

**Week of
7 - 14 May
2021**

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

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HIGHLIGHTS

Rainfall Prediction



- Showers of 135 mm expected in Southern & Sabaragamuwa during 7th – 11th May and 145 mm expected in Southern province during 12th – 18th May

Monitored Rainfalls



- Last week was wetter than normal in most of SL. Thunder showers in Southern province with a maximum of 157 mm in Matara on 3rd May.

Monitored Wind



- From 26th Apr - 2nd May: up to 5 km/h from the West and South were experienced.

Monitored Sea Surface

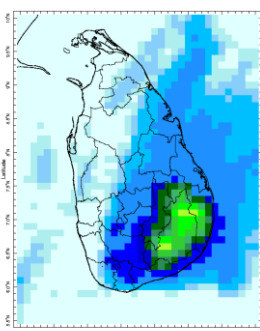


- Sea surface temperature was observed around 0.5 °C above average around the island.

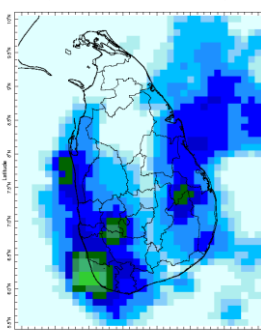
Monitoring

Rainfall

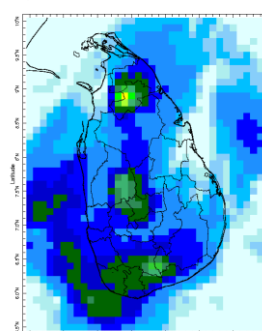
Daily Estimates for Rainfall from 28th Apr – 4th May



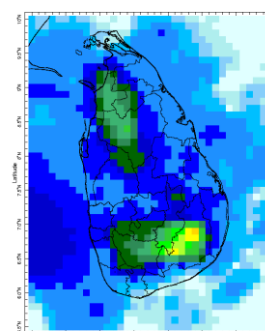
28th April



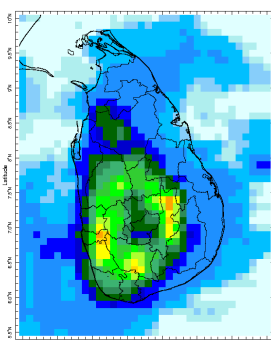
29th April



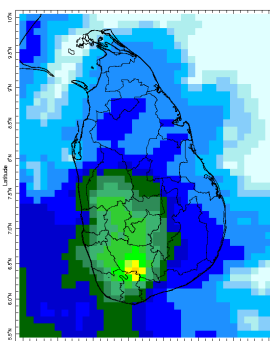
30th April



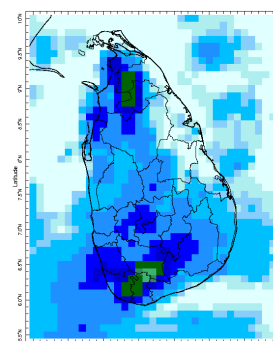
1st May



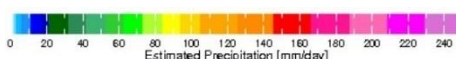
2nd May



3rd May



4th May





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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
150 – 200 mm	Kandy, Nuwara Eliya, Kegalle, Ratnapura, Kalutara, Galle, Matara, Hambantota
100 – 150 mm	Anuradhapura, Polonnaruwa, Kurunegala, Puttalam, Trincomalee, Batticaloa, Ampara, Matale, Gampaha, Colombo, Badulla, Moneragala
75 – 100 mm	Kilinochchi, Mullaitivu, Vavuniya, Mannar
10 – 25 mm	Jaffna

Weekly Rainfall Anomalies by Districts:

Rainfall Excess

Rainfall	Districts
100 – 200 mm	Kandy, Ampara, Moneragala, Badulla, Kalutara, Ratnapura, Galle, Matara, Hambantota
50 – 100 mm	Kilinochchi, Mannar, Vavuniya, Mullaitivu, Anuradhapura, Polonnaruwa, Puttalam, Kurunegala, Trincomalee, Matale, Nuwara Eliya, Batticaloa, Colombo, Gampaha, Kegalle
25 – 50 mm	Jaffna

Monthly Monitoring

During middle and late April, Dekadal Rainfall (mm/day) by Districts:

11th– 20th April:

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

21st– 30th April:

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



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4 mm	Polonnaruwa, Trincomalee
2 mm	Jaffna, Kilinochchi

Ocean State (Text Courtesy IRI)

Pacific sea state: April 28, 2021

Equatorial SSTs were mostly below average from the east to the Middle West Pacific Ocean in late-April and most key atmospheric variables were either ENSO –Neutral or consistent with continued La Niña conditions. A large majority of the model forecasts predict SSTs to be cooler than the threshold of La Niña SST conditions through the winter, dissipating during spring.

Indian Ocean State

Sea surface temperature was observed around 0.5°C above average around the island.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 7th – 11th May:

Total rainfall by Provinces:

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

From 12th – 18th May:

Total rainfall by Provinces:

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



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MJO based OLR predictions

For the next 15 days:

MJO shall significantly enhance the rainfall during 4th–18th May.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been high rainfall over the following provinces: Uva, Sabaragamuwa and Western

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

Temperatures: The temperature anomalies were slightly above normal for the Western, Central, Uva & Sabaragamuwa provinces the last – driven by the warm SST's.

Predictions

Rainfall: During the next week (7th – 14th May), showers is predicted for Southern and Sabaragamuwa region. A drop in rainfall is predicted over the rest of the country.

Temperatures: The temperature remains slightly normal for May. During 7th–14th May, the temperature remains high especially the Northern and Eastern region.

Teleconnections:

- MJO shall significantly enhance the rainfall during 4th–18th May.
- La Nina - The SST forecast is for the present weak La Niña conditions to transition into ENSO neutral conditions and to remain neutral through the boreal summer, with a possible regeneration of La Nina starting next boreal winter.

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

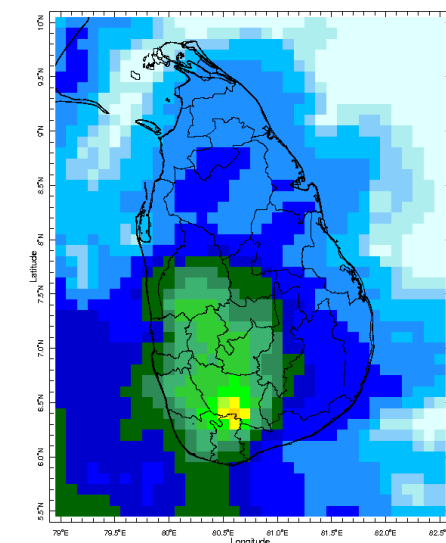
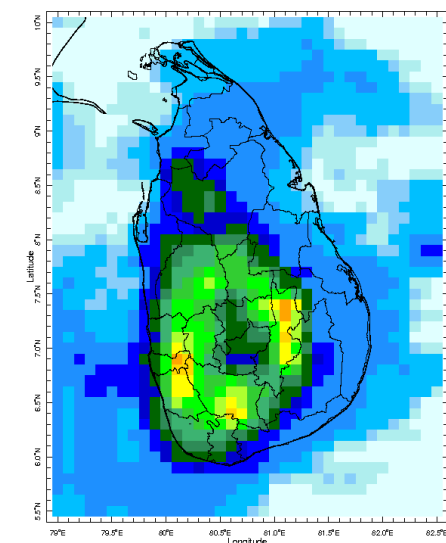
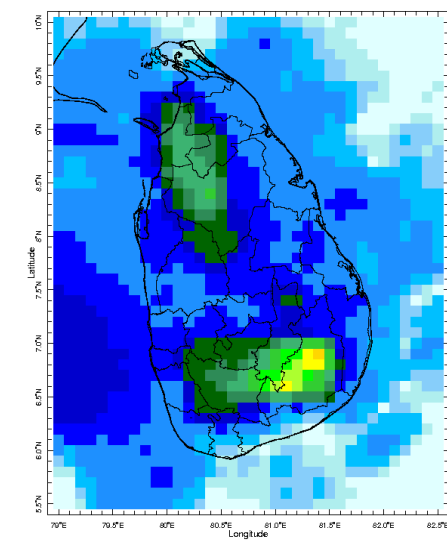
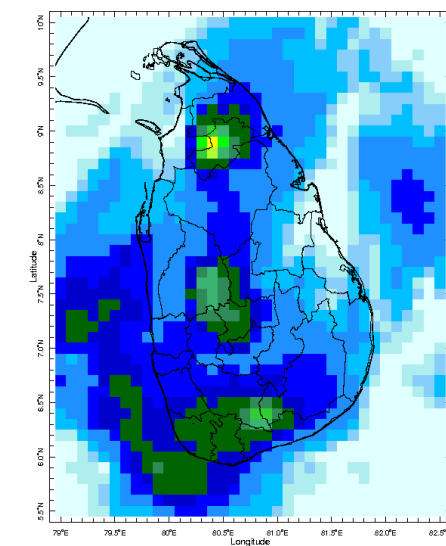
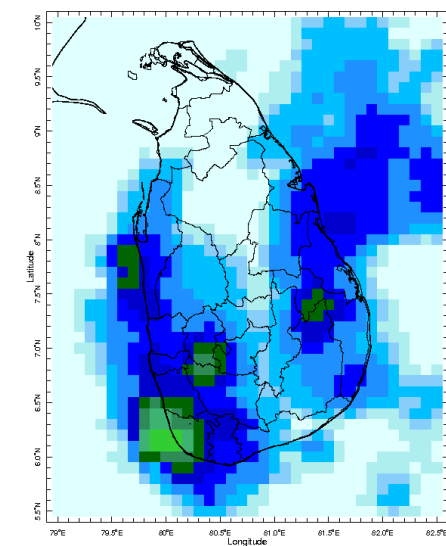
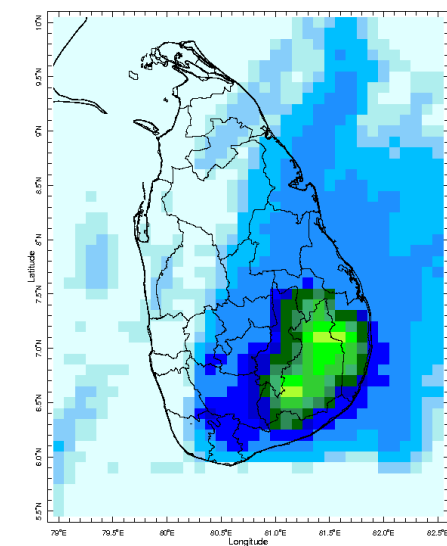
- a. NCEP GFS Ensemble 1-14 day Rainfall Predictions
- b. GFS (T574) Model Rainfall Forecast from RMSC New Delhi
- c. MJO Related OLR Forecast
- d. Weekly Temperature Forecast
- e. Weekly Wind Forecast
- f. Seasonal Predictions from IRI

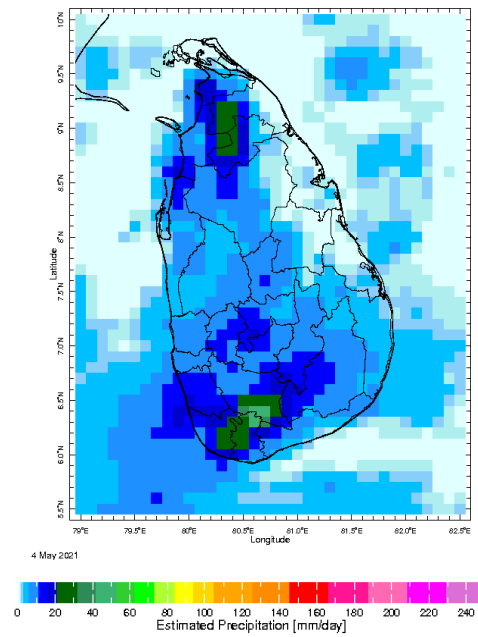


MONITORING

Daily Rainfall Monitoring

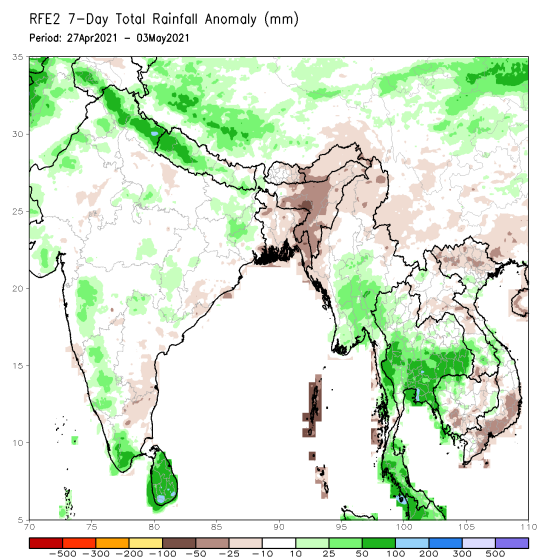
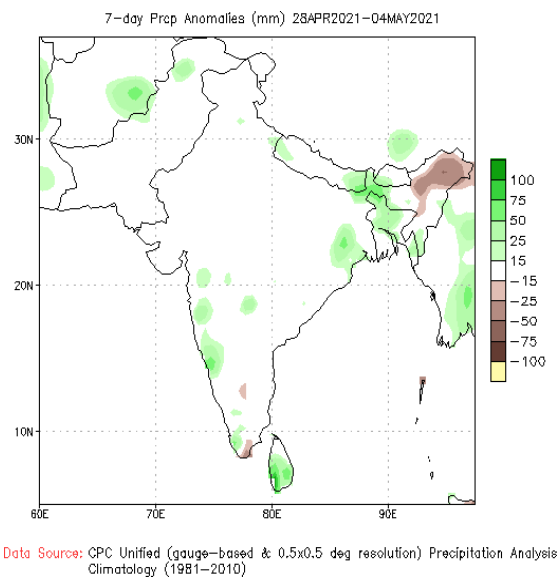
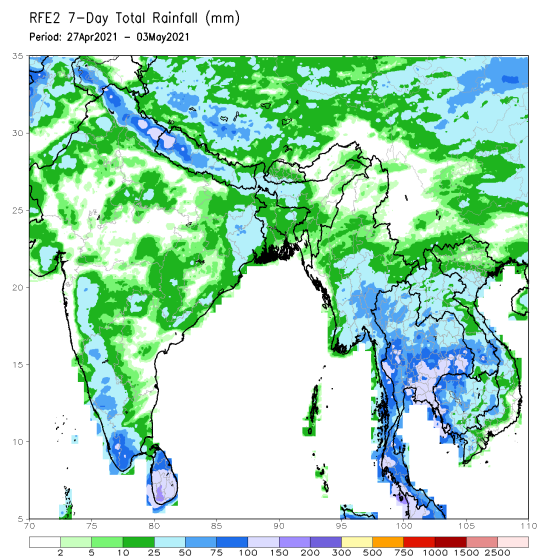
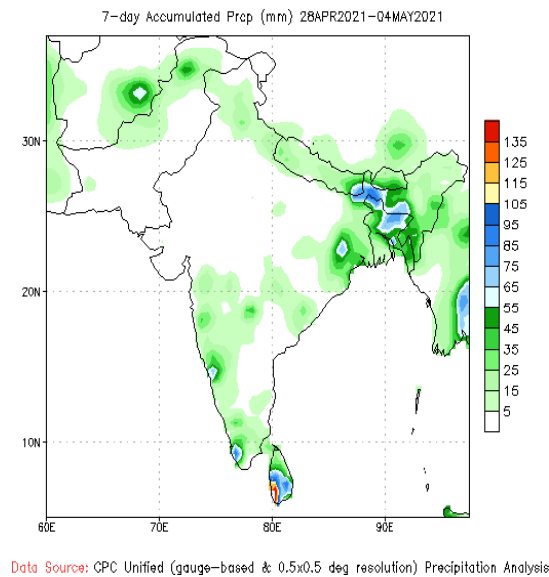
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.





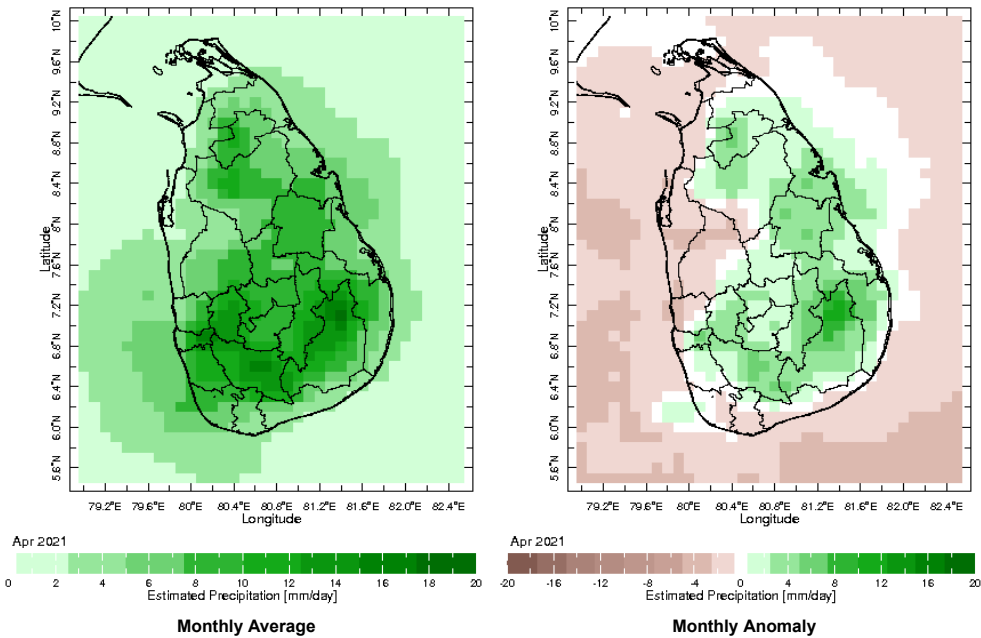
Weekly Rainfall Monitoring

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.

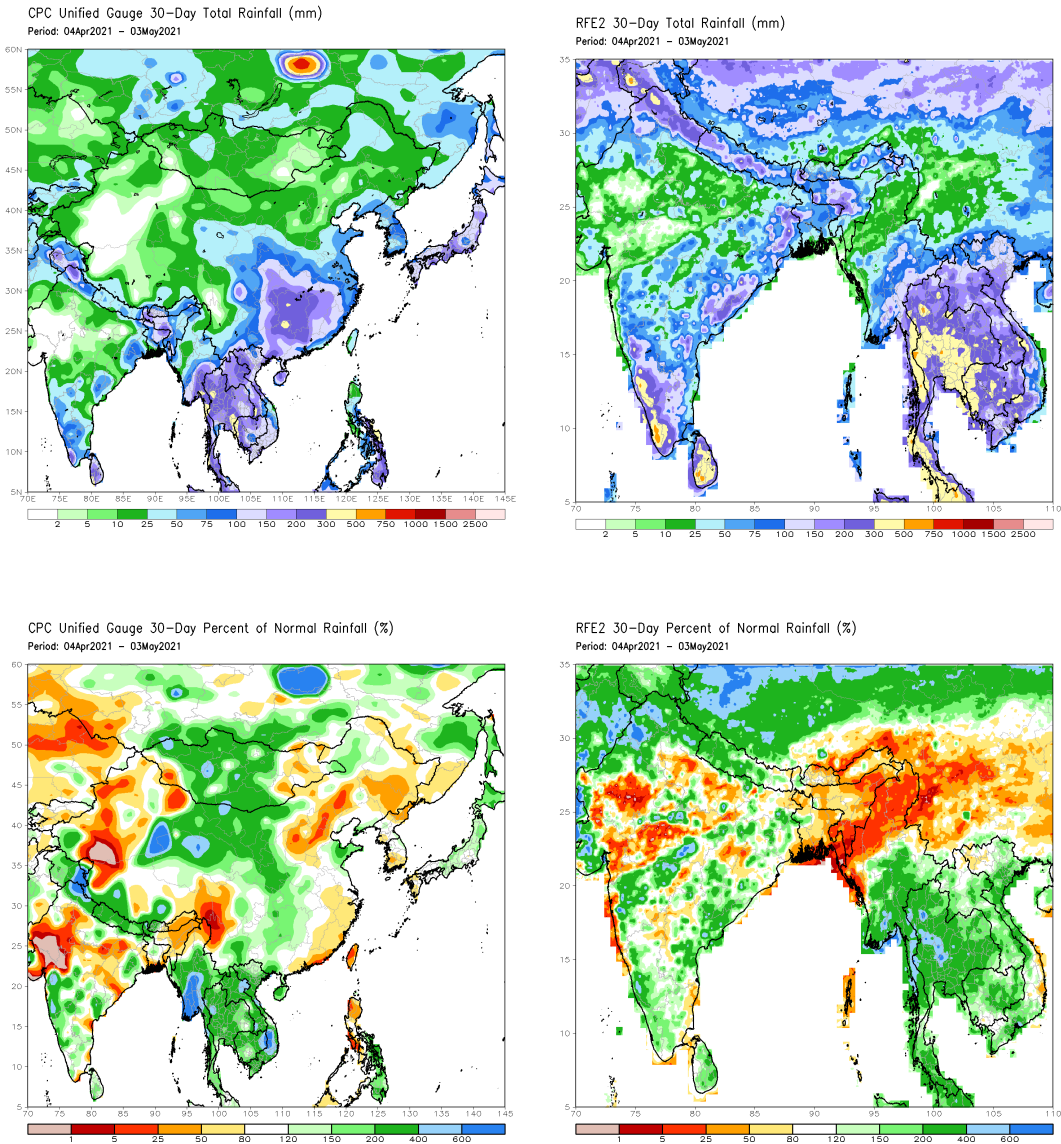


Monthly Rainfall Monitoring

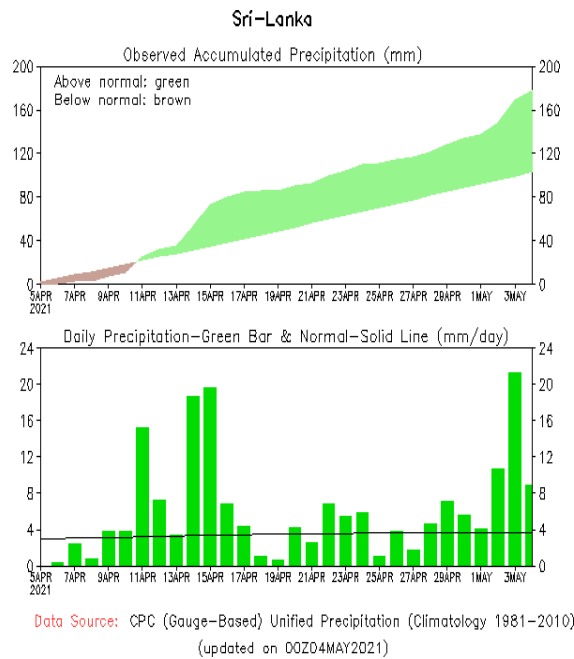
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



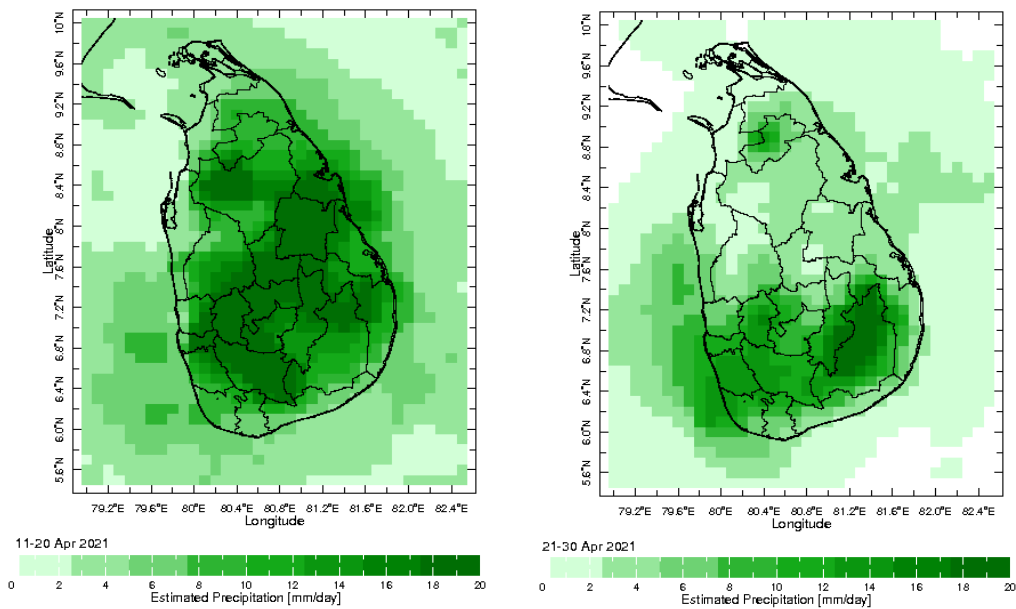
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



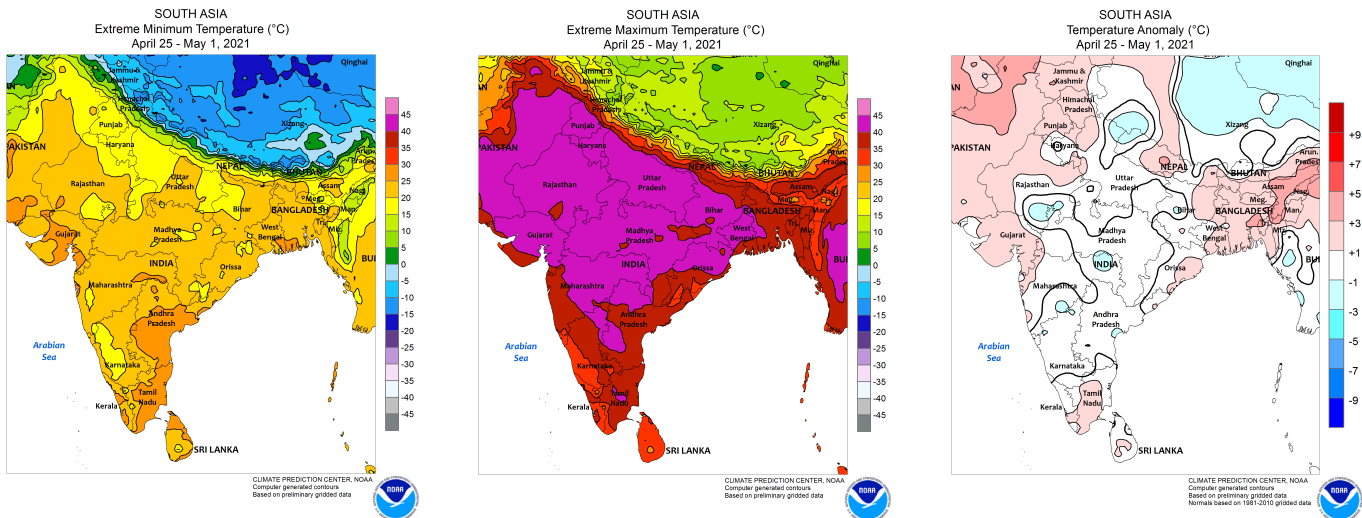
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

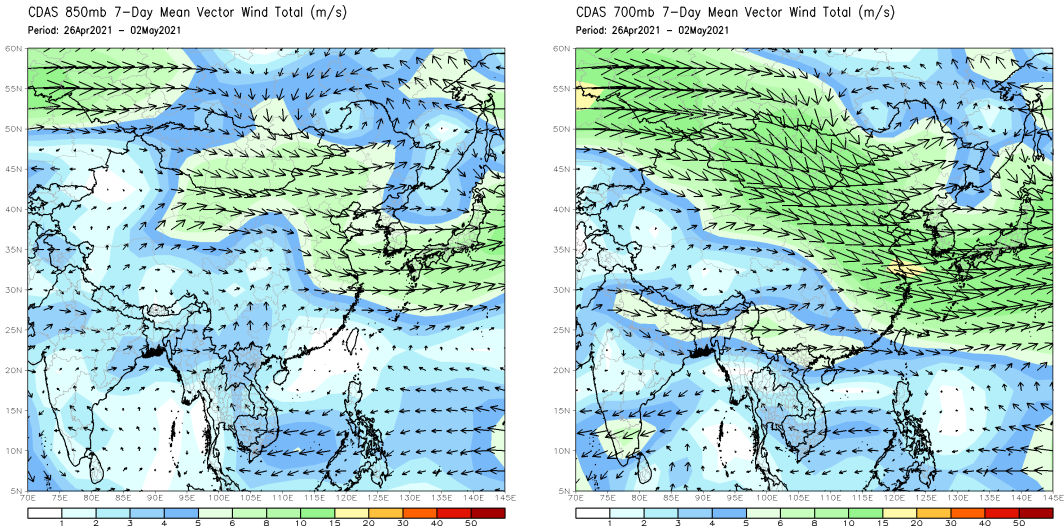


Weekly Temperature Monitoring



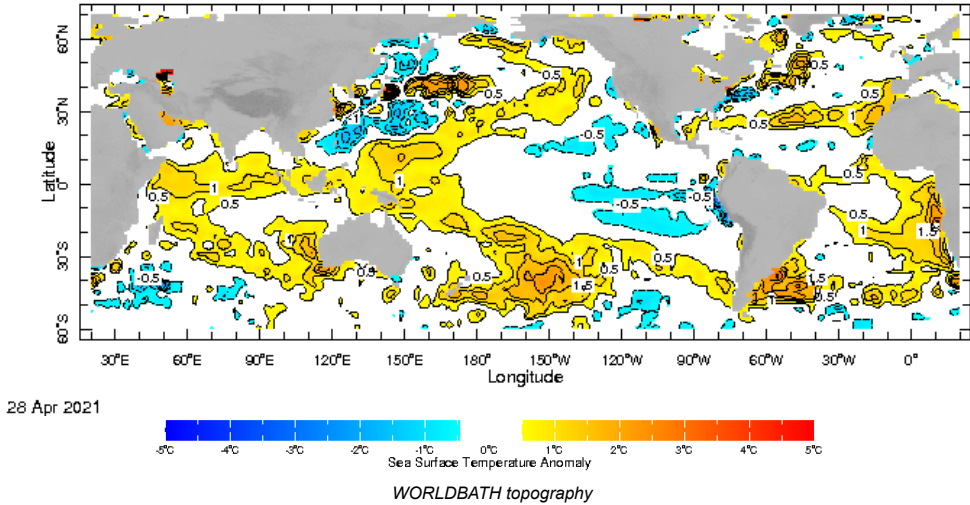
Weekly Wind Monitoring

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.

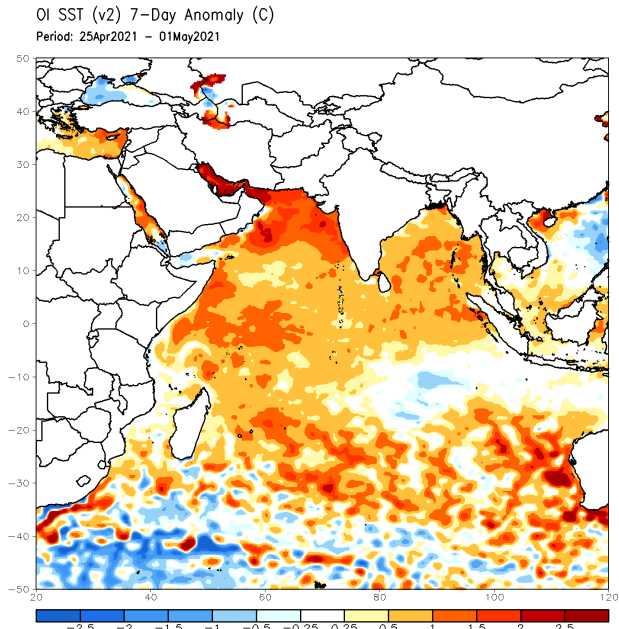


Weekly Average SST Anomalies

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

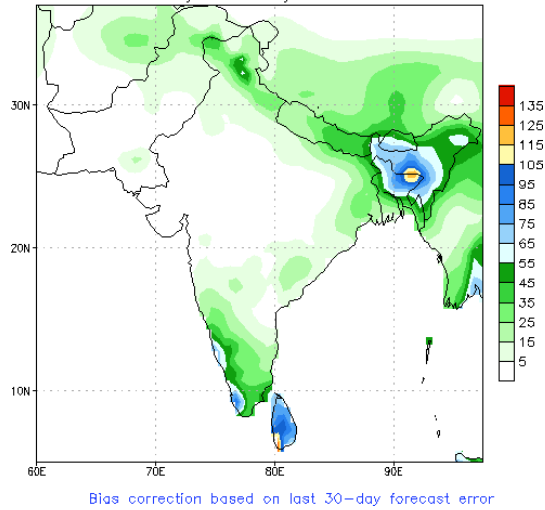


Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

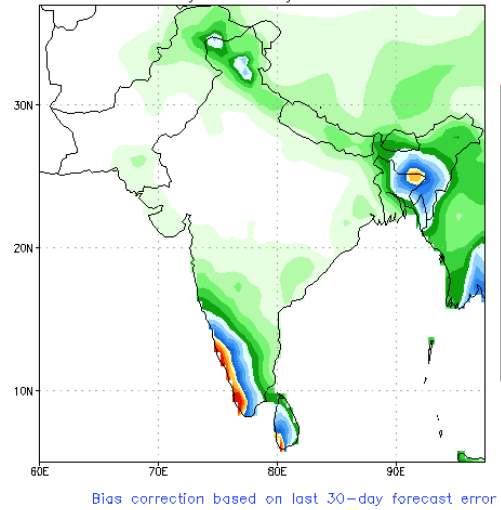


NCEP GFS 1- 14 Day prediction

NCEP GFS Ensemble Forecast 1-7 Day Precipitation (mm)
from: 05May2021
05May2021-11May2021 Accumulation

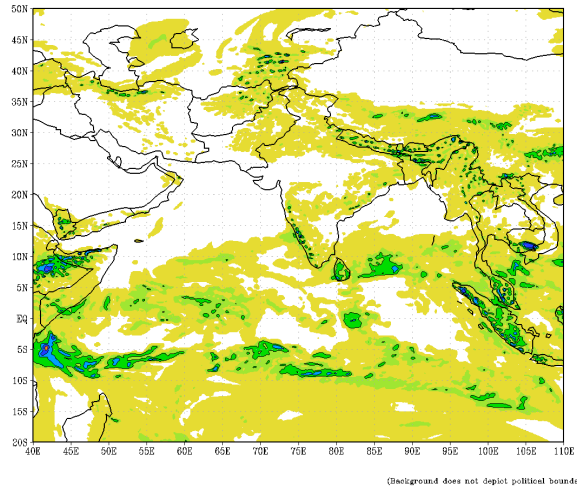


NCEP GFS Ensemble Forecast 8-14 Day Precipitation (mm)
from: 05May2021
12May2021-18May2021 Accumulation

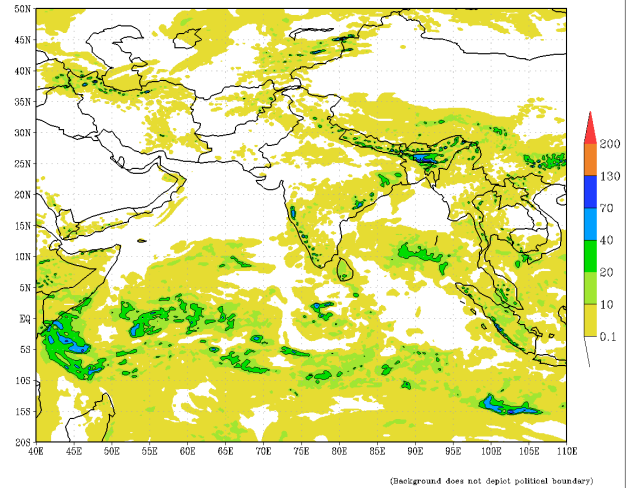


IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

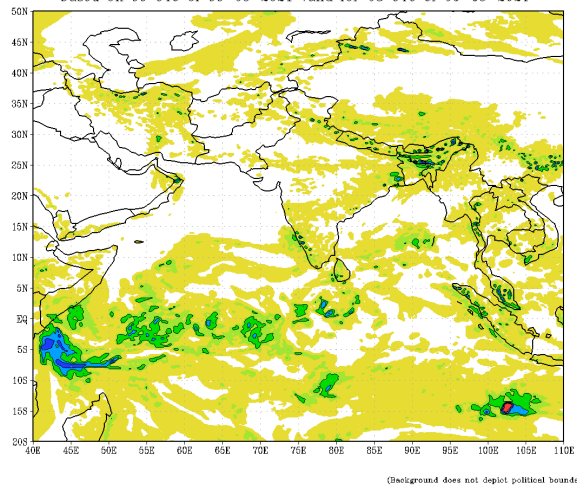
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (24 HR)
based on 00 UTC of 06-05-2021 valid for 03 UTC of 07-05-2021



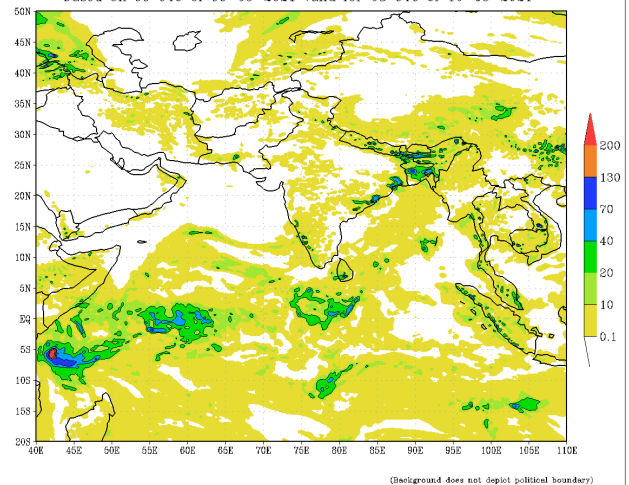
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (48 HR)
based on 00 UTC of 06-05-2021 valid for 03 UTC of 08-05-2021

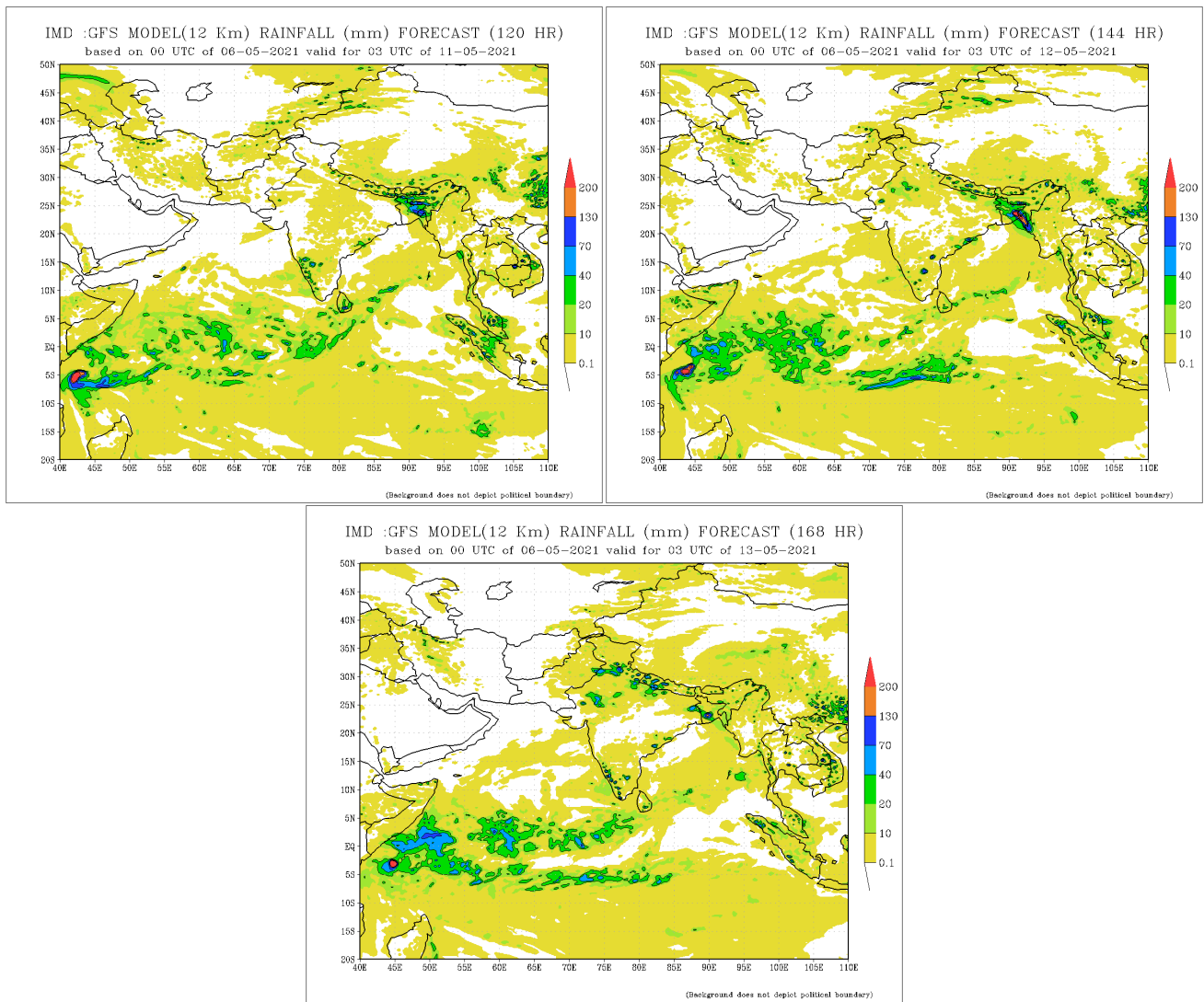


IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (72 HR)
based on 00 UTC of 06-05-2021 valid for 03 UTC of 09-05-2021



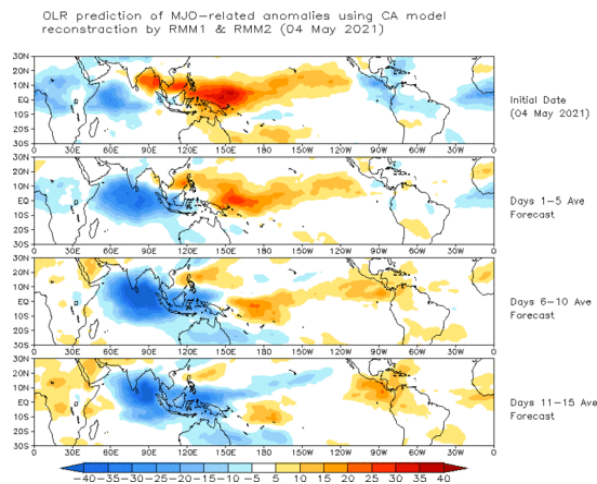
IMD :GFS MODEL(12 Km) RAINFALL (mm) FORECAST (96 HR)
based on 00 UTC of 06-05-2021 valid for 03 UTC of 10-05-2021





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

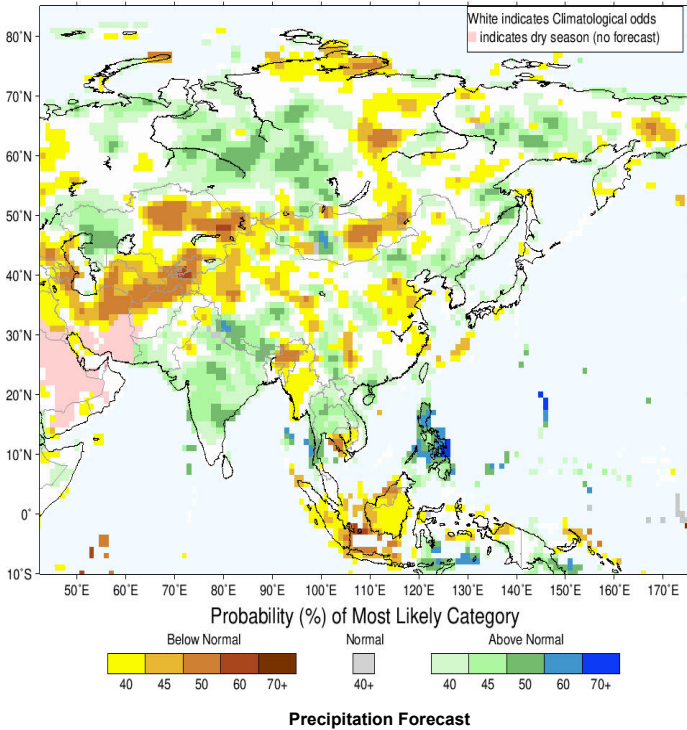
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



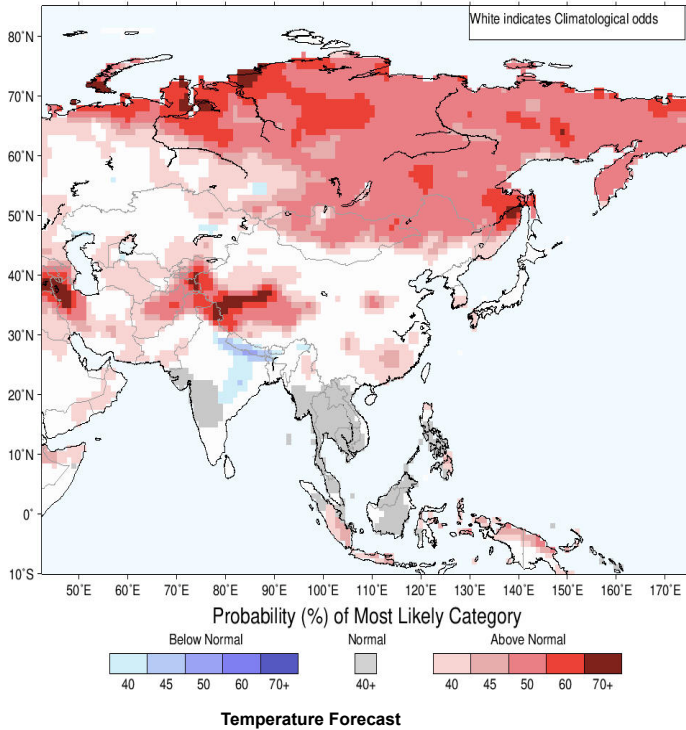
Seasonal Rainfall and Temperature Forecast

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 May-June-July 2021, Issued April 2021



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



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