26 May 2023

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- *Fairly heavy rainfall is predicted for the Sabaragamuwa, Western, Southern, North Western, Central provinces during 25 - 31 May.*
- *Heavy rainfall is predicted for the Western, Sabaragamuwa, Southern, North Western provinces during 1 - 7 June.*

Monitored Rainfalls

- *During the last week, average daily rainfall over Sri Lanka was 2.7 mm and hydro catchment areas received 2.6 mm.*

Monitored & Predicted Wind

- *From 16 - 22 May, up to 5 m/s of south westerly winds were at 850 mb (1.5 km).*
- *During 26 May - 1 June, up to 10 m/s of westerly winds are expected at 850 mb (1.5 km).*

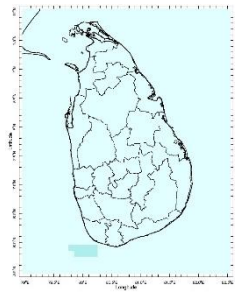
Monitored Sea & Land Temp

- *Sea surface temperature around Sri Lanka was 0.5 - 1.5°C above normal.*
- *Average maximum land temperature ranged from 32-33°C and average minimum ranged from 23 - 25°C with a drop in the hills.*

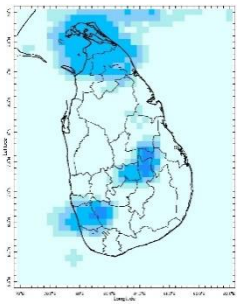
Monitoring

Rainfall

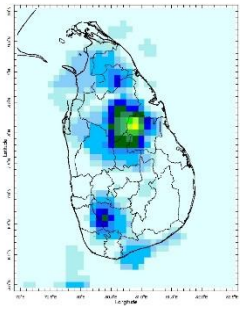
Daily Estimates for Rainfall from 16th May – 23rd May 2023



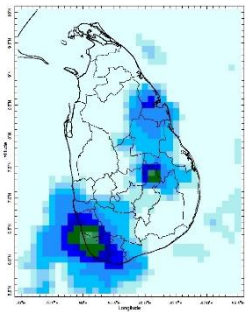
16 May



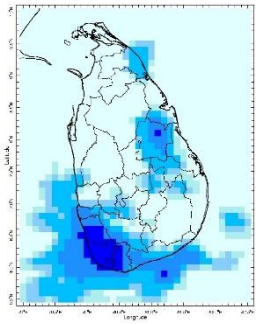
17 May



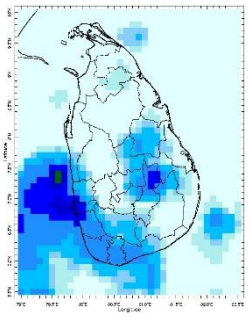
18 May



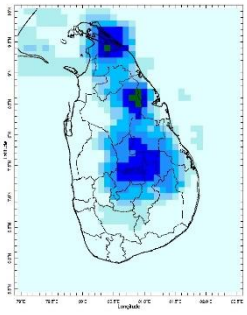
19 May



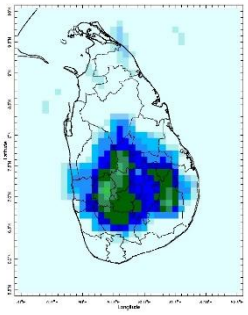
20 May



21 May



22 May



23 May

Federation for Environment, Climate & Technology

Federation for Environment, Climate and Technology

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Ocean State *(Text Courtesy IRI)*

Pacific sea state: May 22, 2023

Equatorial sea surface temperatures (SSTs) are near-to-above average across most of the Pacific Ocean mid-May. The tropical Pacific atmosphere is consistent with ENSO-neutral conditions. A large majority of the models indicate a transition from ENSO-neutral conditions in the next couple of months, with a greater than 90% chance of El Niño persisting into the Northern Hemisphere winter.

Indian Ocean State

Sea surface temperature around Sri Lanka was 0.5^{o} C above normal to the Eastern and Western half of the country in 2nd – 8th May, 2023.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 25th May – 31st May:

Total rainfall by Provinces:

Rainfall (mm)	Provinces
85	Western, Sabaragamuwa
75	Southern
65	North Western
55	Central
35	Northern, North Central, Uva
≤ 25	Eastern

From 1st June – 7th June:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall significantly suppress the rainfall during 24th – 28th May, slightly suppress the rainfall during 29th May – 2nd June, and slightly increase the rainfall during 3rd – 7th June for Sri Lanka.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (17th May – 24th May) = 2.7 mm

Maximum Daily Rainfall: 46.6 mm & Minimum Daily Rainfall: 0.0 mm.

Region	Average rainfall for last 8 days (mm)
Northern	0.5
Eastern	1.1
Western	6.5
Southern	1.9

The Hydro Catchment Areas recorded 2.6 mm of average rainfall for the last week.

Maximum Daily Rainfall: 46.3 mm & Minimum Daily Rainfall: 0.0 mm.

Wind: South 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 Western, Sabaragamuwa, Central, and North Western provinces and normal for rest of the country driven by the warm SST's.

Predictions

Rainfall: During the next week (25th May – 31st May), fairly heavy rainfall (≥ 55 mm) is predicted for the Western, Sabaragamuwa, Southern, North Western, and Central provinces and less rainfall is predicted for rest of the country.

Temperatures: The temperature will remain above normal for some parts of the Northern, Eastern, North Central, Uva, and Southern provinces during 26th May – 1st June.

Teleconnections: A transition from ENSO-neutral conditions in the next couple of months, with a greater than 90% chance of El Niño persisting into the Northern Hemisphere winter.

MJO shall significantly suppress the rainfall during 24th – 28th May, slightly suppress the rainfall during 29th May – 2nd June, and slightly increase the rainfall during 3rd – 7th June for Sri Lanka.

Seasonal Precipitation: The precipitation forecast for the June-July-August, 2023 season shows above 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.

Federation for Environment, Climate & Technology

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Weekly Climate Bulletin for Sri Lanka

Inside This Issue

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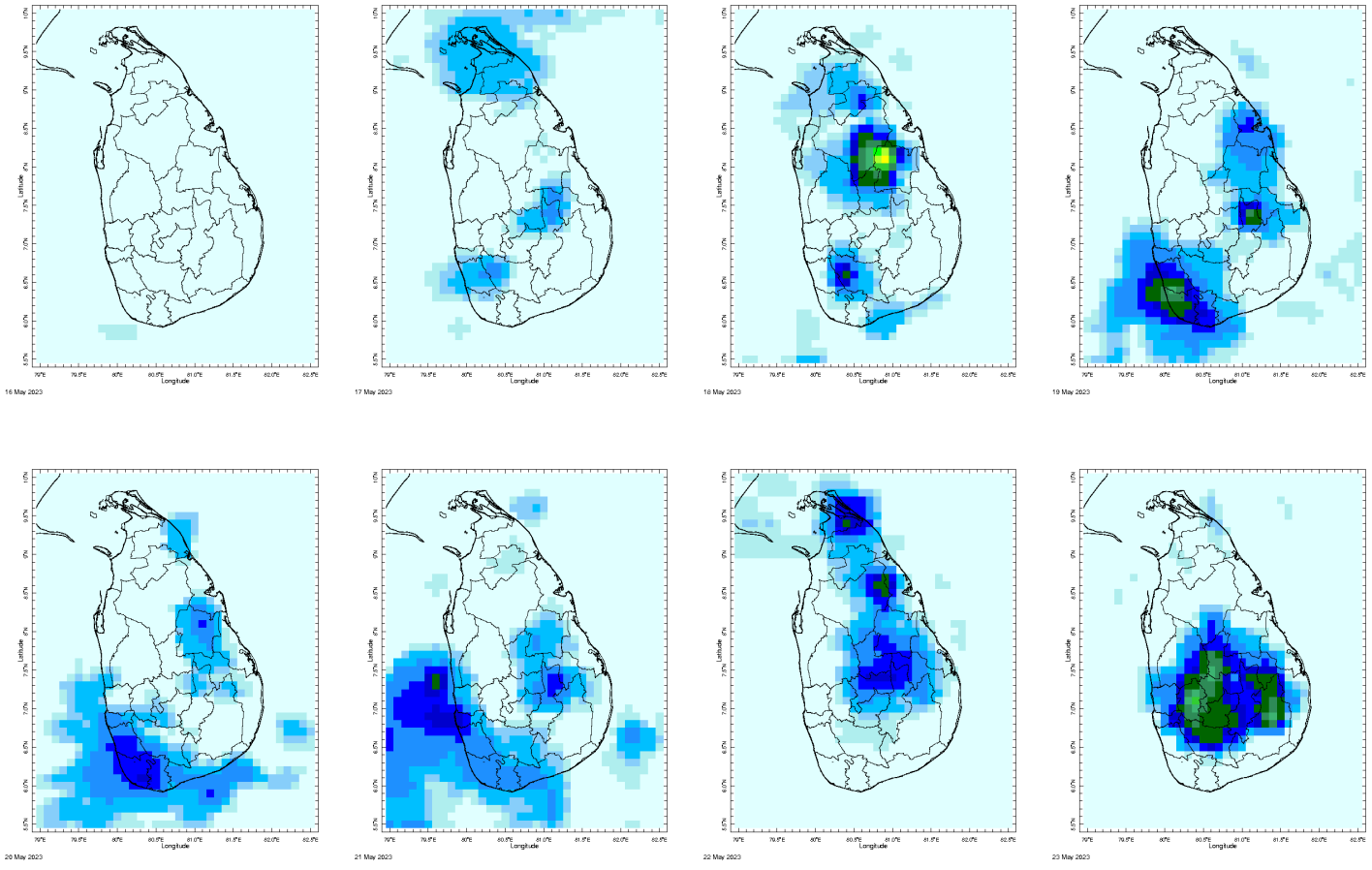
MONITORING

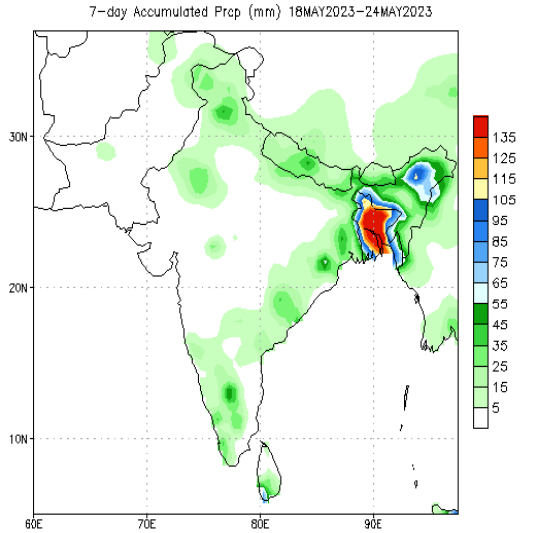
Daily Rainfall Monitoring

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

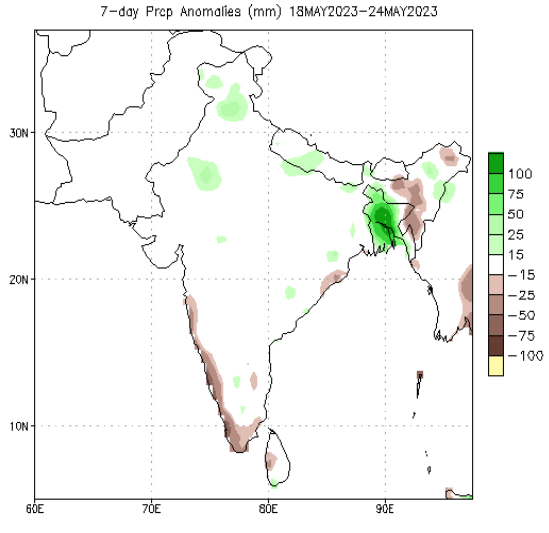


Weekly Rainfall Monitoring

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.



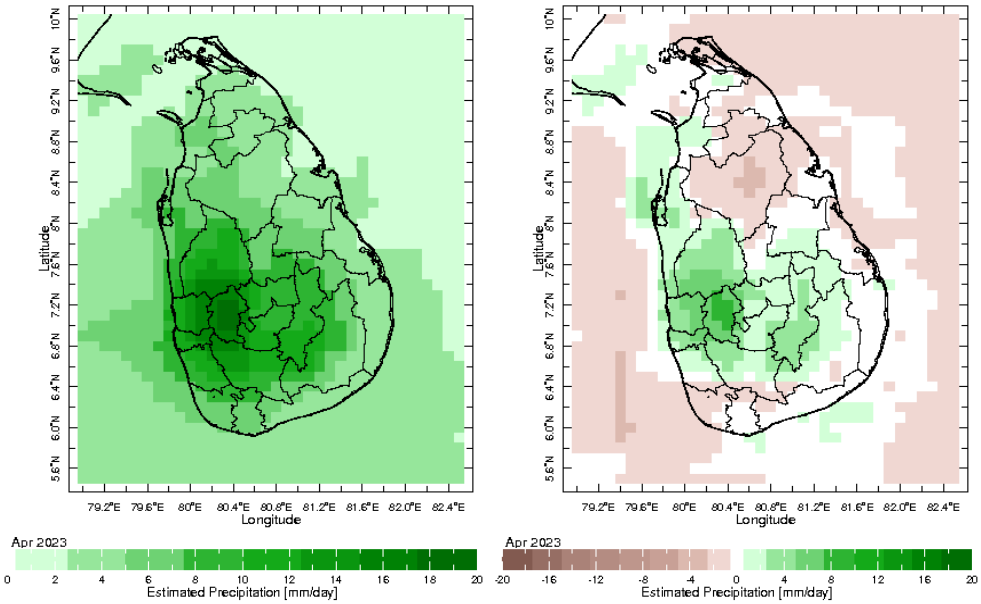
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



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

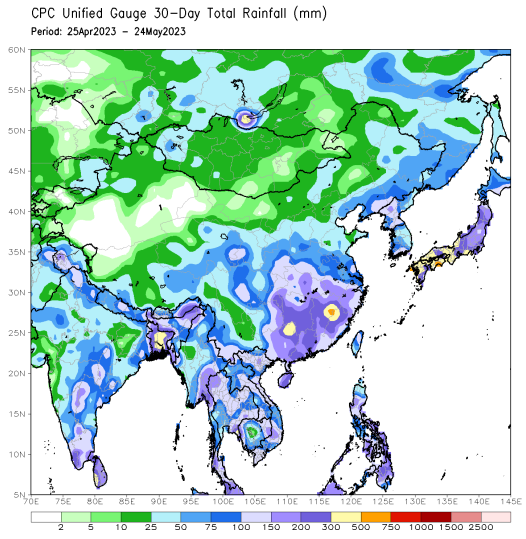
Monthly Rainfall Monitoring

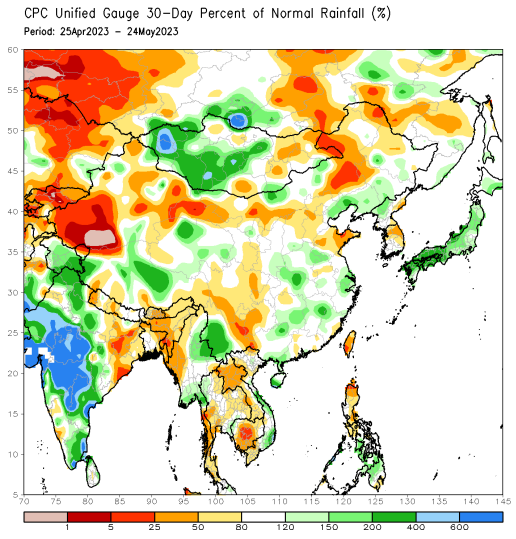
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



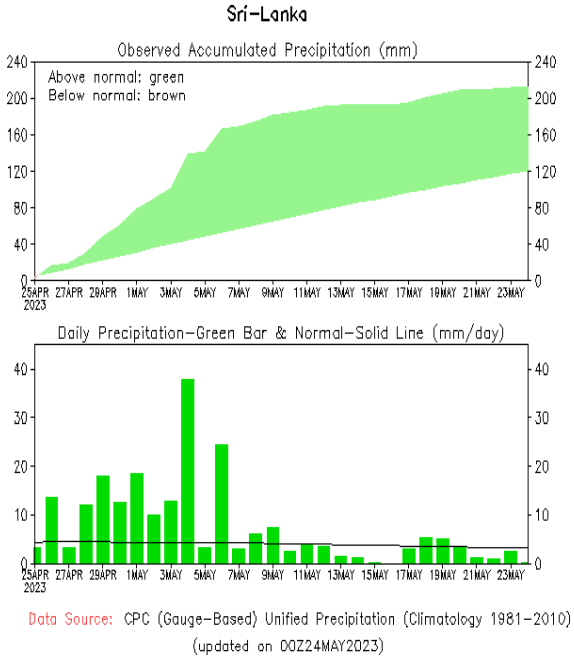
Monthly Average **Monthly Anomaly**

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.

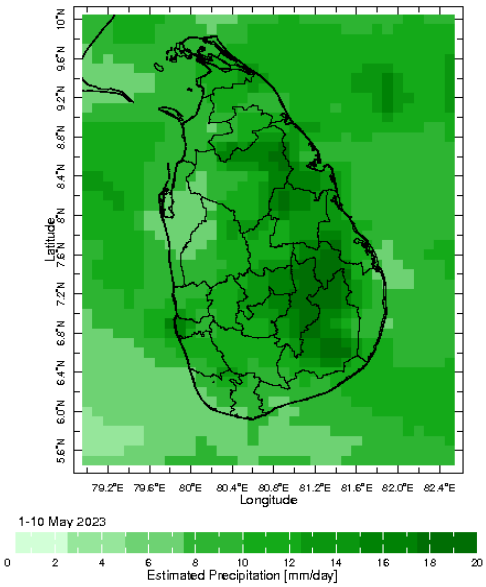


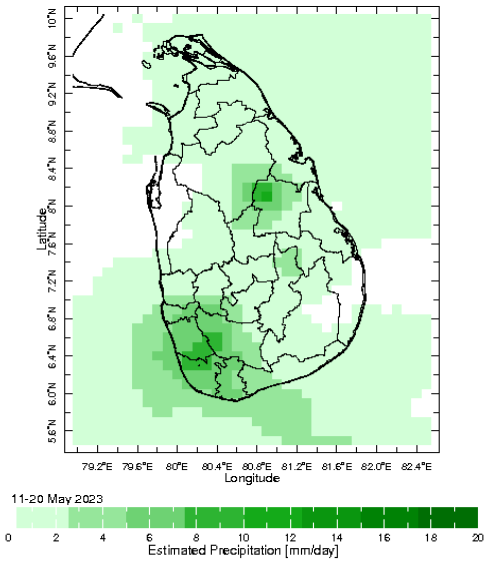


The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.

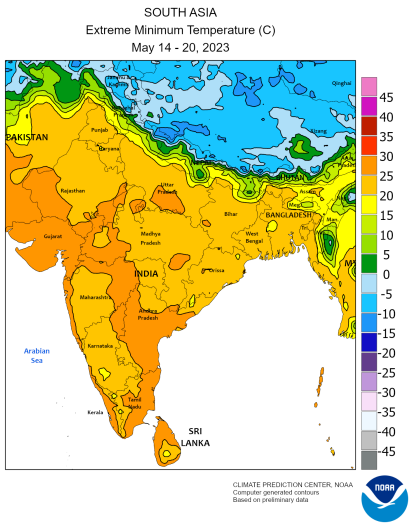


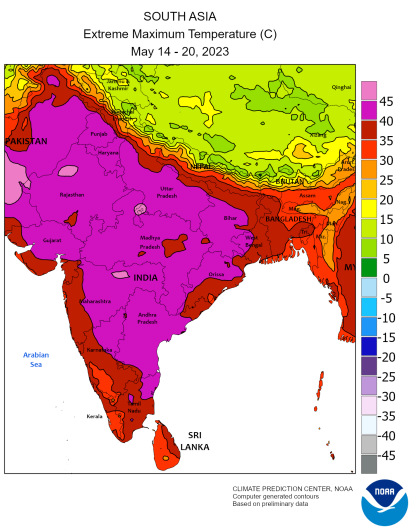
Dekadal (10 Day) Satellite Derived Rainfall Estimates

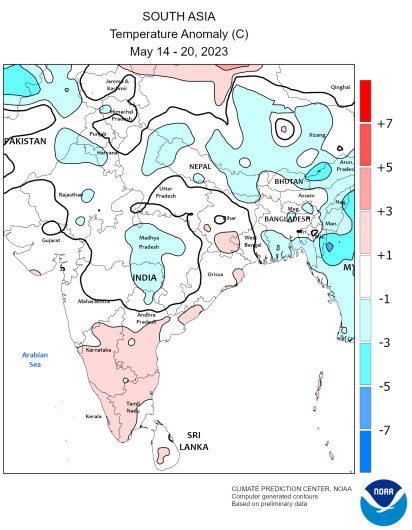




Weekly Temperature Monitoring

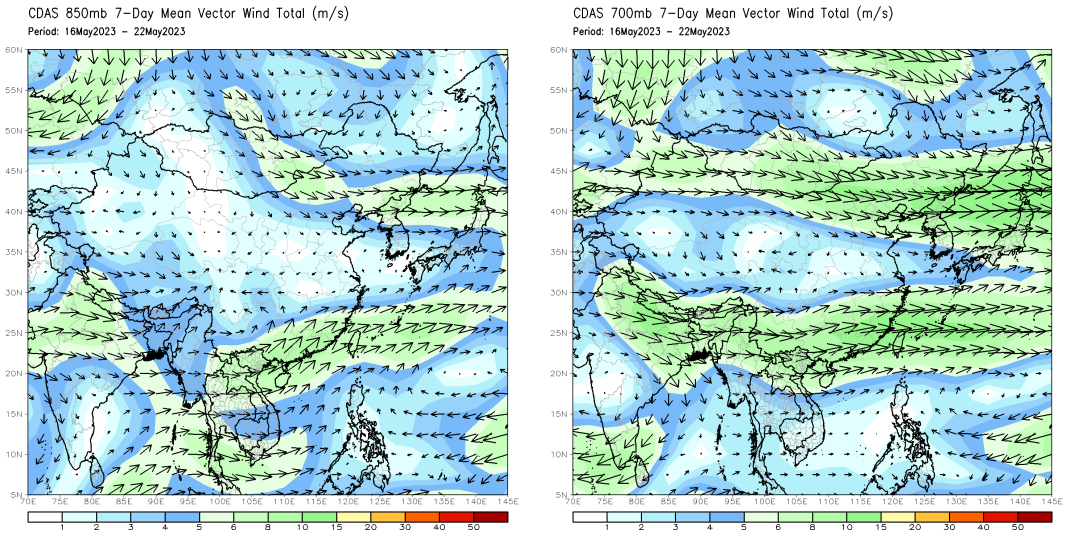






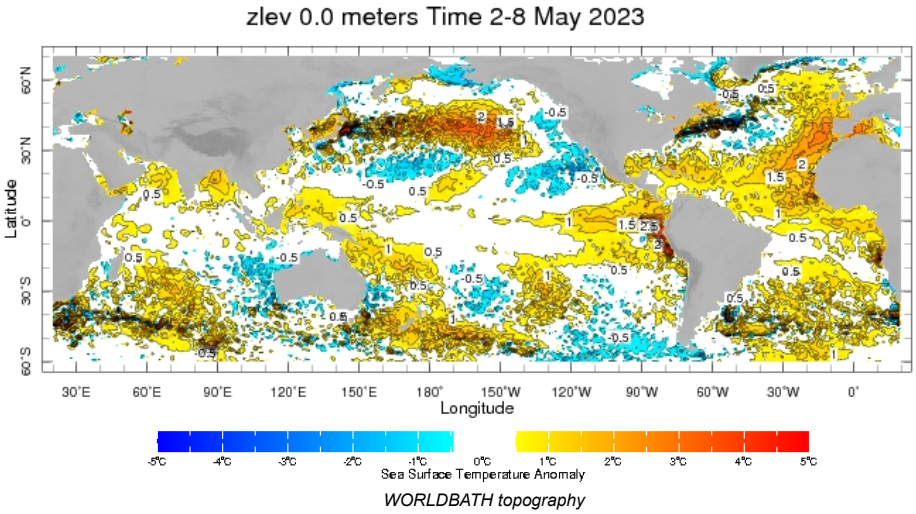
Weekly Wind Monitoring

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.

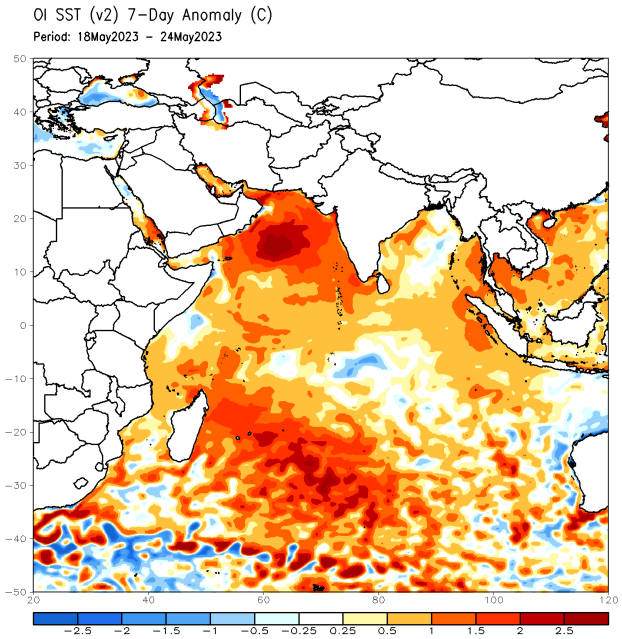


Weekly Average SST Anomalies

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

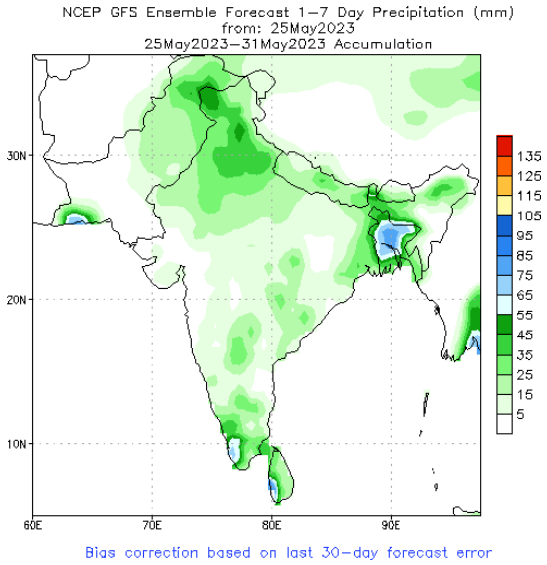


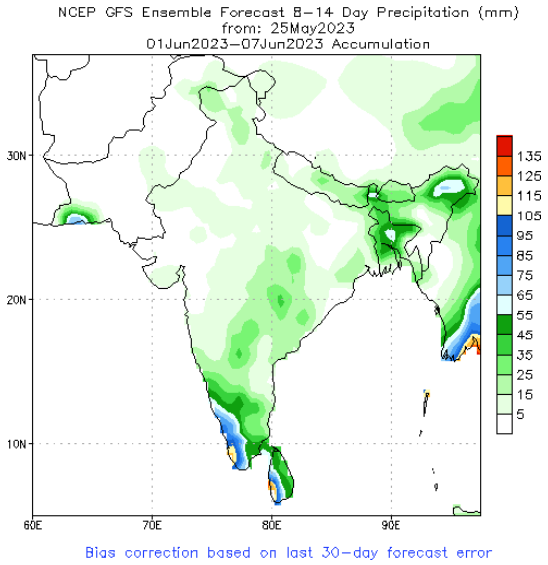
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



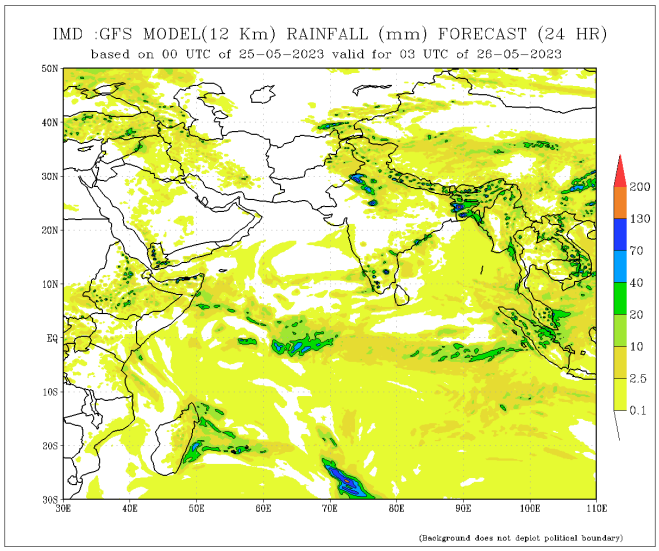
PREDICTIONS

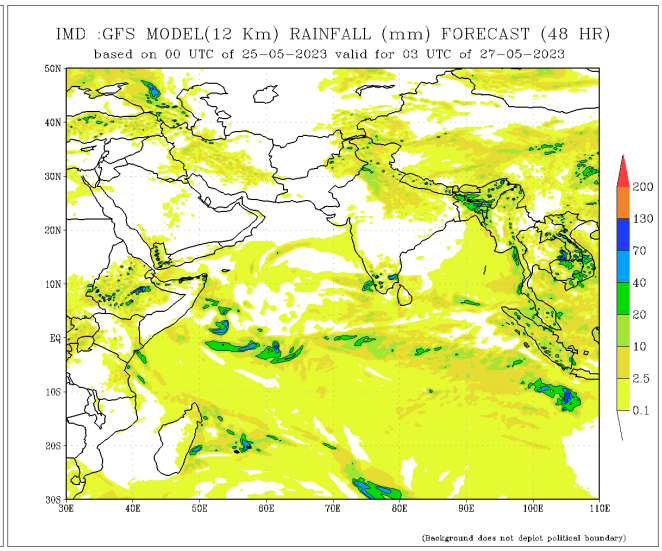
NCEP GFS 1- 14 Day prediction

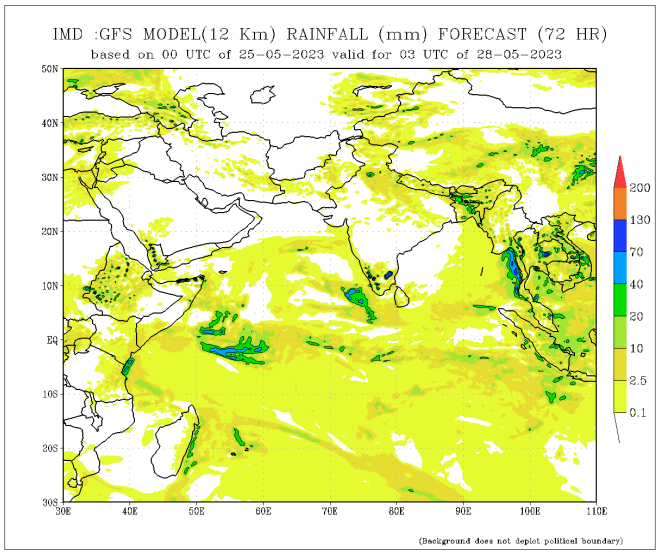


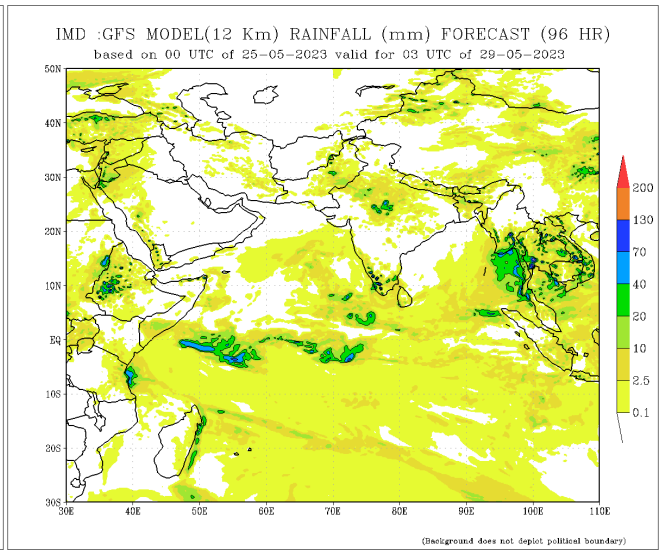


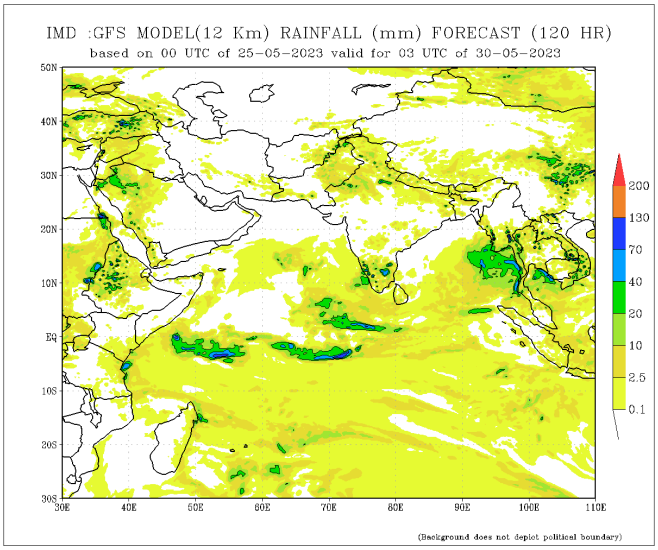
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

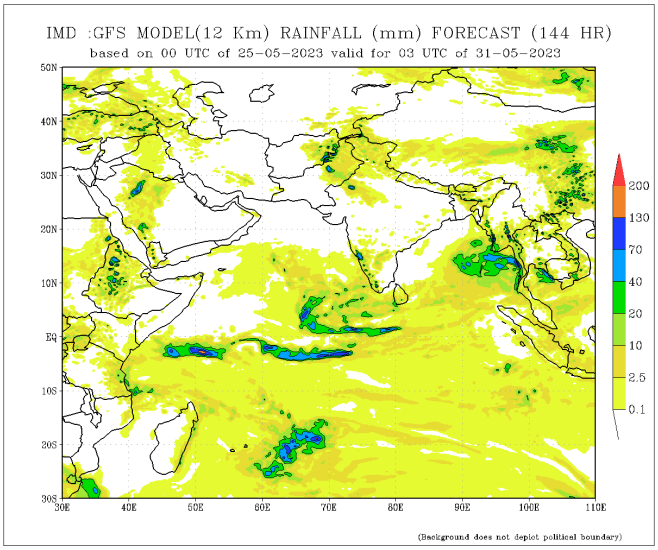


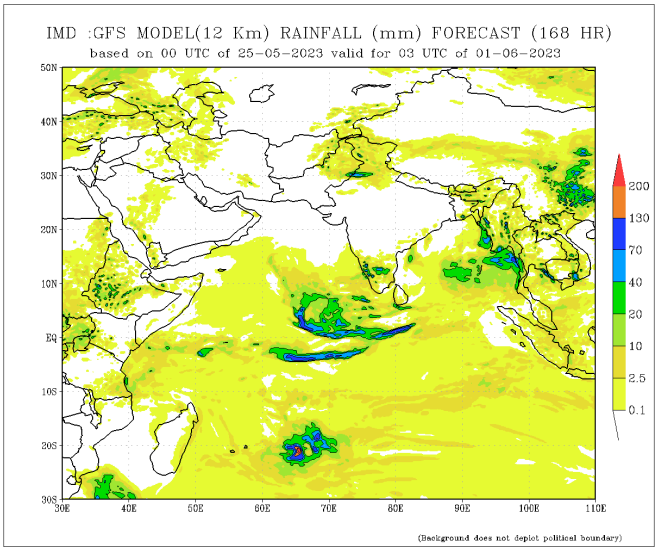






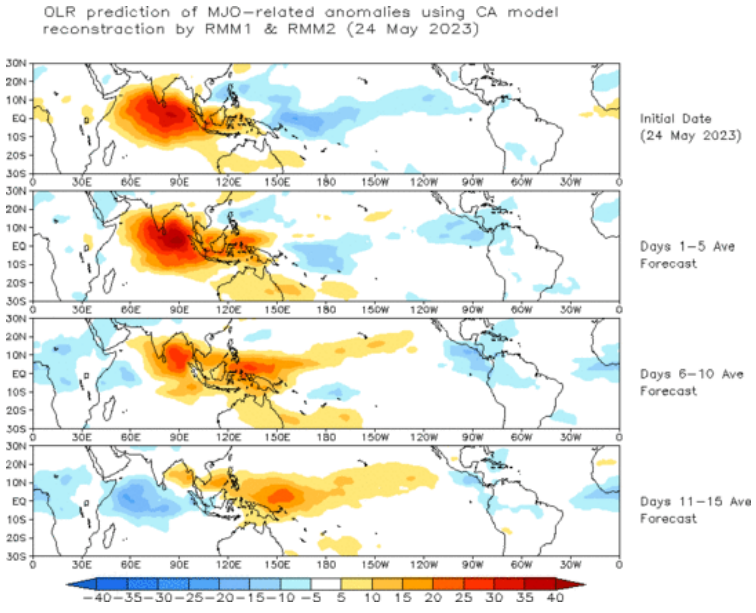






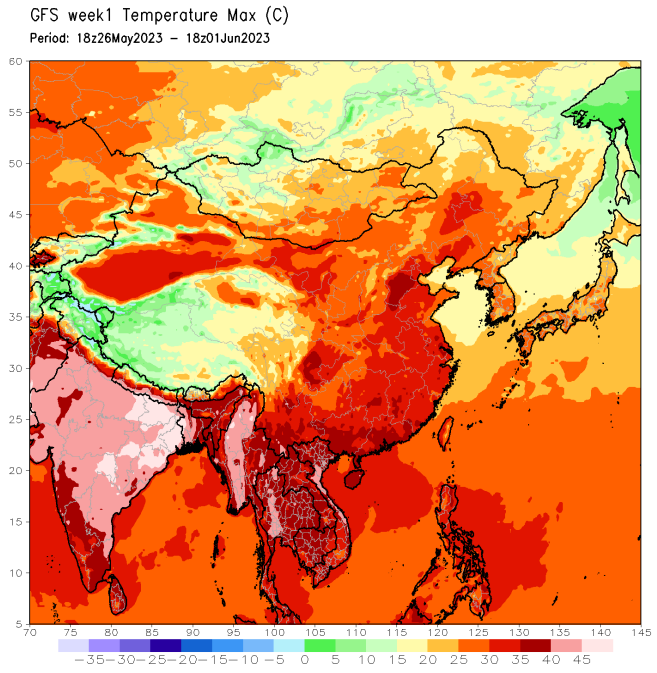
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

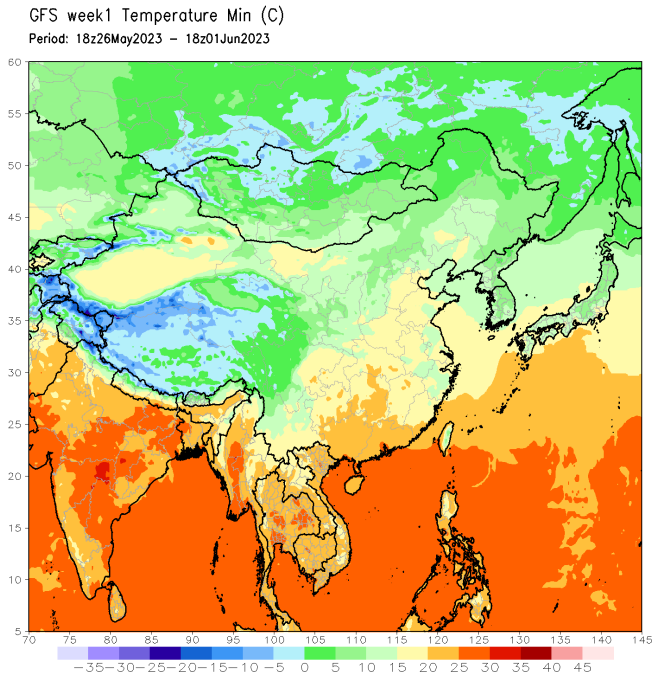
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

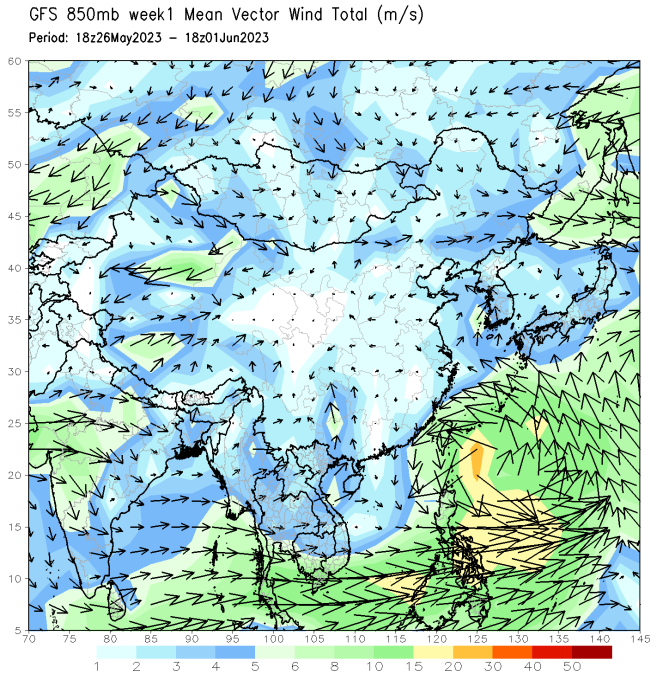
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

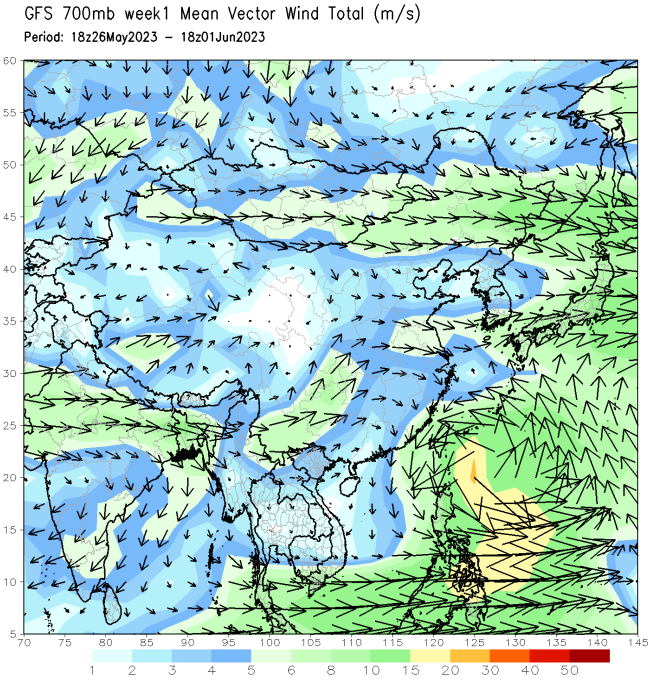




Weekly Wind Forecast

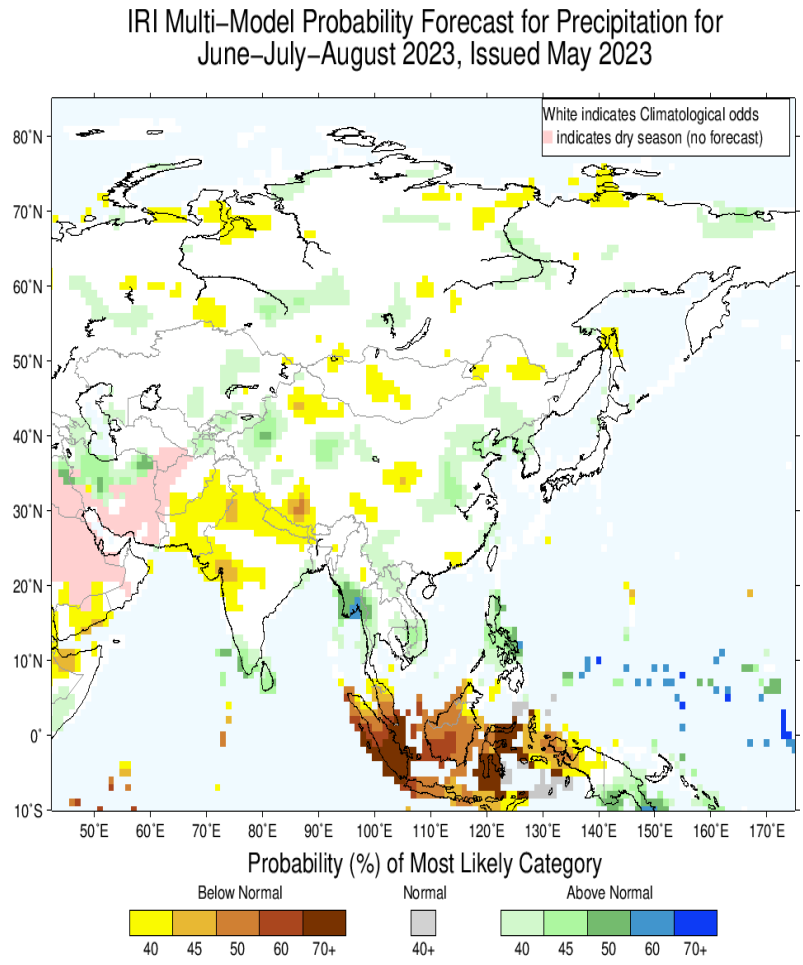
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)

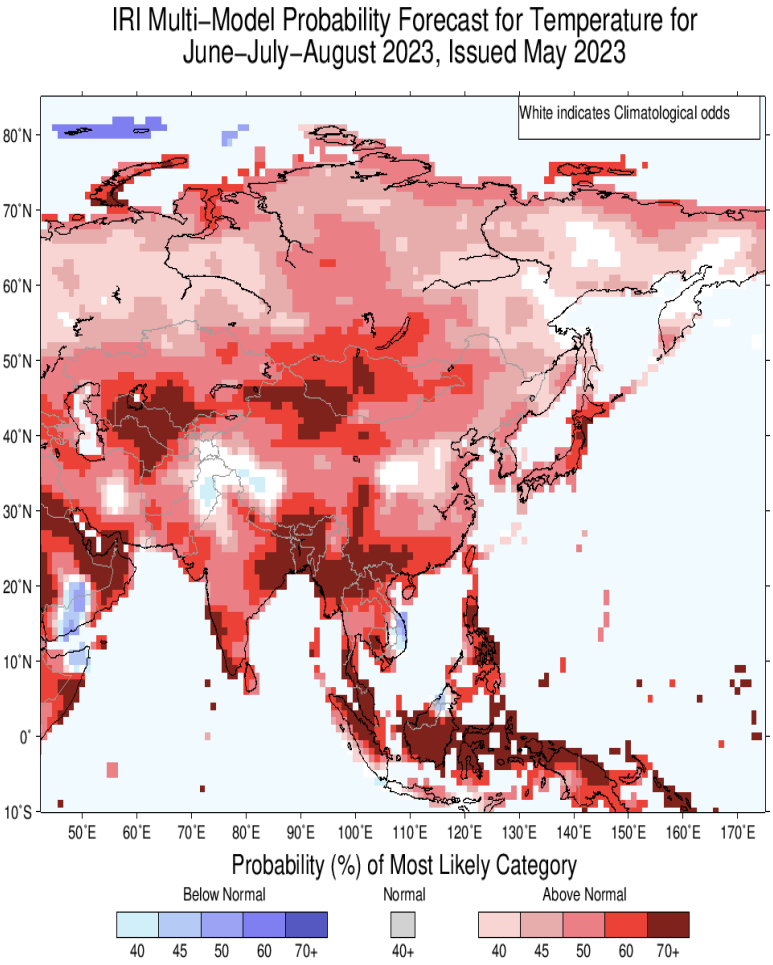




Seasonal Rainfall and Temperature Forecast

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%).





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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