12 JULY 2024

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- During 10 - 16 July, high likelihood of moderate rainfall (25 - 50 mm) is predicted for the Sabaragamuwa, Western, Southern, and North Western provinces; light to moderate rainfall (12.5 -25 mm) is predicted for the Central province; below 10 mm rainfall is predicted for the rest.

Monitored Rainfalls

- On average, 5.3 mm was received in SL and rainfall was concentrated in the Eastern hills (8.1 mm), Western plains (13.5 mm) and hills (7.7 mm).
- On average, 6.6 mm was received in the hydro catchments in SL; Kukule Ganga received the highest rainfall (80 mm).
- Highest daily rainfall was in Kalatuwawa (Rathnapura District) on 27 June (73.0 mm).

Monitored & Predicted Wind

- From 2 Jul - 8 Jul, winds at 850mb (1.5km) north westerly, reaching up to 15 m/s.
- From 11 Jul - 17 Jul, winds are predicted to be north westerly and westerly, reaching up to 15 m/s.

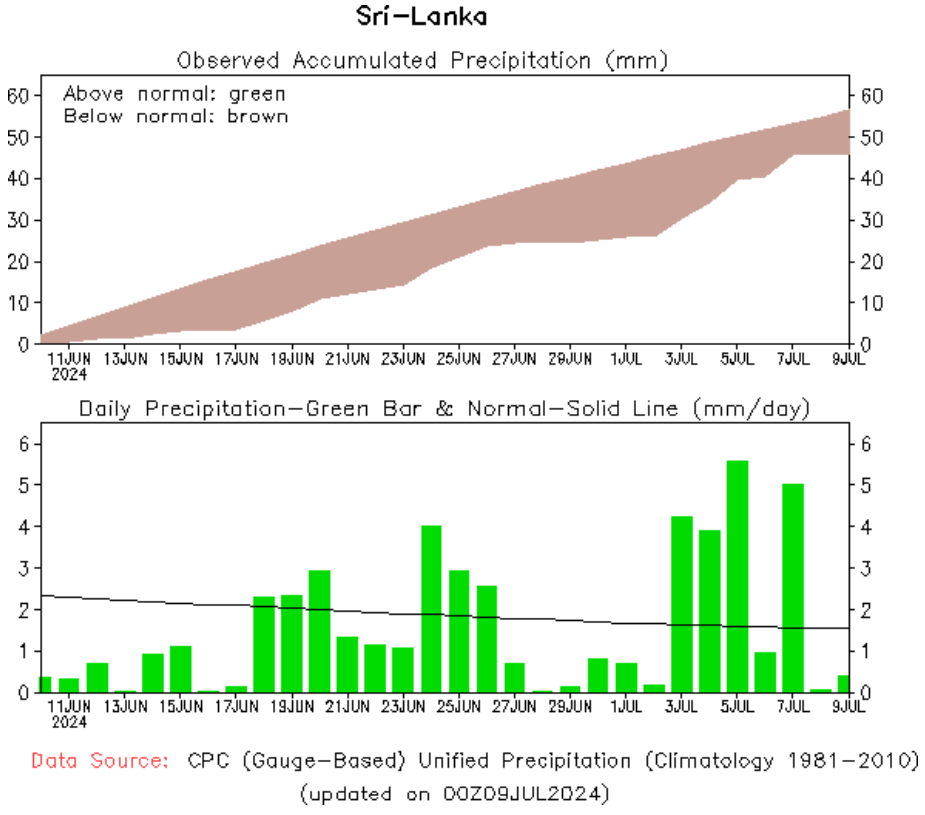
Monitored Sea & Land Temp

- Average land surface temperature was 31°C in the last week with warmer anomalies from seasonal average of 1-3 °C.
- Eastern plains was warmest followed by Northern and Southern plains.
- Sea surface temperature around Sri Lanka was 0.25 - 1.5°C above average.

Monitoring

Rainfall

Daily Estimates for Accumulated Rainfall from 11 June - 9 July 2024



Data Source: CPC (Gauge-Based) Unified Precipitation (Climatology 1981-2010)
(updated on 00Z09JUL2024)

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Ocean State *(Text Courtesy IRI)*

Pacific sea state: July 8, 2024

ENSO-neutral conditions are present. Equatorial sea surface temperatures (SSTs) are above average in the west-central Pacific Ocean, near average in the east-central Pacific Ocean, and below average in the far eastern Pacific Ocean. La Niña is favoured to develop during July-September (65% chance) and persist into the Northern Hemisphere winter 2024-25 (85% chance during November-January).

Indian Ocean State

Sea surface temperature around Sri Lanka was 1.0°C above average from 18th to 24th June 2024.

Predictions

Rainfall

14-Day prediction: NCEP GFS models

From 10th July - 16th July:

Total rainfall by Provinces:

Rainfall (mm)	Provinces
45	Sabaragamuwa, Western
35	Southern, North Western
25	Central
≤ 10	North Central, Northern, Eastern, Uva

From 17th July - 23th July:

Total rainfall by Provinces:

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

MJO-based OLR predictions

For the next 15 days:

MJO shall be near neutral for the rainfall during 10th - 19th July for Sri Lanka.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for the previous week of (4 July - 10 July) = 5.3 mm
Maximum Daily Rainfall: 86.9 mm & Minimum Daily Rainfall: 0.0 mm.

Region	Average rainfall for last 8 days (mm)	Average temperature for last 8 days (°C)	
		Maximum	Minimum
Northern plains	0.6	30.5	26.7
Eastern hills	8.1	26.8	18.5
Eastern plains	2.7	31.6	25.5
Western hills	7.7	28.4	20.0
Western plains	13.5	31.4	25.2
Southern plains	1.6	31.5	25.2

Region	Average rainfall for last 8 days (mm)	Daily maximum rainfall for last 8 days (mm)	Daily minimum rainfall for last 8 days (mm)
All SL	5.3	86.9	0.0
Hydro catchment	6.6	80.0	0.0

Wind: Westerly and 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 Southern, Central, Sabaragamuwa and Western provinces driven by the warm SSTs.

Predictions

Rainfall: During the next week (10 July - 16 July), moderate rainfall (25 - 50 mm) is predicted for the Sabaragamuwa, Western, Southern, and North Western provinces and light to moderate rainfall (12.5 - 25 mm) is predicted for the Central province and less rainfall is predicted for the rest.
Temperatures: The temperature will remain above normal for the Northern, Eastern, North Central, and Uva provinces and below normal for some parts of Central province during 12 July - 19 July.
Teleconnections: MJO shall be near neutral for the rainfall from 10th - 19th July for Sri Lanka.
Seasonal Precipitation: The precipitation forecast for the July-August-September, 2024 season shows a 45 - 50% or more tendency toward above-normal precipitation for the country.

Terminology for Rainfall Ranges

	Rainfall
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.

Federation for Environment, Climate & Technology

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Weekly Climate Bulletin for Sri Lanka

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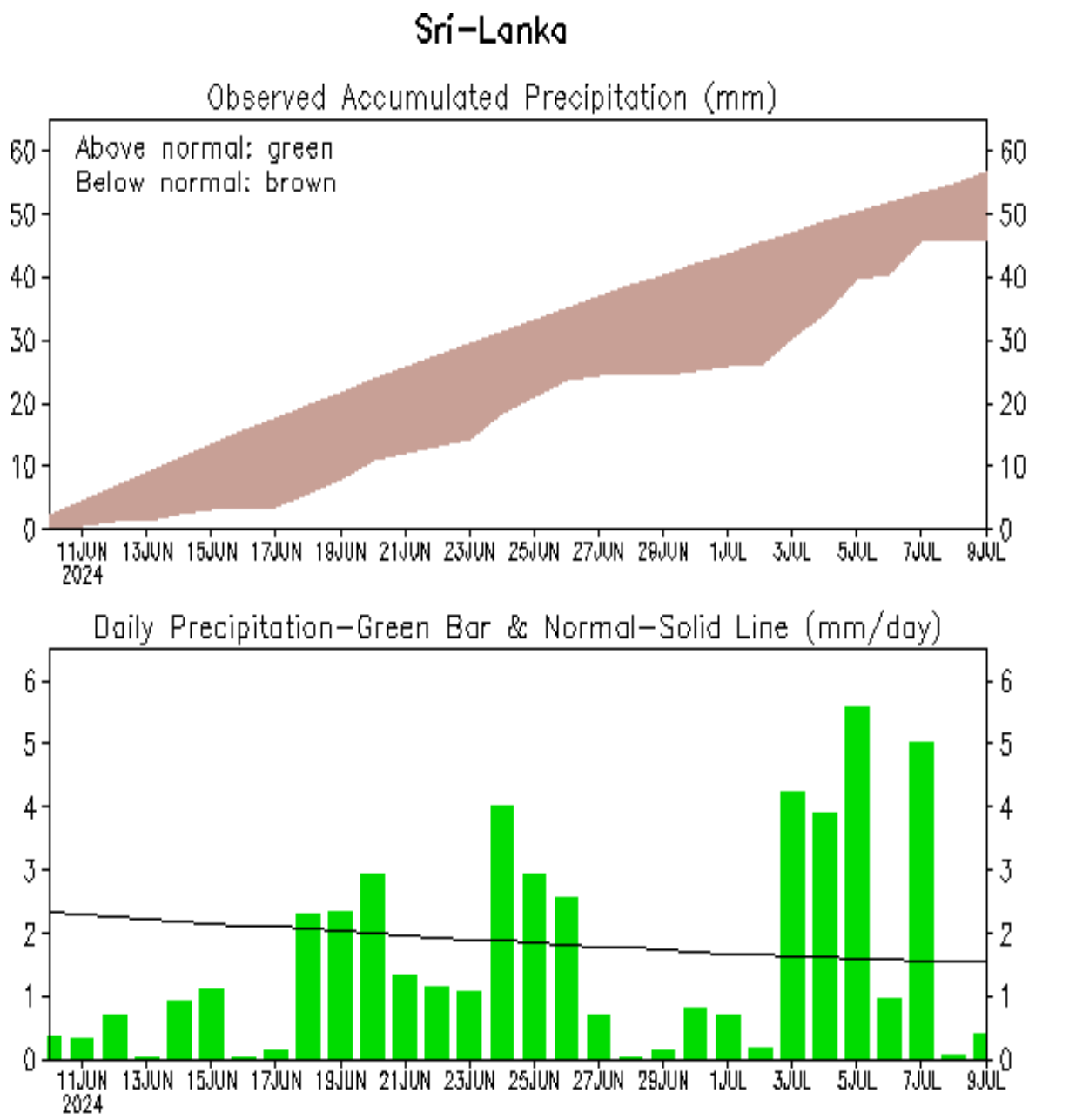
   f. Seasonal Predictions from IRI

MONITORING

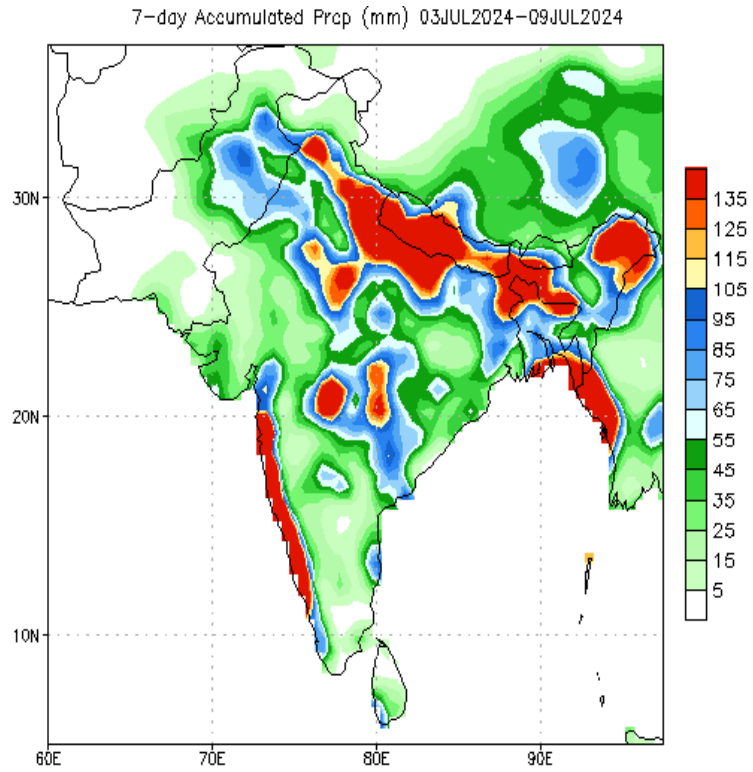
Daily Rainfall Monitoring

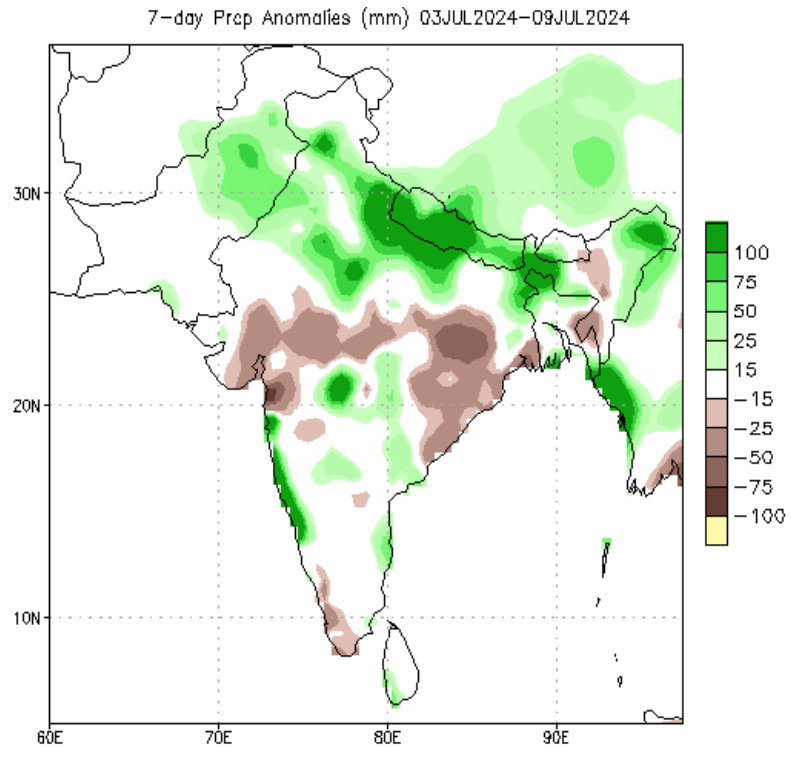
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Weekly Rainfall Monitoring

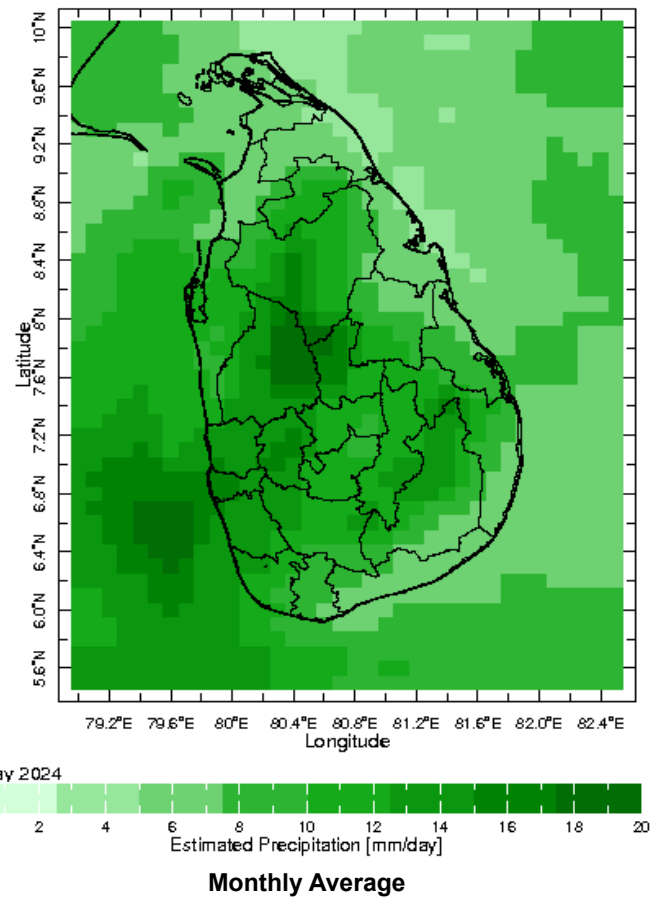
The following figures show the total satellite observed rainfall in the last week in Sri Lanka. The figure in the left is the total 7-day rainfall from NOAA Climate Prediction Center (CPC) Unified Precipitation Analysis and the figure in the right is the total 7-day rainfall from CPC RFE 2.0 Satellite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



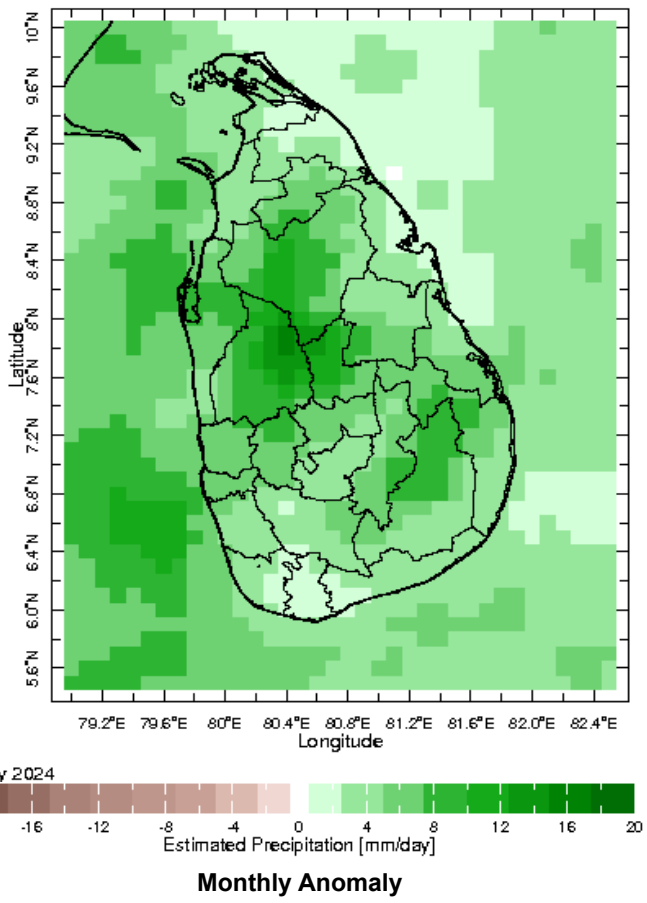


Monthly Rainfall Monitoring

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

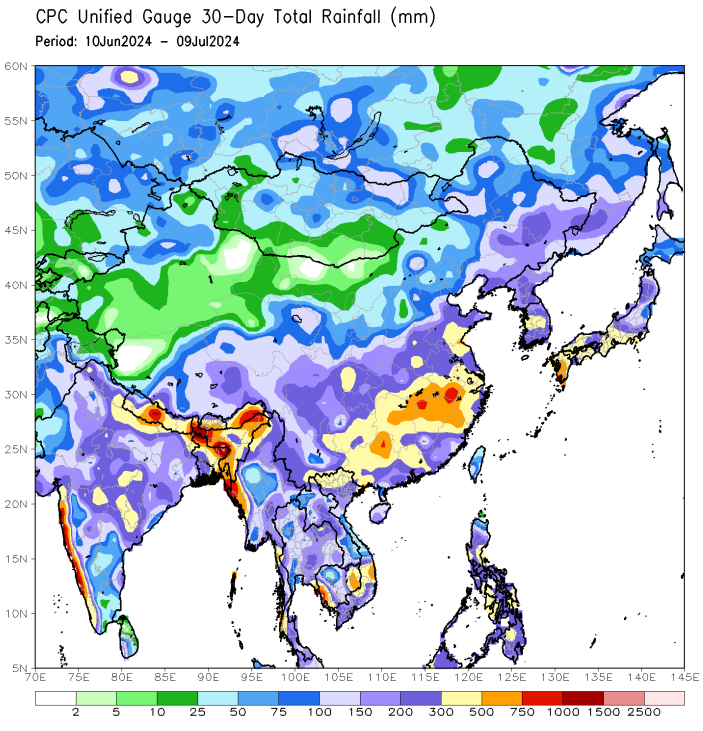


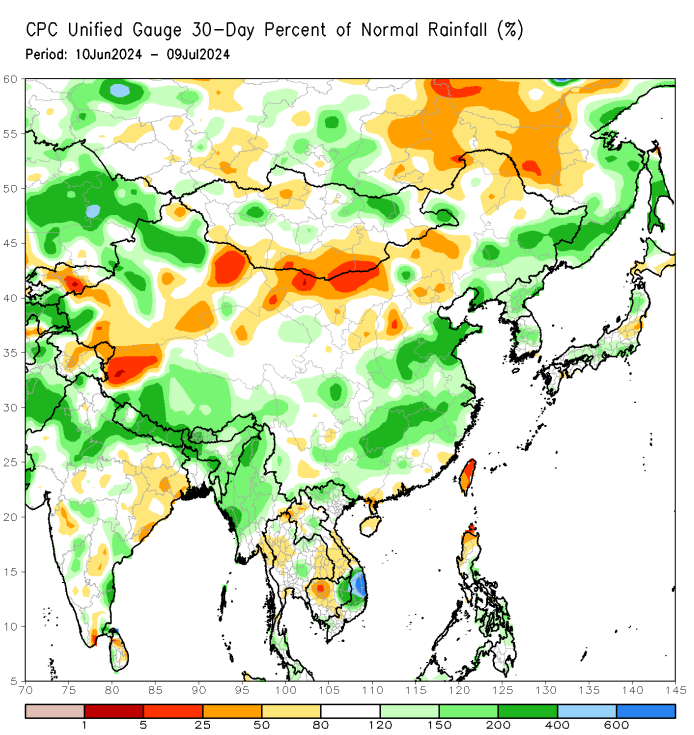
Monthly Average



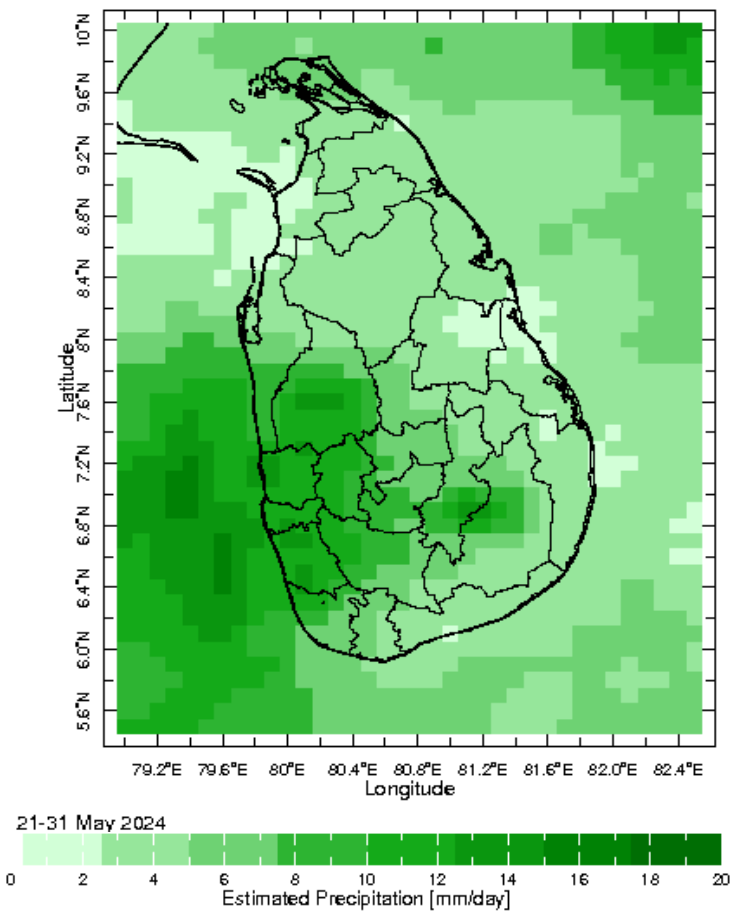
Monthly Anomaly

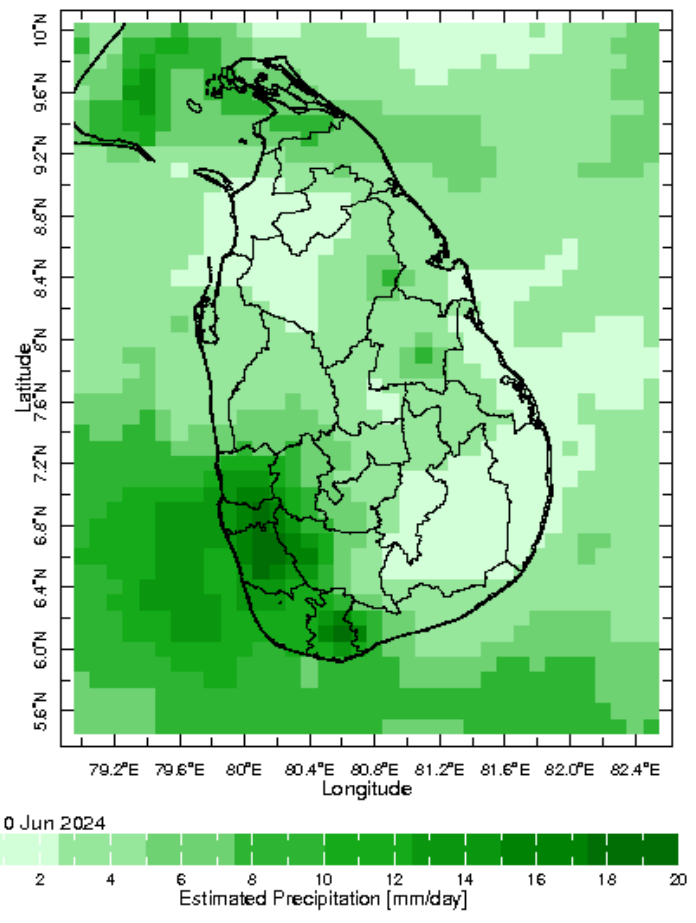
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



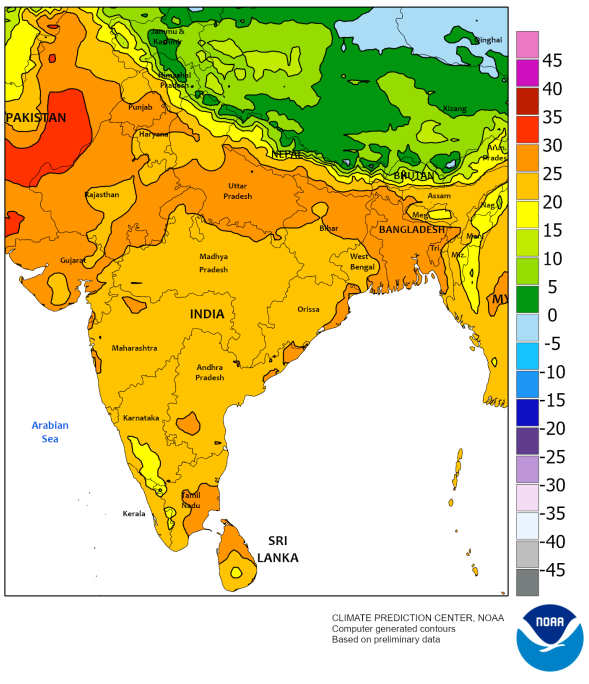


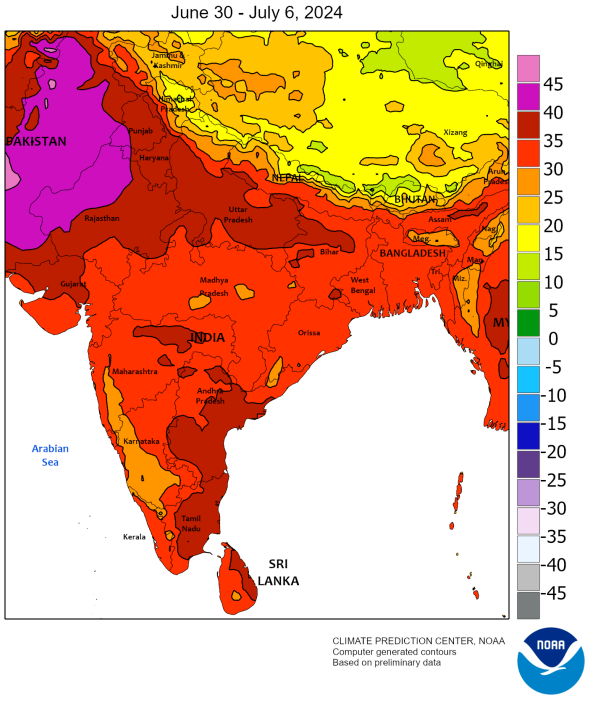
Dekadal (10 Day) Satellite Derived Rainfall Estimates

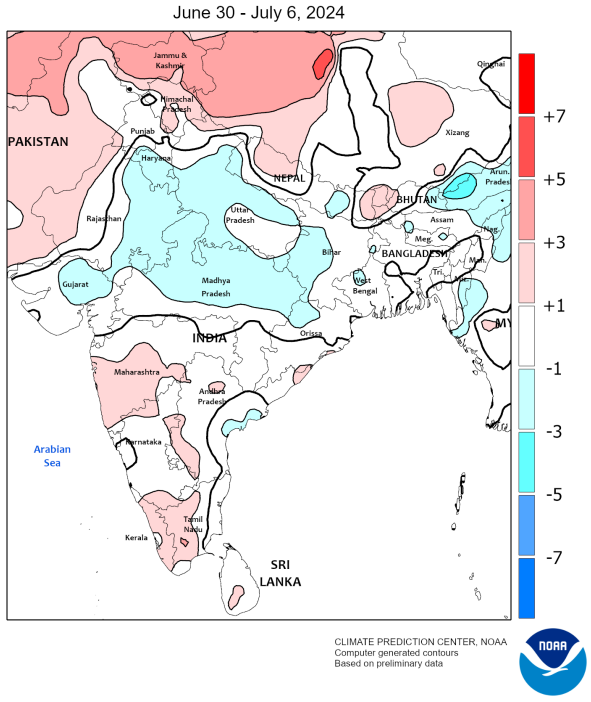




Weekly Temperature Monitoring

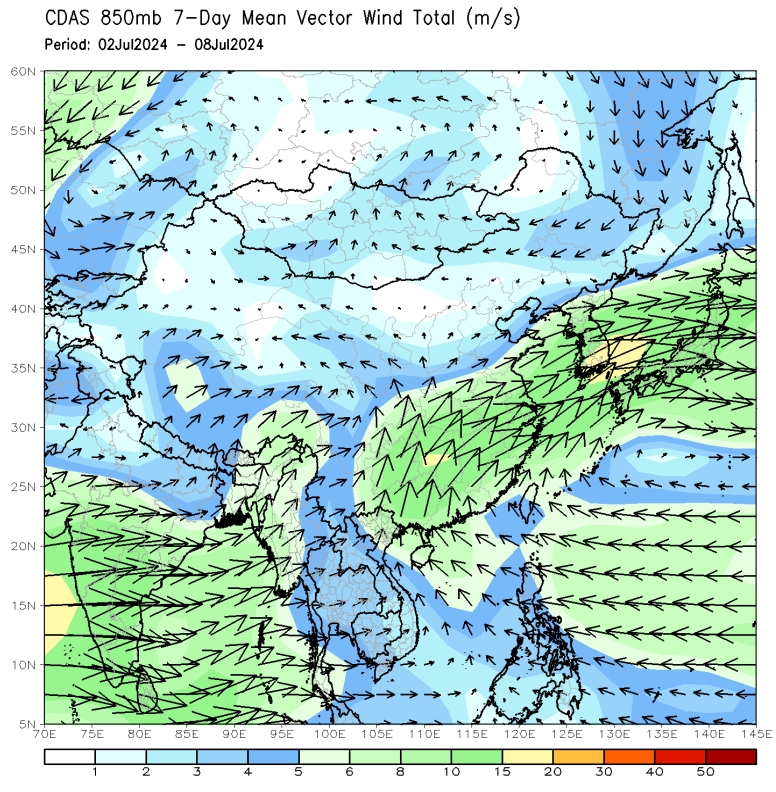


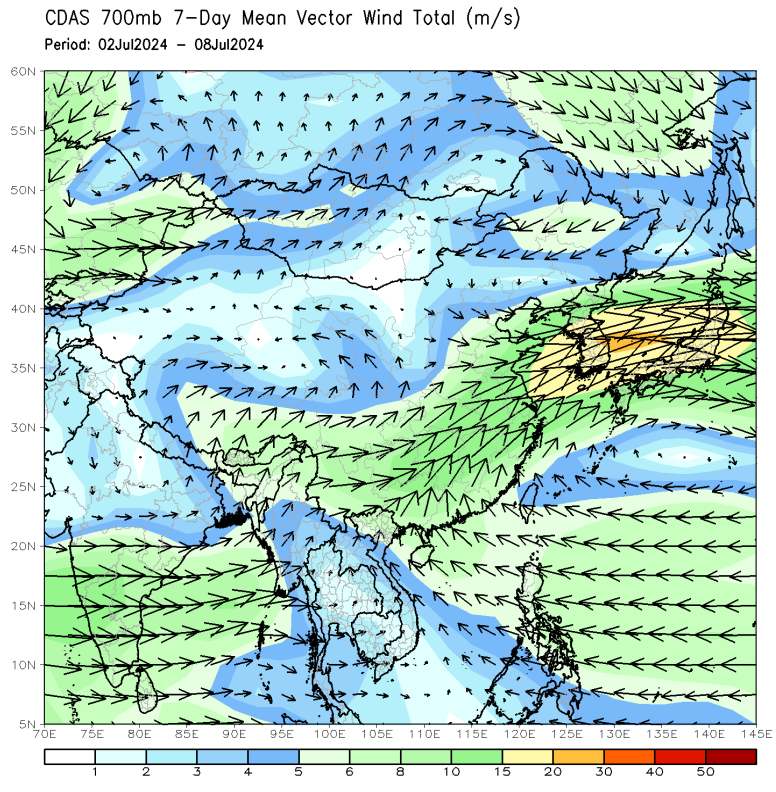




Weekly Wind Monitoring

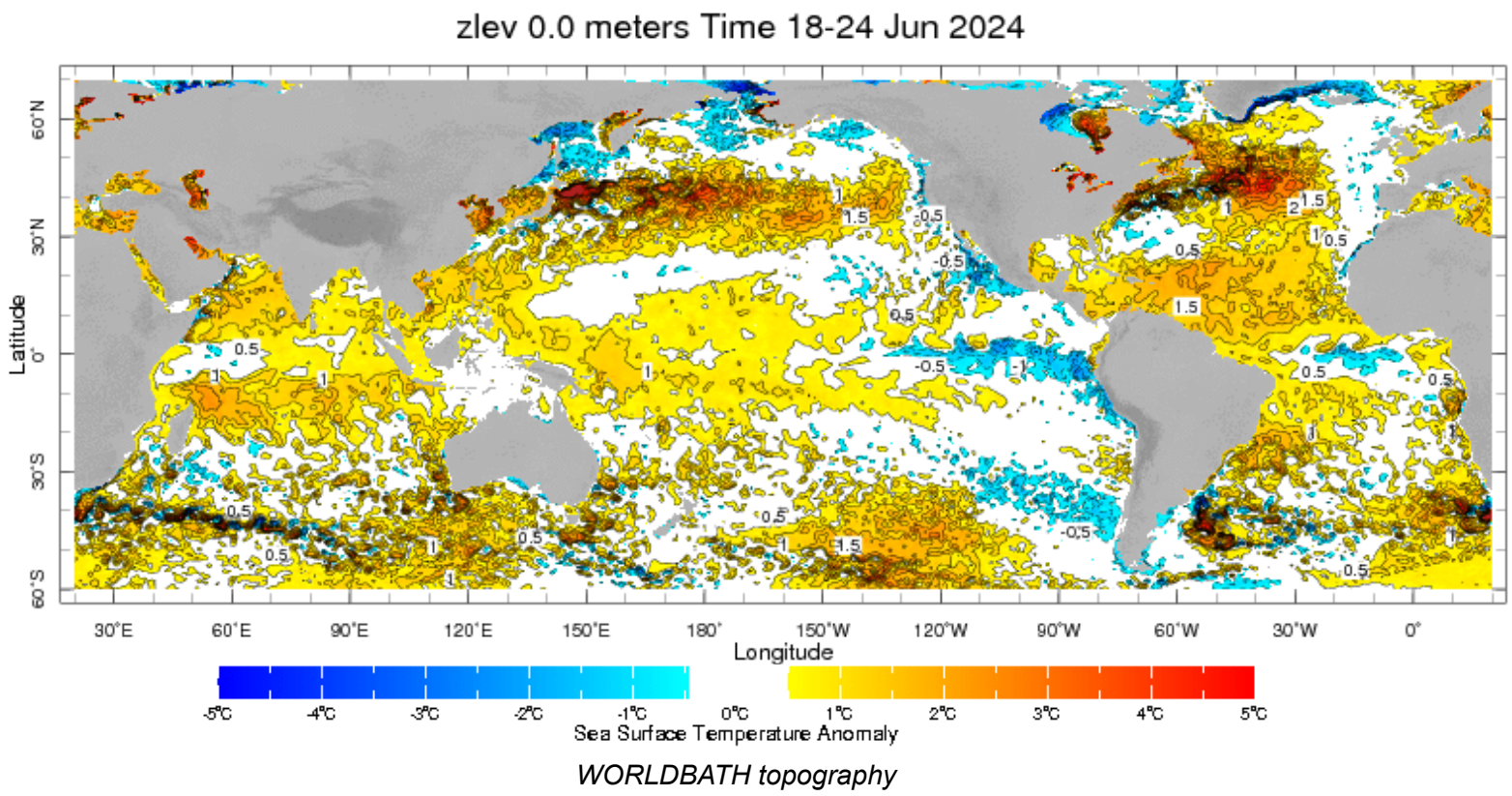
The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.



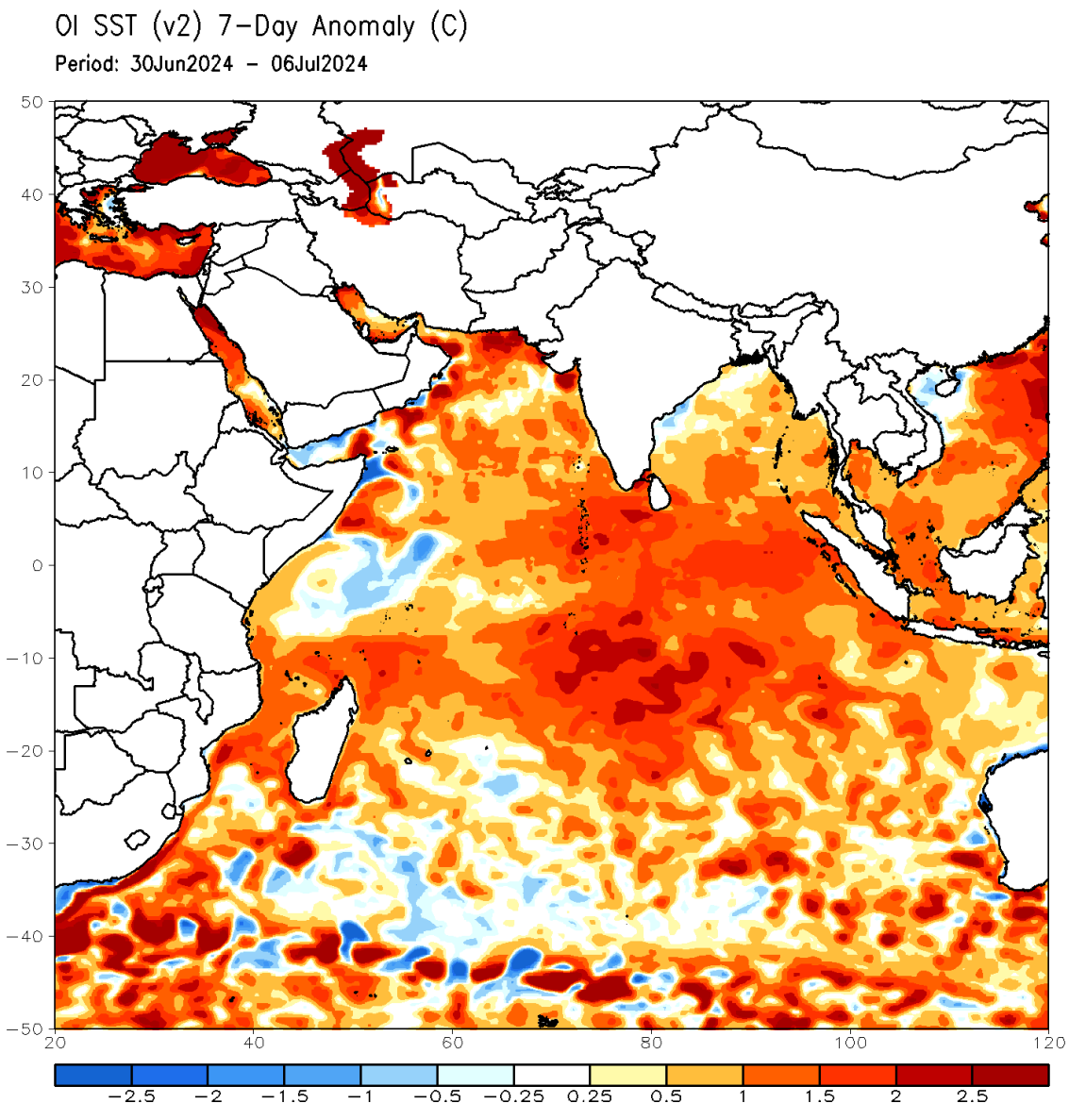


Weekly Average SST Anomalies

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

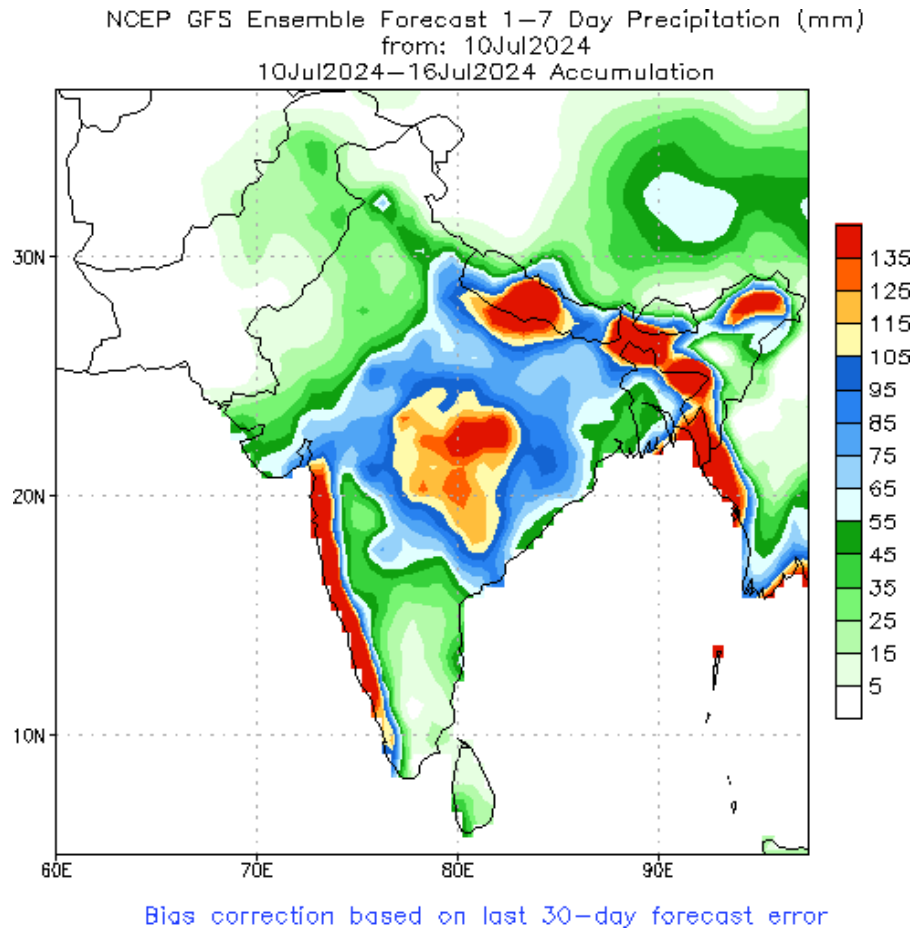


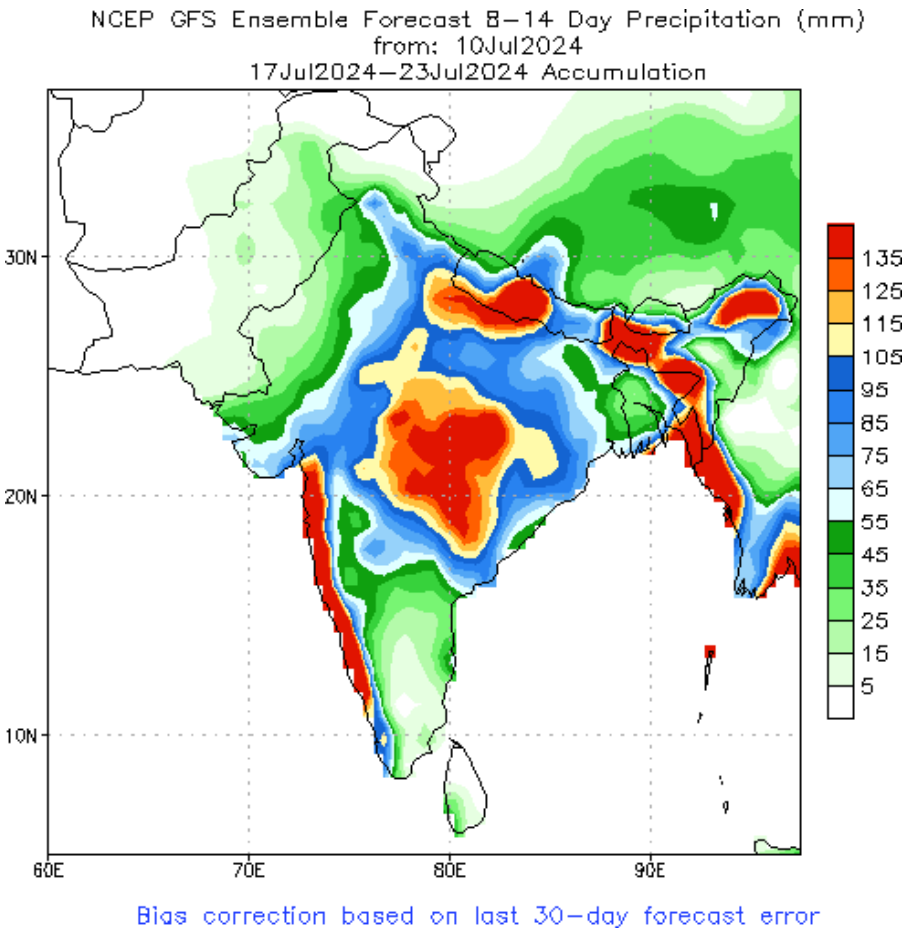
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



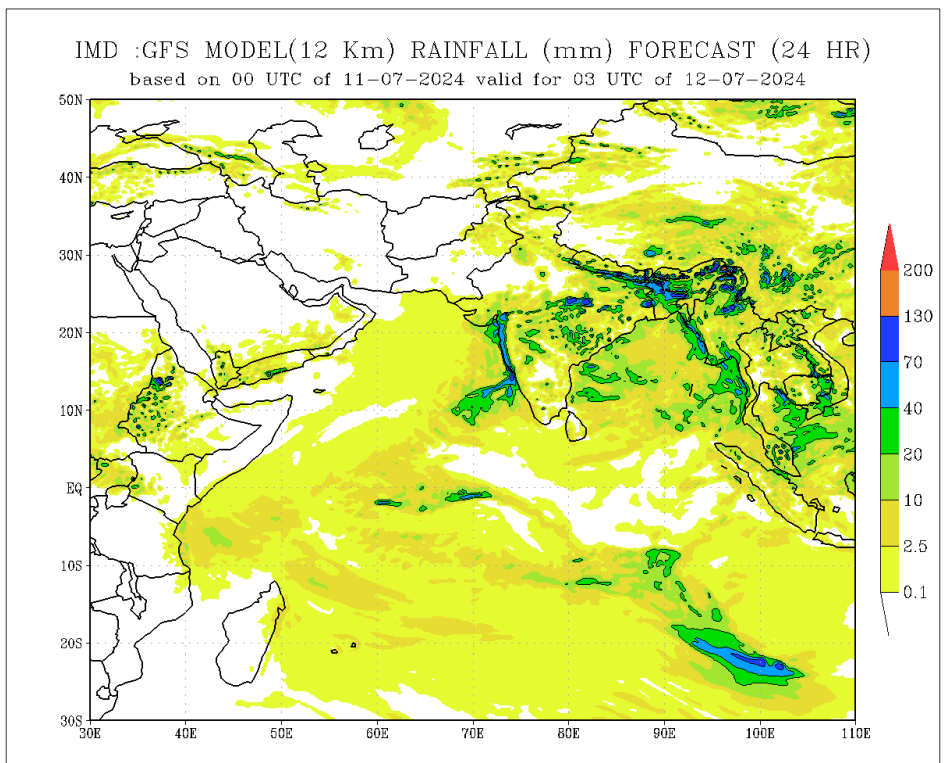
PREDICTIONS

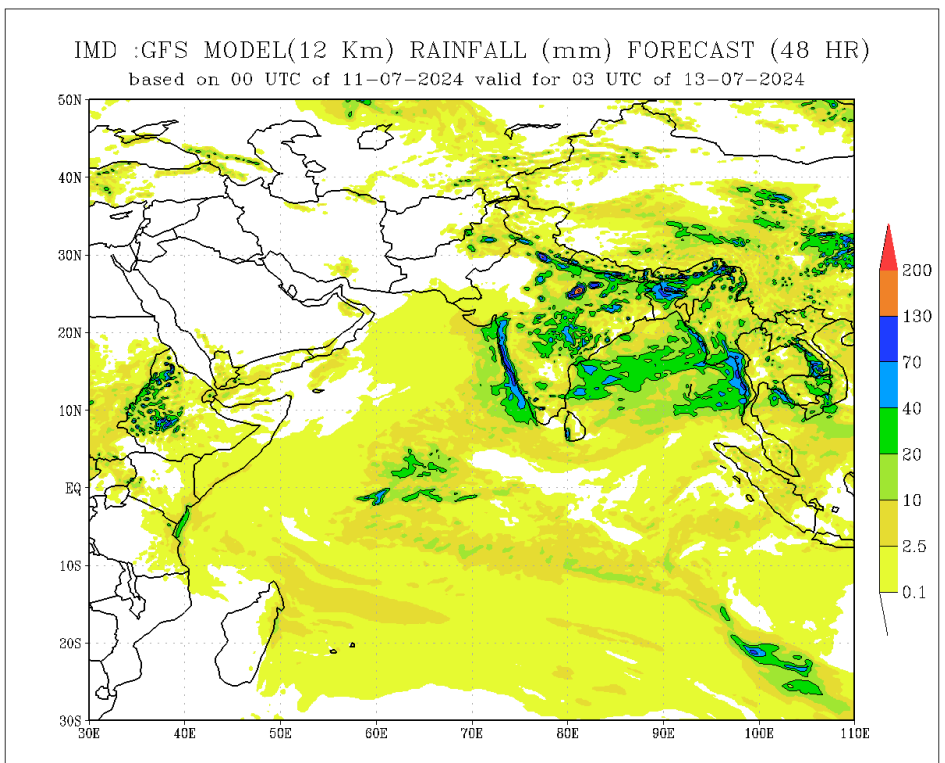
NCEP GFS 1- 14 Day prediction

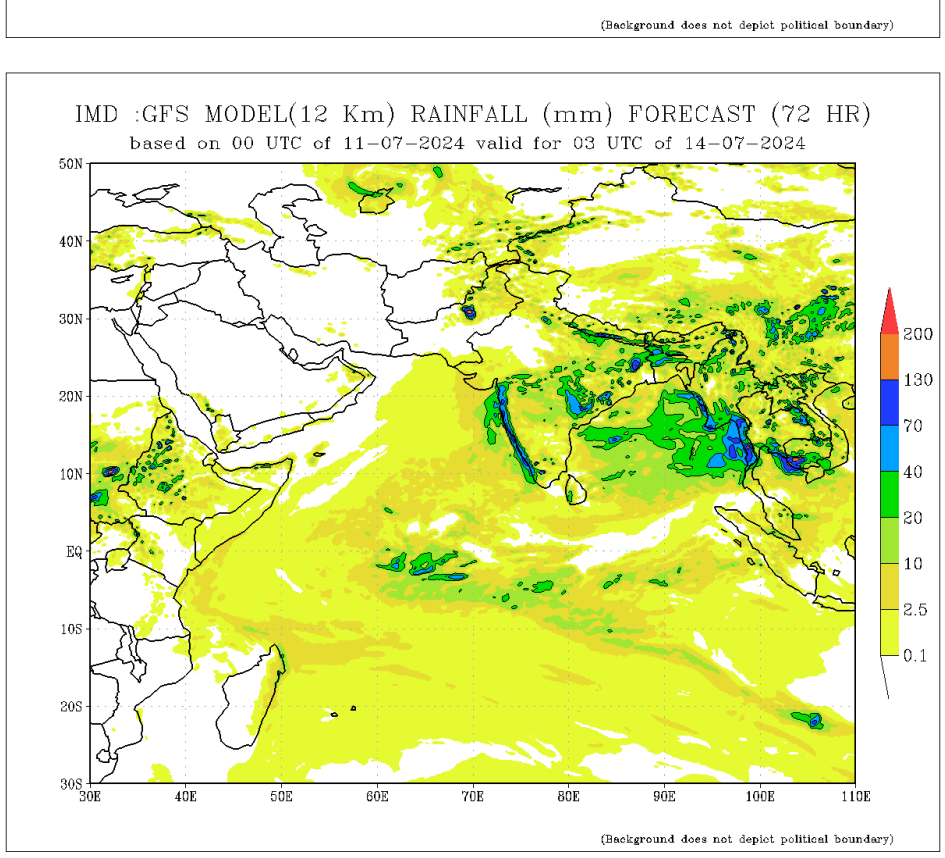


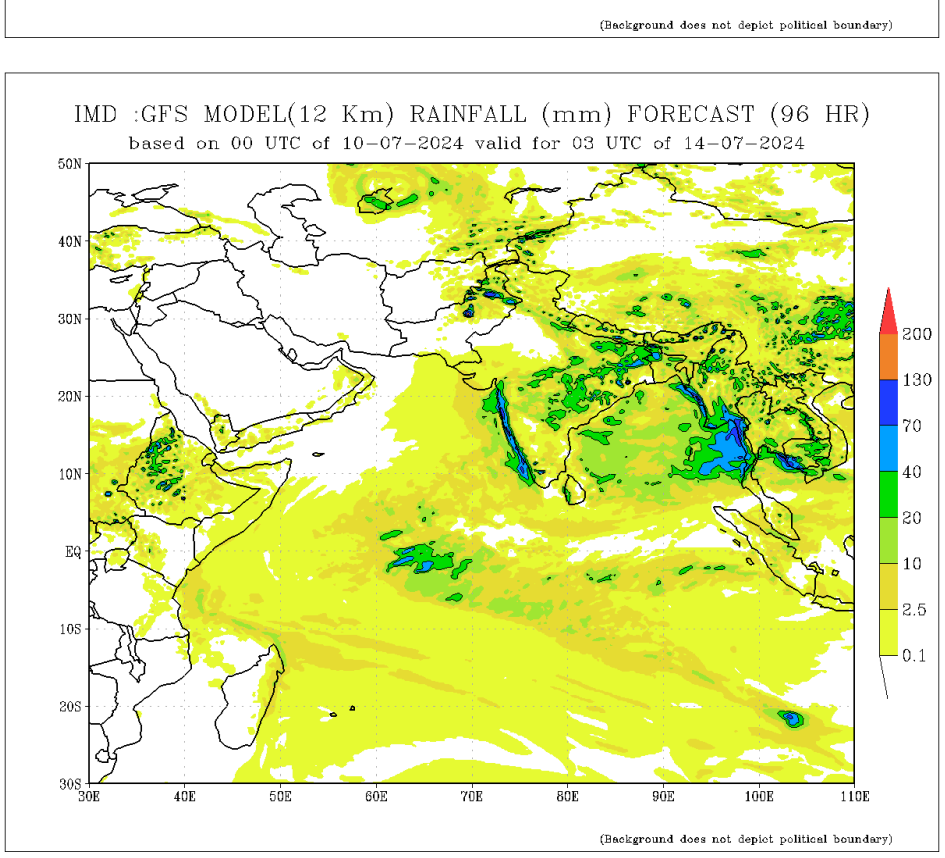


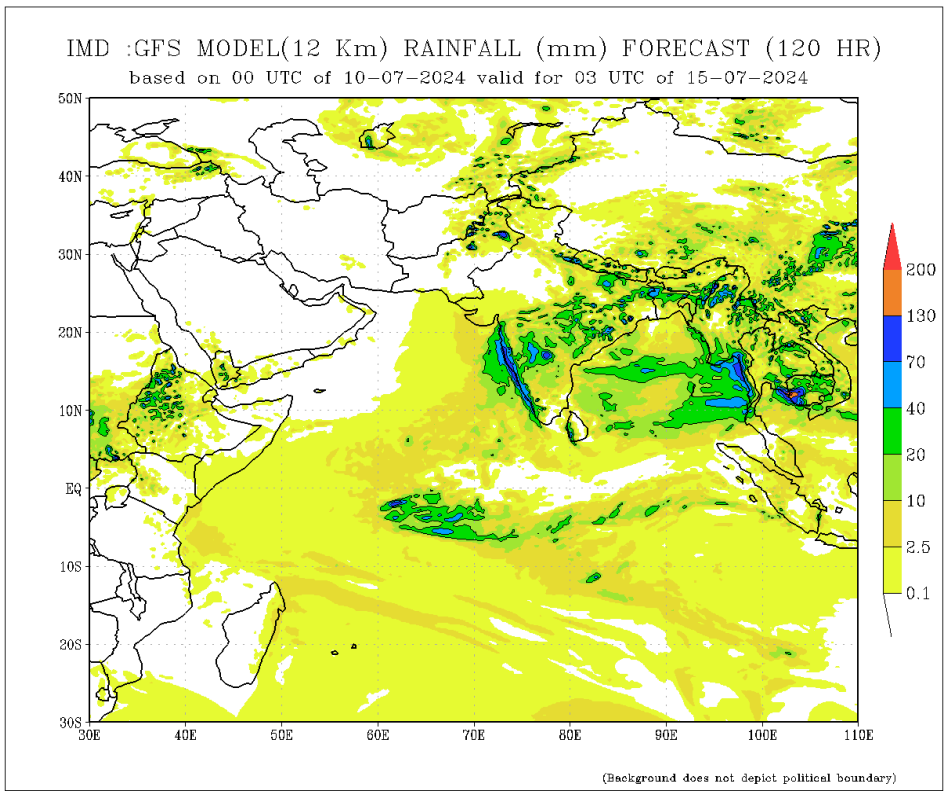
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

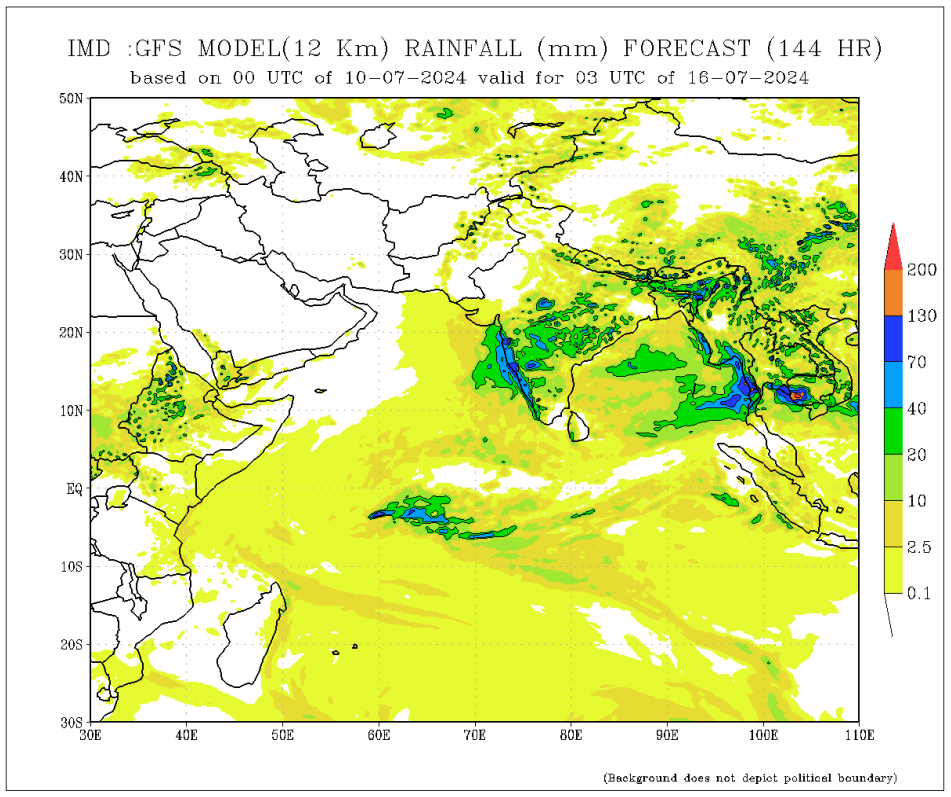


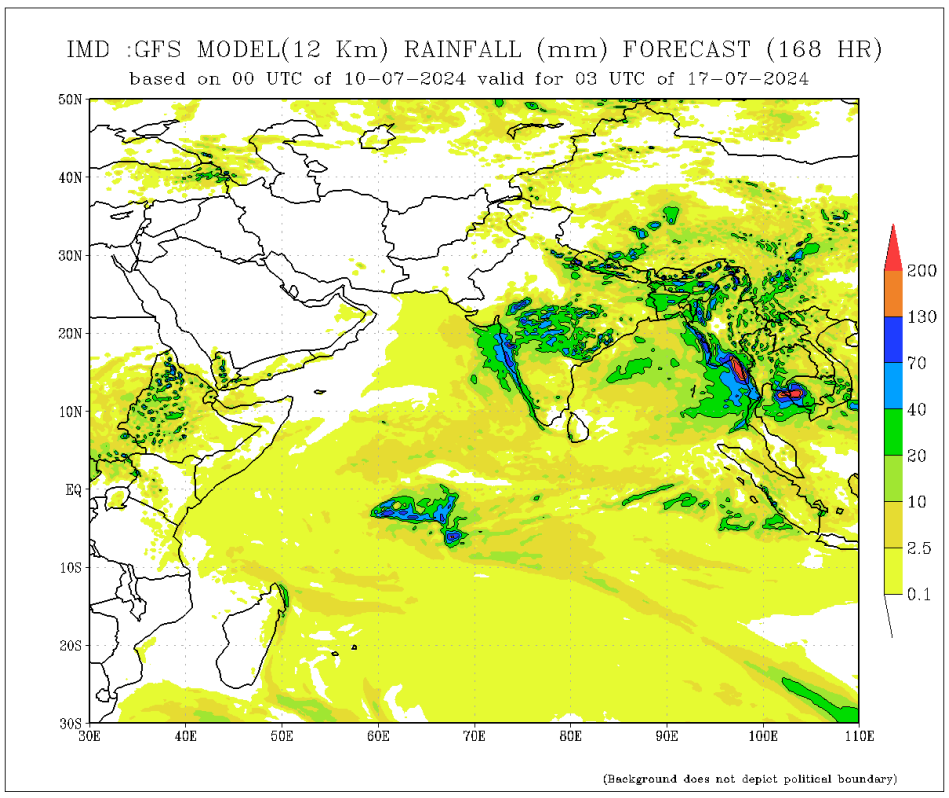






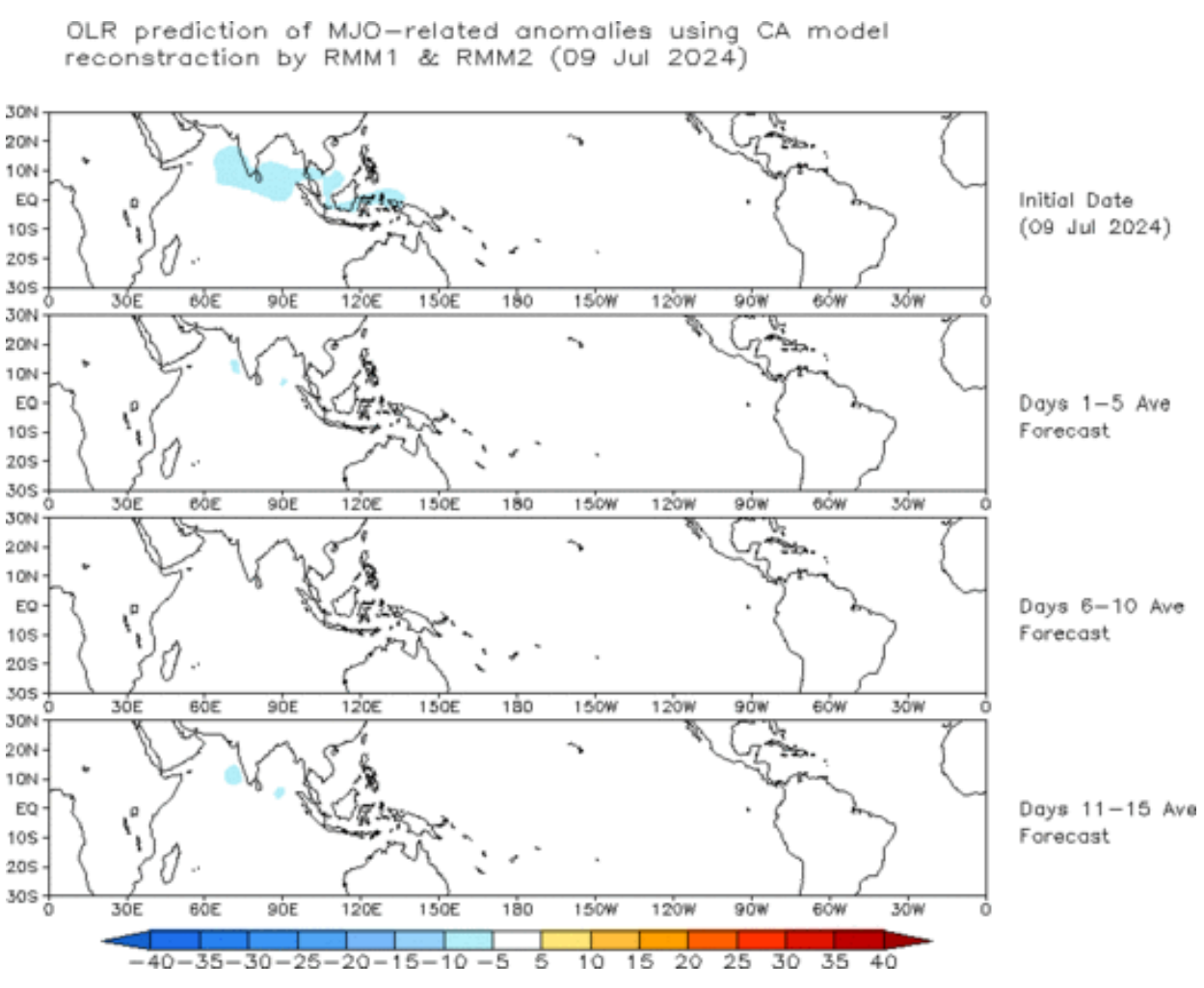






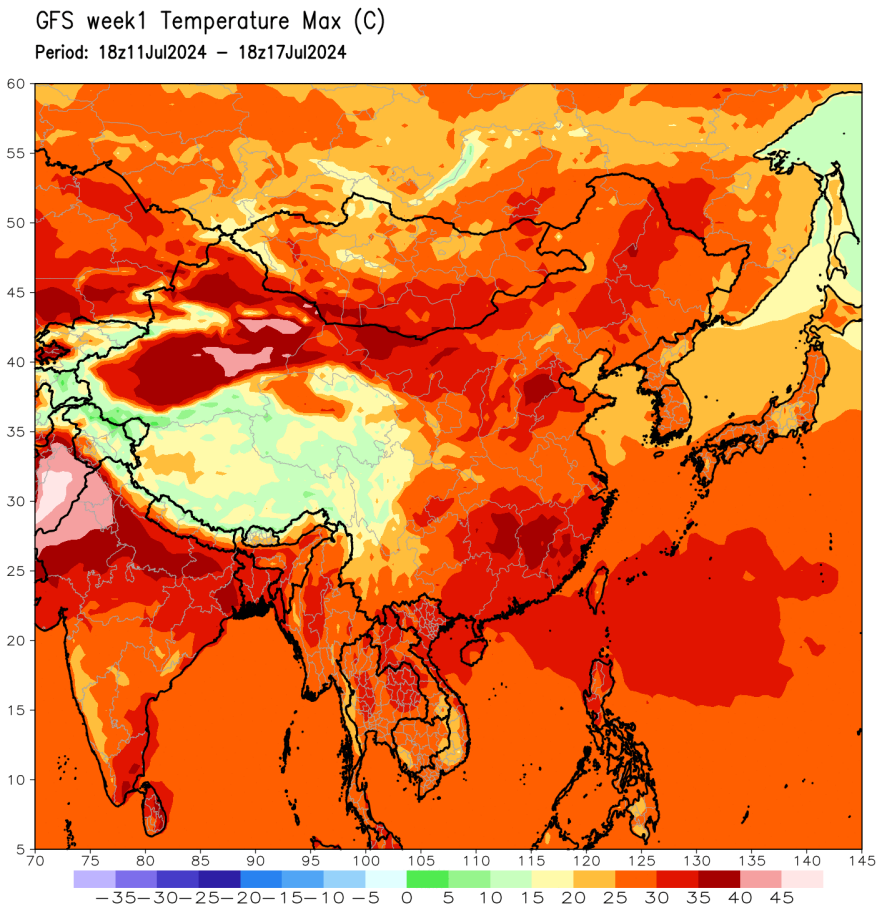
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

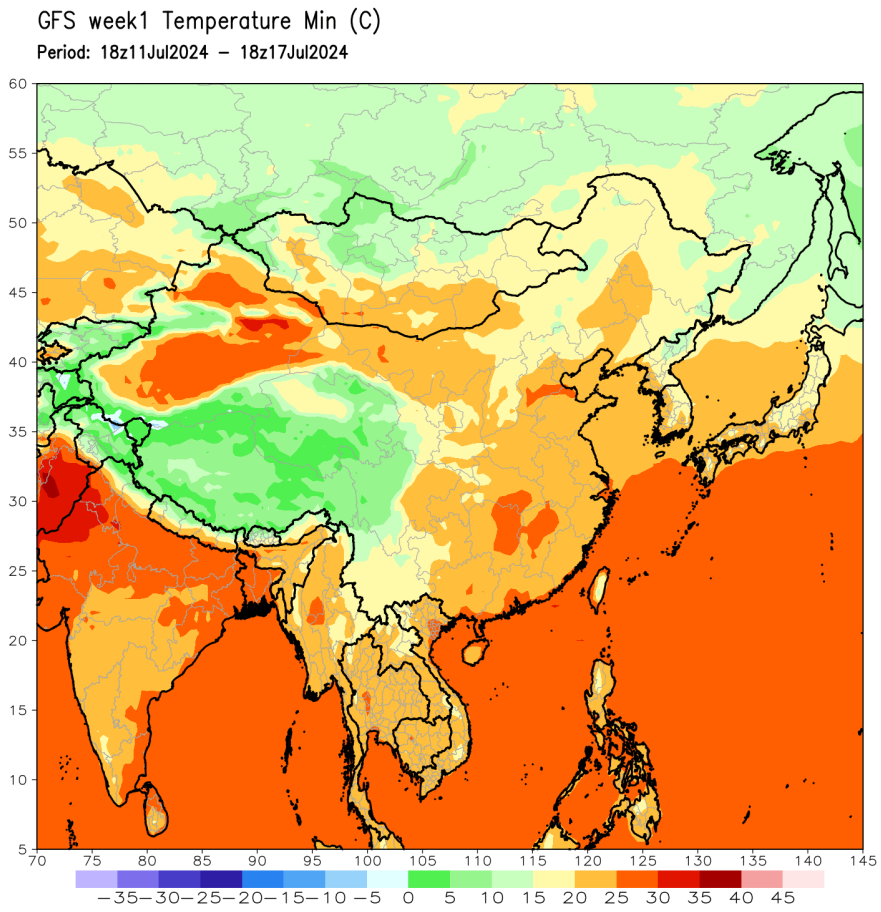
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

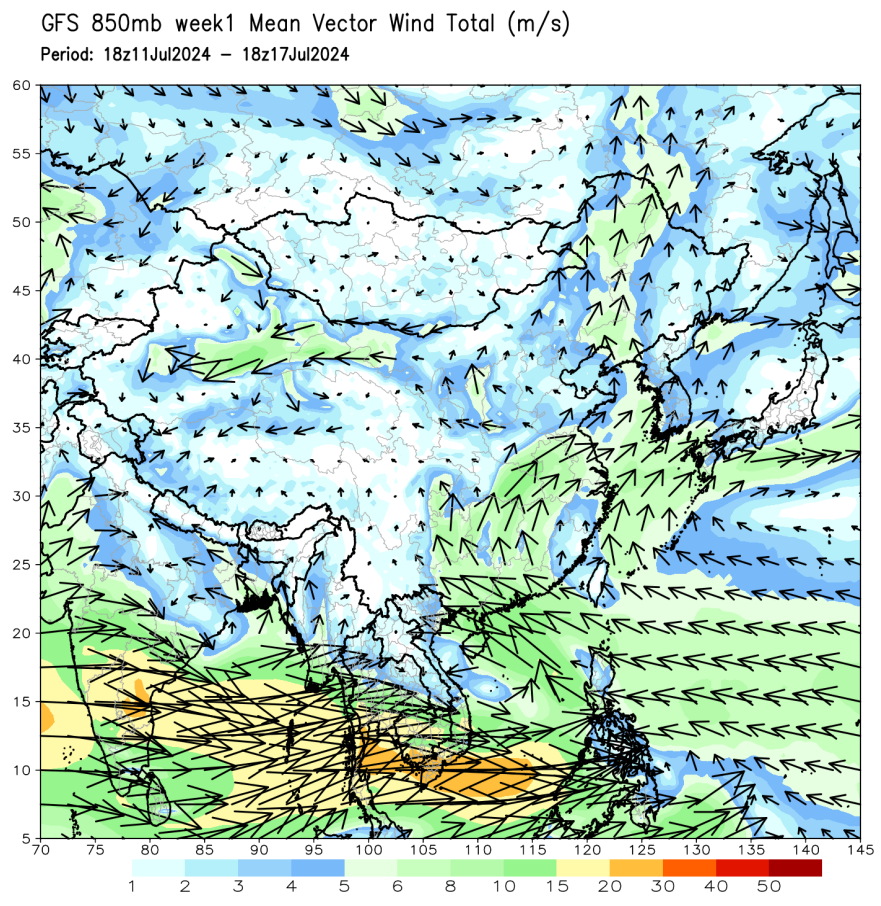
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

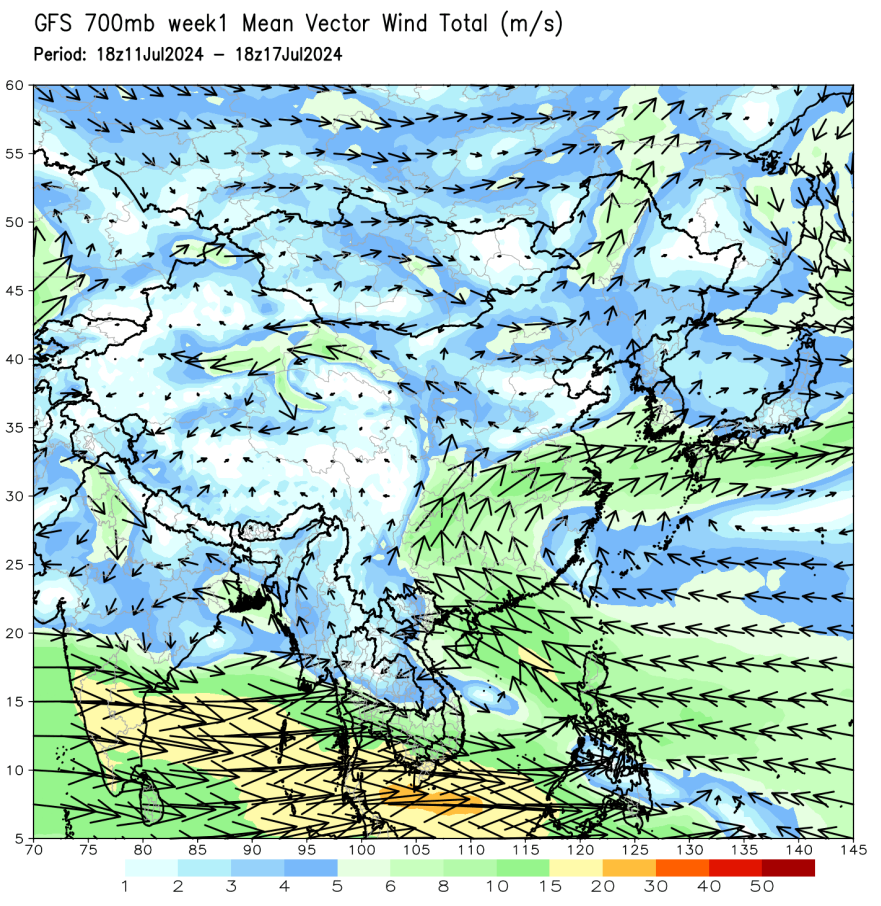




Weekly Wind Forecast

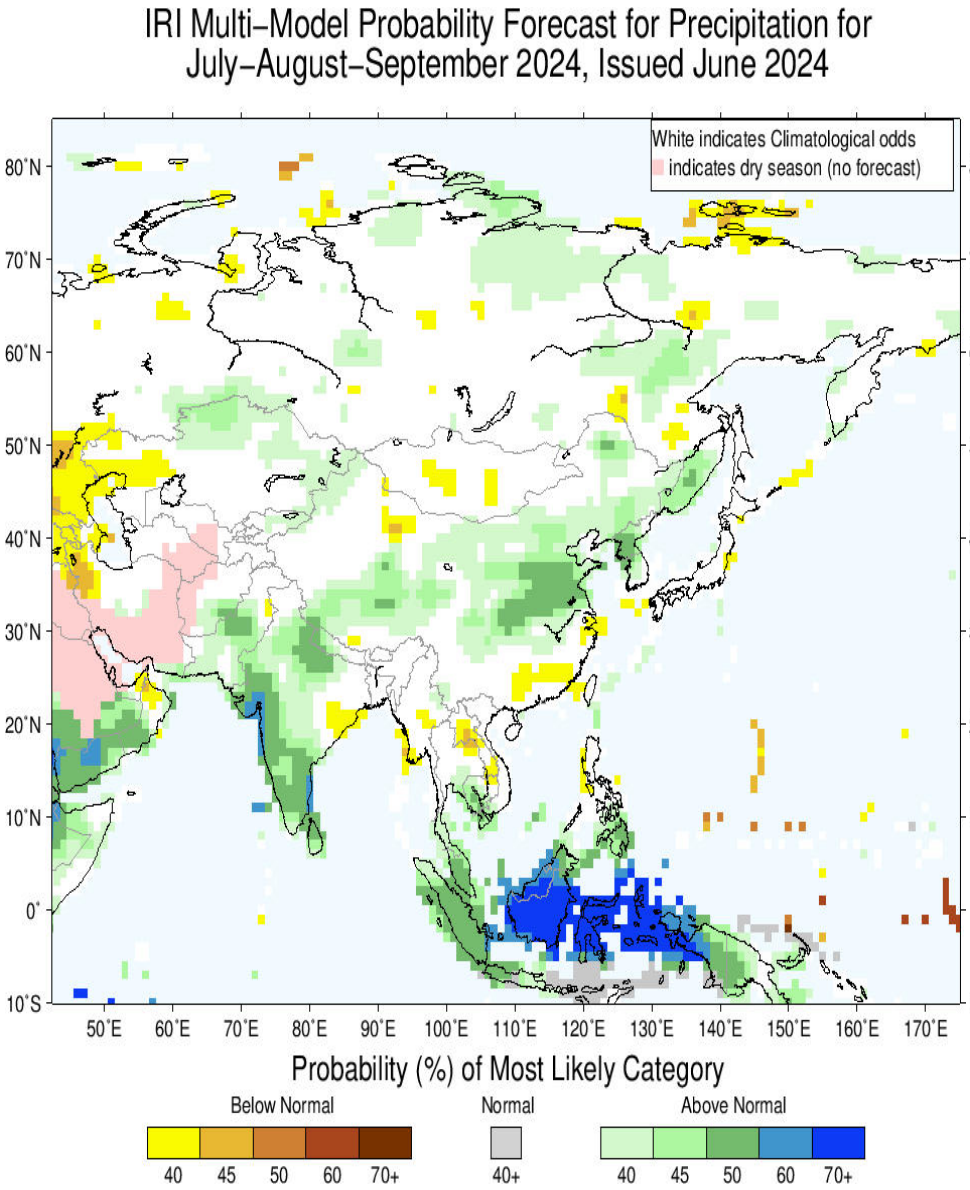
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



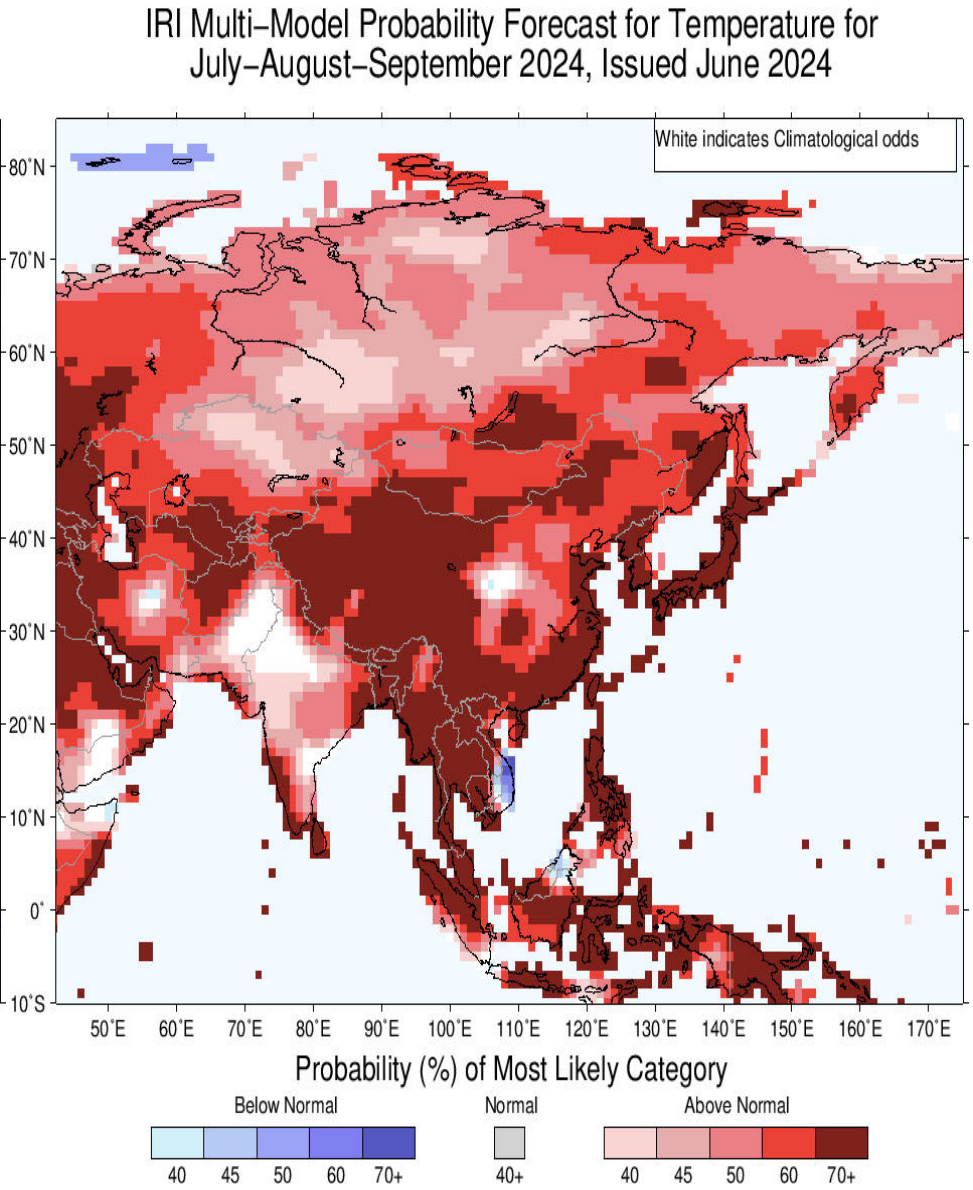


Seasonal Rainfall and Temperature Forecast

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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