

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN



08<sup>th</sup> April 2023 to 08<sup>th</sup> May 2023

Issued on 08<sup>th</sup> April 2023



**Department of Meteorology**

**Department of Agriculture**

**2023.04.08**

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

## Weather and Climate update Department of Meteorology

### Rainfall Analysis-March 2023

According to the available rainfall data in the Department of Meteorology, near or above normal rainfalls were reported over most parts of the country except Northwestern province and in Jaffana, Killinochchi and Mannar, districts and in some parts of Matara and Rathnapura districts where below normal rainfalls were reported during the month of March 2023. It has been reported nearly 200% of normal rainfalls over Galle district during the month.

Observed rainfall as a percentage of normal during the month of March 2023 is shown in the figure 1(a) and observed cumulative rainfall as a percentage of normal from 1<sup>st</sup> January 2023 to 31<sup>st</sup> March 2023 is shown in the figure 1 (b).

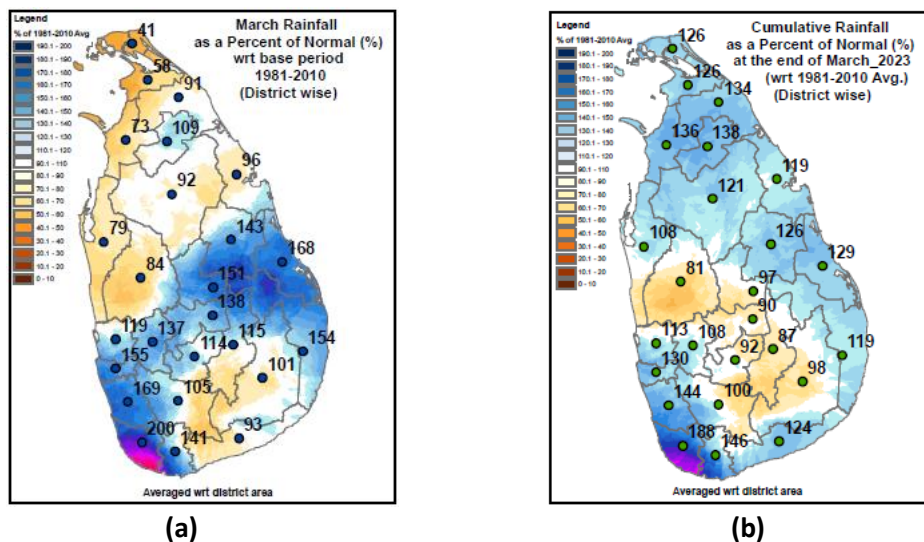
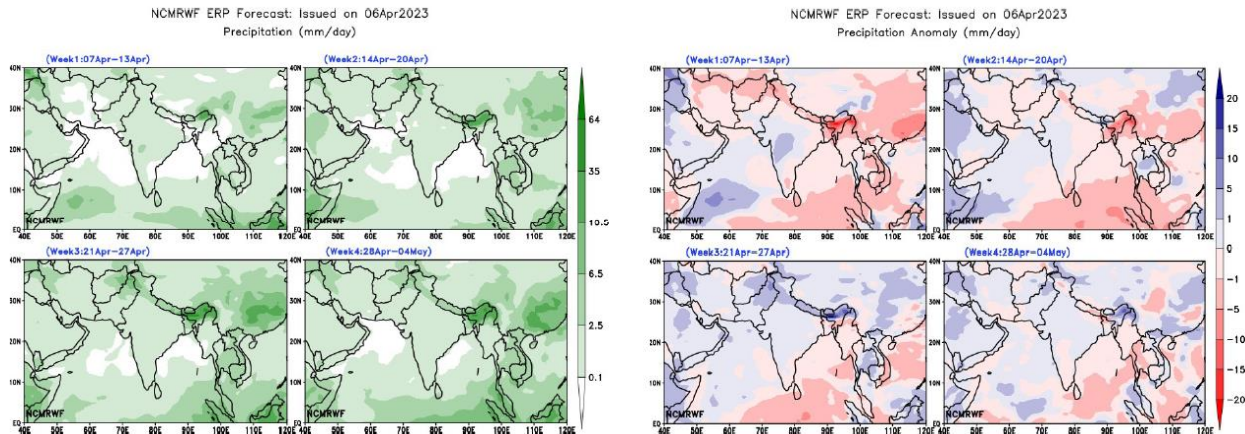


Figure 01 : Observed Monthly rainfall as percentage of long-term average (1981-2010) during March 2023 (a) and cumulative rainfall from 01st January 2023 to 31st March 2023 as percentage of long term average (1981- 2010) (b)



# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

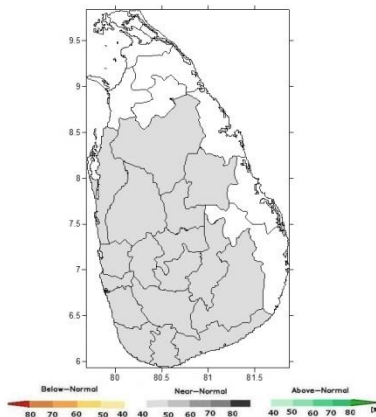


**Figure 03 :** Weekly rainfall Forecast and the Rainfall anomaly (mm/day)

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 April-May-June (AMJ) 2023



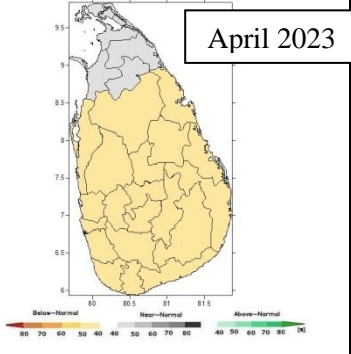
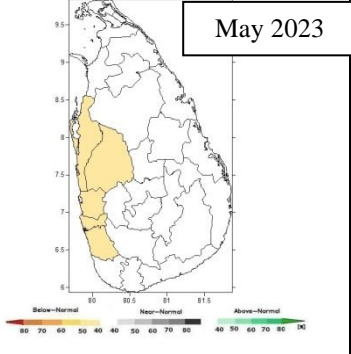
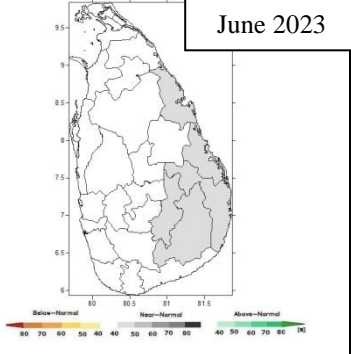
**Figure 04 :** Seasonal Rainfall Forecast for April-June 2023 (AMJ 2023)

Near or slightly below normal rainfalls are likely over most parts except Northern and Eastern provinces where no signal exists. As such there is equal probability for below or near or above normal rainfalls over Northern and Eastern parts of the country during AMJ 2023 season as a whole (Fig.01).

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

However there is a possibility for developing low pressure area, depression or cyclone in the Bay of Bengal which could enhance the rainfall over the country, particularly over southwest part of the country during latter part of the month of May and early June (Fig. 04).

## Monthly Rainfall Forecasts for April-May-June 2023

Month	Rainfall forecast
 <p style="text-align: center;">April 2023</p>	<p>Below normal rainfalls are likely over most parts of the country during the month of April 2023. However, there is a possibility for near or slightly below normal rainfalls in Northern province.</p>
 <p style="text-align: center;">May 2023</p>	<p>There is a possibility for slightly below normal rainfalls in Western and North-western part and No signal for other areas, where having equal probability for below or near or above normal rainfalls for remaining areas during May 2023. However there is a possibility for developing low pressure area, depression or cyclone in the bay of Bengal which could enhance the rainfall over the country, particularly over South-west part of the country during latter part of the month of May. If so rainfall could be enhanced.</p>
 <p style="text-align: center;">June 2023</p>	<p>Near normal rainfalls are likely over Eastern and Uva provinces and there is no clear signal for remaining areas. As such there is equal probability for below or near or above normal rainfalls over remaining areas of the country during the month of June 2023.</p> <p>However there is a possibility for developing low pressure area, depression or cyclone in the bay of Bengal which could enhance the rainfall over the country, particularly over Southwest part of the country during early June.</p>

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

**Agro-met Advisory: April 2023**

**Natural Resource Management Centre, Department of Agriculture**

**(For the months of April, May and June 2023)**

According to the seasonal rainfall predictions issued by the Department of Meteorology (DoM), 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.

The average effective storage in major reservoirs under Irrigation Department (ID) is about 69.6%. Recent updated information on the water levels and water availability of major reservoirs are attached in Table 4. ID further stated that, irrigation-range wise water issuing has been started from 15<sup>th</sup> of March for all ranges except for Polonnaruwa. Irrigation water issuing for Polonnaruwa to be started after the Sinhala and Hindu new year.

Department of Agrarian Development (DAD) informed that, according to the recent update, fifty percent of minor irrigation tanks under the DAD are at the satisfactory level. Water issuing under some minor irrigation tanks also has been stated on 15<sup>th</sup> of March and will continue starting until the end of April.

Mahaweli Authority of Sri Lanka (MASL), stated that all Mahaweli systems will receive water to start the *Yala* season, before 25<sup>th</sup> of April. In addition to paddy, MASL planned to prioritize other field crops (OFCs) considering the customary of limited water resource, during a *Yala* season.

Based on 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.

## **Paddy cultivation:**

- According to the available information, paddy cultivations under major and minor irrigation schemes including Mahaweli areas, will complete the field establishment of the crop before the end of this month. Therefore, compared to the previous *Yala* season, this can be considered as a successful achievement.

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

- As forecasted by DoM, although the onset of first inter-monsoon rains occurred on time, the amount of rainfall will be below the expectation. Furthermore, slightly below normal rainfall has been predicted over Western and Northwestern part of the country during May. Rainfed paddy farmers, specially within the Kurunegala and Puttalam areas are advisable to consider this prediction, while planning their cultivation activities.
- Three and half (3½) months-aged paddy varieties are recommended for the irrigation farming systems.
- Three months-aged paddy varieties are recommended for rainfed rice systems. However, considering the weather forecast, rainfed paddy farmers can go for the 2½ months age classes to minimise possible risks.
- Following agronomic practices are proposed to follow during the recommended **three weeks of land preparation activities**.
  - Use the Disc plough (4-wheel tractor) or Mould-board plough (2-wheel tractor) for proper ploughing (6” – 9”) during the first land preparation.
  - After the primary tillage, the bunds should be cleaned.
  - Maintain the standing water level covering ½ of the each ploughed soil clods, (*Hee-kata*) and allow 10 days, to germinate weed seeds.
  - Then incorporate organic matter to paddy fields before 2<sup>nd</sup> ploughing.
  - The 2<sup>nd</sup> ploughing need to be done perpendicular direction to the primary tillage by using a tine tiller or a rotovator and standing water can be maintained at the level of 1”- 2” for 7 days.
  - Then, repairing and replastering of bunds should be done.
  - Compost and decomposed organic manure can be added to the field at 3<sup>rd</sup> land preparation.
  - Tertiary tillage involves puddling and levelling. Puddling followed by a proper levelling is important for efficient and uniform water management, weed control, proper crop establishment.
  - It is recommended to have three weeks for land preparation including primary, secondary and tertiary tillage and then to crop establishment. And make sure, **not to** reduce the allocated time period for land preparation, less than two weeks.

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

- Better to encourage parachute seedling broadcasting, if trays are available to reduce seed rate and to develop healthy plants.
- An early *Yala* season will allow for a successful inter-season (3<sup>rd</sup> season) cultivation and it will contribute to reach the national production targets of OFC's such as green gram.

## Other Field Crops (OFCs)

- According to the general climatology of the country, during a *Yala* season, a fair amount of rainfall receives to the Dry and Intermediate zones during FIM period. Under predicted below normal rainfall during April, OFC cultivating farmers should have to get the maximum benefits of short-intense, convectional rains during this month.
- Farmers who are planning to cultivate OFCs such as maize, black gram etc. should have to start land preparation activities with the available rain water during early April, choosing well drained lands and try to improve drainage systems to avoid the water logging situations due to unexpected intense rains. This is especially important for paddy tracts which are going to be used for OFCs.
- Nurseries for the Big onion cultivations should be stated during mid-April to prevent possible damages due to pre-monsoonal disturbances expected during May.
- The following table shows the seed availability of important subsidiary field crops at the Seed and Planting Material Development Center (SPMDC) to continue the season.

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

Dry Zone (mm)		Intermediate Zone (mm)		Wet Zone (mm)	
AER	Apr	AER	Apr	AER	Apr
DL1a	150.9	IL1a	123.4	WL1a	250.2
DL1b	87.7	IL1b	98.1	WL1b	184.5
DL1c	57.0	IL1c	113.2	WL2a	161.3
DL1d	15.6	IL2	84.0	WL2b	195.4
DL1e	38.0	IL3	113.5	WL3	146.9
DL1f	72.3	IM1a	119.8	WM1a	236.4
DL2a	45.6	IM1b	108.1	WM1b	229.7
DL2b	26.1	IM1c	91.1	WM2a	179.7
DL3	43.3	IM2a	175.4	WM 2b	167.3
DL4	41.8	IM2b	158.7	WM3a	162.6
DL5	51.7	IM3a	98.4	WM3b	118.8
		IM3b	106.5	WU1	189.8
		IM3c	92.9	WU2a	161.3



# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

			IU1	125.6		WU2b	184.5
			IU2	123.4		WU3	123.0
			IU3a	250.4			
			IU3b	197.5			
			IU3c	144.4			
			IU3d	100.3			
			IU3e	99.9			

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

Table 2: Agro-ecological region wise expected rainfall values for **May**

Dry Zone (mm)		Intermediate Zone (mm)		Wet Zone (mm)	
AER	May	AER	May	AER	May
DL1a	44.5	IL1a	104.0	WL1a	358.3
DL1b	31.8	IL1b	88.5	WL1b	345.7
DL1c	27.1	IL1c	62.9	WL2a	205.3
DL1d	17.5	IL2	40.0	WL2b	142.4
DL1e	24.3	IL3	60.7	WL3	198.8
DL1f	27.5	IM1a	67.3	WM1a	293.3
DL2a	29.5	IM1b	42.0	WM1b	252.8
DL2b	14.5	IM1c	34.5	WM2a	158.7
DL3	18.5	IM2a	121.4	WM 2b	143.4
DL4	13.7	IM2b	78.4	WM3a	107.3
DL5	21.0	IM3a	82.9	WM3b	85.6
		IM3b	46.7	WU1	244.5
		IM3c	55.0	WU2a	170.5
		IU1	81.4	WU2b	156.4
		IU2	84.1	WU3	123.0
		IU3a	94.2		
		IU3b	84.6		
		IU3c	78.0		
		IU3d	95.8		
		IU3e	70.6		

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

Table 3: Agro-ecological region wise expected rainfall values for **June**

Dry Zone (mm)		Intermediate Zone (mm)		Wet Zone (mm)	
AER	Jun	AER	Jun	AER	Jun
DL1a	4.9	IL1a	65.8	WL1a	280.5
DL1b	3.1	IL1b	52.4	WL1b	227.2
DL1c	1.1	IL1c	12.9	WL2a	181.7
DL1d	0.1	IL2	5.7	WL2b	164.3
DL1e	0.0	IL3	18.5	WL3	121.2
DL1f	0.4	IM1a	19.4	WM1a	312.5
DL2a	3.5	IM1b	27.7	WM1b	227.4
DL2b	30.2	IM1c	5.6	WM2a	226.4
DL3	0.7	IM2a	77.8	WM 2b	160.0
DL4	0.0	IM2b	16.2	WM3a	121.3
DL5	28.6	IM3a	92.9	WM3b	79.4
		IM3b	39.0	WU1	344.8
		IM3c	50.1	WU2a	274.3

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

			IU1	83.1		WU2b	217.6
			IU2	51.1		WU3	137.9
			IU3a	16.5			
			IU3b	22.8			
			IU3c	11.7			
			IU3d	12.6			
			IU3e	17.3			

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

Table 4: Summary of daily water levels & storage of major reservoirs (06.04.2023)

NO	RANGE	NO OF TANKS	STORAGE (Acft)				
			GROSS	DEAD	PRESENT	EFFECTIVE	
						Acft.	%
1	AMPARA	9	1,052,221	16,259	541,814	525,555	50.7%
2	ANURADAPURA	10	556,390	27,583	460,966	433,383	82.0%
3	BADULLA	7	78,315	4,138	67,547	63,409	85.5%
4	BATTICALOA	4	140,172	1,085	131,624	130,539	93.9%
5	HAMBANTOTA	10	377,738	34,172	277,375	243,203	70.8%
6	GALLE	2	3,081	-	2,800	2,800	90.9%
7	KANDY	3	28,503	386	24,819	24,433	86.9%
8	KURUNEGALA	10	142,413	5,670	108,736	103,066	75.4%
9	MONARAGALA	3	44,873	2,640	29,712	27,072	64.1%
10	POLONNARUWA	4	352,010	24,300	305,137	280,837	85.7%
11	PUTTALAM	2	74,261	8,400	41,773	33,373	50.7%
12	TRINCOMALEE	5	191,328	2,555	166,501	163,946	86.8%
13	MANNAR	4	67,370	675	43,814	43,139	64.7%
	<b>TOTAL</b>	<b>73</b>	<b>3,108,674</b>	<b>127,863</b>	<b>2,202,618</b>	<b>2,074,755</b>	<b>69.6%</b>

(Source: Water Management Division, Department of Irrigation)

Table 5. Available seed stocks in SPMDC for the present season (06.04.2023).

Crop	Available seed stocks (kg)
Green gram	20,000
Black gram	60,000
Cowpea	4,000
Maize Local	19,000
Maize hybrid	7,000
Soya Bean	120,000
Finger millet	10,000
Chilli (Opv)	6,400
Chilli (Hybrid)	135
Sesame (Black)	2,000

# NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN

(Source: SPMDC, DoA)

- ❖ 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 May, 2023 in consultation with the members of the technical advisory committee, other relevant resource persons and stakeholders.

#### Technical Advisory Team Members

- Ms. Anusha Warnasooriya (Director – Climate Change and Research) Department of Meteorology
- Eng. (Ms.) S. Vidanapathirana (Director – Water Management) Irrigation Department
- Ms. D.K.W.R. Senevirathna (Director – Agriculture) Mahaweli Authority of Sri Lanka
- Mr. D.D. Perera (Technical Officer - Water Management Division) Department of Agrarian Development
- Dr. H.K. Kadupitiya, (Director, Natural Resources Management Centre)
- Dr. W.M.U.K. Rathnayake (Principal Agriculture Scientist – Soil Science - Rice) Rice Research and Development Institute
- Dr. M.A.P.W.K. Malaviarachchi (Principal Agriculture Scientist – Agronomy – Field Crops) Field Crops Research and Development Institute
- Mr. K.M.D.W.P. Nishantha (Additional Director, Plant Protection Service) Horticultural Crops Research and Development Institute
- Mr. L.C. Silva (Assistant Director of Agriculture, Research - Physiology) Rice Research and Development Institute
- Ms. T.M.P.G.S.P. Thennakoon (Deputy Director-ICT) National Agriculture Information and Communication Center
- Mr. M.S. Thilakasiri (Deputy Director of Agriculture– Seed Paddy) Seed and Plant Material Development Center
- Ms. Aruni B. Abeysekera (Assistant Director of Agriculture-Agro-climatology and Climate Change) - Natural Resources Management Centre

#### Special Thanks:

- Dr. A.M.B.N. Abeysinghe (Principal Agriculture Scientist and Crop coordinator – Maize)
- Mr. A.L.Siriwardena (Principal Agriculturist and Crop-coordinator – Big Onion)