

Week of
29 April - 6 May
2022

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction



- Up to 55 - 85 mm Fairly heavy rainfall is expected in Sabaragamuwa, Western, Southern, Northern, North Central, North Western & Central provinces during 29th April - 3rd May.

Monitored Rainfalls



- During the last week, average daily rainfall over Sri Lanka was 4.1 mm and hydro catchment areas have received up to 6.3 mm on average.

Monitored Wind



- From 18th - 24th April, up to 1 - 4 m/s South-westerlies & variable winds were experienced over the Island.

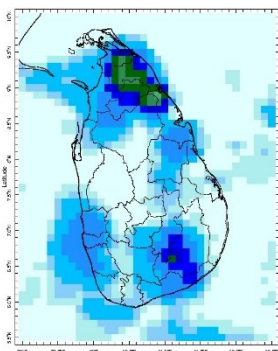
Monitored Sea Surface



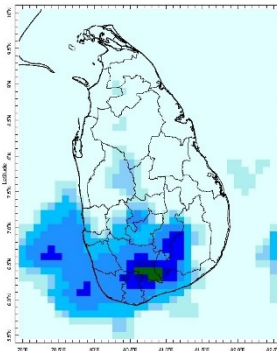
- Sea surface temperature was above 0.5 °C to the north of SL. land temperatures remain around Normal, unlike the sweltering heat in Indian sub-continent.

Monitoring Rainfall

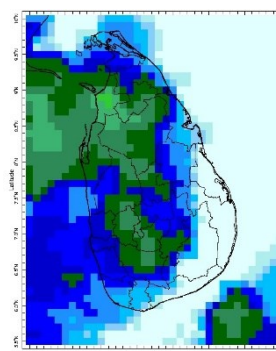
Daily Estimates for Rainfall from 19th – 26th April 2022



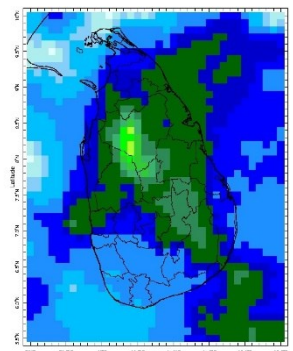
19 April



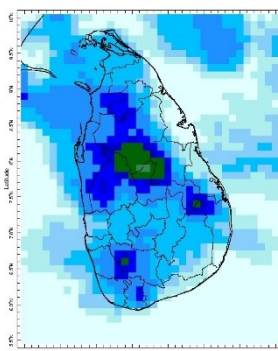
20 April



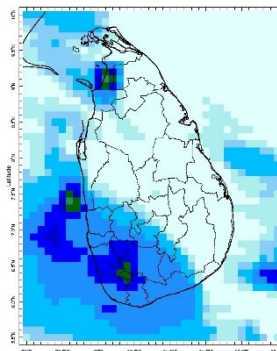
21 April



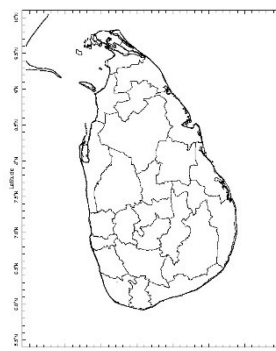
22 April



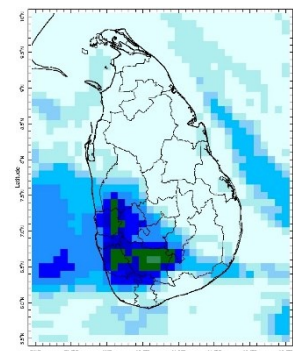
23 April



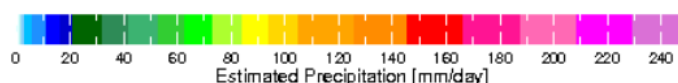
24 April



25 April



26 April



Estimated Precipitation [mm/day]



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: April 20, 2022

Equatorial sea surface temperatures (SSTs) are below average across the most of the Pacific Ocean in mid-April. The tropical Pacific atmosphere is consistent with La Niña. A large majority of the models indicate La Niña is favored to continue into the Northern Hemisphere summer.

Indian Ocean State

Sea surface temperature was above 0.5°C to the north of Sri Lanka. A La Niña pattern is prevalent in the Pacific Ocean but not in the Indian Ocean.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 27th April – 3rd May:

Total rainfall by Provinces:

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

From 4th – 10th May:

Total rainfall by Provinces:

Rainfall	Provinces
135 mm	Western
125 mm	Sabaragamuwa
115 mm	Southern
105 mm	Central
95 mm	North Western, Uva, Northern, North Central
65 mm	Eastern

MJO based OLR predictions

For the next 15 days:

MJO shall slightly enhance the rainfall during 29th April - 6th May and moderately enhance during 7th – 11th May.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been heavy rainfall over the following area: Galle
Daily Average Rainfall in the Met stations for previous week of (19th - 26th April) = 4.1 mm
Rmax: 63.9 mm & Rmin: 0.0 mm.

Region	Average rainfall for the Last 8 days
Northern Plains	2.5 mm
Eastern	0.8 mm
Western	8.2 mm
Southern Plains	5.8 mm

The Hydro Catchment Areas recorded 6.3 mm of average rainfall for the last week

Rmax: 59 mm & Rmin: 0 mm.

Wind: South-westerly (and variable in direction) winds prevailed in the sea area surrounding the island last week.

Temperatures: The temperature anomalies were near neutral for the country, driven by the warm SST's.

Predictions

Rainfall: During the next week (29th April- 3rd May) fairly heavy rainfall is predicted for the Western, Sabaragamuwa, Southern, Northern, North Central, North Western and Central provinces.

Temperatures: The temperature remains slightly below normal in the central and Uva provinces and above normal in the northern province during 29th April - 6th May.

Teleconnections:

La Nina - The SST forecast indicates that La Niña is favored to continue into the Northern Hemisphere summer (June-August 2022).

MJO shall slightly enhance the rainfall during 29th April - 6th May and moderately enhance during 7th – 11th May.

Seasonal Precipitation:

The precipitation forecast for the May-June-July season shows below-normal precipitation for the island, but above-normal precipitation for the northern province.

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.



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Weekly Climate Bulletin for Sri Lanka

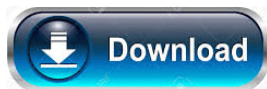
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2. Predictions

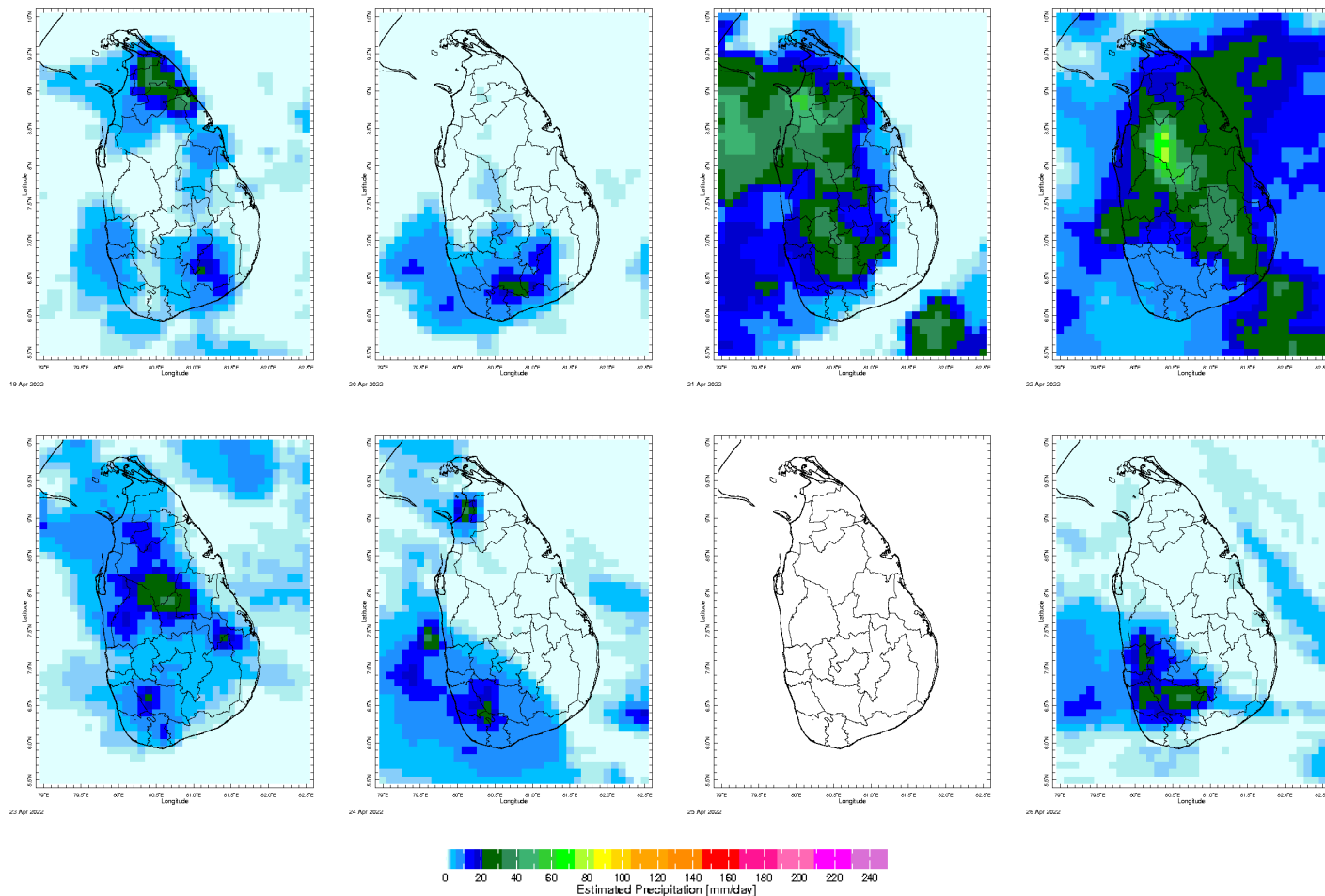
- NCEP GFS Ensemble 1-14 day Rainfall Predictions
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MONITORING

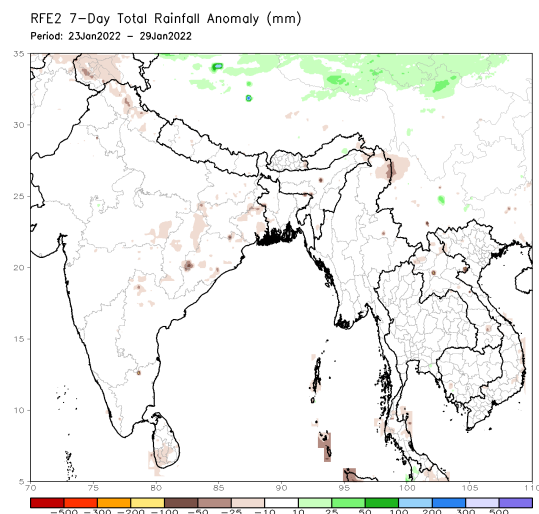
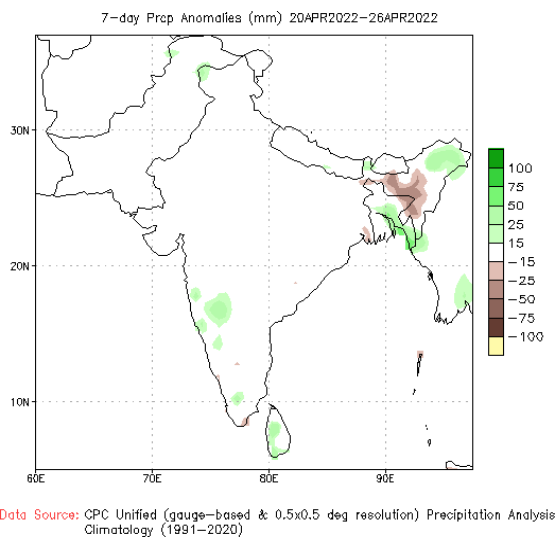
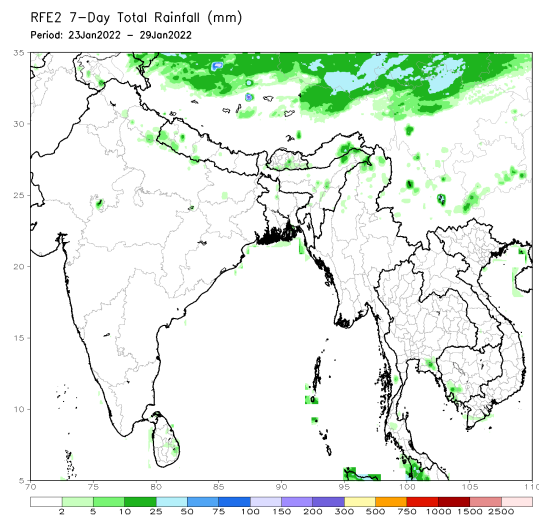
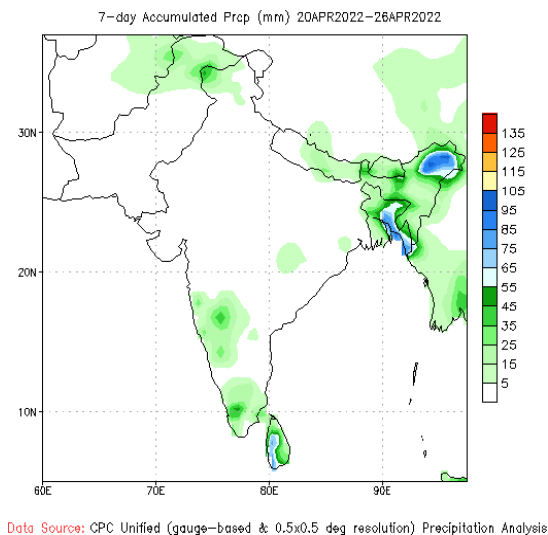
Daily Rainfall Monitoring

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



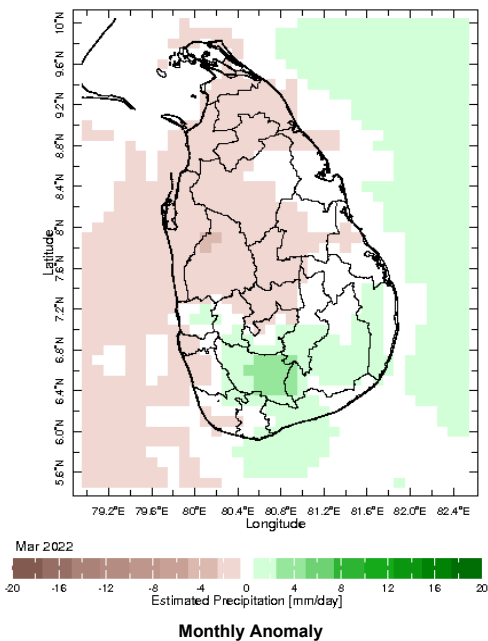
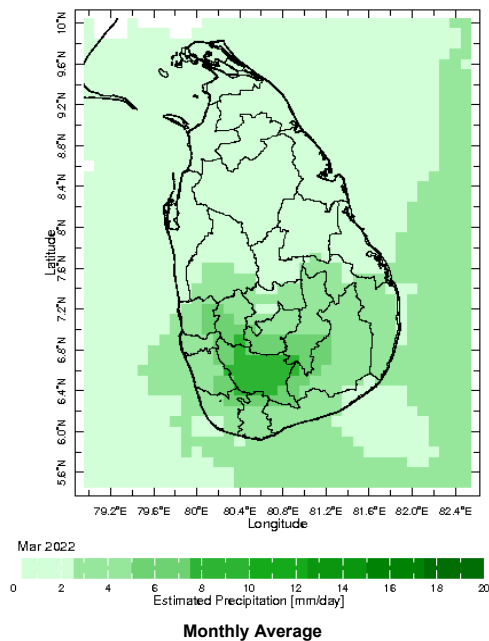
Weekly Rainfall Monitoring

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.

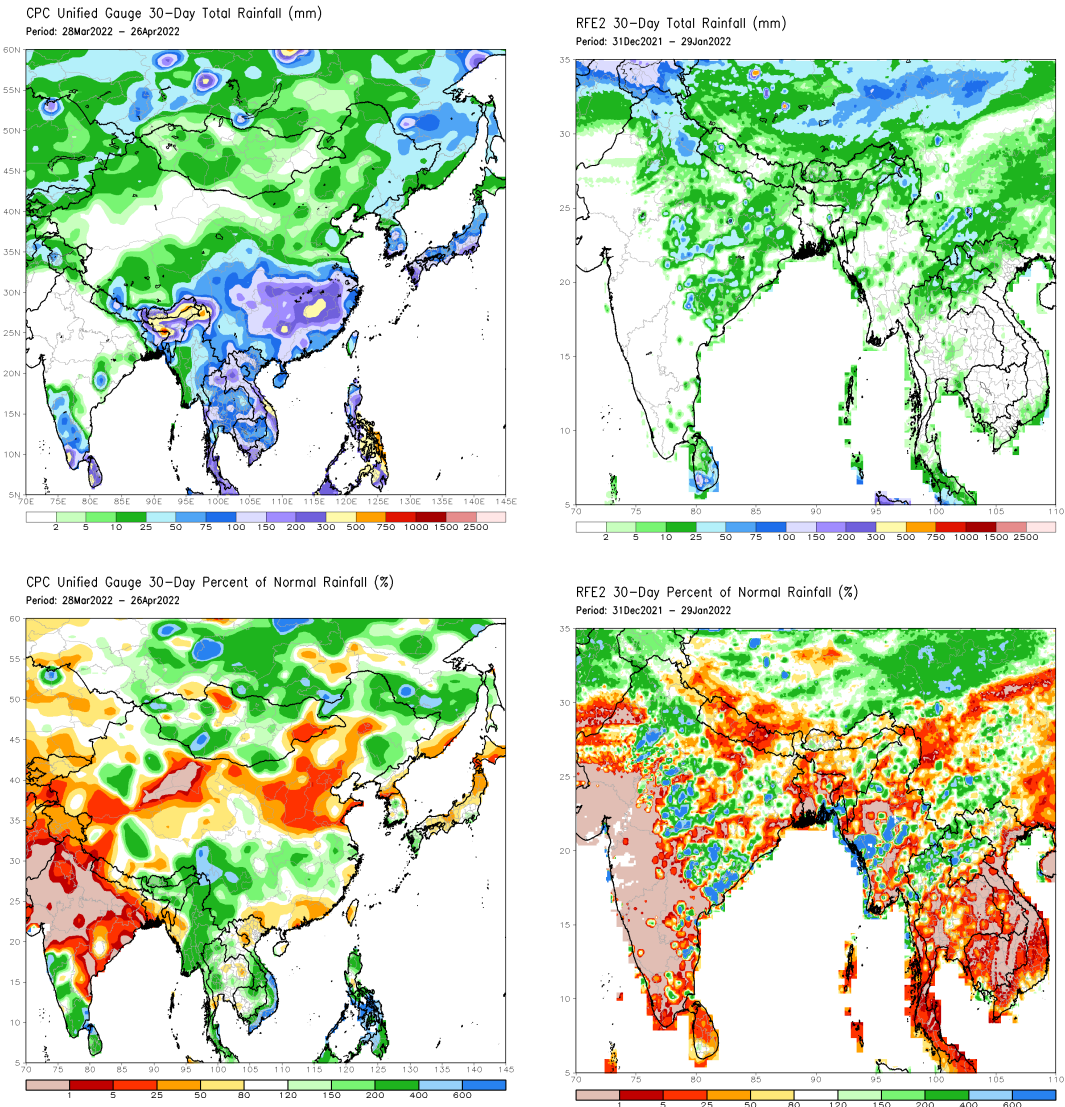


Monthly Rainfall Monitoring

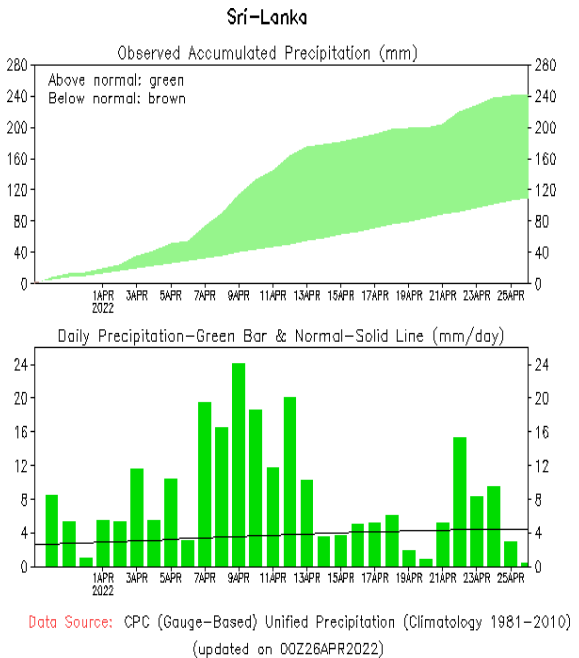
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



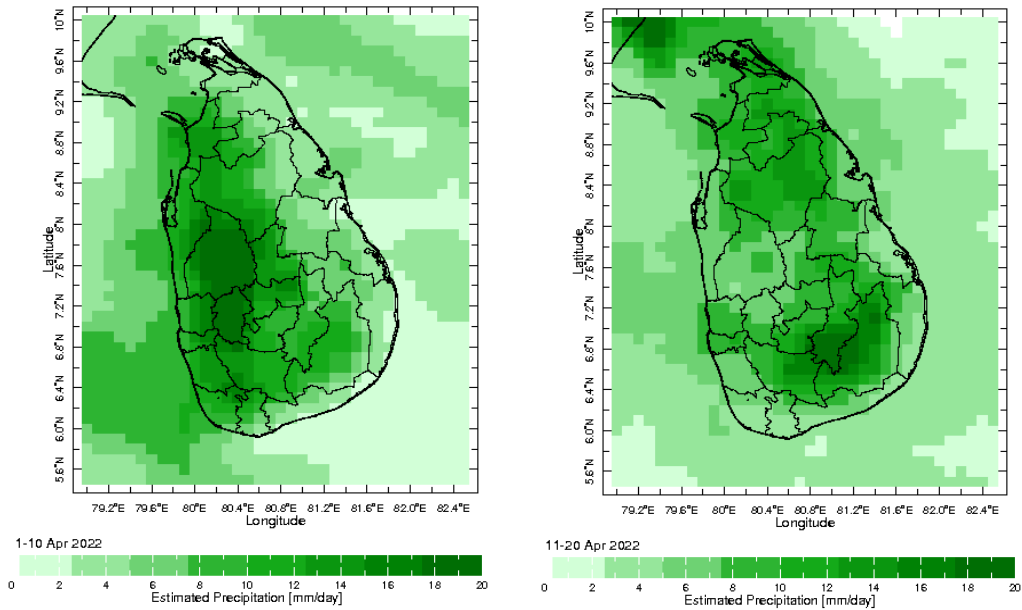
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



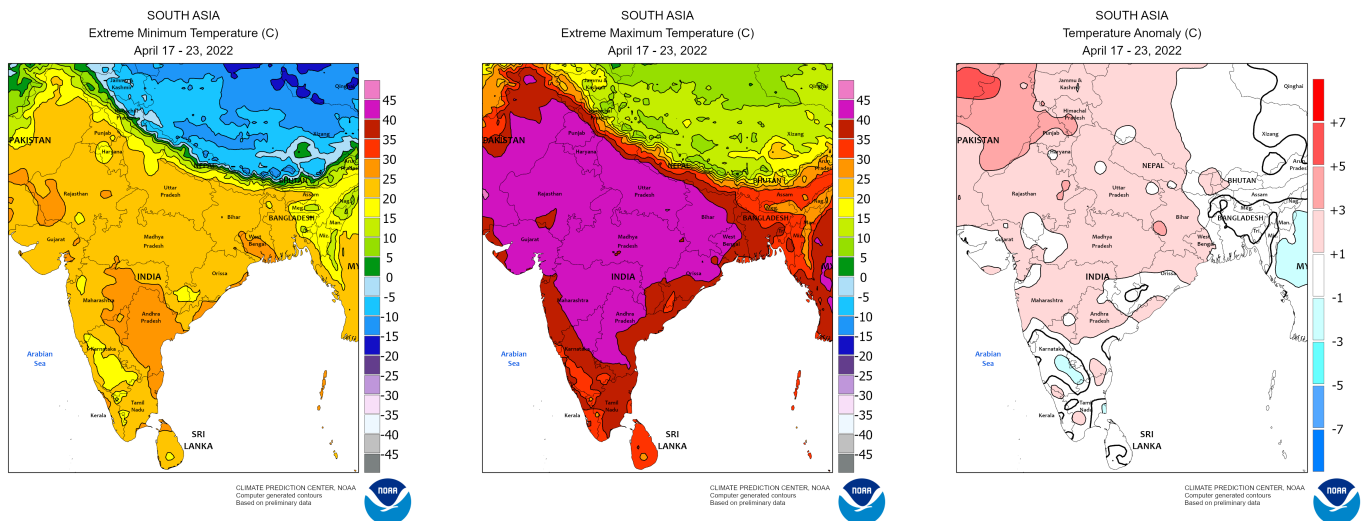
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

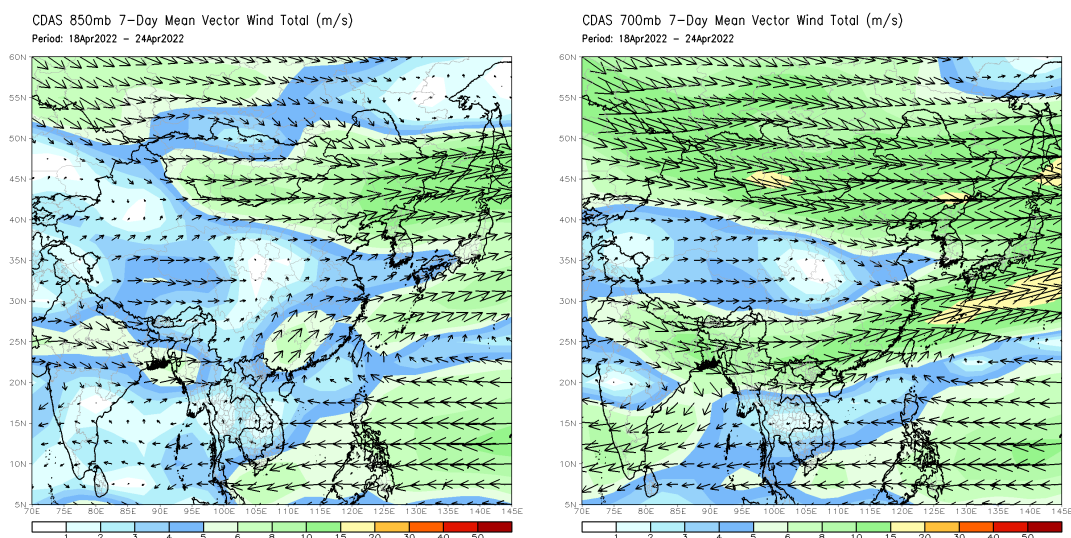


Weekly Temperature Monitoring



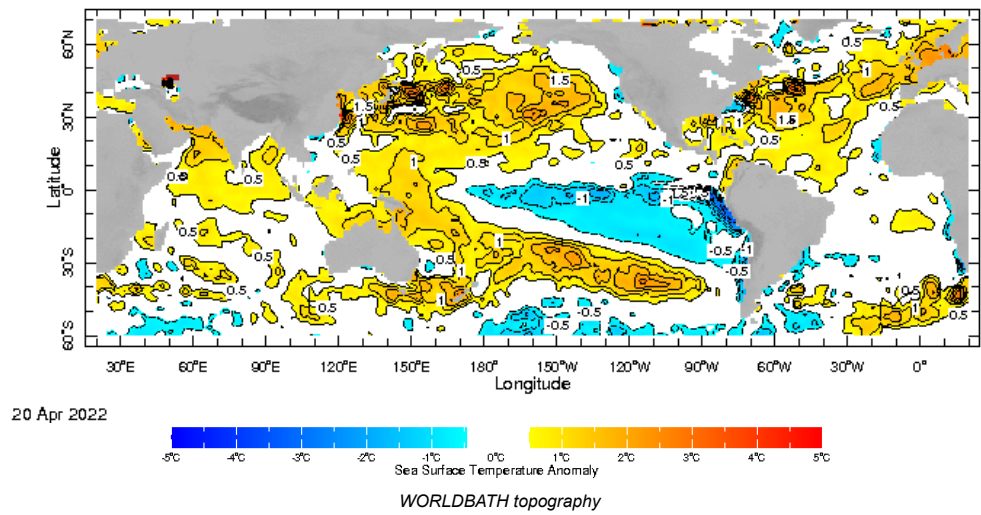
Weekly Wind Monitoring

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.

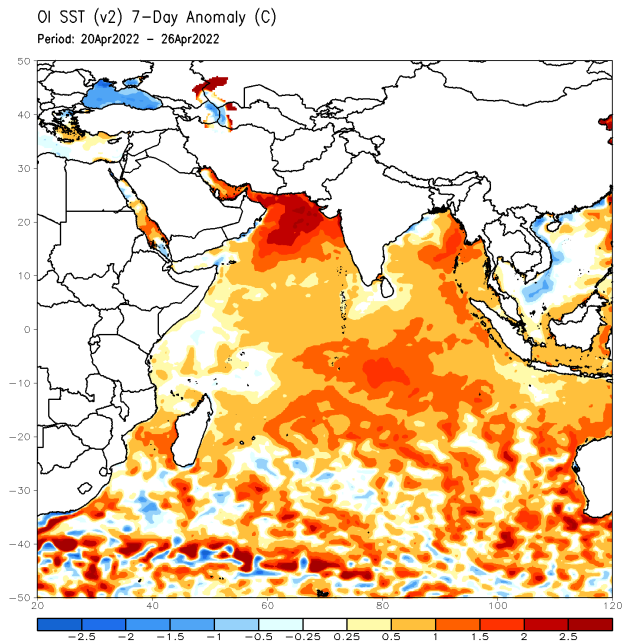


Weekly Average SST Anomalies

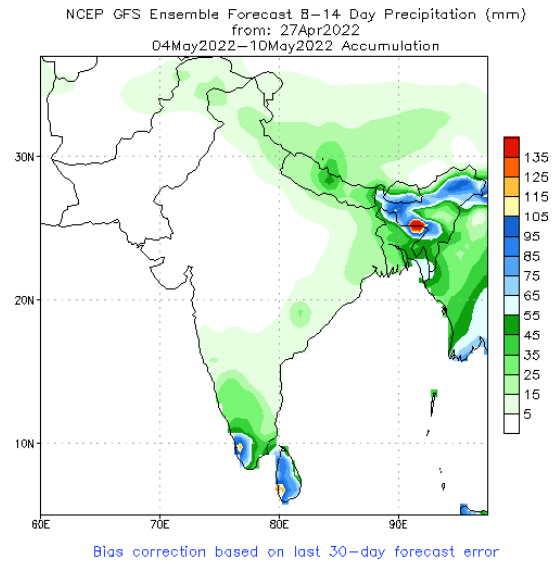
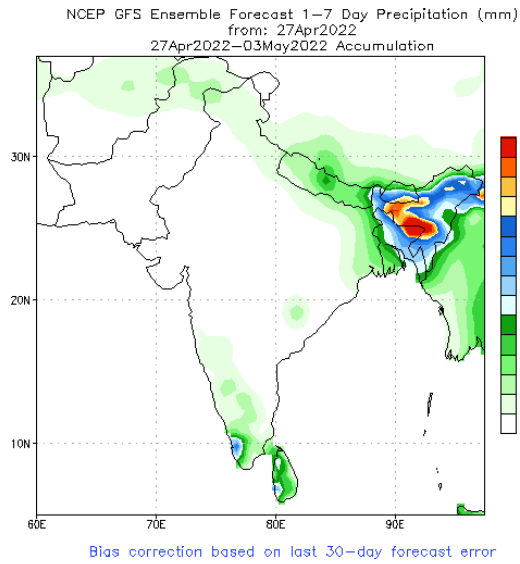
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



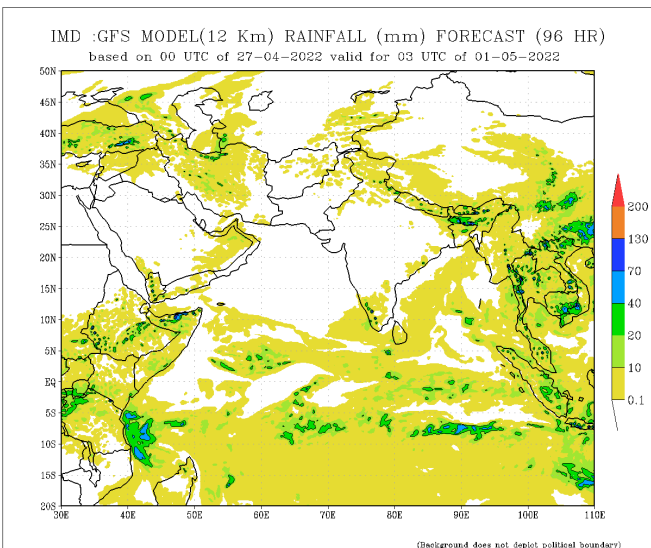
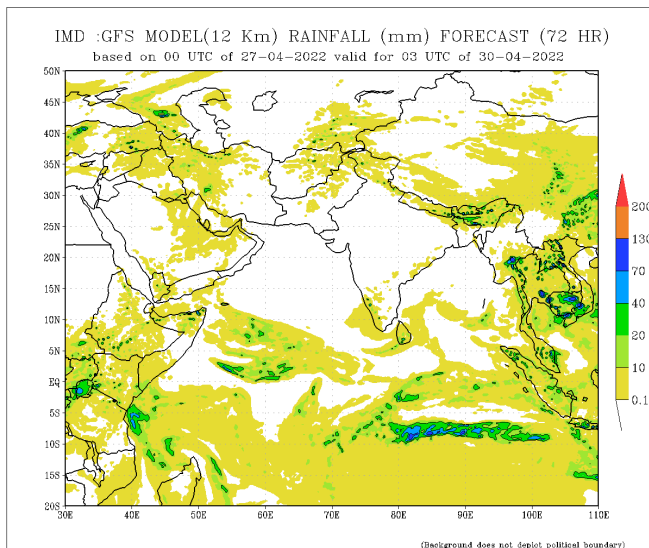
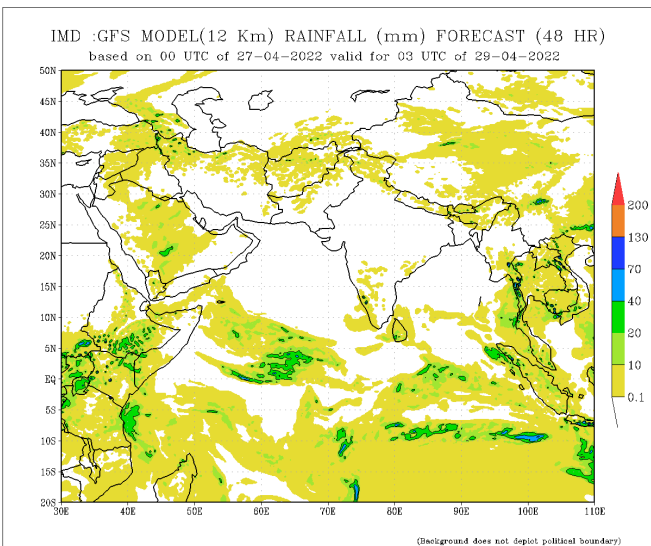
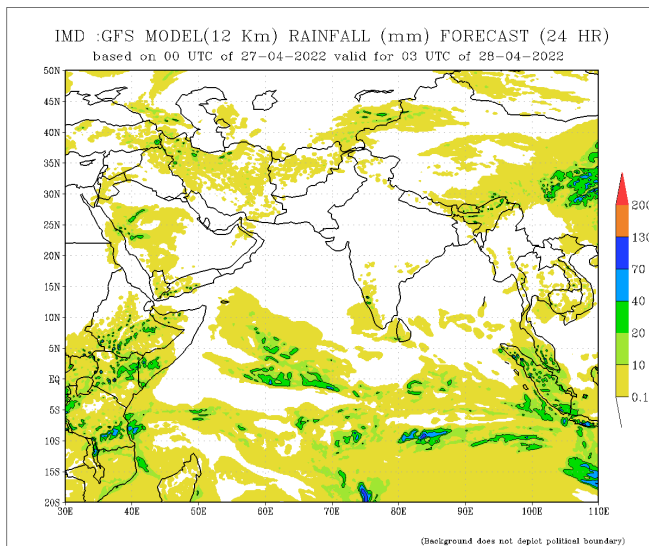
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

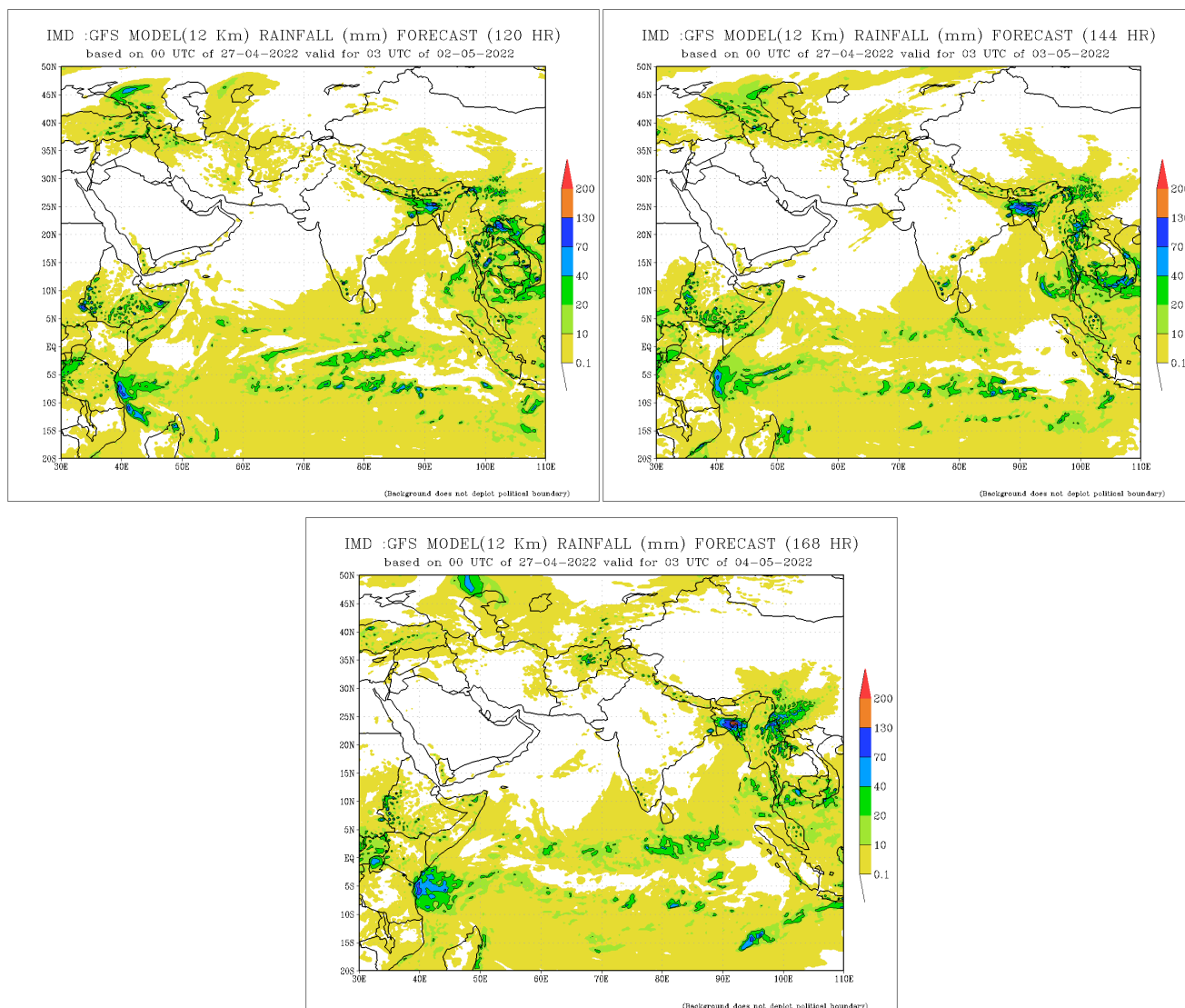


NCEP GFS 1- 14 Day prediction



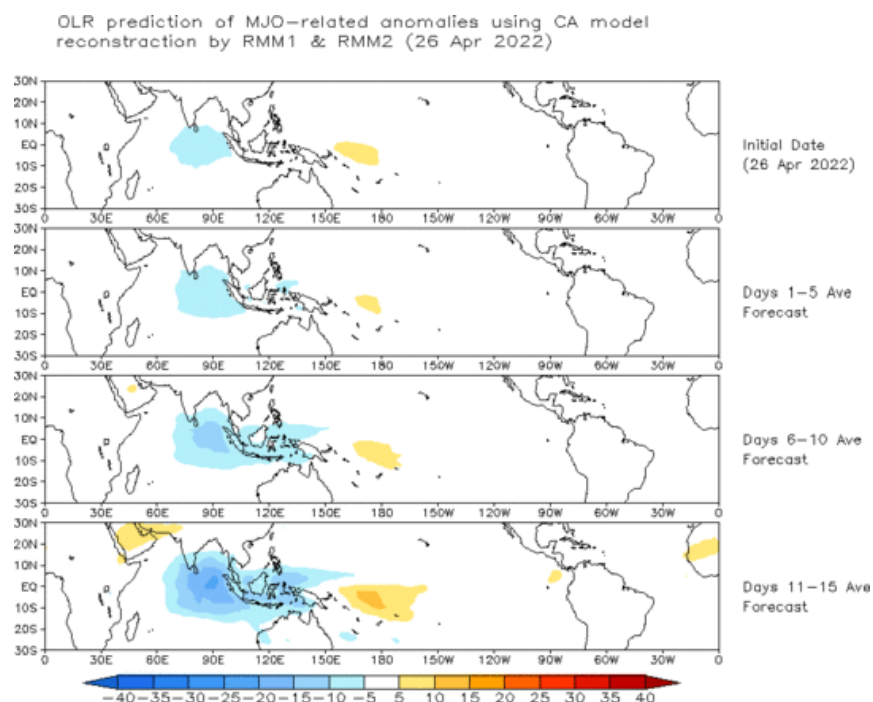
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





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.

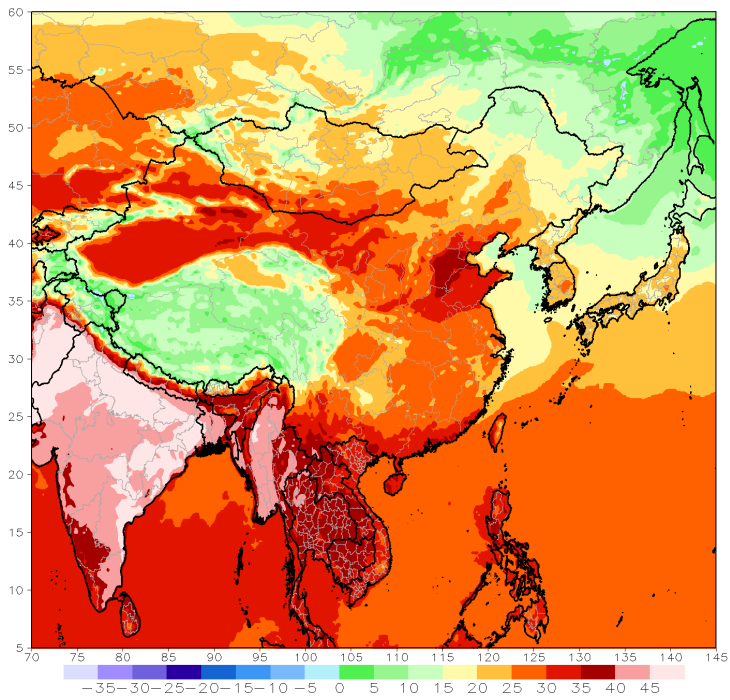


Weekly Temperature Forecast

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

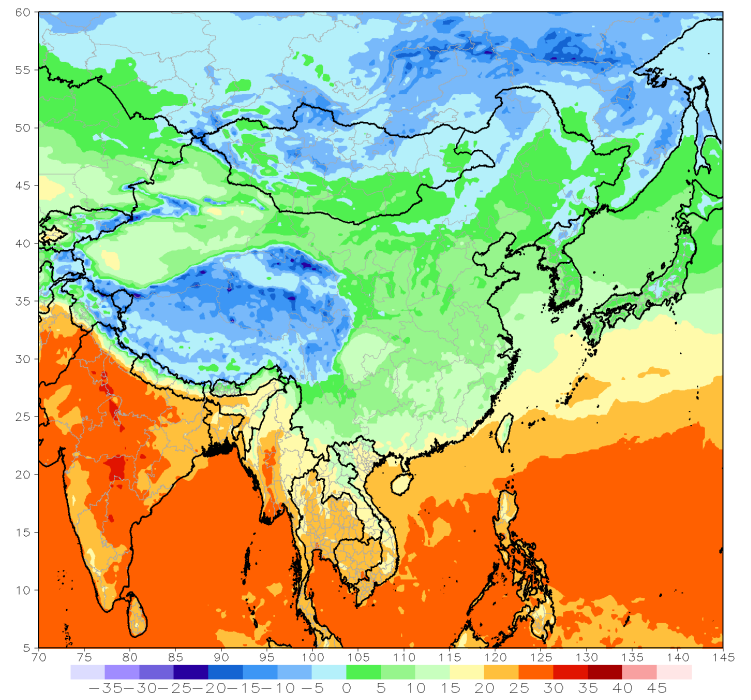
GFS week1 Temperature Max (C)

Period: 18z28Apr2022 – 18z04May2022



GFS week1 Temperature Min (C)

Period: 18z28Apr2022 – 18z04May2022

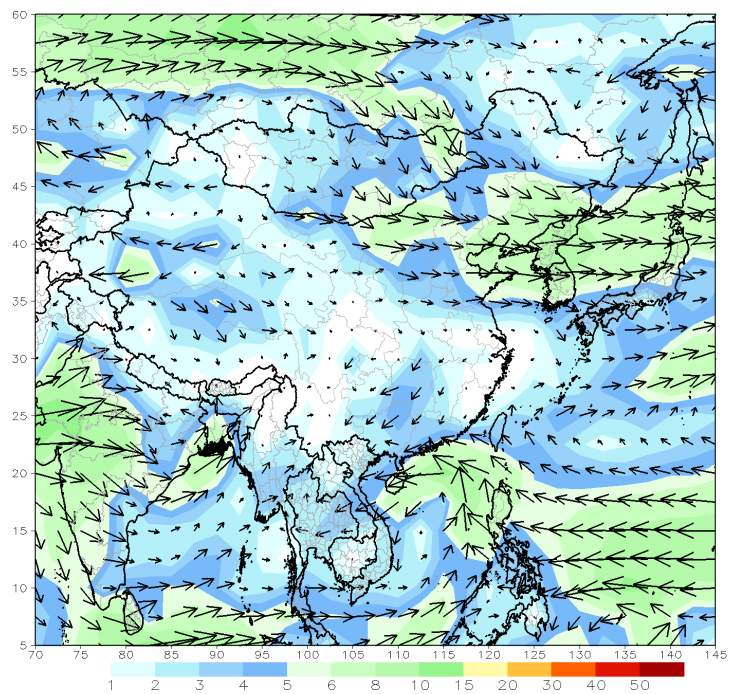


Weekly Wind Forecast

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

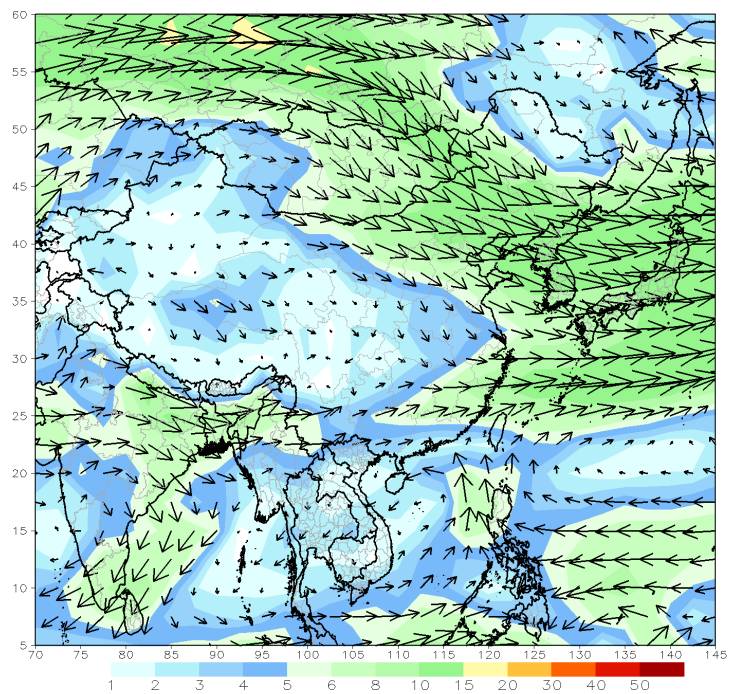
GFS 850mb week1 Mean Vector Wind Total (m/s)

Period: 18z28Apr2022 – 18z04May2022



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

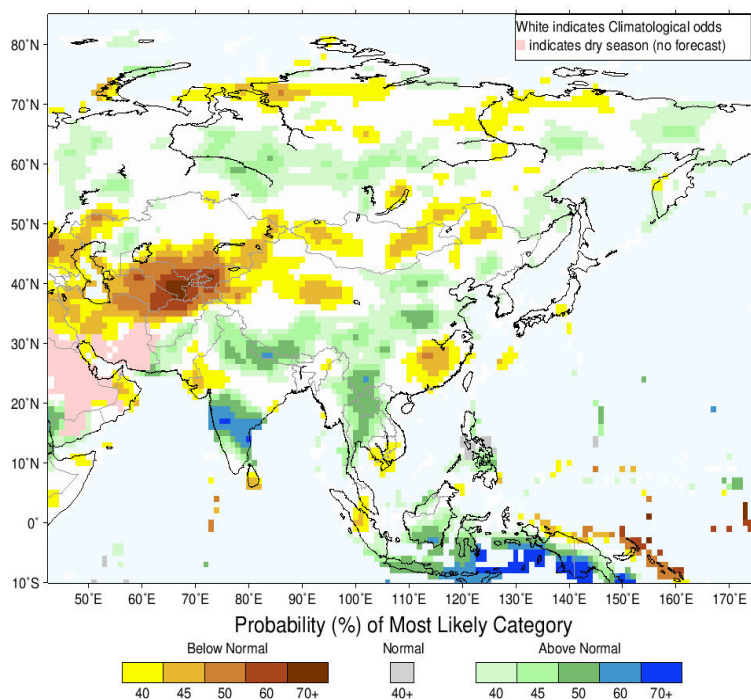
Period: 18z28Apr2022 – 18z04May2022



Seasonal Rainfall and Temperature Forecast

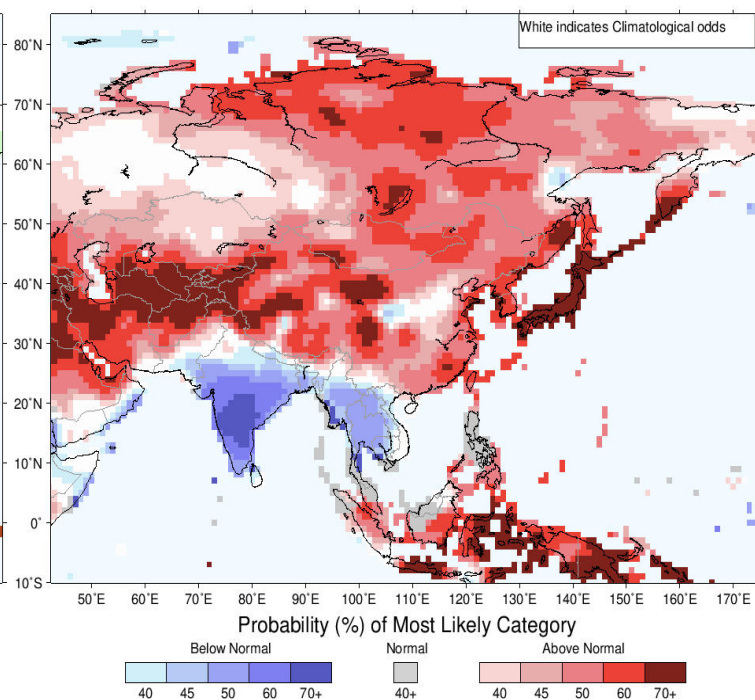
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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
May-June-July 2022, Issued April 2022



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for
May-June-July 2022, Issued April 2022



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 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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