

16 SEPTEMBER
2022

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction



• During the next week (16th- 20th September) moderate rainfall is predicted for the Western and Sabaragamuwa provinces, and less rainfall is expected for rest of the country.

Monitored Rainfalls



• During the last week, the average daily rainfall over Sri Lanka was 0.5 mm and hydro catchment areas received 1.6 mm on average.

Monitored Wind



• From 5th- 11th September, up to 15m/s of south-westerlies were experienced at 850 mb level over the island. South-westerly winds are expected next week.

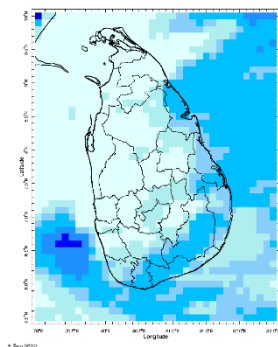
Monitored Sea & Land Temp



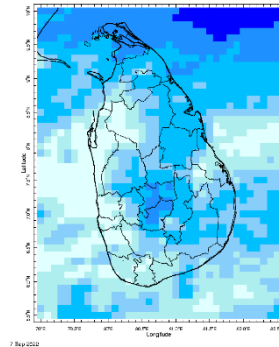
• Sea surface temperature around Sri Lanka was around 25 - 30 °C to the North and West of the country. Land surface temperature remained near normal.

Monitoring Rainfall

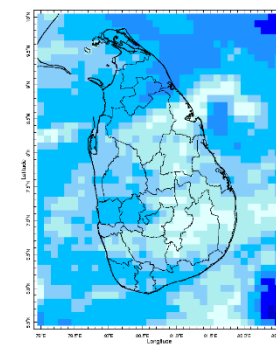
Daily Estimates for Rainfall from 6th September – 13th September 2022



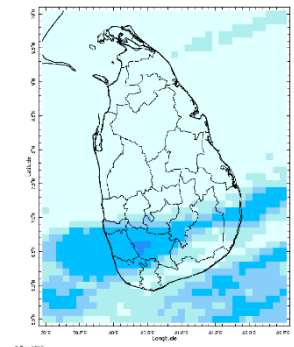
6 September



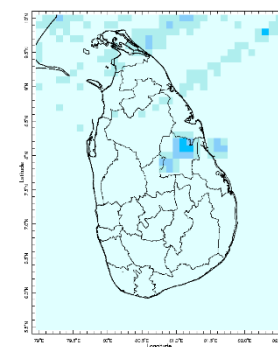
7 September



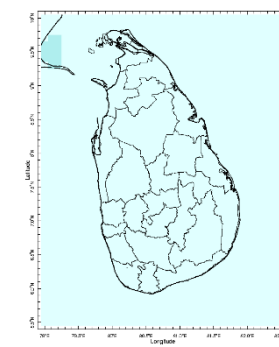
8 September



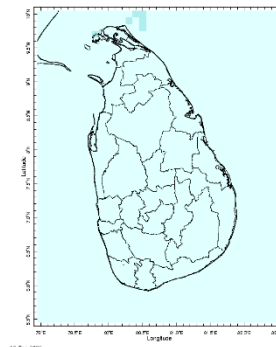
9 September



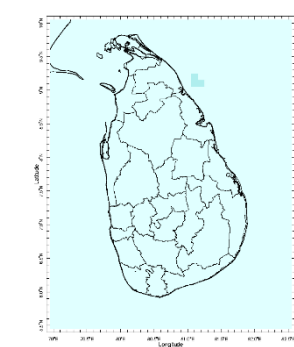
10 September



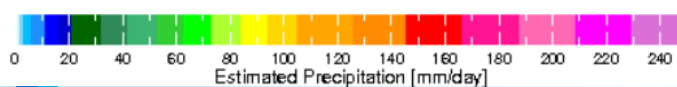
11 September



12 September



13 September



Estimated Precipitation [mm/day]



Federation for
Environment, Climate
& Technology

Federation for Environment, Climate and Technology

c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.

Phone (+94) 81-2376746, (+94) 81-2300415

Web Site: www.fect.lk

E mail: info@fect.lk

LI: www.linkedin.com/in/fectlk

FB: www.facebook.com/fectlk

TW: www.twitter.com/fectlk

Ocean State *(Text Courtesy IRI)*

Pacific sea state: September 8, 2022

Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean early-September. The tropical Pacific atmosphere is consistent with La Niña. A large majority of the models indicate, La Niña is favored to continue through Northern Hemisphere winter 2022-23, with a 91% chance in September-November, decreasing to a 54% chance in January-March 2023.

Indian Ocean State

Sea surface temperature around Sri Lanka was around 25 - 30°C to the North and West of the country. 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 14th September – 20th September:

Total rainfall by Provinces:

Rainfall	Provinces
35 mm	Western, Sabaragamuwa
< 25 mm	North Western, Central, Southern

From 21st September – 27th September:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall near neutral for Sri Lanka during 14th September – 28th September.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (6th Sep - 13th Sep) = 0.5 mm
Rmax: 16.2 mm & Rmin: 0.0 mm.

Region	Average rainfall for the Last 8 days
Northern Plains	0.0 mm
Eastern	0.0 mm
Western	1.4 mm
Southern Plains	0.1 mm

The Hydro Catchment Areas recorded 1.6 mm of average rainfall for the last week
Rmax: 36.9 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 for the northern half of the island and were even lower in provinces like Uva and Sabaragamuwa, driven by the warm SST's.

Predictions

Rainfall: During the next week (16th- 20th September) moderate rainfall is predicted for the Western and Sabaragamuwa provinces, and less rainfall is expected for the rest of the country.

Temperatures: The temperature will remain above normal for the Northern, North central, Uva and Eastern provinces during 16th September – 22nd September.

Teleconnections: La Niña is favored to continue through Northern Hemisphere winter 2022-23, with a 91% chance in September-November, decreasing to a 54% chance in January-March 2023. MJO shall near neutral for Sri Lanka during 14th September – 28th September.

Seasonal Precipitation: The precipitation forecast for the October-November-December 2022 season shows a higher tendency for below-normal precipitation to the southern half of 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.



FECT Web

www.fect.lk
<http://www.climate.lk>
<http://www.tropicalclimate.org/>



FECT Blog

Past reports available at
<http://fectsl.blogspot.com/>



Facebook

www.facebook.com/fectlk



Twitter

www.twitter.com/fectlk

Weekly Climate Bulletin for Sri Lanka

Inside This Issue

1. Monitoring

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

2. Predictions

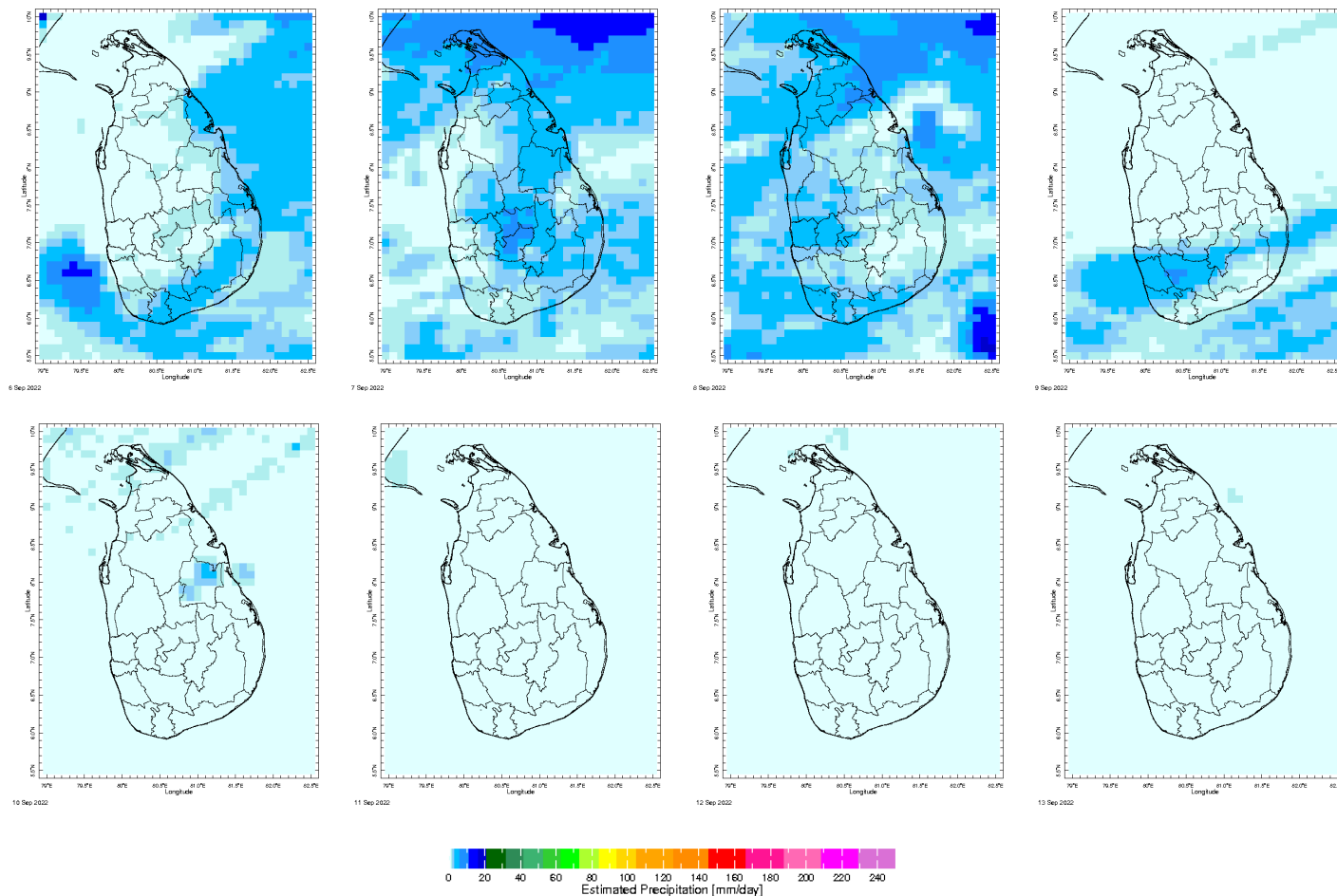
- NCEP GFS Ensemble 1-14 day Rainfall Predictions
- GFS (T574) Model Rainfall Forecast from RMSC New Delhi
- MJO Related OLR Forecast
- Weekly Temperature Forecast
- Weekly Wind Forecast
- Seasonal Predictions from IRI



MONITORING

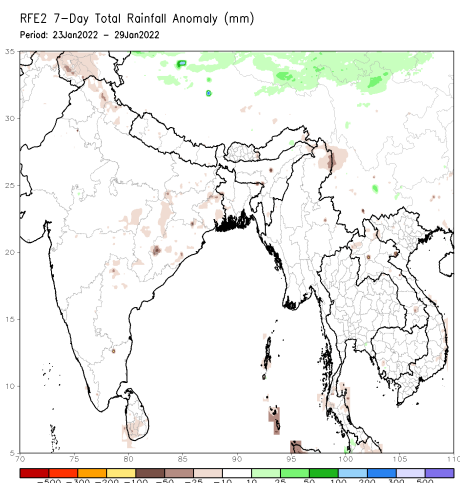
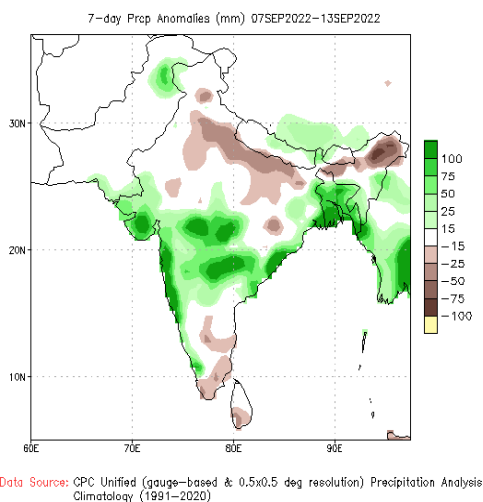
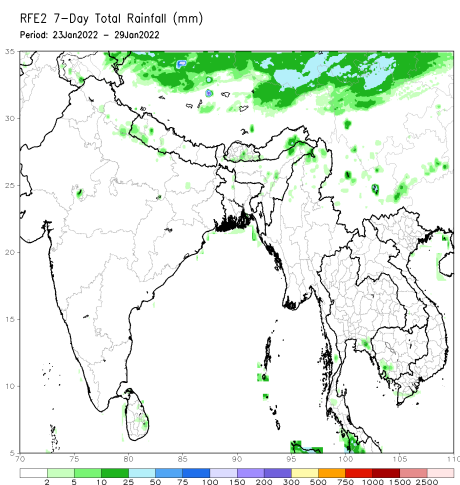
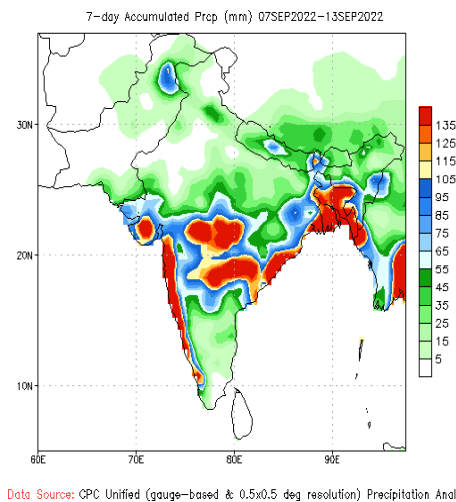
Daily Rainfall Monitoring

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



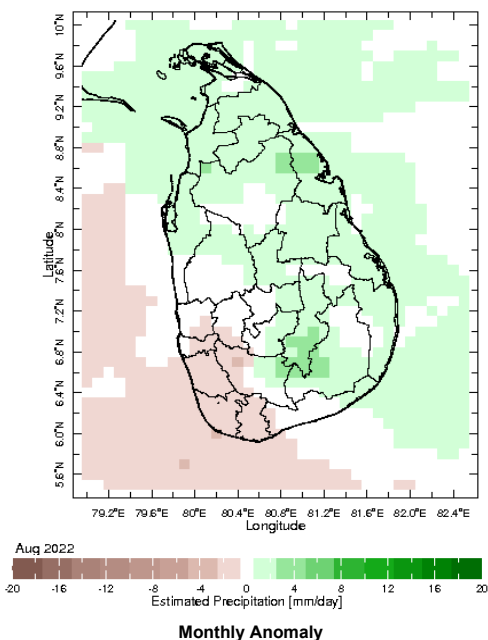
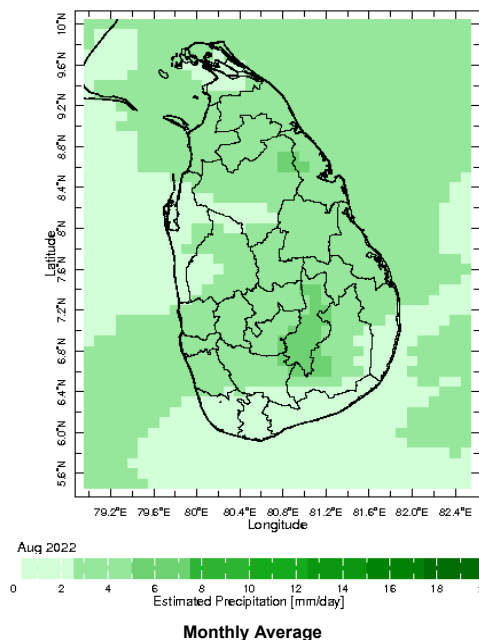
Weekly Rainfall Monitoring

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.

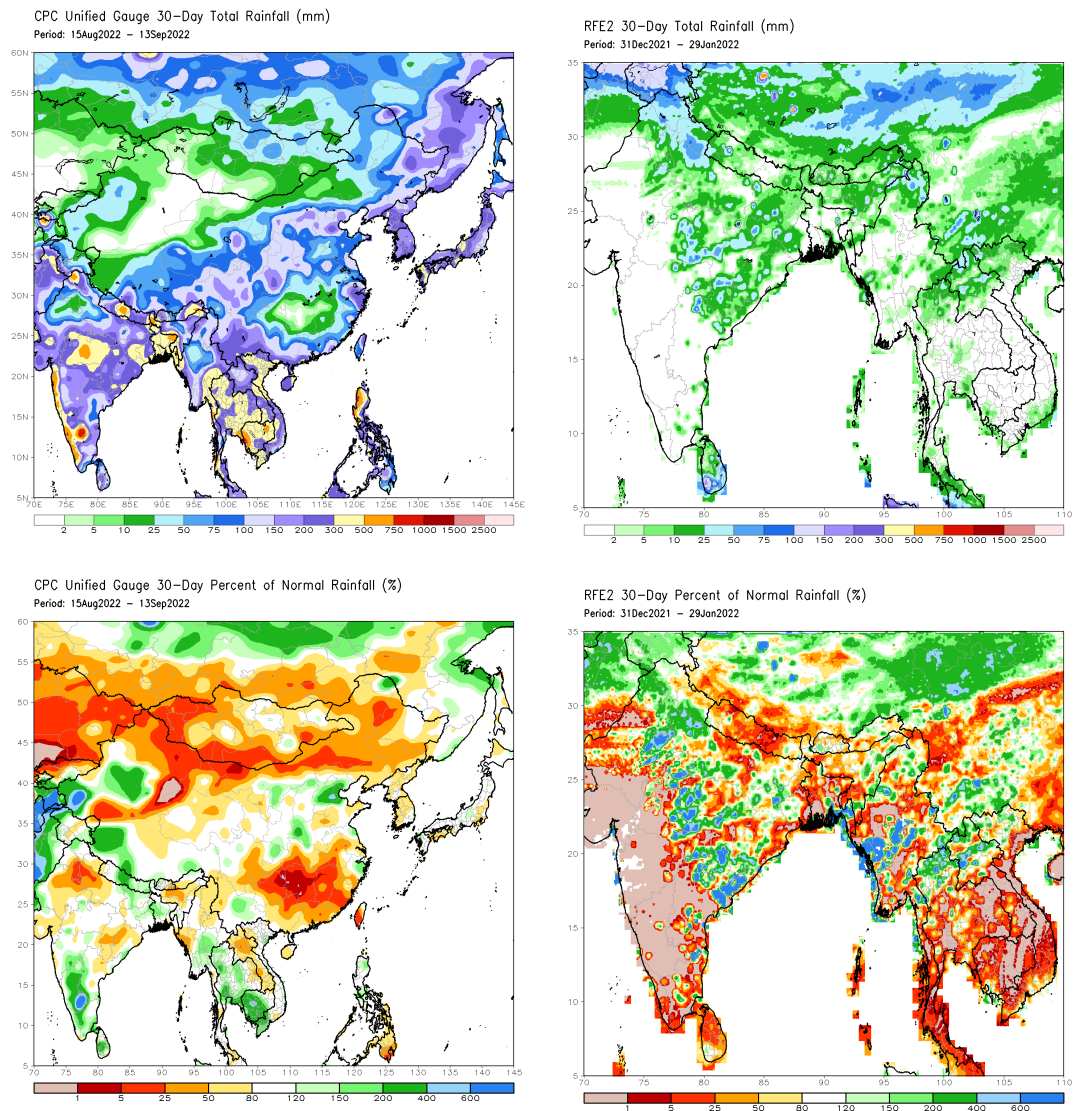


Monthly Rainfall Monitoring

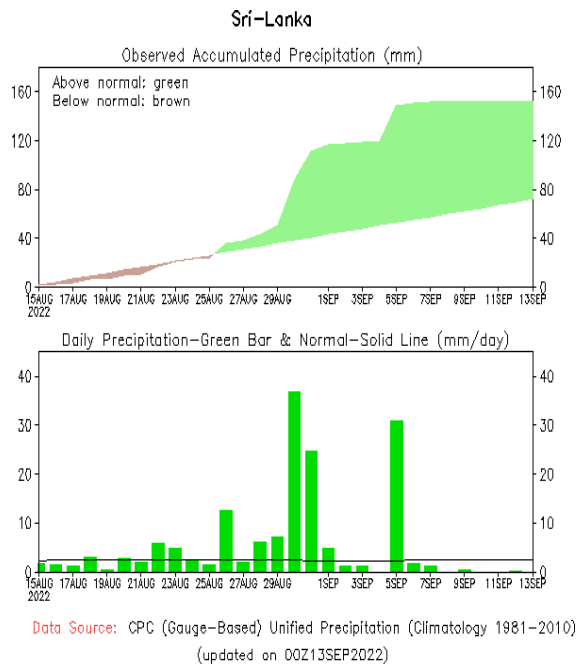
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



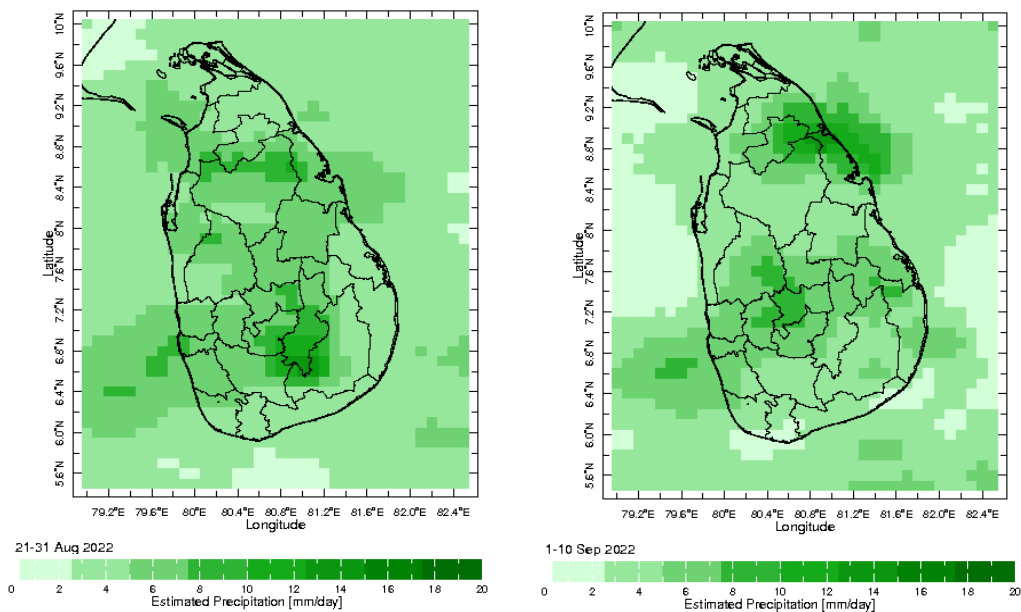
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



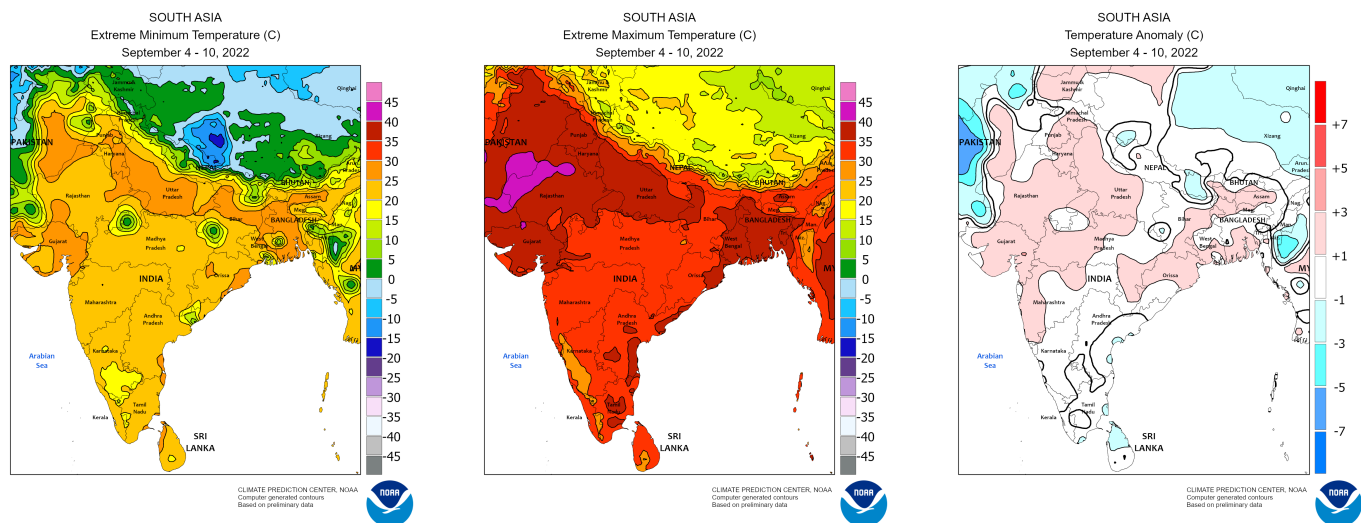
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

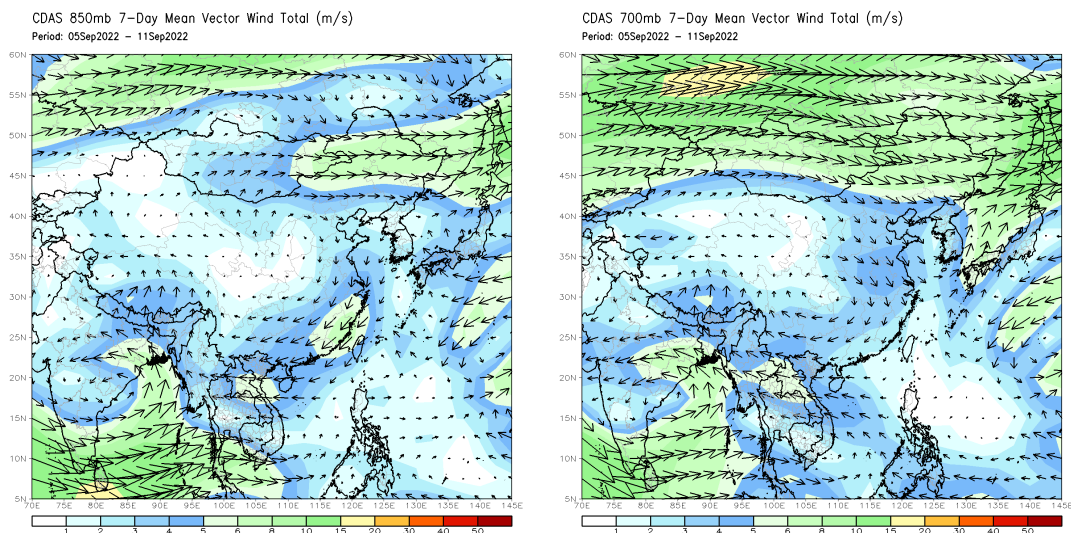


Weekly Temperature Monitoring



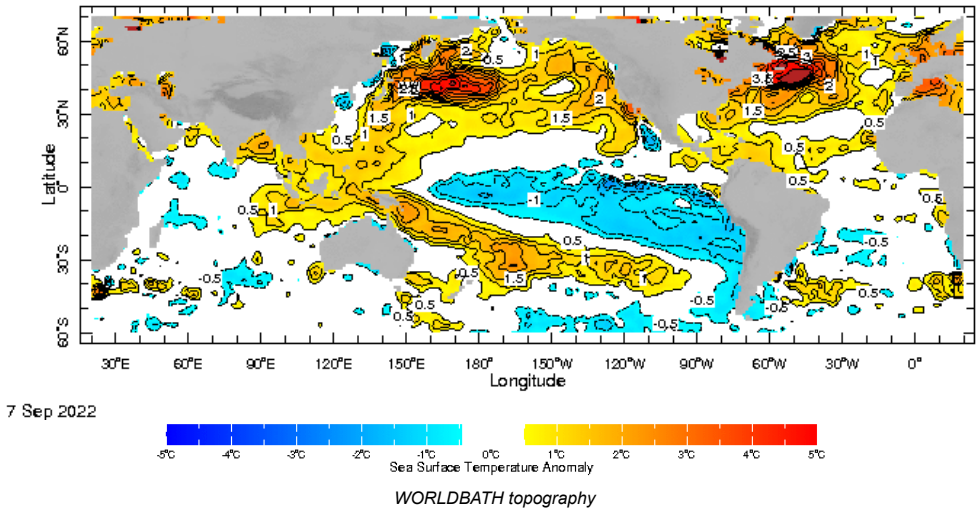
Weekly Wind Monitoring

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.

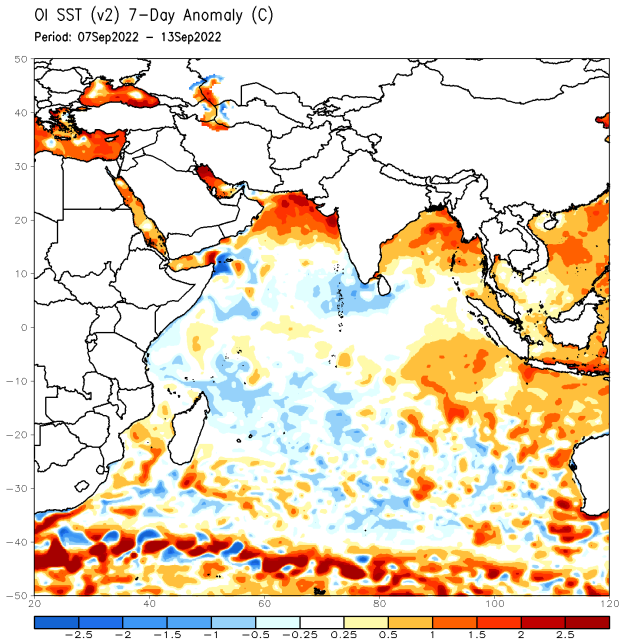


Weekly Average SST Anomalies

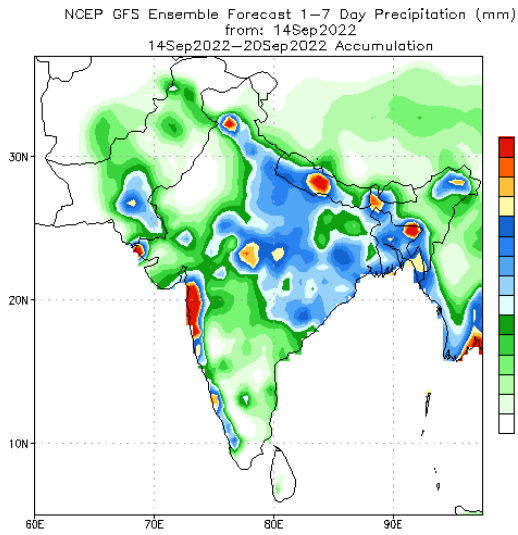
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



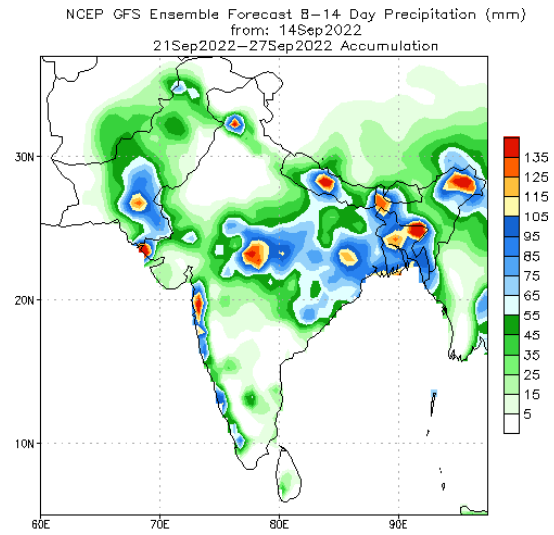
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



NCEP GFS 1- 14 Day prediction

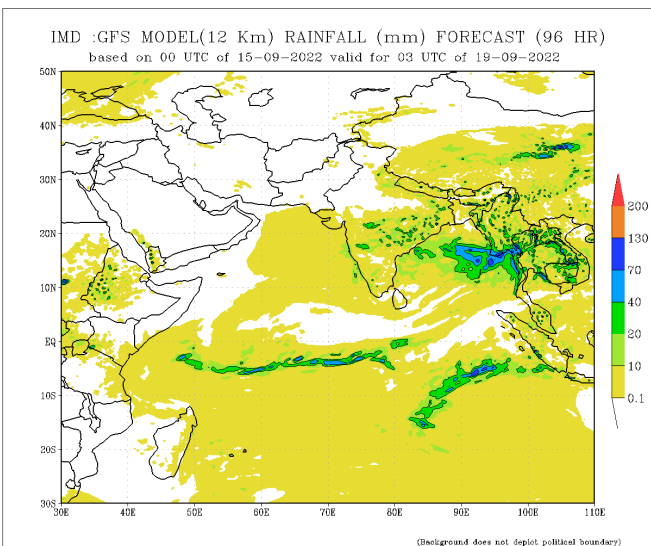
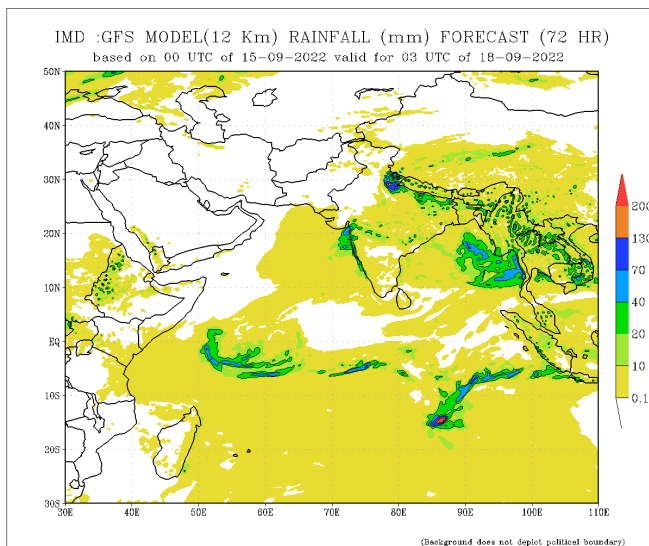
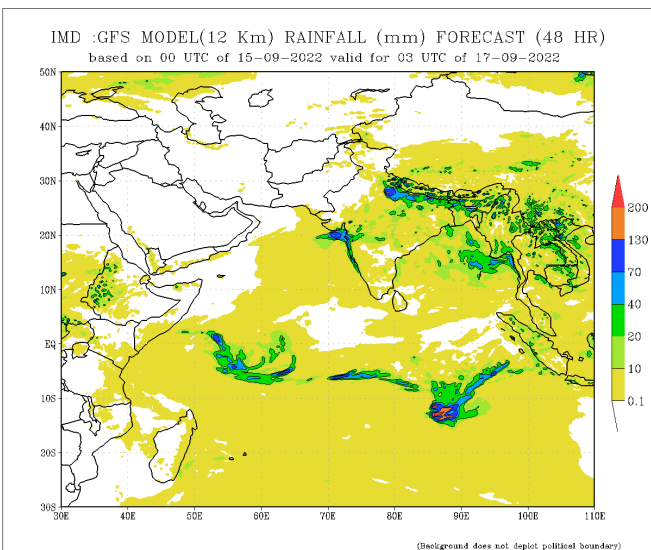
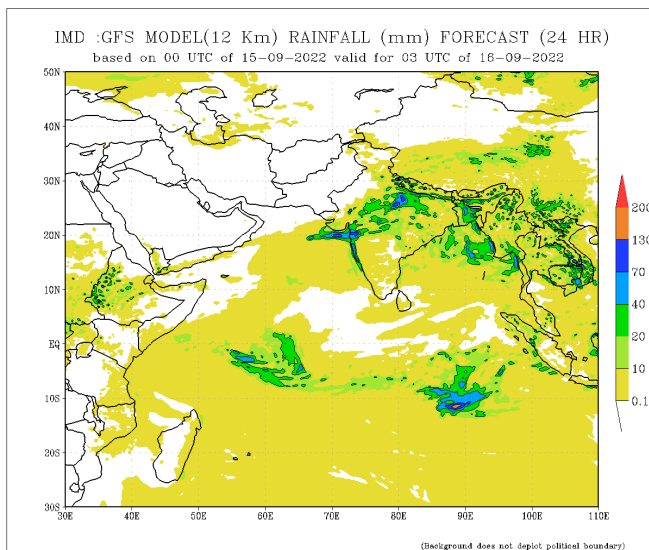


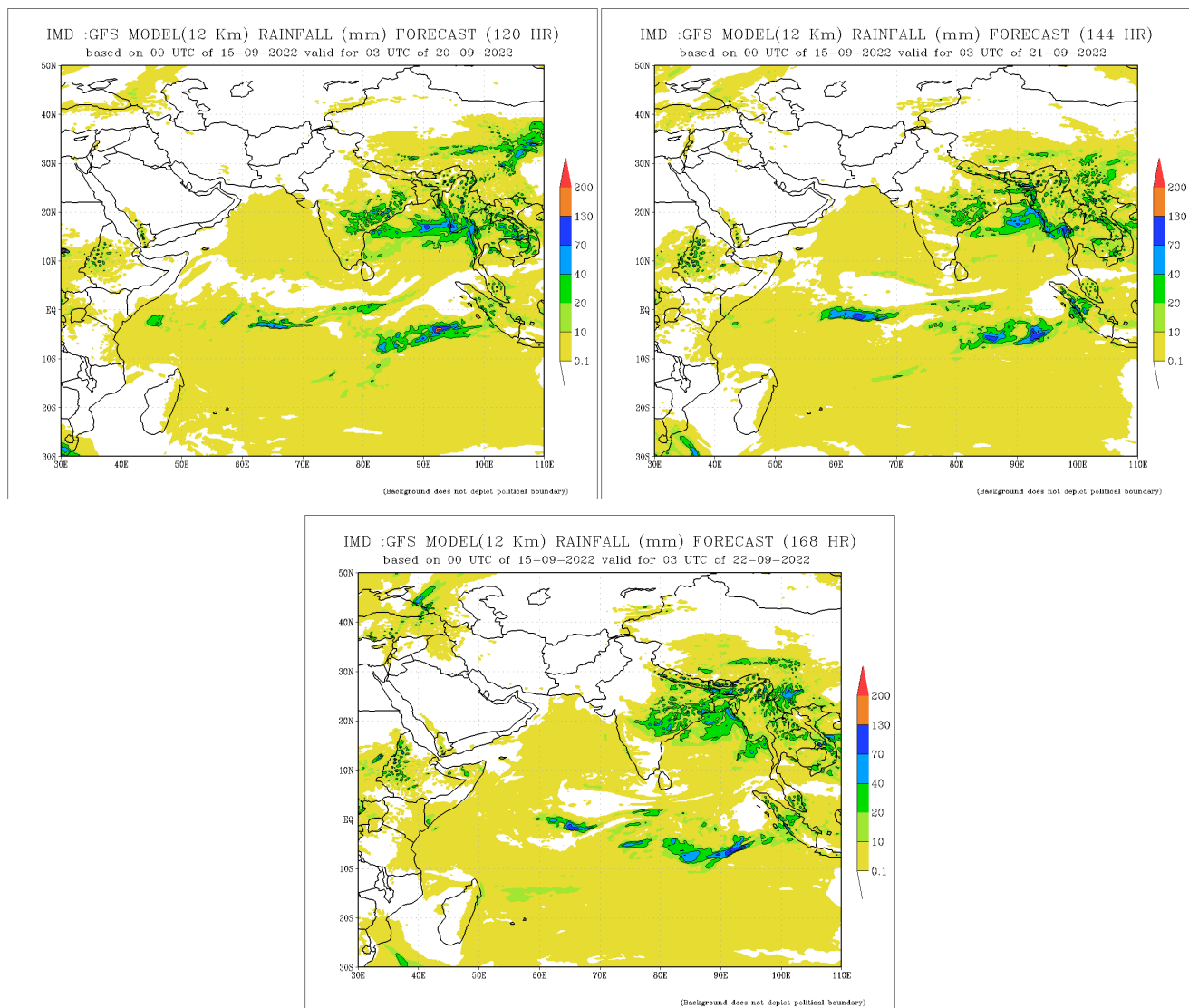
Bias correction based on last 30-day forecast error



Bias correction based on last 30-day forecast error

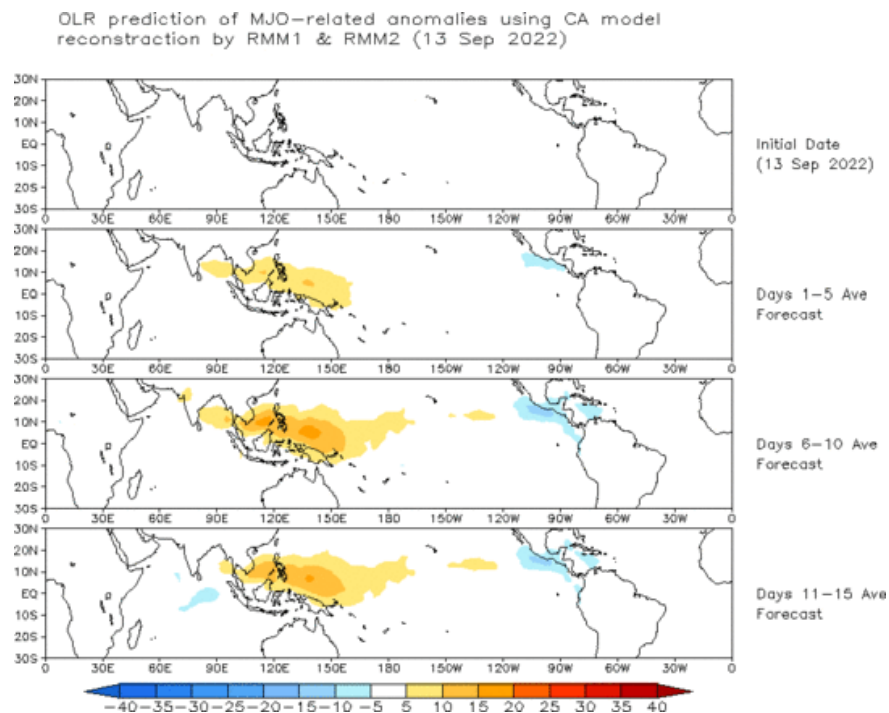
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





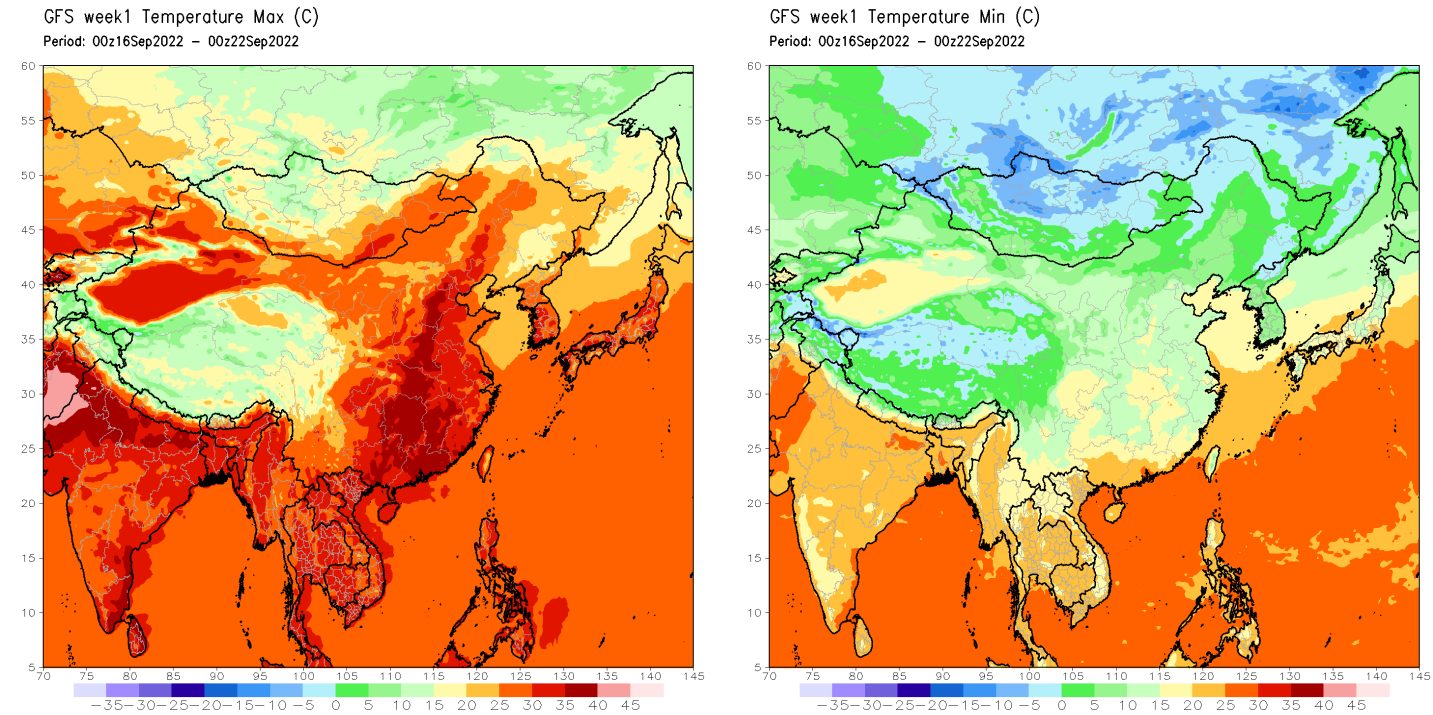
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

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.



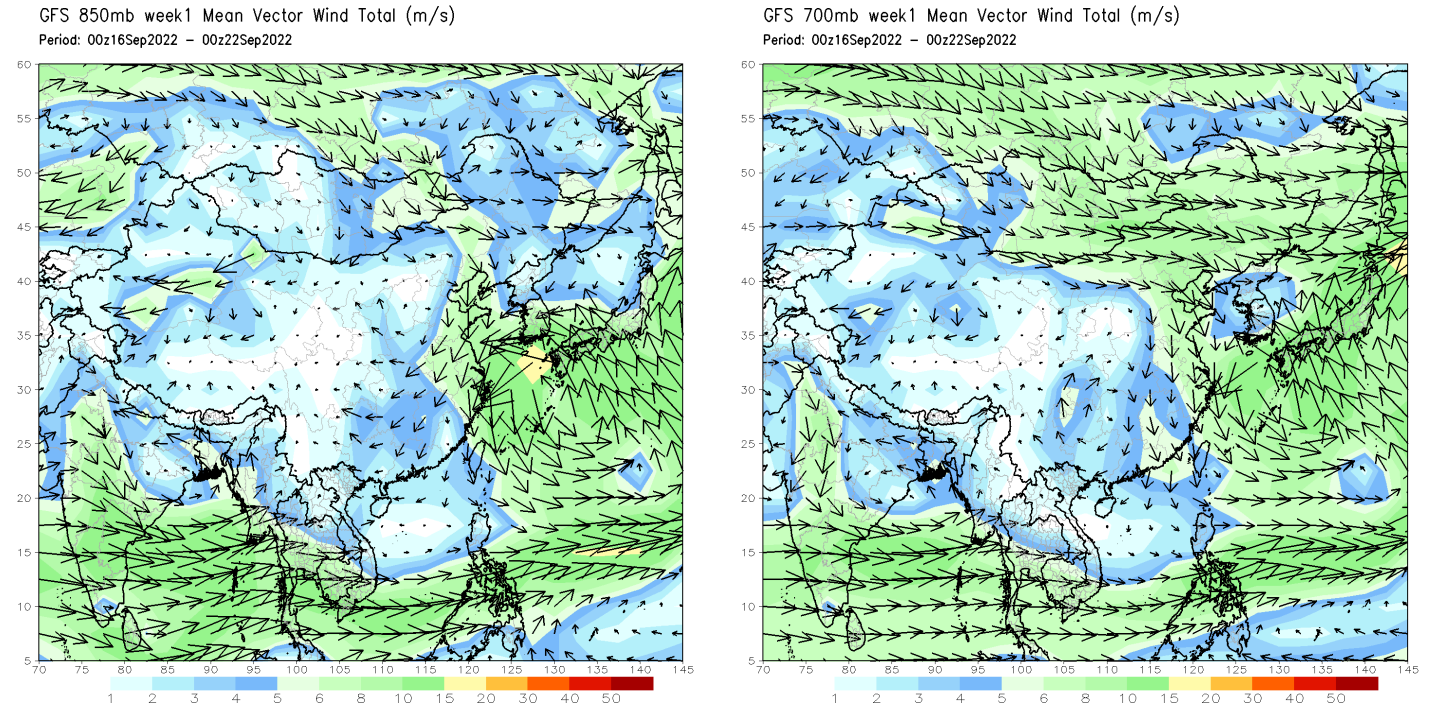
Weekly Temperature Forecast

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



Weekly Wind Forecast

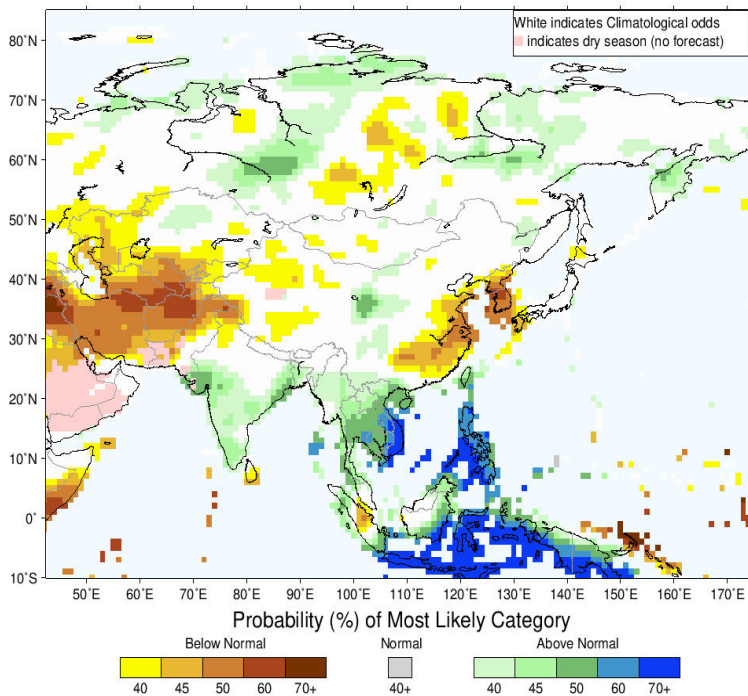
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



Seasonal Rainfall and Temperature Forecast

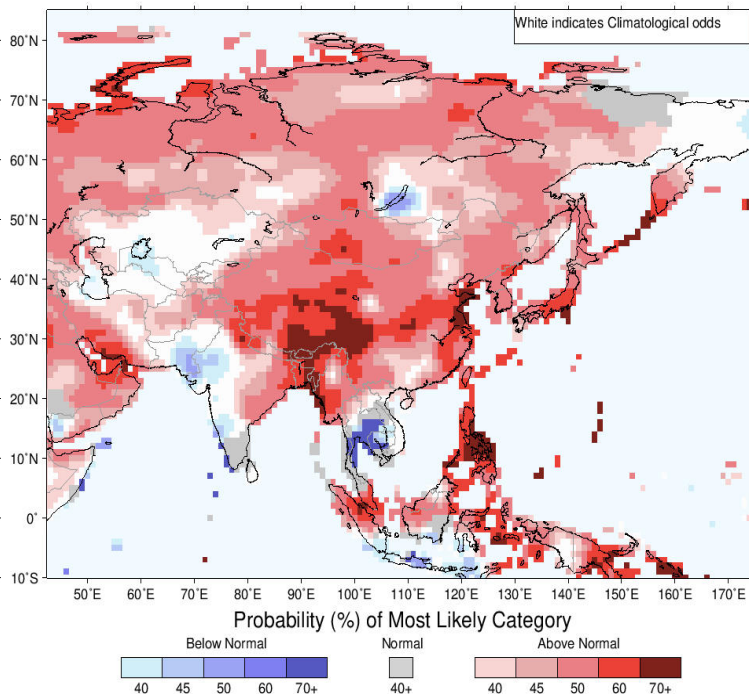
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile – that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile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



Precipitation Forecast

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

Contact us

Federation for Environment, Climate & Technology
76/2 Matale Road, Akurana
Kandy
KY20850
SRI LANKA
email: info@fect.lk
phone: (+94) 81 2376746

Follow us on



[Subscribe to our monthly newsletters](#)