17 MAY 2024

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- *High likelihood of Extreme rainfall (100 - 150 mm) is predicted for the all over the country during 15 - 21 May.*

Monitored Rainfalls

- *Only 5/6 of expected rainfall (100mm) was received during 15 April - 14 May.*
- *Apart from Western region, a big deficit of rainfall was observed during April.*

Monitored & Predicted Wind

- *Winds at 850mb (1.5 km) were north westerly from 6 - 12 May reaching up to 3 m/s.*
- *Winds at 850mb (1.5 km) are predicted north westerly from 16 - 22 May reaching up to 15 m/s.*

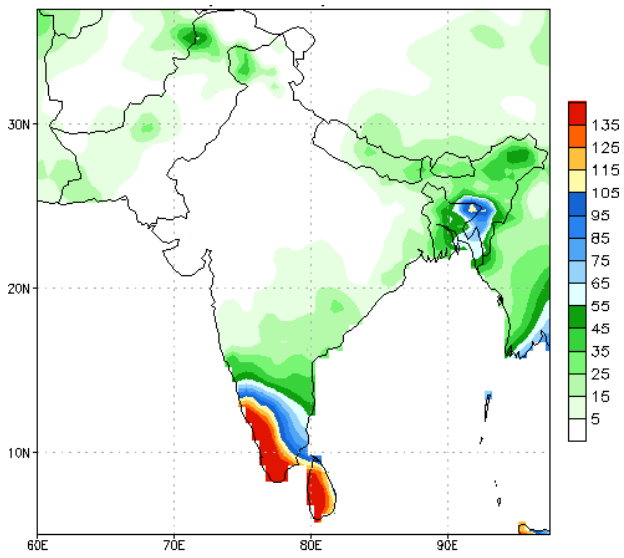
Monitored Sea & Land Temp

- *Average land surface temperature was 33.0°C in the last week with warmer anomalies of +1-3°C*
- *Sea surface temperature around Sri Lanka was 1.0 - 2.0°C above the seasonal normal.*
- *The temperature has dropped slightly.*

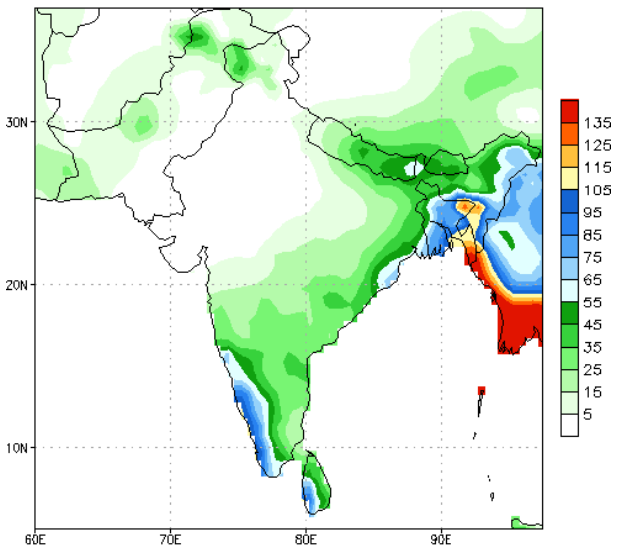
Monitoring

Rainfall

NCEP GFS 1-14 Day Rainfall Prediction from 16th- 29th May 2024



16-22 May



23-29 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 13, 2024

El Niño is transitioning toward ENSO-neutral. Equatorial sea surface temperatures (SSTs) are above average in the western and central Pacific Ocean, and below-average SSTs are emerging in parts of the eastern Pacific Ocean. La Niña may develop in June-August 2024 (49% chance) or July-September (69% chance).

Indian Ocean State

Sea surface temperature around Sri Lanka was 1.0℃ above normal to the Western, Northern, and Southern half of the country in 23rd - 29th April 2024.

Predictions

Rainfall

14 Day prediction: NCEP GFS models

From 16th May – 22nd May:

Total rainfall by Provinces:

Rainfall (mm)	Provinces
> 135	Western, Sabaragamuwa, North Western, Southern, Central, Uva, North central
<125	Northern, Eastern

From 23nd May - 29th May:

Total rainfall by Provinces:

Rainfall (mm)	Provinces
105	Western
95	Sabaragamuwa
85	Central, North Western, Southern
65	Uva
55	North Central
45	Northern, Eastern

MJO based OLR predictions

For the next 15 days:

MJO shall moderately enhance the rainfall during 16th - 20th May and slightly enhance the rainfall during 21th - 30th May for Sri Lanka.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (8th May - 15th May) = 12.0 mm

Maximum Daily Rainfall: 154.7 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	11.5	34.6	25.6
Eastern hills	14.2	28.4	19.7
Eastern plains	8.0	34.1	25.4
Western hills	14.8	30.3	20.2
Western plains	15.0	33.1	25.5
Southern plains	9.2	33.9	25.4

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	16.8	68.5	0.0

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

Temperatures: The temperature anomalies were above normal for the country except some parts of the Northern, Eastern, and Western provinces driven by the warm SST's.

Predictions

Rainfall: During the next week (15th May - 21st May), heavy rainfall (100 - 150mm) is predicted for the Western, Sabaragamuwa, North Western, Southern, Central, and Uva Provinces and fairly heavy rainfall (50 - 100 mm) is predicted for the rest.

Temperatures: The temperature will remain below normal for some parts of the Central, Western, North Western, Southern, and Uva provinces during 16th - 22nd May.

Teleconnections: MJO shall moderately enhance the rainfall during 16th - 20th May and slightly enhance the rainfall during 21th - 30th May for Sri Lanka

Seasonal Precipitation: The precipitation forecast for the June-July-August, 2024 season shows a 50% 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

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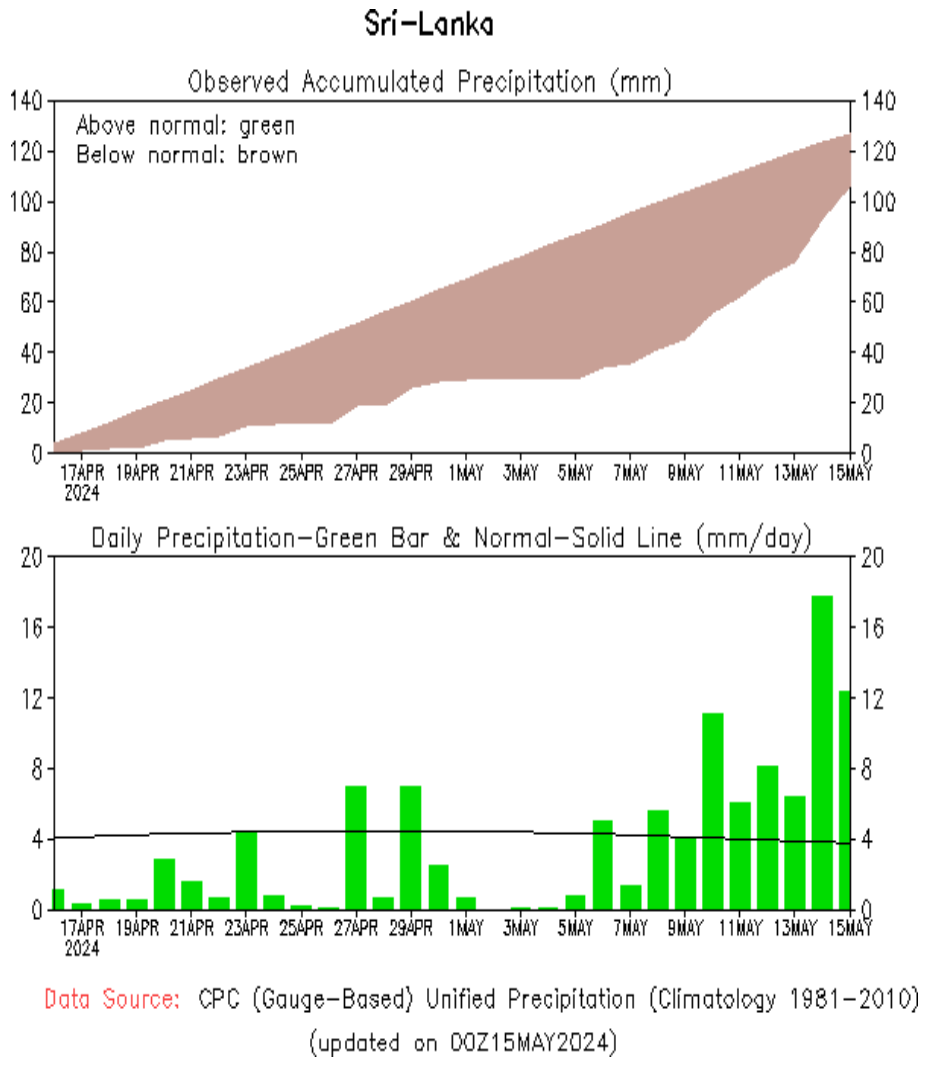
Weekly Climate Bulletin for Sri Lanka

Inside This Issue

MONITORING

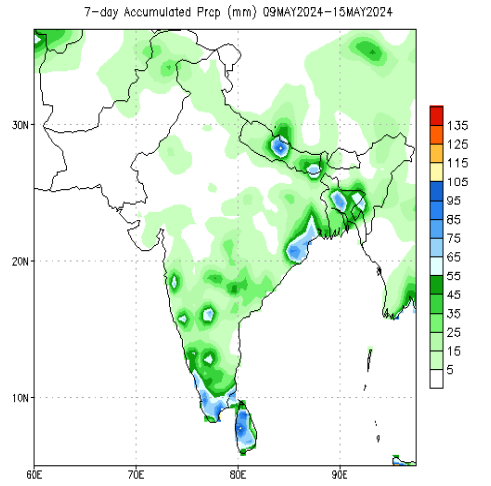
30 - Day Rainfall Monitoring

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

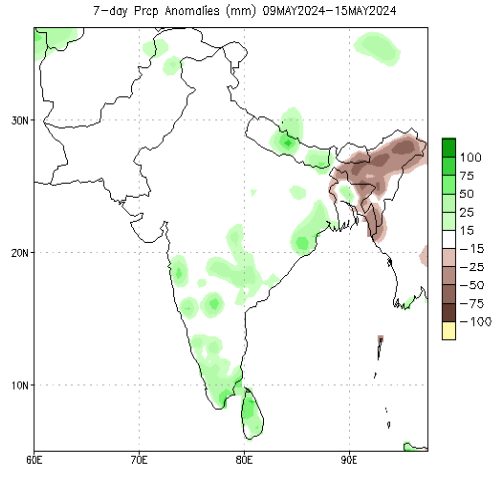


Weekly Rainfall Monitoring

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.



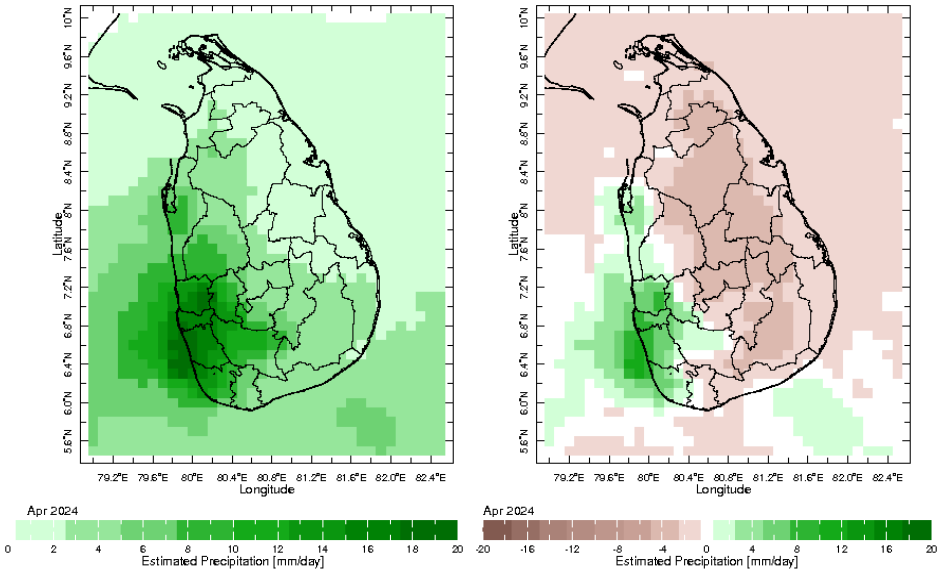
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



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

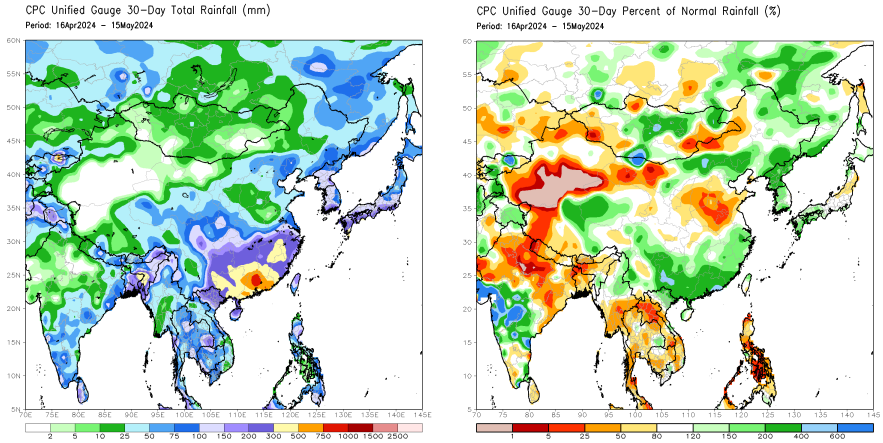
Monthly Rainfall Monitoring

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

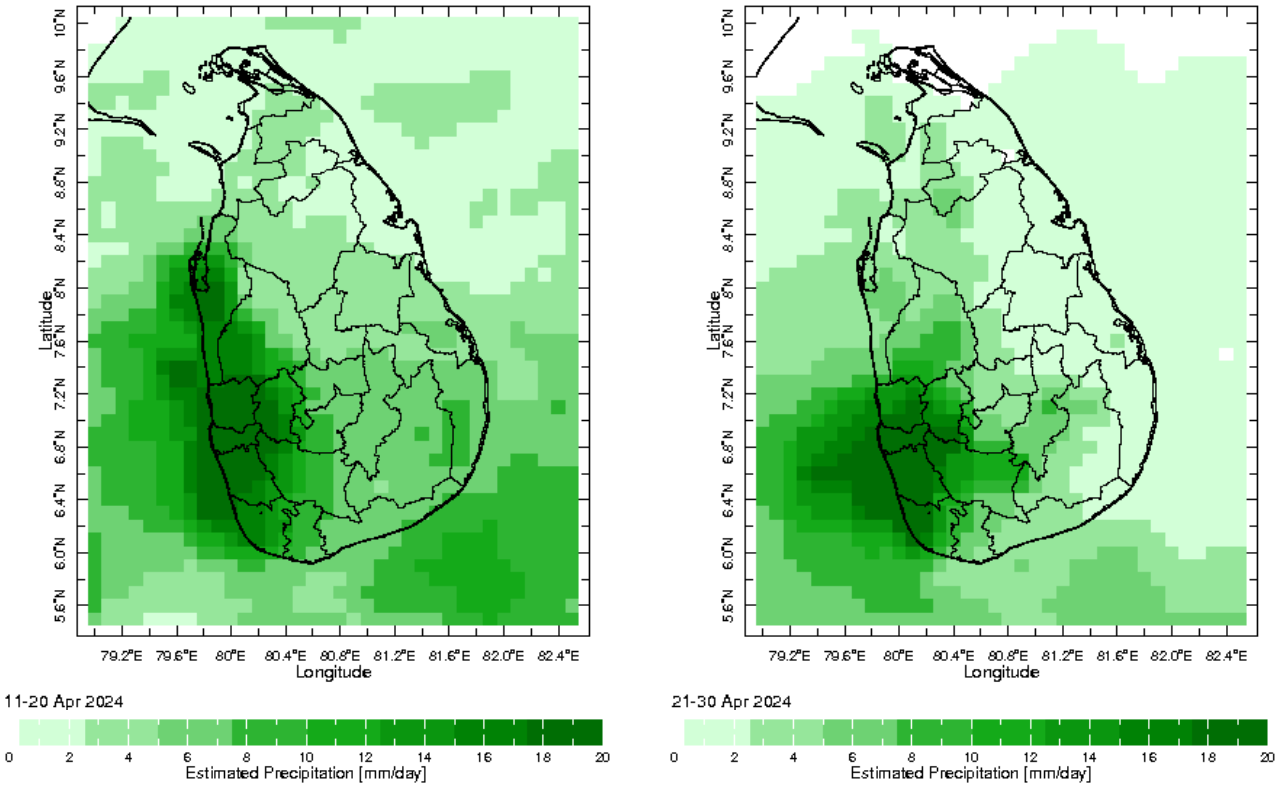


Monthly Average **Monthly Anomaly**

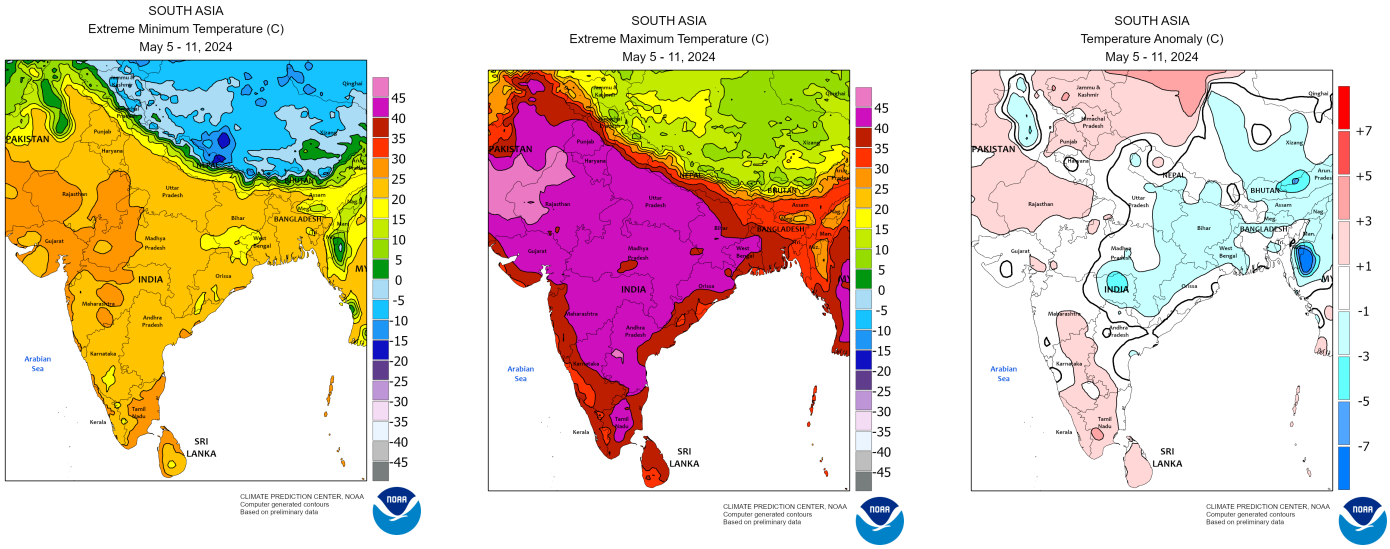
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



Dekadal (10 Day) Satellite Derived Rainfall Estimates

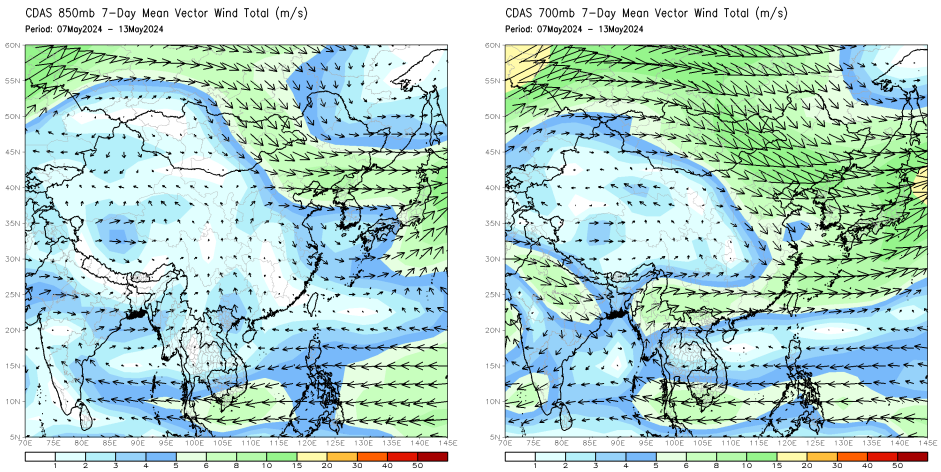


Weekly Temperature Monitoring



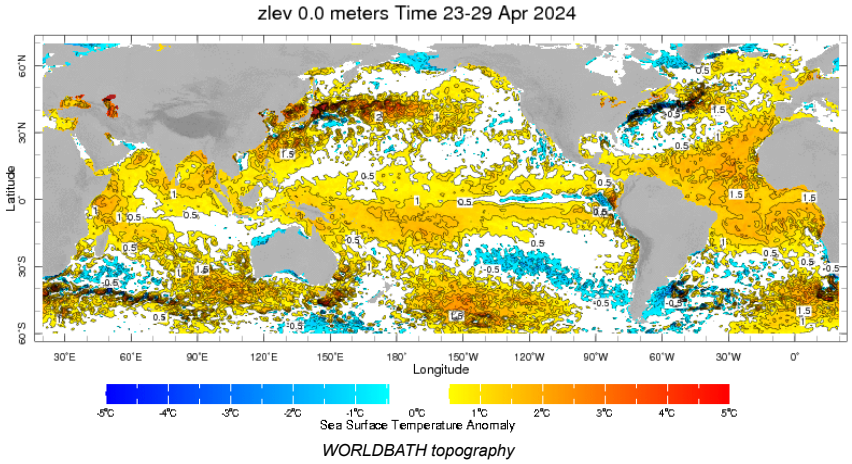
Weekly Wind Monitoring

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.

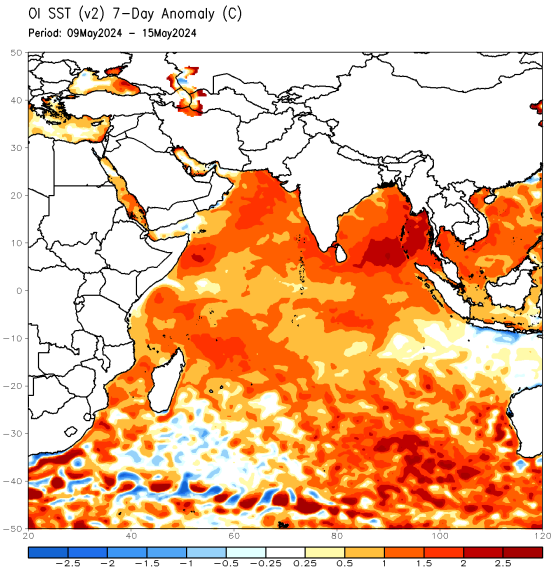


Weekly Average SST Anomalies

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

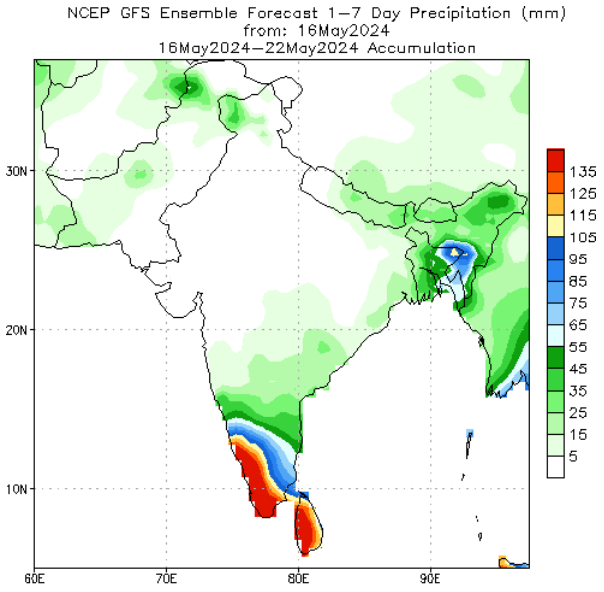


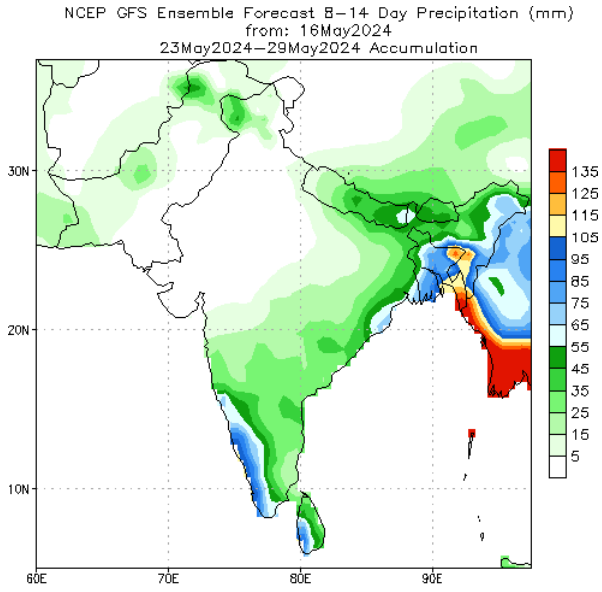
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



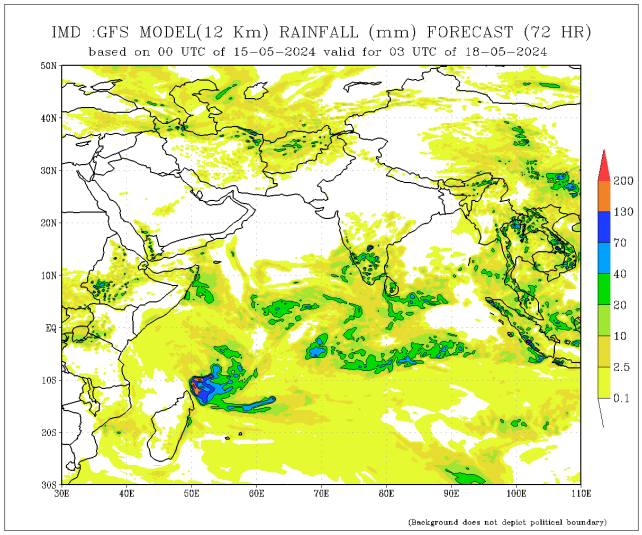
PREDICTIONS

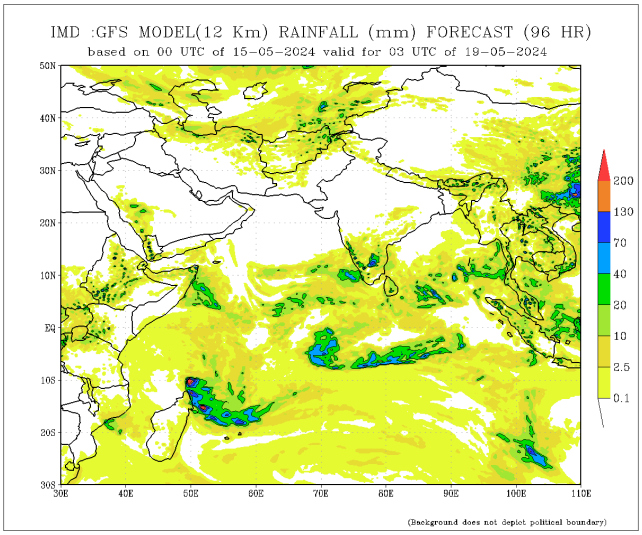
NCEP GFS 1- 14 Day prediction

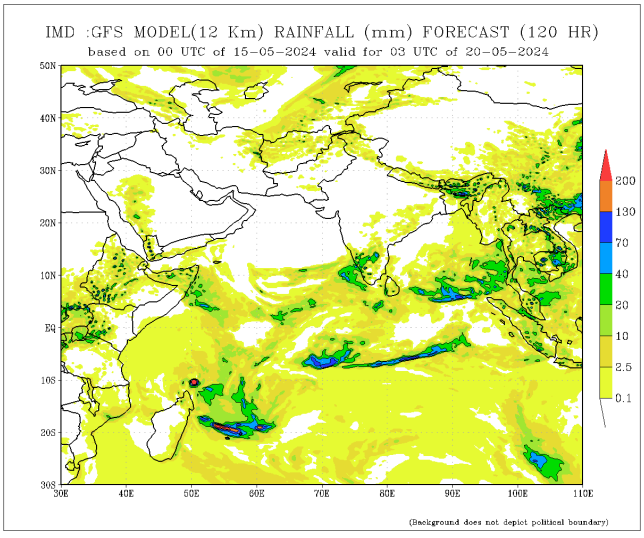


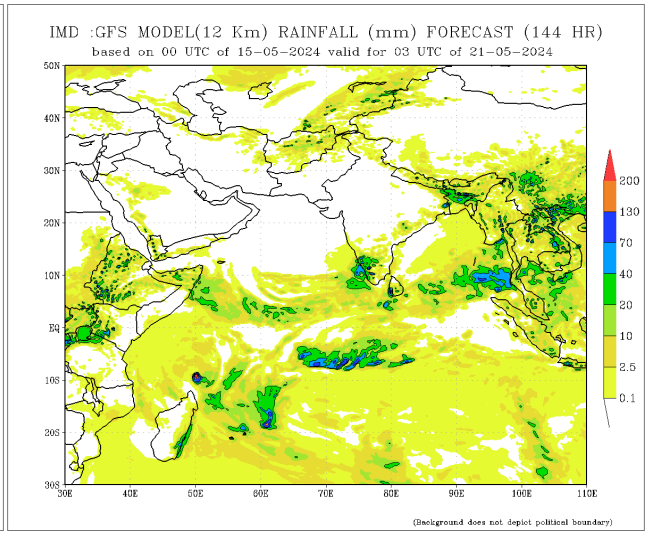


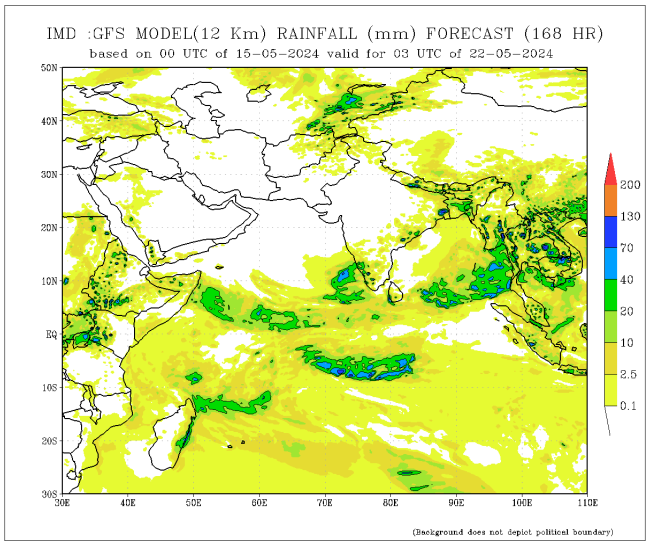
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

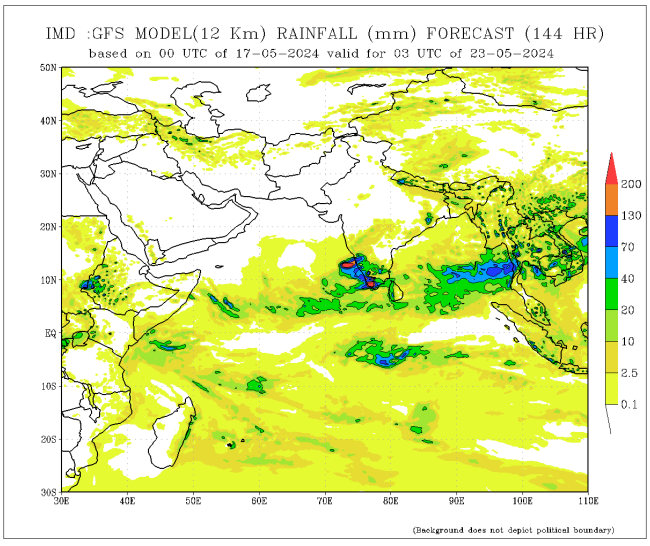


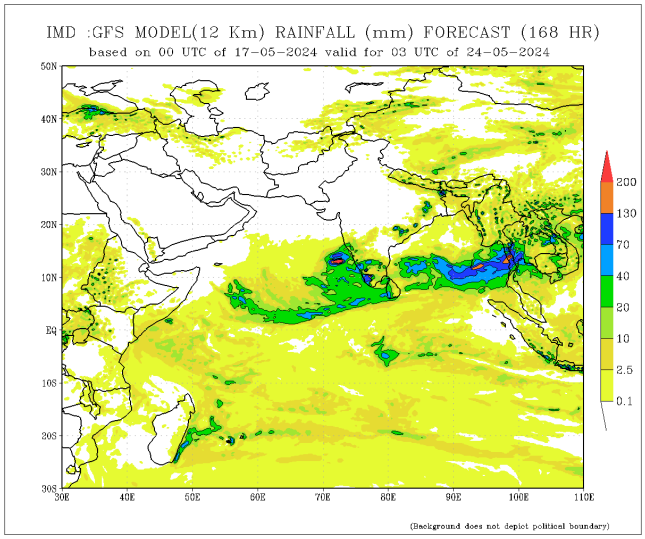






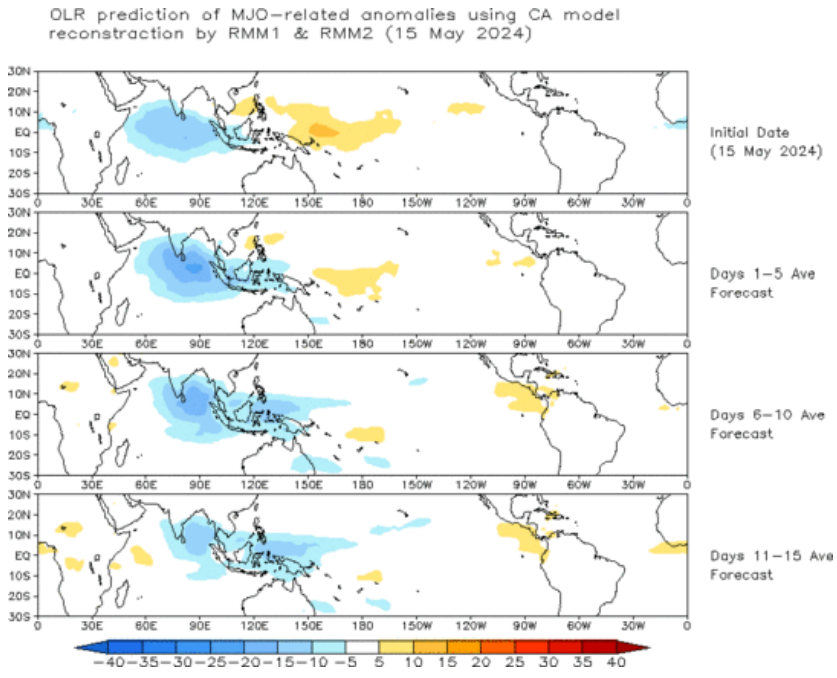






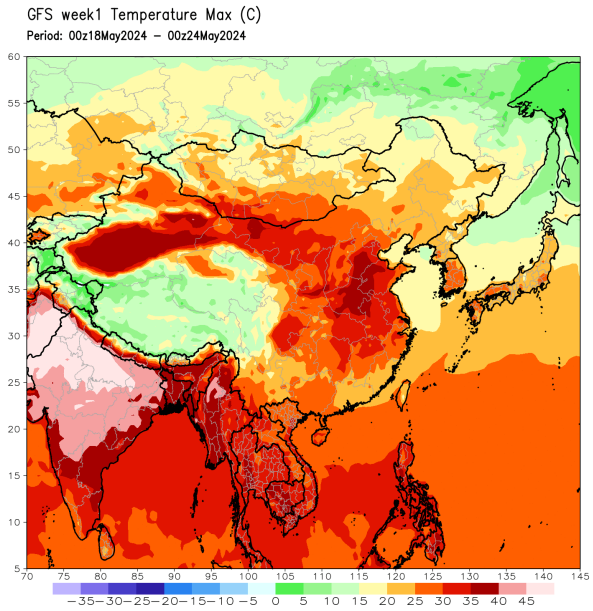
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

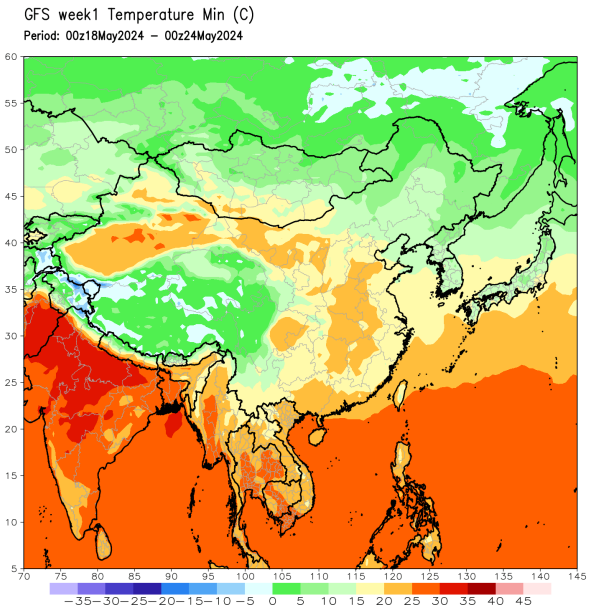
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

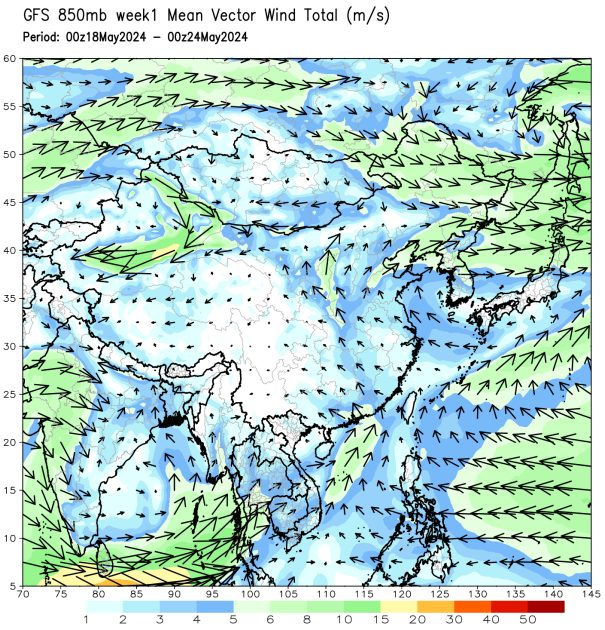
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

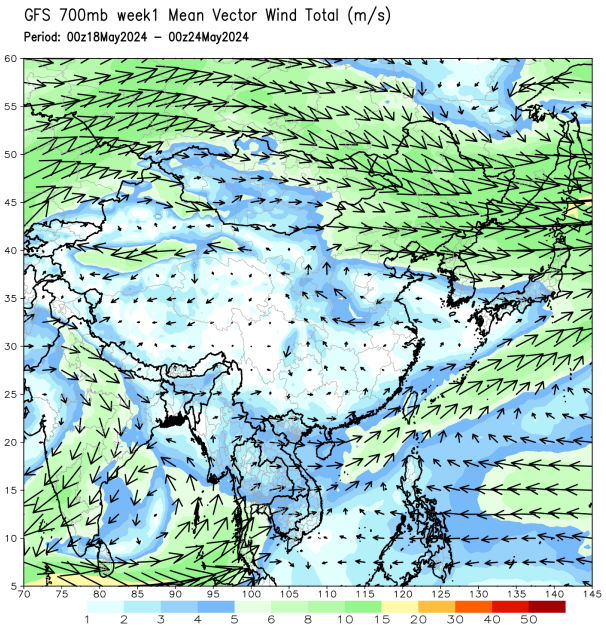




Weekly Wind Forecast

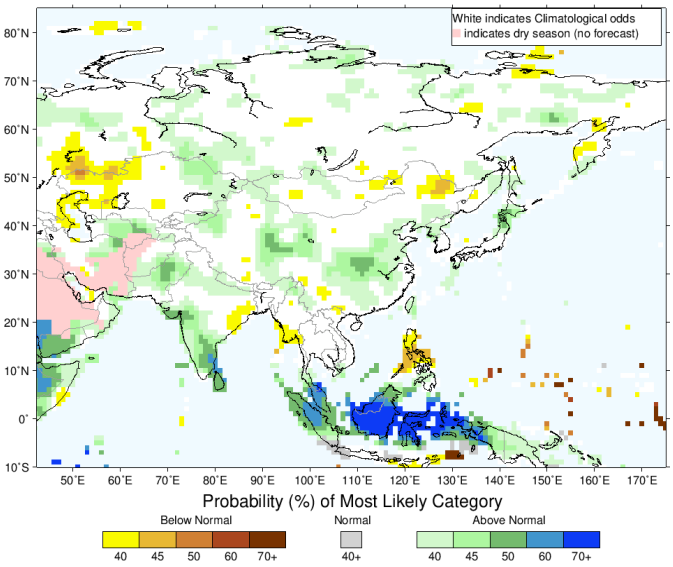
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



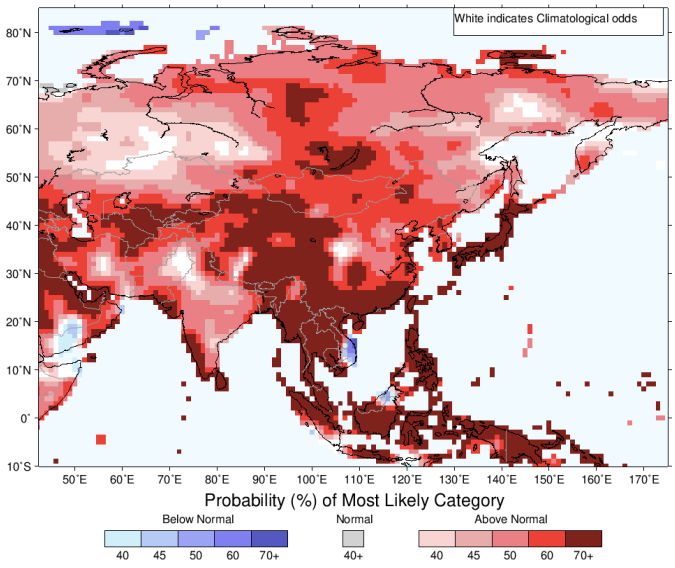


Seasonal Rainfall and Temperature Forecast

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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