

HIGHLIGHTS

Rainfall Prediction



• Heavy rainfall is predicted for Jaffna districts; fairly heavy rainfall (50–100 mm) is expected for Sabaragamuwa, Central, and Uva provinces and Galle and Matara districts during 29 Jul - 2 Aug.

Monitored Rainfalls



• During the last week, the average daily rainfall over Sri Lanka was 6.7 mm and hydro catchment areas have received 11.6 mm on average.

Monitored Wind



• From 18th - 24th July, up to 10 m/s of south-westerly and north-westerly winds were experienced over the island.

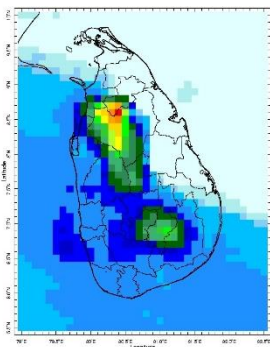
Monitored Sea & Land Temp



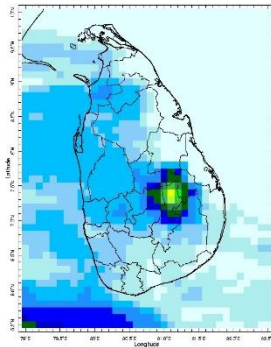
• Sea surface temperature was above 0.5 °C to the north and East of Sri Lanka. Land surface temperature remained near normal.

Monitoring Rainfall

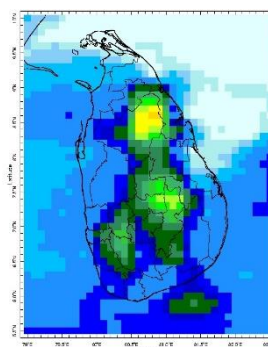
Daily Estimates for Rainfall from 19th July – 26th July 2022



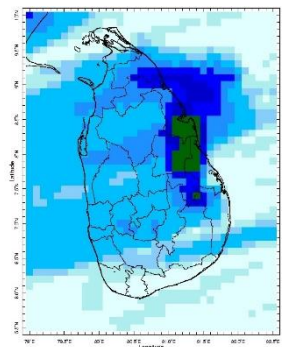
19 July



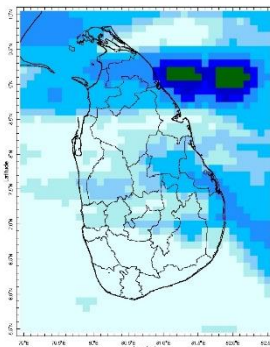
20 July



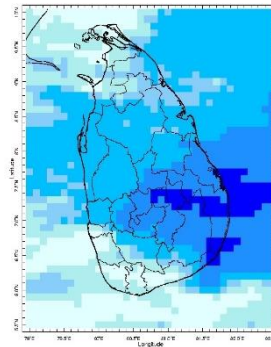
21 July



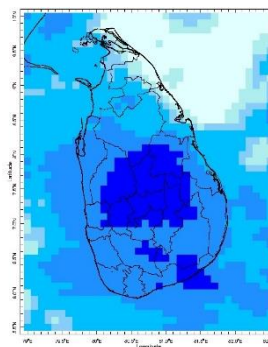
22 July



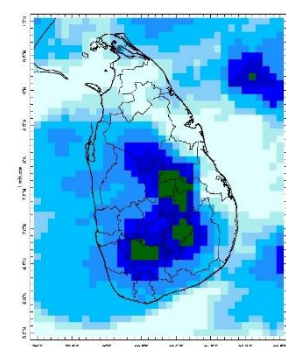
23 July



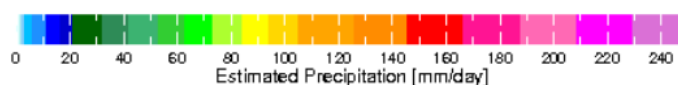
24 July



25 July



26 July



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: July 20, 2022

Equatorial sea surface temperatures (SSTs) are below average across most of the Pacific Ocean in late July. The tropical Pacific Sea surface temperatures show a classical La Niña pattern. The tropical Pacific atmosphere is consistent with La Niña. A large majority of the models indicate, a La Niña is favored to continue through 2022 with the odds for La Niña decreasing into the Northern Hemisphere late summer (July - September 2022) before increasing through the Northern Hemisphere fall and early winter 2022.

Indian Ocean State

Sea surface temperature around Sri Lanka was above 0.5°C to the north and East of Sri Lanka. Across the Indian Ocean, a classical negative Indian Ocean Dipole prevails as is typical during a La Niña.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 27th July – 2nd August:

Total rainfall by Provinces:

| Rainfall | Provinces |
|----------|------------------------------|
| >100 mm | Northern |
| 95 mm | Southern |
| 85 mm | Sabaragamuwa, Central, Uva |
| 75 mm | Western, Eastern |
| 55 mm | North-central, North-western |

From 3rd August – 9th August:

Total rainfall by Provinces:

| Rainfall | Provinces |
|----------|--|
| >100 mm | Northern |
| 25 mm | Sabaragamuwa, Western, Central |
| 15 mm | Eastern, North-central, North-western, Uva, Southern |

MJO based OLR predictions

For the next 15 days:

MJO shall slightly enhance the rainfall during 27th July - 5th August; and near-neutral during 6th August – 10th August.

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 July - 26th July) = 6.7 mm
Rmax: 105.3 mm & Rmin: 0.0 mm.

| Region | Average rainfall for the Last 8 days |
|-----------------|--------------------------------------|
| Northern Plains | 7.1 mm |
| Eastern | 10.8 mm |
| Western | 4.6 mm |
| Southern Plains | 2.4 mm |

The Hydro Catchment Areas recorded 11.6 mm of average rainfall for the last week
Rmax: 90.0 mm & Rmin: 0.0 mm.

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

Temperatures: The temperature anomalies were above normal for Sabaragamuwa province and below normal for the north-central and eastern provinces, driven by the warm SST's.

Predictions

Rainfall: During the next week (29th July - 2nd August) heavy rainfall is predicted for Jaffna districts and fairly heavy rainfall (50 – 100 mm) is expected for Central, Sabaragamuwa and Uva provinces and Galle and Matara districts.

Temperatures: The temperature remains above normal in the Northern province during 28th July – 3rd August.

Teleconnections:

La Niña - La Niña is favored to continue through 2022 with the odds for La Niña decreasing into the Northern Hemisphere late summer (July-September 2022) before increasing through the Northern Hemisphere fall and early winter 2022.

MJO shall slightly enhance the rainfall during 27th July - 5th August; and near-neutral during 6th August – 10th August.

Seasonal Precipitation:

The precipitation forecast for the August-September-October season shows a higher tendency for below-normal precipitation for the southern half of the country, while the remaining areas are more likely to experience near-normal precipitation.

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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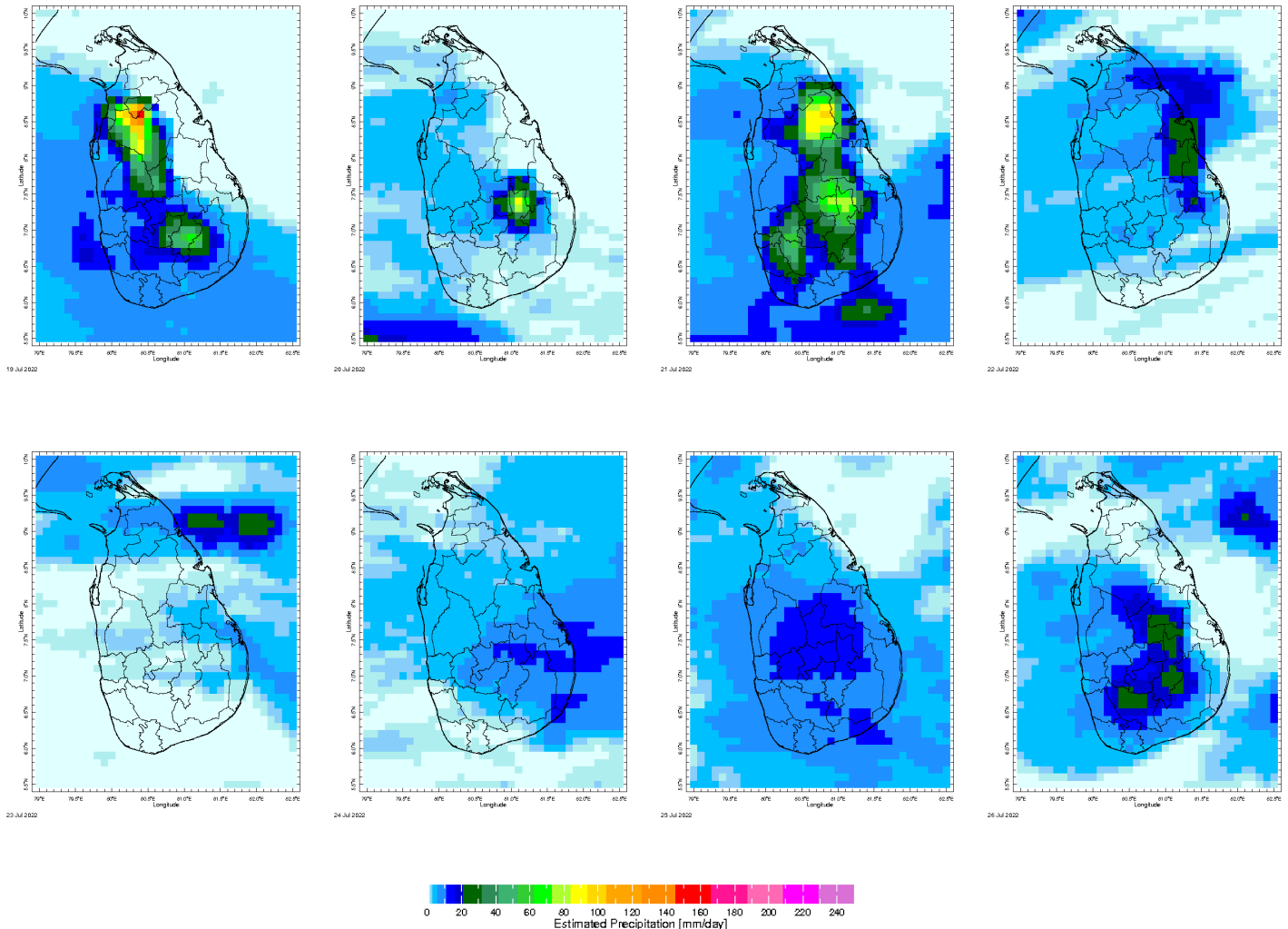
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MONITORING

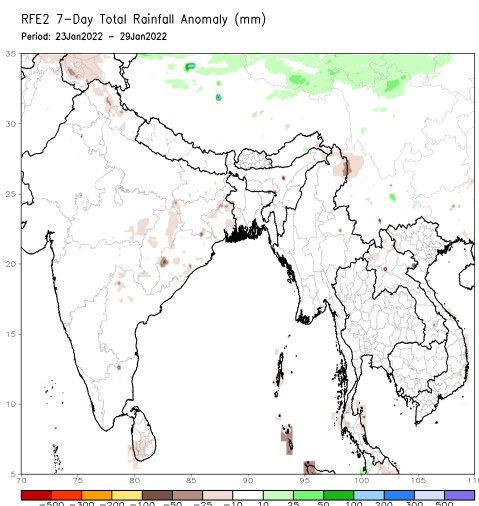
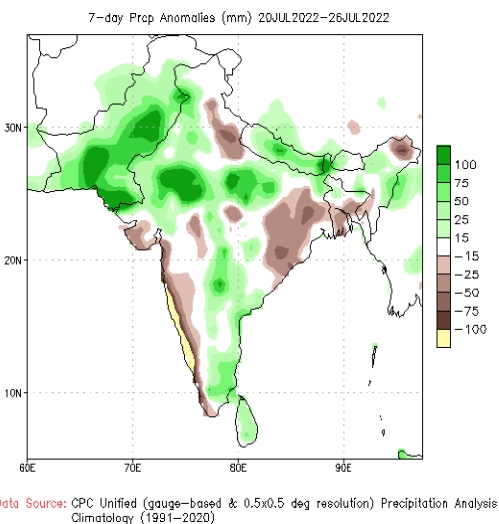
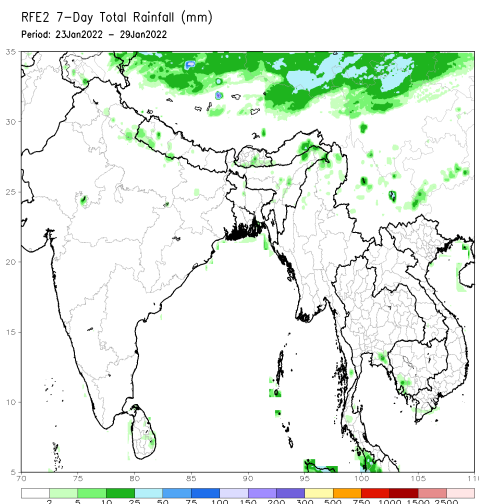
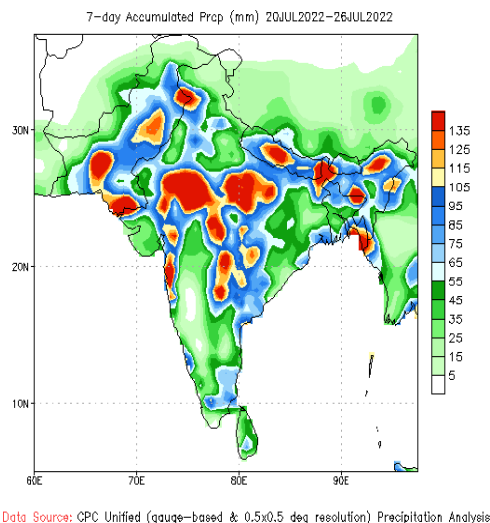
Daily Rainfall Monitoring

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



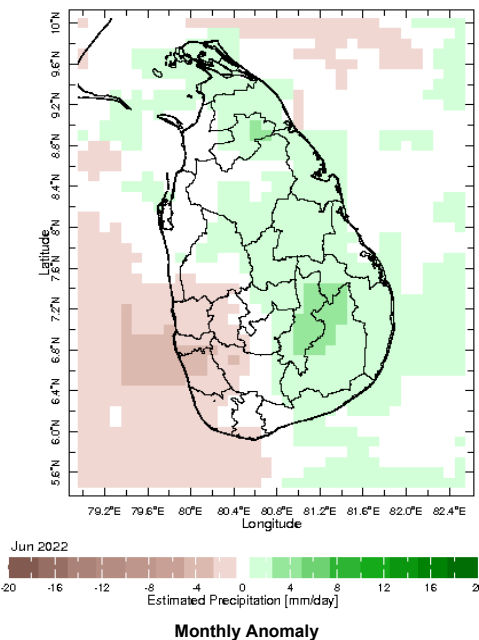
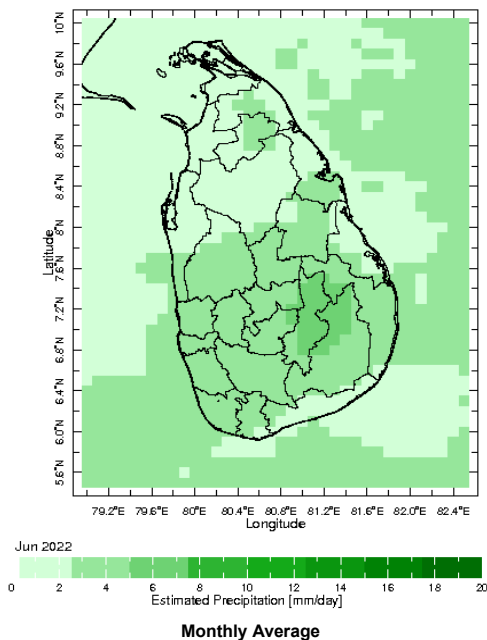
Weekly Rainfall Monitoring

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.

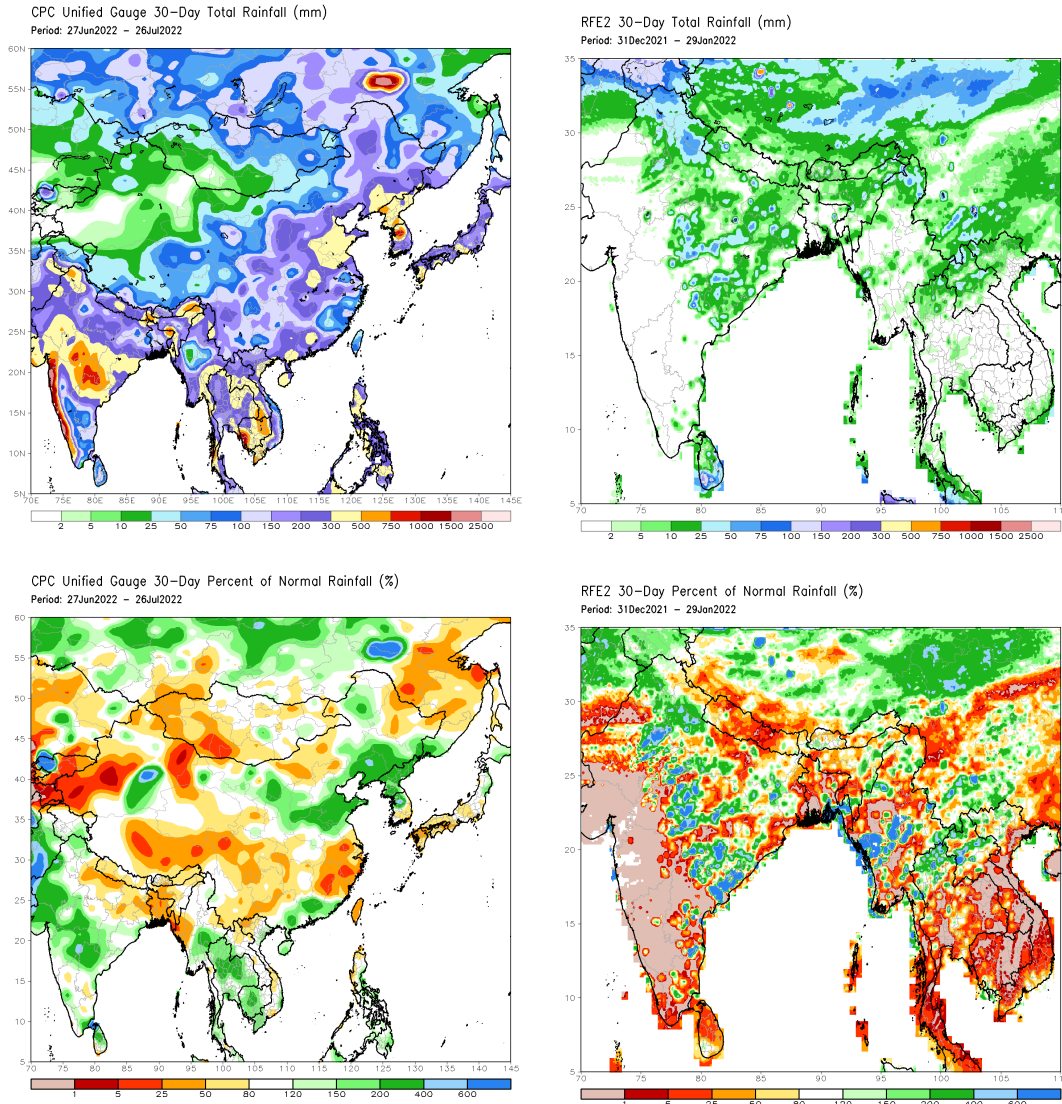


Monthly Rainfall Monitoring

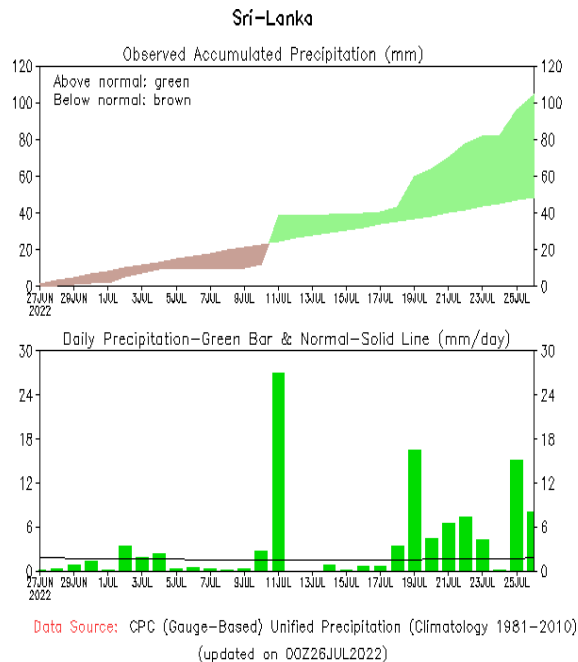
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



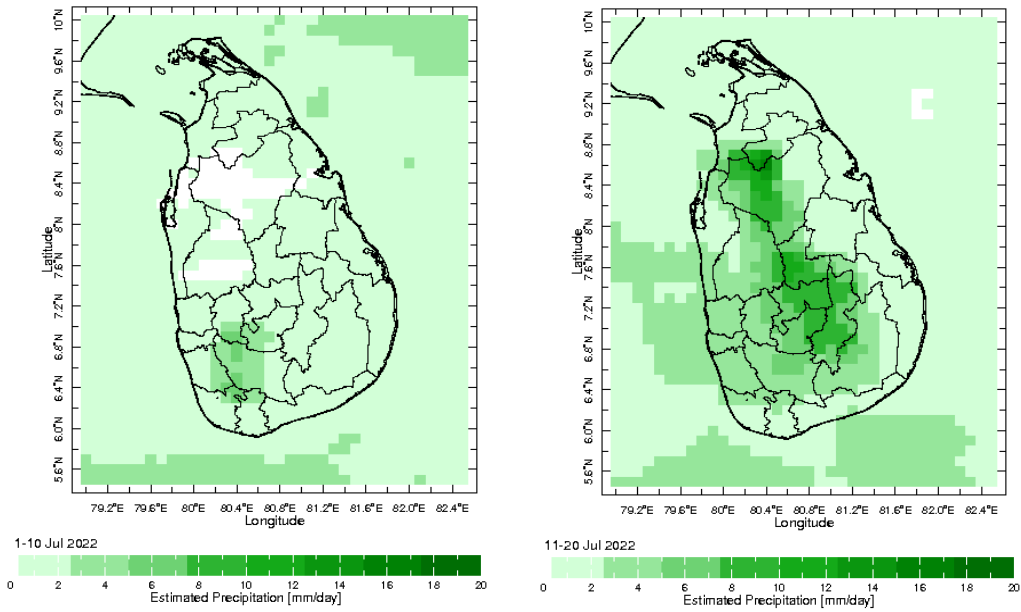
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



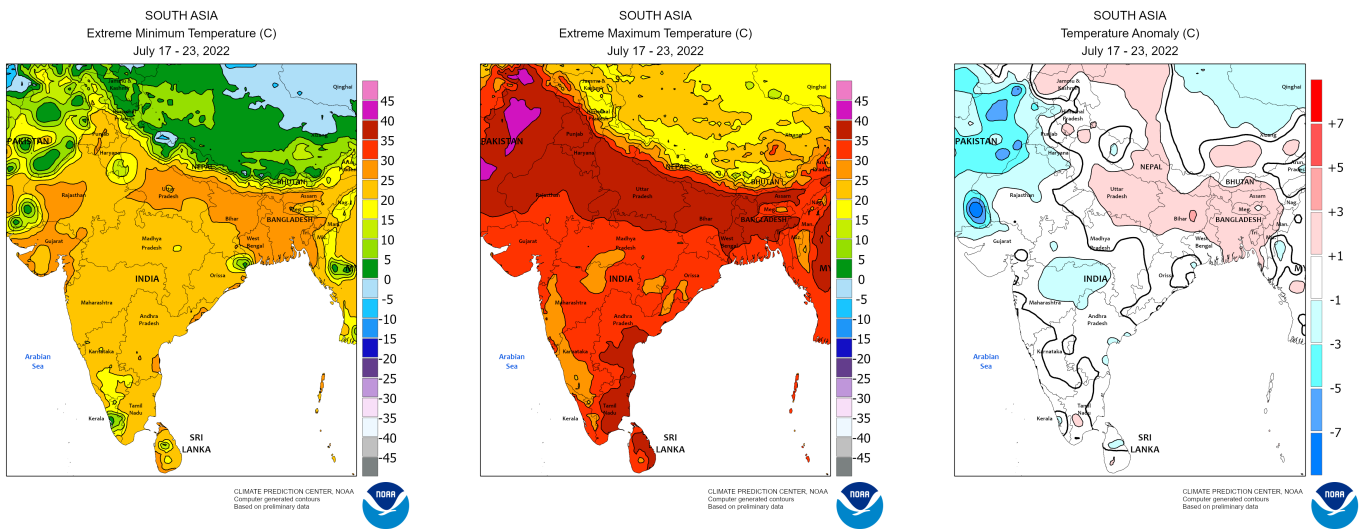
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

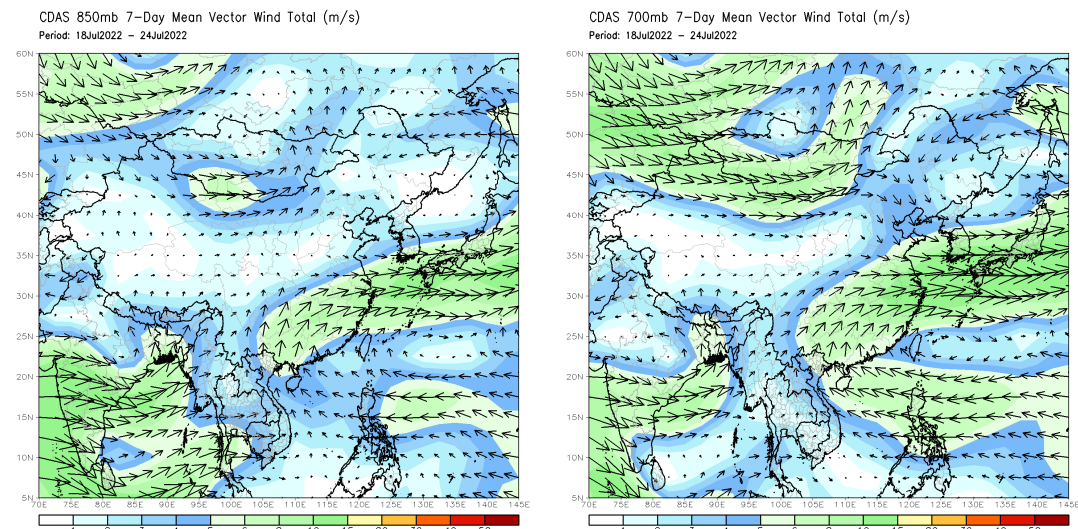


Weekly Temperature Monitoring



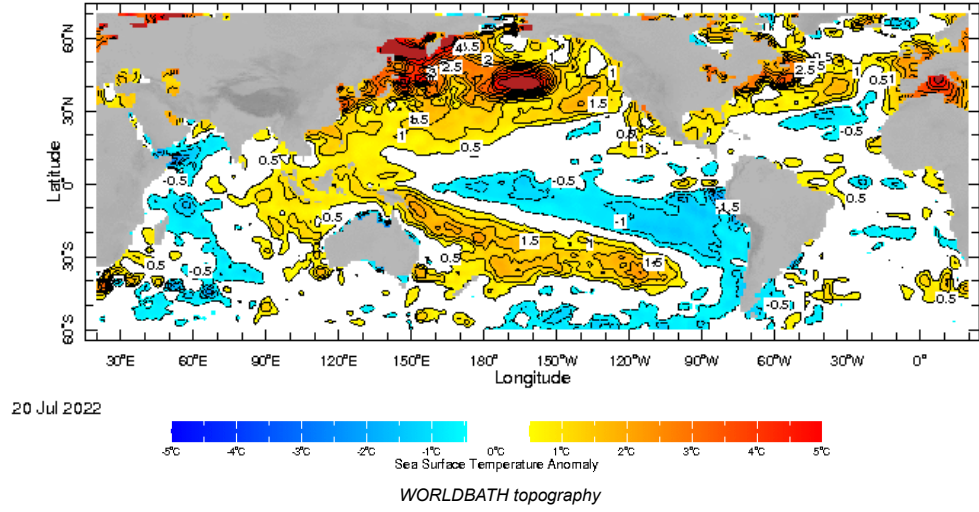
Weekly Wind Monitoring

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.

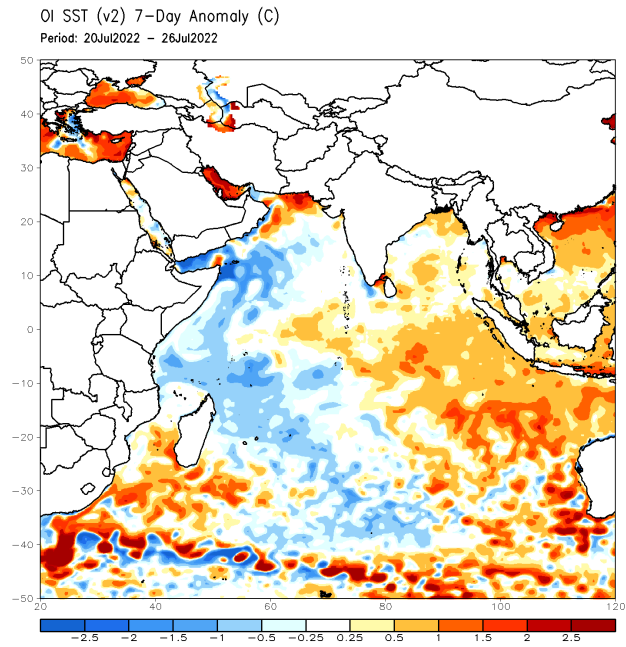


Weekly Average SST Anomalies

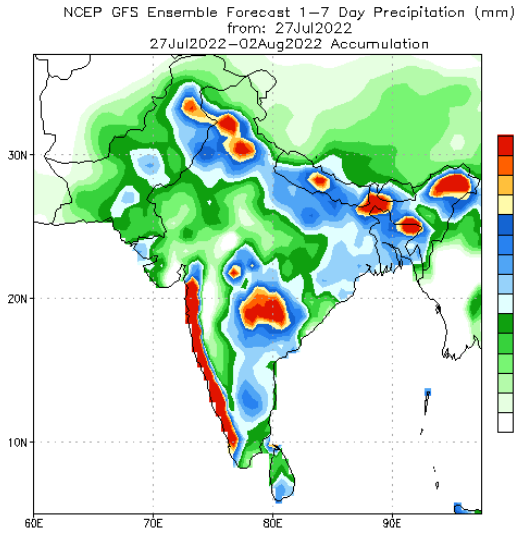
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



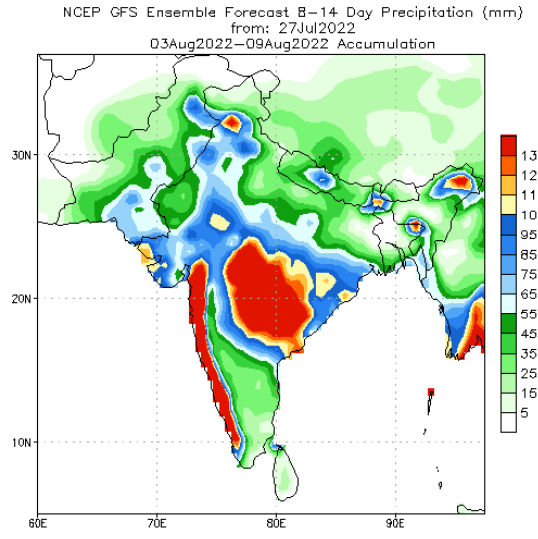
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



NCEP GFS 1- 14 Day prediction

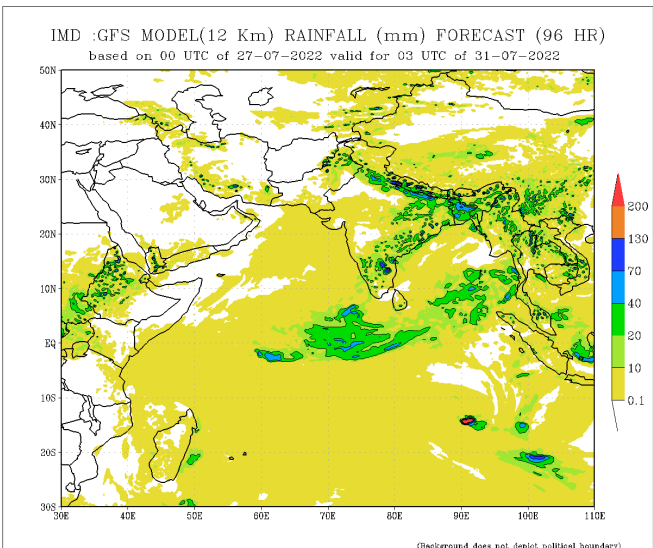
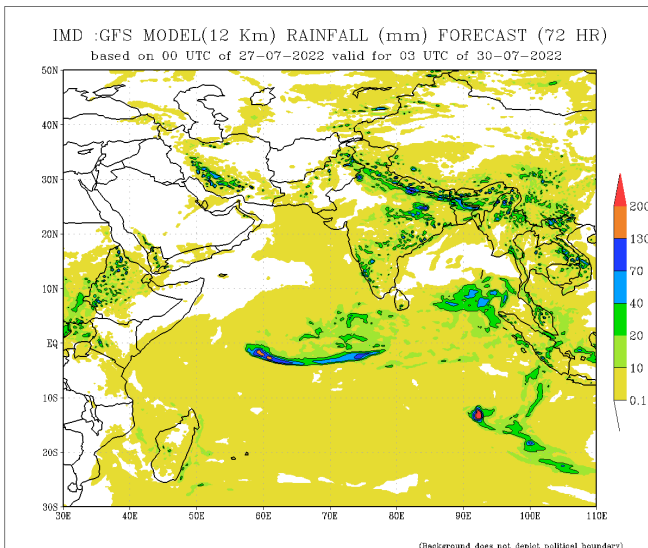
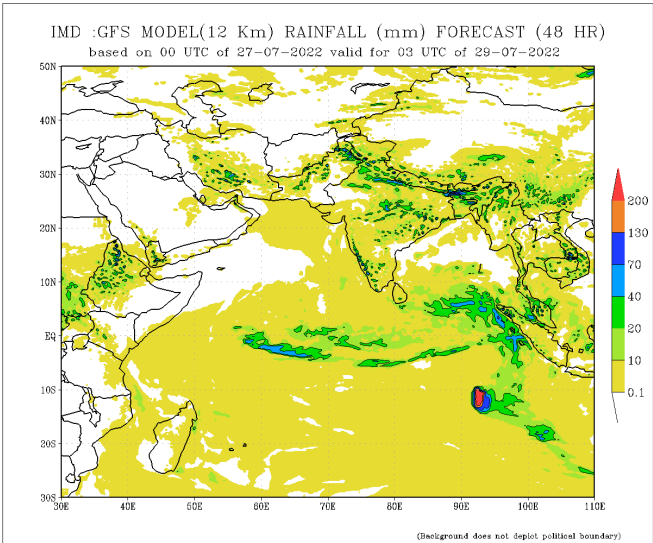
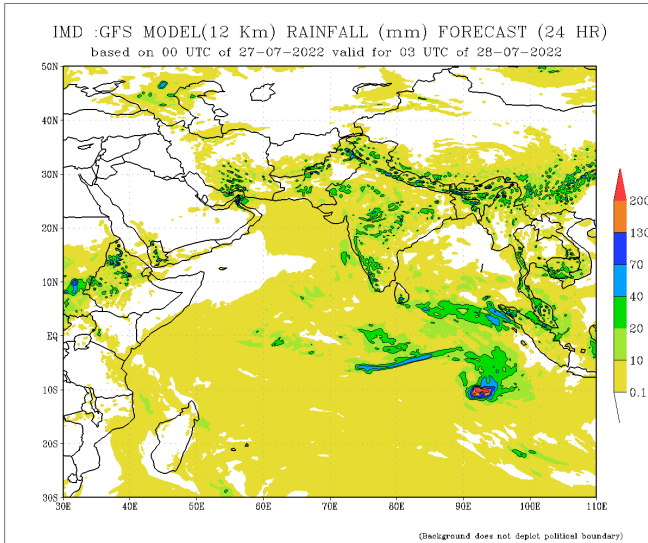


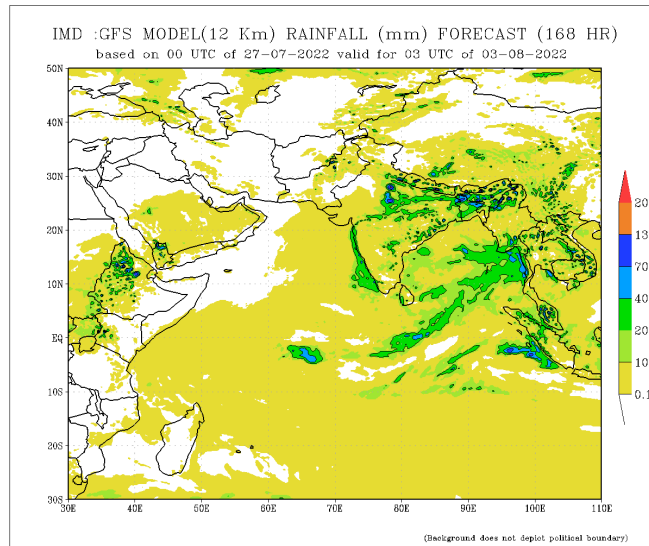
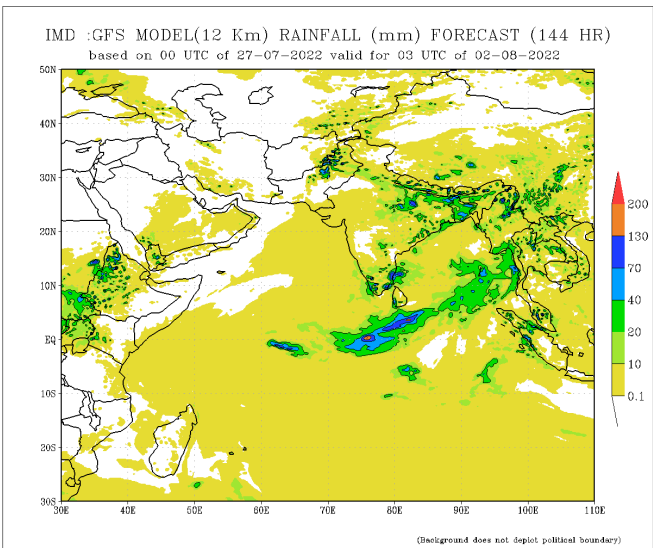
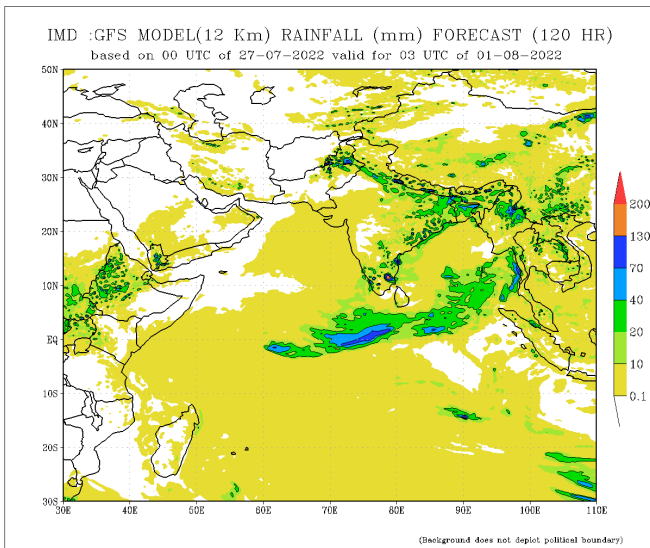
Bias correction based on last 30-day forecast error



Bias correction based on last 30-day forecast error

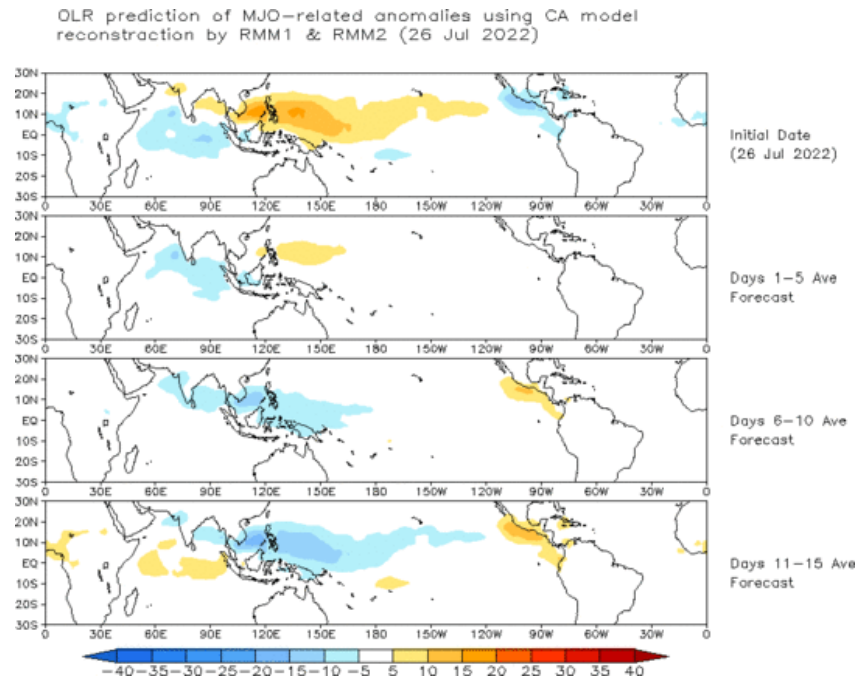
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





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.

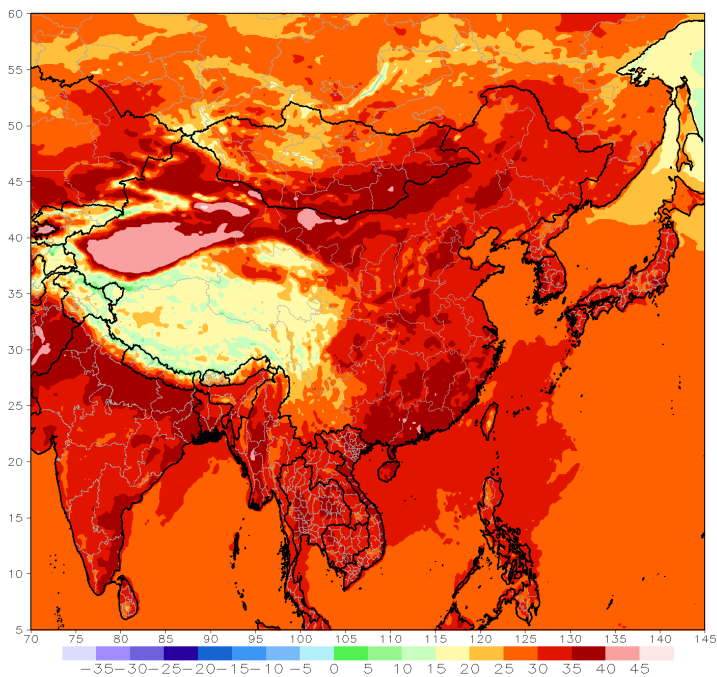


Weekly Temperature Forecast

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

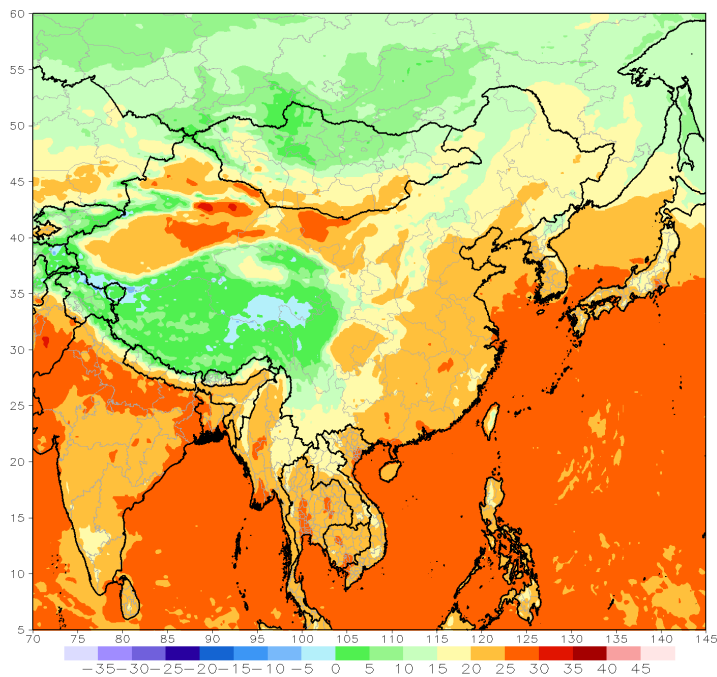
GFS week1 Temperature Max (C)

Period: 18z28Jul2022 - 18z03Aug2022



GFS week1 Temperature Min (C)

Period: 18z28Jul2022 - 18z03Aug2022

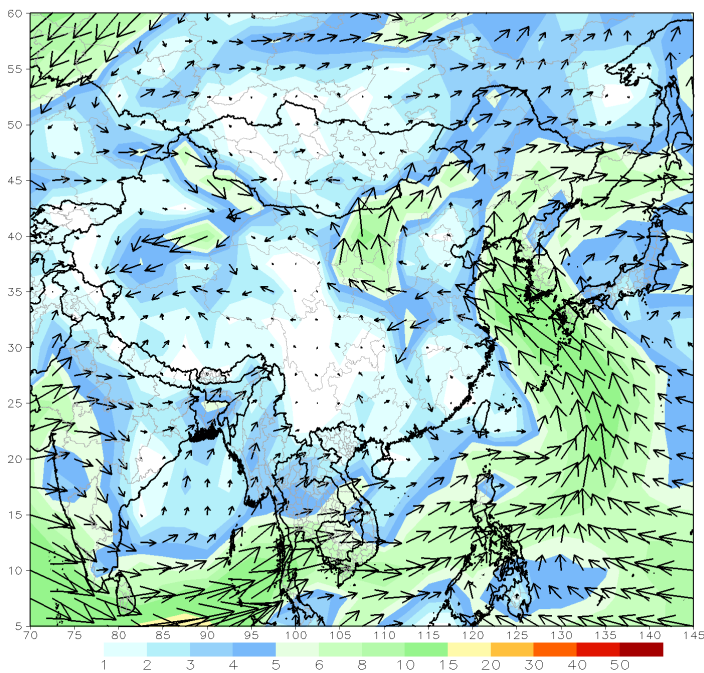


Weekly Wind Forecast

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

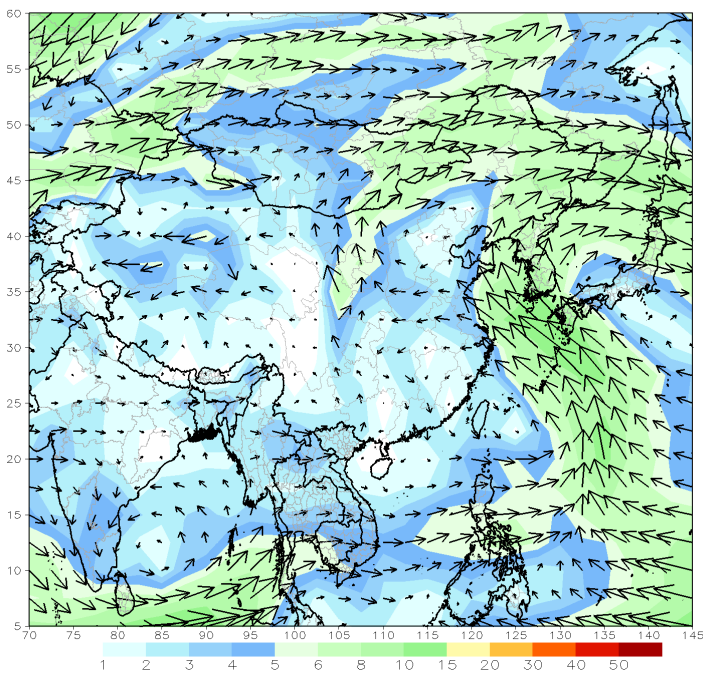
GFS 850mb week1 Mean Vector Wind Total (m/s)

Period: 18z28Jul2022 - 18z03Aug2022



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

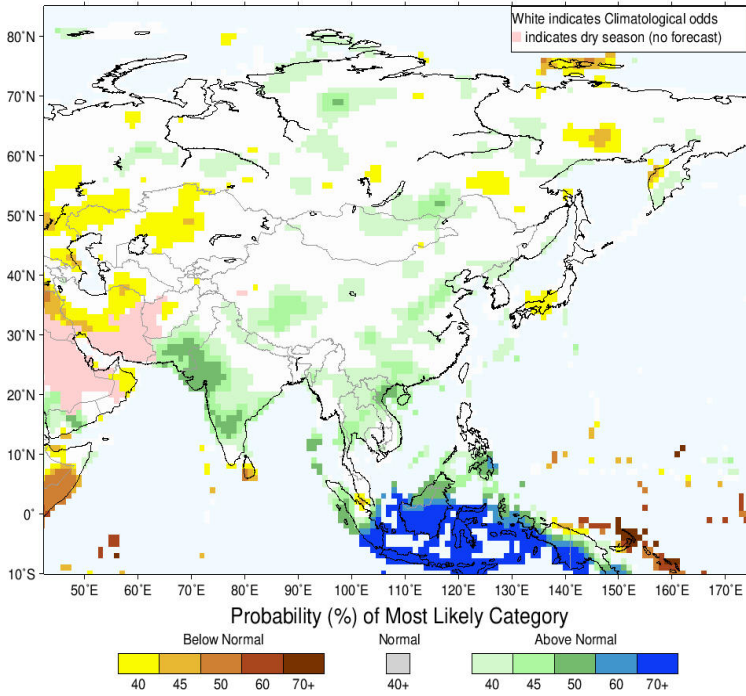
Period: 18z28Jul2022 - 18z03Aug2022



Seasonal Rainfall and Temperature Forecast

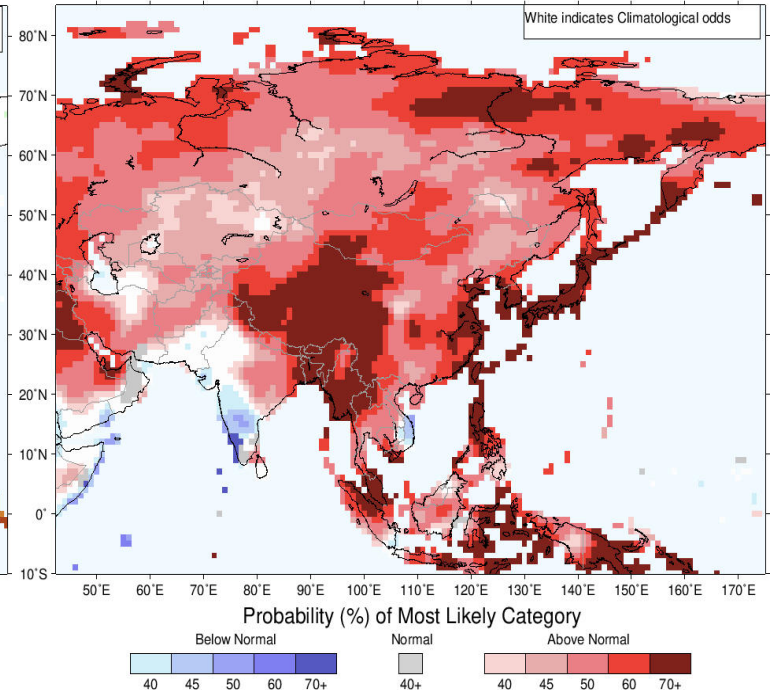
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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



Precipitation Forecast

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