Week of
12 - 19 Nov
2021

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- *Heavy rainfall is predicted for North Western, Western and Sabaragamuwa provinces from 12th Nov - 16th Nov. Greater likelihood of wet tendency is predicted for Sri Lanka from Nov to Jan.*

Monitored Rainfalls

- *Heavy rainfall was experienced in Northern, North Central, North Western, Sabaragamuwa and Western provinces with max of 300.4 mm in Anuradhapura district on 8th Nov.*

Monitored Wind

- *From 1st Nov - 8th Nov, up to 30 km/h Westerlies to Northwesterlies were experienced across the island.*

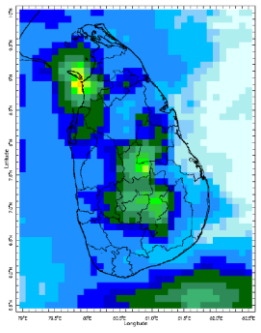
Monitored Sea Surface

- *Sea surface temperatures were above 1.0^{0}C in the Northern and Western seas while 0.5^{0}C in the Eastern and Southern seas around the island.*

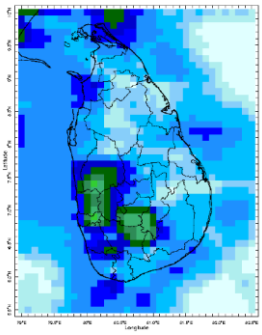
Monitoring

Rainfall

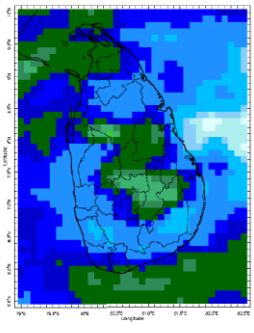
Daily Estimates for Rainfall from 1st November – 8th November



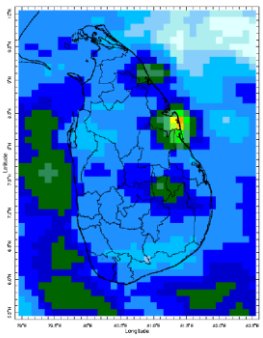
1 November



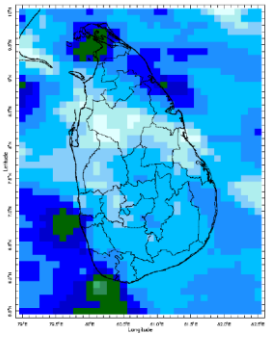
2 November



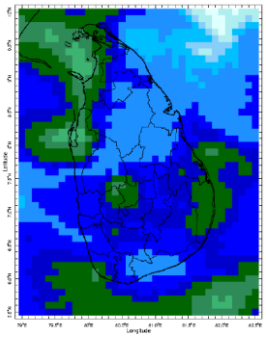
3 November



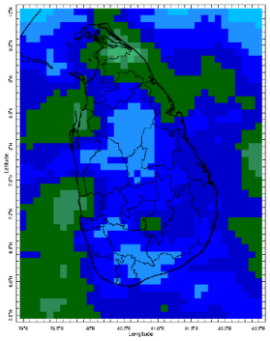
4 November



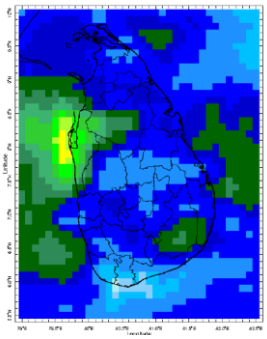
5 November



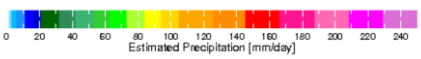
6 November



7 November



8 November



Federation for Environment, Climate & Technology

Federation for Environment, Climate and Technology

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Ocean State *(Text Courtesy IRI)*

Pacific sea state: November 3, 2021

Equatorial SSTs were near-to-below average across most of the equatorial Pacific Ocean and were above average in the western Pacific Ocean in the early-November. A large majority of the model forecasts predict a transition from ENSO-neutral to La Niña is favored in the next couple of months and La Niña to continue through the Northern Hemisphere fall and winter.

Indian Ocean State

Sea surface temperatures were above 1.0^{0}C in the Northern and Western seas while 0.5^{0}C in the Eastern and Southern seas around the island.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 10th November – 16th November:

Total rainfall by Provinces:

Rainfall	Provinces
105 mm	North Western, Sabaragamuwa, Western
95 mm	Central, Northern, North Central, Southern
75 mm	Uva
65 mm	Eastern

From 17th November – 23rd November:

Total rainfall by Provinces:

Rainfall	Provinces
105 mm	North Western, Sabaragamuwa, Western
95 mm	Central, Northern, North Central, Southern
75 mm	Eastern, Uva

MJO based OLR predictions

For the next 15 days:

During 10th November - 14th November MJO shall be active giving enhanced rainfall in the North while neutral for the rest of the island. During 15th November – 19th November MJO shall be active giving slightly suppressed rainfall and from 20th November – 24th November giving severely suppressed rainfall.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been very heavy rainfall over the following Provinces: Northern, North Central, North Western, Sabaragamuwa and Western.

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

Temperatures: The temperature anomalies were near-neutral for the entire island last week, driven by the warm SST's.

Predictions

Rainfall: During the next week (12th November – 16th November) heavy rainfall is predicted for the following provinces: North Western, Sabaragamuwa and Western.

Temperatures: The temperature remains slightly normal during 12th November – 20th November for the entire island.

Teleconnections:

La Nina -The SST forecast indicates that ENSO-neutral are present and a transition from ENSO-neutral to La Niña is favored in the next couple of months.

During 10th November - 14th November MJO shall be active giving enhanced rainfall in the North while neutral for the rest of the island. During 15th November – 19th November MJO shall be active giving slightly suppressed rainfall and from 20th November – 24th November giving severely suppressed rainfall.

Seasonal Precipitation:

The precipitation forecast for the Nov-Jan season show enhanced probabilities of above-normal precipitation over Sri Lanka.

Understanding the Forecast

	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

Inside This Issue

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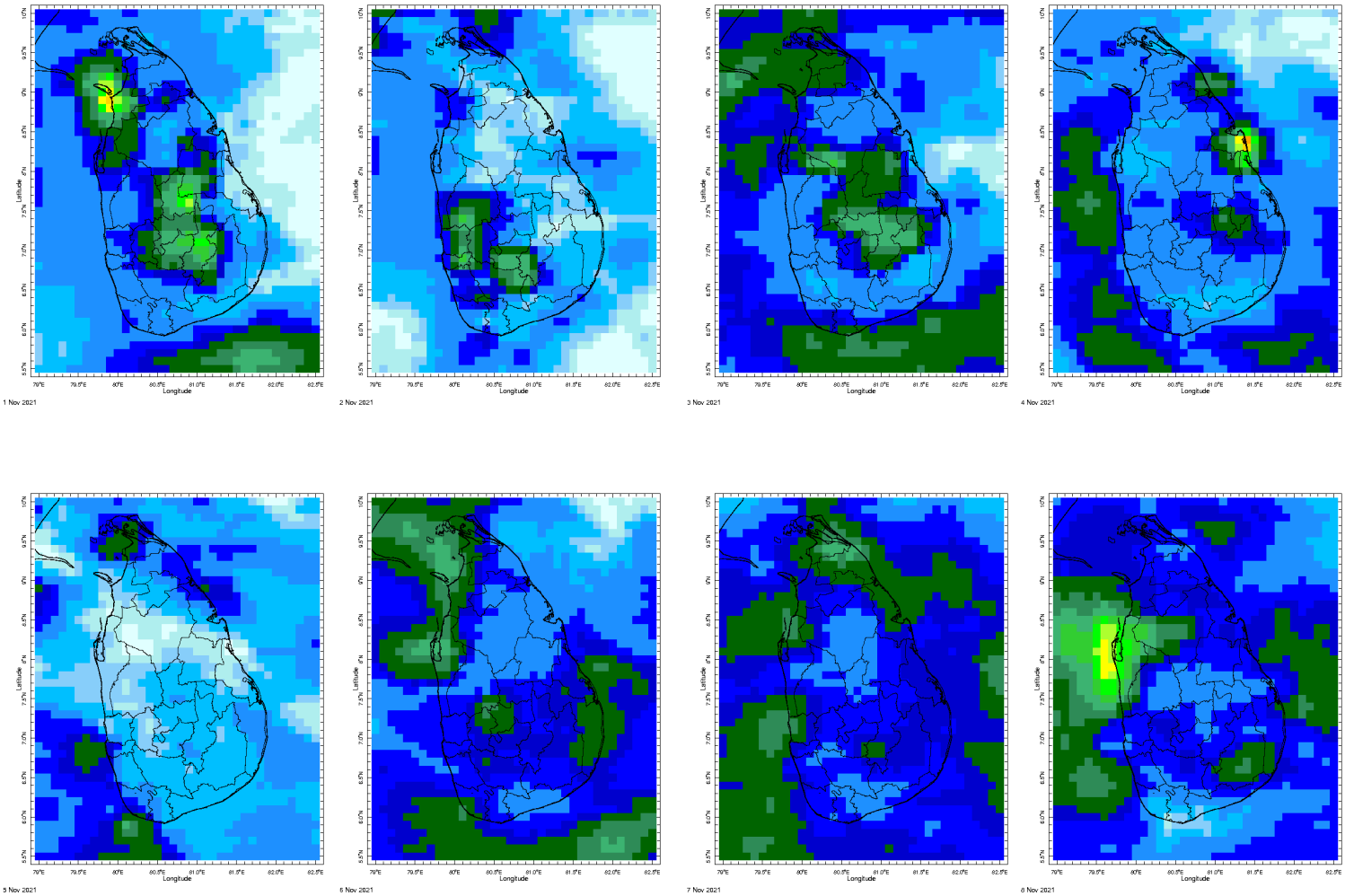
MONITORING

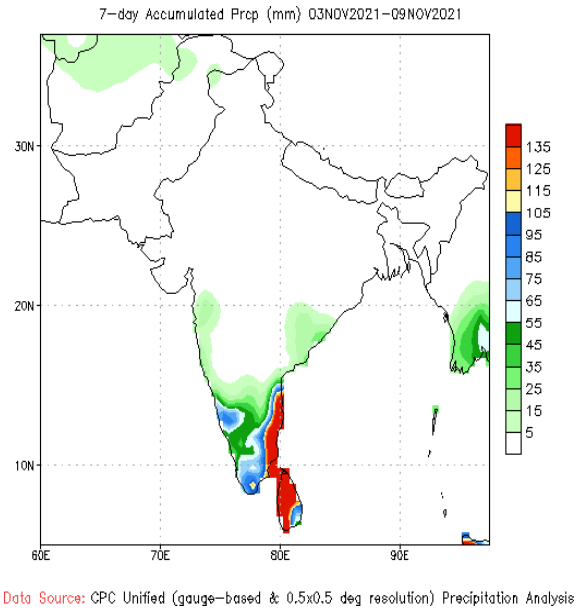
Daily Rainfall Monitoring

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

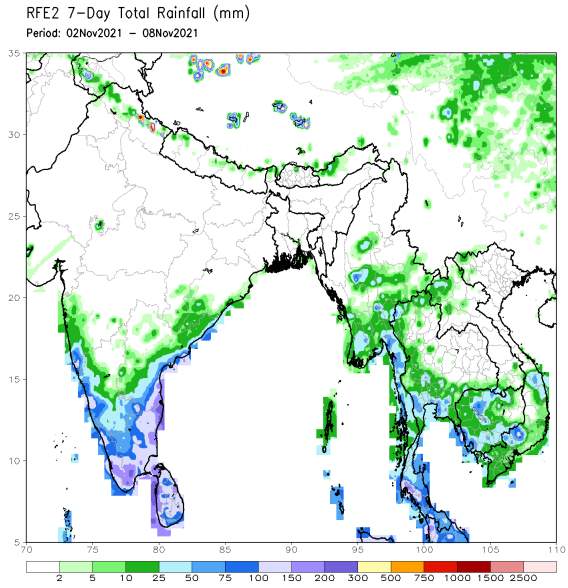


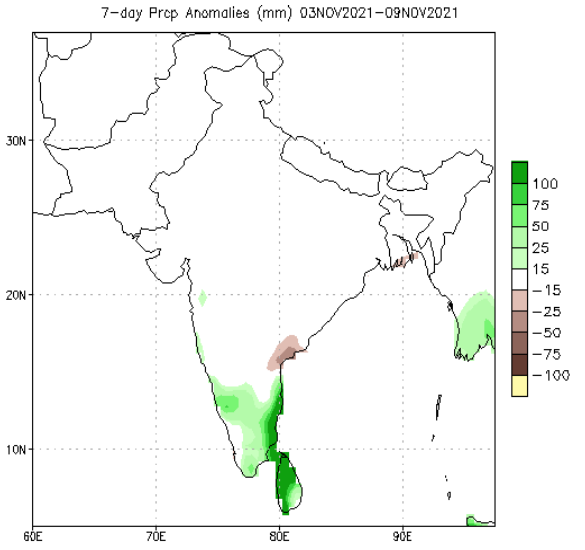
Weekly Rainfall Monitoring

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.

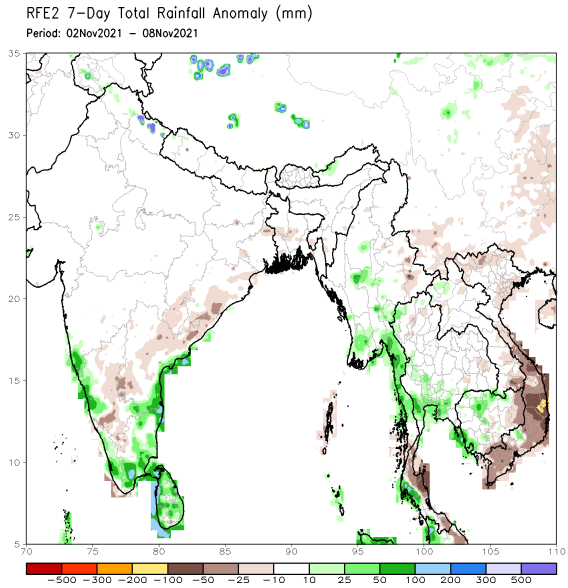


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



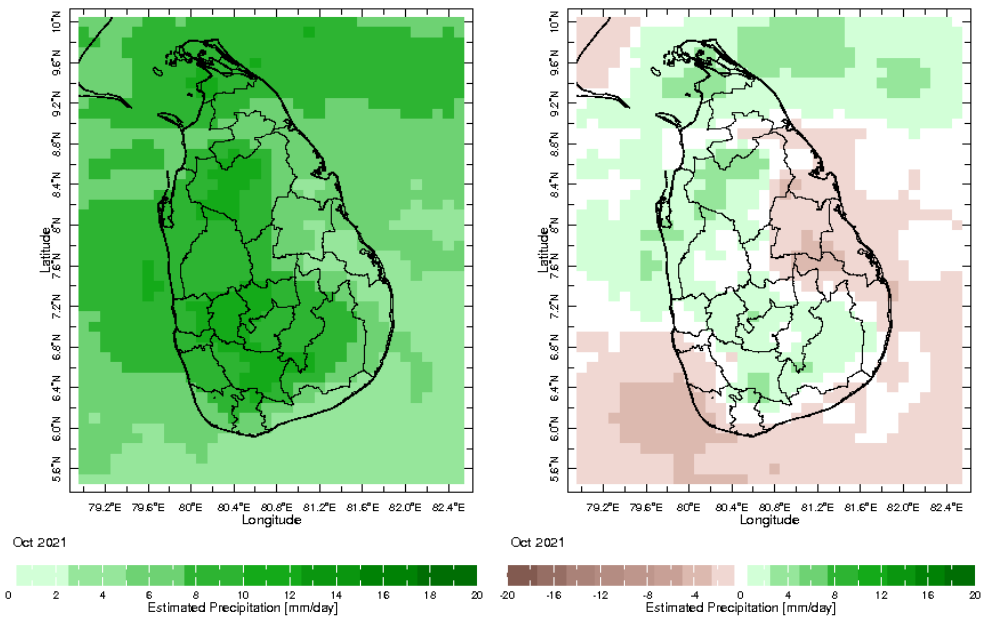


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis
Climatology (1991-2020)

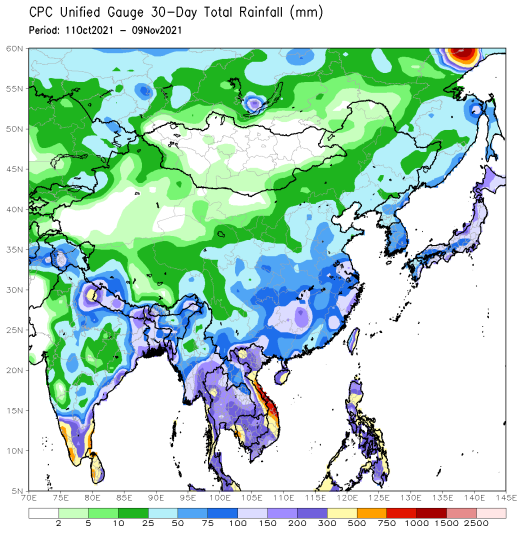


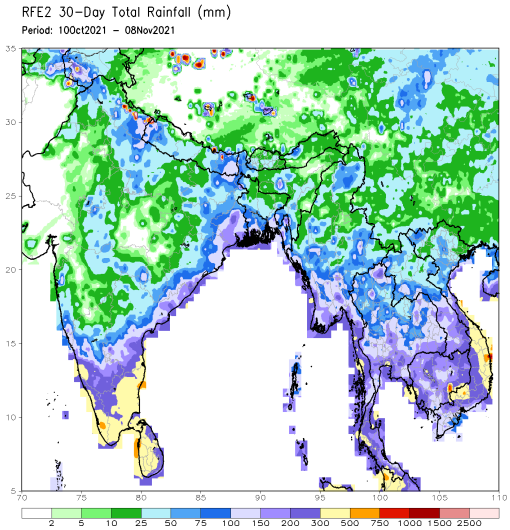
Monthly Rainfall Monitoring

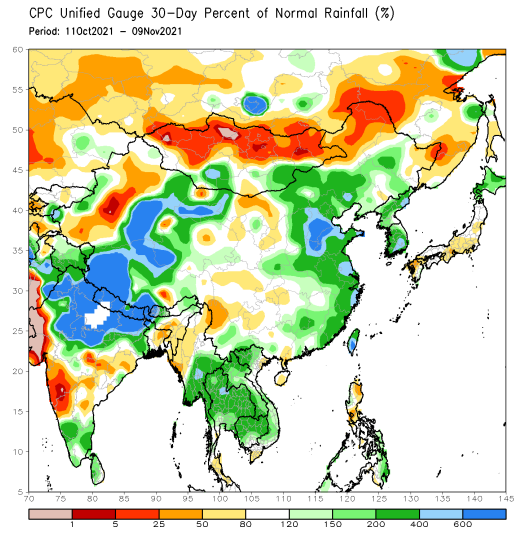
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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

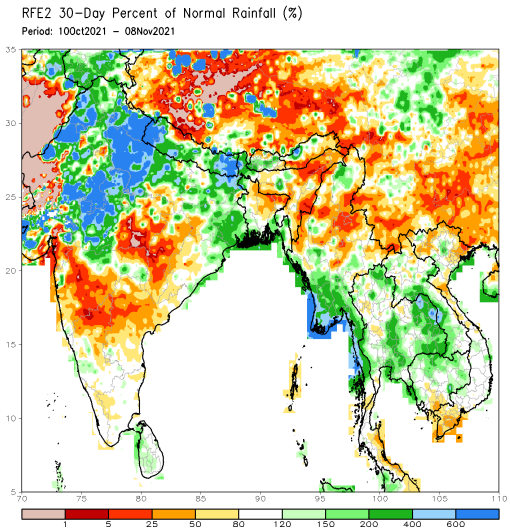


The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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

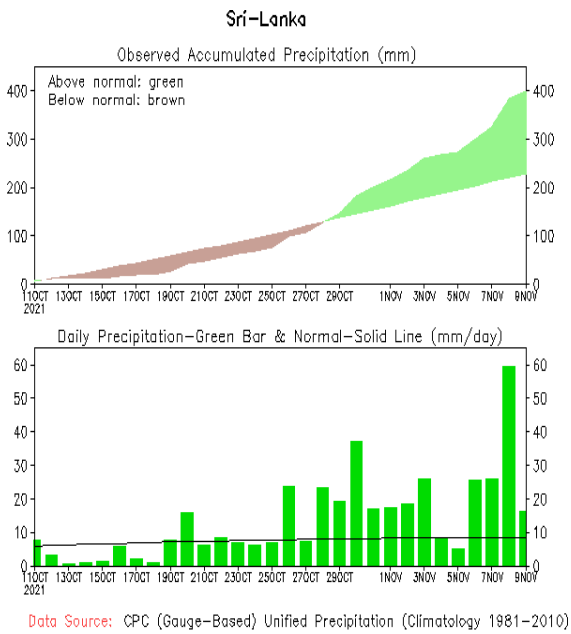




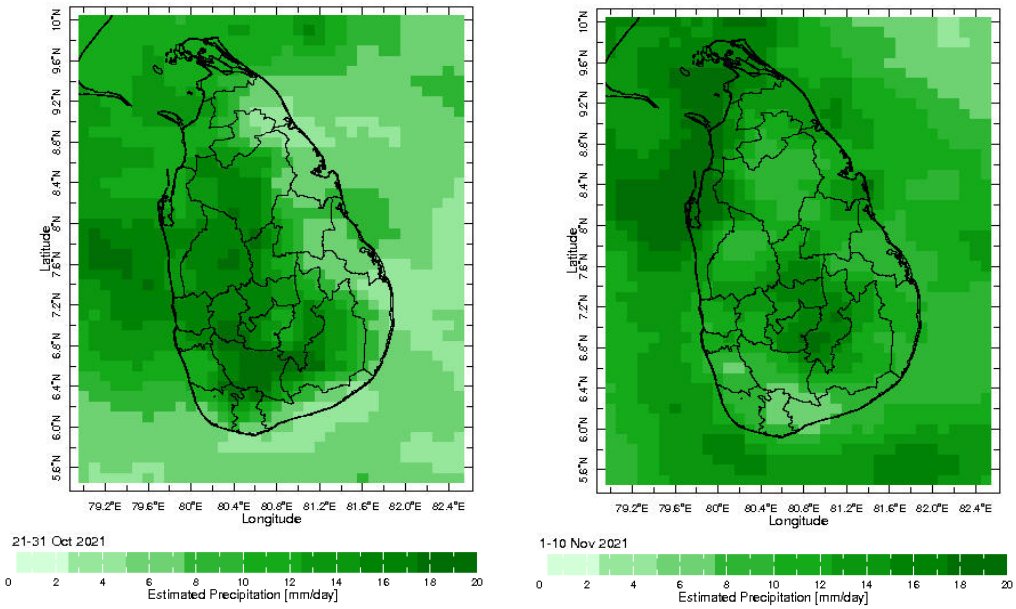




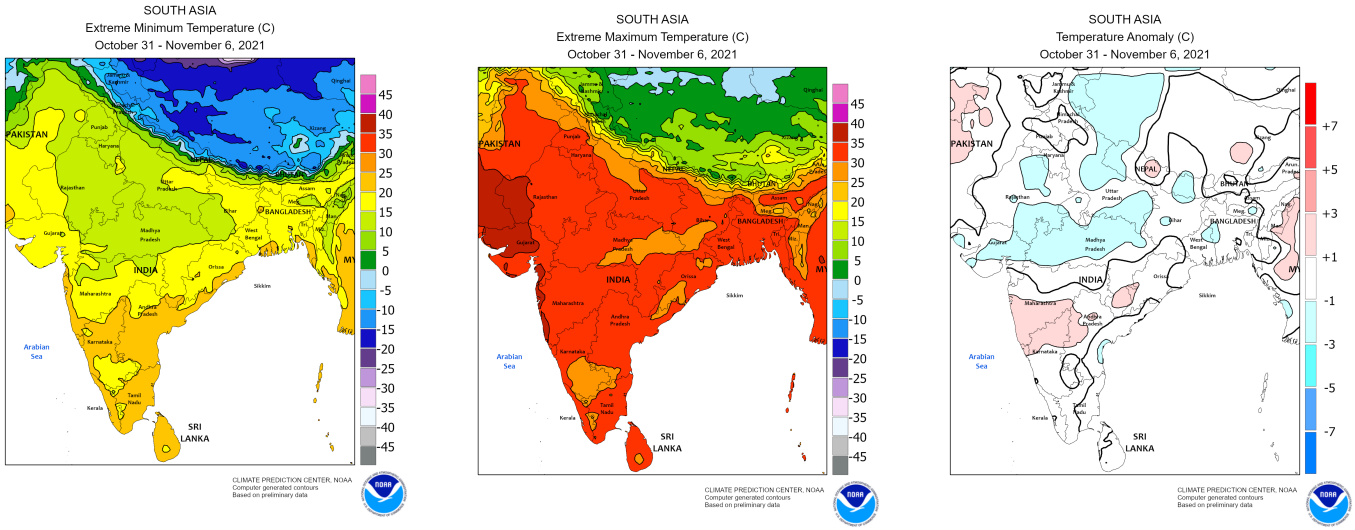
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

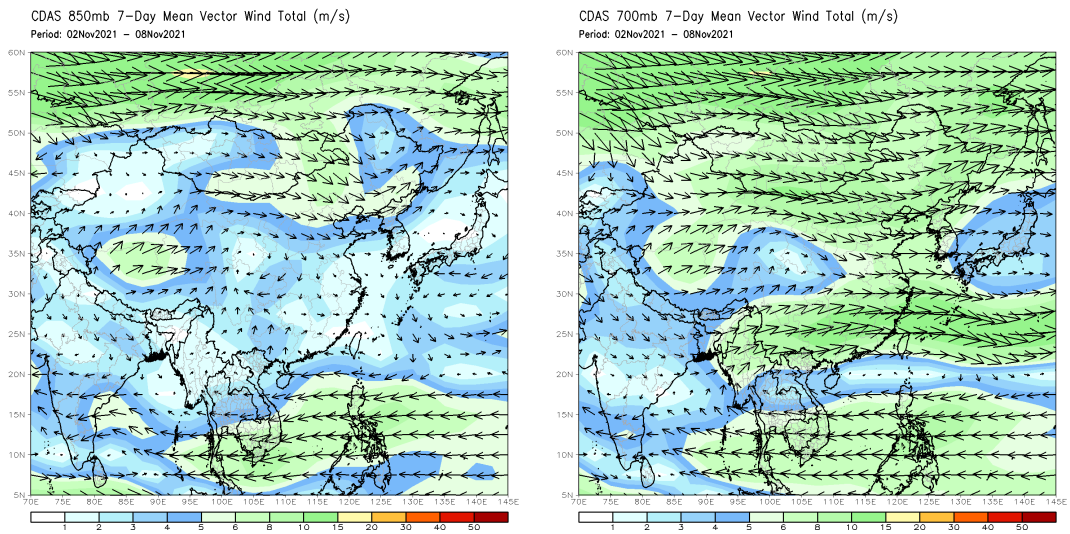


Weekly Temperature Monitoring



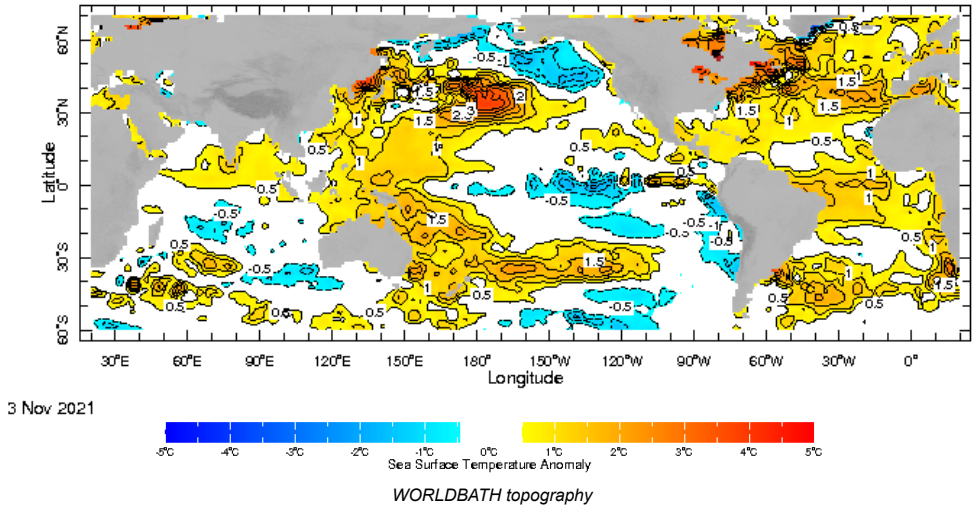
Weekly Wind Monitoring

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.



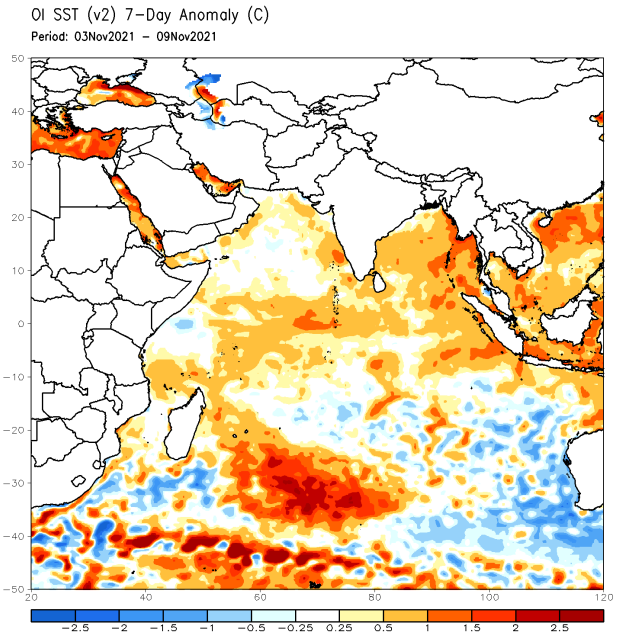
Weekly Average SST Anomalies

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



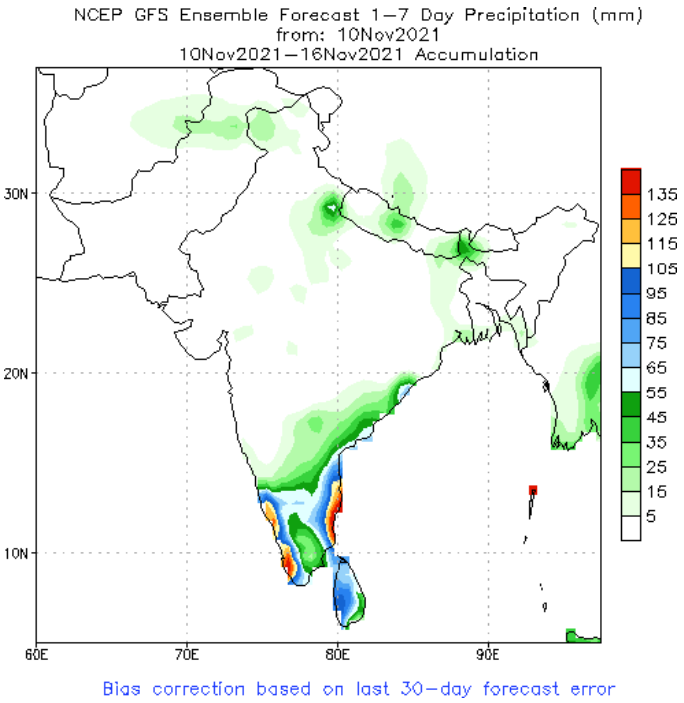
WORLDBATH topography

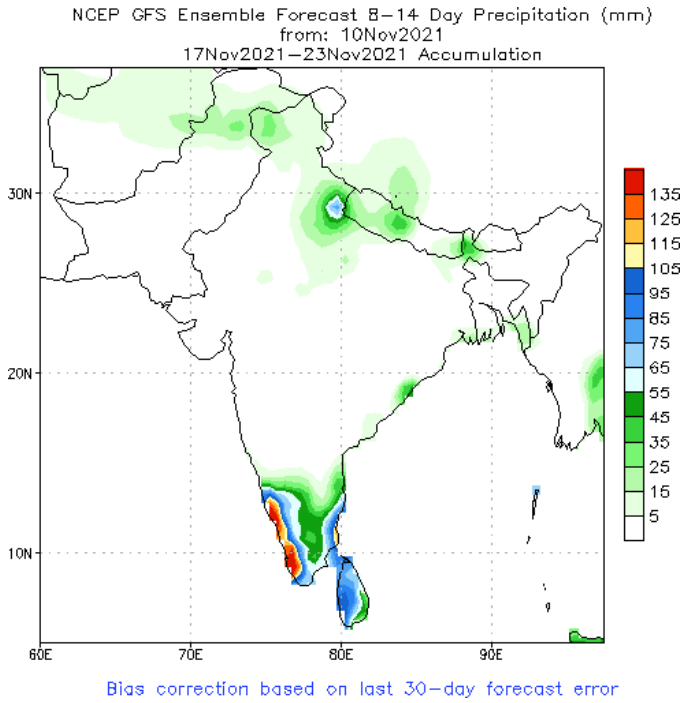
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



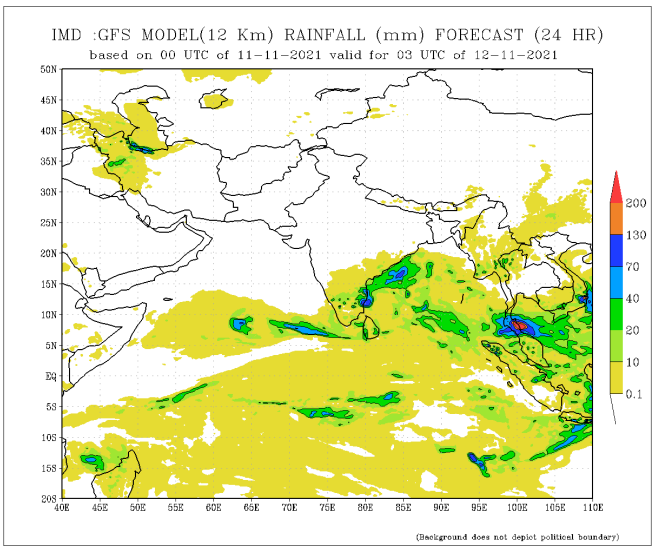
PREDICTIONS

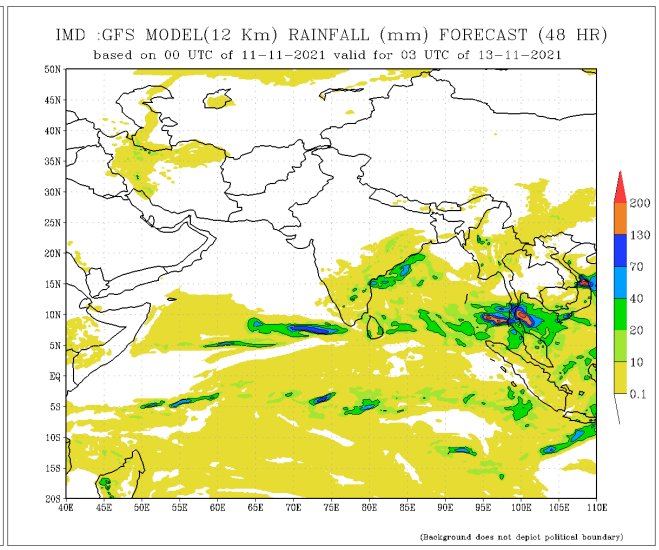
NCEP GFS 1- 14 Day prediction

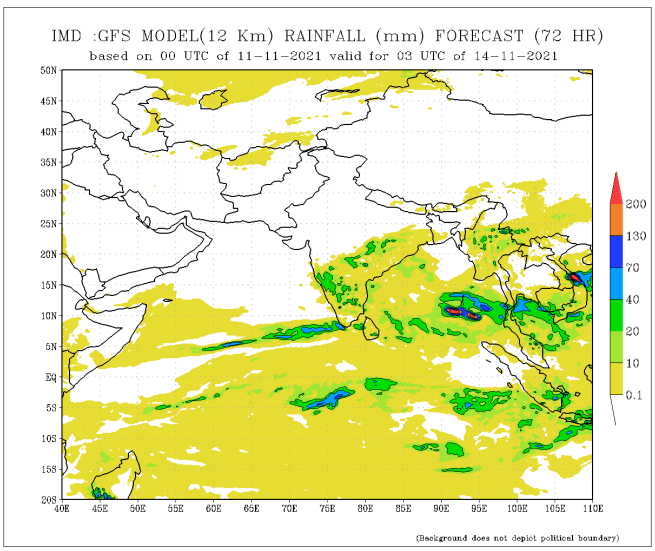


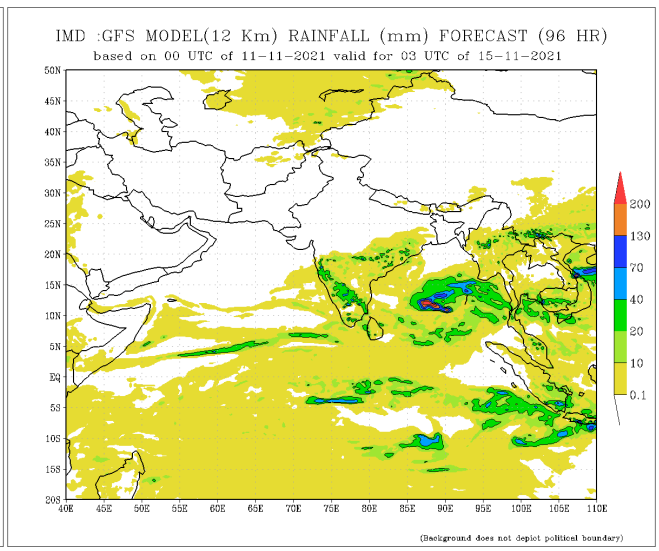


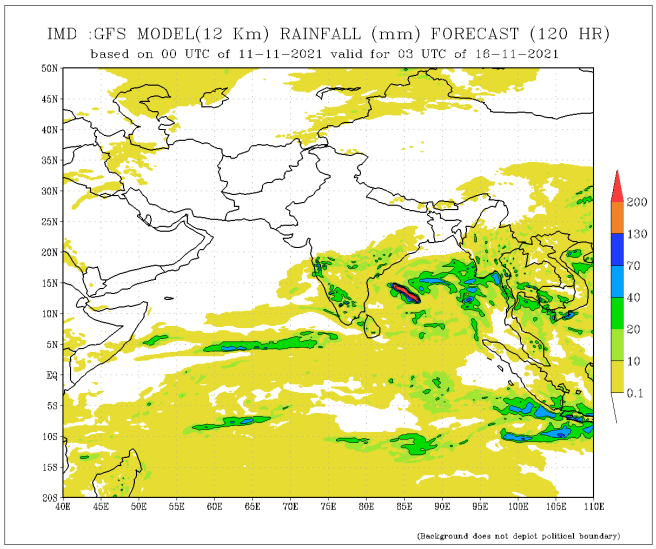
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

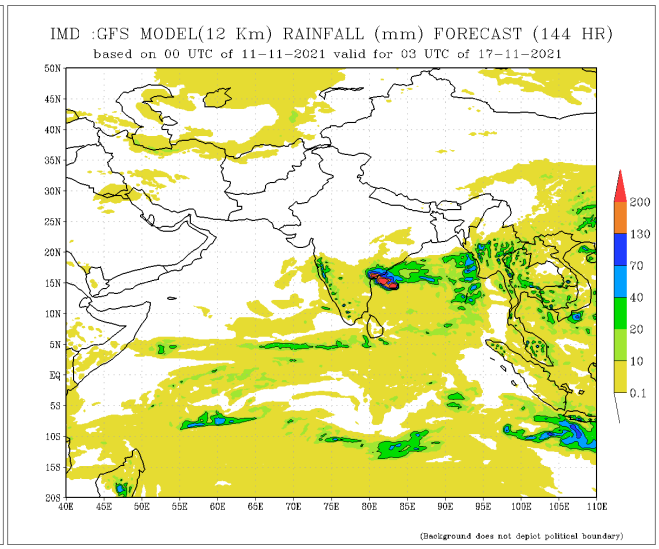


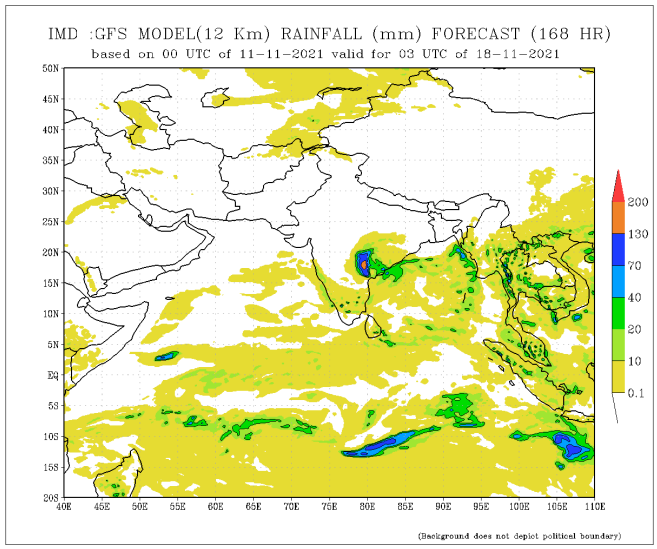






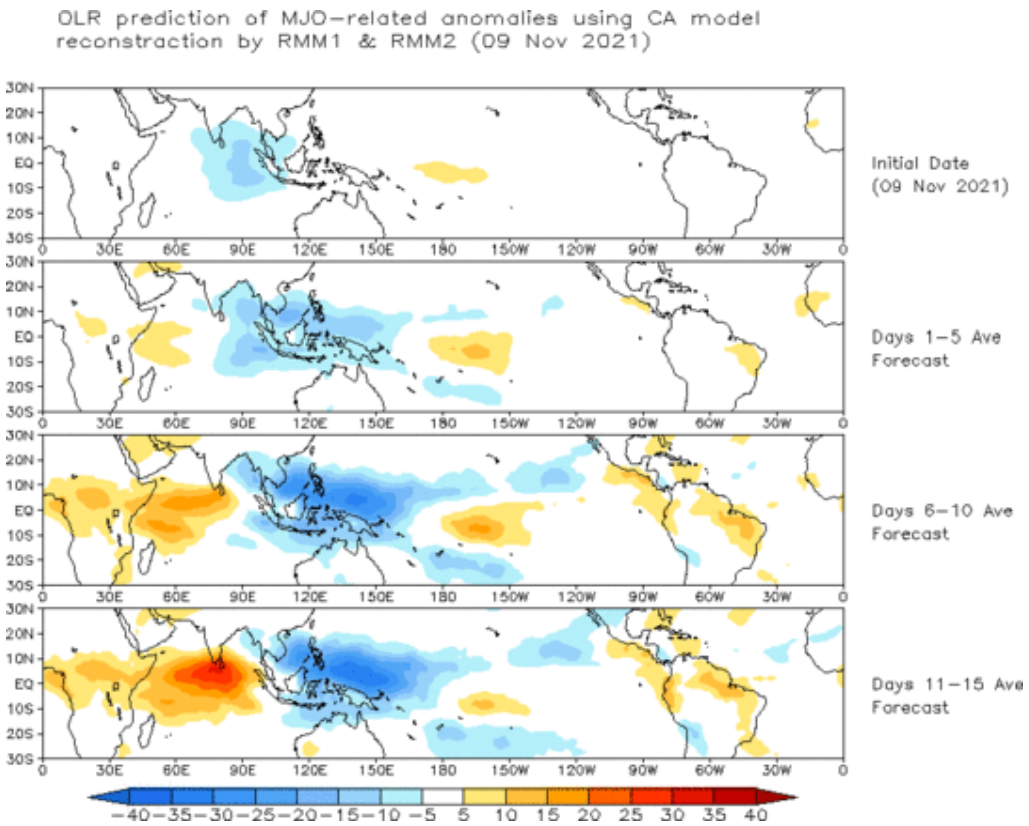






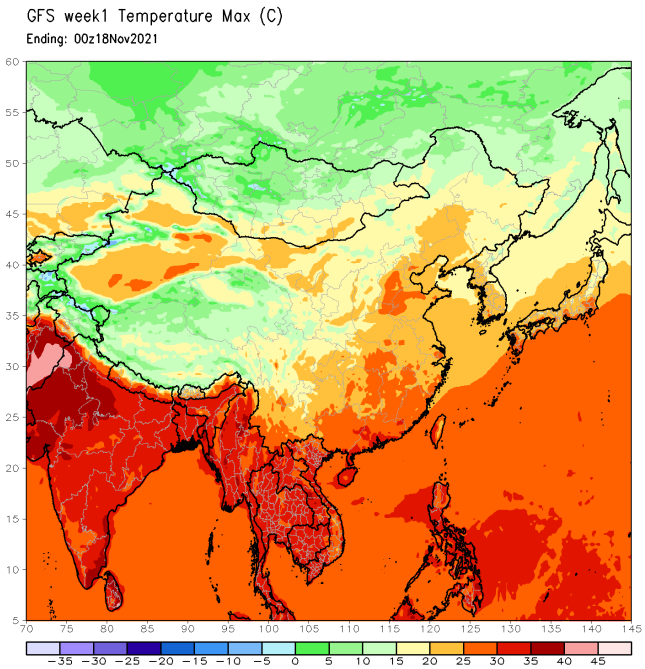
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

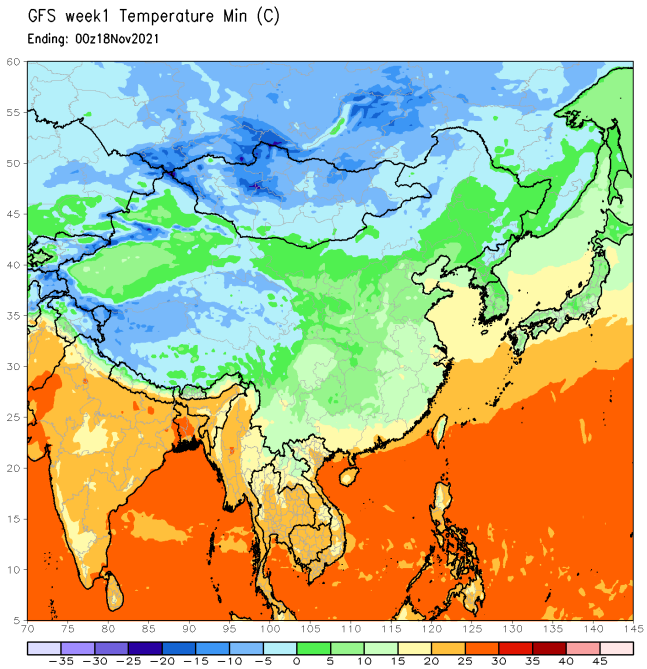
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

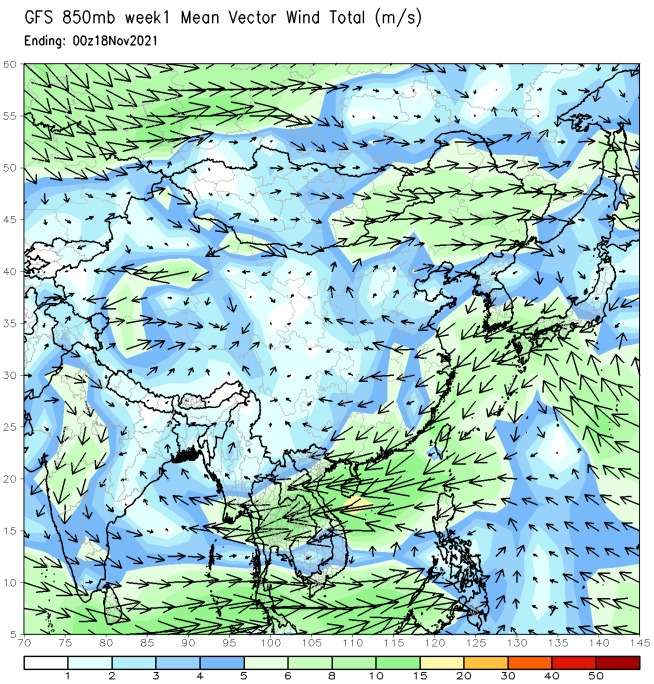
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

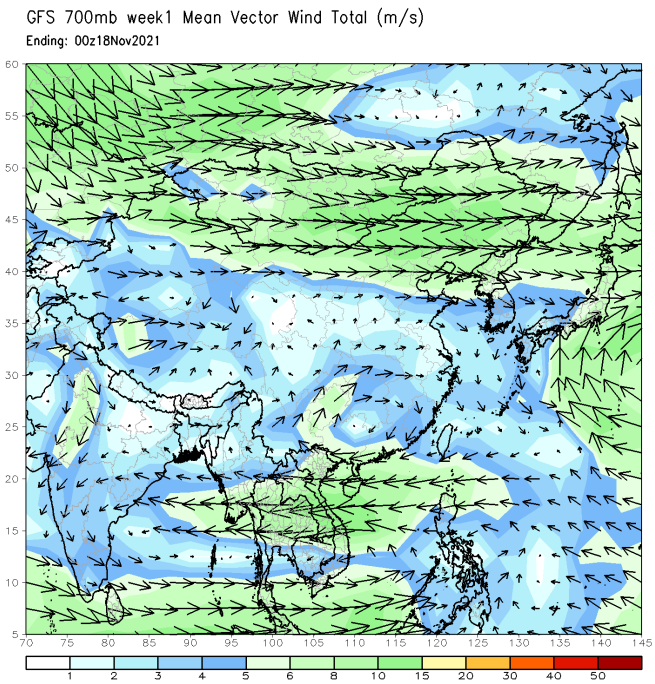




Weekly Wind Forecast

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

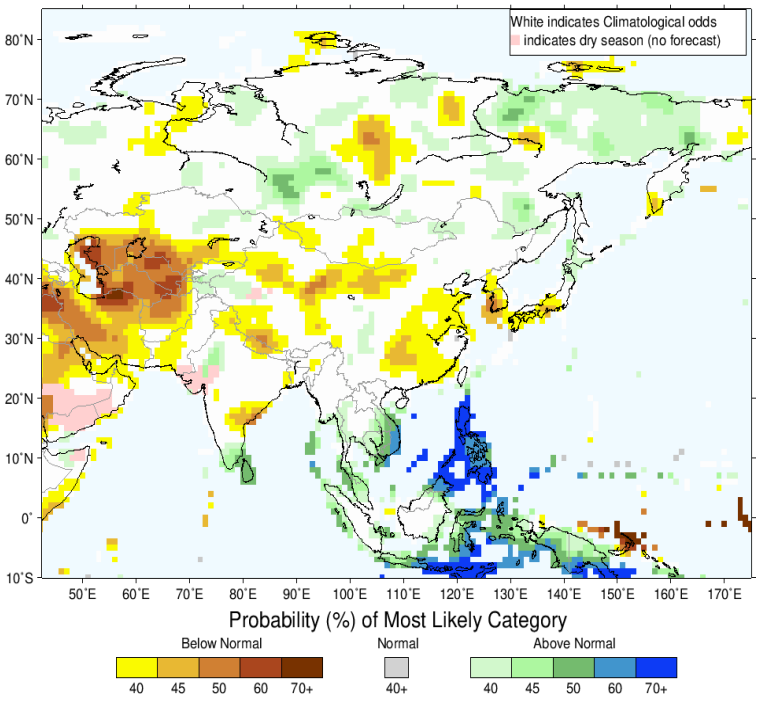




Seasonal Rainfall and Temperature Forecast

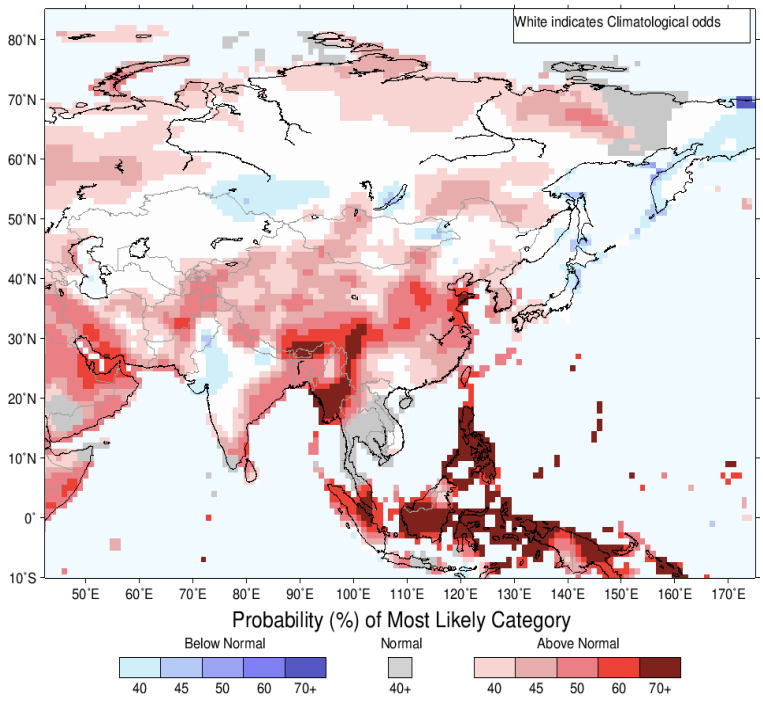
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant 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 November–December–January 2022, Issued October 2021



Precipitation Forecast

IRI Multi–Model Probability Forecast for Temperature for November–December–January 2022, Issued October 2021



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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