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No SF-2022-12-R

Seasonal, Monthly and weekly Rainfall Forecasts for December-February 2022/23

Issued on 7th December 2022 by Seasonal forecasting Division of the Department of Meteorology, Sri Lanka.

This consensus climate outlook for December to February 2022/23 season over Sri Lanka has been developed through an expert assessment of the prevailing global climate conditions influencing the South Asian climate and seasonal forecasts from different climate models around the world. The tropical Pacific atmosphere is consistent with La Niña conditions. There is a 76% chance of La Niña during the Northern Hemisphere winter (December-February) 2022-23, with a transition to ENSO-neutral favored in February-April 2023 (57% chance). Indian Ocean Dipole (IOD) is proceeding negative limits. All NMME models predict the neutral IOD conditions are likely to continue during the upcoming season. These parameters are known to influence the climate variability over Sri Lanka. Careful consideration is also given to other regional and global factors as well as the intraseasonal variability of the region that can affect the rainfall and temperature patterns over the country.

Seasonal Rainfall Forecast for December–February 2022/23(DJF)



Fig 1.Consensus Probabilistic Monthly rainfall forecast for DJF 2022/23

A slightly above normal rainfalls are likely over Northern province and in Trincomalee district with a probability of near normal rainfalls in Northcentral province and in Batticaloa, Ampara and Matale districts. Below normal rainfalls are likely in Western,

Southern and Uva provinces and no signal for other areas during DJF 2022/23 (Fig. 1).

Generally low level atmospheric disturbances or a wavy type disturbances are possible over and vicinity of Sri Lanka during December to February season. If so rainfall can be enhanced.

Monthly Rainfall Forecasts for December, January and February 2022/23




| Month | Rainfall forecast |
|--|---|
|  <p>December 2022</p> | <p>Near normal rainfalls over Northern, Western and Northwestern provinces and in Trincomalee district with a possibility for below normal rainfalls over remaining areas during the month of December 2022.</p> <p>However, generally low-level atmospheric disturbances and cyclones are possible over and vicinity of Sri Lanka during the month of December. If so rainfall forecast can be varied.</p> |
|  <p>2023 January</p> | <p>There is a possibility for near or slightly above normal rainfall over most parts of the country during the month of January 2023.</p> <p>In addition to that, wavy type disturbances are possible over and vicinity of Sri Lanka during the month of January. If so the forecast may be varied.</p> |
|  <p>2023 February</p> | <p>There is a climatological probability for the month of February 2023. Therefore, there is an equal possibility for below or near or above normal rainfall during the month.</p> |

Fig 2.Monthly rainfall forecasts for December, January and February 2022/23

District wise normal (mean) rainfall values are indicated in annex -1)

The predictability is also limited due to strong day-to-day atmospheric variability caused by the passage of the synoptic scale systems such as lows and depressions as well as intraseasonal Oscillations such as Madden Julian Oscillations (MJO).

Weekly Rainfall forecasts for the month of December 2022

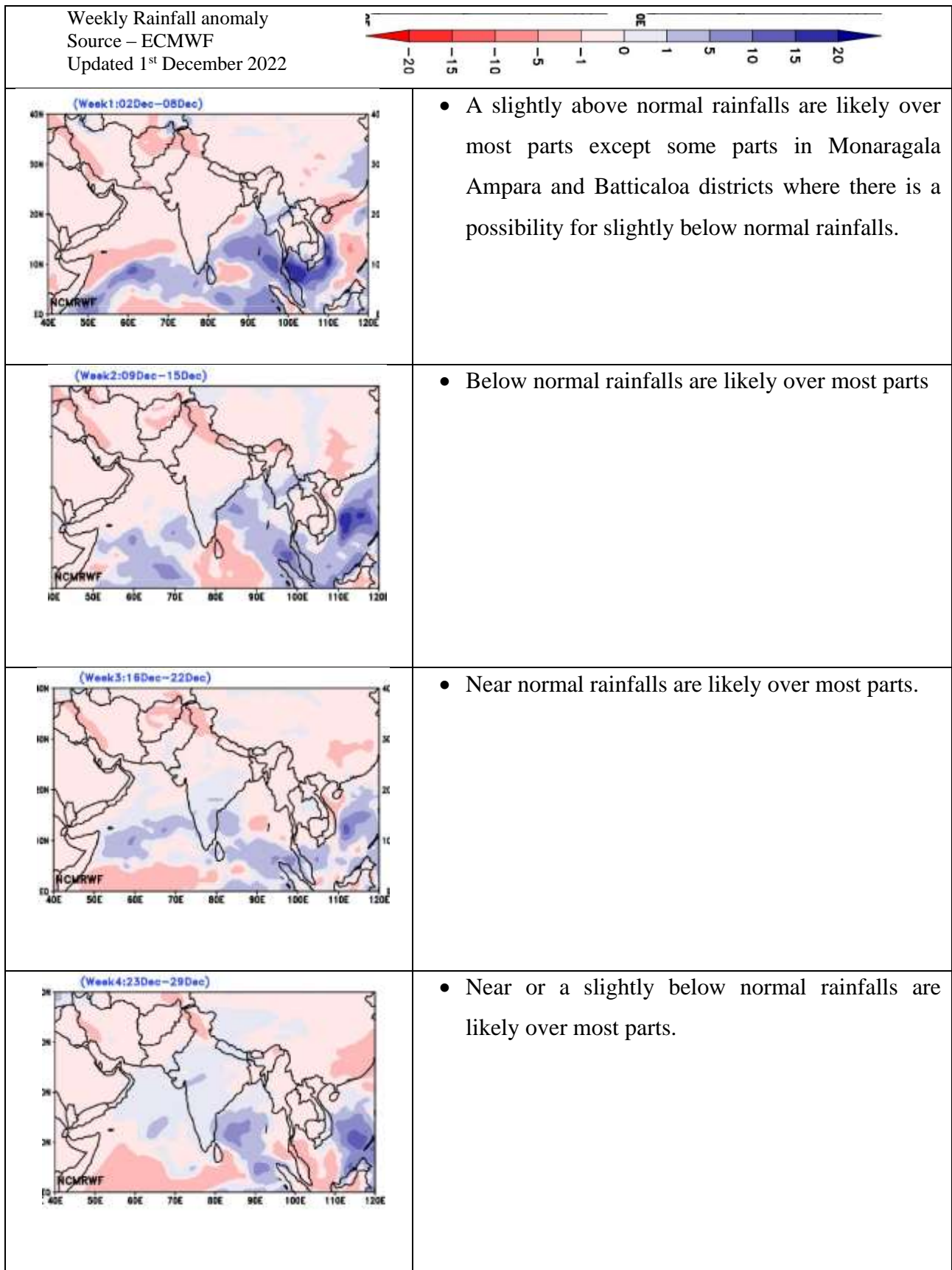


Fig 3. Weekly rainfall forecast for December 2022

Attention is requested for following areas

- More attention for the instructions and advisories issued by authorized agencies particularly related to extreme weather.
- There is a possibility for strong gusty winds, heavy rainfall and lightning during the season.
- Low level atmospheric disturbances, depressions and tropical cyclones are possible over and vicinity of Sri Lanka during the season.

Annex-1

District wise mean (30 years (1961-1990) of average) rainfalls during the months of December, January and February season.

| District | Average rainfall- December (mm) | Average rainfall- January (mm) | Average rainfall- February(mm) |
|-----------------|--|---|---|
| Colombo | 191.7 | 77.2 | 89.7 |
| Kalutara | 258.0 | 122.7 | 119.3 |
| Galle | 239.6 | 127.0 | 118.2 |
| Matara | 219.9 | 125.2 | 99.7 |
| Hambantota | 159.2 | 70.9 | 63.7 |
| Ampara | 350.5 | 210.1 | 144.9 |
| Batticaloa | 388.0 | 194.3 | 121.9 |
| Trincomalee | 335.6 | 127.4 | 82.4 |
| Mullaithivu | 291.0 | 77.2 | 59.9 |
| Jaffna | 257.4 | 70.7 | 32.5 |
| Killinochchi | 274.0 | 76.7 | 50.3 |
| Mannar | 206.4 | 53.8 | 48.4 |
| Puttalam | 126.2 | 46.9 | 38.5 |
| Gampaha | 141.1 | 53.7 | 76.8 |
| Kegalle | 188.5 | 77.4 | 98.3 |
| Ratnapura | 231.5 | 117.0 | 117.9 |
| Monaragala | 253.5 | 129.7 | 110.4 |
| Badulla | 356.1 | 232.3 | 160.6 |
| Pollonnaruwa | 369.5 | 164.1 | 106.2 |
| Vavuniya | 256.7 | 74.2 | 53.7 |
| Anuradapura | 232.8 | 84.6 | 55.7 |
| Kurunegala | 150.2 | 63.5 | 62.5 |
| Matale | 357.7 | 202.0 | 121.5 |
| Kandy | 308.8 | 159.8 | 118.3 |
| Nuwaraeliya | 250.1 | 138.3 | 104.8 |

Table 01: 30 year Average (1961-1990) district wise rainfalls during the month of December, January and February

Table 01 shows the mean (30 year Average (1961-1990)) rainfalls during the month of December, January and February in each district.