Week of
24 Sep - 1 Oct
2021

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction

- *Heavy rainfall is predicted in Central, Sabaragamuwa, Southern and Western provinces during 24th - 28th Sept. Greater likelihood of dry tendency than normal is predicted for southern Sri Lanka from Oct to Dec.*

Monitored Rainfalls

- *Heavy rainfall was experienced in Eastern, North Central, Sabaragamuwa and Western provinces with max of 135.2 mm in Trincomalee district on 17th Sept.*

Monitored Wind

- *From 14th - 20th Sept, up to 35 km/h Southwesterlies were experienced across the island.*

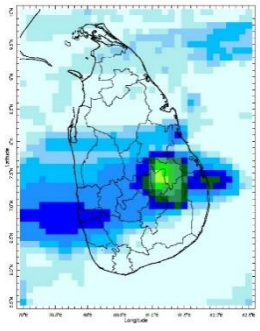
Monitored Sea Surface

- *Sea surface temperature was observed above 0.5 ℃ to the South and 1.0⁰C to the North of Sri Lanka.*

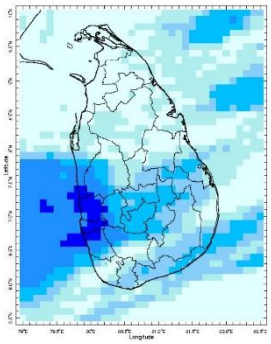
Monitoring

Rainfall

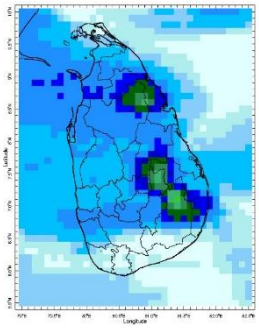
Daily Estimates for Rainfall from 15th – 21st September



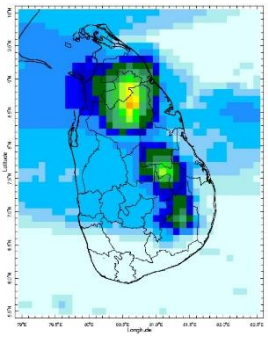
15 September



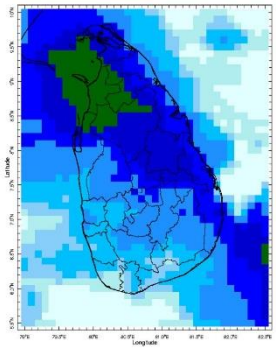
16 September



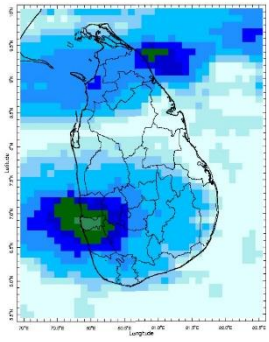
17 September



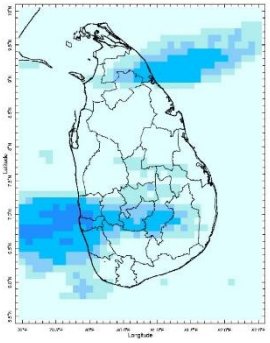
18 September



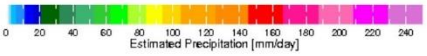
19 September



20 September



21 September



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: September 15, 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-September. 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 above 0.5℃ to the South and 1.0^0C to the North of Sri Lanka.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 22nd – 28th September:

Total rainfall by Provinces:

Rainfall	Provinces
125 mm	Sabaragamuwa, Western
115 mm	Southern
105 mm	Central
95 mm	North Western
85 mm	Uva
65 mm	East, North Central
55 mm	Northern

From 29th September – 5th October:

Total rainfall by Provinces:

Rainfall	Provinces
85 mm	Sabaragamuwa, Western
75 mm	Central, Southern
65 mm	North Western
45 mm	Uva
35 mm	Eastern, Northern, North Central

MJO based OLR predictions

For the next 15 days:

MJO shall be active, thus giving slightly enhanced rainfall during 24th September – 6th October.

Interpretation

Monitoring

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

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

Temperatures: The temperature anomalies were in between 1^0C – 3^0C in Central and Sabaragamuwa provinces while near-neutral for the rest of the country last week, driven by the warm SST's.

Predictions

Rainfall: During the next week (24th - 28th September) heavy rainfall is predicted for Central, Sabaragamuwa, Southern, Western and Central provinces.

Temperatures: The temperature remains slightly normal for September. During 24th September – 2nd October, the temperature remains high especially in the Eastern, Southern and Uva provinces.

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 active, thus giving slightly enhanced rainfall during 24th September – 6th October.

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

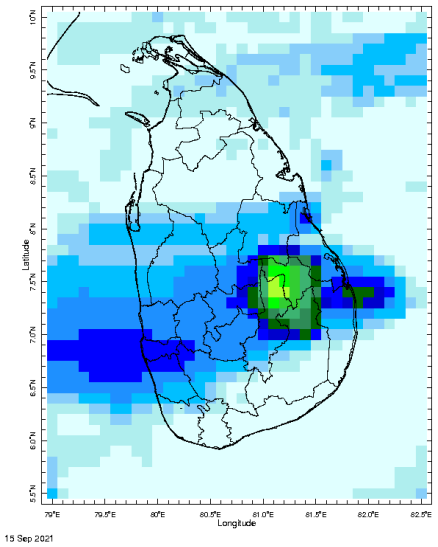
Inside This Issue

Download

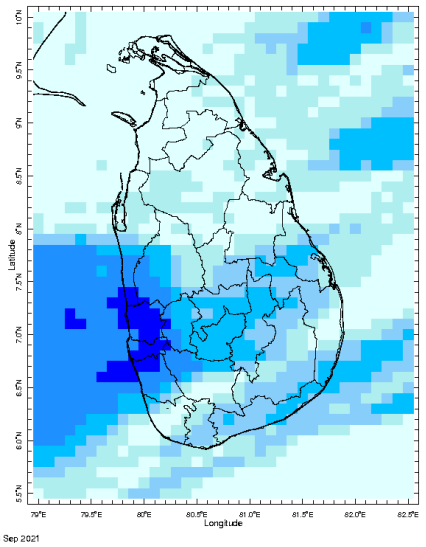
MONITORING

Daily Rainfall Monitoring

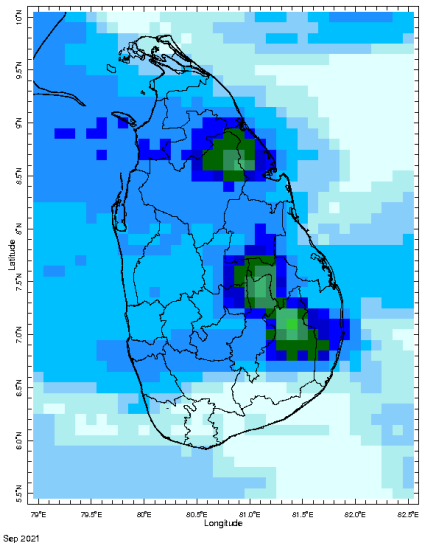
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



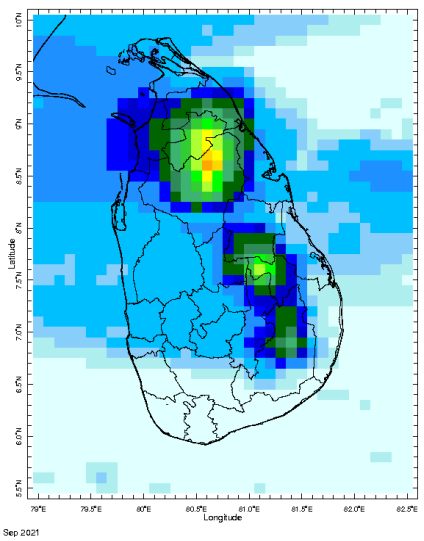
15 Sep 2021



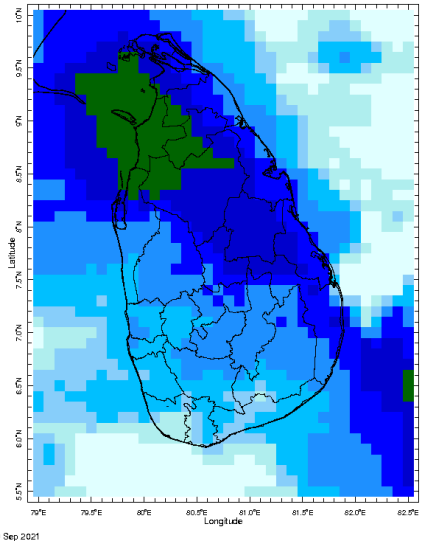
16 Sep 2021



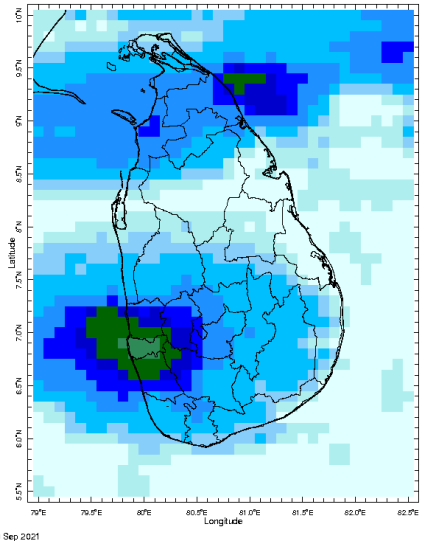
17 Sep 2021



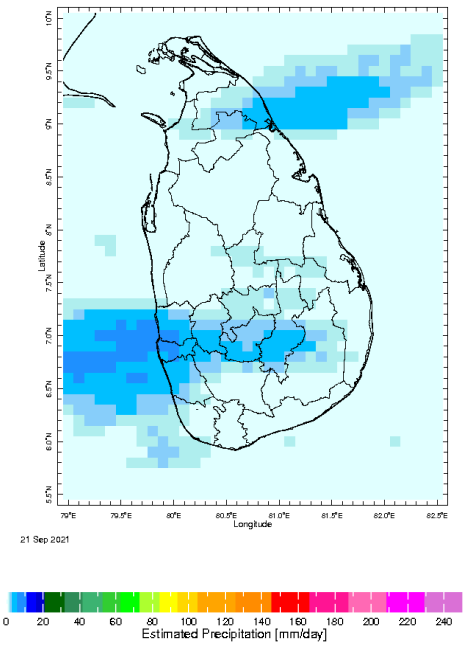
18 Sep 2021



19 Sep 2021

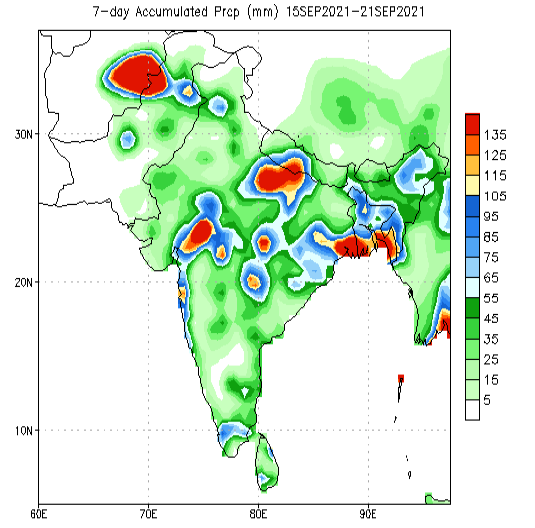


20 Sep 2021

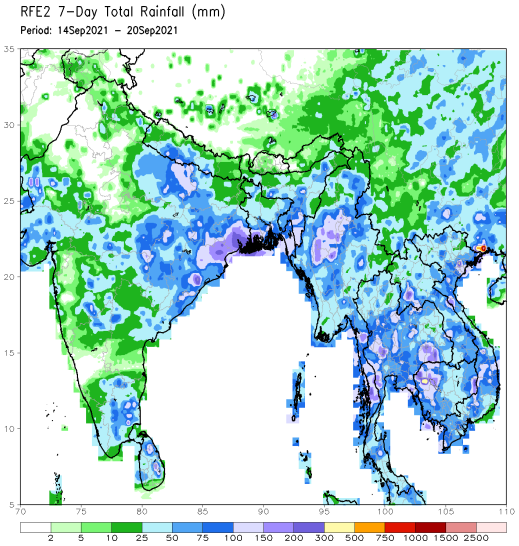


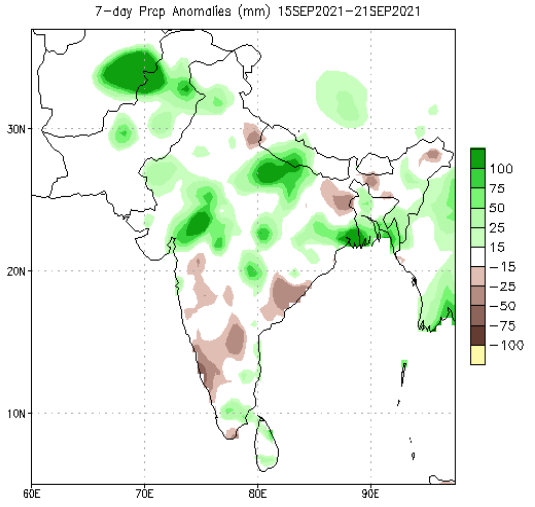
Weekly Rainfall Monitoring

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.

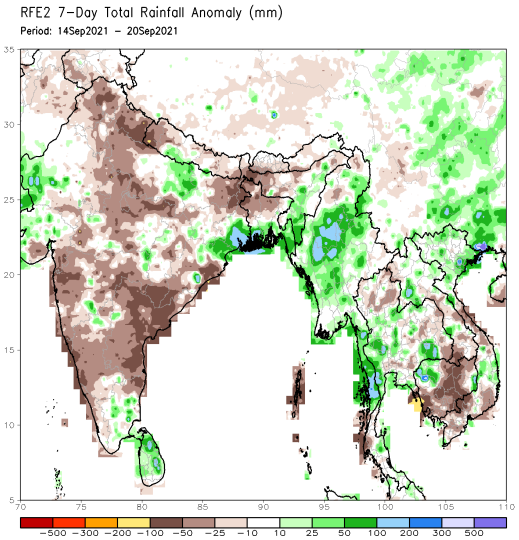


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



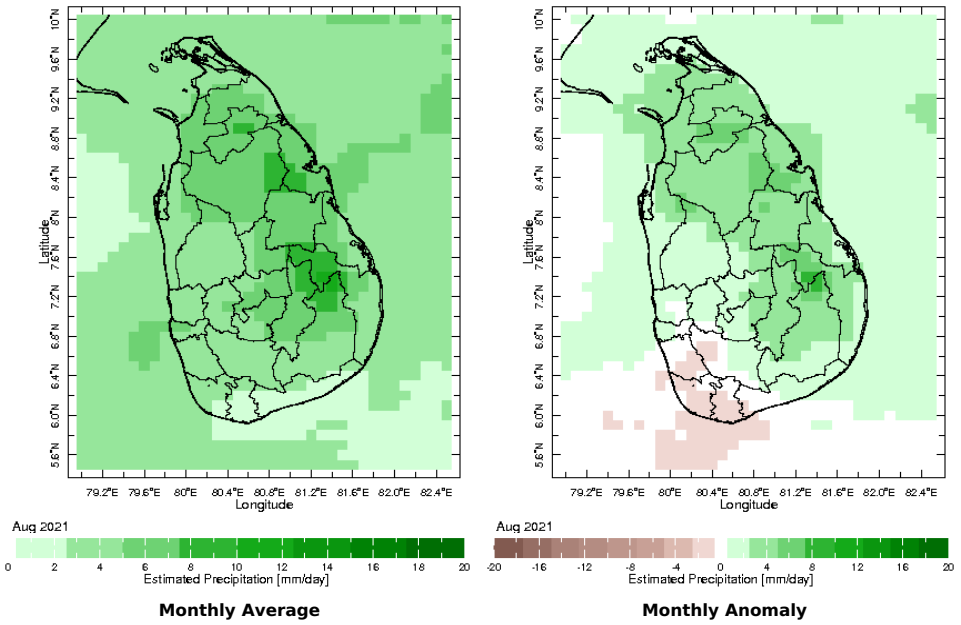


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis
Climatology (1991-2020)



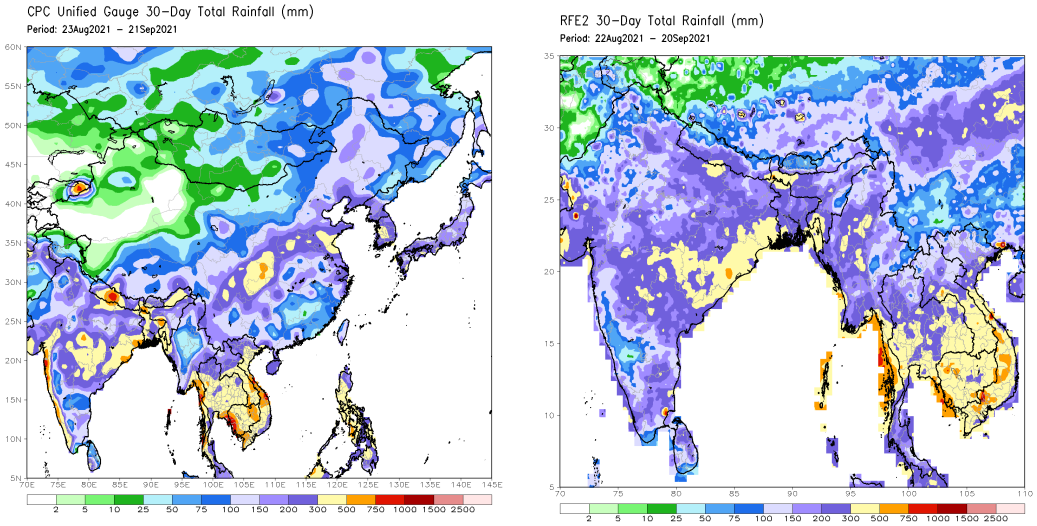
Monthly Rainfall Monitoring

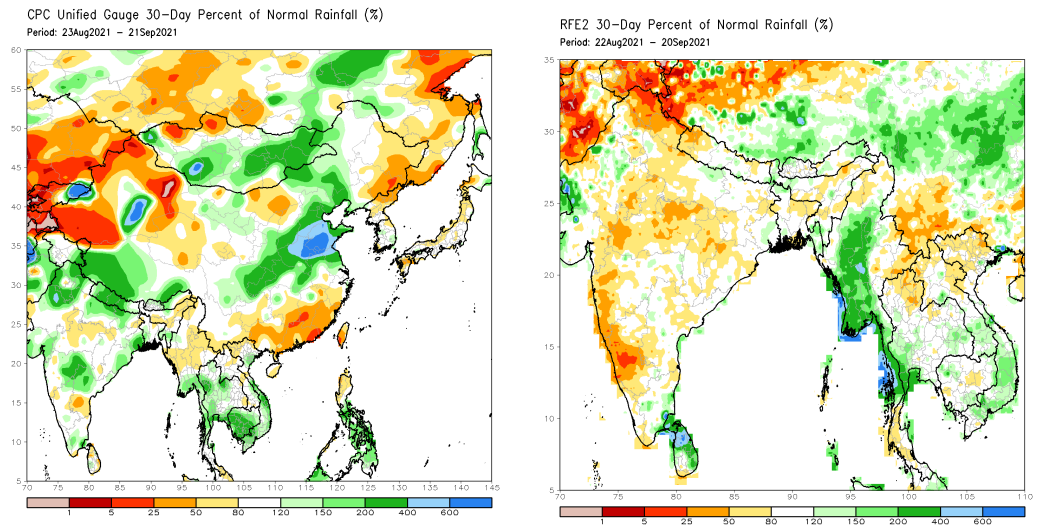
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



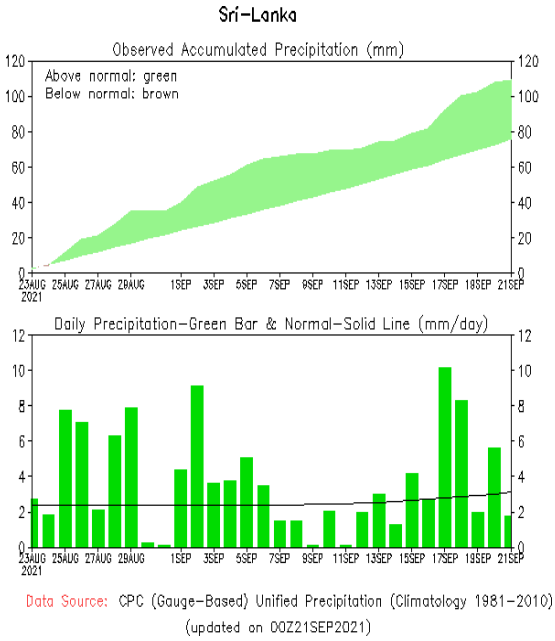
Monthly Average **Monthly Anomaly**

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.



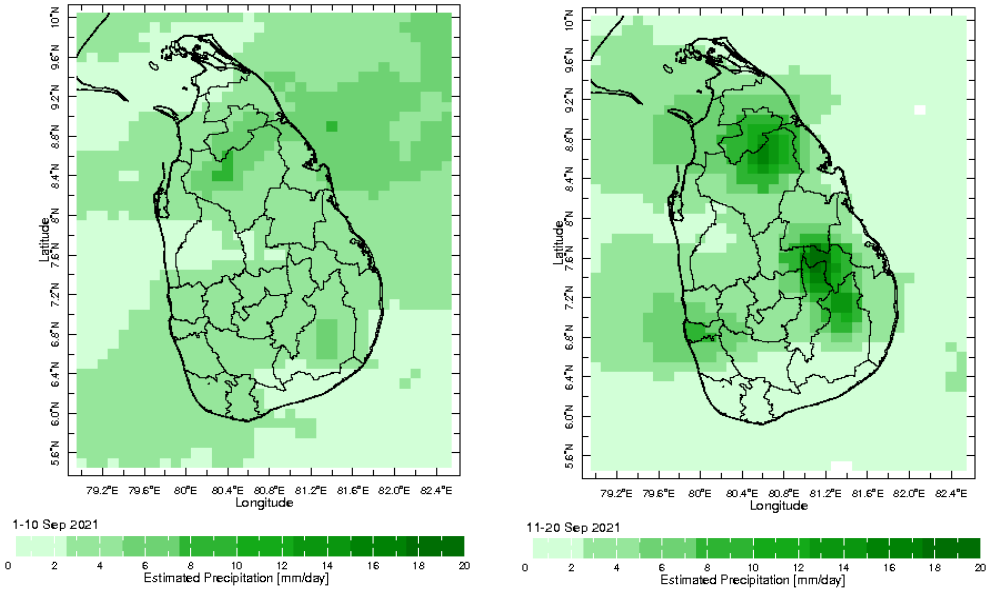


The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.

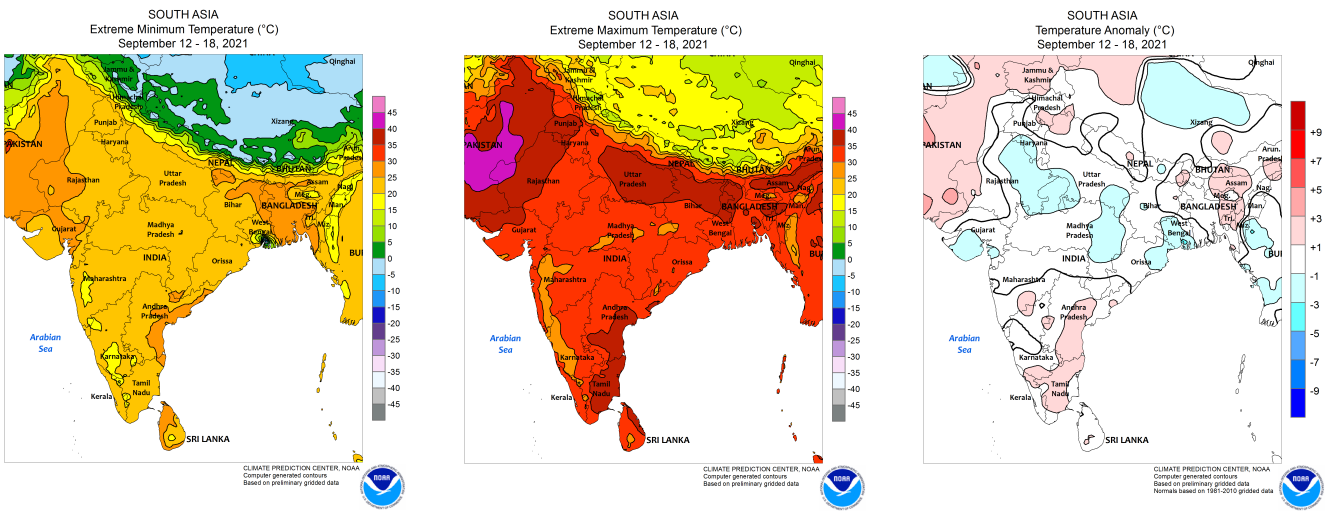


Data Source: CPC (Gauge-Based) Unified Precipitation (Climatology 1981-2010)
(updated on 00Z21SEP2021)

Dekadal (10 Day) Satellite Derived Rainfall Estimates

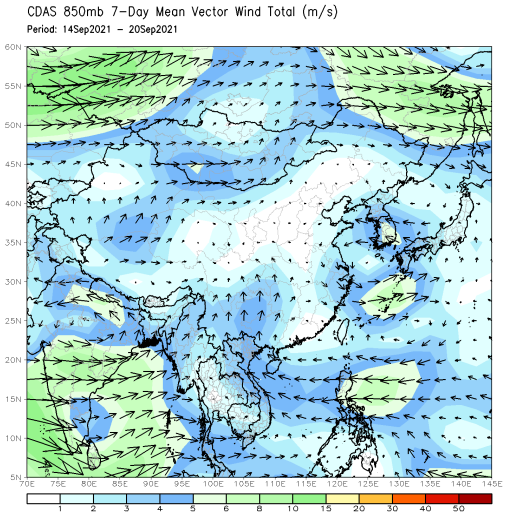


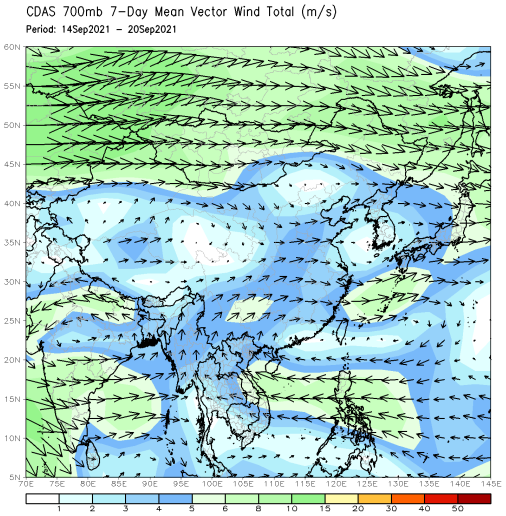
Weekly Temperature Monitoring



Weekly Wind Monitoring

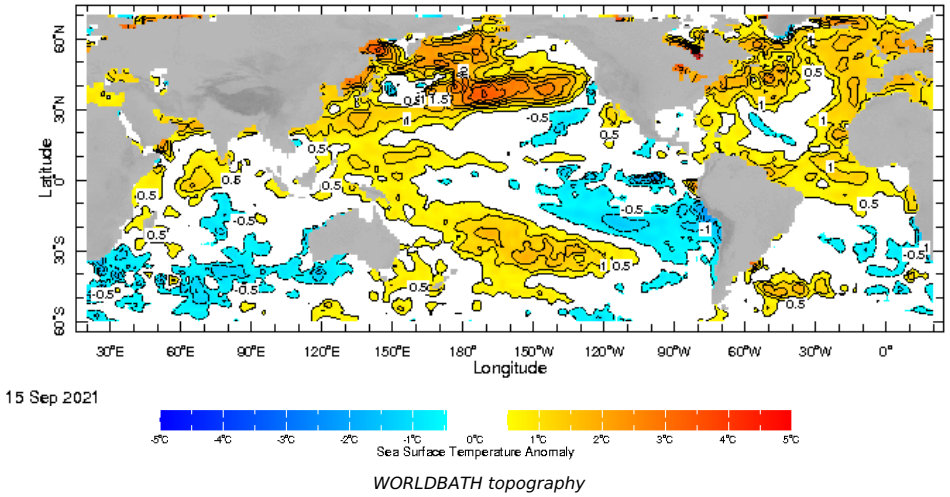
The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.



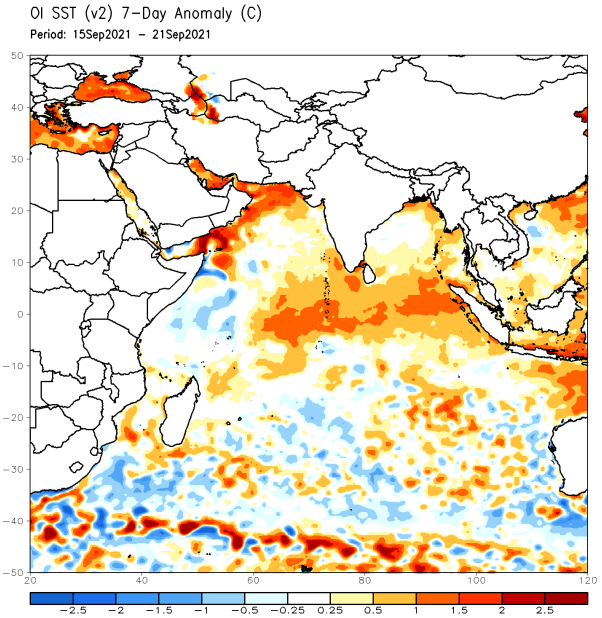


Weekly Average SST Anomalies

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

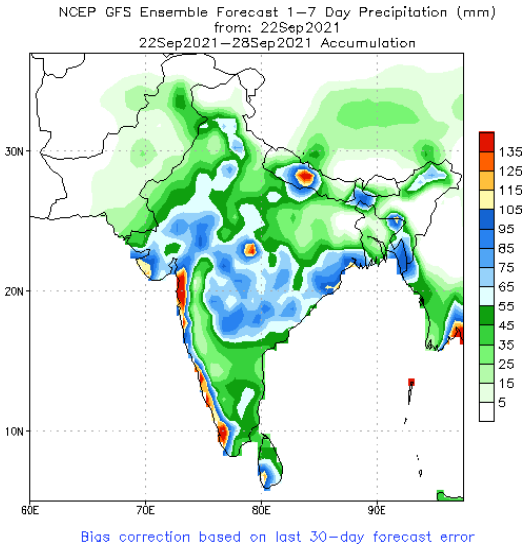


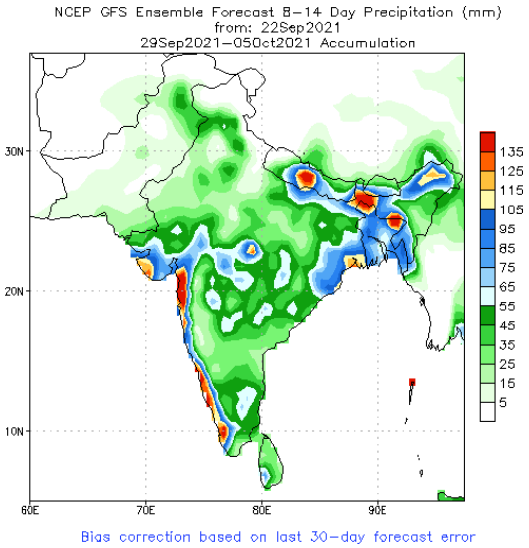
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



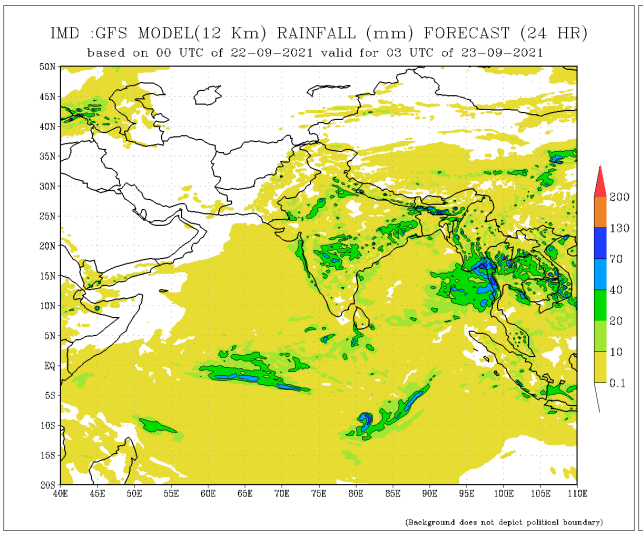
PREDICTIONS

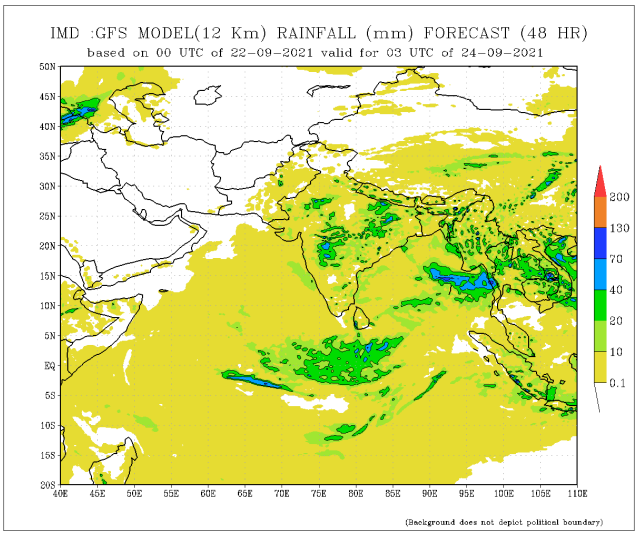
NCEP GFS 1- 14 Day prediction

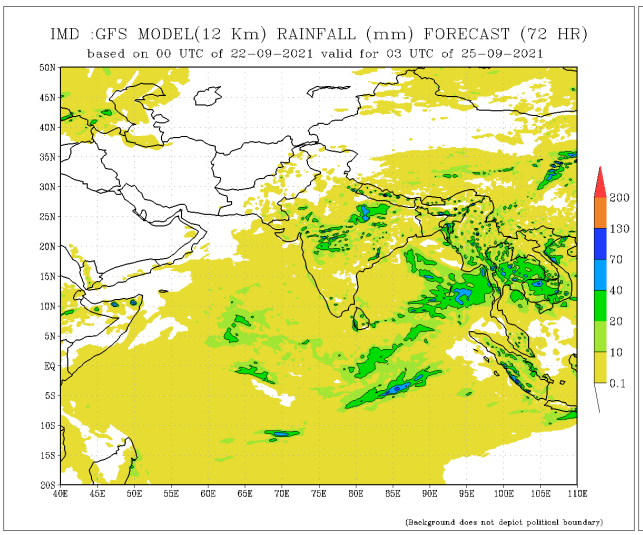


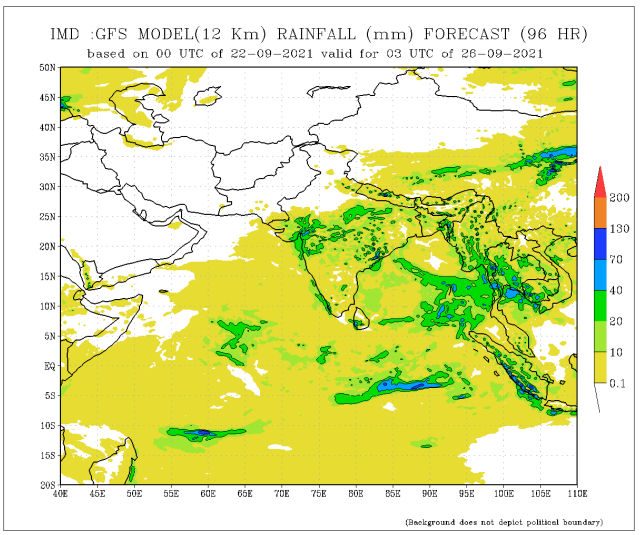


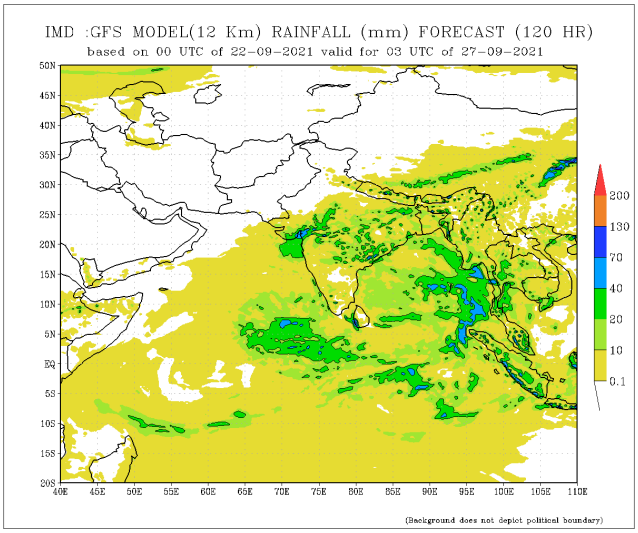
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

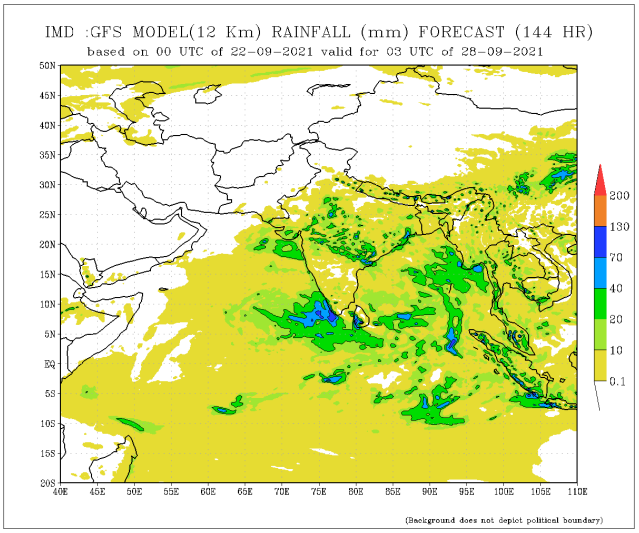


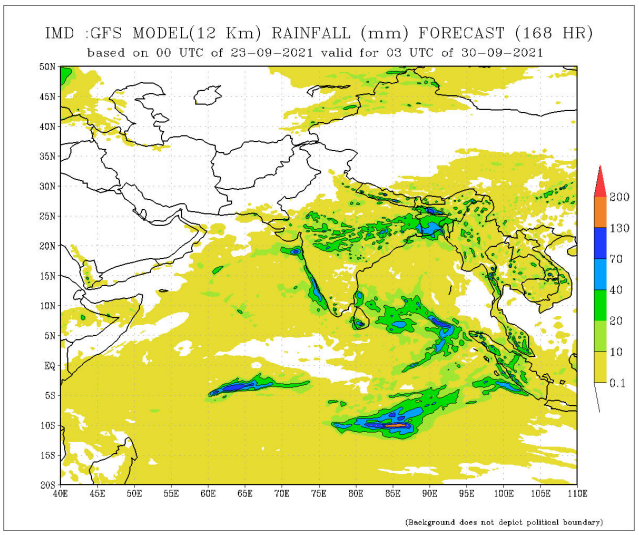






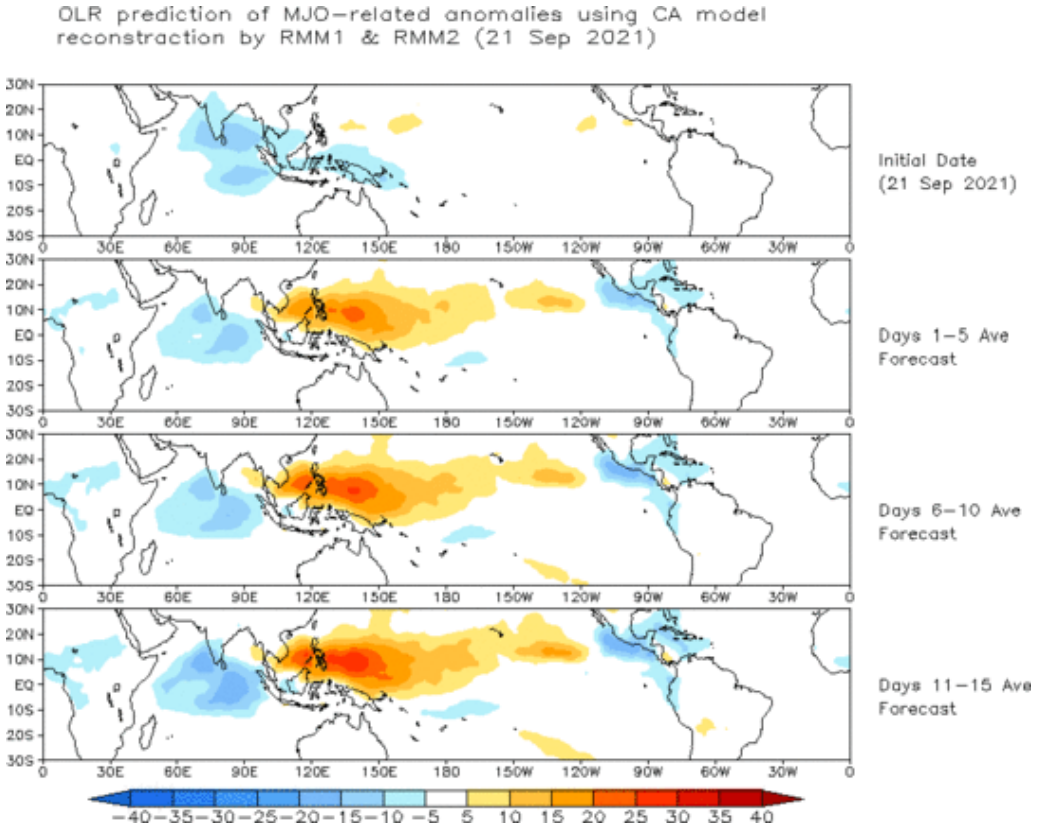






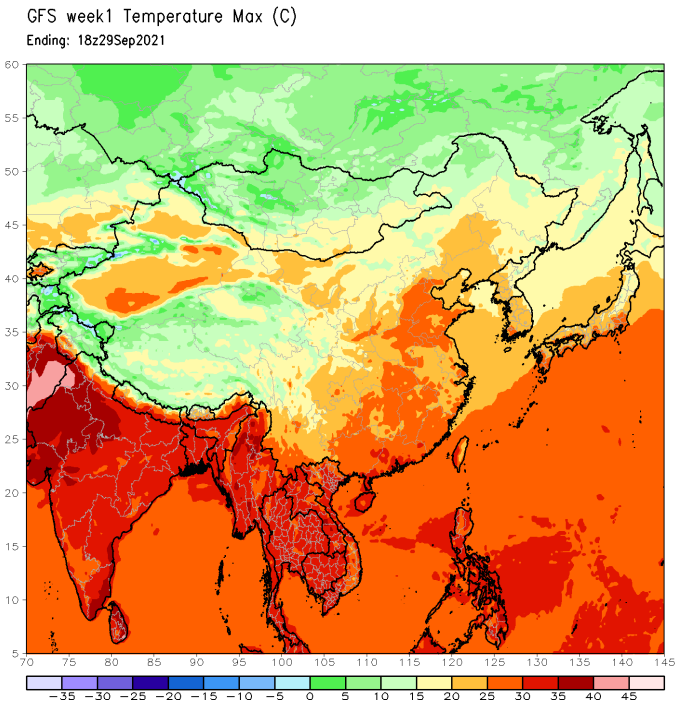
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

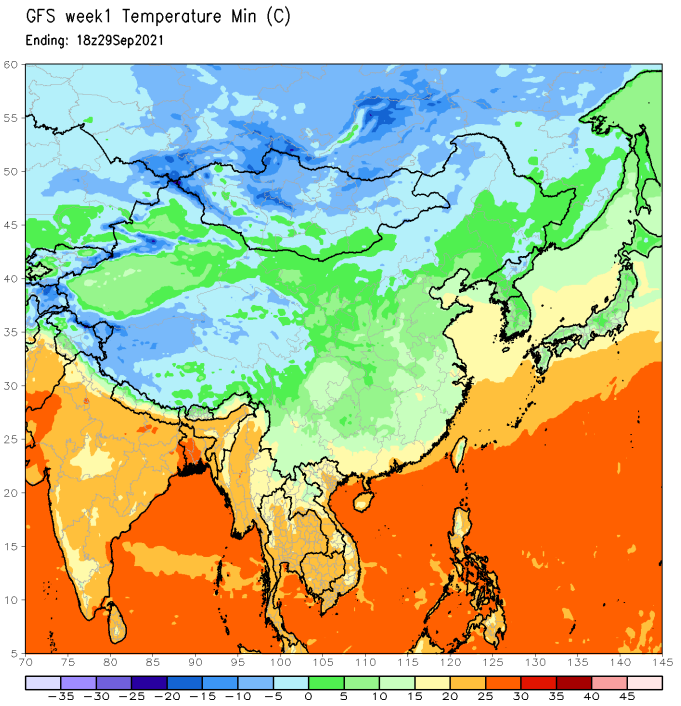
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

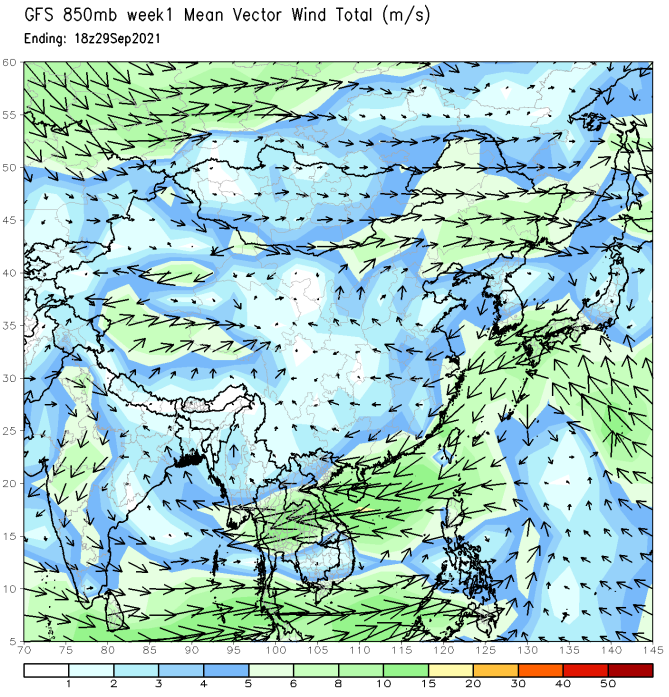
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

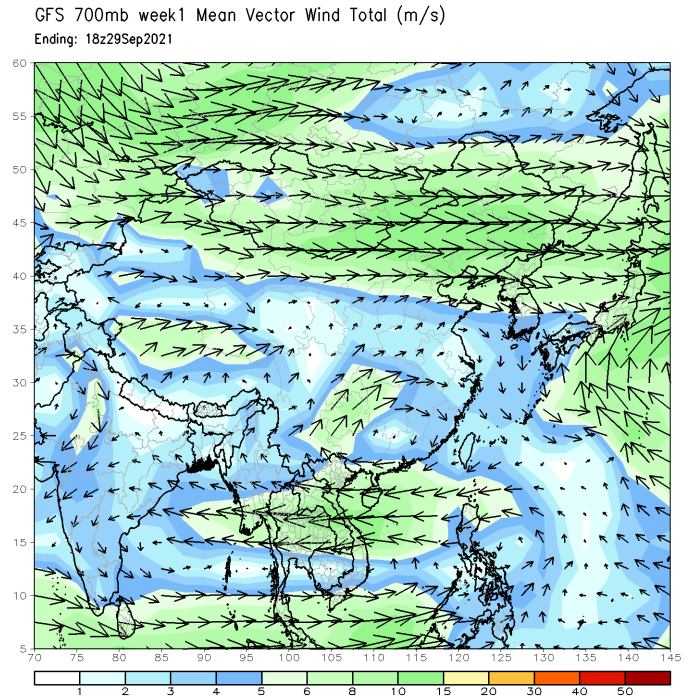




Weekly Wind Forecast

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

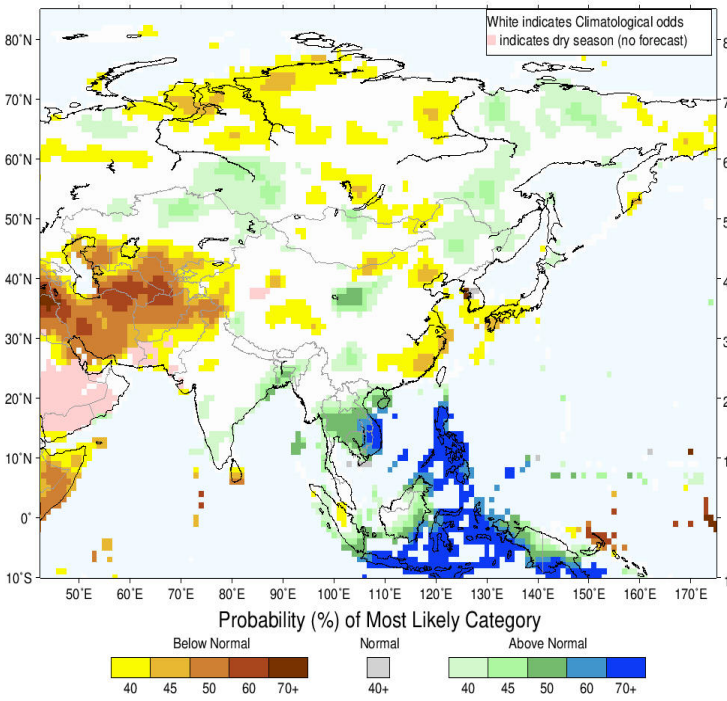




Seasonal Rainfall and Temperature Forecast

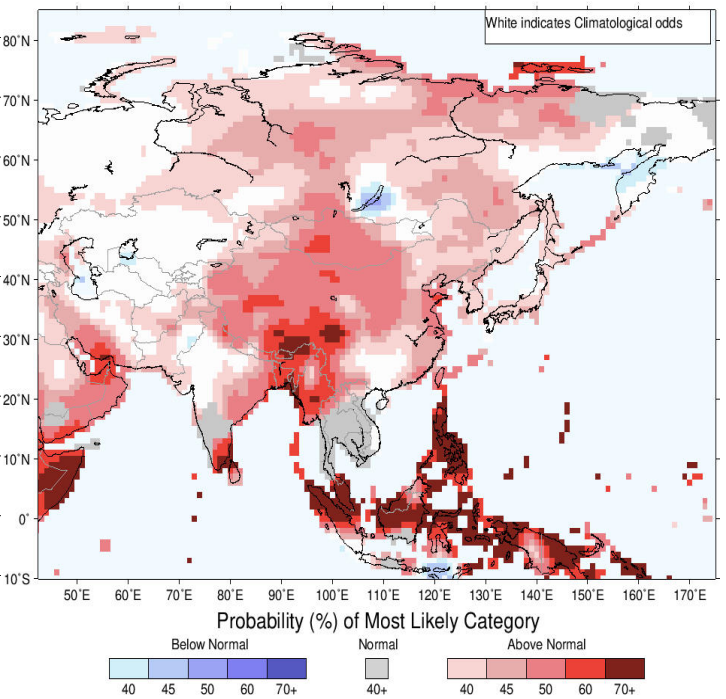
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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



Precipitation Forecast

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



Temperature Forecast

Contact Us
email: fectsl@gmail.com
phone: (+94) 81 2376746
blog: www.fectsl.blogspot.com

Foundation for Environment, Climate & Technology
C/O Mahaweli Authority of Sri Lanka,
Digana Village,
Rajawella,
SRI LANKA