

HIGHLIGHTS

Rainfall Prediction



- High likelihood of moderate rainfall (25 - 50 mm) is predicted for the Eastern, Northern, Uva provinces and less rainfall (≤ 15 mm) is predicted for the rest during 14 - 20 Feb.

Monitored Rainfalls



- Rainfall on 5 Feb reached peak (64.5 mm) at Kahaduwa (SP).
- During the last week, average daily rainfall was 0.4 mm and hydro catchment was 0.7 mm.

Monitored & Predicted Wind



- Winds at 850mb (1.5 km) were north easterly from 5 - 11 Feb reaching up to 10 m/s.
- Winds at 850mb (1.5 km) are predicted easterly from 15 - 21 Feb reaching up to 5 m/s.

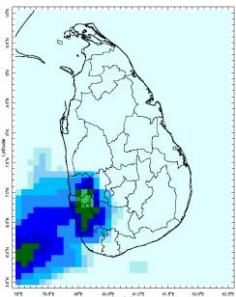
Monitored Sea & Land Temp



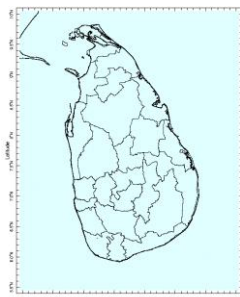
- Sea surface temperature around Sri Lanka was 0.5 - 1.5°C above normal.
- Strong EL Nino and positive indian ocean dipole patterns sustained.
- Maximum daily temperature was in Katunayake & Colombo (35.5°C).

Monitoring Rainfall

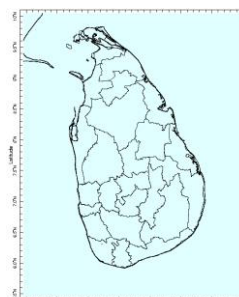
Daily Estimates for Rainfall from 5th February - 12th February 2024



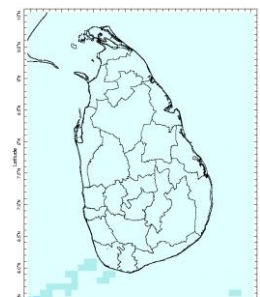
5 February



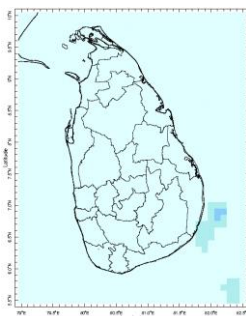
6 February



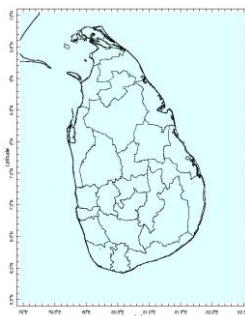
7 February



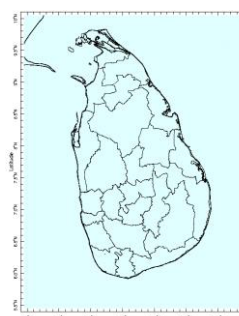
8 February



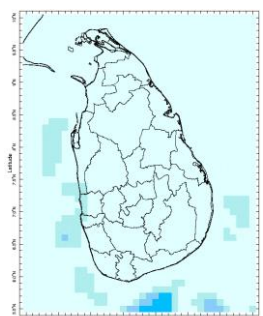
9 February



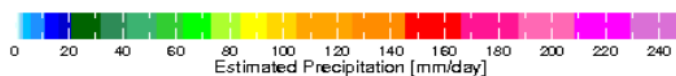
10 February



11 February



12 February



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: February 8, 2024

The SST Anomalies for the NINO3.4 region shows a +1.7 °C on the week ending 8th Feb - thus a strong El Niño is sustained. Consensus of models predict a continuation of the El Niño event until May 2024 before weakening thereafter.

Indian Ocean State

Sea surface temperature around Sri Lanka was 0.5°C above normal to the country in 23rd - 29th January 2024. A positive Dipole Mode has set in across the Indian Ocean since 8th of June.

Predictions

Rainfall

14 Day prediction: NCEP GFS models

From 14th February - 20th February:

Total rainfall by Provinces:

Rainfall (mm)	Provinces
45	Eastern
35	Northern
25	Uva
15	Central, Southern, North Central
≤ 5	Western, Sabaragamuwa, North Western

From 21st February - 27th February:

Total rainfall by Provinces:

Rainfall (mm)	Provinces
55	Eastern
45	Northern
25	Uva, Central, Southern
≤ 15	Sabaragamuwa, North Western, North Central, Western

MJO based OLR predictions

For the next 15 days:

MJO shall moderately suppress the rainfall during 14th - 18th February, slightly suppress the rainfall during 19th- 23rd February, and near neutral the rainfall during 24th - 28th February for Sri Lanka.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (7th February - 14th February) = 0.4 mm
Maximum Daily Rainfall: 10.2 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	0.0	31.6	23.6
Eastern hills	0.6	25.9	16.8
Eastern plains	0.6	31.1	24.3
Western hills	0.4	28.2	18.6
Western plains	0.2	33.5	23.8
Southern plains	0.9	32.9	23.9

Region	Average rainfall for last 8 days (mm)	Daily maximum rainfall for last 8 days (mm)	Daily minimum rainfall for last 8 days (mm)
Hydro catchment	0.7	16.8	0.0

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

Temperatures: The temperature anomalies were above normal for some parts of the Southern, Western, Sabaragamuwa, Central, Uva, Eastern, and Northern provinces of the country driven by the warm SST's.

Predictions

Rainfall: During the next week (14th February - 20th February), moderate rainfall is predicted for the Eastern, Northern, and Uva provinces and less rainfall is predicted for the rest of the country.

Temperatures: The temperature will remain above normal for some parts of the North Western, Western, Southern, Northern, and North Central provinces during 15th - 21st February.

Teleconnections: A positive Dipole Mode has set in across the Indian Ocean since 8th of June. MJO shall moderately suppress the rainfall during 14th - 18th February, slightly suppress the rainfall during 19th- 23rd February, and near neutral the rainfall during 24th - 28th February for Sri Lanka.

Seasonal Precipitation: The precipitation forecast for the February-March-April, 2024 season shows near normal precipitation.

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.



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Weekly Climate Bulletin for Sri Lanka

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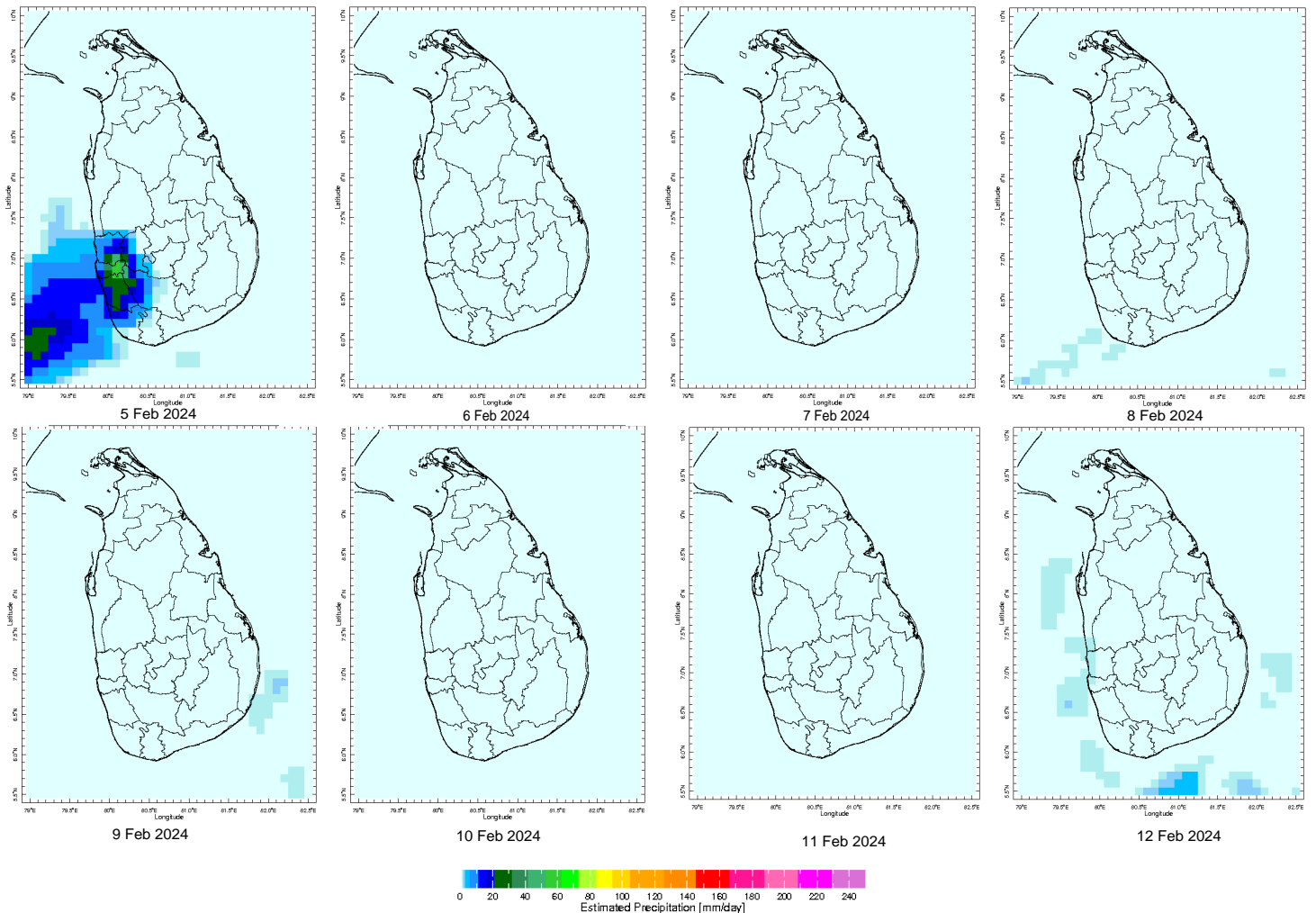
2. Predictions

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MONITORING

Daily Rainfall Monitoring

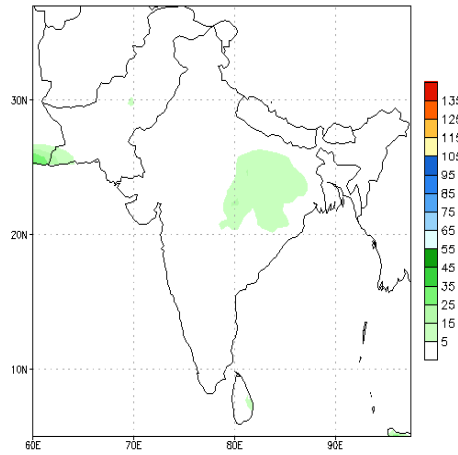
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



Weekly Rainfall Monitoring

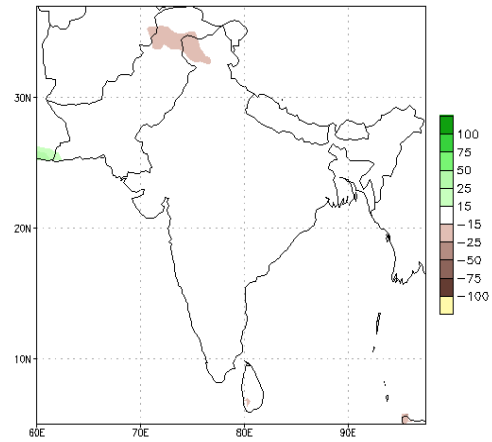
The following figures show the total satellite observed rainfall in the last week in Sri Lanka. The figure in the left is the total 7-day rainfall from NOAA Climate Prediction Center (CPC) Unified Precipitation Analysis and the figure in the right is the total 7-day rainfall from CPC RFE 2.0 Satellite Rainfall Estimates. The bottom two figures are the respective anomalies.

7-day Accumulated Prop (mm) 07FEB2024-13FEB2024



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

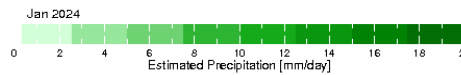
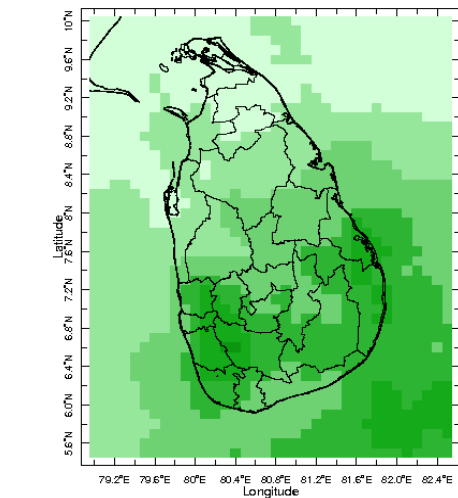
7-day Prop Anomalies (mm) 07FEB2024-13FEB2024



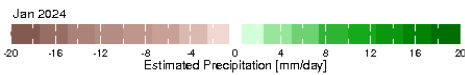
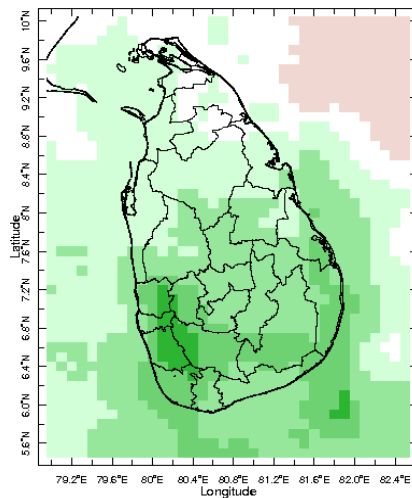
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1991-2020)

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



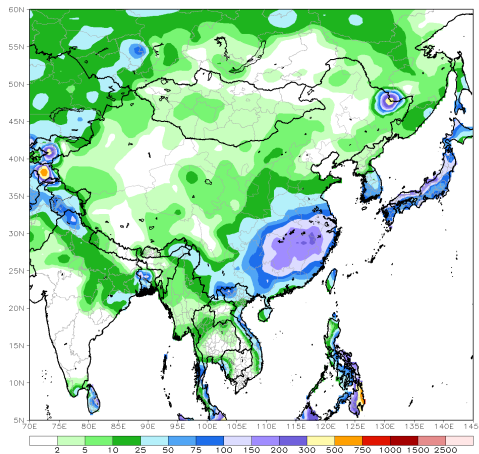
Monthly Average



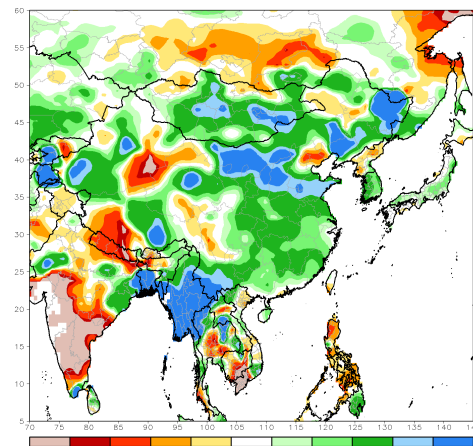
Monthly Anomaly

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.

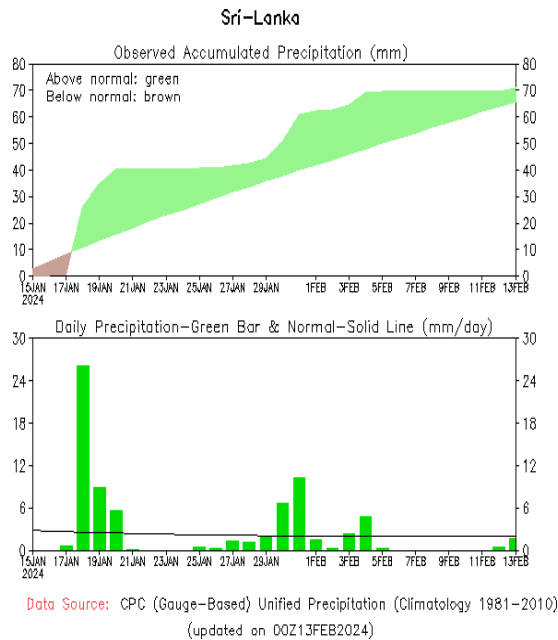
CPC Unified Gauge 30-Day Total Rainfall (mm)
Period: 15Jan2024 - 13Feb2024



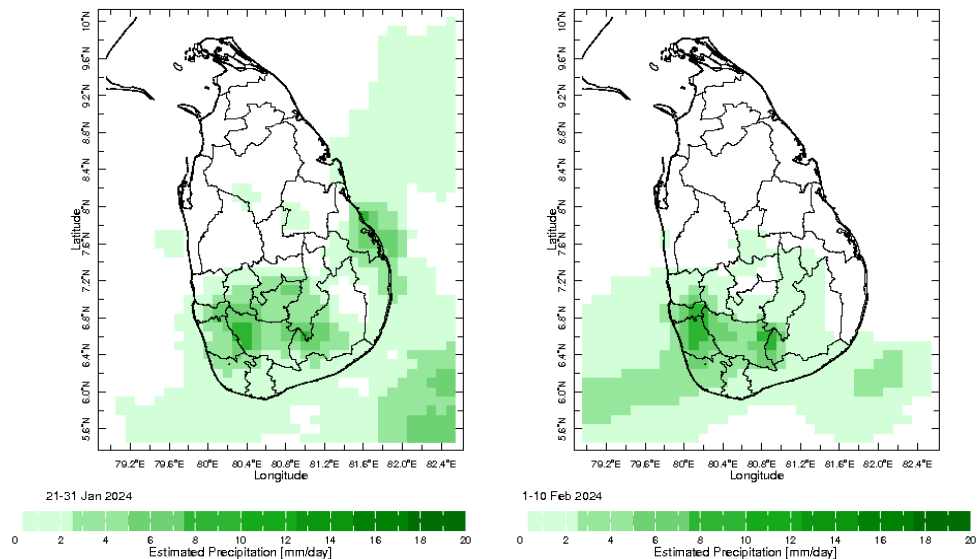
CPC Unified Gauge 30-Day Percent of Normal Rainfall (%)
Period: 15Jan2024 - 13Feb2024



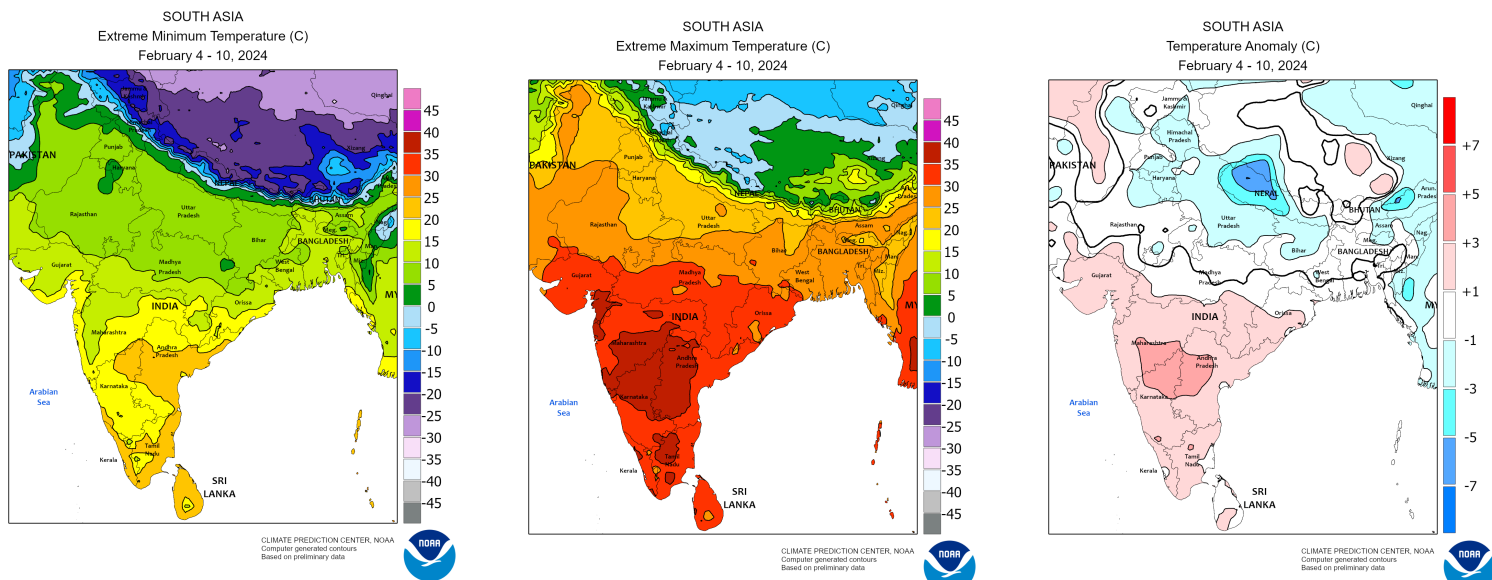
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

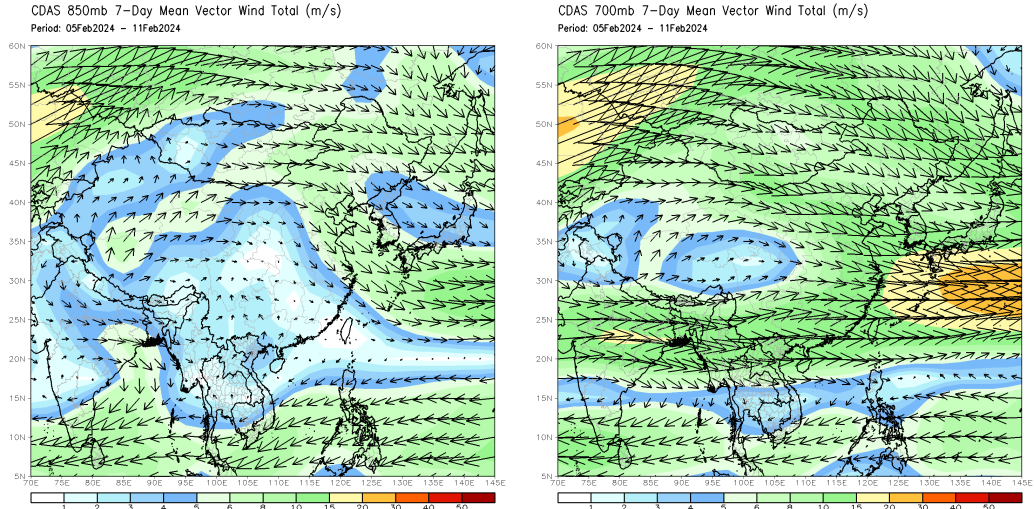


Weekly Temperature Monitoring



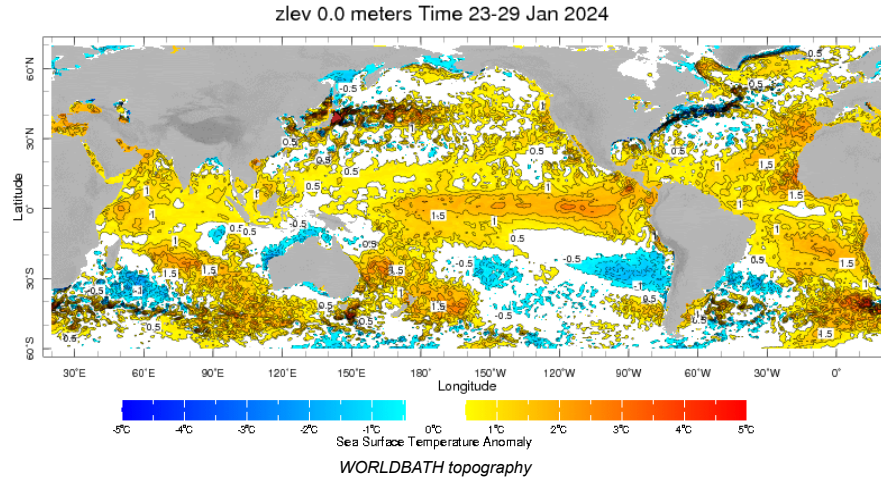
Weekly Wind Monitoring

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.

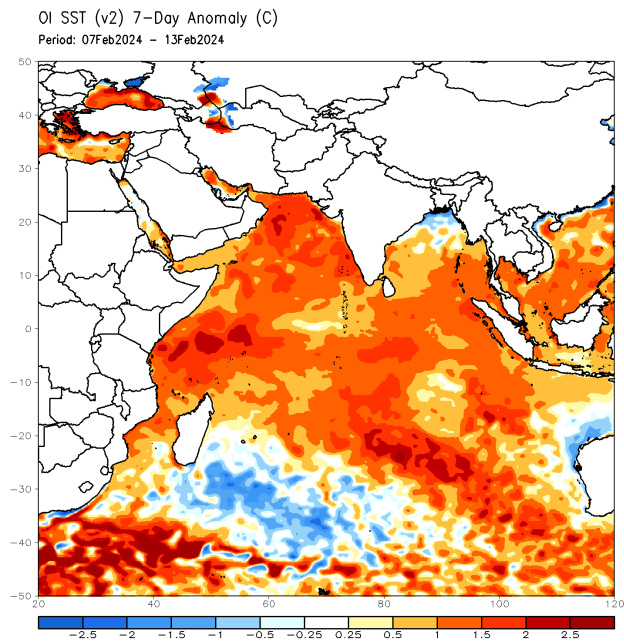


Weekly Average SST Anomalies

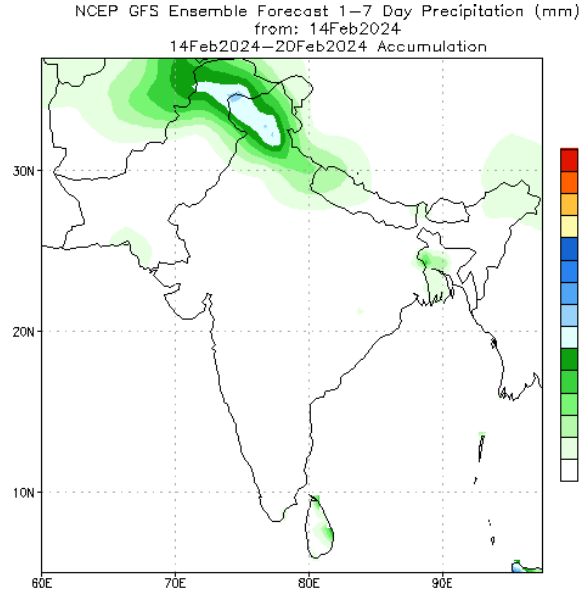
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



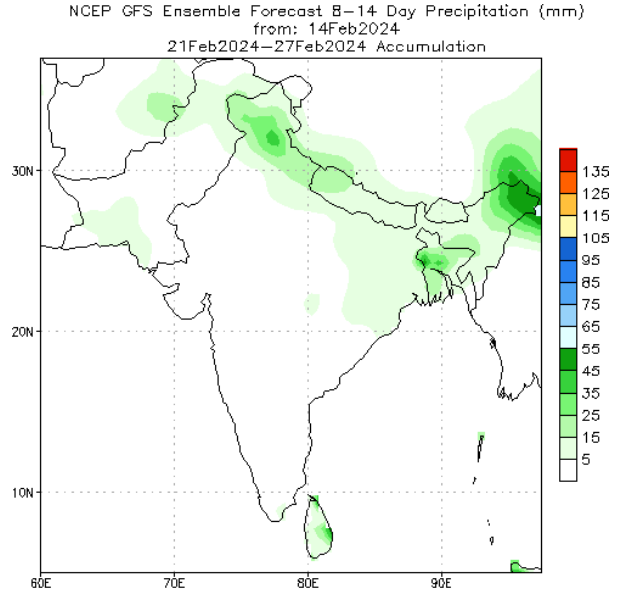
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



NCEP GFS 1- 14 Day prediction

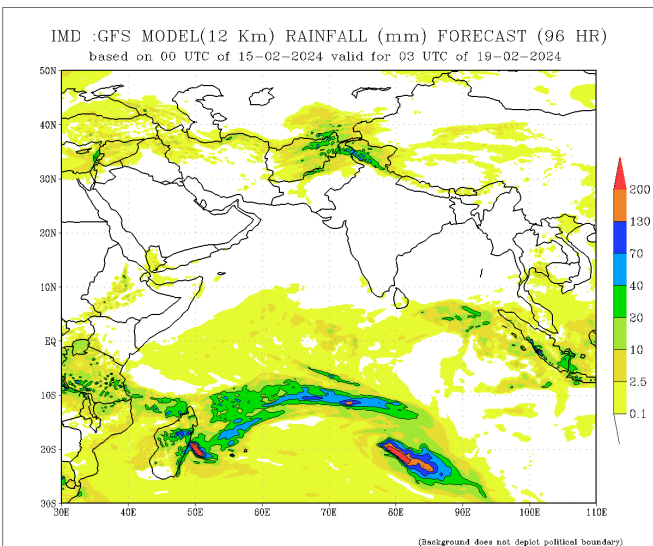
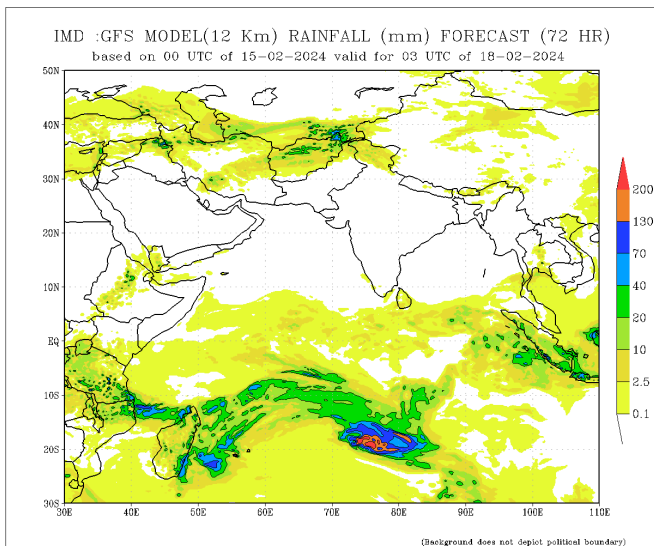
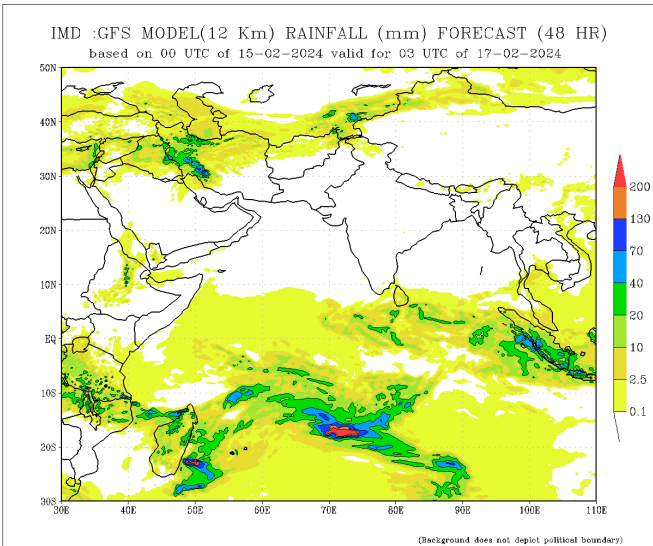
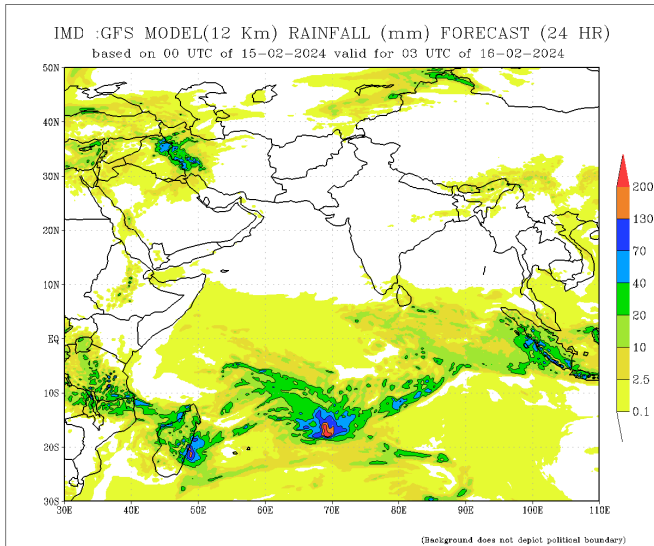


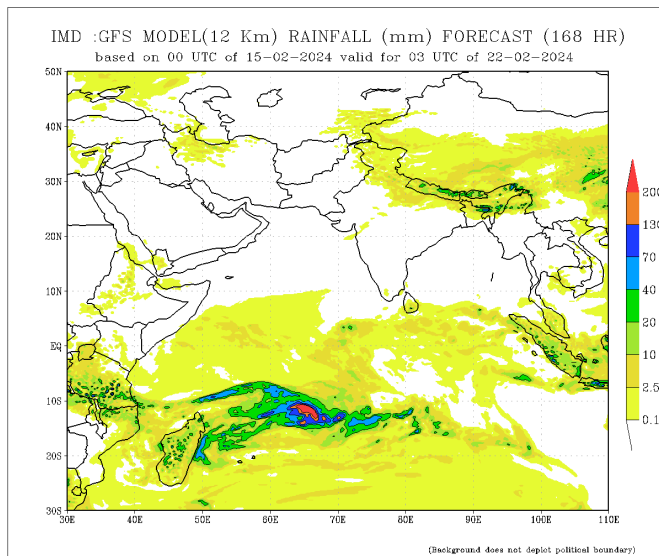
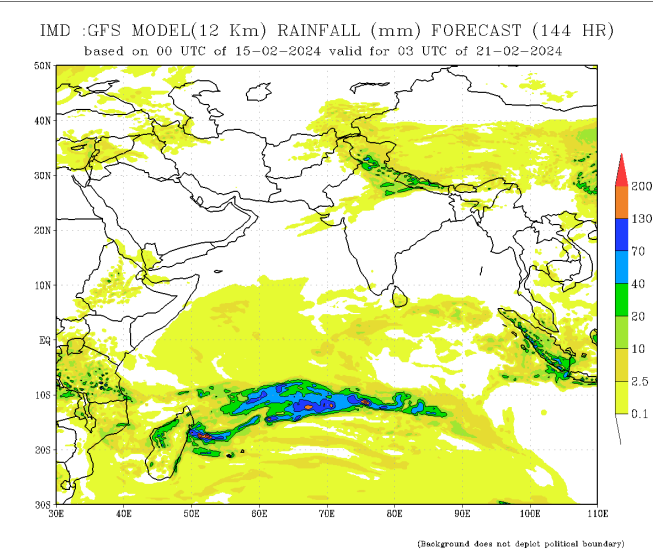
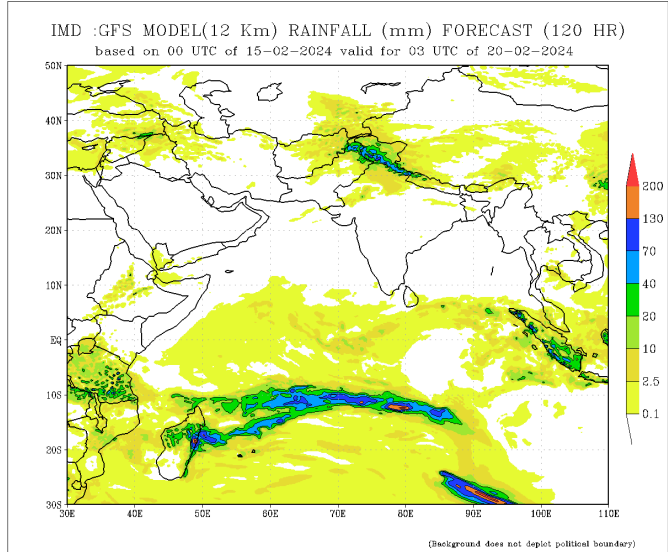
Bias correction based on last 30-day forecast error



Bias correction based on last 30-day forecast error

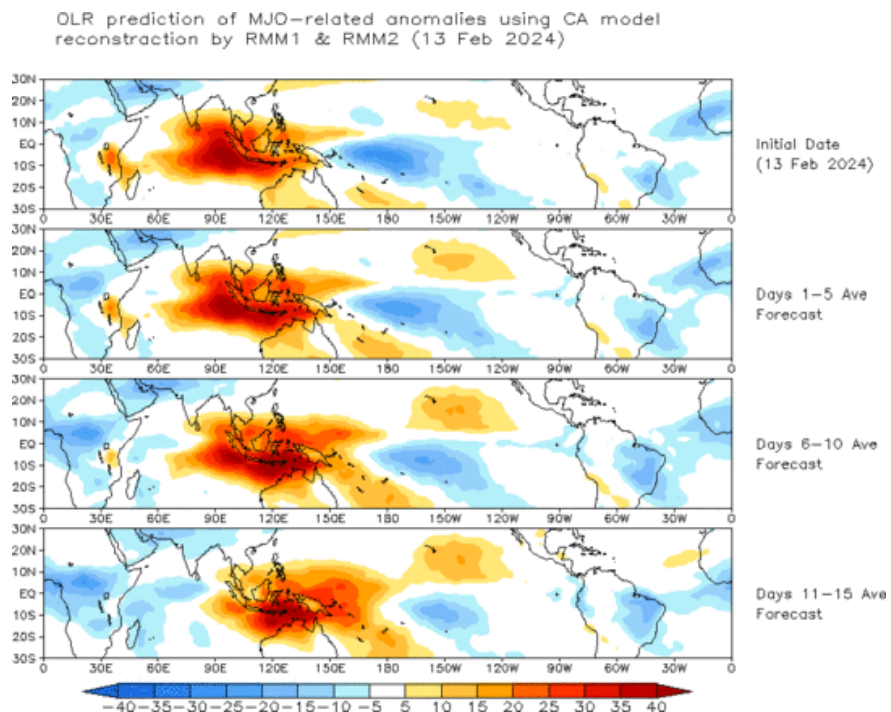
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





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

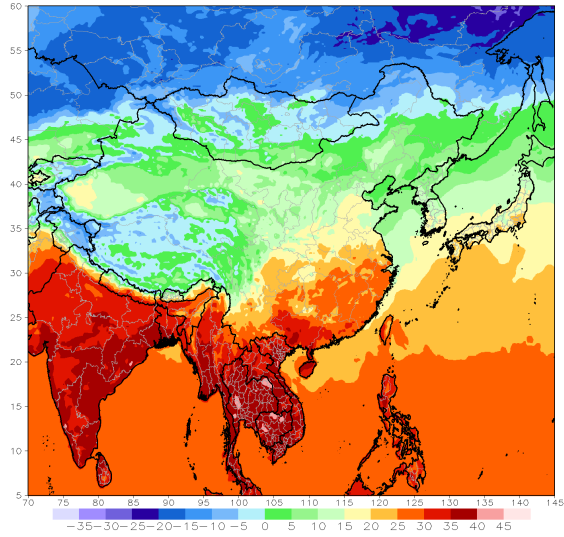
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



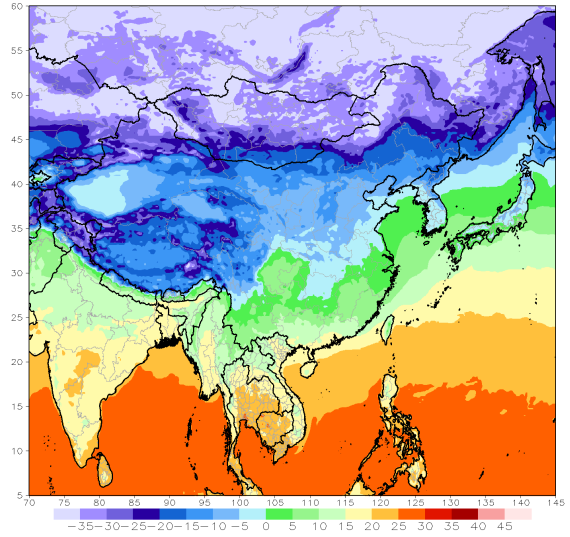
Weekly Temperature Forecast

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

GFS week1 Temperature Max (C)
Period: 18z15Feb2024 - 18z21Feb2024



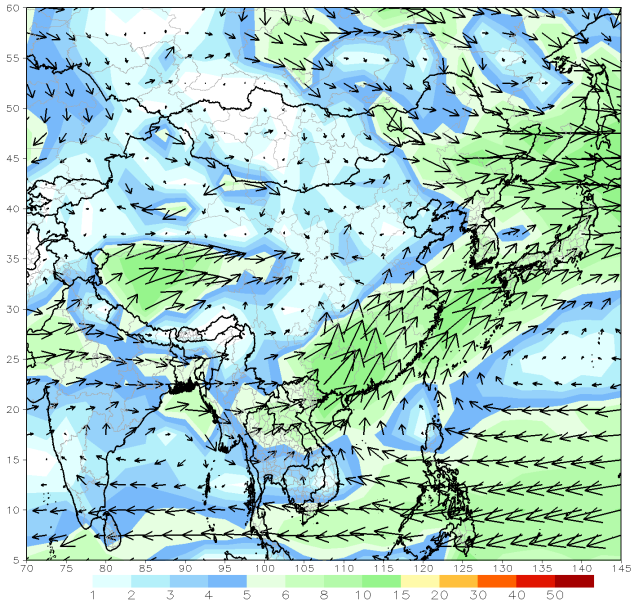
GFS week1 Temperature Min (C)
Period: 18z15Feb2024 - 18z21Feb2024



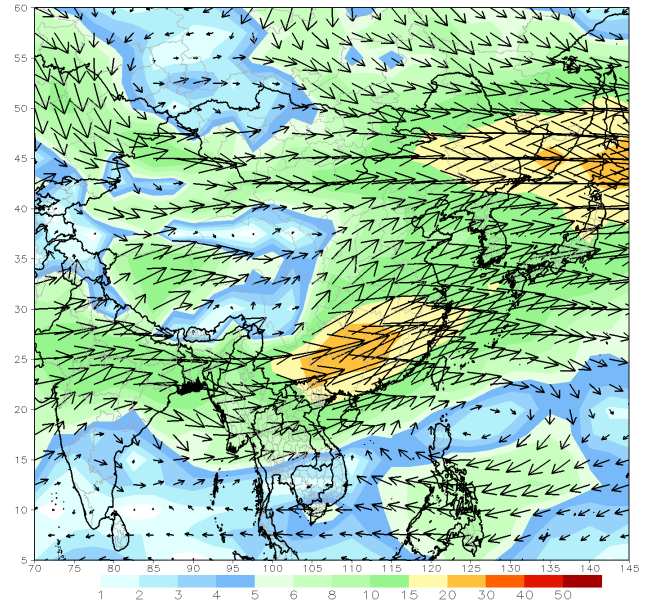
Weekly Wind Forecast

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: 18z15Feb2024 - 18z21Feb2024



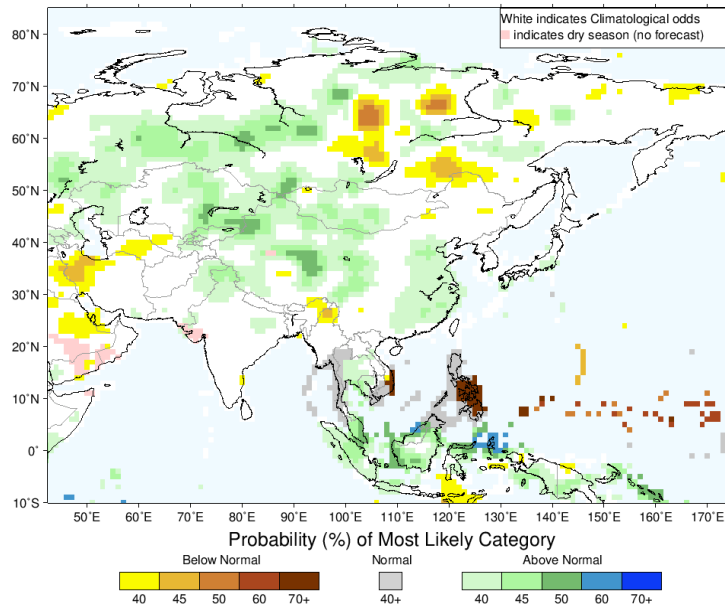
GFS 700mb week1 Mean Vector Wind Total (m/s)
Period: 18z15Feb2024 - 18z21Feb2024



Seasonal Rainfall and Temperature Forecast

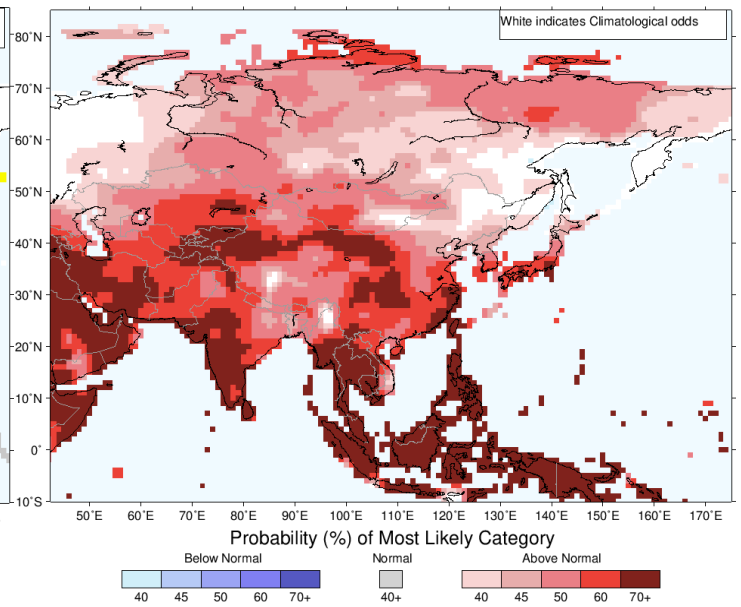
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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 February–March–April 2024, Issued January 2024



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for February–March–April 2024, Issued January 2024



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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