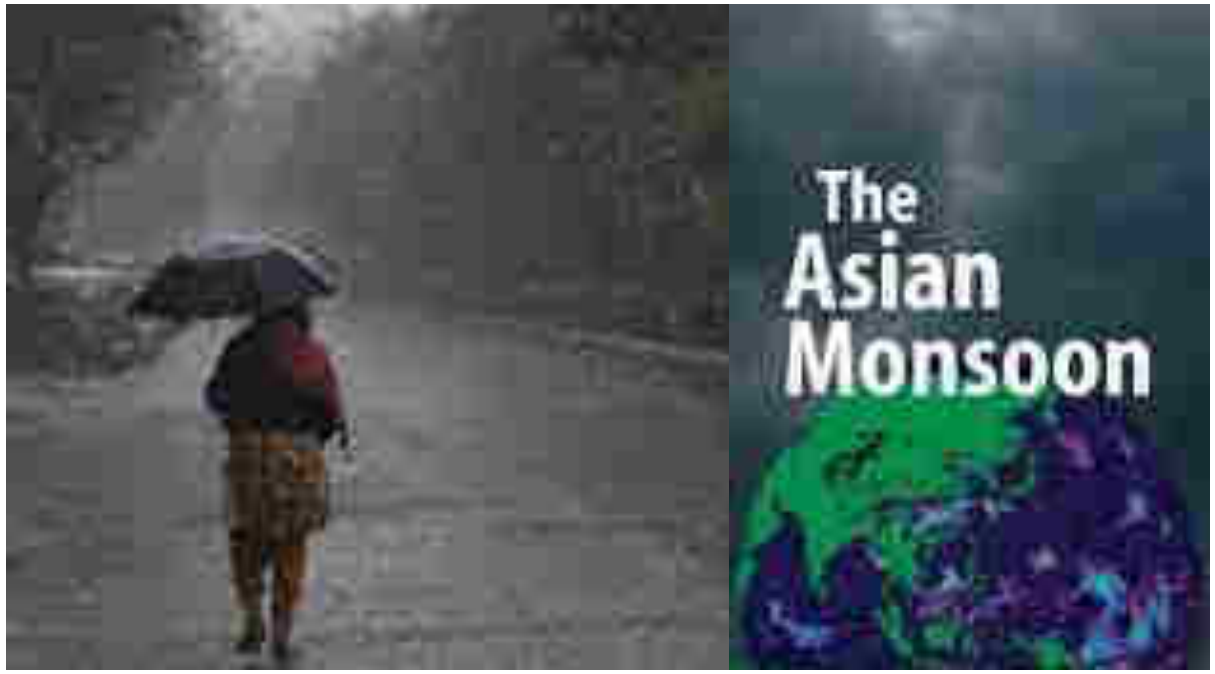
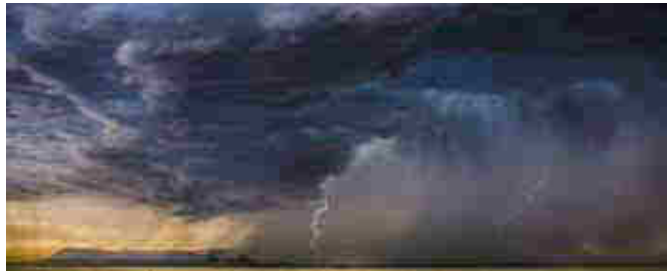
Monsoon Outlook – 2022

May





Forecast for next SW Monsoon 2022

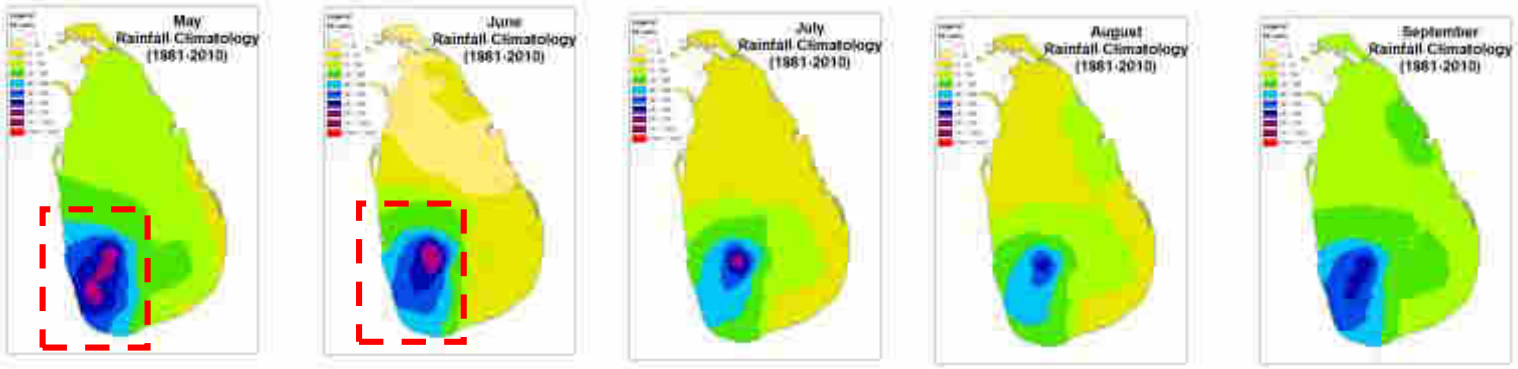
Nandalal Peiris
Department Of Meteorology

Seasonal Prediction Team

A.R.Warnasuriya (Director)
Nandalal Peiris
A.M.A.H.D.Alagiyawanna
K.A.K.T.W.Weerasinghe
D.W.T.T.Darshika
H.M.R.C.Herath
H.A.S.U.Hapuarachchi

Rainfall Distribution

Average Monthly Rainfall distribution



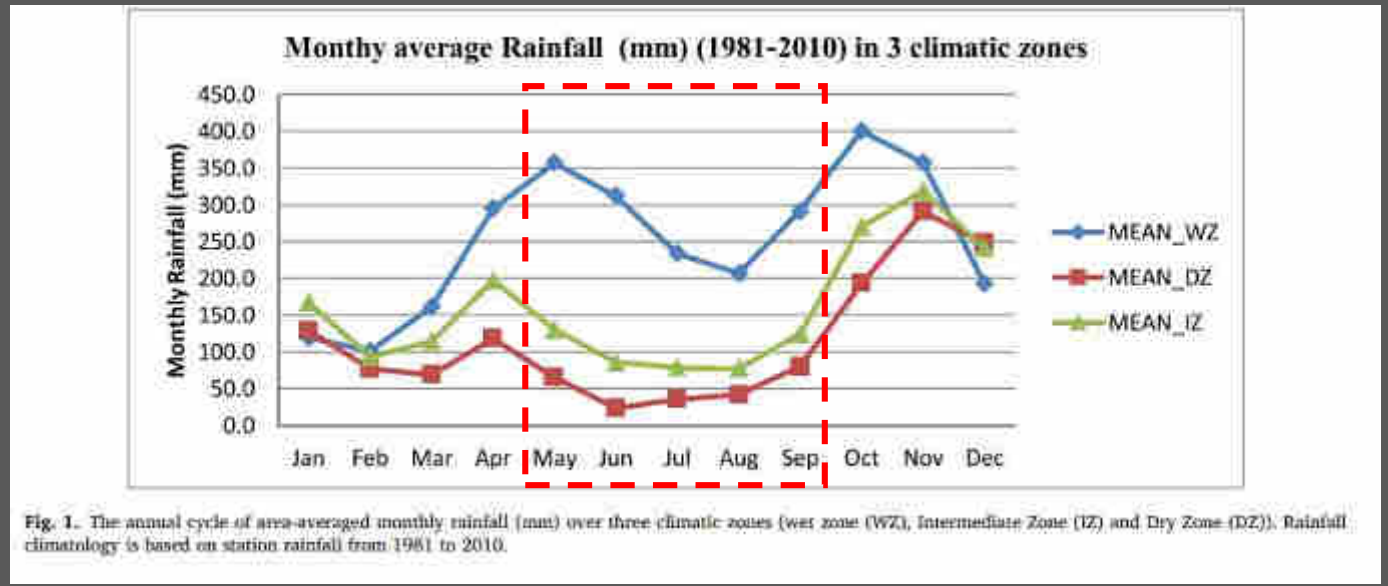
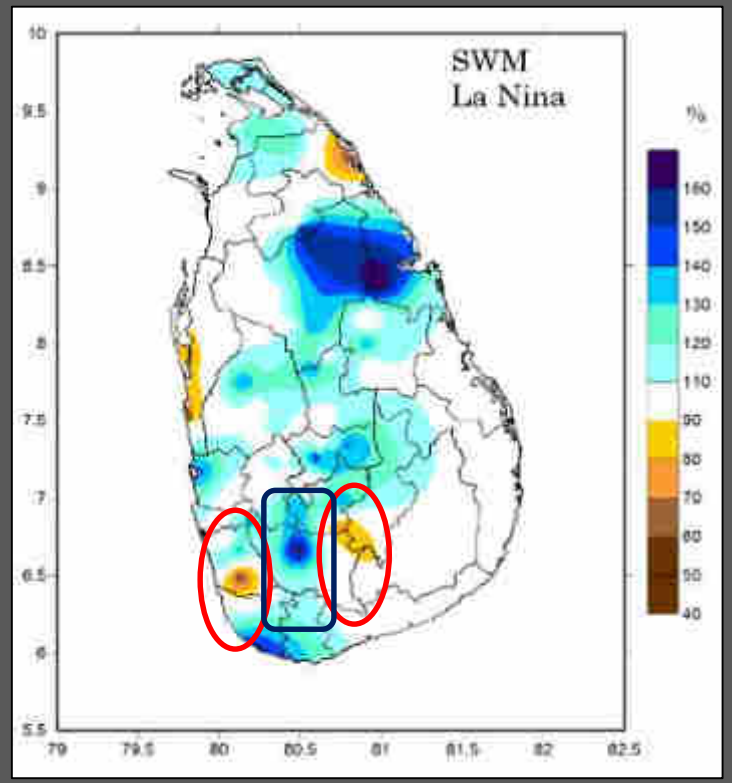


Fig. 1. The annual cycle of area-averaged monthly rainfall (mm) over three climatic zones (wet zone (WZ), Intermediate Zone (IZ) and Dry Zone (DZ)). Rainfall climatology is based on station rainfall from 1981 to 2010.

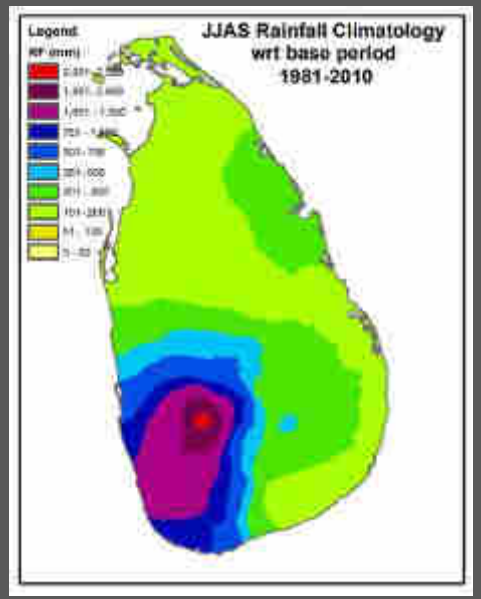
District wise average monthly rainfall (mm)

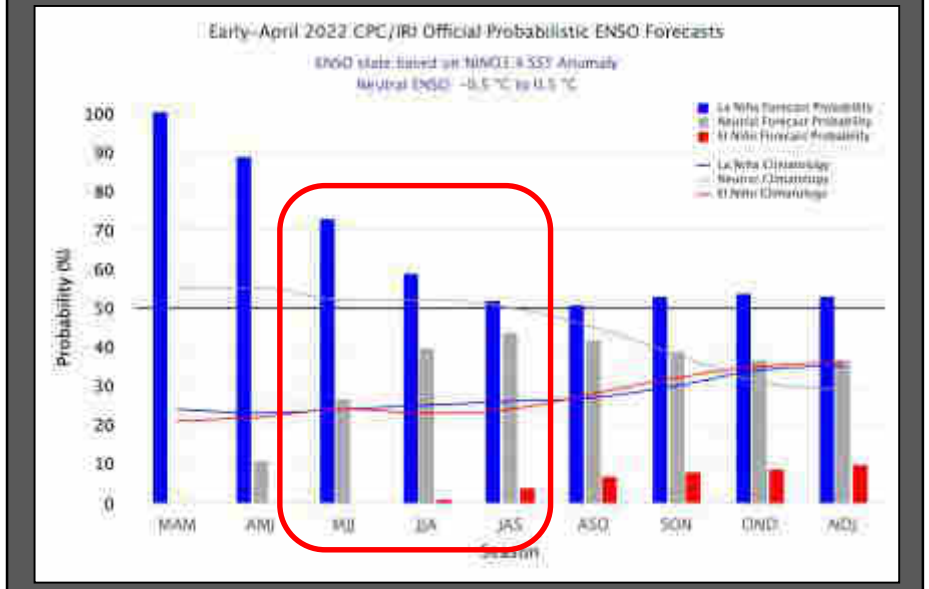
Districts	May	Jun	Jul	Aug	Sep
Colombo	413.3	247.6	180.0	162.5	289.7
Kalutara	526.9	350.8	262.9	247.8	388.1
Galle	423.5	290.5	240.7	239.8	341.2
Matara	301.3	241.1	171.6	191.6	258.6
Hambanth	88.2	52.0	45.7	49.2	72.4
Ampara	59.6	24.4	49.9	57.3	77.2
Batticaloa	57.3	25.5	55.1	60.5	86.6
Trinco	60.2	22.6	65.5	80.7	109.9
Mulathivu	59.7	12.5	39.0	48.0	83.4
Jaffna	46.3	13.7	24.5	33.3	63.0
Kilinochch	50.9	9.4	21.8	25.9	60.9
Mannar	58.3	7.2	13.9	19.2	46.1
Puttalam	112.5	46.6	28.7	23.1	67.5
Gampaha	342.2	212.8	136.5	129.1	232.3
Kegalle	419.1	372.7	299.2	262.9	360.6
Rathnapur	354.8	277.3	201.4	196.4	284.1
Monaragal	93.6	24.8	51.2	49.9	83.8
Badulla	113.9	35.4	72.0	76.3	118.2
Pollonnaru	70.8	18.0	56.9	54.0	100.3
Vavunia	67.1	10.6	42.7	56.5	97.5
A'pura	74.8	11.4	37.8	40.5	83.0
Kurunegal	143.5	86.3	68.0	58.1	116.6
Matale	101.2	44.0	60.3	59.2	94.3
Kandy	177.1	172.6	171.0	154.0	189.6
N'Eliya	267.3	270.1	262.4	234.5	250.8
SriLanka	144.9	85.0	85.9	85.3	132.8

ENSO La-Nina effect over SL during MJJAS

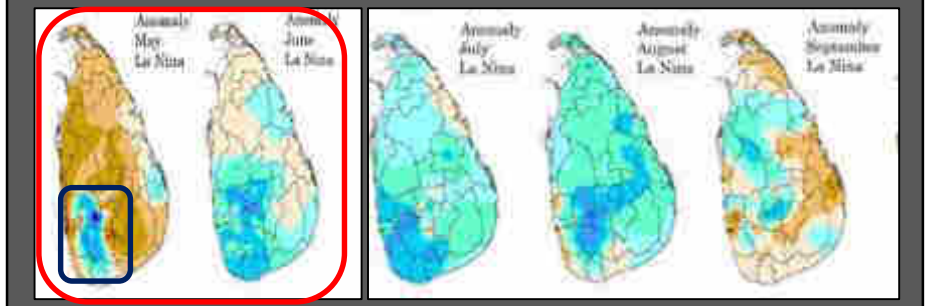


La Nina is linked to higher rainfall during JJA and no significant change in Sep .





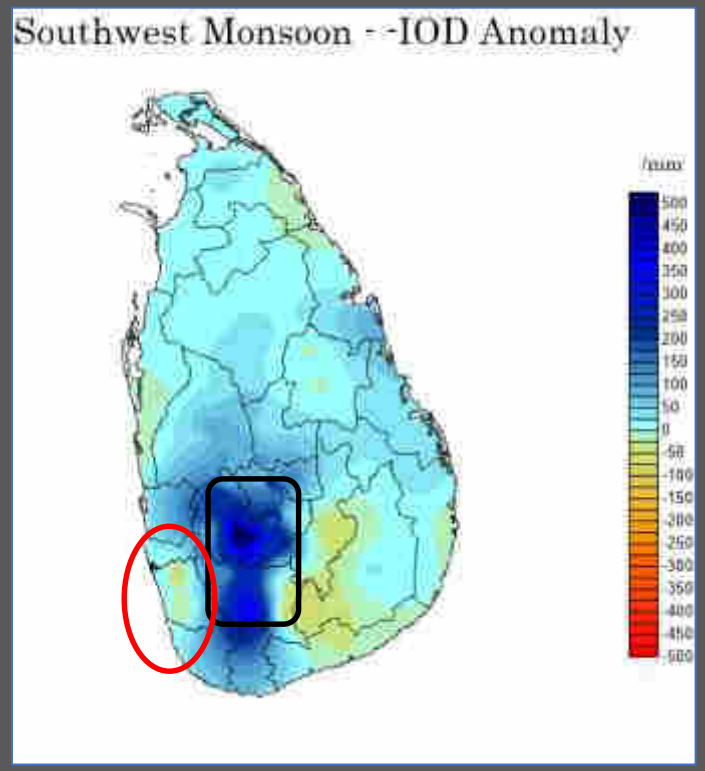
Currently, moderate La Niña conditions are prevailing over the Pacific. The latest global models indicate that the La Niña conditions are likely to continue during the upcoming monsoon season.



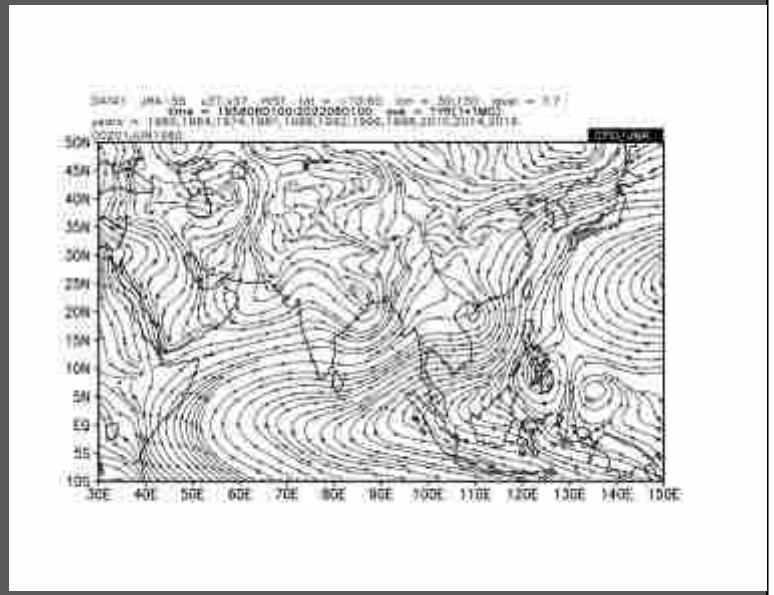
May June July Aug Sept

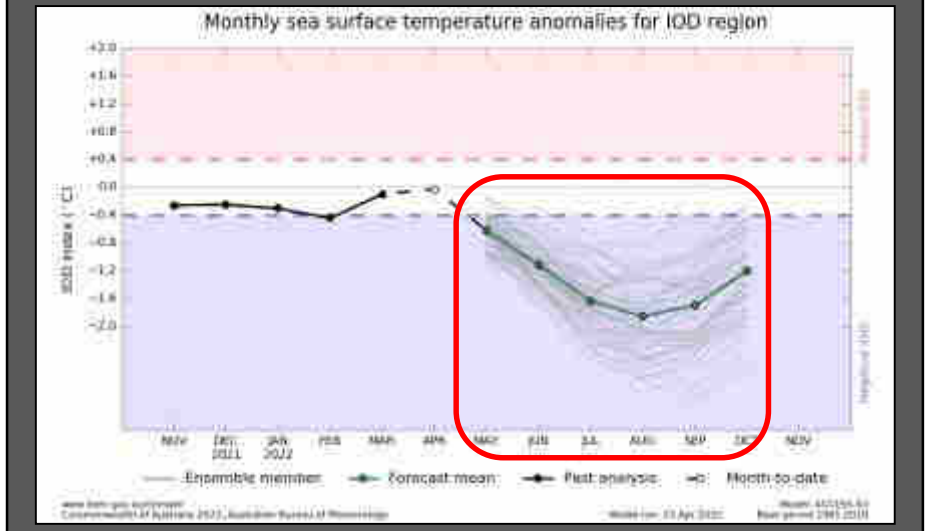
Modulation of Monthly Rainfall in Sri Lanka by ENSO and ENSO Modoki Extremes H. A. S. U. Hapuarachchi I. M. S. P. Jayawardena Department of Meteorology

IOD effect over SL during MJJAS

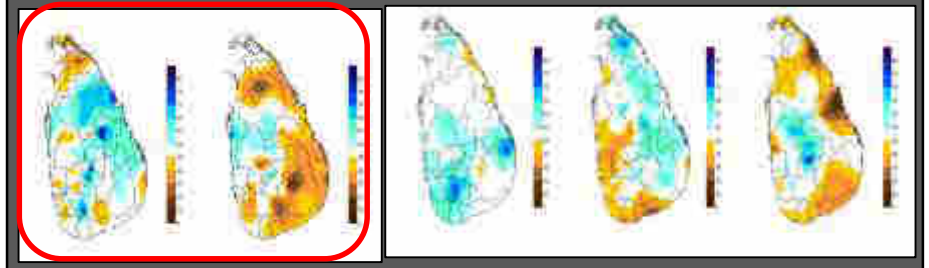


Negative IOD is linked to lower seasonal rainfall in SW part. But higher Western Slopes of the Central hills





At present, neutral Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean. The recent outlooks from coupled global models suggest that the negative IOD conditions are likely to develop during the monsoon season.



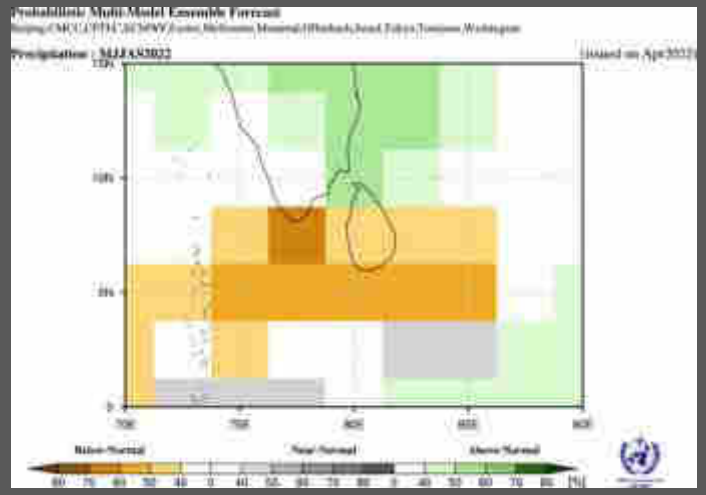
May June July Aug Sept

Modulation of Monthly Rainfall in Sri Lanka by ENSO and ENSO Modoki Extremes H. A. S. U. Hapuarachchi I. M. S. P. Jayawardena Department of Meteorology

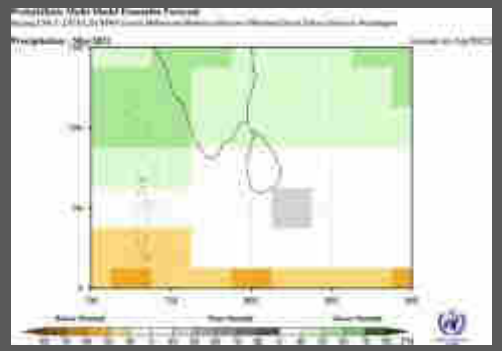
WMO ensemble forecast

Forecasts of Different Climate Models

MJJAS -2022

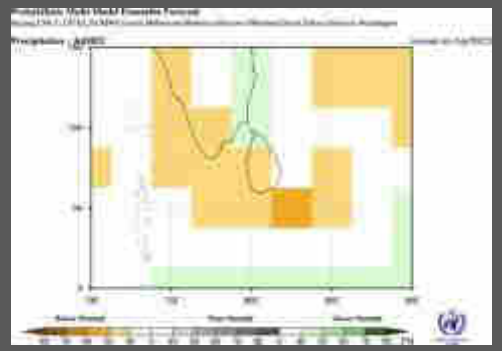


Probabilistic multi model ensemble forecast which prepared by using dynamical models from 12 Global Producing Centers (GPC) for MJJA season shows bellow normal rainfall over the country except Northern parts of the country.
850hPa wind Anomaly shows more dominant NW component over the region in MJJAS.

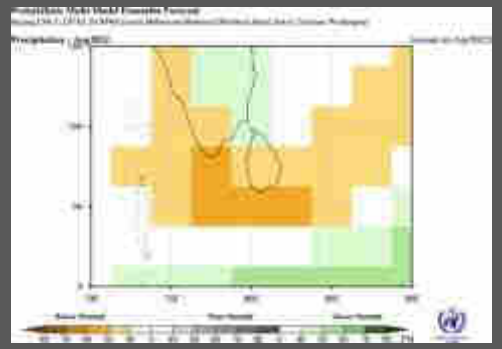


May

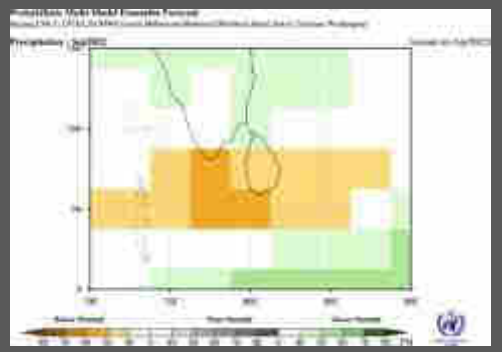
June



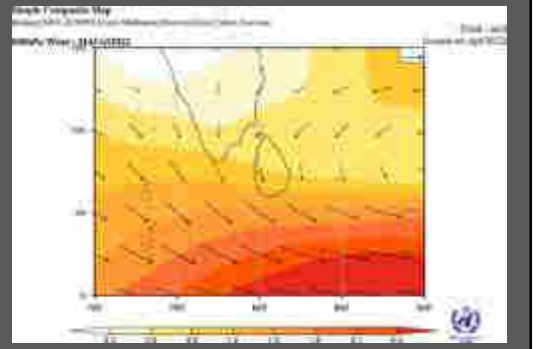
July



August

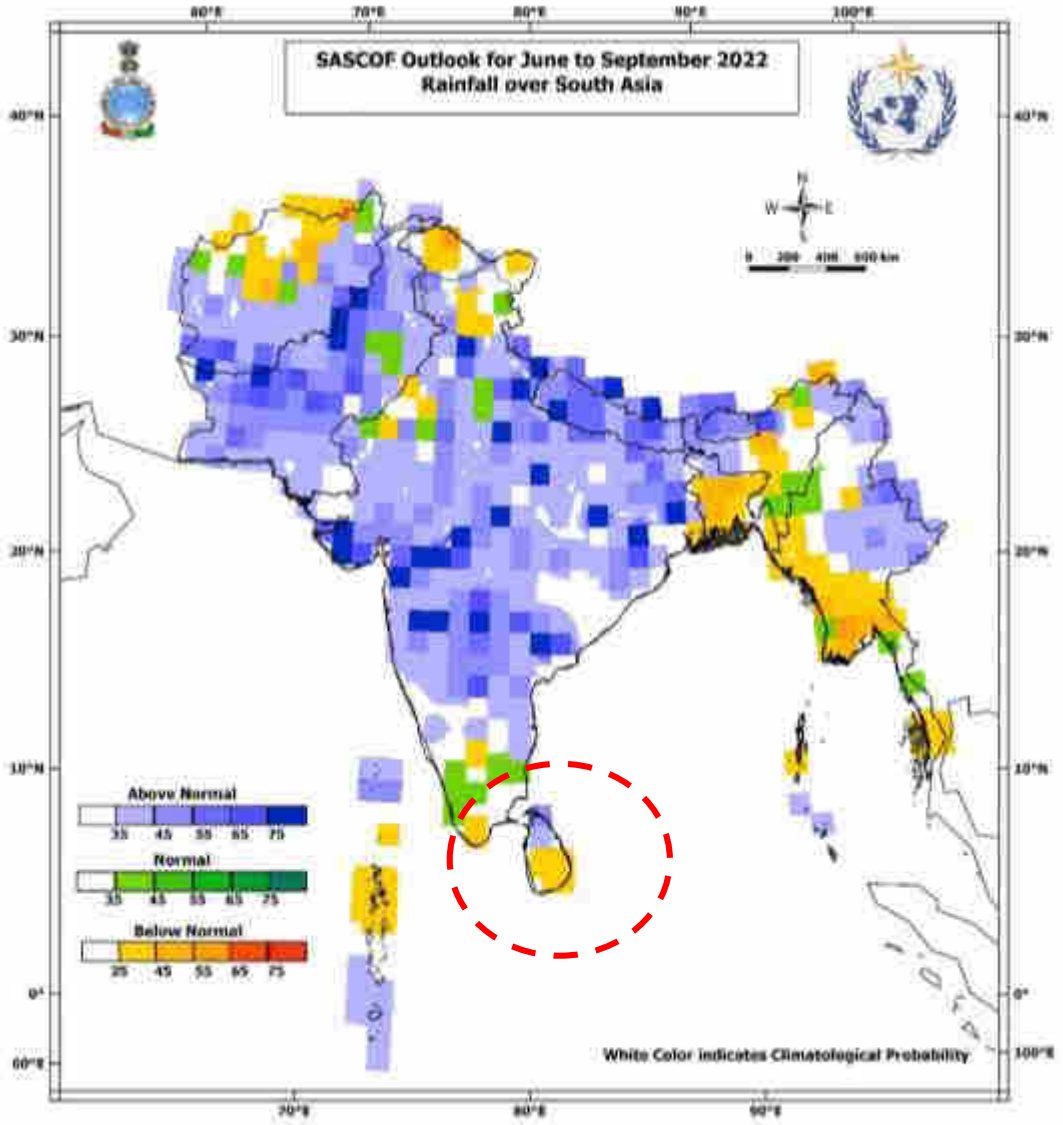


September



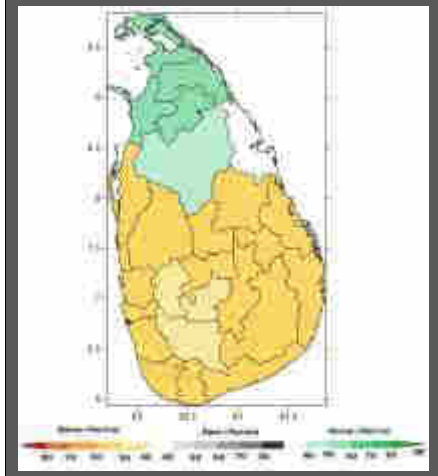
850hPa wind for MJJAS

South Asian Climate Outlook Forum (SASCOF) OUTLOOK



DoM- Seasonal Outlook

For SWmonsoon 2022 (JJAS)



Above normal over northern part, near normal or little below rainfall over SW slopes of the country, below normal rainfall over western & SW coastal areas & climatological probability for other parts of the country.

District wise average monthly rainfall (mm)

Districts	May	Jun	Jul	Aug	Sep
Colombo	413.3	247.6	180.0	162.5	289.7
Kalutara	526.9	350.8	262.9	247.8	388.1
Galle	423.5	290.5	240.7	239.8	341.2
Matara	301.3	241.1	171.6	191.6	258.6
Hambanth	88.2	52.0	45.7	49.2	72.4
Ampara	59.6	24.4	49.9	57.3	77.2
Batticaloa	57.3	25.5	55.1	60.5	86.6
Trinco	60.2	22.6	65.5	80.7	109.9
Mulathivu	59.7	12.5	39.0	48.0	83.4
Jaffna	46.3	13.7	24.5	33.3	63.0
Kilinochch	50.9	9.4	21.8	25.9	60.9
Mannar	58.3	7.2	13.9	19.2	46.1
Puttalam	112.5	46.6	28.7	23.1	67.5
Gampaha	342.2	212.8	136.5	129.1	232.3
Kegalle	419.1	372.7	299.2	262.9	360.6
Rathnapur	354.8	277.3	201.4	196.4	284.1
Monaragal	93.6	24.8	51.2	49.9	83.8
Badulla	113.9	35.4	72.0	76.3	118.2
Pollonnaru	70.8	18.0	56.9	54.0	100.3
Vavunia	67.1	10.6	42.7	56.5	97.5
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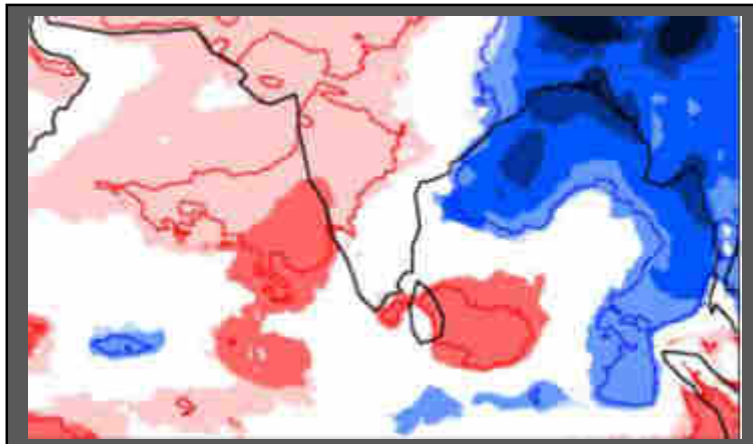
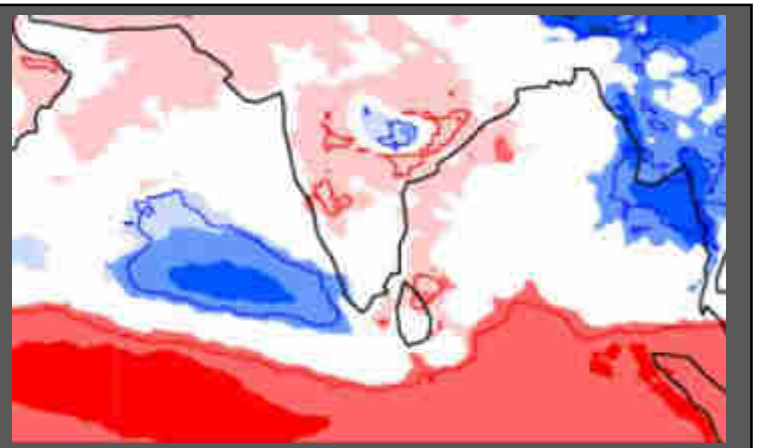
N'Eliya	267.3	270.1	262.4	234.5	250.8
SriLanka	144.9	85.0	85.9	85.3	132.8

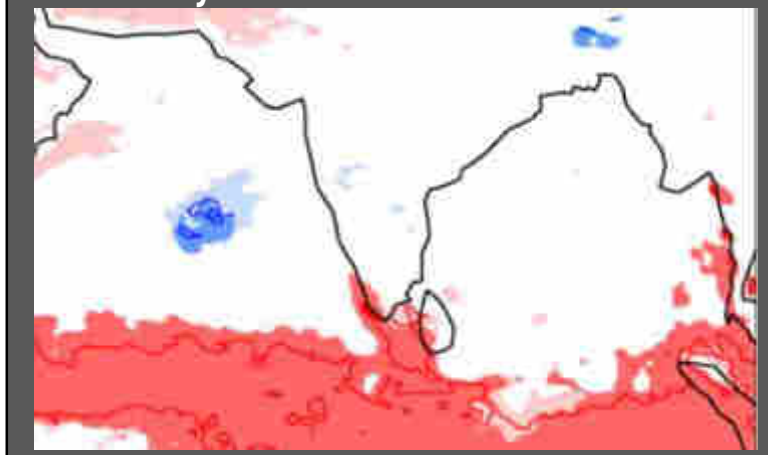
Weather Forecasts for Next Four Weeks



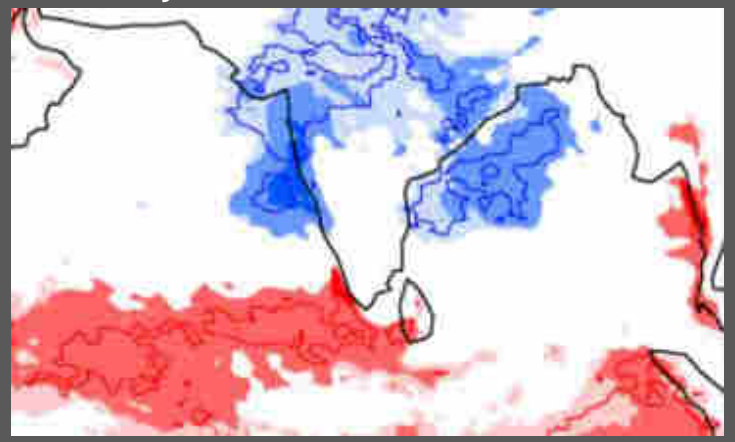
9-15 May 2022



16-22 May 2022



23-29 May 2022



30 May – 05 June 2022

ECMWF EPS-Monthly Forecasting System

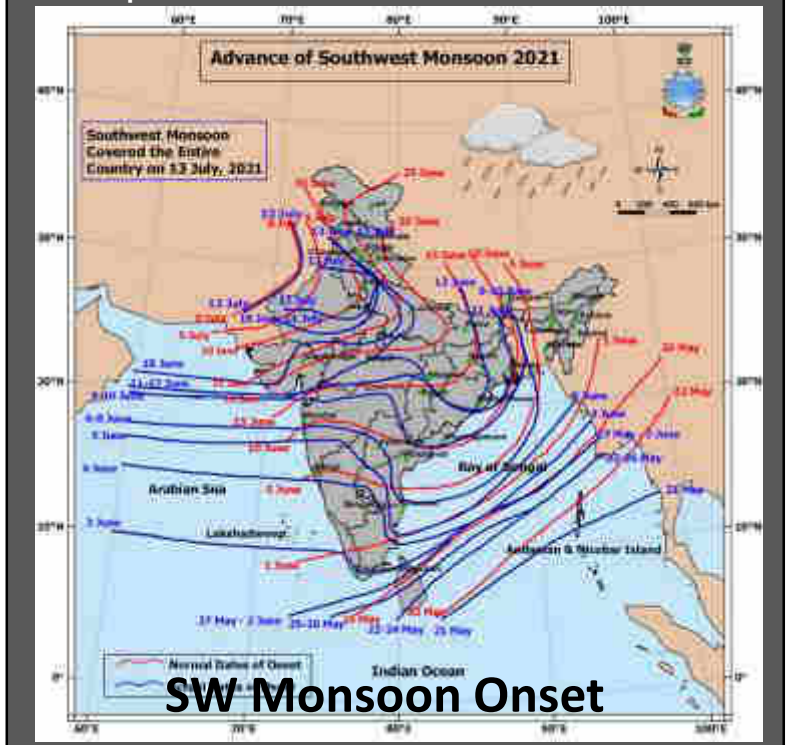
Precipitation anomaly

Forecast start reference is 05-05-2022

ensemble size = 51 ,climate size = 660

Weekly Anomaly Forecast

Near normal rainfall is expected over the South Western parts of Sri Lanka from 9th to 22nd May according to the latest update

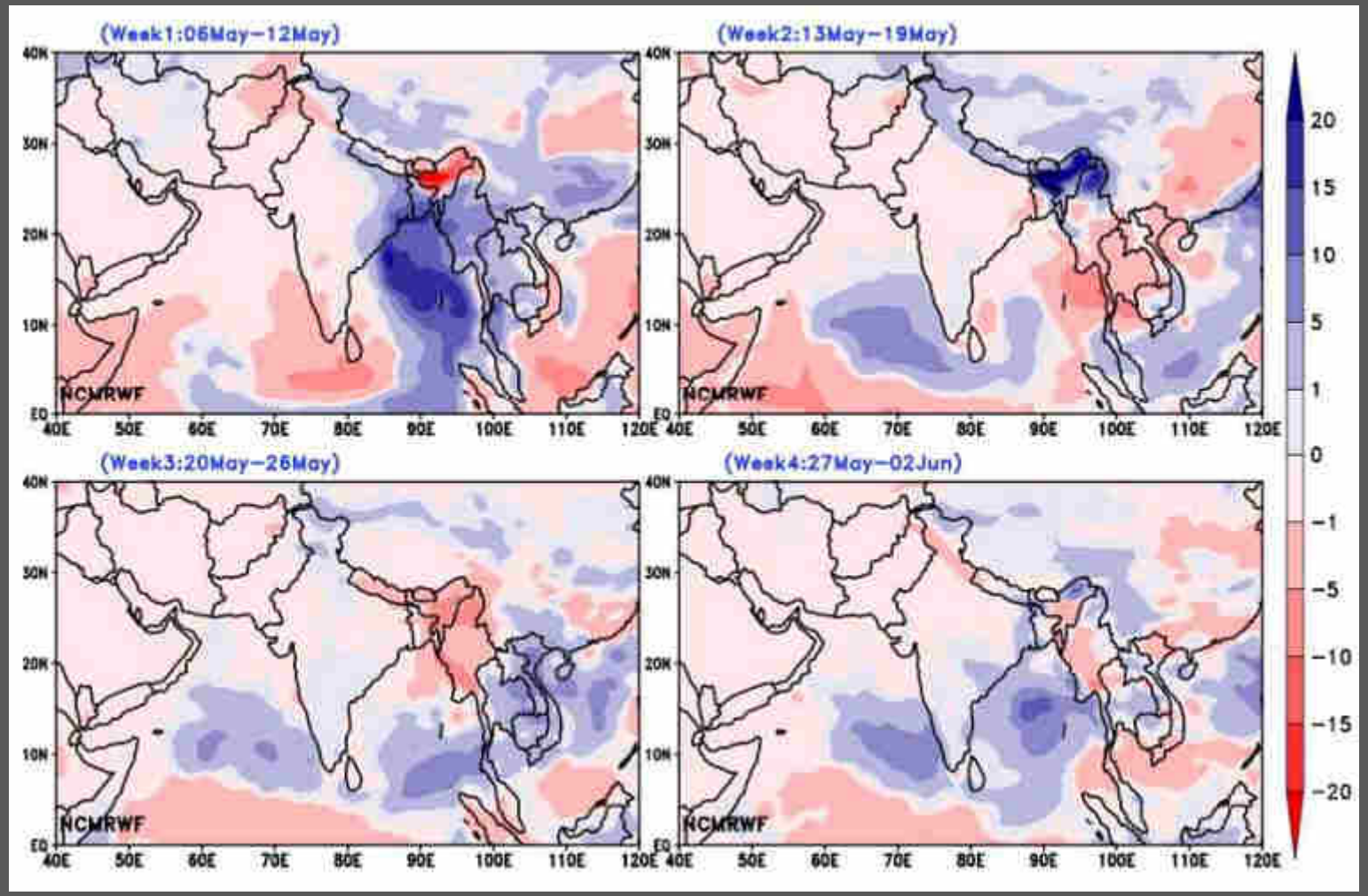


Normal on 25th May to Galle

Weather Forecasts for Next Four Weeks

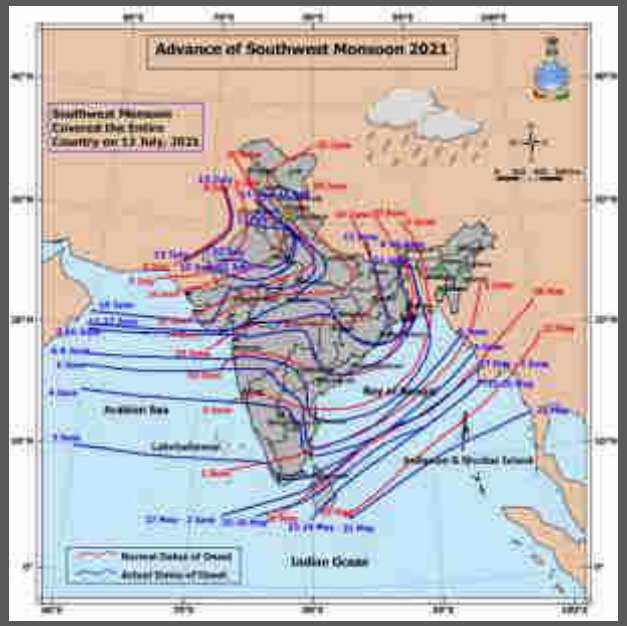
NCMRWF ERP Forecast: Issued on 05May2022

Precipitation Anomaly (mm/day)



Weekly Anomaly Forecast- NCMRWF

Below normal rainfall is expected over the South Western parts of Sri Lanka from 5th to 12th May. After near normal RF is likely to be over the SW parts

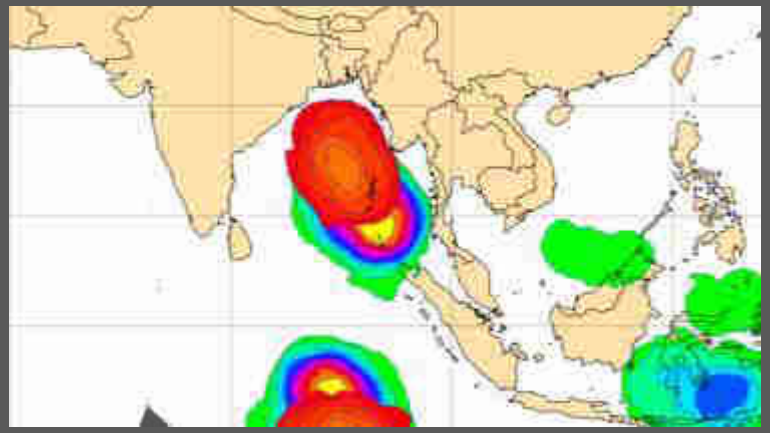


SW Monsoon Onset

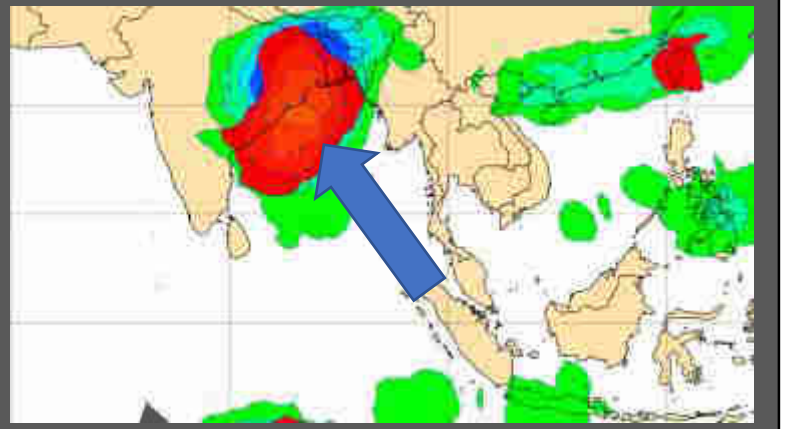
Normal on 25th May to Galle

Cyclogenesis over Bay of Bengal

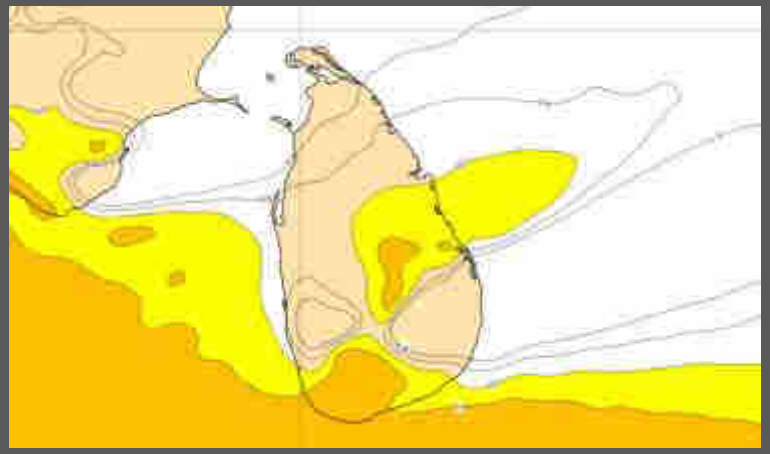
Tropical cyclone genesis (ECMWF)



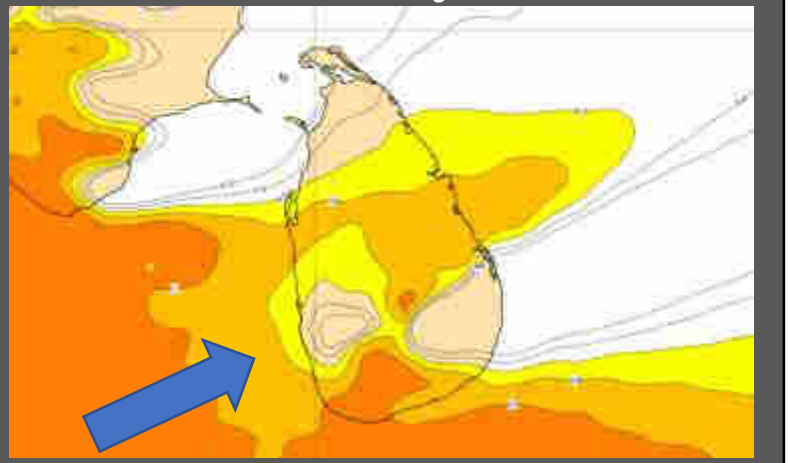
8th May



11th May



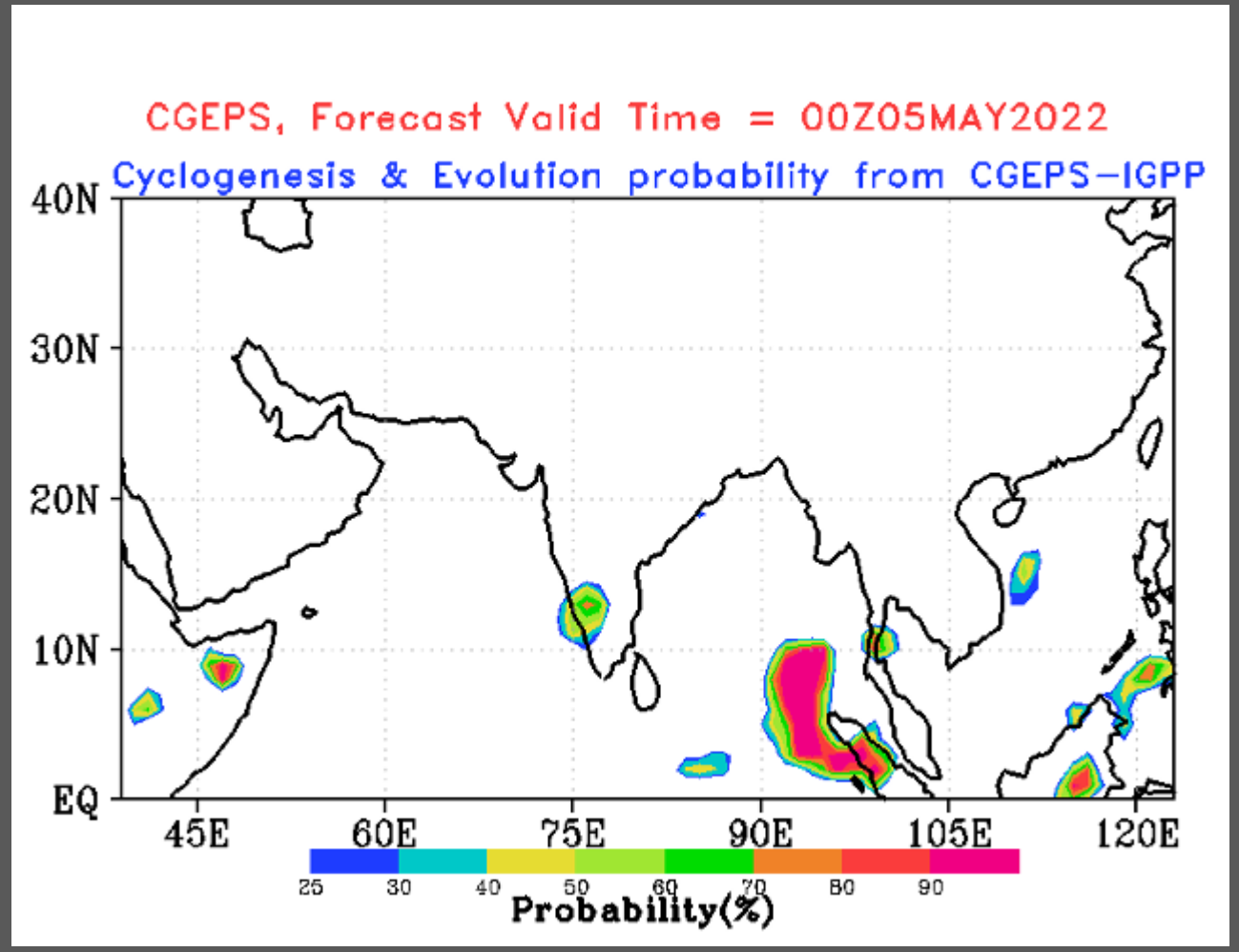
10m WS EFI 10th May



11th May

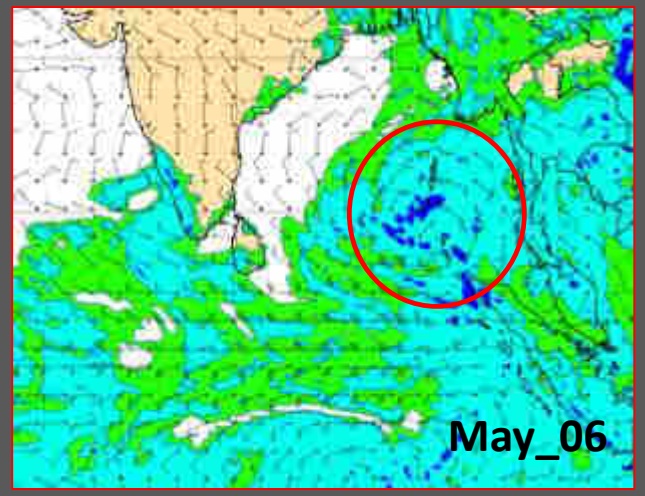
Synoptic scale systems such as lows and depressions developed in the Bay of Bengal kick starts the Southwest monsoon conditions with a burst and can be getting more rainfalls over the SW parts of SL in the month of May.

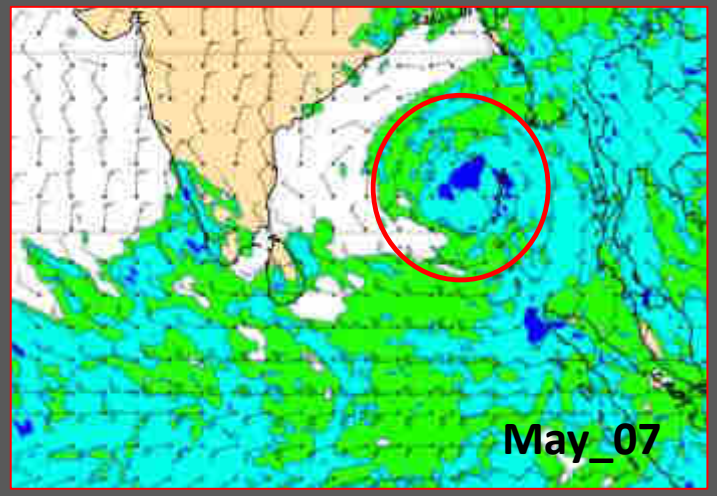
Cyclogenesis over Bay of Bengal

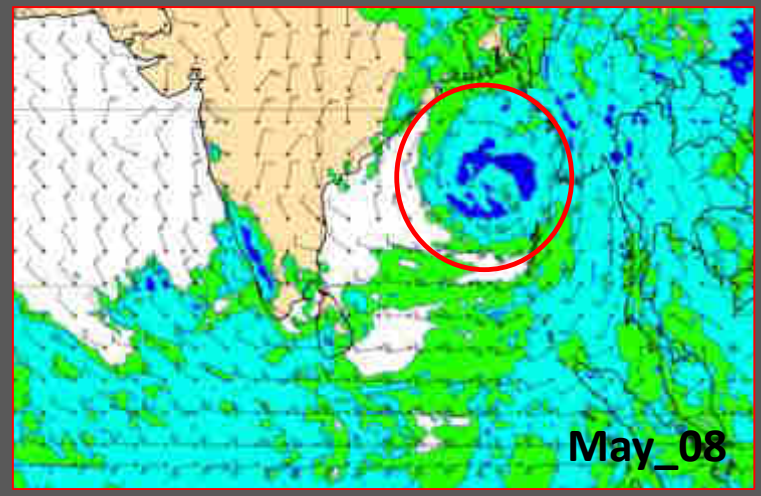


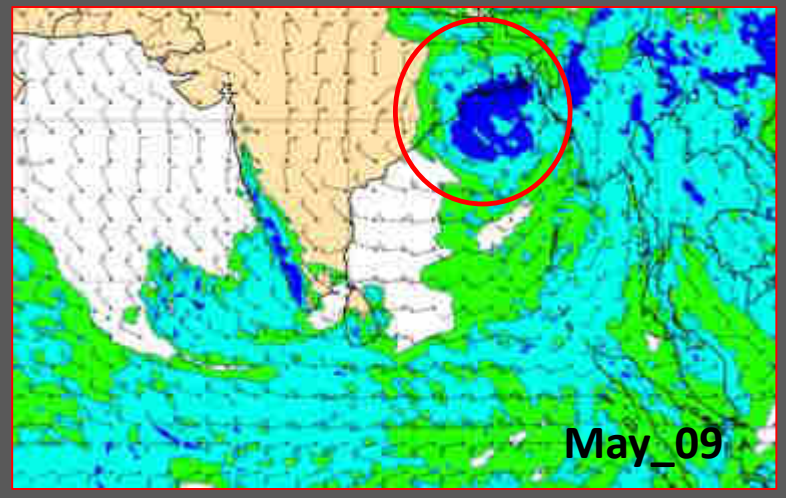
Synoptic scale systems such as lows and depressions developed in the Bay of Bengal kick starts the Southwest monsoon conditions with a burst and can be getting more rainfalls over the SW parts of SL in the month of May.

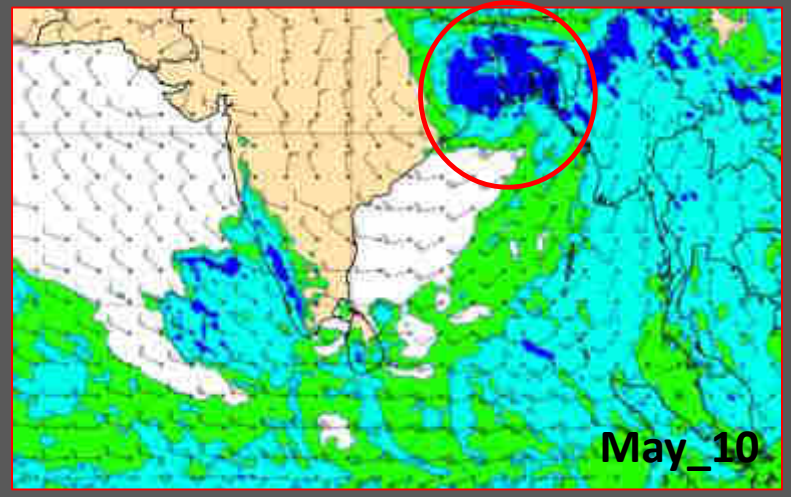
Cyclogenesis over Bay of Bengal





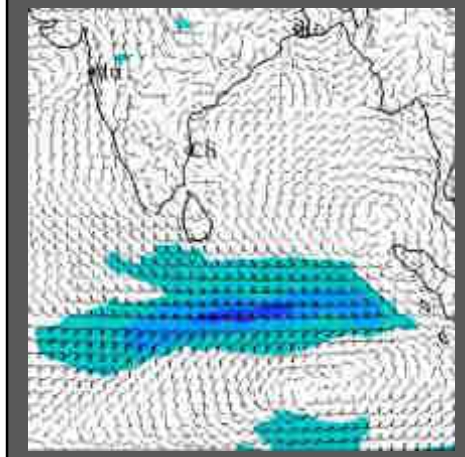






850hPa wind charts with RF (ECMWF)

Cyclogenesis over Bay of Bengal



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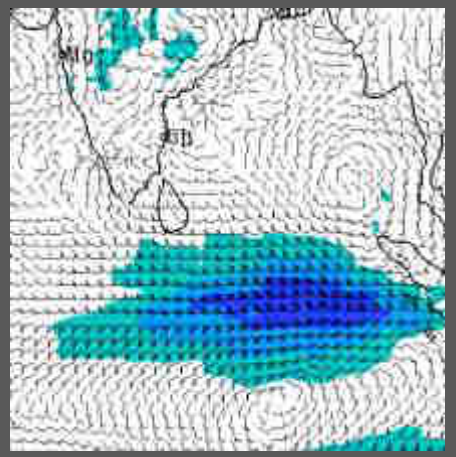

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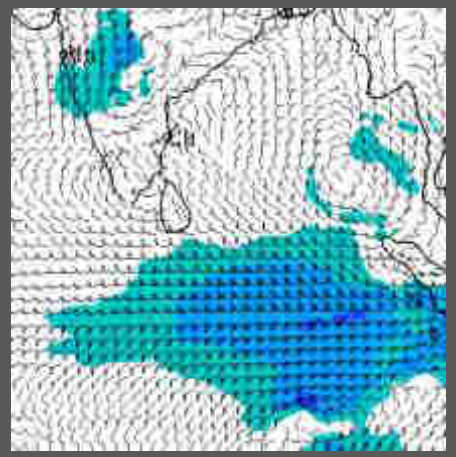

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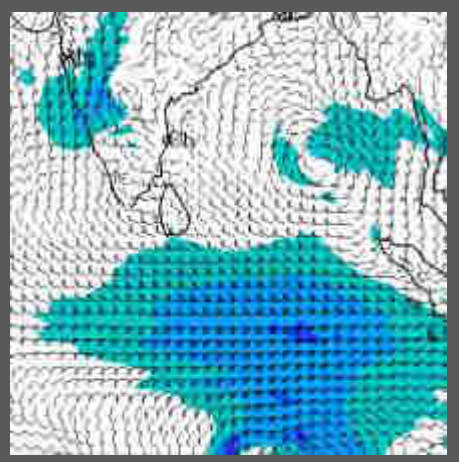

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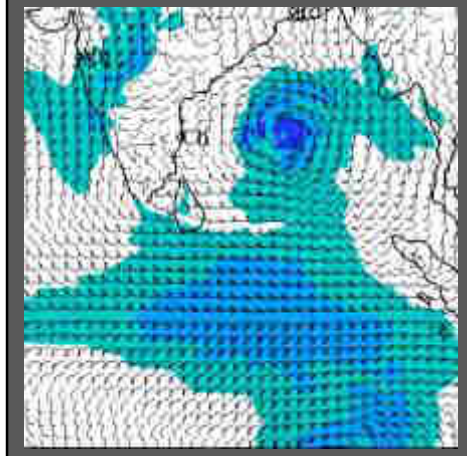

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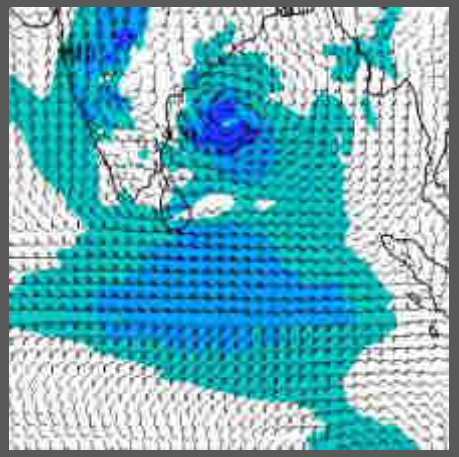
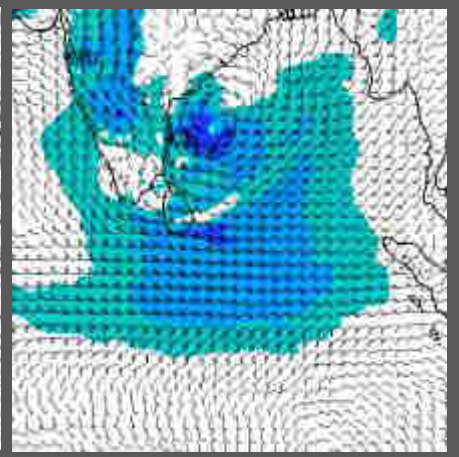
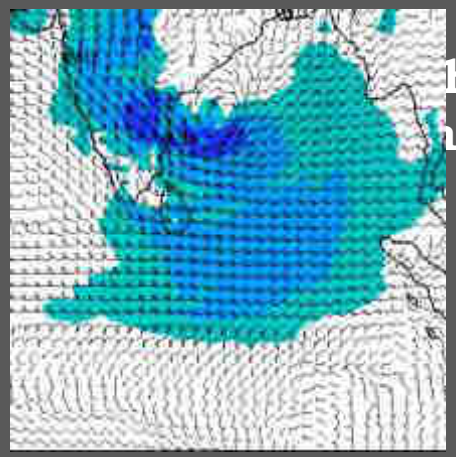


May_10



May_11



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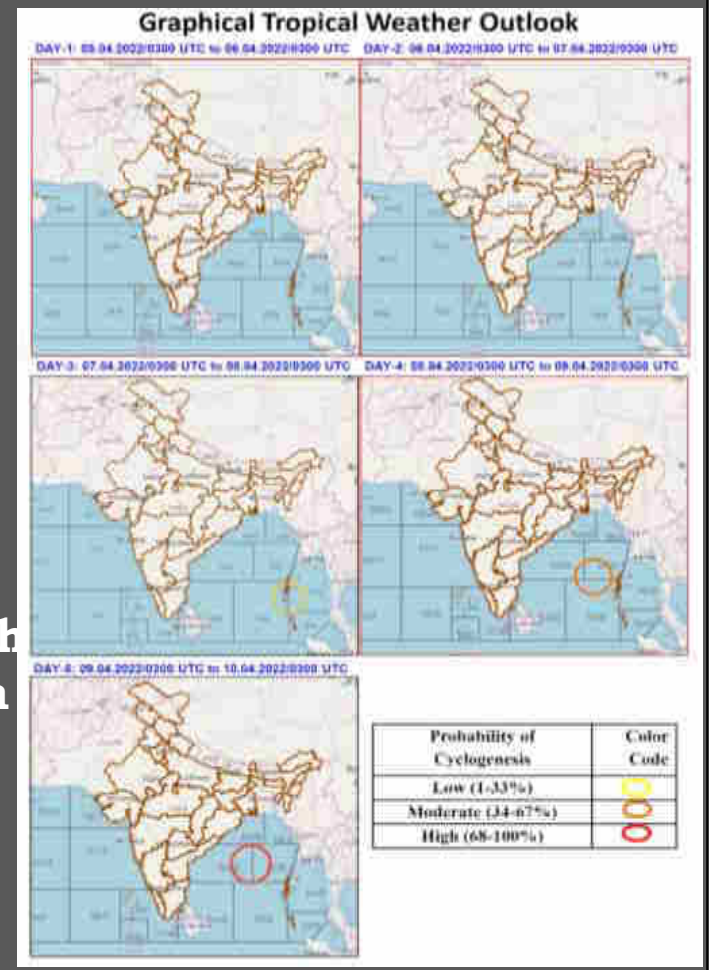
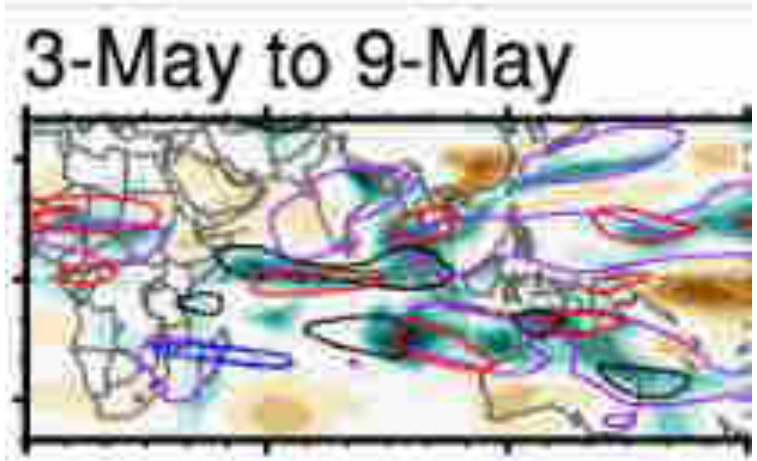
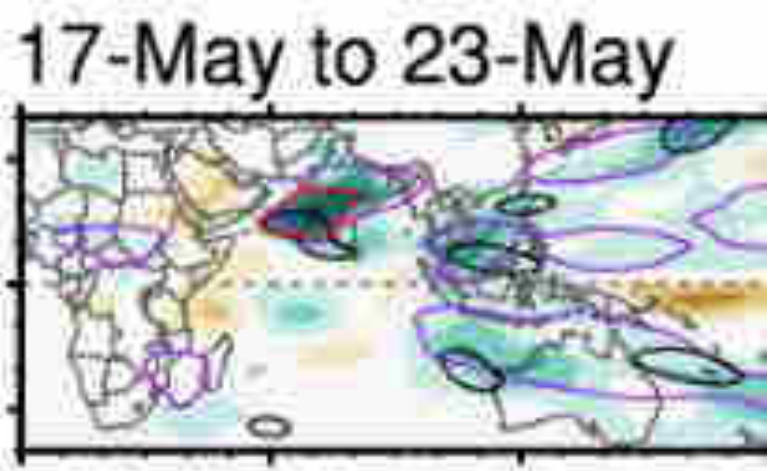
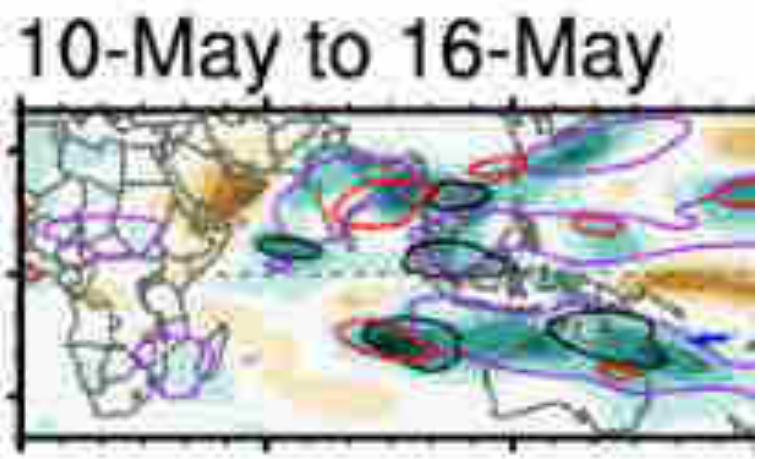
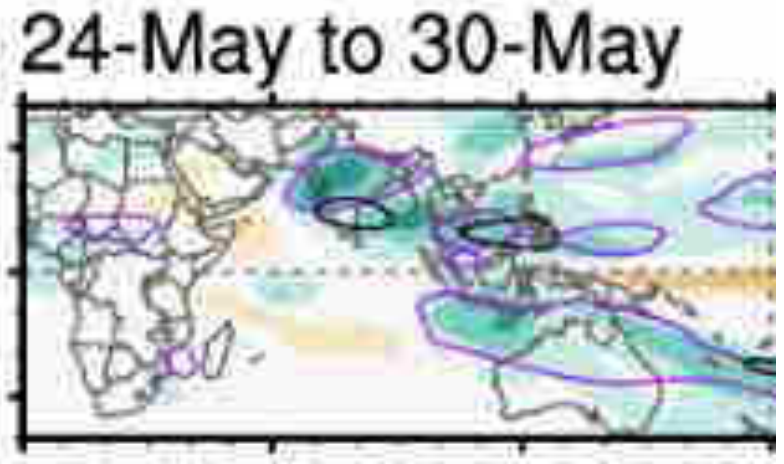


MJO – Madden Julian Oscillation





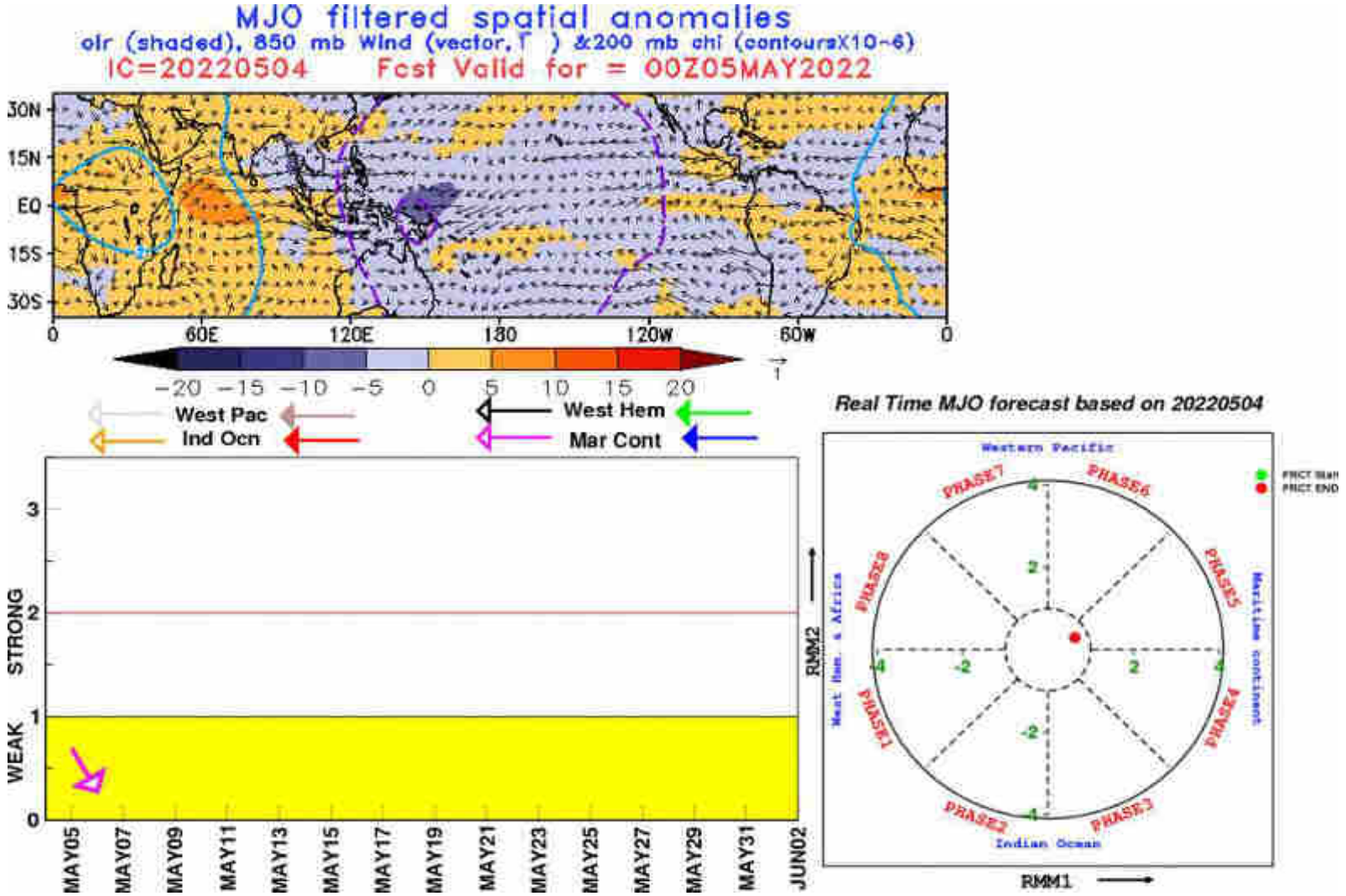




Intra-seasonal Oscillations such as Madden Julian Oscillations (MJO) can be enhance the Southwest Monsoon rainfall.

NCICS North Carolina Institute for Climate Studies

MJO – Madden Julian Oscillation



Intra-seasonal Oscillations such as Madden Julian Oscillations (MJO) can be enhance the Southwest Monsoon rainfall.

Summary

- Above normal rainfall is likely in Northern province and slightly above normal rainfall over Anuradhapura district and climatological normal or little below rainfall over Nuwara Eliya, Kegalle and Rathnapura distracts and below normal elsewhere during the **2022 June – September** season.
- However ,in the month of **May** there is a possibility for development of low pressure systems over the Bay of Bengal which influence the rainy condition over Sri Lanka ,Particularly over Southwestern part of the country.
- Currently La Niña/Southern Oscillation (ENSO) conditions are prevailing in the Pacific Ocean and continue next few months and Indian Ocean Dipole will be negative over the Indian Ocean during the May to September period.
- Seasonal predictability is limited due to synoptic scale systems such as lows and depressions etc. and intra-seasonal Oscillations such as Madden Julian Oscillations (MJO).

Seasonal Forecasts

1. Seasonal Forecast
It consists with rainfall and temperature forecasts for next 3 months along with individual monthly forecasts

2. Monthly Forecast
It consists with rainfall forecasts for individual next 3 months

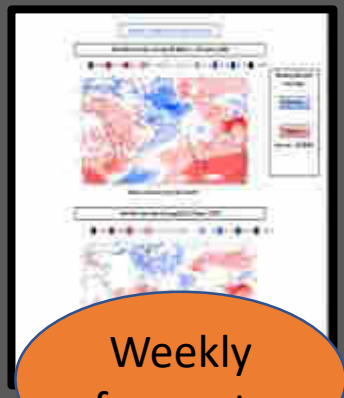
3. Weekly forecast
Weekly briefing for the requested parties(agriculture/water sectors) on each Monday

Thank You

Updates of National Forecasts

seasonal forecast

Monthly forecast

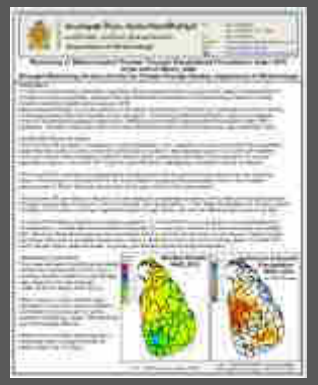


Weekly forecasts

www.meteo.govlk

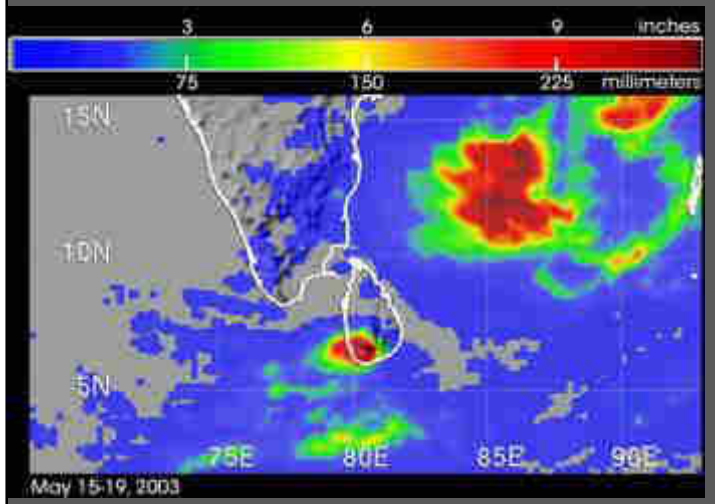
National Agromet Advisory

Weekly Agromet Bulletin



Drought Bulletin

Extra Information



Deep Depression over Bay of Bengal on 15-19th May 2003.

Cyclone Roanu over Sri Lanka on 15 May 2016.