13 SEPTEMBER 2024

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- During 11 Sep - 17 Sep, high likelihood of Light to Moderate rainfall (12.5 - 15 mm/week) is predicted for the North Western province and Light Showers (≤12.5 mm/week) is predicted for the Northern, Eastern, North Central, Southern, Sabaragamuwa, Western, Central, and Uva provinces of SL.

Monitored Rainfalls

- On average, 2.7 mm/day was received in SL and rainfall was concentrated in the Western plains (7.9 mm/day) and hills (6 mm/day) for last 8 days.
- On average, 7.2 mm/day was received in the hydro catchments in SL; Kukule Ganga received the highest daily rainfall (42 mm/day) for last 8 days.
- Highest daily rainfall was in Ratnapura on 9 Sep (44.2 mm/day).

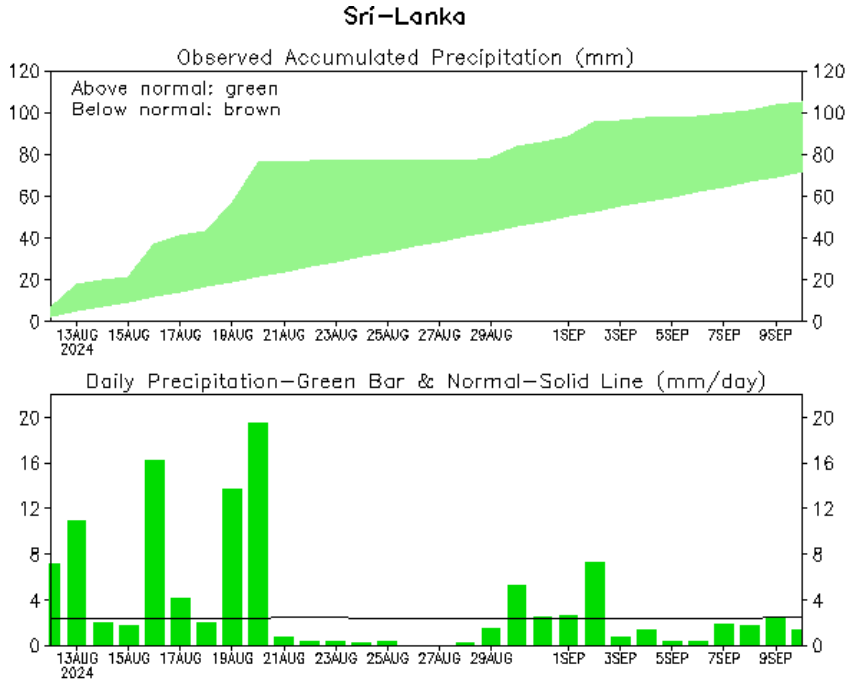
Monitored & Predicted Wind

- From 3 Sep - 9 Sep, winds at 850mb (1.5km) were north westerly, reaching up to 15 m/s.
- From 12 Sep - 18 Sep, winds are predicted to be north westerly, reaching up to 15 m/s.

Monitored Sea & Land Temp

- Average land surface temperature was 31.5ºC in the last week with warmer anomalies from seasonal average of 1-3 ºC.
- Eastern plains was warmest followed by Northern, Southern and Western plains.
- Sea surface temperature around Sri Lanka was 0.5°C above average for the Western side of the country and 1°C above average for the other half of the country from 20 - 26 Aug 2024.

Daily Estimates for Accumulated Rainfall from 12 Aug - 10 Sep 2024



Data Source: CPC (Gauge-Based) Unified Precipitation (Climatology 1981-2010)
(updated on 00Z10SEP2024)

Federation for Environment, Climate & Technology

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Monitoring

Rainfall: During the last two weeks, there has been heavy rainfall over the following area: Ilubuluwa Estate(Rathnapura)

Average Rainfall in the Met stations for the previous week of (5 – 11 Sep) = 2.7 mm/day
Maximum Daily Rainfall: 44.2 mm & Minimum Daily Rainfall: 0.0 mm.

Region	Average rainfall for 5 – 11 Sep (mm/day)	Average temperature for 5 – 11 Sep (ºC)	
		Maximum	Minimum
Northern plains	0.1	33.2	26.7
Eastern hills	0.0	29.6	19.4
Eastern plains	0.2	35.7	26.0
Western hills	6.0	26.5	20.3
Western plain	7.9	31.1	25.8
Southern plains	1.2	32.4	25.4

Region	Average rainfall for 5 – 11 Sep (mm/day)	Daily maximum rainfall for 5 – 11 Sep (mm)	Daily minimum rainfall for 5 – 11 Sep (mm)
All SL	2.7	44.2	0.0
Hydro catchment	7.2	42.0	0.0

Wind: North Westerly winds prevailed in the sea area and around the island last week.
Temperatures: The temperature anomalies were above normal for some parts of the Uva province for Sri Lanka driven by the warm SST anomalies.

Ocean State *(Text Courtesy IRI)*

Pacific Sea State: September 9, 2024

ENSO-neutral conditions are present. Equatorial sea surface temperatures (SSTs) are above average in the western Pacific and near-to-below-average in the eastern Pacific Ocean.
ENSO-neutral is expected to continue for the next several months, with La Niña favoured to emerge during September-November (66% chance) and persist through the Northern Hemisphere winter 2024-25 (74% chance during November-January).

Indian Ocean State

Sea surface temperature around Sri Lanka was 0.5°C above average for the Western side of the country and 1°C above average for the other half of the country from 20-26 Aug 2024.

Predictions

Rainfall

14-Day prediction: NCEP GFS models

From 11th September - 17th September:
Total rainfall by Provinces

Rainfall (mm)	Provinces
15	North Western
≤5	Northern, Eastern, North Central, Southern, Sabaragamuwa, Western, Central, Uva

From 18th September - 24th September:
Total rainfall by Provinces

Rainfall (mm)	Provinces
15	North Western, Western, Southern
≤5	Northern, Eastern, North Central, Sabaragamuwa, Central, Uva

MJO-based OLR predictions

For the next 15 days:
MJO shall near neutral the rainfall during 12-26 September for Sri Lanka.

Interpretation

Monitoring

For August 2024, we had double than the average rainfall. This rise was driven by random and heavy cloud cover over the northern hemisphere due to the tropical convergence zone's latitude of around 10-15° N. The Indian Oceanic Dome developed, leading to decreased temperature around SL and possible rainfall to the East of SL.
The wind was flowing North Westerly and was quite high.

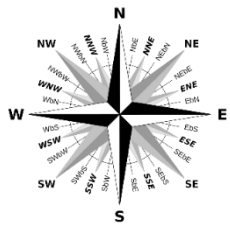
Predictions

Rainfall: During the next week (11 Sep - 17 Sep), Light to Moderate rainfall (12.5 - 15 mm) is predicted for the North Western province and Light Showers (12.5 mm) is predicted for the Northern, Eastern, North Central, Southern, Sabaragamuwa, Western, Central, and Uva provinces.
Temperatures: The temperature will remain above normal for the Northern, Eastern, Southern, North Central and Uva provinces during 13 - 19 September.
Teleconnections: MJO shall near neutral the rainfall during 12-26 September for Sri Lanka.
Seasonal Precipitation: The precipitation forecast for the September-October-November, 2024 season shows a 45% or more tendency toward above-normal precipitation for the Eastern part of the country.

Terminology

	Rainfall (mm/week)
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

Wind compass



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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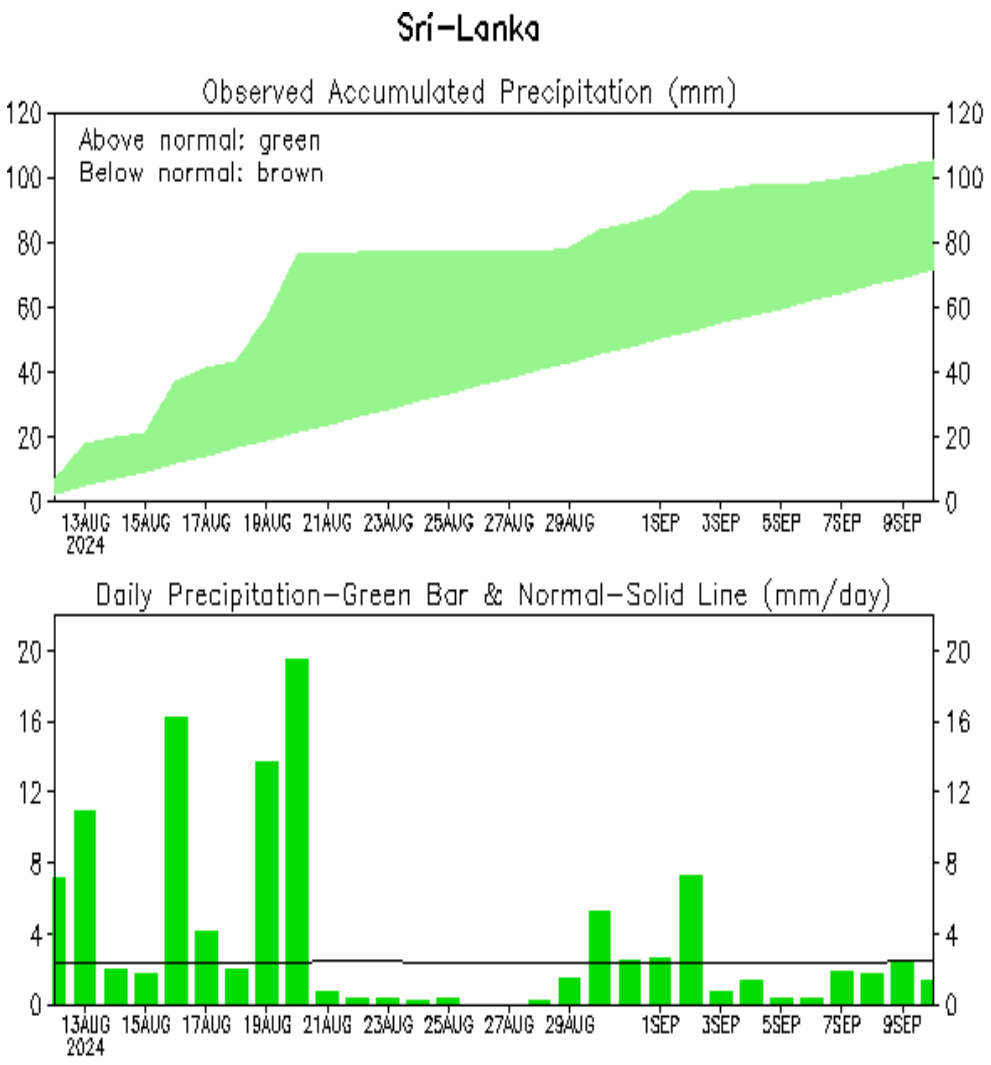
Weekly Climate Bulletin for Sri Lanka

Inside This Issue

MONITORING

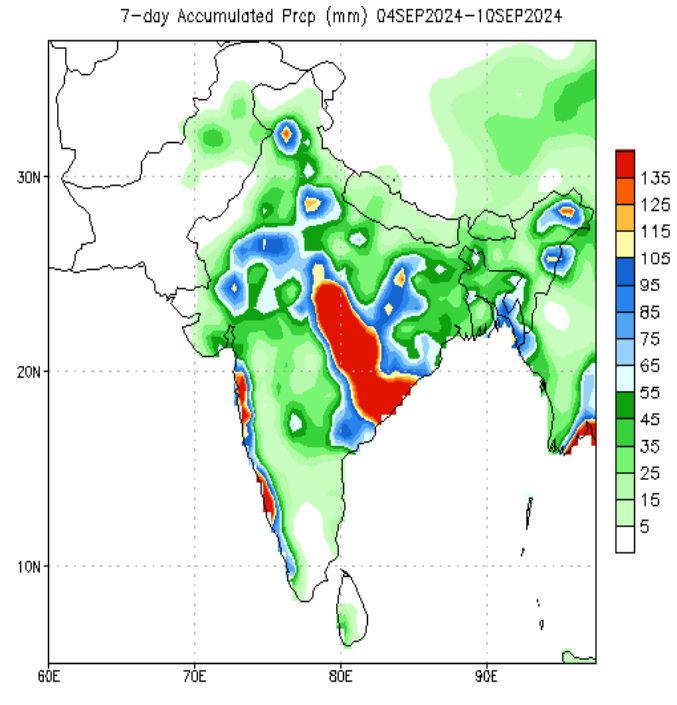
Daily Rainfall Monitoring

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

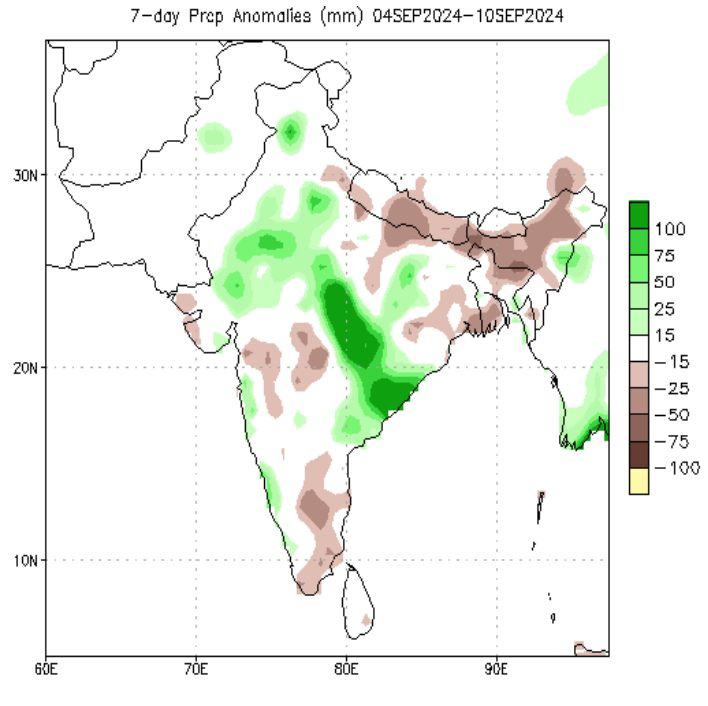


Weekly Rainfall Monitoring

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.



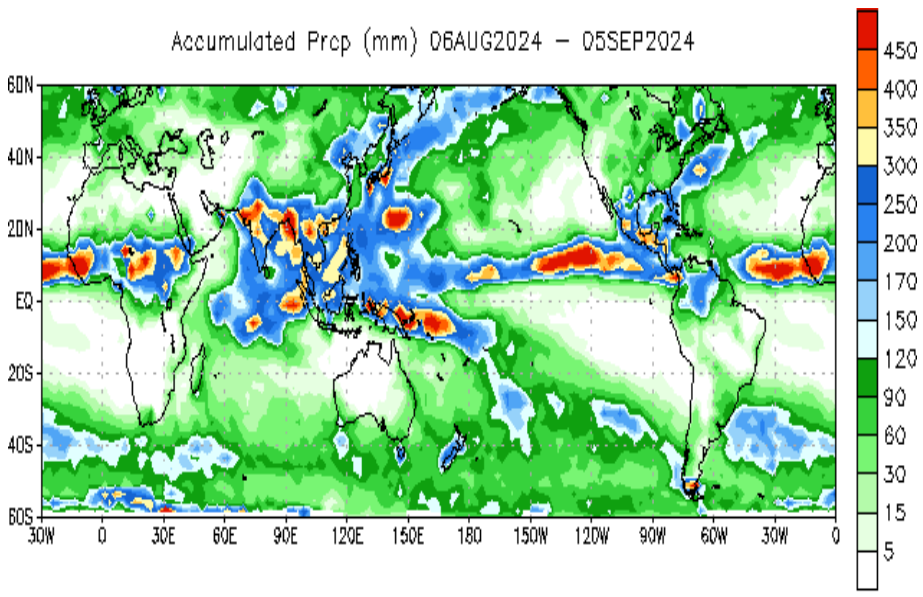
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



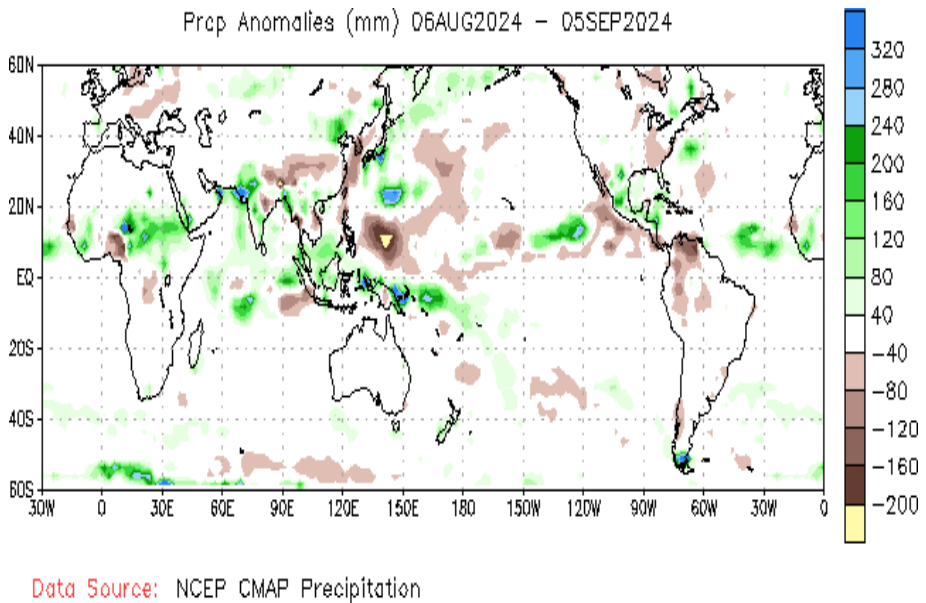
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1991-2020)

Monthly Rainfall Monitoring

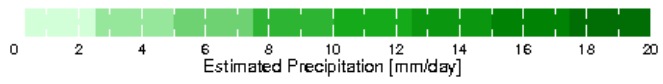
The figure in the left shows the total observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



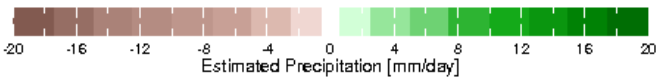
Data Source: NCEP CMAP Precipitation



Data Source: NCEP CMAP Precipitation Climatology (1991-2020)

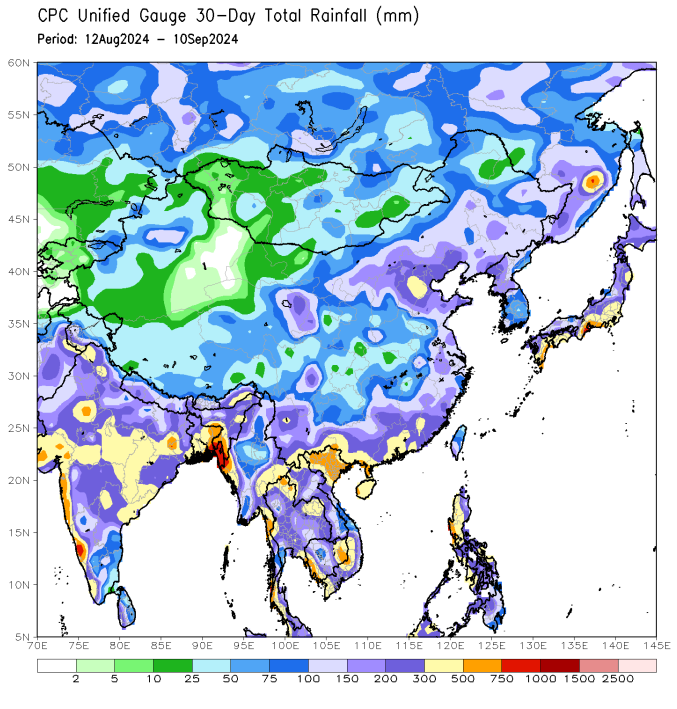


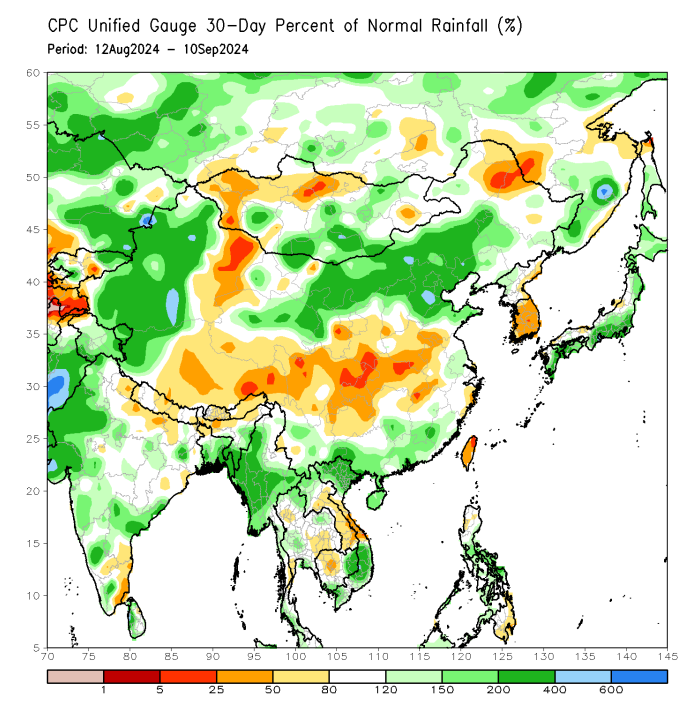
Monthly Total



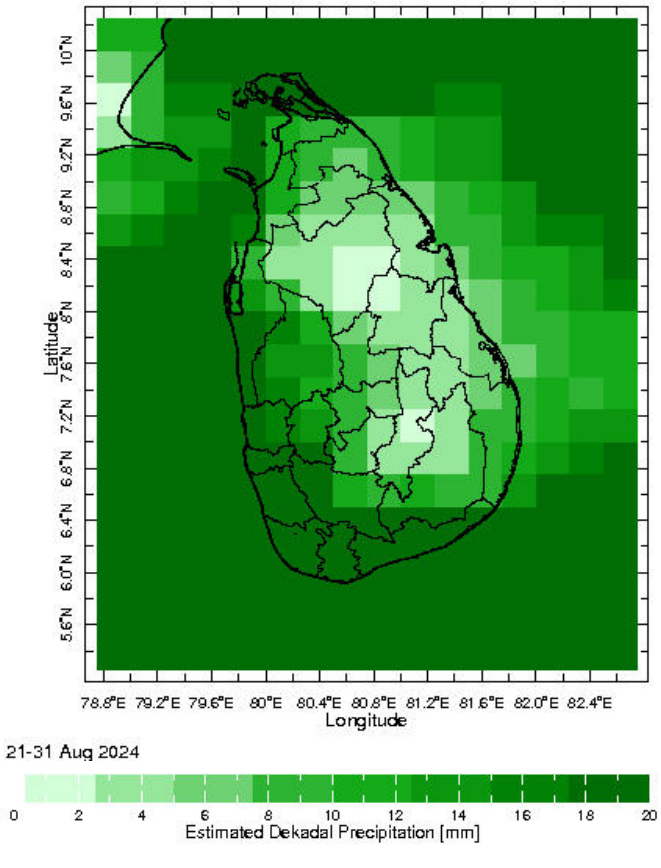
Monthly Anomaly

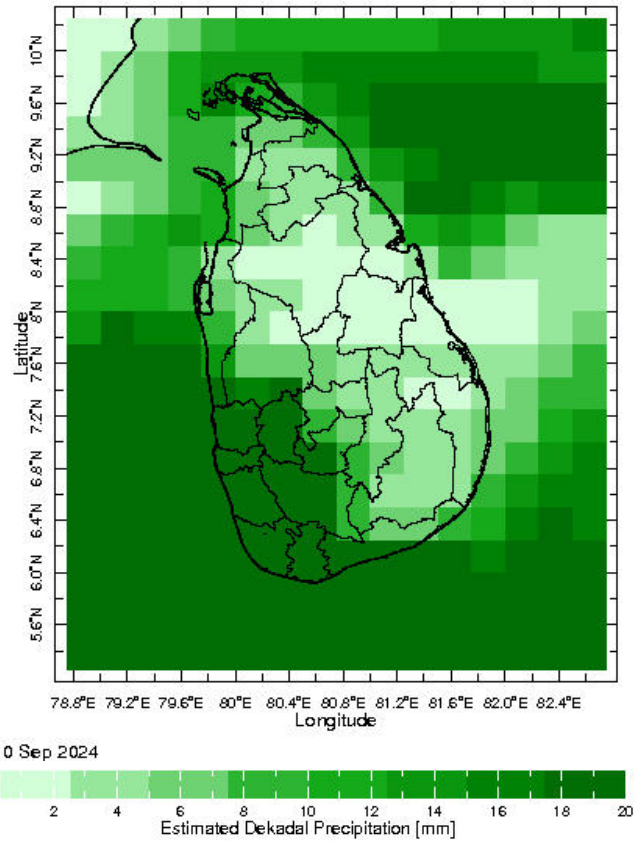
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



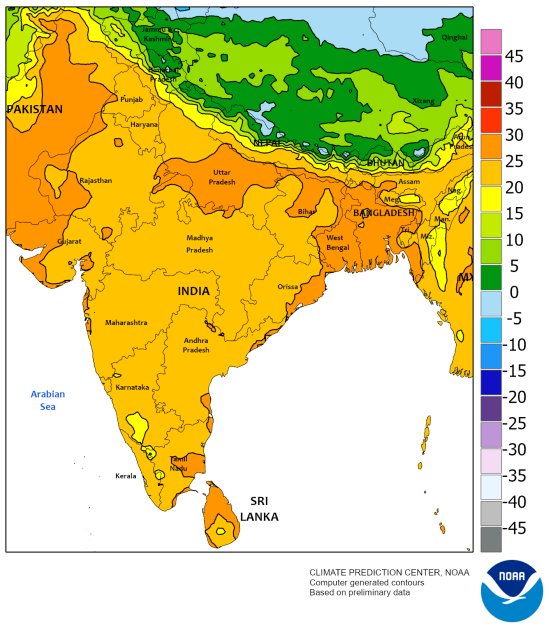


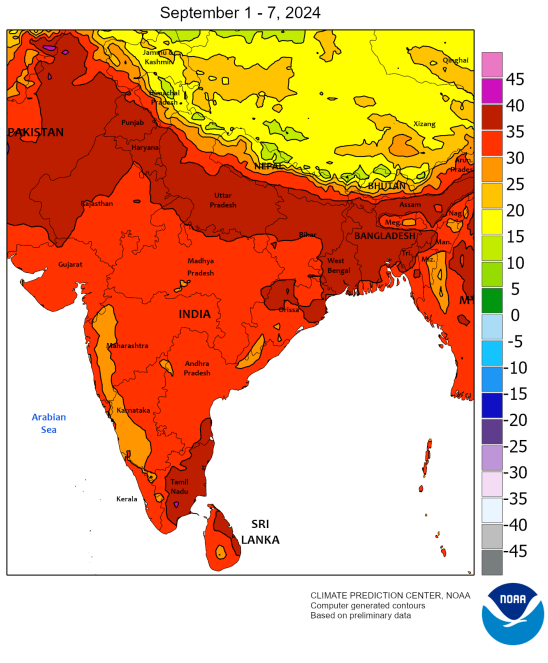
Dekadal (10 Day) Satellite Derived Rainfall Estimates

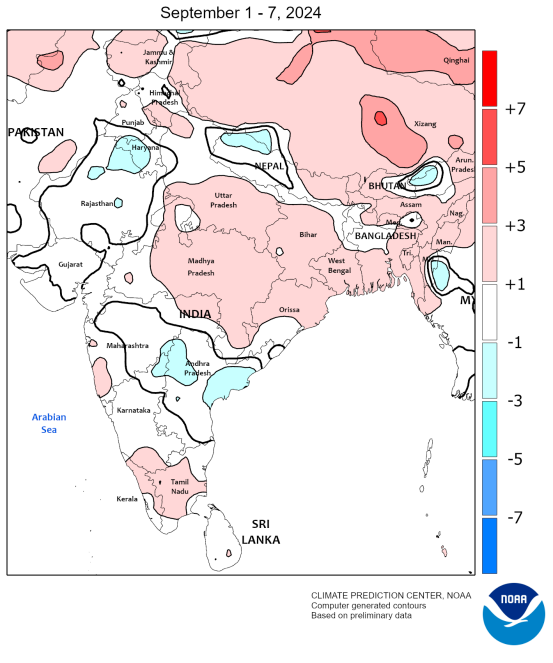




Weekly Temperature Monitoring

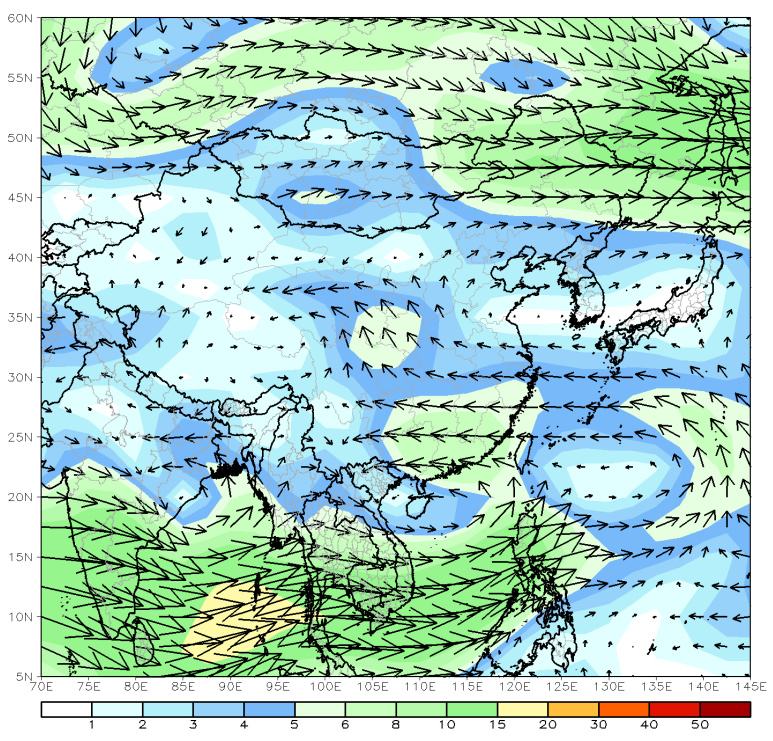


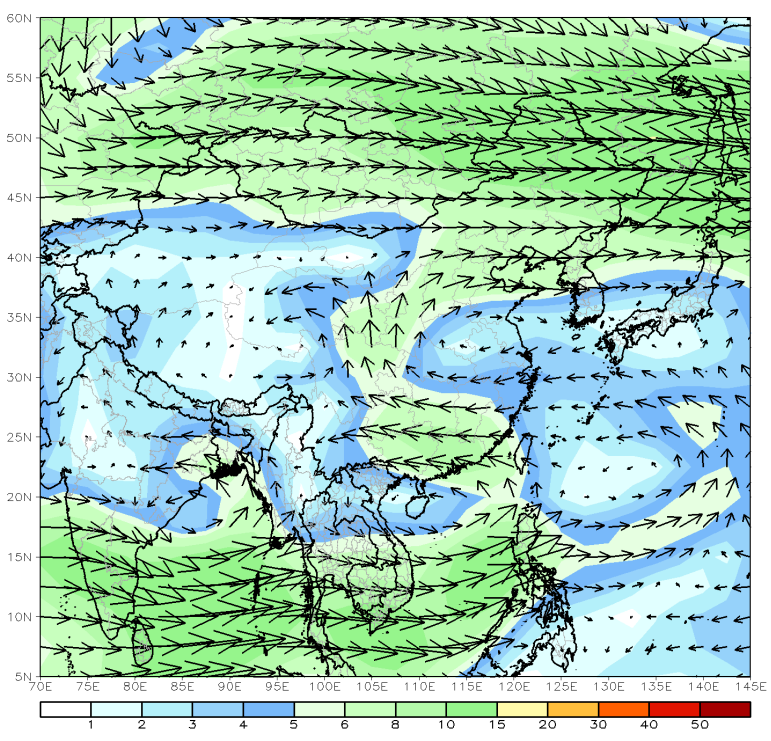




Weekly Wind Monitoring

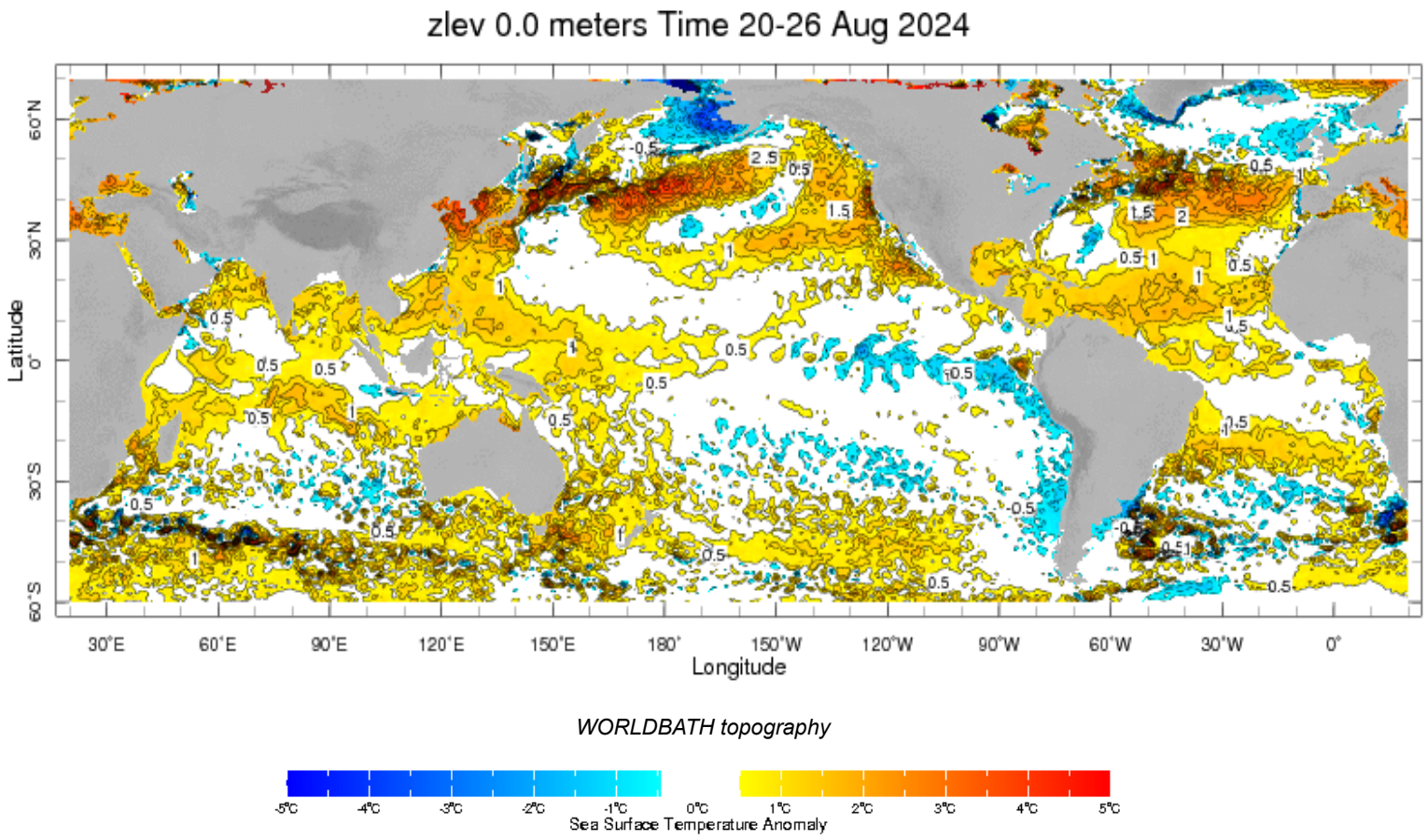
The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.



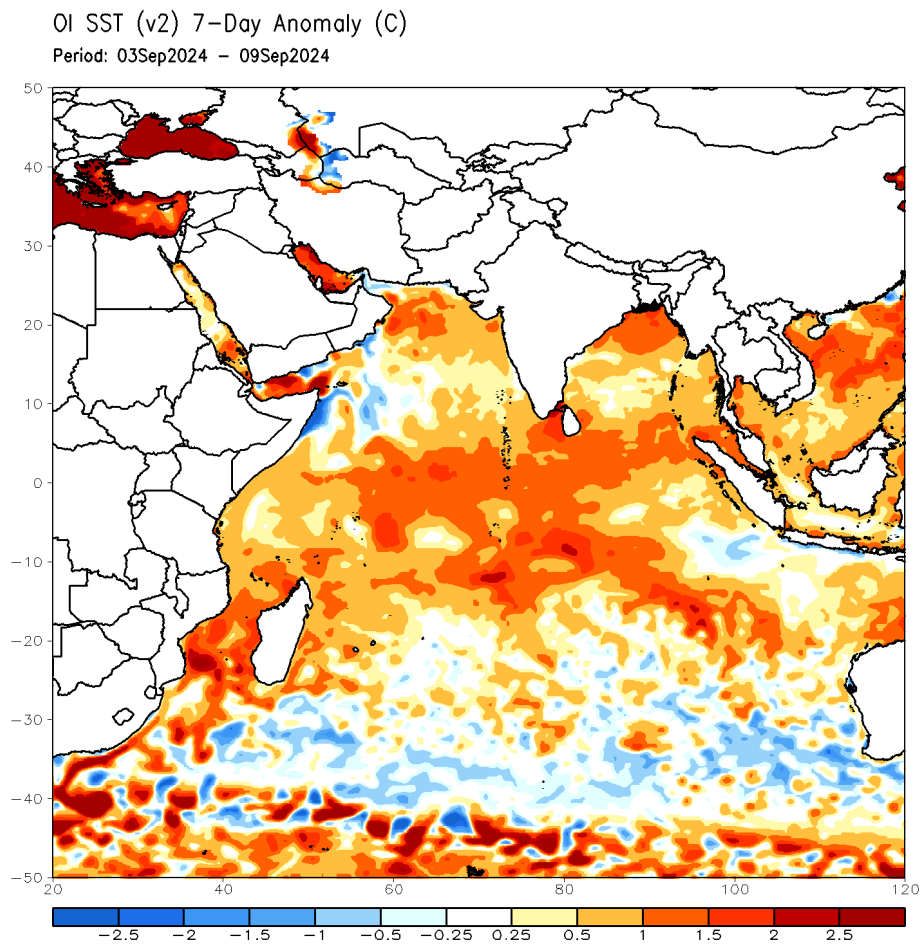


Weekly Average SST Anomalies

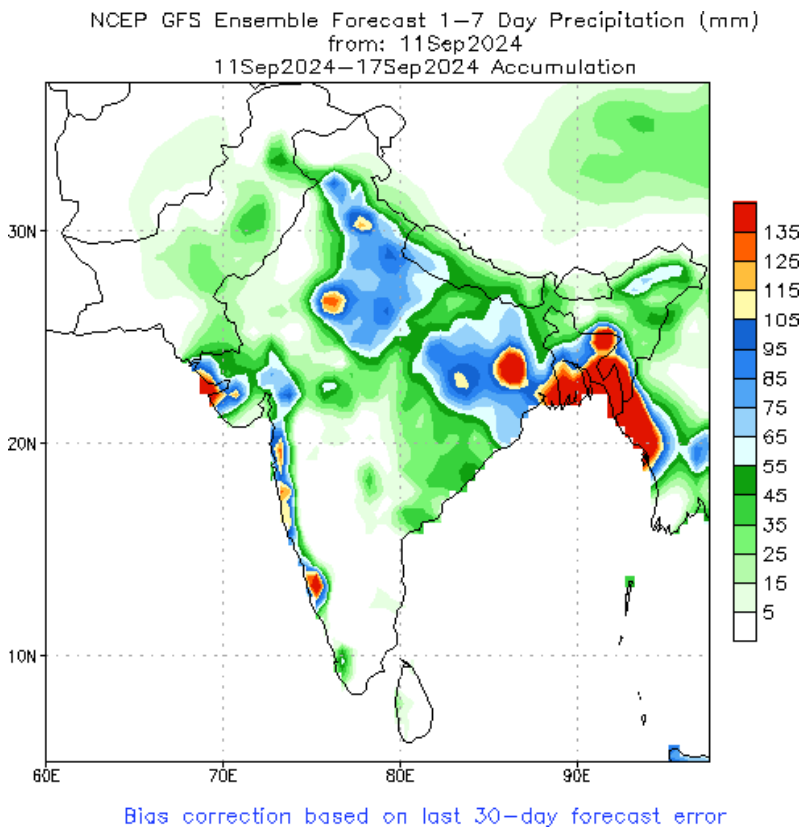
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP

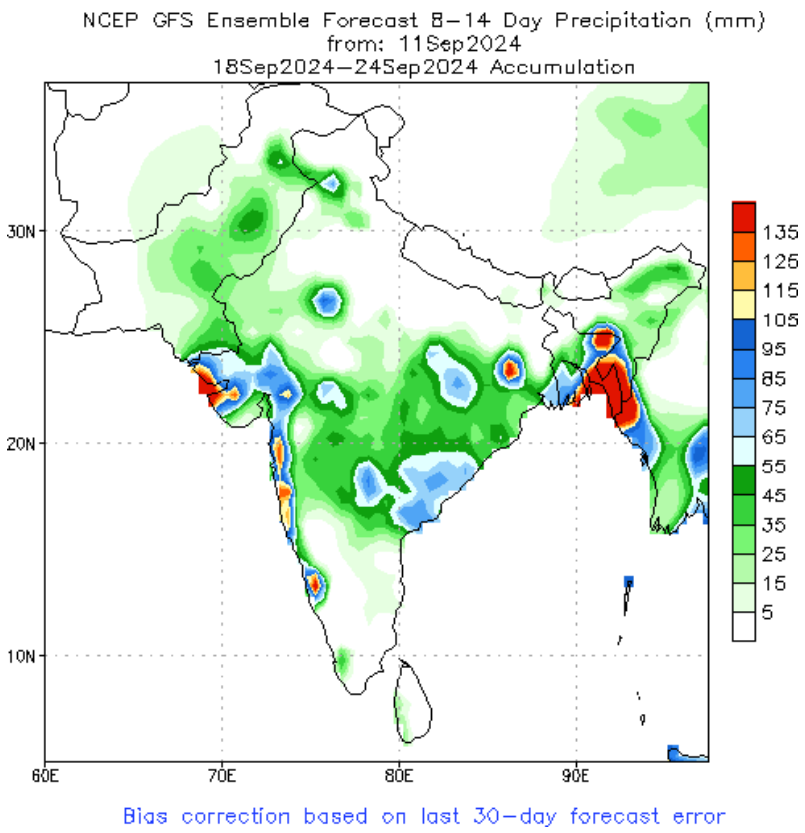


Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

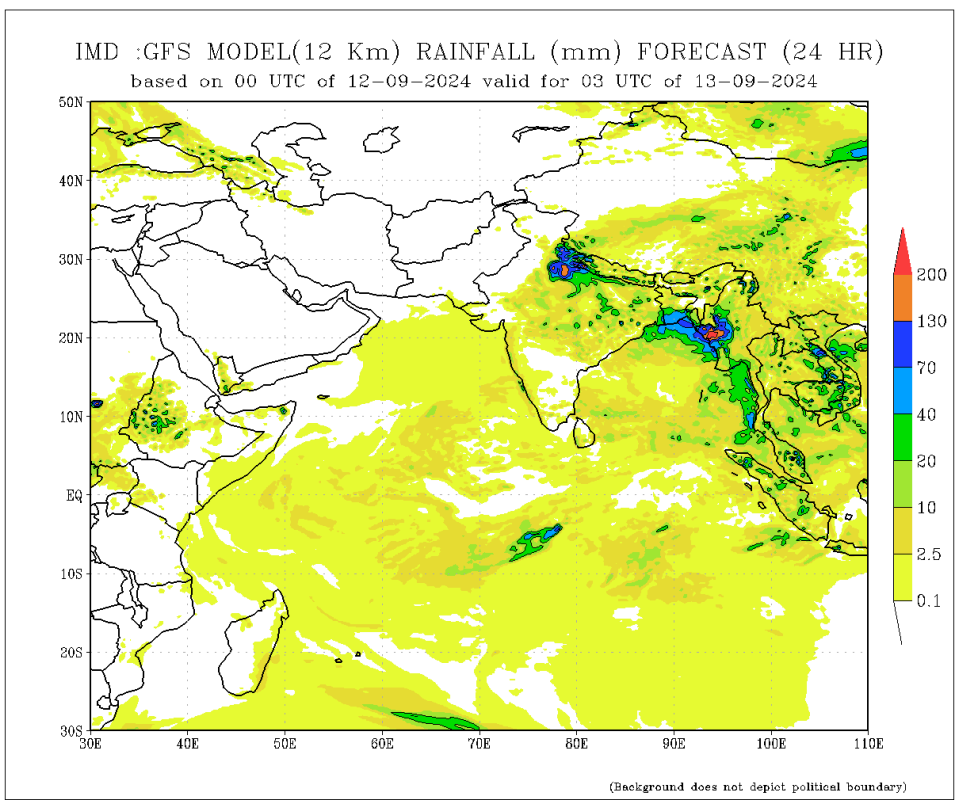


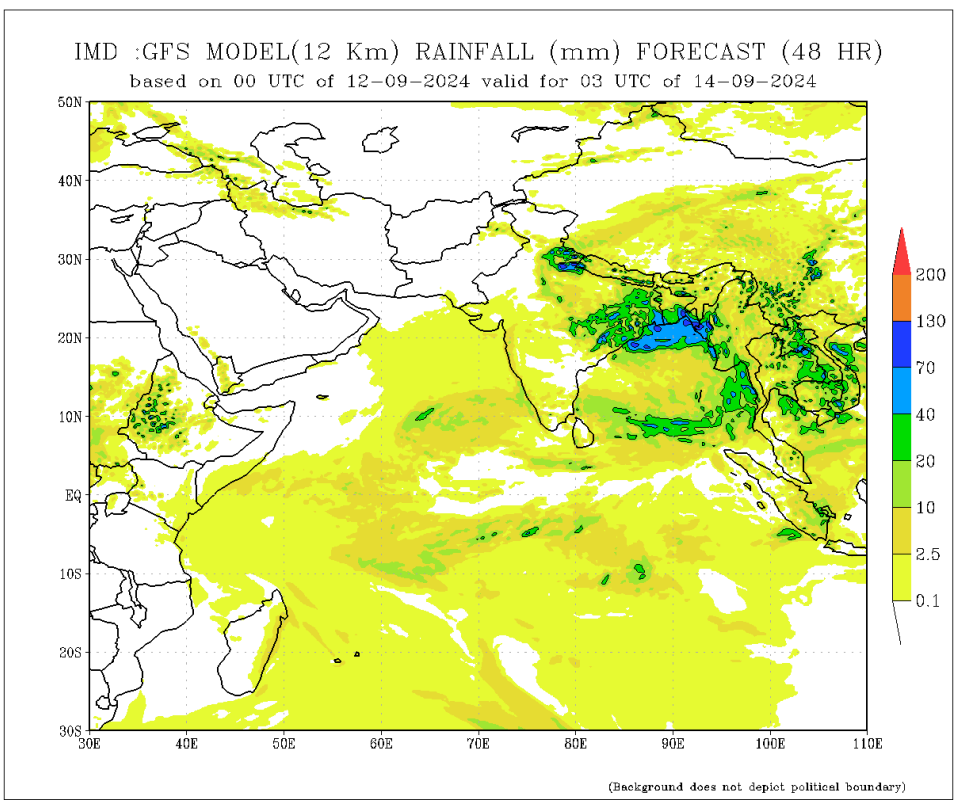
NCEP GFS 1- 14 Day prediction

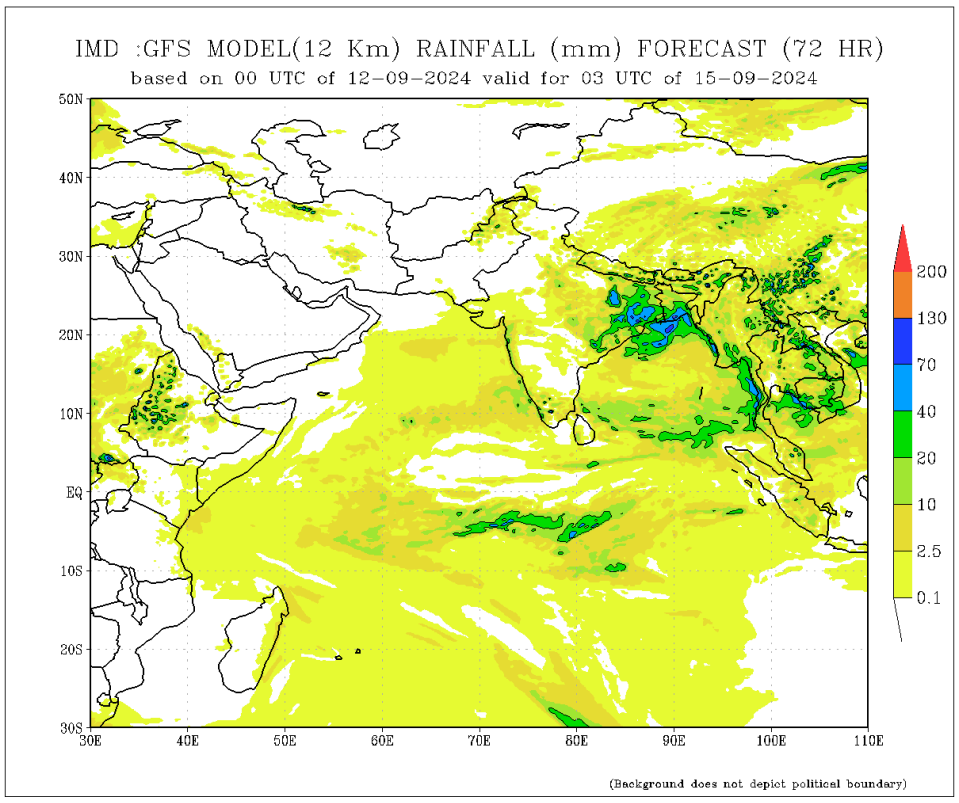


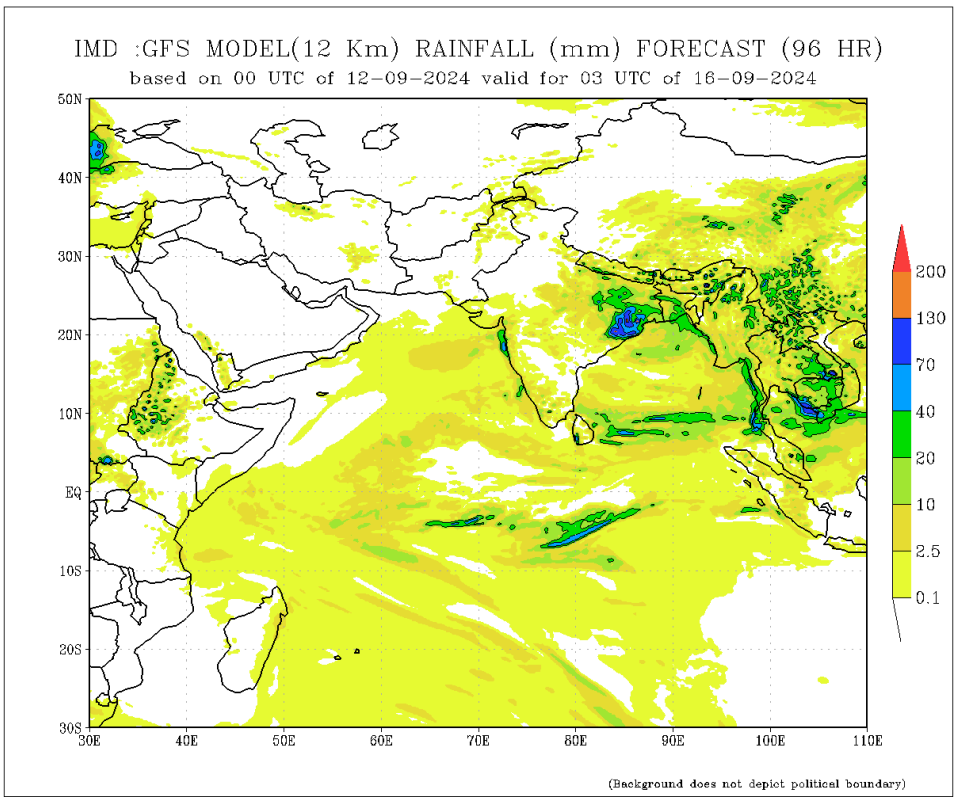


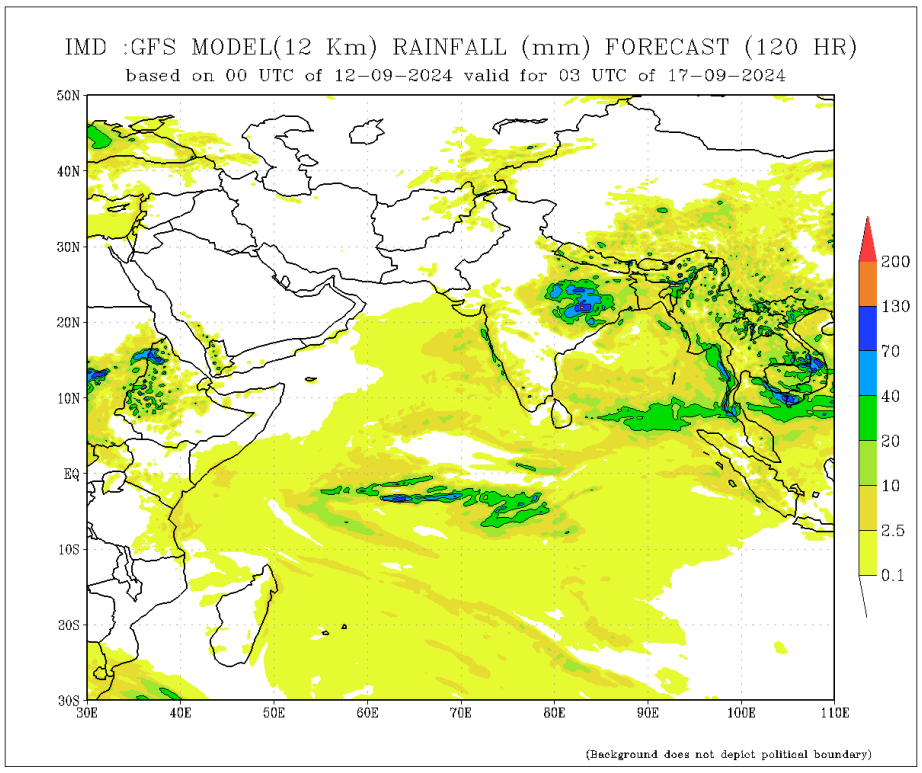
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

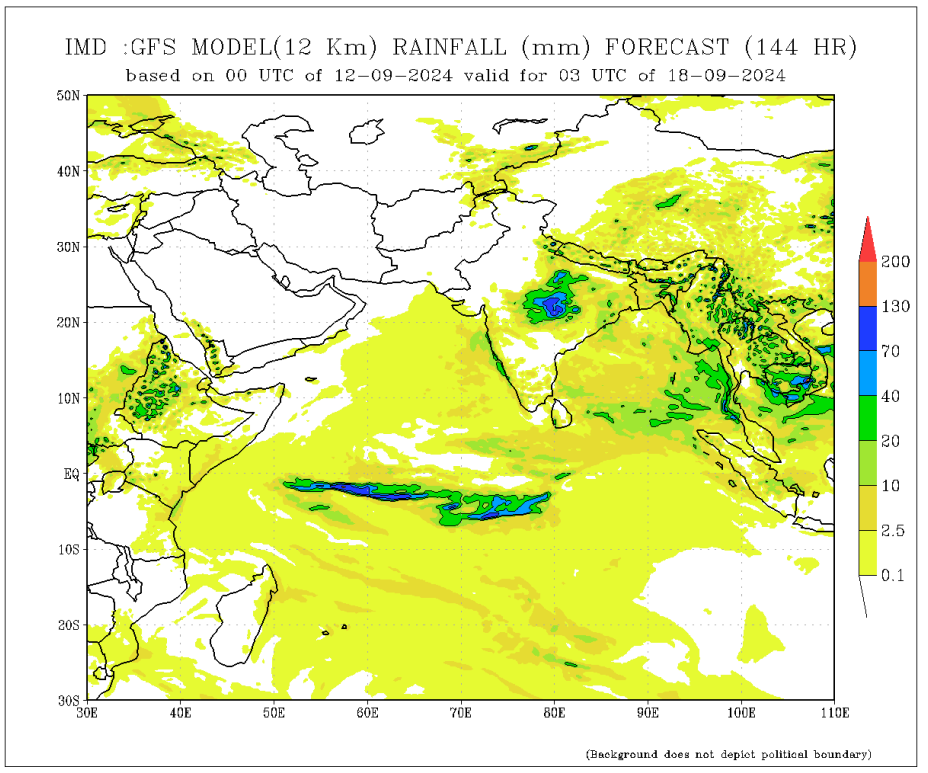


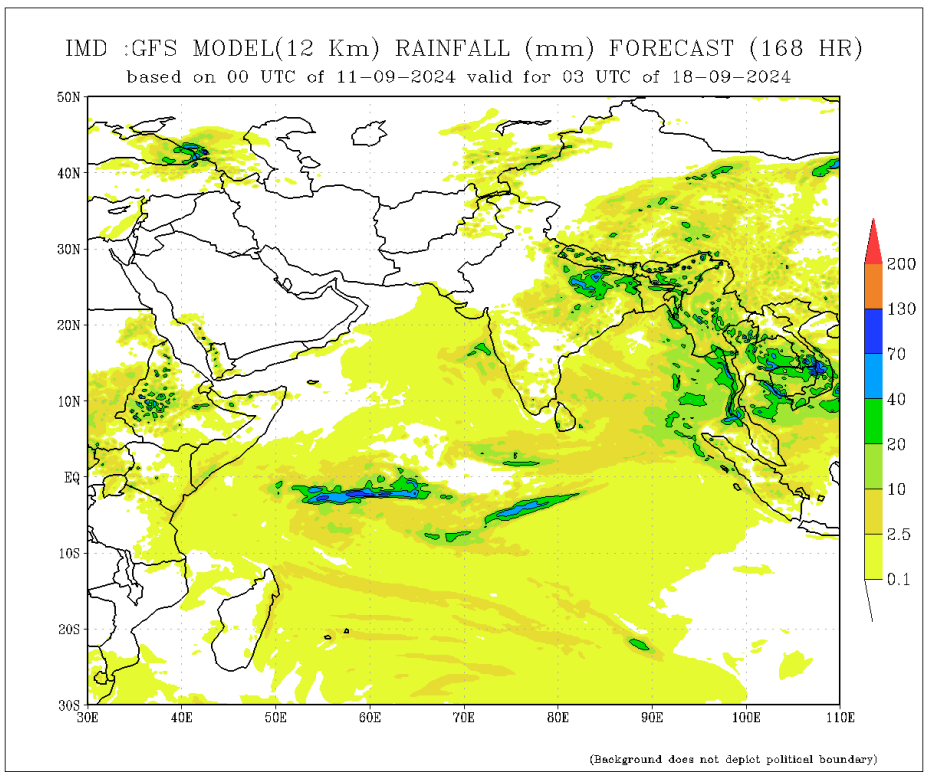






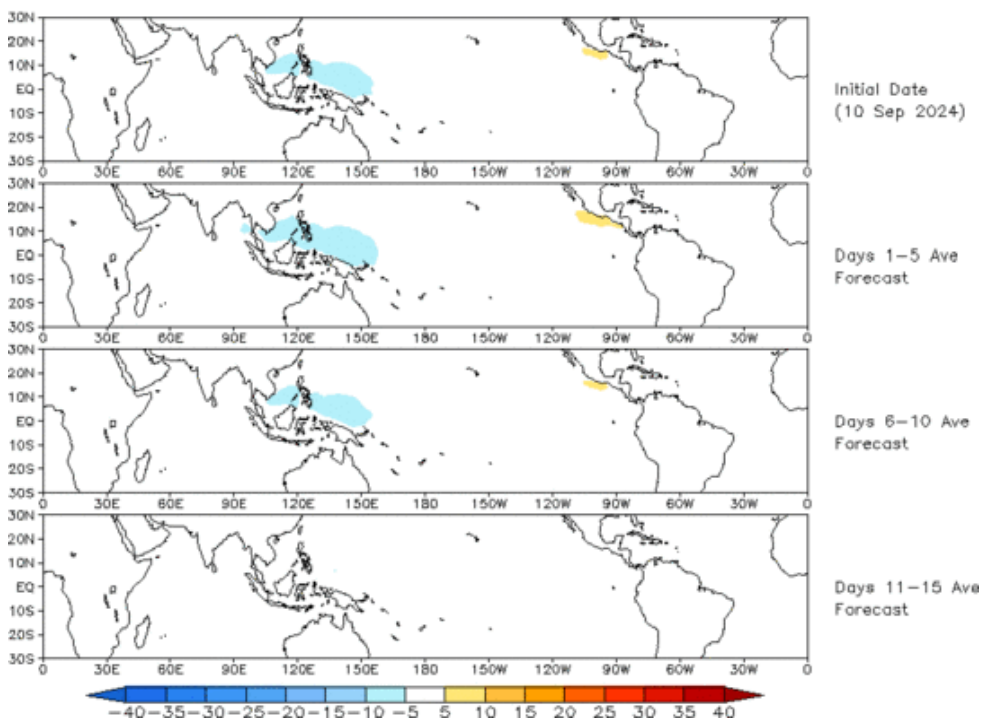






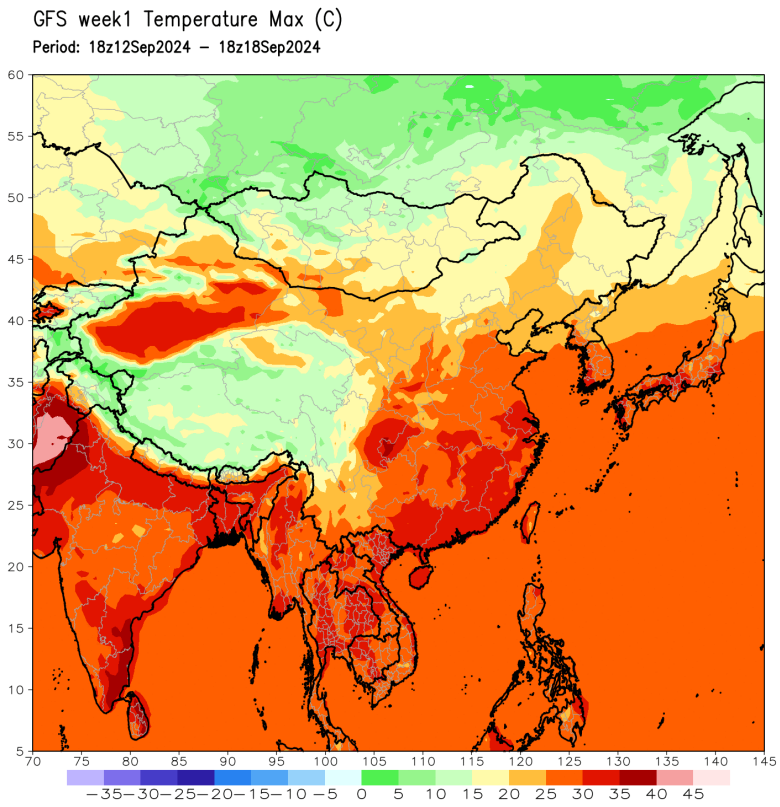
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

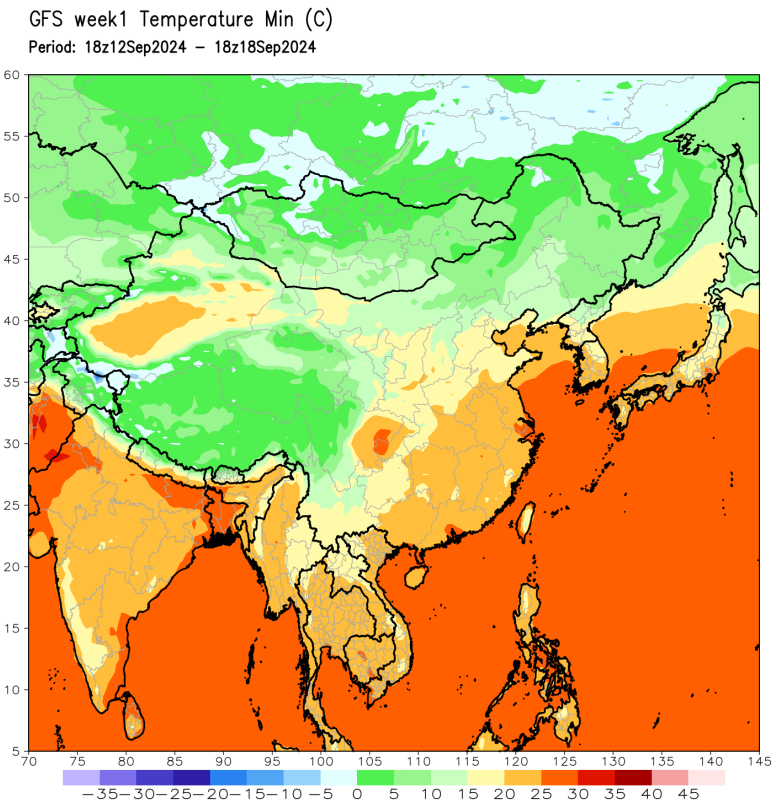
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

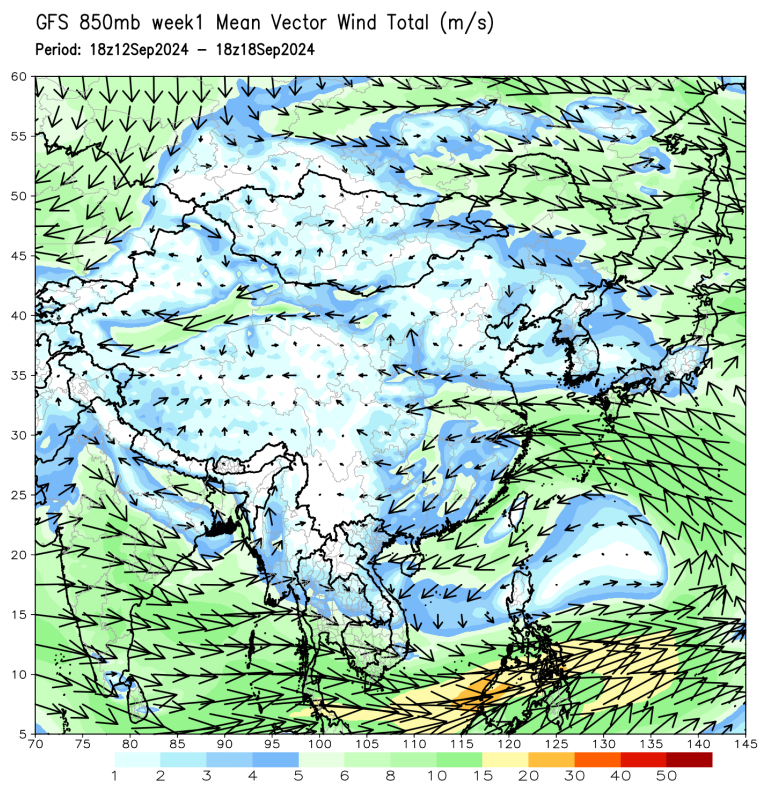
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

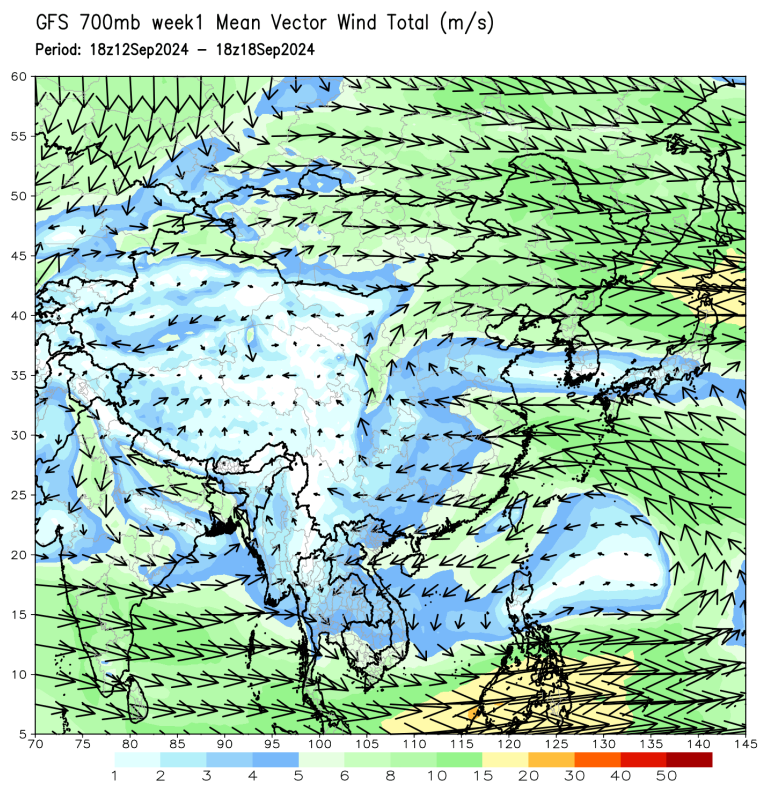




Weekly Wind Forecast

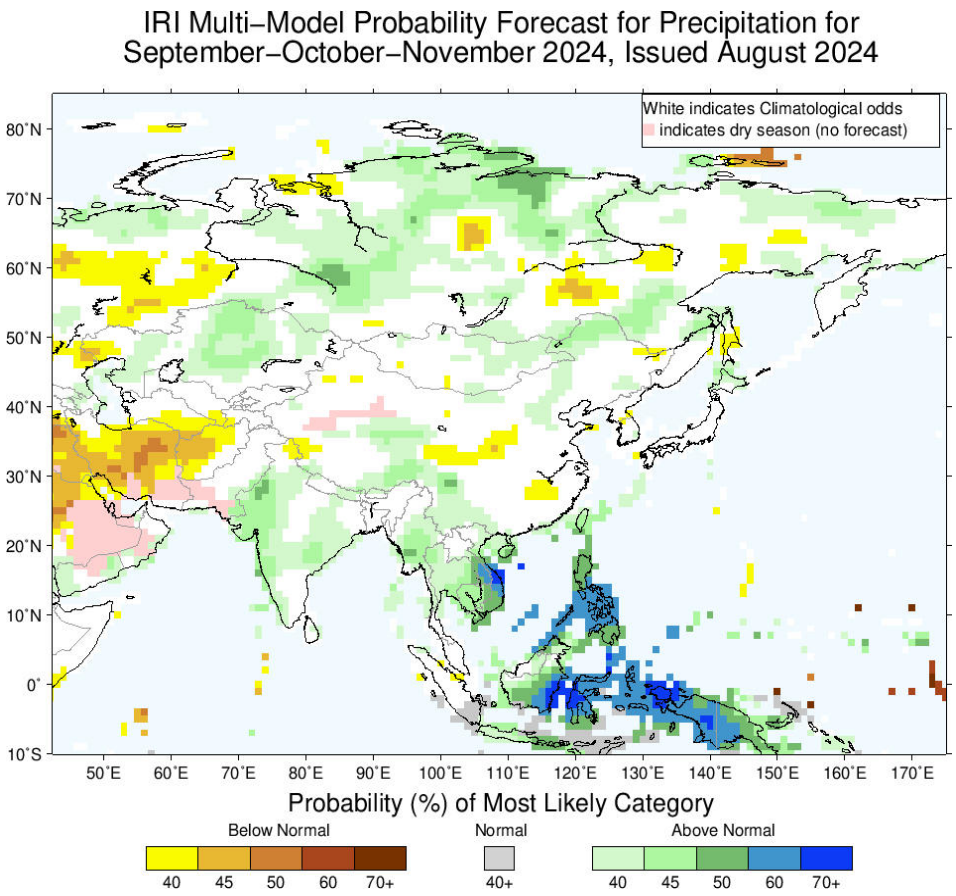
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



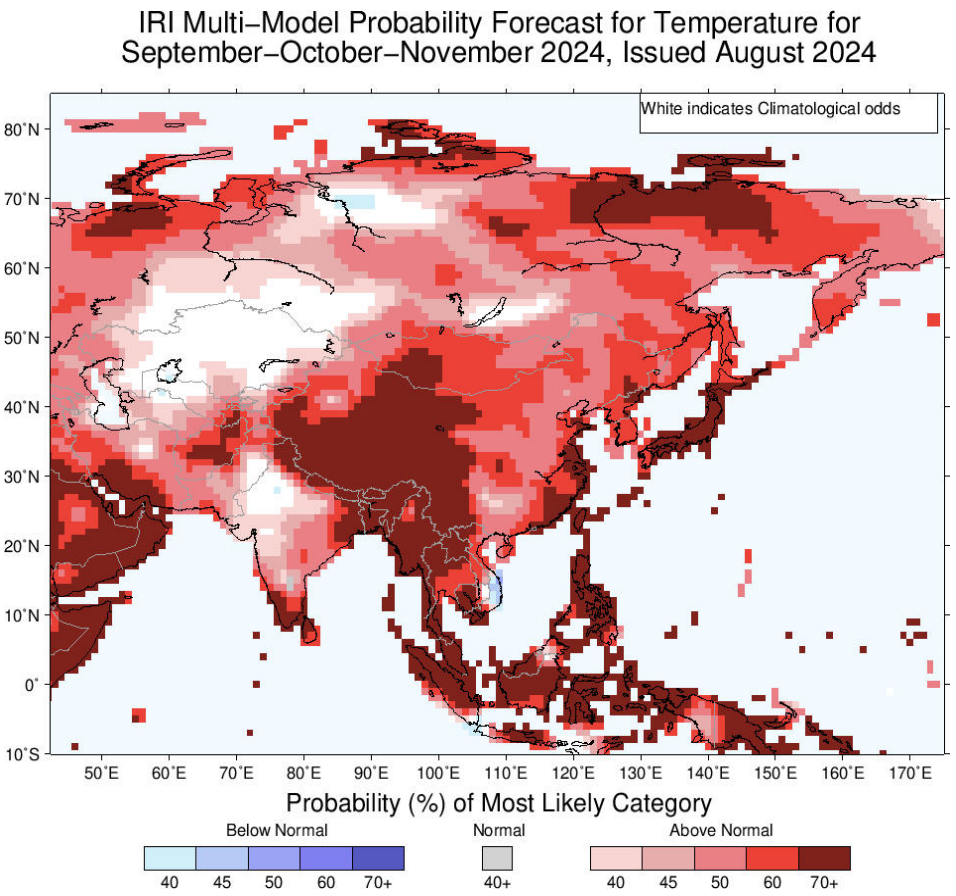


Seasonal Rainfall and Temperature Forecast

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%).



Precipitation Forecast



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 20years, we have had operations in Africa, South Asia,South-East Asia but now it is mostly in the IndianOcean Islands.

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