31 MAY 2024

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- *High likelihood of fairly heavy rainfall (50 - 100 mm) is predicted for the Western, Southern, Sabaragamuwa, North Western, Central provinces and moderate rainfall (25 - 50 mm) is predicted for the rest during 29 May - 4 June.*

Monitored Rainfalls

- *On average 8.6 mm was received in SL, rainfall was concentrated on the western hills (22 mm) and plains (17 mm) during 22 - 29 May.*
- *Depression 99B intensified as a severe cyclonic storm ('Remal') and made landfall over the Bangala/West Bengal border regions on 26 May.*

Monitored & Predicted Wind

- *Strong winds at 850mb (1.5 km) westerly from 21 - 27 May reaching up to 30m/s due to the cyclonic storm.*
- *Winds at 850mb are predicted north westerly to south westerly from 30 May - 5 June reaching up to 10 m/s.*

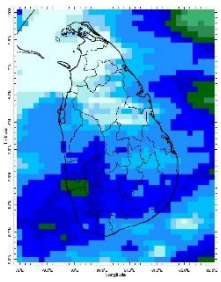
Monitored Sea & Land Temp

- *Average land surface temperature was 30.8°C in the last week with cooler anomalies from seasonal average of -1°C to -3°C.*
- *The temperature has dropped slightly.*
- *Sea surface temperature around Sri Lanka was 0.25 - 1.5°C above normal.*

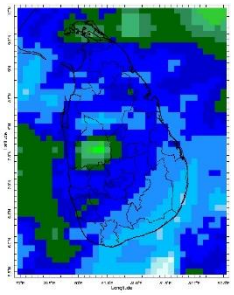
Monitoring

Rainfall

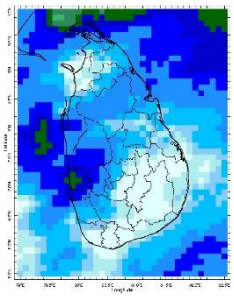
Daily Estimates for Rainfall from 21st May - 28th May 2024



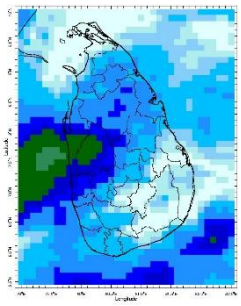
21 May



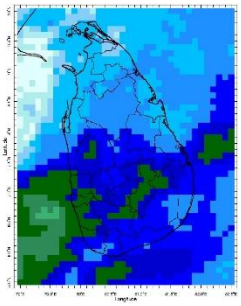
22 May



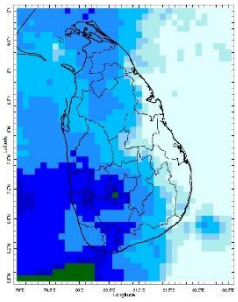
23 May



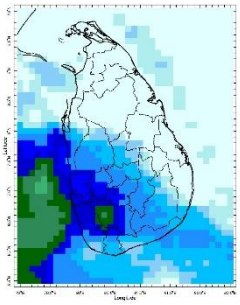
24 May



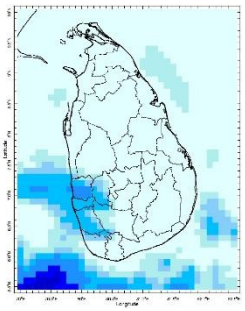
25 May



26 May



27 May



28 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 27, 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 east central and 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 for the country in 7th - 13th May 2024.

Predictions

Rainfall

14 - Day prediction: NCEP GFS models

From 29th May - 4th June:

Total rainfall by Provinces:

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

From 5th June - 11th June:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall slightly enhance the rainfall during 29th May - 2nd June, and near neutral the rainfall during 3rd June - 12th June for Sri Lanka.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been very heavy rainfall over the following area: Keragala (Ratnapura).

Daily Average Rainfall in the Met stations for previous week of (22nd May - 29th May) = 8.6 mm

Maximum Daily Rainfall: 48.5 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	4.6	31.9	26.9
Eastern hills	1.5	28.4	21.0
Eastern plains	0.4	33.4	26.5
Western hills	22.3	25.5	20.9
Western plains	17.3	30.7	25.9
Southern plains	4.1	31.5	25.6

Region	Average rainfall for last 8 days (mm)	Daily maximum rainfall for last 8 days (mm)	Daily minimum rainfall for last 8 days (mm)
All SL	8.6	48.5	0.0
Hydro catchment	31.1	147.0	0.0

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

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

Predictions

Rainfall: During the next week (29th May - 4th June), fairly heavy rainfall (50 - 100 mm) is predicted for the Western, Southern, Sabaragamuwa, North Western, and Central provinces and moderate rainfall (25 - 50 mm) is predicted for the rest.

Temperatures: The temperature will remain above normal for some parts of the Northern, Eastern, and North Central provinces during 30th May - 5th June.

Teleconnections: MJO shall slightly enhance the rainfall during 29th May - 2nd June, and near neutral the rainfall during 3rd June - 12th June for Sri Lanka.

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

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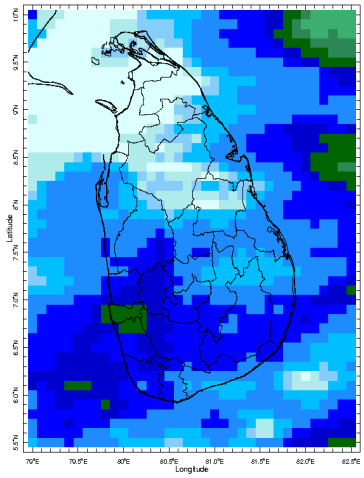
Weekly Climate Bulletin for Sri Lanka

Inside This Issue

MONITORING

Daily Rainfall Monitoring

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



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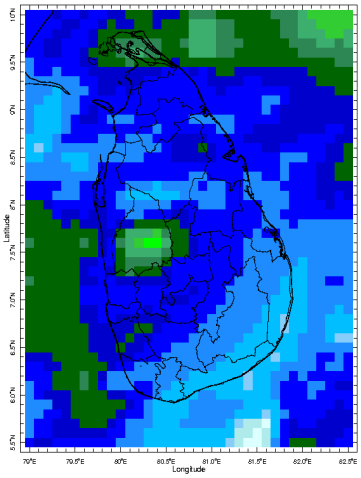
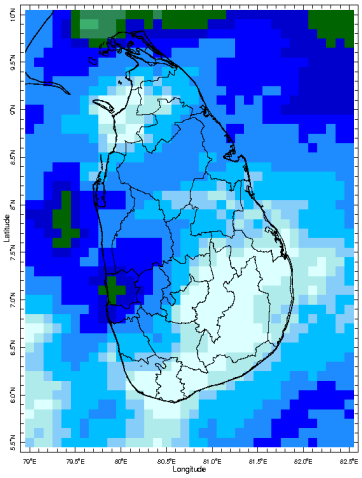
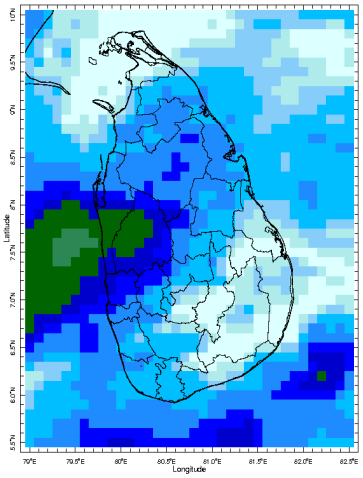


22 May 2024



23 May 2024



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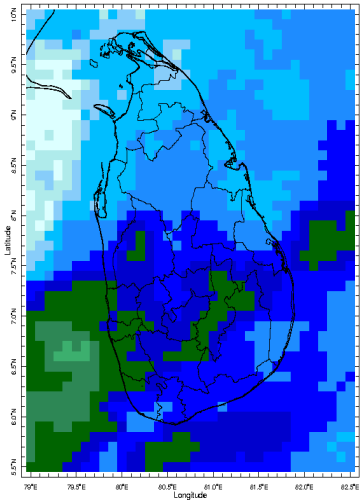

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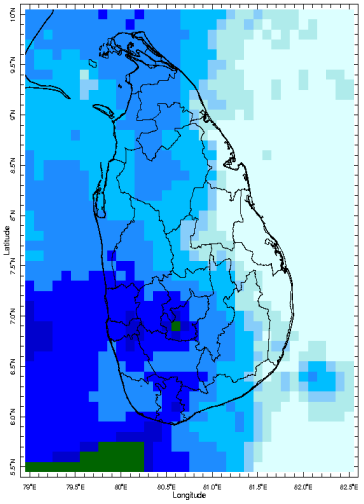
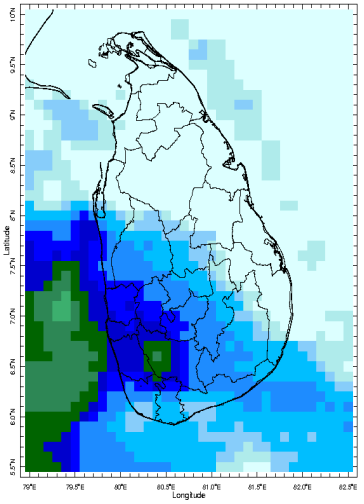
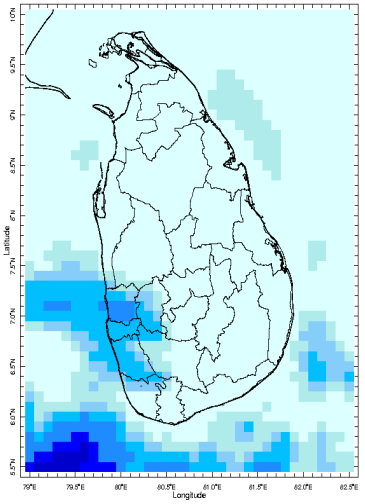


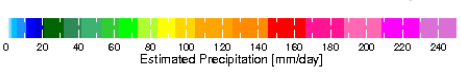
26 May 2024



27 May 2024

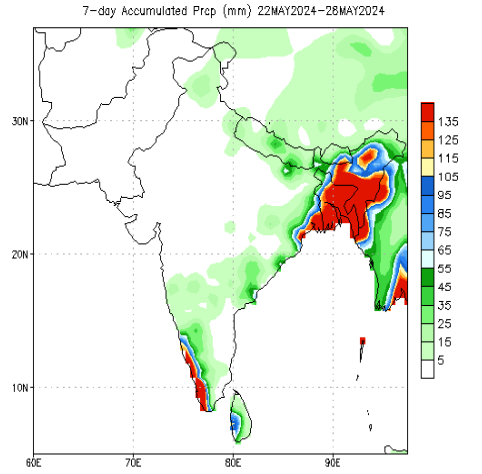


28 May 2024

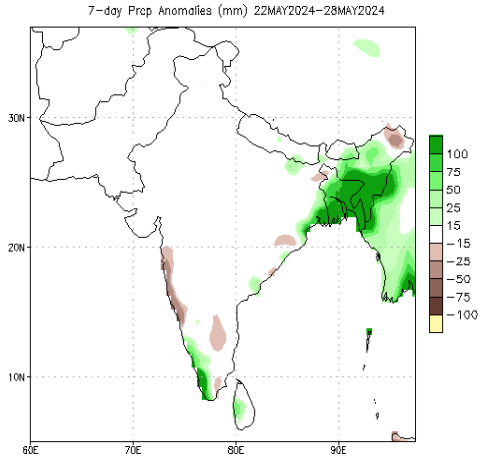


Weekly Rainfall Monitoring

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.



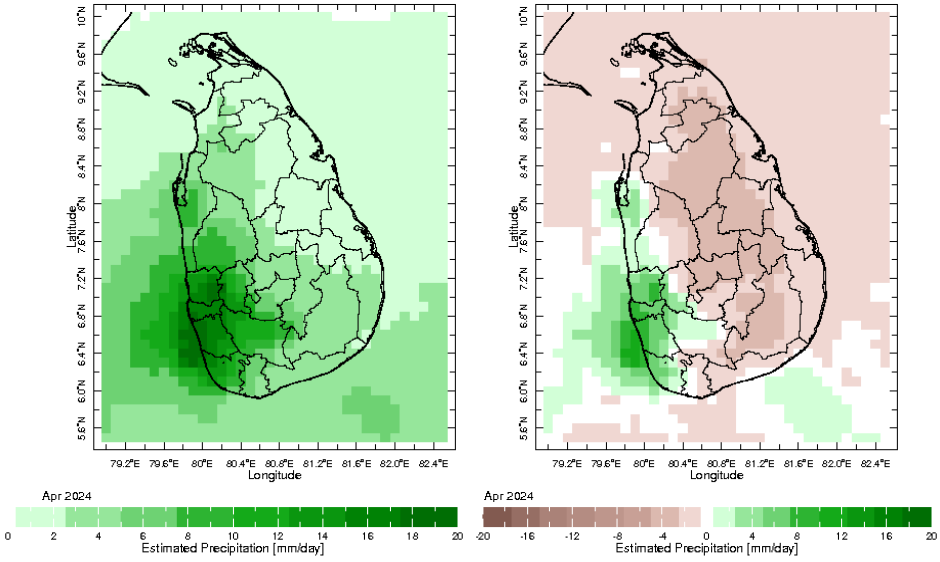
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



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

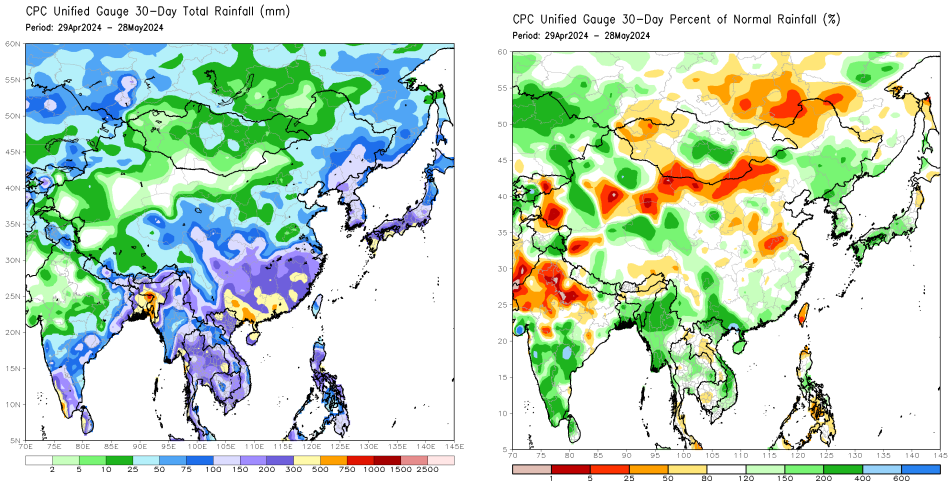
Monthly Rainfall Monitoring

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

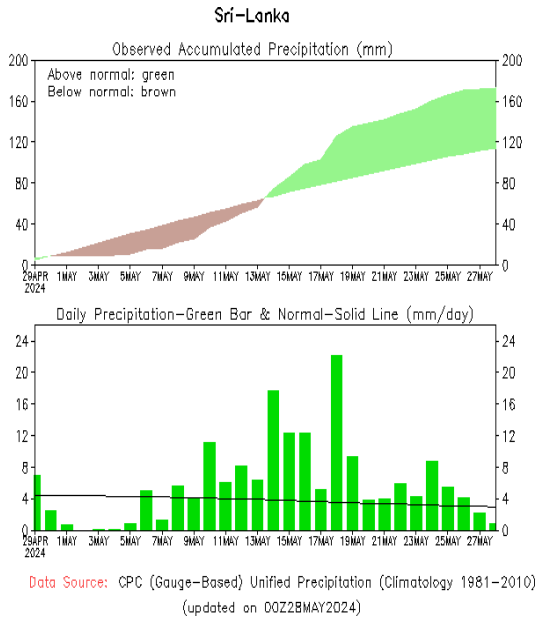


Monthly Average **Monthly Anomaly**

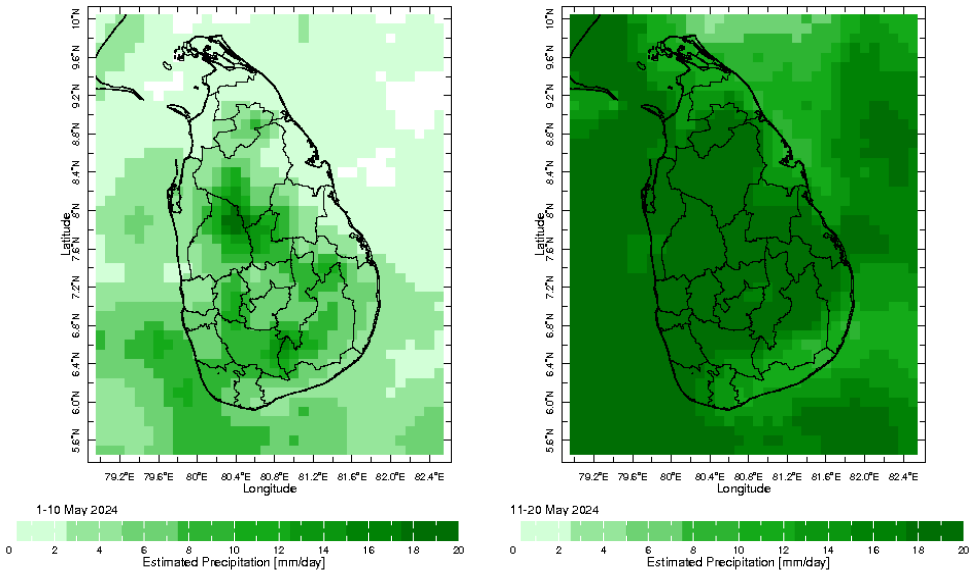
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



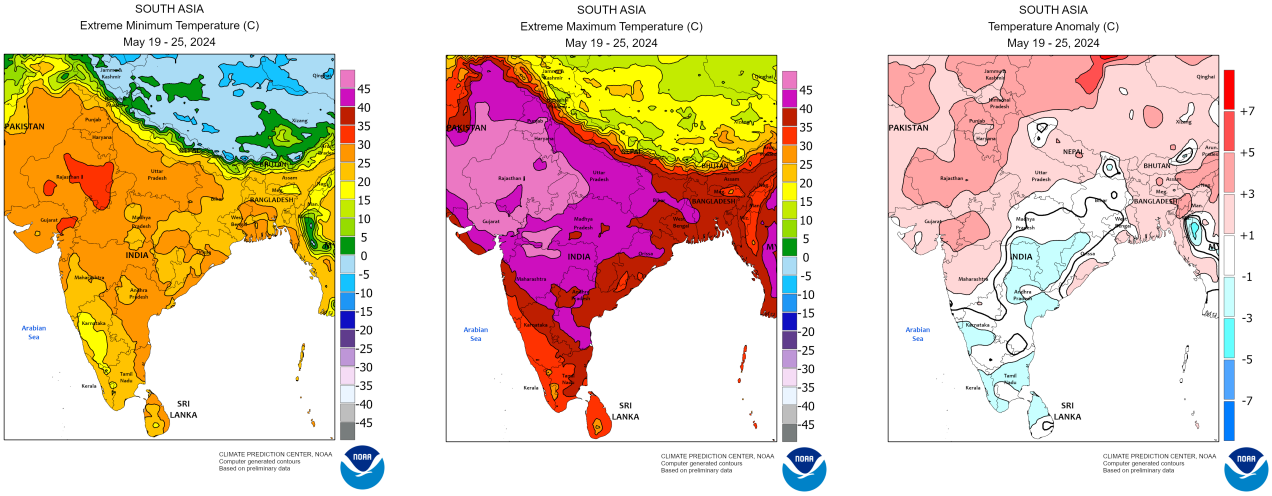
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

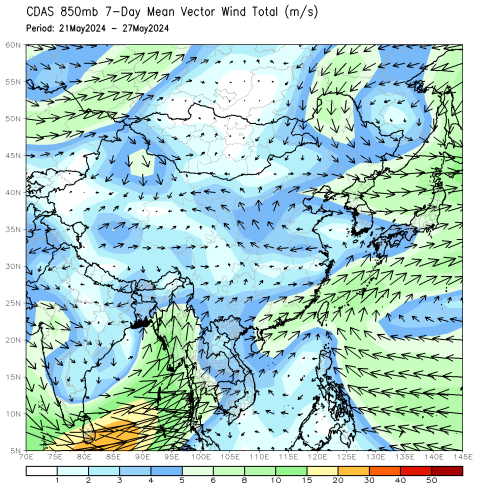


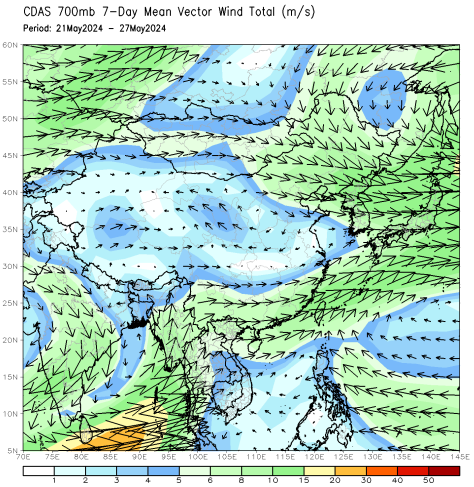
Weekly Temperature Monitoring



Weekly Wind Monitoring

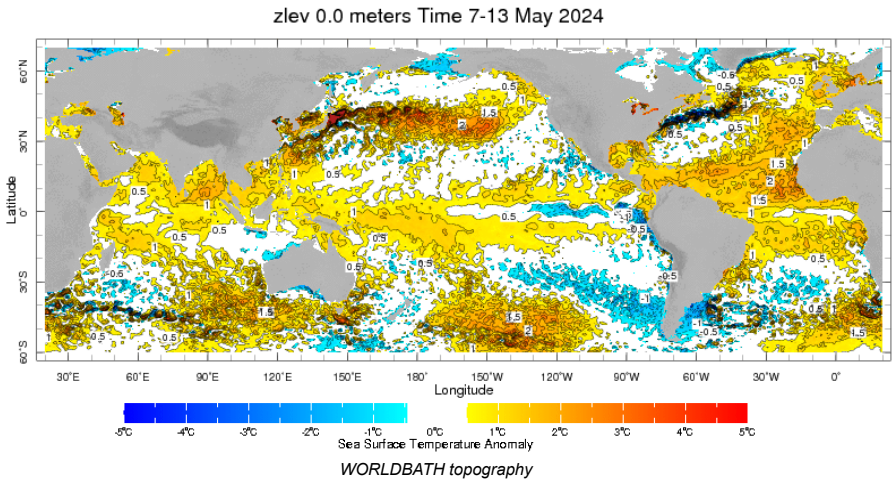
The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.



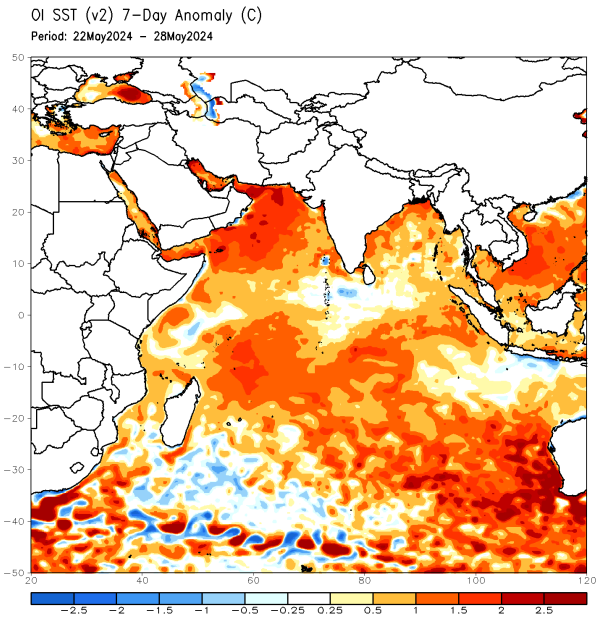


Weekly Average SST Anomalies

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

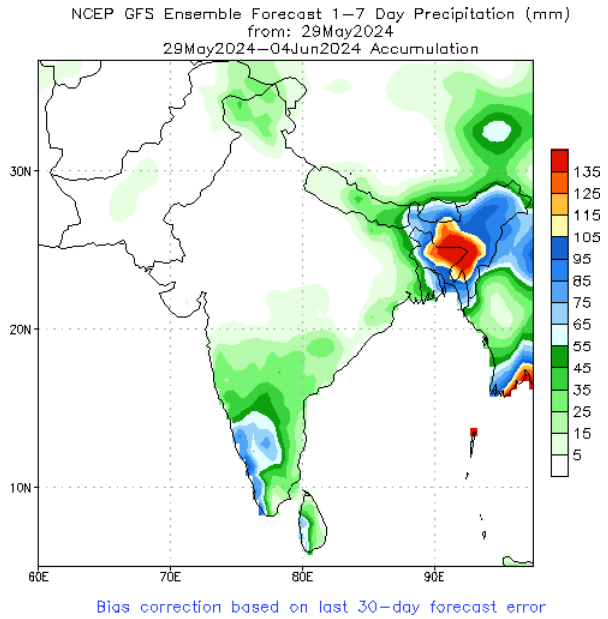


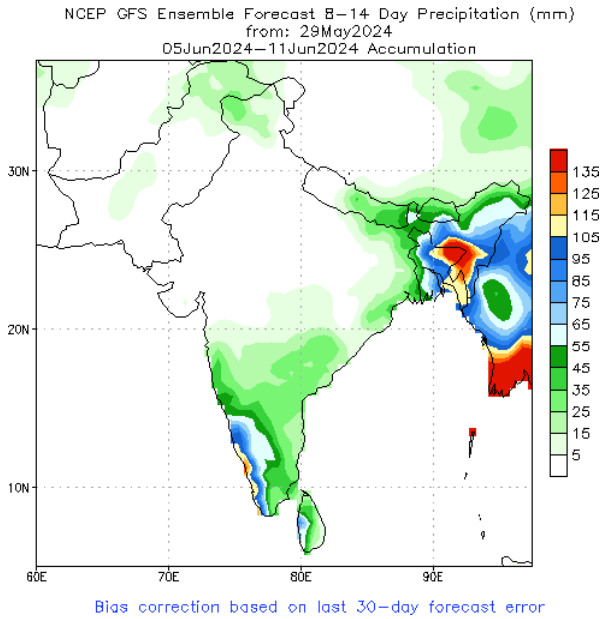
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



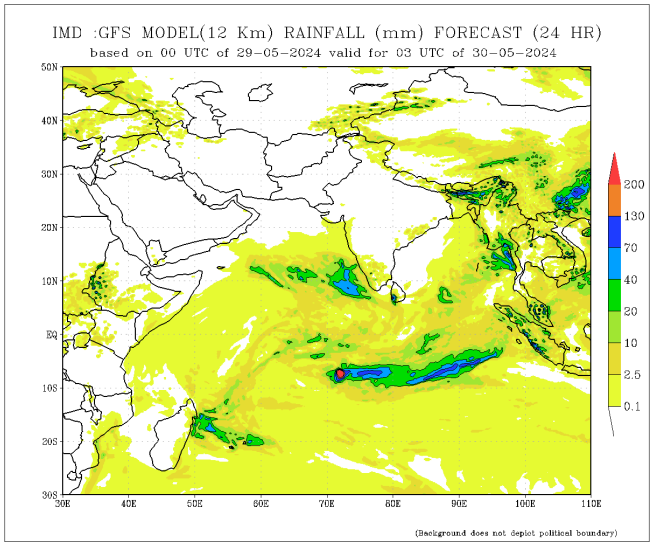
PREDICTIONS

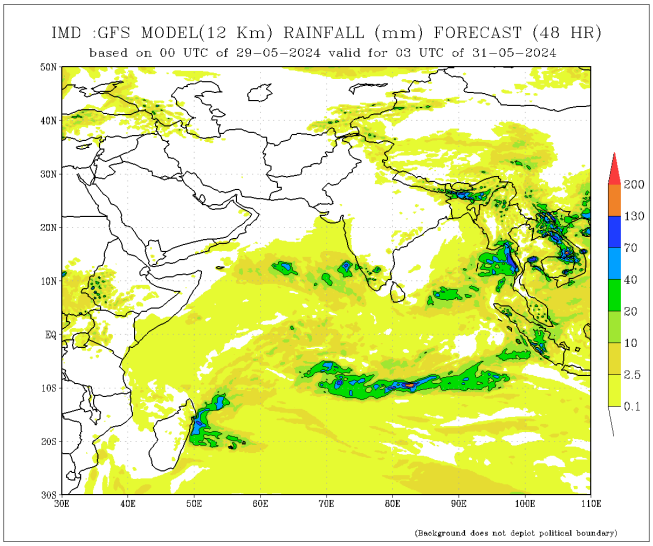
NCEP GFS 1- 14 Day prediction

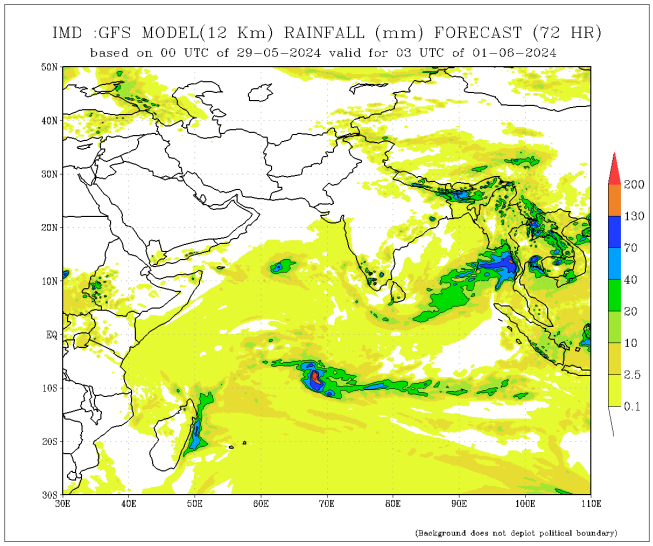


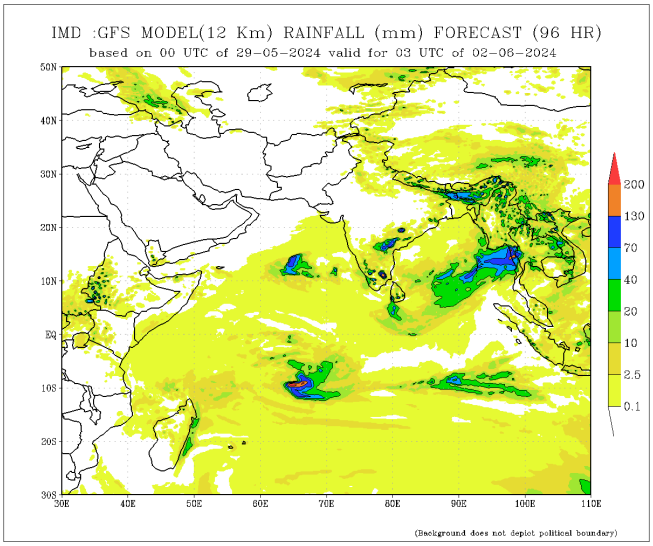


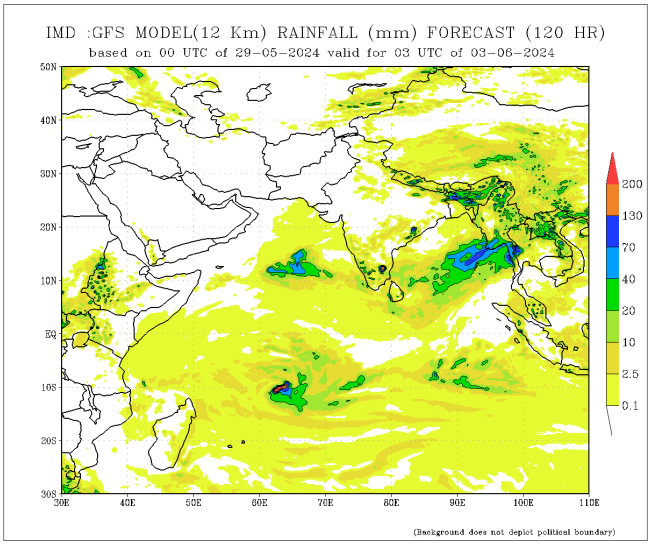
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

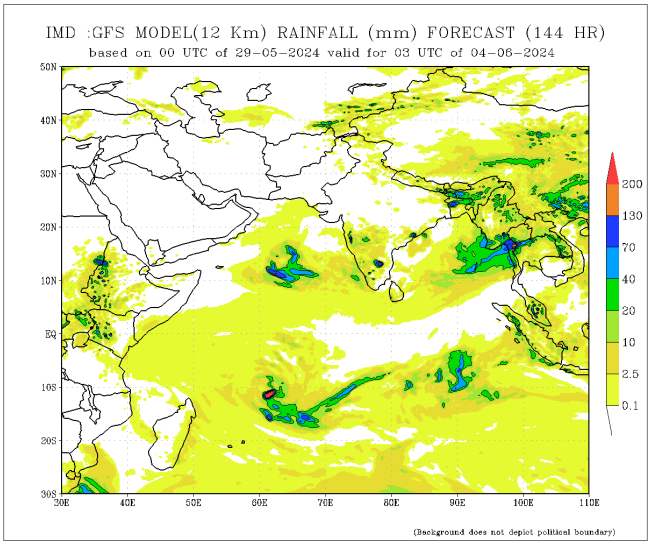


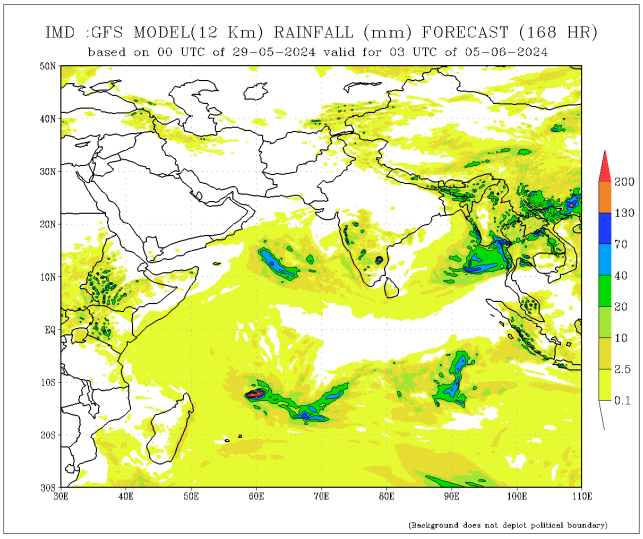






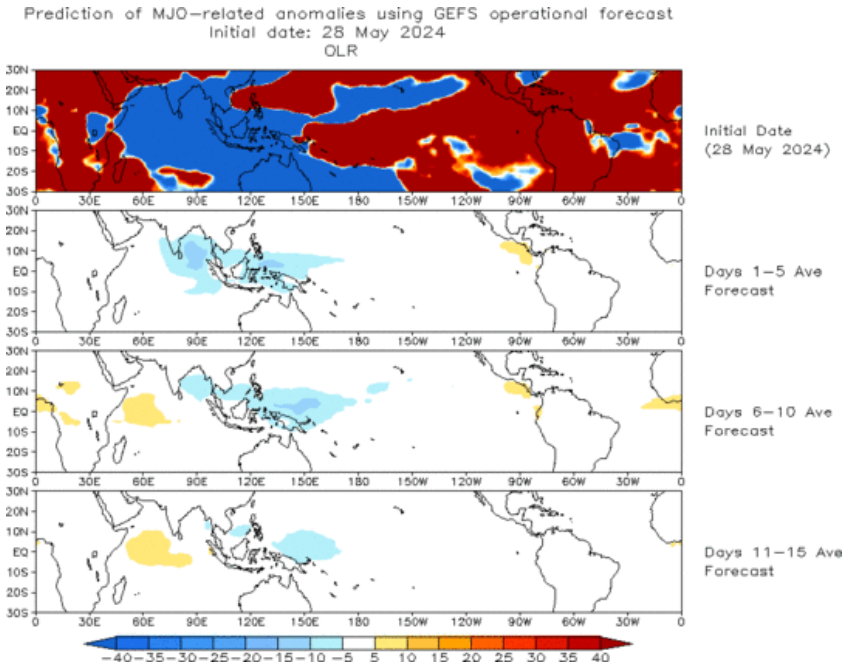






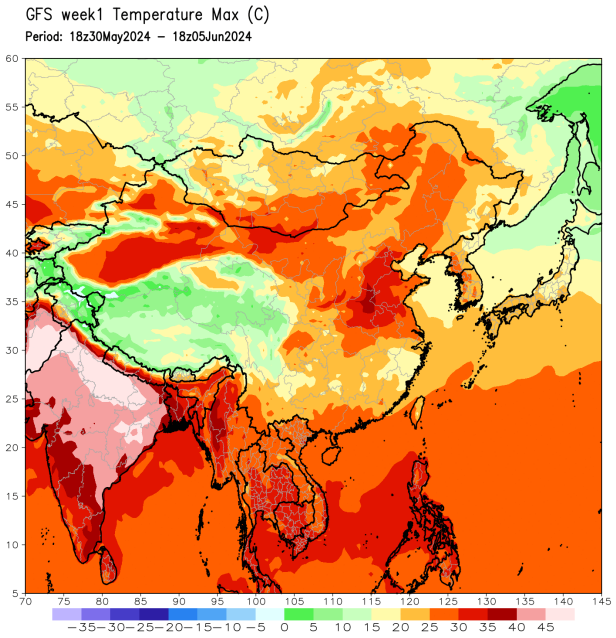
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

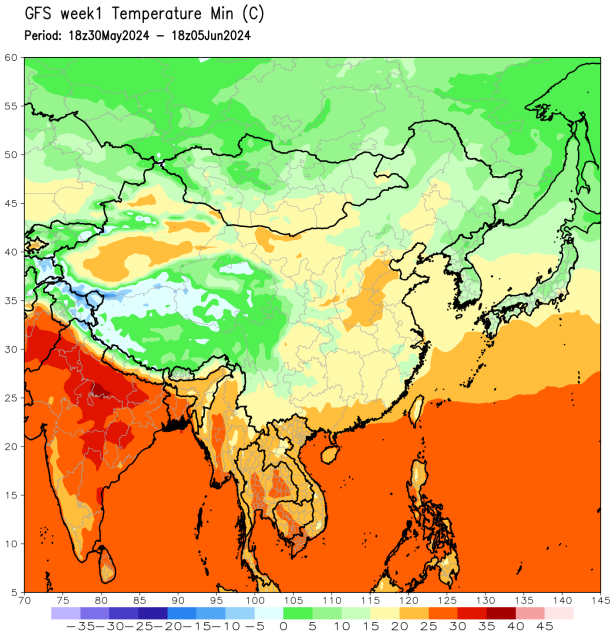
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

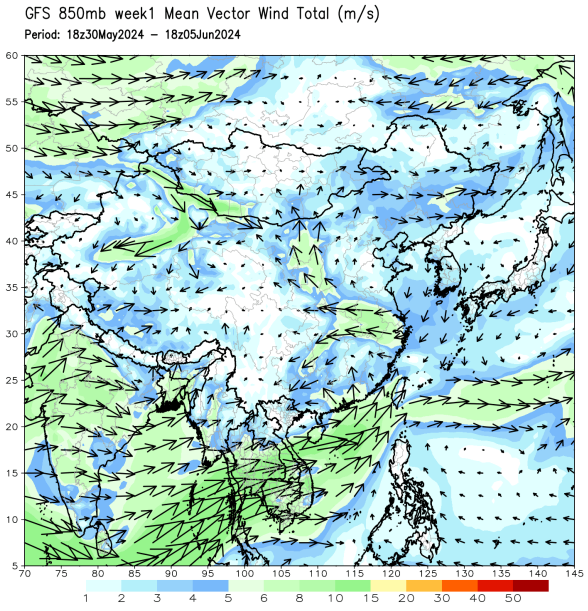
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

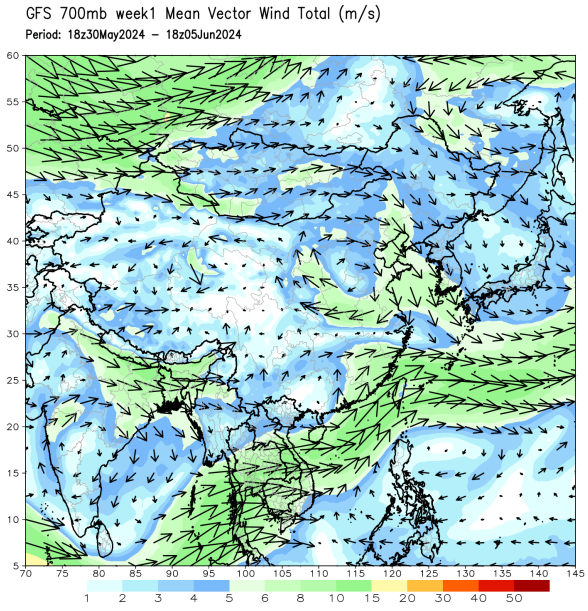




Weekly Wind Forecast

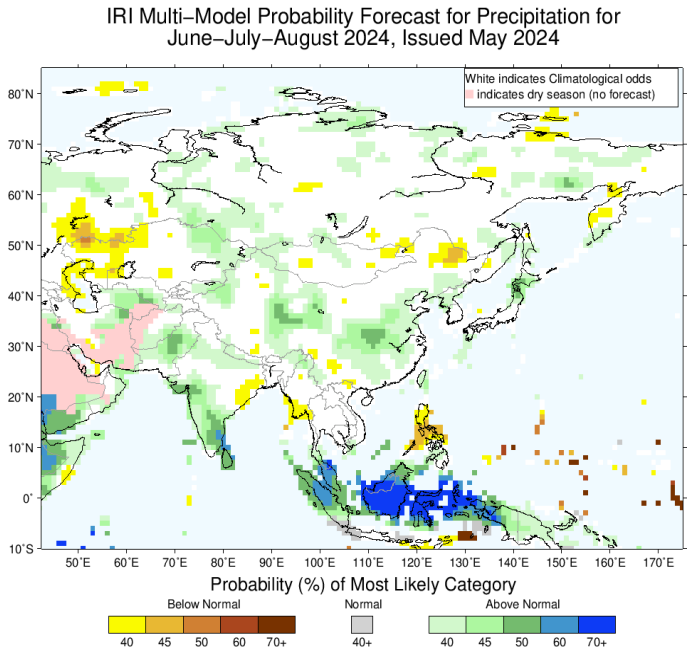
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



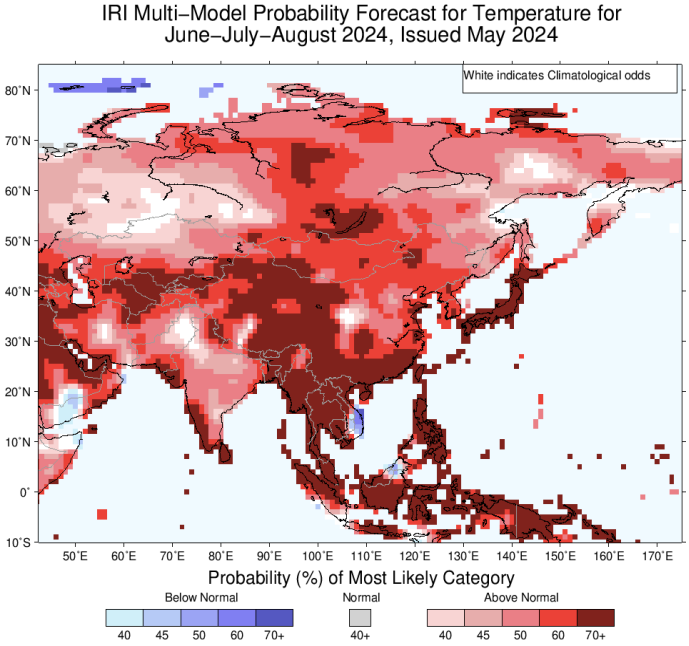


Seasonal Rainfall and Temperature Forecast

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%).



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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