictions

**For the next 15 days:**

MJO shall near-neutral for Sri Lanka during 11<sup>th</sup> – 25<sup>th</sup> August.

## Interpretation

### Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (3<sup>rd</sup> Aug - 9<sup>th</sup> Aug) = 2.9 mm

Rmax: 41.7 mm & Rmin: 0.0 mm.

Region	Average rainfall for the Last 8 days
Northern Plains	0.0 mm
Eastern	0.1 mm
Western	6.7 mm
Southern Plains	0.1 mm

The Hydro Catchment Areas recorded 15.0 mm of average rainfall for the last week

Rmax: 121.0 mm & Rmin: 0.0 mm.

**Wind:** Westerly prevailed in the sea area and around the island last week.

**Temperatures:** The temperature anomalies were below normal for the east and north of the island, driven by the warm SST's.

## Predictions

**Rainfall:** During the next week (12<sup>th</sup> - 17<sup>th</sup> August) moderate rainfall is predicted for Central, North-central and Sabaragamuwa provinces and fairly heavy rainfall is expected for Jaffna districts.

**Temperatures:** The temperature remains slightly above normal in the Eastern, Northern, North-central and Uva provinces during 12<sup>th</sup> – 18<sup>th</sup> August.

### 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 near-neutral for Sri Lanka during 11<sup>th</sup> – 25<sup>th</sup> August.

### Seasonal Precipitation:

The precipitation forecast for the August-September-October season shows a higher tendency for below-normal precipitation for the southern half of the country, while the remaining areas are more likely to experience near-normal precipitation.

## 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
Fairly Heavy	Between 50 mm and 100 mm
Heavy	Between 100 mm and 150 mm
Very Heavy	More than 150 mm

Tropical Climate Guarantee, Federation of Environment, Climate and Technology, Columbia University Water Center, <sup>1</sup> International Research Institute for Climate and Society, , Earth Institute at Columbia University, New York.



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## Weekly Climate Bulletin for Sri Lanka

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- Dekadal (10 Day) Satellite Derived Rainfall Estimates
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- Weekly Wind Monitoring
- Weekly Average SST Anomalies

#### 2. Predictions

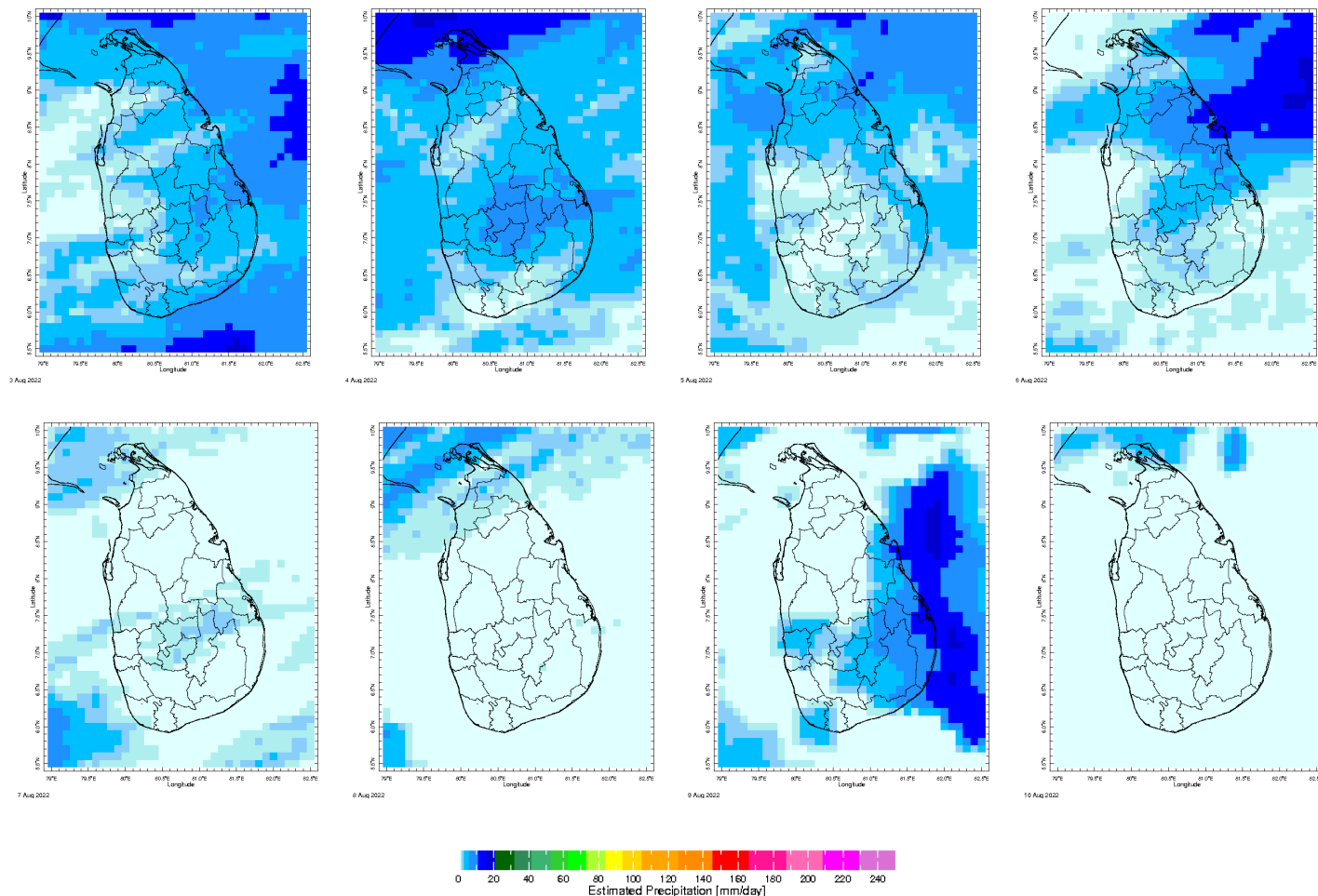
- NCEP GFS Ensemble 1-14 day Rainfall Predictions
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- MJO Related OLR Forecast
- Weekly Temperature Forecast
- Weekly Wind Forecast
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### MONITORING

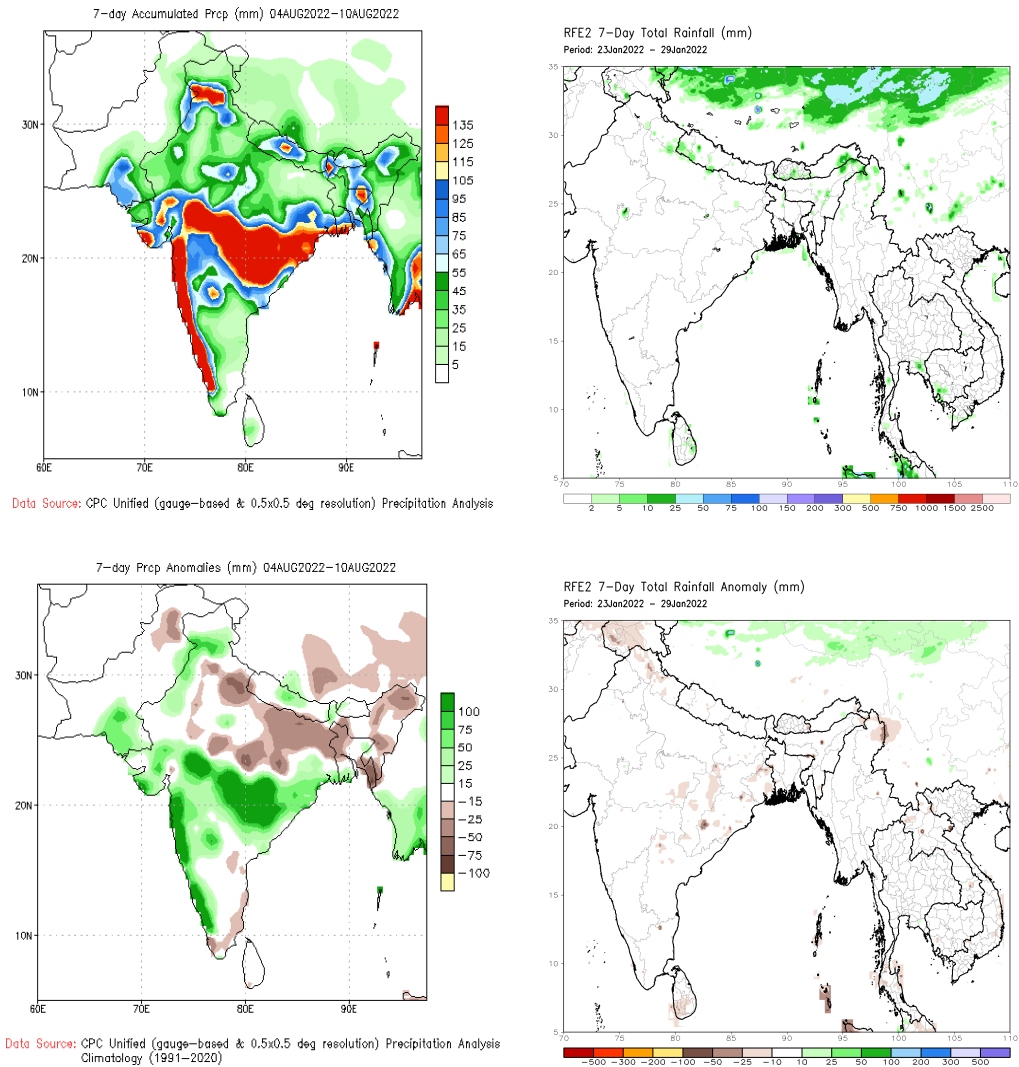
#### Daily Rainfall Monitoring

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



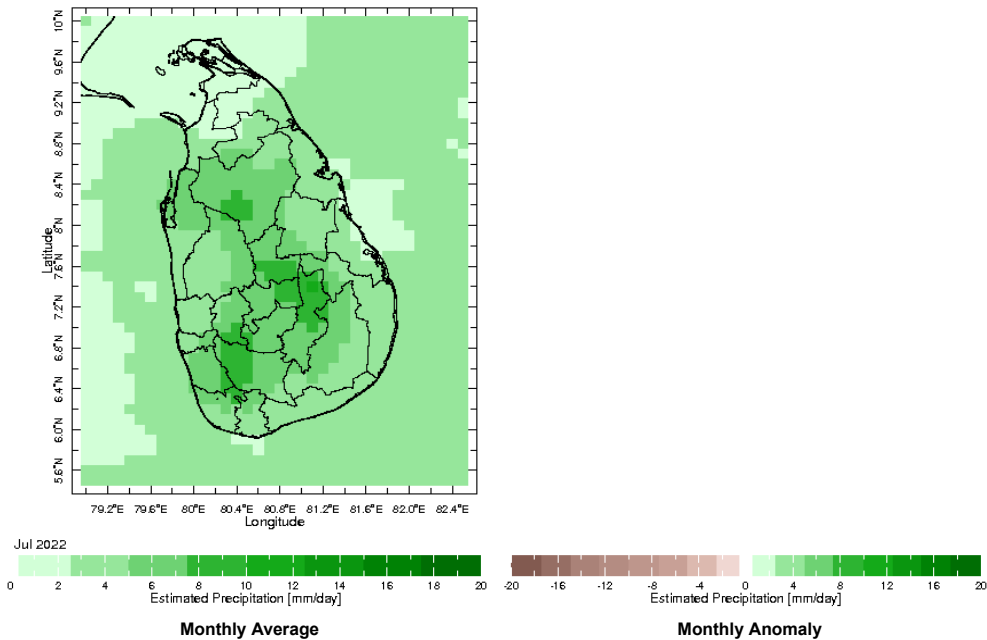
Weekly Rainfall Monitoring

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.



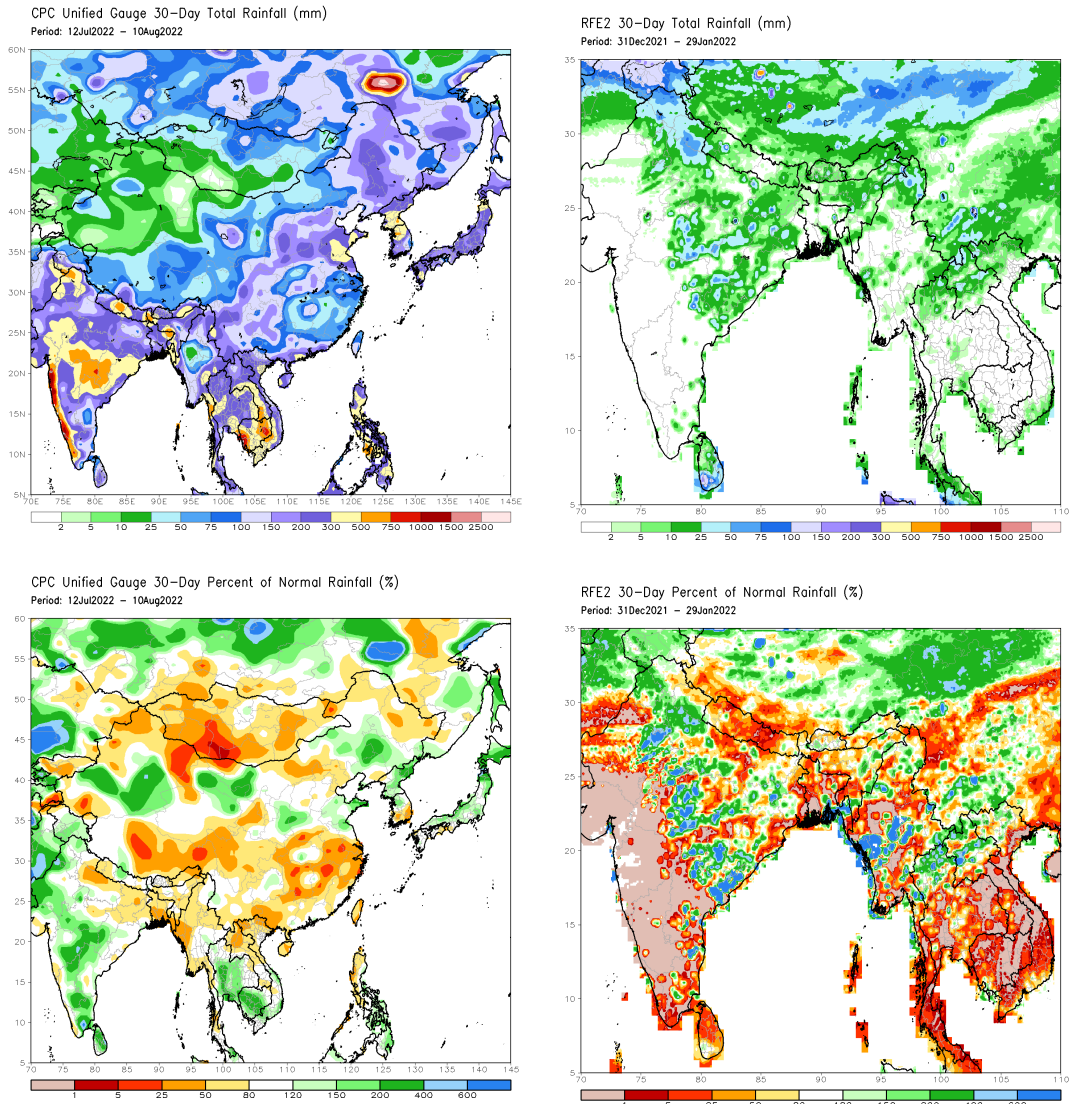
Monthly Rainfall Monitoring

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

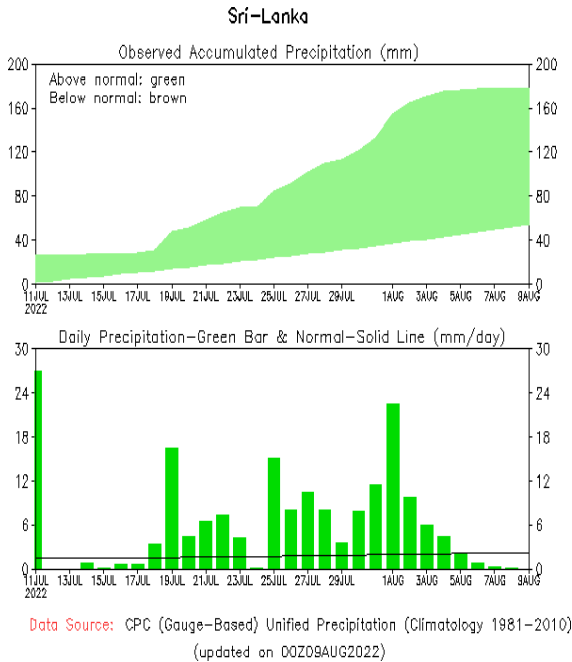




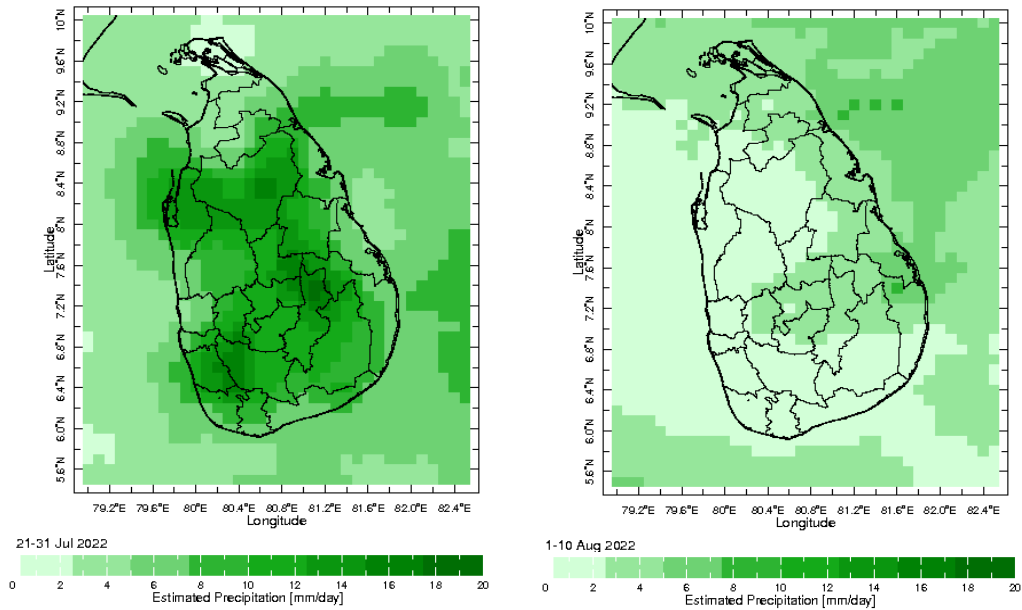
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



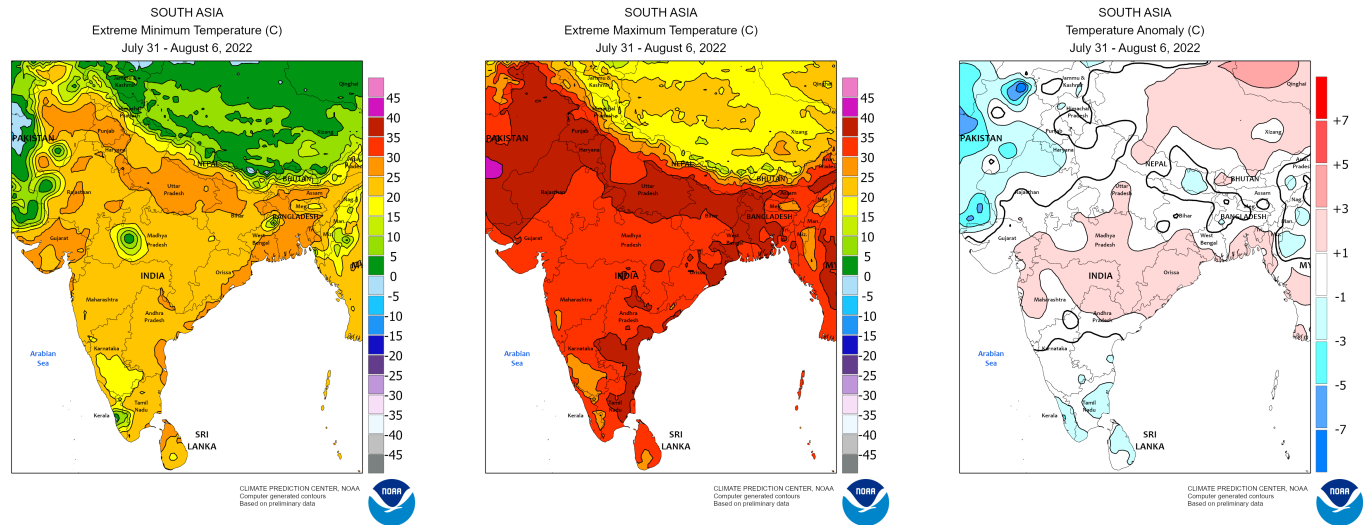
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

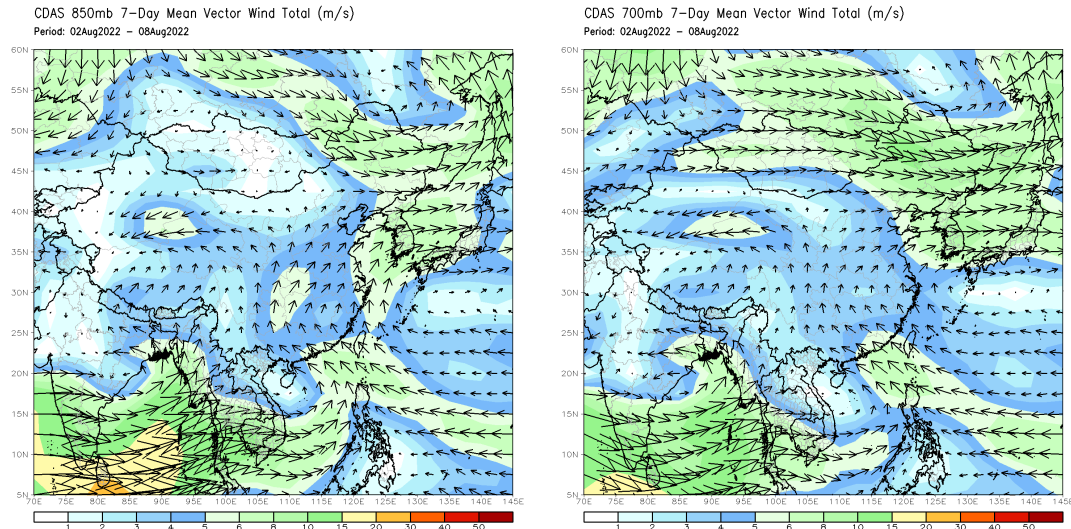


Weekly Temperature Monitoring



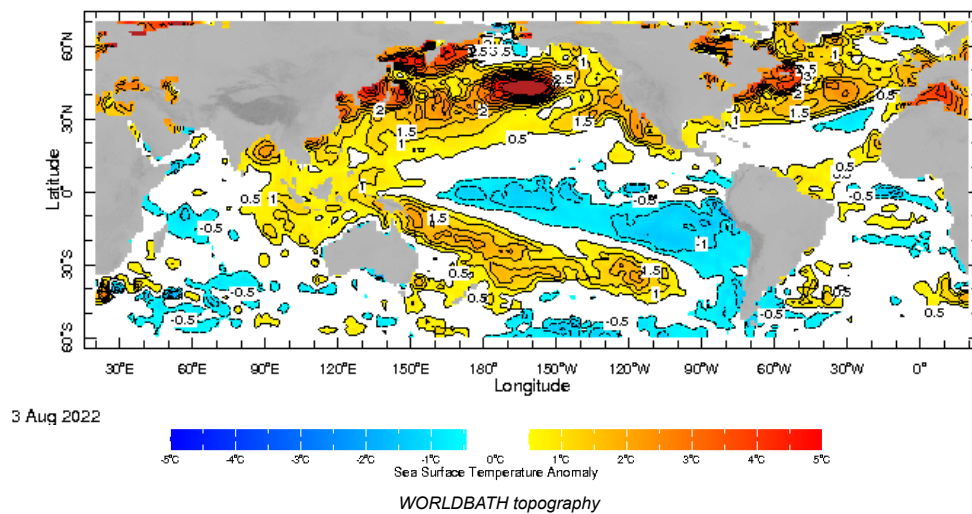
Weekly Wind Monitoring

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.

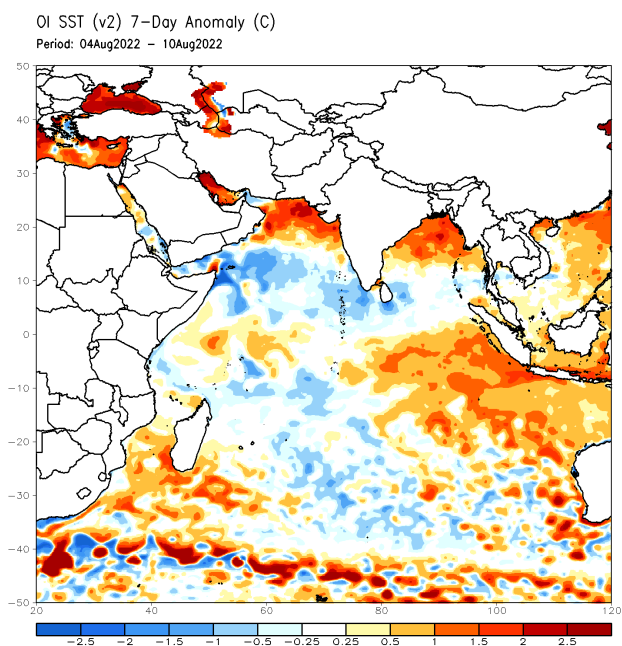


## Weekly Average SST Anomalies

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

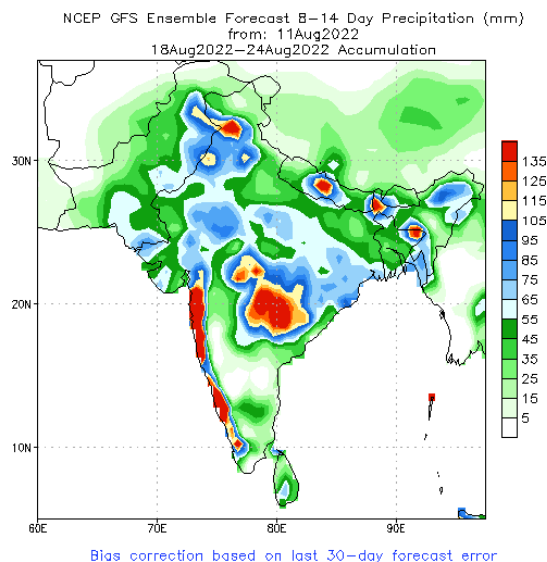
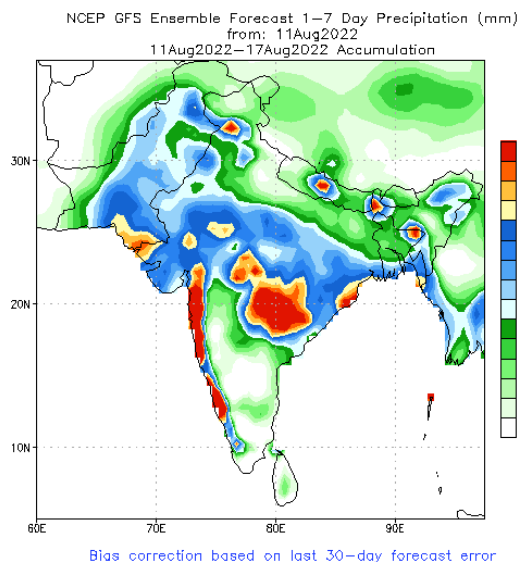


Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

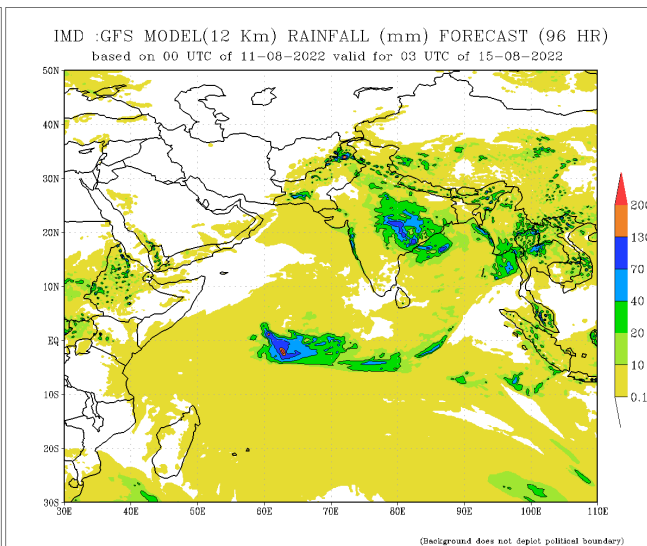
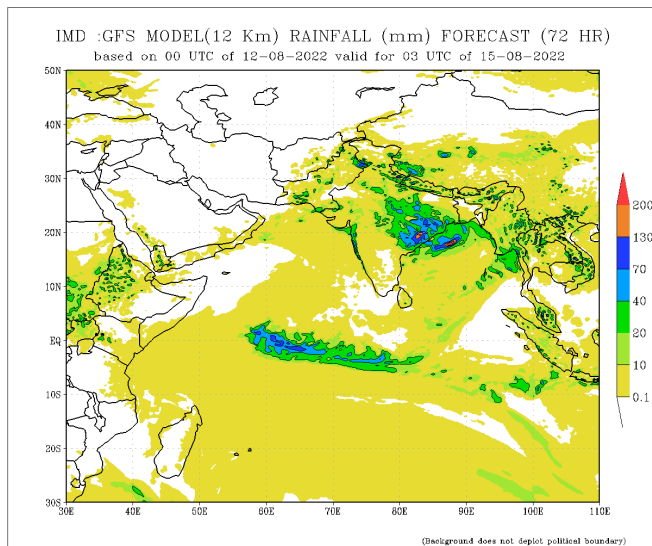
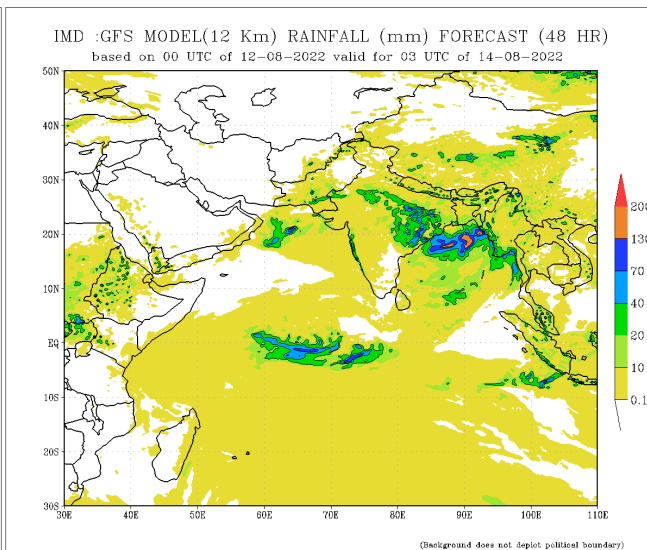
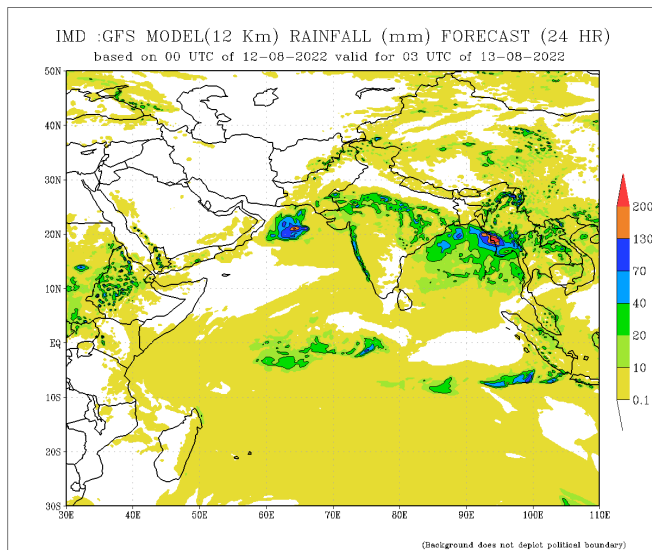


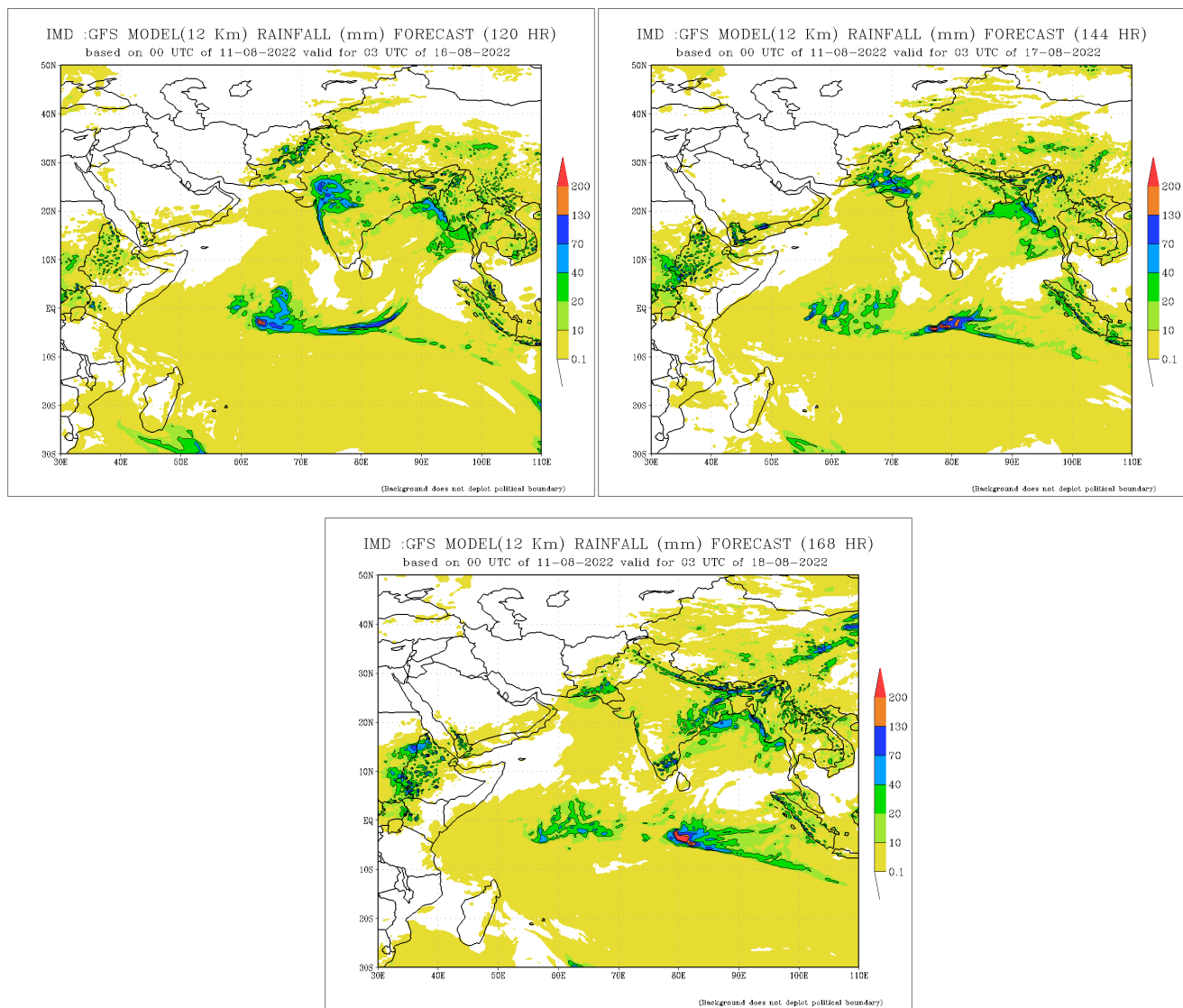


## NCEP GFS 1- 14 Day prediction



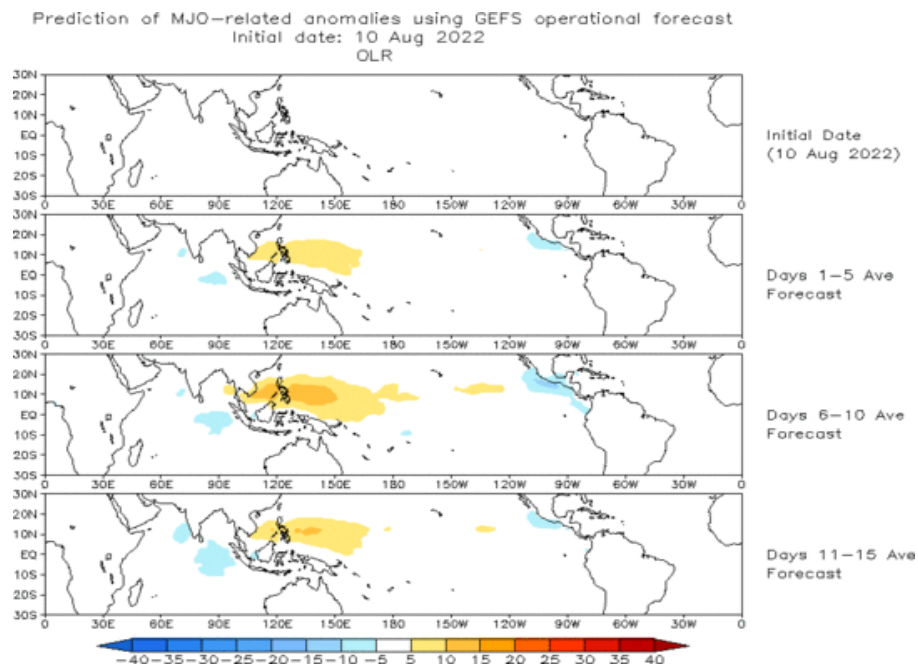
## IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





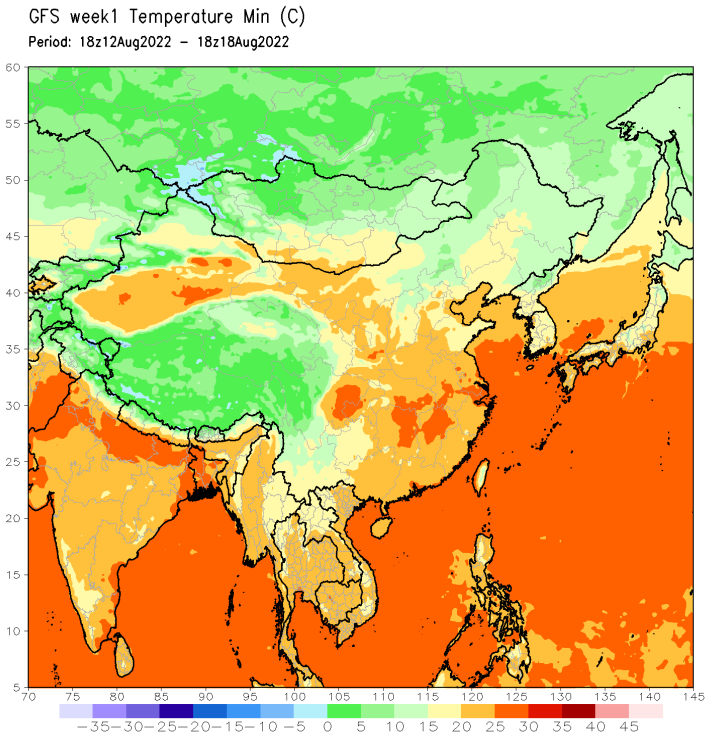
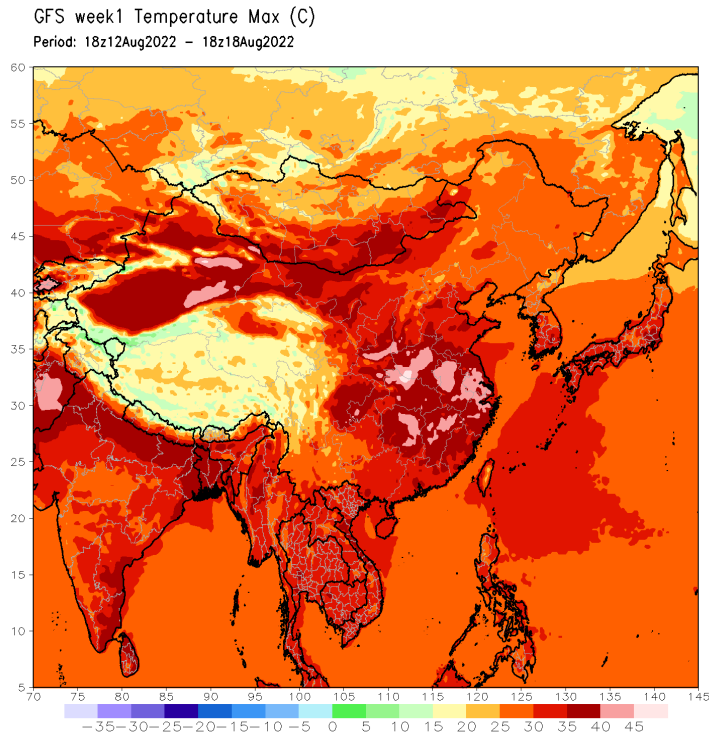
## Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

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 anomalous OLR for the next 15 days from the Constructed Analogue (CA) model forecasts.



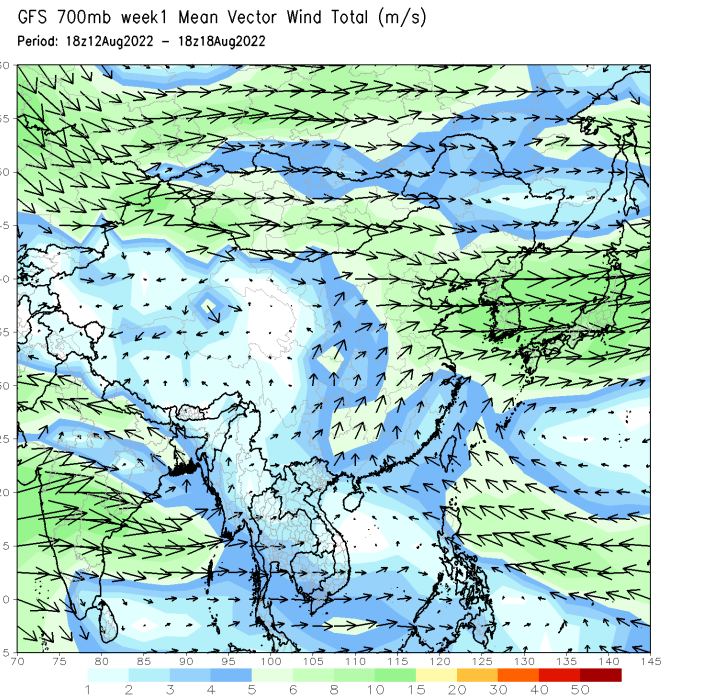
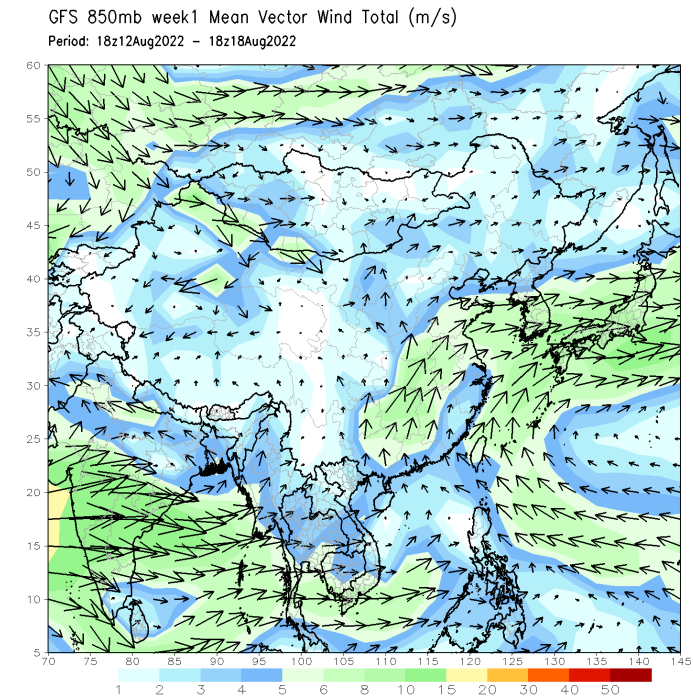
Weekly Temperature Forecast

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)

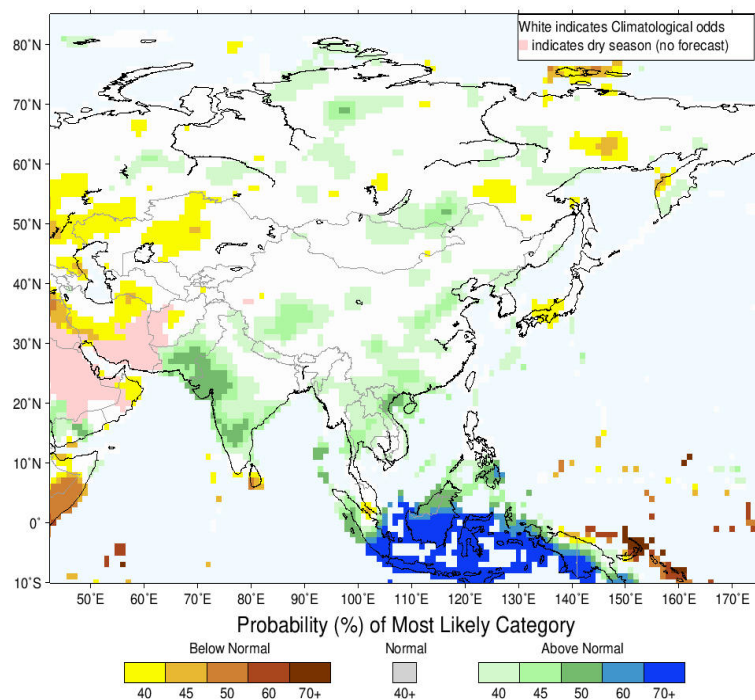




## Seasonal Rainfall and Temperature Forecast

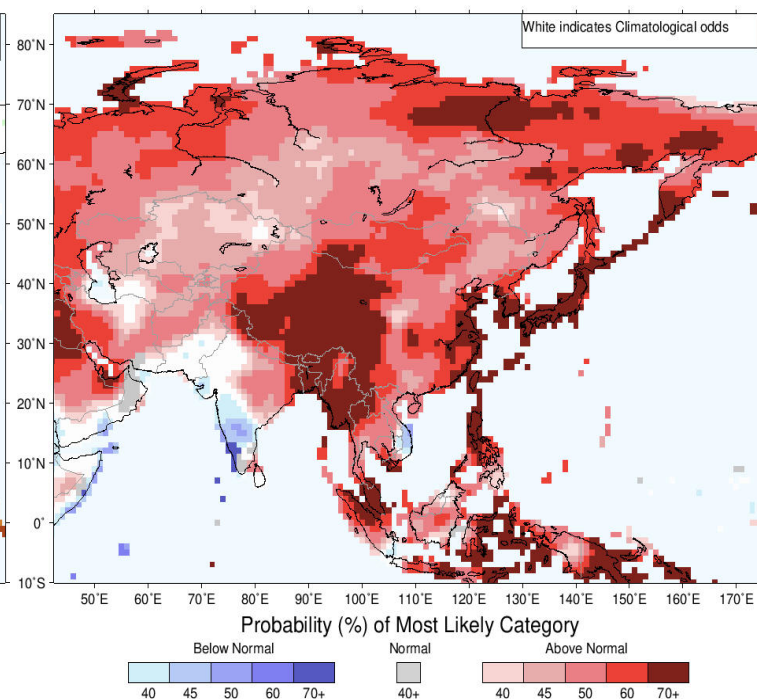
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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



Precipitation Forecast

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