

**Week of
18 - 25 June
2021**

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

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HIGHLIGHTS

Rainfall Prediction



- Heavy rainfall is predicted in Sabaragamuwa province during 1st week. And extremely heavy rainfall in the 2nd week for Western & Sabaragamuwa regions.

Monitored Rainfalls



- Heavy rainfall was experienced in Sabaragamuwa, Central & Western provinces with a max of 144 mm in Ratnapura on 13th June.

Monitored Wind



- From 9th- 15th June: up to 15 km/h from the West and South were experienced over the island.

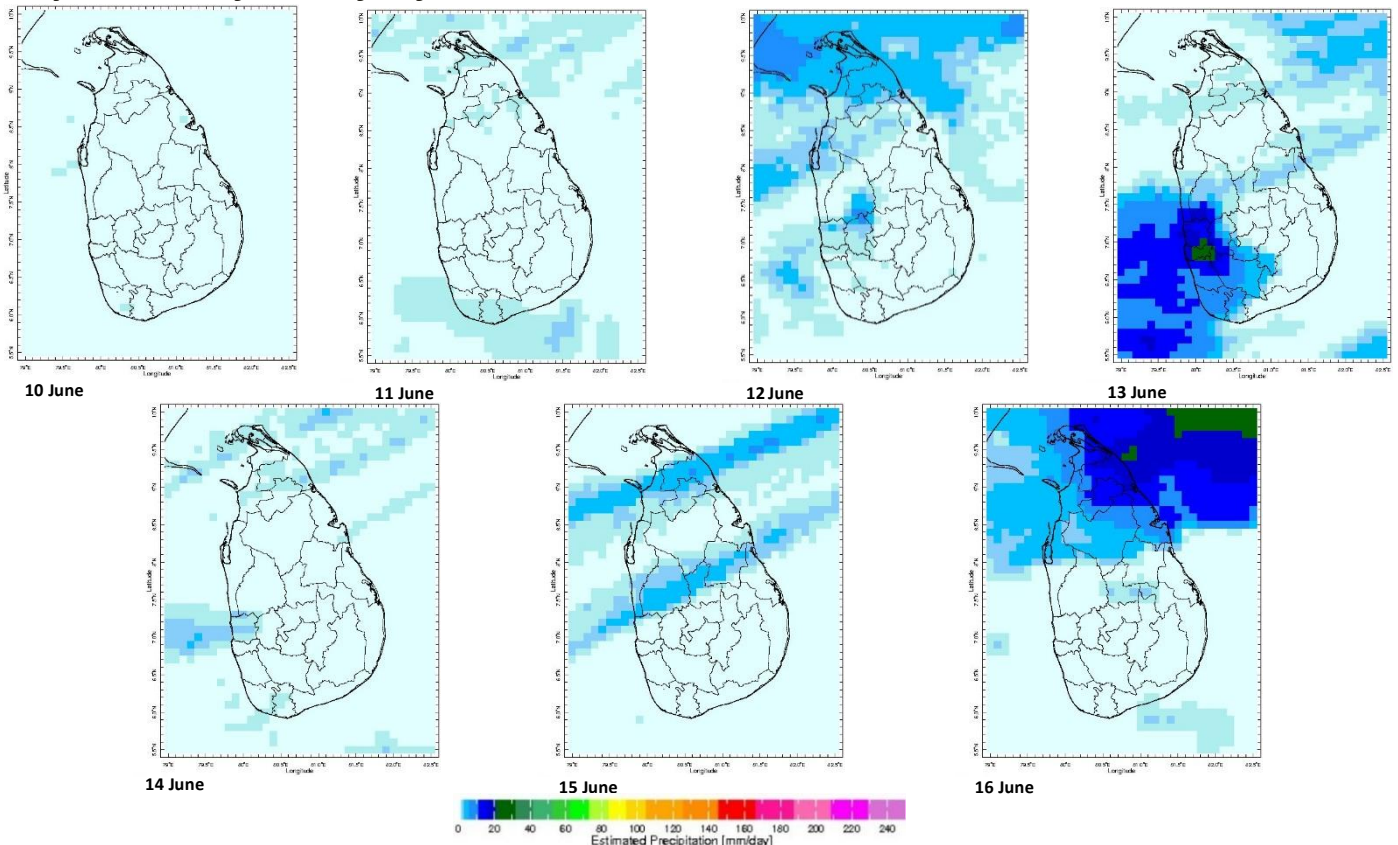
Monitored Sea Surface



- 0.5°C above average sea surface temperature was observed in the seas around Sri Lanka.

**Monitoring
Rainfall**

Daily Estimates for Rainfall from 10th – 16th June





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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
25 – 50 mm	Gampaha, Colombo, Kalutara, Puttalam, Kurunegala, Ratnapura, Kilinochchi, Mullaitivu, Mannar, Vavuniya, Jaffna
10 – 25 mm	Kegalle, Nuwara Eliya, Galle, Matara, Hambantota, Moneragala, Badulla, Matale, Batticaloa, Polonnaruwa, Anuradhapura, Trincomalee

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

Weekly Rainfall Anomalies by Districts:

Rainfall Excess

Rainfall	Districts
25 – 50 mm	Kilinochchi, Mullaitivu, Mannar, Vavuniya, Jaffna

Rainfall Deficit

Rainfall	Districts
25 – 50 mm	Kegalle, Nuwara Eliya, Kandy, Badulla, Moneragala
10 – 25 mm	Hambantota, Kurunegala, Martara, Ampara, Batticaloa, Matale, Polonnaruwa, Anuradhapura

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

Monthly Monitoring

During early and middle of the May, Dekadal Rainfall (mm/day) by Districts:

21st– 31st May:

Rainfall	Districts
12 mm	Colombo, Kalutara, Ratnapura
10 mm	Puttalm, Kurunegala, Gampaha, Kegalle, Kandy, Nuwara Eliya, Galle, Matara
6 mm	Matale, Badulla, Moneragala, Hambantota
4 mm	Polonnaruwa, Anuradhapura, Ampara, Batticaloa, Jaffna, Kilinochchi

1st– 10th June:

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



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Ocean State (Text Courtesy IRI)

Pacific sea state: June 9, 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 June 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

0.5°C above average sea surface temperature was observed in the seas around Sri Lanka.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 17th – 23rd June:

Total rainfall by Provinces:

Rainfall	Provinces
105 mm	Sabaragamuwa
95 mm	Western
85 mm	North western
65 mm	Central, Southern
25 mm	Uva
15 mm	North Central

From 24th – 30th June:

Total rainfall by Provinces:

Rainfall	Provinces
125 mm	Western, Sabaragamuwa
115 mm	North western
95 mm	Southern
85 mm	Central
45 mm	Uva
25 mm	North Central
15 mm	Eastern

MJO based OLR predictions

For the next 15 days:

MJO shall slightly enhance the rainfall during 16th- 30th June.



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Interpretation

Monitoring

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

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

Temperatures: The temperature anomalies were near neutral during last week.

Predictions

Rainfall: During the next week (18th – 23rd June) very heavy rainfall are predicted for Sabaragamuwa province. And showers will occur Western, North-western and central provinces; and in Galle and Matara districts.

Temperatures: The temperature remains slightly normal for June. During 18th - 26th June, the temperature remains high especially the Uva and Eastern provinces.

Teleconnections:

- MJO shall slightly enhance the rainfall during 16th– 30th June.
- 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.

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

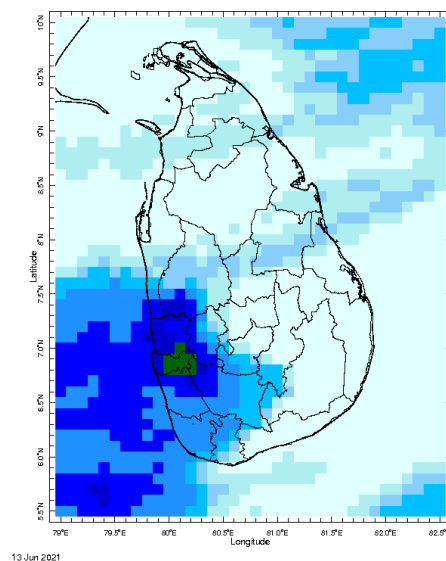
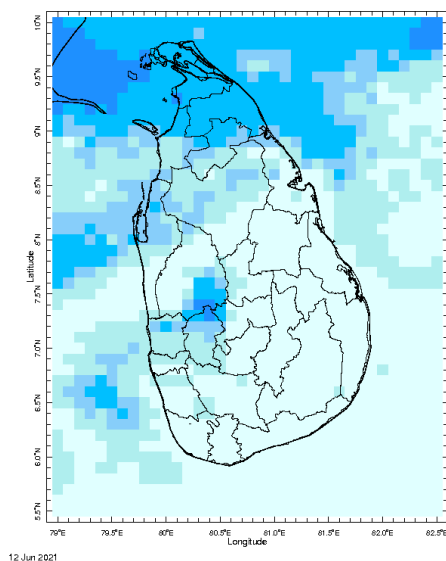
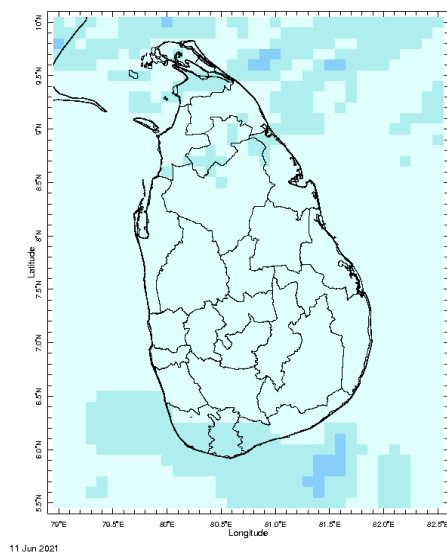
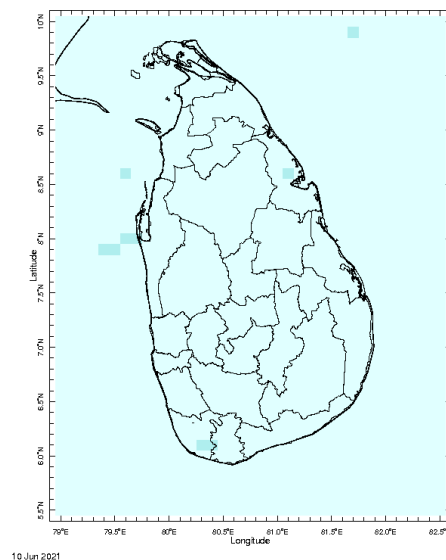
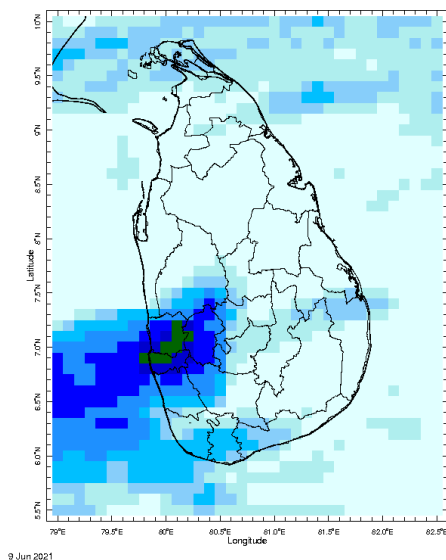
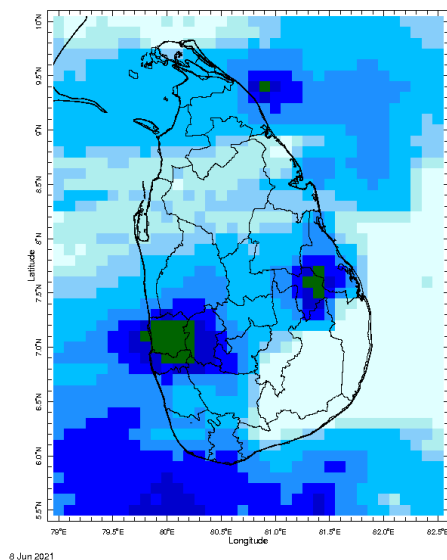
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. GFS (T574) Model Rainfall Forecast from RMSC New Delhi
- c. MJO Related OLR Forecast
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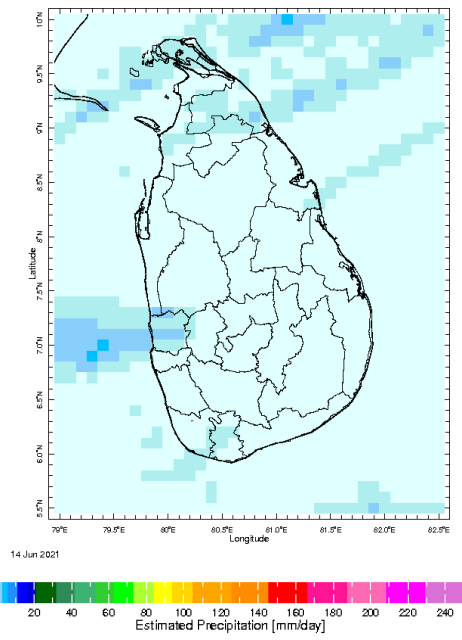


MONITORING

Daily Rainfall Monitoring

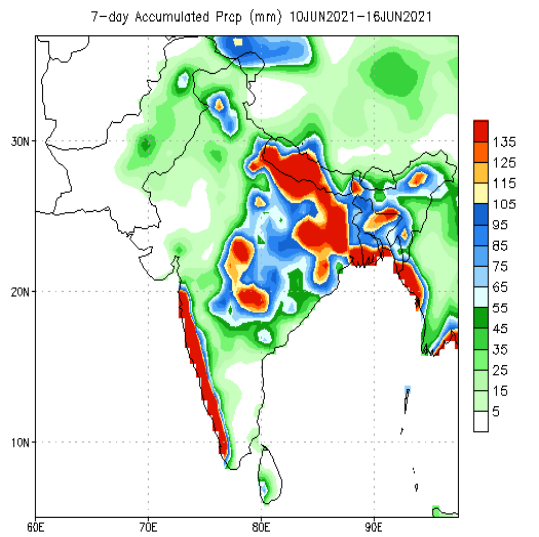
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



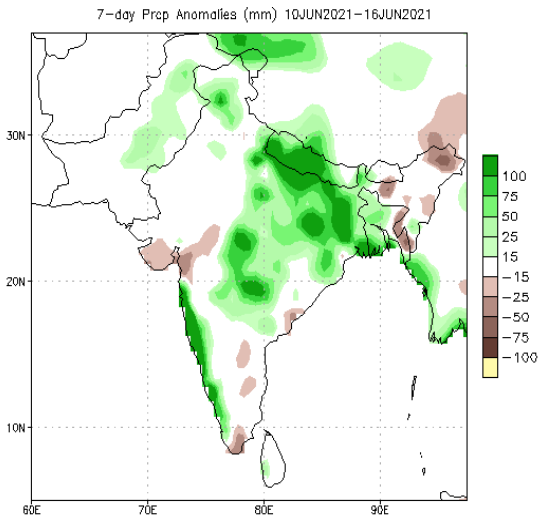
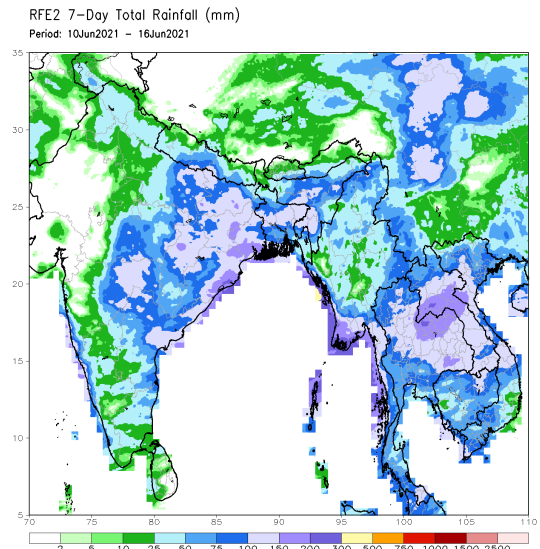


Weekly Rainfall Monitoring

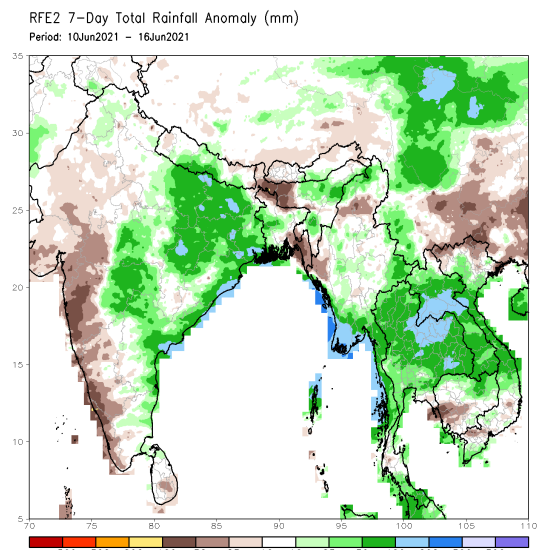
The following figures show the total satellite observed rainfall in the last week in Sri Lanka. The figure in the left is the total 7-day rainfall from NOAA Climate Prediction Center (CPC) Unified Precipitation Analysis and the figure in the right is the total 7-day rainfall from CPC RFE 2.0 Satellite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



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

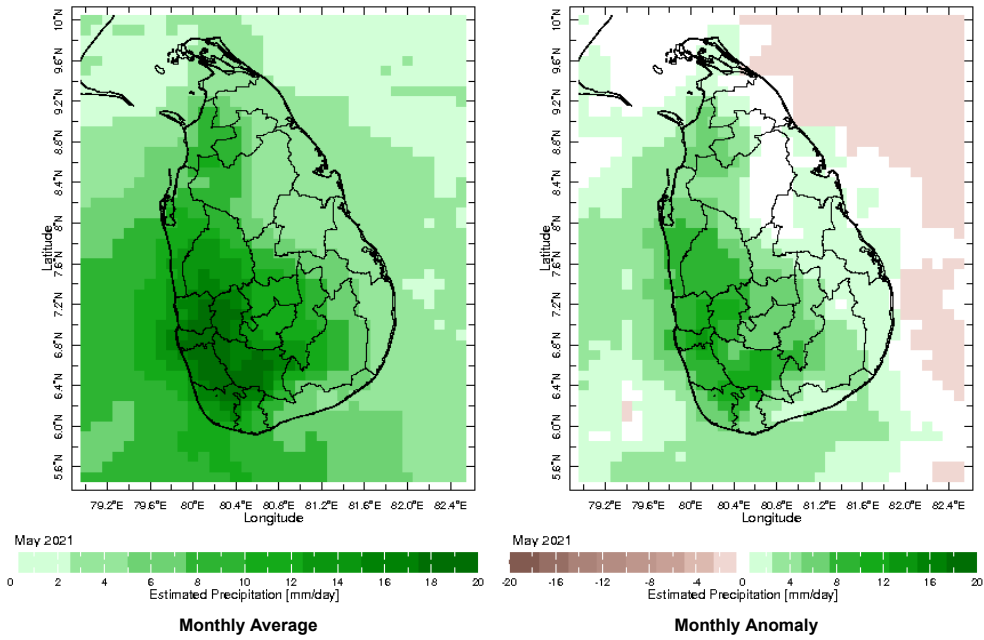


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis
Climatology (1991-2020)

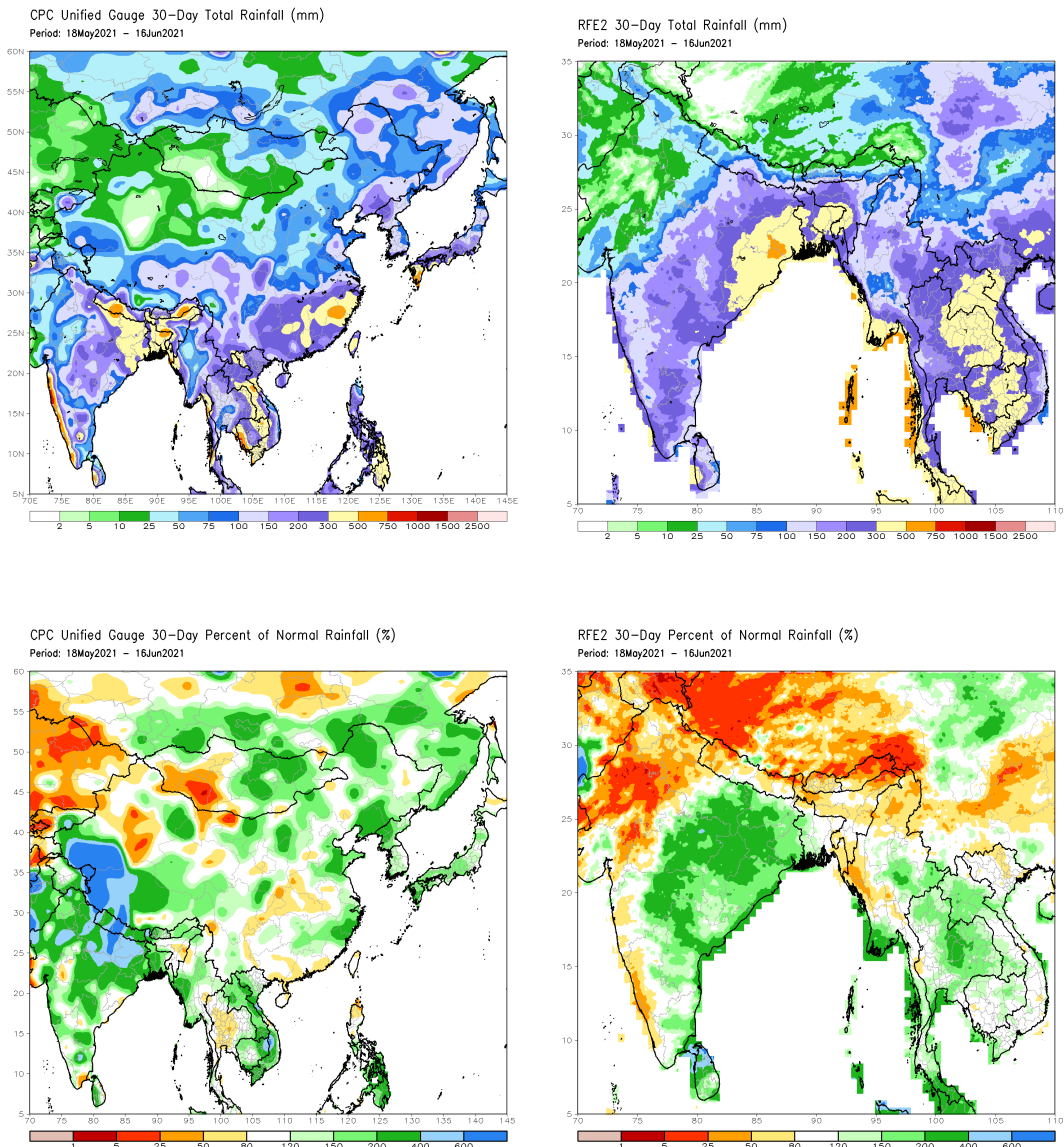


Monthly Rainfall Monitoring

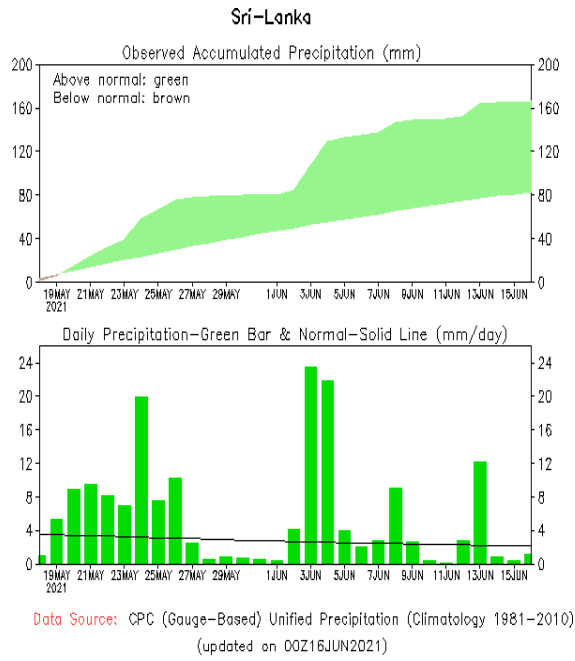
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



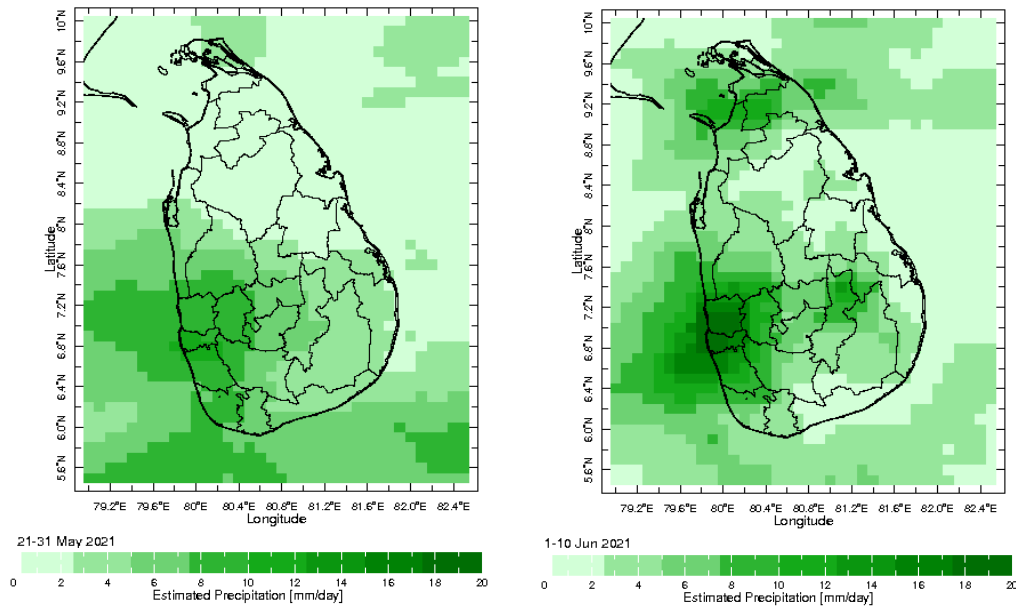
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



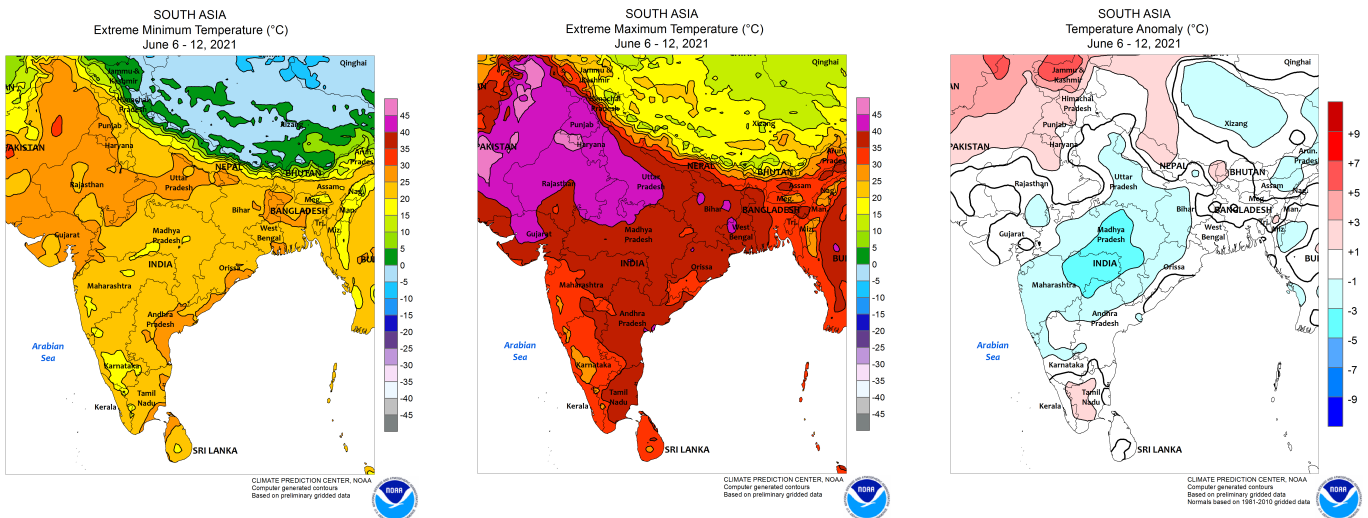
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

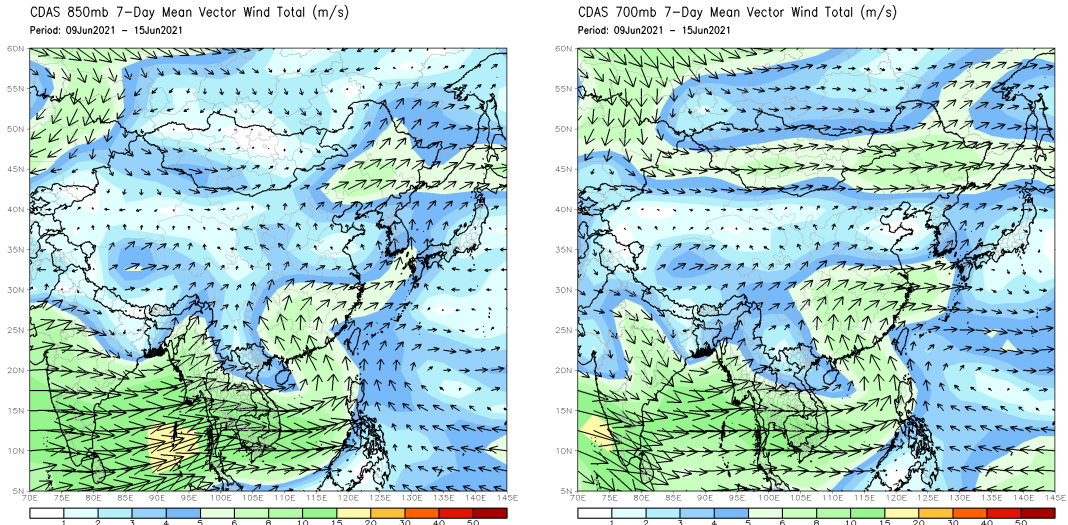


Weekly Temperature Monitoring



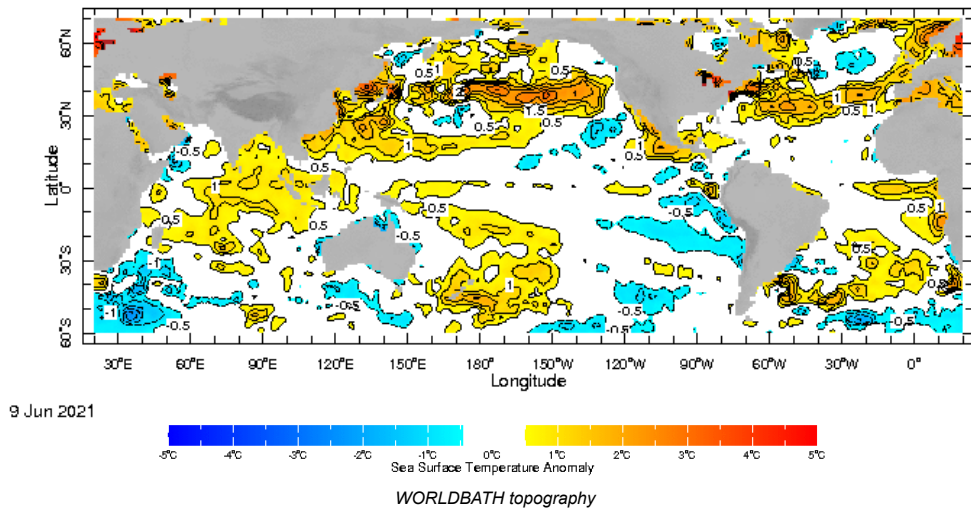
Weekly Wind Monitoring

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.

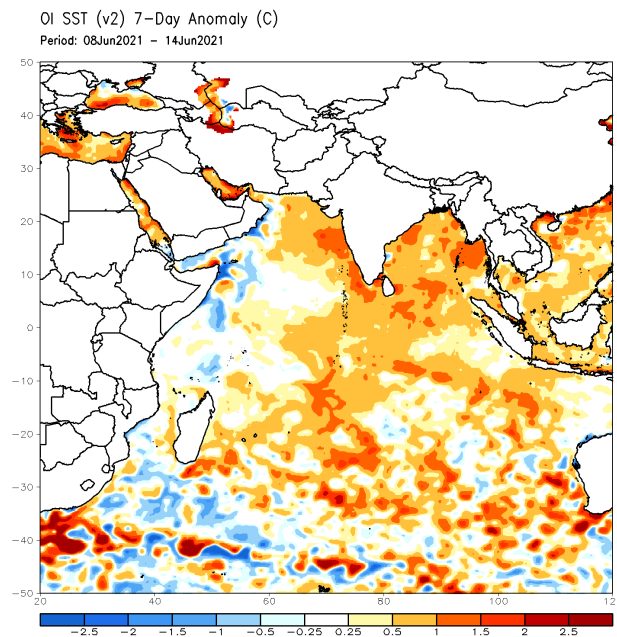


Weekly Average SST Anomalies

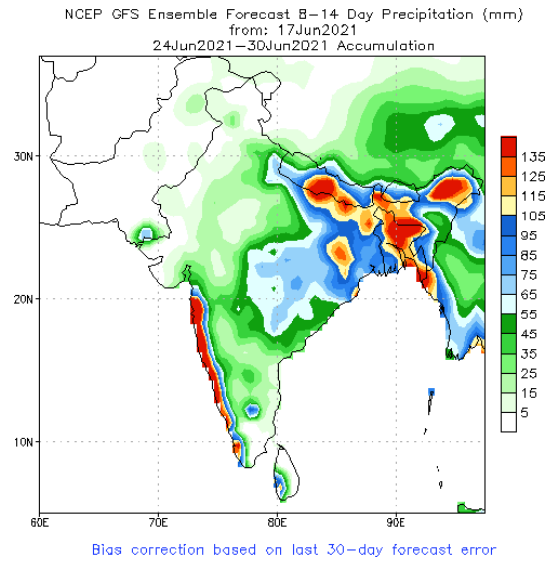
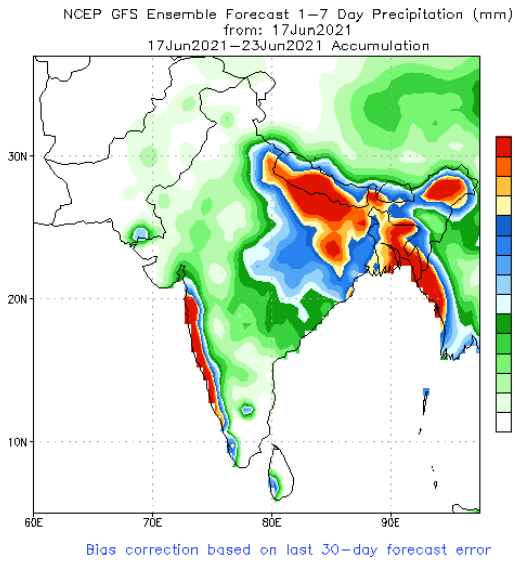
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



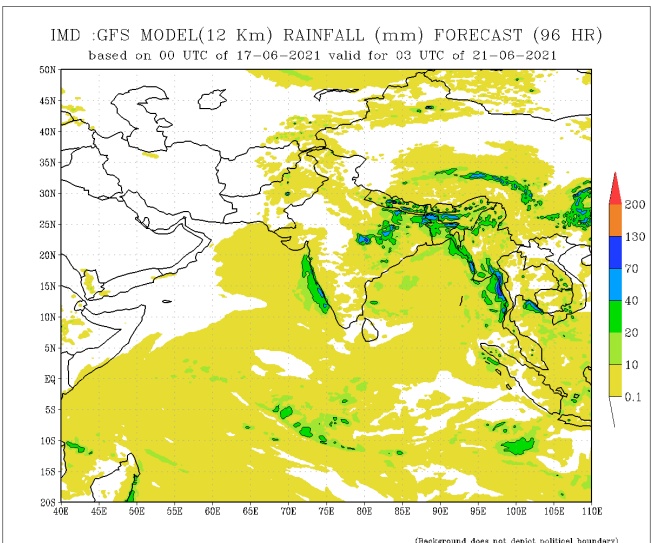
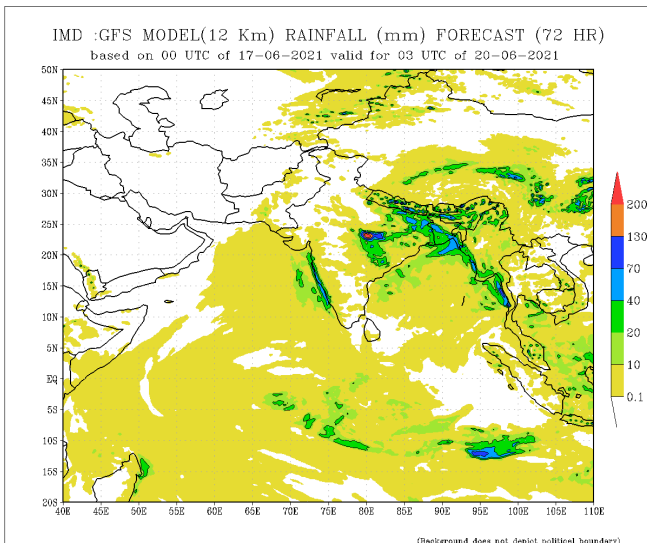
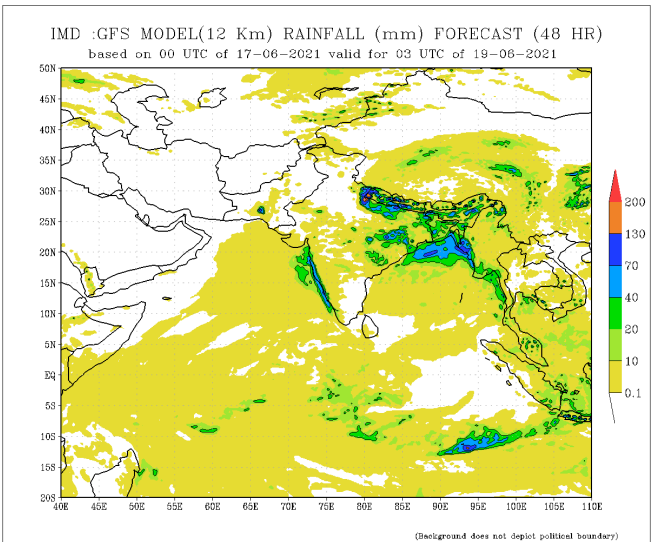
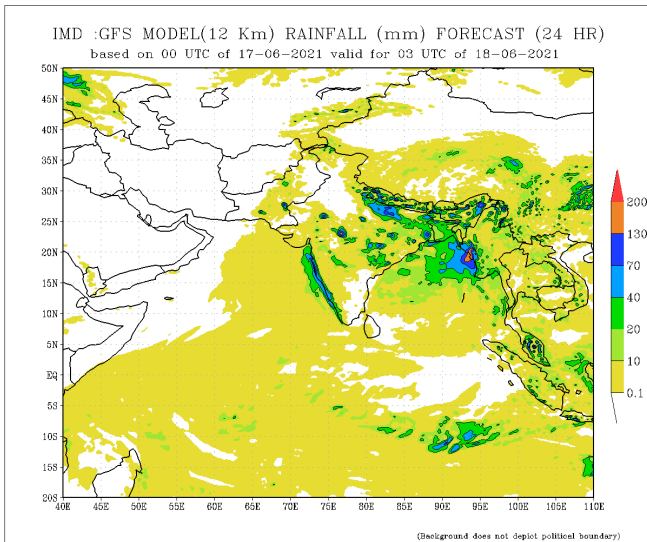
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

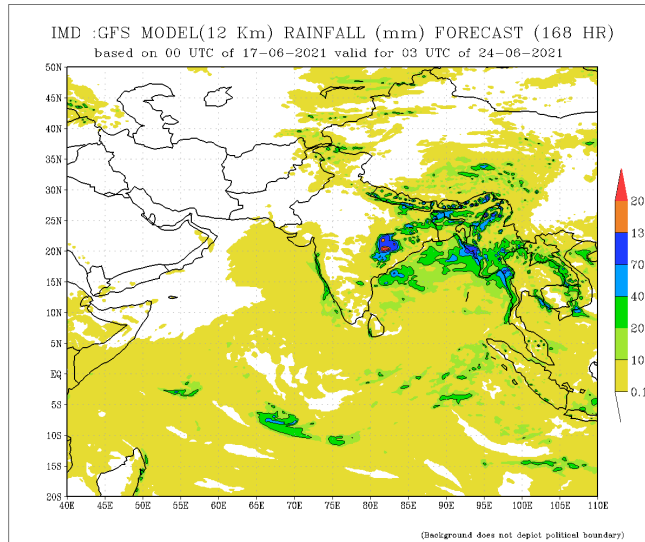
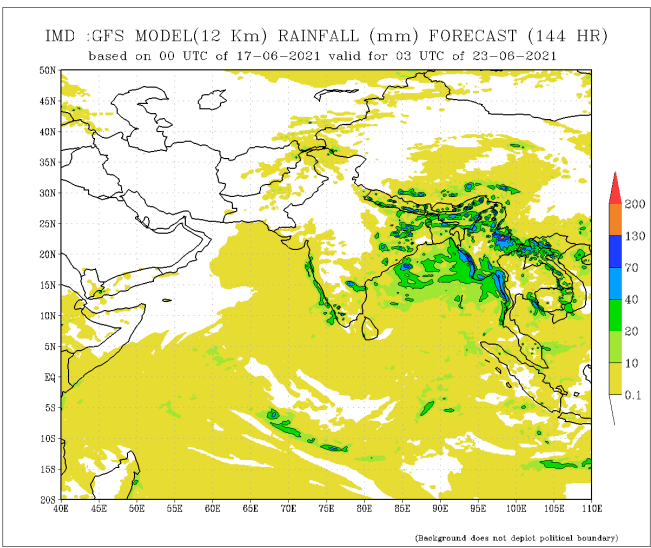
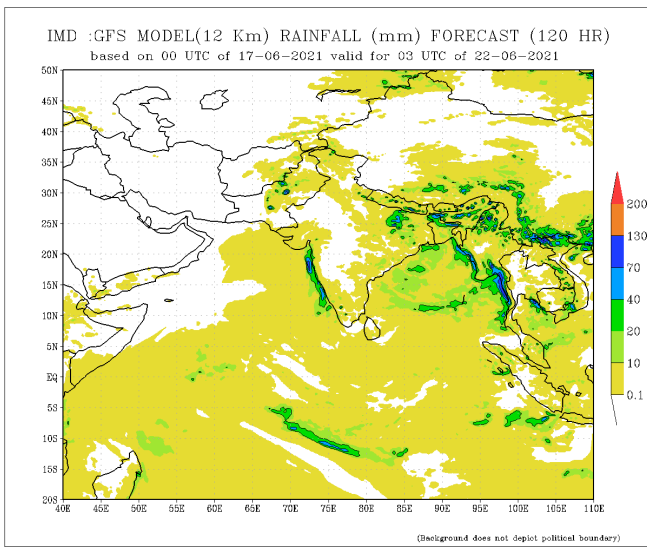


NCEP GFS 1- 14 Day prediction



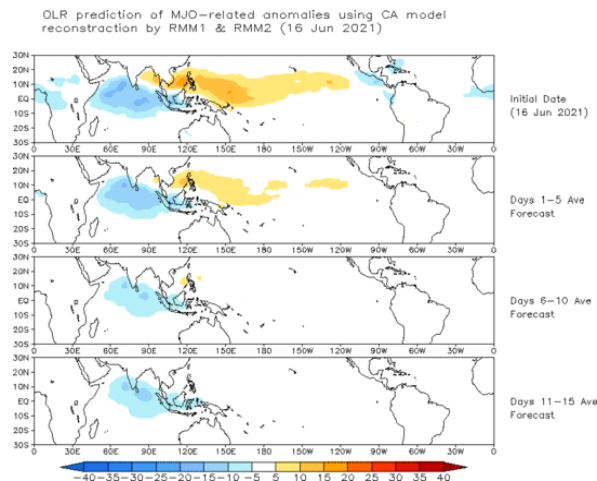
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





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

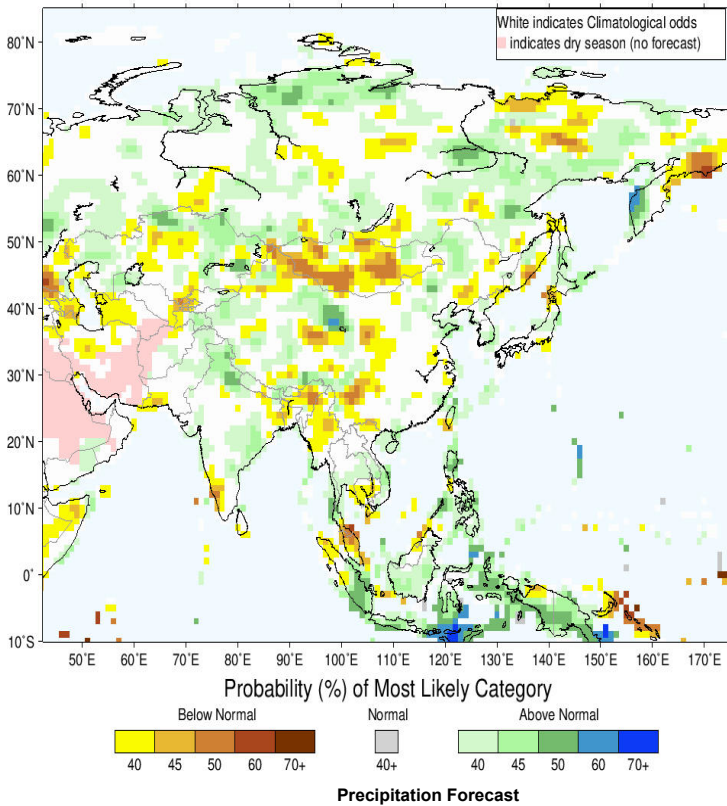
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



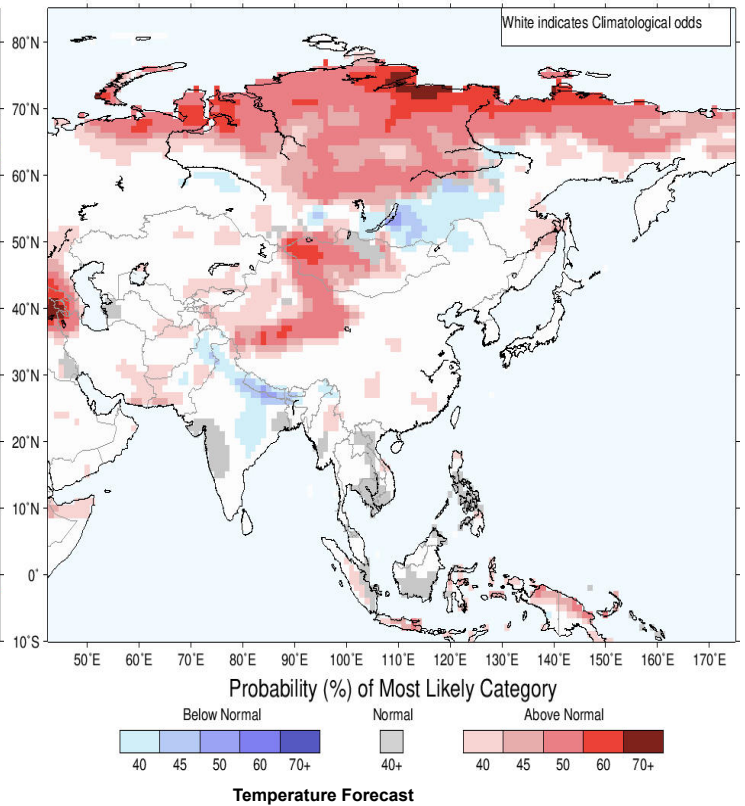
Seasonal Rainfall and Temperature Forecast

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 June-July-August 2021, Issued May 2021



IRI Multi-Model Probability Forecast for Temperature for June-July-August 2021, Issued May 2021



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