3 MAY 2024

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- *High likelihood of light to moderate rainfall (15 - 25 mm) is predicted for the Western, Sabaragamuwa North Western, Southern, Central Provinces and light shower (≤ 5 mm) is predicted for the rest during 1 - 7 May.*

Monitored Rainfalls

- *On average, only 2/3 of expected rainfall was received over the Sri Lanka during April.*
- *Average rainfall for SL was 4.1mm and for the hydro-catchment areas was 4.7mm.*

Monitored & Predicted Wind

- *Winds at 850mb (1.5 km) were easterly from 22 - 28 Apr reaching up to 4 m/s.*
- *Winds at 850mb (1.5 km) are predicted south westerly from 2 - 8 May reaching up to 5 m/s.*
- *Winds are low speed and transitioning in direction.*

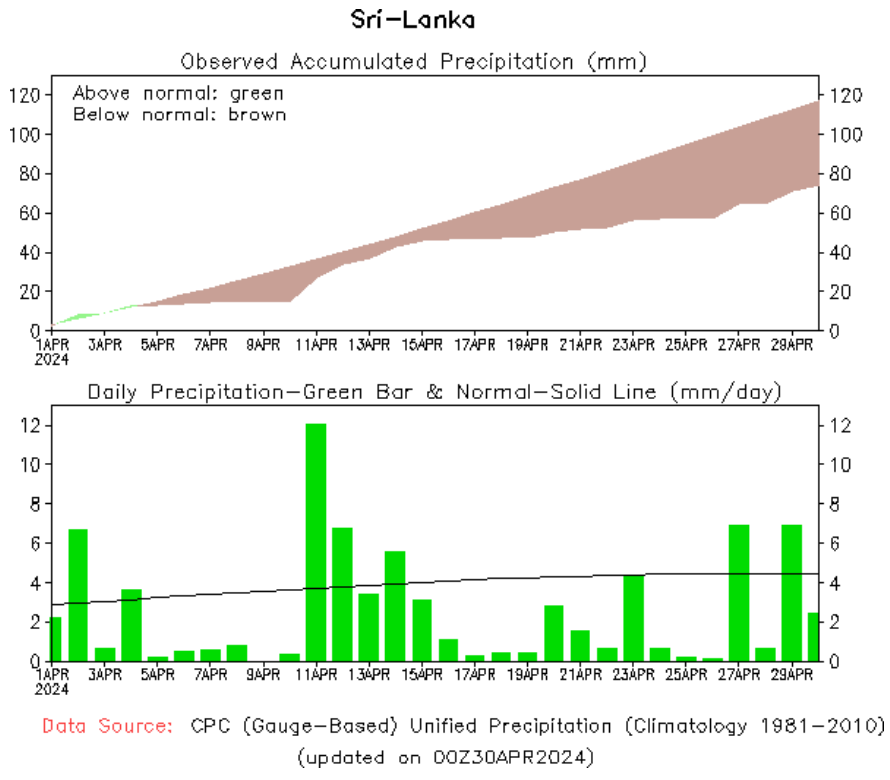
Monitored Sea & Land Temp

- *Average land surface temperature was 33.8°C in the last week and warmer anomalies of +1-3°C were higher in the western slopes, coast and southern region compared to the northern and eastern regions.*
- *Sea surface temperature around Sri Lanka was 0.5 - 1.5°C above normal.*

Monitoring

Rainfall

30 - Day Rainfall Monitoring from 1st April - 30th April 2024



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: April 29, 2024

The SST Anomalies for the NINO3.4 region show a +1.2 ^{o}C on the week ending 29th April, and a weak El Nino is sustained. Consensus of models predict a continuation of the El Niño event until May 2024 before weakening thereafter.

Indian Ocean State

Sea surface temperature around Sri Lanka was 0.5℃ above normal to the Western, Southern, and Northern half of the country in 9th- 15th April 2024.

Predictions

Rainfall

14 Day Prediction: NCEP GFS models

From 1st May - 7th May:

Total rainfall by Provinces:

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

From 8th May - 14th May:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall moderately enhance the rainfall during 1st - 10th May, and near neutral the rainfall during 11th - 15th May for Sri Lanka.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been heavy rainfall over the following areas: Gampaha, Ratnapura.

Daily Average Rainfall in the Met stations for previous week of (24th April - 1st May) = 4.1 mm
Maximum Daily Rainfall: 127.8 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	2.4	35.6	26.5
Eastern hills	2.7	29.3	19.4
Eastern plains	1.3	34.6	26.1
Western hills	8.7	31.4	20.9
Western plains	8.1	33.6	26.1
Southern plains	2.4	34.3	26.2

Region	Average rainfall for last 8 days (mm)	Daily maximum rainfall for last 8 days (mm)	Daily minimum rainfall for last 8 days (mm)
Hydro catchment	4.7	112.0	0.0

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

Temperatures: The temperature anomalies were above normal for some parts of the North Western, Western, Sabaragamuwa, Southern, Central, North Central, and Uva provinces of the country, driven by the warm SST's.

Predictions

Rainfall: During the next week (1st May - 7th May), light to moderate rainfall (15 - 25 mm) is predicted for the Western, Sabaragamuwa North Western, Southern, and Central Provinces and light showers (≤ 5 mm) are predicted for the rest.

Temperatures: The temperature will remain above normal for some parts of the Northern, North Central, Uva, Eastern, Central, and North Western provinces during 2nd - 8th May.

Teleconnections: MJO shall moderately enhance the rainfall during 1st - 10th May, and near neutral the rainfall during 11th - 15th May for Sri Lanka.

Seasonal Precipitation: The precipitation forecast for the May-June-July, 2024 season shows a 70% 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

FEDERATION FOR ENVIRONMENT, CLIMATE AND TECHNOLOGY

www.climate.lk www.fect.lk

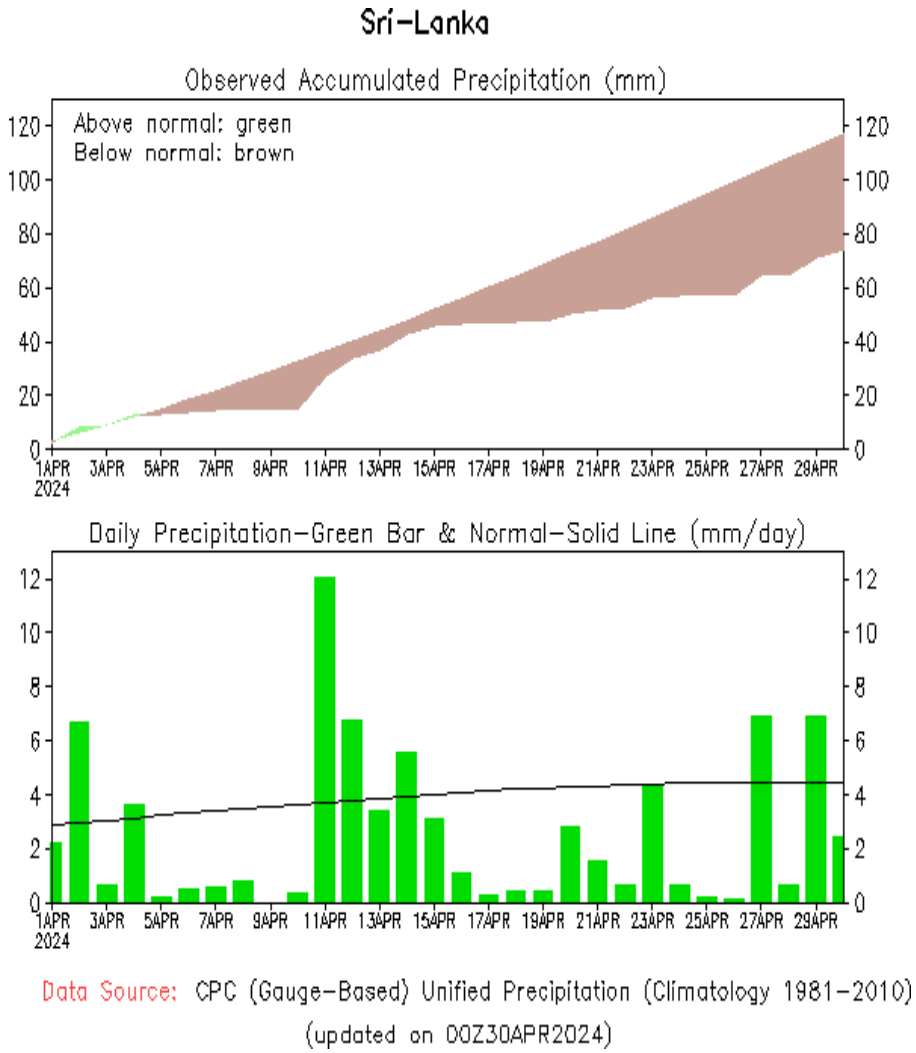
Weekly Climate Bulletin for Sri Lanka

Inside This Issue

MONITORING

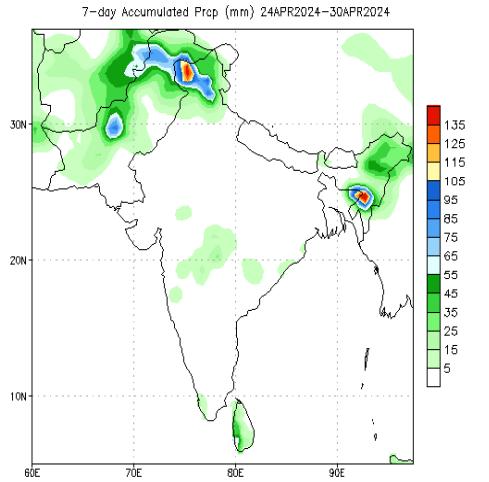
30 - Day Rainfall Monitoring

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

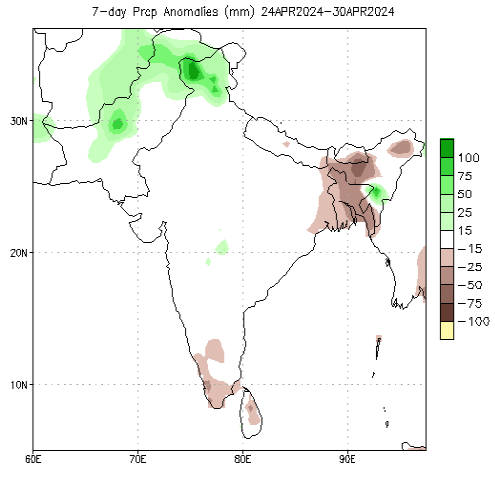


Weekly Rainfall Monitoring

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.



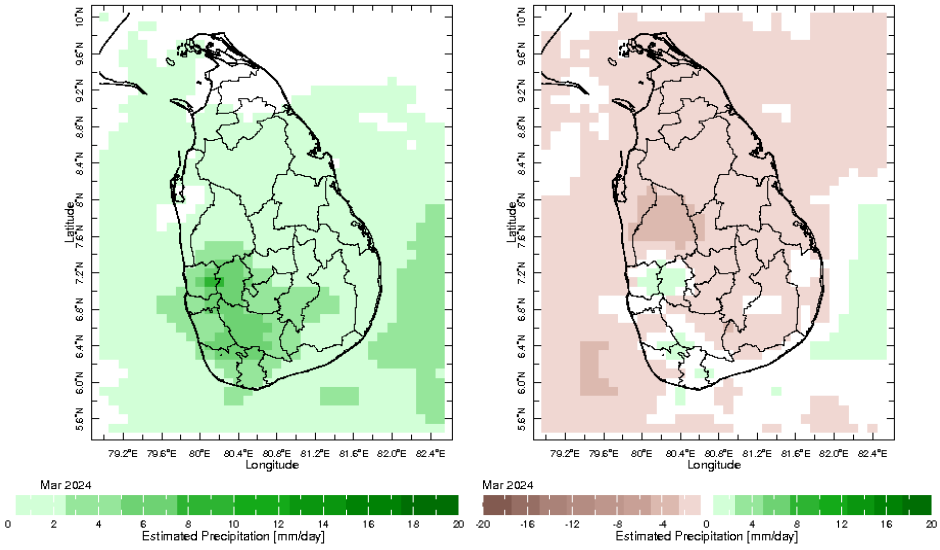
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



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

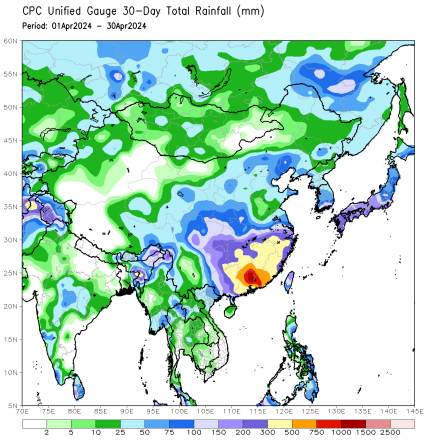
Monthly Rainfall Monitoring

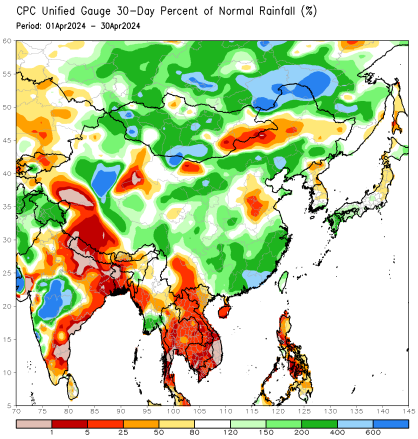
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



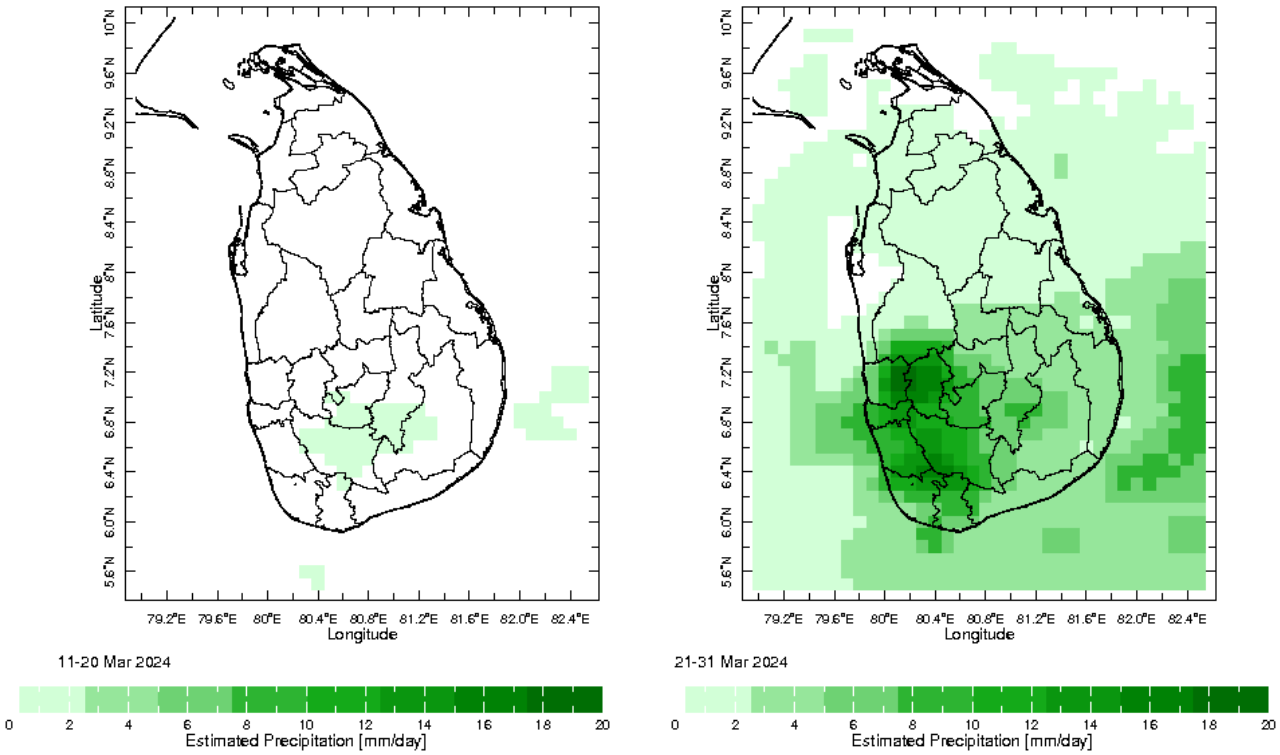
Monthly Average **Monthly Anomaly**

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.

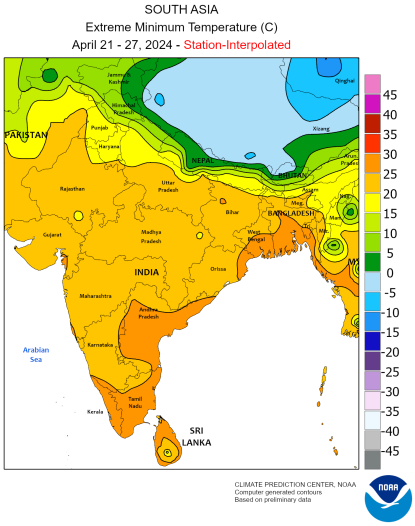


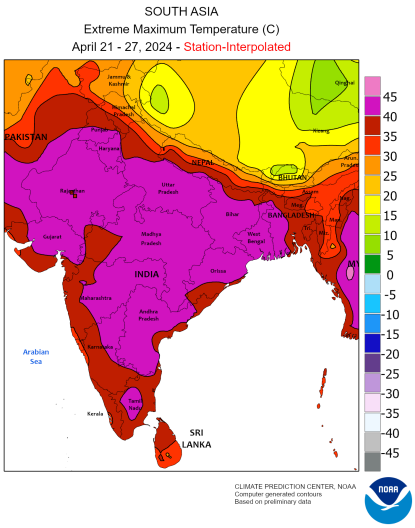


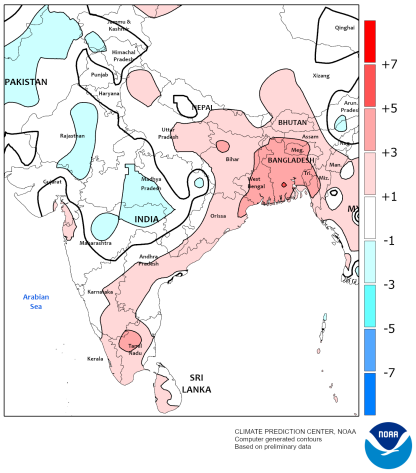
Dekadal (10 Day) Satellite Derived Rainfall Estimates



Weekly Temperature Monitoring

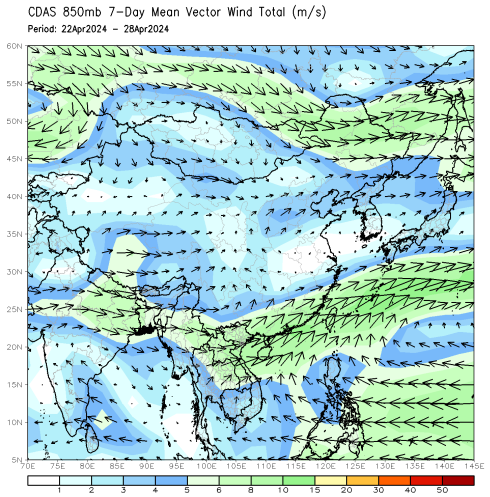


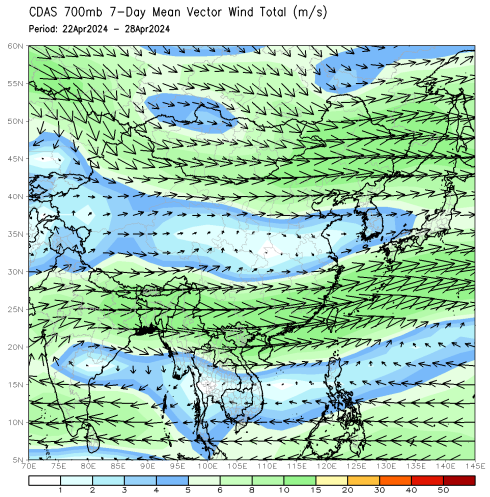




Weekly Wind Monitoring

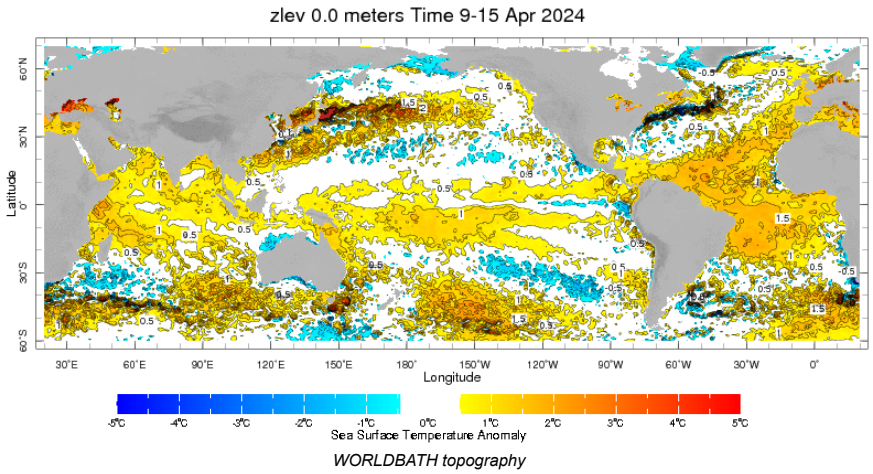
The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.



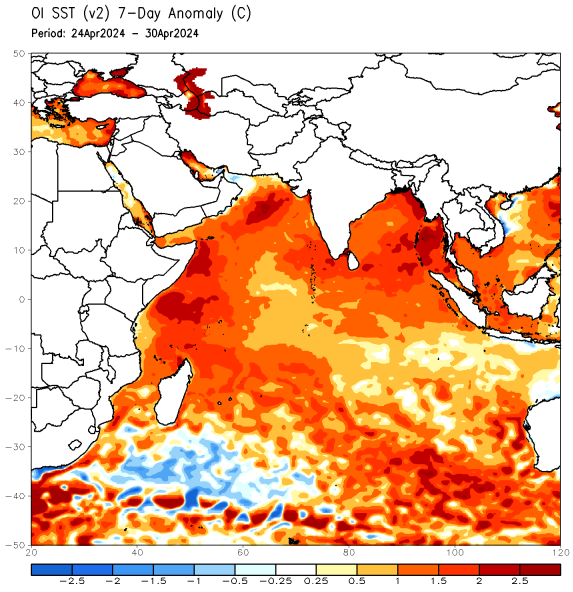


Weekly Average SST Anomalies

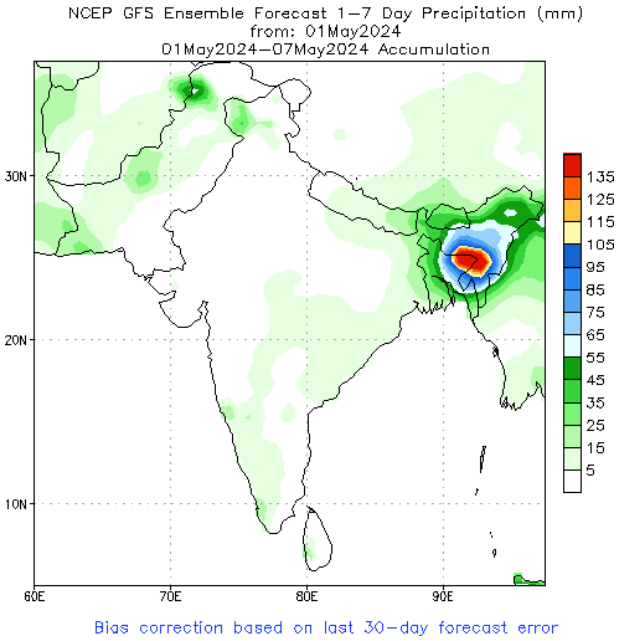
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP

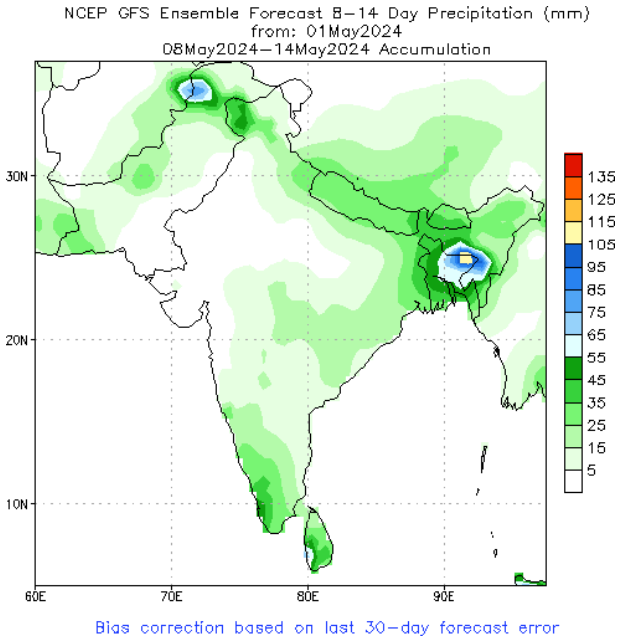


Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

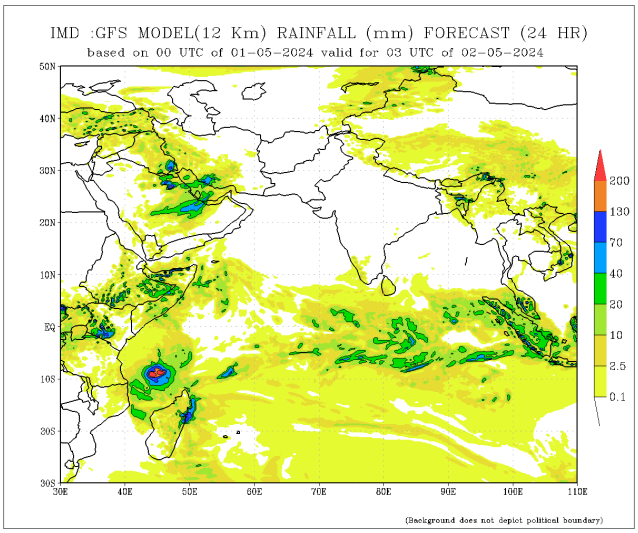


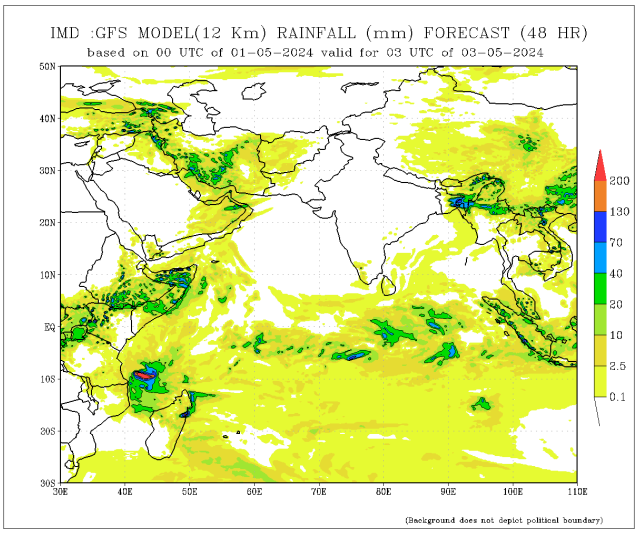
NCEP GFS 1- 14 Day prediction

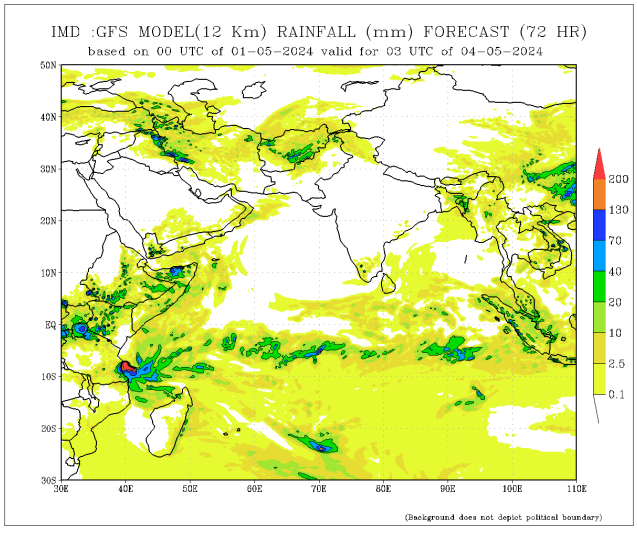


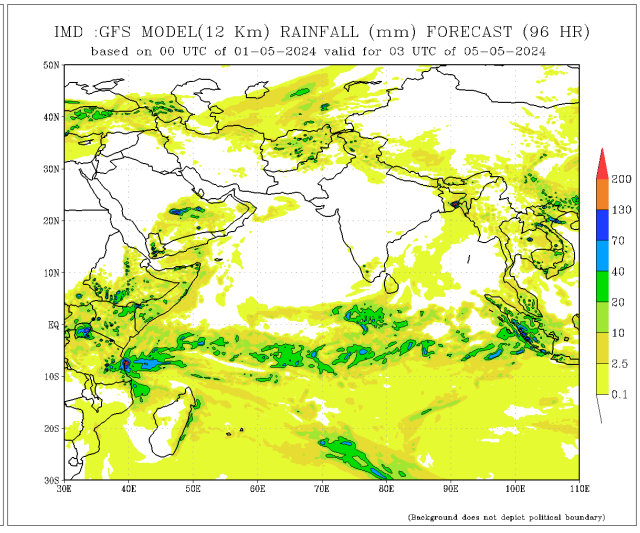


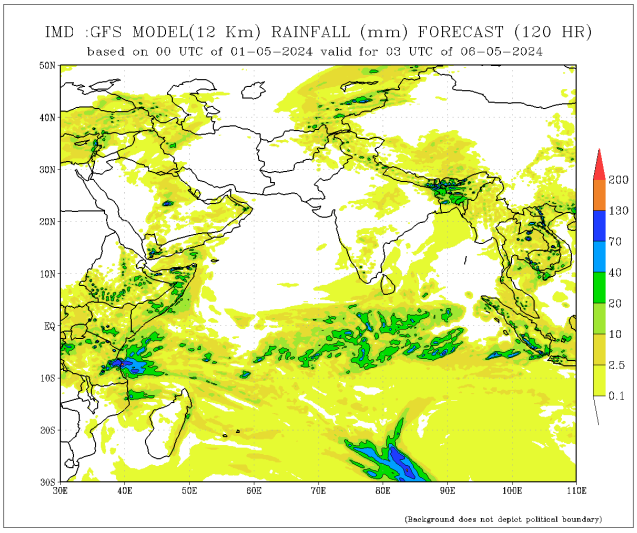
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

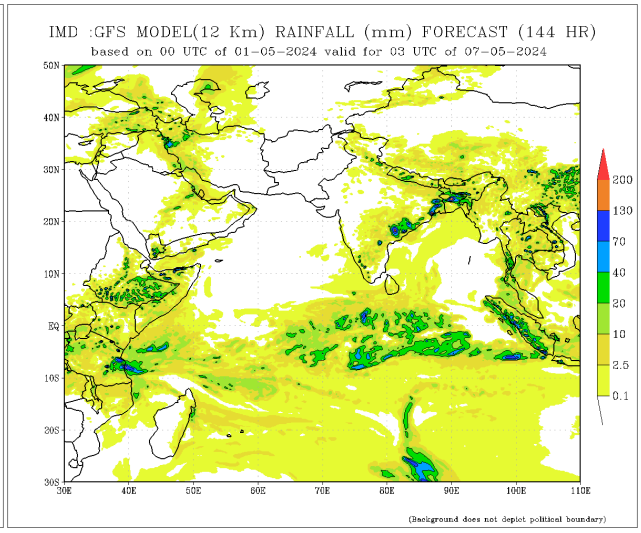


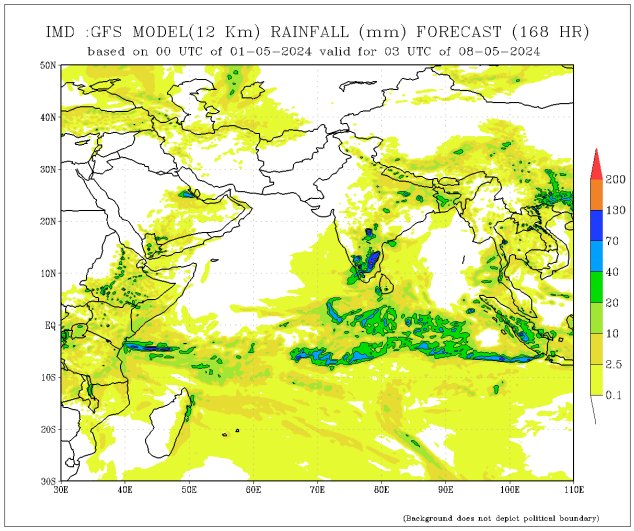






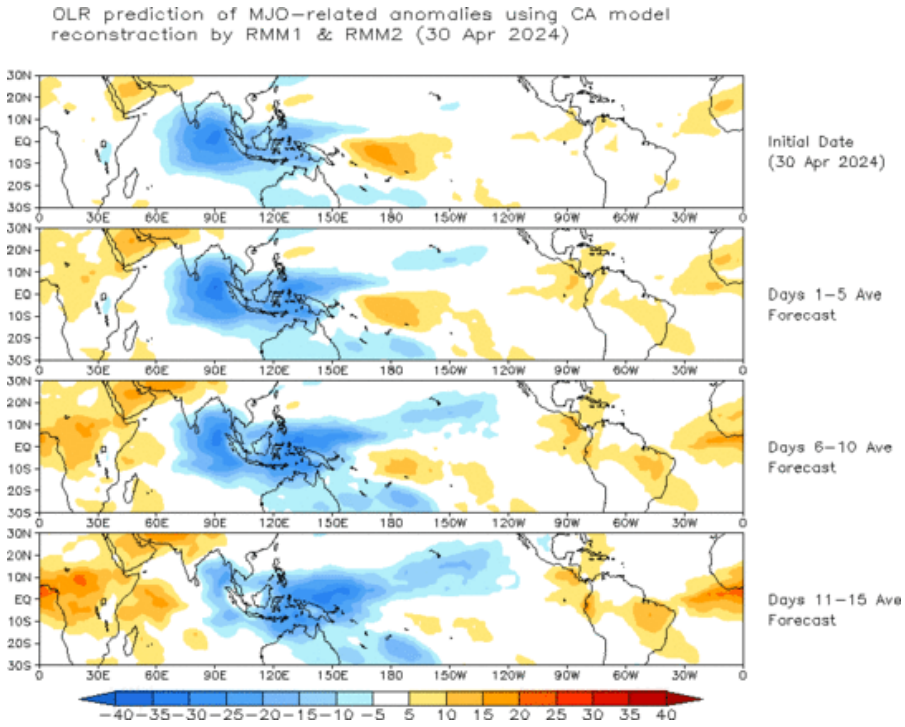






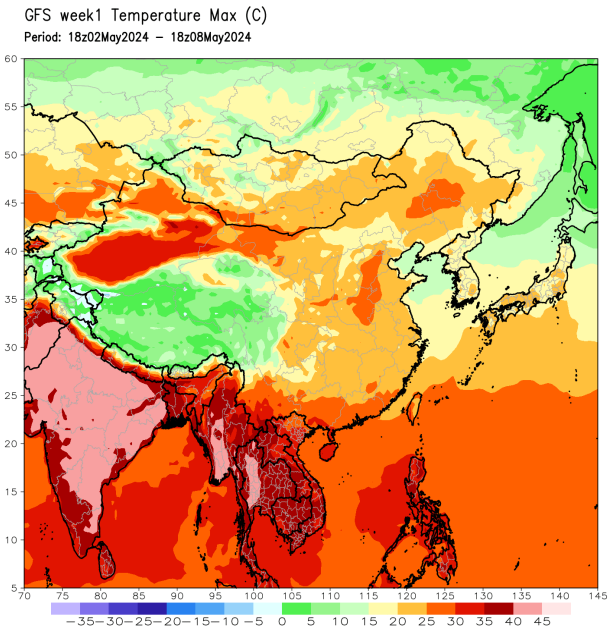
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

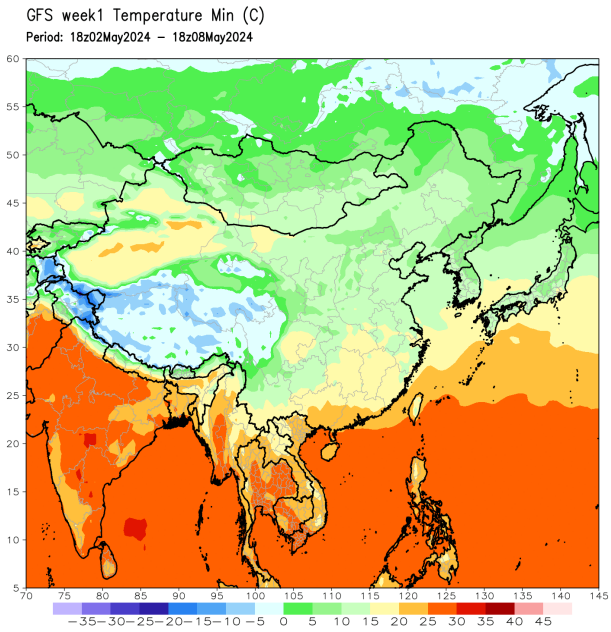
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

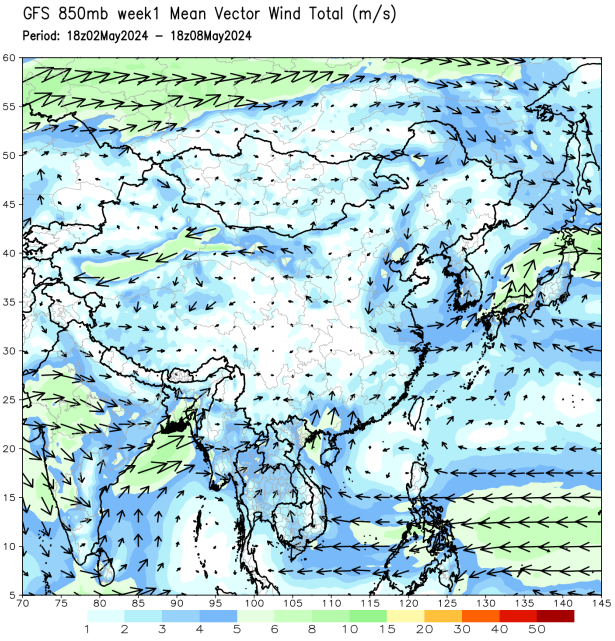
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

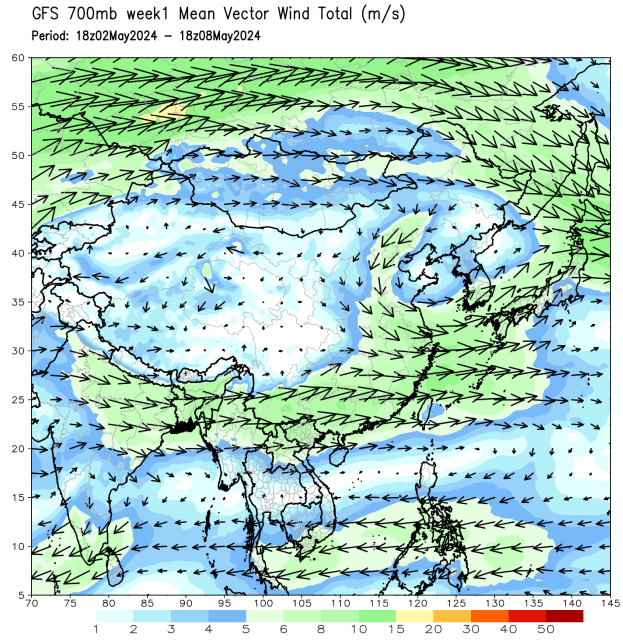




Weekly Wind Forecast

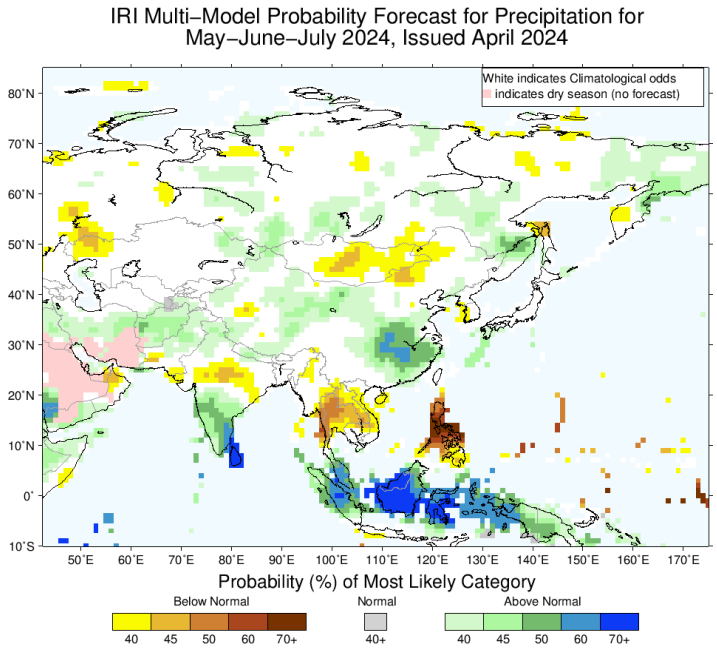
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



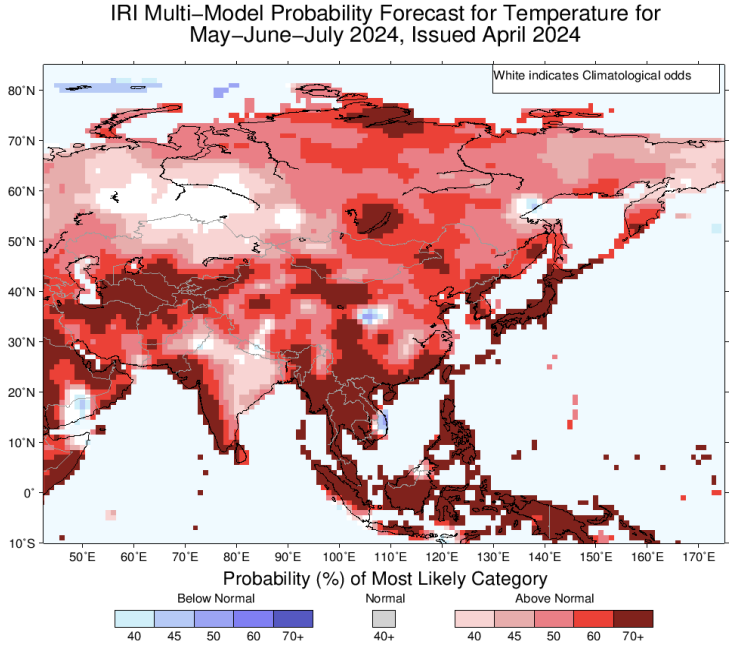


Seasonal Rainfall and Temperature Forecast

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.

Contact us

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

Follow Us

© 2021 Federation for Environment Climate and Technology