

8 JULY 2022

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction



• Moderate rainfall (25mm-50mm) is predicted for the Colombo, Kalutara, Ratnapura, Galle and Matara districts. The rest of the country is expected to have less rainfall during 8th - 12th July.

Monitored Rainfalls



• During the last week, hydro catchment areas have received 14.5mm of rainfall on average. On July 2, nearly one-foot high waves flooded into the land along the Colombo-Matara main road due to rough seas.

Monitored Wind



• From 27th June - 3rd July, up to 15 m/s of westerly to south-westerly winds were experienced over the island.

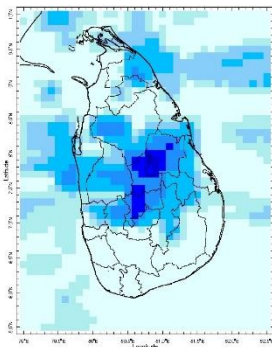
Monitored Sea & Land Temp



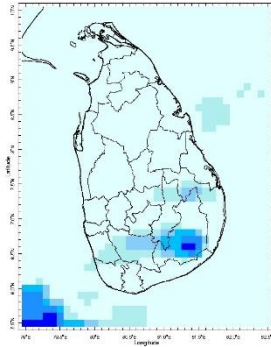
• Sea surface temperature was above average of 0.5°C around Sri Lanka. Land surface temperature remained near normal.

Monitoring Rainfall

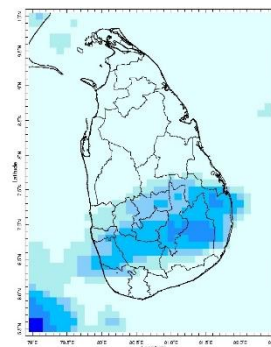
Daily Estimates for Rainfall from 28th June – 5th July 2022



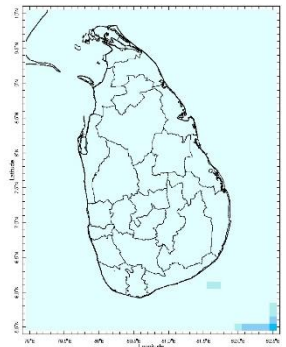
28 June



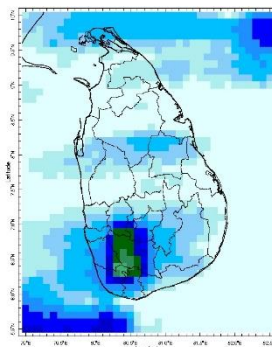
29 June



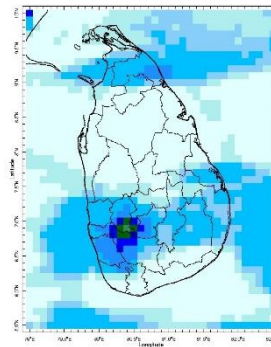
30 June



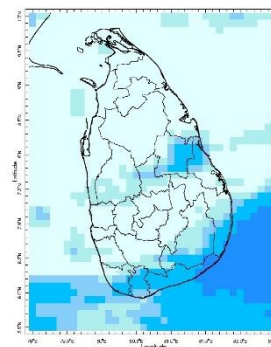
1 July



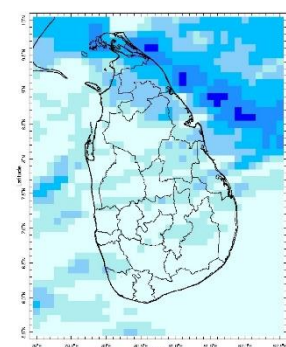
2 July



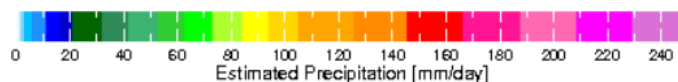
3 July



4 July



5 July



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: June 29, 2022

Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean in late-June. The tropical Pacific atmosphere is consistent with La Niña. A large majority of the models indicate, though La Niña is favored to continue through the end of the year, the odds for La Niña decrease into the Northern Hemisphere late summer before slightly increasing through the Northern Hemisphere fall and early winter 2022.

Indian Ocean State

Sea surface temperature was above average of 0.5°C around Sri Lanka.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 6th – 12th July:

Total rainfall by Provinces:

Rainfall	Provinces
35 mm	Southern, Sabaragamuwa
25 mm	Western, Eastern
15 mm	Northern
<10 mm	Uva, Central, North-central, North-western

From 13th – 19th July:

Total rainfall by Provinces:

Rainfall	Provinces
45 mm	Sabaragamuwa, Southern
35 mm	Western
25 mm	Uva, Central, North-western, Eastern
15 mm	North-central, Northern

MJO based OLR predictions

For the next 15 days:

MJO shall near neutral during 6th - 10th July; and slightly suppress the rainfall during 11th - 20th July.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (28th June - 5th July) = 1.5 mm
Rmax: 31.1 mm & Rmin: 0.0 mm.

Region	Average rainfall for the Last 8 days
Northern Plains	0.0 mm
Eastern	1.3 mm
Western	3.2 mm
Southern Plains	0.0 mm

The Hydro Catchment Areas recorded 14.5 mm of average rainfall for the last week

Rmax: 162.0 mm & Rmin: 0.0 mm.

Wind: Westerly to south-westerly prevailed in the sea area surrounding the island last week.

Temperatures: The temperature anomalies were above normal for southern half of the country and below normal for the north-central province, driven by the warm SST's.

Predictions

Rainfall: During the next week (8th - 12th July) moderate rainfall is predicted for the Colombo, Kalutara Ratnapura, Galle and Matara districts. The rest of the country is expected to have less rainfall.

Temperatures: The temperature remains above normal in the North-central, Uva and Eastern provinces during 8th – 13th July.

Teleconnections:

La Niña - Though La Niña is favored to continue through the end of the year, the odds for La Niña decrease into the Northern Hemisphere late summer (July-September 2022) before slightly increasing through the Northern Hemisphere fall and early winter 2022.

MJO shall near neutral during 6th - 10th July; and slightly suppress the rainfall during 11th - 20th July.

Seasonal Precipitation:

The precipitation forecast for the July-August-September season shows a higher tendency for above-normal precipitation for the Jaffna district, and for the rest of the districts there is a tendency to the neutral tercile.

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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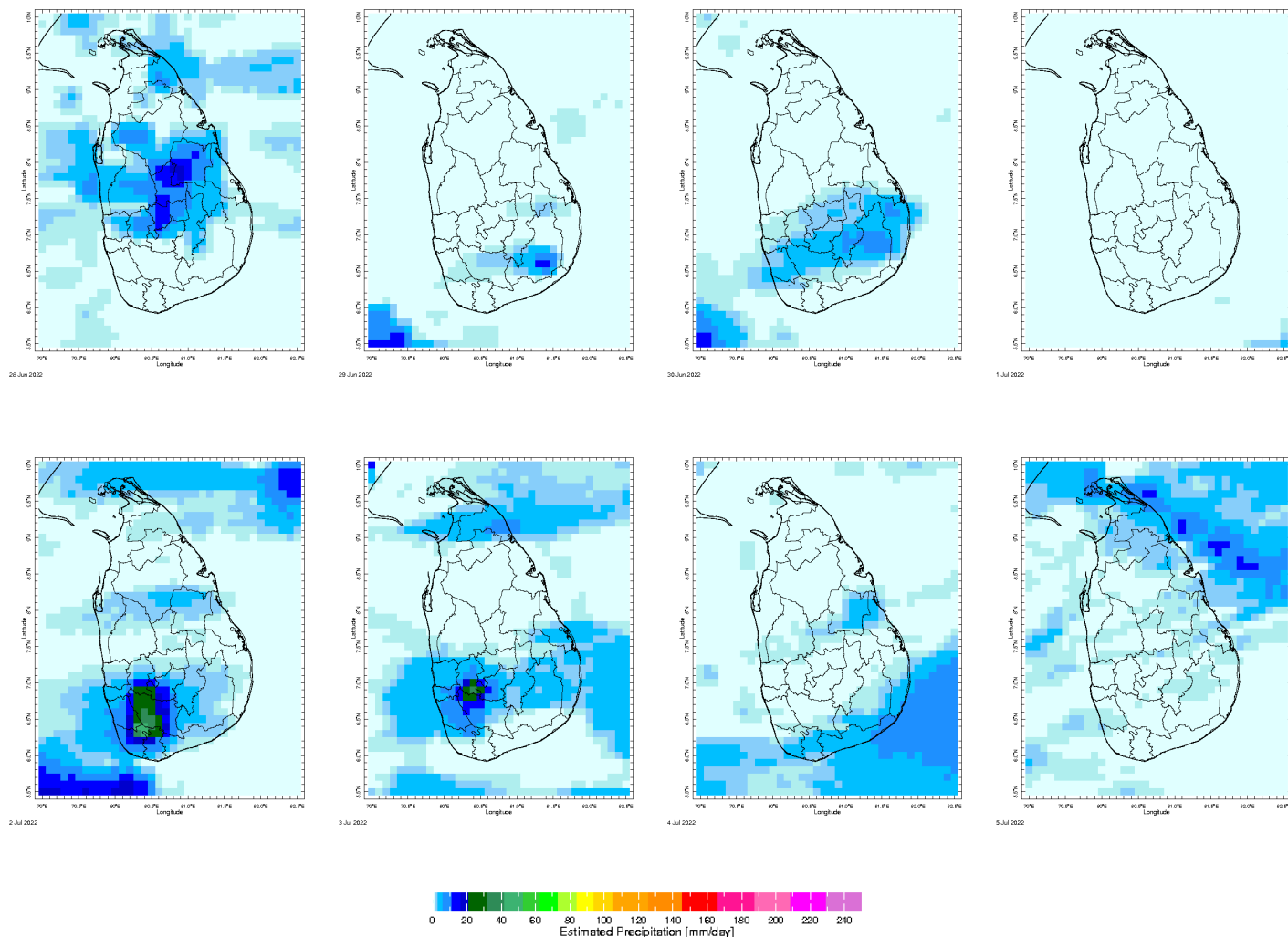
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MONITORING

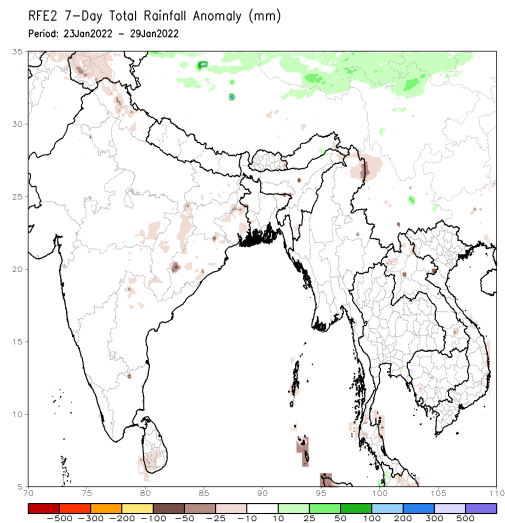
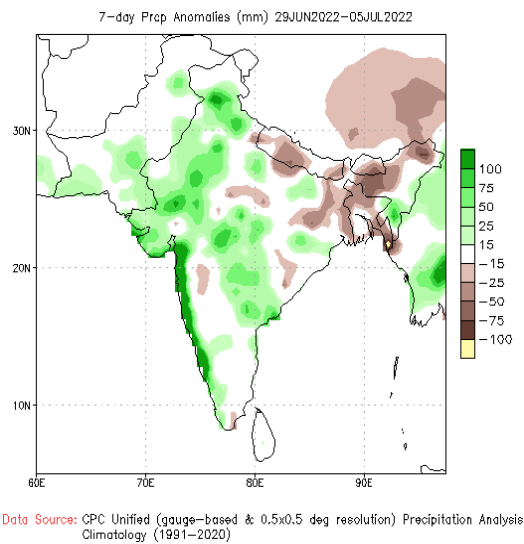
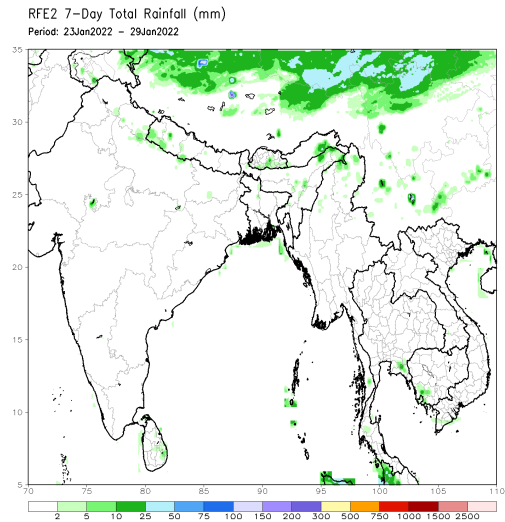
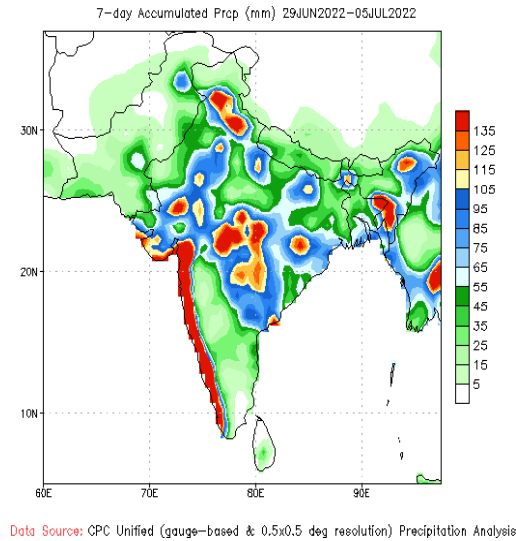
Daily Rainfall Monitoring

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



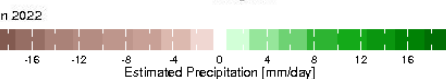
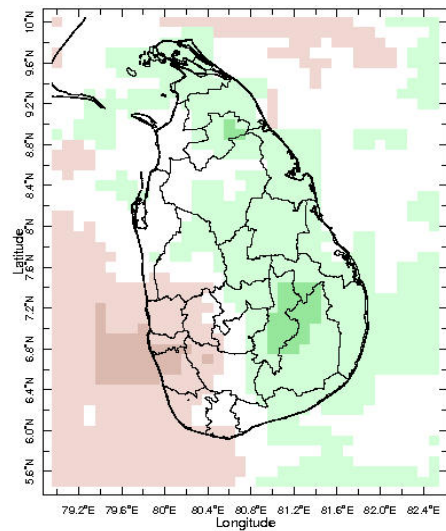
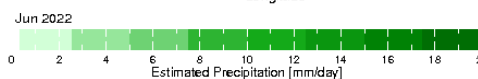
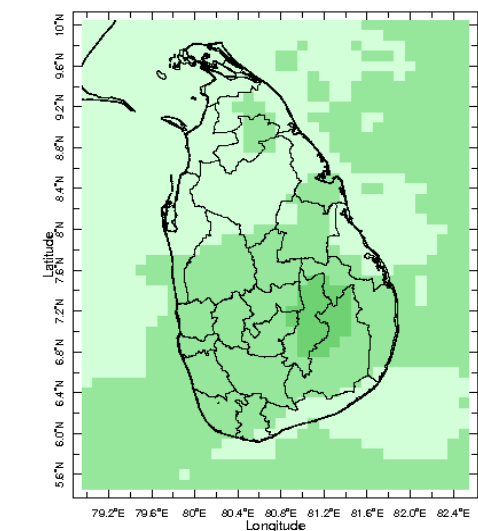
Weekly Rainfall Monitoring

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.

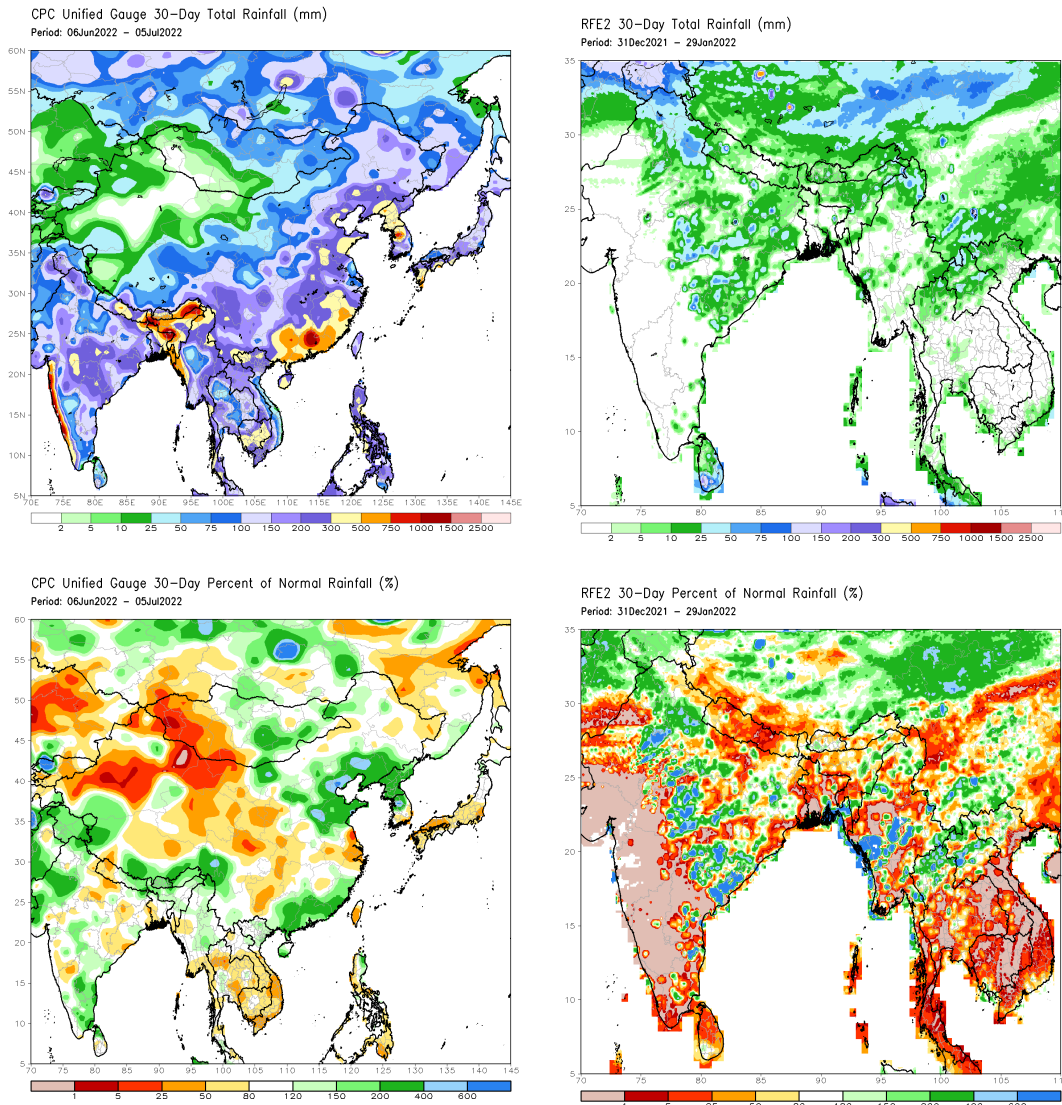


Monthly Rainfall Monitoring

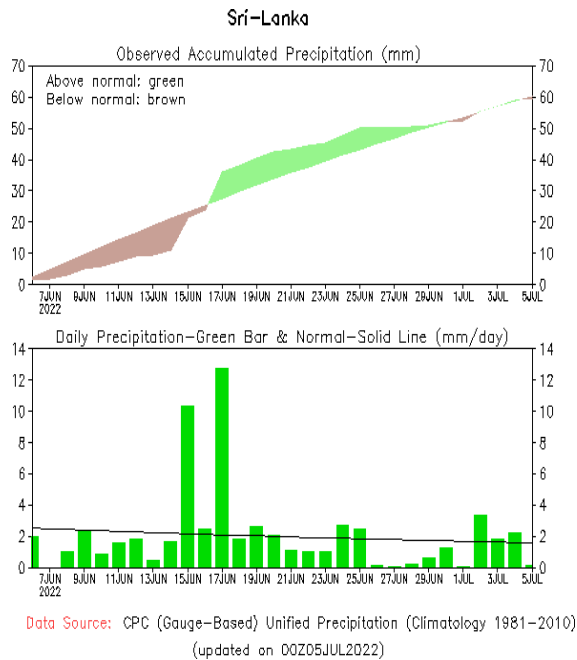
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



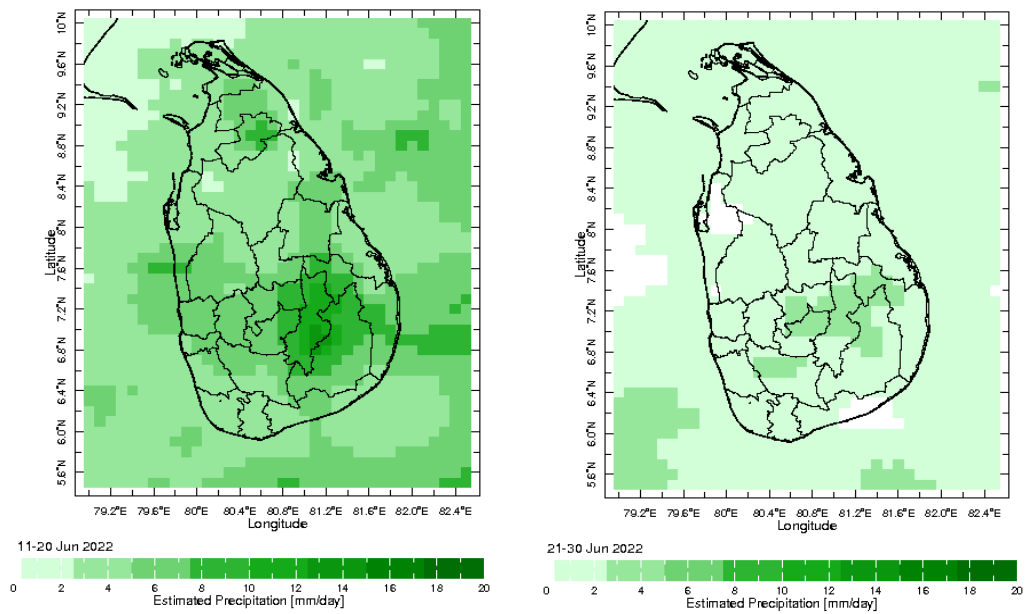
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



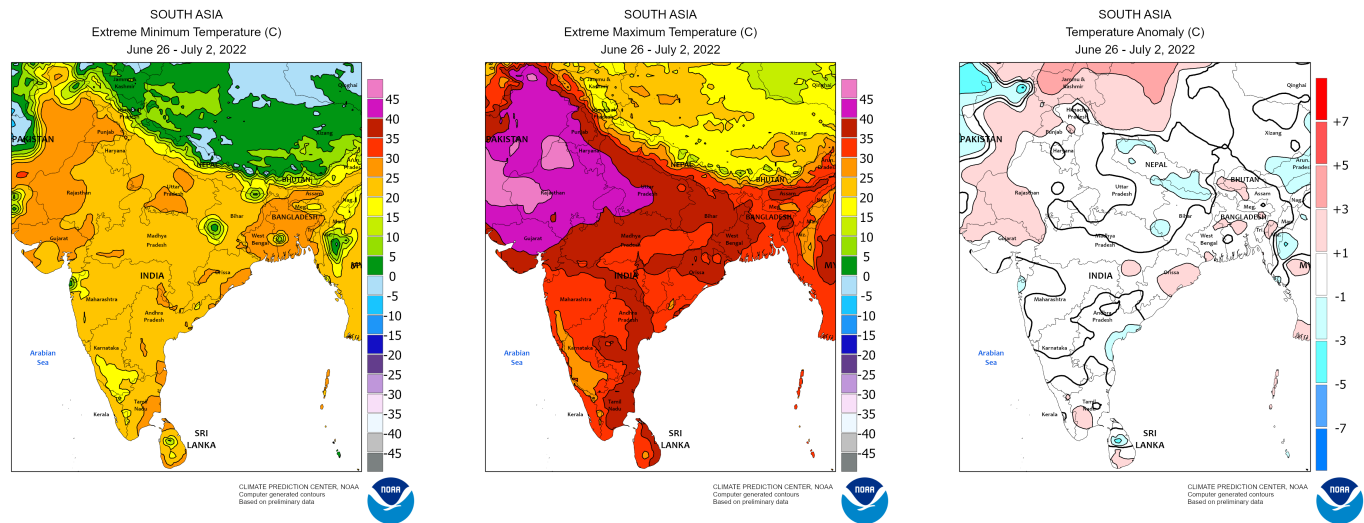
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

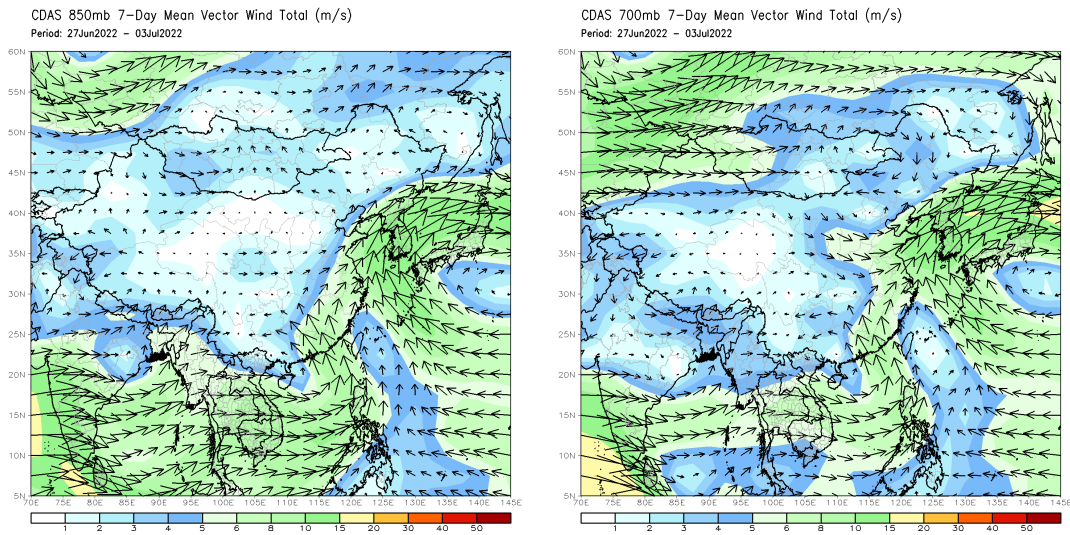


Weekly Temperature Monitoring



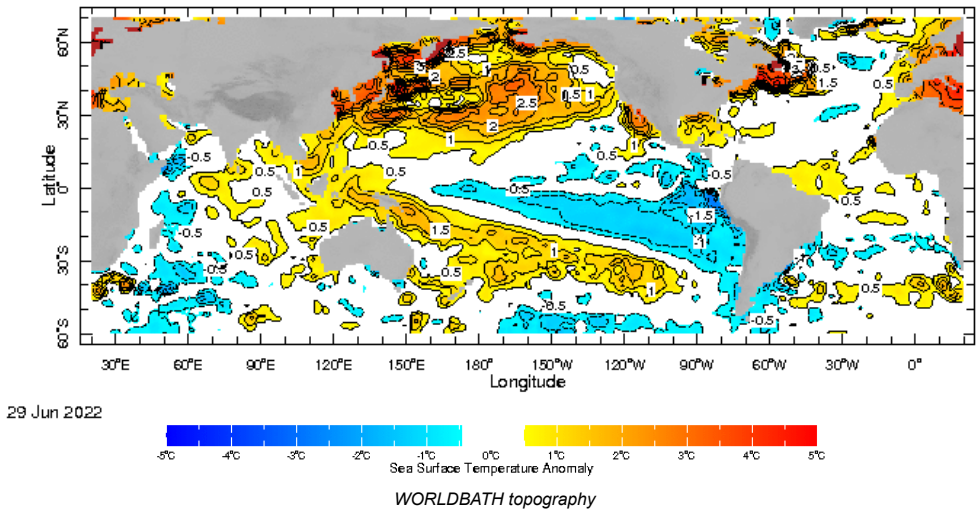
Weekly Wind Monitoring

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.

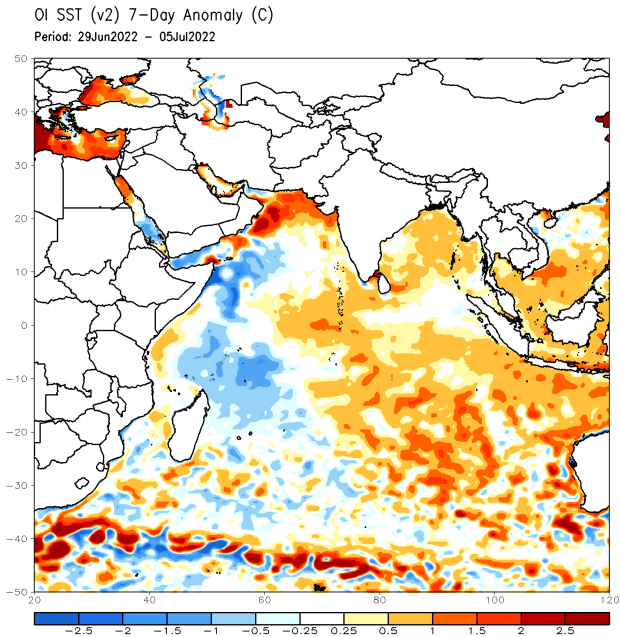


Weekly Average SST Anomalies

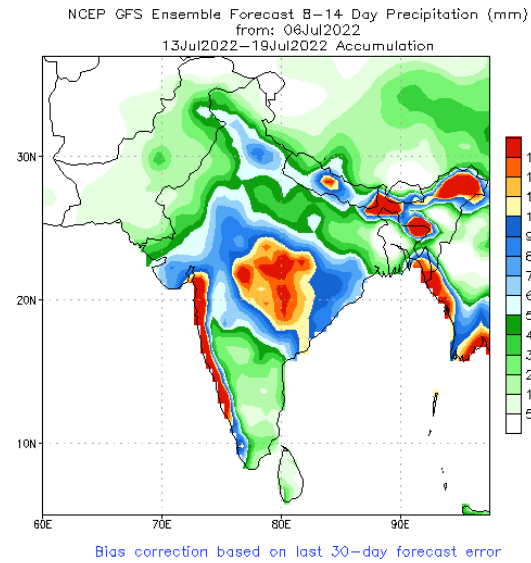
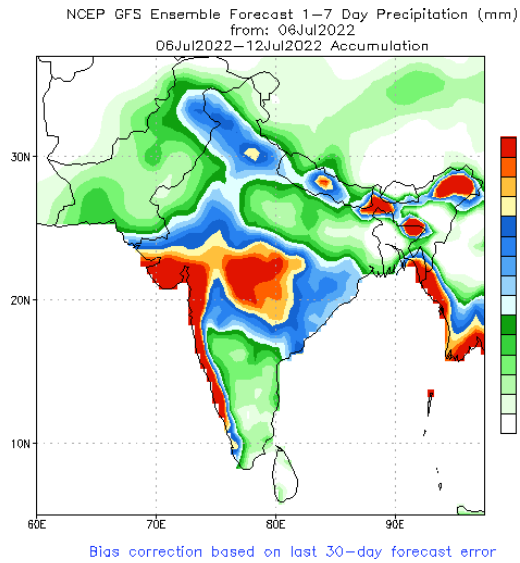
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



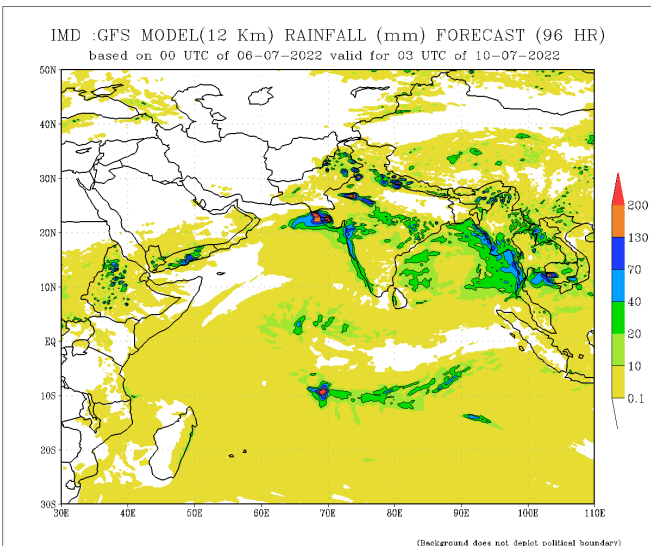
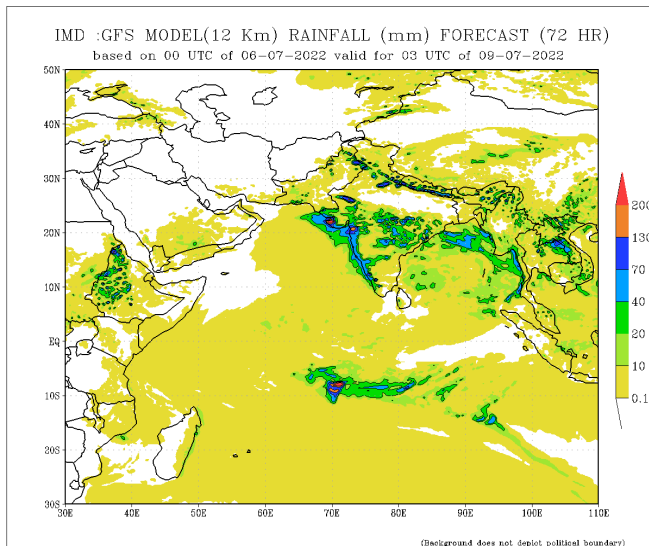
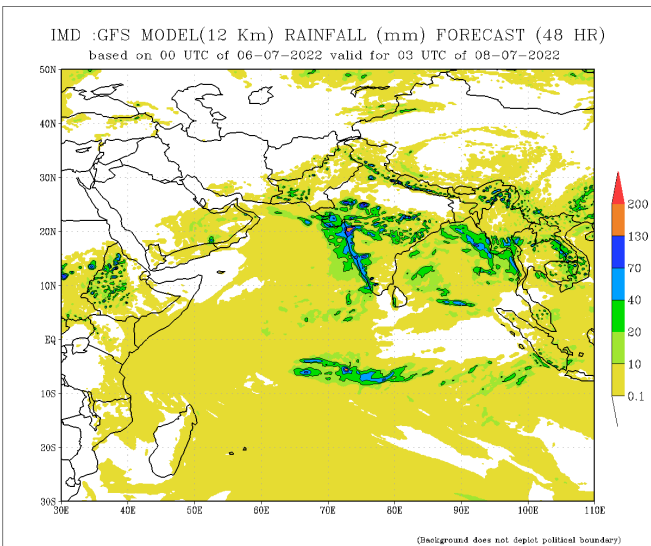
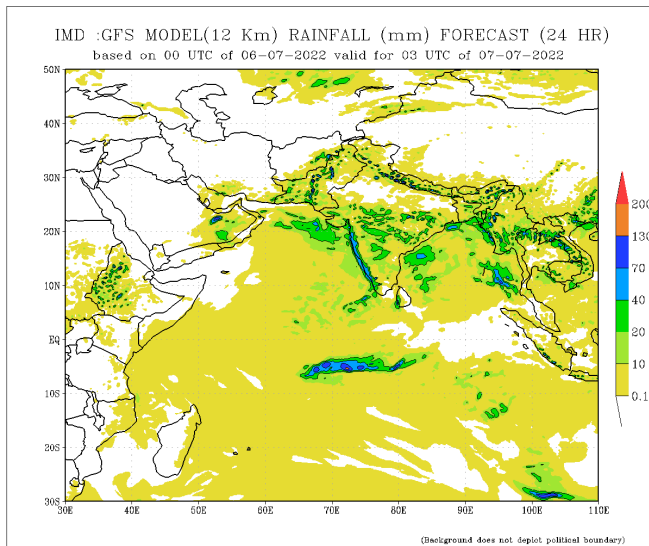
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

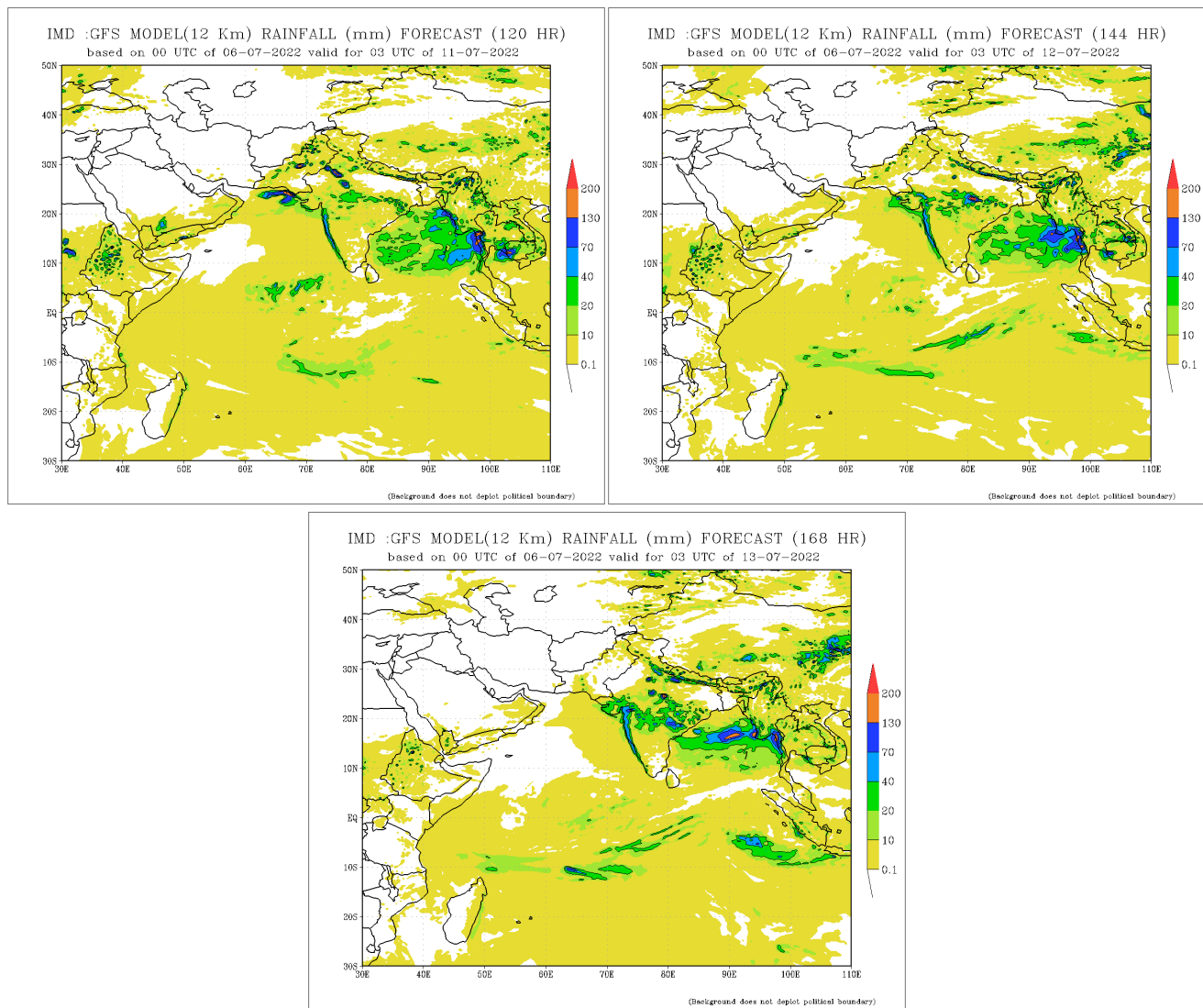


NCEP GFS 1- 14 Day prediction



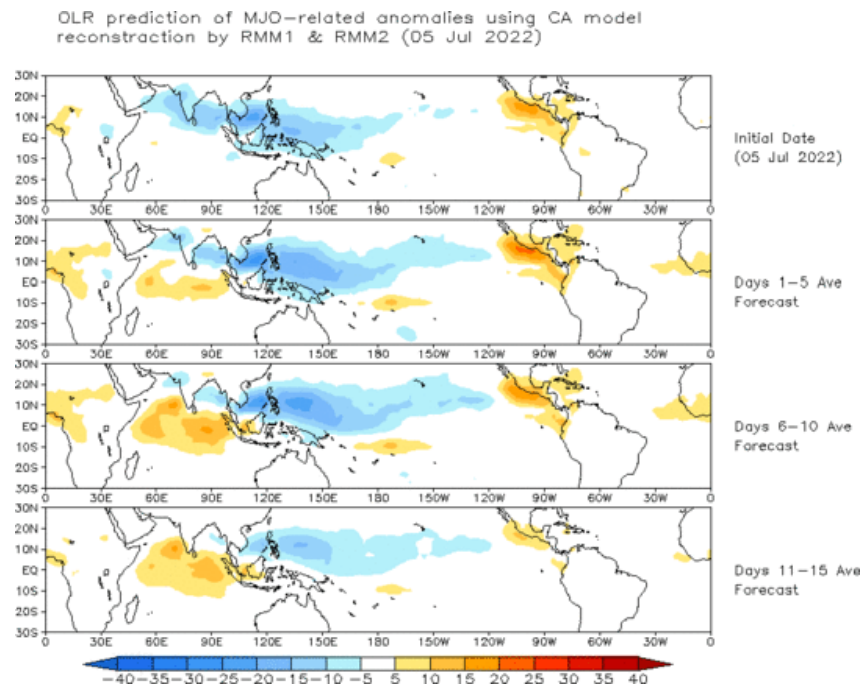
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





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.

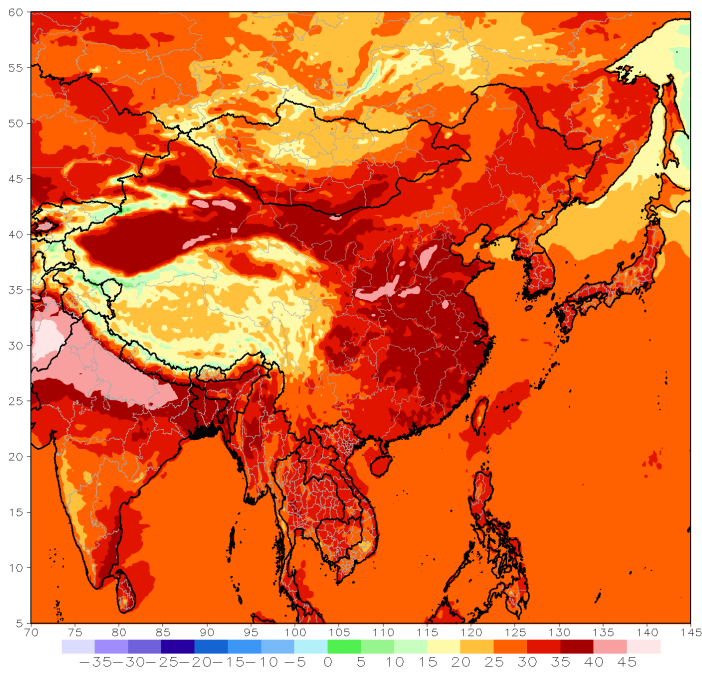


Weekly Temperature Forecast

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

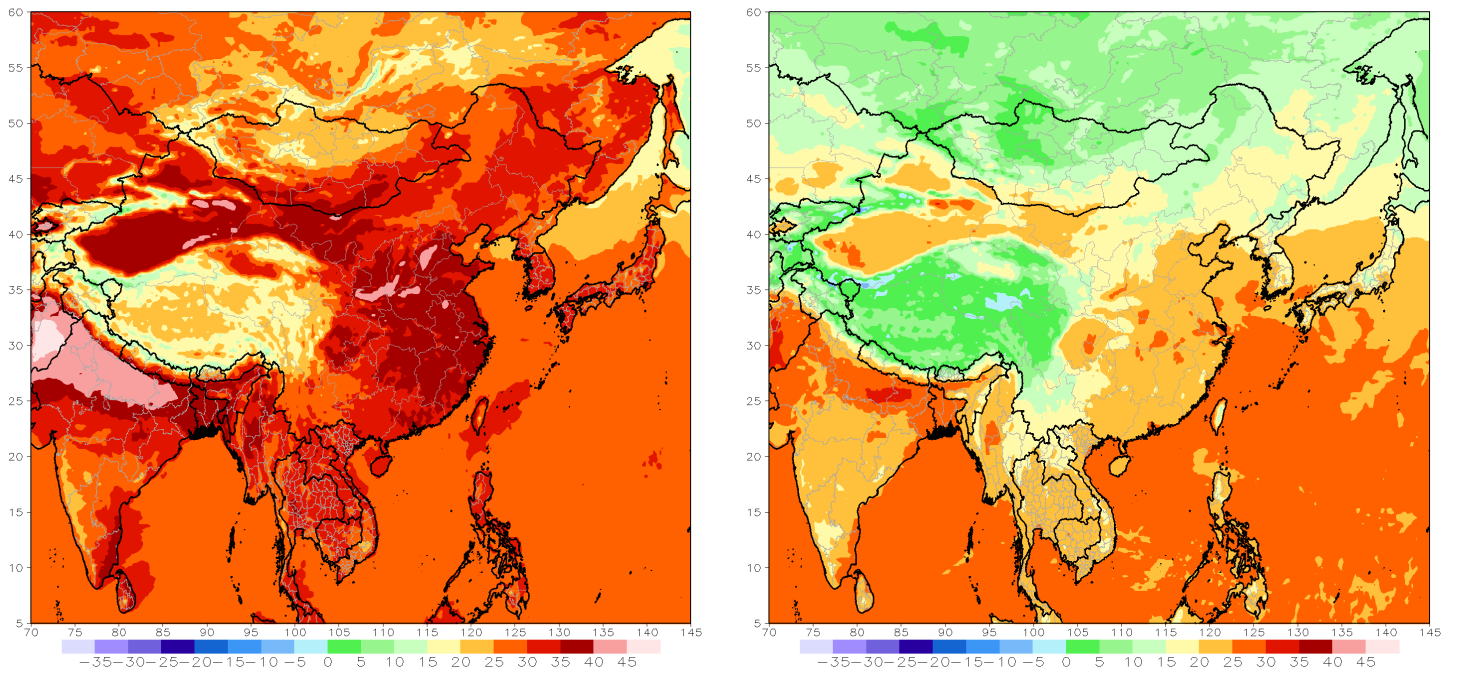
GFS week1 Temperature Max (C)

Period: 18z07Jul2022 - 18z13Jul2022



GFS week1 Temperature Min (C)

Period: 18z07Jul2022 - 18z13Jul2022

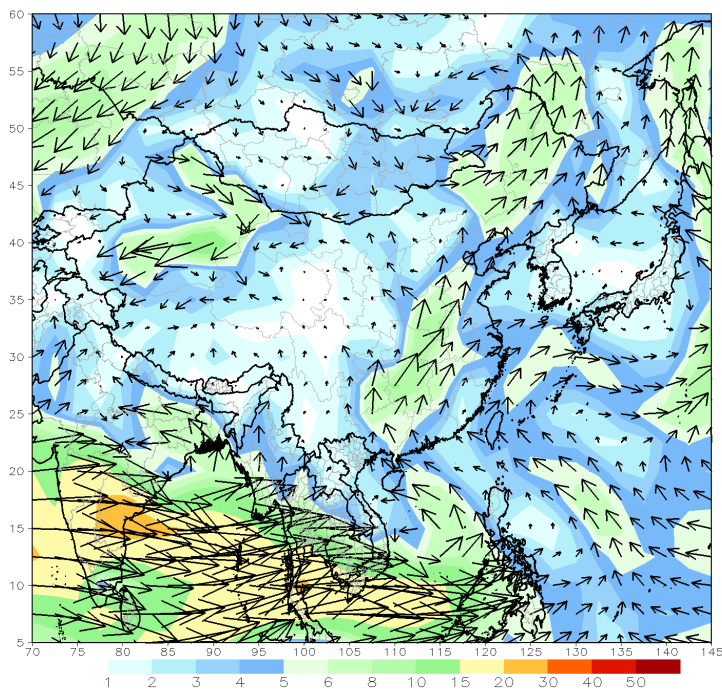


Weekly Wind Forecast

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

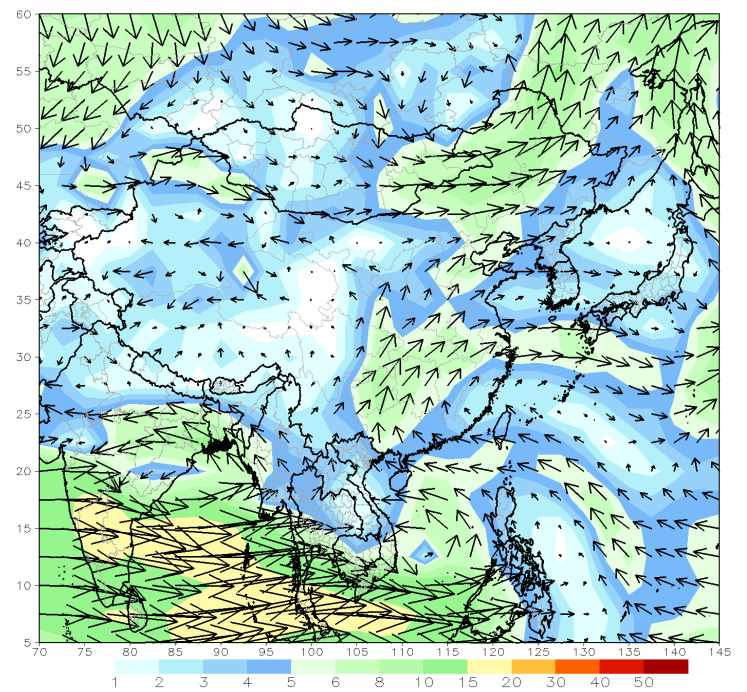
GFS 850mb week1 Mean Vector Wind Total (m/s)

Period: 18z07Jul2022 - 18z13Jul2022



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

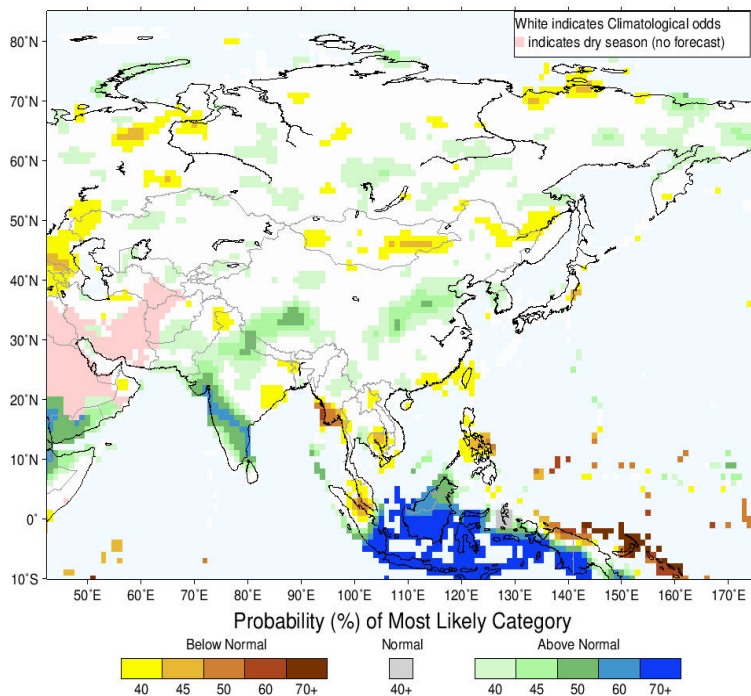
Period: 18z07Jul2022 - 18z13Jul2022



Seasonal Rainfall and Temperature Forecast

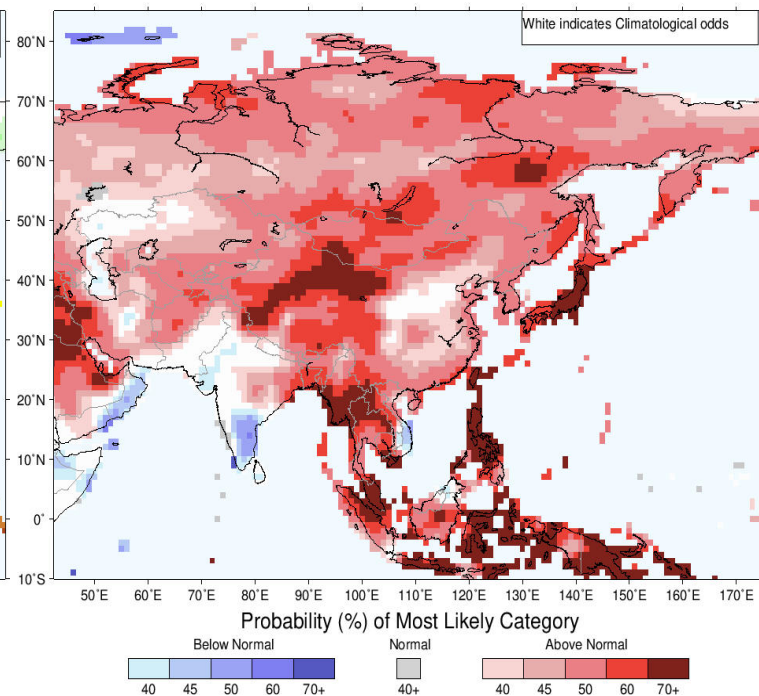
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for
July–August–September 2022, Issued June 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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