

## HIGHLIGHTS

**Rainfall Prediction**



- Heavy rainfall is predicted for Sabaragamuwa, Southern and Western provinces during 17<sup>th</sup> - 21<sup>st</sup> Sept. Greater likelihood of dry tendency than normal is predicted in the southern SL from October to December.

**Monitored Rainfalls**



- Fairly heavy rains were experienced in the Western, Sabaragamuwa, Southern & North Western provinces with max of 91.7 mm in Ratnapura district on 15<sup>th</sup> September.

**Monitored Wind**



- From 7<sup>th</sup> - 13<sup>th</sup> September: up to 15 km/h from Southwesterly were experienced over the island.

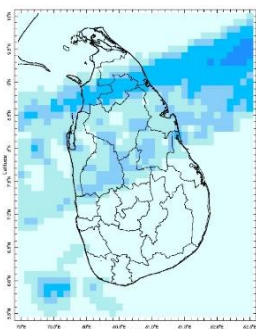
**Monitored Sea Surface**



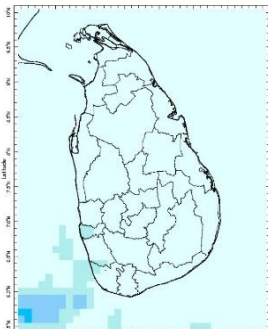
- Sea surface temperature was observed above 0.5 °C to the South and West of Sri Lanka and neutral to the rest.

## Monitoring Rainfall

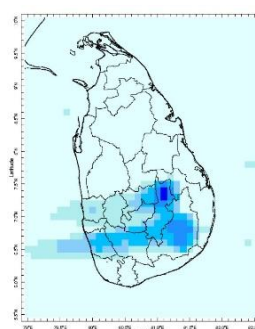
### Daily Estimates for Rainfall from 7<sup>th</sup> – 13<sup>th</sup> September



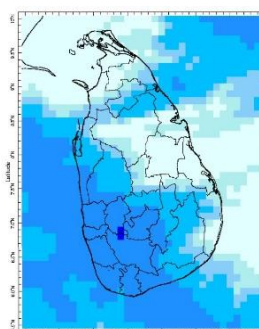
7 September



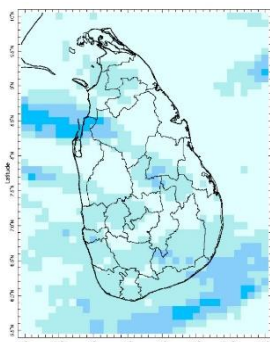
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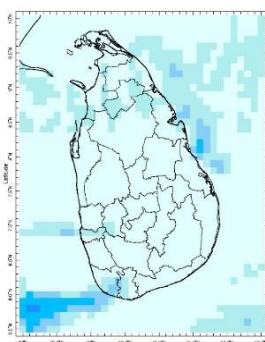
9 September



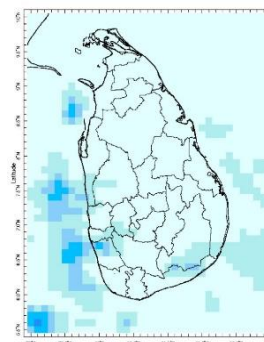
10 September



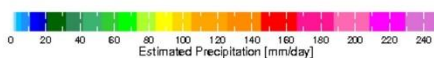
11 September



12 September



13 September



Federation for  
Environment, Climate  
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## Ocean State *(Text Courtesy IRI)*

### **Pacific sea state: September 8, 2021**

Equatorial SSTs were below average in parts of the eastern Pacific Ocean and near average across the rest of the Pacific Ocean in early-September and most key atmospheric variables were ENSO – Neutral condition. A large majority of the model forecasts predict ENSO-neutral likely to continue through the Northern Hemisphere summer.

### **Indian Ocean State**

Sea surface temperature was observed above 0.5°C to the South and West of Sri Lanka and neutral to the rest.

## Predictions

### Rainfall

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

##### **From 15<sup>th</sup> – 21<sup>st</sup> September:**

Total rainfall by Provinces:

Rainfall	Provinces
115 mm	Sabaragamuwa
105 mm	Southern, Western
95 mm	Central
85 mm	Uva
75 mm	North Western
65 mm	Eastern
45 mm	North Central
35 mm	Northern

##### **From 22<sup>nd</sup> – 28<sup>th</sup> September:**

Total rainfall by Provinces:

Rainfall	Provinces
105 mm	Sabaragamuwa
95 mm	Southern, Western
85 mm	Central
65 mm	North Western, Uva
45 mm	Eastern, North Central
35 mm	Northern

### MJO based OLR predictions

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

MJO shall be active, thus giving slightly enhanced rainfall during 17<sup>th</sup> – 29<sup>th</sup> September.

# Interpretation

## Monitoring

**Rainfall:** During the last two weeks, there had been fairly heavy rainfall over the following Provinces: Sabaragamuwa, Western, North-Western and Southern.

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

**Temperatures:** The temperature anomalies were near-neutral for the whole country last week – driven by the warm SST's.

## Predictions

**Rainfall:** During the next week (17<sup>th</sup> – 21<sup>st</sup> September) heavy rainfall is predicted for Sabaragamuwa, Southern and Western provinces.

**Temperatures:** The temperature remains slightly normal for September. During 17<sup>th</sup> – 25<sup>th</sup> September, the temperature remains high especially in the Eastern, Northern, North Central and Uva provinces.

### Teleconnections:

La Nina -The SST forecast indicates that the La Niña event has transitioned to ENSO-neutral and will likely remain so through the boreal summer.

MJO shall be active, thus giving slightly enhanced rainfall during 17<sup>th</sup> – 29<sup>th</sup> September.

### Seasonal Precipitation:

October to December is the main rainfall season in Sri Lanka. The consensus has switched from neutral to having a dry tendency. If so, it can hurt agriculture adding to fertilizer bans and hydro-power generation, given \$ scarcity.

## Understanding the Forecast

	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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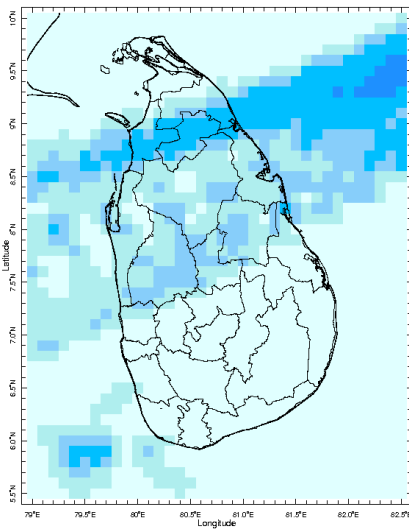
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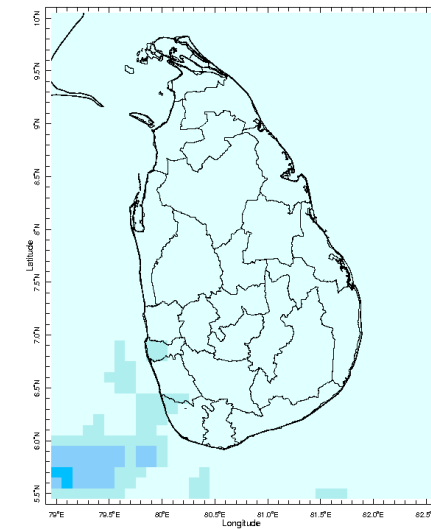
### MONITORING

#### Daily Rainfall Monitoring

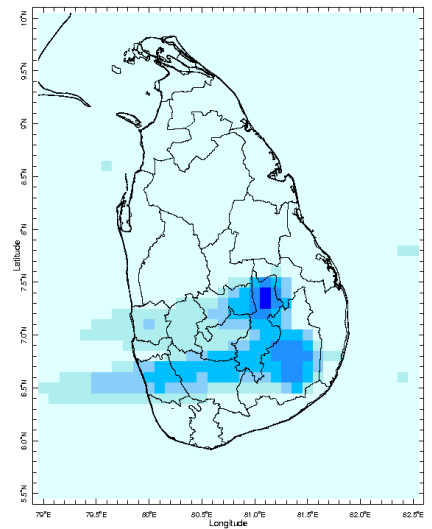
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



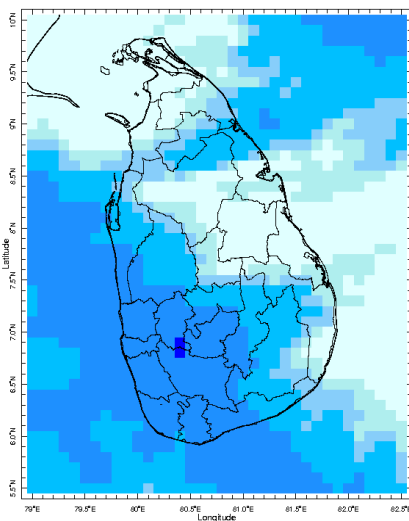
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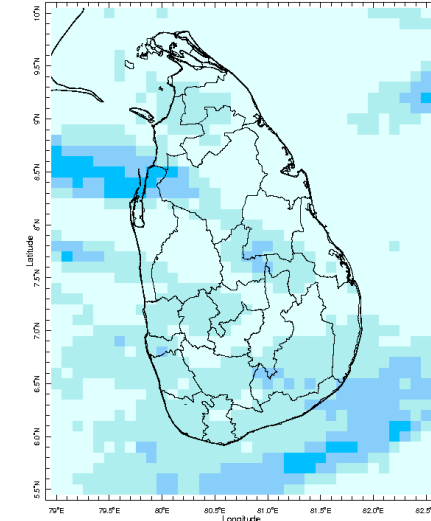
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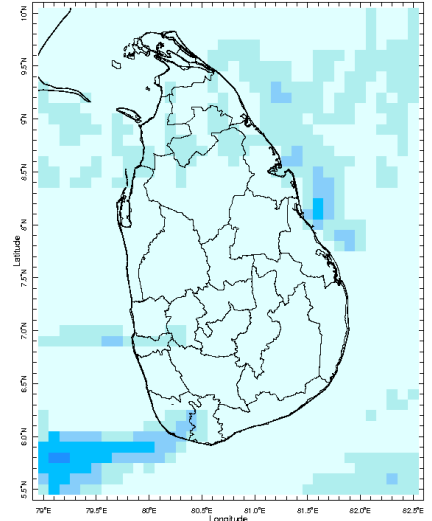
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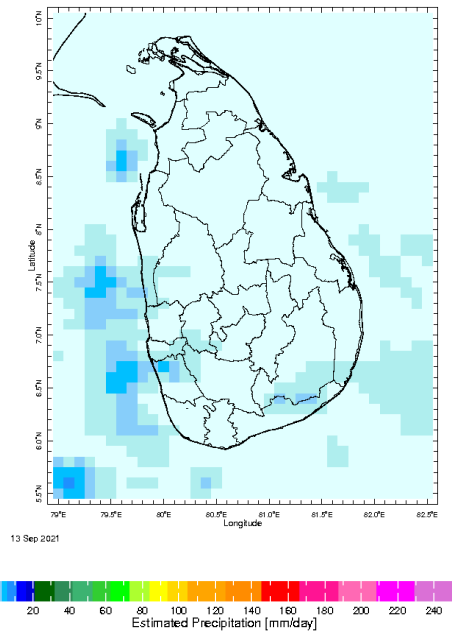
10 Sep 2021



11 Sep 2021

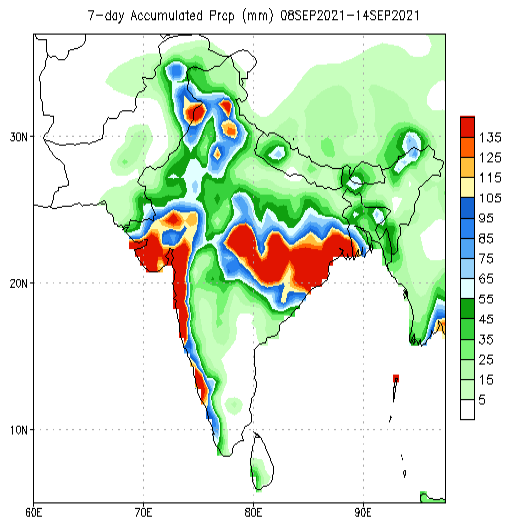


12 Sep 2021

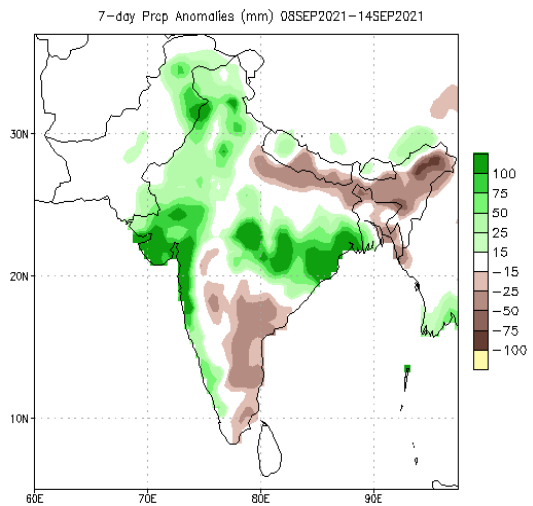
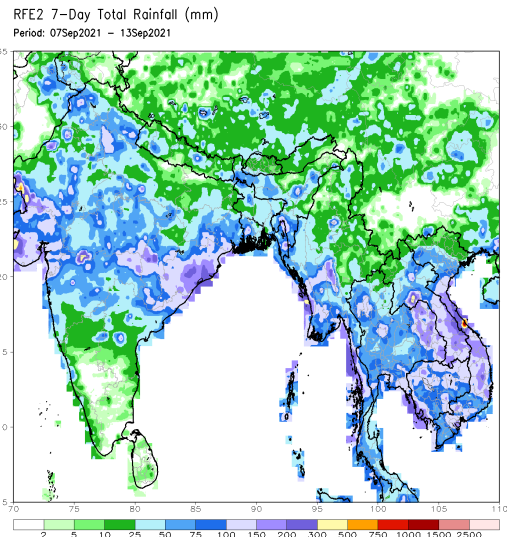


## Weekly Rainfall Monitoring

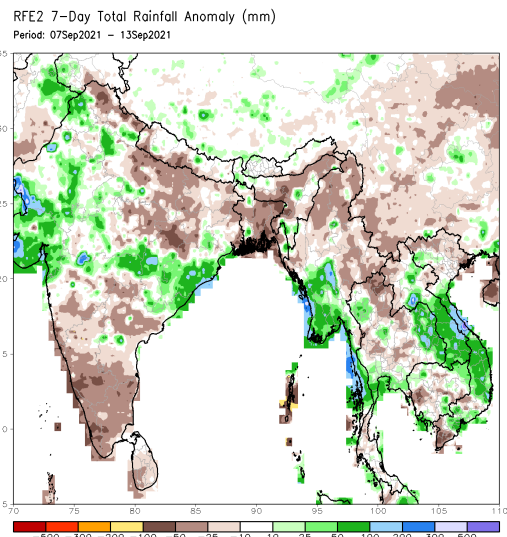
The following figures show the total satellite observed rainfall in the last week in Sri Lanka. The figure in the left is the total 7-day rainfall from NOAA Climate Prediction Center (CPC) Unified Precipitation Analysis and the figure in the right is the total 7-day rainfall from CPC RFE 2.0 Satellite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



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

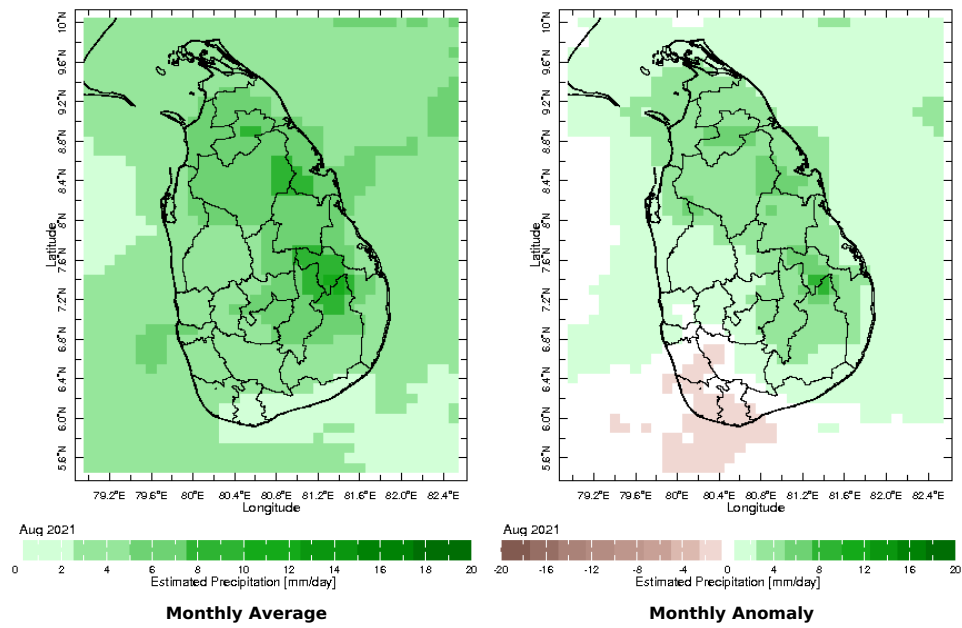


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1991-2020)

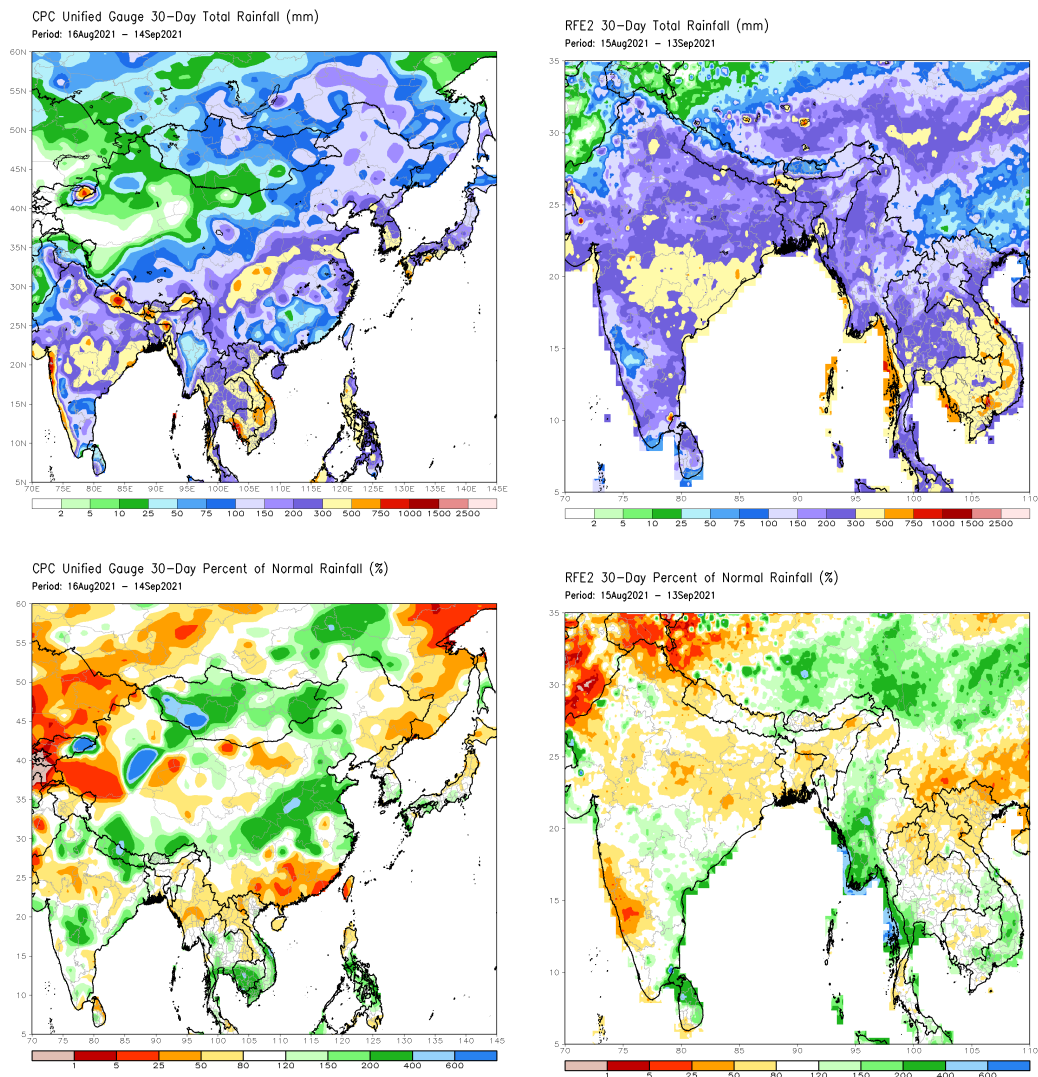


## Monthly Rainfall Monitoring

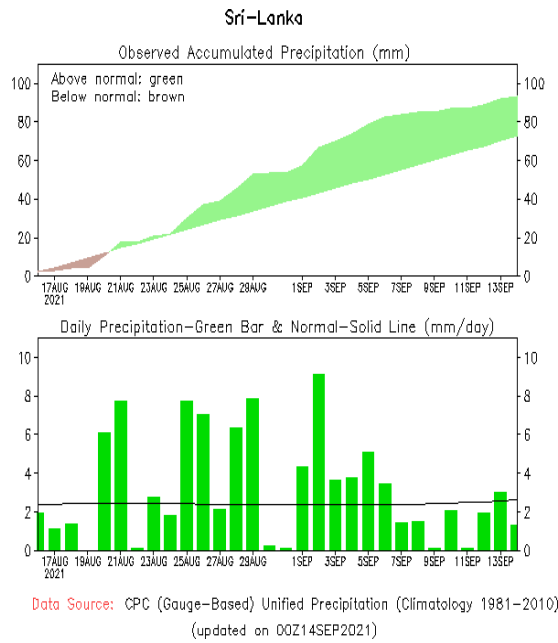
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



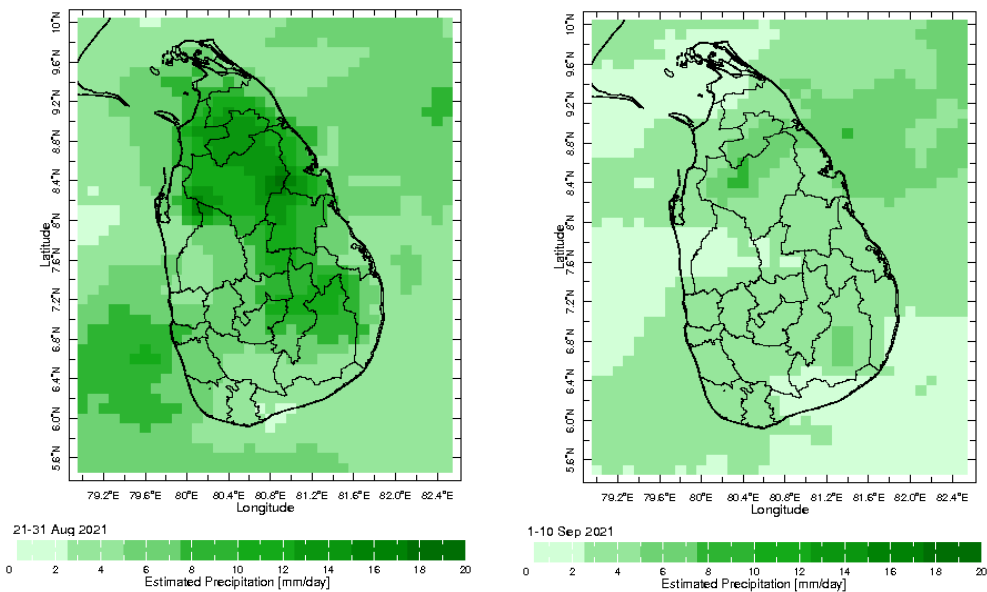
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



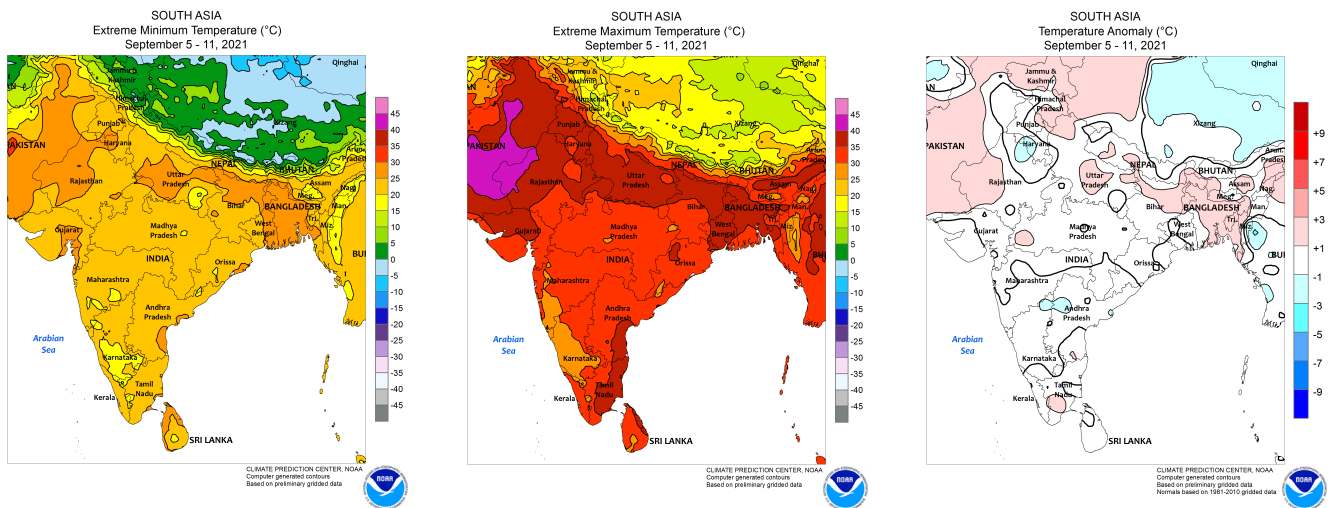
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



### Dekadal (10 Day) Satellite Derived Rainfall Estimates

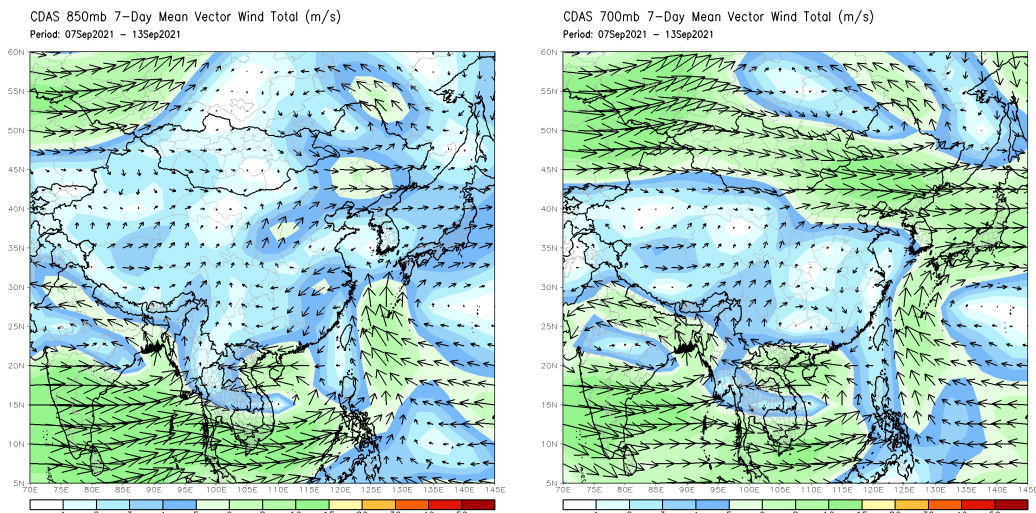


### Weekly Temperature Monitoring



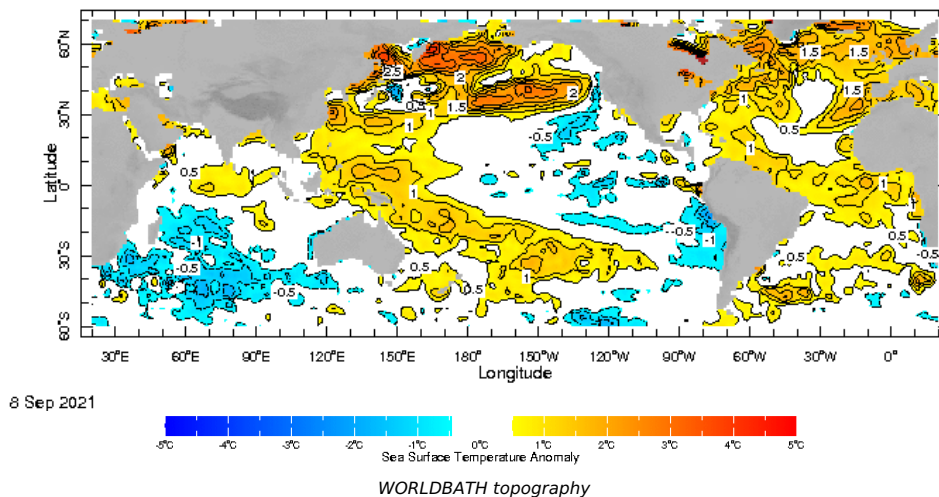
## Weekly Wind Monitoring

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.

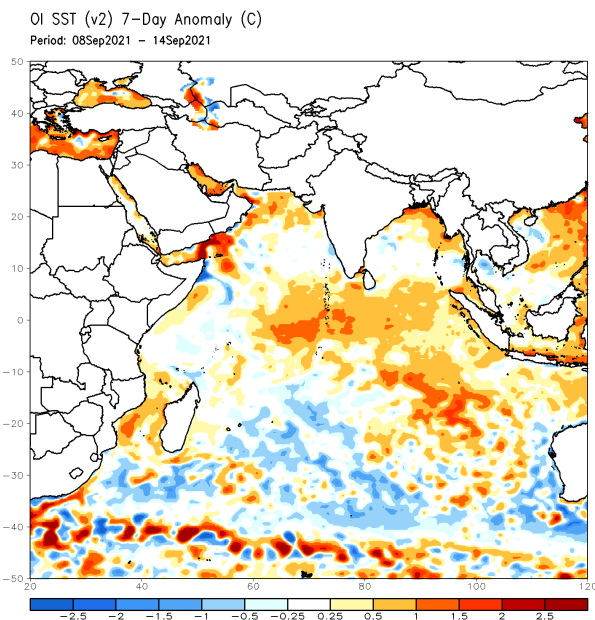


## Weekly Average SST Anomalies

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

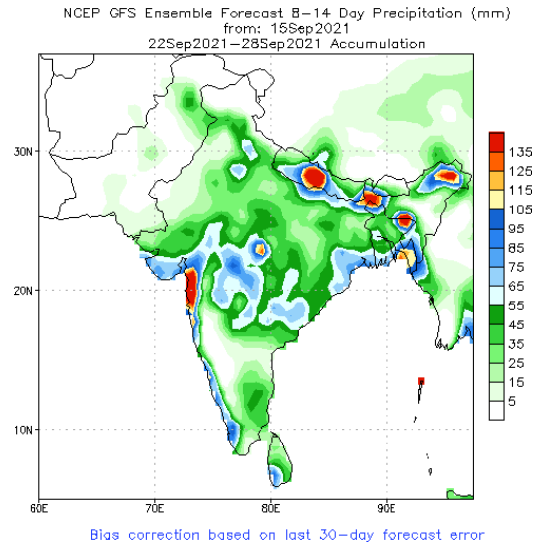
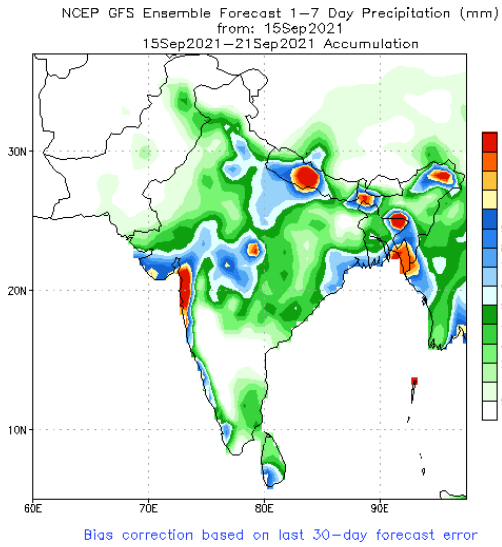


Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

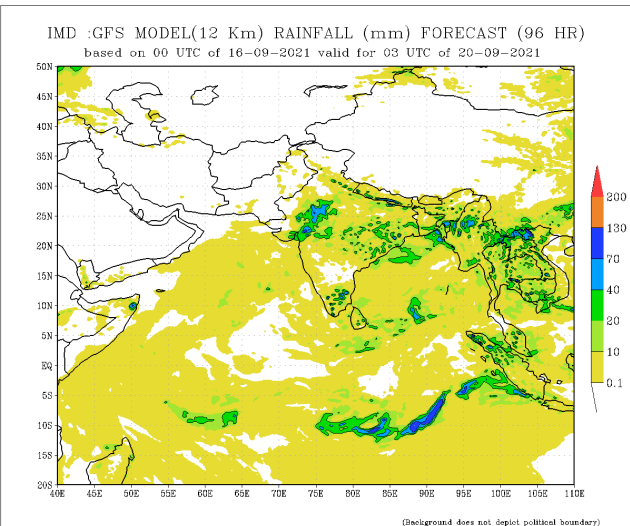
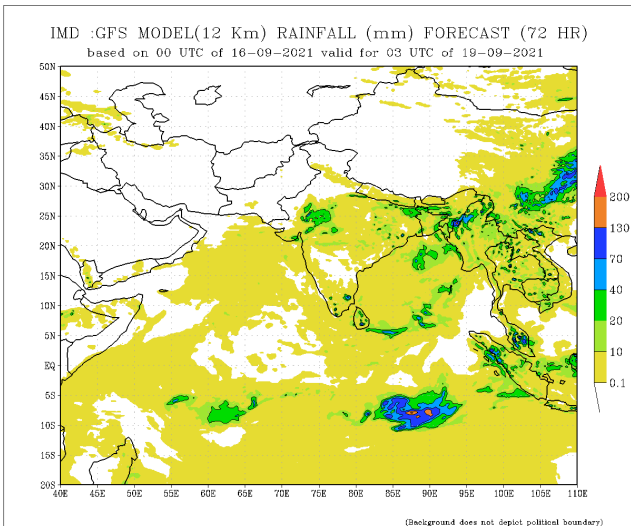
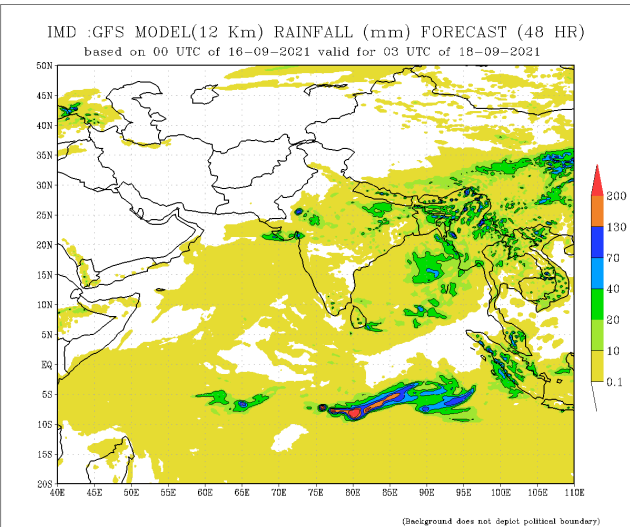
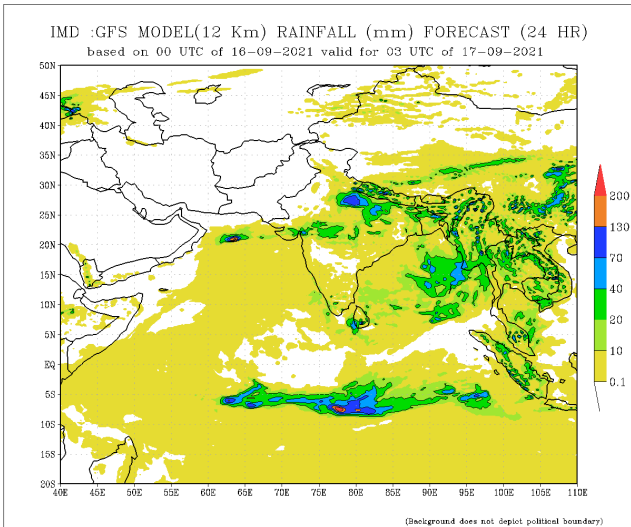


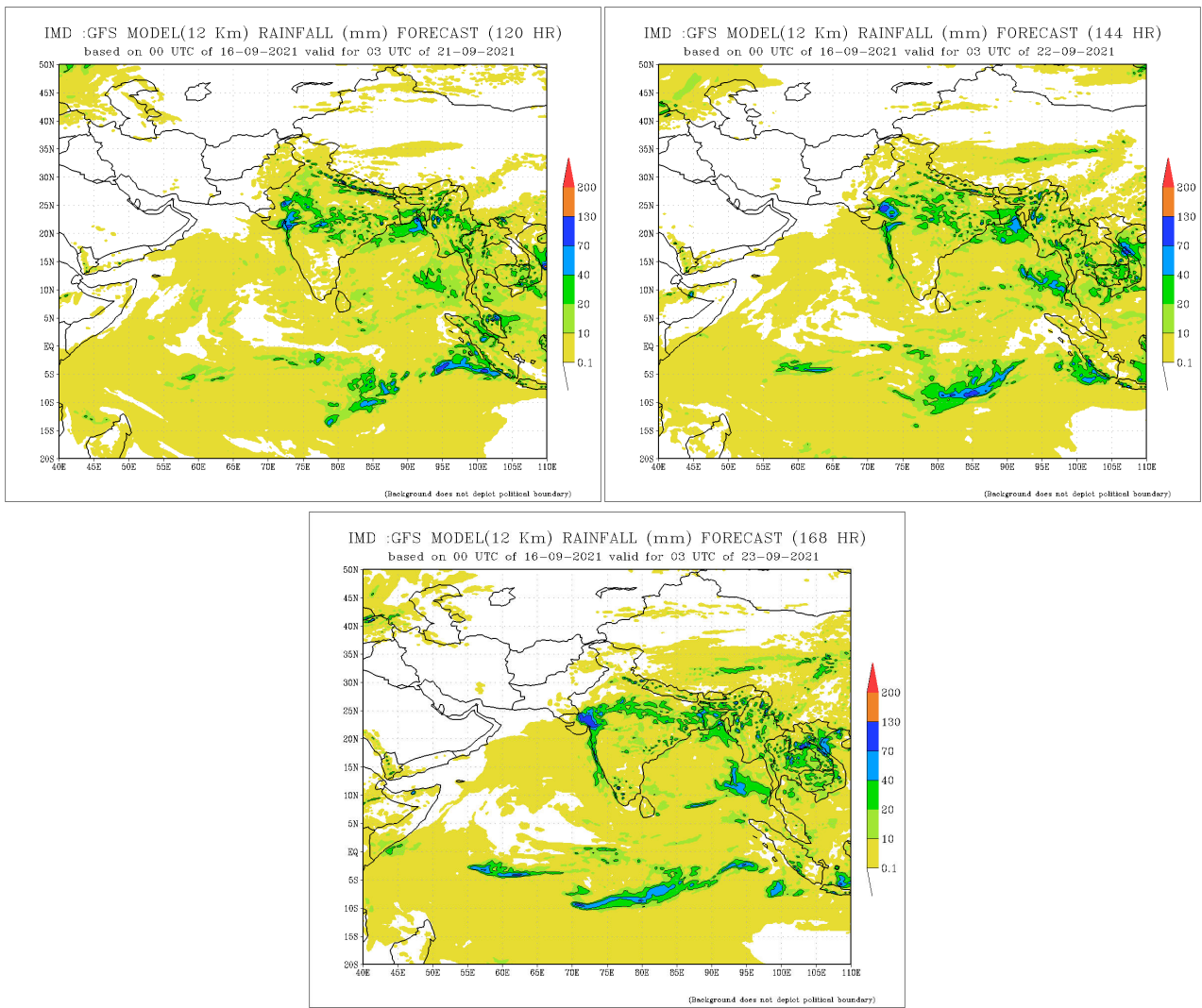


**NCEP GFS 1- 14 Day prediction**



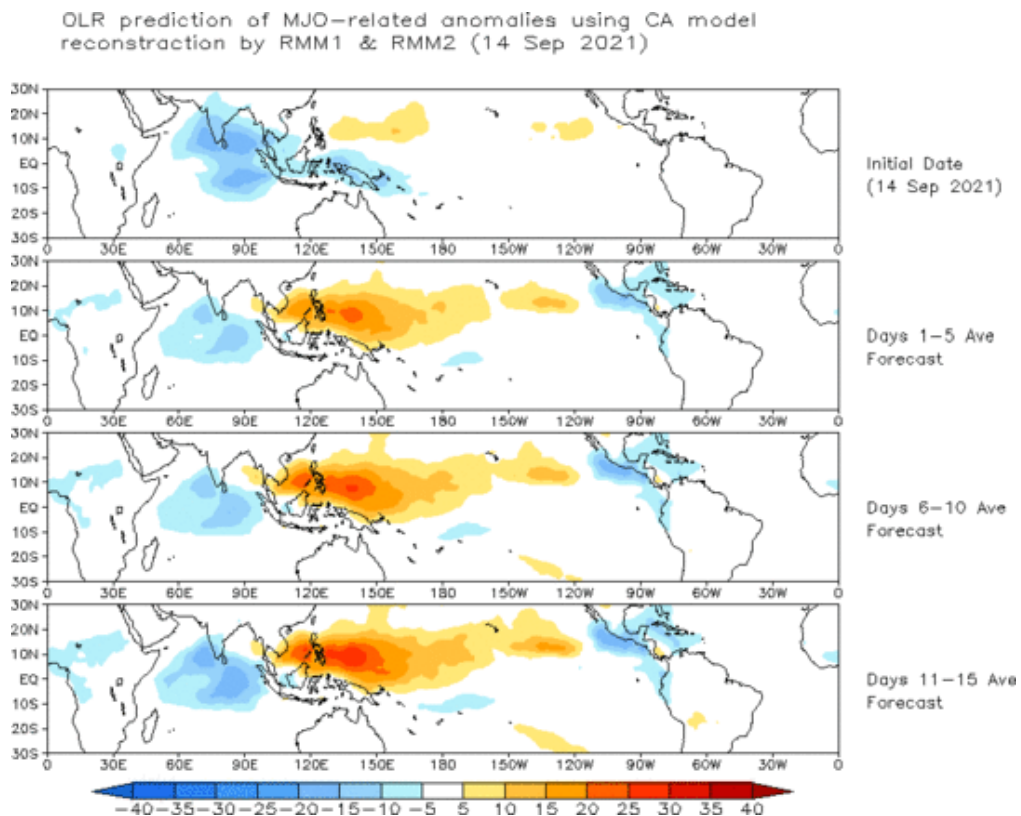
**IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India**





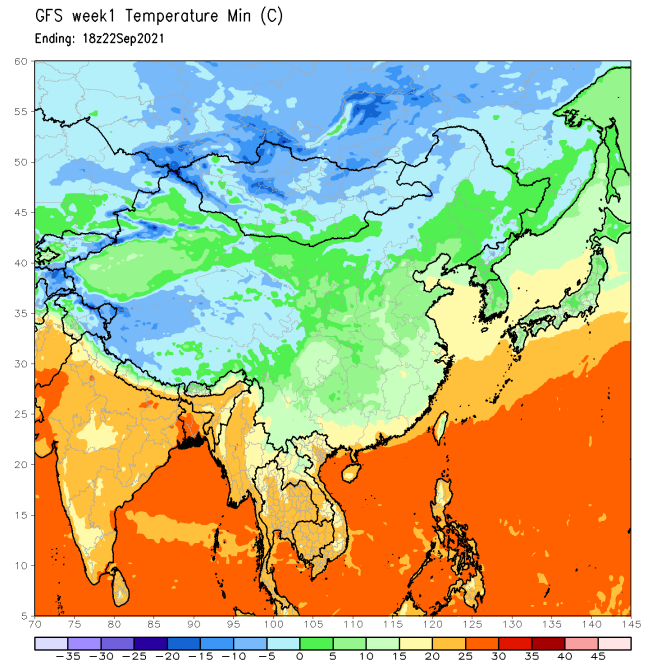
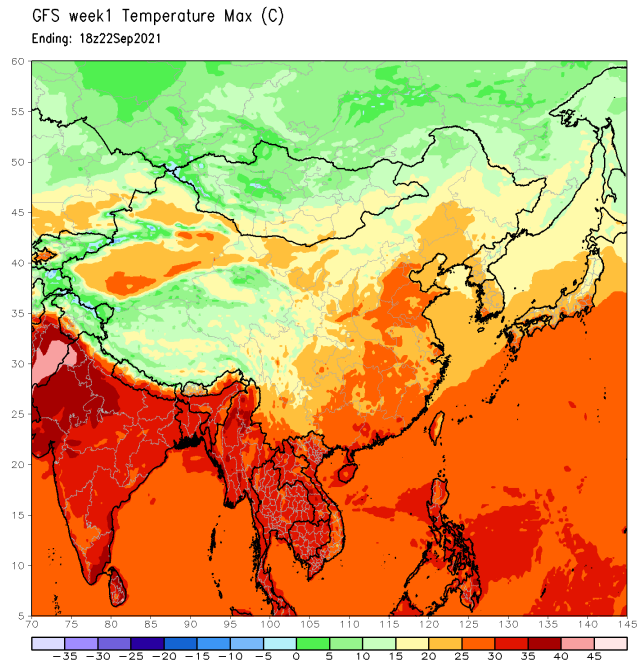
### **Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast**

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.



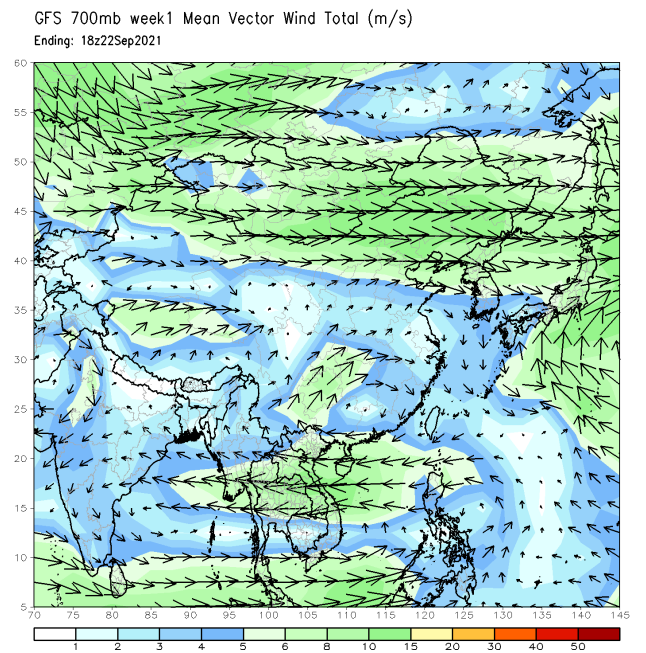
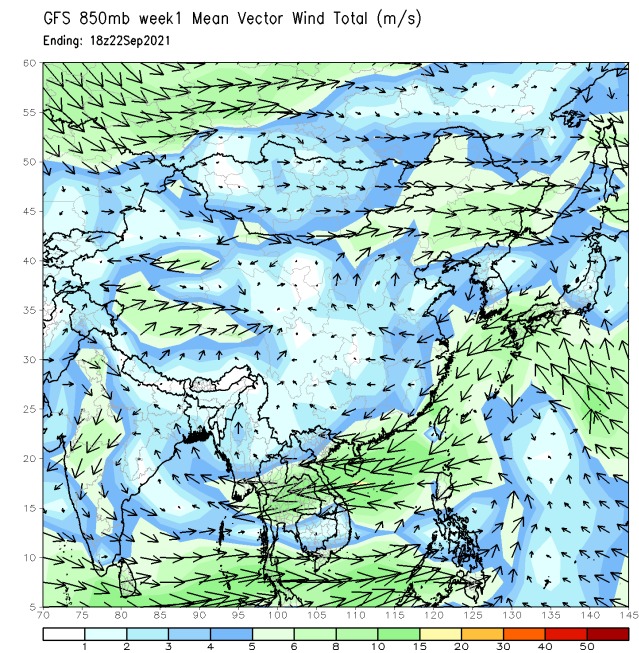
## Weekly Temperature Forecast

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



## Weekly Wind Forecast

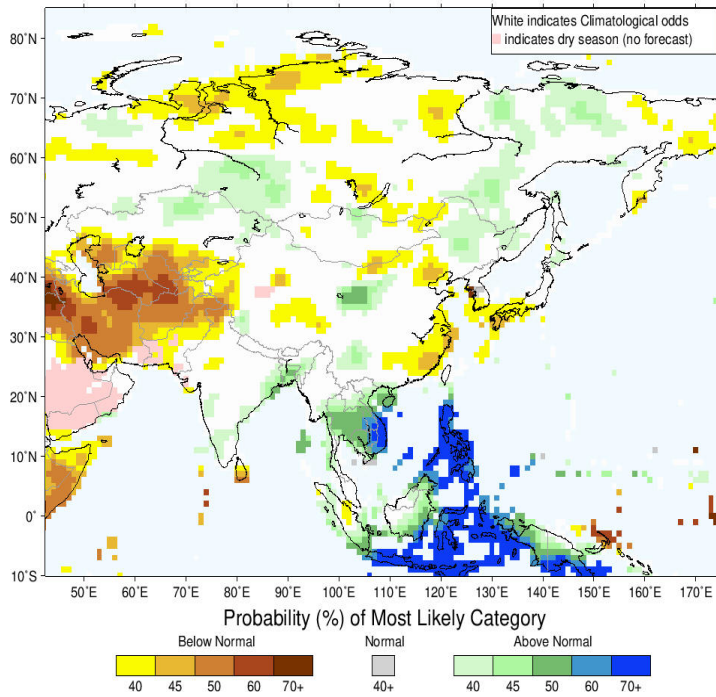
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



## Seasonal Rainfall and Temperature Forecast

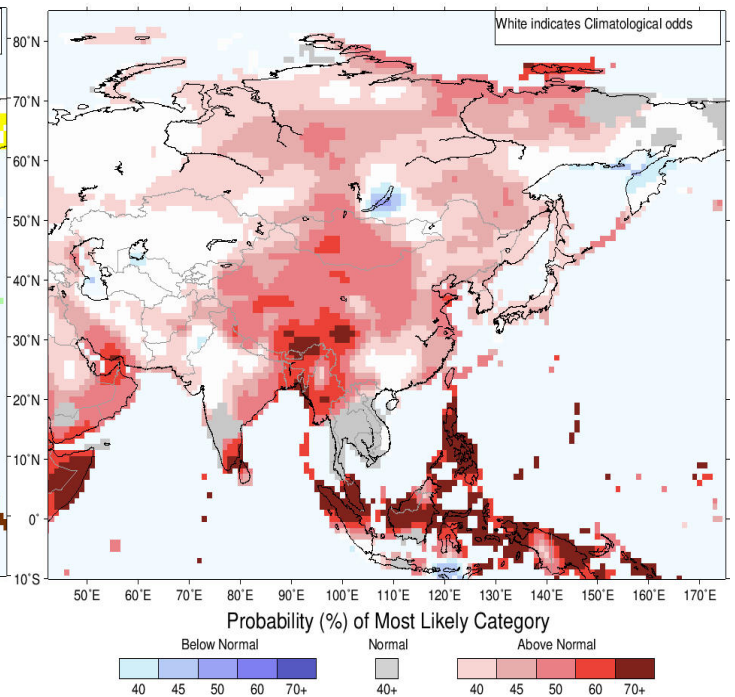
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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 October–November–December 2021, Issued September 2021



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for October–November–December 2021, Issued September 2021



Temperature Forecast

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