

HIGHLIGHTS

Rainfall Prediction



• High likelihood of fairly heavy rainfall (50 - 100 mm) is predicted for Eastern and Uva provinces and less rainfall (≤ 35 mm) is predicted for the rest during 7 - 13 Feb.

Monitored Rainfalls



• Rainfall on 31 Jan reached peak (126 mm) at Deniyaya (SP).
• During the last week, average daily rainfall was 3.0 mm and hydro catchment was 6.9 mm.

Monitored & Predicted Wind



• Winds at 850mb (1.5 km) were north easterly from 29 Jan - 4 Feb reaching up to 10 m/s.
• Winds at 850mb (1.5 km) are predicted north easterly from 8 - 14 Feb reaching up to 10 m/s.

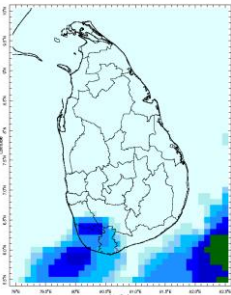
Monitored Sea & Land Temp



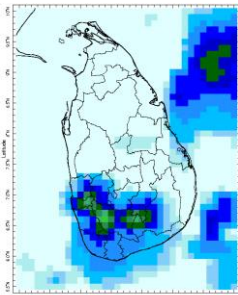
• Sea surface temperature around Sri Lanka was 0.5 - 1.5°C above normal.
• Strong EL Nino and positive indian ocean dipole patterns sustained.
• Maximum daily temperature was in Katunayake (35.8°C) and Kurunegala (34.9°C).

Monitoring Rainfall

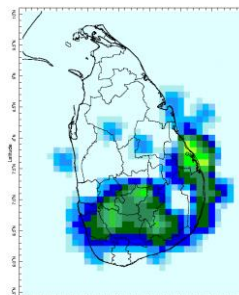
Daily Estimates for Rainfall from 29th January - 5th February 2024



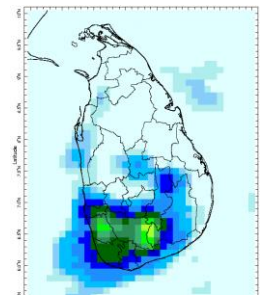
29 January



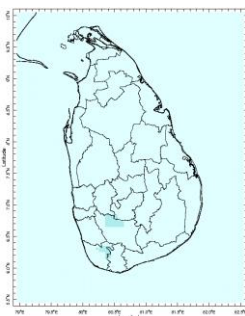
30 January



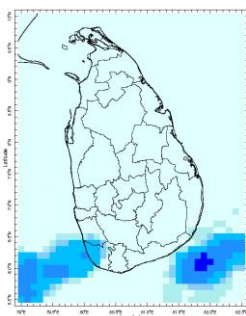
31 January



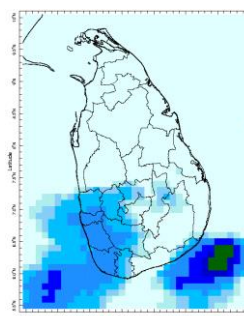
1 February



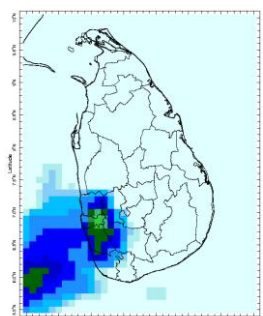
2 February



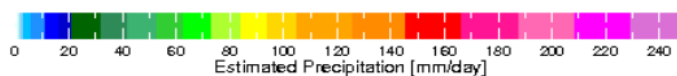
3 February



4 February



5 February



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: February 5, 2024

The SST Anomalies for the NINO3.4 region shows a +1.7 °C on the week ending 5th 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 16th - 22nd January 2024. A positive Dipole Mode has set in across the Indian Ocean since 8th of June.

Predictions

Rainfall

7 Day prediction: NCEP GFS models

From 7th February - 13th February:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall significantly suppress the rainfall during 7th - 21st February for Sri Lanka.

Interpretation

Monitoring

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

Daily Average Rainfall in the Met stations for previous week of (31st January - 7th February) = 3.0 mm
Maximum Daily Rainfall: 41.4 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	1.3	31.5	23.7
Eastern hills	3.0	26.3	16.6
Eastern plains	3.8	31.1	23.9

Western hills	8.4	28.8	18.3
Western plains	1.7	32.6	24.0
Southern plains	0.7	32.4	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	6.9	125.0	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 the country driven by the warm SST's.

Predictions

Rainfall: During the next week (7th February - 13th February), fairly heavy rainfall is predicted for the Eastern and Uva provinces and less rainfall is predicted for rest of the country.

Temperatures: The temperature will remain above normal for some parts of the Western, North Western, North Central, and Southern provinces during 8th - 14th February.

Teleconnections: A positive Dipole Mode has set in across the Indian Ocean since 8th of June. MJO shall significantly suppress the rainfall during 7th - 21st 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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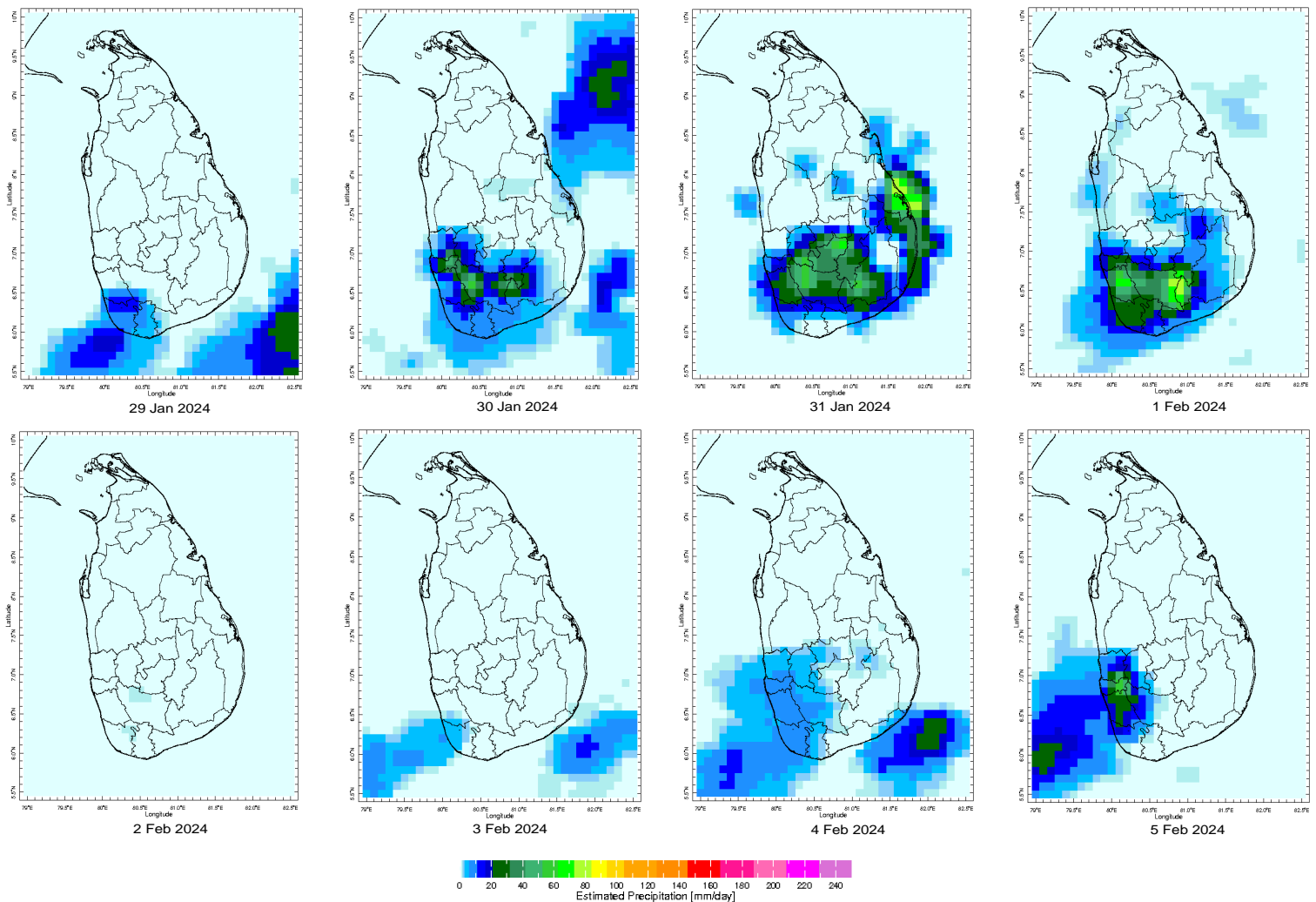
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MONITORING

Daily Rainfall Monitoring

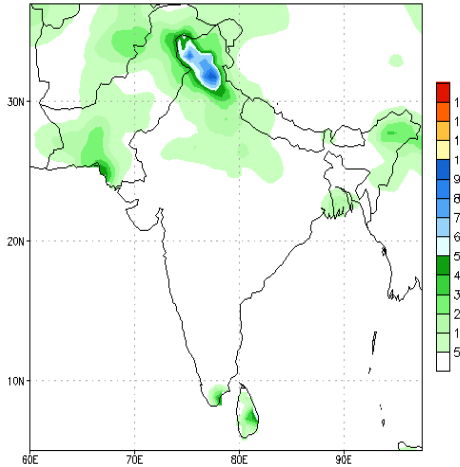
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



Weekly Rainfall Monitoring

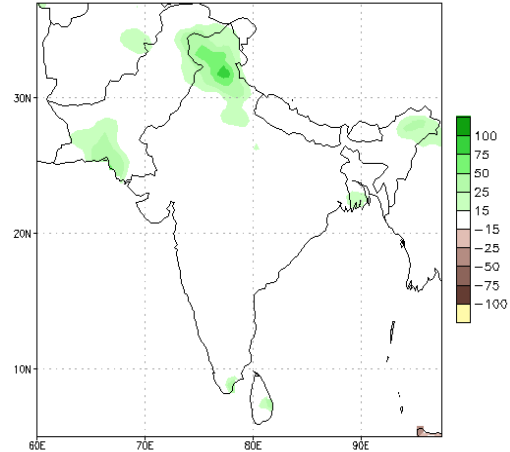
The following figures show the total satellite observed rainfall in the last week in Sri Lanka. The figure in the left is the total 7-day rainfall from NOAA Climate Prediction Center (CPC) Unified Precipitation Analysis and the figure in the right is the total 7-day rainfall from CPC RFE 2.0 Satellite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

7-day Accumulated Prop (mm) 31JAN2024-06FEB2024



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

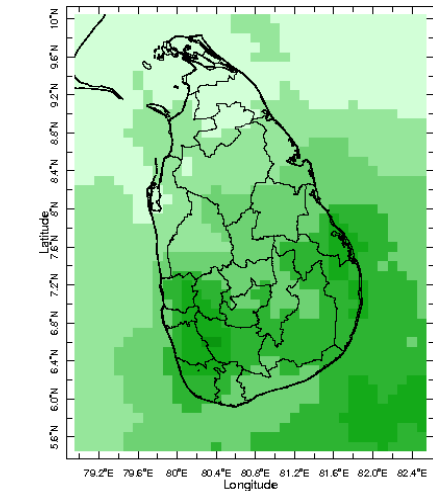
7-day Prop Anomalies (mm) 31JAN2024-06FEB2024



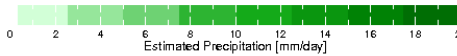
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis
Climatology (1991-2020)

Monthly Rainfall Monitoring

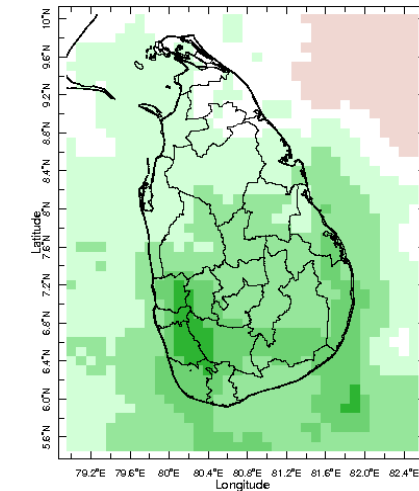
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



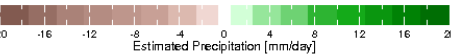
Jan 2024



Monthly Average



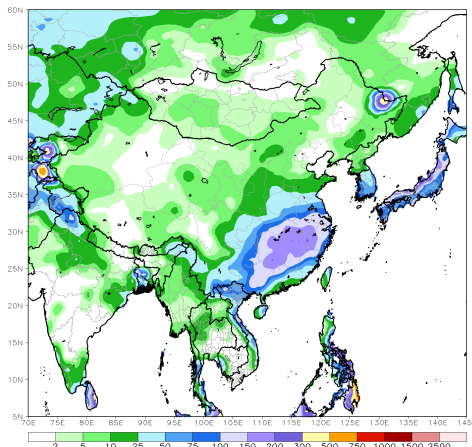
Jan 2024



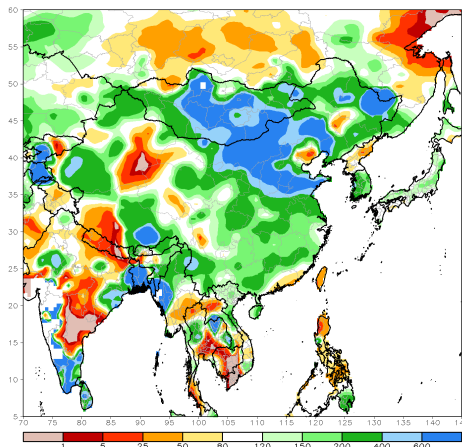
Monthly Anomaly

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.

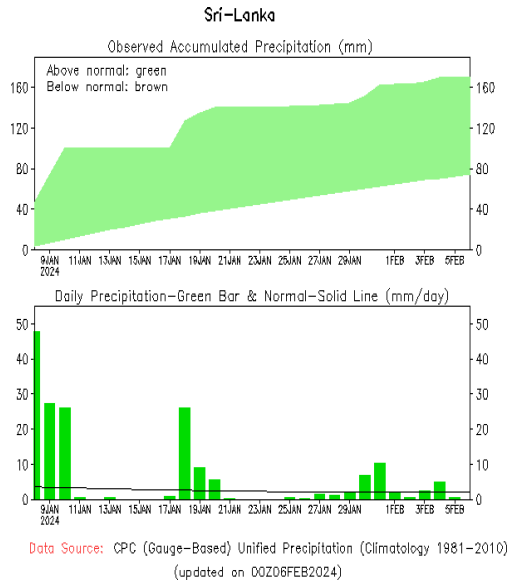
CPC Unified Gauge 30-Day Total Rainfall (mm)
Period: 08Jan2024 - 06Feb2024



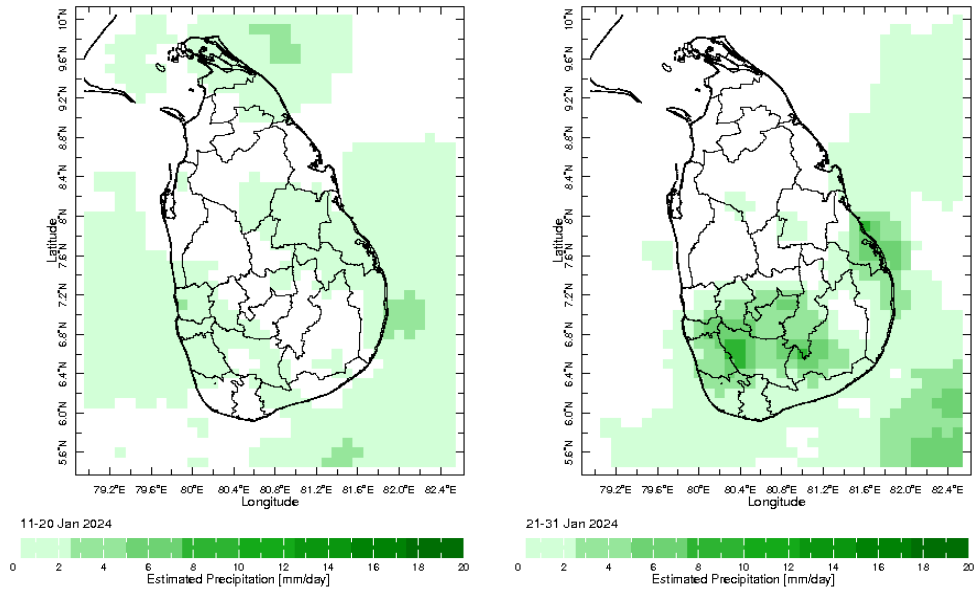
CPC Unified Gauge 30-Day Percent of Normal Rainfall (%)
Period: 08Jan2024 - 06Feb2024



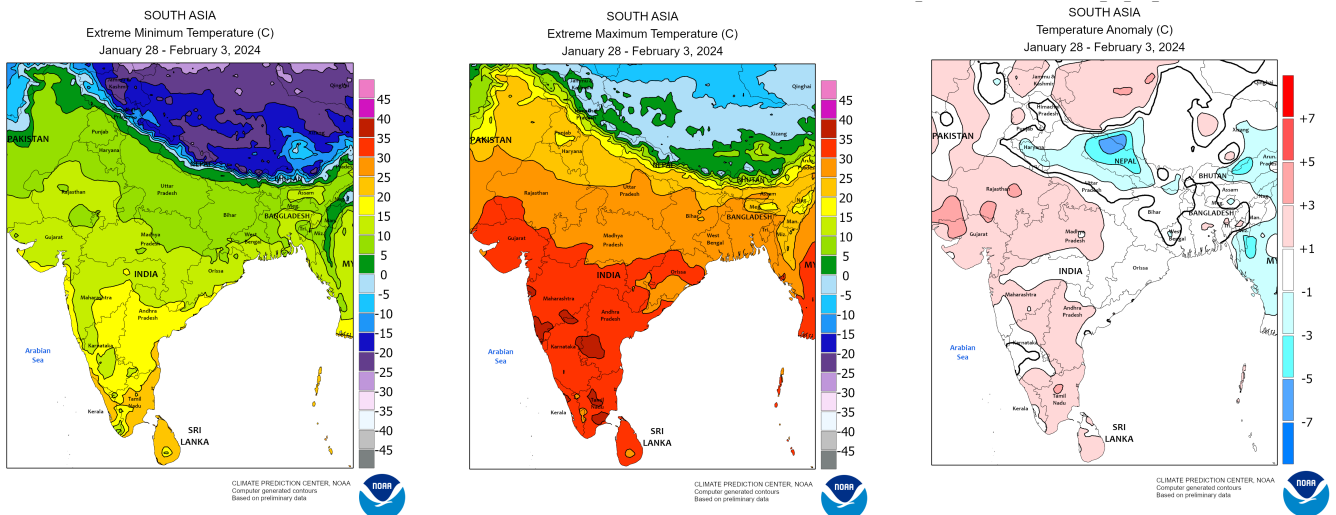
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

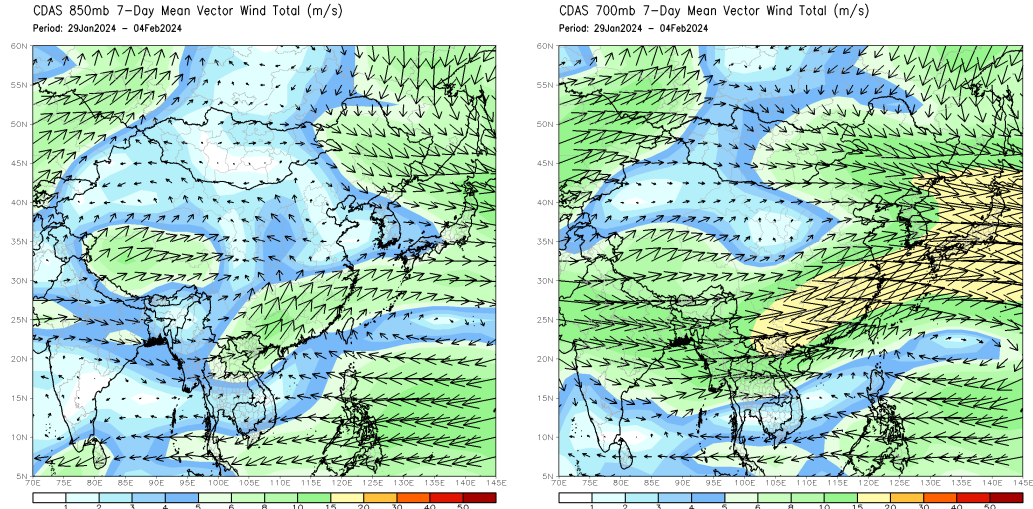


Weekly Temperature Monitoring



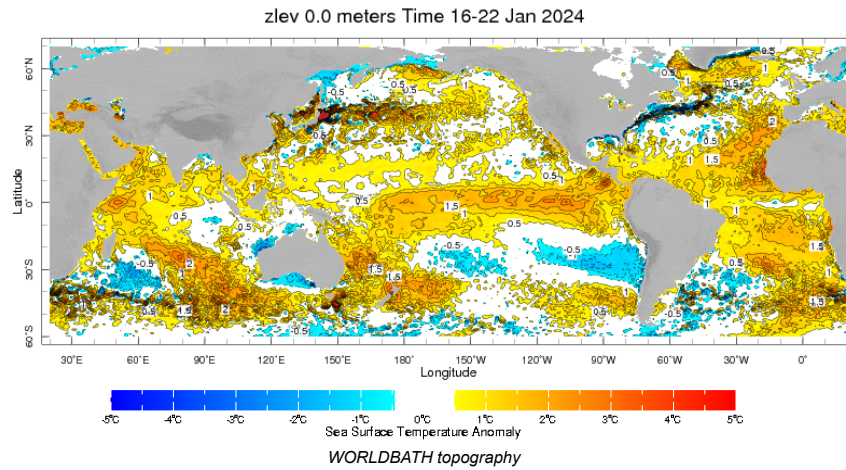
Weekly Wind Monitoring

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.

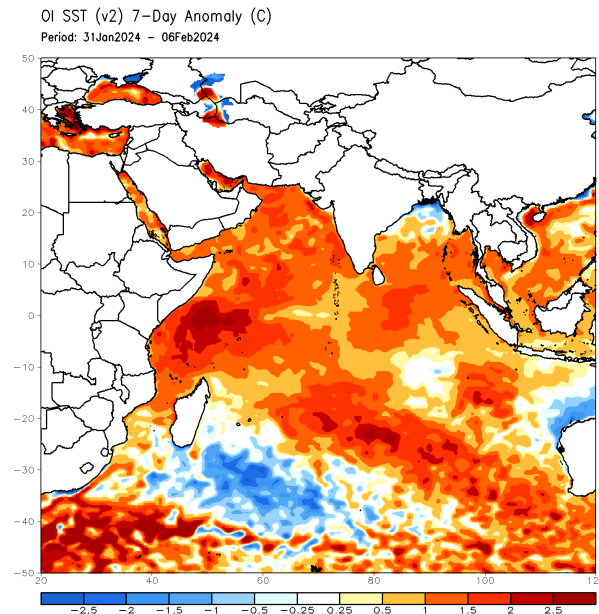


Weekly Average SST Anomalies

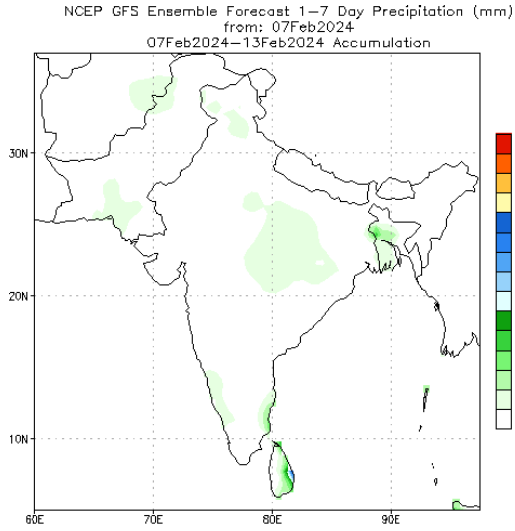
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



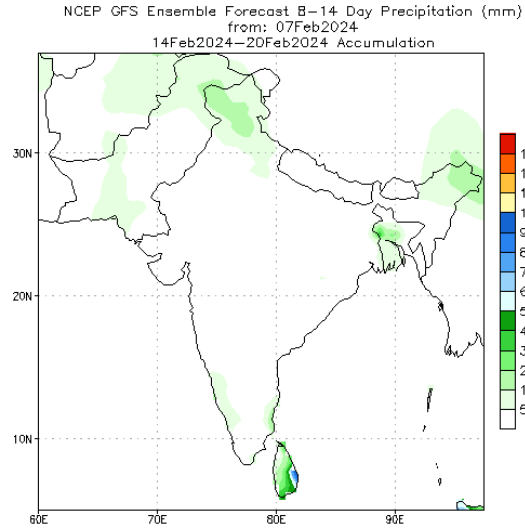
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



NCEP GFS 1- 14 Day prediction

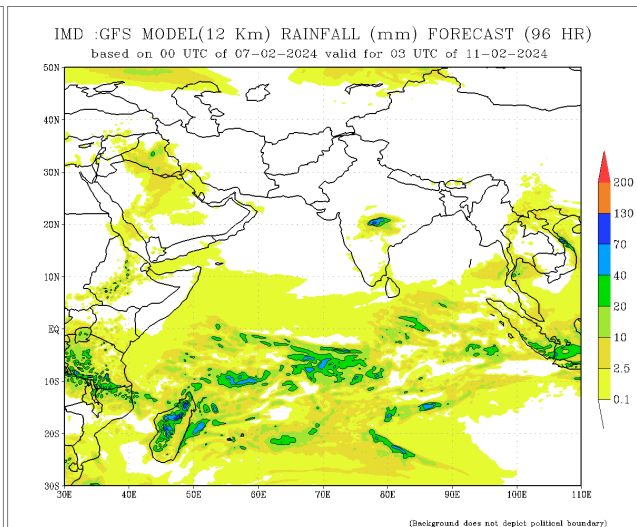
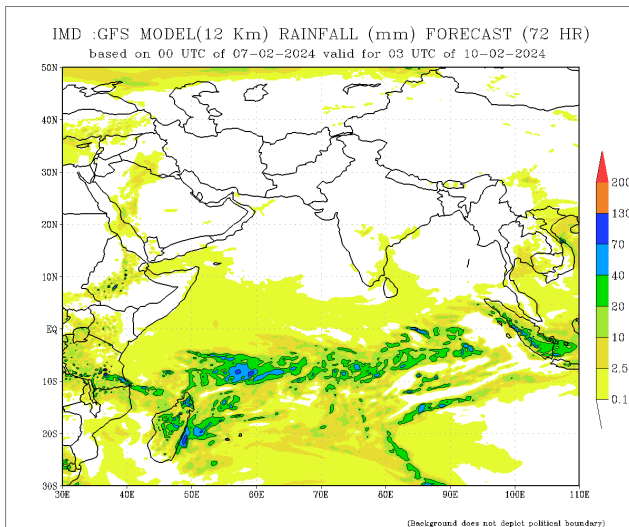
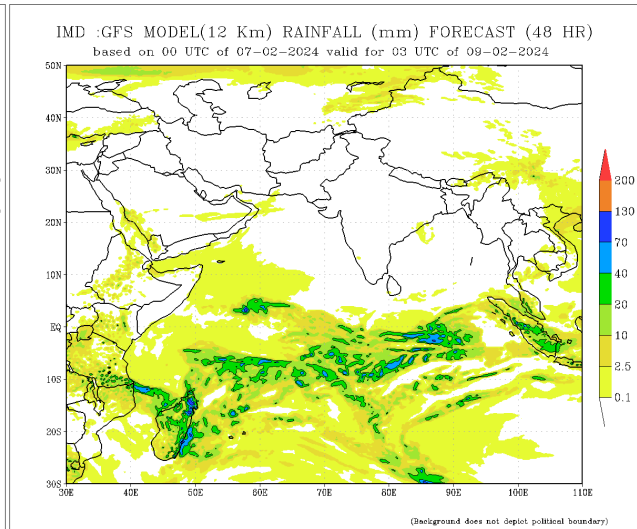
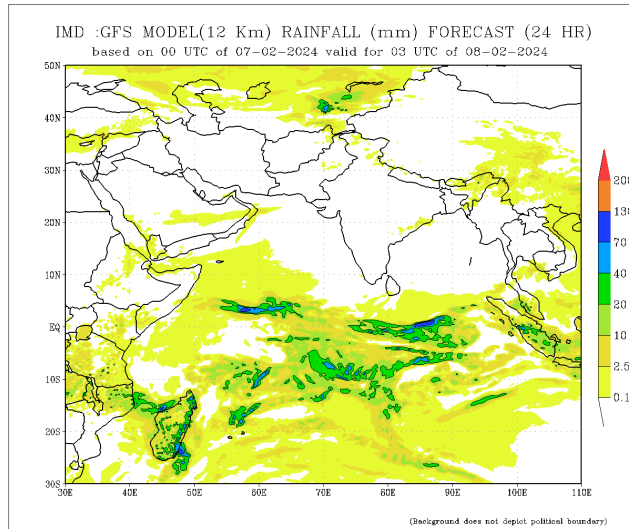


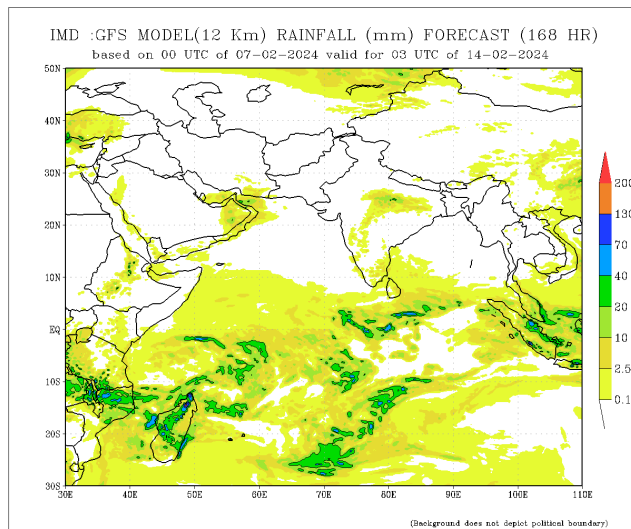
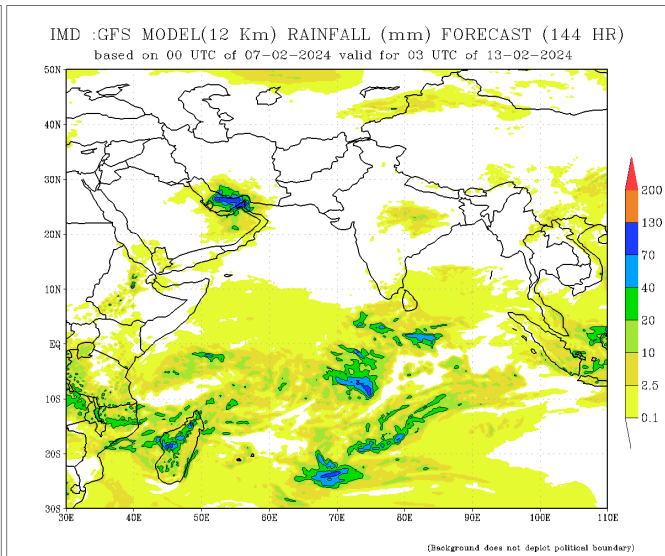
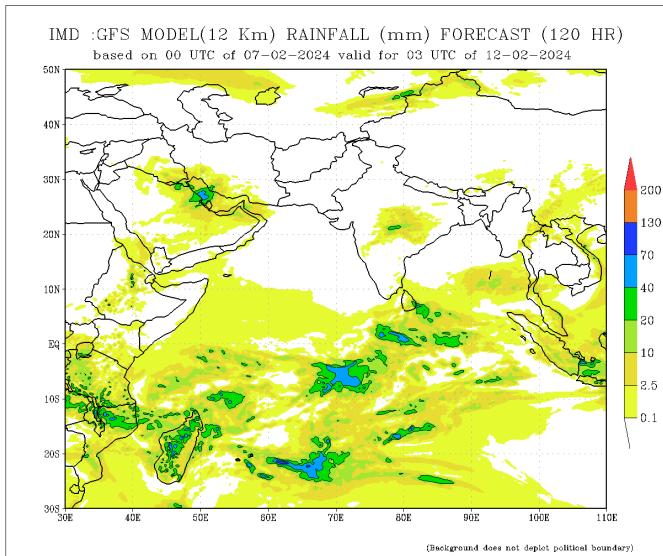
Bias correction based on last 30-day forecast error



Bias correction based on last 30-day forecast error

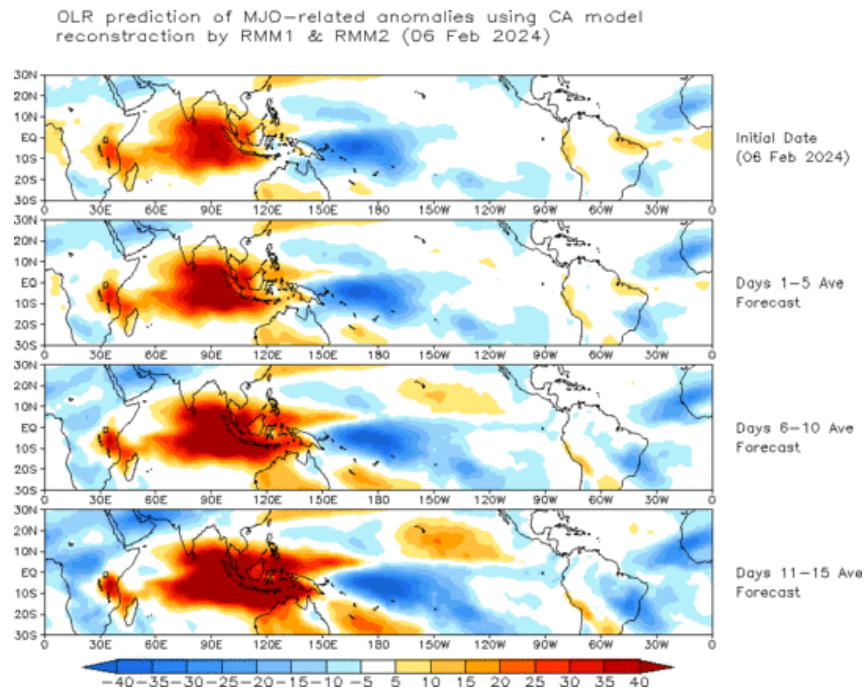
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





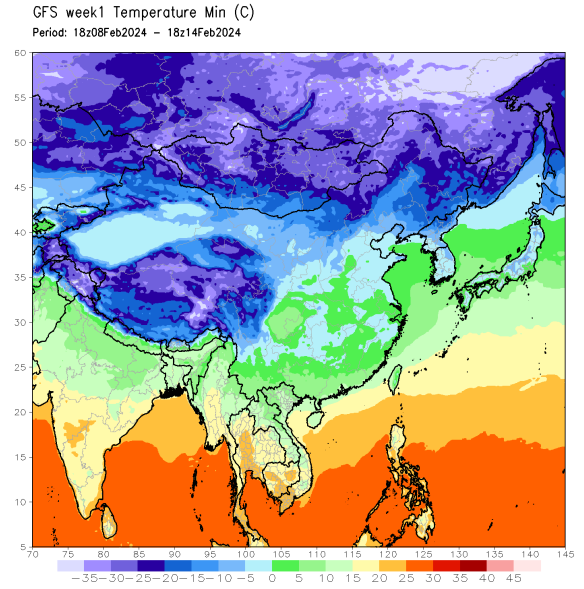
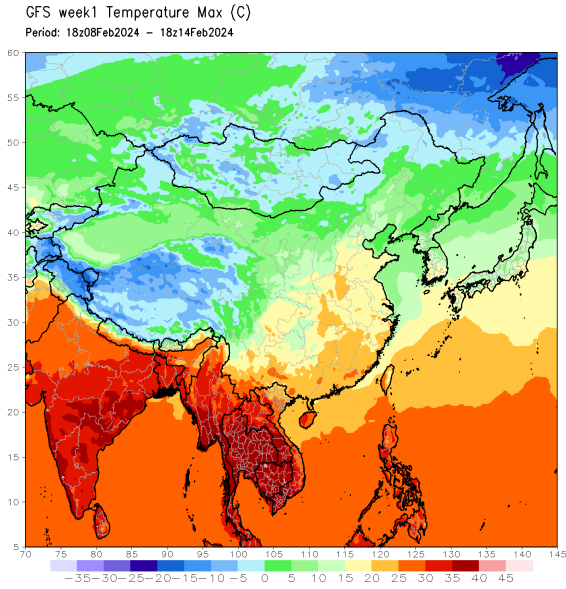
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

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.



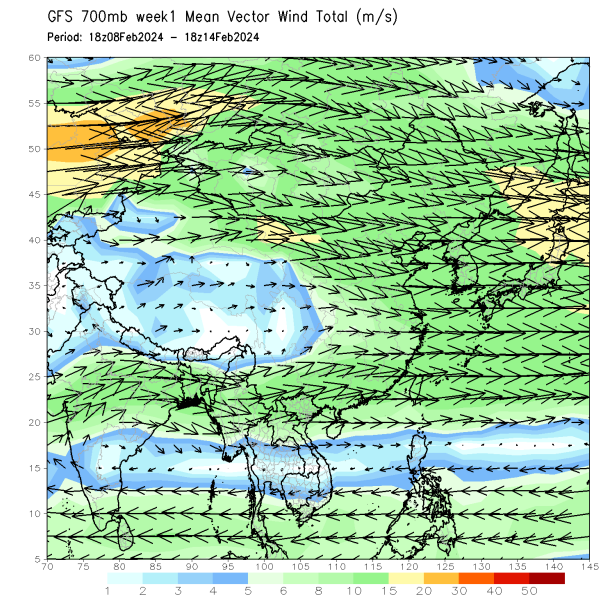
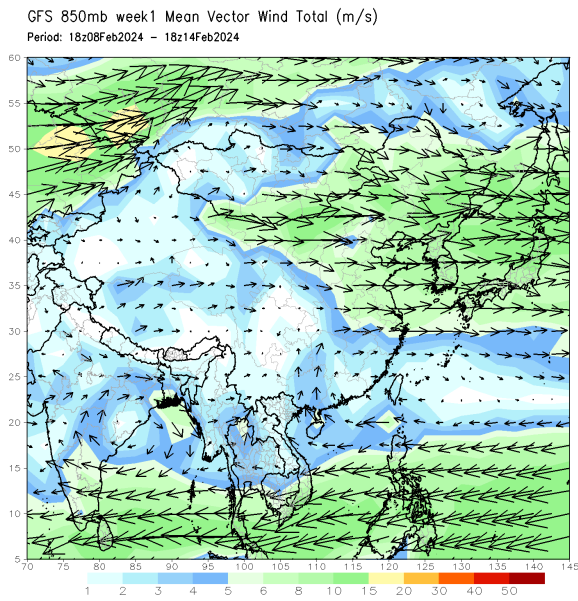
Weekly Temperature Forecast

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



Weekly Wind Forecast

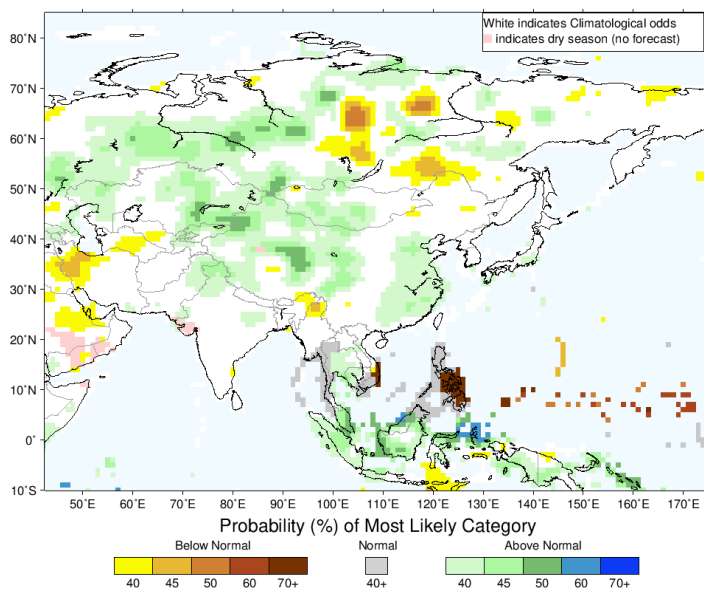
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



Seasonal Rainfall and Temperature Forecast

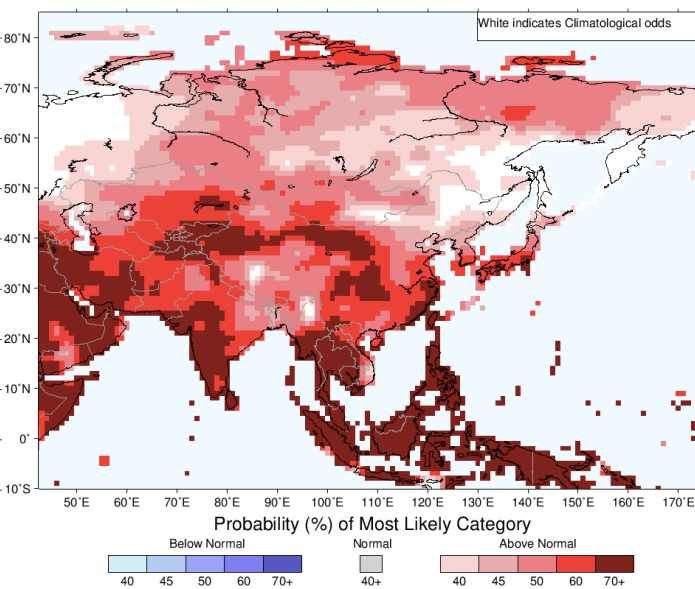
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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