

Week of
26 Feb - 5 Mar
2021

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

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HIGHLIGHTS

Rainfall Prediction



- Showers of 35 mm expected in Eastern province during 1st - 7th March. A drop in rainfall over the rest of the country.

Monitored Rainfalls



- Heavy rainfall was experienced in Northern & Eastern provices. Up to 81 mm max in Batticaloa on 18th Feb.

Monitored Wind



- From 16th - 22nd Feb: up to 5 km/h Northeasterly winds were experienced around along Sri Lanka

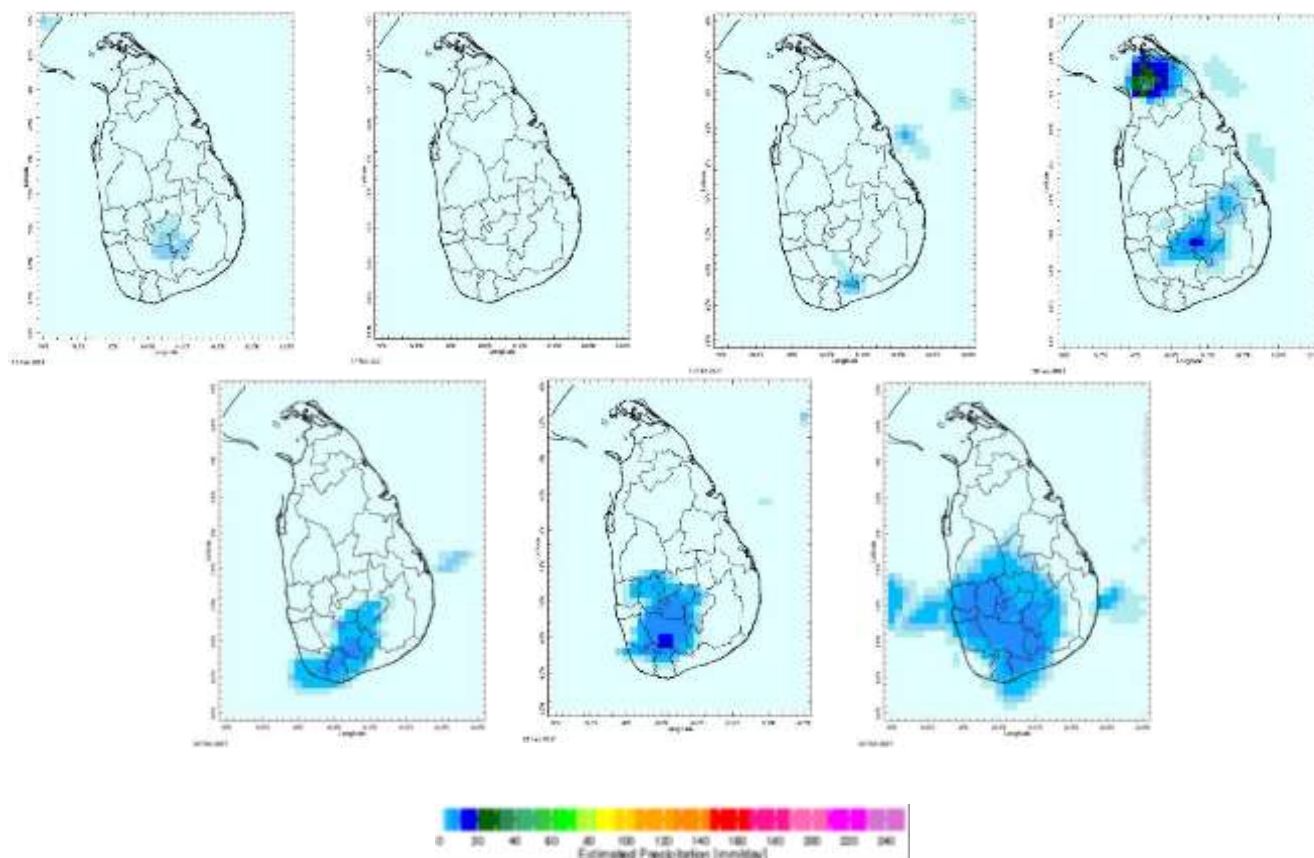
Monitored Sea Surface



- Sea surface temperature was observed near-neutral all along around Sri Lanka.

Monitoring Rainfall

Daily Estimates for Rainfall from 16th – 22nd February





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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	Badulla, Kilinochchi, Mullaitivu, Mannar, Nuwara Eliya, Ratnapura, Kalutara, Matara
10 – 25 mm	Moneragala, Vavuniya, Kandy, Kurunegala, Kegalle, Gampaha, Colombo, Galle, Hambantota
2 – 5 mm	Anuradhapura, Polonnaruwa, Ampara, Matale, Puttalam

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

Weekly Rainfall Anomalies by Districts:

Rainfall Excess

Rainfall	Districts
25 – 50 mm	Kilinochchi, Mullaitivu, Mannar
10 – 25 mm	Badulla, Moneragala, Vavuniya, Nuwara Eliya, Ratnapura, Kalutara, Galle, Matara, Hambantota

Rainfall Deficit

Rainfall	Districts
25 – 50 mm	Puttalam, Kurunegala
10 – 25 mm	Polonnaruwa, Matale

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

Monthly Monitoring

During late January and early February, Dekadal Rainfall (mm/day) by Districts:

1st – 10th February:

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

11th – 20th February:

Rainfall	Districts
4 mm	Badulla, Moneragala, Kilinochchi, Mullaitivu, Mannar, Nuwara Eliya, Kegalle, Ratnapura, Matara, Hambantota
2 mm	Jaffna, Vavuniya, Polonnaruwa, Batticaloa, Ampara, Matale, Kandy, Colombo, Kalutara, Galle



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: February 17, 2021

Equatorial Eastern and western Pacific SST reached La Niña threshold in mid-February, and the atmospheric variables were either ENSO-neutral or indicative of weak La Niña conditions.

Indian Ocean State

Sea surface temperature was observed near-neutral all along around Sri Lanka.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 27th – 28th February:

Total rainfall by Provinces:

Rainfall	Provinces
25 mm	Eastern

From 1st – 07th March:

Total rainfall by Provinces:

Rainfall	Provinces
35 mm	Eastern

MJO based OLR predictions

For the next 15 days:

MJO shall slightly suppress the rainfall during 27th Feb – 4th Mar and Neutral during 5th – 9th Mar.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been high rainfall over the following provinces: Northern & Eastern.

Wind: As is typical for February the Northeasterly winds prevailed in the sea area and around the island.



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

Predictions

Rainfall: During the next week (27th Feb – 1st Mar), showers is predicted for the Eastern coastal region. A drop in rainfall is predicted over the rest of the country.

Temperatures: The temperature remains slightly above normal for February. During 4th–10th Mar, the temperature remains high especially the Western, Northern, North central, Sabaragamuwa, Uva and North western provinces.

Teleconnections:

- MJO shall slightly suppress the rainfall during 27th Feb – 4th Mar and Neutral during 5th– 9th Mar.
- La Nina - The SST forecast is for La Nina conditions to continue through April weakening through June. So, the La Niña is expected to be moderate to strong in coming seasons.

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

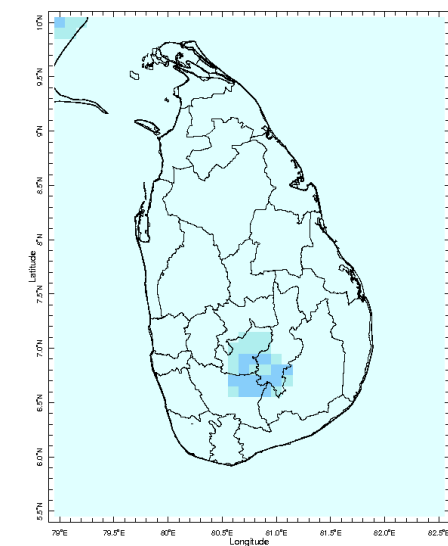
- NCEP GFS Ensemble 1-14 day Rainfall Predictions
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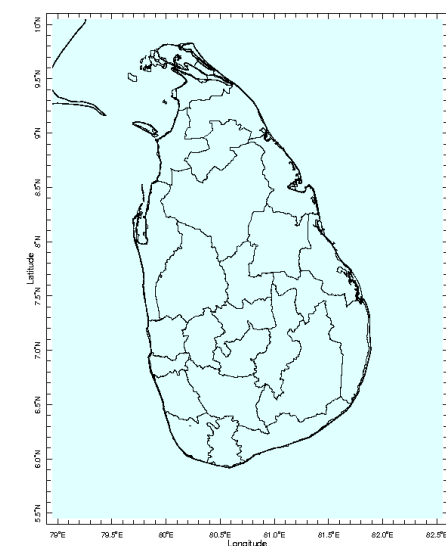
MONITORING

Daily Rainfall Monitoring

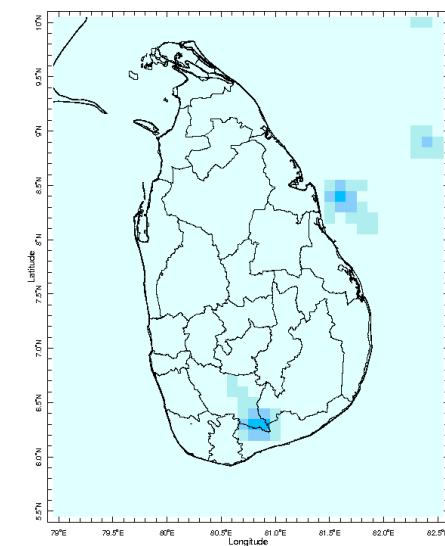
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



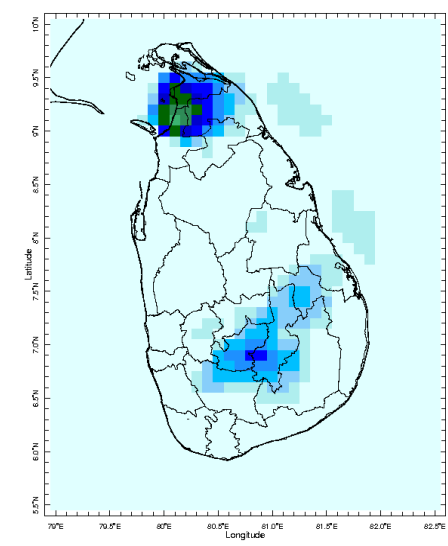
16 Feb 2021



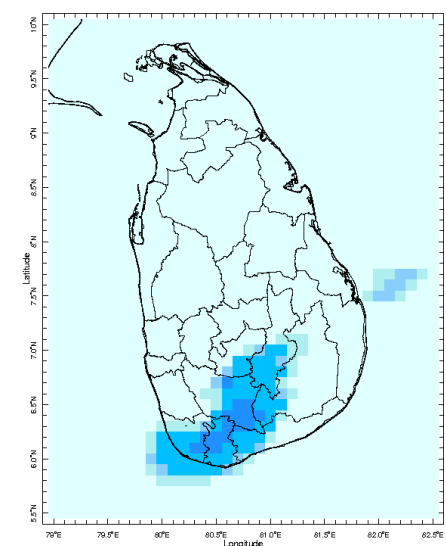
17 Feb 2021



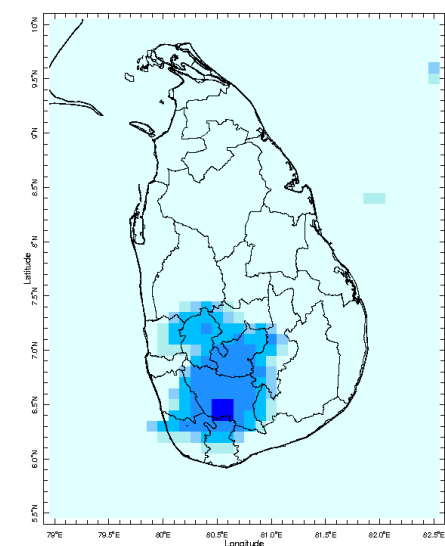
18 Feb 2021



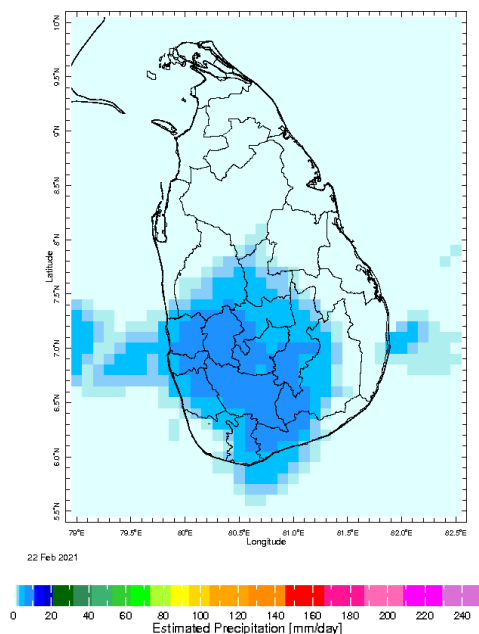
19 Feb 2021



20 Feb 2021

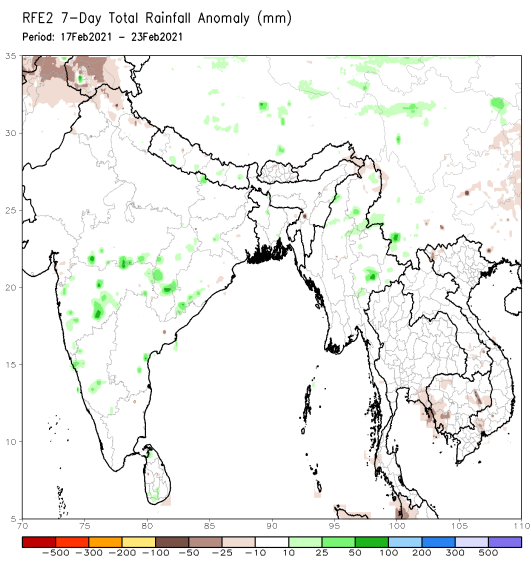
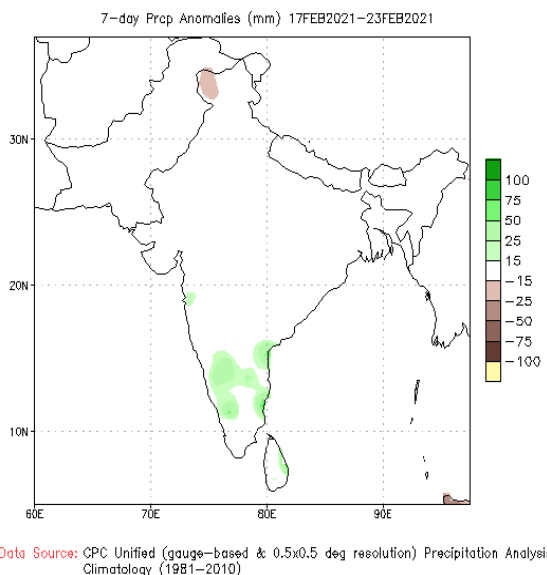
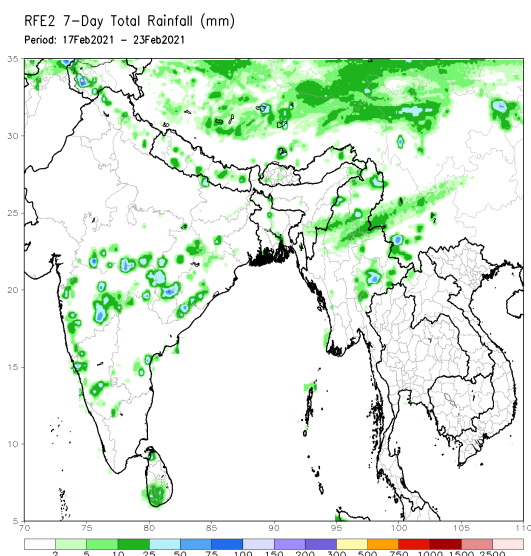
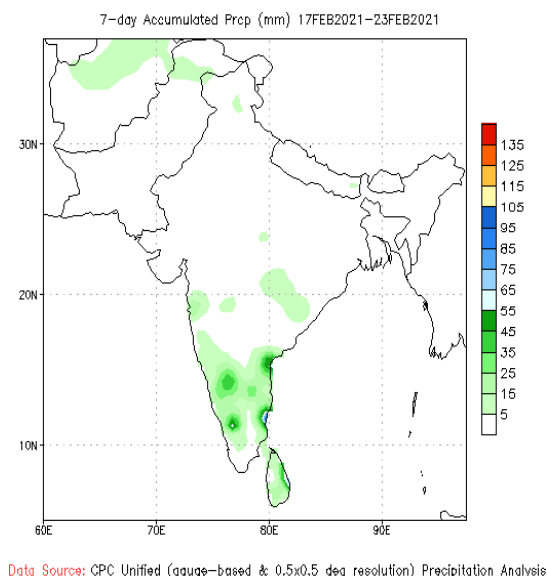


21 Feb 2021



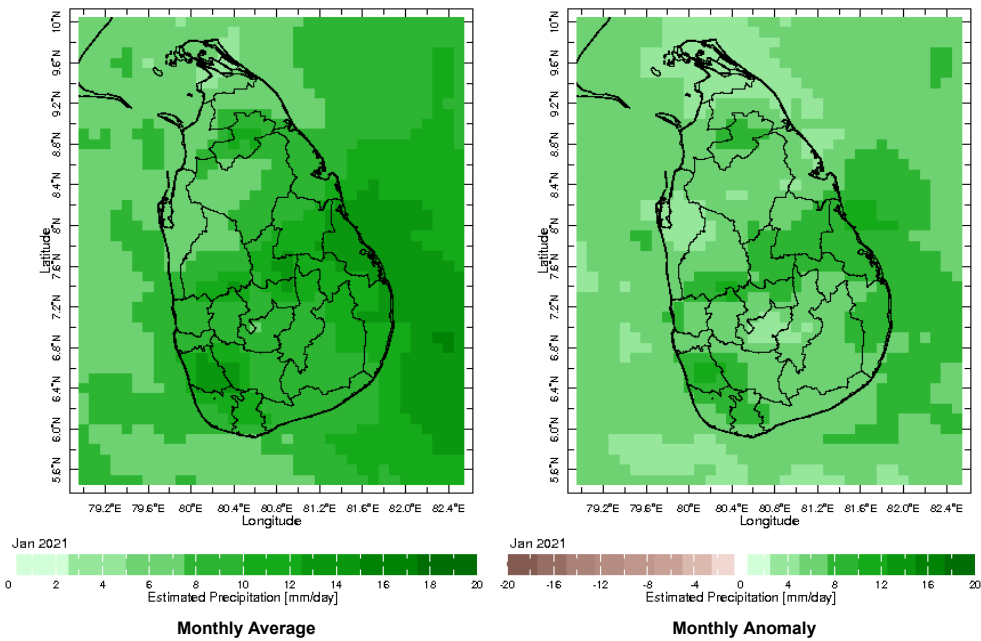
Weekly Rainfall Monitoring

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.

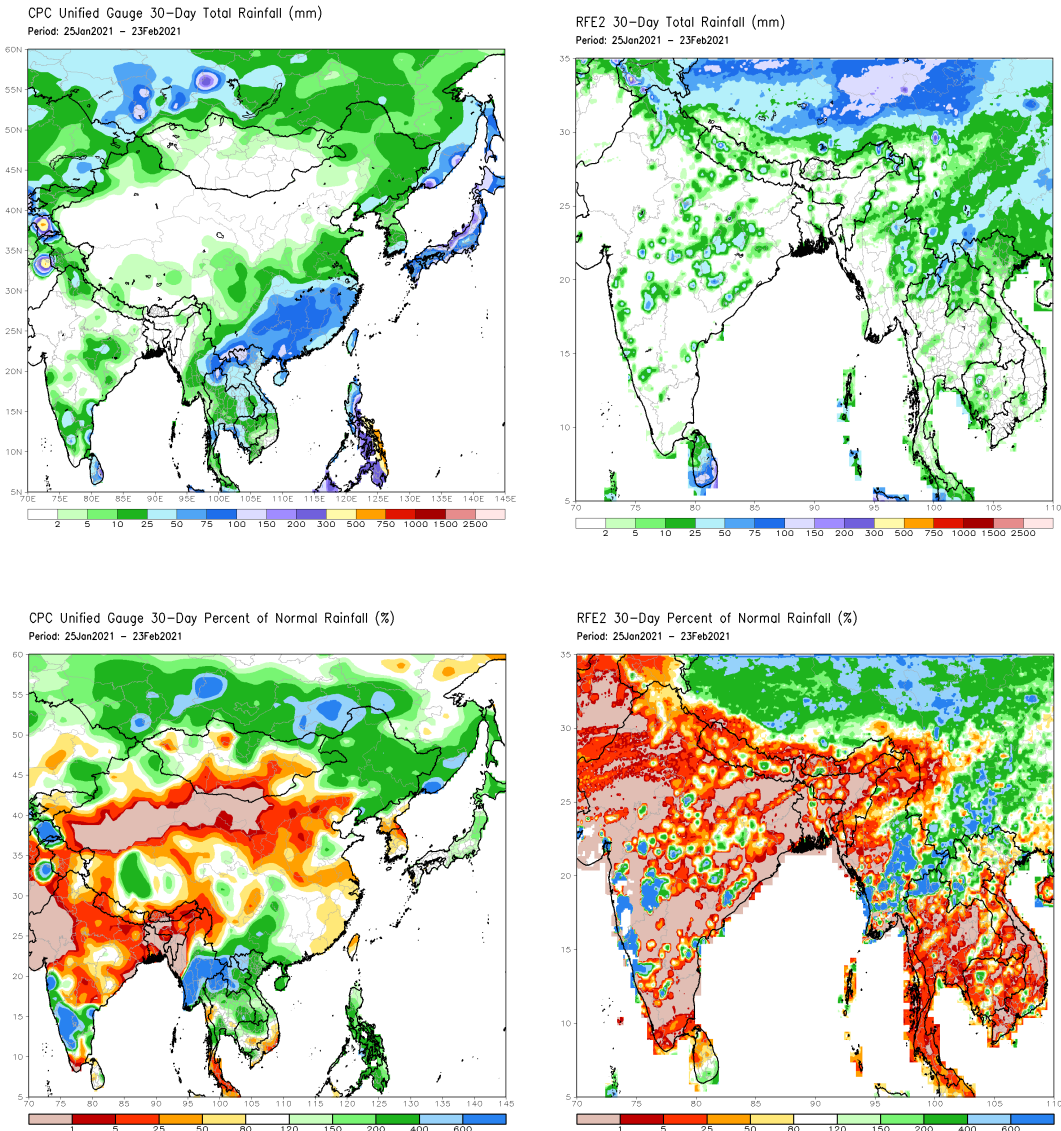


Monthly Rainfall Monitoring

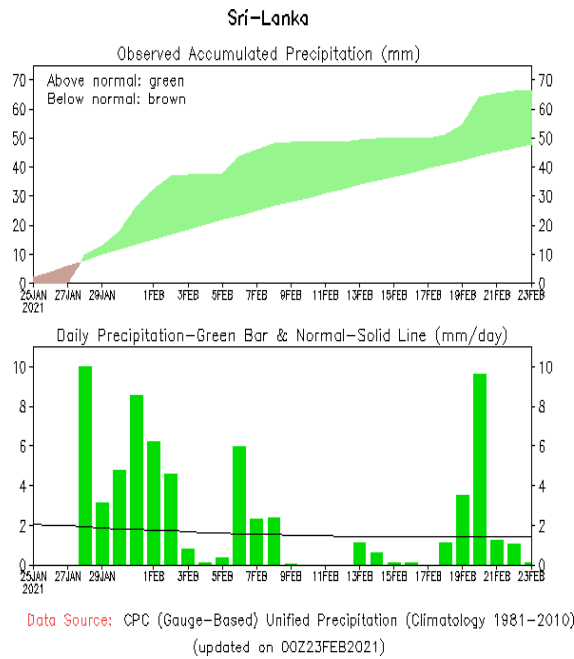
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



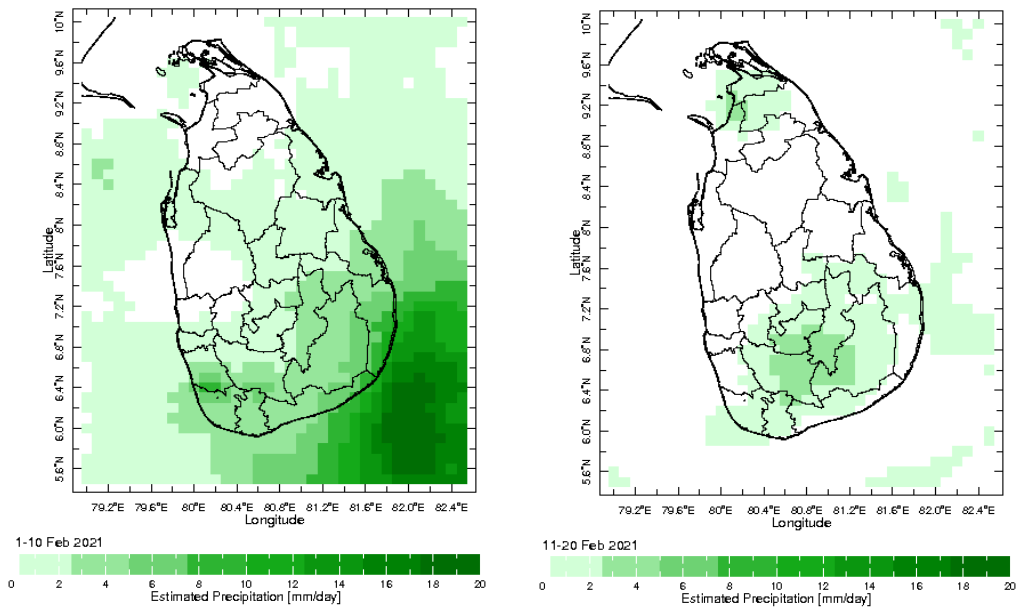
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



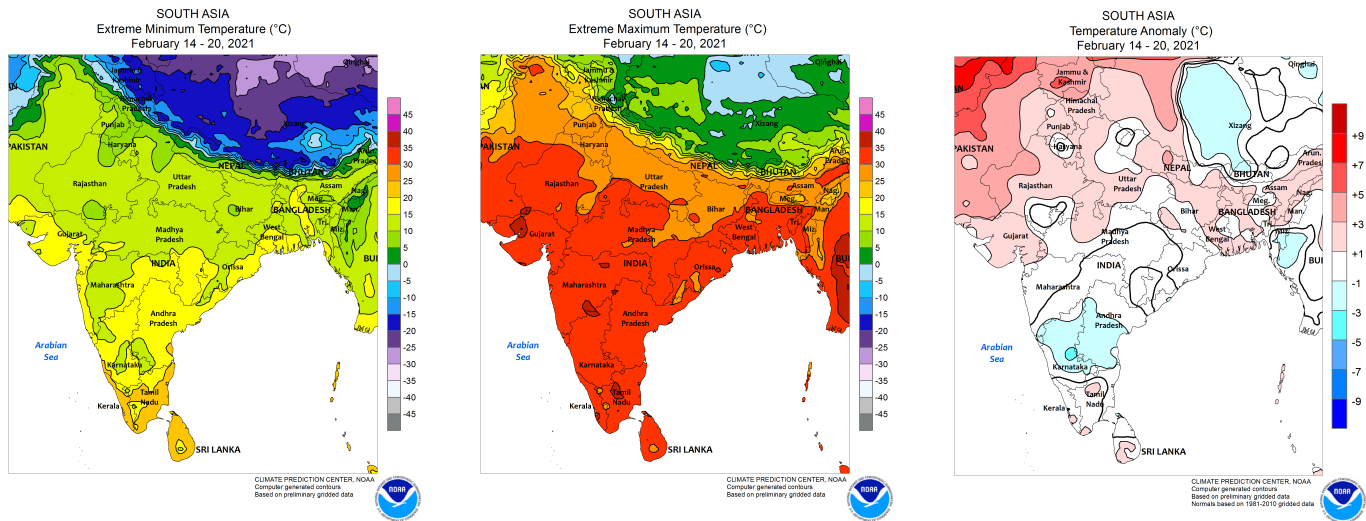
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

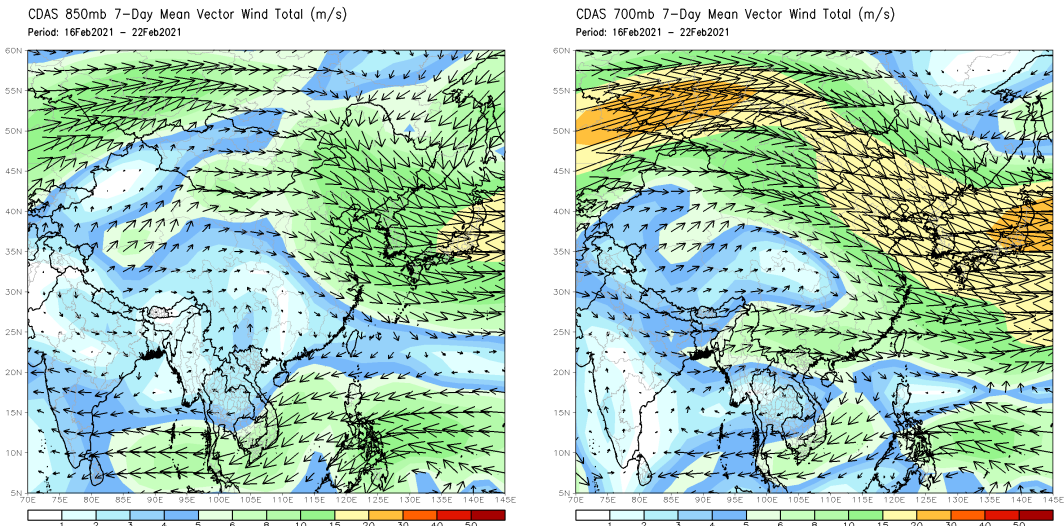


Weekly Temperature Monitoring



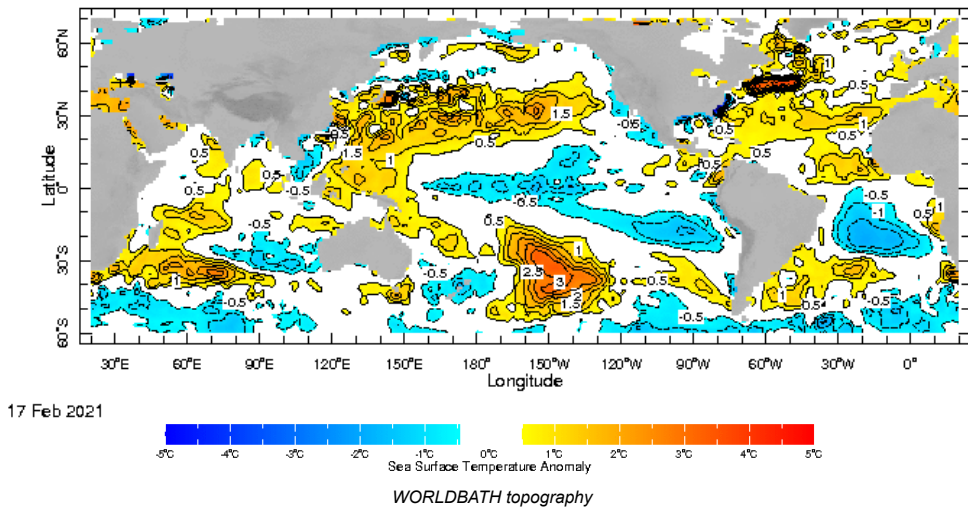
Weekly Wind Monitoring

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.

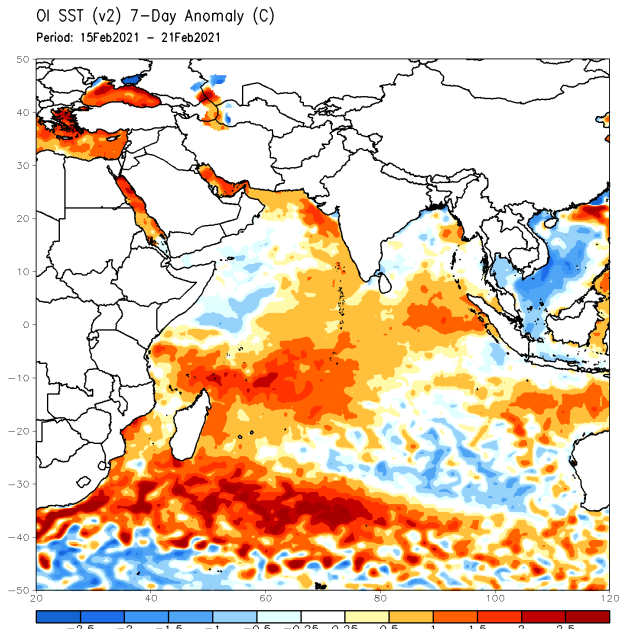


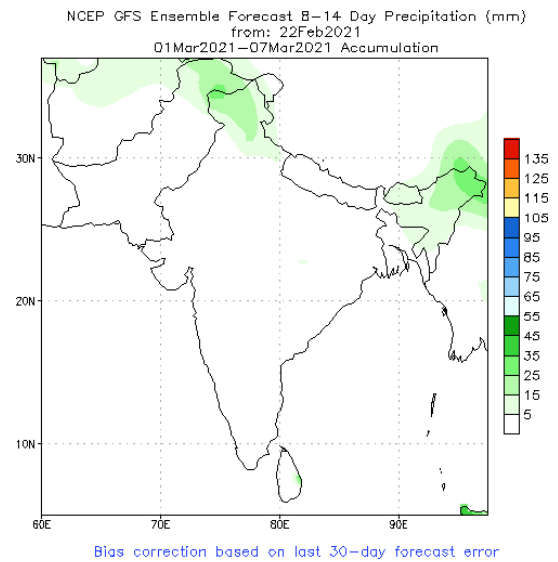
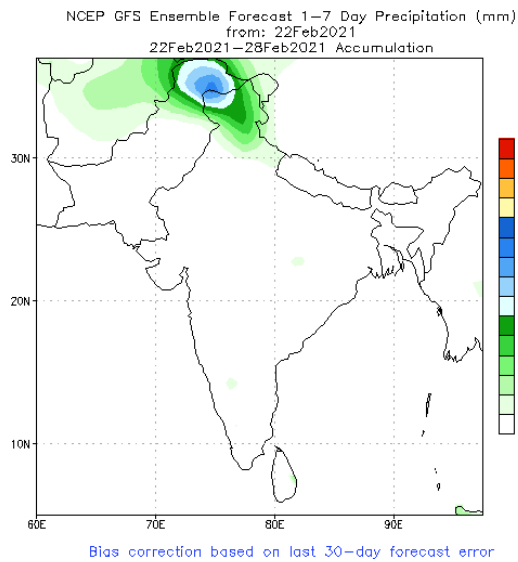
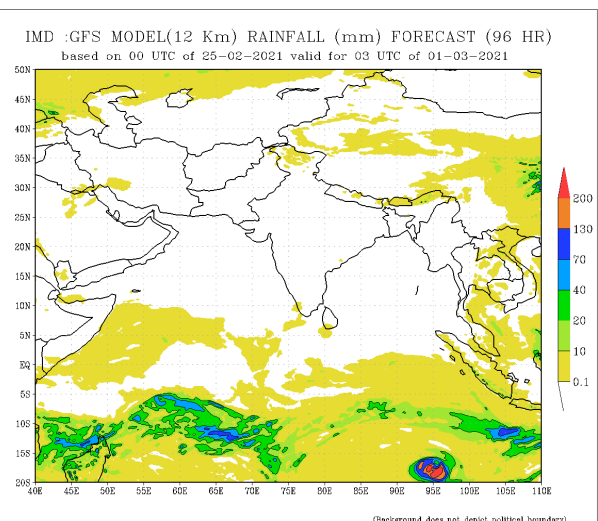
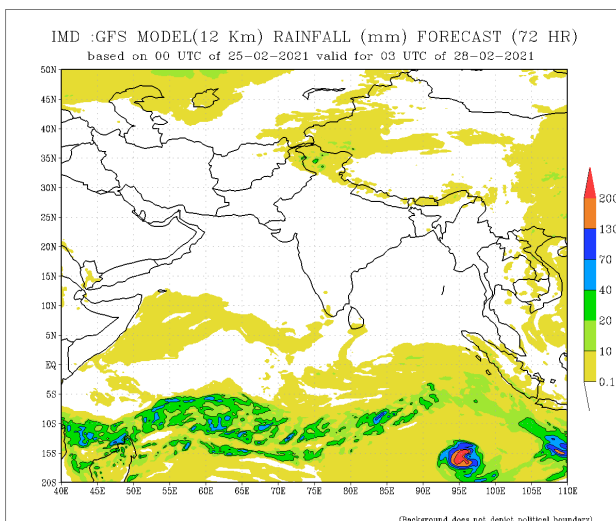
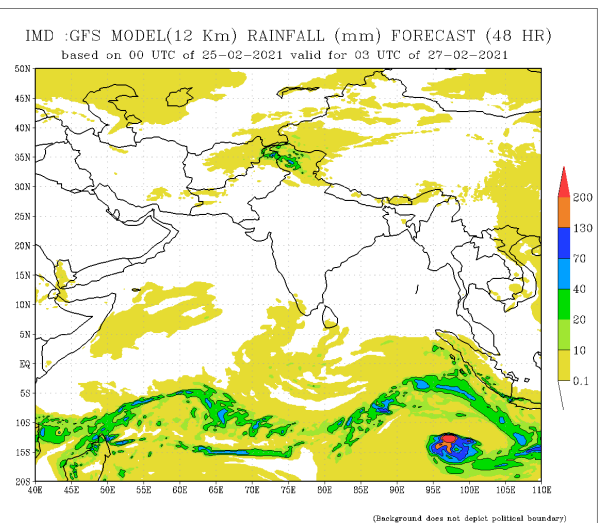
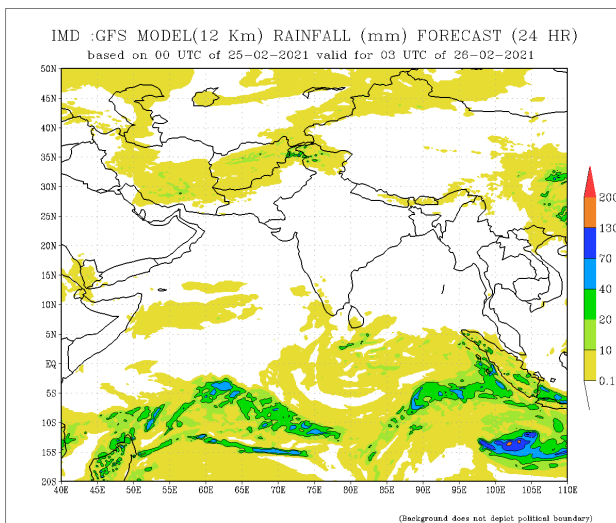
Weekly Average SST Anomalies

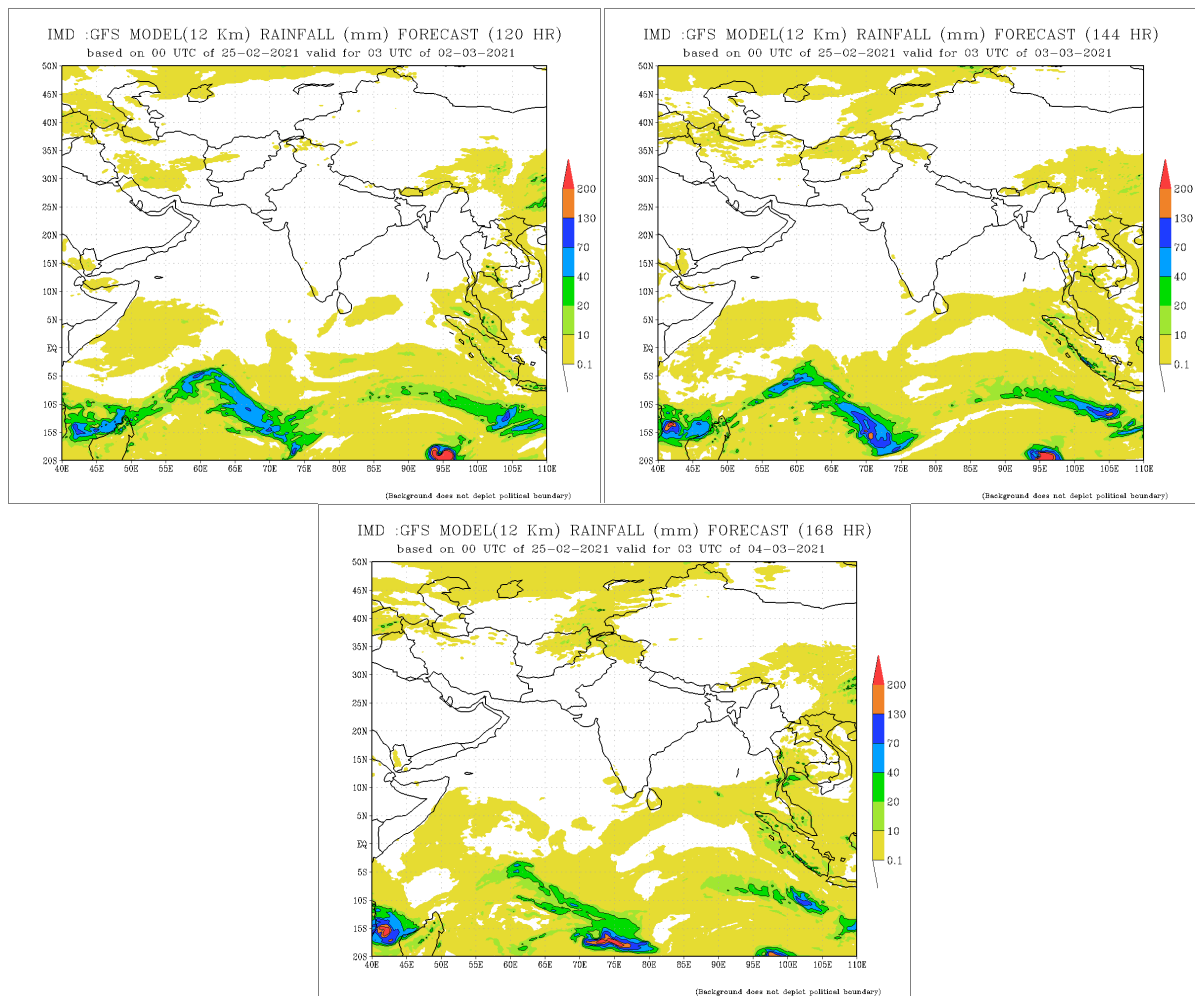
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



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

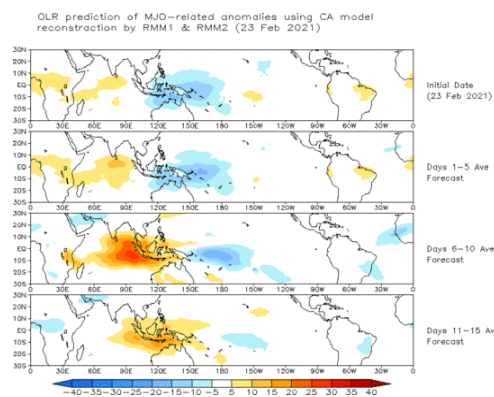


NCEP GFS 1- 14 Day prediction**IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India**



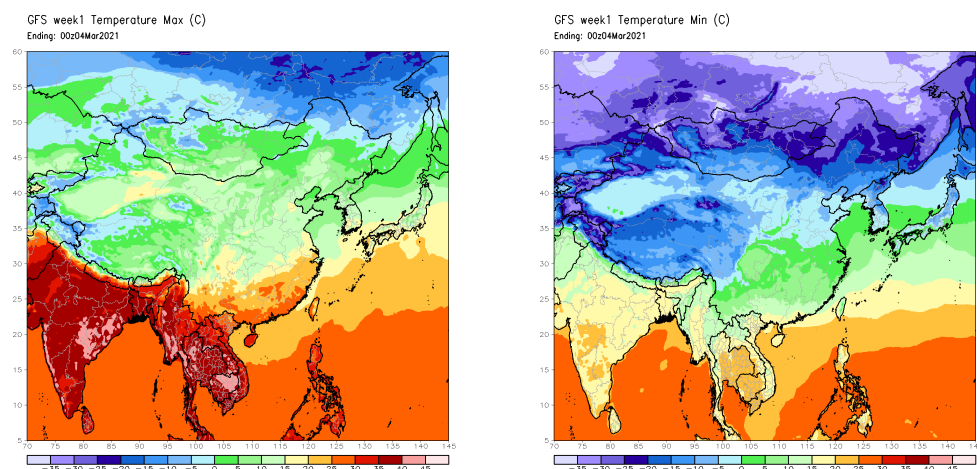
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

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.



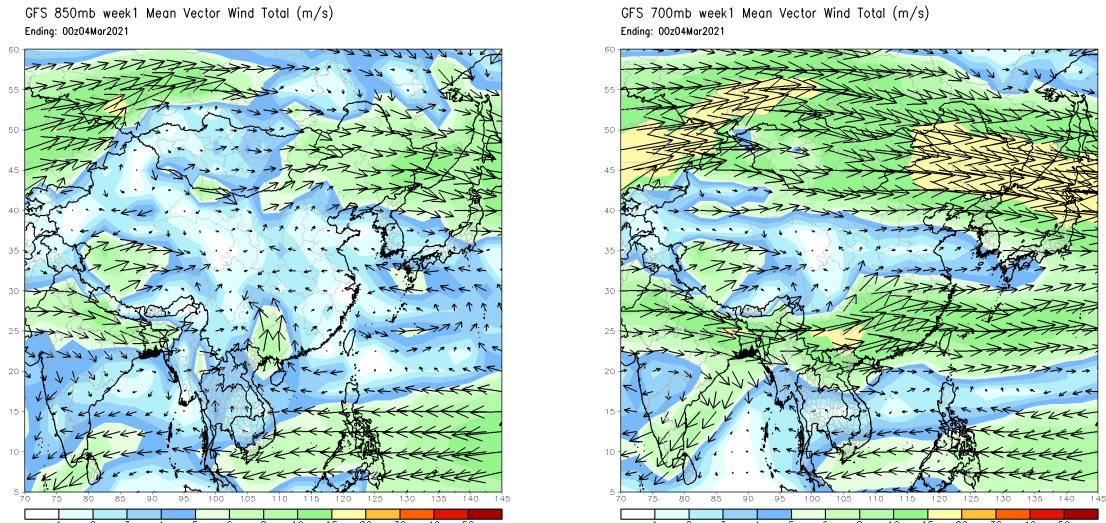
Weekly Temperature Forecast

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



Weekly Wind Forecast

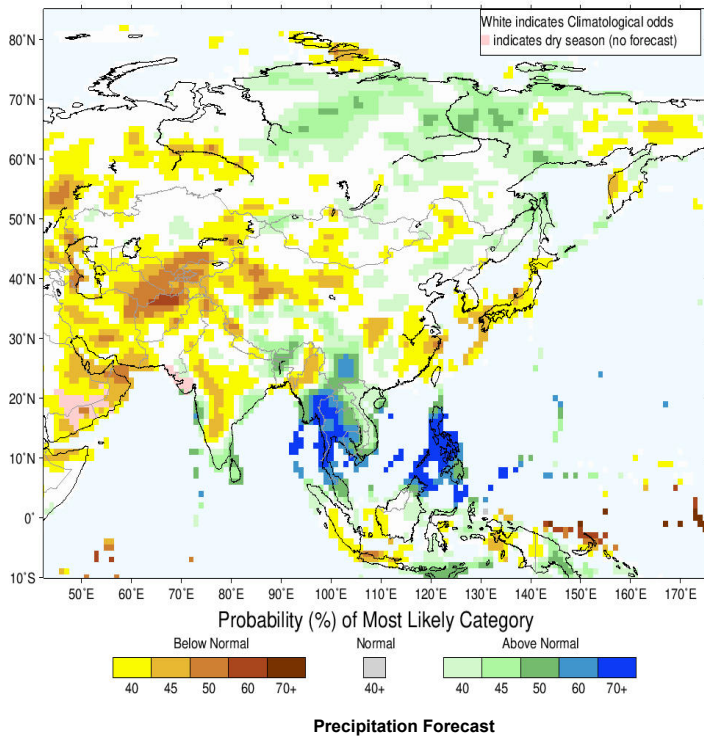
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



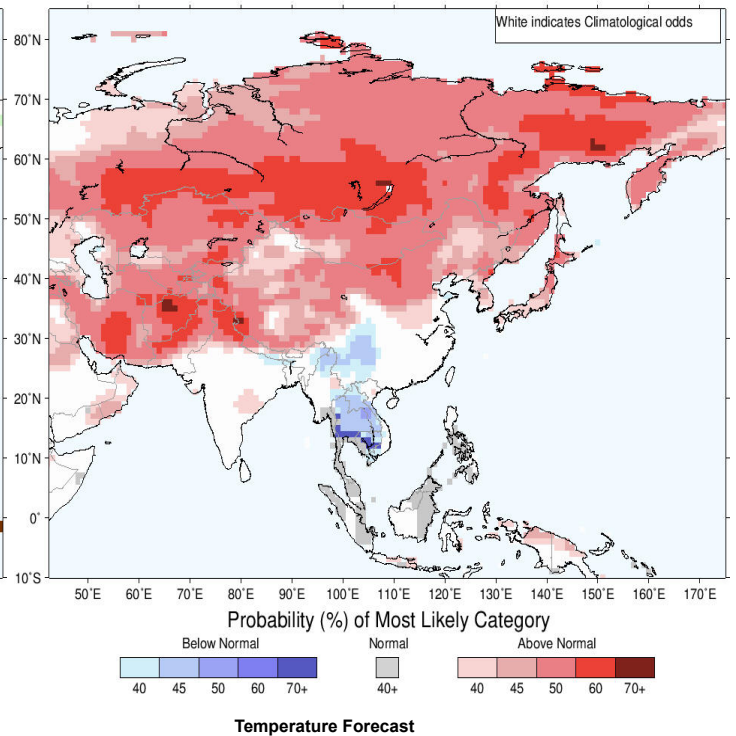
Seasonal Rainfall and Temperature Forecast

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 March–April–May 2021, Issued February 2021



IRI Multi-Model Probability Forecast for Temperature for March–April–May 2021, Issued February 2021



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