

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN



08<sup>th</sup> December 2022 to 08<sup>th</sup> January 2022

Issued on 08<sup>th</sup> December 2022



**Department of Meteorology**

**Department of Agriculture**

**2022.12.08**

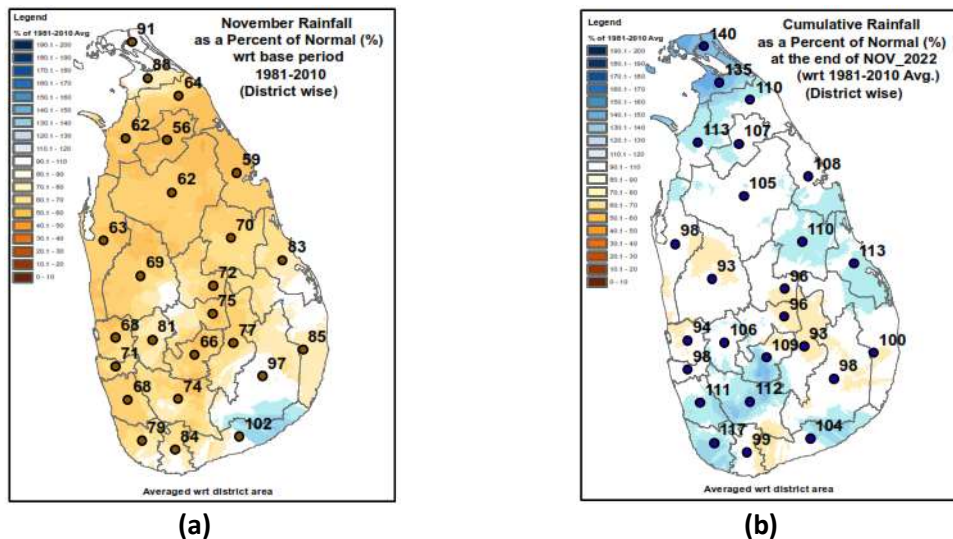
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## Weather and Climate update Department of Meteorology

### Rainfall Analysis-November 2022

According to the available rainfall data in the Department of Meteorology, near normal rainfalls were reported over Hambantota, Monaragala and Jaffna districts. Below normal rainfalls were reported over remaining area of the country during the month of November 2022.

Observed rainfall as a percentage of normal during the month of November 2022 is shown in the figure 1(a) and observed cumulative rainfall as a percentage of normal from 1<sup>st</sup> January 2022 to 30<sup>th</sup> November 2022 is shown in the figure 1 (b). Cumulative rainfall in the figure 1(b) shows near or above normal rainfalls over most parts of the country.

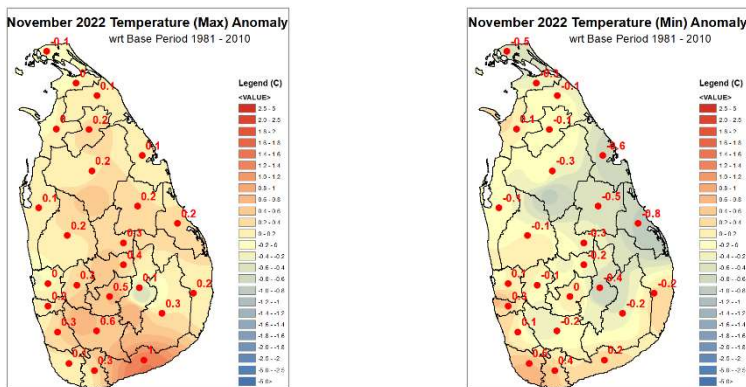


**Figure 01 :** Observed Monthly rainfall as percentage of long-term average (1981-2010) during November 2022 (a) and cumulative rainfall from 01<sup>st</sup> January 2022 to 30<sup>th</sup> November 2022 as percentage of long term average (1981- 2010) (b)

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## Temperature analysis (November)

Average maximum temperatures (daytime) and average minimum temperatures (night-time) were predominantly near normal over the country during the month of November 2022.



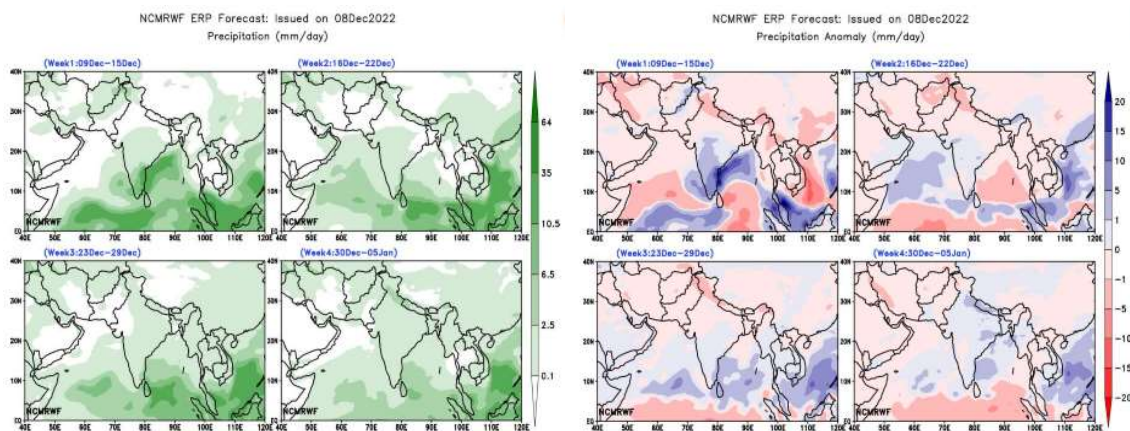
**Figure 02 :** Average Maximum (a) and Minimum (b) Temperature anomalies during the month of October 2022 compared with the long-term average (1981-2010)

## Weather Forecast: Forecast for the month of December 2022(Weekly)

(Updated on 8<sup>th</sup> December 2022)

Slightly above normal rainfalls are likely over Northern and south-western part, below normal rainfalls are likely over eastern part and slightly below or near normal rainfalls are expected over remaining areas of the country during the week 9<sup>th</sup> -15<sup>th</sup> December. During the week 16<sup>th</sup> -22<sup>nd</sup> of December, above normal rainfalls are likely over north-western part and near or slightly above normal rainfalls over remaining areas of the country. Above normal rainfalls are expected over most parts of the country during the week 23<sup>rd</sup> – 29<sup>th</sup> December. There is a possibility for near normal or slightly below normal rainfalls during the week 30<sup>th</sup> December -05<sup>th</sup> January. (Figure 03).

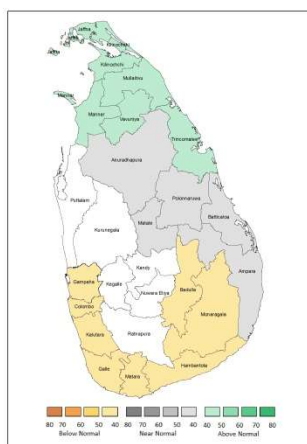
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**Figure 03** : Weekly rainfall Forecast and the Rainfall anomaly (mm/day)

Note: Department of Meteorology issues **Weekly Agromet Bulletin** to update climatological situation. It can be downloaded from the web page link- Agromet Bulletin ([meteo.gov.lk](http://meteo.gov.lk)) [http://meteo.gov.lk/index.php?option=com\\_content&view=article&id=28&Itemid=301&lang=en#weekly-updates-2022](http://meteo.gov.lk/index.php?option=com_content&view=article&id=28&Itemid=301&lang=en#weekly-updates-2022)

## **Weather forecast for the season of December-January-February (DJF) 2022/23**



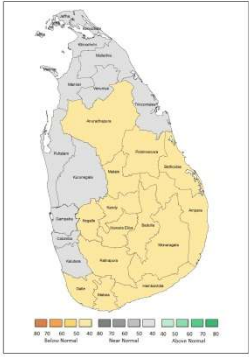


**Figure 04** : Seasonal Rainfall Forecast for December-February 2022/23 (DJF 2022)

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. 4).

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Generally low-level atmospheric disturbances or a wavy type disturbance 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-February 2022/23

Month	Rainfall forecast
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">December 2022</div> 	<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>
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">January 2023</div> 	<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>
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">February 2023</div> 	<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>

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## Agro-met Advisory: December 2022 (For the months of December, January and February)

Department of Meteorology (DoM) has issued the seasonal weather forecast for the coming three-month period as follows,

### Rainfall forecast for **December 2022**

Near normal rainfalls has been forecasted over Northern, Western and Northwestern provinces and in Trincomalee district. Below normal rainfall has been predicted for the other remaining areas.

However, DoM further predicted a **possibility of developing low level atmospheric disturbances, depressions and cyclones** over and vicinity of Sri Lanka that **may lead to enhance the rainfall.**



### Rainfall forecast for **January 2023**

Near or slightly above normal rainfall has been predicted over most parts of the country.

DoM further forecasted the **possibility for wavy type disturbances** over and vicinity of Sri Lanka and that **may lead to enhance the rainfall.**



### Rainfall forecast for **February 2023**

No specific weather prediction has been issued for February by DoM, but mentioned that there is equal possibility of having below, near or above normal rainfall during the month of February.



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With the available weather prediction, it is advisable to consider general climatological rainfall values as **near normal** rainfall values for each month for agriculture planning. Agro-ecological region-wise expected average rainfall values are attached in Table 1 - 3.

In addition to the above-mentioned weather predictions, the following weather-related information are considered in this advisory for precise agricultural planning.

- As DoM mentioned by their long-term weather forecast at the beginning of this *Maha* season, due to prevailed *La Nina* situation, below normal rainfall has received during second inter-monsoon (SIM) season. Irrigation Department (ID) states that received rainfall did not contribute for increasing the inflows to the tanks and reservoirs, especially in the Dry zone.
- However, due to the development of low-level atmospheric disturbances over and vicinity of Sri Lanka, short intense rains have been observed during October.
- Compared to the long term-average values, below normal rainfall was observed during November and soil moisture stress conditions were experienced in Dry and Intermediate zones.
- According to the DoM, activation of north-east monsoonal rains (NEM) will be delayed till mid-December, due to the prevailed weather system developed in the Bay of Bengal.
- Compared to normal *Maha* season conditions, below normal rainfall has been predicted during December over the major paddy growing areas.

The average effective storage in major reservoirs under the ID is about 50%. Recent update of daily water levels & storage of major reservoirs are attached in Table 4. ID further stated that, the carry over storage of major reservoirs is not at a satisfactory level specially at Ampara, Anuradhapura and Puttalam ranges to continue the season, unless considerable rainfall receives during this month. Considering the cultivation performance of major irrigation ranges, ID declares that the total sown extent is about 60% and the ploughing has been completed about 75% of the planned cultivation extent.

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According to the *Mahaweli* Authority of Sri Lanka (MASL), paddy cultivation progress of *Mahaweli* irrigation schemes is about 66%. Seed production programs related to the Other Field Crops (OFCs; specially Soya, Chili and Big Onion) will start after mid-December

Recent updated statistics of Corporate Development Division of Department of Agrarian Development (DAD) shows that, the national cultivation progress of paddy is about 654,601 ha. District-wise national cultivation progress of 2022/23 *Maha* season, is given in the Table 5.

Considering the weather forecast of DoM, irrigation water availability information of ID and field level information of MASL and DAD, the following agronomic interventions are recommended to ensure optimum production under existing situation.

- Since predicted weather forecast shows that considerable inflows could not be expected to the tanks and reservoirs in the Dry and Intermediate zones during this month (December), farmers are highly advised to strictly follow the water issuing schedules and the officials are requested follow every possible water saving strategies to get the maximum benefits of water available in the reservoirs.
- Since the considerable number of Paddy farmers are lagging behind the season, they are highly advised to establish the crop, strictly following the decisions taken during *Kanna* meetings. Because, according to the available weather information, paddy farmers have to do the field establishment of the crop before the **10<sup>th</sup> of December** to prevent the adverse weather impacts that may cause during latter part of cultivation season.
- Due to the prevailed dry weather condition during last two or three weeks, considerable damages have been reported in some rainfed paddy lands, OFCs especially Maize cultivations and home gardens and urge the need of applying for Crop Insurance Scheme to face adverse weather impacts.
- Since the Fall Army Worm (FAW) attack has been observed, farmers who grow Maize, are advised to pay special attention to identify the attack at the initial stage and follow the DoA remedial recommendations.



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- Big onion bulbs are established in the field for seed production, during the end of December or early January. Since an above normal rainfall has predicted for January, Big onion growing famers are advised to establish the crop, under strong rain shelters, preparing raise beds and improving drainage systems. Again bulbs should have treated with recommended fungicides to minimize the damages due to fungal diseases with the expected rainfall.
- ❖ Please consider that this advisory was prepared based the on the national level information and therefore, if available, it is advisable to consider localized detailed information, as a supplementary to this advisory.

An updated Agro-met Advisory will be issued in early January, 2023 in consultation with the members of the technical advisory committee and other relevant resource persons and stakeholders.

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Table 1: Agro-ecological region wise expected rainfall values for **December**

Dry Zone (mm)			Intermediate Zone (mm)			Wet Zone (mm)	
AER	Dec		AER	Dec		AER	Dec
DL1a	89.0		IL1a	50.9		WL1a	130.6
DL1b	105.7		IL1b	69.5		WL1b	111.2
DL1c	191.9		IL1c	148.5		WL2a	117.5
DL1d	178.1		IL2	246.1		WL2b	63.5
DL1e	167.2		IL3	69.6		WL3	53.0
DL1f	99.7		IM1a	281.0		WM1a	124.2
DL2a	236.0		IM1b	259.5		WM1b	145.2
DL2b	240.1		IM1c	260.9		WM2a	82.7
DL3	99.9		IM2a	132.6		WM 2b	61.2
DL4	96.3		IM2b	156.7		WM3a	70.0
DL5	87.2		IM3a	131.9		WM3b	151.9
			IM3b	172.1		WU1	102.8
			IM3c	167.5		WU2a	95.8
			IU1	276.5		WU2b	118.9
			IU2	267.8		WU3	132.9
			IU3a	159.9			
			IU3b	152.9			
			IU3c	174.3			
			IU3d	84.7			
			IU3e	130.5			

(Source: Punyawardena *et al.* 2003, Agro-ecological Region Map)

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Table 4: Agro-ecological region wise expected rainfall values for **January**

Dry Zone (mm)			Intermediate Zone (mm)			Wet Zone (mm)	
AER	Jan		AER	Jan		AER	Jan
DL1a	36.5		IL1a	10.7		WL1a	64.5
DL1b	30.3		IL1b	21.8		WL1b	44.0
DL1c	114.2		IL1c	85.0		WL2a	54.6
DL1d	44.2		IL2	183.1		WL2b	12.0
DL1e	33.7		IL3	12.9		WL3	12.3
DL1f	9.4		IM1a	186.0		WM1a	56.8
DL2a	138.4		IM1b	208.8		WM1b	73.6
DL2b	127.5		IM1c	115.8		WM2a	30.1
DL3	11.9		IM2a	53.8		WM 2b	15.8
DL4	9.8		IM2b	78.6		WM3a	21.2
DL5	35.1		IM3a	58.1		WM3b	73.6
			IM3b	79.2		WU1	43.4
			IM3c	112.6		WU2a	52.6
			IU1	213.8		WU2b	60.3
			IU2	182.2		WU3	74.9
			IU3a	52.0			
			IU3b	83.3			
			IU3c	80.8			
			IU3d	55.2			
			IU3e	62.5			

(Source: Punyawardena *et al.* 2003, Agro-ecological Region Map)

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Table 1: Agro-ecological region wise expected rainfall values for **February**

Dry Zone (mm)		Intermediate Zone (mm)		Wet Zone (mm)	
AER	Feb	AER	Feb	AER	DEC
DL1a	26.9	IL1a	6.1	WL1a	57.5
DL1b	12.6	IL1b	20.5	WL1b	34.5
DL1c	47.0	IL1c	54.1	WL2a	53.8
DL1d	11.1	IL2	71.1	WL2b	10.4
DL1e	10.9	IL3	5.3	WL3	9.4
DL1f	2.0	IM1a	66.2	WM1a	66.9
DL2a	58.1	IM1b	81.0	WM1b	70.4
DL2b	46.8	IM1c	58.9	WM2a	23.5
DL3	1.1	IM2a	64.3	WM 2b	12.9
DL4	0.5	IM2b	50.6	WM3a	13.7
DL5	11.4	IM3a	24.4	WM3b	35.5
		IM3b	31.4	WU1	47.7
		IM3c	41.0	WU2a	25.9
		IU1	76.4	WU2b	37.5
		IU2	61.8	WU3	29.2
		IU3a	47.3		
		IU3b	48.1		
		IU3c	46.6		
		IU3d	33.6		
		IU3e	25.9		

(Source: Punyawardena *et al.* 2003, Agro-ecological Region Map)

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Table 4: Summary of daily water levels & storage of major reservoirs (07.12.2022)

NO	RANGE	NO OF TANKS	STORAGE (Acft)				
			GROSS	DEAD	PRESENT	EFFECTIVE	
						Acft.	%
1	Ampara	9	1,052,221	16,259	378,210	361,951	34.9
2	Anuradapura	10	556,390	27,583	305,704	278,121	52.6
3	Badulla	7	78,315	4,138	46,722	42,584	57.4
4	Batticaloa	4	140,172	1,085	88,625	87,540	62.9
5	Hambantota	10	377,738	34,172	276,067	241,895	70.4
6	Galle	2	3,081	-	3,130	3,130	100.0
7	Kandy	3	28,503	386	23,696	23,310	82.9
8	Kurunegala	10	142,413	5,670	107,638	101,968	74.6
9	Monaragala	3	44,873	2,640	30,530	27,890	66.0
10	Polonnaruwa	4	352,010	24,300	216,701	192,401	58.7
11	Puttalam	2	74,261	8,400	35,003	26,603	40.4
12	Trincomalee	5	191,328	2,555	81,300	78,745	41.7
13	Mannar	4	67,370	675	39,518	38,843	58.2
	<b>TOTAL</b>	<b>73</b>	<b>3,108,674</b>	<b>127,863</b>	<b>1,632,844</b>	<b>1,504,981</b>	<b>50.5</b>

(Source: Water Management Division, Department of Irrigation)

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Table 5: National Cultivation progress of Paddy, *Maha* season, 2022/23 (05.12.2022)

No	District	Cultivation Progress of <i>Maha</i> season 2022/23		
		A (Hectares)	B (Hectares)	A + B Total (Hectares)
		Extent of land sown or planted	Extent of land under basic land preparation only	
1	Colombo	2,727.53	708.70	3,436.23
2	Gampaha	10,983.29	1,194.30	12,177.58
3	Kalutara	11,282.15	1,847.56	13,129.71
4	Kandy	4,847.94	5,843.26	10,691.20
5	Matale	4,604.57	7,072.64	11,677.21
6	Nuwara Eliya	302.15	54.00	356.15
7	Galle	6,562.04	4,126.91	10,688.95
8	Matara	8,490.96	4,374.12	12,865.08
9	Hambantota	6,122.16	15,686.31	21,808.47
10	Kurunegala	54,066.33	11,758.19	65,824.52
11	Puttalam	14,741.69	1,390.37	16,132.06
12	Anuradhapura	28,867.02	40,233.85	69,100.87
13	Polonnaruwa	14,574.81	39,303.50	53,878.31
14	Badulla	7,538.33	2,805.39	10,343.72
15	Moneragala	19,116.88	11,189.94	30,306.82
16	Rathnapura	5,620.40	3,560.40	9,180.80
17	Kegalle	5,000.02	1,500.77	6,500.79
18	Ampara	72,033.26	8,746.26	80,779.52
19	Trincomalee	40,225.64	2,869.19	43,094.83
20	Batticaloa	71,109.49	406.71	71,516.20
21	vavuniya	14,949.25	4,582.74	19,531.99
22	Jaffna	9,791.60	2,256.41	12,048.00
23	Mannar	13,087.40	5,765.73	18,853.13
24	Mulathiu	21,498.95	401.40	21,900.35
25	Kilinochchi	28,388.90	390.00	28,778.90
<b>Total</b>		<b>476,532.76</b>	<b>178,068.64</b>	<b>654,601.40</b>

(Source: Corporate Development Division, Department of Agrarian Development)

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*Special Thanks: Mr. A.L.Siriwardena (Principal Agriculturist and Crop-coordinator – Big Onion)*