

2 SEPTEMBER
2022

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction



• Up to 80 mm of rainfall is predicted for Central and Sabaragamuwa provinces, below 75mm of rainfall is expected for the rest of the country during 2nd-7th September.

Monitored Rainfalls



• During the last week, the average daily rainfall over Sri Lanka was 5.6 mm and hydro catchment areas have received 10.13 mm on average.

Monitored Wind



• From 22nd- 28th August, south-westerly of 10m/s winds were experienced at 850 mb level over the island. Upto 10m/s of westerlies to south-westerly winds expected for the next week.

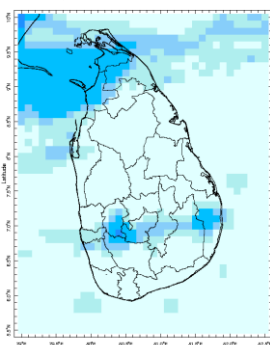
Monitored Sea & Land Temp



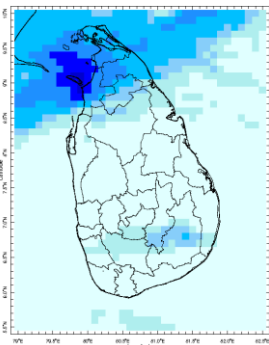
• Sea surface temperature around Sri Lanka was above 0.5 °C to the north of Sri Lanka. Land surface temperature remained near normal.

Monitoring Rainfall

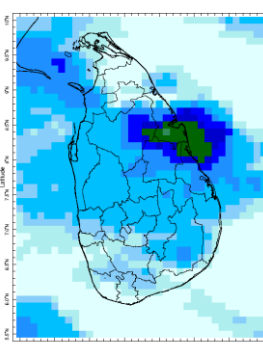
Daily Estimates for Rainfall from 22nd August – 29th August 2022



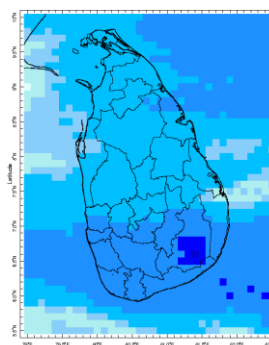
22 August



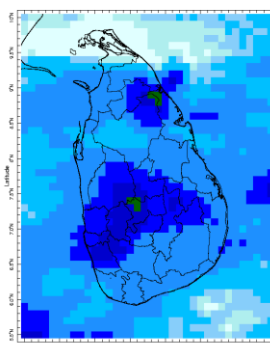
23 August



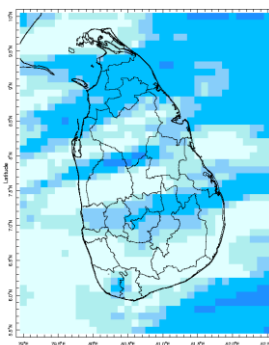
24 August



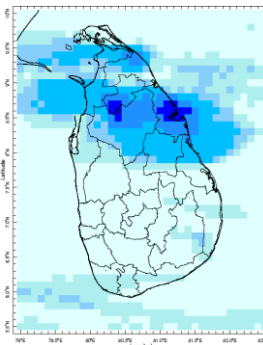
25 August



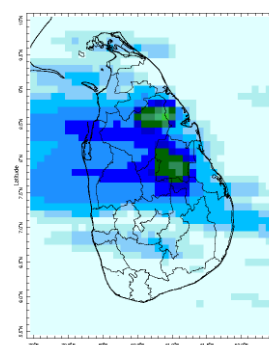
26 August



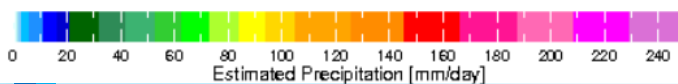
27 August



28 August



29 August



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& Technology

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Ocean State *(Text Courtesy IRI)*

Pacific sea state: August 24, 2022

Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean in late-August. The tropical Pacific atmosphere is consistent with La Niña. A large majority of the models indicate, La Niña is expected to continue, with chances for La Niña gradually decreasing from 86% in the coming season to 60% during December-February 2022-23.

Indian Ocean State

Sea surface temperature around Sri Lanka was above 0.5°C to the north 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 31st August – 6th September:

Total rainfall by Provinces:

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

From 7th September – 13th September:

Total rainfall by Provinces:

Rainfall	Provinces
35 mm	Central, Sabaragamuwa
25 mm	Western, Uva
< 15 mm	Southern, Eastern

MJO based OLR predictions

For the next 15 days:

MJO shall slightly enhance the rainfall during 31st August - 4th September and shall near neutral during 5th September – 14th September.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (22nd Aug - 29th Aug) = 5.6 mm

Rmax: 102.5 mm & Rmin: 0.0 mm.

Region	Average rainfall for the Last 8 days
Northern Plains	5.7 mm
Eastern	7.0 mm
Western	5.4 mm
Southern Plains	0.0 mm

The Hydro Catchment Areas recorded 10.13 mm of average rainfall for the last week
Rmax: 96.5 mm & Rmin: 0.0 mm.

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

Temperatures: The temperature anomalies were below normal for the northern half of the island, driven by the warm SST's.

Predictions

Rainfall: During the next week (2nd- 6th September) up to 80 mm of rainfall is predicted for Central and Sabaragamuwa provinces, and < 75mm rainfall is expected for the rest of the country.

Temperatures: The temperature will remain slightly above normal for the Uva province during 2nd September – 7th September.

Teleconnections: La Niña - La Niña is expected to continue, with chances for La Niña gradually decreasing from 86% in the coming season to 60% during December-February 2022-23.

MJO shall slightly enhance the rainfall during 31st August - 4th September and shall near neutral during 5th September – 14th 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
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, ¹ 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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2. Predictions

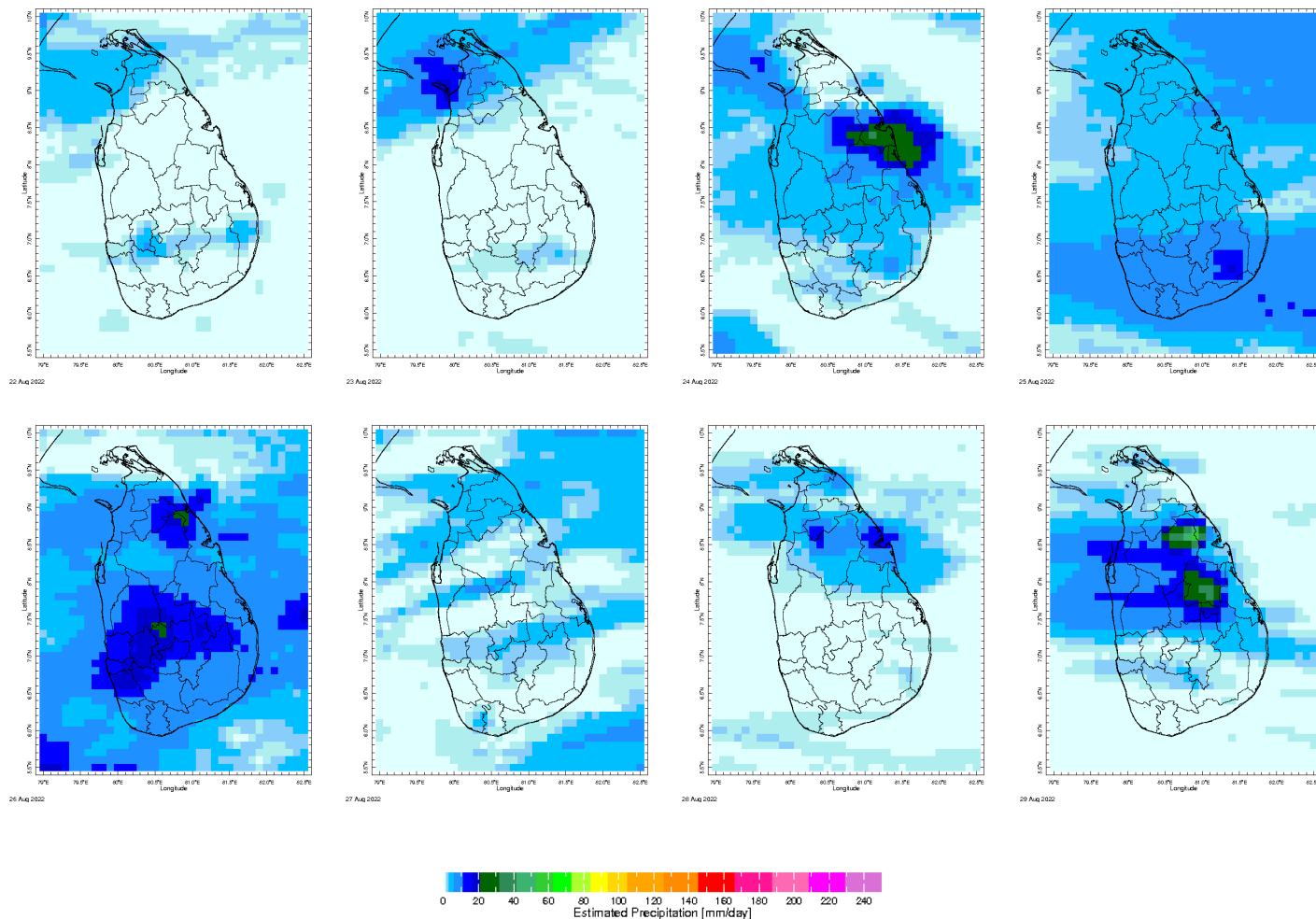
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MONITORING

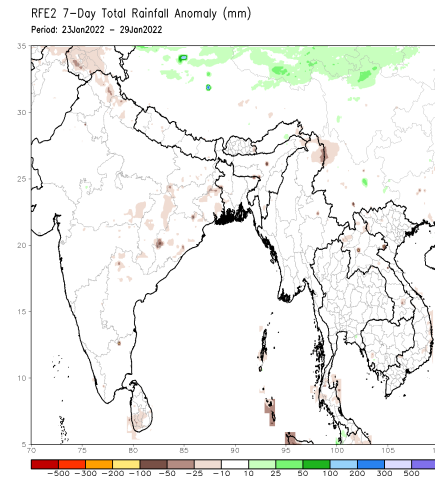
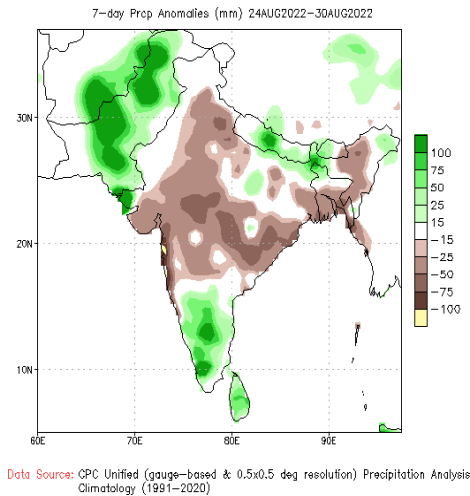
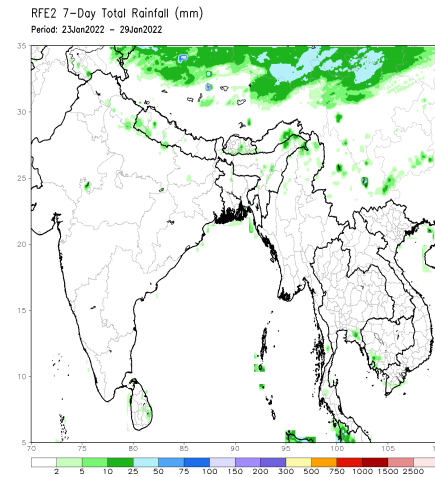
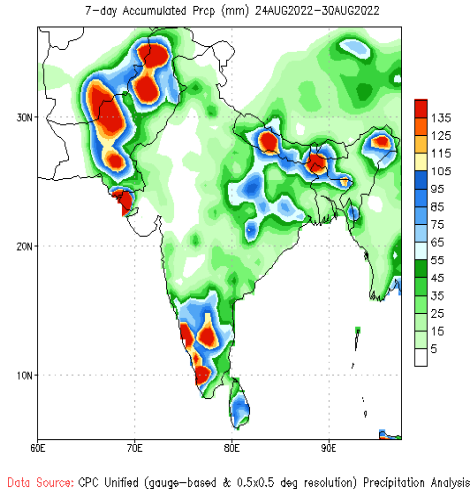
Daily Rainfall Monitoring

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



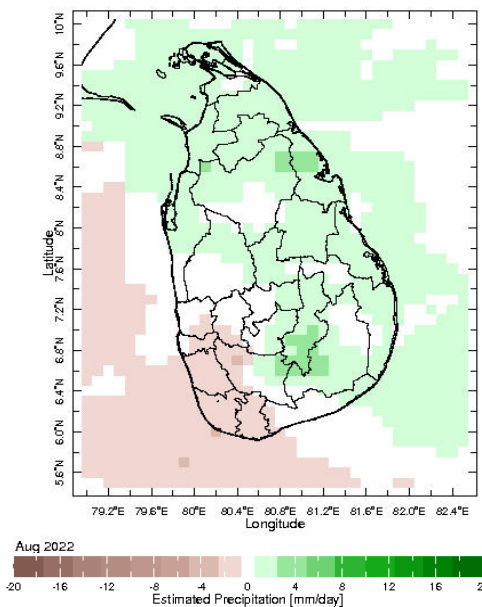
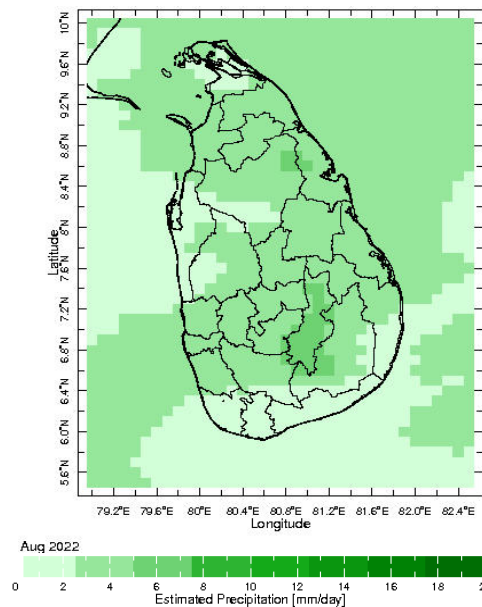
Weekly Rainfall Monitoring

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.

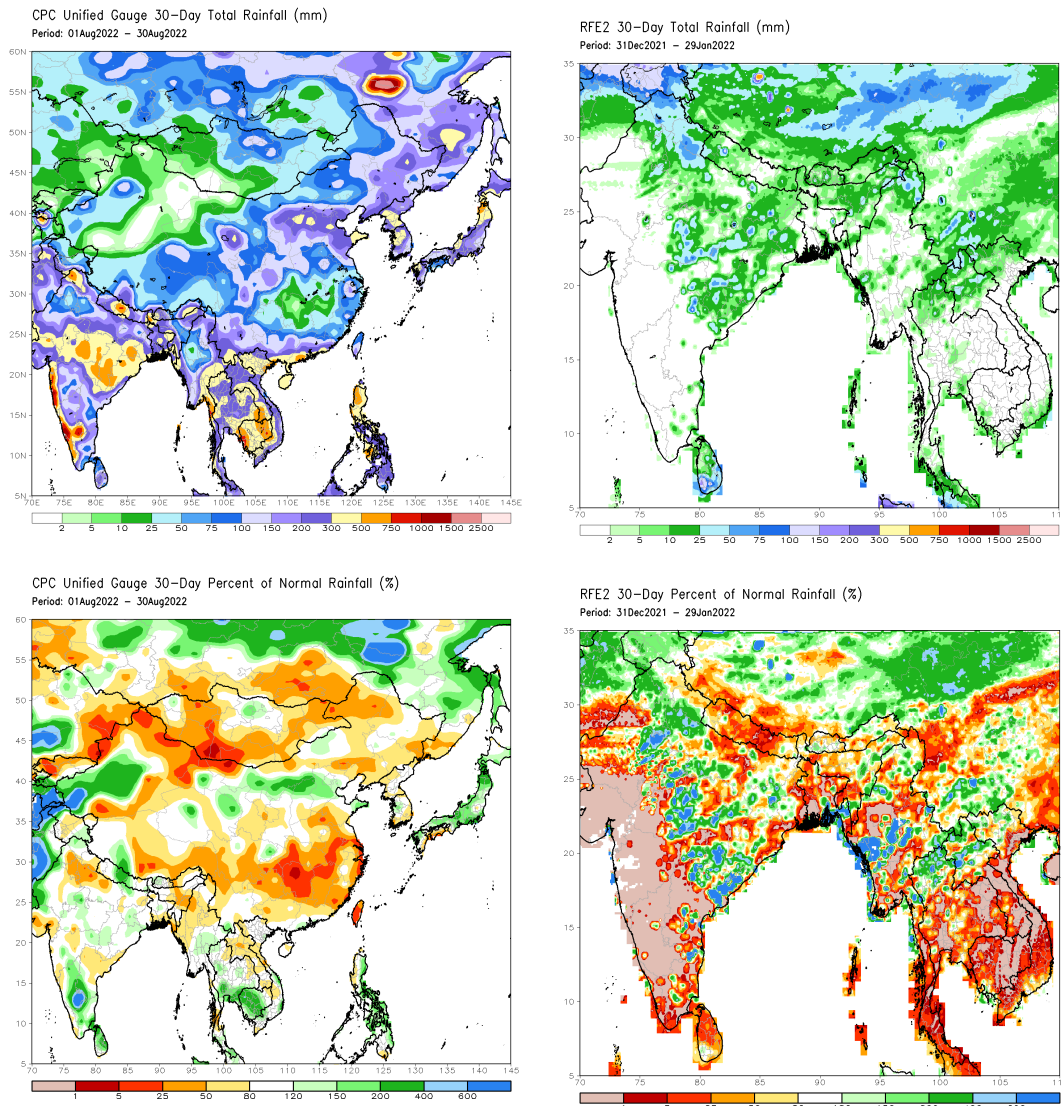


Monthly Rainfall Monitoring

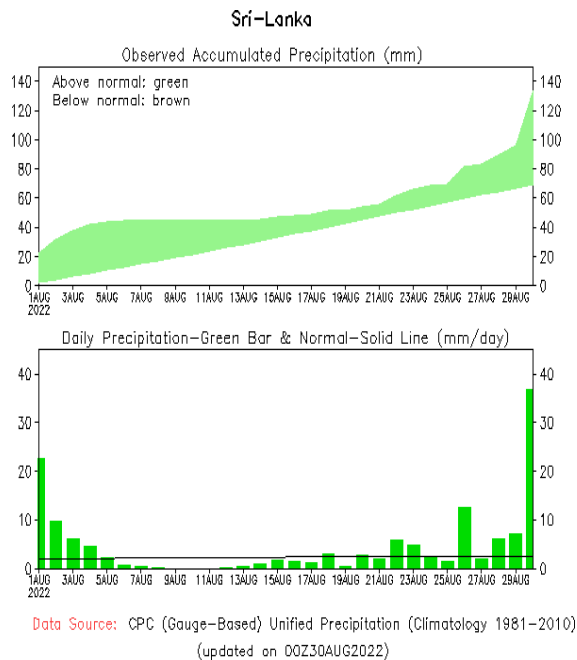
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



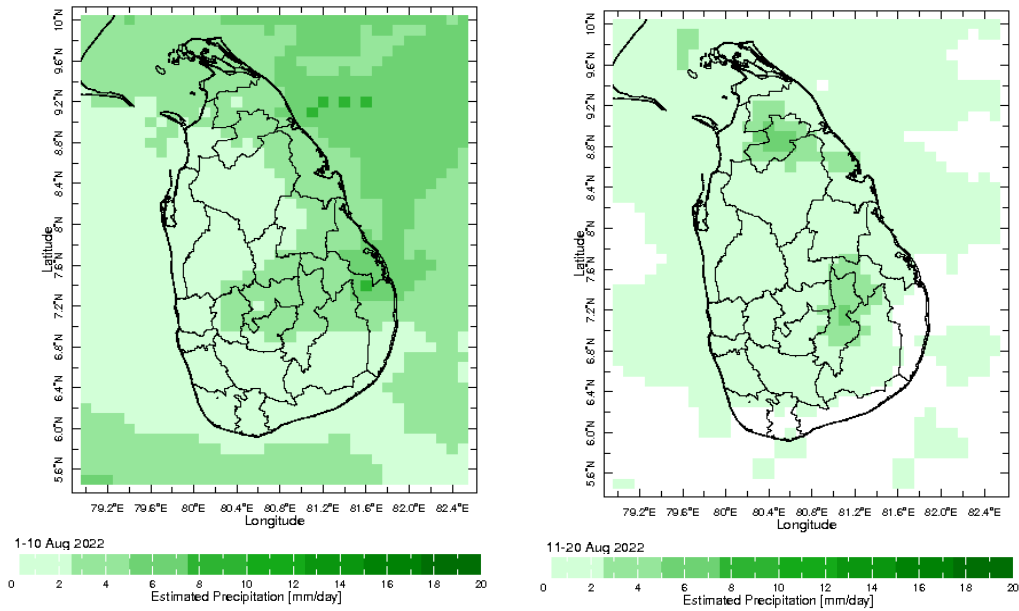
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



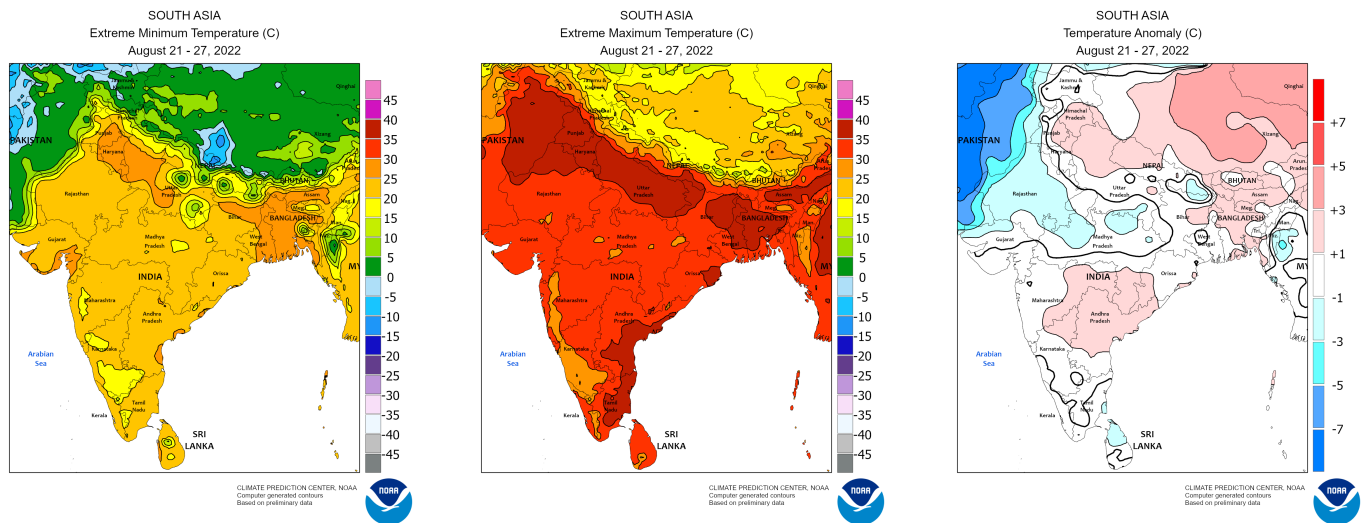
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Sate lite Derived Ra nfall Estimates

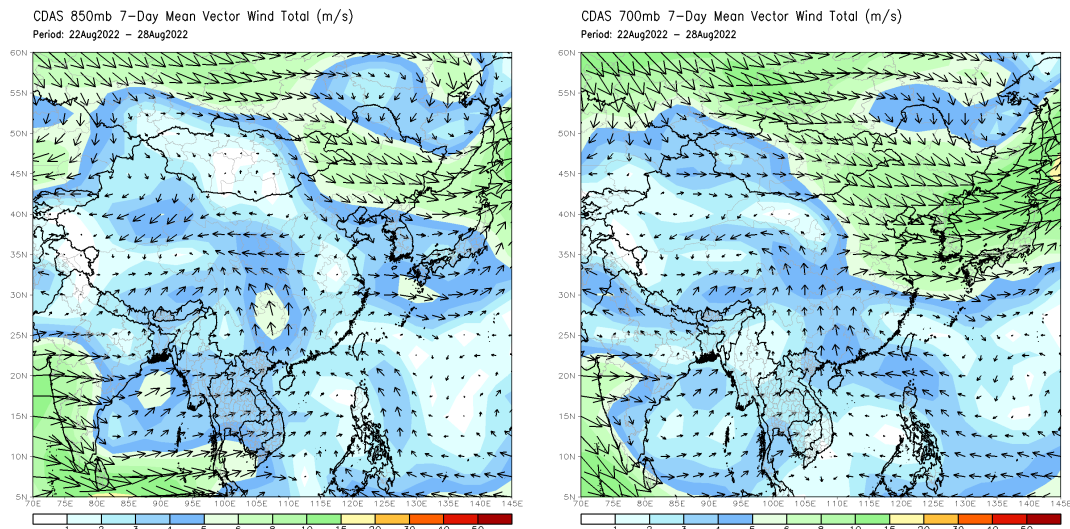


Weekly Temperature Monitoring



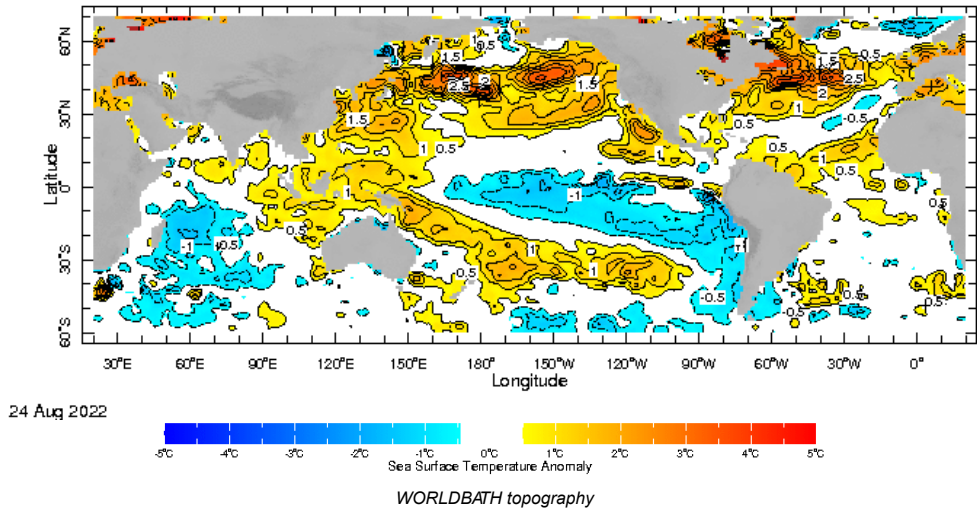
Weekly Wind Monitoring

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.

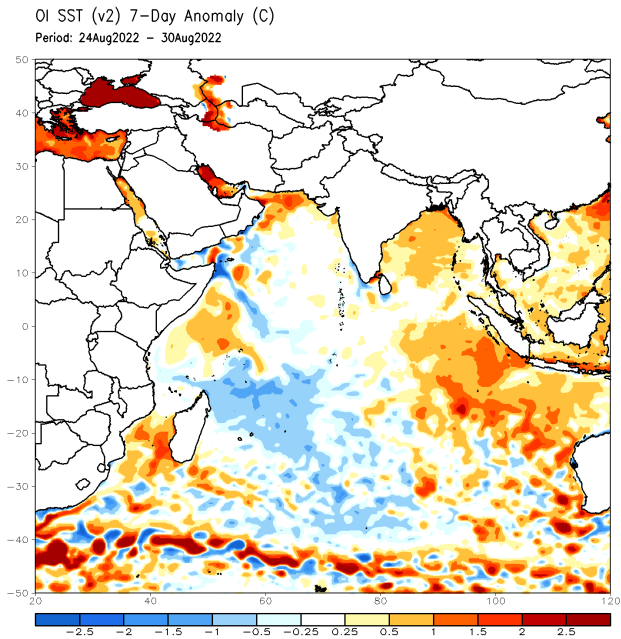


Weekly Average SST Anoma ies

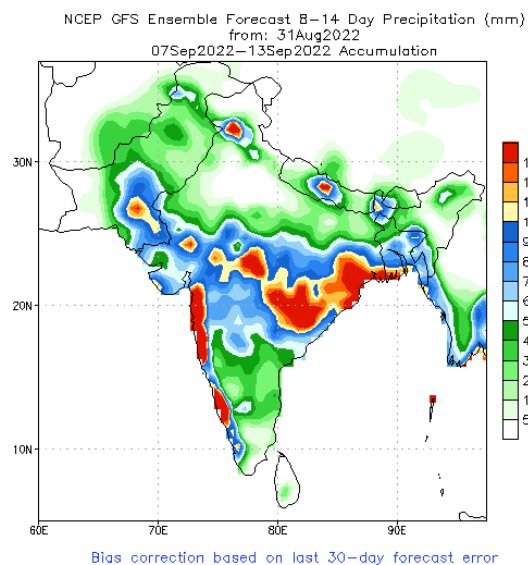
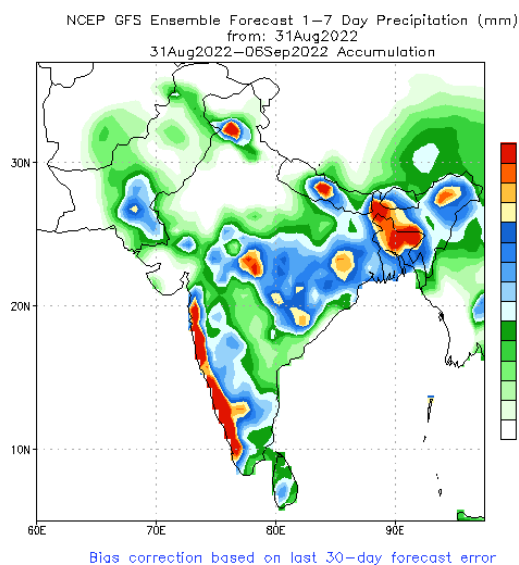
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



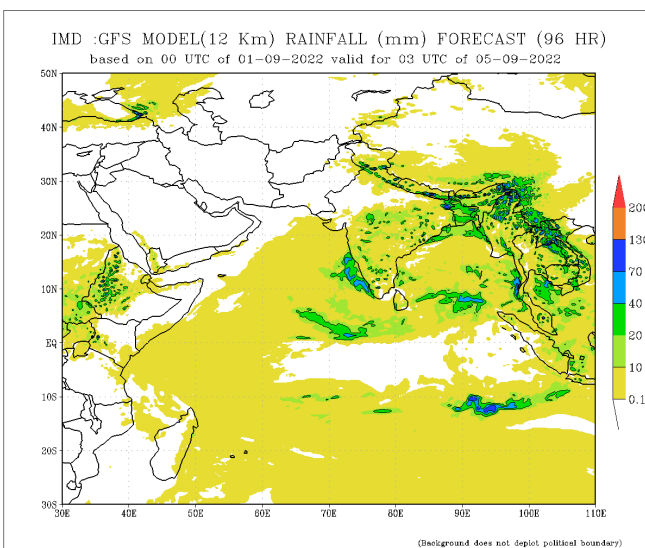
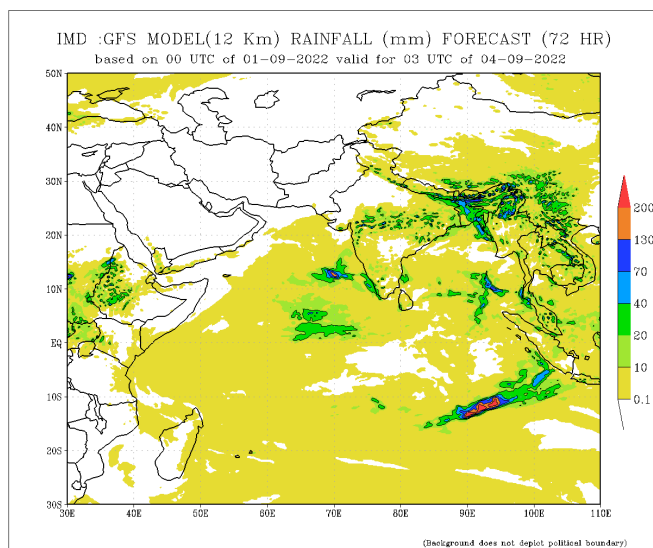
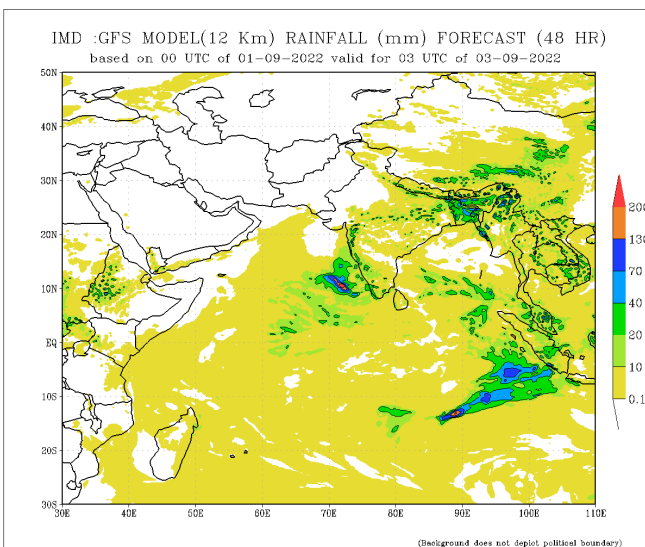
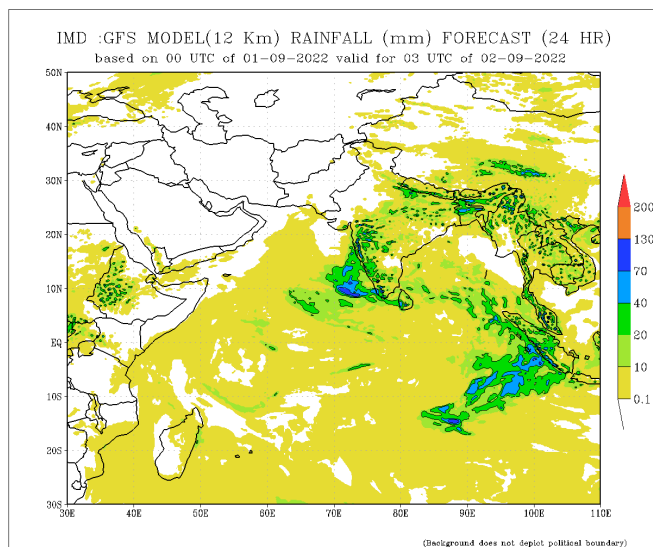
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

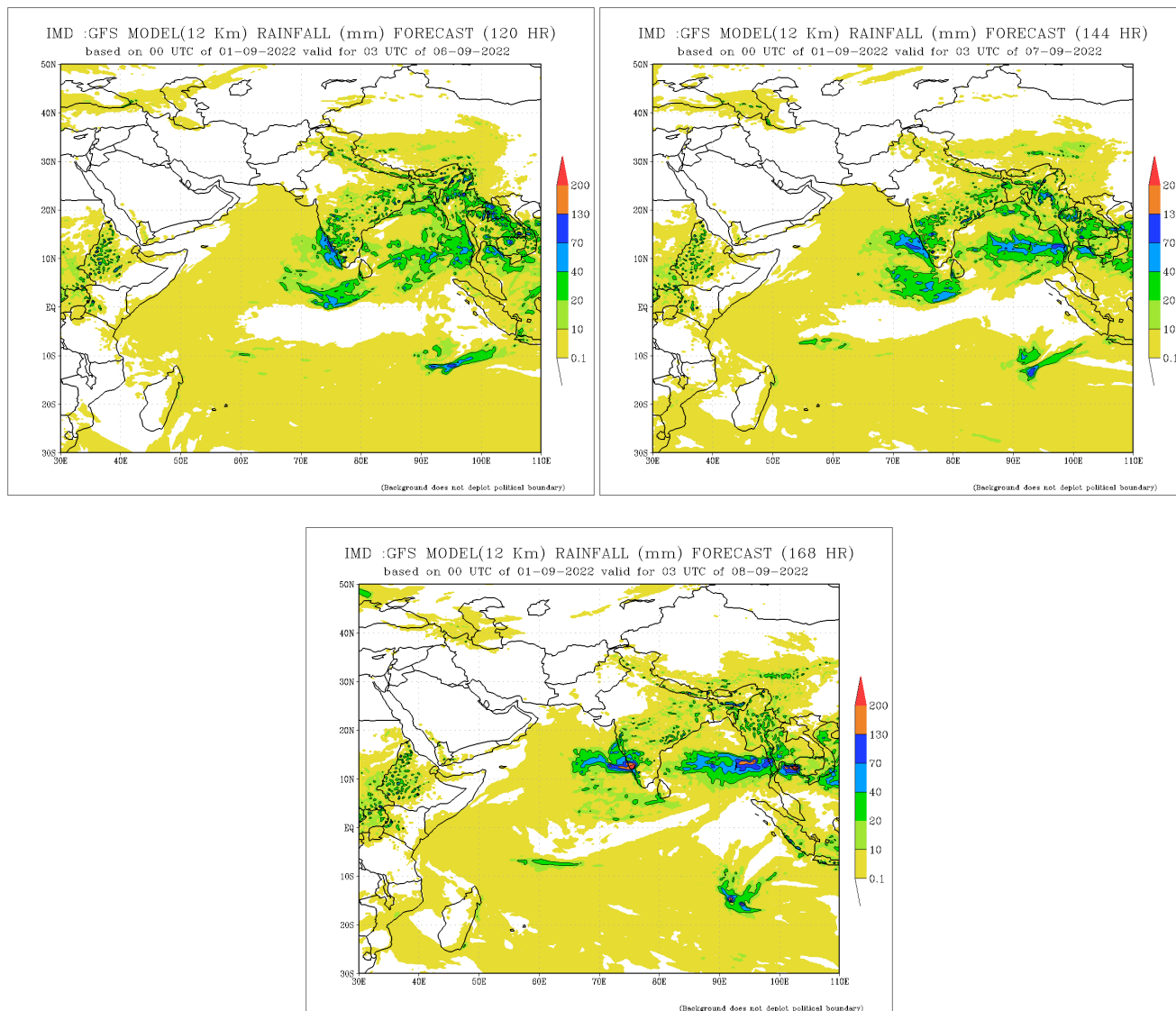


NCEP GFS 1- 14DaY Prediction



IMD GFS (T574) Mode Rainfall Forecast from RMSC New Deh, India

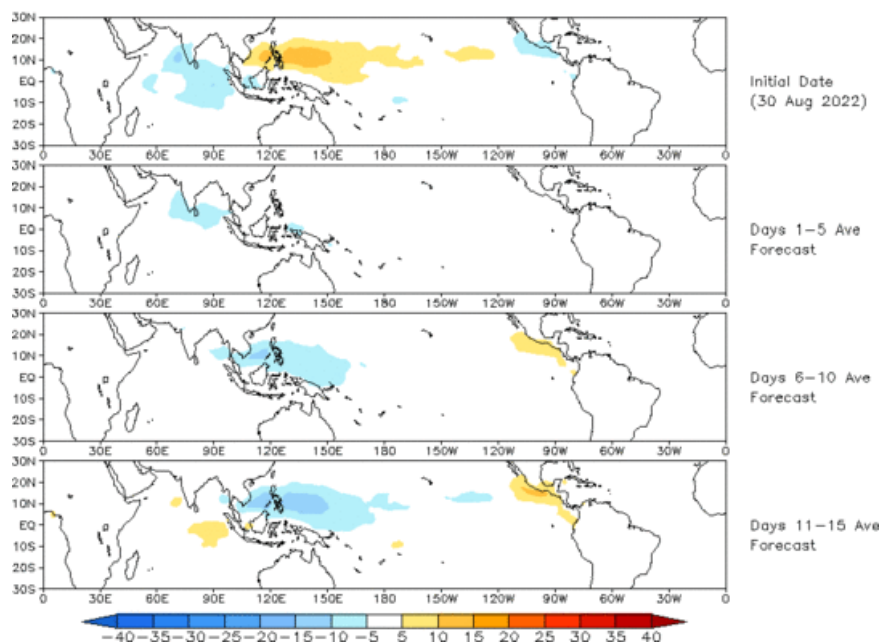




Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

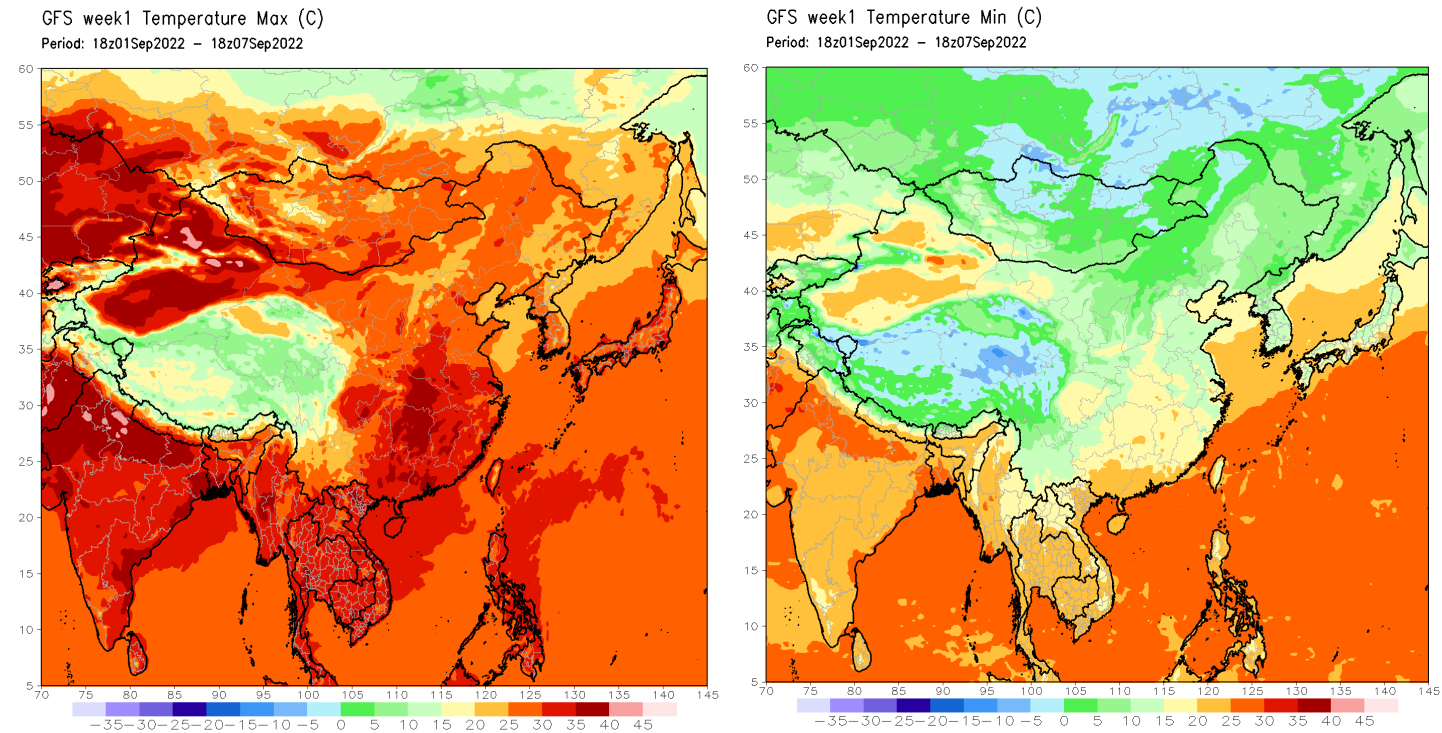
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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

OLR prediction of MJO-related anomalies using CA model
reconstruction by RMM1 & RMM2 (30 Aug 2022)



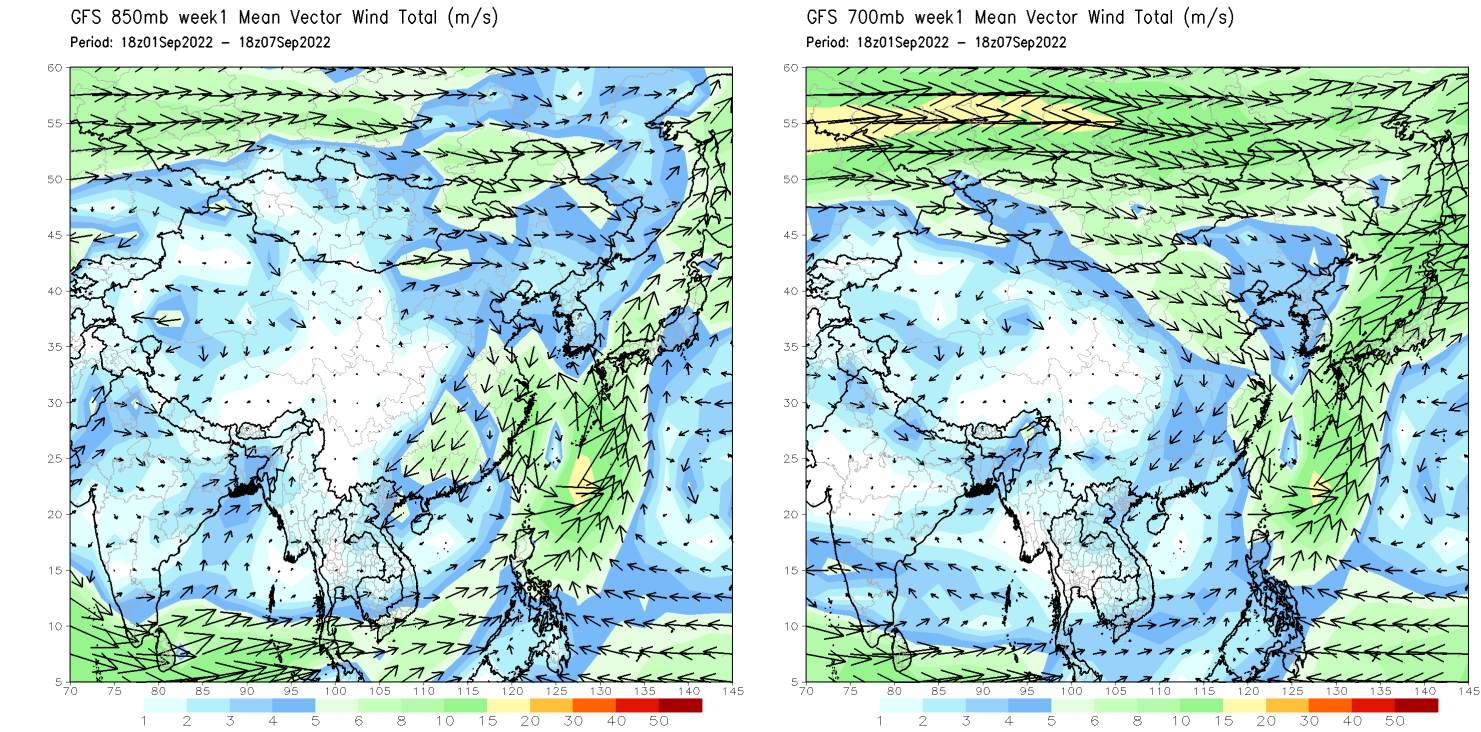
Weekly Temperature Forecast

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



Weekly Wind Forecast

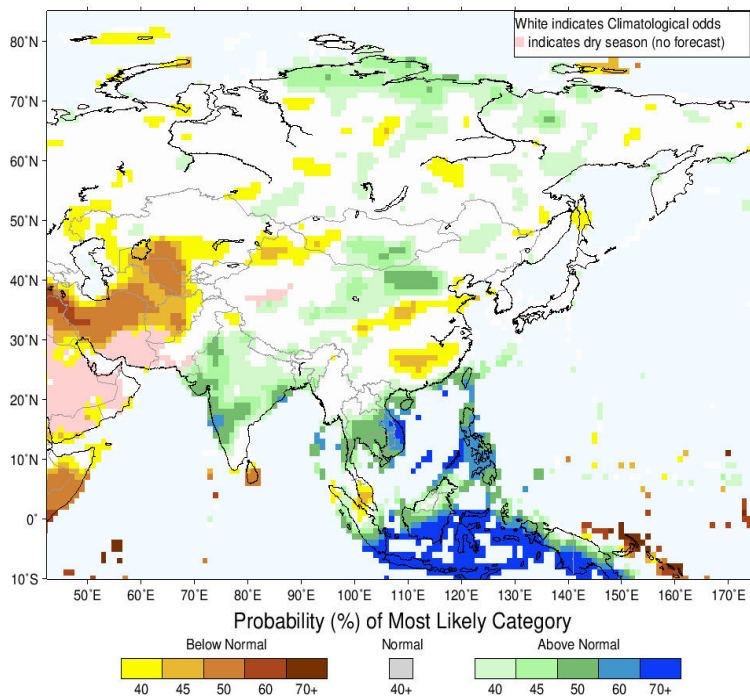
weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



Seasonal Rainfall and Temperature Forecast

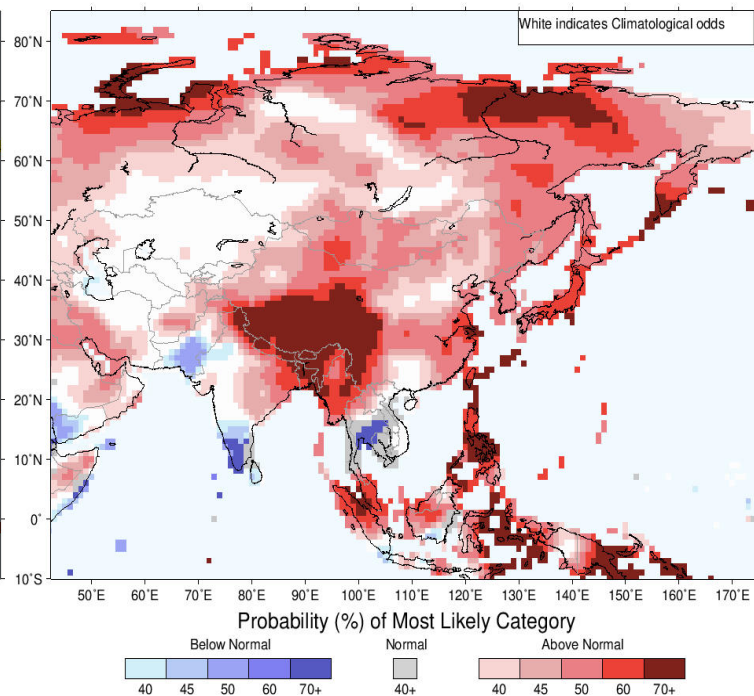
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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