

Week of
13 - 20 Aug
2021

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction



- Fairly heavy rainfalls are predicted in Western, Sabaragamuwa, North Central & Central provinces during 13th -17th August.

Monitored Rainfalls



- Heavy rainfalls were experienced in the Central & Sabaragamuwa provinces with maximum of 133.5 mm in Kegalle district on 8th August.

Monitored Wind



- From 3rd- 9th August: up to 15 km/h from the Southwesterly were experienced over the island.

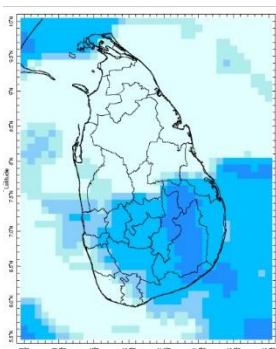
Monitored Sea Surface



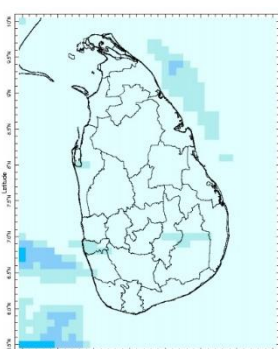
- Sea surface temperature was observed above 0.5 °C around all of Sri Lanka.

Monitoring Rainfall

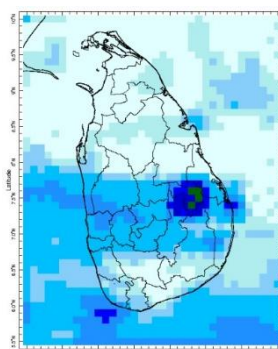
Daily Estimates for Rainfall from 4th – 10th August



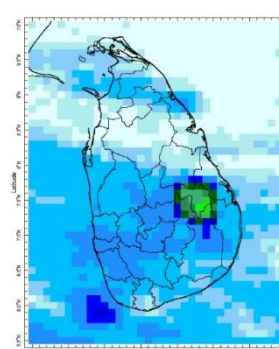
4 August



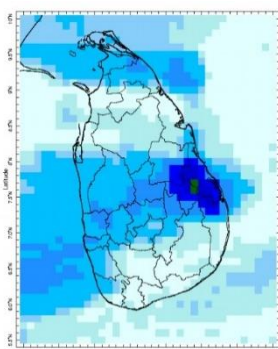
5 August



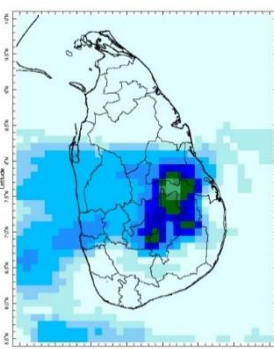
6 August



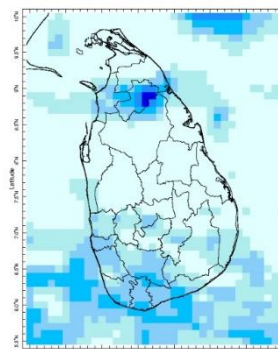
7 August



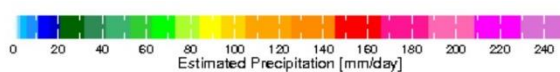
8 August



9 August



10 August



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Total Rainfall for the Past Week

The RFE 2.0 tool shows 7-day total Cumulative rainfall by Districts:

Rainfall	Districts
100 - 150 mm	Ampara, Badulla, Monaragala, Polonnaruwa, Batticaloa
50 - 75 mm	Kandy, Matale
25 - 50 mm	Colombo, Gampaha, Kegalle, Kurunegala, Nuwara Eliya, Puttalam
10 - 25 mm	Anuradhapura, Galle, Kalutara, Kilinochchi, Mannar, Mullaitivu, Ratnapura, Trincomalee, Jaffna
5 – 10 mm	Matara, Hambantota, Vavuniya

Weekly Rainfall Anomalies by Districts:

Rainfall Excess

Rainfall	Districts
100 - 200 mm	Ampara, Badulla, Monaragala, Batticaloa
50 - 100 mm	Matale, Polonnaruwa
25 - 50 mm	Kandy, Nuwara Eliya
10 - 25 mm	Anuradhapura, Colombo, Gampaha, Kegalle, Kilinochchi, Kurunegala, Mullaitivu, Puttalam, Ratnapura,

There was no rainfall throughout the week in the remaining districts.

Monthly Monitoring

During late July and early August, Dekadal Rainfall (mm/day) by Districts:

21st – 31st July:

Rainfall	Districts
4 mm	Ampara, Badulla, Batticaloa, Colombo, Gampaha, Kalutara, Kegalle, Monaragala, Ratnapura, Nuwara Eliya
2 mm	Anuradhapura, Galle, Hambantota, Kandy, Kurunegala, Mannar, Matale, Matara, Mullaitivu, Polonnaruwa, Puttalam, Trincomalee, Vavuniya

1st – 10th August:

Rainfall	Districts
14 mm	Ampara
12 mm	Badulla, Monaragala, Polonnaruwa
8 mm	Batticaloa, Matale
6 mm	Kandy
4 mm	Colombo, Gampaha, Kegalle, Kurunegala, Nuwara Eliya, Puttalam, Ratnapura
2 mm	Anuradhapura, Galle, Hambantota, Jaffna, Kalutara, Kilinochchi, Mannar, Matara, Mullaitivu, Trincomalee, Vavuniya

Ocean State *(Text Courtesy IRI)*

Pacific sea state: August 4, 2021

Equatorial SSTs were below average in parts of the eastern Pacific Ocean and near average across the rest of the Pacific Ocean in early August and most key atmospheric variables were ENSO –Neutral condition. A large majority of the model forecasts predict ENSO-neutral likely to continue through the Northern Hemisphere summer.

Indian Ocean State

Sea surface temperature was observed above 0.5°C around all of Sri Lanka.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 11th – 17th August:

Total rainfall by Provinces:

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

From 18th – 24th August:

Total rainfall by Provinces:

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

MJO based OLR predictions

For the next 15 days:

MJO shall be active thus, slightly enhanced rainfall during 10th – 24th August.

Interpretation

Monitoring

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

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

Temperatures: The temperature anomalies were slightly above normal for the Sabaragamuwa province, the last – driven by the warm SST's.

Predictions

Rainfall: During the next week (13th – 17th August) Fairly heavy rainfalls are predicted for Sabaragamuwa, Western, North Central and Central provinces and Galle and Matara Districts.

Temperatures: The temperature remains slightly normal for August. During 14th – 22nd August, the temperature remains high especially in the Uva, Eastern, North Central and Northern provinces.

Teleconnections:

La Nina -The SST forecast indicates that the La Niña event has transitioned to ENSO-neutral and will likely remain so through the boreal summer.

MJO shall be active thus, slightly enhanced rainfall during 10th – 24th August.

Understanding the forecast

	Rainfall (During 24 hours of period)
Light showers	less than 12.5mm
Light to Moderate	between 12.5mm and 25 mm
Moderate	between 25mm and 50 mm
Fairly heavy	between 50mm and 100 mm
Heavy	between 100mm and 150 mm
Very Heavy	more than 150mm

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

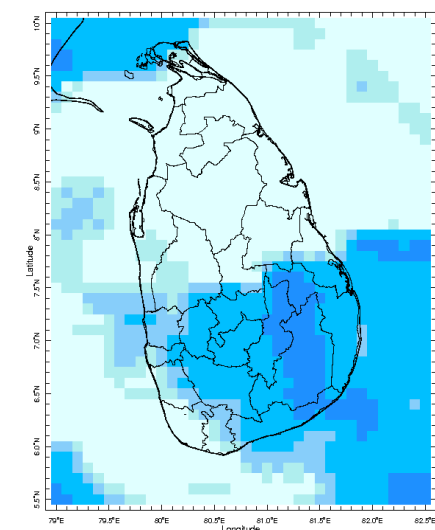
- NCEP GFS Ensemble 1-14 day Rainfall Predictions
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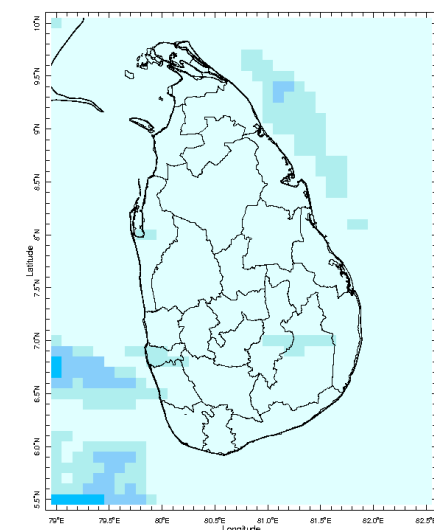
MONITORING

Daily Rainfall Monitoring

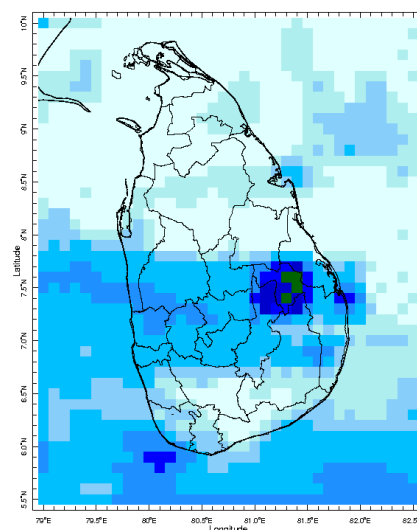
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



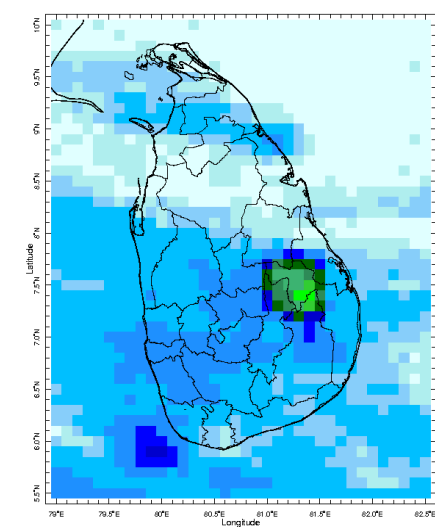
4 Aug 2021



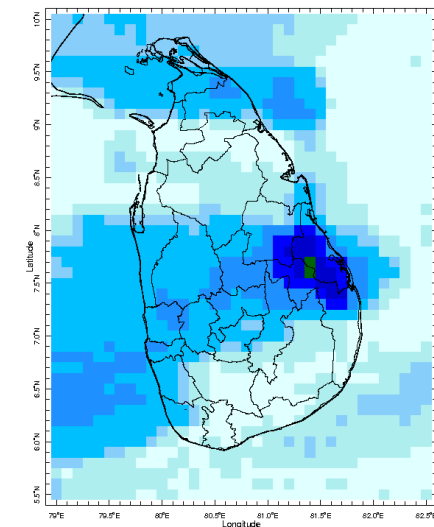
5 Aug 2021



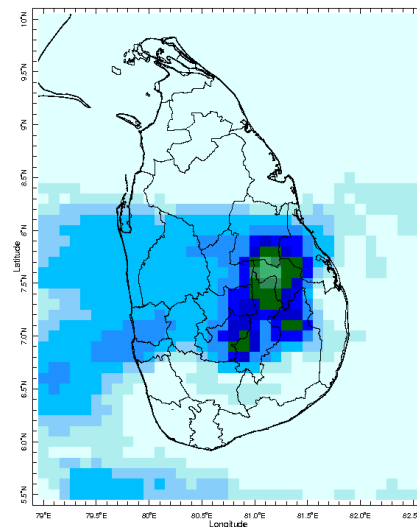
6 Aug 2021



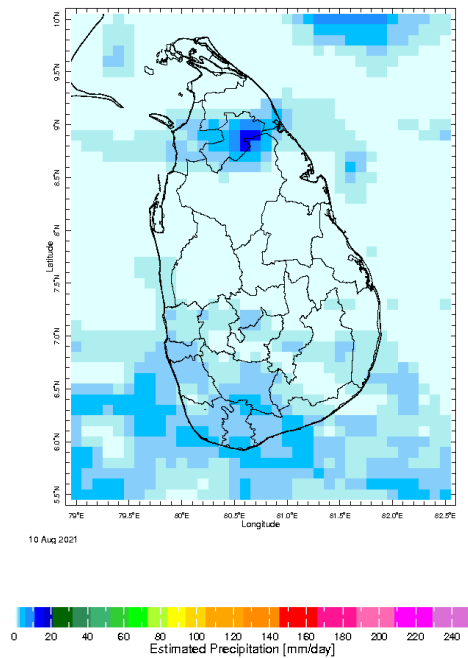
7 Aug 2021



8 Aug 2021

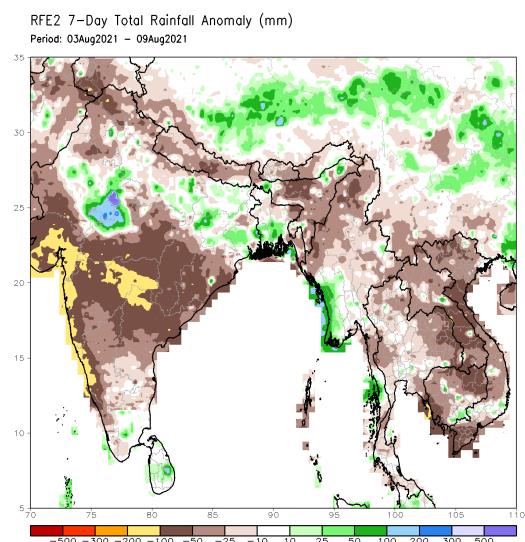
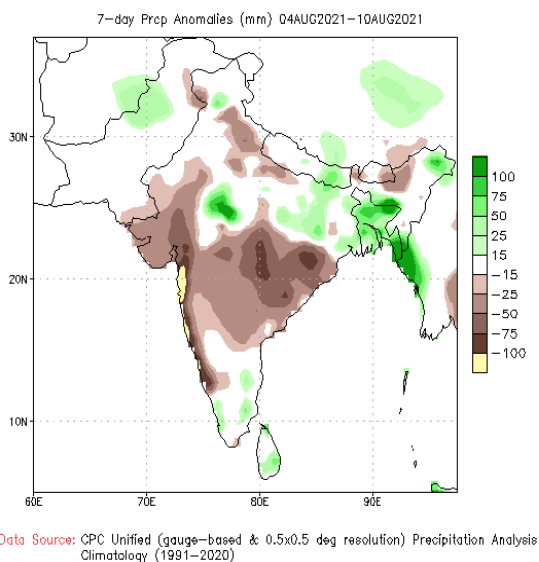
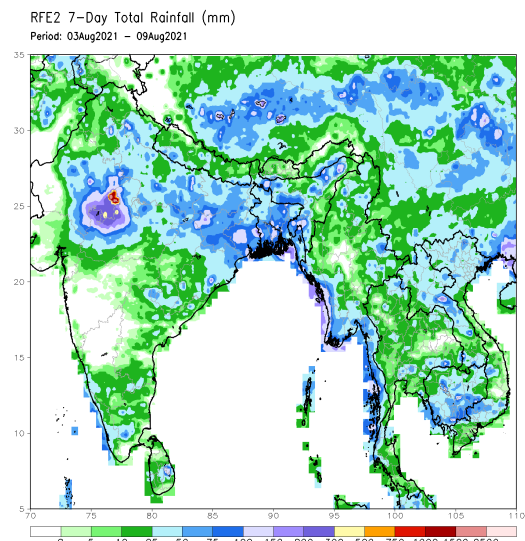
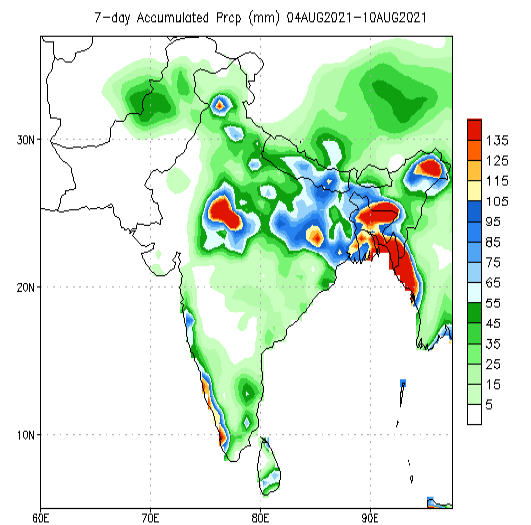


9 Aug 2021



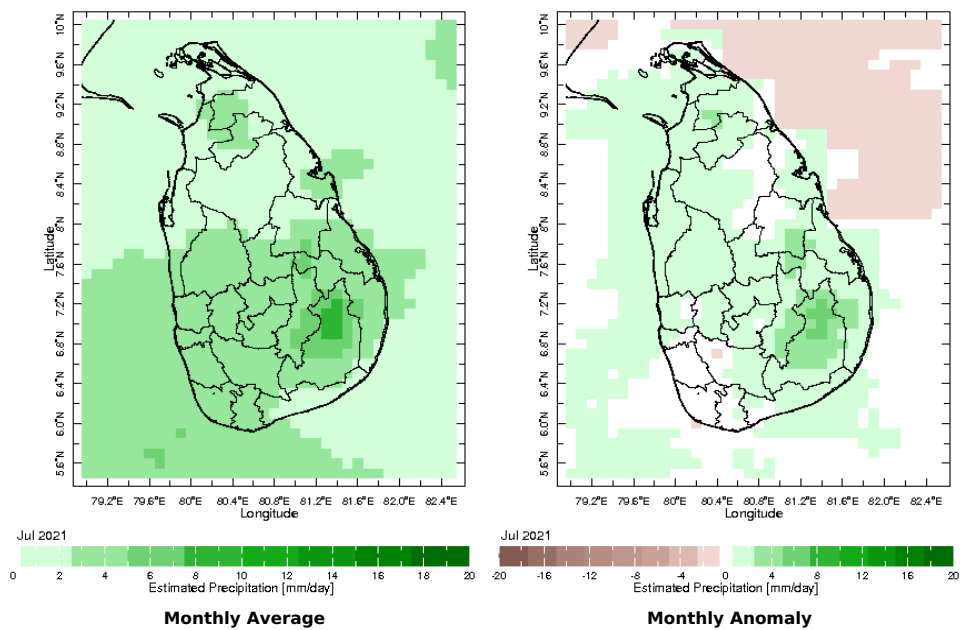
Weekly Rainfall Monitoring

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.

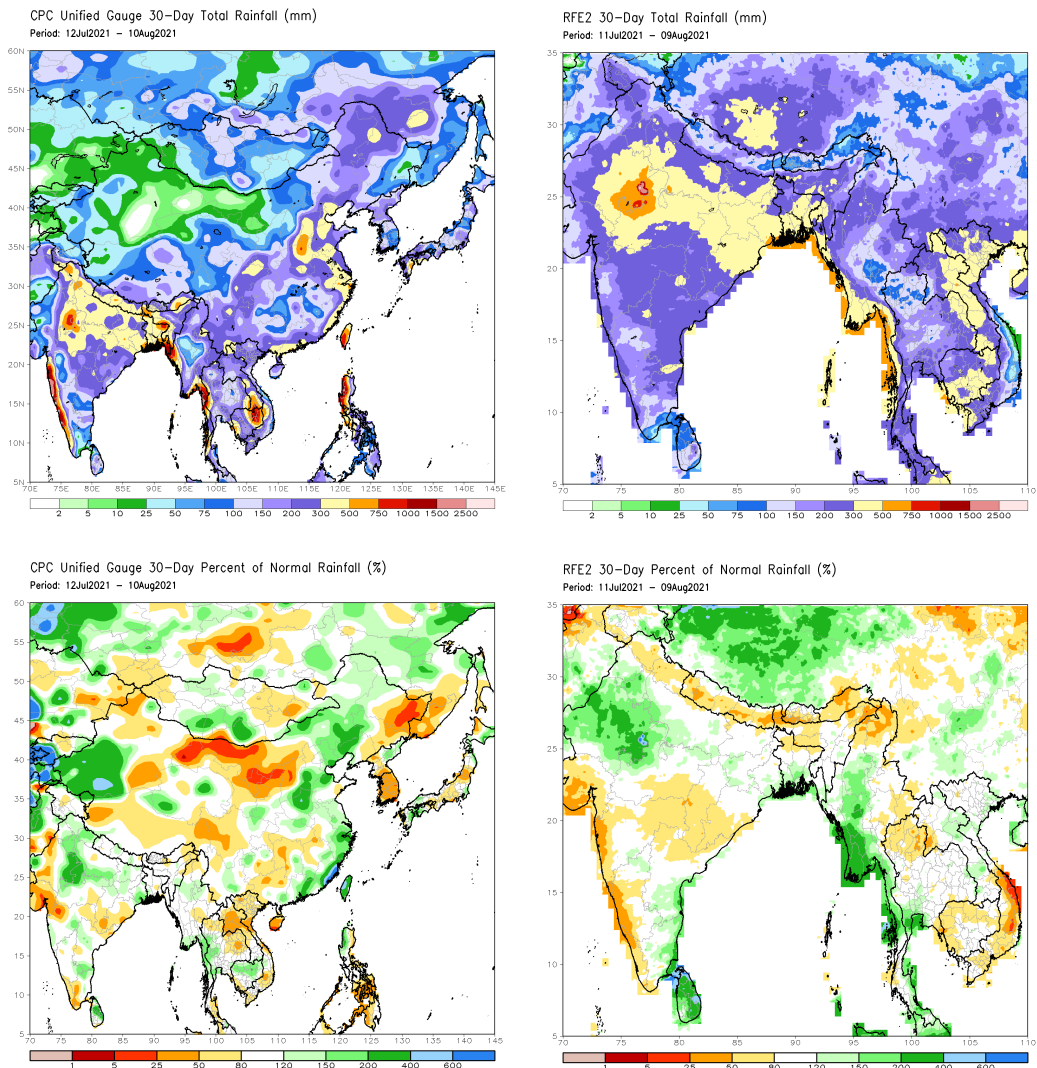


Monthly Rainfall Monitoring

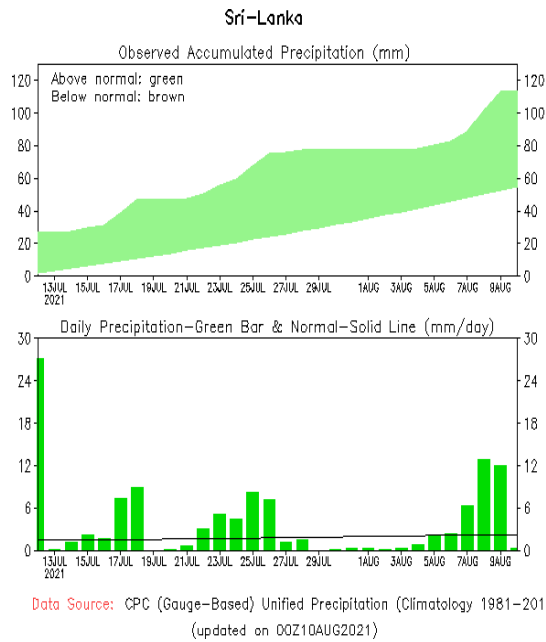
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



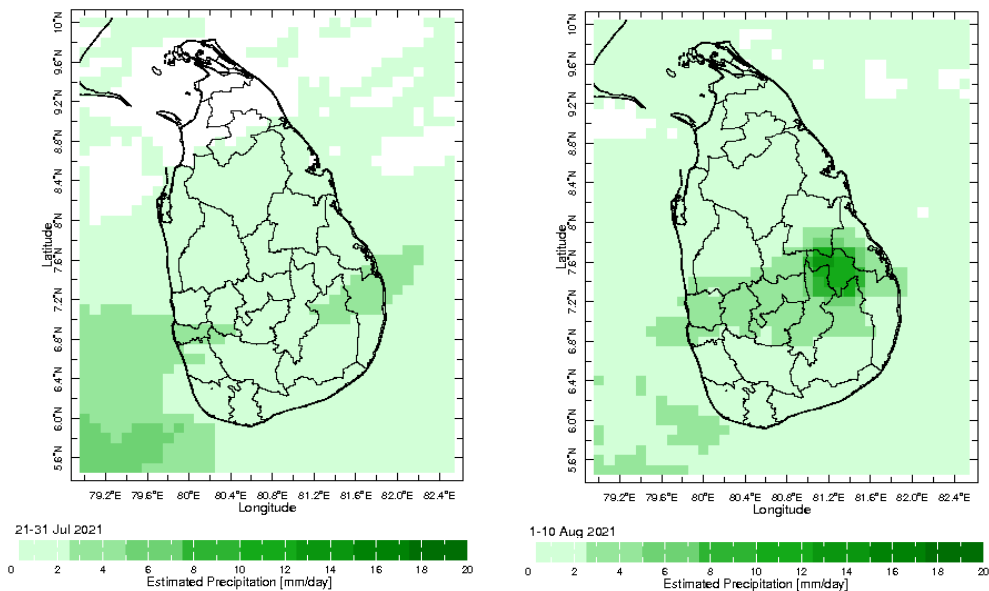
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



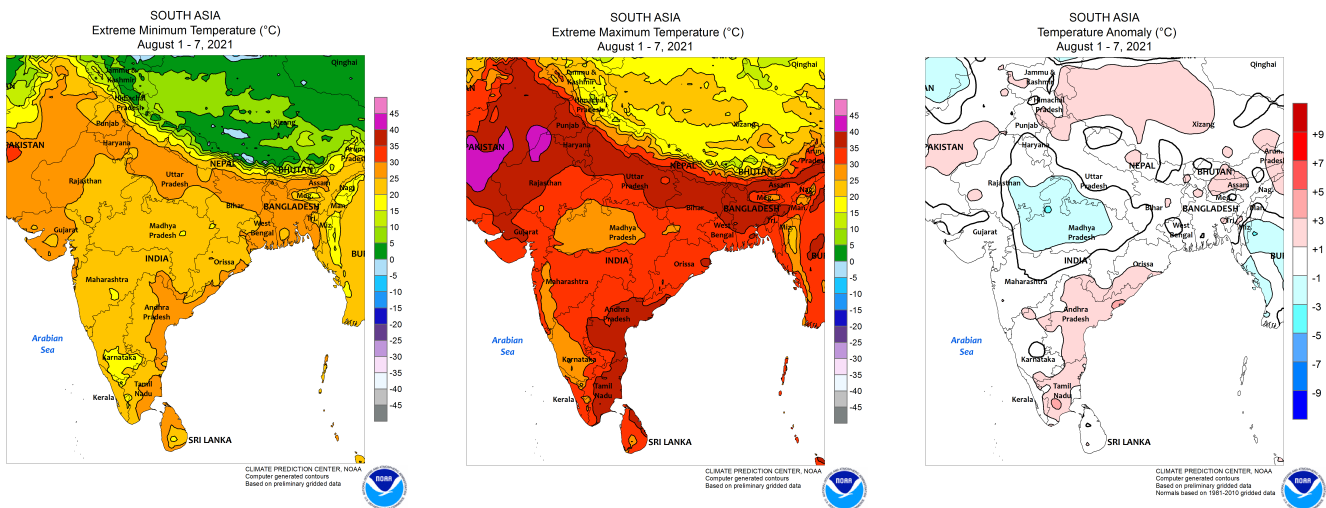
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

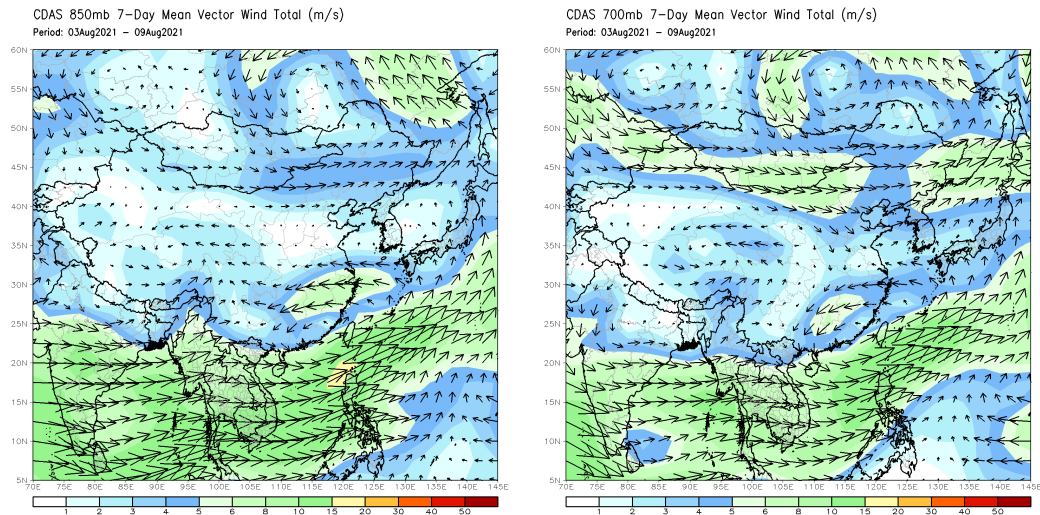


Weekly Temperature Monitoring



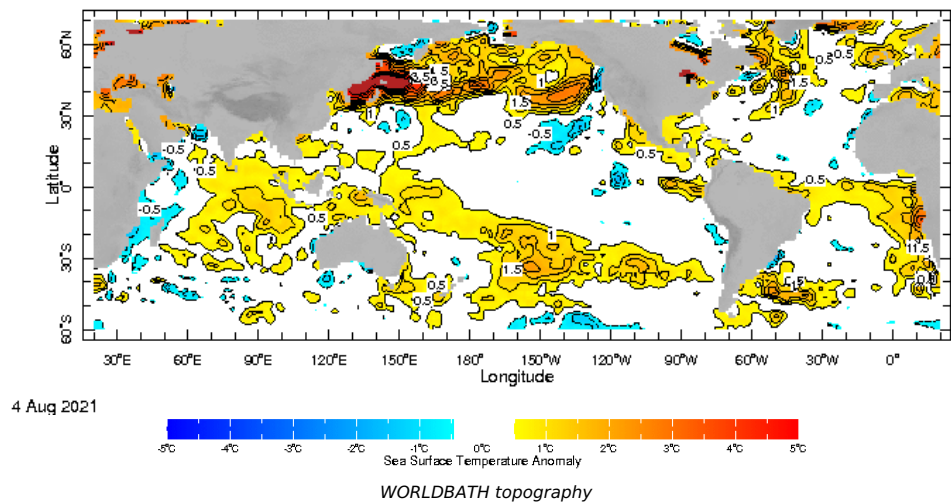
Weekly Wind Monitoring

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.

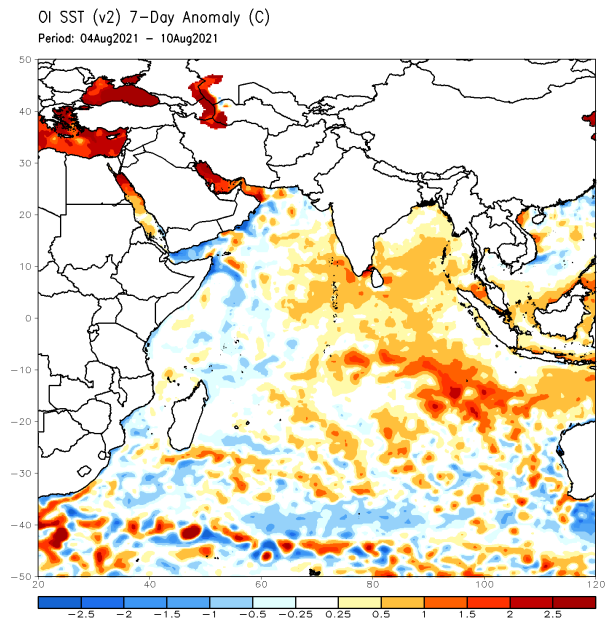


Weekly Average SST Anomalies

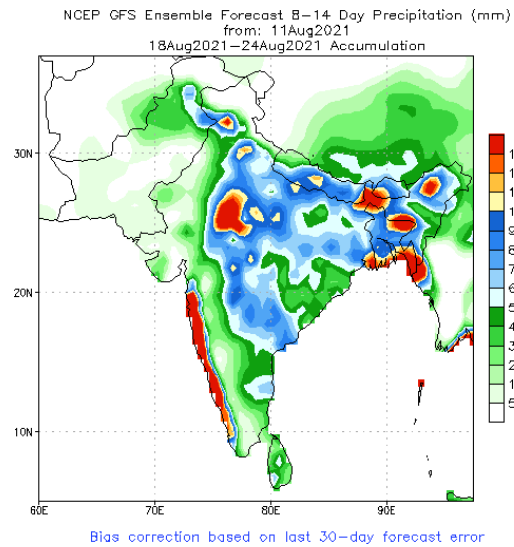
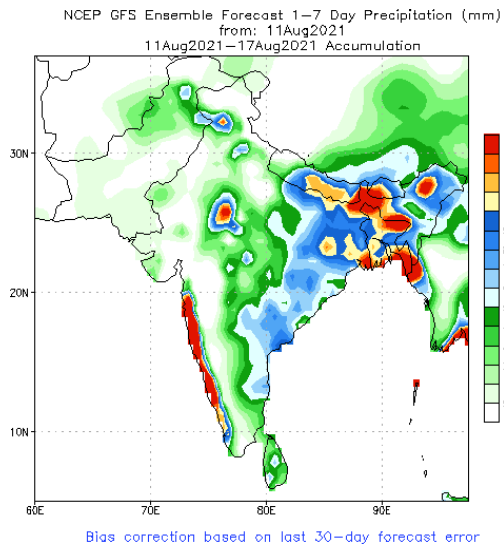
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



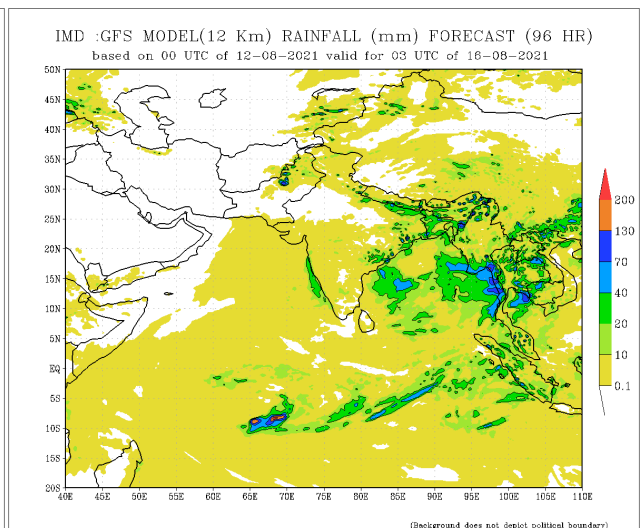
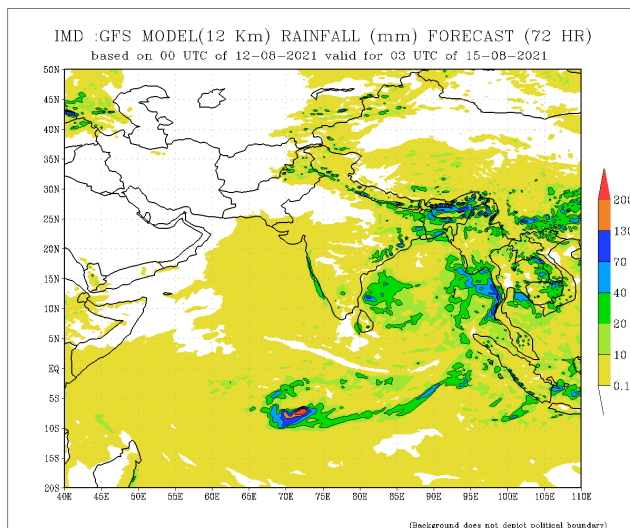
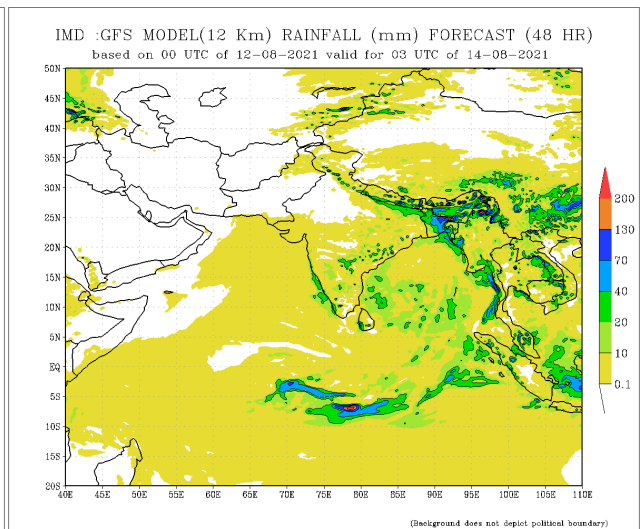
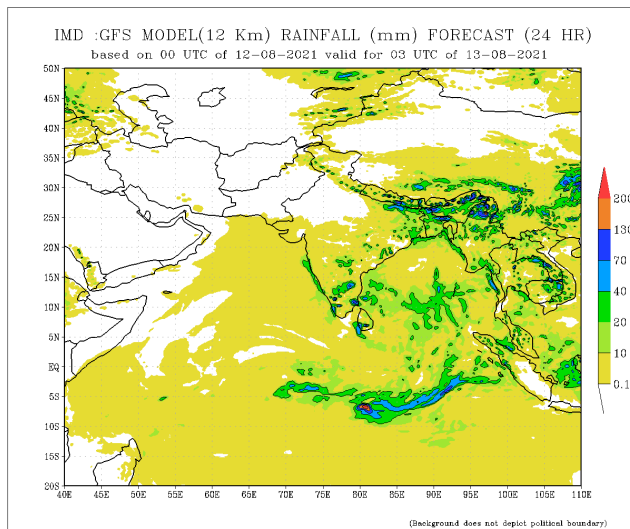
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

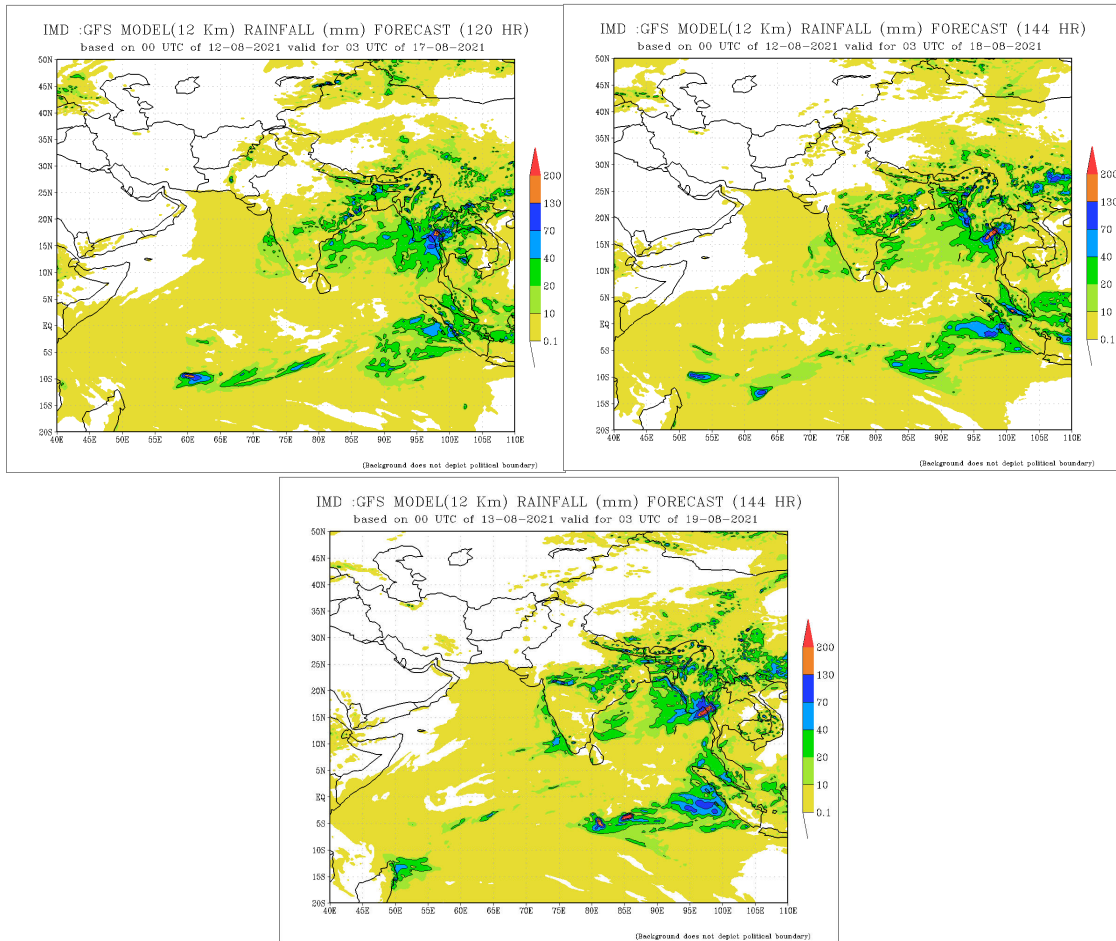


NCEP GFS 1- 14 Day prediction



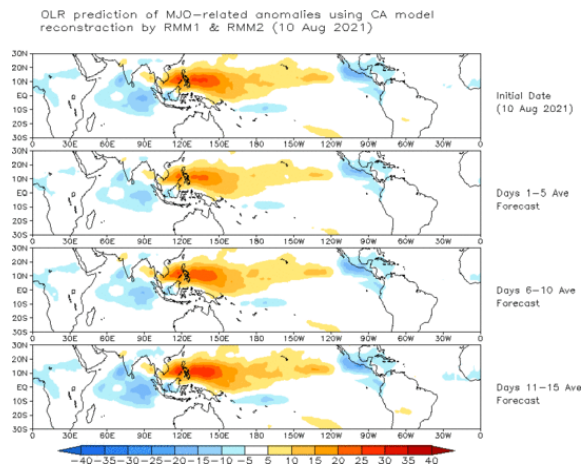
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





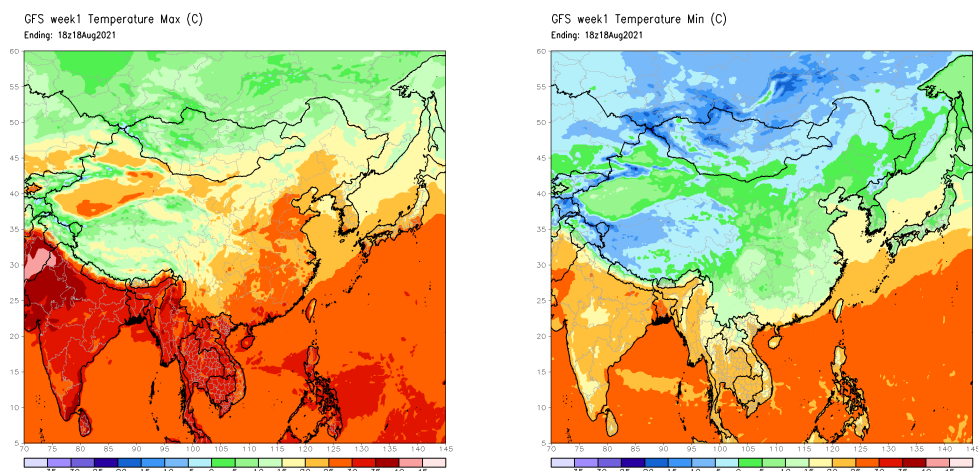
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

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 anomalous OLR for the next 15 days from the Constructed Analogue (CA) model forecasts.



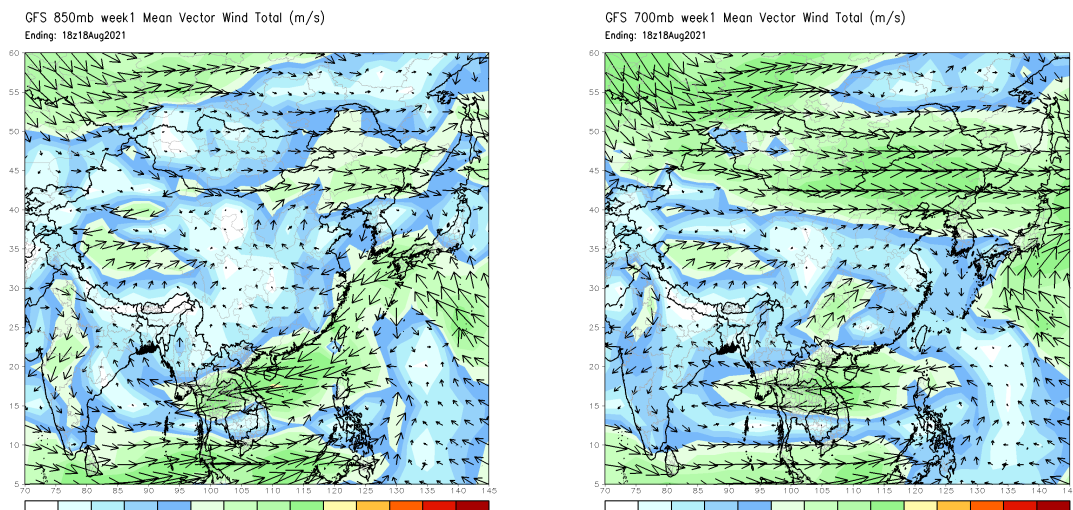
Weekly Temperature Forecast

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



Weekly Wind Forecast

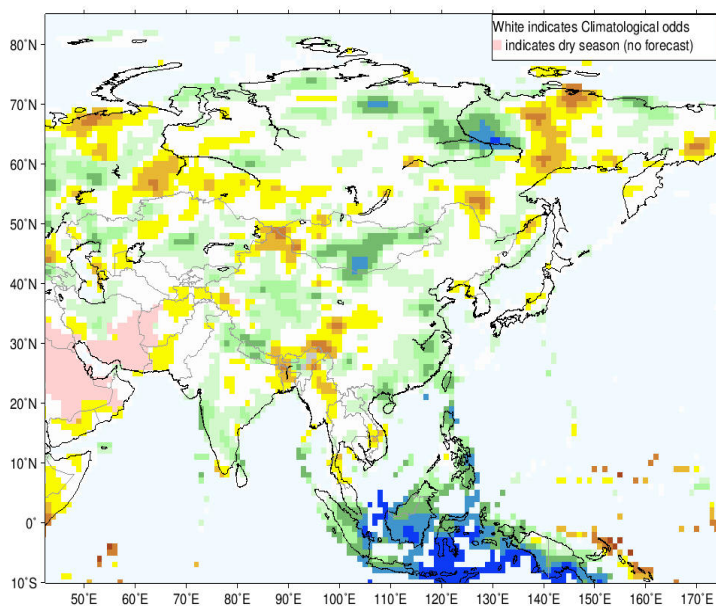
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



Seasonal Rainfall and Temperature Forecast

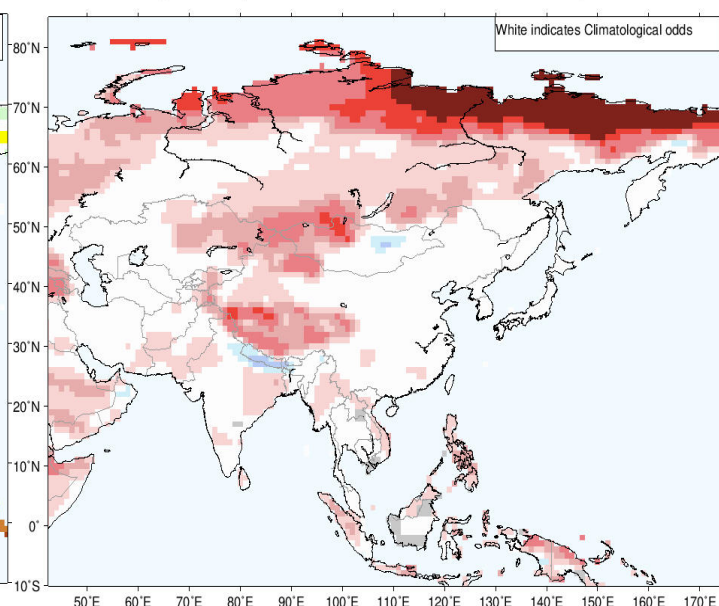
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile -- that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant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



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for August–September–October 2021, Issued July 2021



Temperature Forecast

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