Week of
22 - 29 Oct
2021

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- *Fairly heavy rainfall is predicted for the entire island during 22nd - 26th Oct. Greater likelihood of dry tendency is predicted for southern Sri Lanka from Oct to Dec.*

Monitored Rainfalls

- *Fairly heavy rainfall was observed in the Central and Uva provinces with max of 77.3 mm in Nuwara Eliya district on 11th Oct according to ground observations.*

Monitored Wind

- *From 12th Oct - 19th Oct, up to 25 km/h Westerlies to Southwesterlies were experienced across the island.*

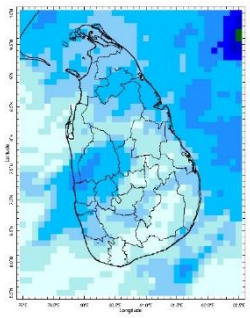
Monitored Sea Surface

- *Sea surface temperature was observed to be neutral all around Sri Lanka.*

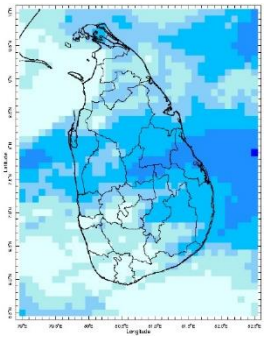
Monitoring

Rainfall

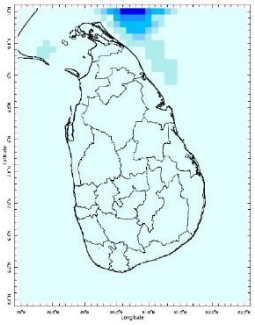
Daily Estimates for Rainfall from 11th October – 18th October



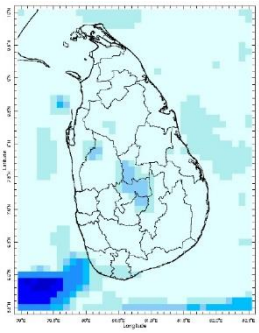
11 October



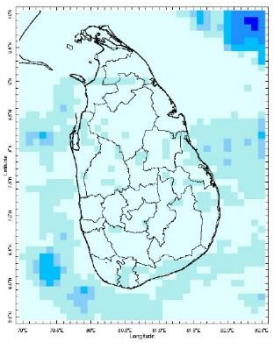
12 October



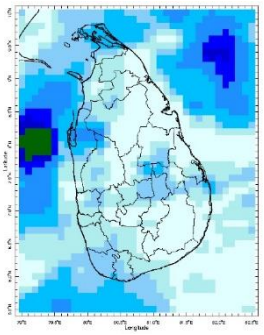
13 October



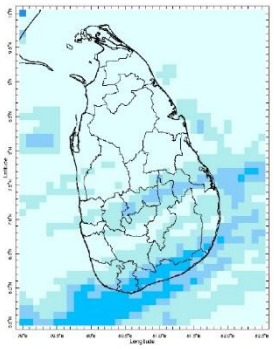
14 October



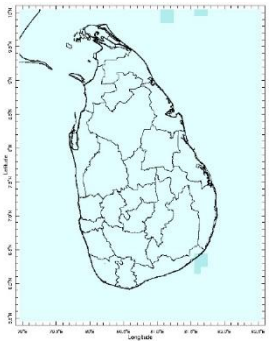
15 October



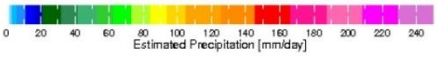
16 October



17 October



18 October



Federation for Environment, Climate & Technology

Federation for Environment, Climate and Technology

c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, (+94) 81-2300415
Web Site: www.fect.lk E mail: info@fect.lk LI: www.linkedin.com/in/fectlk
FB: www.facebook.com/fectlk TW: www.twitter.com/fectlk

Ocean State *(Text Courtesy IRI)*

Pacific sea state: October 13, 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 mid-October. 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 temperature was observed to be neutral all around Sri Lanka.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 20 – 26th October:

Total rainfall by Provinces:

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

From 27th October – 2nd November:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall be neutral during 20th - 24th Oct and slightly suppressed rainfall during 25th Oct – 3rd Nov.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been fairly heavy rainfall over the following provinces: Central and Uva.

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

Temperatures: The temperature anomalies were above normal by $1^0C - 3^0C$ in the Sabaragamuwa, Southern, Uva and Western provinces while near-neutral for the rest of the country last week, driven by the warm SST's.

Predictions

Rainfall: During the next week (22nd - 26th October) fairly heavy rainfall is predicted for the entire island.

Temperatures: The temperature remains slightly normal during 22nd – 30th October for the whole country.

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.
MJO shall be neutral during 20th - 24th Oct and slightly suppressed rainfall during 25th Oct – 3rd Nov.

Seasonal Precipitation:

October to December is the main rainfall season in Sri Lanka. The consensus predictions has switched from neutral to favoring a dry tendency. A dry tendency can hurt agricultural production and it adds to farmer difficulties due to the fertilizer bans. However, since this is the wet season the impact will not be as severe.

However, the bigger impact shall be that it shall reduce the generated hydropower in the coming months. This can hurt the economy due to the scarcity in Foreign Exchange within the country due to the Central Bank regulations.

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.

FOUNDATION FOR ENVIRONMENT, CLIMATE AND TECHNOLOGY

www.climate.lk www.tropicalclimate.org

Weekly Climate Bulletin for Sri Lanka

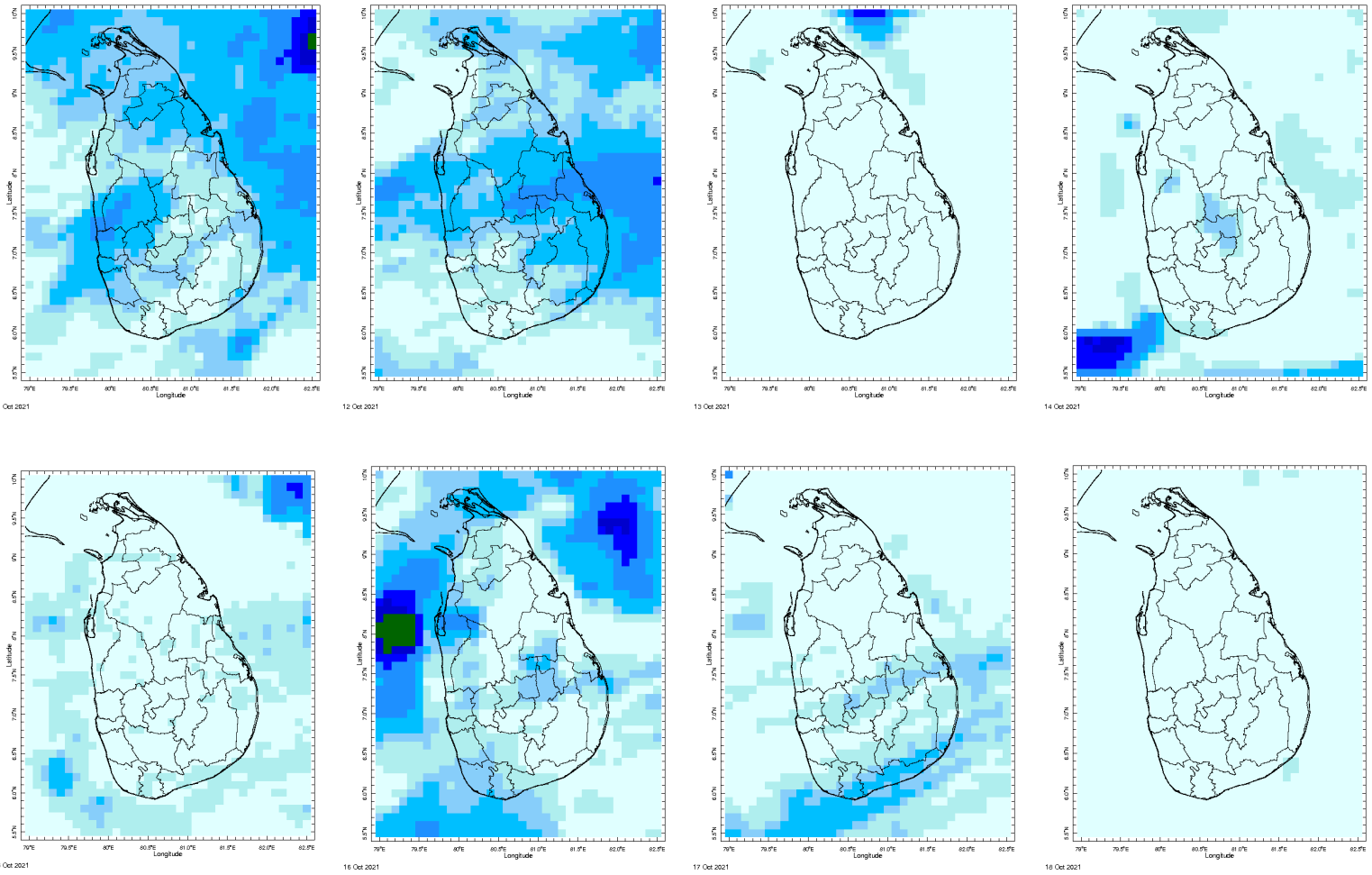
Inside This Issue

Download

MONITORING

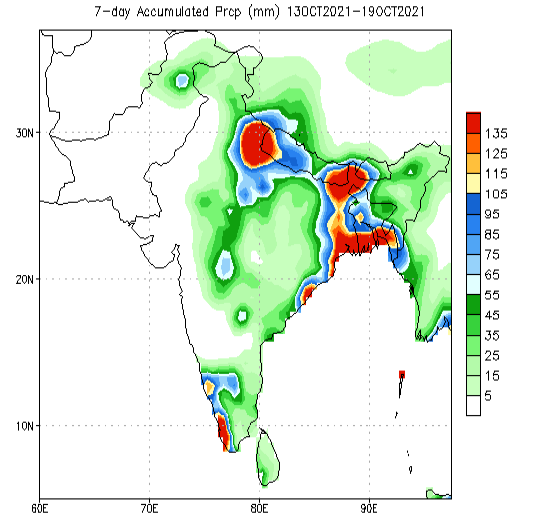
Daily Rainfall Monitoring

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

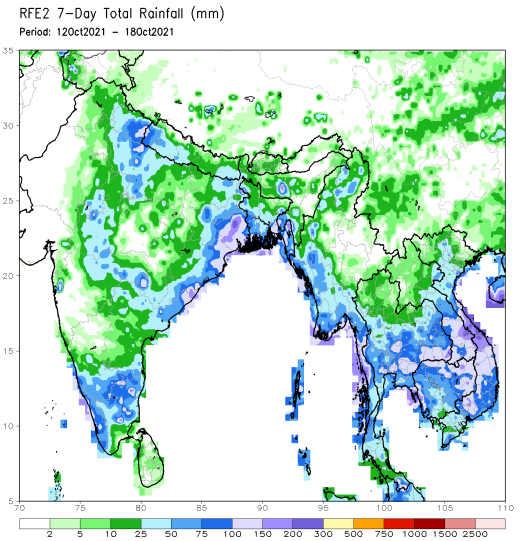


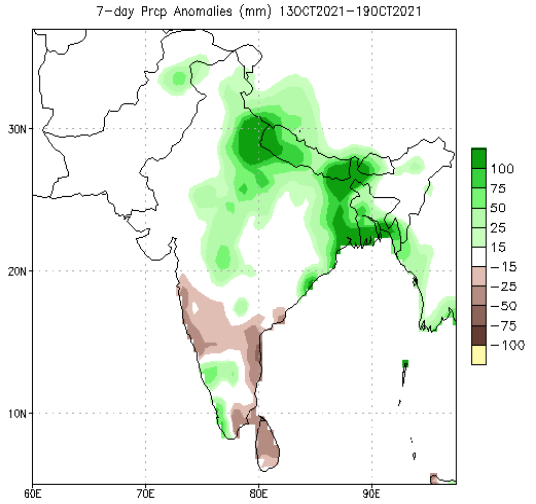
Weekly Rainfall Monitoring

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.

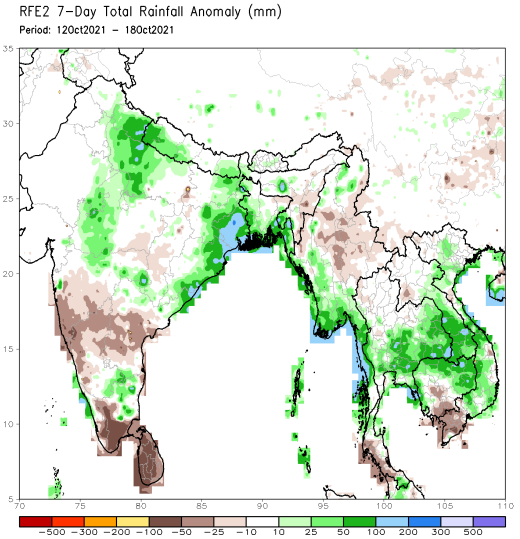


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



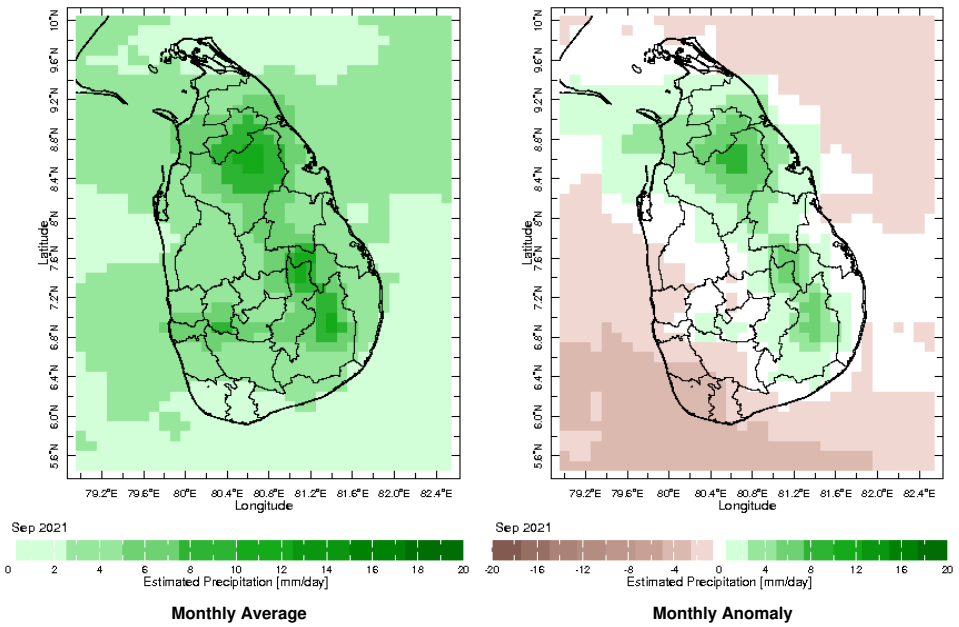


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis
Climatology (1991-2020)



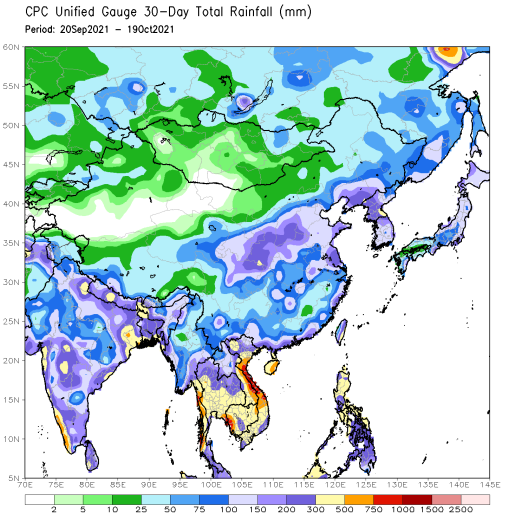
Monthly Rainfall Monitoring

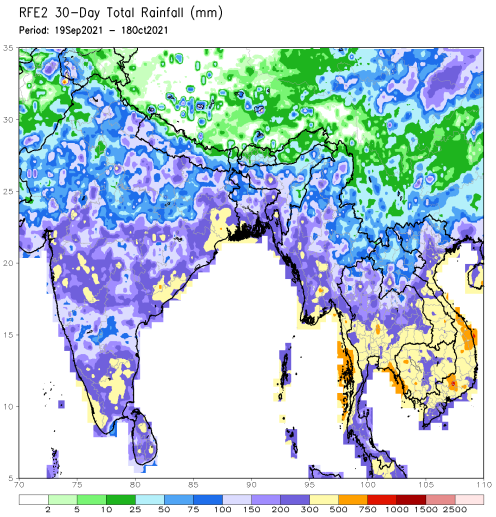
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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

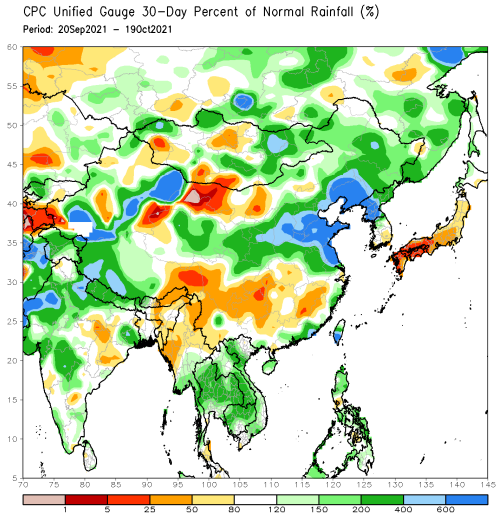


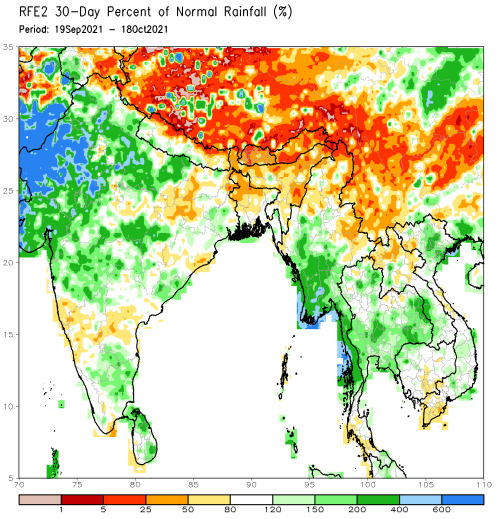
Monthly Average **Monthly Anomaly**

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.

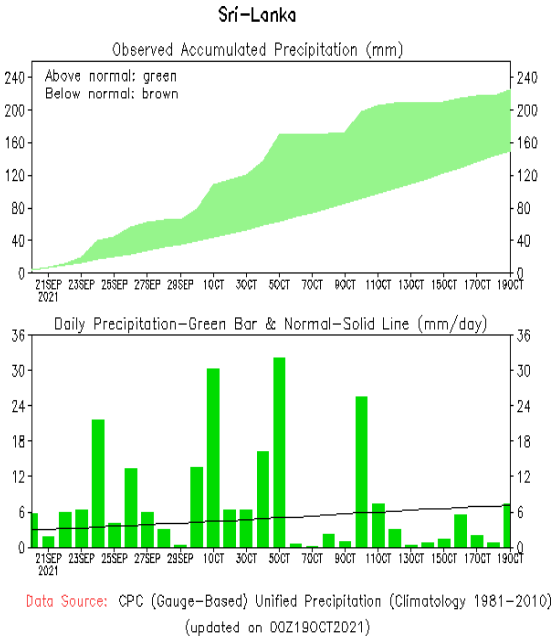




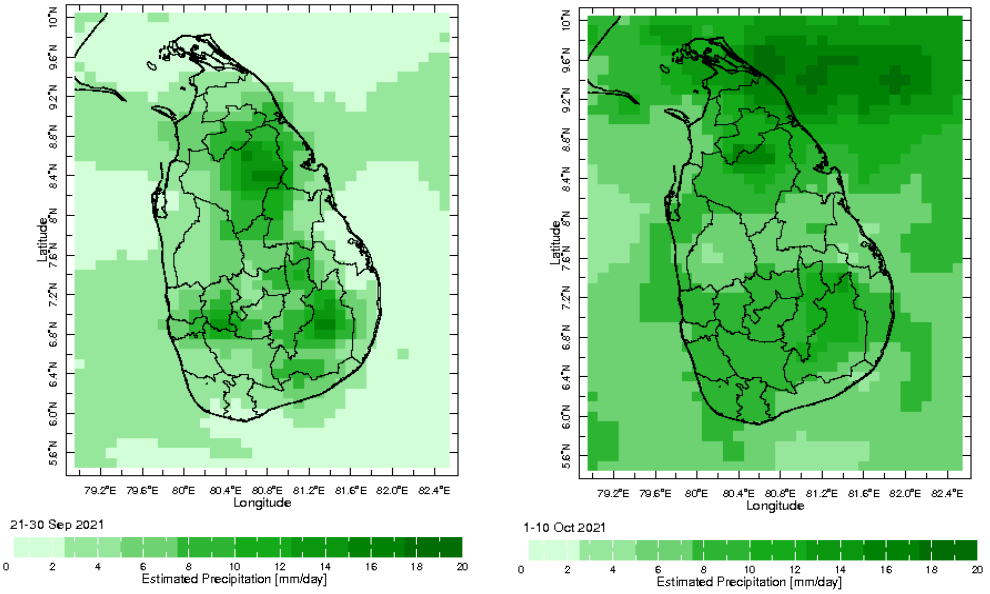




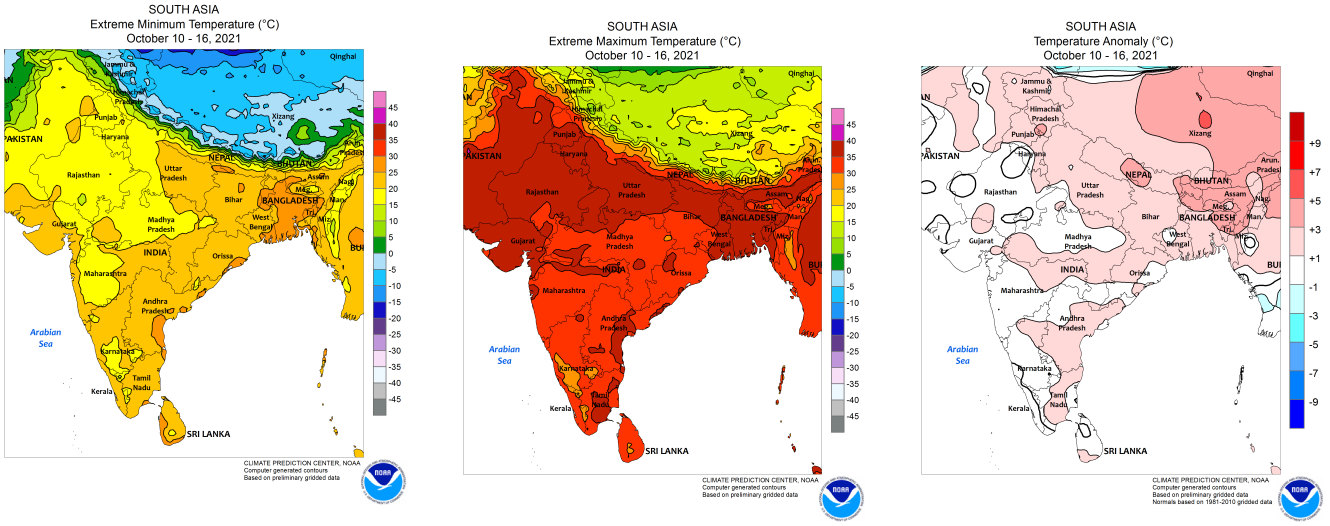
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

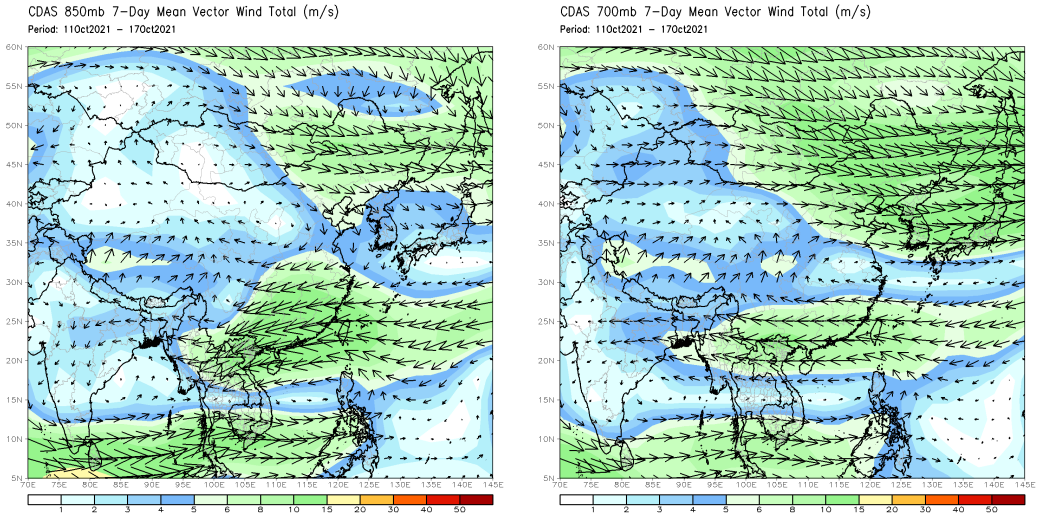


Weekly Temperature Monitoring



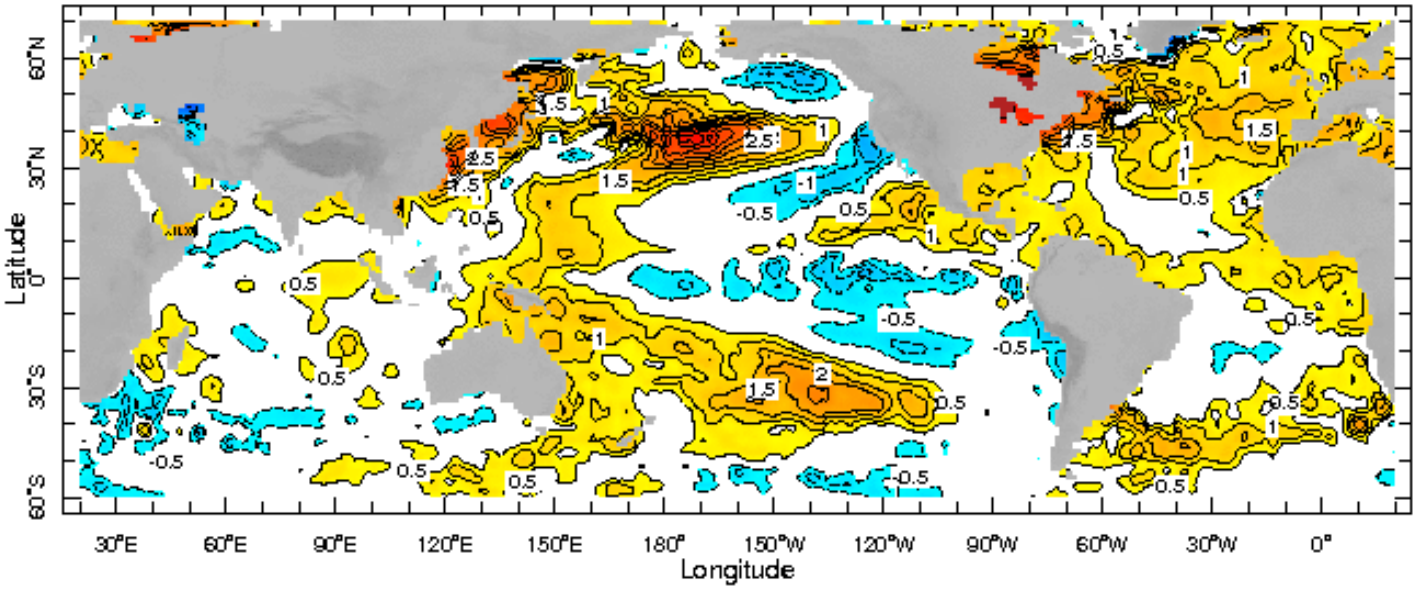
Weekly Wind Monitoring

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

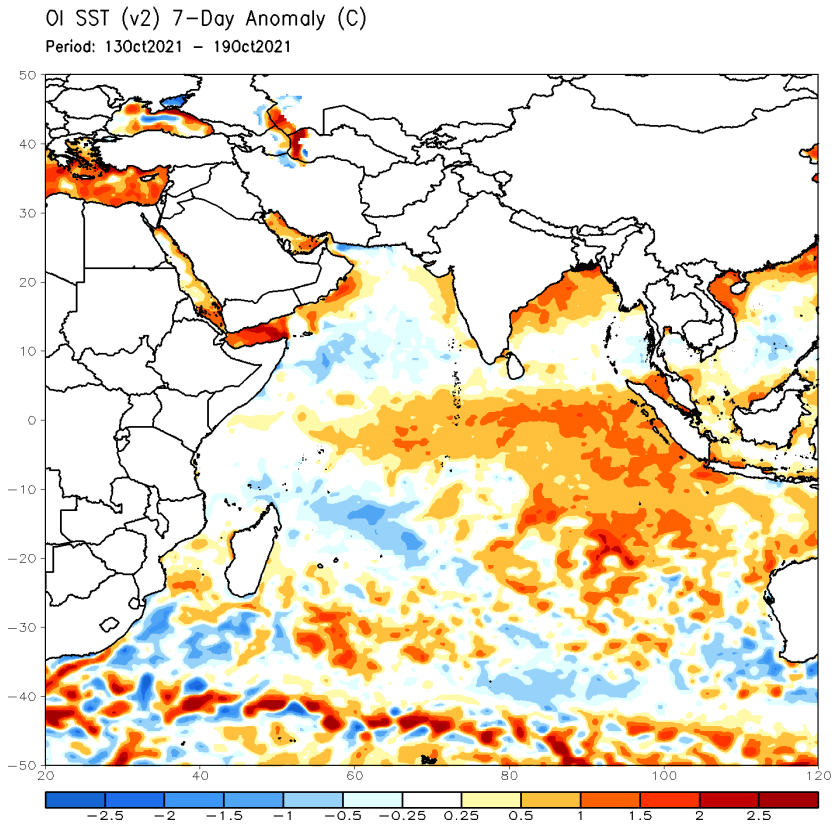
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



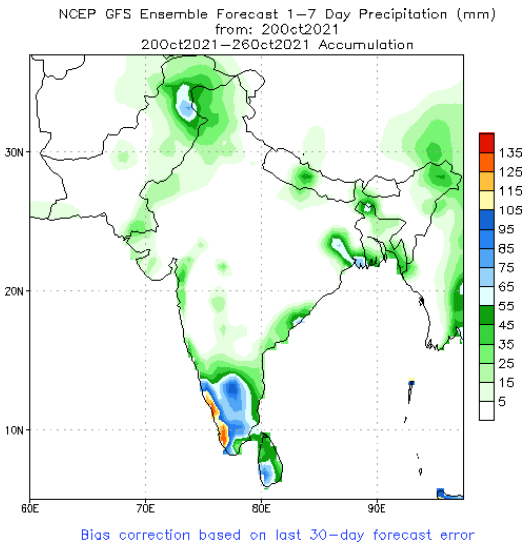
13 Oct 2021

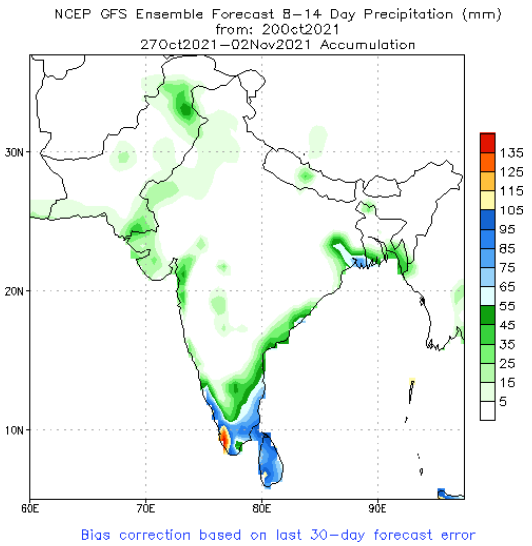
WORLDBATH topography

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

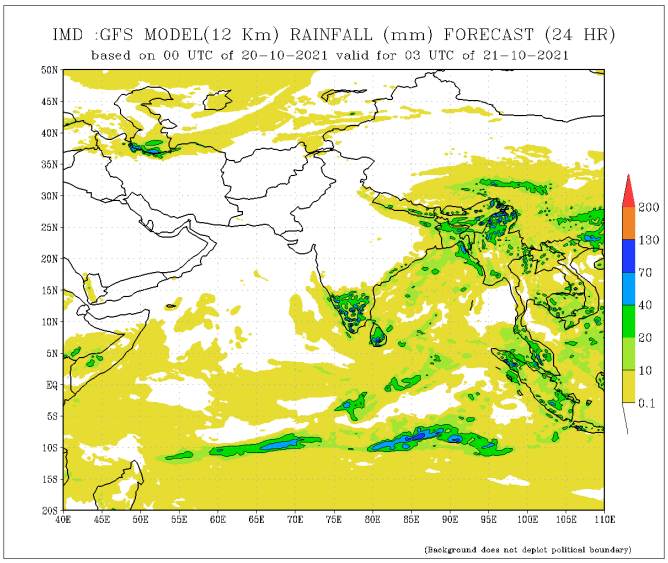


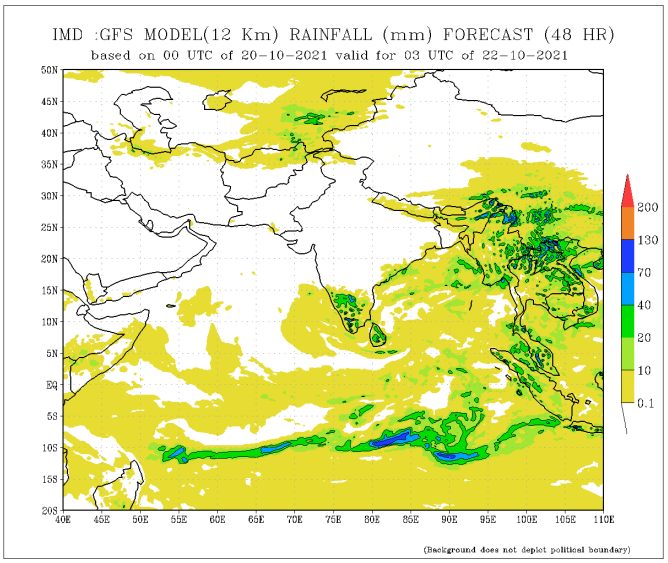
NCEP GFS 1- 14 Day prediction

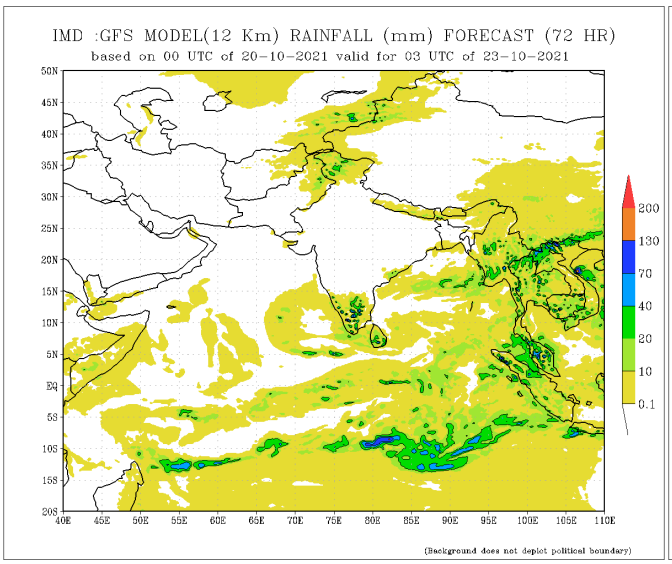


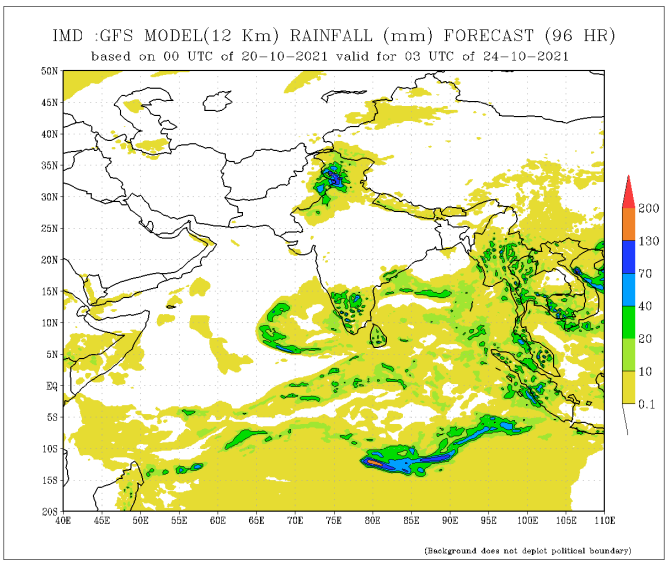


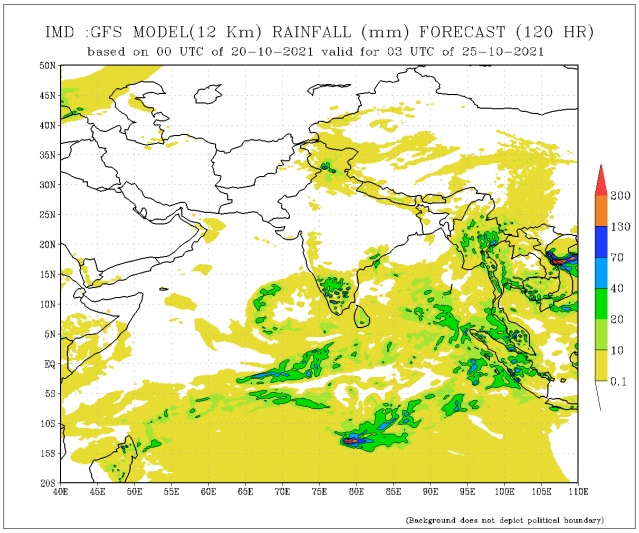
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

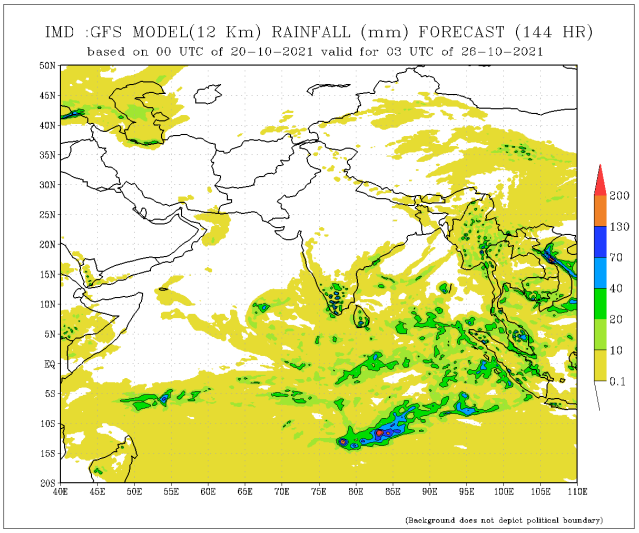


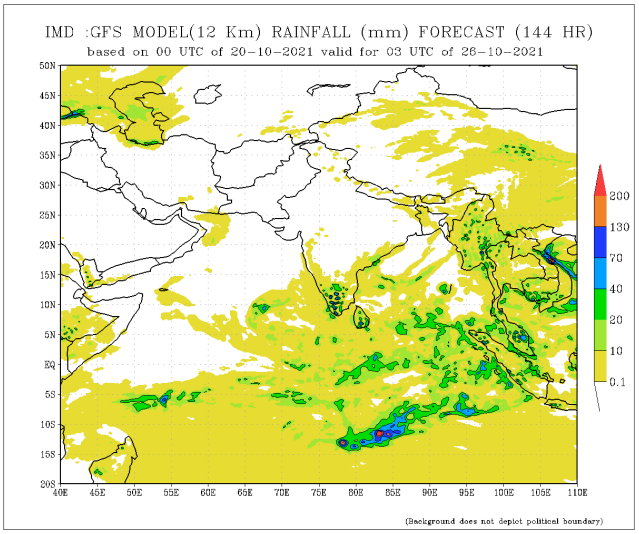






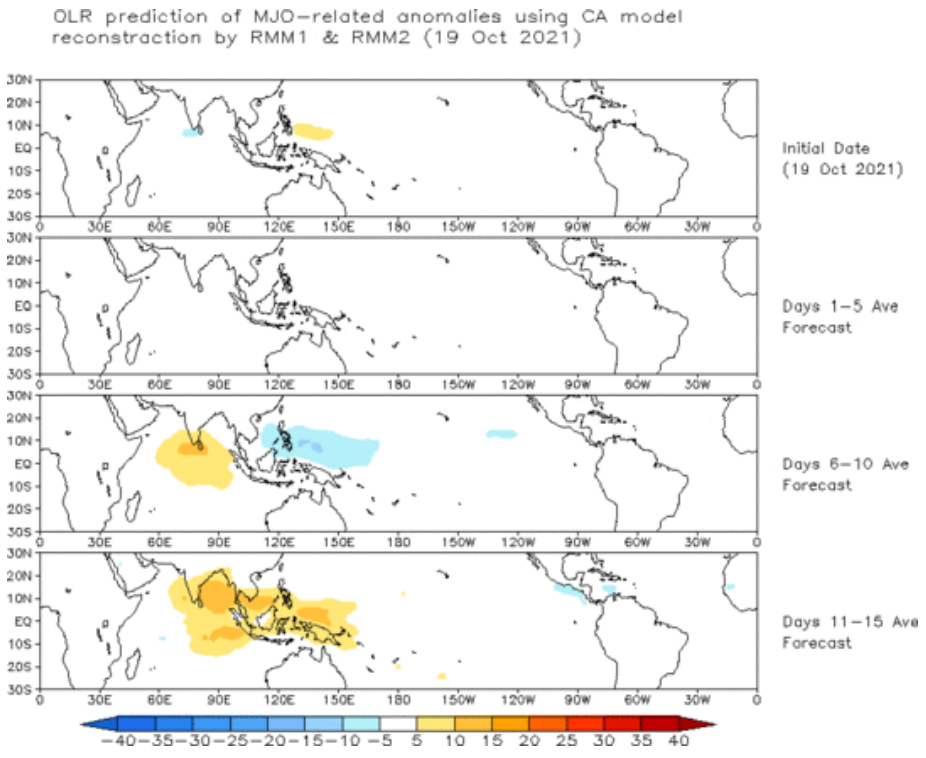






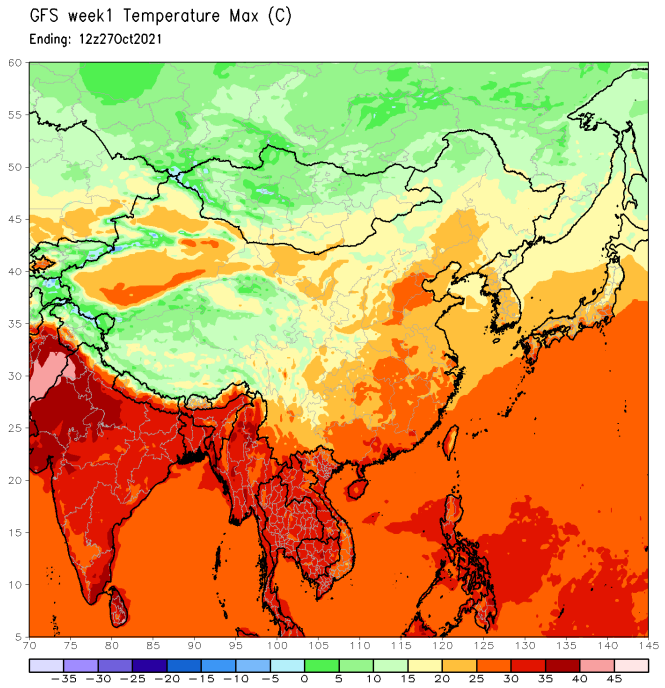
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

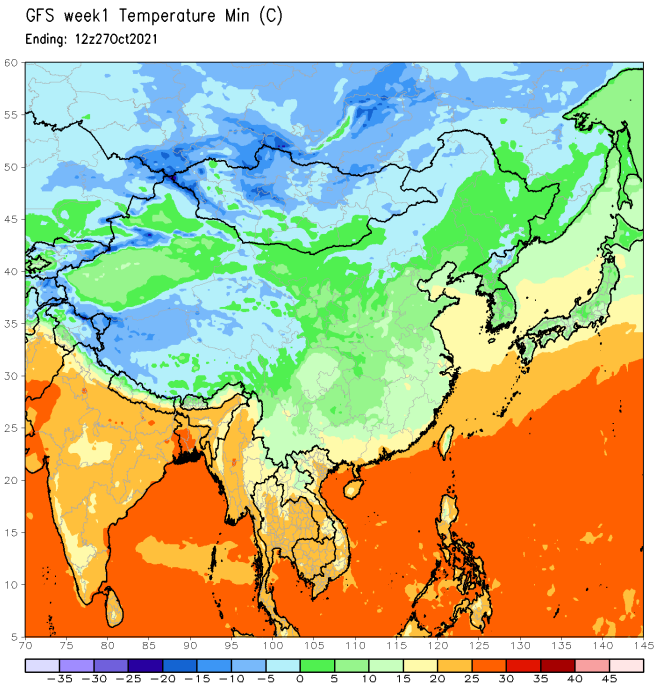
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

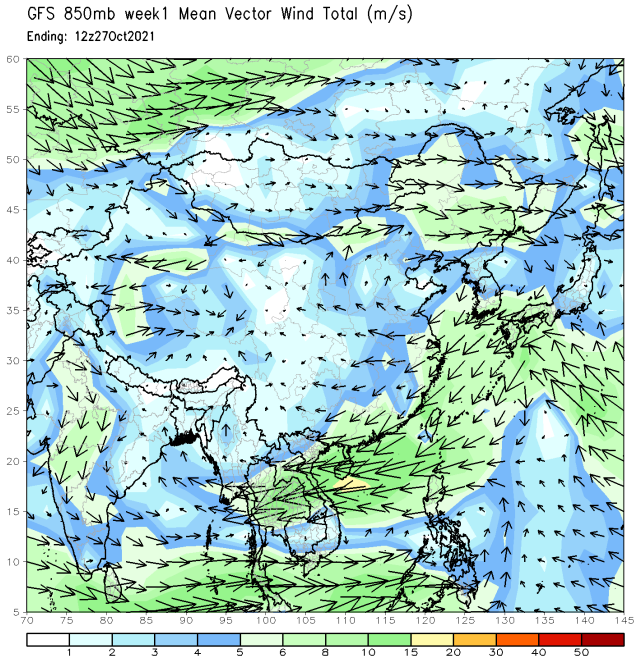
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

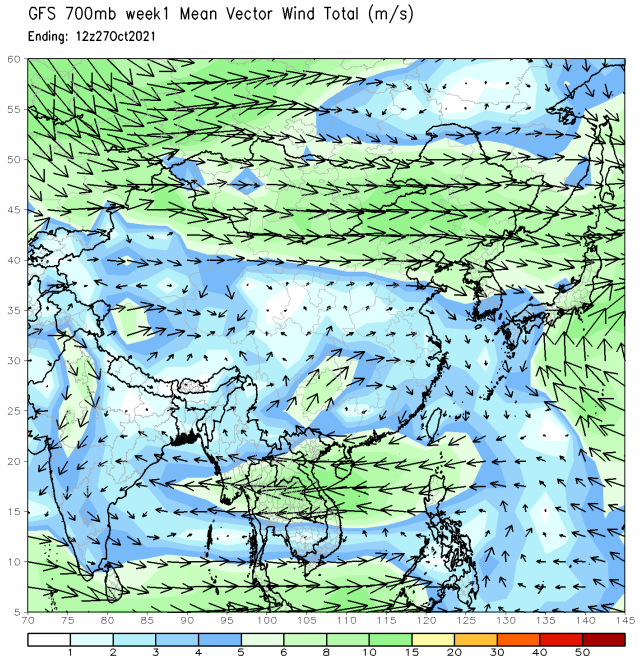




Weekly Wind Forecast

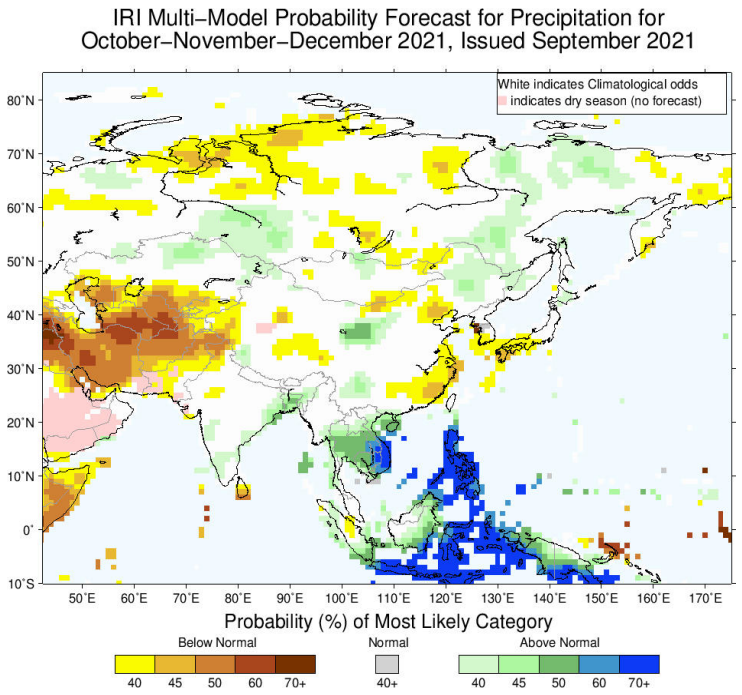
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



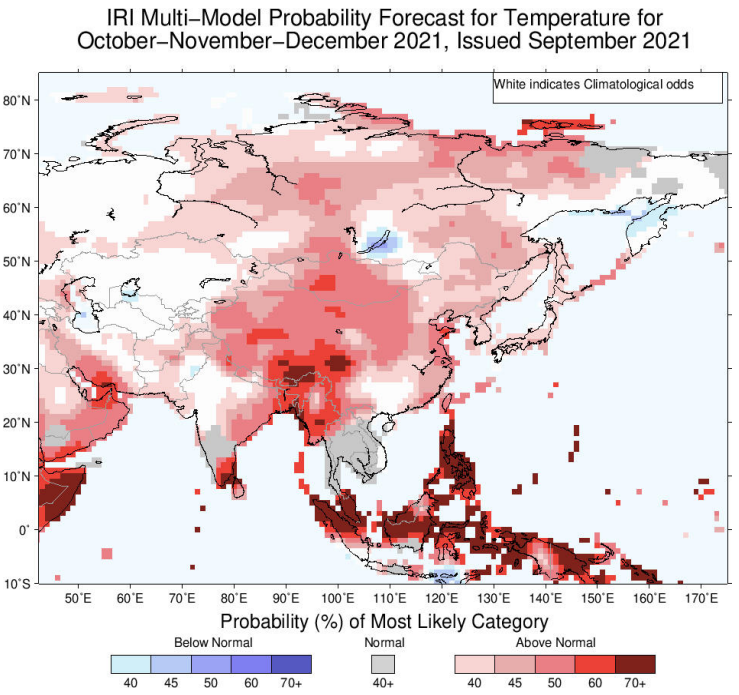


Seasonal Rainfall and Temperature Forecast

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%).



Precipitation Forecast



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.

Contact us

Federation for Environment, Climate & Technology
Digana Village,
Rajawella,
KY20180,
SRI LANKA.

email: info@fect.lk
phone: (+94) 81 2376746

Follow us on

Subscribe to our monthly newsletters