

HIGHLIGHTS

Rainfall Prediction



- Up to 75 mm of fairly heavy rainfall is expected for the Central province from 23rd - 29th March while other provinces are expected to receive less.

Monitored Rainfalls



- 3.6 mm average daily rainfall was experienced for the last week in the met stations, with max of 111 mm in Kegalle on 17 March.

Monitored Wind



- From 14th - 20th March, up to 3 - 6m/s Southwesterlies were experienced over the island.

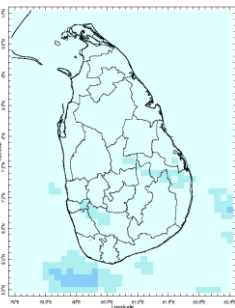
Monitored Sea Surface



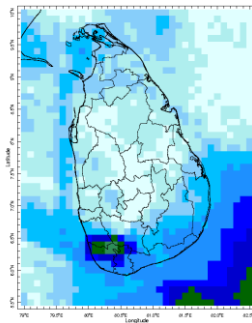
- Sea surface temperatures were neutral around the island.

Monitoring Rainfall

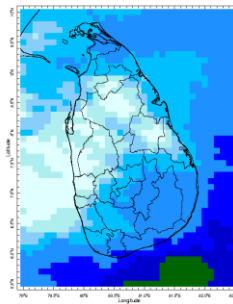
Daily Estimates for Rainfall from 14th – 21st March 2022



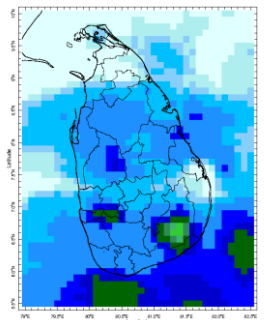
14 March



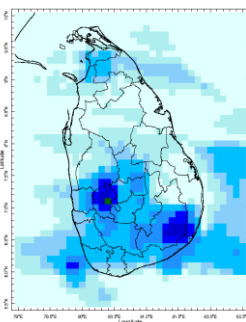
15 March



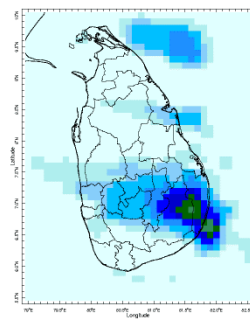
16 March



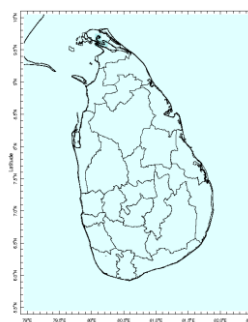
17 March



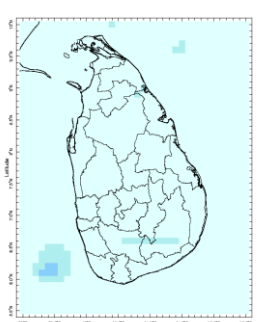
18 March



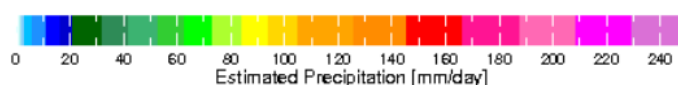
19 March



20 March



21 March



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: March 16, 2022

Equatorial sea surface temperatures (SSTs) are below average across the East Central and Eastern Pacific Ocean in mid-March. 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, with a 40-50% chance of La Niña or ENSO neutral thereafter.

Indian Ocean State

Sea surface temperatures were neutral around the island.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 23rd – 29th March:

Total rainfall by Provinces:

Rainfall	Provinces
75 mm	Central
45 mm	North Western
25 mm	North Central, Western, Sabaragamuwa, Southern, Eastern
15 mm	Uva

From 30th March – 5th April:

Total rainfall by Provinces:

Rainfall	Provinces
85 mm	Central
55 mm	North Western, Eastern
35 mm	North Central, Western, Sabaragamuwa, Southern, Uva

MJO based OLR predictions

For the next 15 days:

MJO shall neutral during 23rd – 27th March; and slightly enhance the rainfall during 28th March - 6th April.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been heavy rainfall over the following province: Sabaragamuwa

Meteorology stations were recorded 3.6 mm of average daily rainfall and the Rmax: 47.2mm & Rmin: 0mm for entire island for the last week.

Region	Meteorology stations	Average rainfall for the Last 8 days
Northern Plains	Jaffna, Mannar, Anuradhapura, Puttalam, Maha Illuppallama, Vavuniya, Mullaitivu	0.07 mm
Eastern	Trincomalee, Batticaloa, Potuvil, Badulla, Bandarawela, Moneragala, Polonnaruwa	5.79 mm
Western	Nuawara Eliya, Kurunegala, Colombo, Ratnapura, Galle, Katugastota, Katunayake, Ratmalana	4.31 mm
Southern Plains	Hambantota, Mattala	6.35 mm

The mean of annual rainfall = 23.49 mm

Recorded average rainfall for the week of 14th – 21st March = 3.60 mm

Meanwhile the Hydro Catchment Areas were recorded 6.52mm of average rainfall for the last week range Rmax: 79.7mm & Rmin: 0 mm.

Wind: Southwesterly winds prevailed in the sea area surrounding the island last week.

Temperatures: The temperature anomalies were below normal for the Northern half and near-neutral for the rest of the country, driven by the warm SST's.

Predictions

Rainfall: During the next week (23rd – 29th March) fairly heavy rainfall is predicted for Central province.

Temperatures: The temperature remains slightly above normal in the Northern province during 25th March – 2nd April.

Teleconnections:

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

MJO shall neutral during 23rd – 27th March; and slightly enhance the rainfall during 28th March - 6th April.

Seasonal Precipitation:

The precipitation forecast for the April-May-June season shows above-normal precipitation for the island, while some parts of the southern province remain neutral.

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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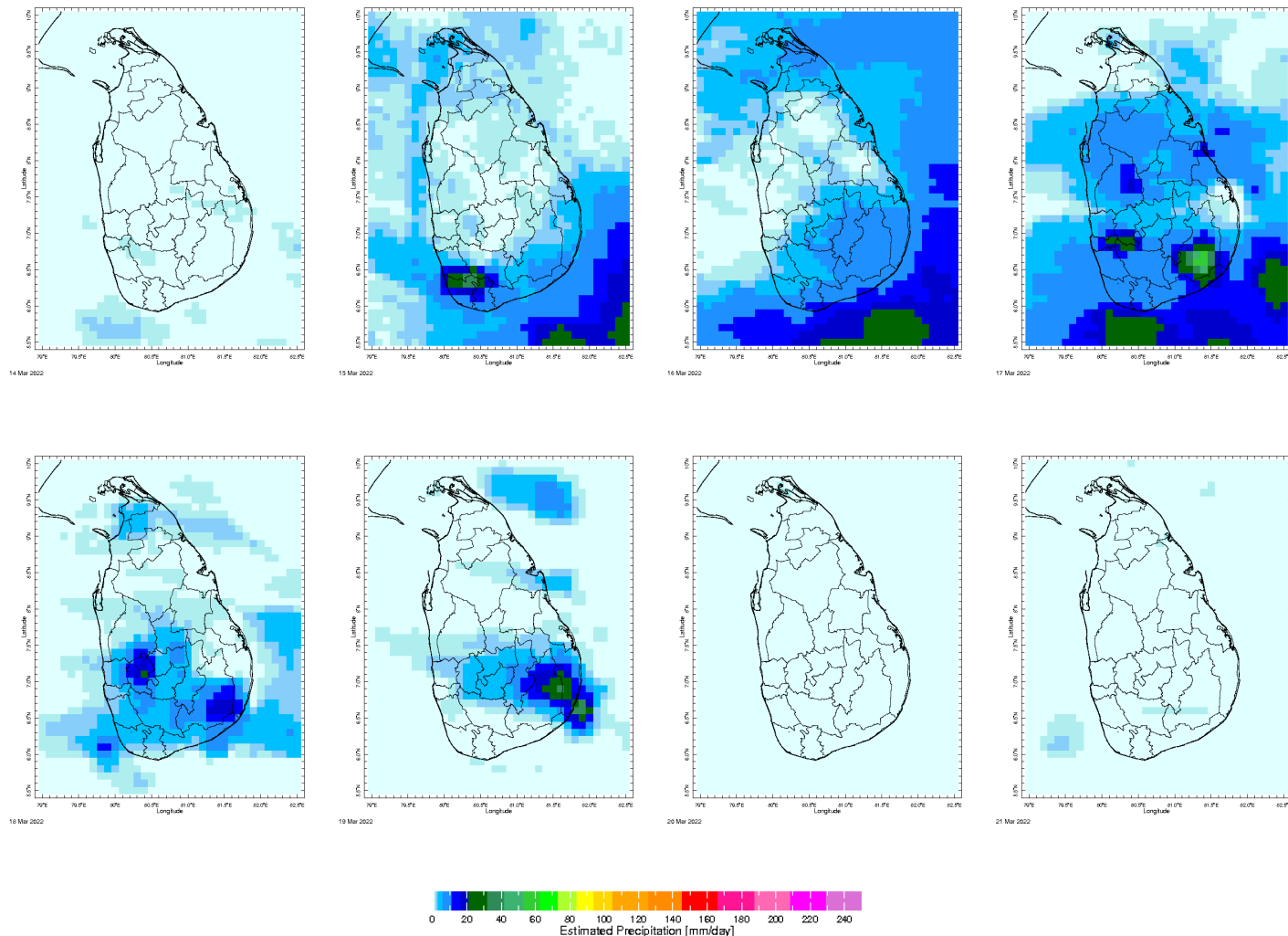
2. Predictions

- NCEP GFS Ensemble 1-14 day Rainfall Predictions
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MONITORING

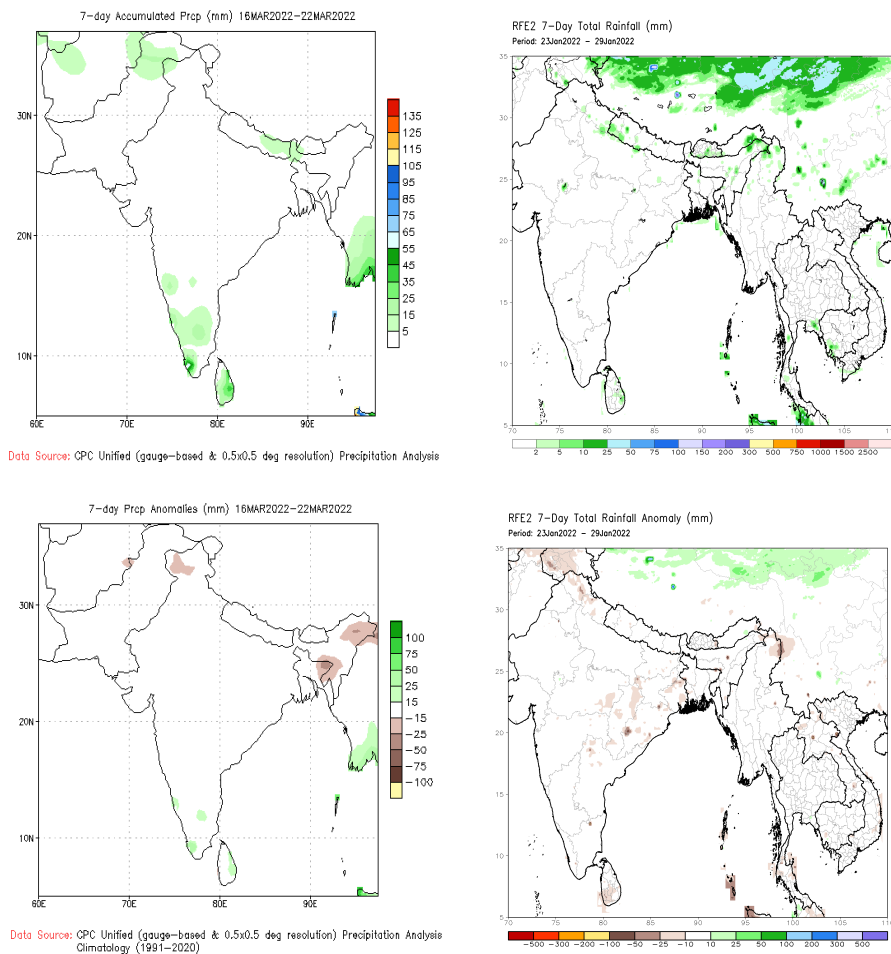
Daily Rainfall Monitoring

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



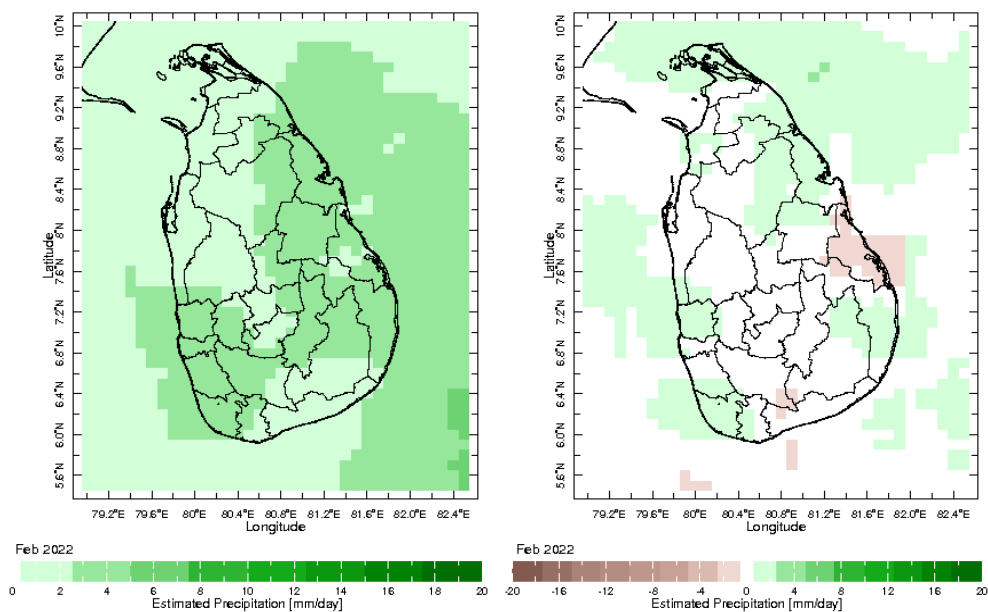
Weekly Rainfall Monitoring

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

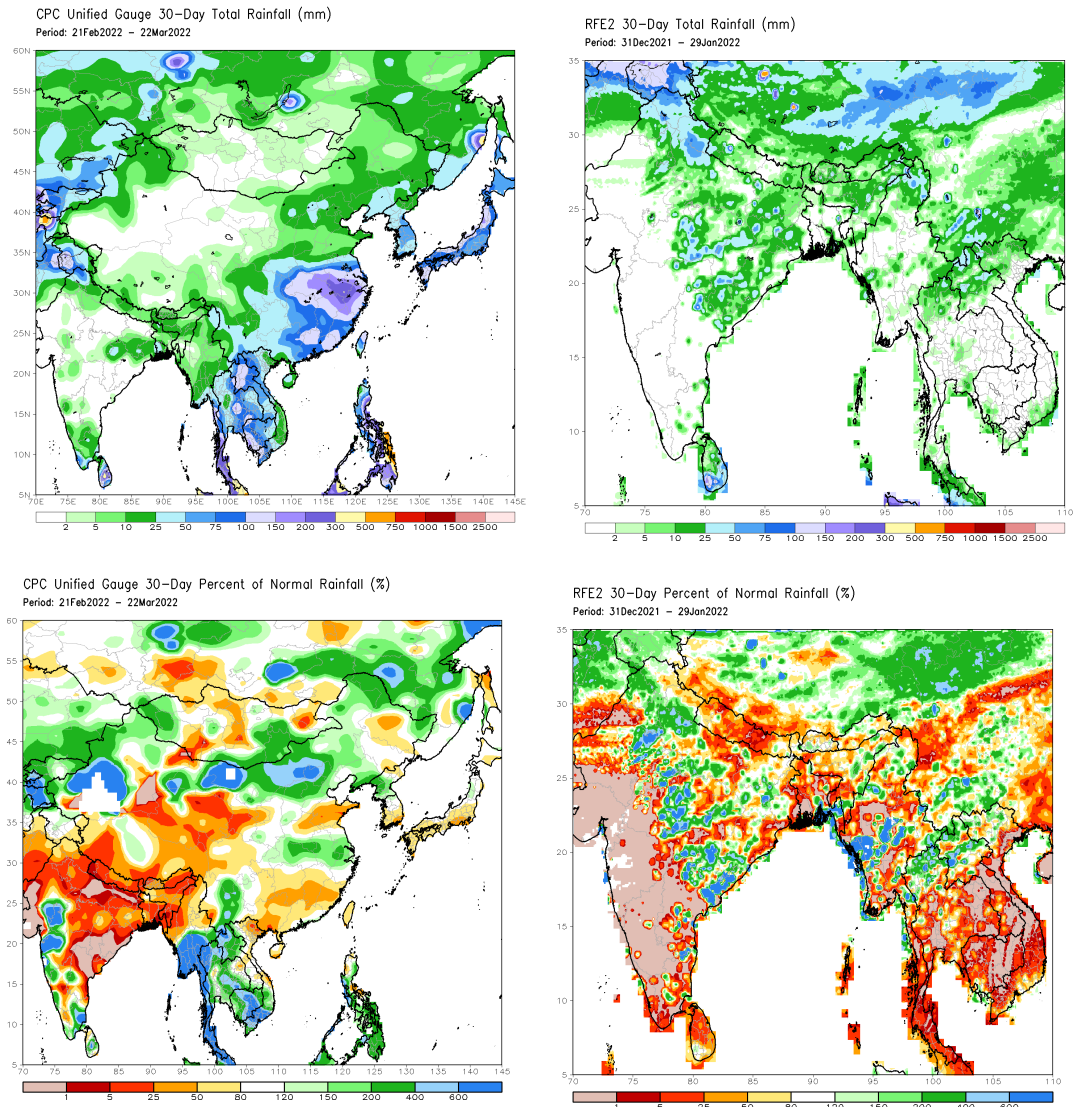
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



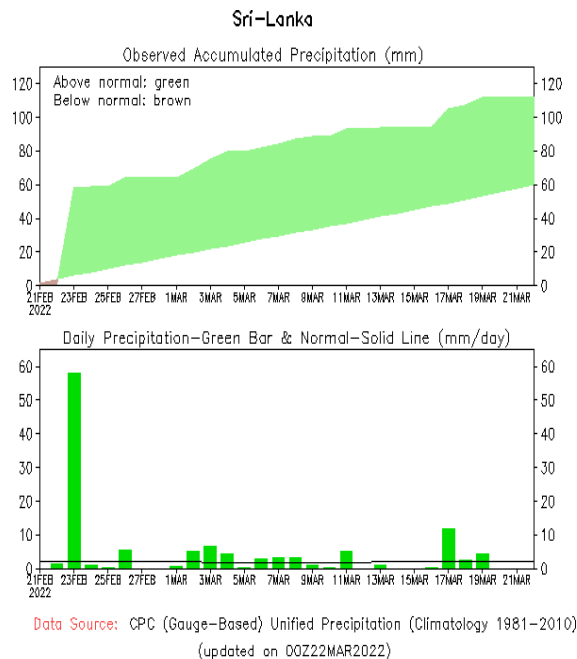
Monthly Average

Monthly Anomaly

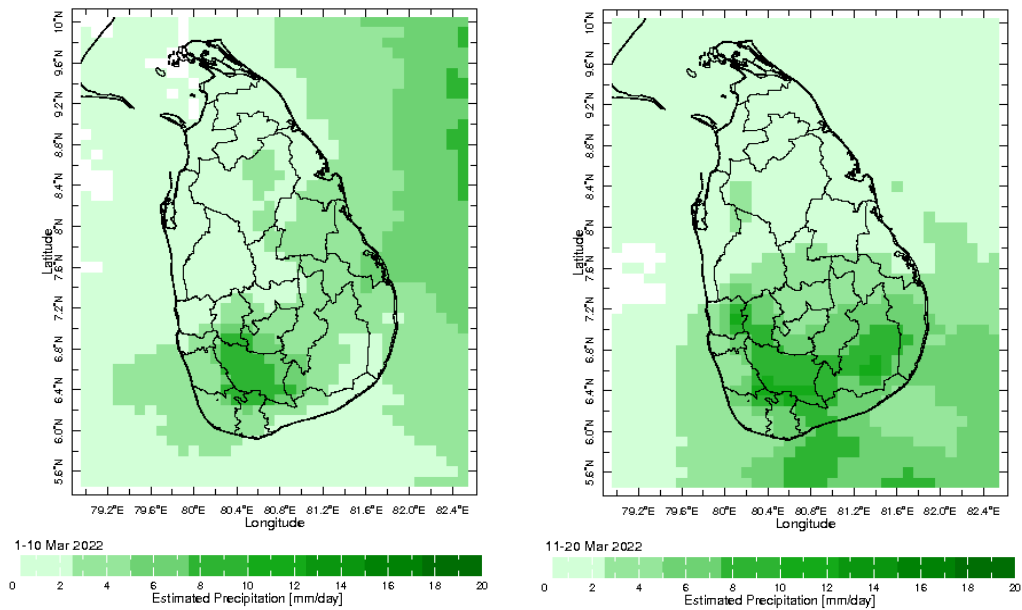
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



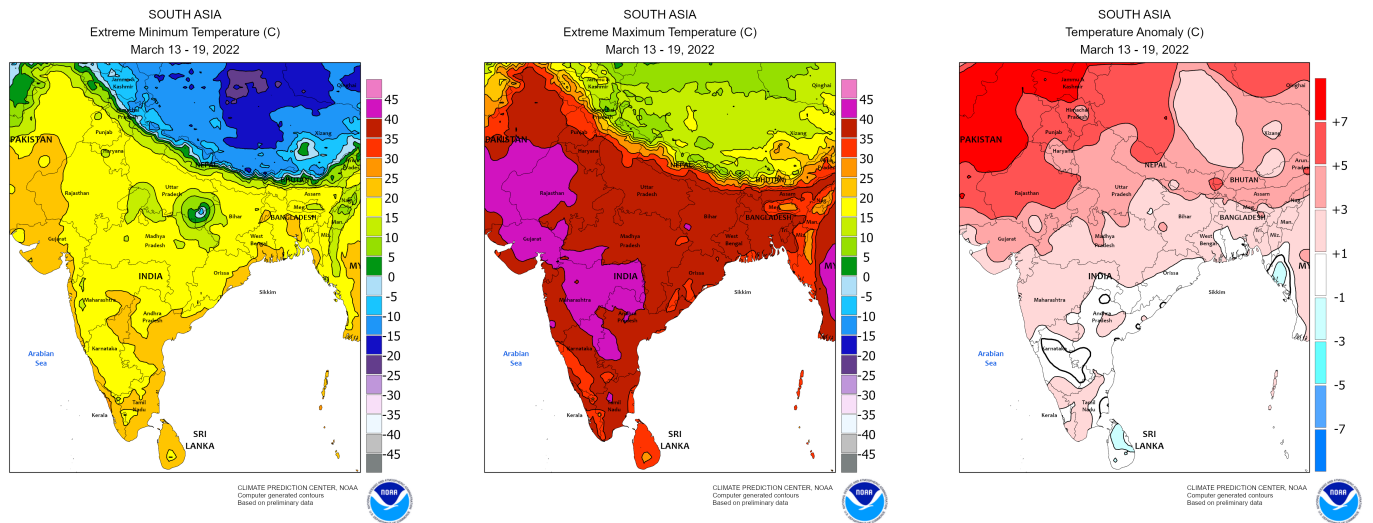
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

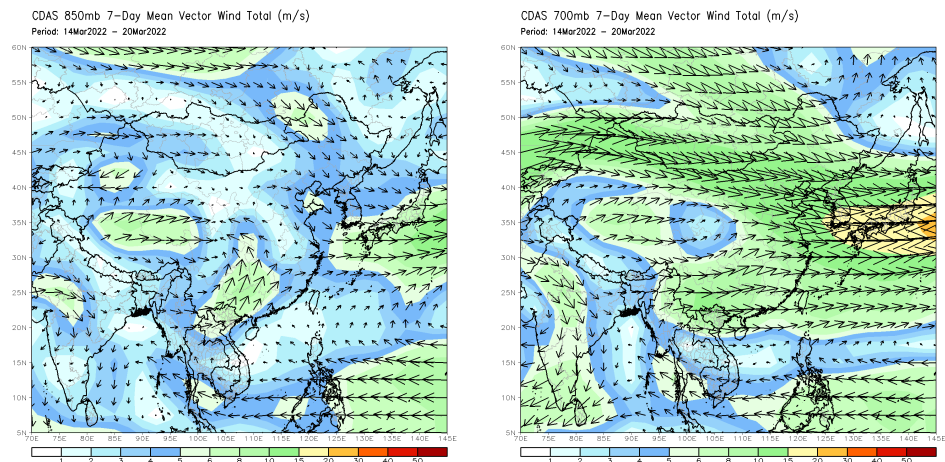


Weekly Temperature Monitoring



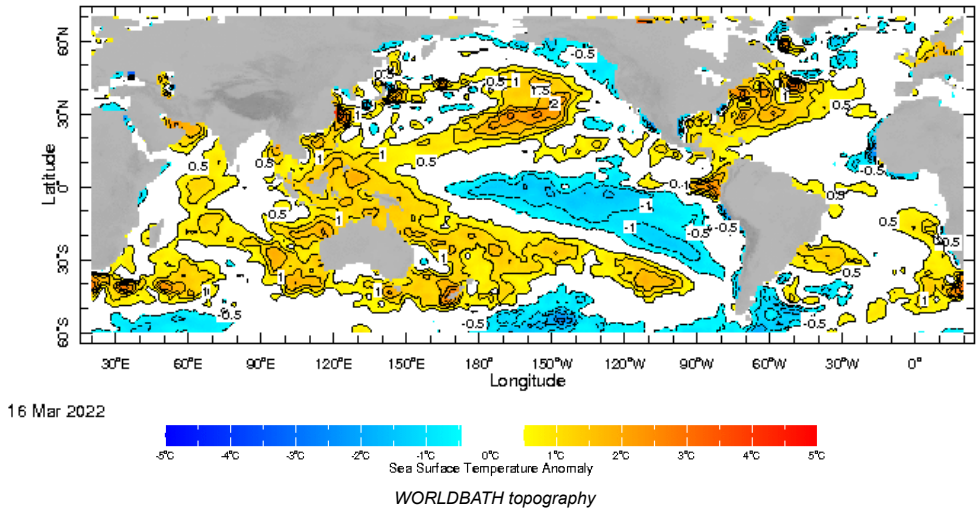
Weekly Wind Monitoring

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.

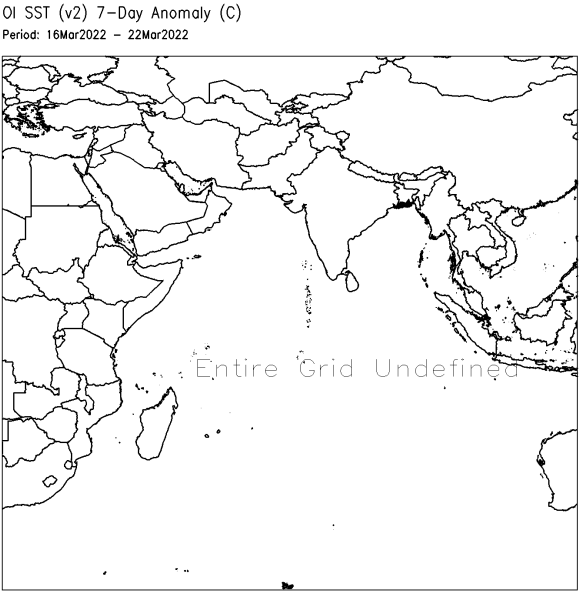


Weekly Average SST Anomalies

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

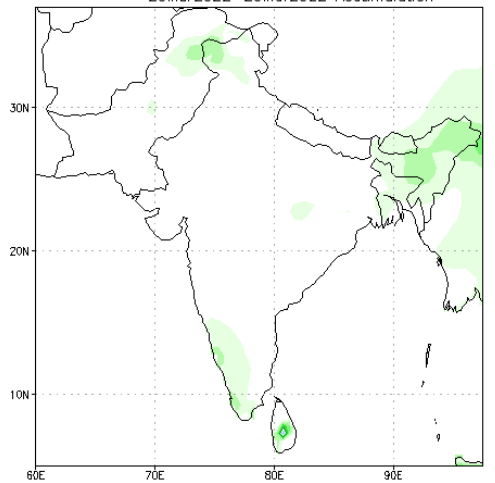


Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



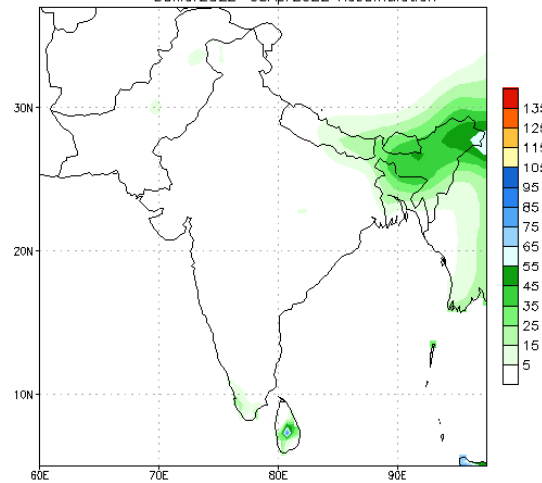
NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1–7 Day Precipitation (mm)
from: 23Mar2022
23Mar2022–29Mar2022 Accumulation



Bias correction based on last 30-day forecast error

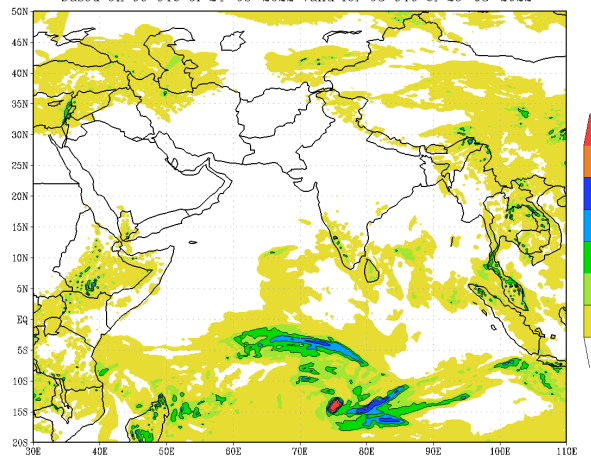
NCEP GFS Ensemble Forecast 8–14 Day Precipitation (mm)
from: 23Mar2022
30Mar2022–05Apr2022 Accumulation



Bias correction based on last 30-day forecast error

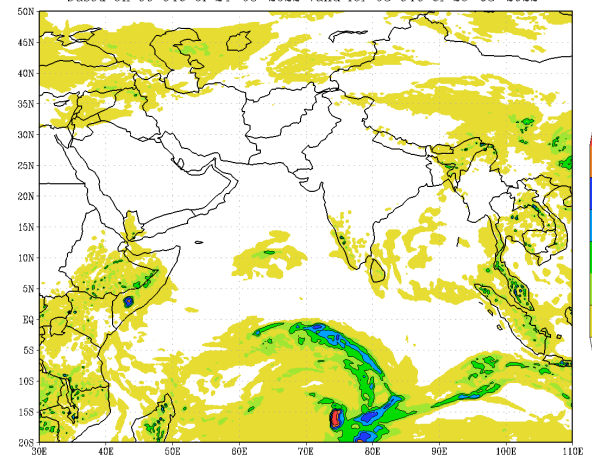
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (24 HR)
based on 00 UTC of 24-03-2022 valid for 03 UTC of 25-03-2022



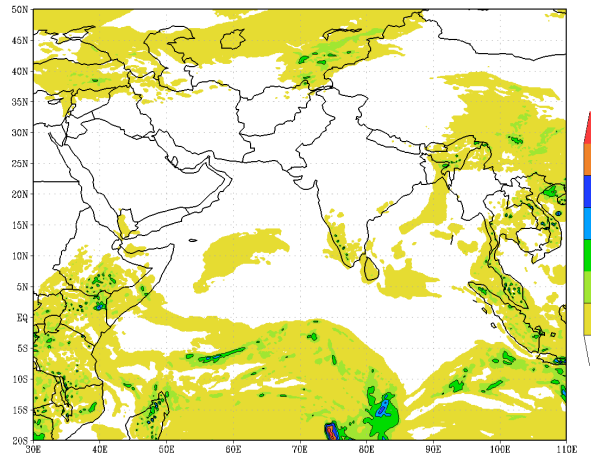
(Background does not depict political boundary)

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (48 HR)
based on 00 UTC of 24-03-2022 valid for 03 UTC of 26-03-2022



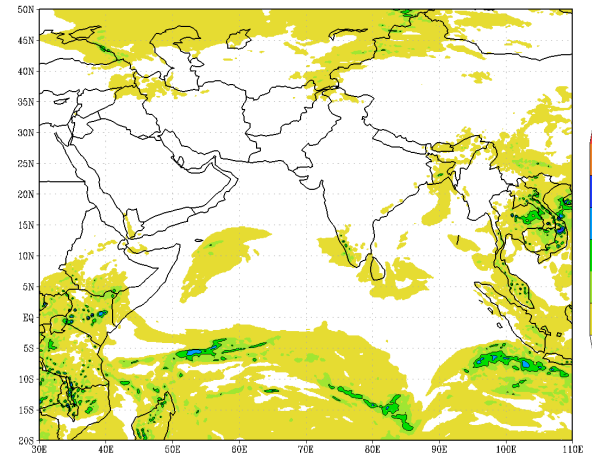
(Background does not depict political boundary)

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (72 HR)
based on 00 UTC of 24-03-2022 valid for 03 UTC of 27-03-2022

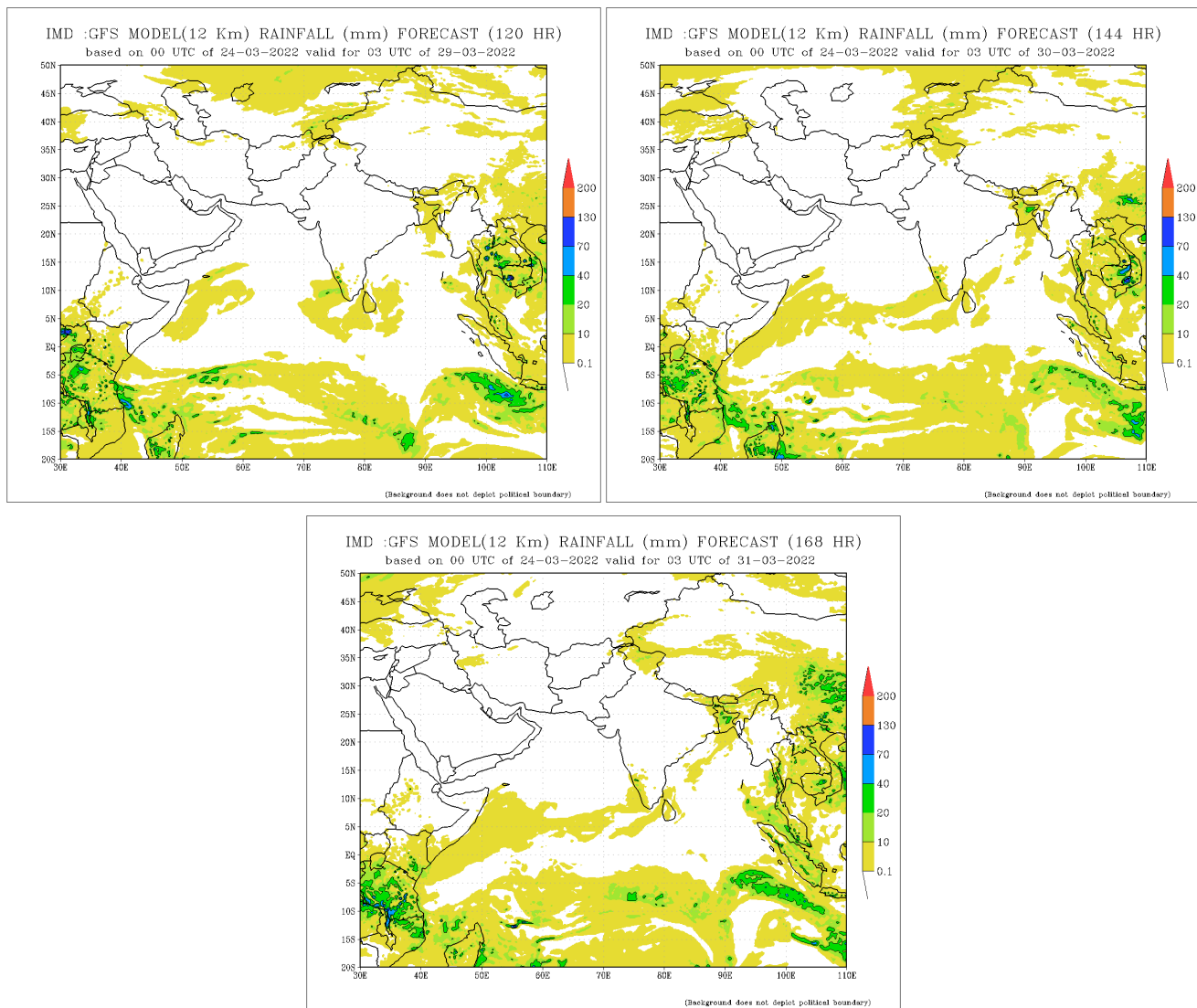


(Background does not depict political boundary)

IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (96 HR)
based on 00 UTC of 24-03-2022 valid for 03 UTC of 28-03-2022

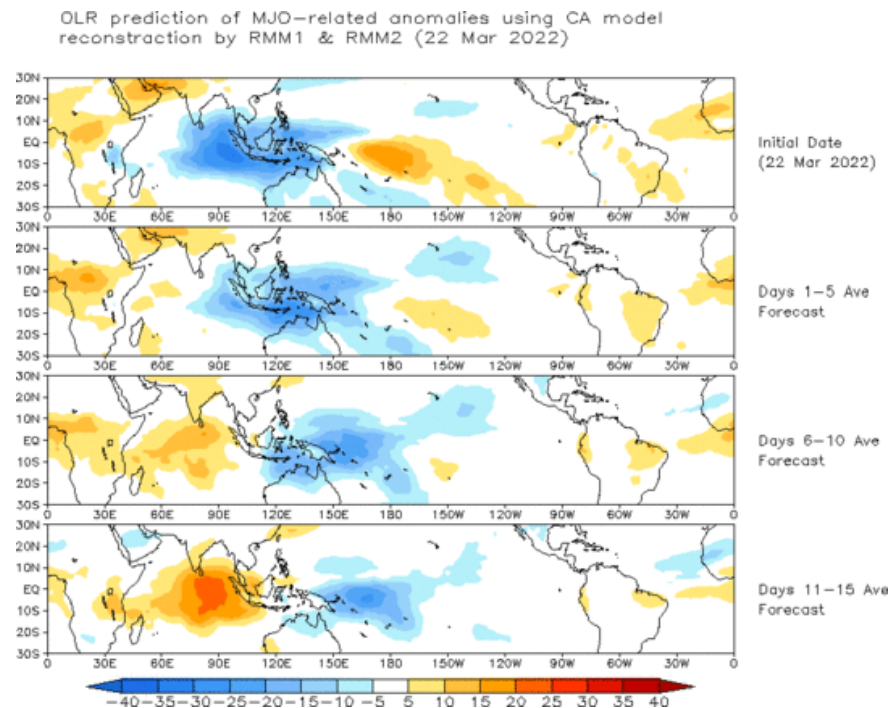


(Background does not depict political boundary)



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.

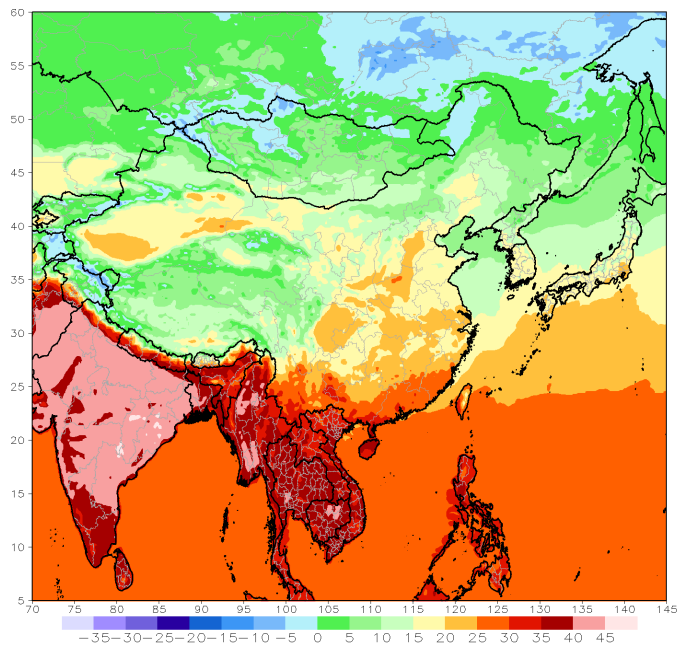


Weekly Temperature Forecast

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

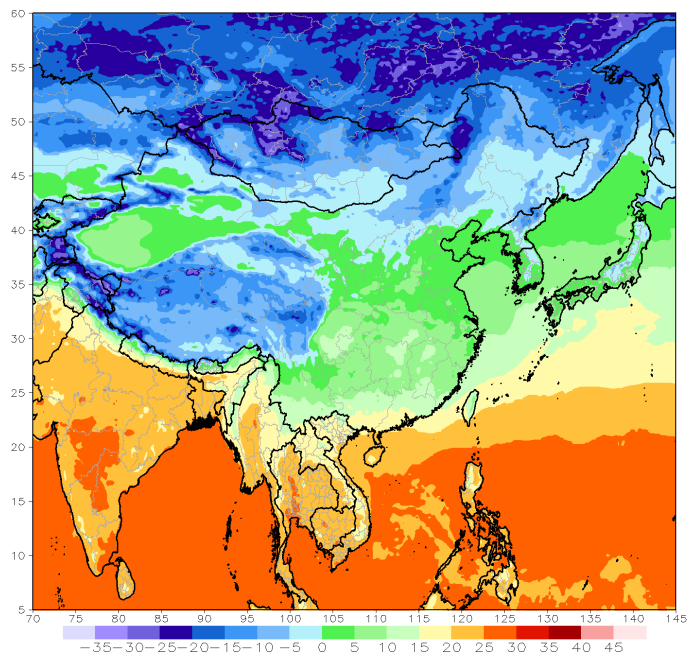
GFS week1 Temperature Max (C)

Period: 18z24Mar2022 - 18z30Mar2022



GFS week1 Temperature Min (C)

Period: 18z24Mar2022 - 18z30Mar2022

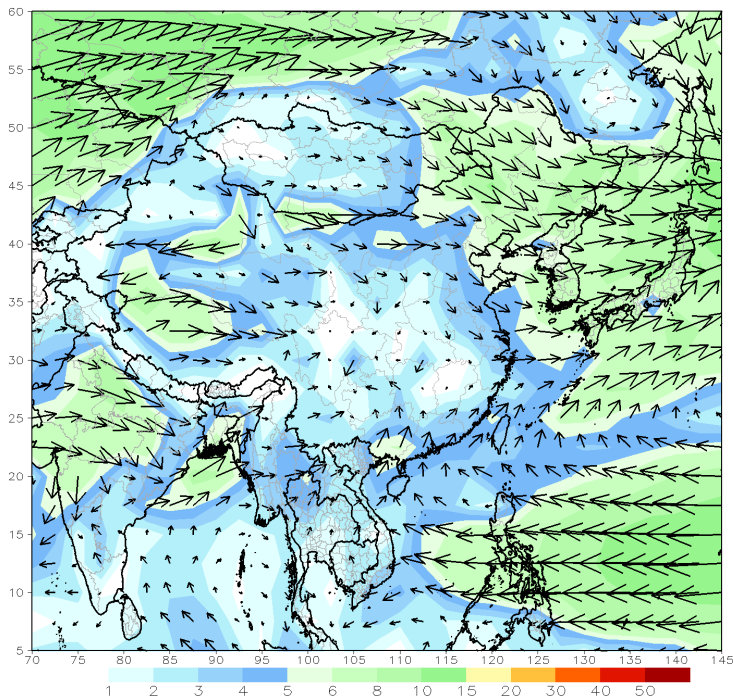


Weekly Wind Forecast

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

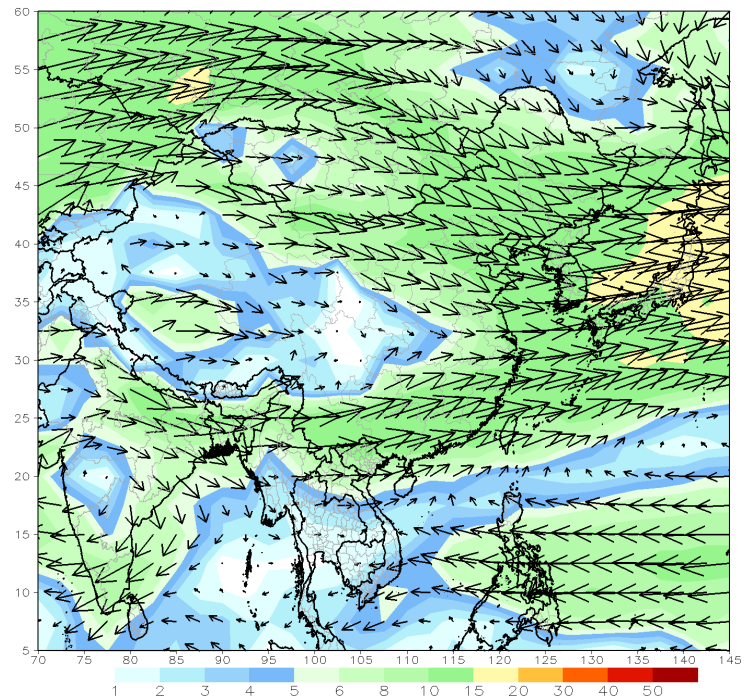
GFS 850mb week1 Mean Vector Wind Total (m/s)

Period: 18z24Mar2022 - 18z30Mar2022



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

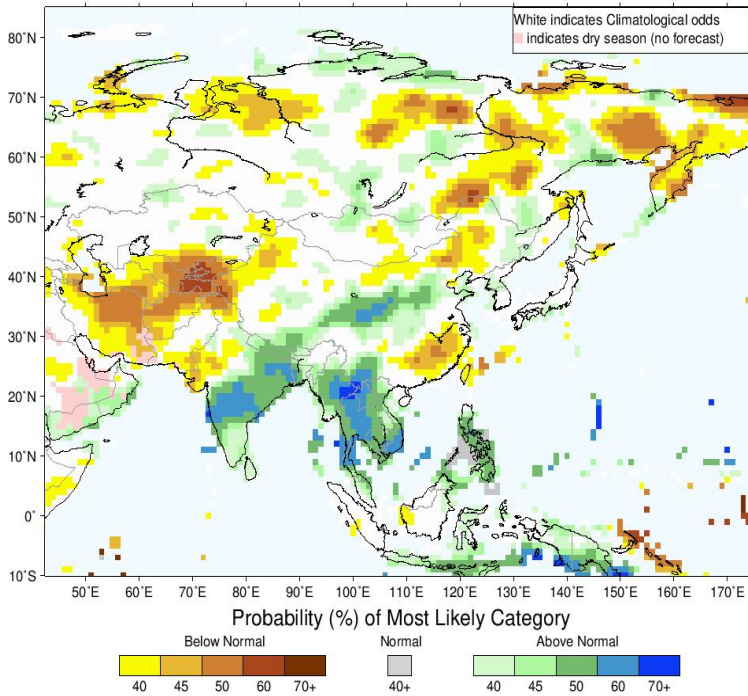
Period: 18z24Mar2022 - 18z30Mar2022



Seasonal Rainfall and Temperature Forecast

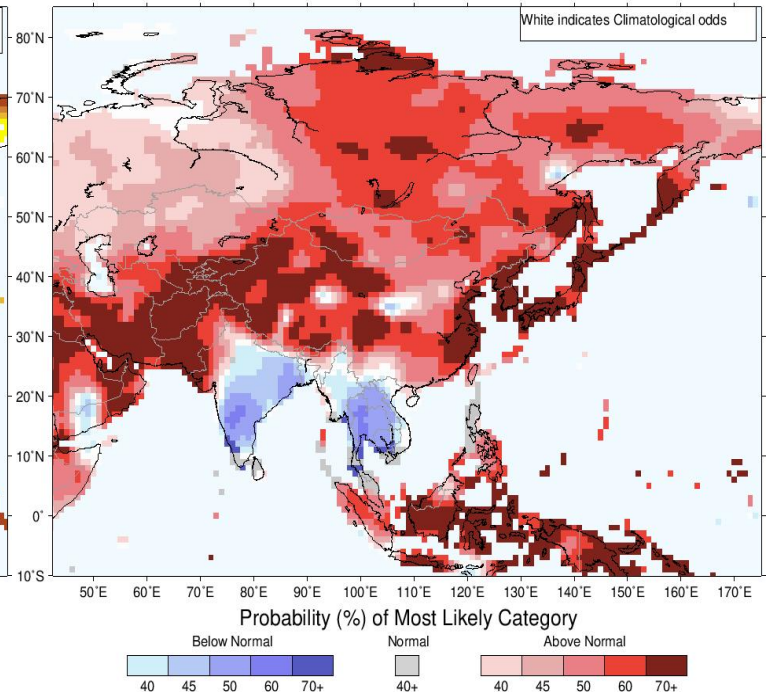
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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



Precipitation Forecast

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



Temperature Forecast

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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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