

HIGHLIGHTS

Rainfall Prediction



• During 7 - 13 Aug, high likelihood of fairly heavy rainfall (50 - 100 mm) is predicted for the Sabaragamuwa, Western, North Western, and Southern provinces and moderate rainfall (25 - 50 mm) is predicted for the Uva, North Central, Central, Northern and Eastern provinces.

Monitored Rainfalls



- On average, 2.4 mm was received in SL and rainfall was concentrated in the Eastern hills (6 mm) for last 8 days.
- On average, 3 mm was received in the hydro catchments in SL; Kukule Ganga (Kalutara District) received the highest rainfall (55 mm) for last 8 days.
- Highest daily rainfall was in Bandarawela on 5 Aug (35.6 mm).

Monitored & Predicted Wind



- From 24 Jul - 4 Aug, winds at 850mb (1.5km) were westerly and north-westerly, reaching up to 15 m/s.
- From 8 Aug - 14 Aug, winds are predicted to be north-westerly, reaching up to 3 m/s.

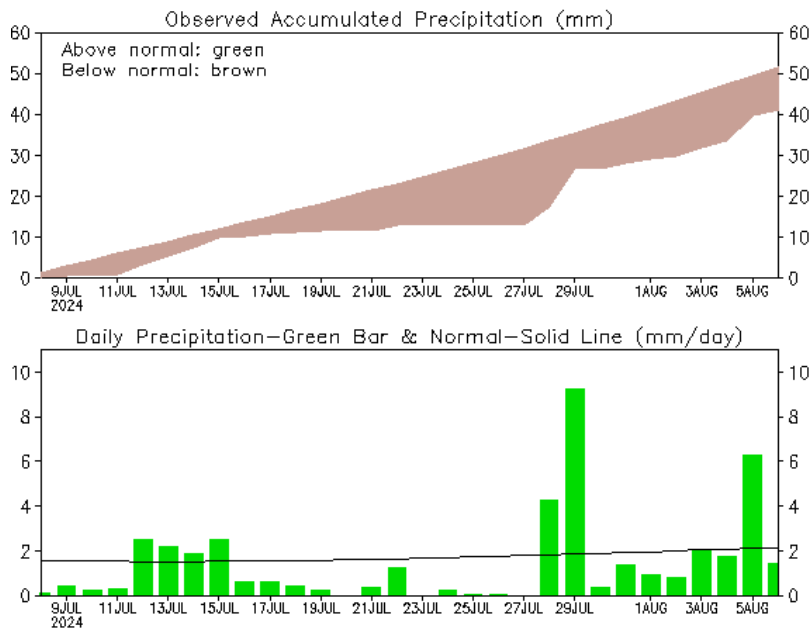
Monitored Sea & Land Tempo



- Average land surface temperature was 31.5°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 normal to the Eastern, North Eastern and some parts of the Northern side of the country and 1.0°C above average for the other half of the country

Monitoring Rainfall

Daily Estimates for Accumulated Rainfall from 8 July - 6 Aug 2024
Sri-Lanka



Data Source: CPC (Gauge-Based) Unified Precipitation (Climatology 1981-2010)
(updated on 00Z06AUG2024)



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: August 5, 2024

ENSO-neutral conditions are present. Equatorial sea surface temperatures (SSTs) are above average in the western Pacific, near average in the east-central Pacific, and below average in the eastern Pacific Ocean. ENSO-neutral is expected to continue for the next several months, with La Niña favored to develop during August-October (70% chance) and persist into the Northern Hemisphere winter 2024-25 (79% chance during November-January).

Indian Ocean State

Sea surface temperature around Sri Lanka was normal to the Eastern, North Eastern and some parts of the Northern side of the country and 1.0°C above average for the other half of the country from 16 July to 22 July 2024.

Predictions

Rainfall

14-Day prediction: NCEP GFS models

From 7th August - 13th August:

Total rainfall by Provinces

Rainfall (mm)	Provinces
75	Western
65	Southern
55	Sabaragamuwa, North Western
45	Uva, Central
≤35	Northern, Eastern, North Central

From 14th August - 20th August:

Total rainfall by Provinces

Rainfall (mm)	Provinces
135≤	Southern
115	Western
105	Sabaragamuwa
95	Central, Uva
75	North Western, North Central, Eastern
≤55	Northern

MJO-based OLR predictions

For the next 15 days:

MJO shall near neutral the rainfall during 7th – 16th August and slightly enhance the rainfall during 17th June – 21st August for Sri Lanka.

Interpretation

Monitoring

Rainfall: During the last two weeks, there has been fairly heavy rainfall over the following area: Huruluwawa (Anuradhapura District)

Daily Average Rainfall in the Met stations for the previous week of (1 - 8 Aug) = 2.4 mm
 Maximum Daily Rainfall: 35.6 mm & Minimum Daily Rainfall: 0.0 mm.

Region	Average rainfall for 1 - 8 Aug (mm)	Average temperature for 1 - 8 Aug (°C)	
		Maximum	Minimum
Northern plains	1.6	34.4	25.8
Eastern hills	6.1	29.6	18.8
Eastern plains	2.8	34.9	25.1
Western hills	2.7	27.9	20.1
Western plains	2.1	31.3	26.5
Southern plains	0.0	31.7	24.7

Region	Average rainfall for 1 - 8 Aug (mm)	Daily maximum rainfall for 1 - 8 Aug (mm)	Daily minimum rainfall for 1 - 8 Aug (mm)
All SL	2.4	35.6	0.0
Hydro catchment	2.9	55.0	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 Eastern, Uva and some parts of the Sabaragamuwa province for Sri Lanka driven by the warm SSTs.

Predictions

Rainfall: During the next week (7 August - 13 August), fairly heavy rainfall (50 - 100 mm) is predicted for the Sabaragamuwa, Western, North Western, and Southern provinces and moderate rainfall (25 - 50 mm) is predicted for the Uva, North Central, Central, Northern and Eastern provinces.

Temperatures: The temperature will remain above normal for the Northern, Eastern and North Central provinces during 8 August - 14 August.

Teleconnections: MJO shall be near neutral the rainfall during 7th – 16th August and slightly enhance the rainfall during 17th June – 21st August for Sri Lanka.

Seasonal Precipitation: The precipitation forecast for the August-September-October, 2024 season shows a 40% or more tendency toward 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.



FECT Web

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



FECT Blog

Past reports available at
<http://fect.lk/blog/>
<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

- a. Daily Rainfall Monitoring
- b. Weekly Rainfall Monitoring
- c. Monthly Rainfall Monitoring
- d. Dekadal (10 Day) Satellite Derived Rainfall Estimates
- e. Weekly Temperature Monitoring
- f. Weekly Wind Monitoring
- g. Weekly Average SST Anomalies

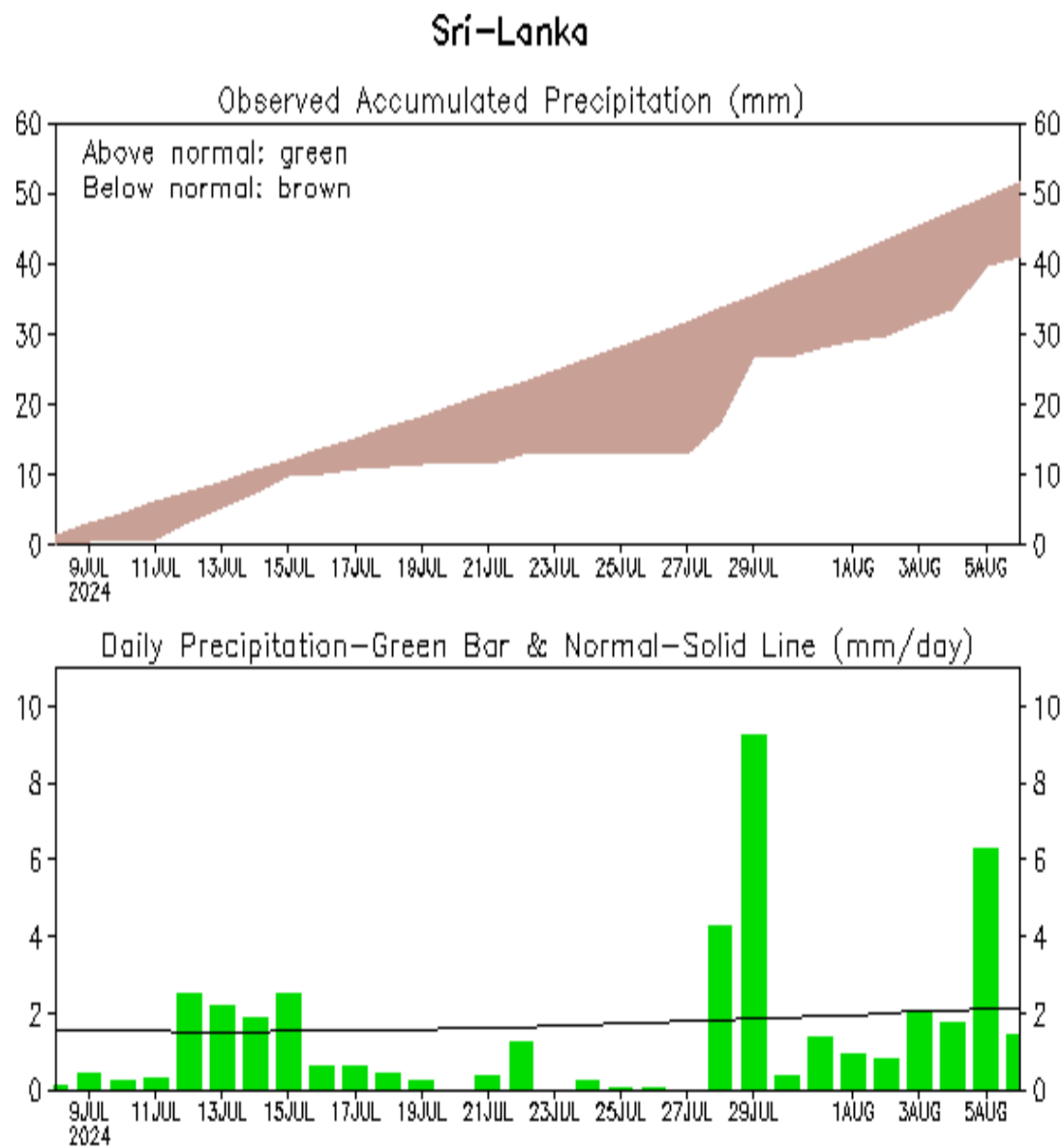
2. Predictions

- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. GFS (T574) Model Rainfall Forecast from RMSC New Delhi
- c. MJO Related OLR Forecast
- d. Weekly Temperature Forecast
- e. Weekly Wind Forecast
- f. Seasonal Predictions from IRI

MONITORING

Daily Rainfall Monitoring

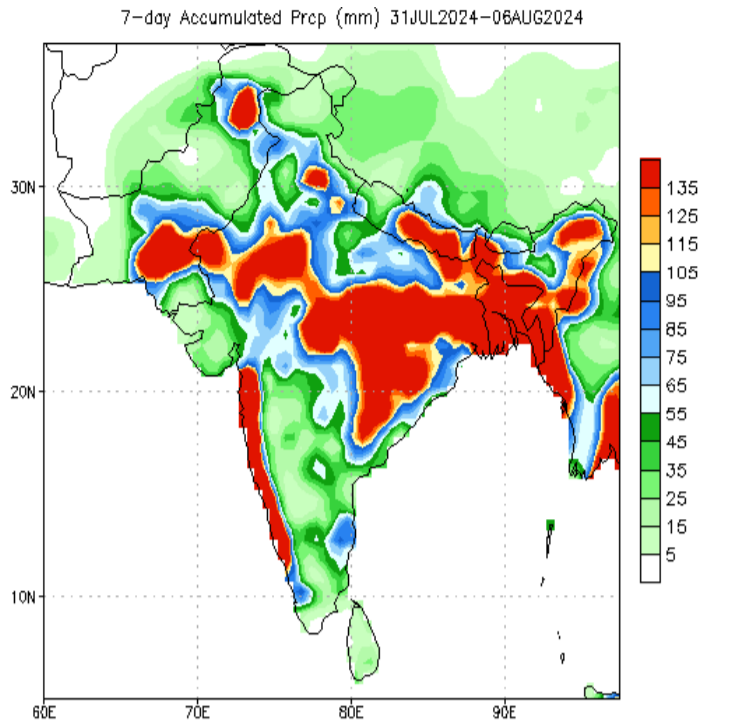
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



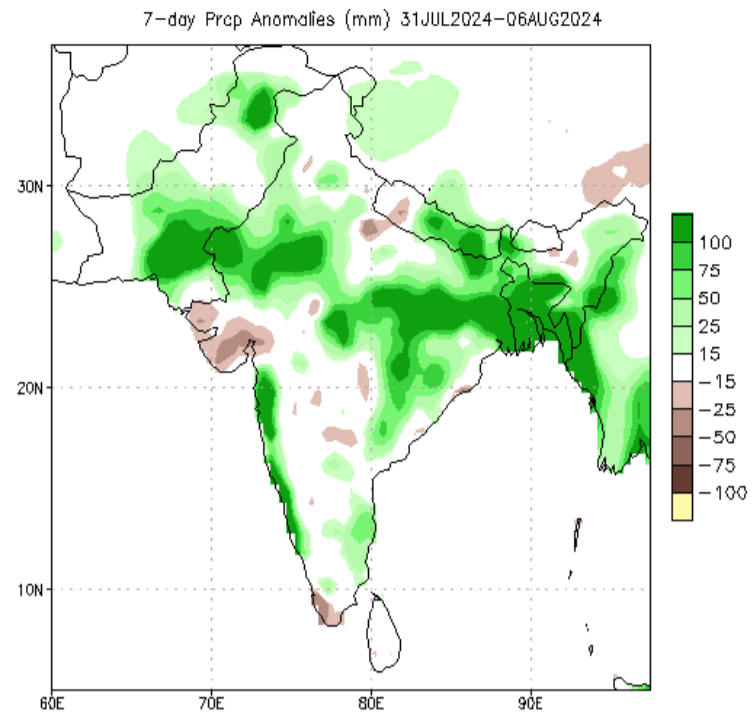
Data Source: CPC (Gauge-Based) Unified Precipitation (Climatology 1981–2010)
(updated on 00Z06AUG2024)

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.



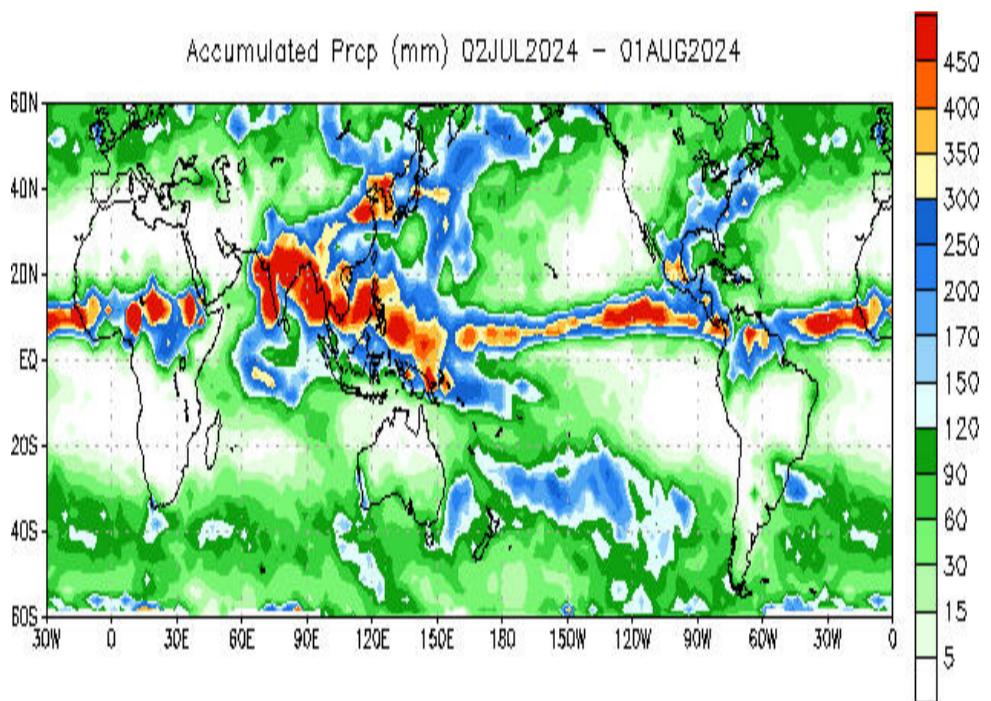
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



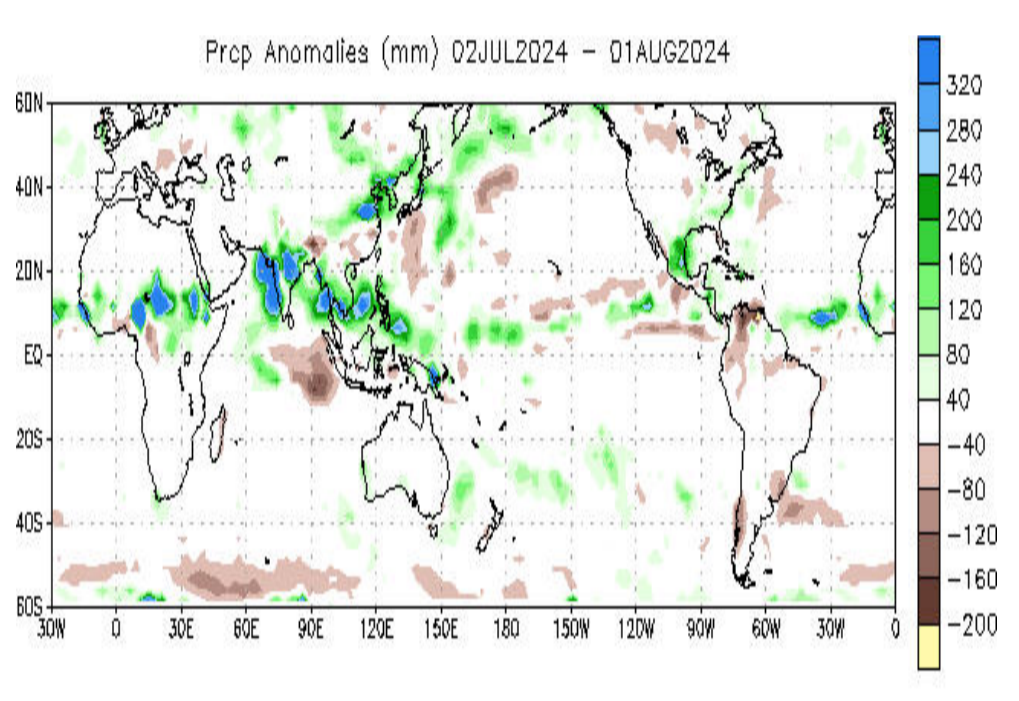
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1991-2020)

Monthly Rainfall Monitoring

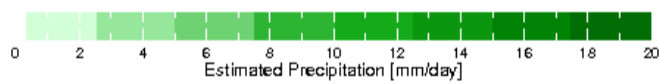
The figure in the left shows the total observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



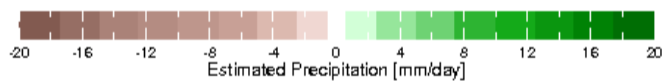
Data Source: NCEP CMAP Precipitation



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

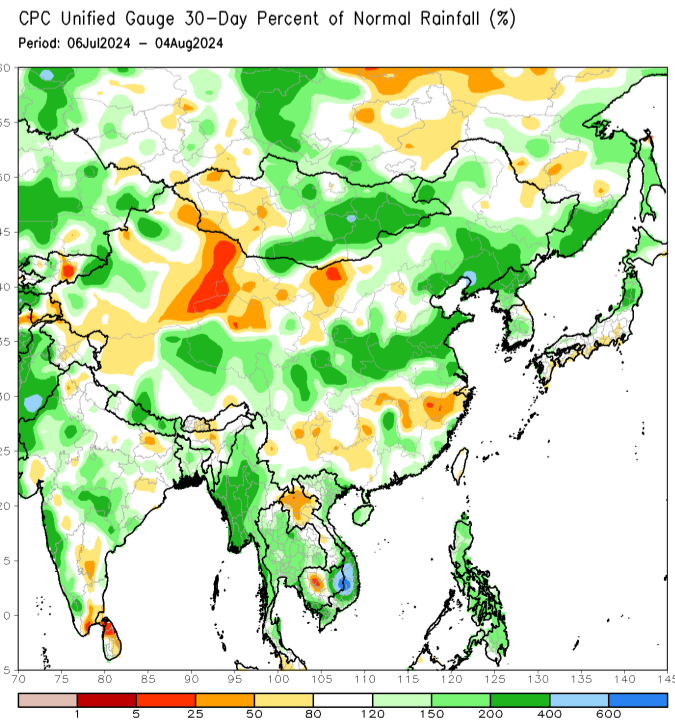
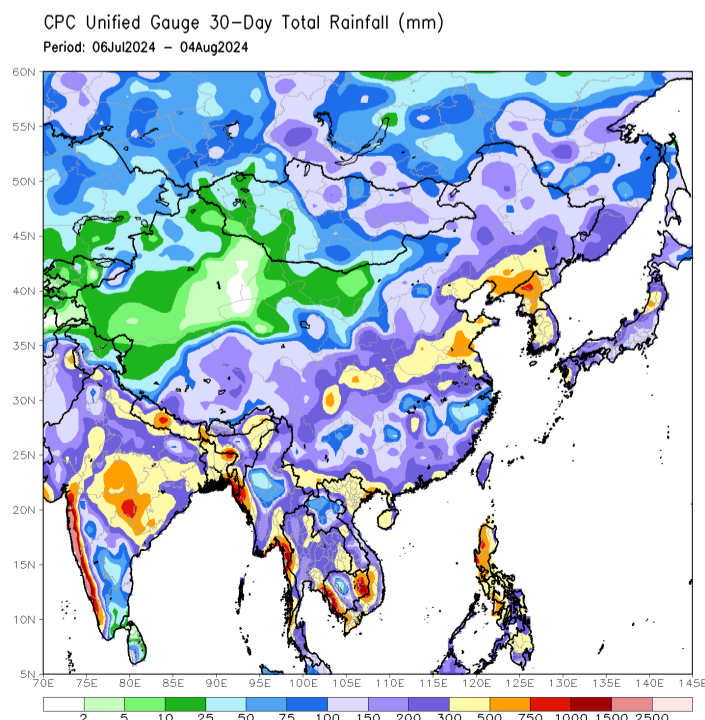


Monthly Total

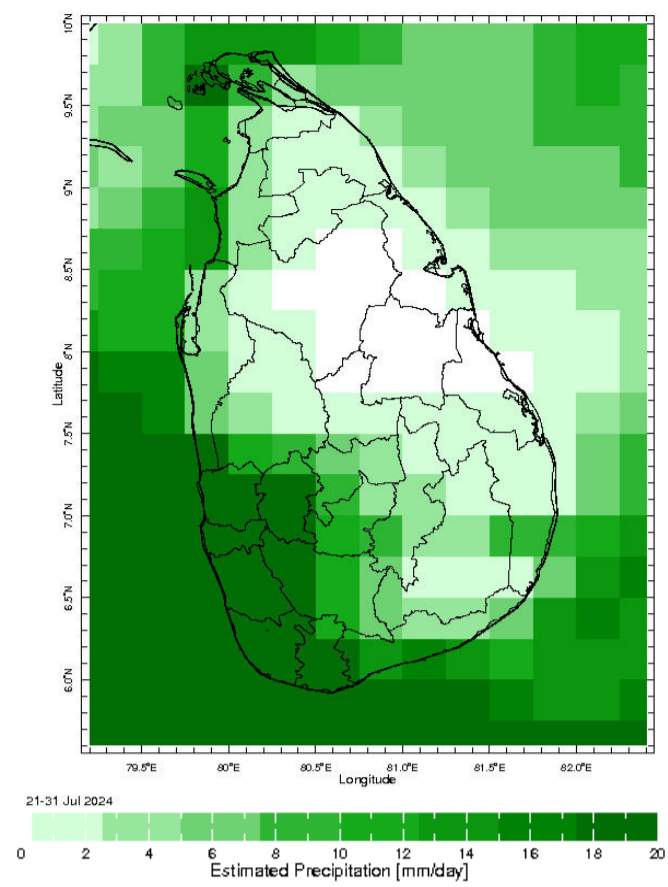
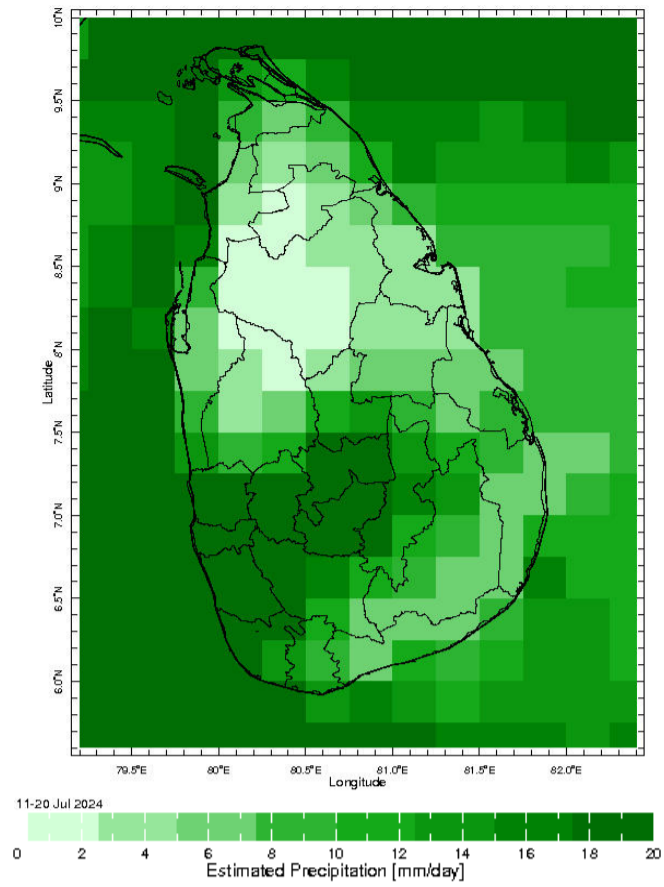


Monthly Anomaly

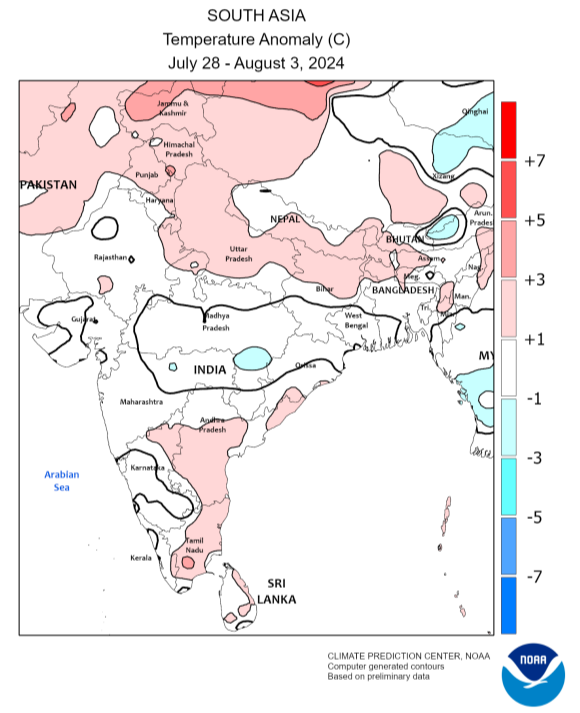
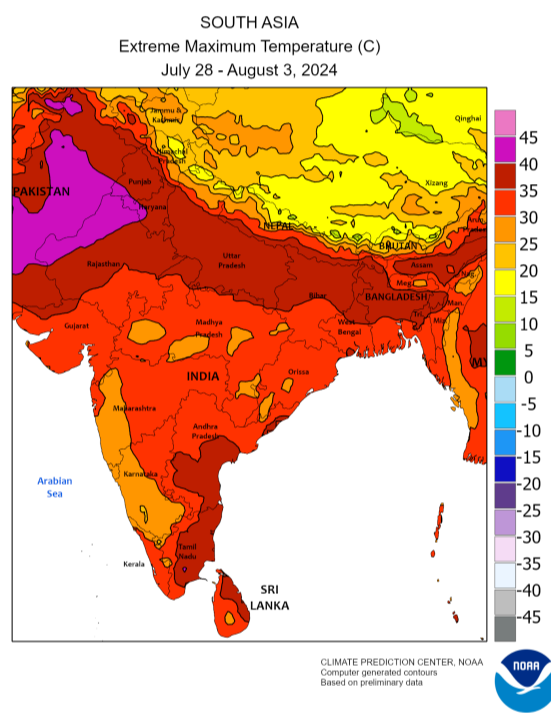
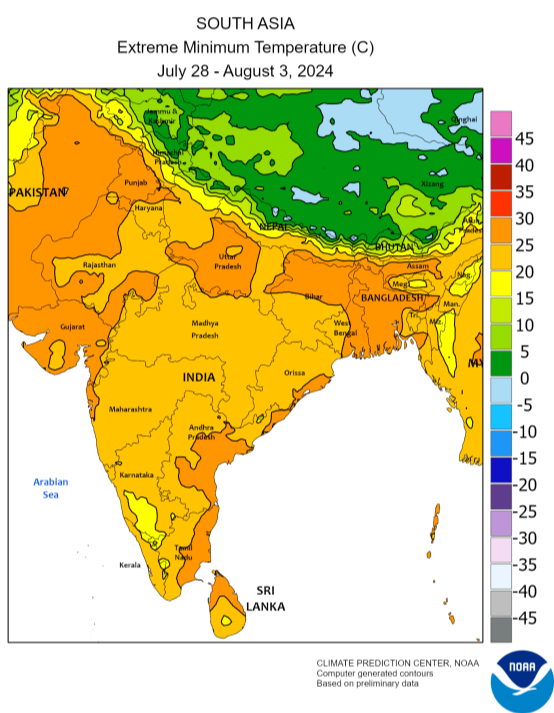
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



Dekadal (10 Day) Satellite Derived Rainfall Estimates

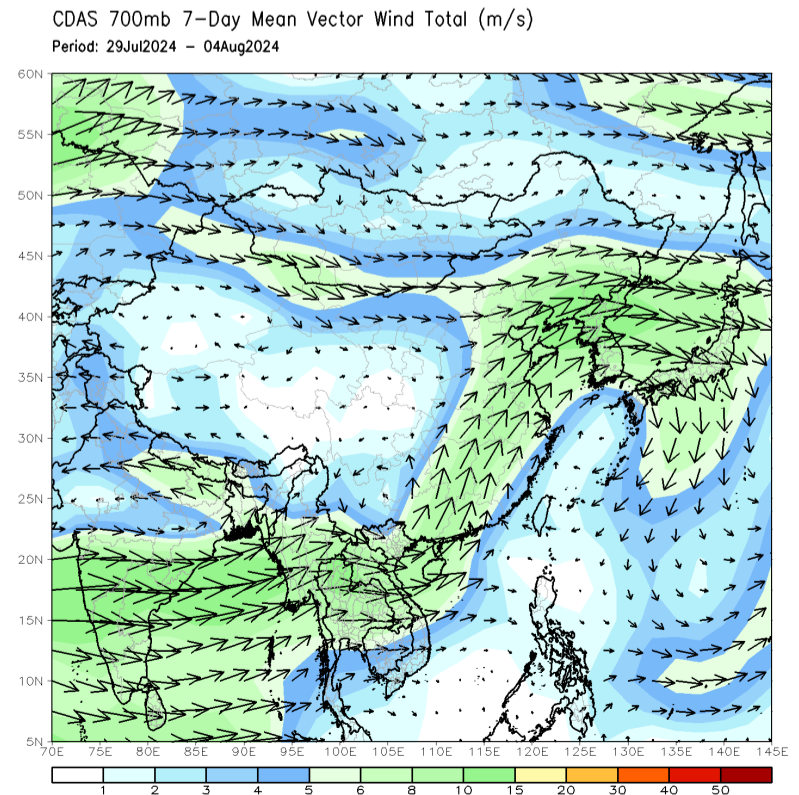
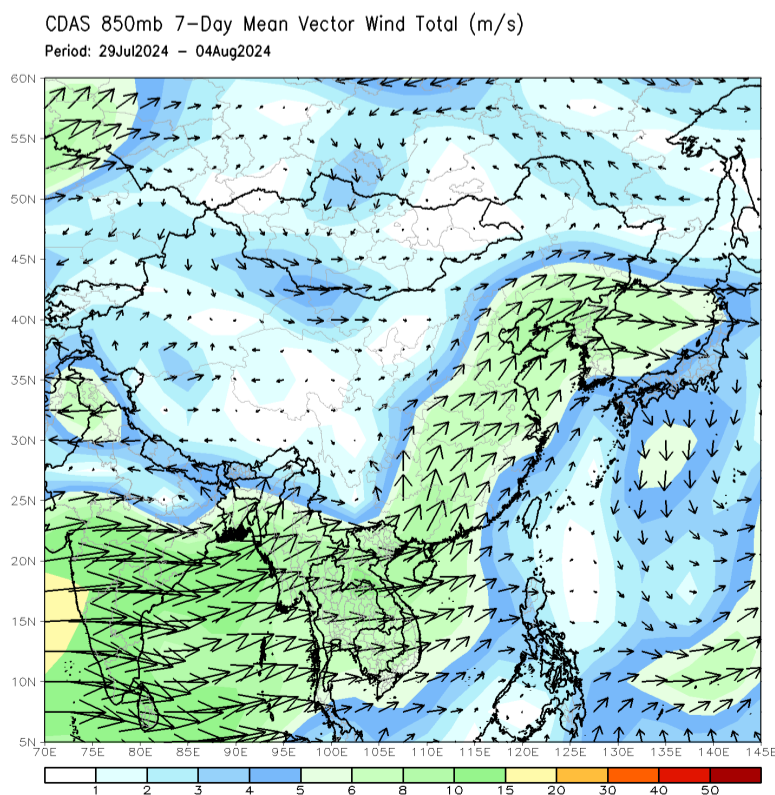


Weekly Temperature Monitoring



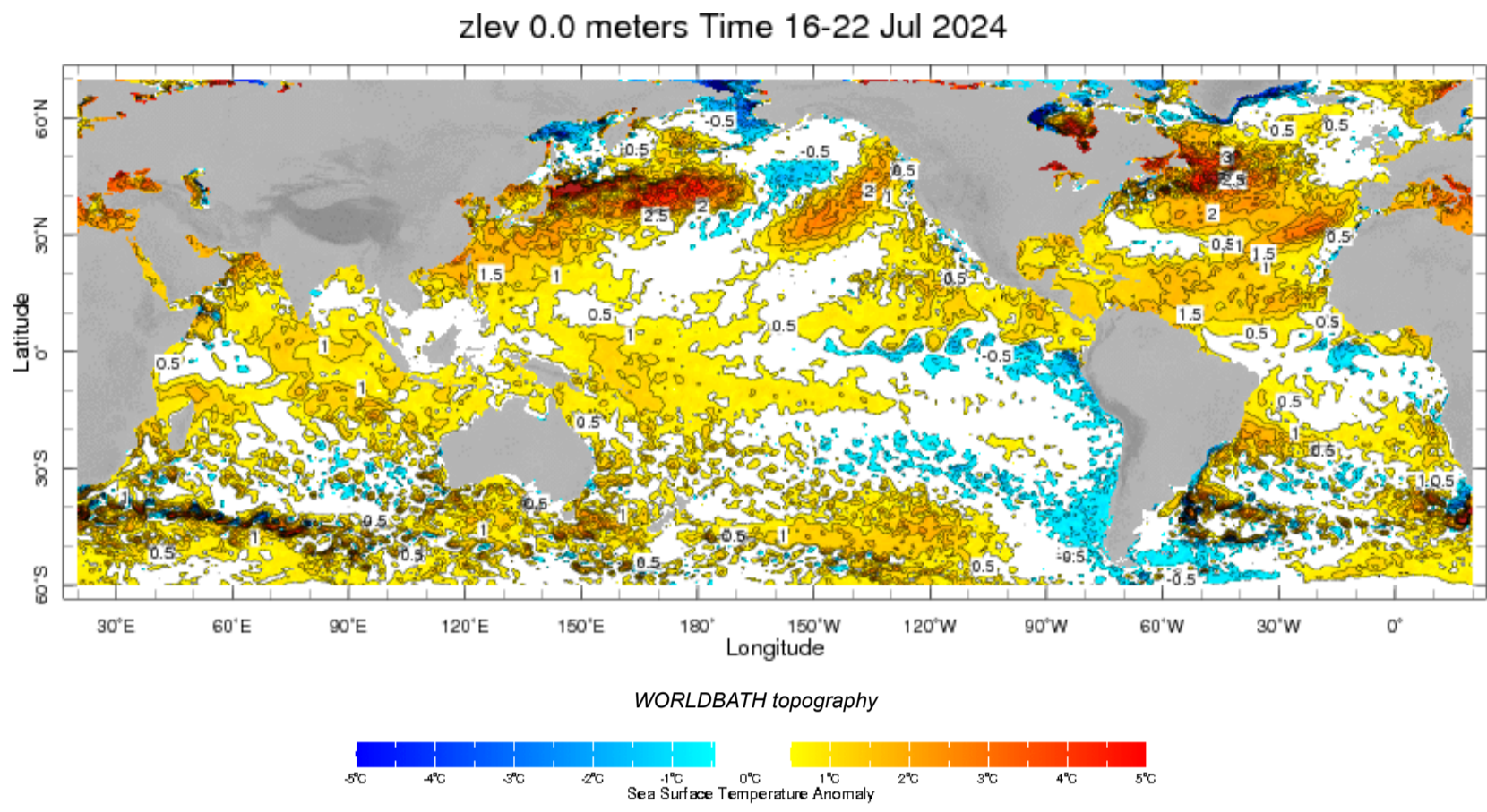
Weekly Wind Monitoring

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.

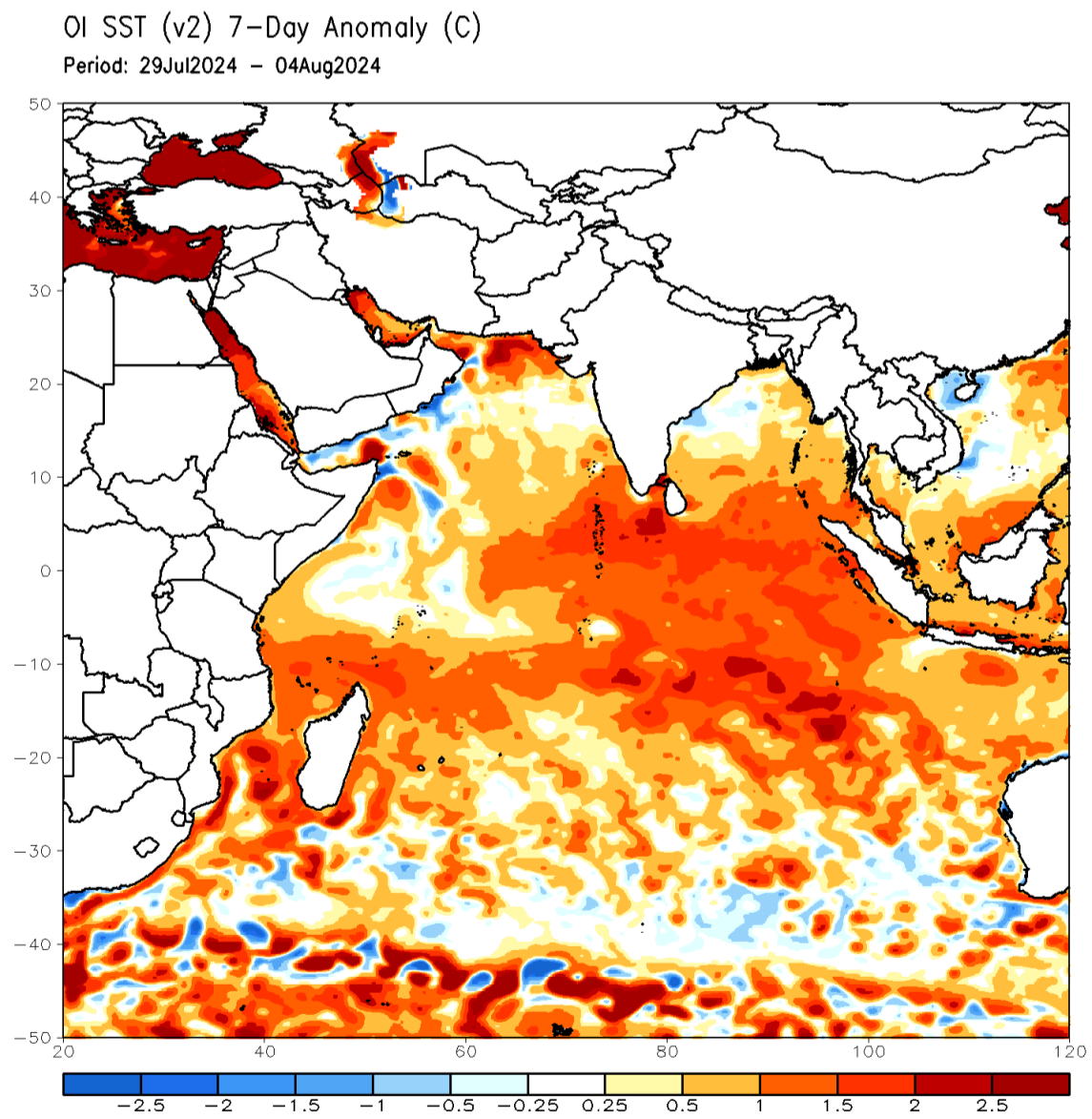


Weekly Average SST Anomalies

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

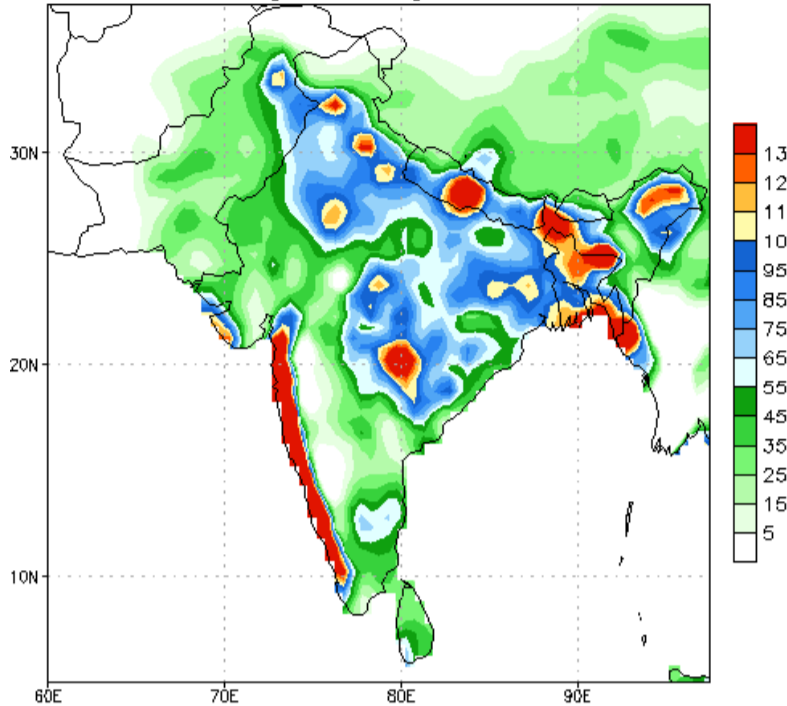


Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



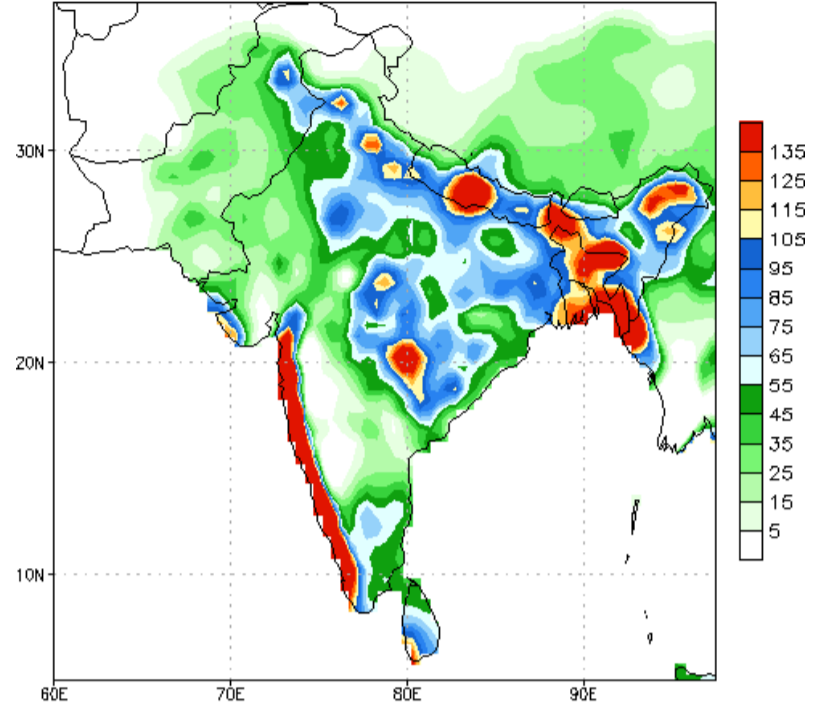
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 07Aug2024
07Aug2024-13Aug2024 Accumulation



Bias correction based on last 30-day forecast error

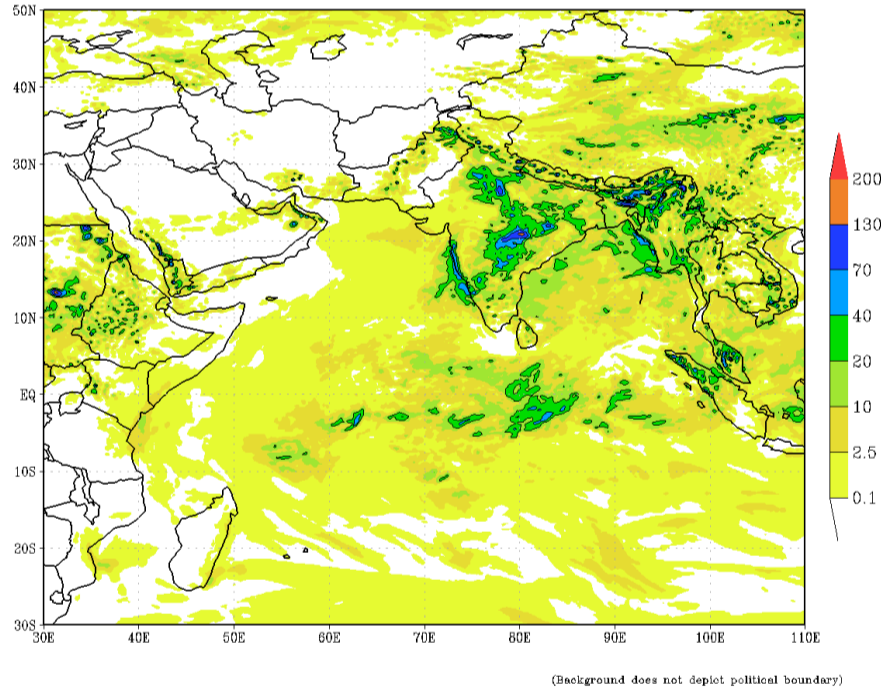
NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 07Aug2024
14Aug2024-20Aug2024 Accumulation



Bias correction based on last 30-day forecast error

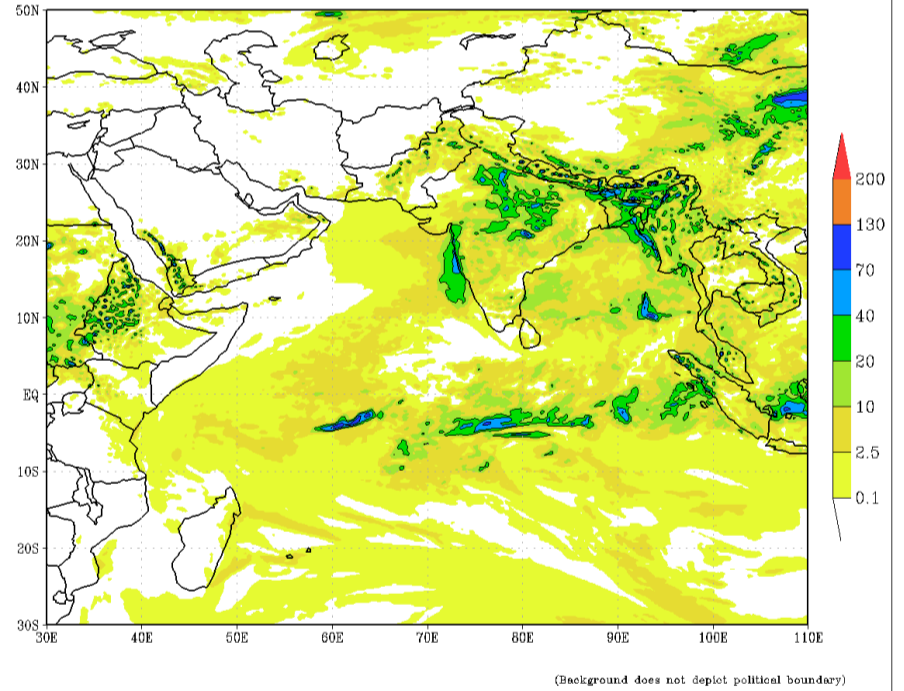
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (24 HR)
based on 00 UTC of 07-08-2024 valid for 03 UTC of 08-08-2024



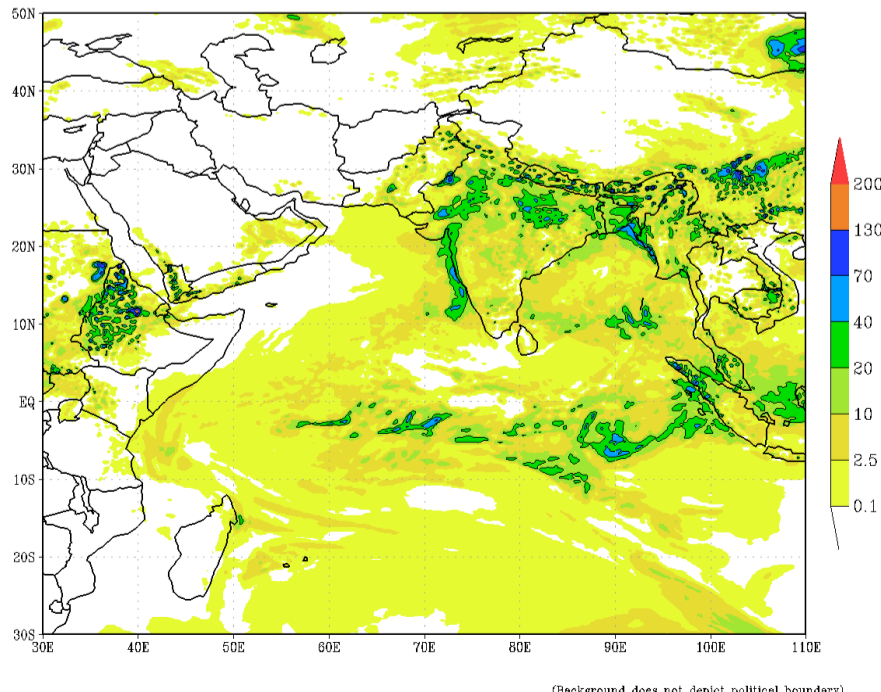
(Background does not depict political boundary)

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (48 HR)
based on 00 UTC of 07-08-2024 valid for 03 UTC of 09-08-2024



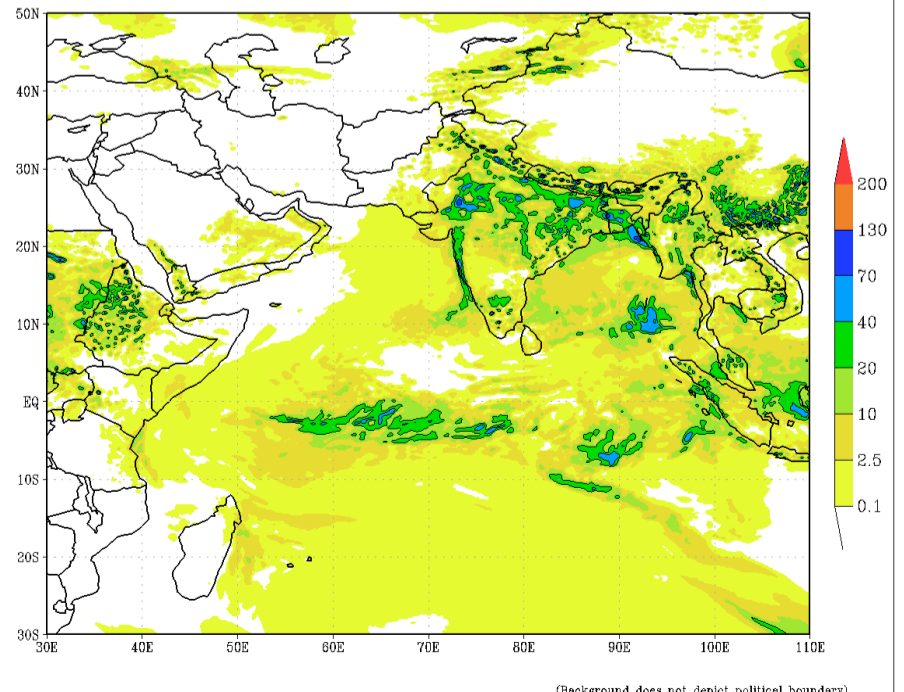
(Background does not depict political boundary)

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (72 HR)
based on 00 UTC of 07-08-2024 valid for 03 UTC of 10-08-2024

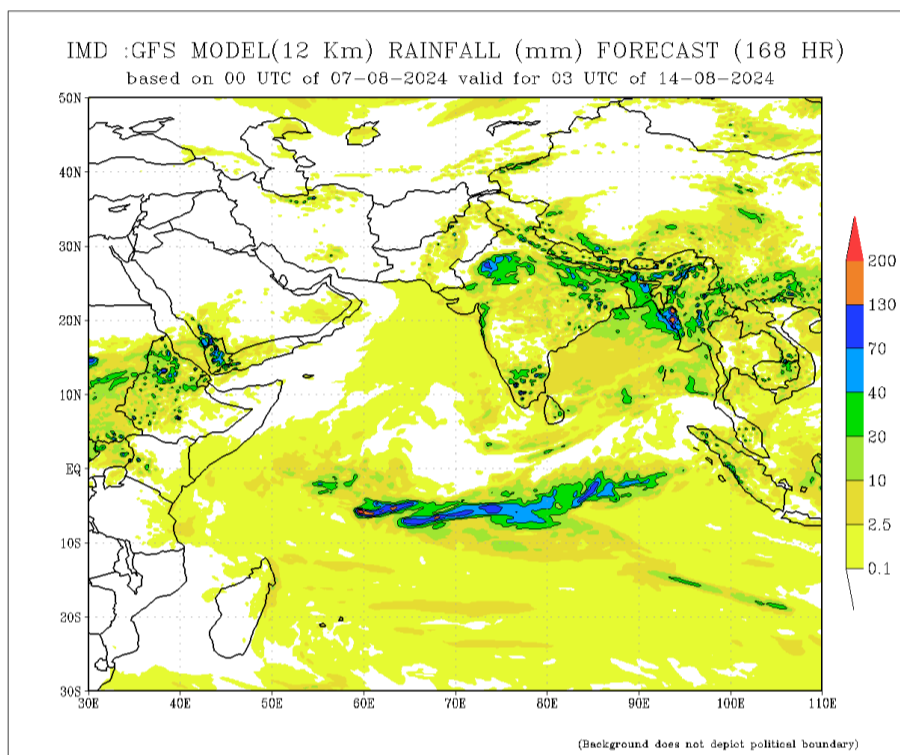
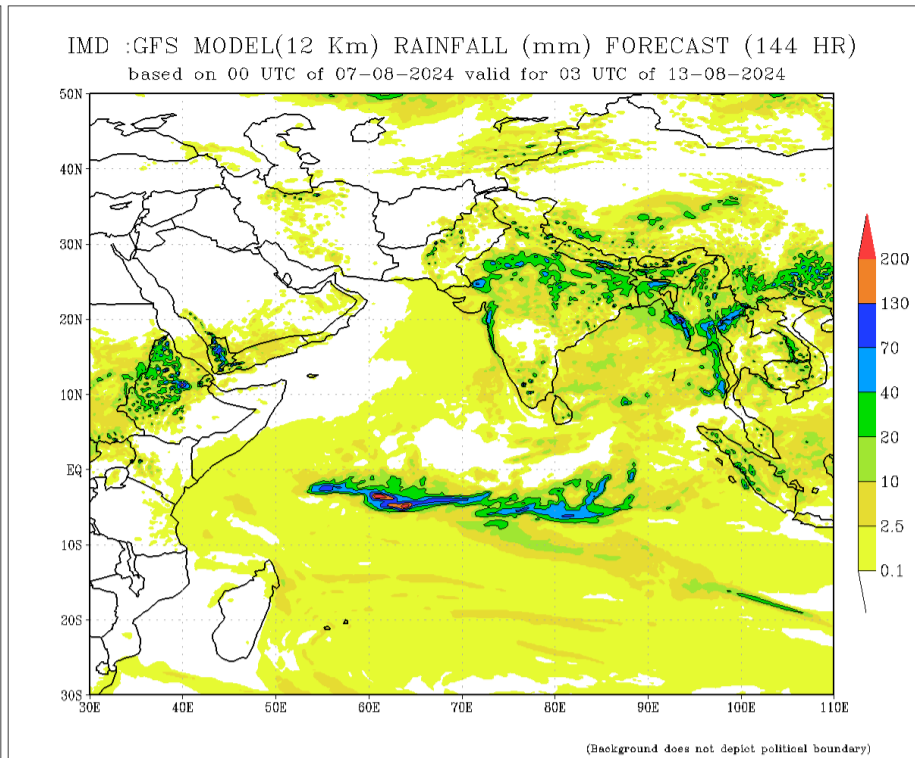
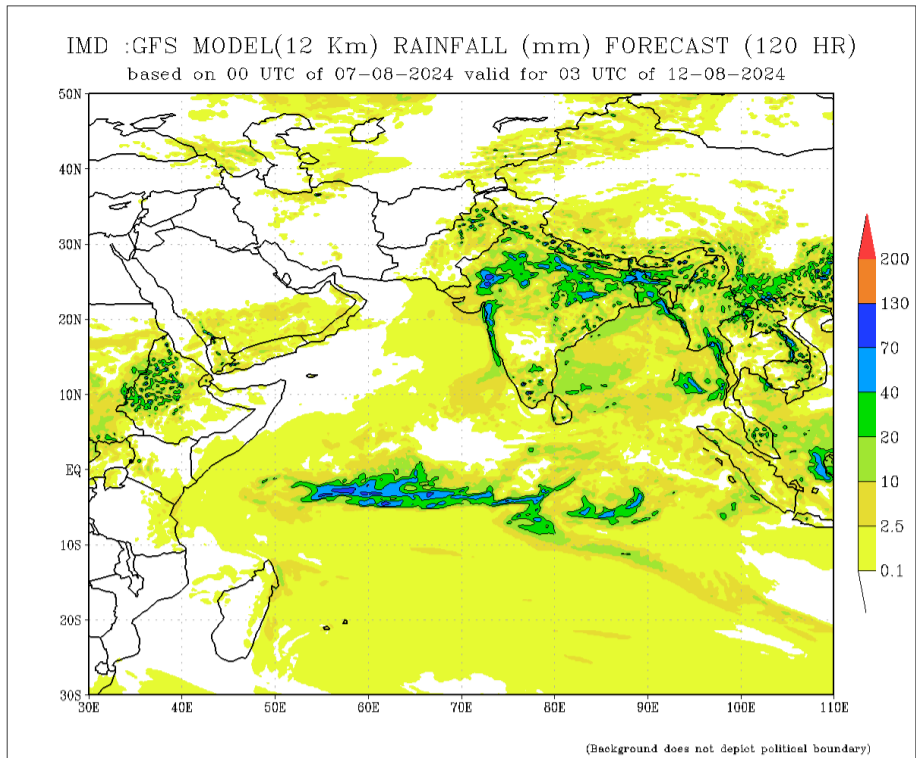


(Background does not depict political boundary)

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (96 HR)
based on 00 UTC of 07-08-2024 valid for 03 UTC of 11-08-2024

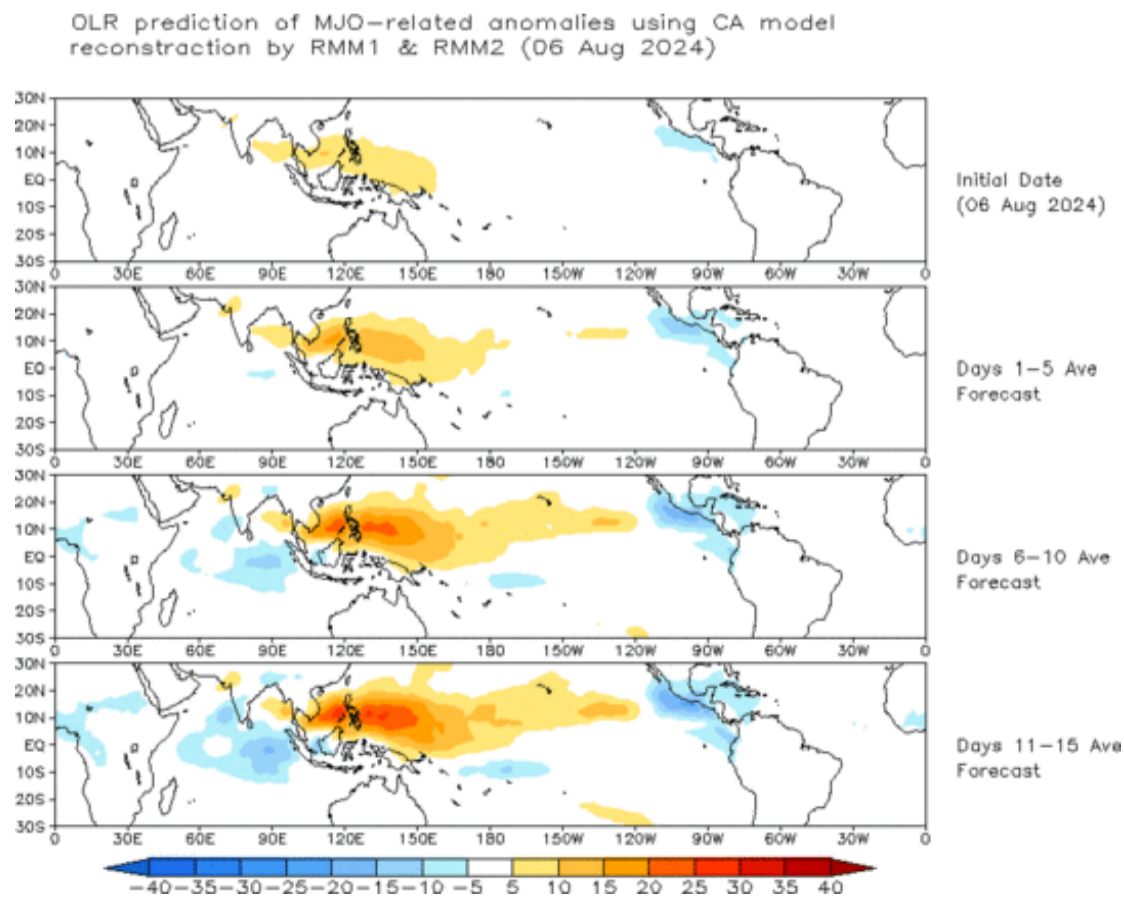


(Background does not depict political boundary)



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

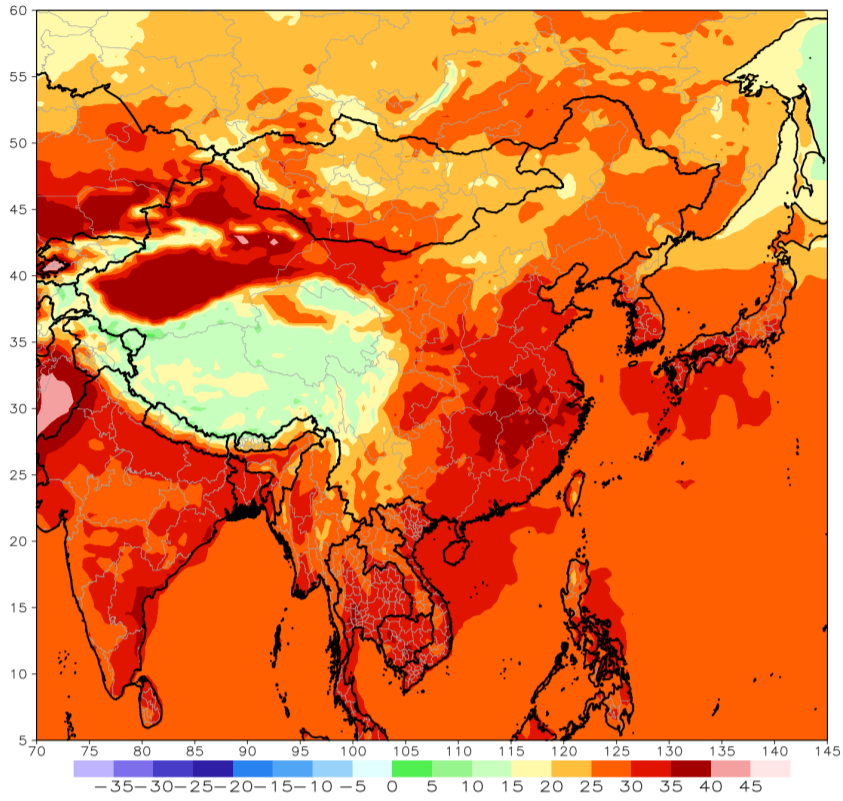
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



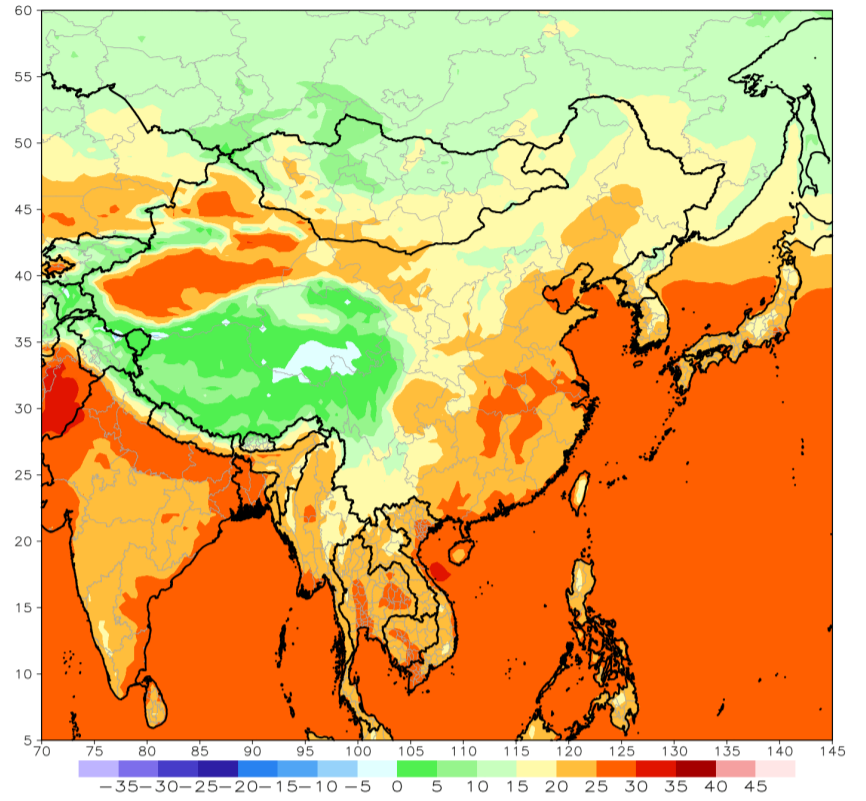
Weekly Temperature Forecast

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

GFS week1 Temperature Max (C)
Period: 18z08Aug2024 - 18z14Aug2024



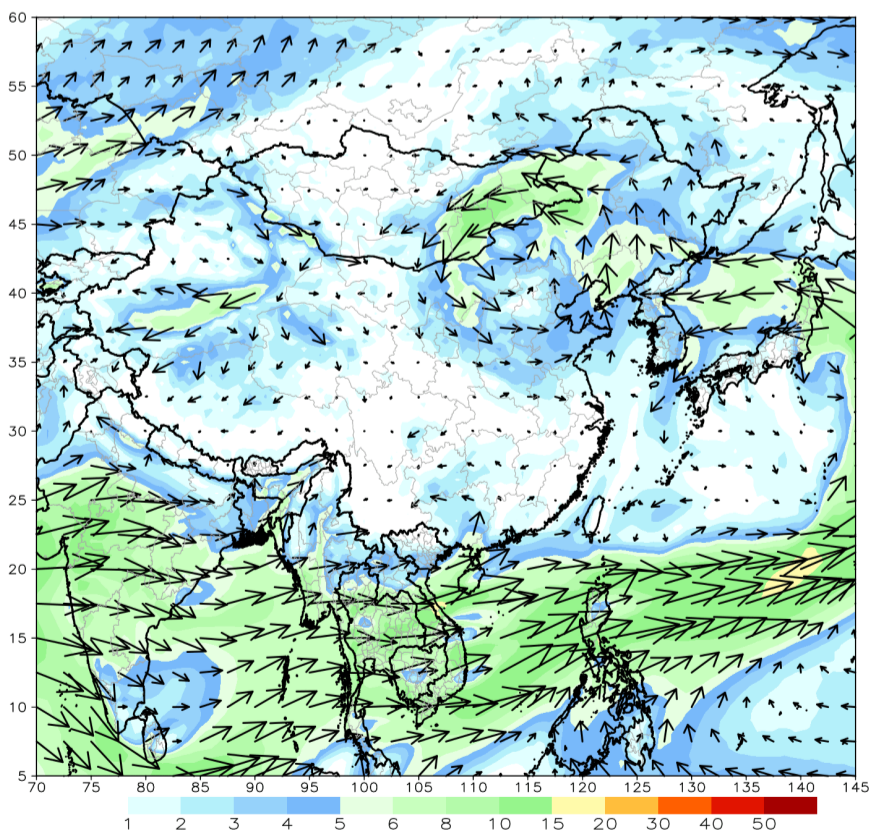
GFS week1 Temperature Min (C)
Period: 18z08Aug2024 - 18z14Aug2024



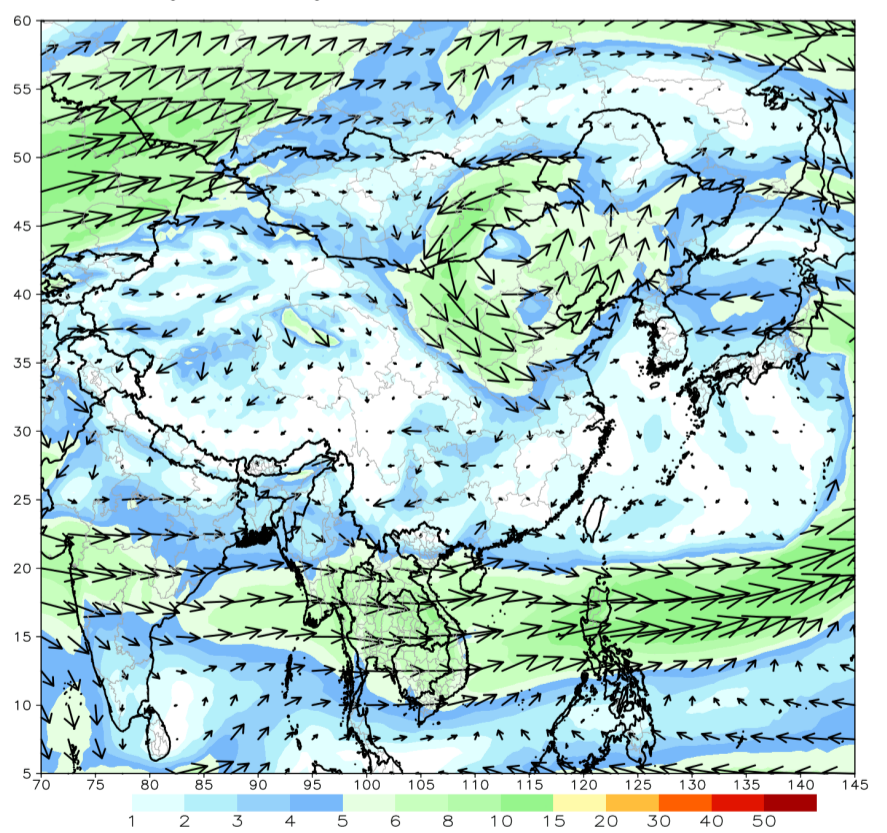
Weekly Wind Forecast

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

GFS 850mb week1 Mean Vector Wind Total (m/s)
Period: 18z08Aug2024 - 18z14Aug2024



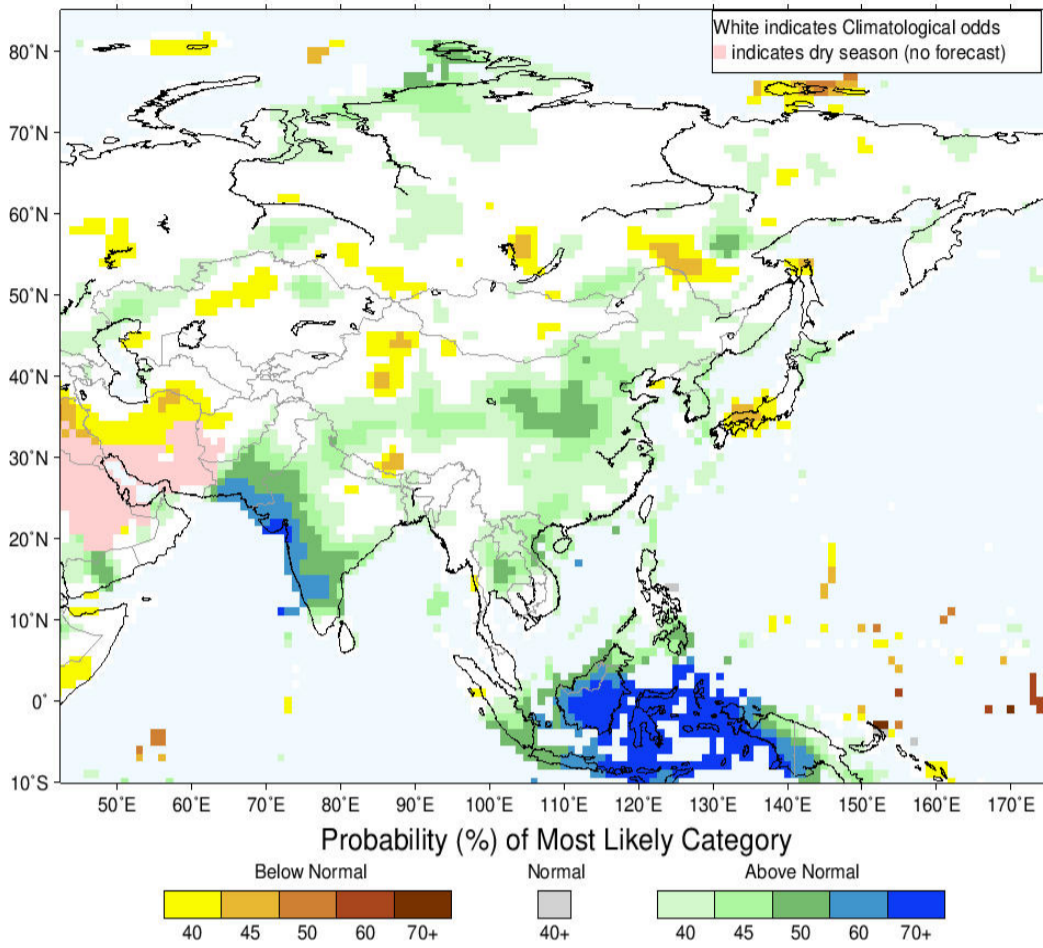
GFS 700mb week1 Mean Vector Wind Total (m/s)
Period: 18z08Aug2024 - 18z14Aug2024



Seasonal Rainfall and Temperature Forecast

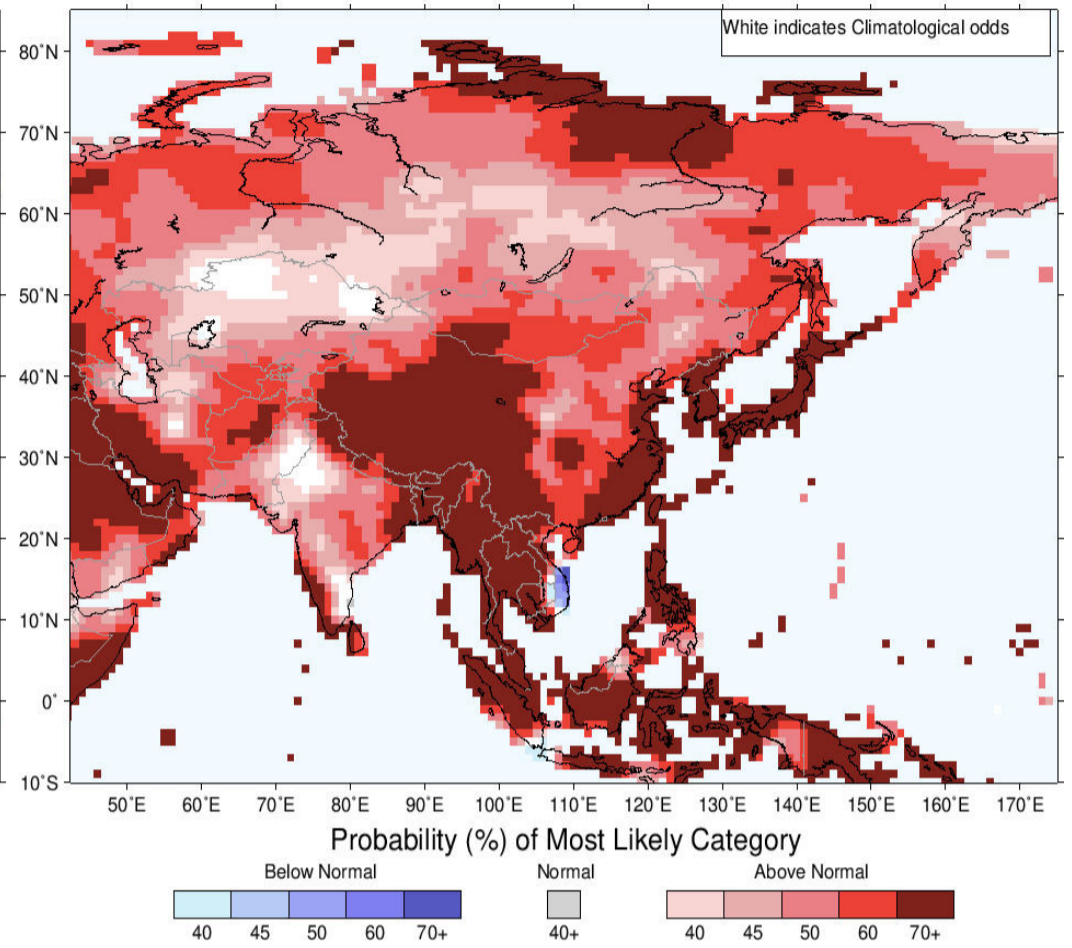
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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 August-September-October 2024, Issued July 2024



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for August-September-October 2024, Issued July 2024



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

Digana Village, Rajawella, KY20180, Sri Lanka.
 76/2 Matala Road, Akurana, KY 20850, Sri Lanka.
 +94 81 230 0415
 +94 81 237 6746
 info@fect.lk

Follow Us

