

Week of
14 Jan - 21 Jan
2022

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

HIGHLIGHTS

Rainfall Prediction



- Fairly heavy rainfall is predicted for Eastern, North Central and Uva provinces from 15th Jan – 18th Jan. Greater likelihood of wet tendency is predicted for Sri Lanka from Jan - Mar.

Monitored Rainfalls



- Very heavy rainfall was experienced in the Eastern province with max of 158.7 mm in Batticaloa district on 3rd Jan.

Monitored Wind



- From 3rd Jan - 10th Jan, up to 50 km/h Northeasterlies were experienced across the island.

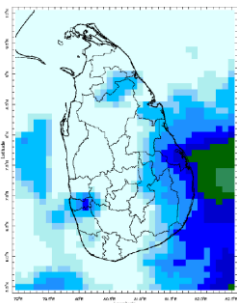
Monitored Sea Surface



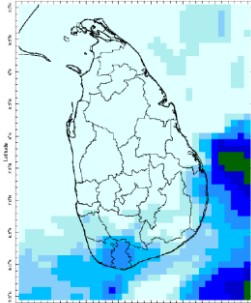
- Sea surface temperatures were 0.5°C above neutral in the southern seas and neutral around the rest of the island.

Monitoring Rainfall

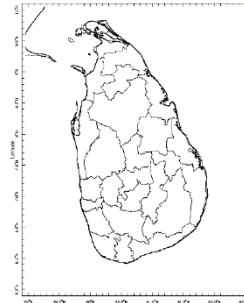
Daily Estimates for Rainfall from 3rd January – 10th January 2022



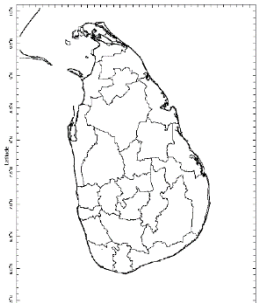
3 January



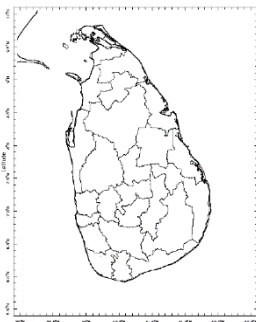
4 January



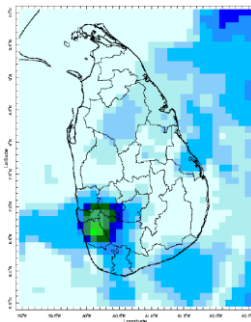
5 January



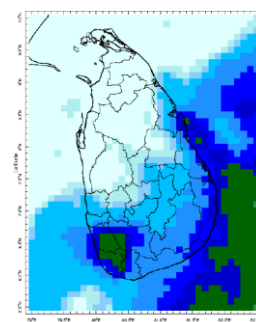
6 January



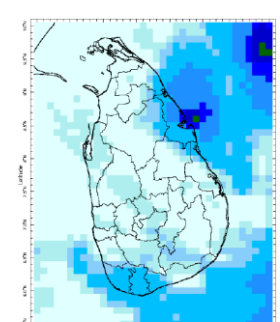
7 January



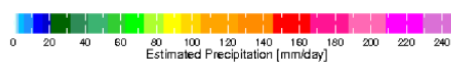
8 January



9 January



10 January



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Ocean State *(Text Courtesy IRI)*

Pacific sea state: January 5, 2022

Equatorial sea surface temperatures (SSTs) are below average across the central and east-central Pacific Ocean in the early-January. The tropical Pacific atmosphere is consistent with La Niña conditions. A large majority of the model forecasts indicates very high probabilities of La Niña during the Northern Hemisphere winter, weakening gradually, and likely to dissipate in Mar-May 2022.

Indian Ocean State

Sea surface temperatures were 0.5°C above neutral in the southern seas and neutral around the rest of the island.

Predictions

Rainfall

14-day prediction: NOAA NCEP models

From 12th January – 18th January:

Total rainfall by Provinces:

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

From 19th January – 25th January:

Total rainfall by Provinces:

Rainfall	Provinces
105 mm	Eastern
75 mm	Uva
65 mm	North Central
35 mm	Central, Northern, Southern
25 mm	Sabaragamuwa
15 mm	Western, North Western

MJO based OLR predictions

For the next 15 days:

MJO shall be active during 15th January – 19th January giving slightly suppressed rainfall to the entire island.

Interpretation

Monitoring

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

Wind: Northeasterly winds prevailed in the sea area and around the island last week.

Temperatures: The temperature anomalies were neutral for the entire island last week, driven by the warm SST's.

Predictions

Rainfall: During the next week (15th January – 18th January) fairly heavy rainfall is predicted for Eastern, North Central and Uva provinces.

Temperatures: The temperature remains slightly above normal in the Western province and slightly below normal in the Nuwara Eliya district during 15th January – 22nd January.

Teleconnections:

La Nina - The SST forecast indicates that La Niña is favored to continue through the Northern Hemisphere winter.

MJO shall be active during 15th January – 19th January giving slightly suppressed rainfall to the entire island.

Seasonal Precipitation:

The precipitation forecast for the Jan-Mar season show enhanced probabilities of above-normal precipitation over Sri Lanka.

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.



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Weekly Climate Bulletin for Sri Lanka

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2. Predictions

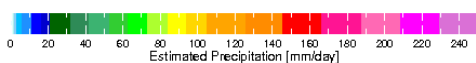
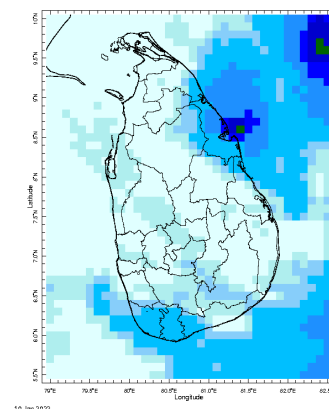
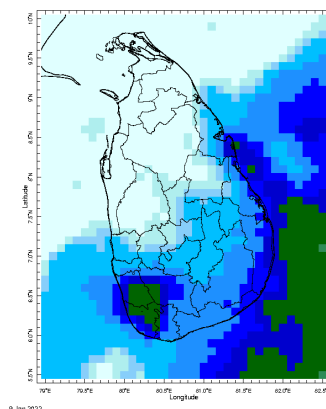
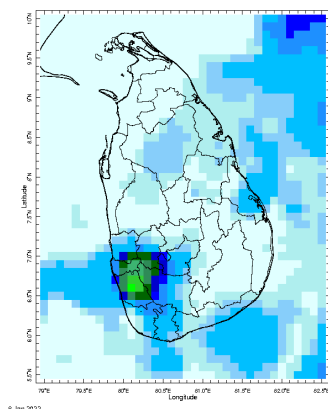
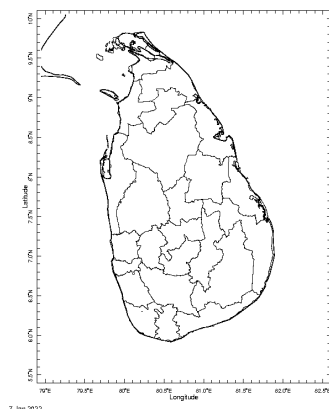
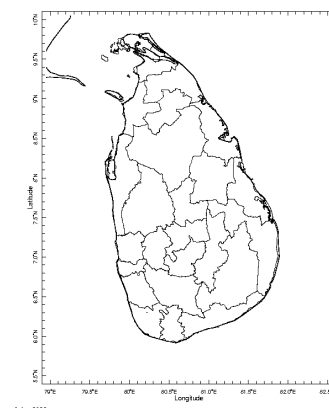
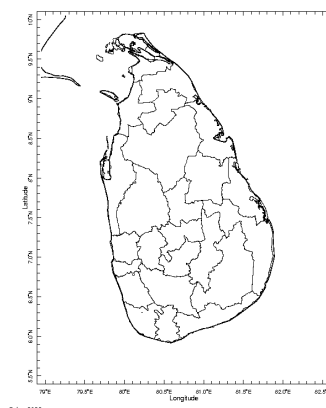
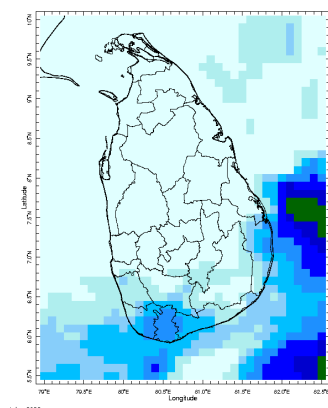
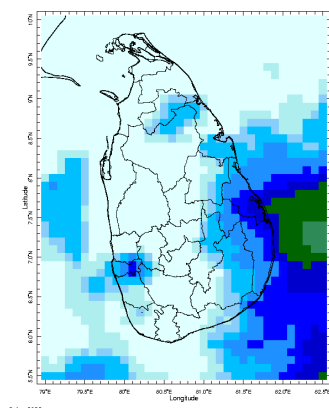
- NCEP GFS Ensemble 1-14 day Rainfall Predictions
- GFS (T574) Model Rainfall Forecast from RMSC New Delhi
- MJO Related OLR Forecast
- Weekly Temperature Forecast
- Weekly Wind Forecast
- Seasonal Predictions from IRI



MONITORING

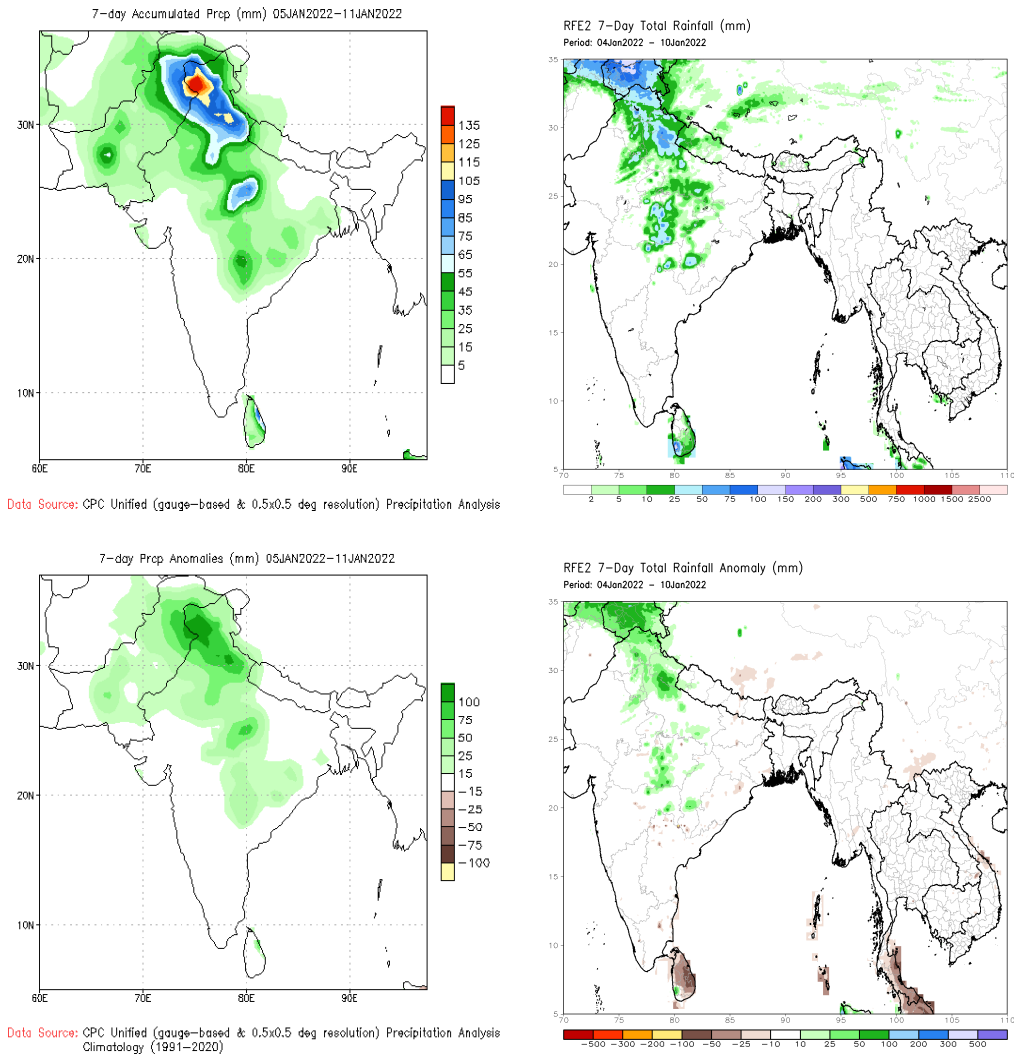
Daily Rainfall Monitoring

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



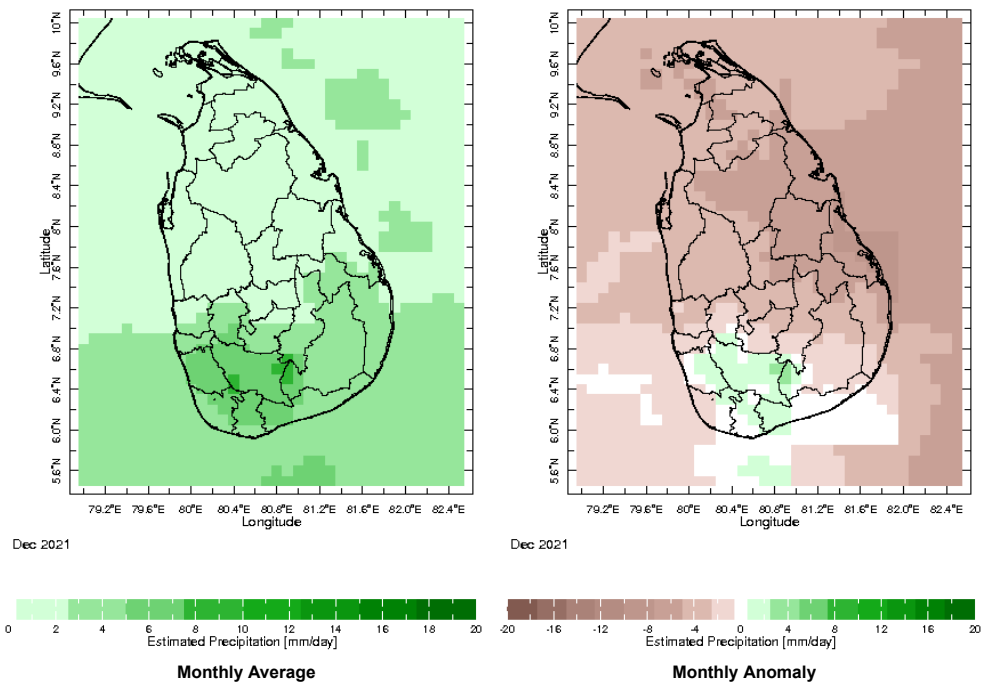
Weekly Rainfall Monitoring

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.

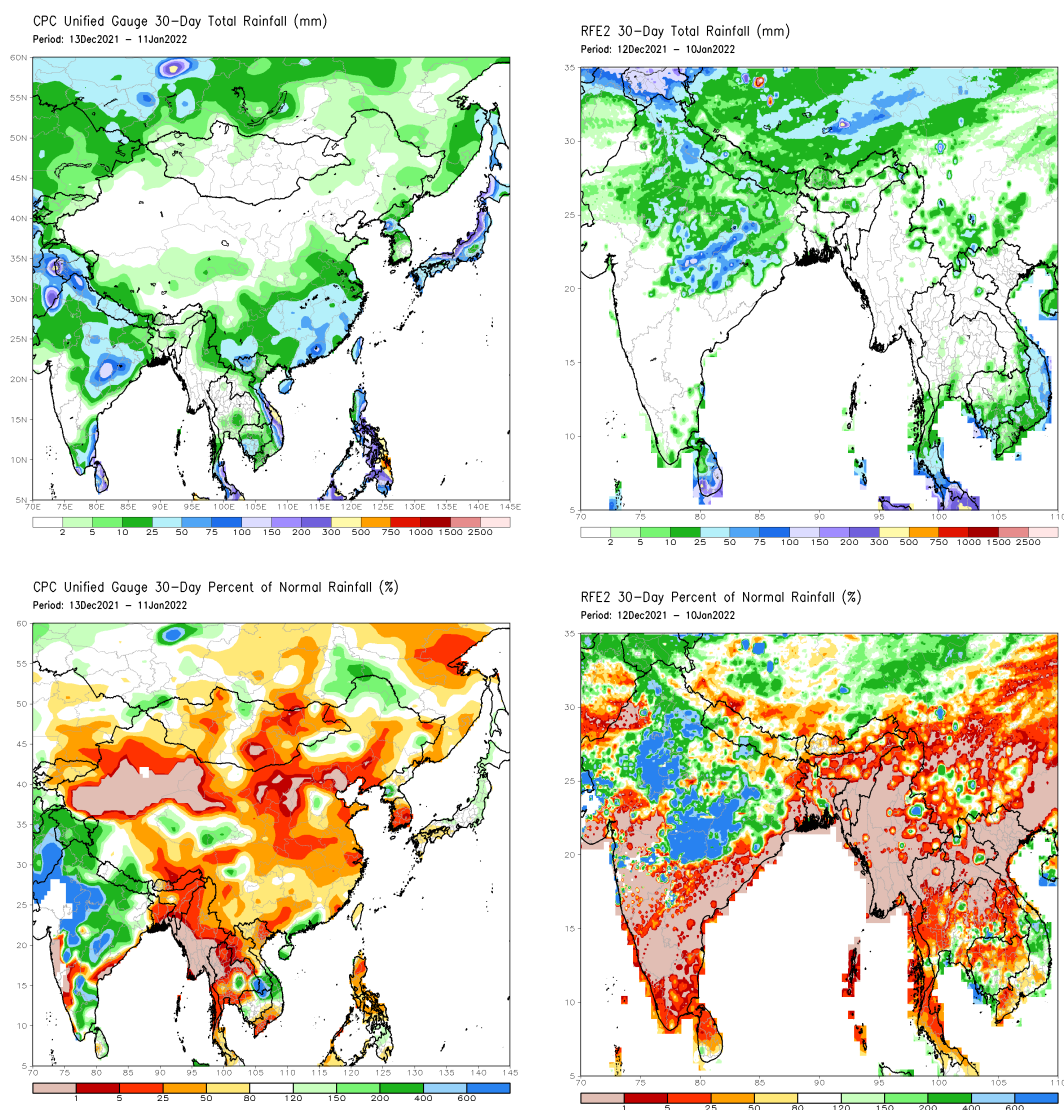


Monthly Rainfall Monitoring

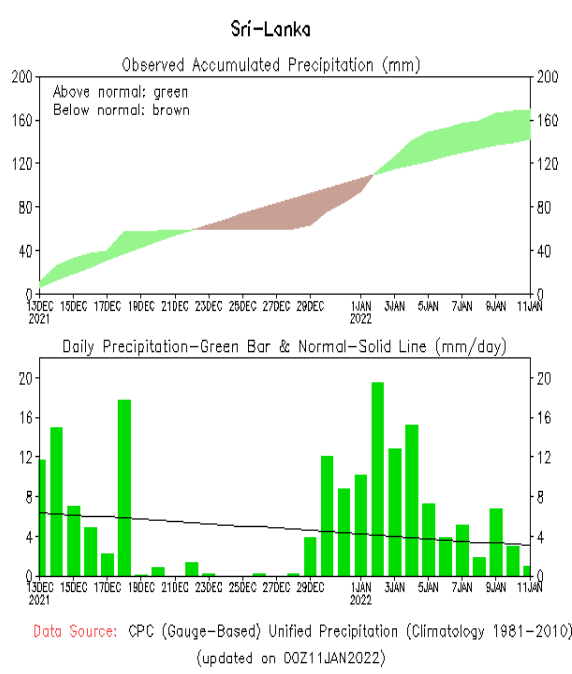
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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



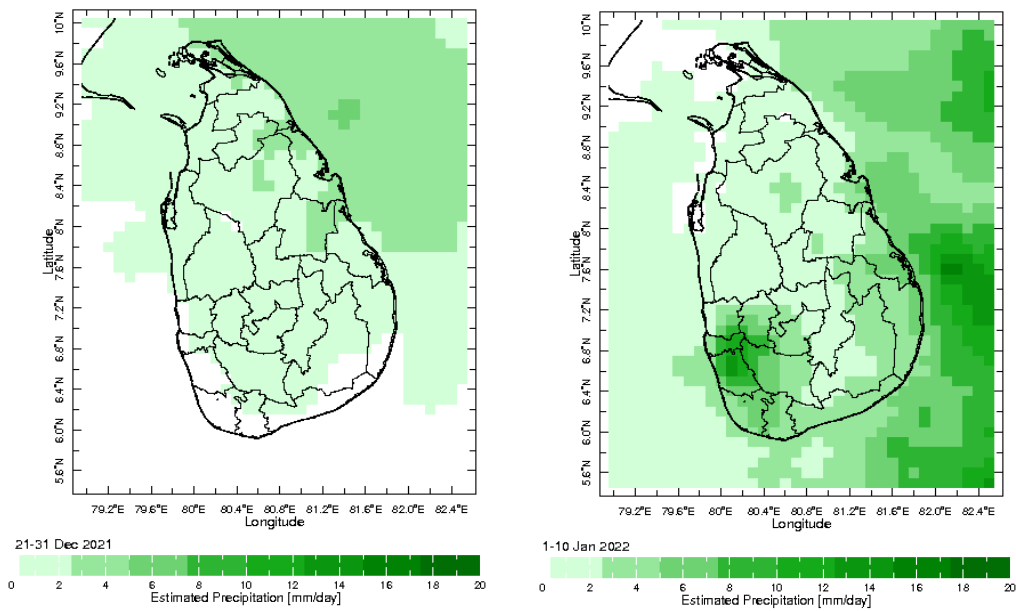
The figure in the top-left shows the total rainfall in the past 30 days from CPC Unified Precipitation Analysis while the figure in the top-right shows the total rainfall for the same period from RFE 2.0 Satellite Rainfall Estimates. The bottom two figures show the percentage of rainfall received in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



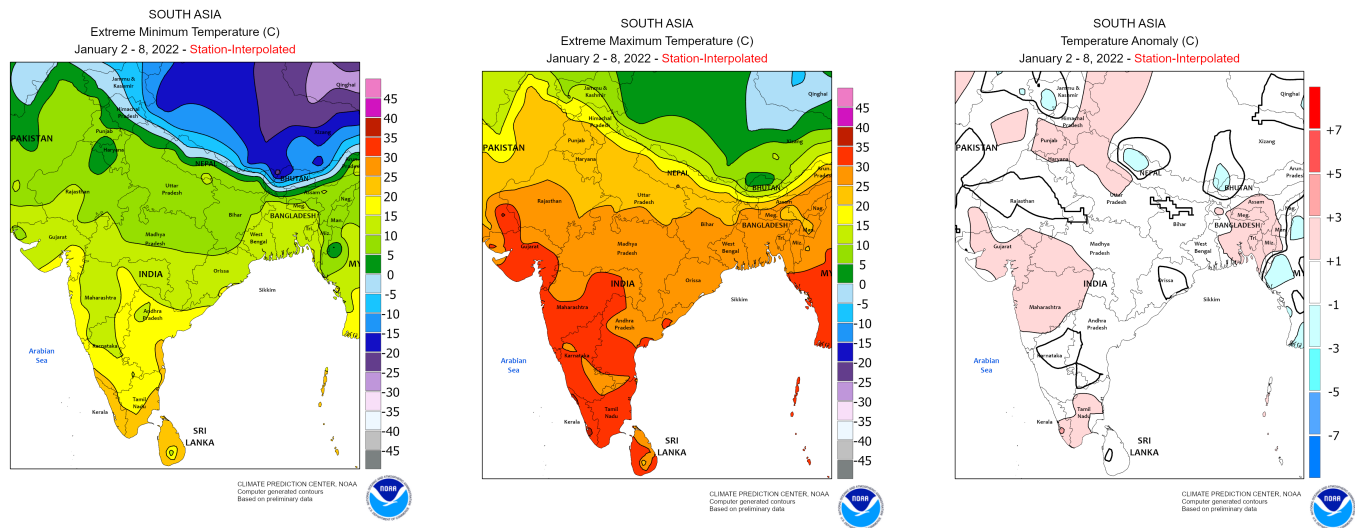
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

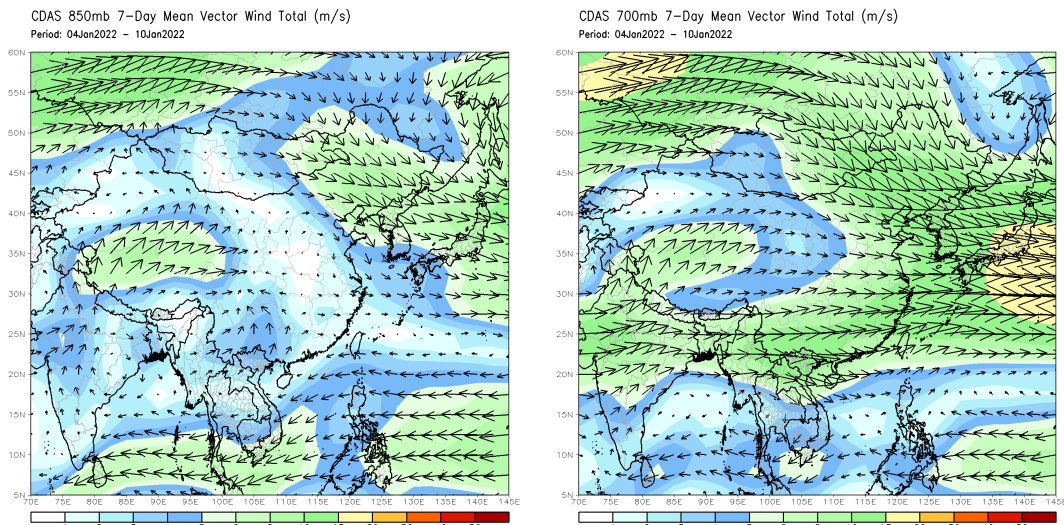


Weekly Temperature Monitoring



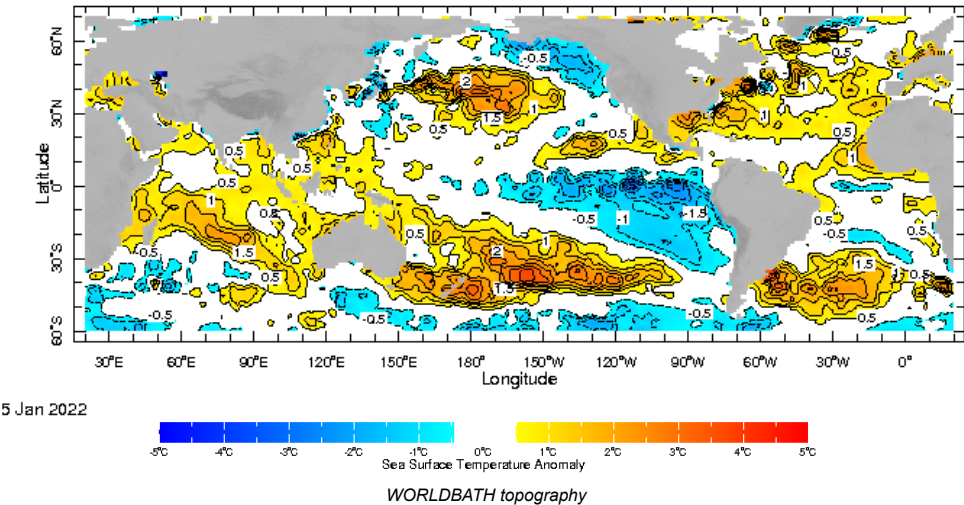
Weekly Wind Monitoring

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.

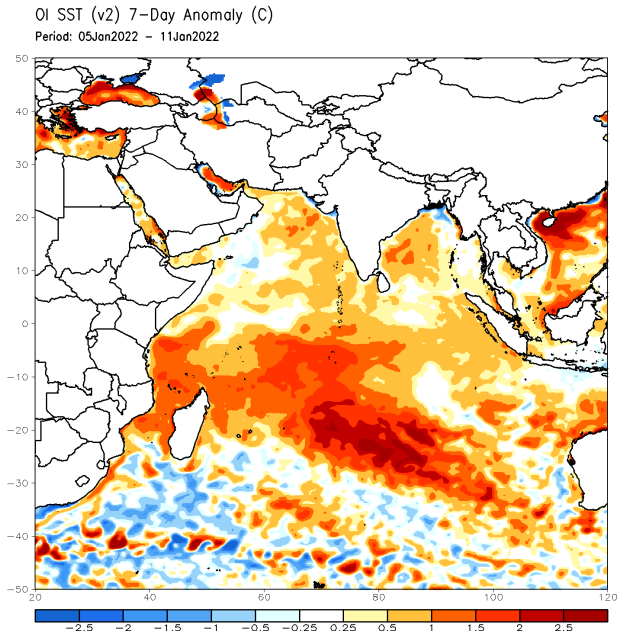


Weekly Average SST Anomalies

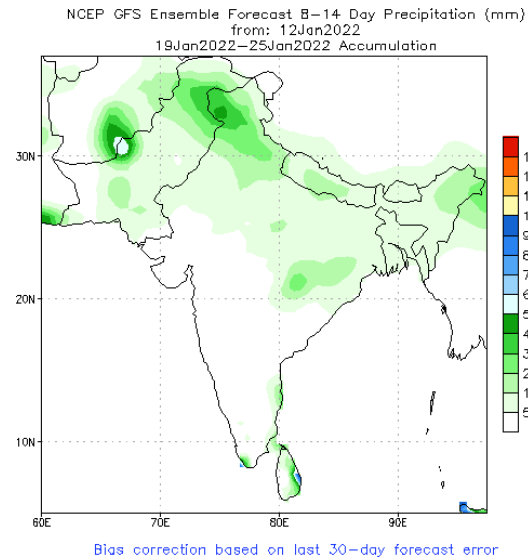
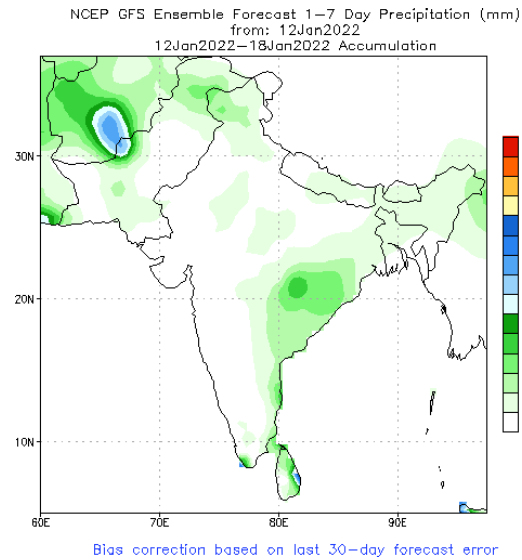
Weekly average Sea Surface Temperature (SST) anomaly in the world from NOAA NCEP



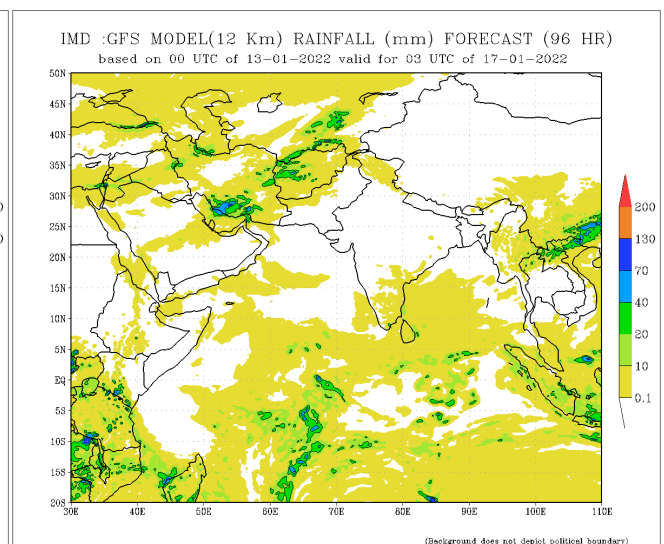
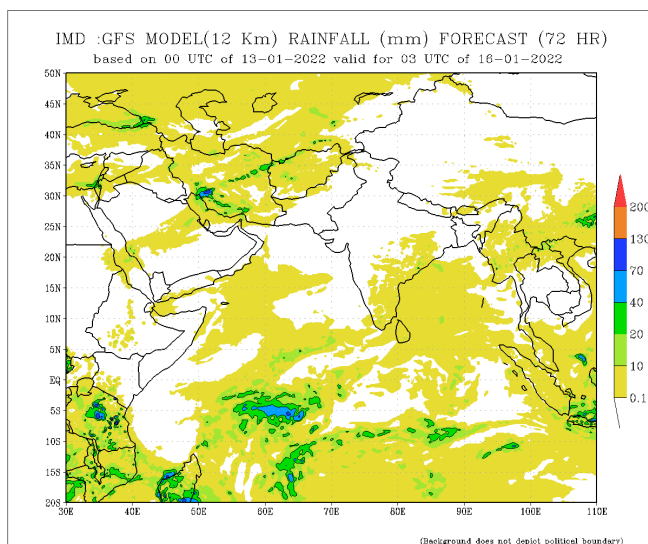
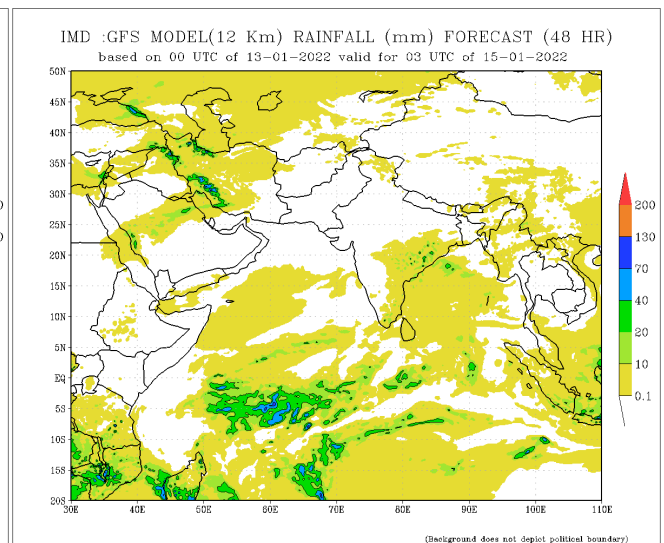
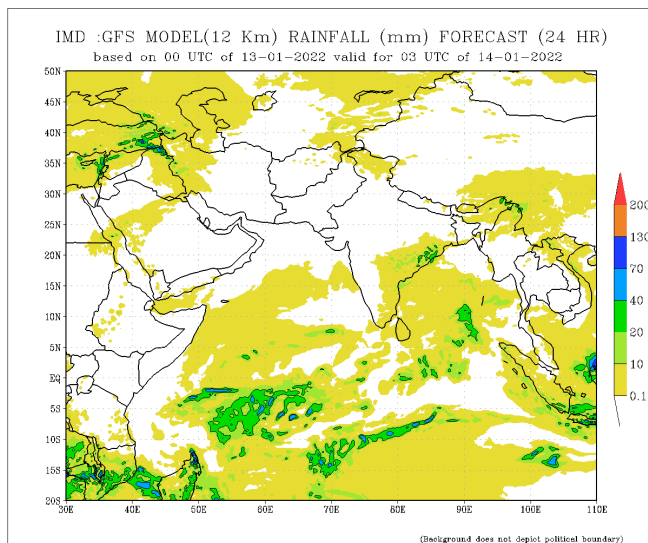
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC

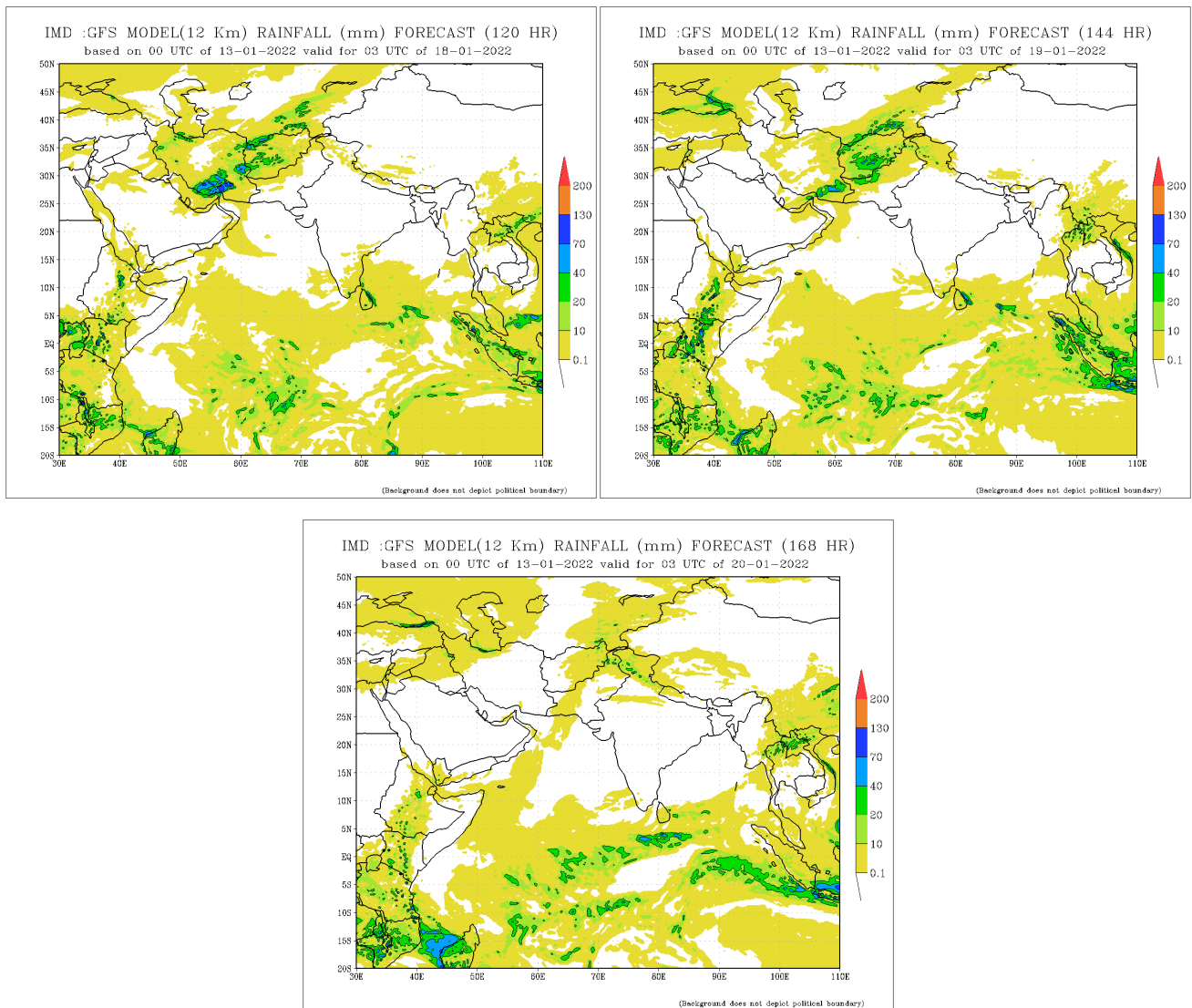


NCEP GFS 1- 14 Day prediction



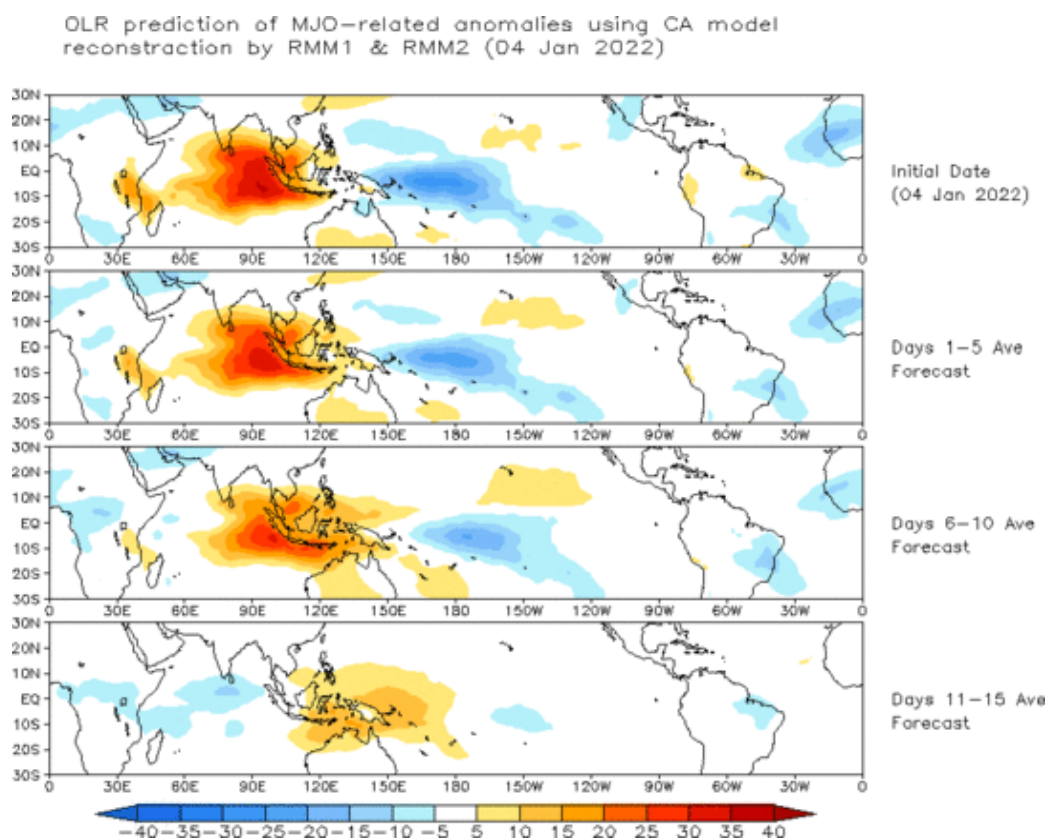
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India





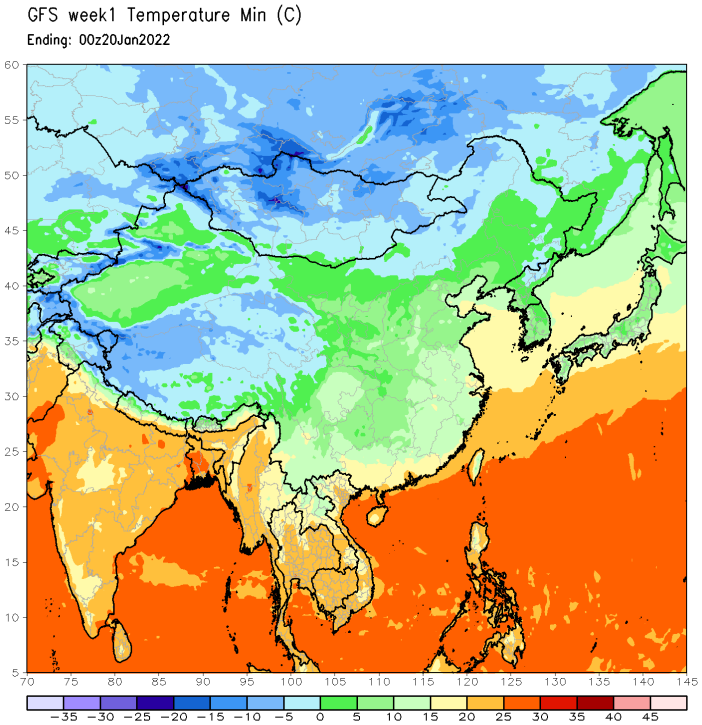
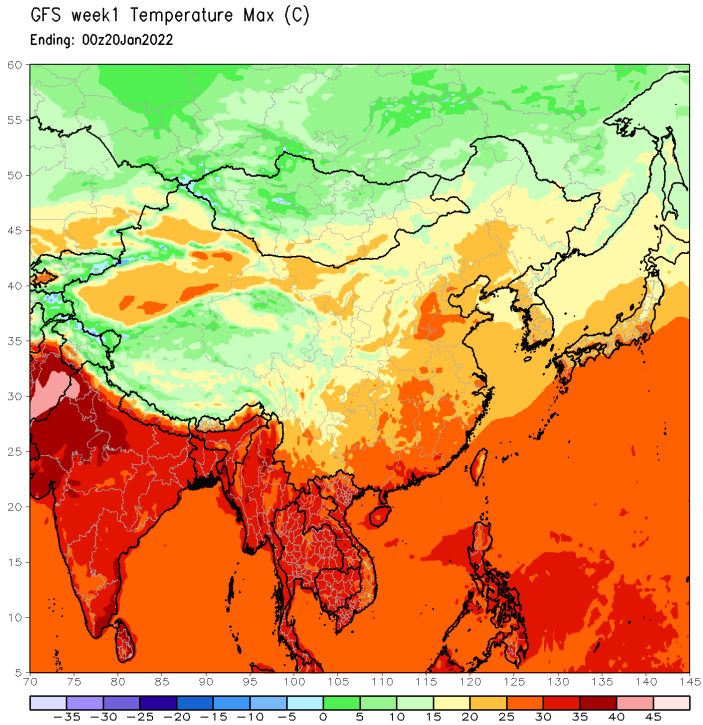
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

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.



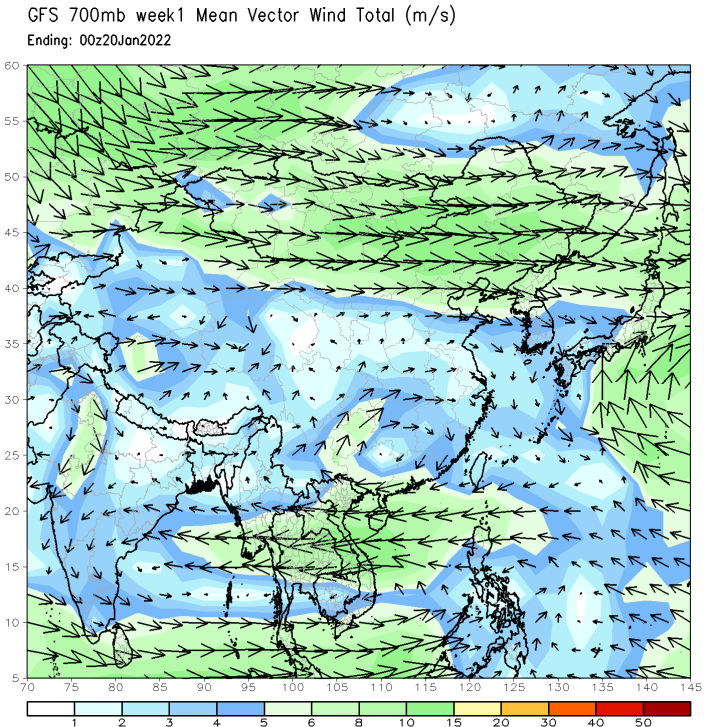
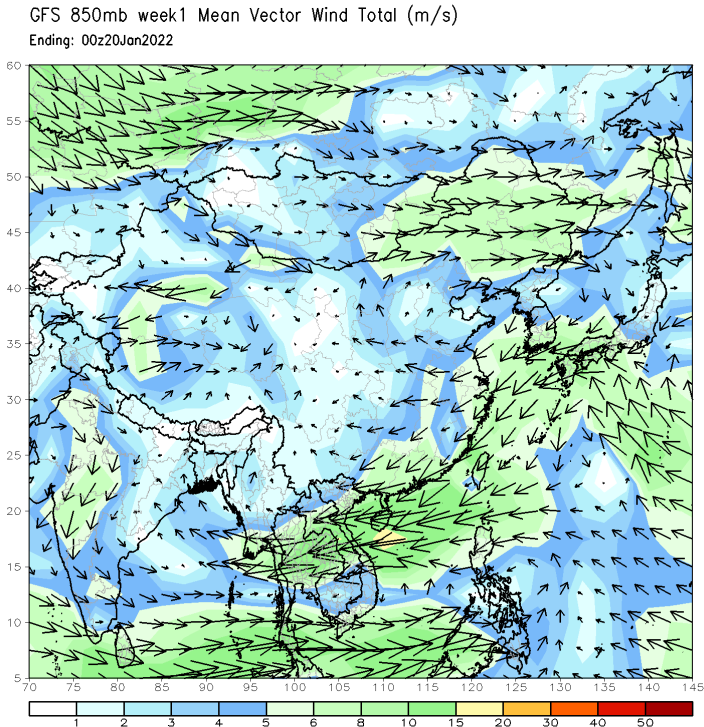
Weekly Temperature Forecast

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



Weekly Wind Forecast

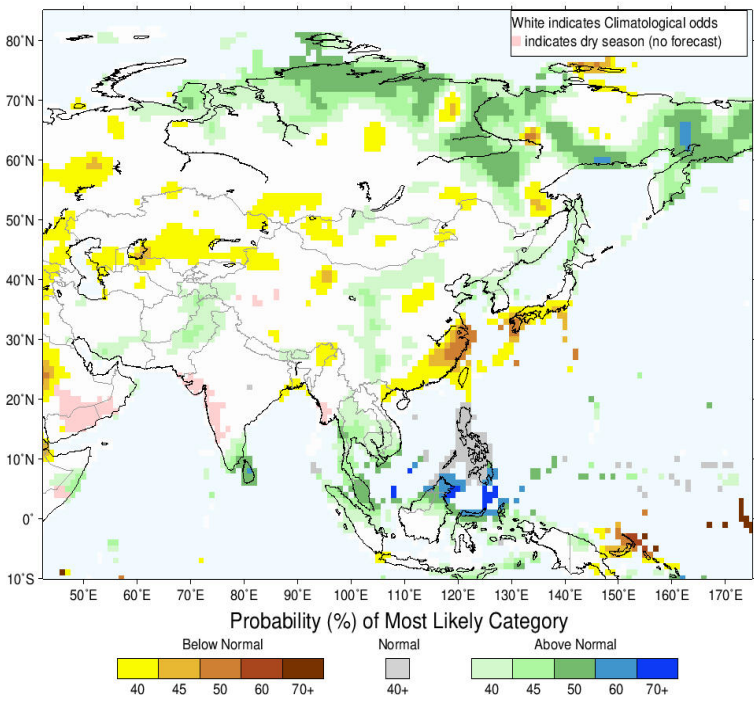
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



Seasonal Rainfall and Temperature Forecast

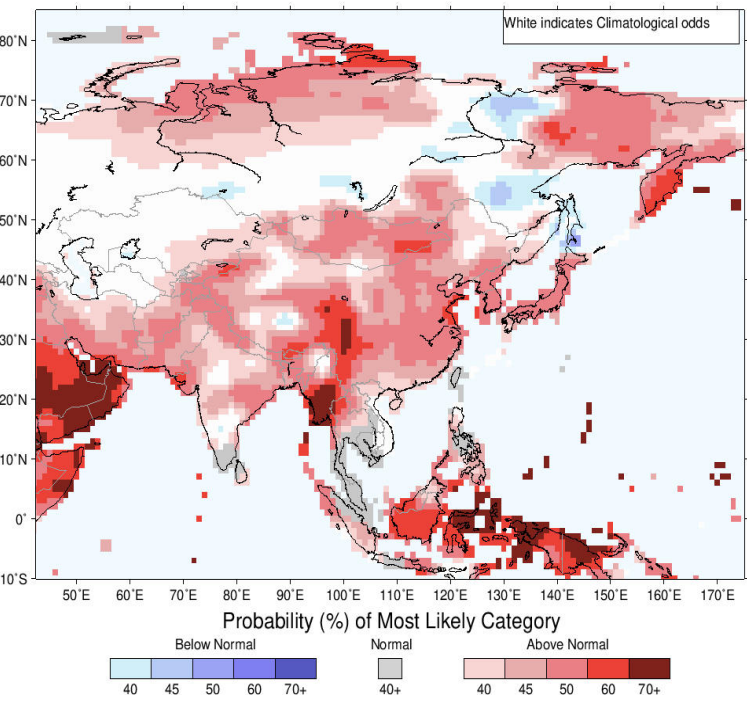
Following is the latest seasonal precipitation and temperature prediction for the next 3 months by the IRI. The color shading indicates the probability of the most dominant tercile - that is, the tercile having the highest forecast probability. The color bar alongside the map defines these dominant tercile 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 January–February–March 2022, Issued December 2021



Precipitation Forecast

IRI Multi-Model Probability Forecast for Temperature for January–February–March 2022, Issued December 2021



Temperature Forecast

About us

FECT is a federation of 7 organizations registered in four countries which works in countries across the Indian Ocean Islands and its littoral. Over the last 20 years, we have had operations in Africa, South Asia, South-East Asia but now it is mostly in the Indian Ocean Islands.

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