

19 May
2023

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction



Fairly heavy rainfall is predicted for the Western and Sabaragamuwa provinces and less rainfall is predicted for rest of the country during 18th May – 24th May.

Monitored Rainfalls



- During the last week, average daily rainfall over Sri Lanka was 1.7 mm and hydro catchment areas received 8.8 mm.
- Rainfall reached 50mm in the south-west shadow of the central mountains. Cyclone Mocha made landfall in Myanmar with extreme rain.

Monitored & Predicted Wind



- From 9th May - 15th May, up to 8 m/s of westerly winds were at 850 mb level.
- During 20th- 26th May, up to 8 m/s of Easterly winds are expected at 850 mb.
- Cyclone Mocha long range impact led to strong South-westerly wind over SL.

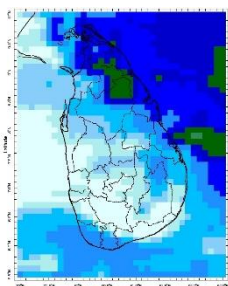
Monitored Sea & Land Temp



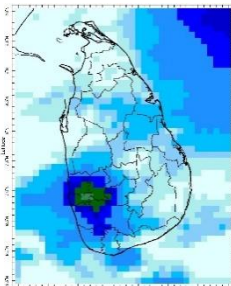
- Sea surface temperature around Sri Lanka was about 0.5 - 1 degree above the seasonal norm.
- Land surface temperature remained near normal.

Monitoring Rainfall

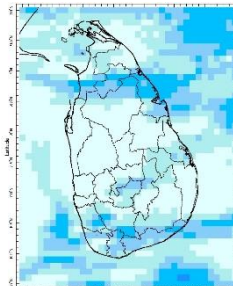
Daily Estimates for Rainfall from 10th May – 17th May 2023



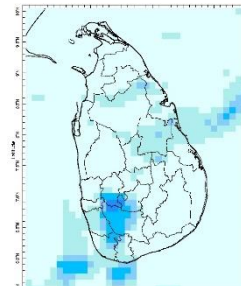
10 May



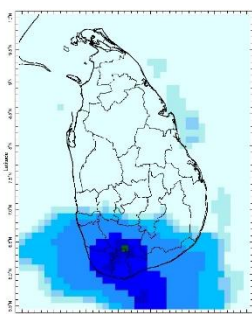
11 May



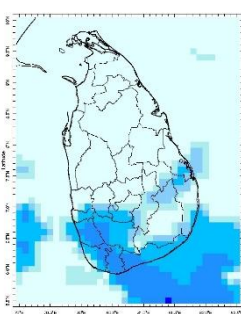
12 May



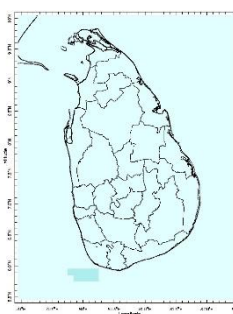
13 May



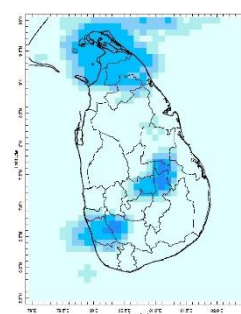
14 May



15 May



16 May



17 May



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: May 15, 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 ENSO-neutral conditions are expected to continue through the Northern Hemisphere spring, followed by a 90% chance of El Nino developing during May-July 2023.

Indian Ocean State

Sea surface temperature around Sri Lanka was 0.5°C above normal to the country except northern half in 25th April– 1st May, 2023.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 18th May – 24th May:

Total rainfall by Provinces:

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

From 25th May – 31st May:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall moderately suppress the rainfall during 17th May – 2nd June for Sri Lanka.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been very heavy rainfall over the following area: Rathnapura.

Daily Average Rainfall in the Met stations for previous week of (11th May – 17th May) =

1.7 mm

Maximum Daily Rainfall: 48 mm & Minimum Daily Rainfall: 0.0 mm.

Region	Average rainfall for the Last 8 days
Northern Plains	0.3 mm
Eastern	0.7 mm
Western	4.4 mm
Southern Plains	0.1 mm

The Hydro Catchment Areas recorded 8.0 mm of average rainfall for the last week.

Maximum Daily Rainfall: 78.0 mm & Minimum Daily Rainfall: 0.0 mm.

Wind: Westerly winds prevailed in the sea area and around the island last week.

Temperatures: The temperature anomalies were below normal for some parts of the Northern, North Central, and Eastern provinces and normal for rest of the country driven by the warm SST's.

Predictions

Rainfall: During the next week (18th May – 24th May), fairly heavy rainfall (≥ 55 mm) is predicted for the Western and Sabaragamuwa 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, Southern, and Uva provinces during 20th May – 26th May.

Teleconnections: ENSO-neutral conditions are expected to continue through the Northern Hemisphere spring, followed by a 90% chance of El Nino developing during May-July 2023.

MJO shall moderately suppress the rainfall during 17th May – 2nd 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.



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

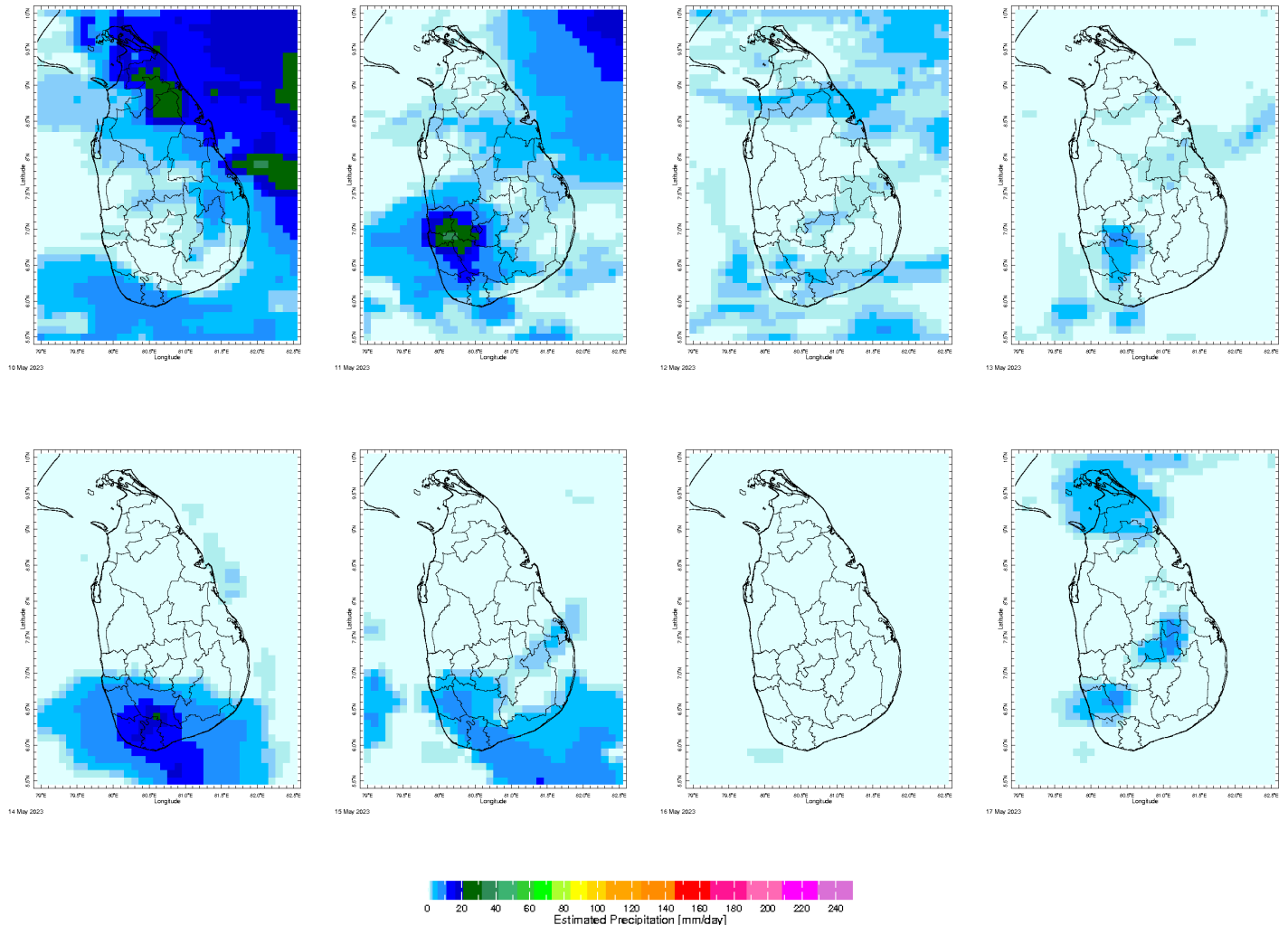
2. Predictions

- 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

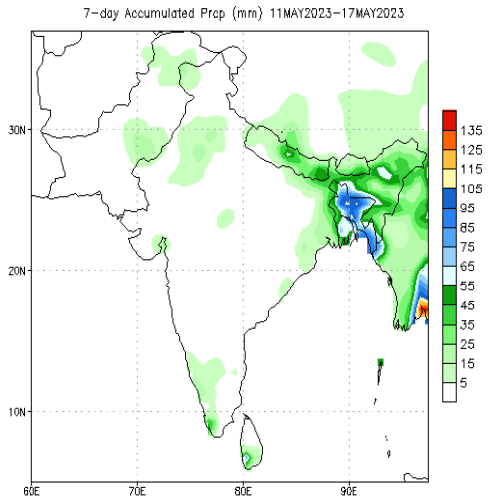
Daily Rainfall Monitoring

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

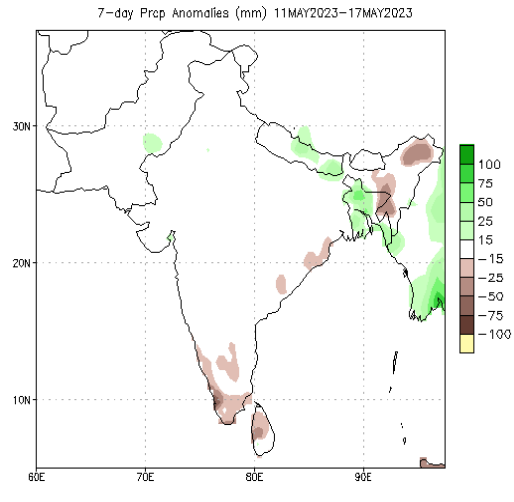


Weekly Rainfall Monitoring

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.



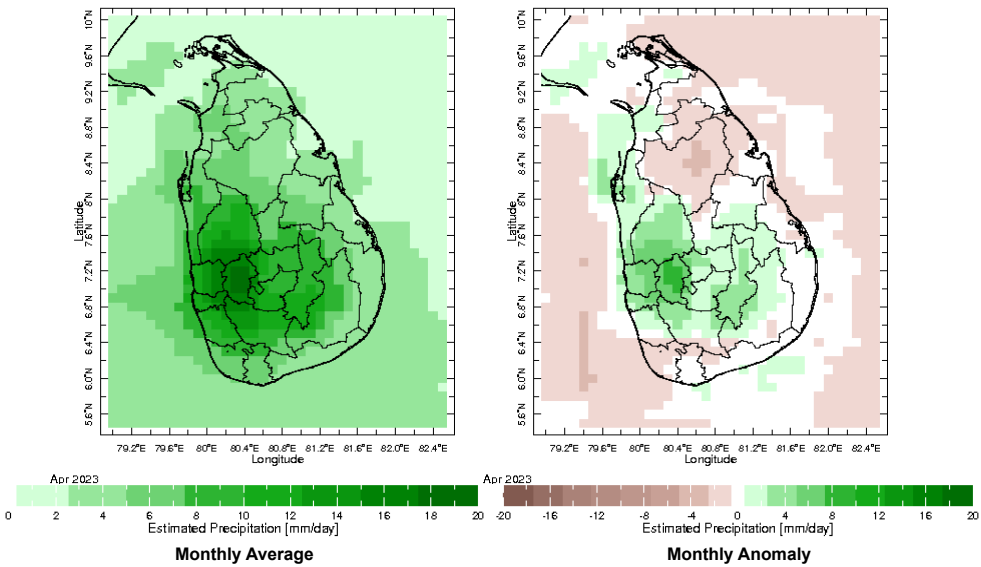
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



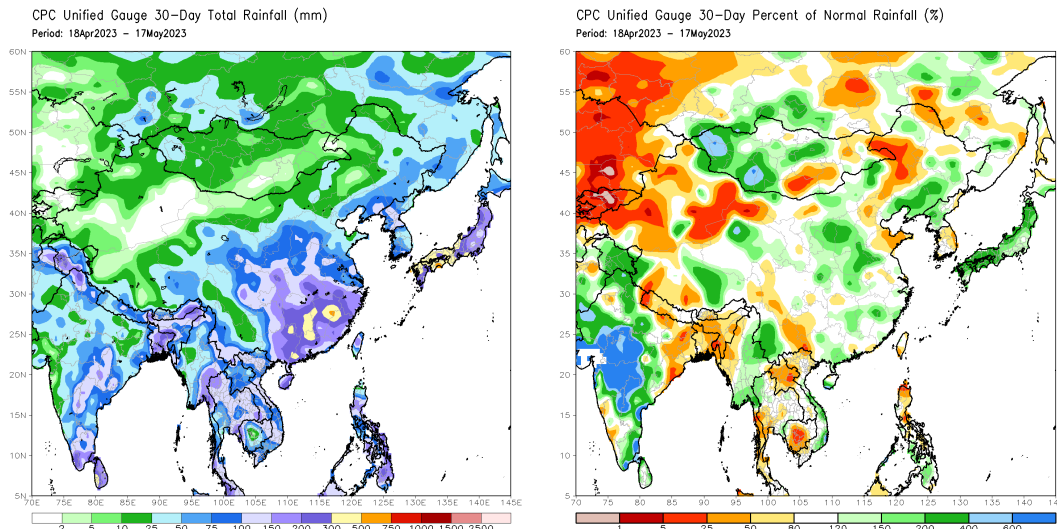
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1991-2020)

Monthly Rainfall Monitoring

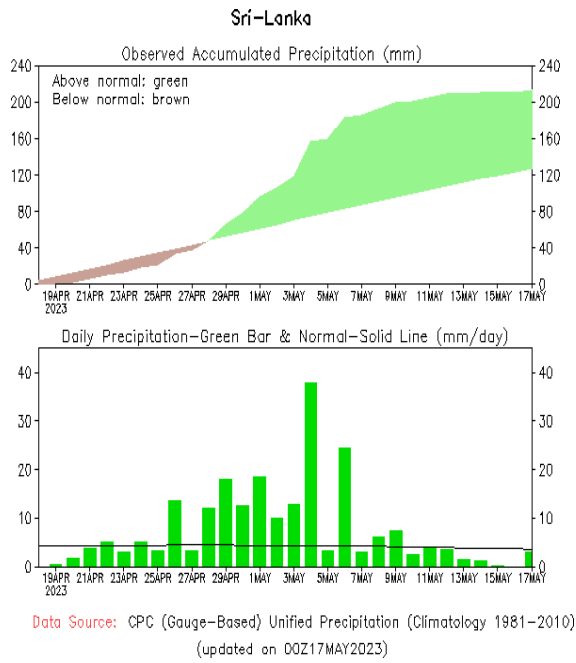
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



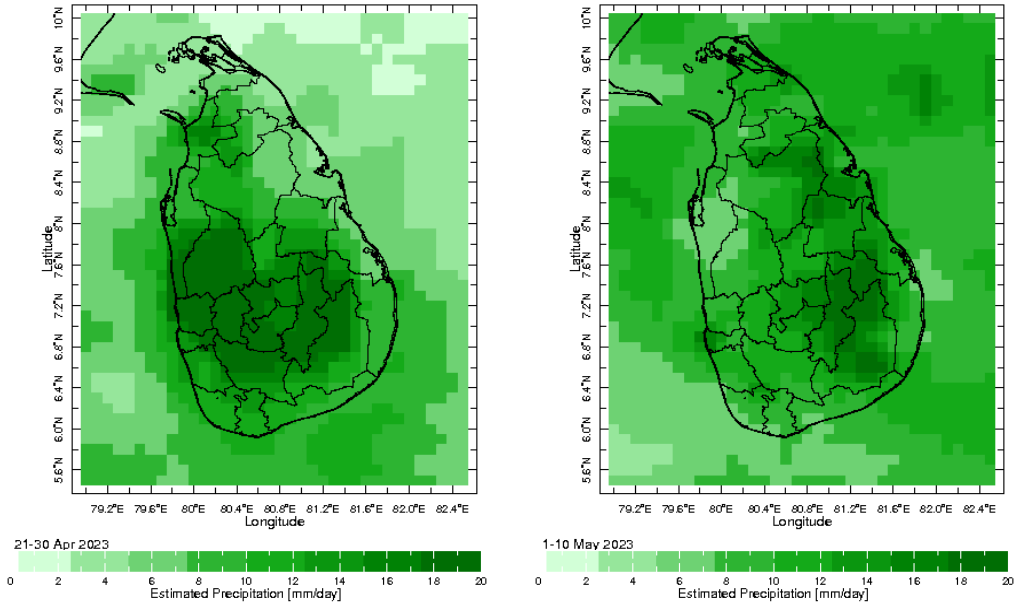
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



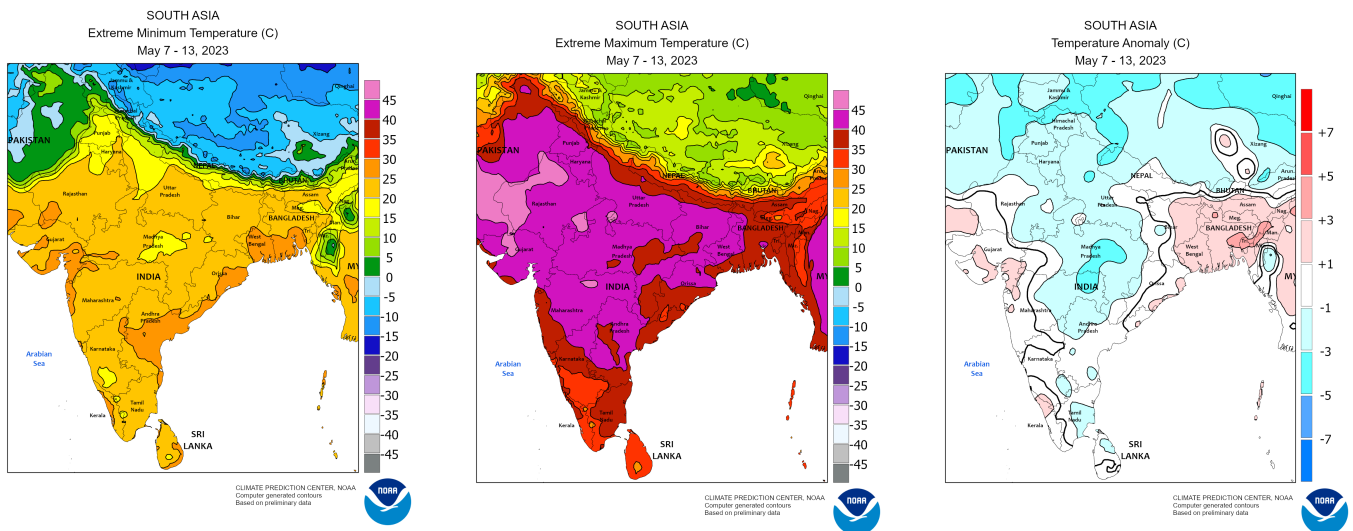
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

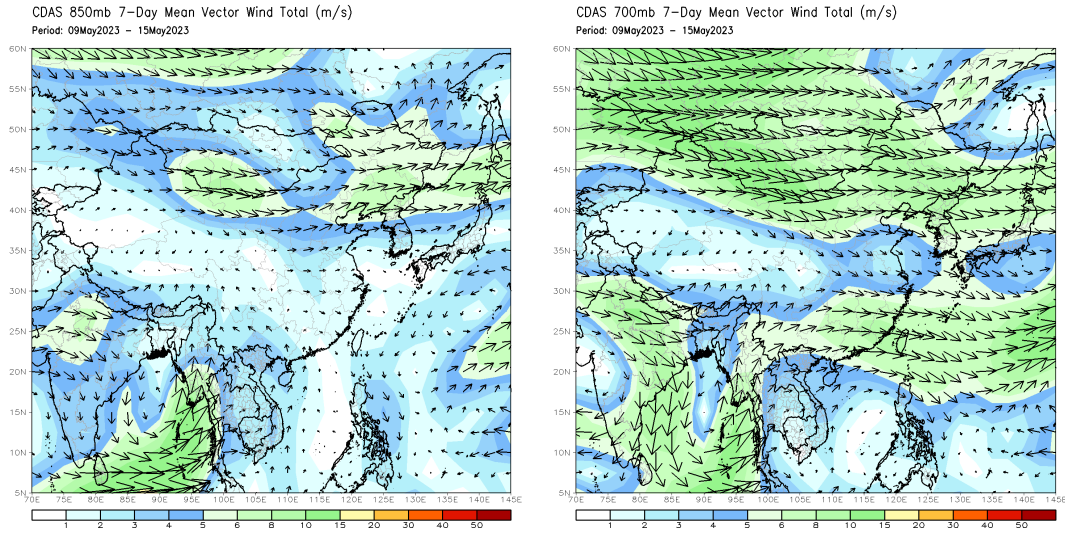


Weekly Temperature Monitoring



Weekly Wind Monitoring

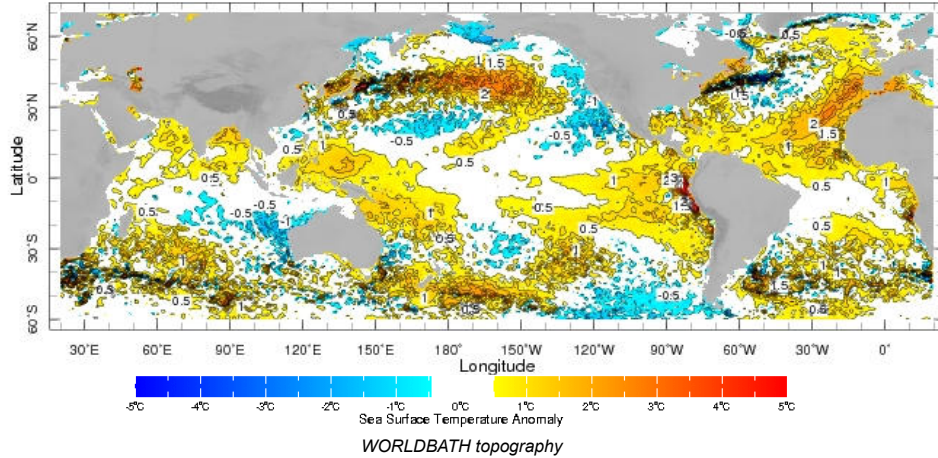
The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.



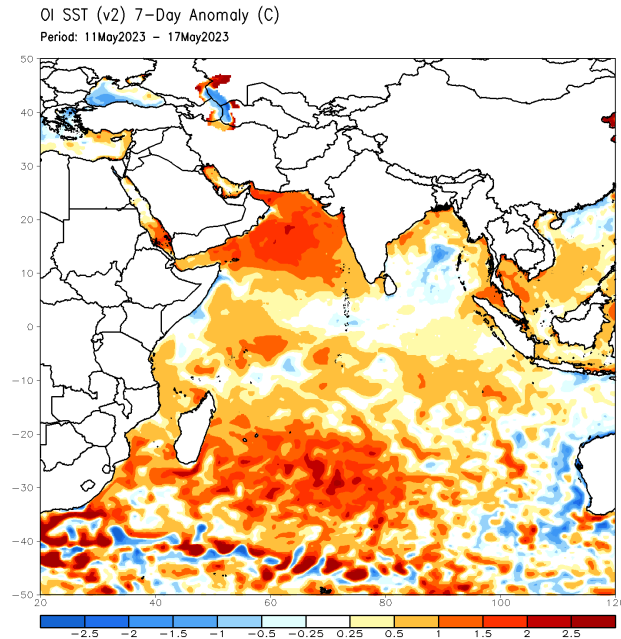
Weekly Average SST Anomalies

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

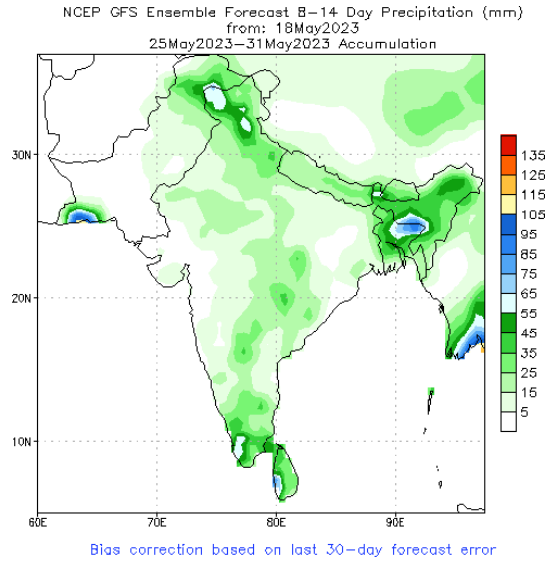
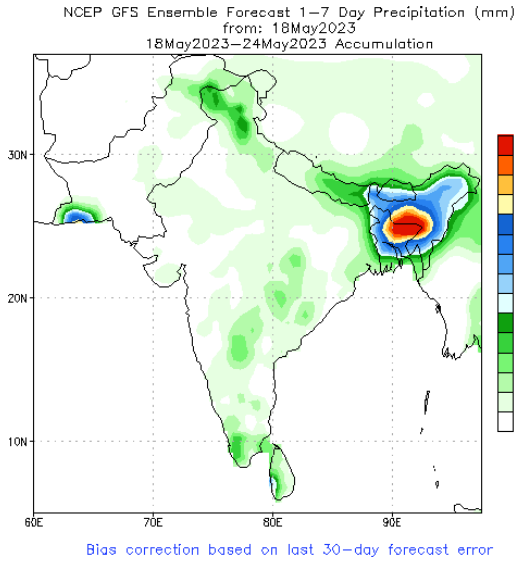
zlev 0.0 meters Time 25 Apr 2023 - 1 May 2023



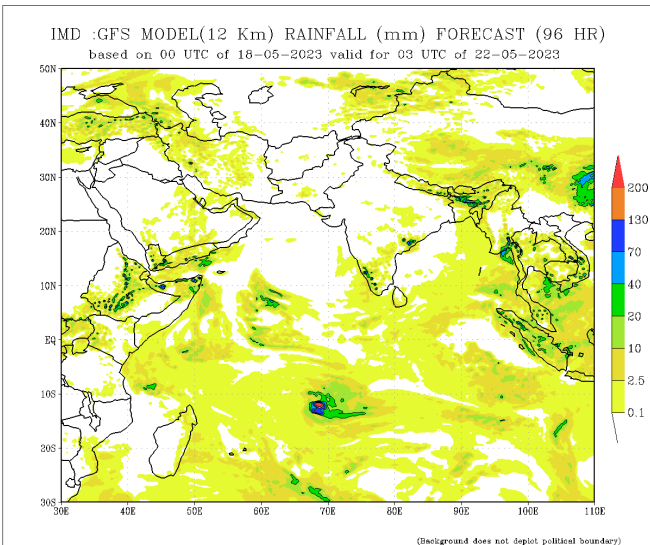
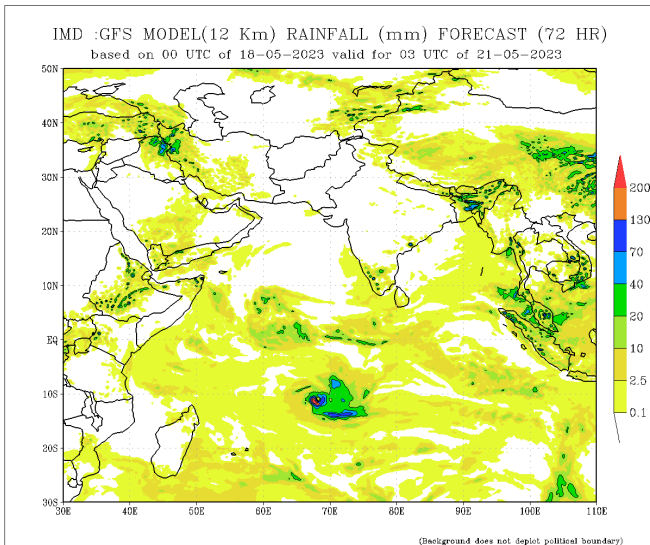
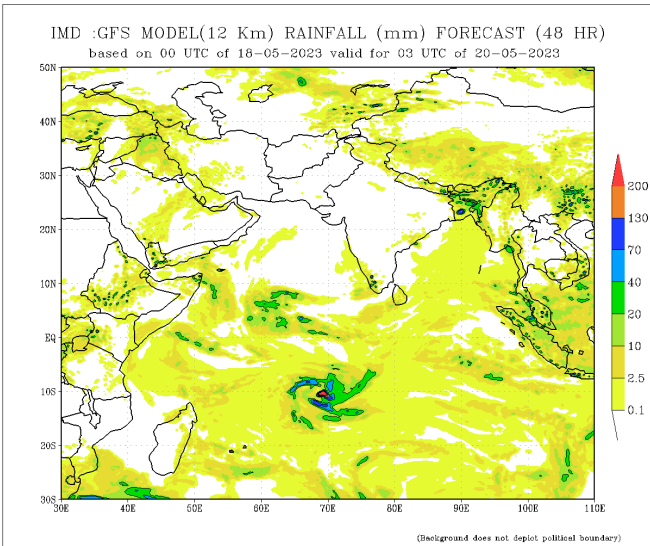
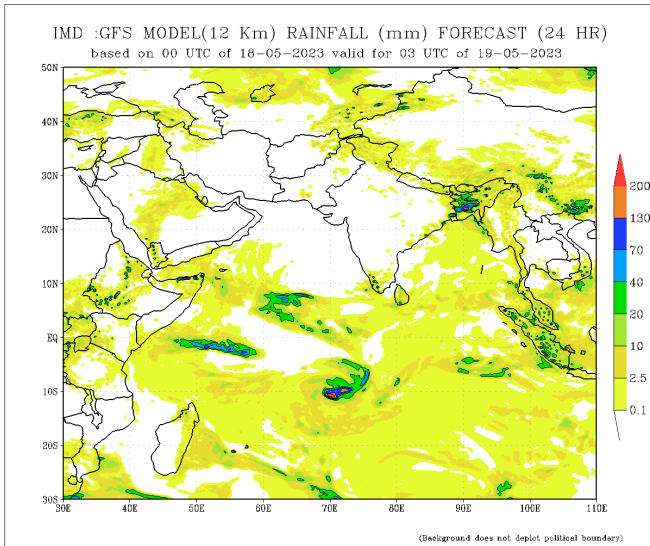
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

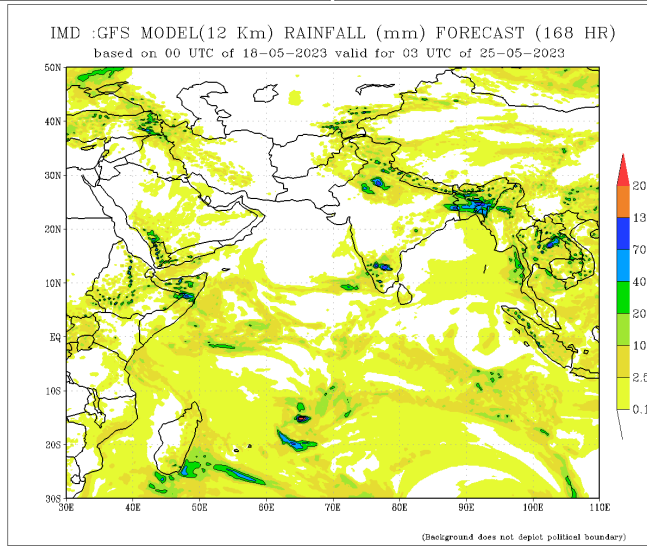
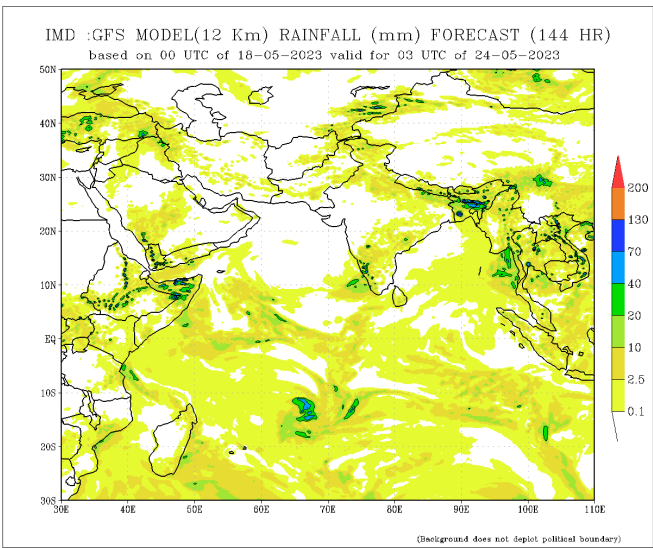
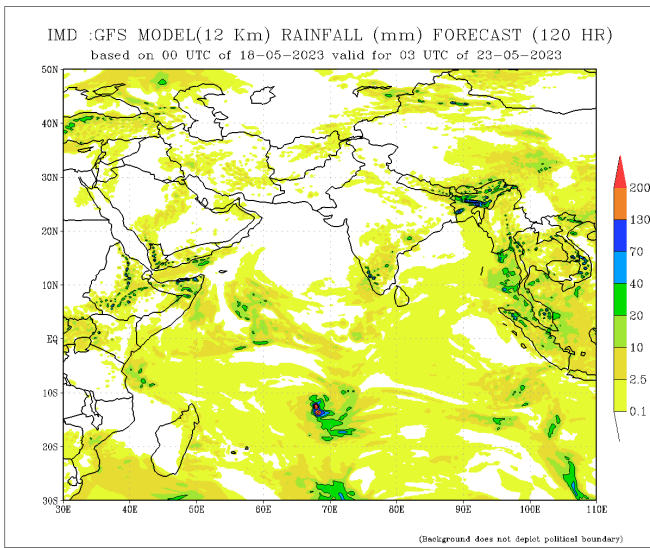


NCEP GFS 1- 14 Day prediction



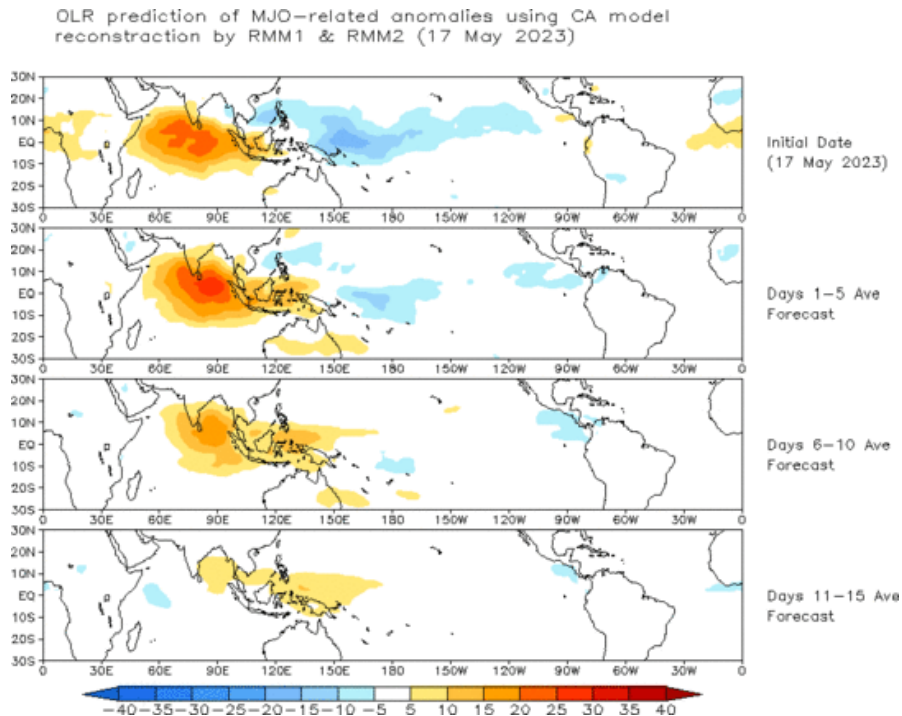
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





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 anomalous OLR for the next 15 days from the Constructed Analogue (CA) model forecasts.

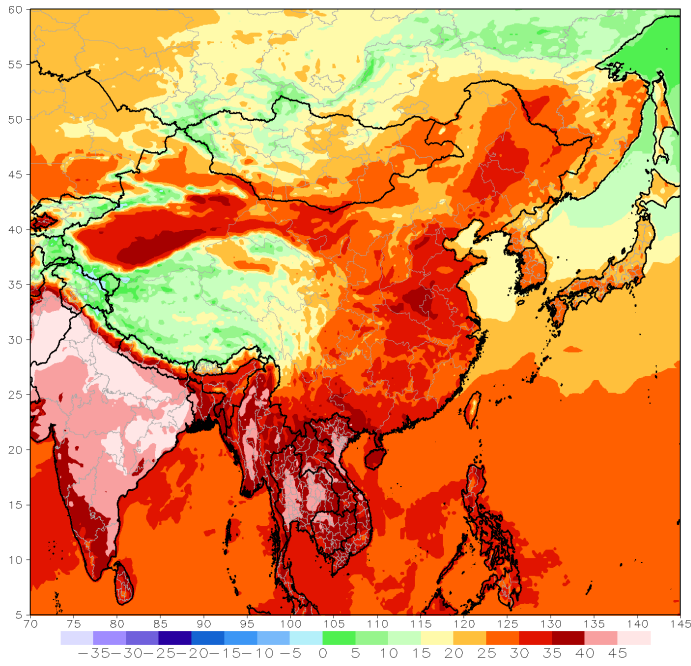


Weekly Temperature Forecast

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

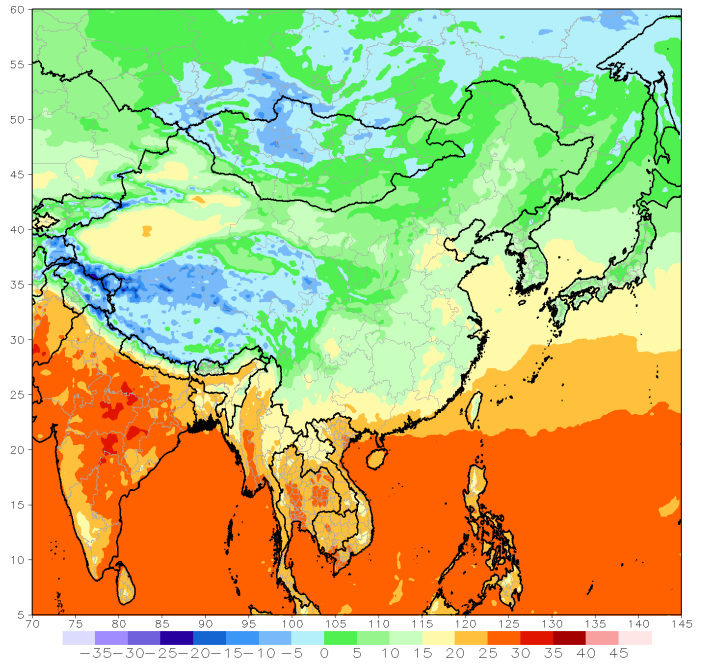
GFS week1 Temperature Max (C)

Period: 18z19May2023 - 18z25May2023



GFS week1 Temperature Min (C)

Period: 18z19May2023 - 18z25May2023

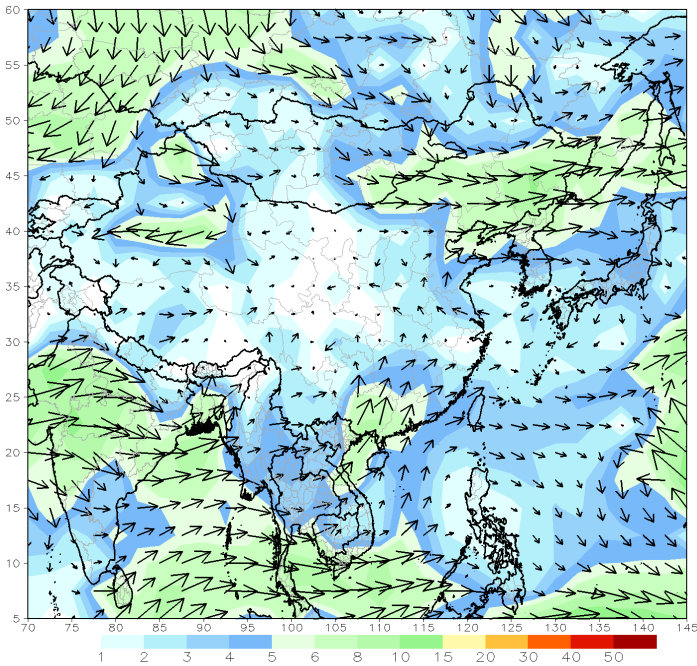


Weekly Wind Forecast

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

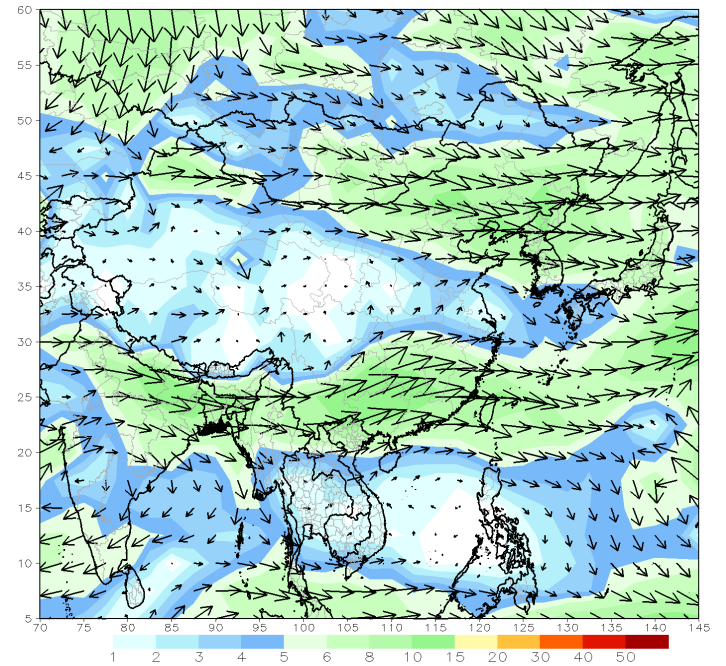
GFS 850mb week1 Mean Vector Wind Total (m/s)

Period: 18z19May2023 - 18z25May2023



GFS 700mb week1 Mean Vector Wind Total (m/s)

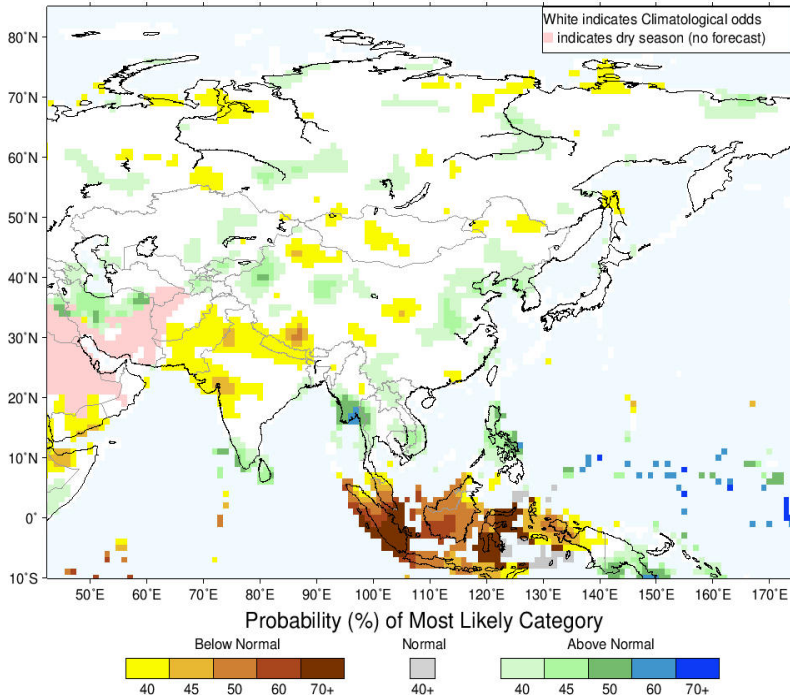
Period: 18z19May2023 - 18z25May2023



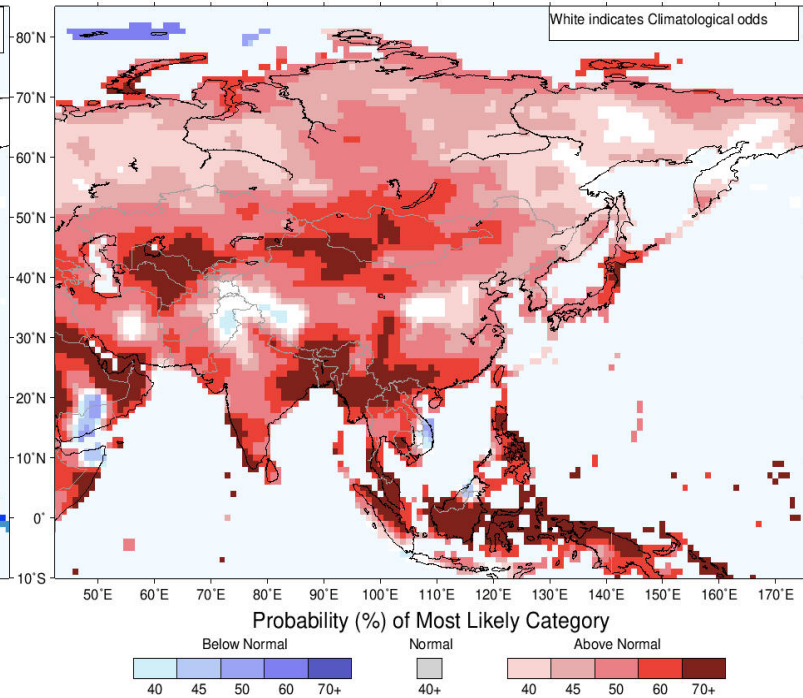
Seasonal Rainfall and Temperature Forecast

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 June–July–August 2023, Issued May 2023



IRI Multi-Model Probability Forecast for Temperature for June–July–August 2023, Issued May 2023



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