Federation for Environment, Climate and Technology

c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, (+94) 81-2300415 E mail: fectsl@gmail.com
Web Site http://www.climate.lk

Week of
14 - 21 May
2021

CLIMATE MONITORING AND PREDICTION FOR SRI LANKA

By: Nipuni Alahakoon, Sanduni Gammanpila, Ushan Adithya, Azra Munas, Tuan Hadgie, Lareef Zubair and Michael Bell[1] (FECT and IRI[1])

HIGHLIGHTS

Rainfall Prediction

•Showers of 145 mm expected in Western, Southern and Sabaragamuwa during 13th – 18th May and 125 mm expected in Sabaragamuwa and Southern during 19th – 25th May

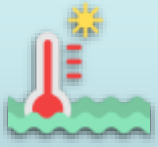
Monitored Rainfalls

• Last week was wetter than normal in most of SL. Thunder showers in Western province with a maximum of 148 mm in Colombo on 9th May.

Monitored Wind

•From 4th - 10th May: up to 5 km/h from the West and South were experienced.

Monitored Sea Surface

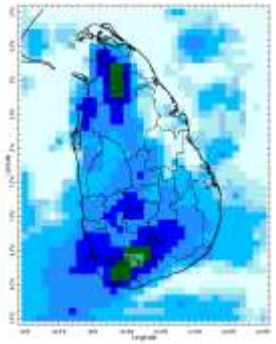


• Sea surface temperature was observed around 0.5 ℃ above average around the island.

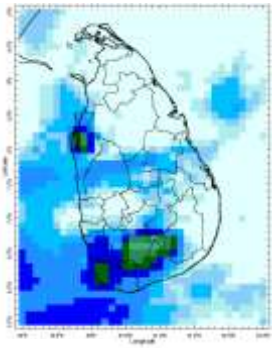
Monitoring

Rainfall

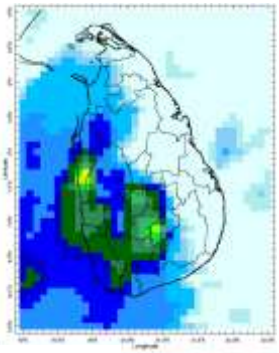
Daily Estimates for Rainfall from 4th – 10th May



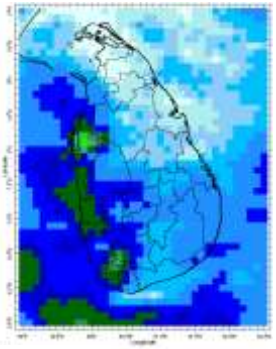
4th May



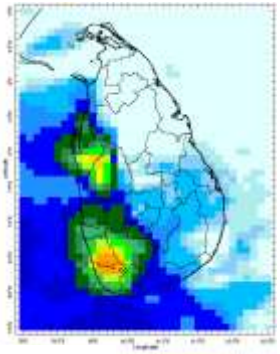
5th May



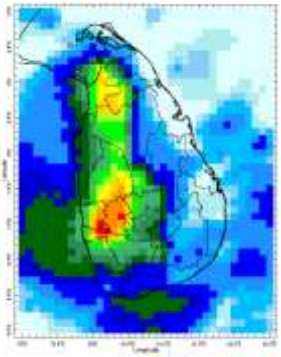
6th May



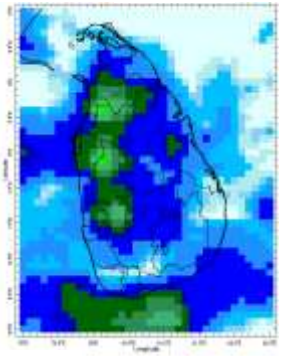
7th May



8th May



9th May



10th May

Federation for Environment, Climate and Technology

c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, (+94) 81-2300415 E mail: fectsl@gmail.com
Web Site http://www.climate.lk

Total Rainfall for the Past Week

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

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

Weekly Rainfall Anomalies by Districts:

Rainfall Excess

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

Monthly Monitoring

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

21st– 30th April:

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

1st– 10th May:

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

Federation for Environment, Climate and Technology
c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, (+94) 81-2300415 E mail: fectsl@gmail.com
Web Site http://www.climate.lk

12 mm	Polonnaruwa
6 mm	Batticaloa, Trincomalee
4 mm	Jaffna

Ocean State *(Text Courtesy IRI)*

Pacific sea state: May 5, 2021

Equatorial SSTs were mostly below average from the east to the Middle West Pacific Ocean in early-May 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 13th – 18th May:

Total rainfall by Provinces:

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

From 19th – 25th May:

Total rainfall by Provinces:

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

Federation for Environment, Climate and Technology

c/o, Maintenance Office, Mahaweli Authority, Digana Village, Rajawella, Sri Lanka.
Phone (+94) 81-2376746, (+94) 81-2300415 E mail: fectsl@gmail.com
Web Site http://www.climate.lk

MJO based OLR predictions

For the next 15 days:

MJO shall significantly enhance the rainfall during 11th–25th May.

Interpretation

Monitoring

Rainfall: During the last two weeks, there had been high rainfall over the following provinces: 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 & Sabaragamuwa provinces the last – driven by the warm SST's.

Predictions

Rainfall: During the next week (13th – 18th May), showers is predicted for Western, 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 14th–21st May, the temperature remains high especially the Northern and Eastern region.

Teleconnections:

- MJO shall significantly enhance the rainfall during 11th–25th 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.

FOUNDATION FOR ENVIRONMENT, CLIMATE AND TECHNOLOGY

www.climate.lk www.tropicalclimate.org

Weekly Climate Bulletin for Sri Lanka

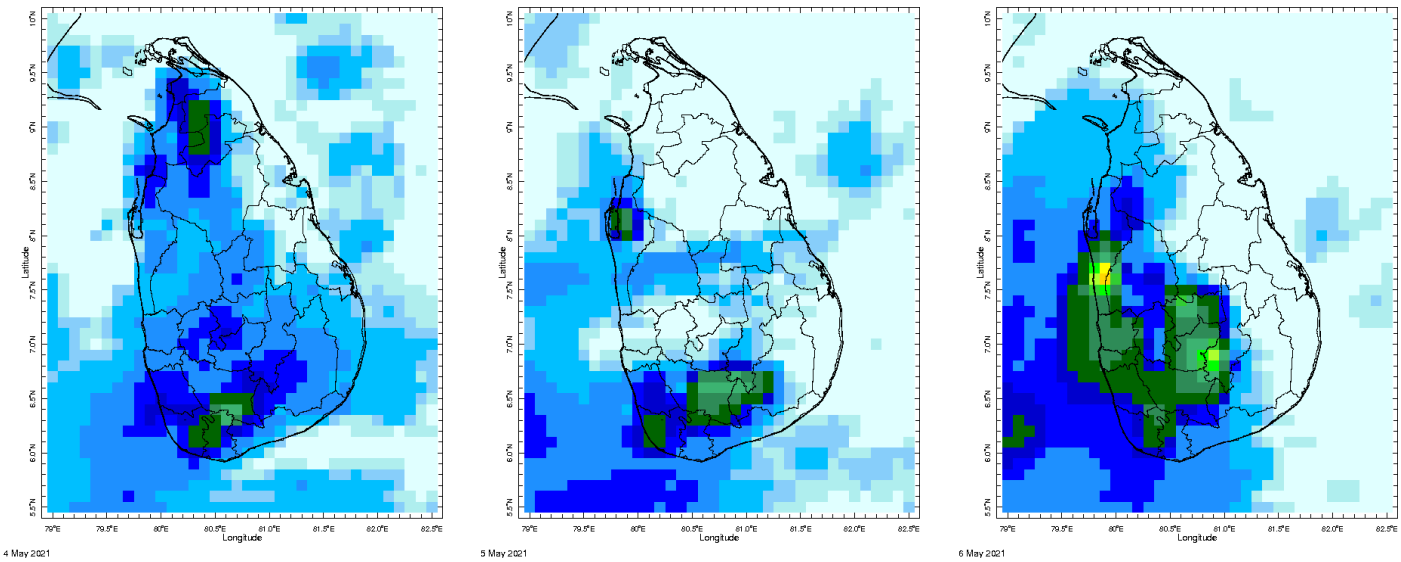
Inside This Issue

Download

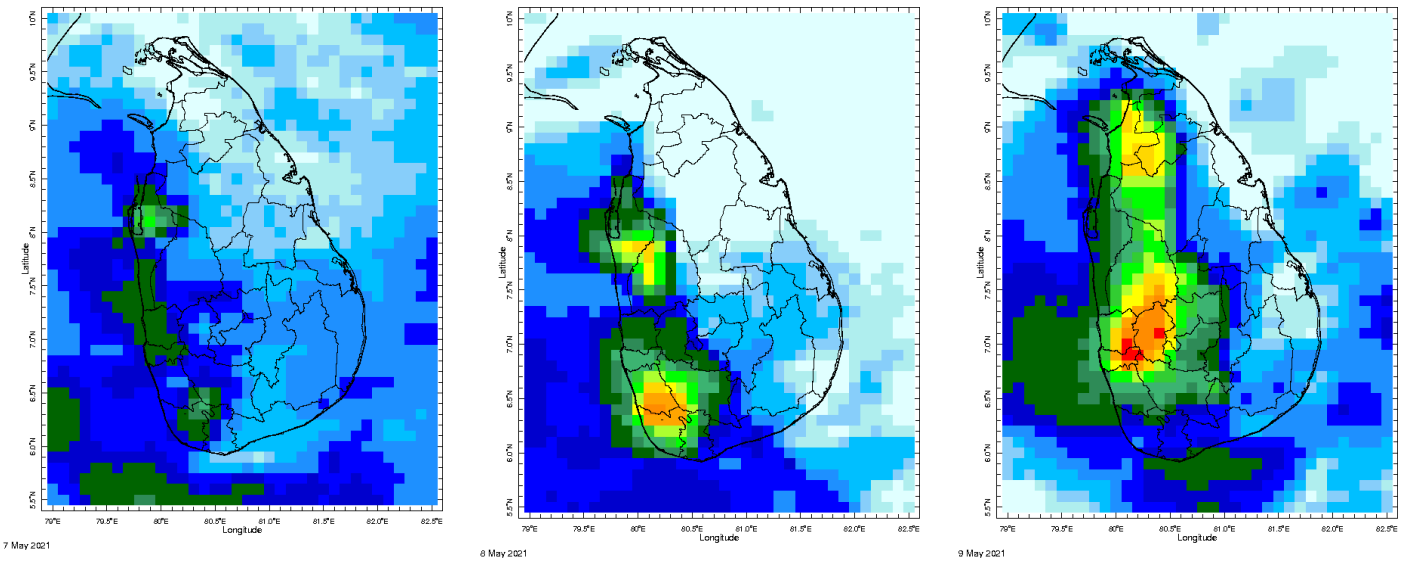
MONITORING

Daily Rainfall Monitoring

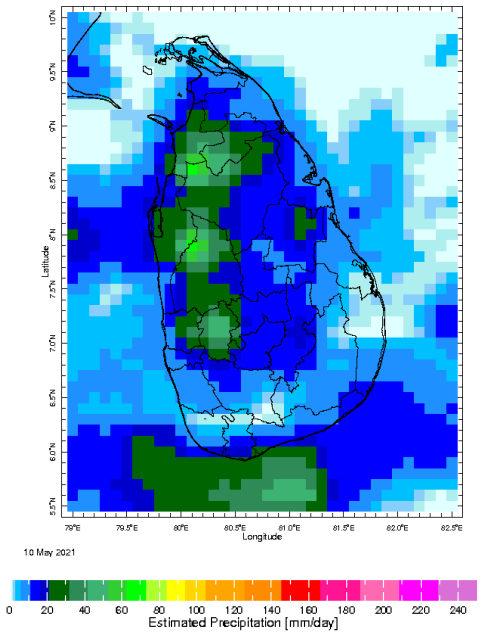
The following figures show the satellite observed rainfall in the last 7 days in Sri Lanka.



4 May 2021 | 5 May 2021 | 6 May 2021

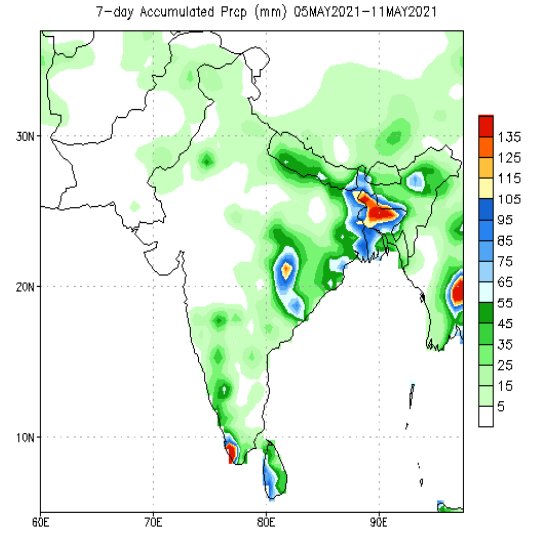


7 May 2021 | 8 May 2021 | 9 May 2021

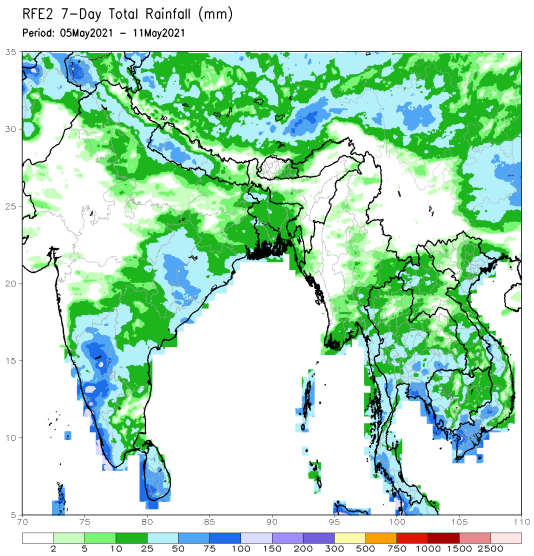


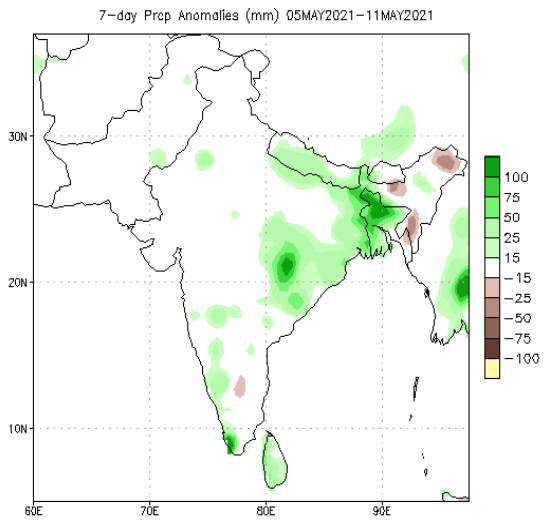
Weekly Rainfall Monitoring

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.

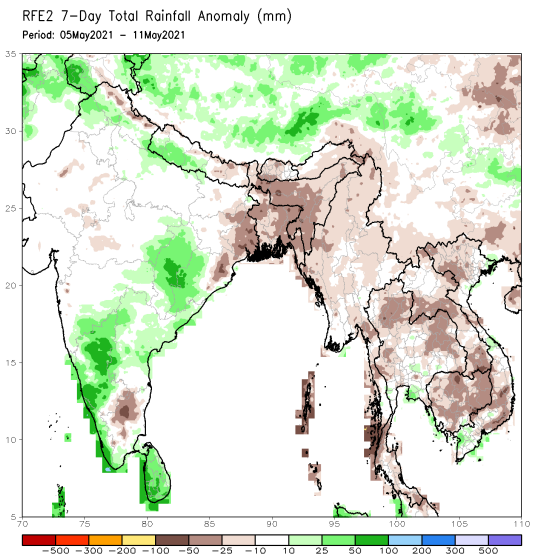


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis



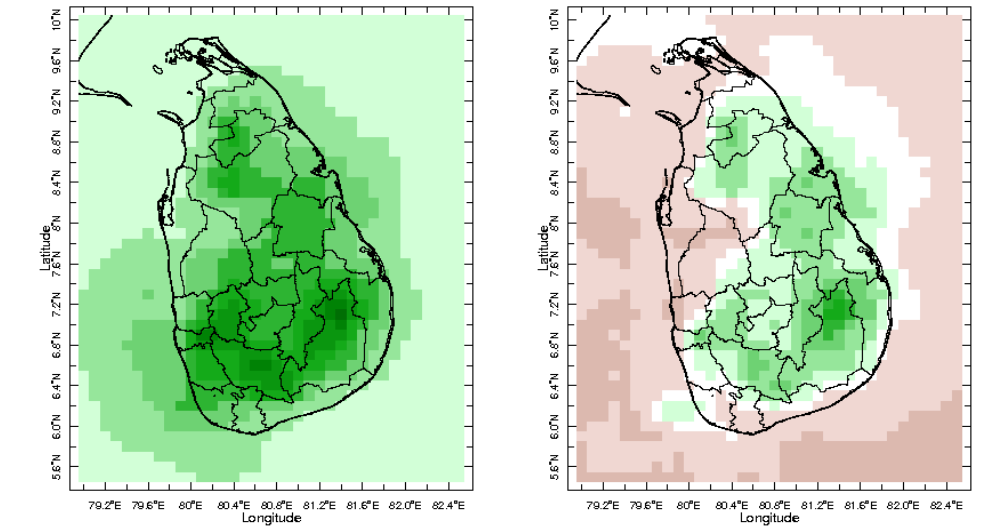


Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1981-2010)



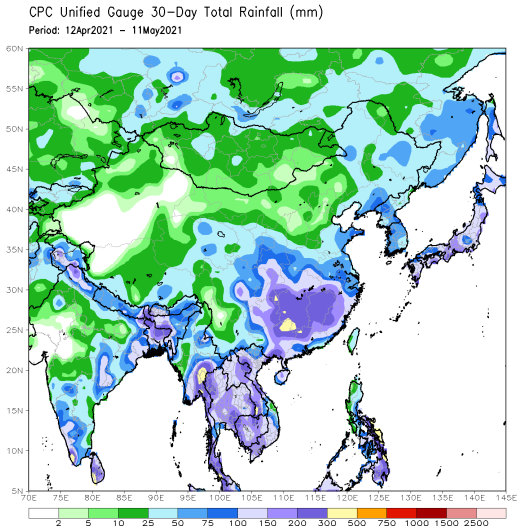
Monthly Rainfall Monitoring

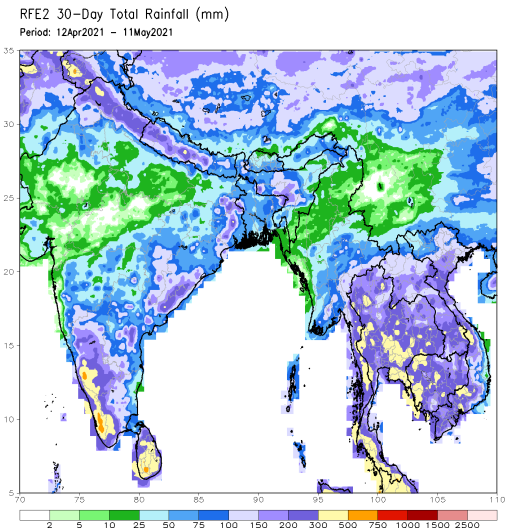
The figure in the left shows the average observed rainfall in the previous month. The rainfall anomaly in the previous month is shown in the figure to the right. The brown color in the anomaly figure shows places which received less rainfall than the historical average while the green color shows places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

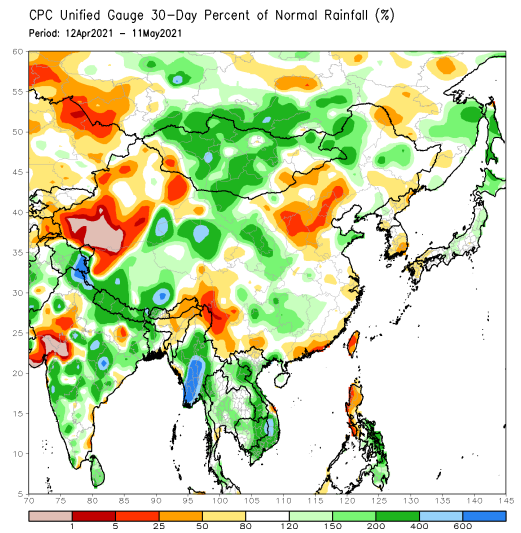


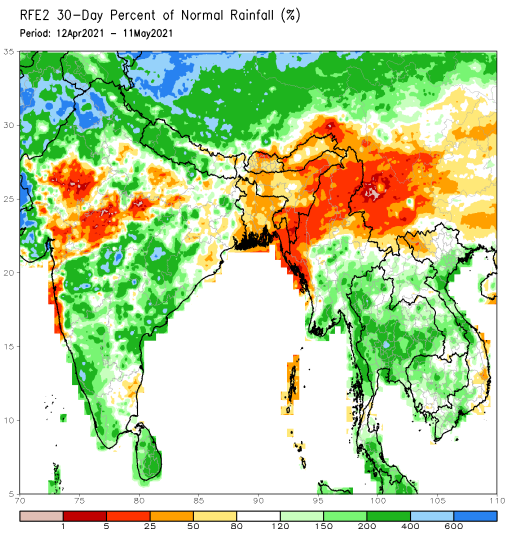
Monthly Average **Monthly Anomaly**

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.

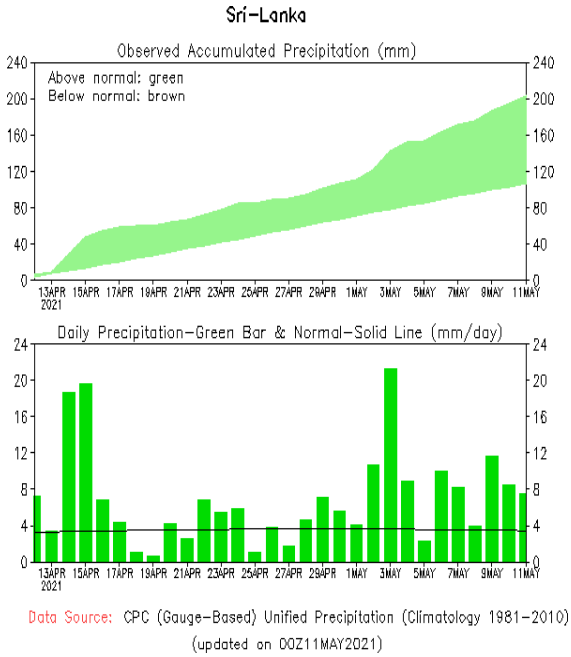




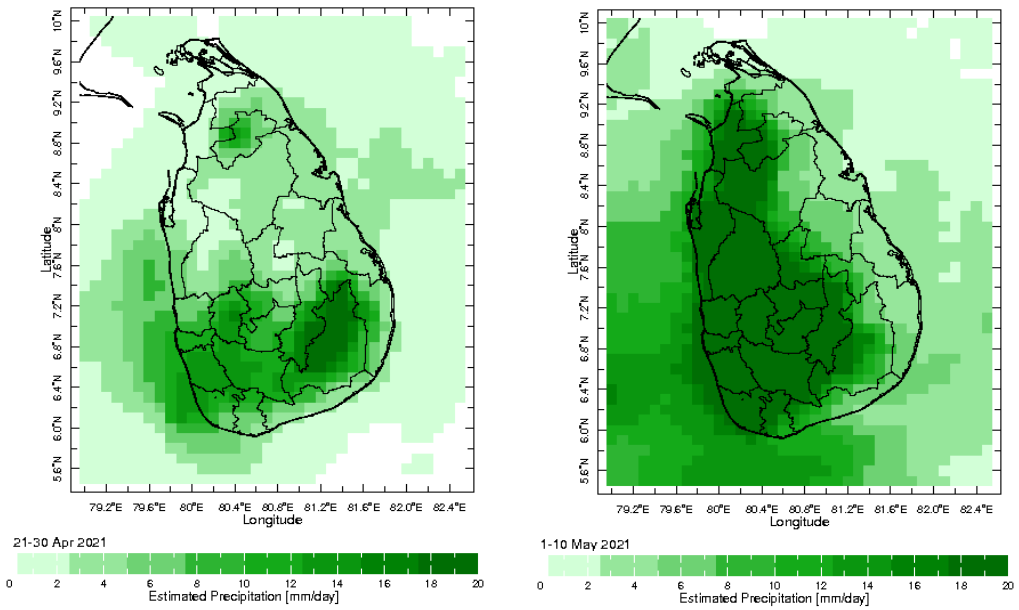




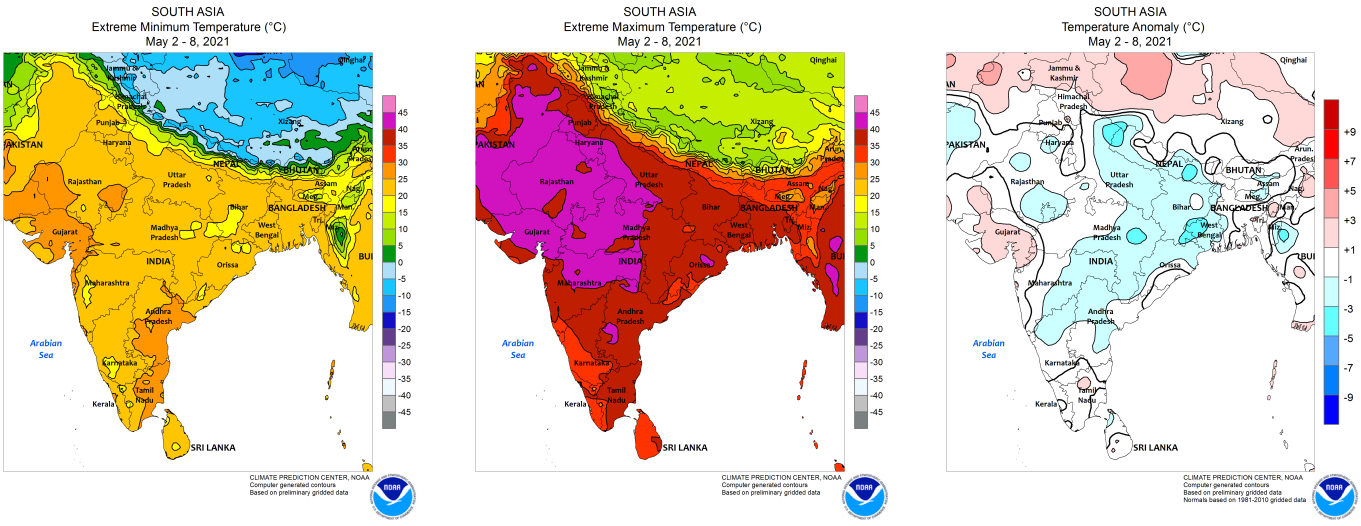
The following figure shows the observed accumulated rainfall (top) and daily observed rainfall (bottom) in Sri Lanka in the last 30 days.



Dekadal (10 Day) Satellite Derived Rainfall Estimates

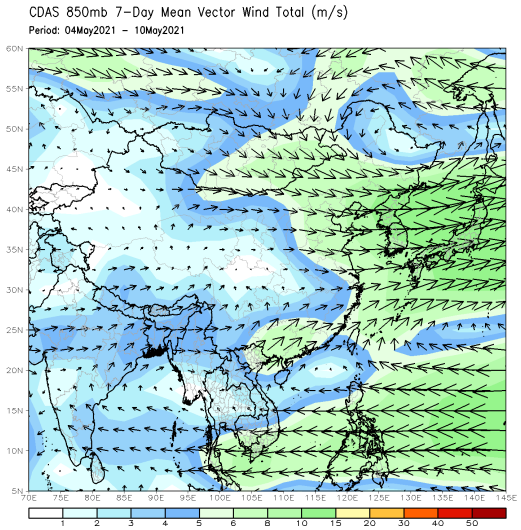


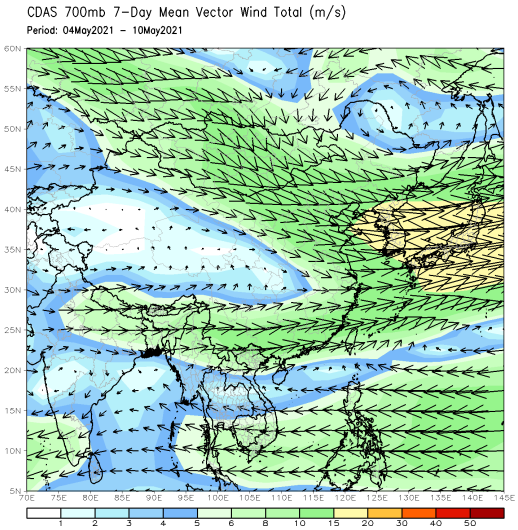
Weekly Temperature Monitoring



Weekly Wind Monitoring

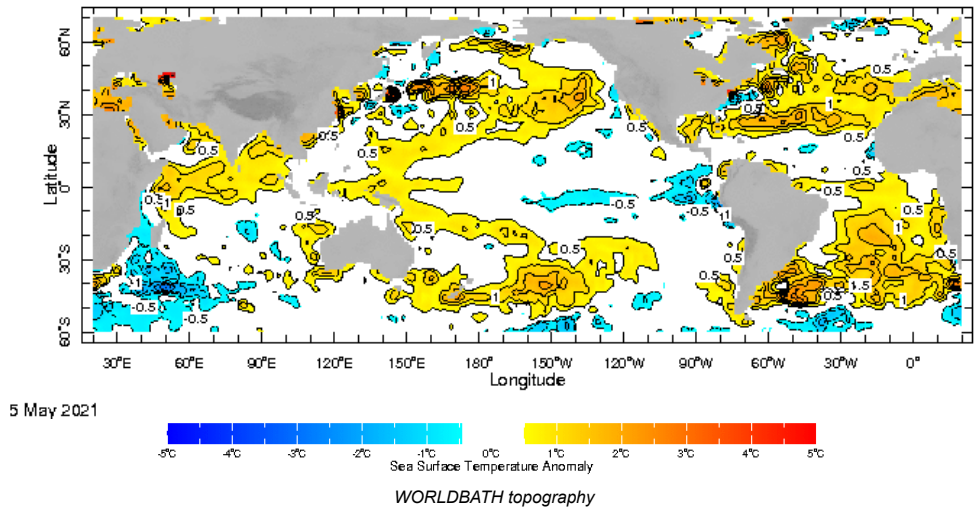
The following figures show the mean vector wind total of the past 7 days near Sri Lanka at two levels. The figure on the left shows 850 mb (~1500 m) level and the figure on the right shows 700 mb (~3000 m) level.



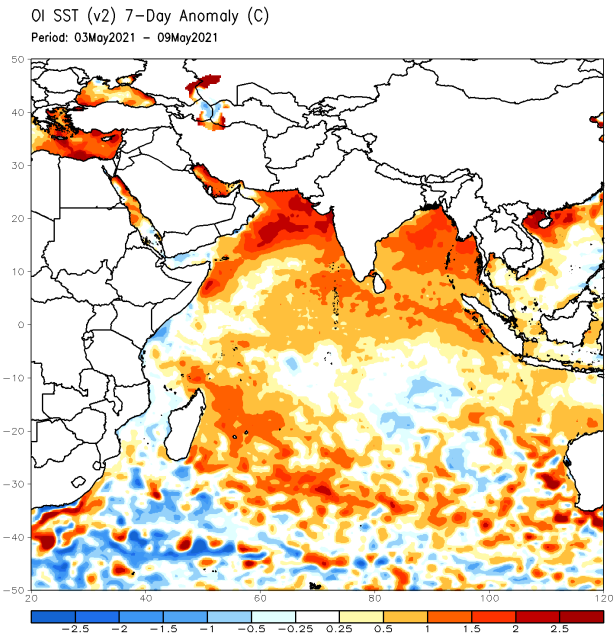


Weekly Average SST Anomalies

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

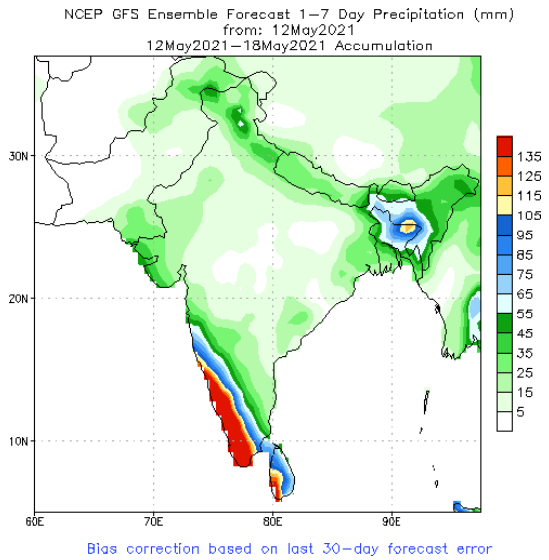


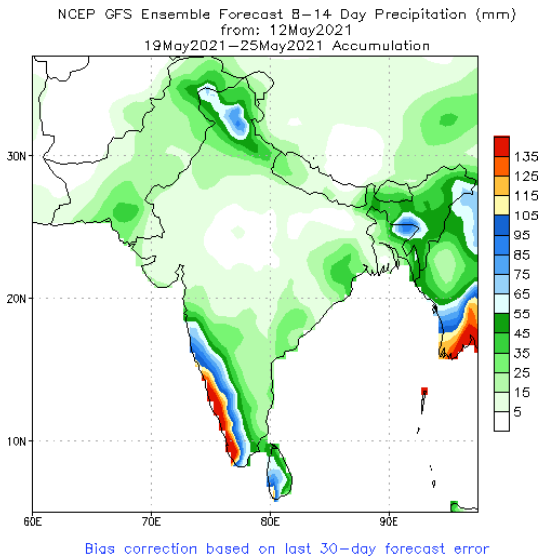
Optimum Interpolated Sea Surface Temperature Anomaly in the Indian Ocean from NOAA CPC



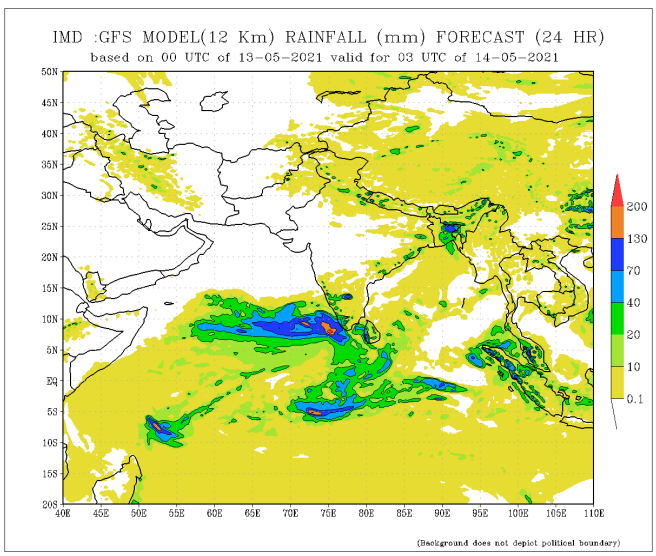
PREDICTIONS

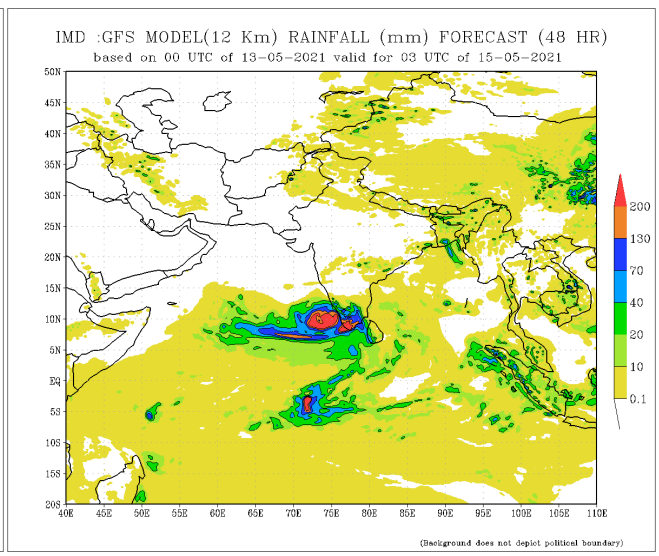
NCEP GFS 1- 14 Day prediction

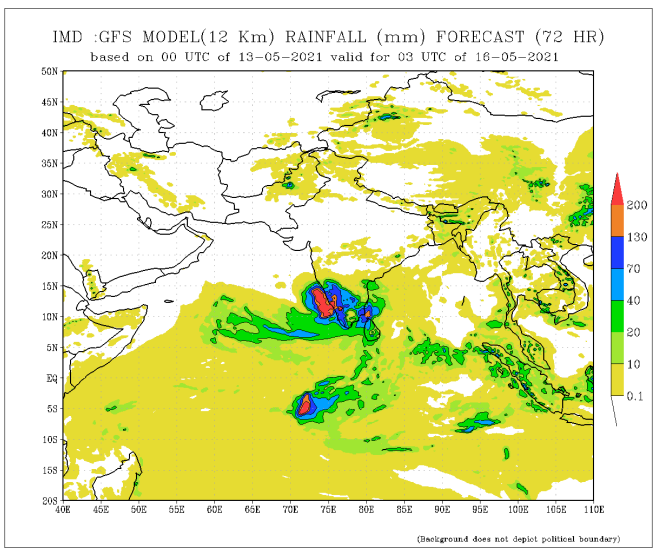


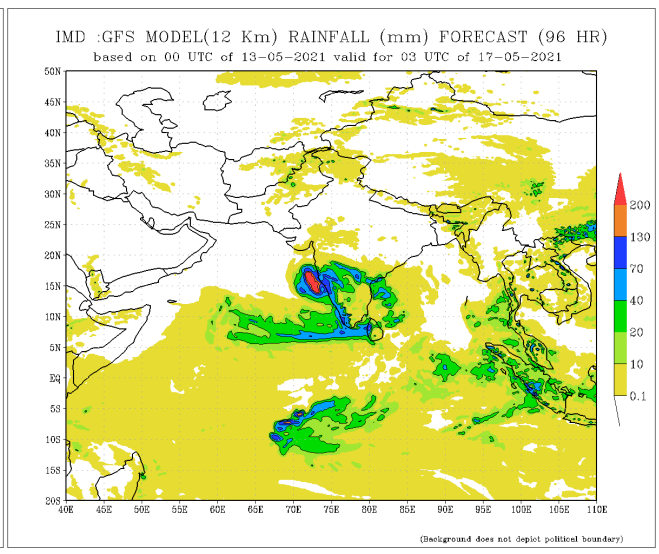


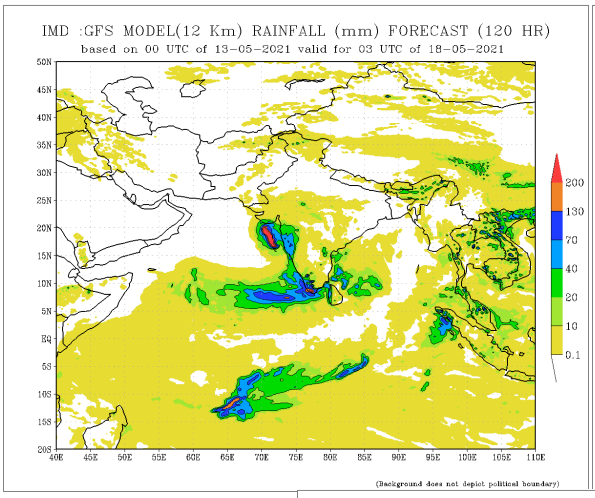
IMD GFS (T574) Model Rainfall Forecast from RMSC New Delhi, India

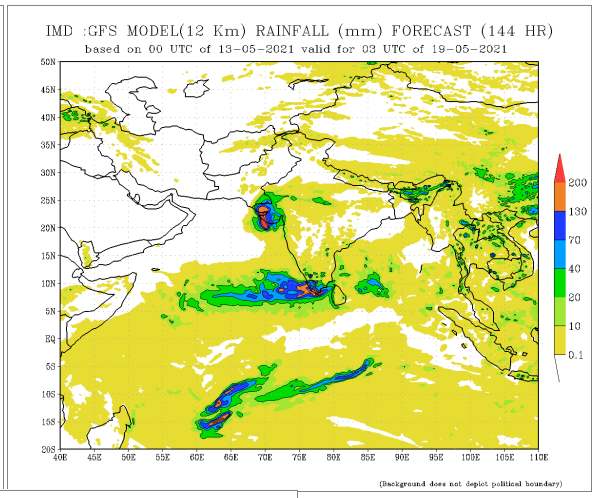


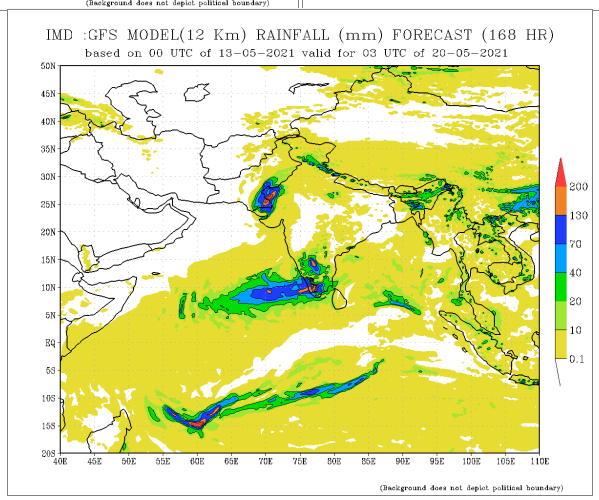






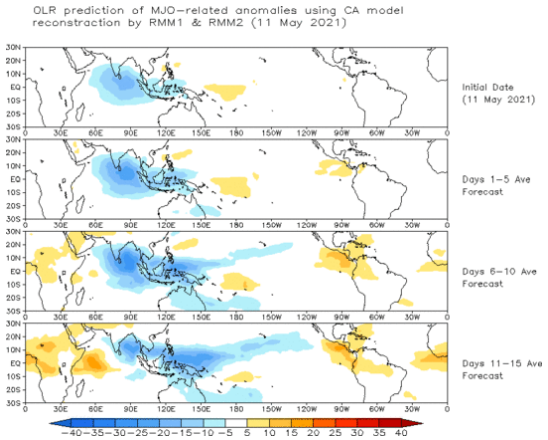






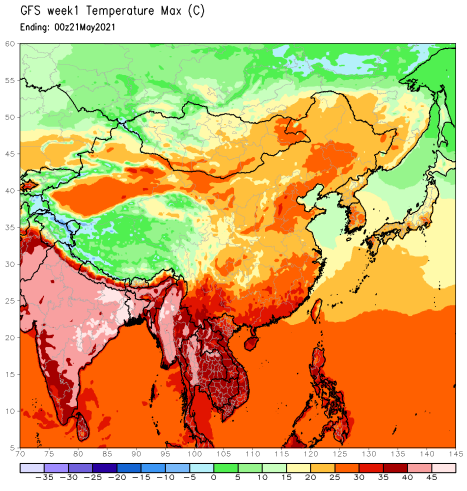
Madden Julian Oscillation (MJO) related Outgoing Longwave Radiation (OLR) Forecast

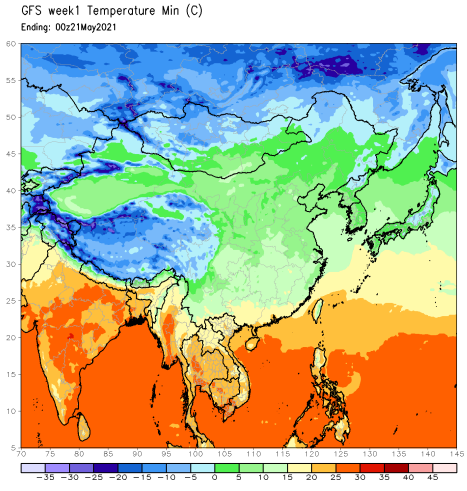
The Outgoing Longwave Radiation (OLR) is a proxy for rainfall. This can be used to identify convective rain clouds based on the MJO phase. Violet and Blue shading indicates enhanced tropical weather and Orange shading indicates suppressed conditions. The following figure shows the forecasts of MJO associated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



Weekly Temperature Forecast

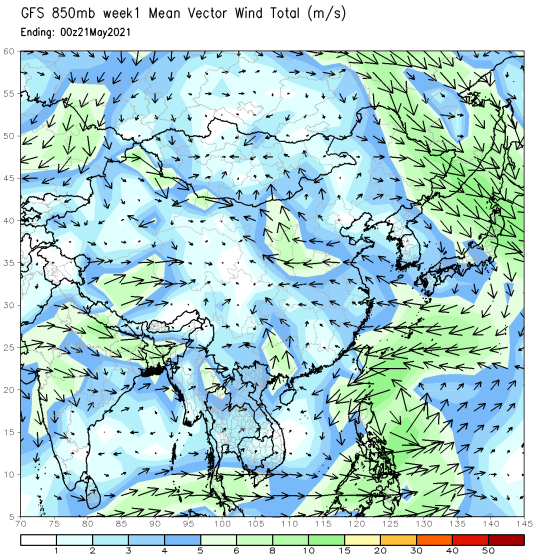
Weekly Minimum and Maximum Temperature prediction from the GFS model (from NOAA CPC)

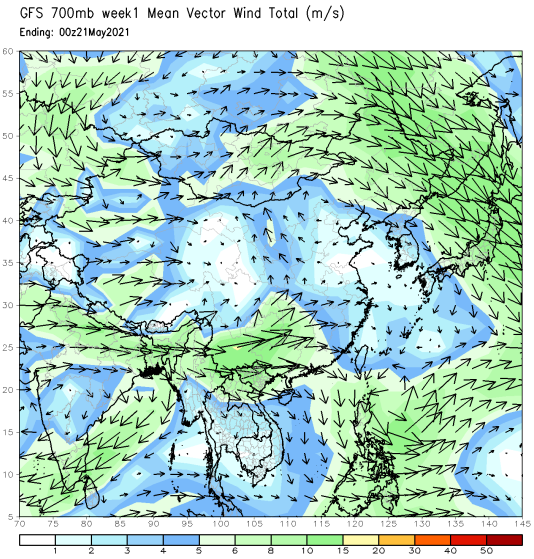




Weekly Wind Forecast

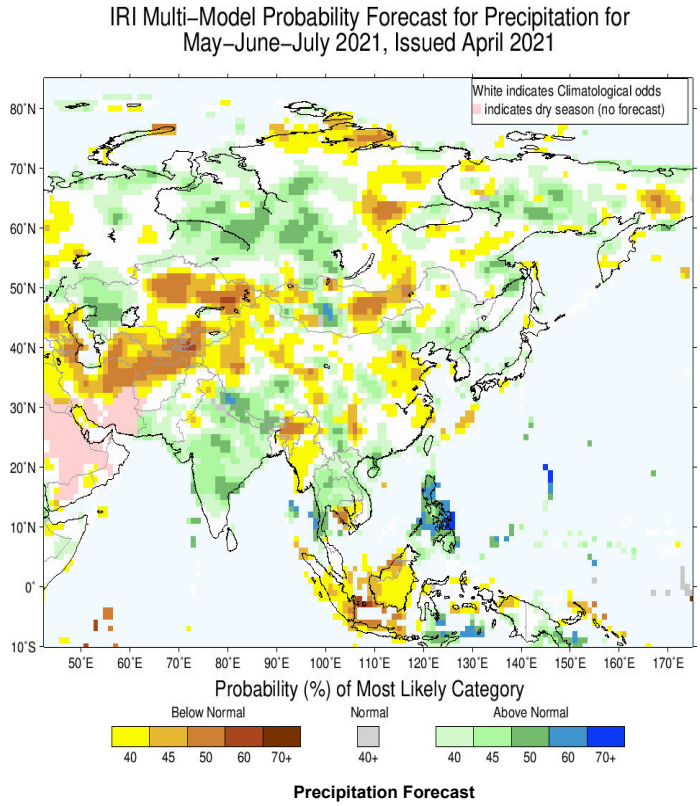
Weekly mean vector wind total prediction from the GFS model at 850 mb (left) and 700 mb (right) levels. (from NOAA CPC)



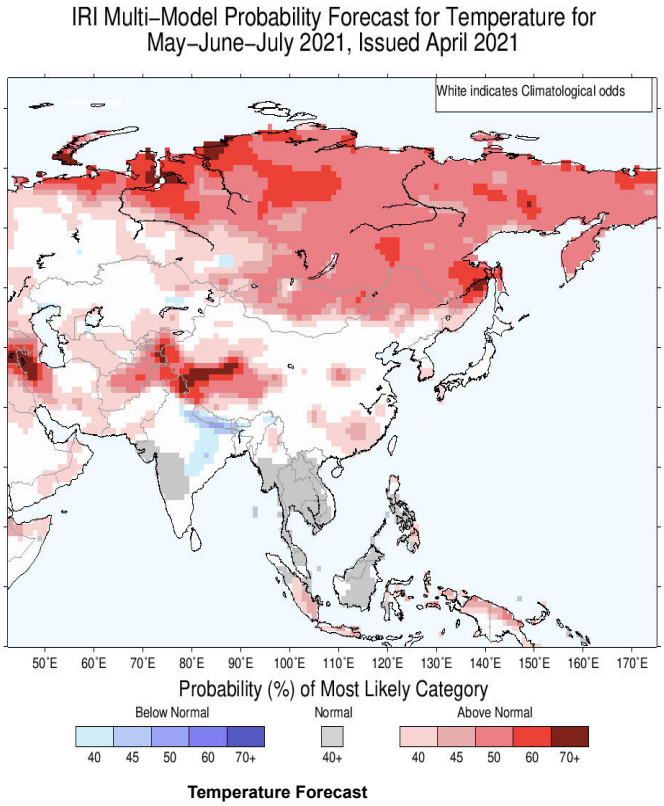


Seasonal Rainfall and Temperature Forecast

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%).



Precipitation Forecast



Temperature Forecast

Subscribe to our Monthly Maldives Newsletter

email address

Subscribe

Follow @climatelk

Contact Us
email: fectsl@gmail.com
phone: (+94) 81 2376746
blog: www.fectsl.blogspot.com

Foundation for Environment, Climate & Technology
C/O Mahaweli Authority of Sri Lanka,
Digana Village,
Rajawella,
SRI LANKA

© 2021 Foundation for Environment Climate and Technology