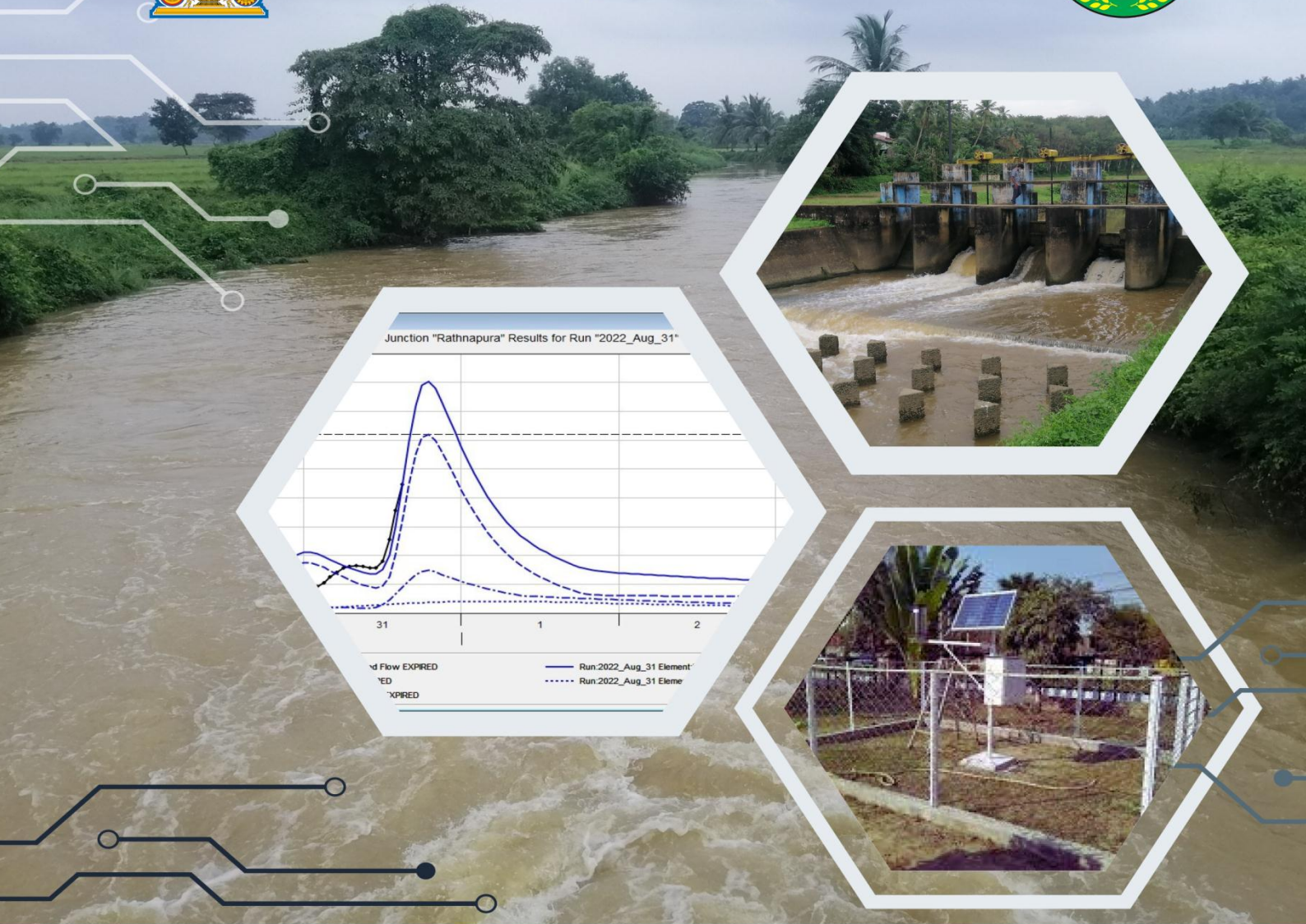
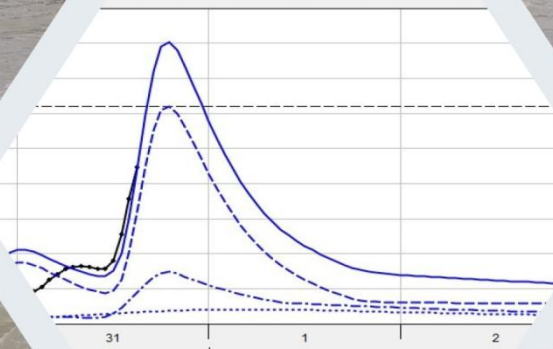




Irrigation Department Ministry of Irrigation



Junction "Rathnapura" Results for Run "2022_Aug_31"



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Hydrological Annual of Sri Lanka 2019/2020

Hydrology and Disaster Management Division
Irrigation Department
Colombo 07
Sri Lanka



**IRRIGATION DEPARTMENT
MINISTRY OF IRRIGATION**



**HYDROLOGICAL ANNUAL OF SRI LANKA
2019/20**

**Hydrology and Disaster Management Division
Irrigation Department
Colombo 07
Sri Lanka**

Hydrological Annual for the Water Year 2019/20
Hydrology and Disaster Management Division, Irrigation Department.

61st year of publication

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Foreword

It is a great pleasure to publish the Hydrological Annual of Sri Lanka for the Water Year 2019/20 though delayed considerably due to unavoidable circumstances owing to the pandemic situation prevailed in the country. As the pioneer government institution responsible for collection and management of hydrological data necessary for Water Resources Management, Flood Management, Research and Academic needs of various institutions and professionals, Hydrology and Disaster Management Division (Hyg. & DM Division) of Irrigation Department (ID) continued this publication since 1960 with immense effort and devotion. Being the 61st volume of the series, this bulletin contains long term data and information as well as data collected during the Water Year 2019/20 (October 2019 to September 2020). During the recent years hydro-meteorological network of the country has been upgraded and modernized by introducing automated instruments and a monitoring system. Automated instruments have been installed at Manual Hydrological Stations while introducing some new stations at important locations. At present, there are 106 automated hydro-meteorological stations that are operated and maintained by the Hydrology & Disaster Management Division. However, manual monitoring has been continuously done, owing to the reliability of manual monitoring and the frequent maintenance issues and discontinuities appeared in the automated system.

This Bulletin contains two parts. Part I provides general information such as Terminology and Abbreviations Used, Conversion Factors, River Basin Map of Sri Lanka with catchment areas, and a list of principal Hydro-met Stations with their locations and drainage areas. Part II contains important hydro-meteorological data and information related to the current year and a comparison with long term data and information. I strongly believe that this section would be very useful for managers in the water sector and disaster management sector for making decisions. In addition, this part would be very useful for Academia and Researchers for further researches etc.

I would like to pay my appreciation to various personnel who contributed to make this publication a success. **Eng. Nihal Siriwardana (DGI), Eng. I.D.S. Samarasuriya (Addl. DGI (IP & D))**, all the members of the review panel, all of the staff of Hydrology and Disaster Management Division led by **Eng. Dr. S. Hemakanth (Chef Engineer), Eng. A.D.S. Iresh (Snr. IE), Eng. U.H.N.H. De Silva (ERE), Eng. Miss. G.W.A.S. Dilthara, Eng. Mr. S.A.D.S. Samarasinghe, Mr. K.A. Amarasiri (HDS) and Mr. M.H.G. Kamaljith (HFS)**. I would like to pay my special gratitude to all the staff of the Hydrology and Disaster Management Division who supported to collect all the data continuously even with the prevailed Covid – 19 pandemic situation. I apologize for not mentioning all the names who have devoted for the success of this publication as the space is limited.

Eng. S.P.C. Sugeeshwara

Director of Irrigation (Hydrology & Disaster Management)

2022-09-12

Terminology and abbreviations used in the publication

Annual Flood Peak	-	Highest value of discharge for the year indicated by the hydrograph
Annual Runoff	-	The total volume of water measured at a particular point for the year.
Annual Yield	-	Annual yield is the volume of water available to the tank from its own catchment (without diversions) during the year.
Average Annual Rainfall	-	Arithmetic mean of annual rainfall values for the period of observation.
Average Annual Runoff	-	Arithmetic mean of annual run-off for the period of observation.
Evaporation	-	The transfer of water into the atmosphere from a free water surface.
Flood Hydrograph	-	A plot of discharge against time.
Maximum Flood Peak	-	Maximum observed flood peak during the period of observation.
MCM	-	Million Cubic Meter
NEM	-	North East Monsoon (October to March)
Potential Evapotranspiration	-	The evapotranspiration from vegetal cover and from soil surface when the root zone is saturated.
Rainfall Intensity	-	Cumulative depth of rainfall during a particular duration.
Specific Yield	-	Yield per unit Catchment Area
SWM	-	South West Monsoon (April to September)
HMIS	-	Hydro-Meteorological Information System

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1. General Information

1.1 Topography

Sri Lanka is a country which is lying within the tropical region (between 5⁰55'E - 9⁰51'E, 79⁰41'N - 81⁰53'N). The total land area is 65,610 km². As shown in the topographic map Fig. 1, around 60% of the land area is located within a broad first peneplain, which the elevation ranges between 0~100 m above Mean Sea Level (MSL). Another peneplain rises to 500 m above MSL and covers around 30% of the land area. The other peneplain covers 10% of land area mostly situated in the central part of the Island, rises steeply to form a mountain range that reaches an elevation of 2,524 m above MSL.

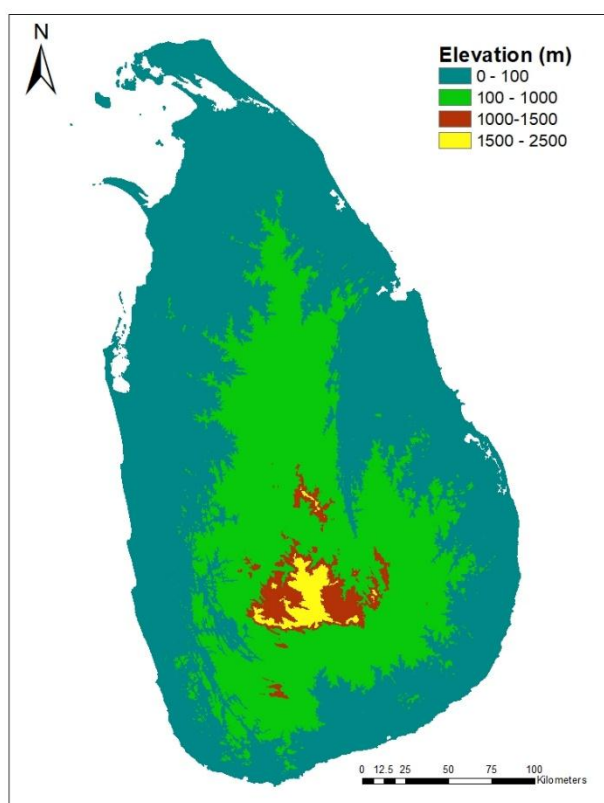


Fig. 1: Topography of Sri Lanka

1.2 Climate

The hydrologic cycle of this Island situated in the tropical region, is impacted mainly by the seasonally varying monsoon systems. The windward southern, western and central hill regions receive high rainfall during the South-West (SW) monsoon season, May to September, with rainfall ranging from 1000 to 4000 mm, while other regions on the leeward side experience less than 500 mm rainfall during the five months. On the other hand, during the North-East (NE)

monsoon season, December to February, the eastern and southeastern parts record a significant rainfall ranging from 500 to 1200 mm, while other parts record less rainfall. In addition to the above two main monsoons, another two more monsoon systems called Inter Monsoon-1 (IM-1) and Inter Monsoon-2 (IM-2) are influencing the weather system of the country. IM-1 is the warmest season, March to April, in Sri Lanka, and the whole country receives localized thunderstorms especially in the afternoon period. The South Western slopes and hilly regions get more rainfall of around 250 mm, while the rest of the country receives rainfall varying between 100 to 250 mm. On the other hand, IM-2 brings thunderstorms in the afternoon from October to November, influenced by depression and cyclones in the Bay of Bengal. The whole island experiences strong winds and a balanced distribution of rainfall. During this inter-monsoon the South Western slopes receive higher rainfall ranging between 700 to 1200 mm while other regions receive more than 400 mm, which leads to occasional flooding and landslides (Department of Meteorology-SL, 2020).

A spatially varying pattern of rainfall is observed, and it is influenced by the complex nature of the central highland's topography, as shown in Fig. 1. Therefore, the Department of Agriculture has demarcated the island into three main Argo climatic zones based on the spatial and temporal variability of annual rainfall, as shown in Fig. 2, wet zone (more than 2500 mm), intermediate zone (1750-2500 mm) and dry zone (less than 1750 mm) (Department of Meteorology-SL, 2020).

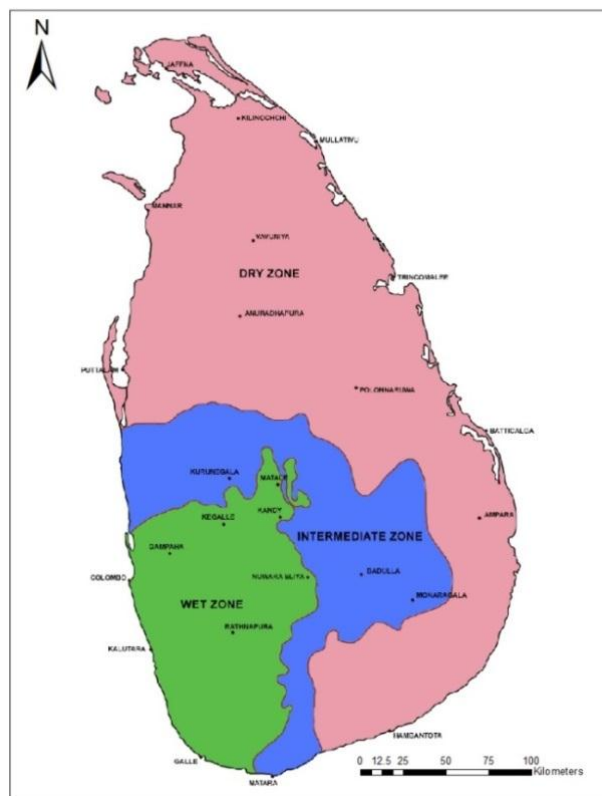


Fig. 2: Climate Zones of Sri Lanka

1.3 Water Resources of Sri Lanka

A total of 103 seasonal and perennial river systems, starting from the central part of the country, flow radially across various topographies and climatic zones before reaching the Indian Ocean surrounding the island. The river network of Sri Lanka is shown in Fig. 3, and the statics of catchment areas of rivers are given in Fig. 4. The majority of the rivers, 75 in total, have a catchment area less than 500 sq.km. Among them, 41 rivers drain less than 100 sq.km. There are 7 major rivers draining more than 2000 sq.km. The largest river basin is the Mahaweli (MRB), which drains 10,366 sq. km and covers 16% of the land area of the country. Other than this, there are four other river basins with a catchment area of over 2500 sq.km. Out of these four, three are located within the dry zone (Deduru Oya, Kala Oya, and Malwathu Oya) and connected with the MRB through trans-basin channels. The fourth river, the Kalu River, is located within the wet zone, and floods in this river create a major threat for the western region of Sri Lanka, mainly in Kalutara, and Ratnapura districts.

Though the Kalu, Kelani, Gin, and Nilwala river basins in the southern part of the country cover only 13% of the land area, almost 30% of the population live within these river basins. The dry-zone districts comprise 75% of the country (Amarasinghe 2010).

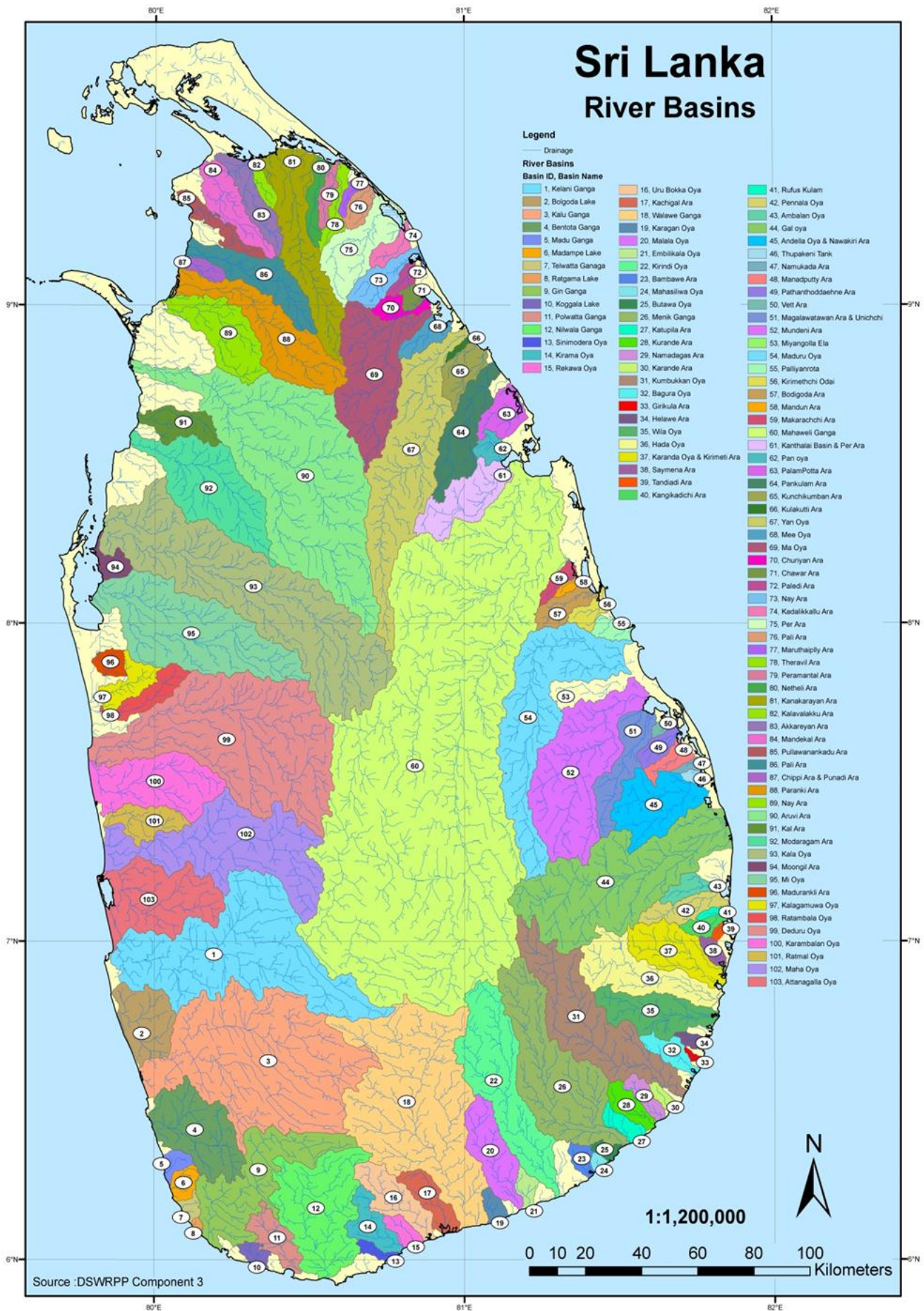


Fig. 3: River Basins of Sri Lanka

Table 1: Area of the River Basins

No	River Name	Basin Area (Sq.km)
1	Kelani Ganga	2340
2	Bolgoda Ganga	396
3	Kalu Ganga	2816
4	Bentara Ganga	667
5	Madu Ganga	69
6	Madampe Ganga	90
7	Telwatta Ganga	41
8	Ratgama Lake	13
9	Gin Ganga	915
10	Koggala Ganga	55
11	Polwatta Ganga	232
12	Nilwala Ganga	1001
13	Sinimodara Oya	35
14	Kirama Oya	209
15	Rekawa Oya	70
16	Urubokka Oya	389
17	Kachchigal Ara	208
18	Walawe Ganga	2424
19	Karagan Oya	60
20	Malala Oya	409
21	Embilikala Oya	69
22	Kirindi Oya	1156
23	Bambawe Ara	66
24	Mahaseelawa Oya	13
25	Buthawa Oya	37
26	Menik Ganga	1301
27	Katupila Ara	111
28	Kurunda Ara	99
29	Nabadagas Ara	110
30	Karambe Ara	54
31	Kumbukkan Oya	1227
32	Bagura Oya	93
33	Girikula Oya	14
34	Helawa Ara	38
35	Wila Oya	472
36	Heda Oya	615
37	Karanda Oya	425
38	Seman Aru	72
39	Tandiadi Aru	20
40	Kangikadichi Aru	78

No	River Name	Basin Area (Sq.km)
41	Rufus Kulam	27
42	Pannel Oya	195
43	Ambalan Oya	112
44	Gal Oya	1911
45	Andella Oya	534
46	Tumpan Keni	18
47	Namakada Aru	12
48	Mandipattu Aru	90
49	Pathantoppu Aru	101
50	Vett Aru	22
51	Magalavatavan Aru	304
52	Mundeni Aru	1373
53	Miyangolla Ela	228
54	Maduru Oya	1439
55	Pulliyampota Aru	87
56	Kirimechchi Odai	89
57	Bodigolla Aru	132
58	Mandan Aru	26
59	Makarachchi Aru	59
60	Mahaweli Ganga	10266
61	Kantalai Aru	437
62	Palampotta Aru	97
63	Panna Oya	164
64	Pankulam Aru	477
65	Kunchikumban Aru	245
66	Palakutta Aru	8
67	Yan Oya	1518
68	Mi Oya	89
69	Ma Oya	1042
70	Churiya Aru	105
71	Chavar Aru	35
72	Palladi Aru	66
73	Manal Aru	194
74	Kodalikallu Aru	92
75	Per Aru	392
76	Pali Aru	70
77	Maruthapillay Ary	36
78	Thervil Aru	104
79	Piramanthal Aru	91
80	Methali Aru	114

No	River Name	Basin Area (Sq.km)
81	Kanakarayan Aru	604
82	Kalwalappu Aru	68
83	Akkarayan Aru	244
84	Mandekal Aru	208
85	Pallavarayan Kaddu Aru	311
86	Pali Aru	451
87	Chappi Aru	79
88	Parangi Aru	770
89	Nay Aru	717
90	Aruvi Aru	3291
91	Kal Aru	210
92	Moderagama Aru	1001

No	River Name	Basin Area (Sq.km)
93	Kala Oya	2526
94	Moongil Aru	78
95	Mee Oya	1555
96	Madurankuli Aru	128
97	Kalagamune Oya	169
98	Rathambala Oya	244
99	Deduru Oya	2622
100	Karambala Oya	693
101	Ratmal Oya	341
102	Maha Oya	1470
103	Attanagalu Oya	811

Note: There are land areas which are not accounted for any of above river basins such as Jaffna peninsula and micro catchments in coastal zone intervening between adjacent river basins.

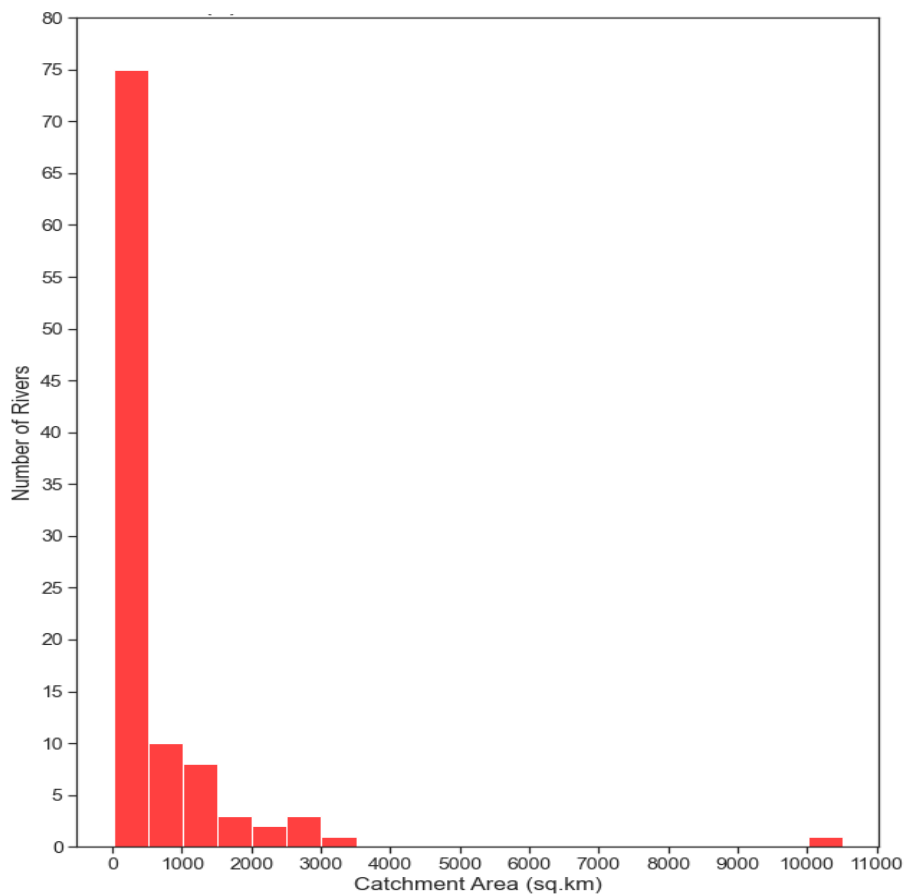


Fig. 4: Number of Rivers basis on Catchment Area

2. Hydrometric Stations - 2019/20

The Hydrology and Disaster Management Division maintains 40 main river gauging stations where a gauge reader is kept at a permanent site office each, to read the gauges manually in day and night so that the hourly gauge readings can be obtained. The list of those main hydrometric stations is given in Table 2 and the locations of them are shown in Fig. 5. In addition, 60 gauging stations have been established as peripheral stations, shown in Fig. 6. Further there are automated hydrometric stations under HMIS, shown in Fig. 7.

Table 2: Main River Gauging Stations

No.	Name of Station	River Basin	Coordinate		Drainage Area (Sq.km)
			WGS 84	SLD 99	
1	Norwood	Kelani Ganga	(6°50'22"N, 80°36'42"E)	(182640, 181774)	97
2	Kithulgala	Kelani Ganga	(6°59'26"N, 80°24'44"E)	(160463, 198887)	383
3	Deraniyagala	Kelani Ganga	(6°55'28"N, 80°20'16"E)	(152178, 191467)	183
4	Holombuwa	Kelani Ganga	(7°11'07"N, 80°15'53"E)	(144013, 220455)	155
5	Glencourse	Kelani Ganga	(6°58'28"N, 80°10'58"E)	(135077, 197069)	1463
6	Hanwella	Kelani Ganga	(6°54'34"N, 80°04'46"E)	(124021, 190153)	1782
7	Nagalagam Street	Kelani Ganga	(6°57'35"N, 79°52'37"E)	(101112, 195586)	2085
8	Rathnapura	Kalu Ganga	(6°40'42"N, 80°23'39"E)	(158263, 164395)	603
9	Ellagawa	Kalu Ganga	(6°43'55"N, 80°12'36"E)	(138766, 170307)	1393
10	Millakanda	Kalu Ganga	(6°37'56"N, 80°11'23"E)	(132411, 159142)	780
11	Magura	Kalu Ganga	(6°30'49"N, 80°14'36"E)	(141560, 146189)	152
12	Putupaula	Kalu Ganga	(6°36'06"N, 80°03'26"E)	(121550, 157362)	2598
13	Baddegama	Gin Ganga	(6°10'33"N, 80°10'27"E)	(134000, 108639)	749
14	Thawalama	Gin Ganga	(6°20'31"N, 80°19'49"E)	(151199, 127205)	377
15	Urawa	Nilwala Ganga	(6°14'12"N, 80°34'18"E)	(177866, 115547)	59
16	Pitabeddara	Nilwala Ganga	(6°12'47"N, 80°28'31"E)	(167200, 112942)	310
17	Panadugama	Nilwala Ganga	(6°06'30"N, 80°28'40"E)	(167470, 101362)	445
18	Thalgahagoda	Nilwala Ganga	(6°00'40"N, 80°31'35"E)	(172611, 090566)	852
19	Moraketiya	Walawe Ganga	(6°20'43"N, 80°54'05"E)	(214091, 127508)	1542
20	Wellawaya	Kirindi Oya	(6°42'35"N, 81°06'40"E)	(237573, 167806)	172

Continued ...

No.	Name of Station	River Basin	Coordinate		Drainage Area (Sq.km)
			WGS 84	SLD 99	
21	Thanamalwila	Kirindi Oya	(6°28'06''N, 81°08'03''E)	(240086, 141162)	749
22	Kuda Oya	Kirindi Oya	(6°31'29''N, 81°07'24''E)	(238889, 147394)	291
23	Katharagama	Menik Ganga	(6°24'56''N, 81°19'51''E)	(261842, 135357)	787
24	Nakkala	Kumbukkan Oya	(6°53'42''N, 81°17'49''E)	(258056, 188379)	216
25	Siyambalanduwa	Heda Oya	(6°54'18''N, 81°32'36''E)	(285535, 189464)	295
26	Padiyathalawa	Maduru Oya	(7°23'01''N, 81°11'31''E)	(246363, 242362)	159
27	Thaldena	Mahaweli Ganga	(7°05'27''N, 81°02'53''E)	(230537, 209992)	276
28	Calidonia	Mahaweli Ganga	(6°54'07''N, 80°41'52''E)	(192075, 189144)	148
29	Nawalapitiya	Mahaweli Ganga	(7°02'51''N, 80°32'04''E)	(173756, 205329)	176
30	Peradeniya	Mahaweli Ganga	(7°16'03''N, 80°36'30''E)	(181959, 229533)	1168
31	Weraganthota	Mahaweli Ganga	(7°19'00''N, 80°59'18''E)	(223928, 234973)	4092
32	Manampitiya	Mahaweli Ganga	(7°54'53''N, 81°05'10''E)	(234666, 301129)	7418
33	Horowpothana	Yan Oya	(8°34'39''N, 80°52'43''E)	(211775, 374422)	720
34	Thanthirimale	Malwathu Oya	(8°35'14''N, 80°16'31''E)	(145359, 375505)	2116
35	Galgamuwa	Mee Oya	(7°58'07''N, 80°15'34''E)	(143043, 307296)	299
36	Ridi bendi Ella Dam	Deduru Oya	(7°43'36''N, 80°15'48''E)	(143922, 280357)	1370
37	Chilaw	Deduru Oya	(7°36'01''N, 79°48'57''E)	(094538, 266438)	2610
38	Giriulla	Maha Oya	(7°19'30''N, 80°06'53''E)	(127468, 235942)	1191
39	Badalgama	Maha Oya	(7°18'00''N, 79°58'47''E)	(112639, 233302)	1360
40	Dunamale	Aththanagalu Oya	(7°06'56''N, 80°04'50''E)	(123789, 212906)	153

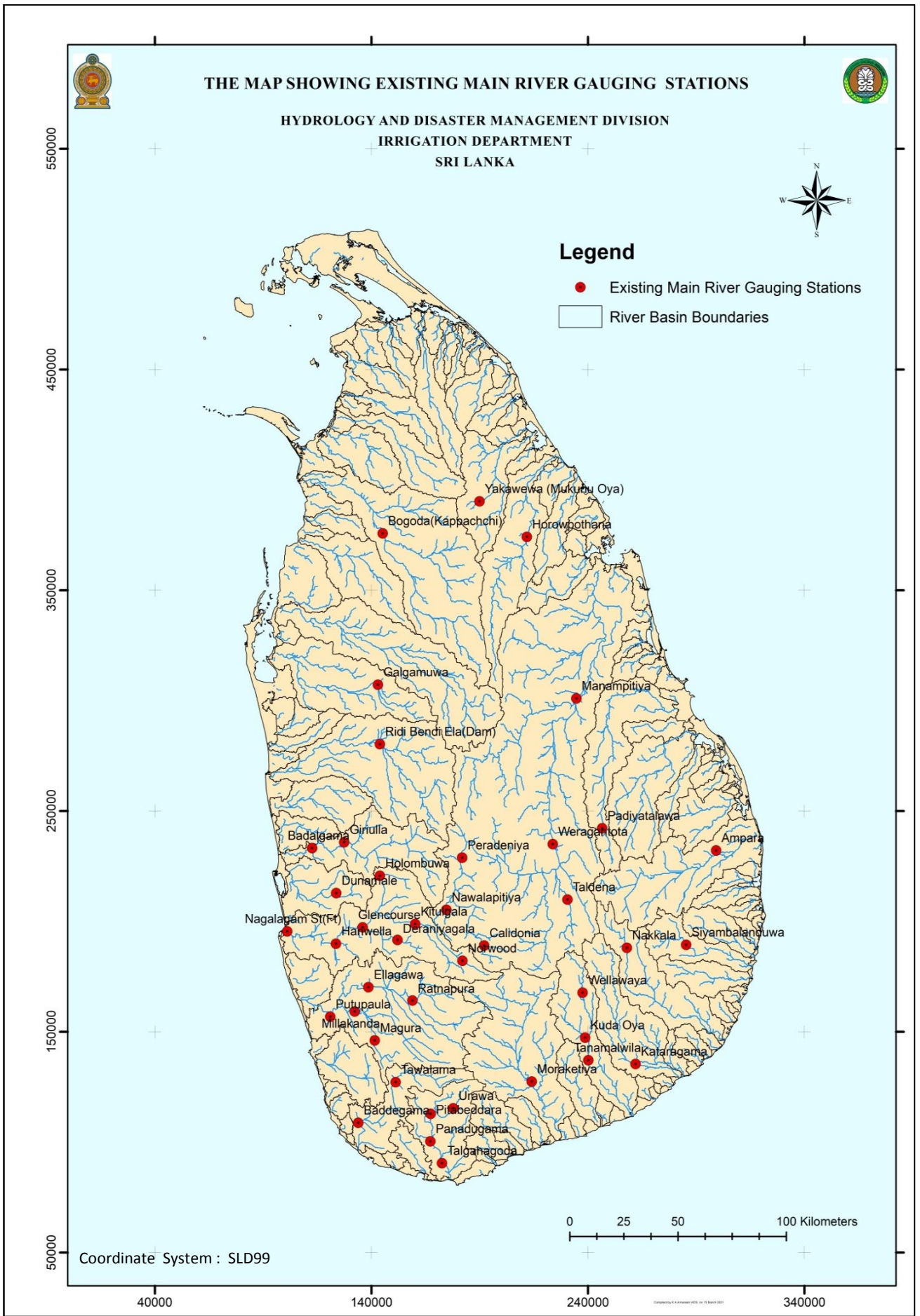


Fig. 5: Existing Main River Gauging Stations

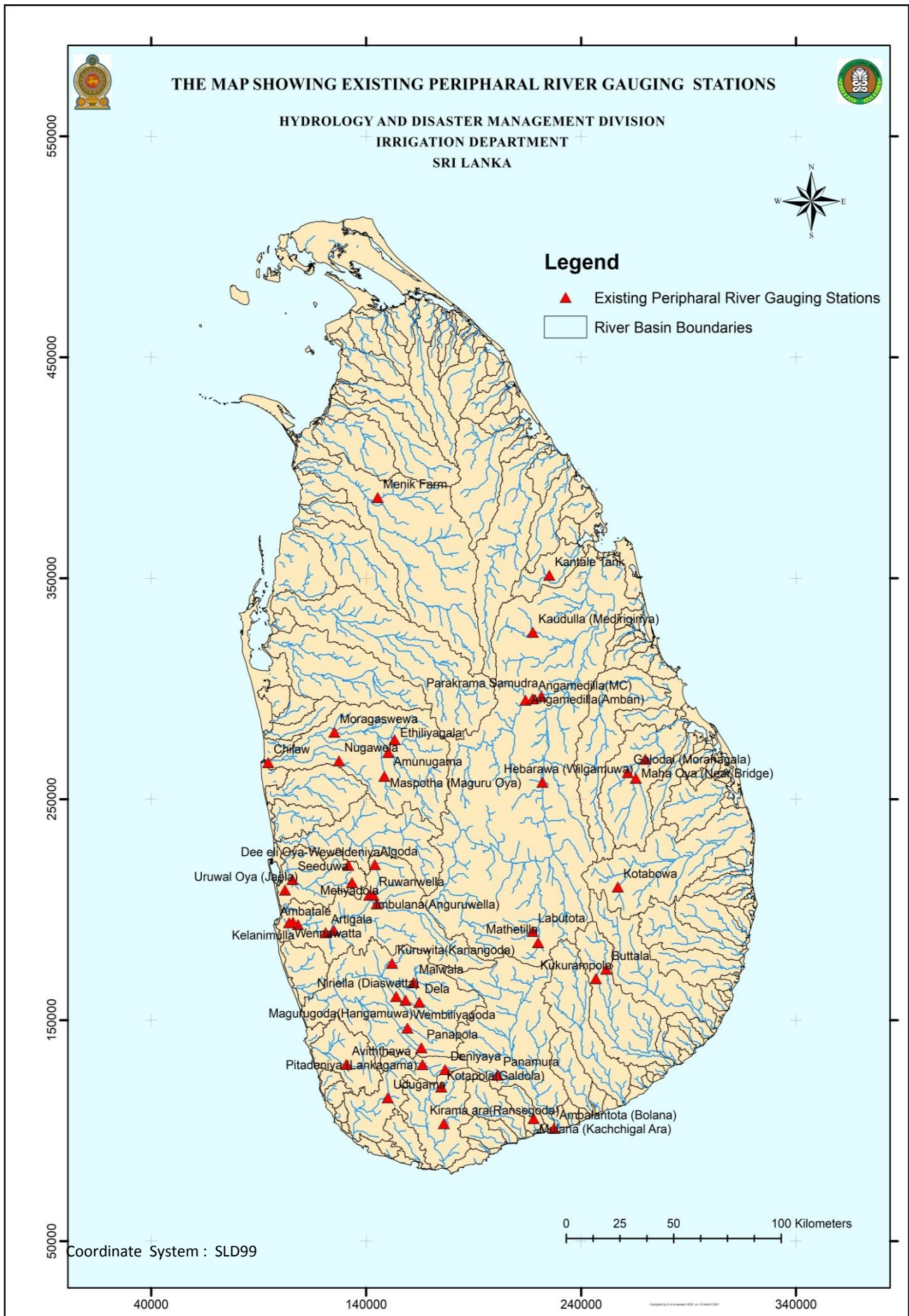


Fig. 6: Existing Peripheral River Gauging Stations

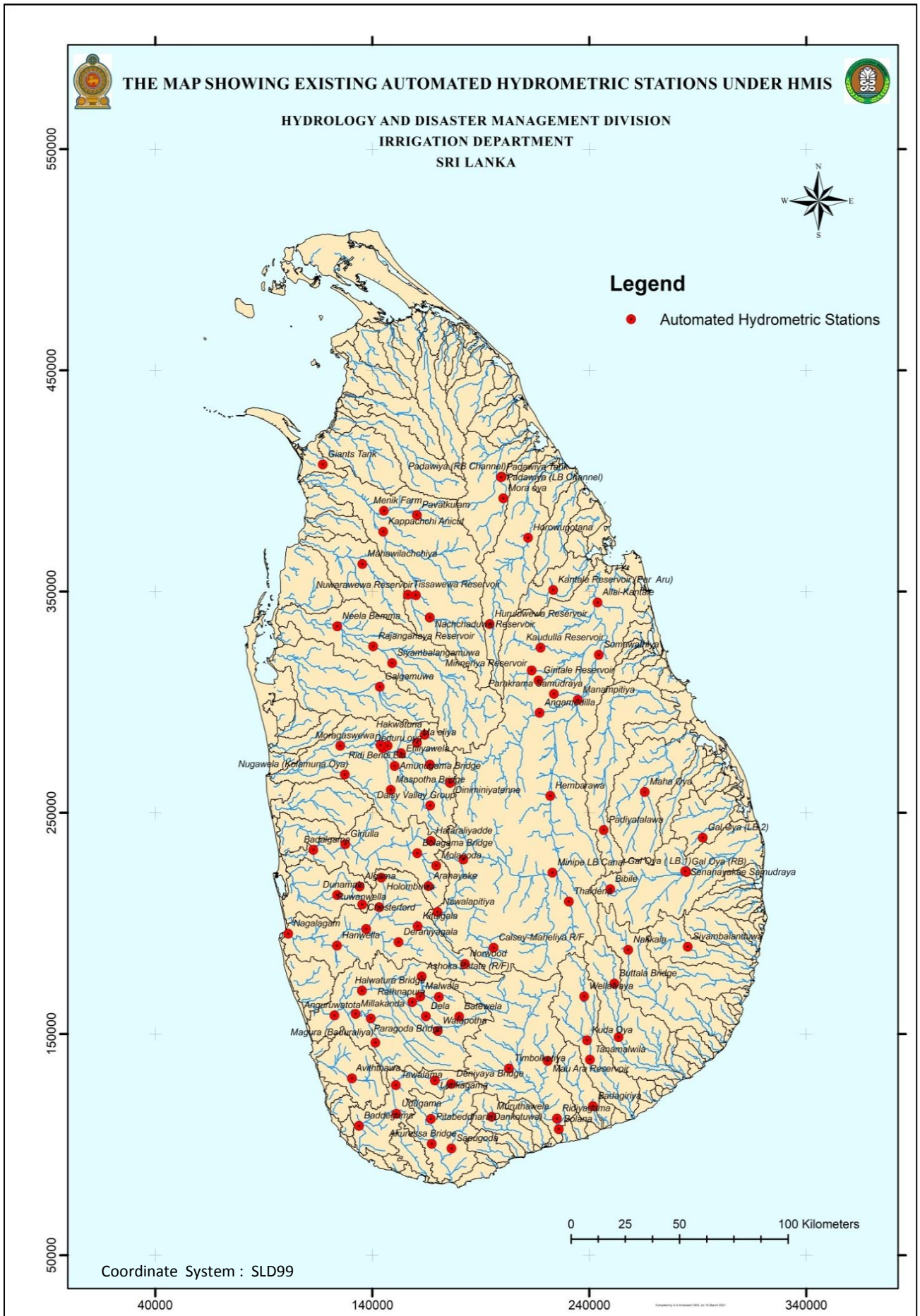


Fig. 7: Existing Automated Hydrometric Stations

3. Hydro-Meteorological Data & Information

3.1 Monthly Rainfall

Monthly rainfall data at 36 stations maintained by Hydrology and Disaster Management Division of the Irrigation Department are given in Table 3. In addition, the data at 23 stations maintained by Department of Meteorology are included in Table 4. Both data were used to get the spatial variation over the island.

When considering temporal variation at each station, it can be seen that **Deraniyagala** has received the highest annual rainfall (4725mm) in the water year. But the average annual rainfall in past 30 years is highest in **Kithulgala** (4398mm). **Weraganthota** has received the highest total rainfall of North-East monsoon (1978mm) in the current water year while the highest of long-term average is also shown in the same location (1973mm). Likewise, the highest total rainfall of South-West monsoon in both water year (2893mm) and long-term average rainfall (2841mm) is shown in **Kithulgala**. Moreover, **Mannar** has received the lowest annual rainfall in both water year (1194mm) and long-term average rainfall (982mm). And **Calidonia** has received the lowest total rainfall of North-East monsoon (580mm) in 2019/20 while the lowest long-term average rainfall is shown in **Hambanthota** (627mm). When looking at the South-West monsoon, **Pothuvil** shows the minimum total rainfall of North-East monsoon (224mm) while **Mannar** shows the minimum of long-term average (226mm).

Table 3: Monthly Rainfall at the gauging stations of Irrigation Department

Upper line: Current year 2019/20

Lower line: Long term average from 1989/90

Units: mm

Coordinate System: SLD99

No	Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	NEM Total	SWM Total	Annual Total
1	Ampara (299222, 232192)	219	473	572	88	56	12	5	138	87	136	40	127	1420	533	1953
		266	394	277	194	114	78	44	83	70	66	83	104	1322	449	1771
2	Badalgama (112639, 233302)	359	280	158	15	0	56	232	221	173	125	61	880	867	1691	2559
		340	265	126	48	54	81	202	234	160	79	105	202	914	982	1896
3	Baddegama (134000, 108639)	591	324	220	47	88	47	285	323	187	338	187	684	1317	2004	3322
		441	375	225	92	137	162	251	394	207	198	244	382	1432	1676	3108
4	Calidonia (192075, 189144)	356	108	67	0	1	48	143	343	146	163	324	241	580	1360	1940
		254	191	113	46	79	82	166	198	196	164	217	163	765	1104	1869
5	Deraniyagala (152178, 191467)	835	611	135	131	13	143	252	866	399	385	178	778	1867	2858	4725
		581	413	174	100	126	234	442	580	471	335	312	444	1628	2585	4213
6	Dunamale (123789, 212906)	561	476	218	101	1	25	249	319	173	223	98	825	1381	1887	3268
		474	336	183	60	71	154	314	401	233	126	160	341	1277	1576	2853
7	Ellagawa (138766, 170307)	674	356	316	148	18	37	497	565	347	300	167	934	1548	2810	4359
		469	393	174	115	132	204	363	373	308	202	271	443	1488	1959	3447
8	Galgamuwa (143043, 307296)	671	136	397	12	1	23	266	160	33	97	30	191	1240	776	2016
		240	245	196	67	47	81	226	102	26	24	45	81	875	504	1379
9	Giriulla (127468, 235942)	359	239	128	10	0	31	213	212	173	82	86	630	767	1395	2162
		445	312	130	47	71	107	267	275	195	111	99	216	1112	1163	2275
10	Glencourse (135077, 197069)	657	737	164	62	1	163	461	370	296	212	137	910	1785	2385	4170
		535	496	206	97	127	259	415	445	336	206	241	384	1720	2027	3747
11	Hanwella (124021, 190153)	491	485	294	43	18	162	341	286	287	226	138	742	1492	2020	3512
		437	362	200	109	97	160	323	375	262	174	174	326	1365	1632	2997
12	Holombuwa (144013, 220455)	615	429	162	19	1	160	330	431	208	179	114	504	1386	1765	3151
		462	367	184	81	84	184	339	312	257	173	170	264	1362	1515	2877

Table 3: Monthly Rainfall at the gauging stations of Irrigation Department

Upper line: Current year 2019/20

Lower line: Long term average from 1989/90

Units: mm

Coordinate System: SLD99

No	Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	NEM Total	SWM Total	Annual Total
13	Horowpothana (211775, 374422)	224	329	569	74	56	0	83	200	32	88	28	13	1252	444	1696
		198	305	325	140	92	42	87	79	13	36	77	88	1102	380	1482
14	Katharagama (261842 , 135357)	320	271	373	95	35	7	107	54	35	100	46	80	1100	423	1522
		172	292	208	99	61	74	114	79	7	12	23	56	906	291	1197
15	Kithulgala (160463, 198887)	700	547	181	25	4	155	341	736	454	295	281	787	1612	2893	4505
		614	370	169	87	121	196	417	594	537	433	398	463	1557	2841	4398
16	Kuda Oya (238889, 147394)	472	322	273	56	17	3	143	92	60	33	33	19	1143	380	1523
		226	266	160	80	56	93	170	70	12	13	17	57	881	339	1220
17	Manampitiya (234666, 301129)	208	380	598	132	12	0	76	195	27	79	34	76	1330	488	1818
		310	356	418	151	126	72	68	132	9	31	30	74	1433	344	1777
18	Millakanda (132411 , 159142)	370	419	187	105	29	115	318	332	283	259	151	542	1225	1885	3110
		509	454	237	131	120	213	314	594	332	161	188	348	1664	1937	3601
19	Nakkala (258056, 188379)	343	295	490	110	43	11	158	157	86	37	60	160	1293	656	1949
		271	352	262	157	119	92	178	115	42	55	87	114	1252	590	1843
20	Nawalapitiya (173756, 205329)	589	328	147	16	28	34	407	546	517	310	333	572	1142	2684	3827
		541	287	204	62	103	117	297	482	561	346	399	423	1313	2508	3821
21	Norwood (182640, 181774)	400	263	118	44	1	94	350	597	203	201	327	429	919	2107	3026
		381	288	152	110	87	182	344	307	325	295	249	226	1199	1745	2945
22	Padiyathalawa (246363, 242362)	377	348	562	221	53	5	103	229	112	245	58	55	1565	801	2366
		251	371	427	304	166	73	123	105	39	66	99	133	1593	566	2158
23	Panadugama (167271, 100409)	546	425	92	17	20	60	272	269	150	299	125	291	1160	1405	2565
		374	336	197	99	128	154	227	340	206	164	197	322	1288	1455	2743
24	Peradeniya (181959, 229533)	626	220	109	31	4	63	170	271	151	140	176	290	1054	1196	2250
		452	241	224	52	56	114	233	275	179	124	143	184	1139	1138	2278

Table 3: Monthly Rainfall at the gauging stations of Irrigation Department

Upper line: Current year 2019/20

Lower line: Long term average from 1989/90

Units: mm

Coordinate System: SLD99

No	Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	NEM Total	SWM Total	Annual Total
25	Pitabeddara (167200 , 112942)	473	531	120	27	31	100	416	640	243	370	231	766	1282	2666	3947
		417	407	225	139	123	129	323	406	255	180	248	370	1440	1783	3223
26	Putupaula (121008, 156877)	677	595	171	73	8	64	220	333	258	239	186	698	1589	1933	3522
		399	345	160	77	90	151	232	402	270	146	182	379	1221	1610	2831
27	Siyambalanduwa (285535, 189464)	306	490	475	136	31	8	169	218	51	74	61	65	1447	637	2084
		241	366	298	206	124	70	141	97	49	69	62	95	1305	514	1818
28	Thaldena (230537 , 209992)	151	293	299	419	108	74	40	108	110	140	80	77	1344	555	1899
		292	334	356	224	148	73	123	130	35	47	71	117	1427	523	1950
29	Thalgahagoda (172611 , 090566)	378	220	101	10	63	8	147	183	120	234	106	293	779	1083	1862
		309	272	165	83	81	75	137	230	177	138	156	259	985	1097	2082
30	Thanamalwila (240086, 141162)	511	264	323	38	10	1	143	92	49	108	30	61	1148	483	1631
		221	275	150	75	49	89	173	73	10	13	20	48	859	337	1196
31	Thanthirimale (145359, 375505)	287	229	369	26	24	41	115	134	103	110	68	27	976	557	1534
		240	268	179	71	53	39	118	171	15	23	70	110	850	507	1357
32	Thawalama (151351, 127265)	551	577	255	123	89	133	328	568	265	431	223	753	1729	2568	4297
		558	444	296	202	202	249	395	518	372	276	287	405	1951	2254	4205
33	Urawa (177863, 115530)	748	315	122	80	12	116	238	412	138	192	157	418	1393	1555	2947
		404	414	281	122	173	200	323	367	208	163	172	308	1595	1540	3135
34	Wellawaya (237573, 167806)	460	324	347	55	11	30	357	167	33	69	44	60	1228	730	1957
		273	363	203	109	98	155	243	123	21	32	32	102	1200	552	1752
35	Weraganthota (223673, 234973)	385	366	805	287	115	20	131	80	28	155	70	28	1978	491	2470
		408	426	569	236	219	116	154	117	14	32	32	96	1973	446	2419
36	Yakawewa (189955, 390392)	282	131	363	20	8	0	55	194	43	96	48	28	803	465	1268
		220	287	181	90	37	15	43	127	10	56	61	58	831	356	1187

Table 4: Monthly Rainfall at the principal stations of Department of Meteorology

Upper line: Current year 2019/20

Lower line: Long term average from 1970/71

Units: mm

Coordinate System: SLD99

No	Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	NEM Total	SWM Total	Annual Total
1	Anuradhapura (156857, 349259)	259	348	293	11	36	14	148	206	14	169	39	46	960	622	1582
		251	252	203	78	54	66	165	96	14	29	37	73	905	413	1318
2	Badulla (230749, 197744)	362	268	373	69	46	12	93	199	144	99	159	129	1129	824	1953
		246	268	273	170	92	99	184	114	38	67	69	125	1148	598	1746
3	Bandarawela (220811, 178940)	347	295	297	31	14	9	66	249	65	82	78	125	994	665	1660
		255	245	190	105	66	99	169	118	53	60	58	138	960	595	1556
4	Batticaloa (302405, 278572)	447	548	486	120	54	1	7	44	37	51	39	60	1656	238	1893
		182	371	418	232	127	73	51	45	32	33	45	71	1402	277	1680
5	Colombo (99242, 188984)	355	434	250	116	0	41	213	200	112	196	98	518	1196	1336	2532
		341	340	160	69	71	114	240	316	199	118	107	244	1095	1224	2319
6	Galle (138925, 92715)	604	309	135	44	27	18	183	314	138	311	165	449	1138	1560	2698
		324	309	168	84	68	93	215	293	194	157	161	259	1048	1278	2326
7	Hambanthota (239656, 102649)	363	197	255	16	29	7	92	26	44	92	68	164	868	486	1354
		130	210	126	62	42	56	92	83	48	35	54	84	627	395	1022
8	Jaffna (118605, 496415)	446	292	225	23	18	0	31	40	3	118	33	213	1004	438	1442
		240	380	249	68	33	34	57	60	19	30	50	69	1004	285	1290
9	Katugastota (184354, 236442)	471	171	164	23	4	57	107	317	130	116	114	219	891	1002	1893
		283	286	192	92	68	89	187	147	131	121	103	138	1010	827	1837
10	Katunayaka (101510, 218841)	370	384	91	36	0	63	252	203	135	207	109	514	943	1419	2362
		354	318	127	47	62	115	209	283	164	87	97	205	1023	1045	2068
11	Kurunegala (155661, 250835)	480	322	156	22	1	53	428	317	95	119	83	371	1034	1413	2447
		355	311	148	63	68	137	272	201	141	97	87	152	1082	950	2032
12	Mahailuppallama (165648, 323815)	534	248	371	20	5	16	104	264	135	113	18	65	1195	699	1894
		258	261	199	81	67	68	177	111	18	30	38	95	933	468	1401

Table 4: Monthly Rainfall at the principal stations of Department of Meteorology

Upper line: Current year 2019/20

Lower line: Long term average from 1970/71

Units: mm

Coordinate System: SLD99

No	Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	NEM Total	SWM Total	Annual Total
13	Mannar (105246, 419021)	475	145	189	10	3	0	59	70	8	24	33	179	821	373	1194
		165	265	195	49	41	42	87	56	7	12	11	53	755	226	982
14	Mattala (239644, 122546)	358	196	248	34	7	10	62	30	42	93	26	121	855	374	1228
		235	251	158	37	37	60	115	93	20	28	25	103	777	384	1162
15	Monaragala (263913, 184504)	343	371	465	49	18	4	59	197	75	110	100	137	1250	678	1928
		275	249	237	111	104	115	180	150	31	57	87	99	1092	603	1695
16	Nuwara Eliya (198705, 195523)	348	344	242	34	40	13	73	287	104	93	309	192	1021	1057	2078
		240	227	184	111	66	67	133	174	178	170	146	170	895	970	1866
17	Polonnaruwa (228479, 300587)	275	330	595	133	15	0	54	194	43	101	30	18	1349	439	1788
		315	333	418	196	135	78	88	118	7	35	56	91	1474	395	1869
18	Pothuvil (316963, 186806)	361	370	391	192	71	22	47	41	39	57	3	37	1407	224	1631
		136	280	307	275	134	80	75	51	13	19	22	56	1212	235	1447
19	Puttalam (96193, 313968)	576	286	199	2	0	12	99	66	39	87	32	52	1075	375	1450
		231	255	136	50	42	61	163	104	33	21	19	70	774	410	1184
20	Rathmalana (101434, 179027)	500	434	246	111	1	1	142	220	109	282	130	428	1293	1311	2605
		374	355	167	70	67	114	261	319	200	123	119	258	1147	1281	2428
21	Rathnapura (158903, 164576)	599	349	200	122	21	150	192	737	328	253	193	591	1442	2294	3736
		452	373	223	118	138	207	356	458	413	287	289	388	1511	2191	3702
22	Trincomalee (252647, 374706)	205	307	557	42	19	0	14	11	33	66	18	225	1130	365	1496
		213	364	333	131	91	47	49	69	29	60	77	119	1179	403	1581
23	Vauniya (170105, 393484)	414	180	349	24	16	13	67	196	58	198	32	36	996	588	1584
		232	272	245	91	69	57	130	91	18	45	53	100	965	437	1401

3.2 Variation of Rainfall

3.2.1 Temporal Variation of Rainfalls at Each Station

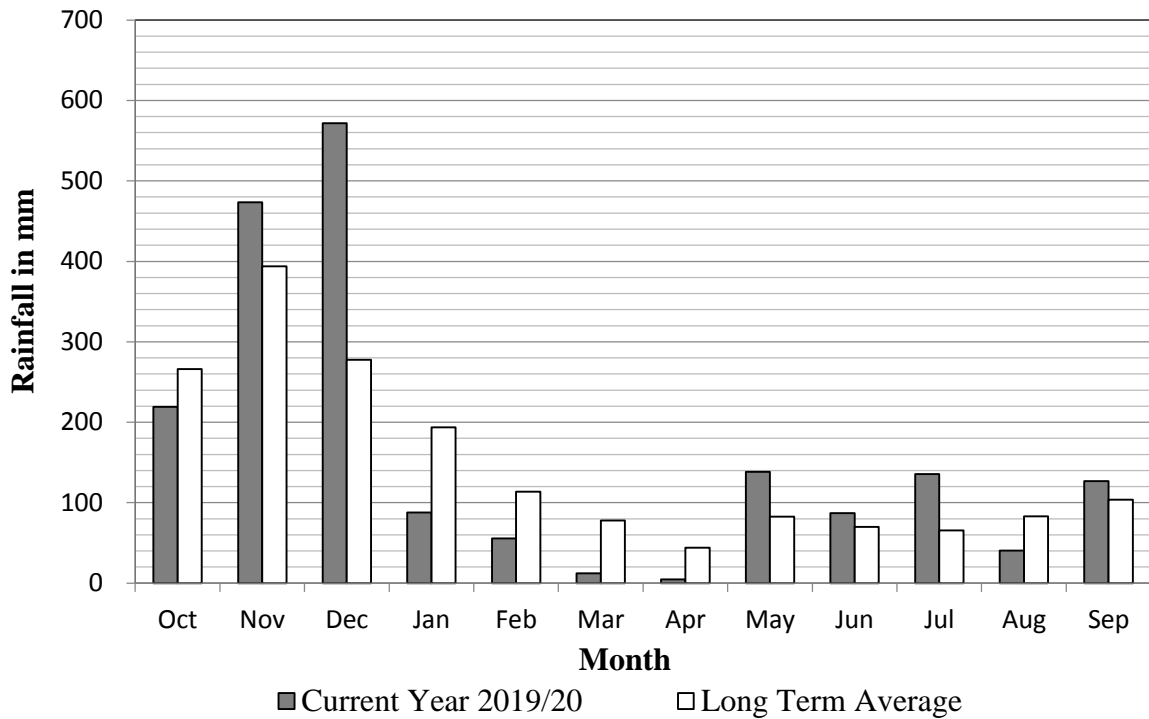


Fig. 8: Variation of Rainfall at Ampara

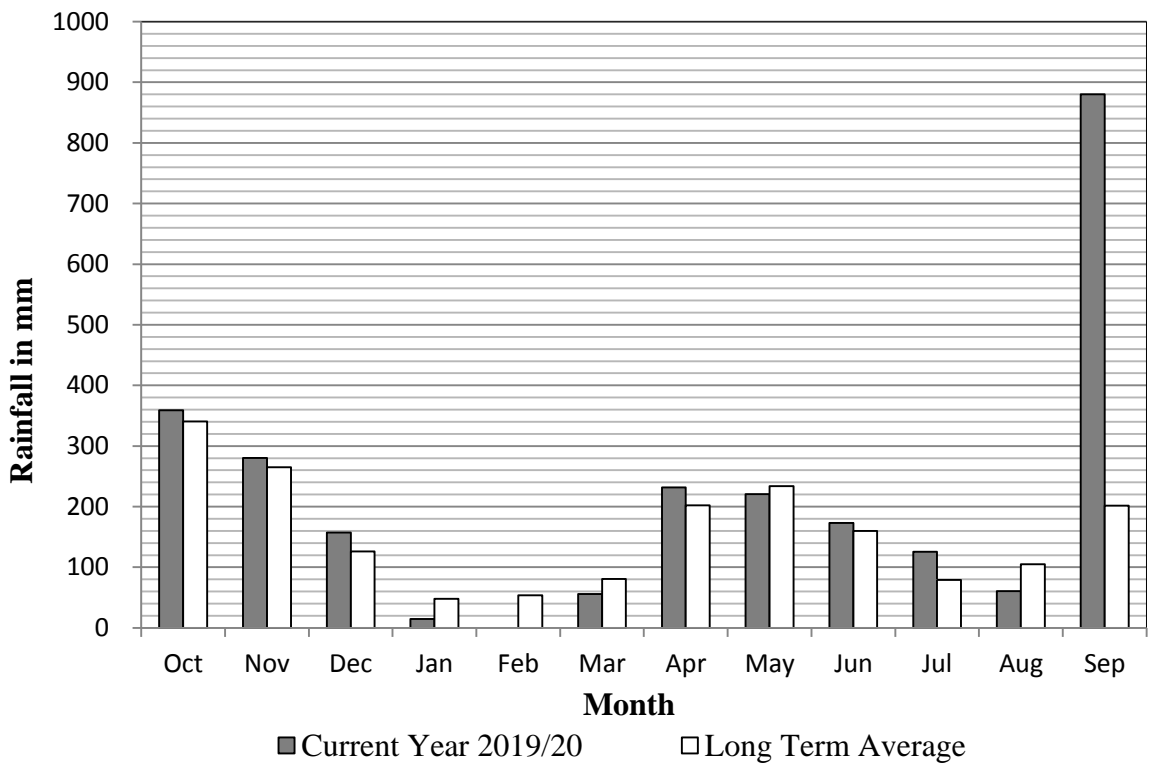


Fig. 9: Variation of Rainfall at Badalgama

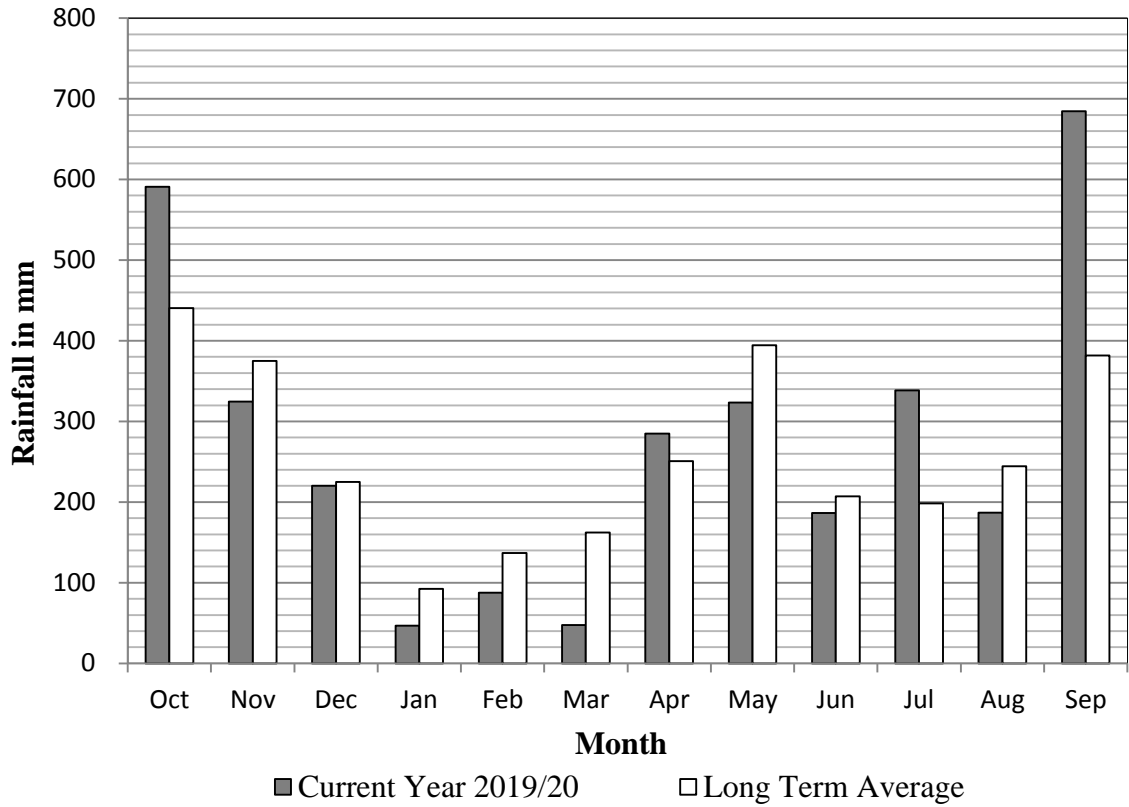


Fig. 10: Variation of Rainfall at Baddegama

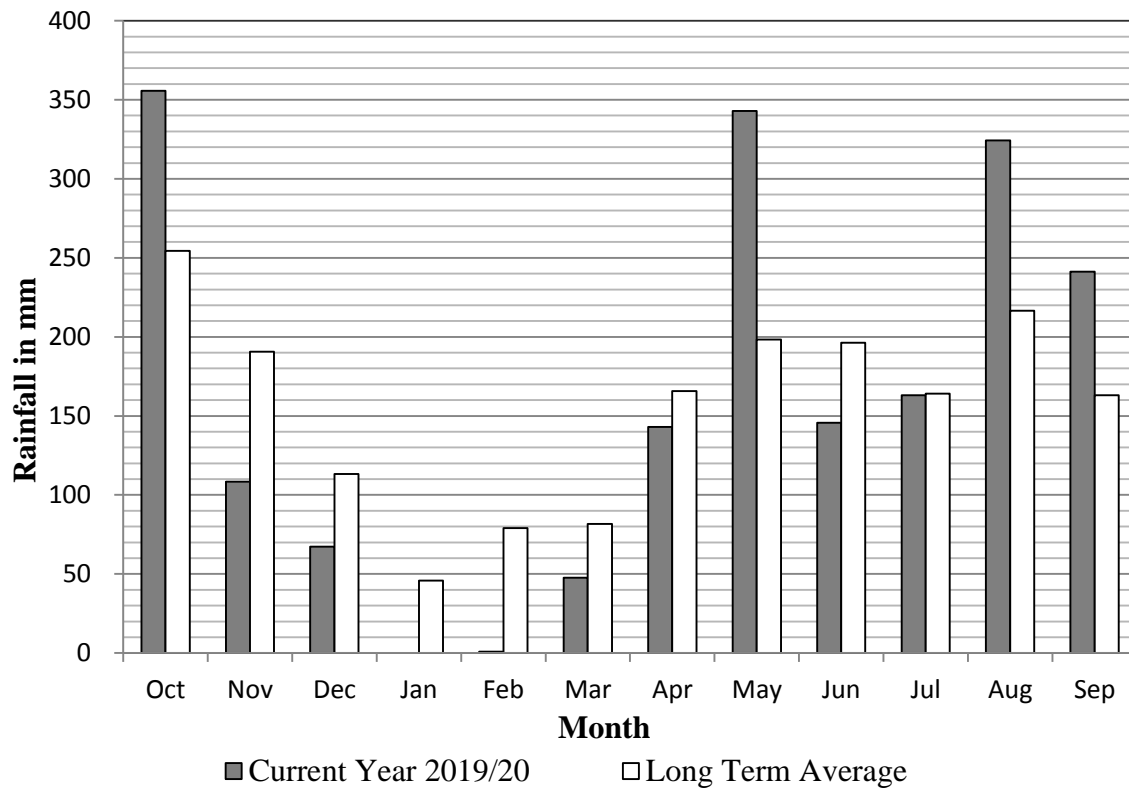


Fig. 11: Variation of Rainfall at Calidonia

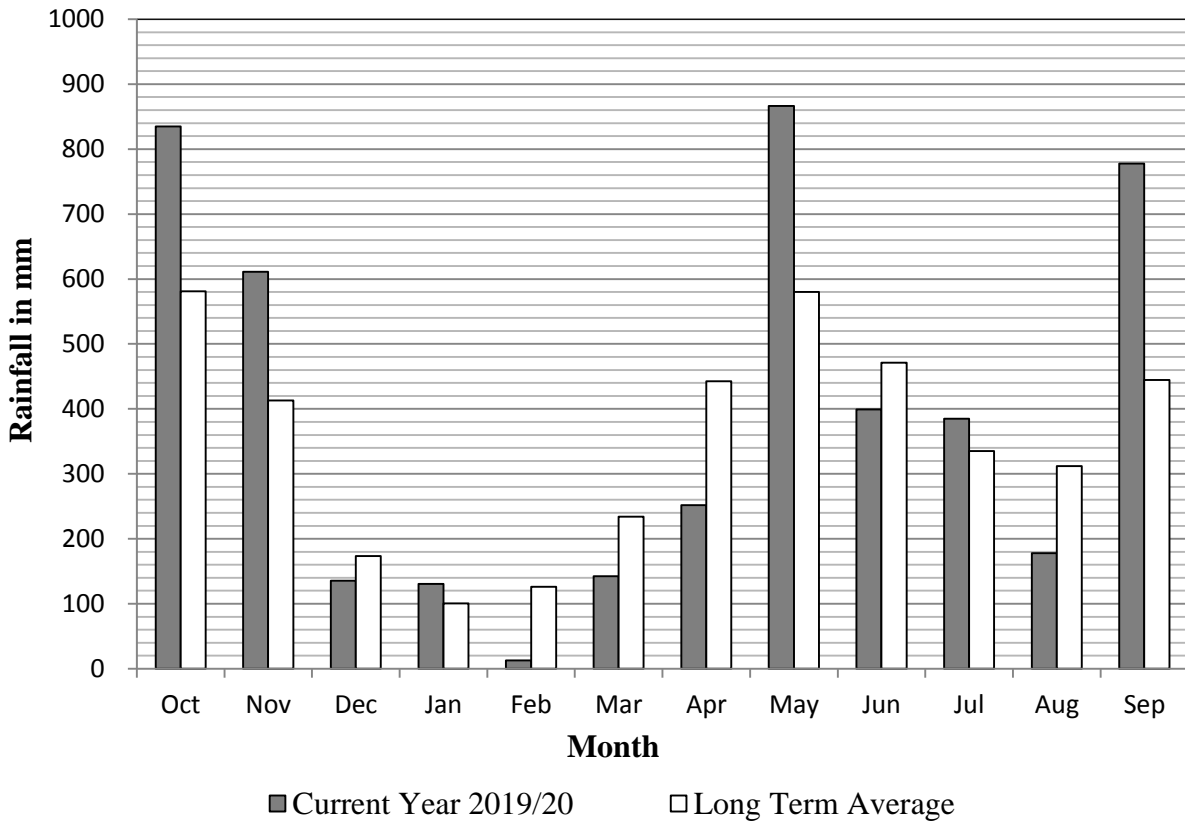


Fig. 12: Variation of Rainfall at Deraniyagala

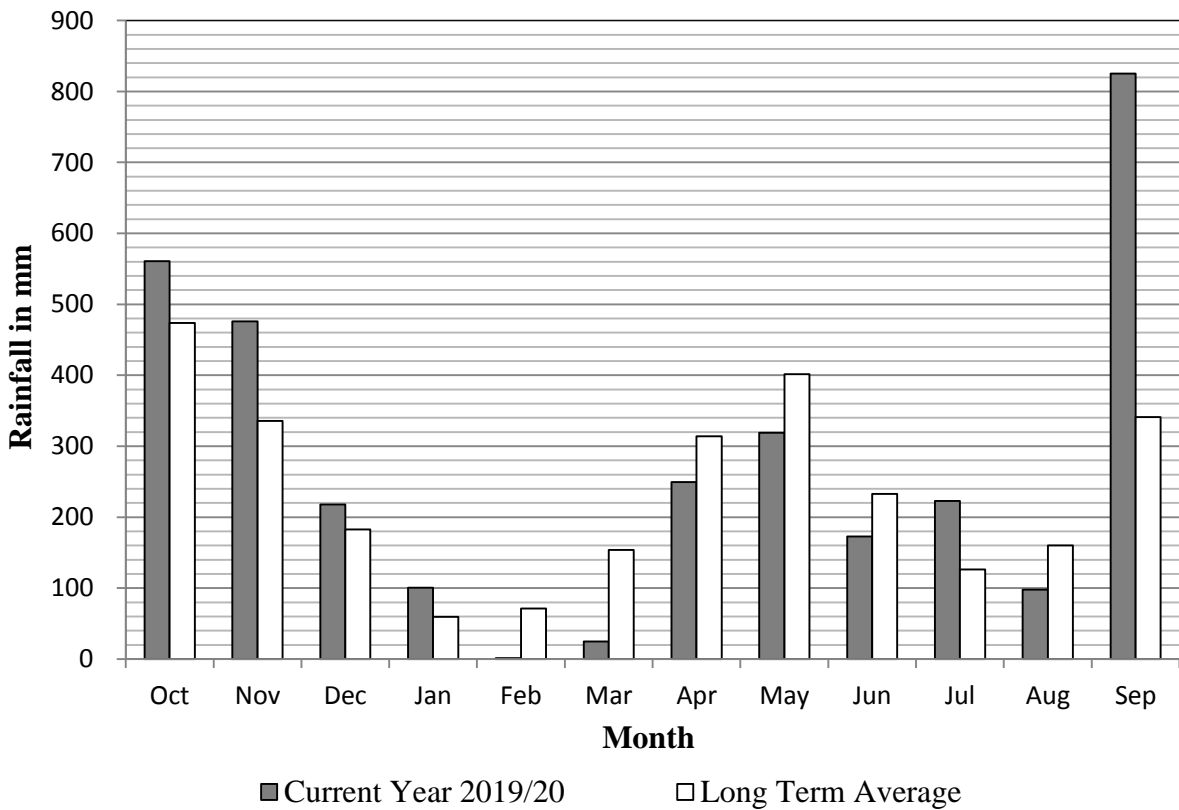


Fig. 13: Variation of Rainfall at Dunamale

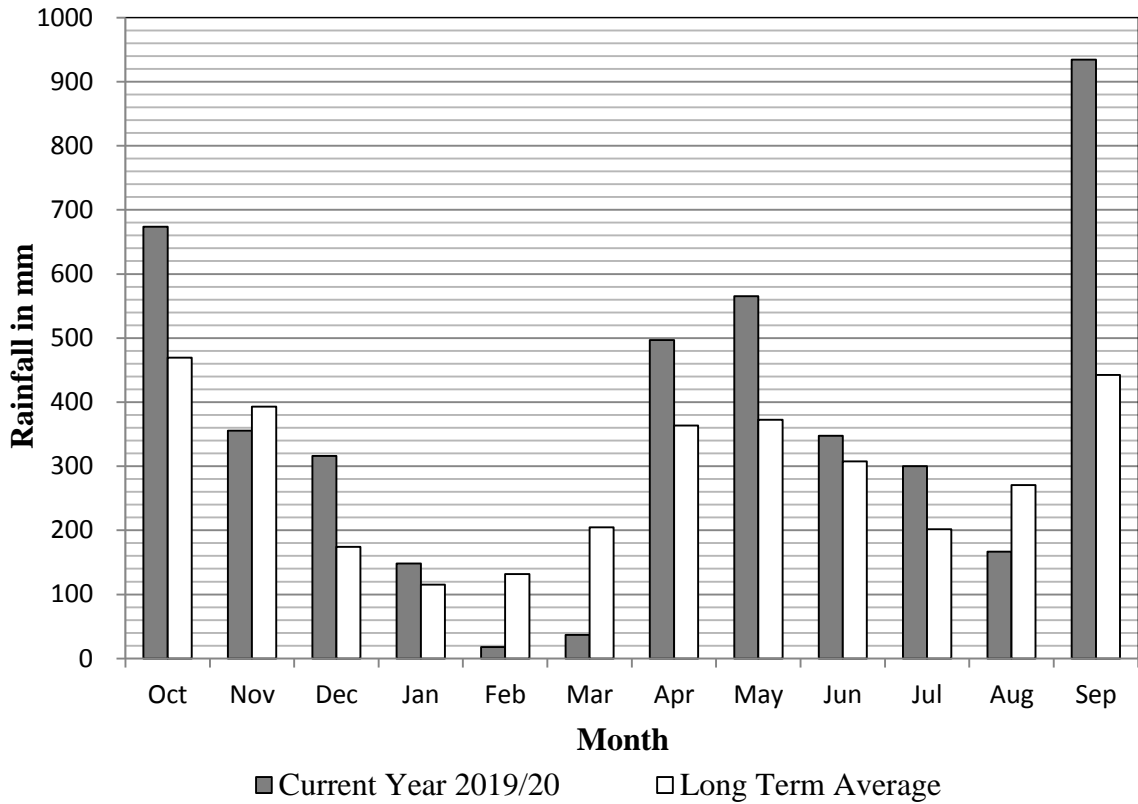


Fig. 14: Variation of Rainfall at Ellagawa

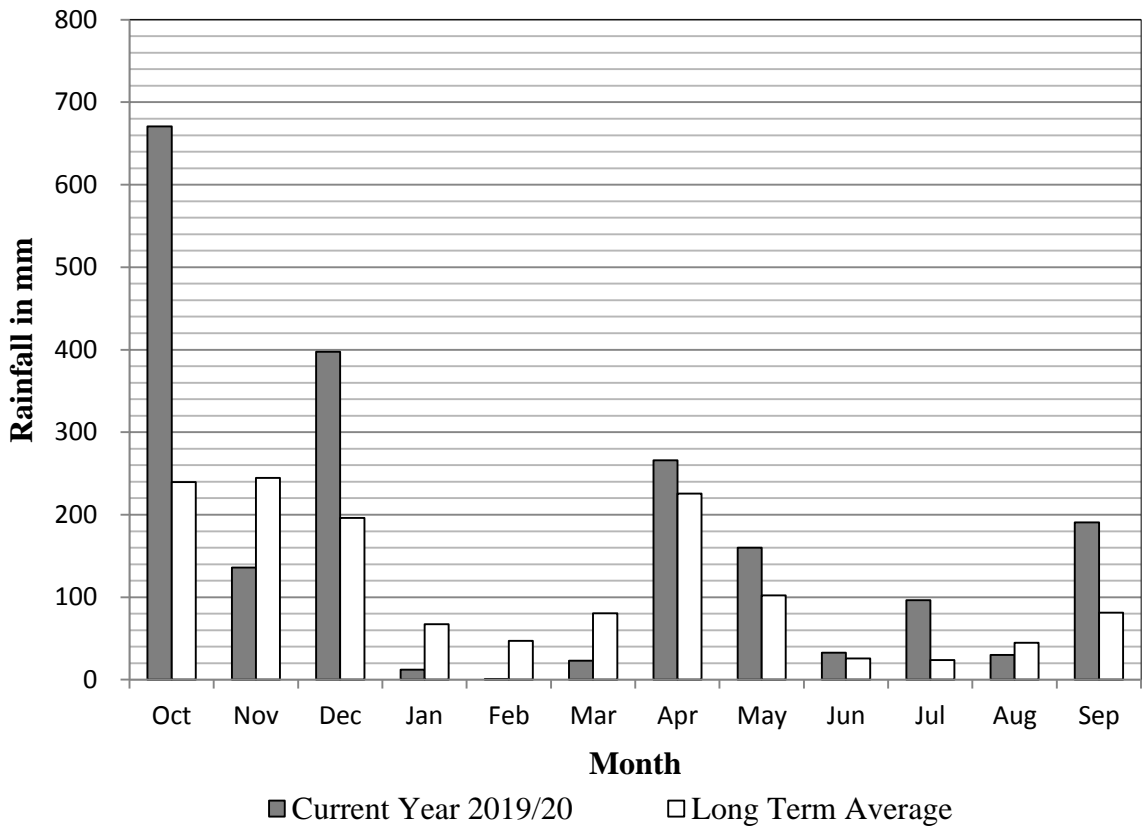


Fig. 15: Variation of Rainfall at Galgamuwa

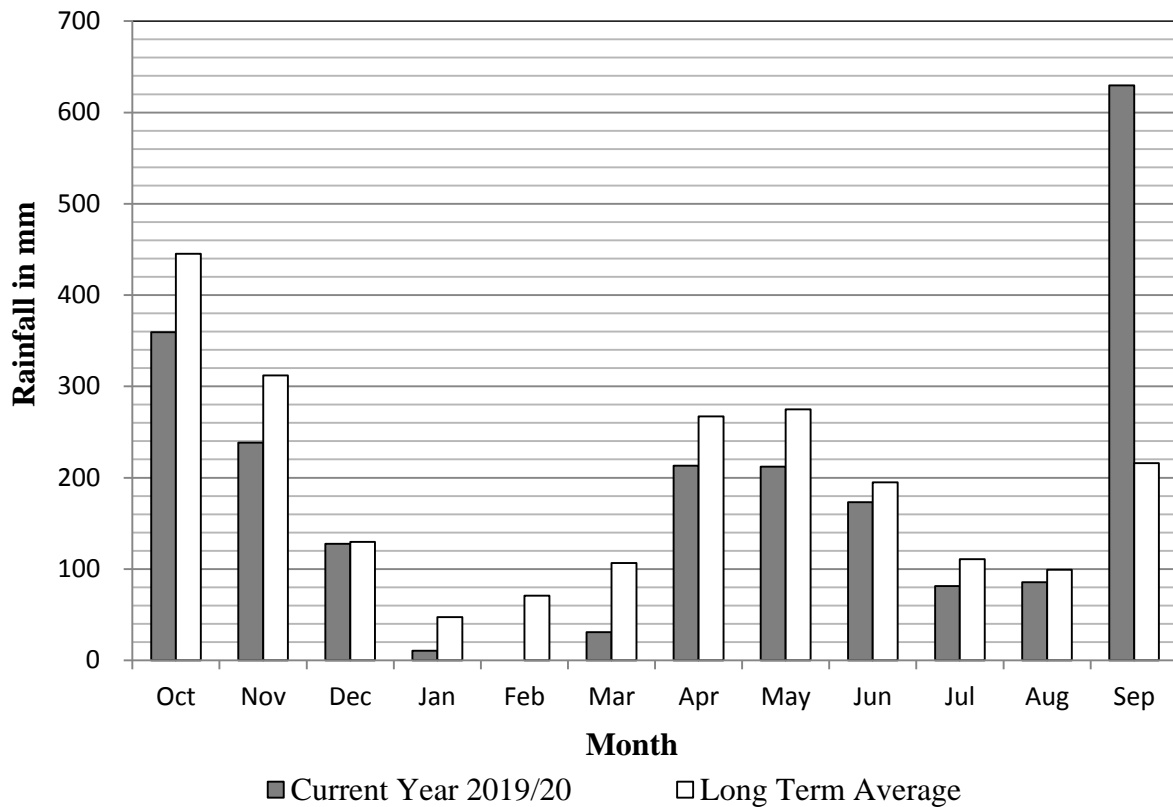


Fig. 16: Variation of Rainfall at Giriulla

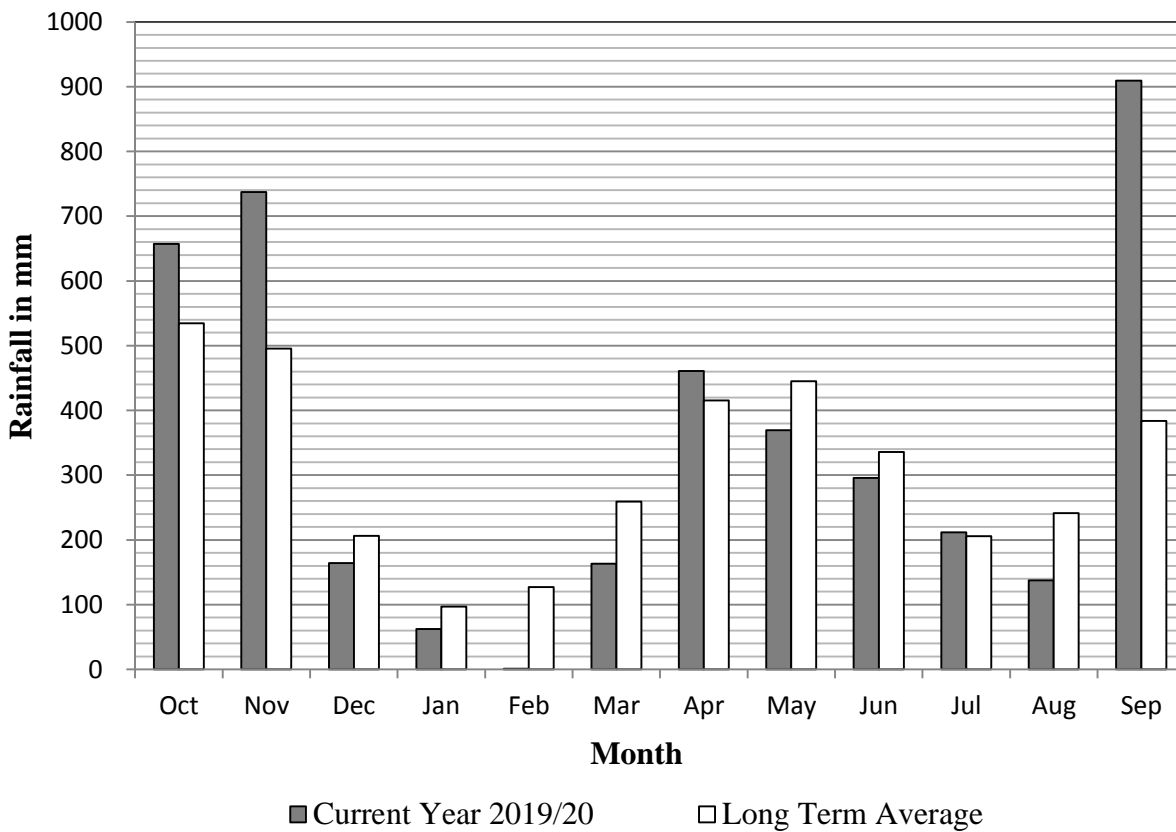


Fig. 17: Variation of Rainfall at Glencorse

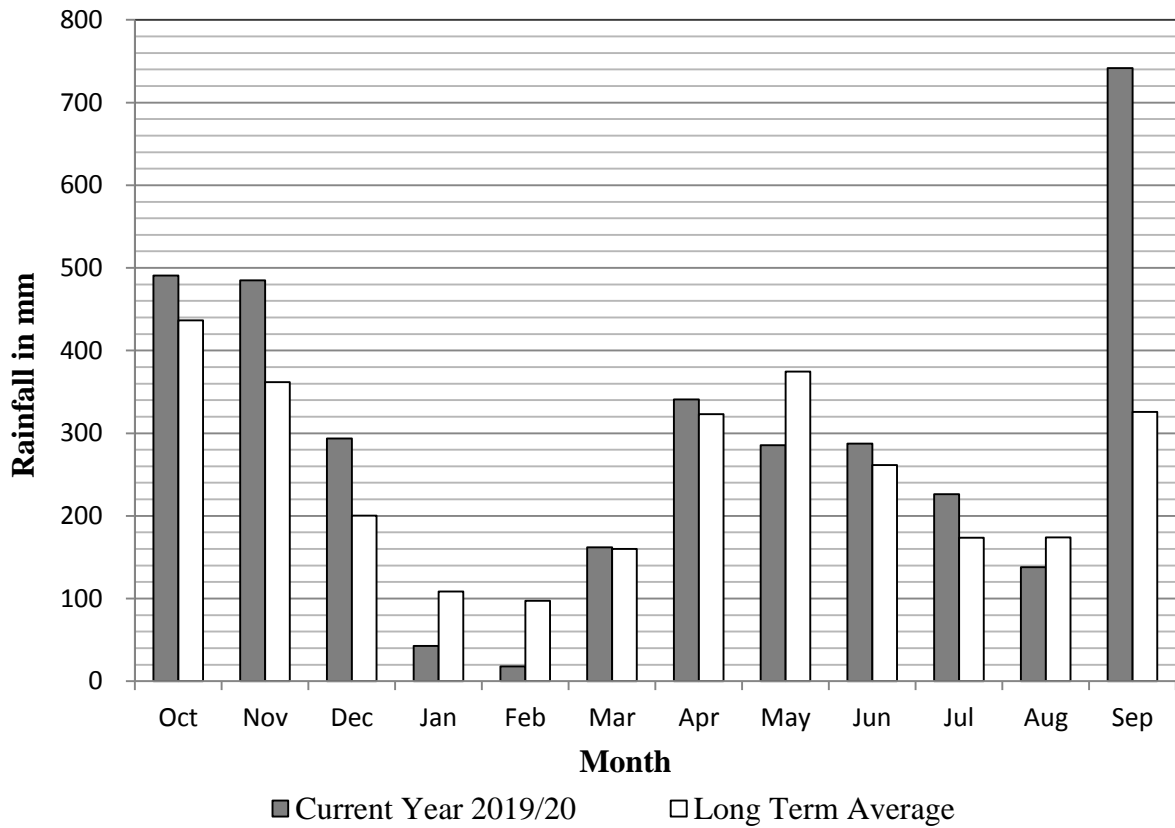


Fig. 18: Variation of Rainfall at Hanwella

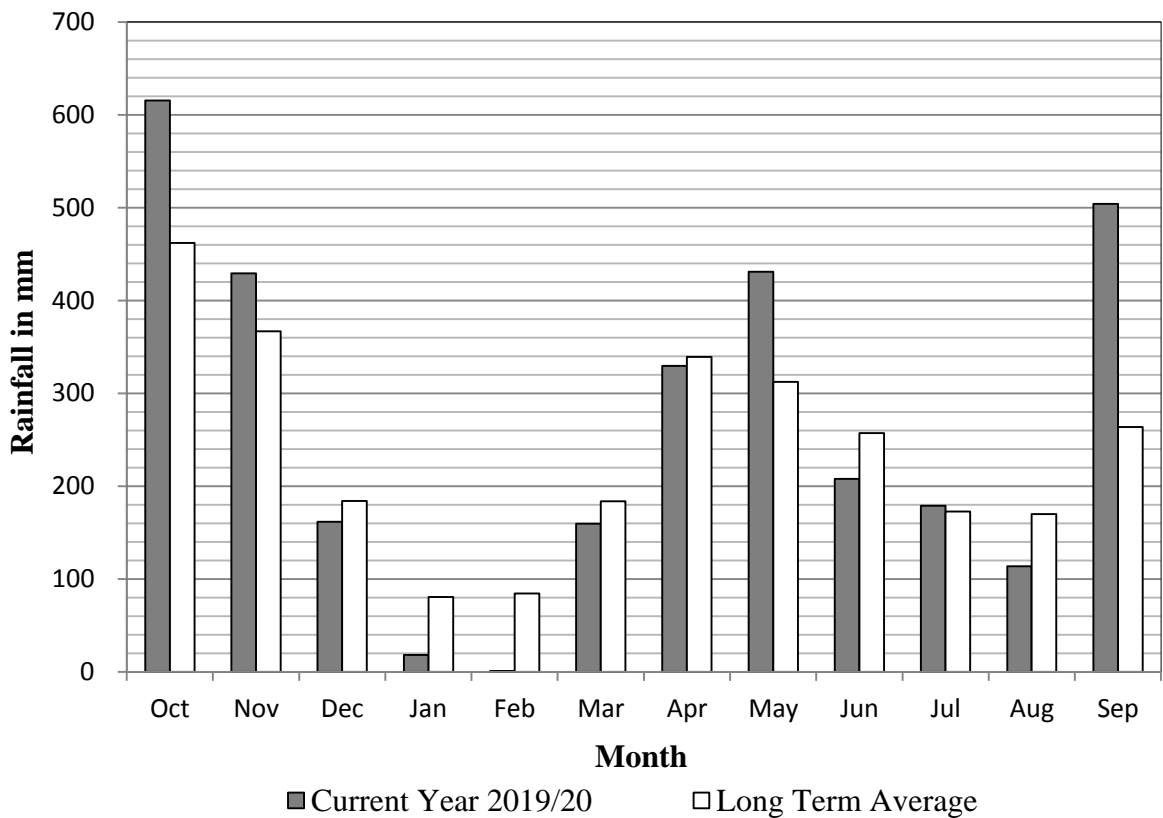


Fig. 19: Variation of Rainfall at Holombuwa

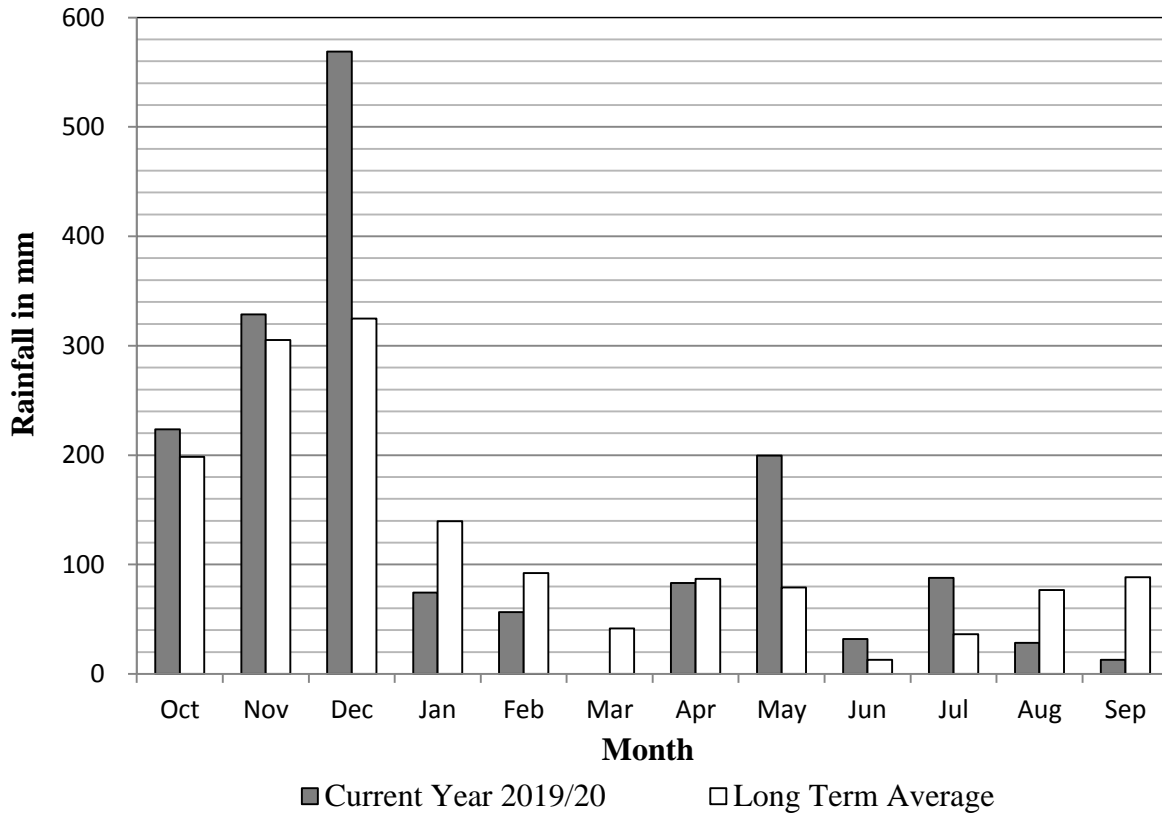


Fig. 20: Variation of Rainfall at Horowpothana

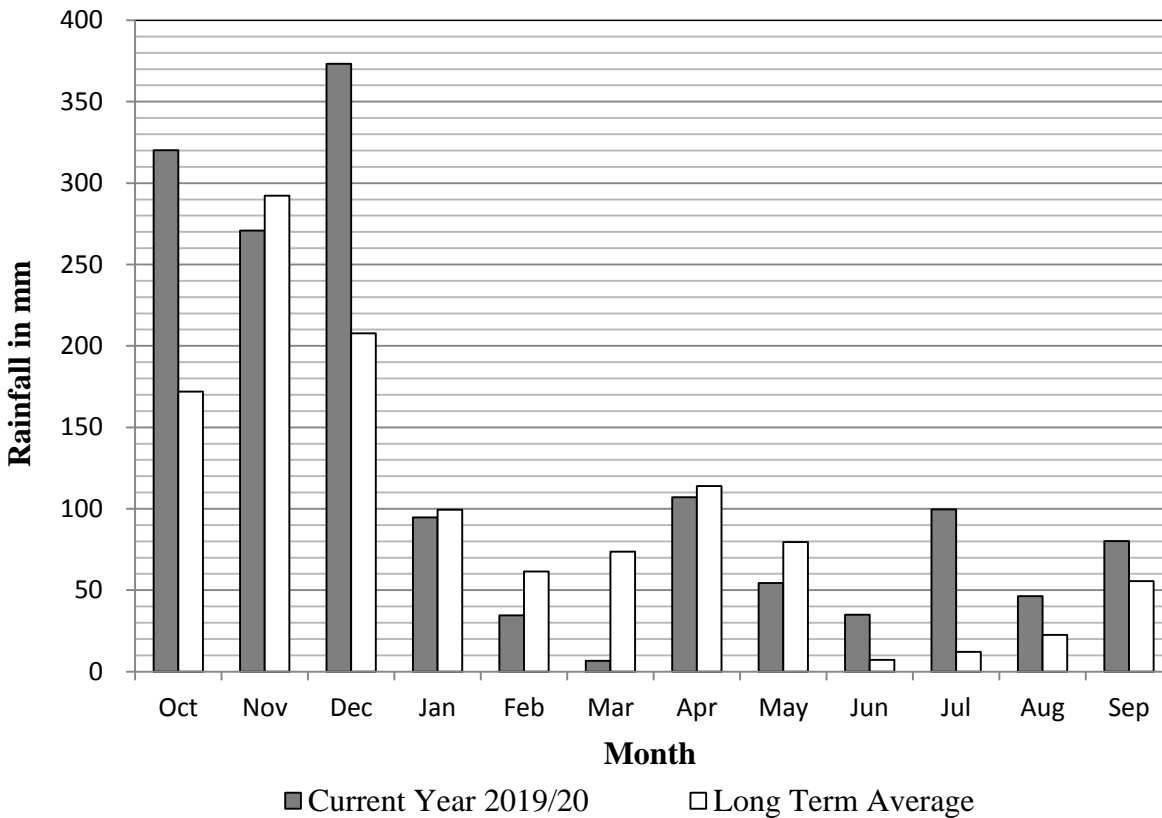


Fig. 21: Variation of Rainfall at Katharagama

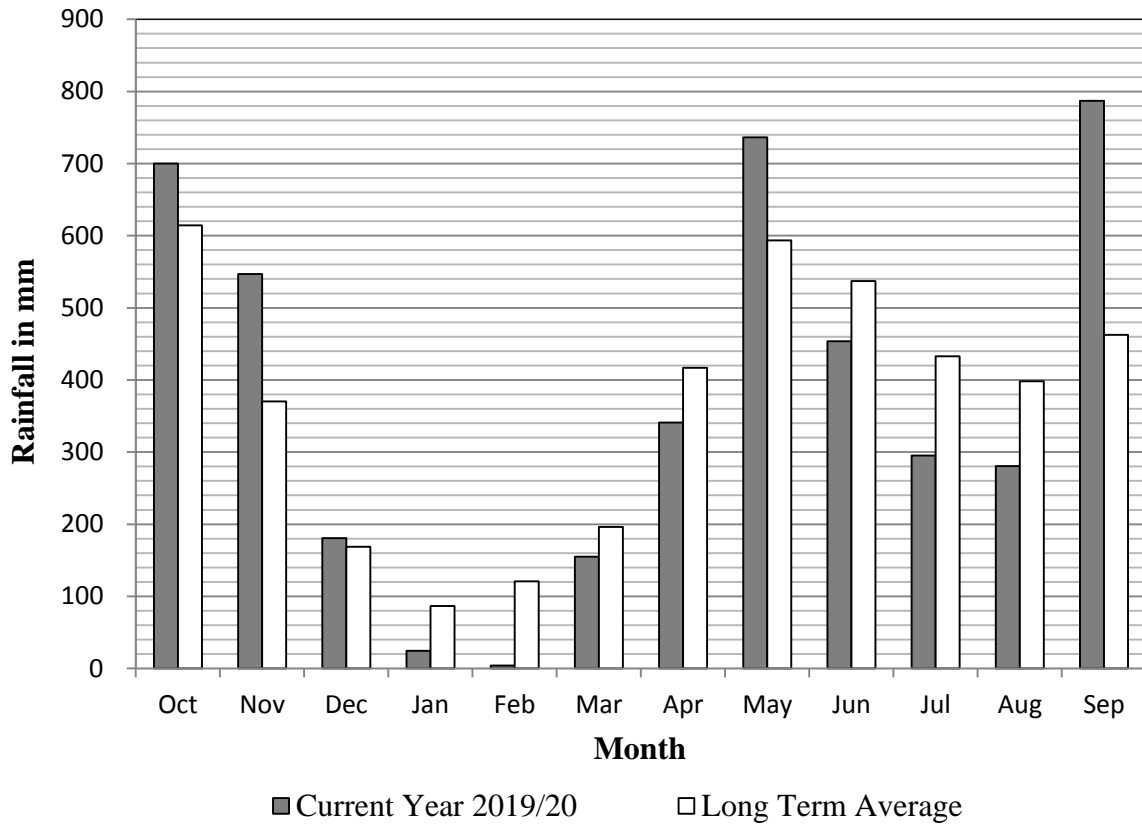


Fig. 22: Variation of Rainfall at Kithulgala

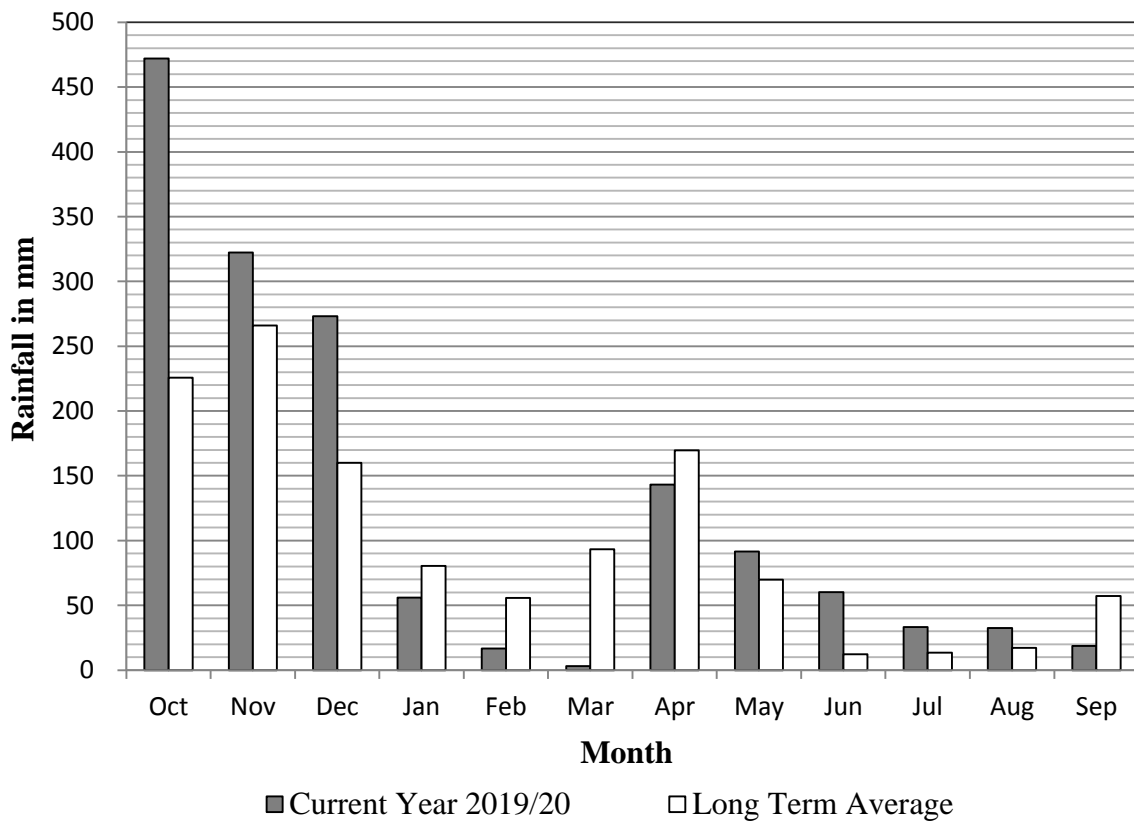


Fig. 23: Variation of Rainfall at Kuda Oya

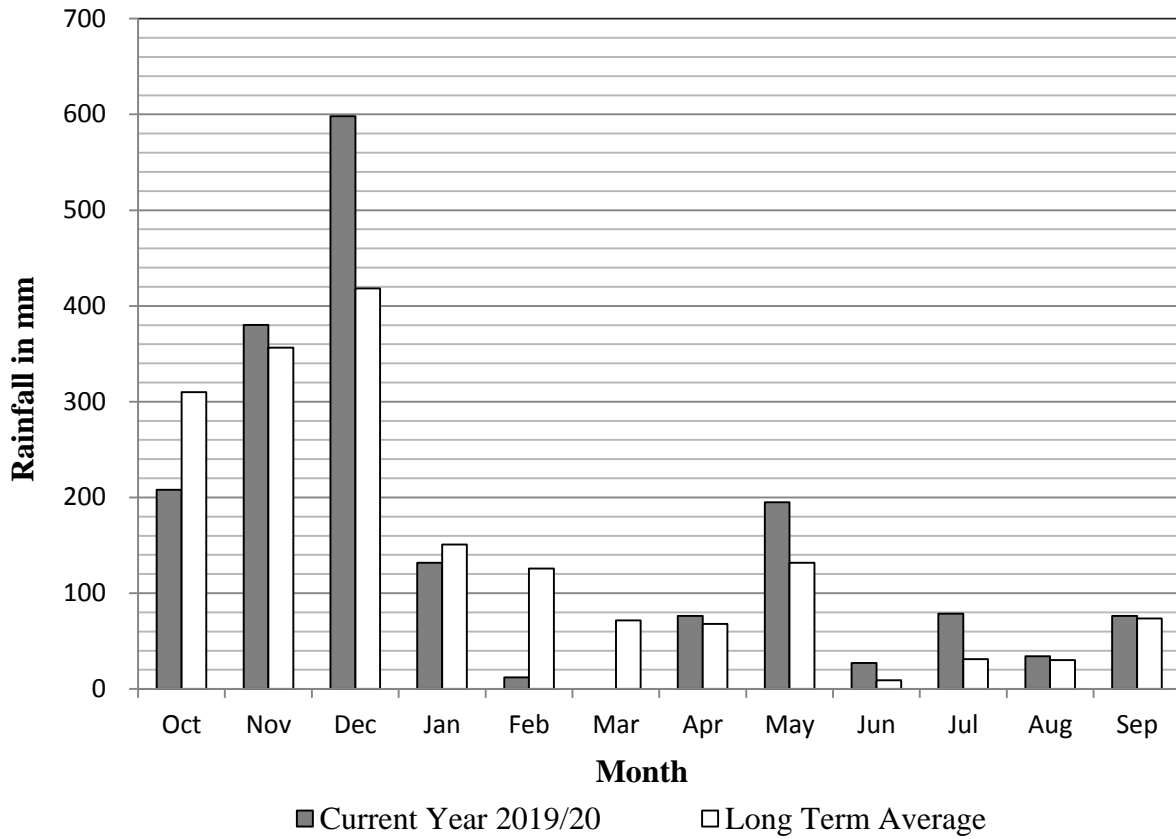


Fig. 24: Variation of Rainfall at Manampitiya

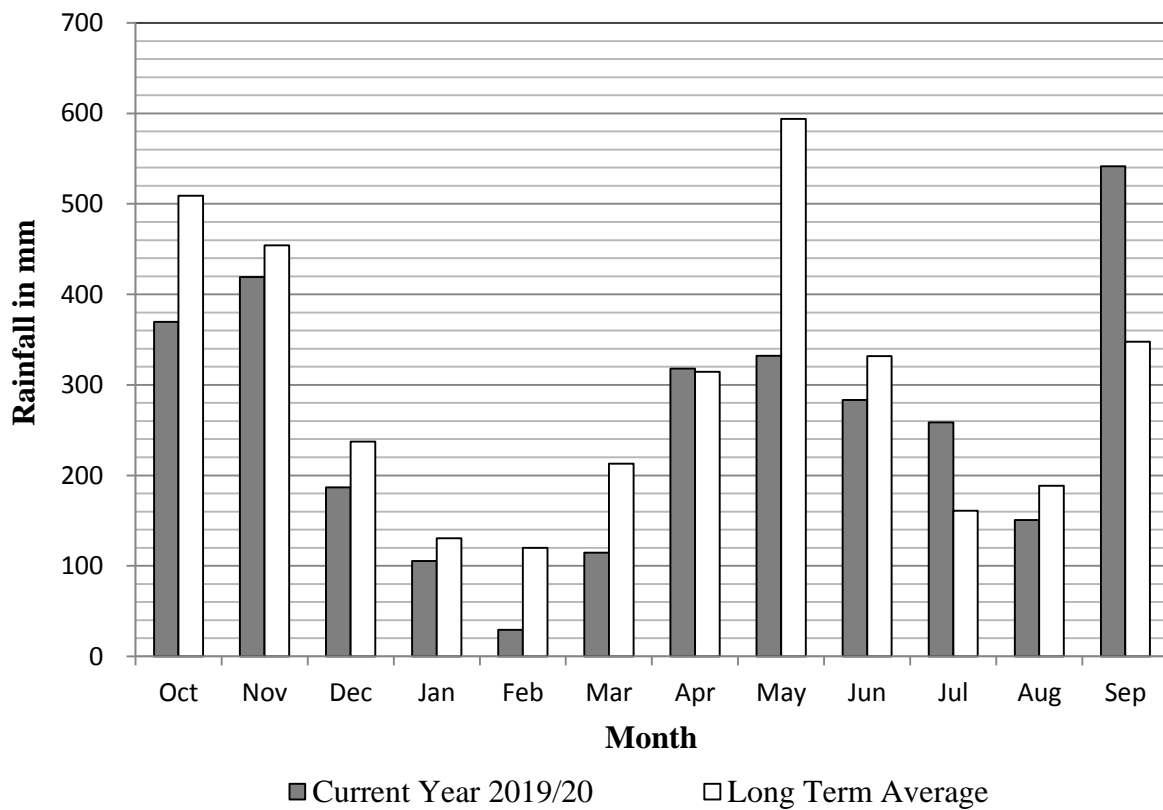


Fig. 25: Variation of Rainfall at Millakanda

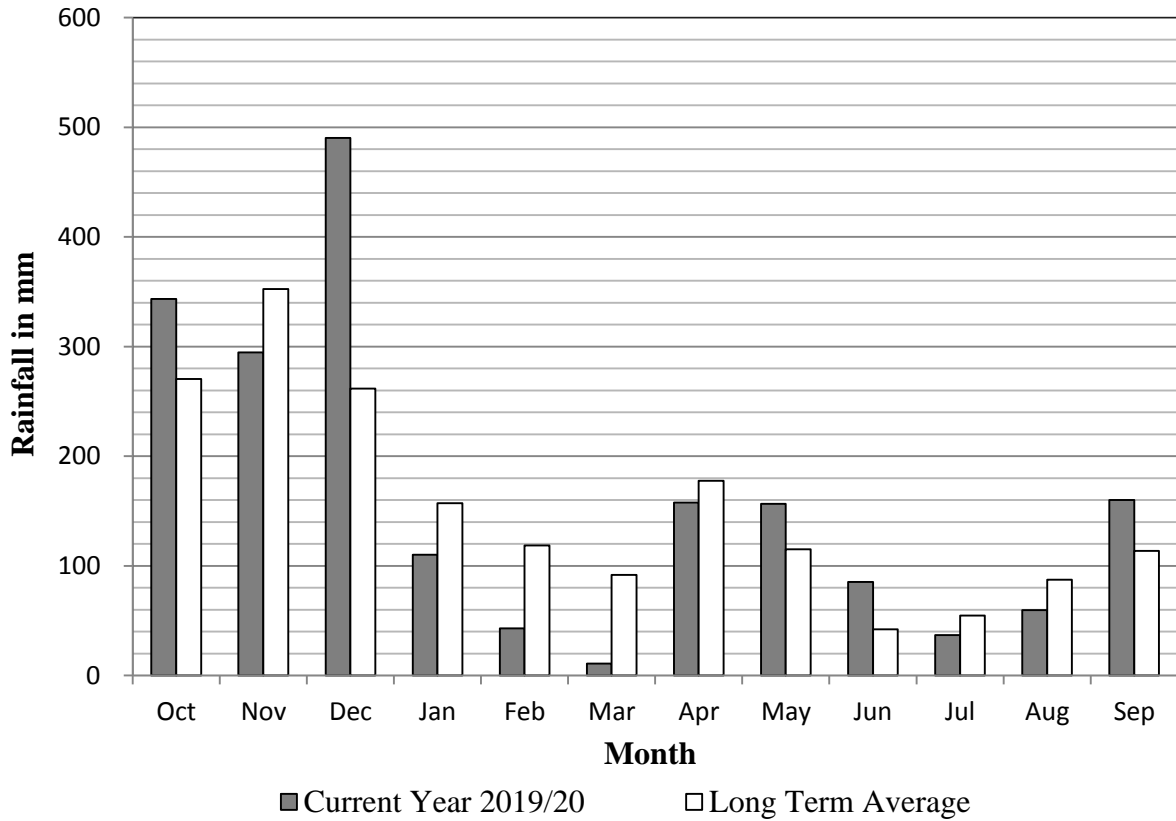


Fig. 26: Variation of Rainfall at Nakkala

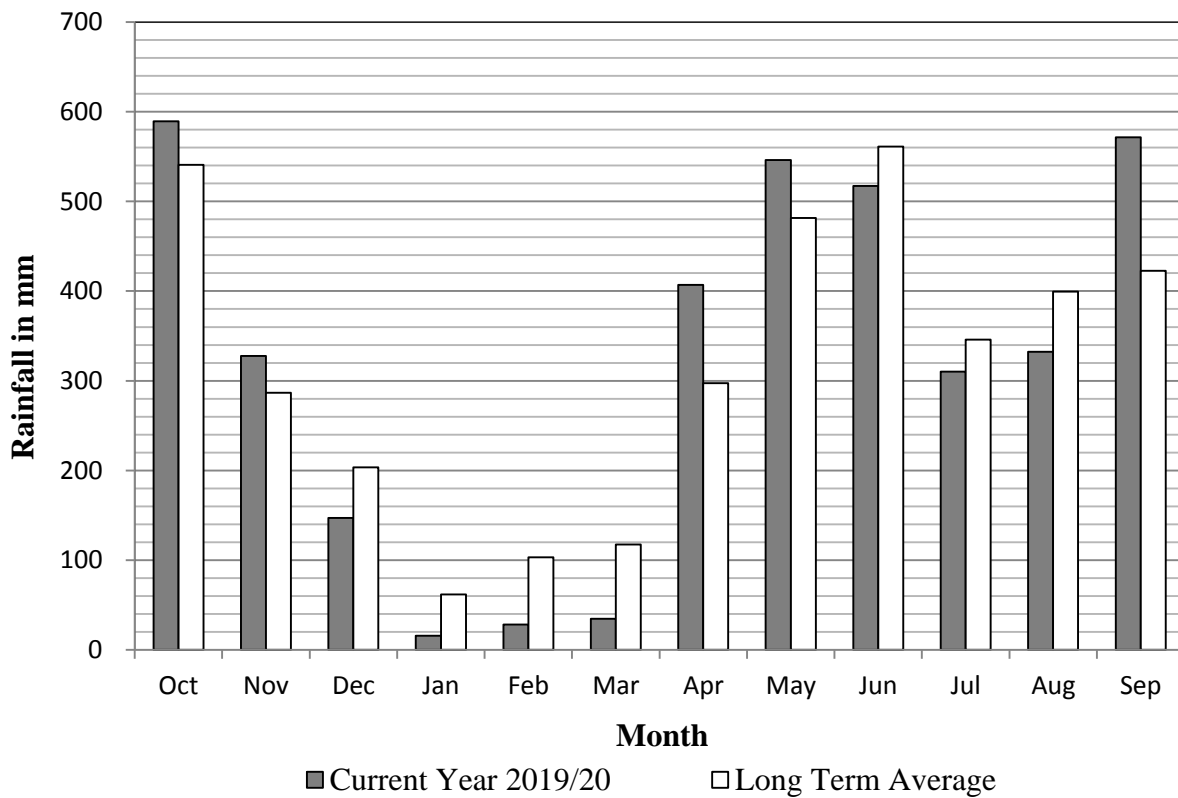


Fig. 27: Variation of Rainfall at Nawalapitiya

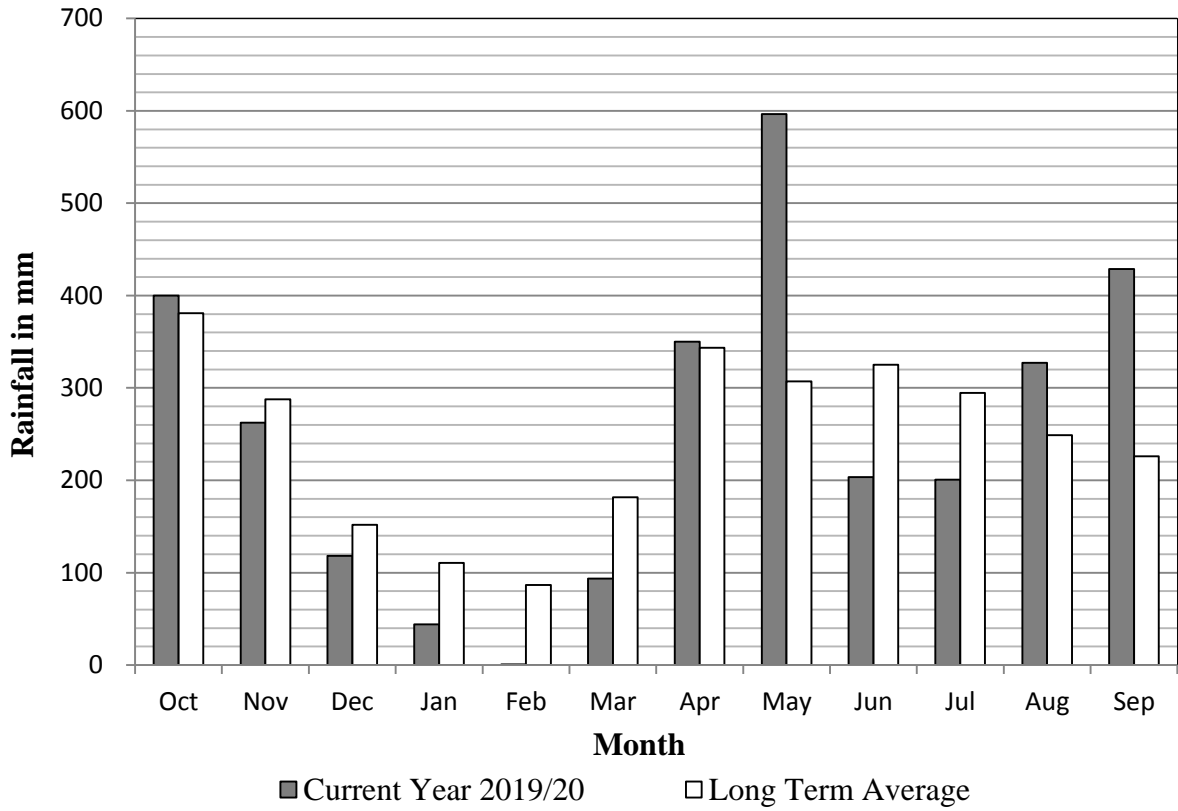


Fig. 28: Variation of Rainfall at Norwood

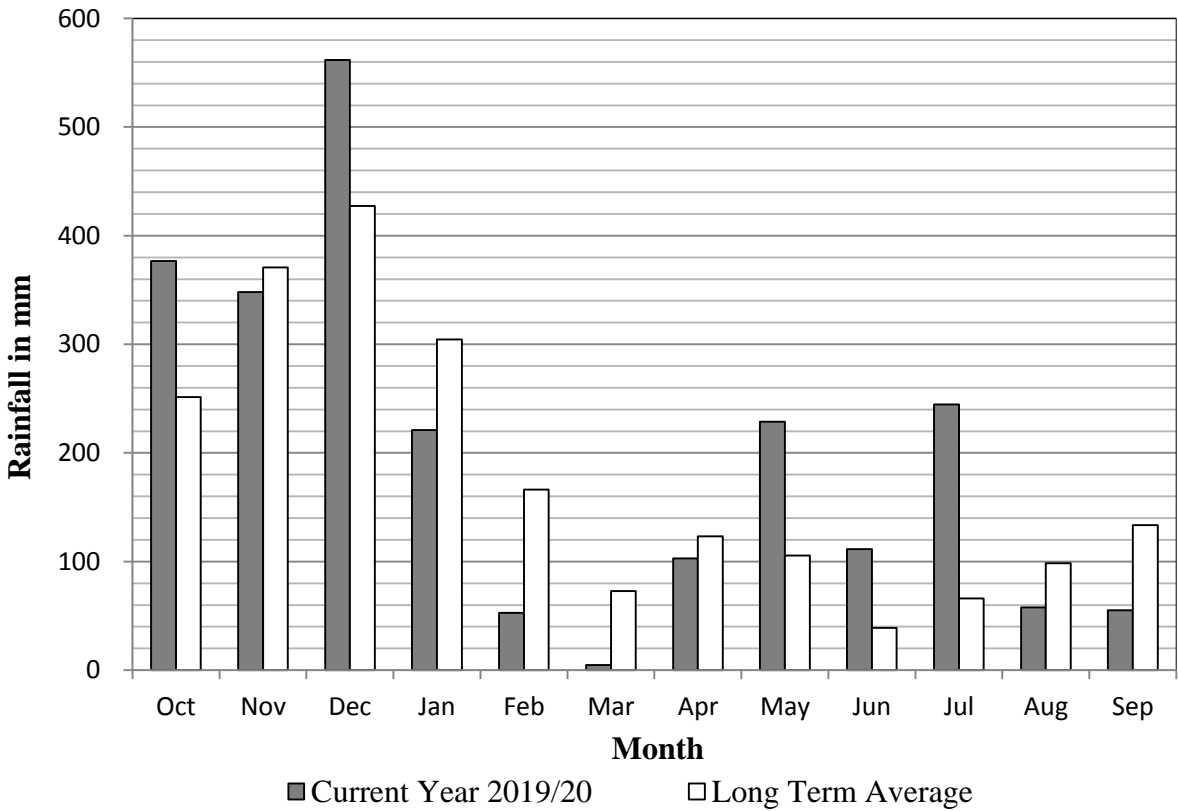


Fig. 29: Variation of Rainfall at Padiyathalawa

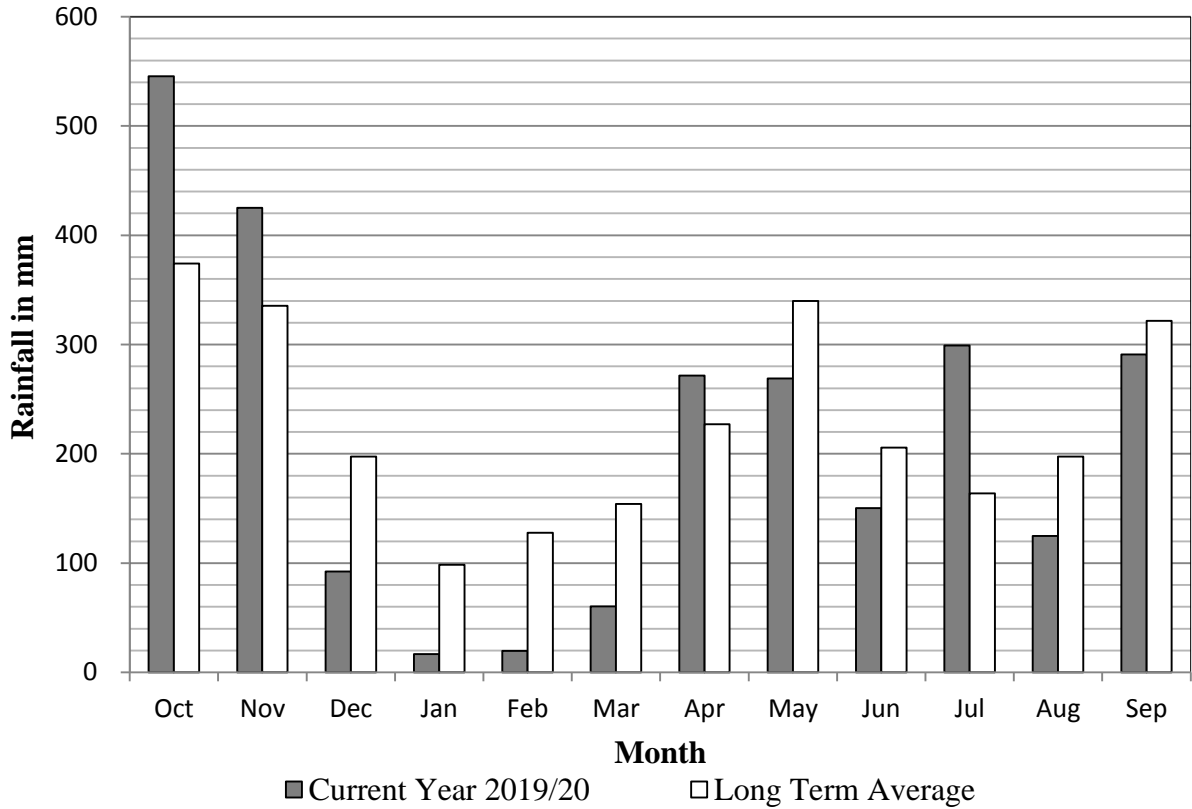


Fig. 30: Variation of Rainfall at Panadugama

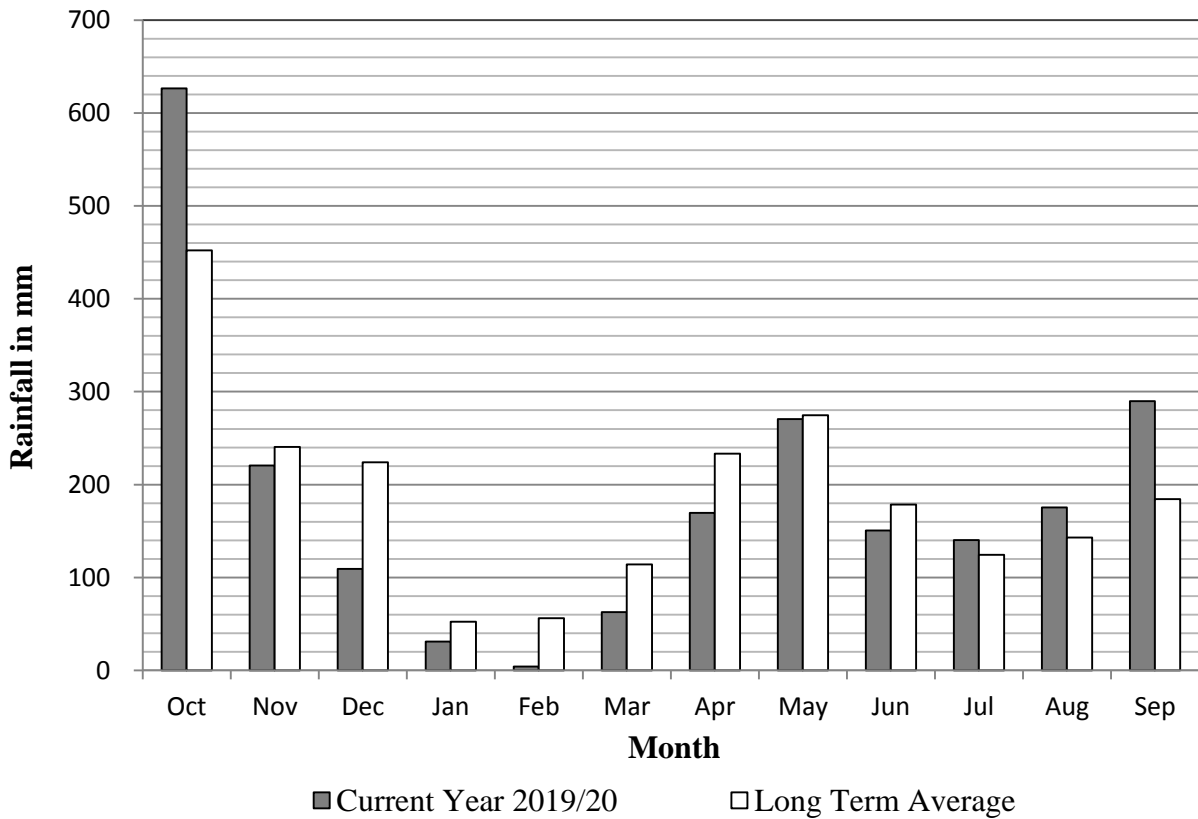


Fig. 31: Variation of Rainfall at Peradeniya

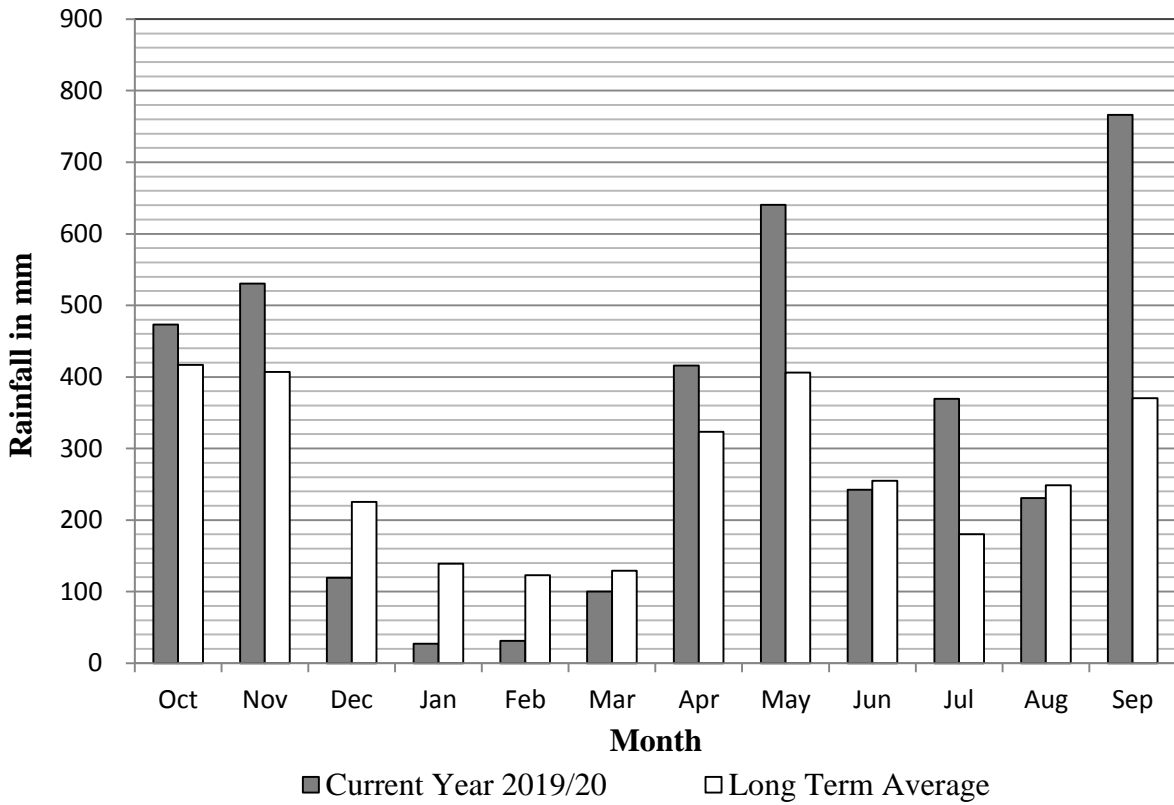


Fig. 32: Variation of Rainfall at Pitabeddara

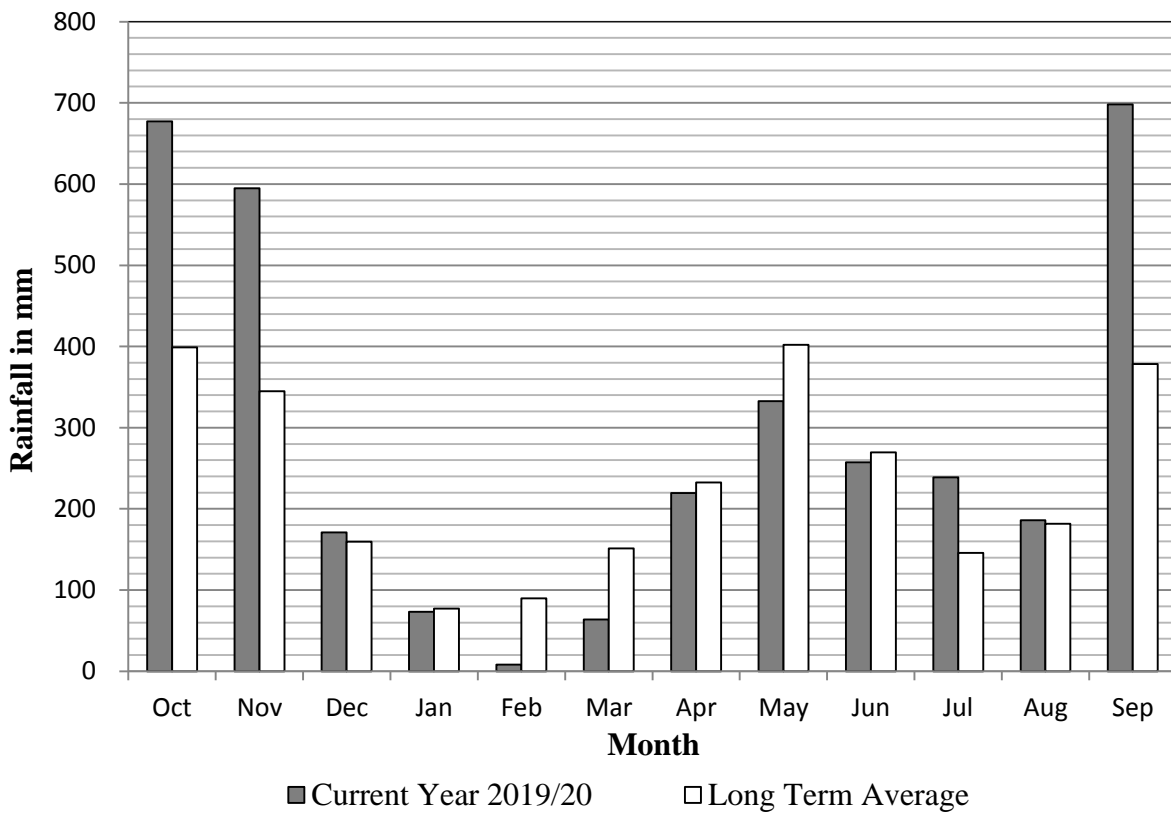


Fig. 33: Variation of Rainfall at Putupaula

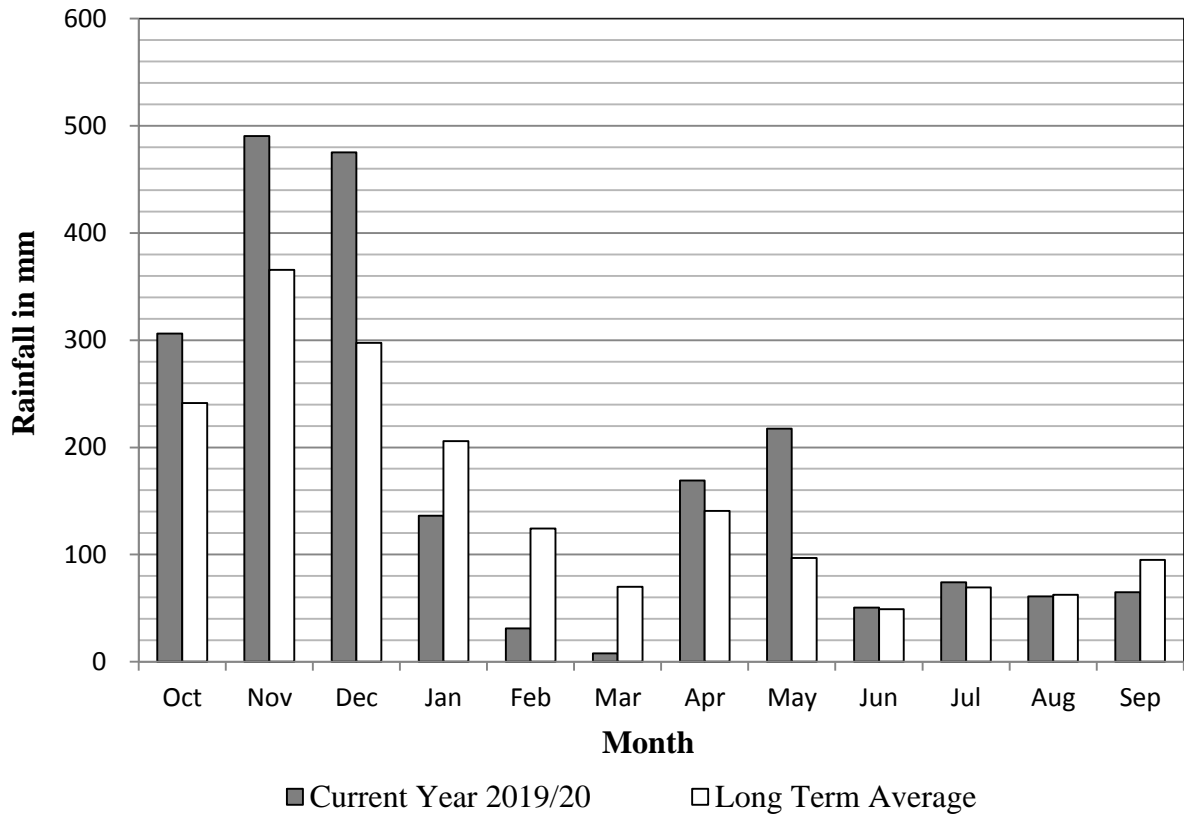


Fig. 34: Variation of Rainfall at Siyambalanduwa

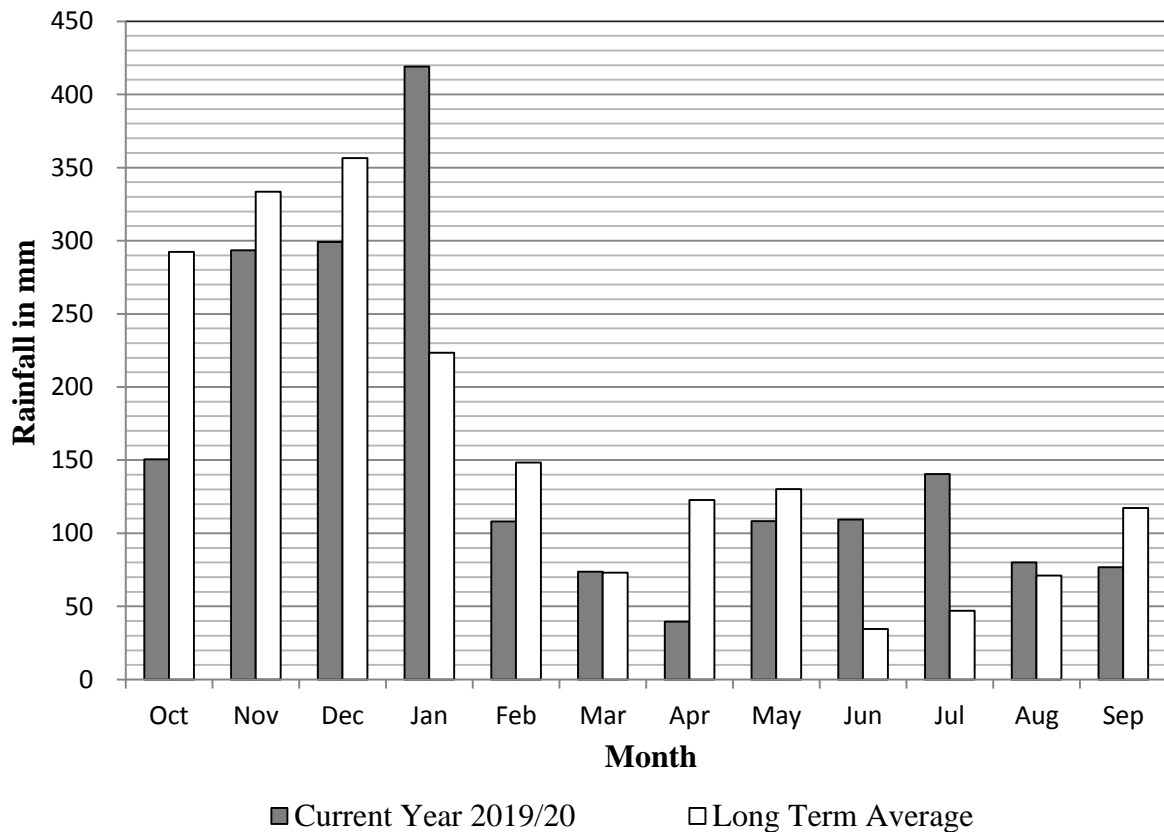


Fig. 35: Variation of Rainfall at Thaldena

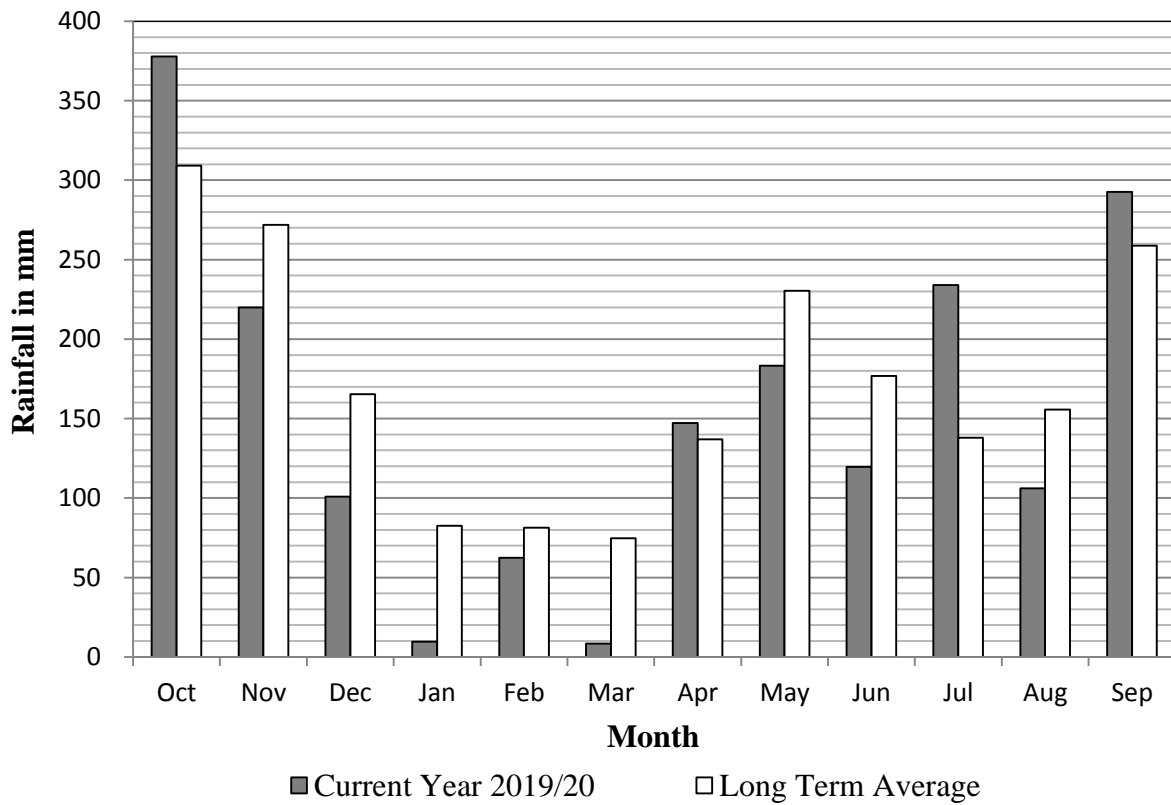


Fig. 36: Variation of Rainfall at Thalghagoda

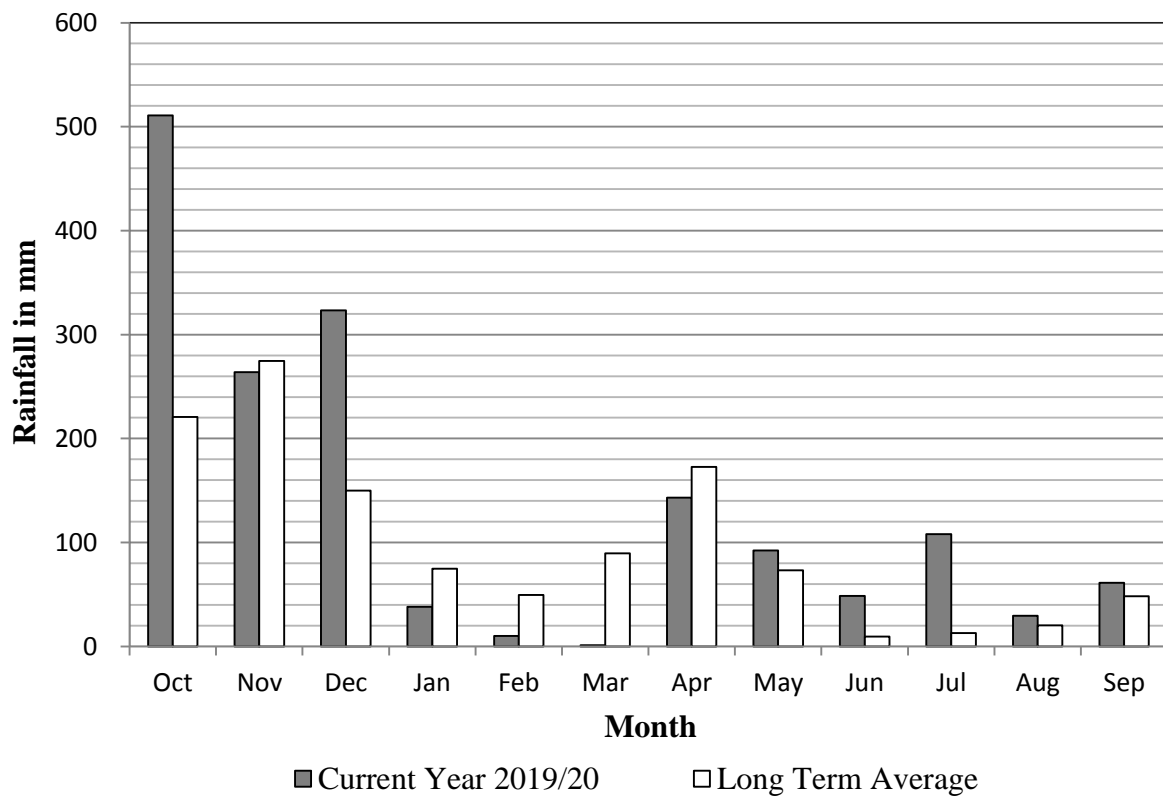


Fig. 37: Variation of Rainfall at Thanamalwila

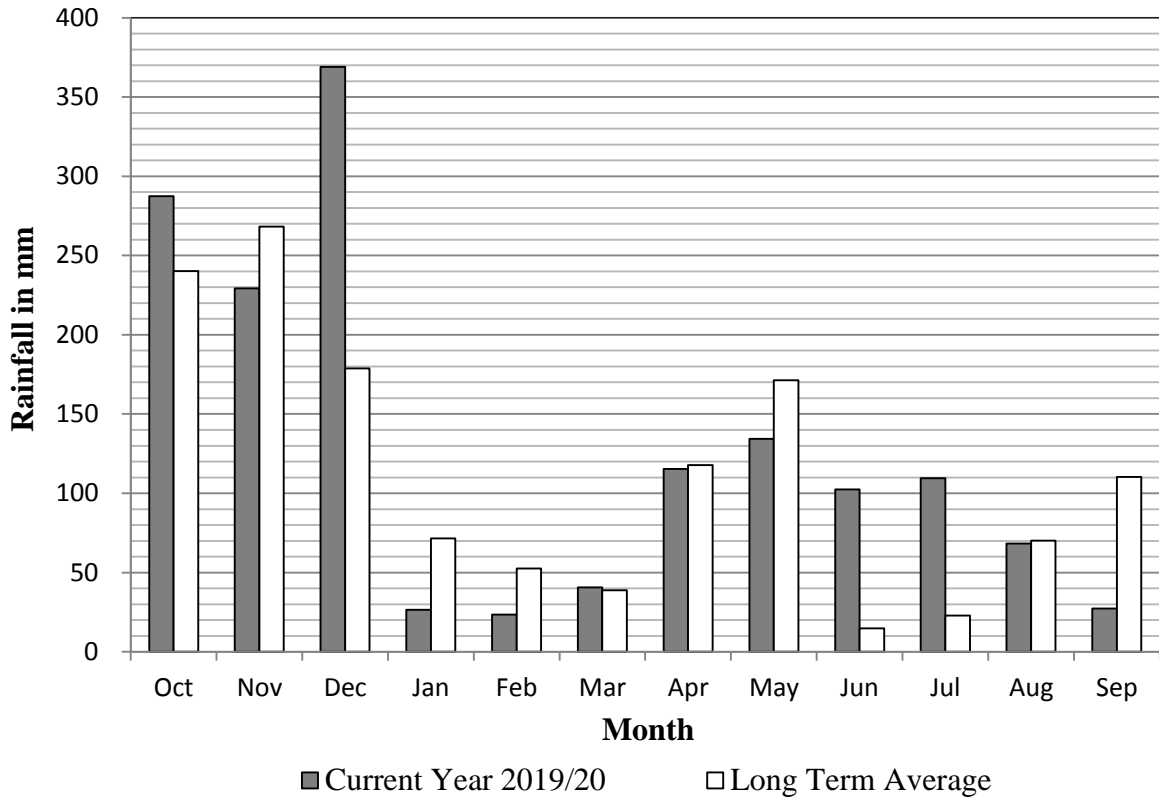


Fig. 38: Variation of Rainfall at Thanthirimale

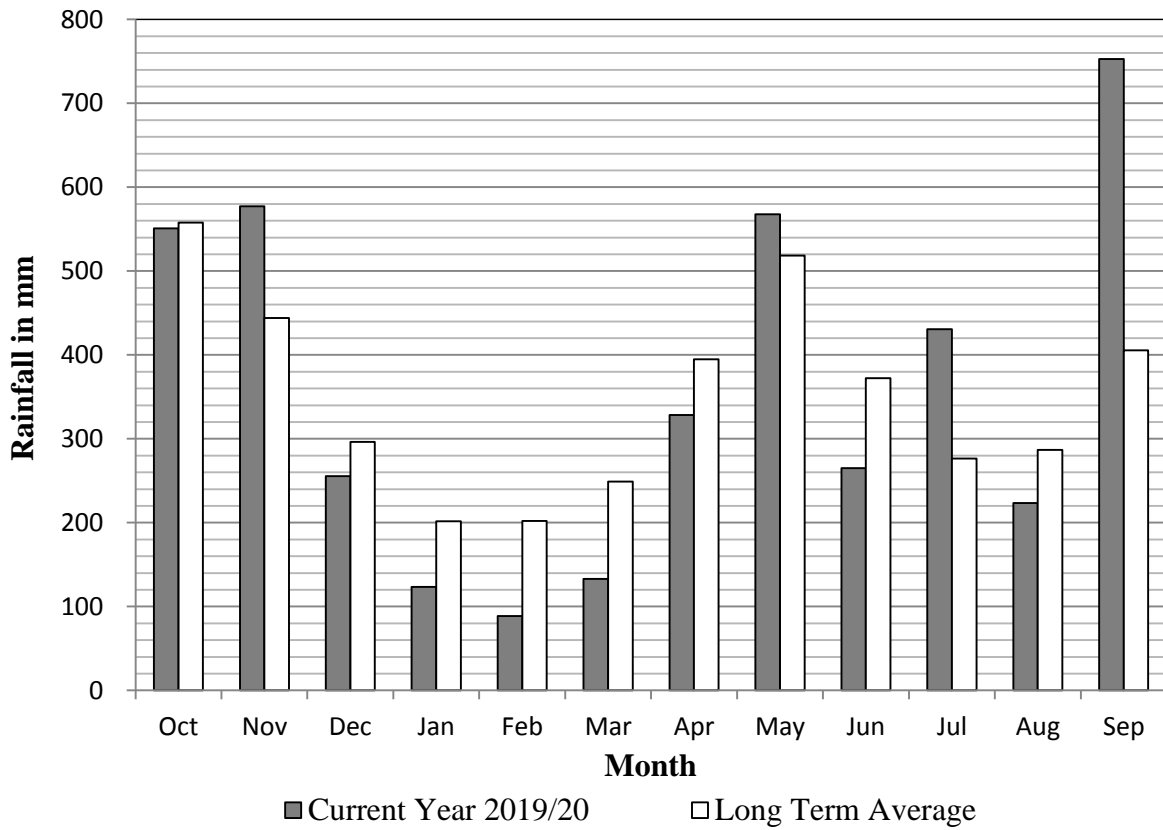


Fig. 39: Variation of Rainfall at Thawalama

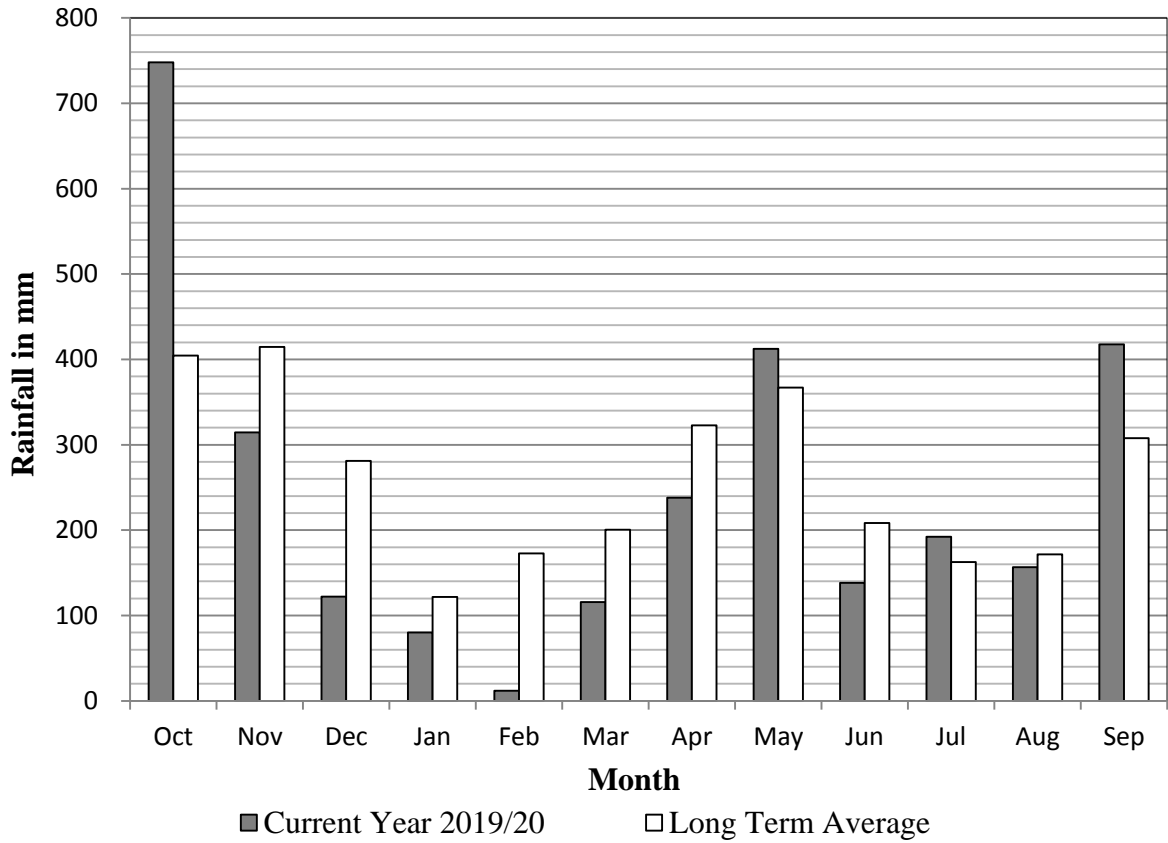


Fig. 40: Variation of Rainfall at Urawa

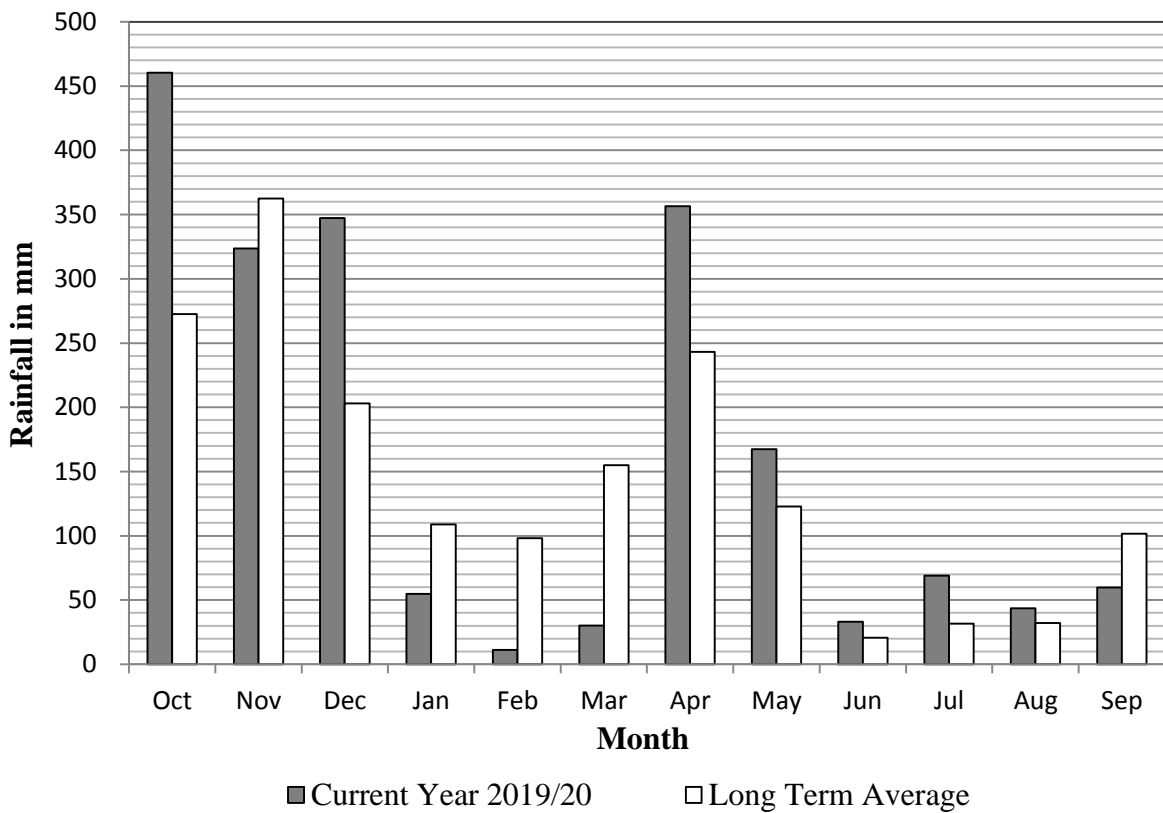


Fig. 41: Variation of Rainfall at Wellaway

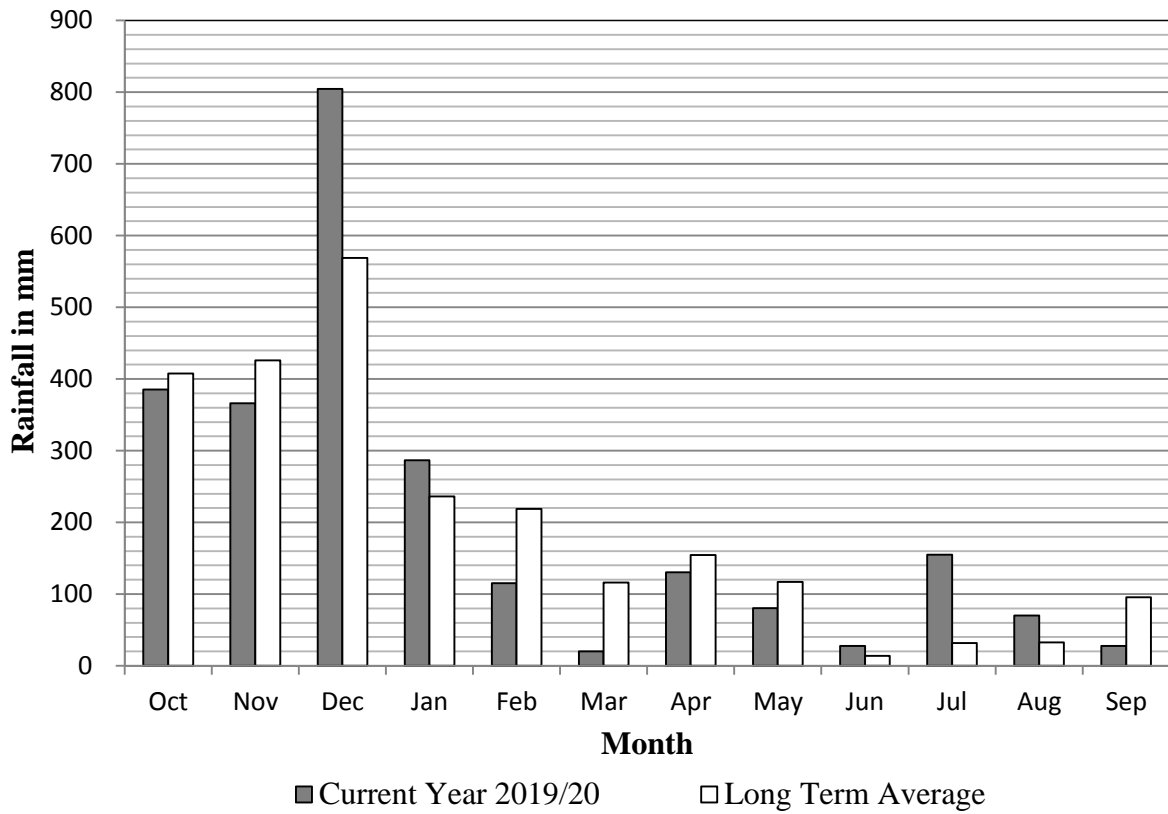


Fig. 42: Variation of Rainfall at Weraganthota

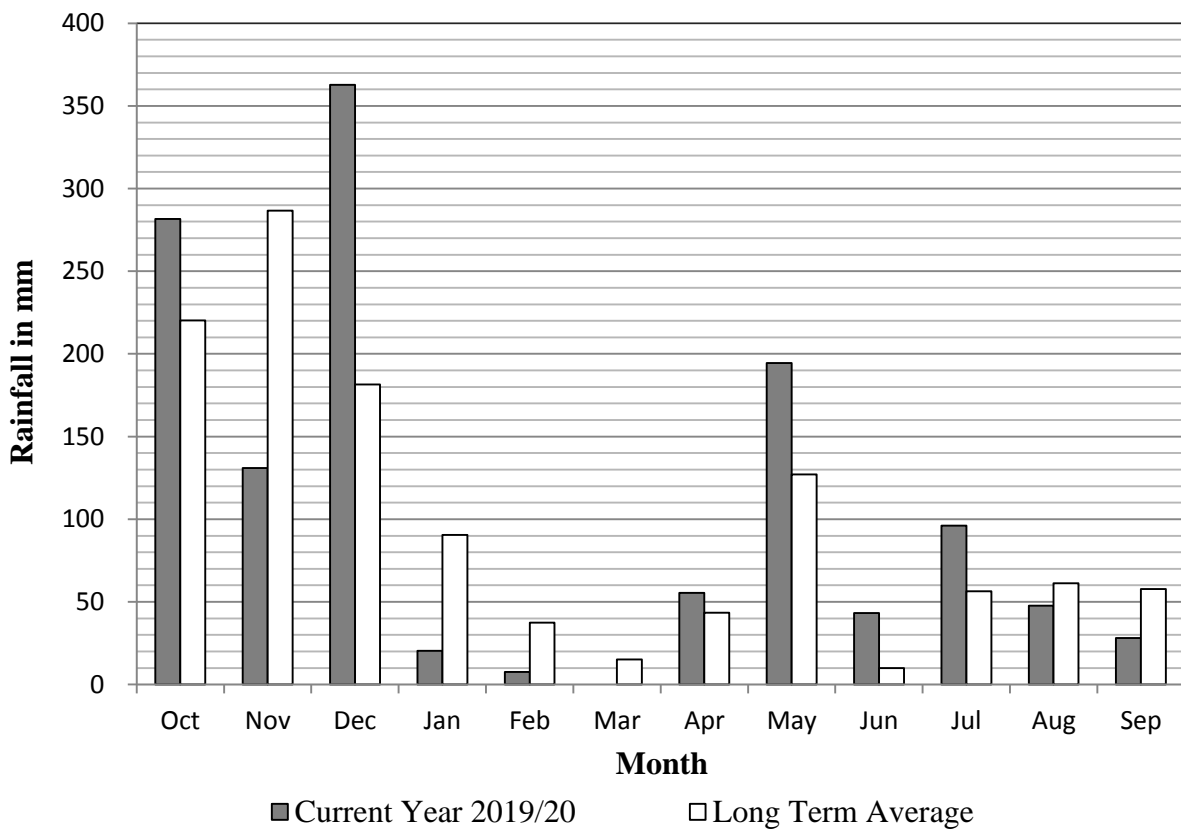


Fig. 43: Variation of Rainfall at Yakawewa

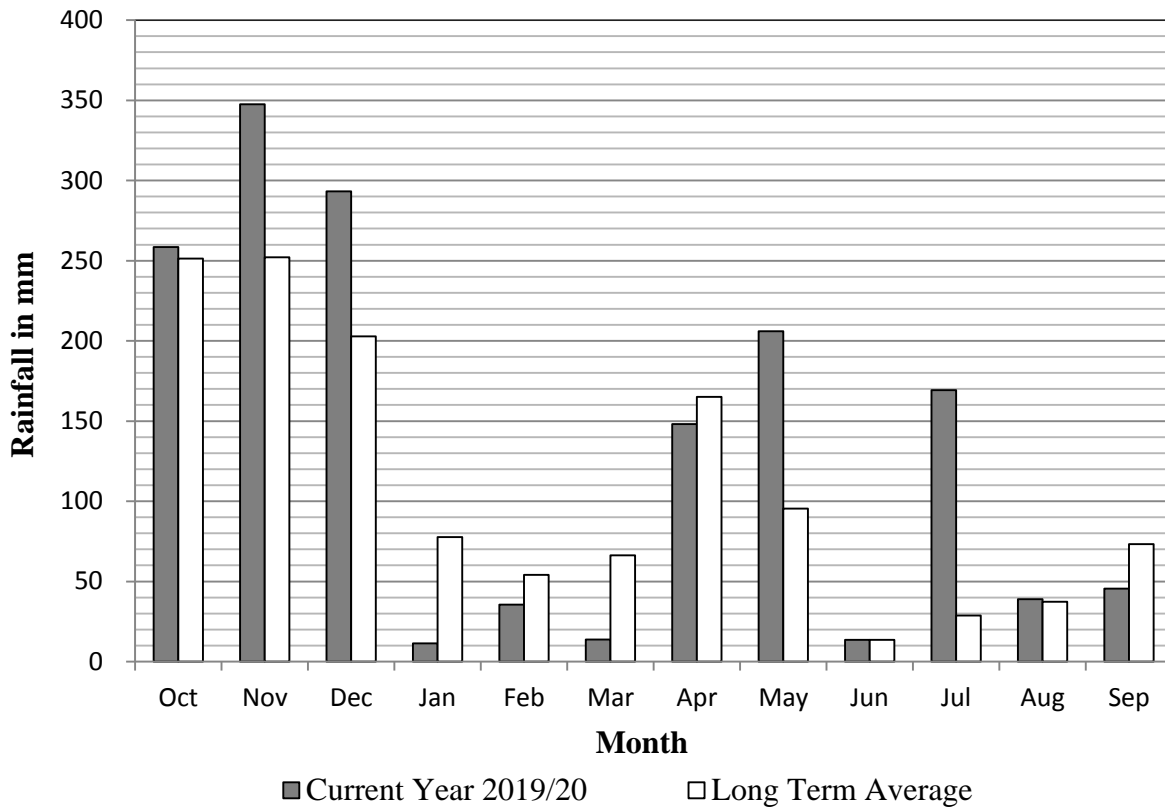


Fig. 44: Variation of Rainfall at Anuradhapura

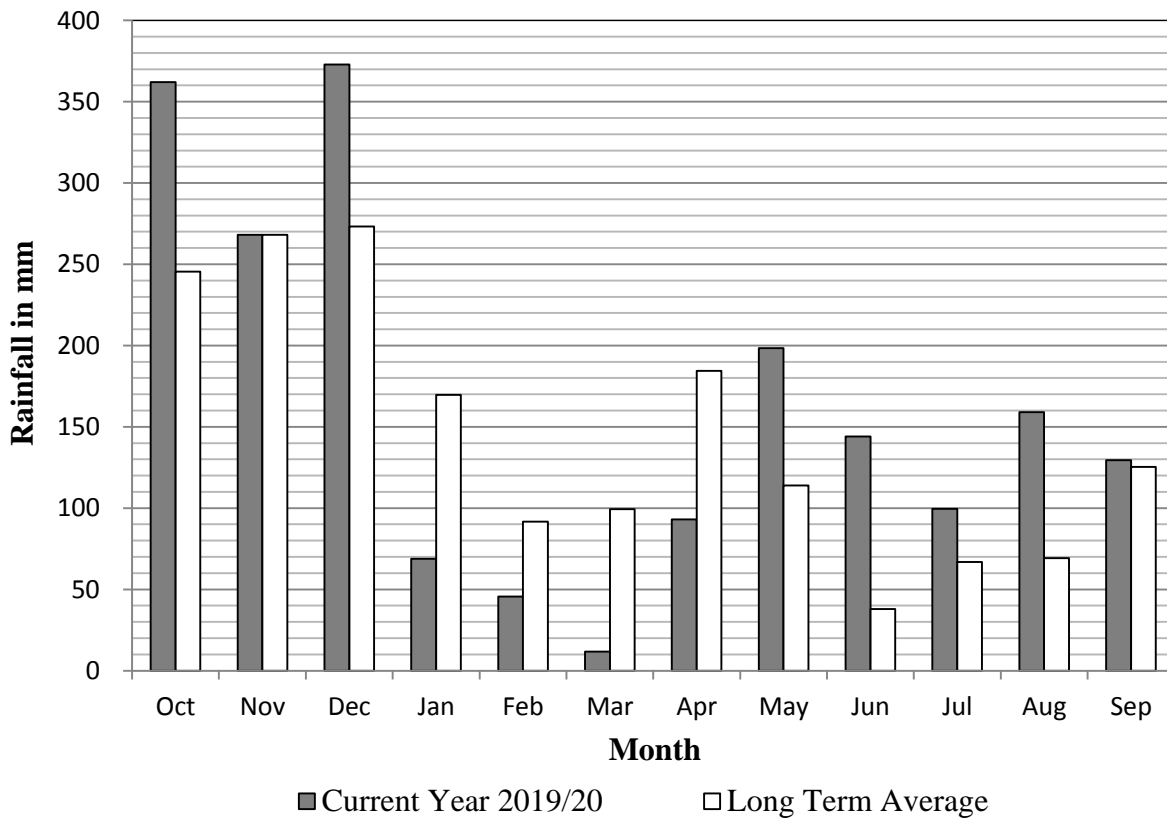


Fig. 45: Variation of Rainfall at Badulla

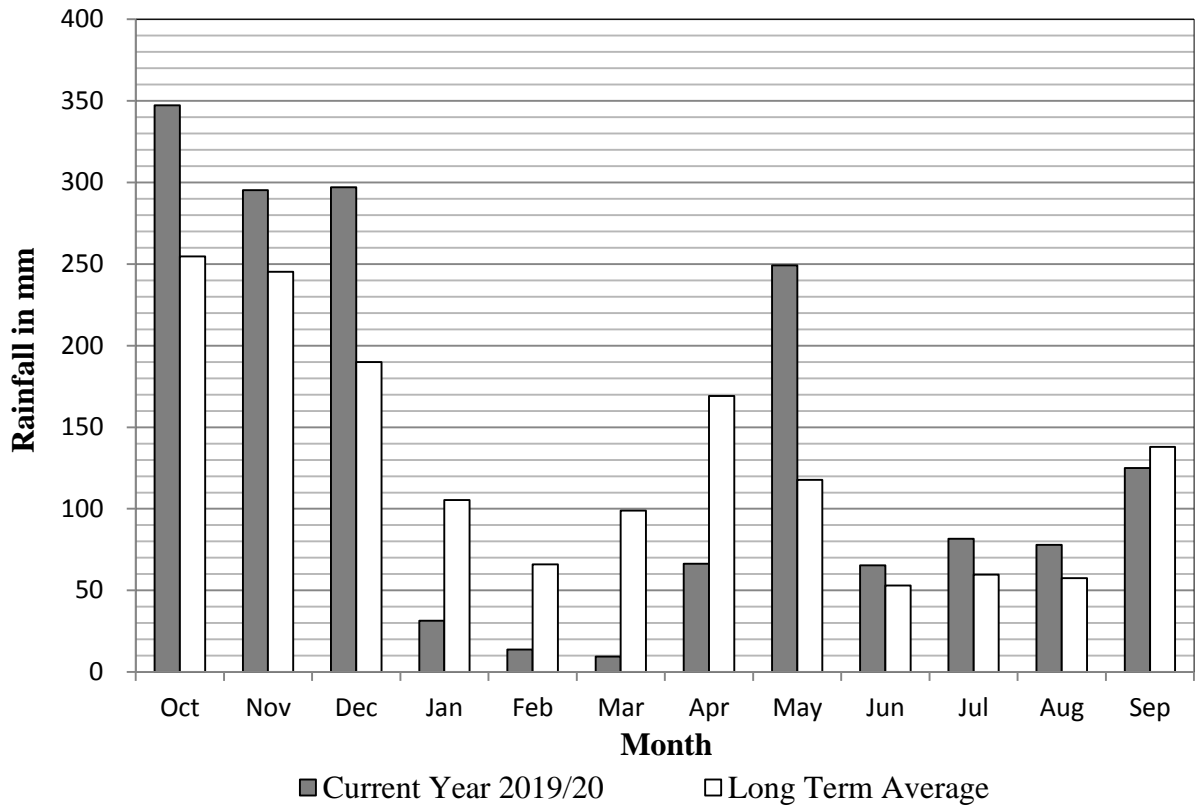


Fig. 46: Variation of Rainfall at Bandarawela

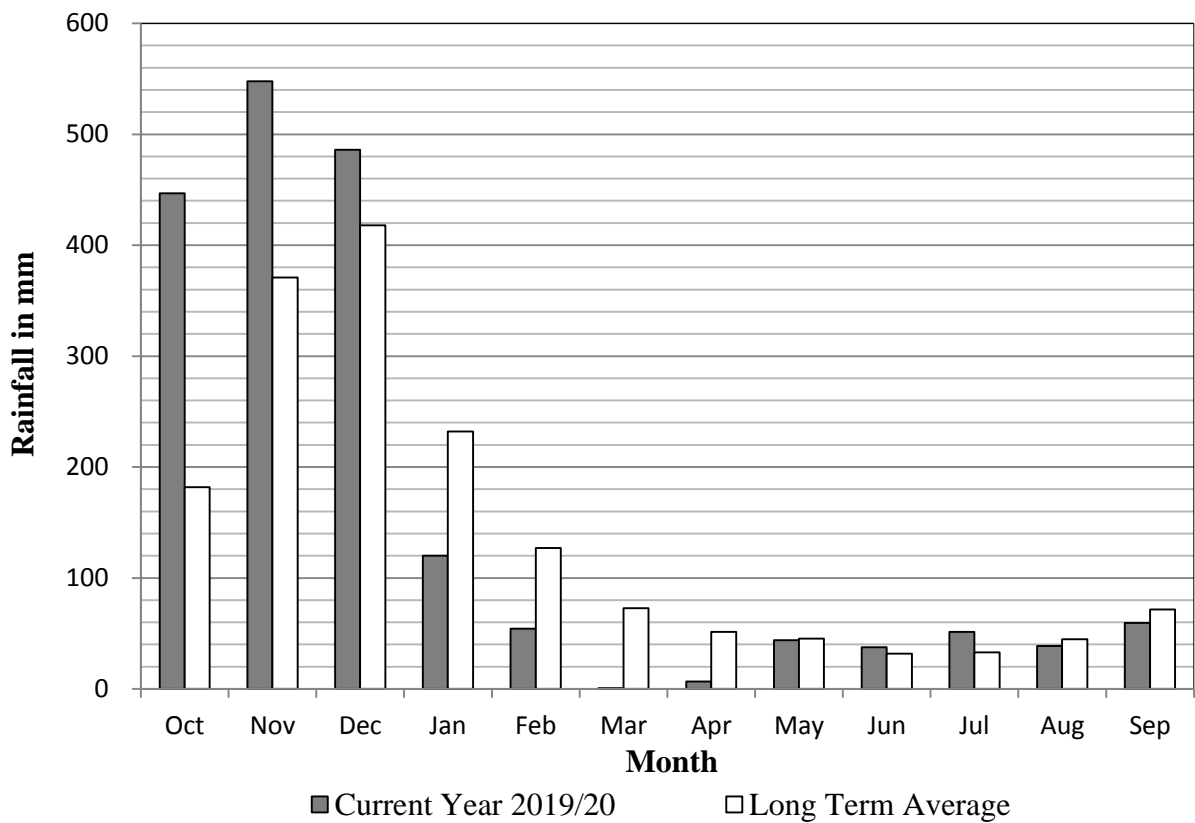


Fig. 47: Variation of Rainfall at Batticaloa

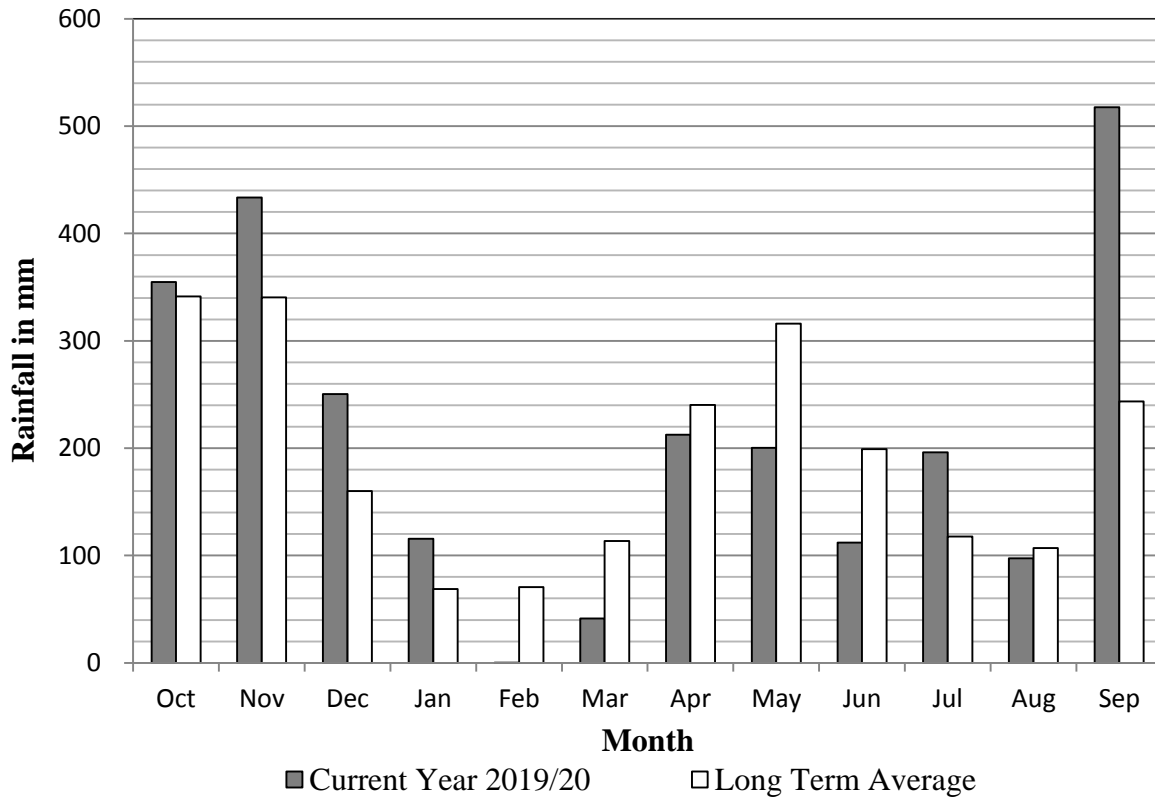


Fig. 48: Variation of Rainfall at Colombo

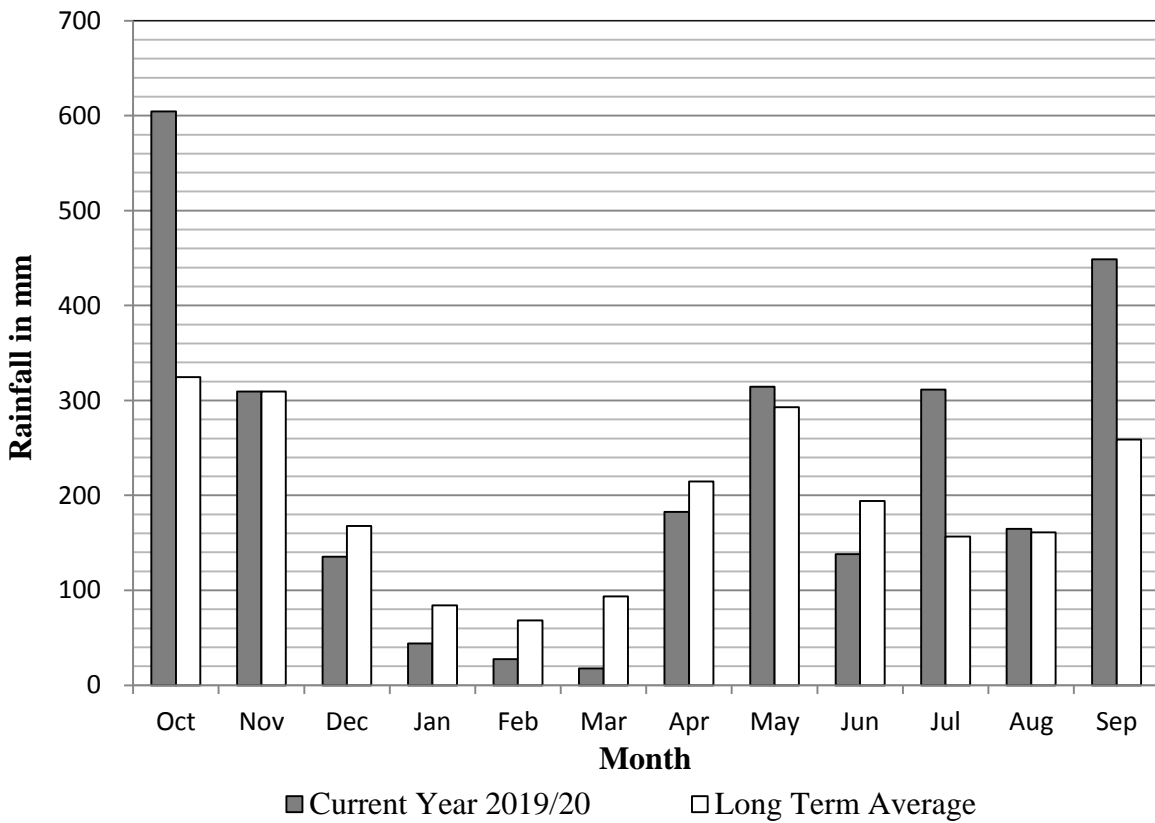


Fig. 49: Variation of Rainfall at Galle

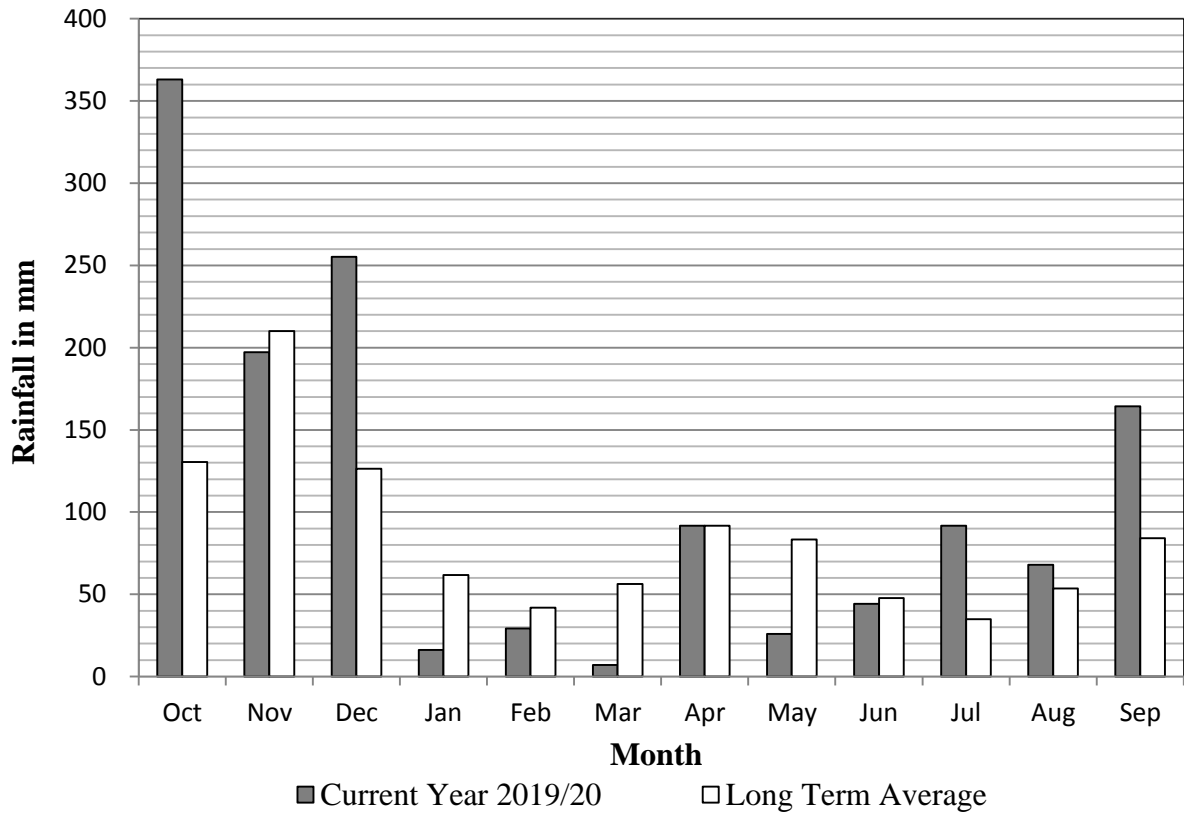


Fig. 50: Variation of Rainfall at Hambanthota

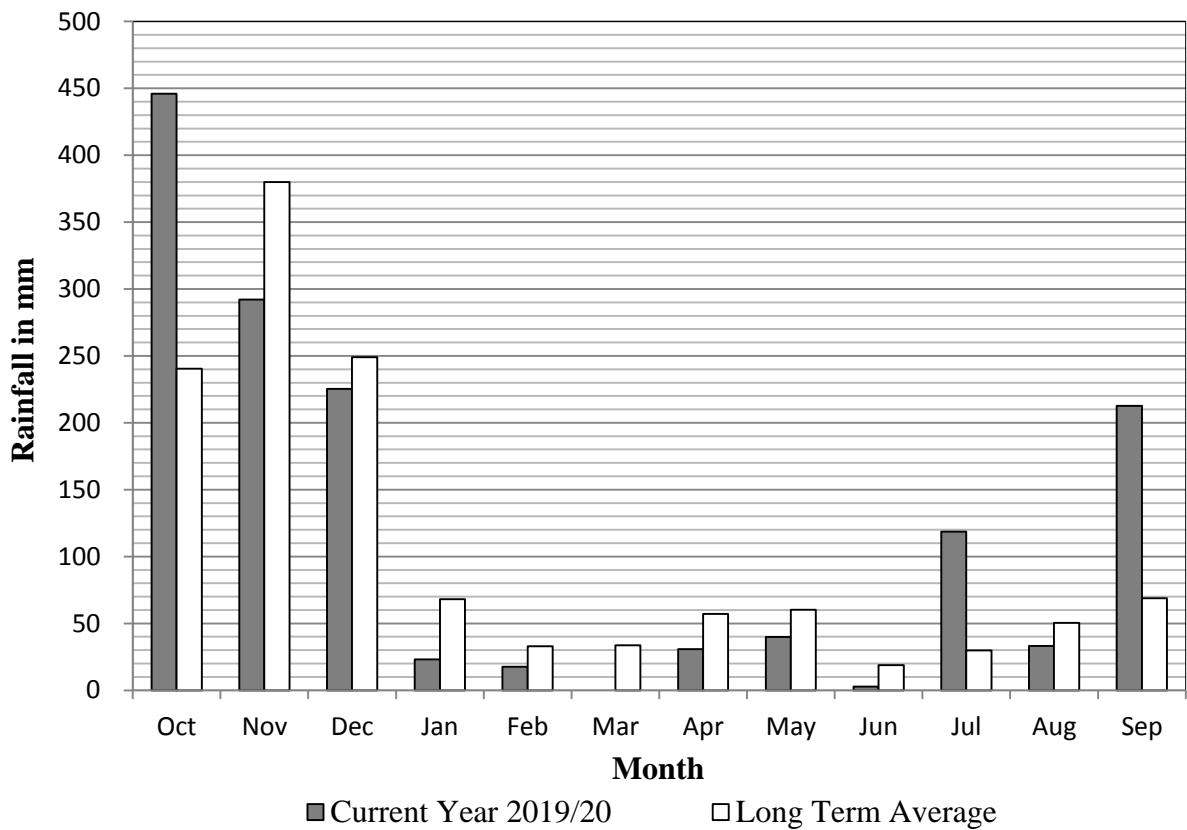


Fig. 51: Variation of Rainfall at Jaffna

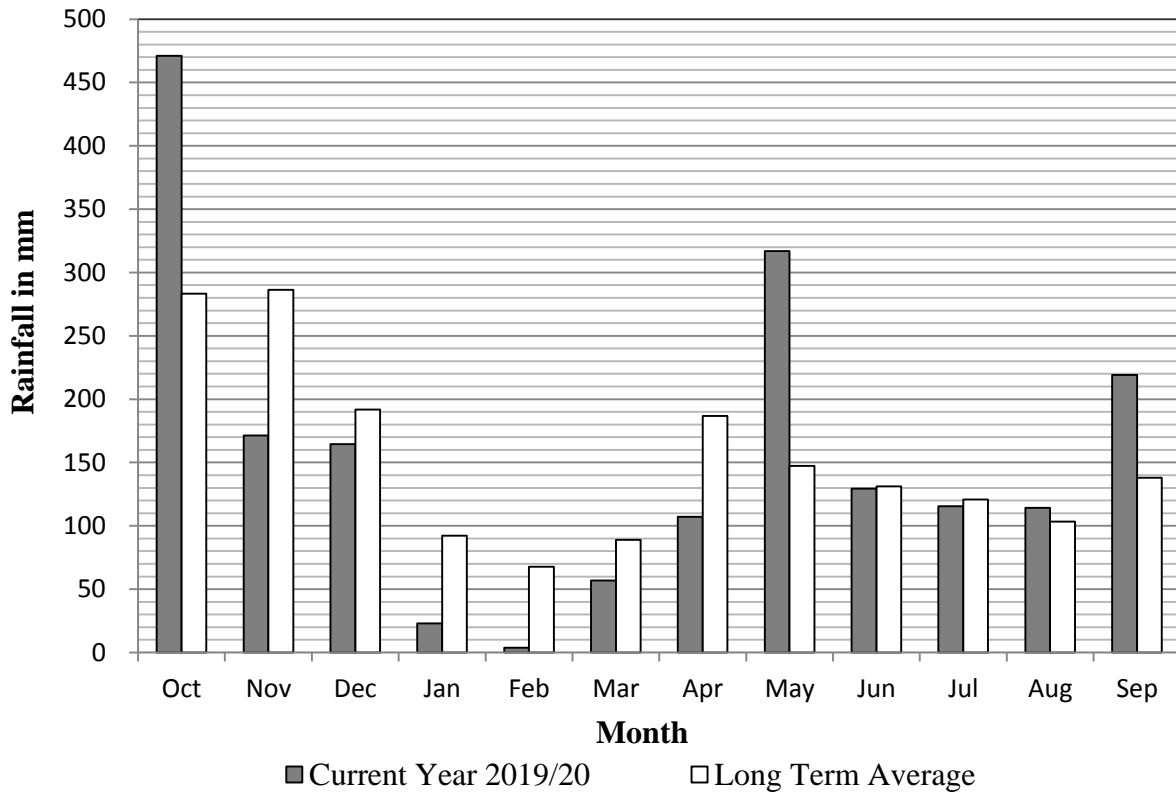


Fig. 52: Variation of Rainfall at Katugasthota

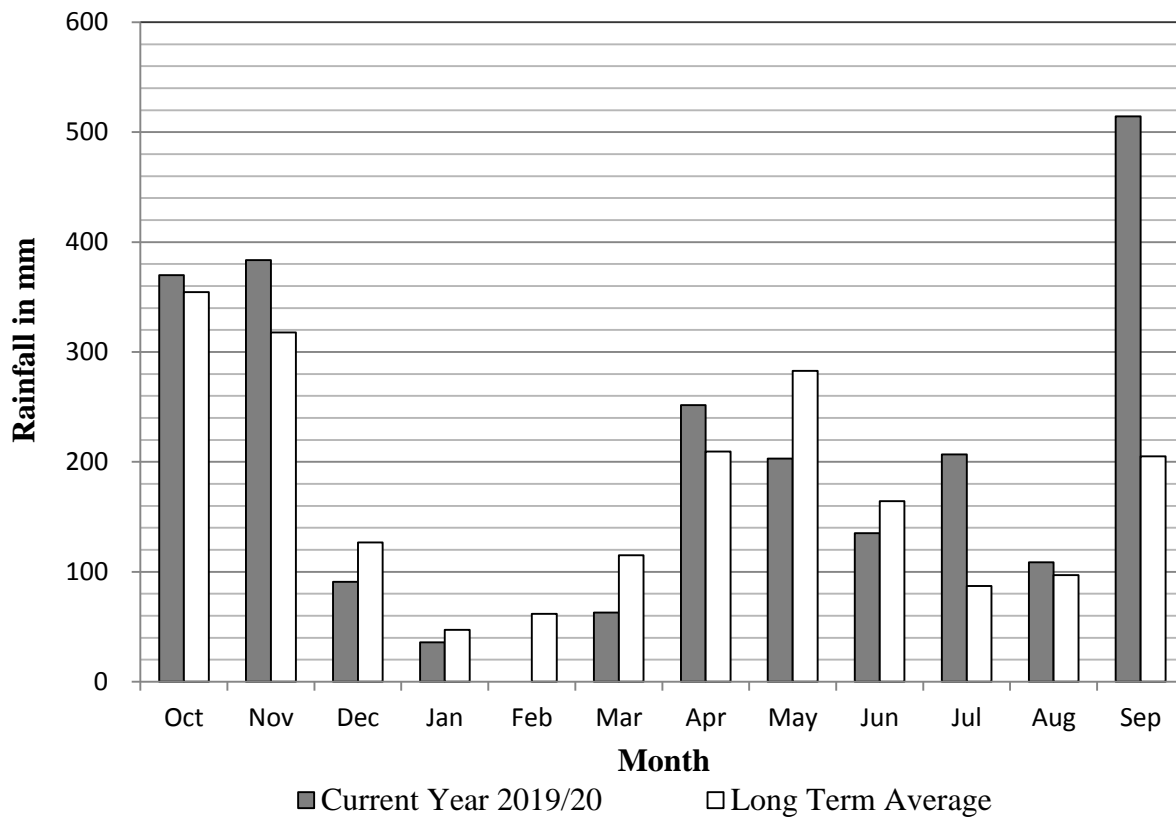


Fig. 53: Variation of Rainfall at Katunayake

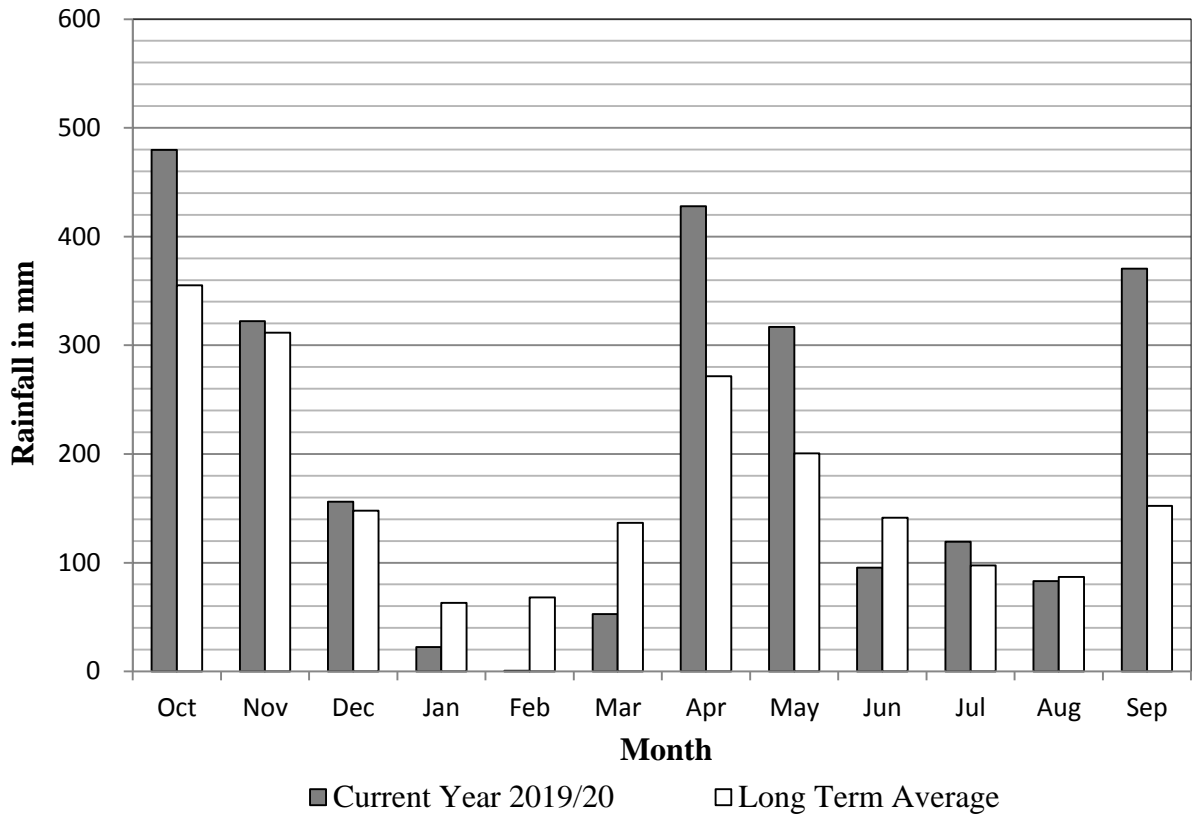


Fig. 54: Variation of Rainfall at Kurunegala

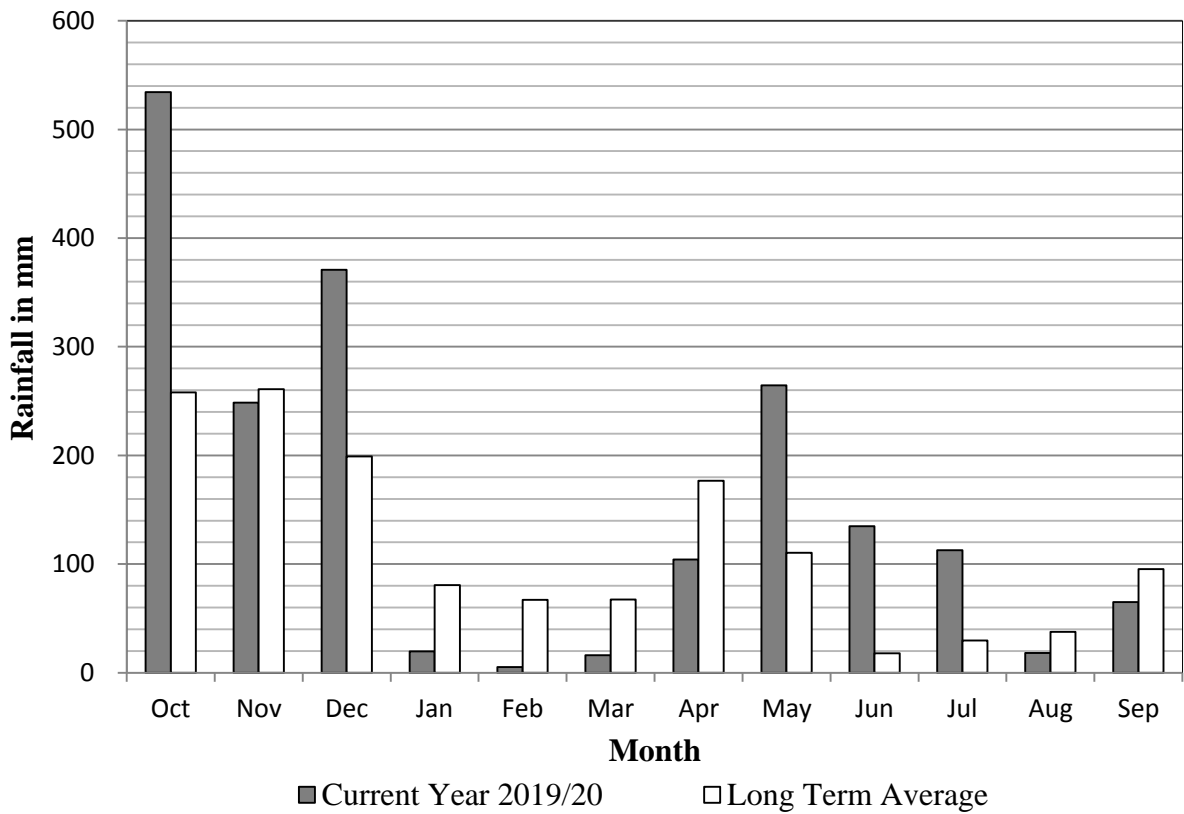


Fig. 55: Variation of Rainfall at Mahalluppallama

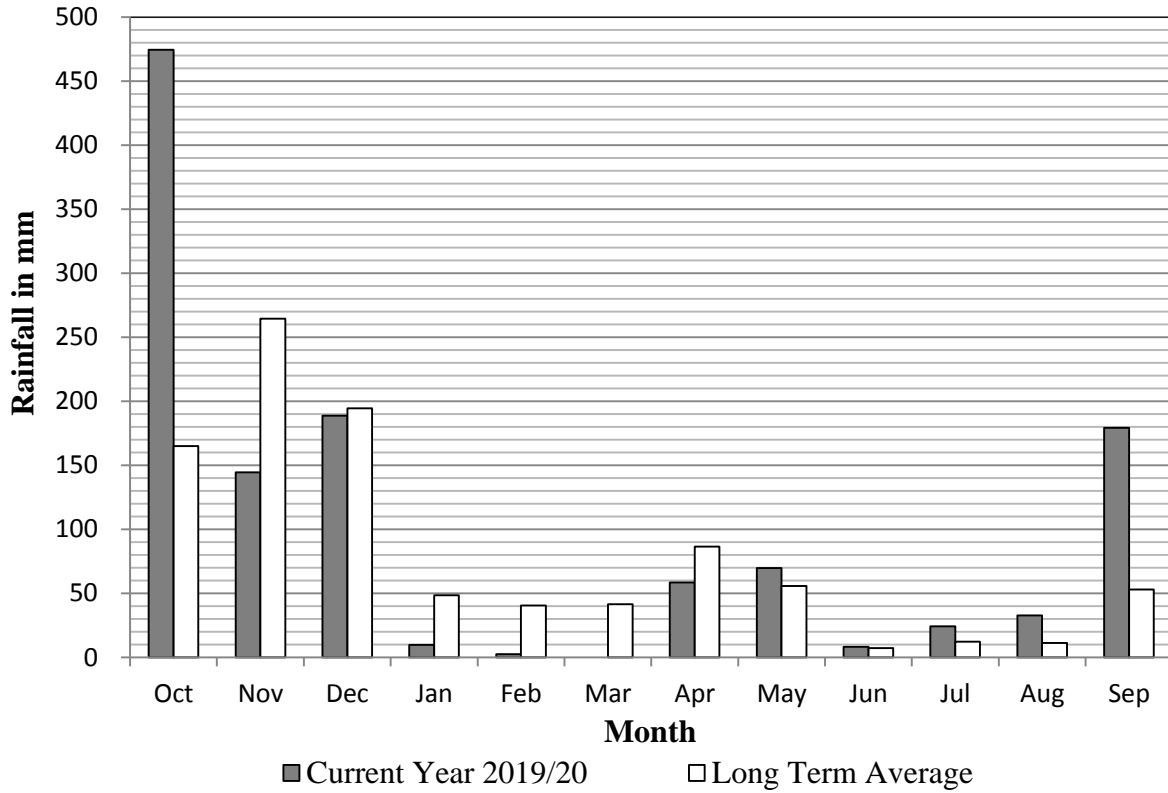


Fig. 56: Variation of Rainfall at Mannar

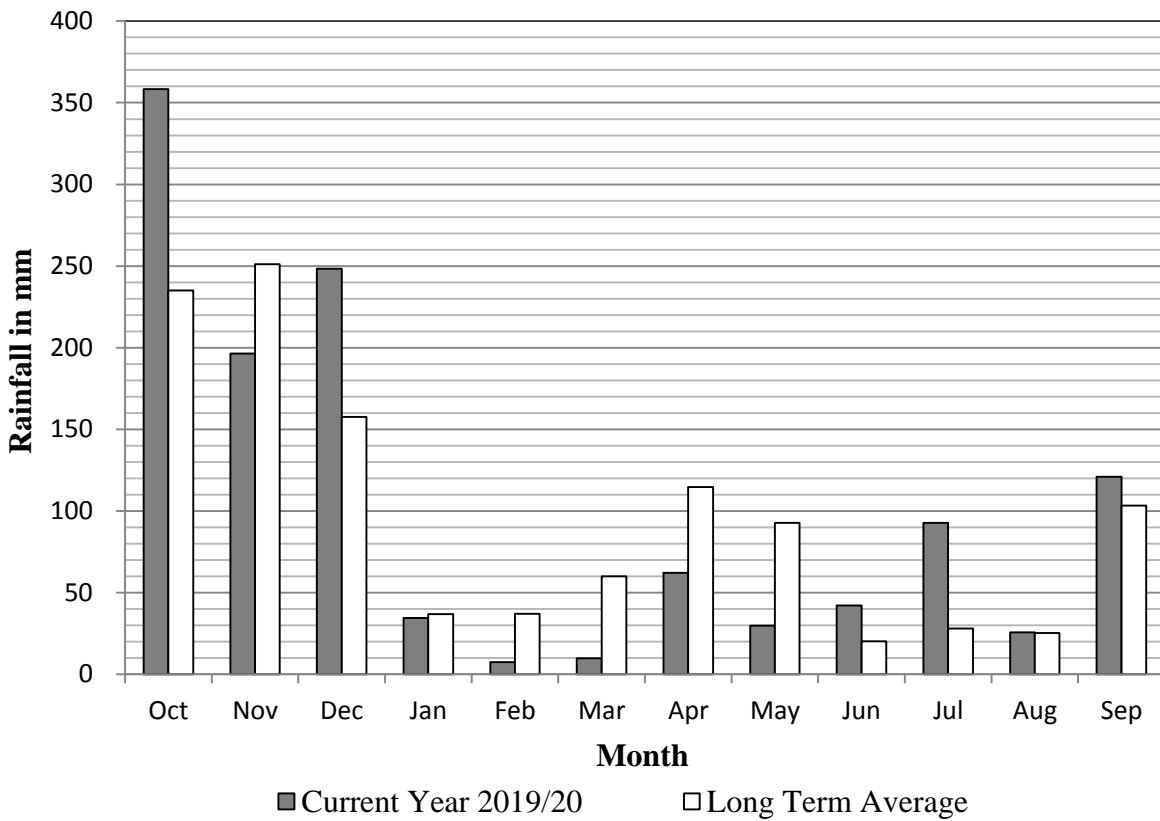


Fig. 57: Variation of Rainfall at Mattala

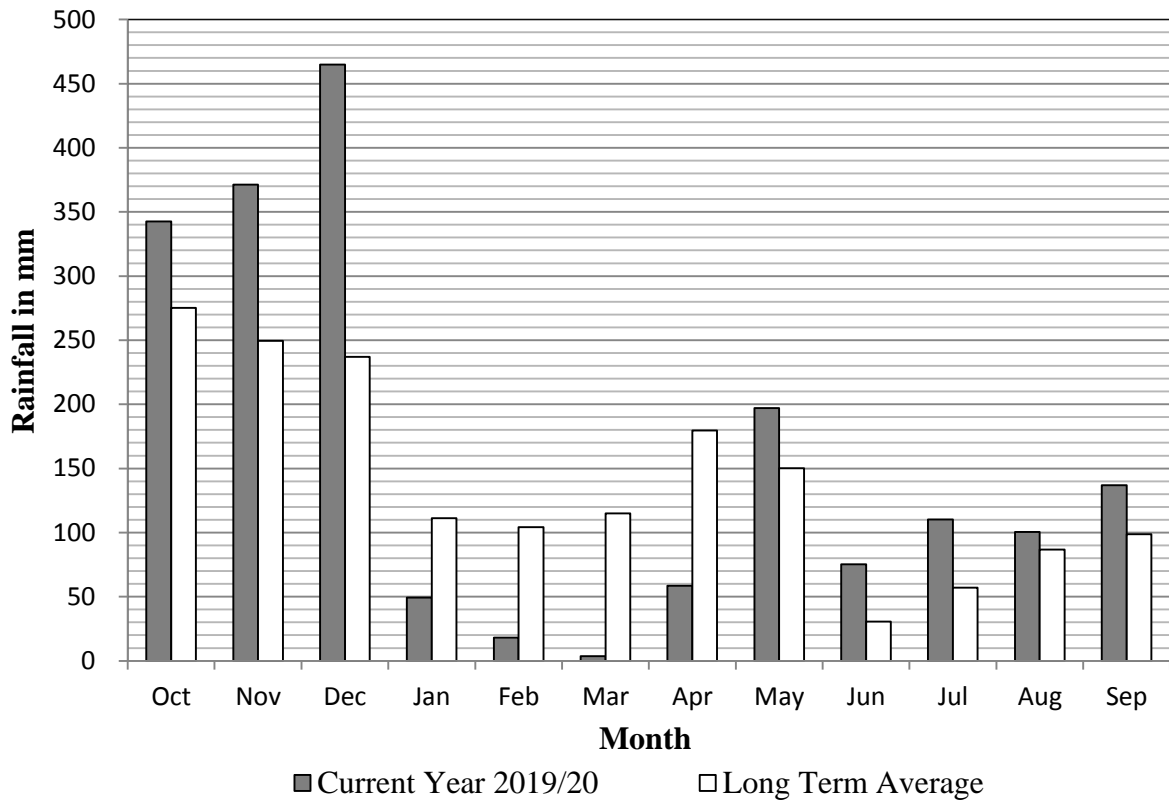


Fig. 58: Variation of Rainfall at Monaragala

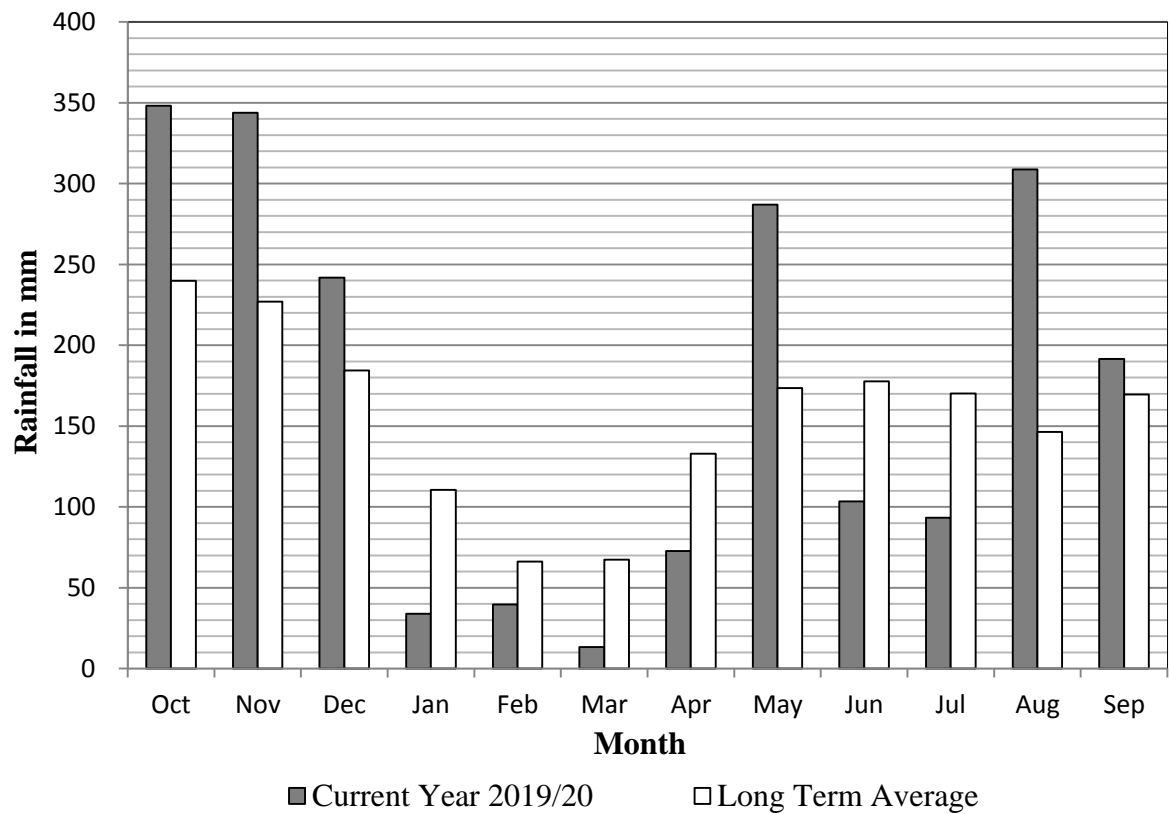


Fig. 59: Variation of Rainfall at Nuwara Eliya

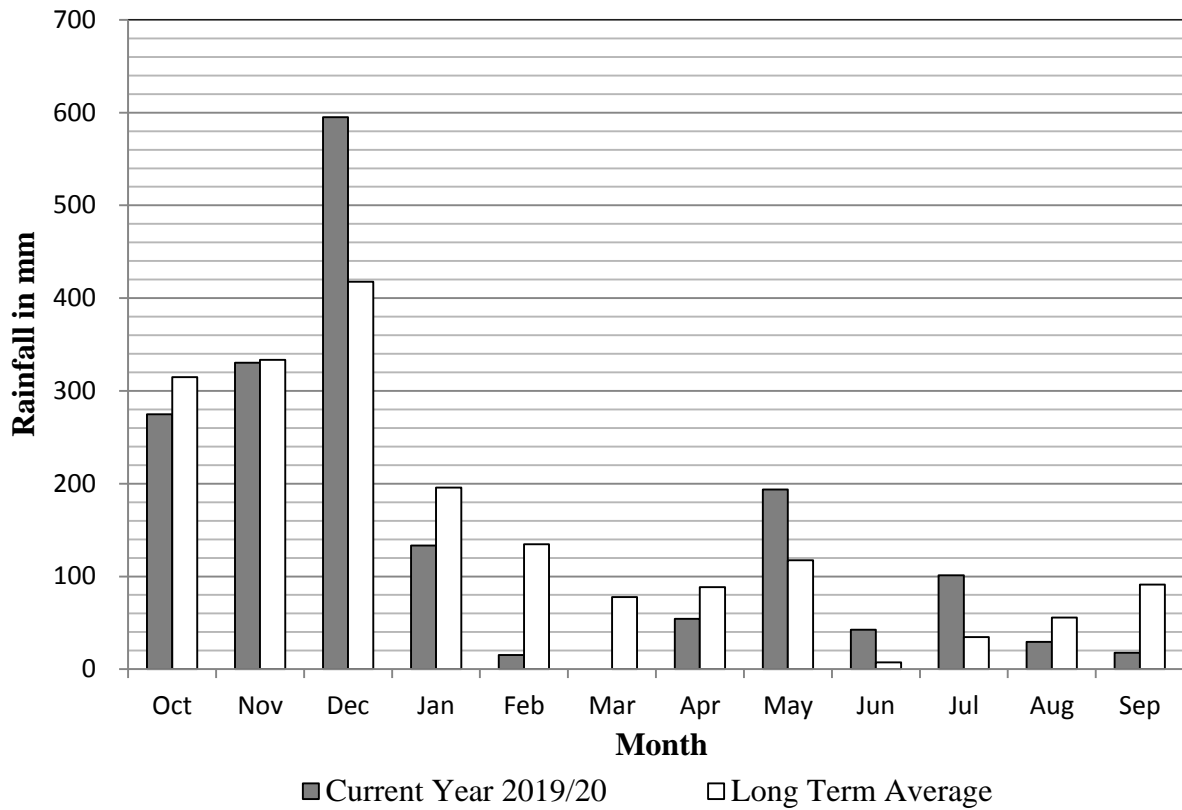


Fig. 60: Variation of Rainfall at Polonnaruwa

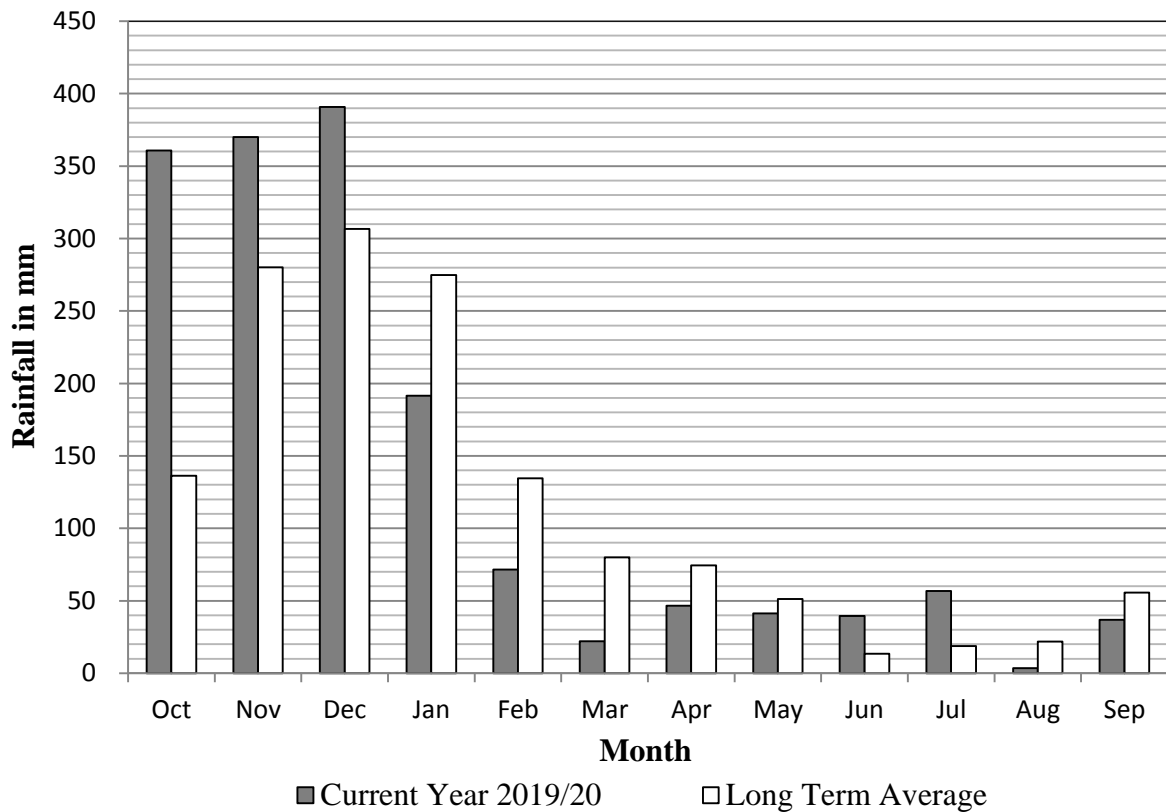


Fig. 61: Variation of Rainfall at Pothuvil

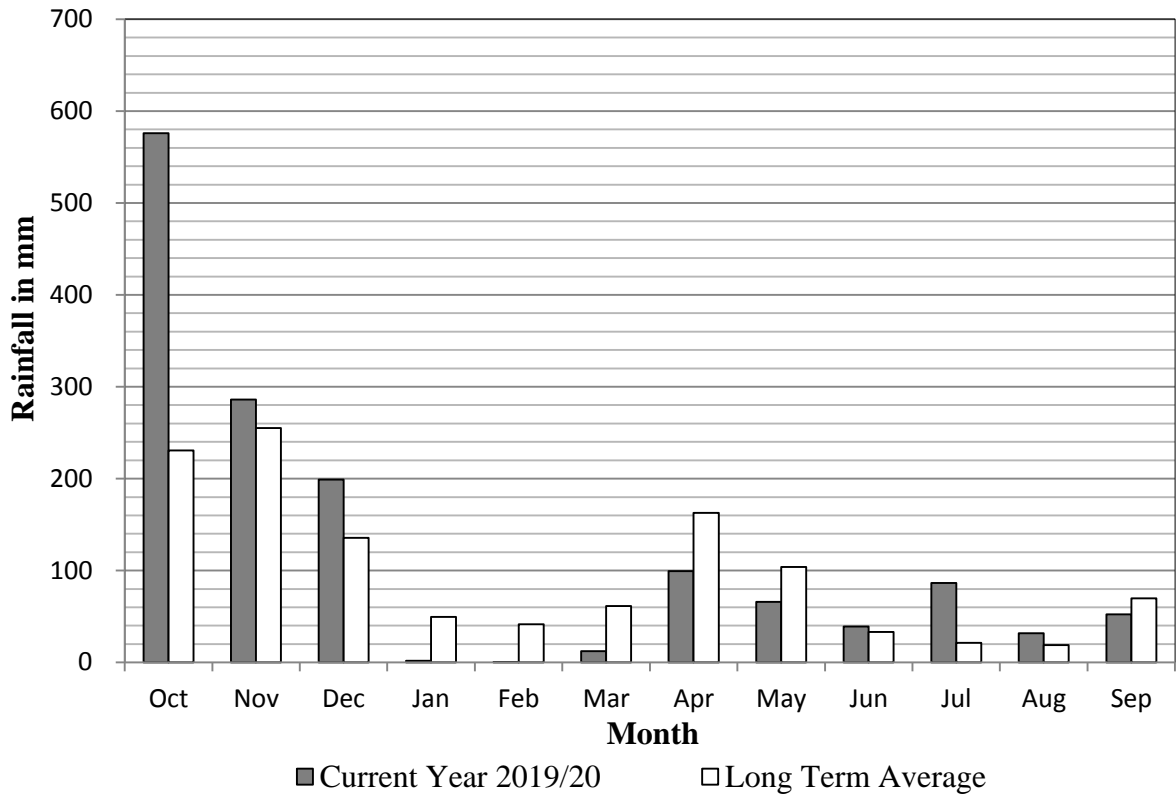


Fig. 62: Variation of Rainfall at Puttalam

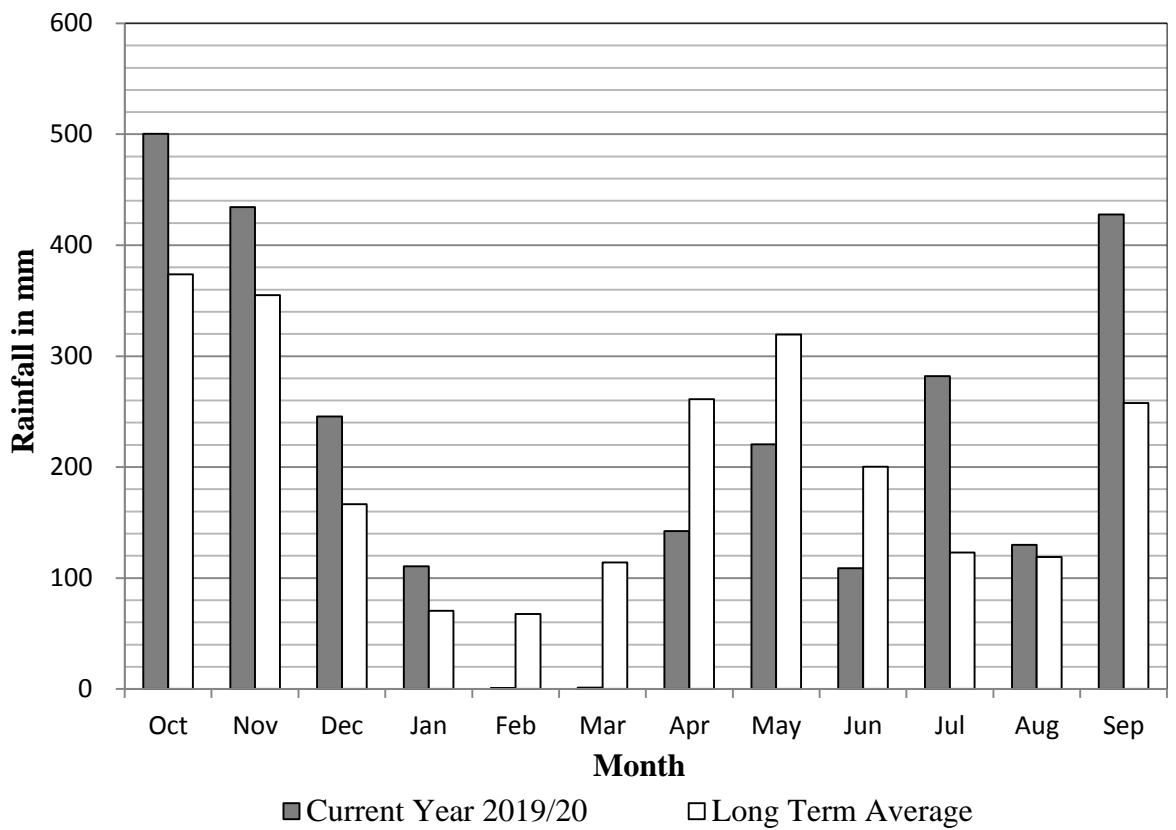


Fig. 63: Variation of Rainfall at Rathmalana

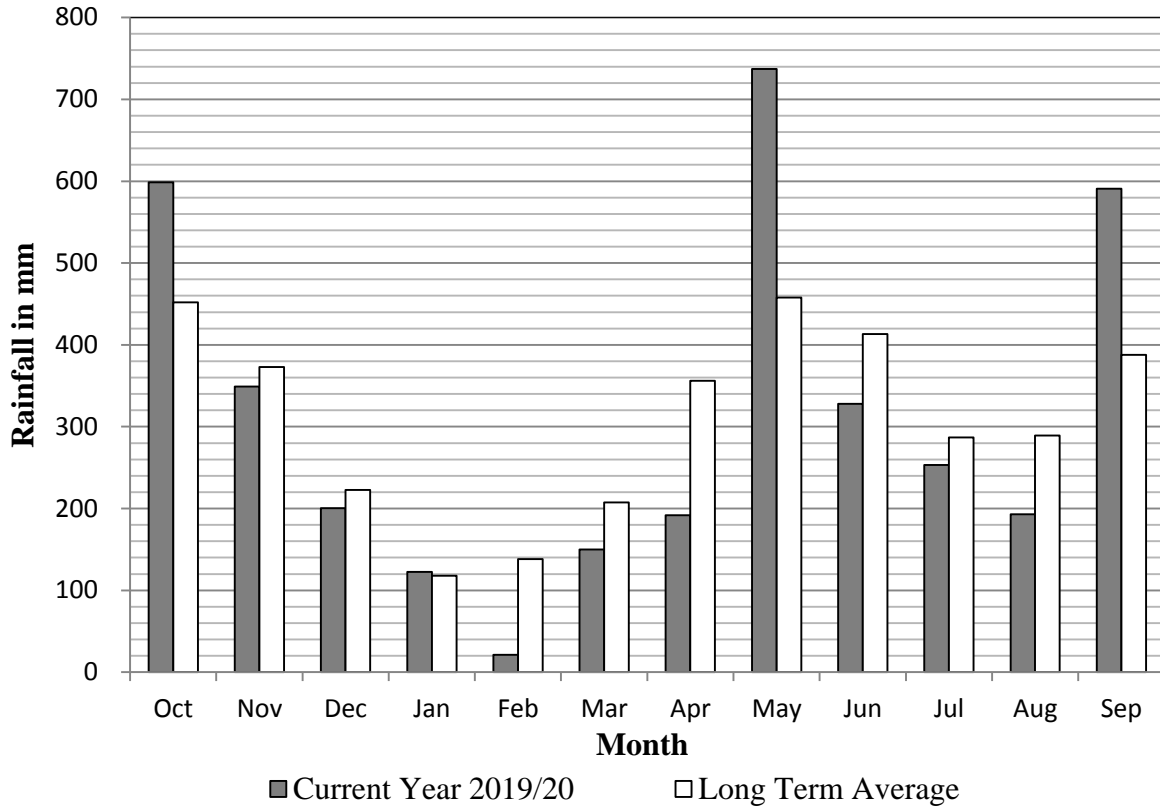


Fig. 64: Variation of Rainfall at Rathnapura

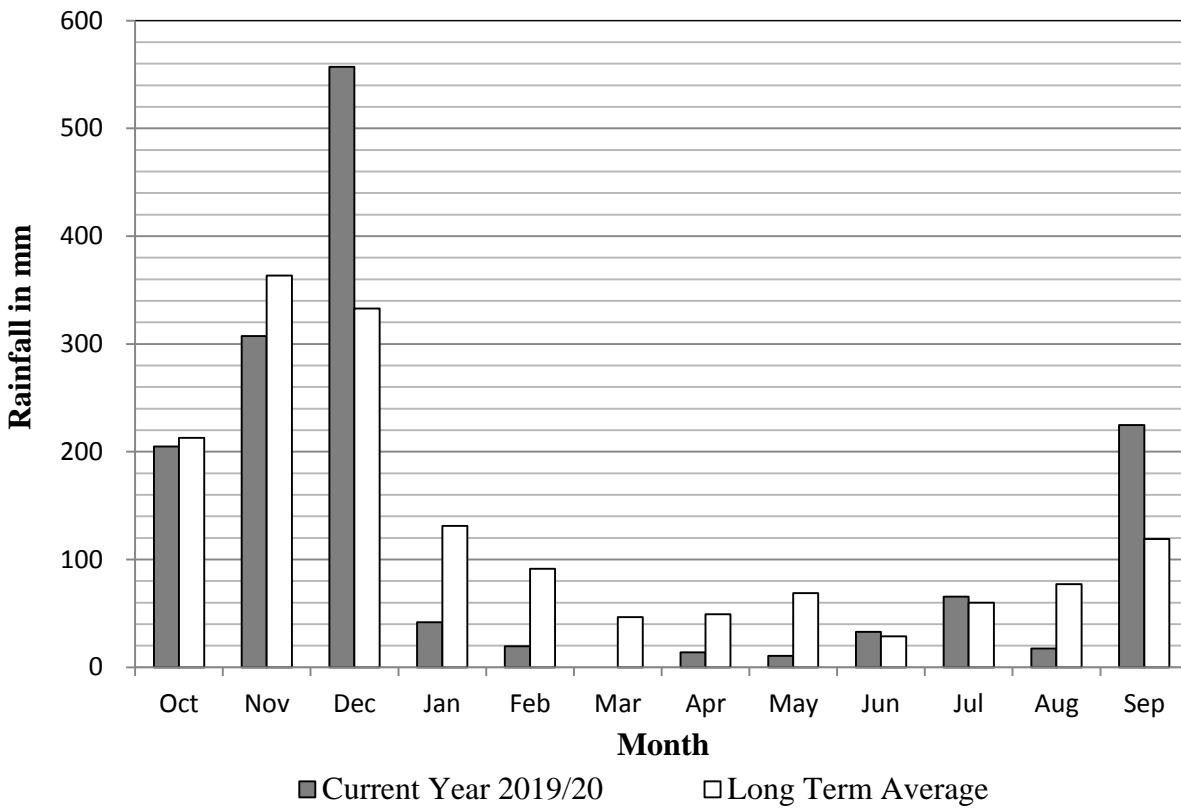


Fig. 65: Variation of Rainfall at Trincomalee

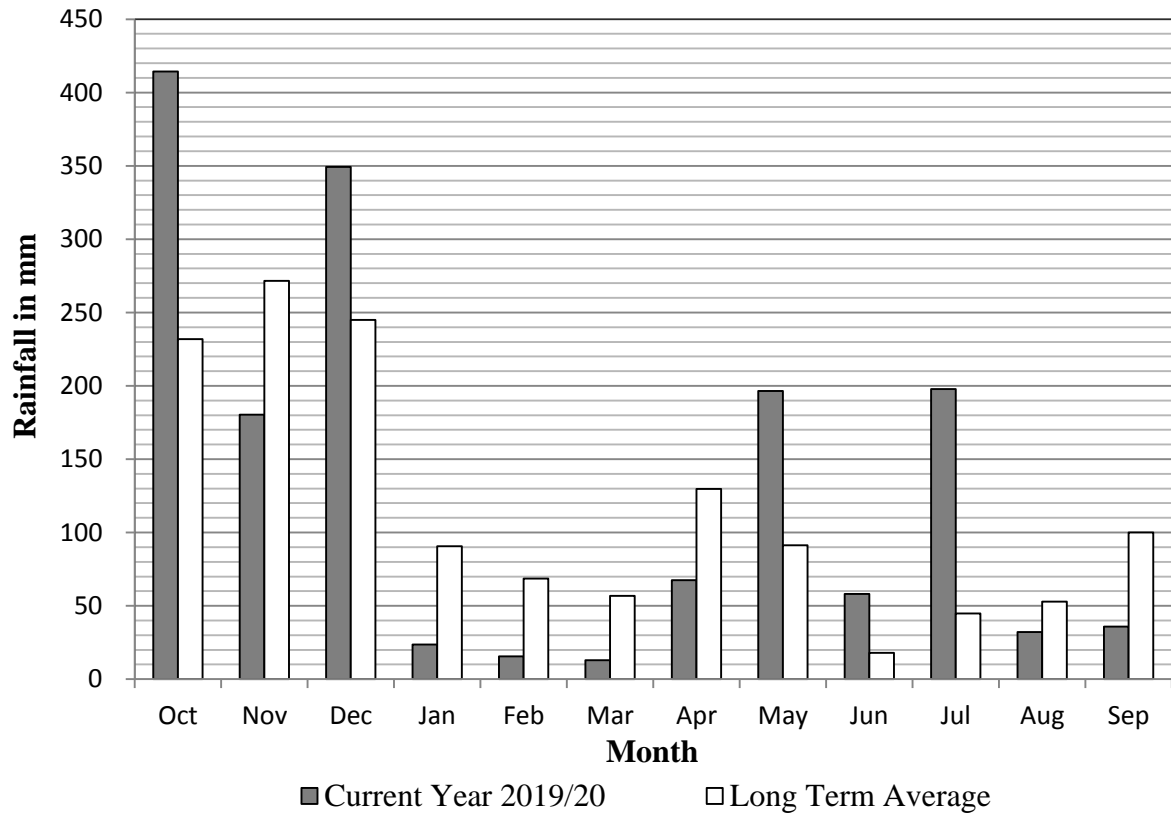


Fig. 66: Variation of Rainfall at Vavuniya

3.2.2 Spatial Variation of Rainfalls Over the Island

➤ **NEM (North-East Monsoon) rainfall distribution**

Overall the Dry Zone of the country has received a high rainfall compared to the long term average but the most of the parts in the Wet Zone and Intermediate Zone have received less than the long term average (Fig. 67 & Fig. 68).

➤ **SWM (South-West Monsoon) rainfall distribution**

Most of the area of the country has received a high rainfall compared to the long-term average while few stations in coastal area show an opposite scenario (Fig. 69 & Fig. 70).

➤ **Annual rainfall distribution**

The most of the parts in the country has received higher annual rainfall than the long-term average while few stations show an opposite scenario (Fig. 71 & Fig. 72).

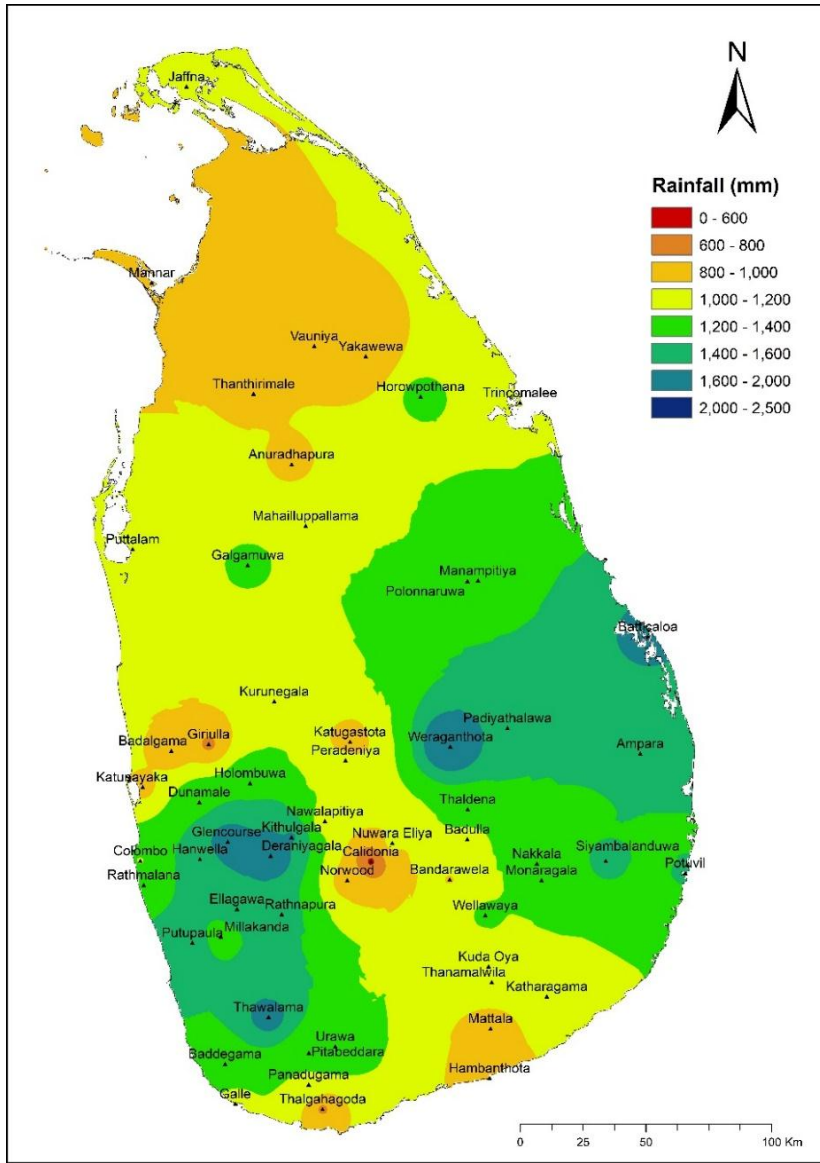


Fig. 67: NEM Rainfall Distribution – Current year 2019/20

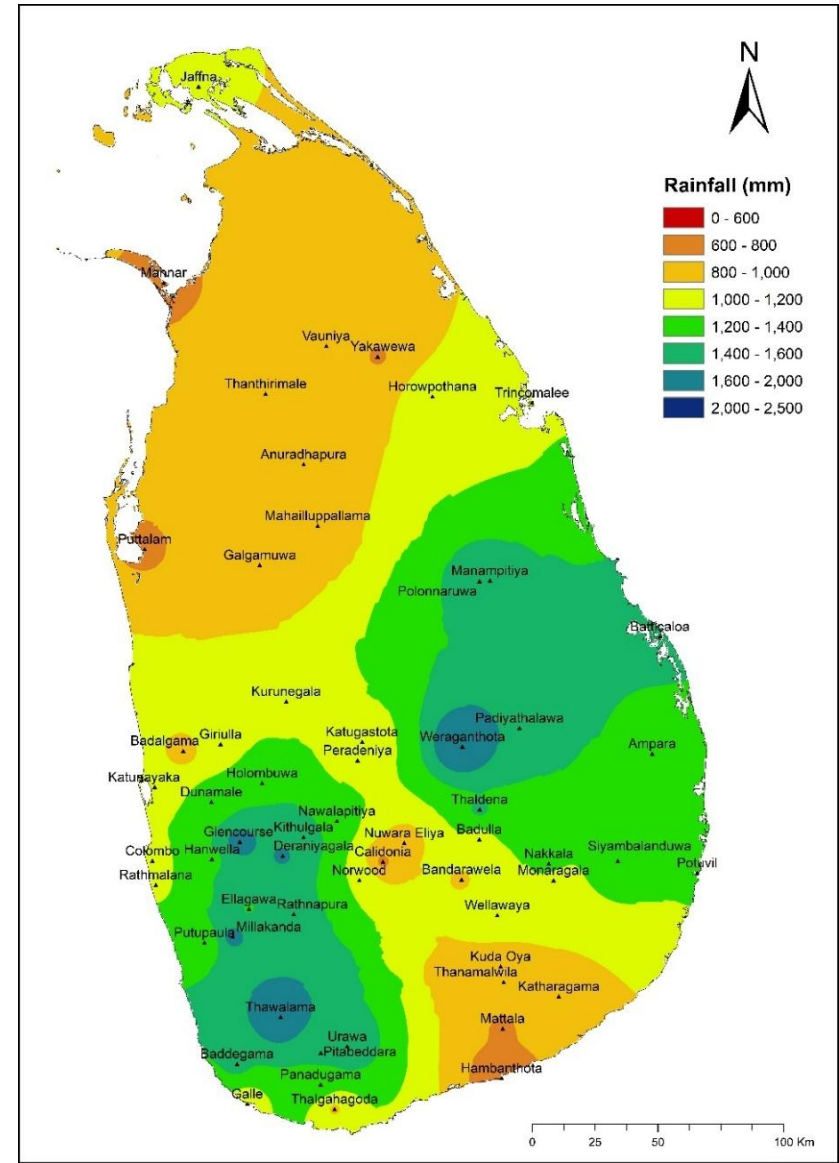


Fig. 68: NEM Rainfall Distribution – Long Term Average

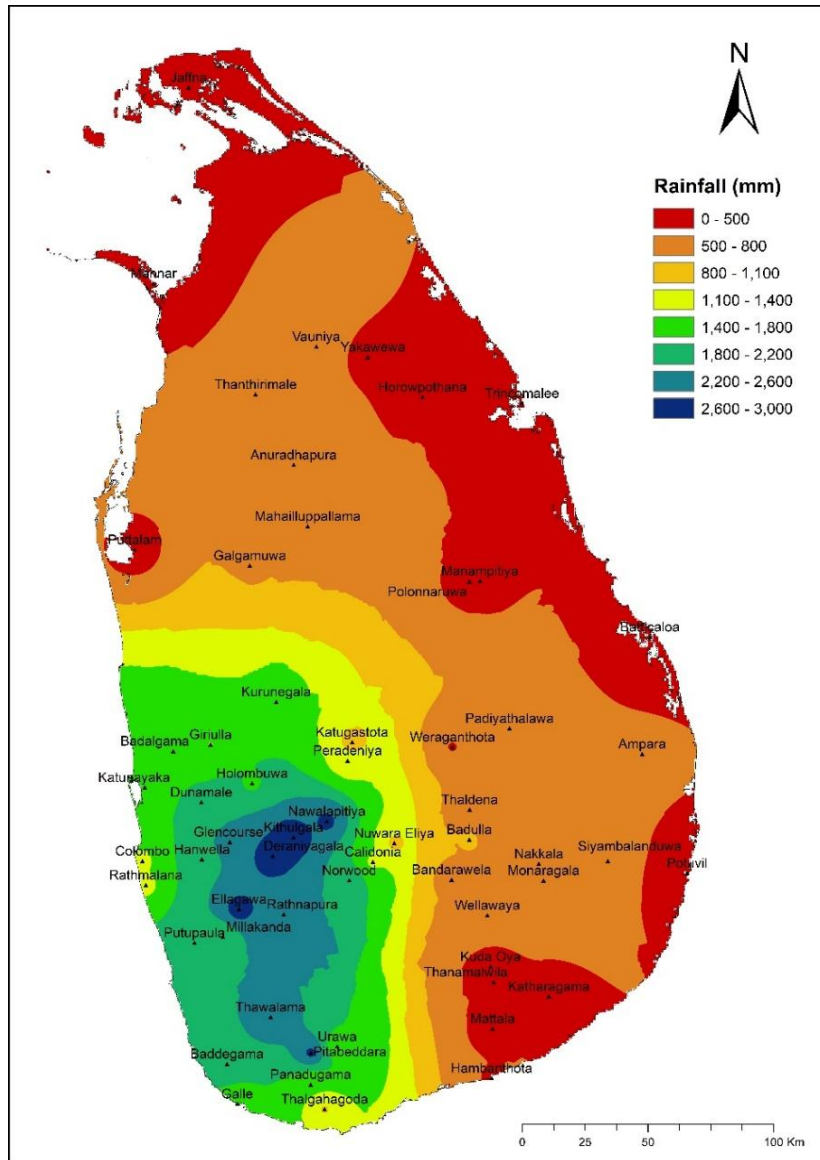


Fig. 69: SWM Rainfall Distribution – Current year 2019/20

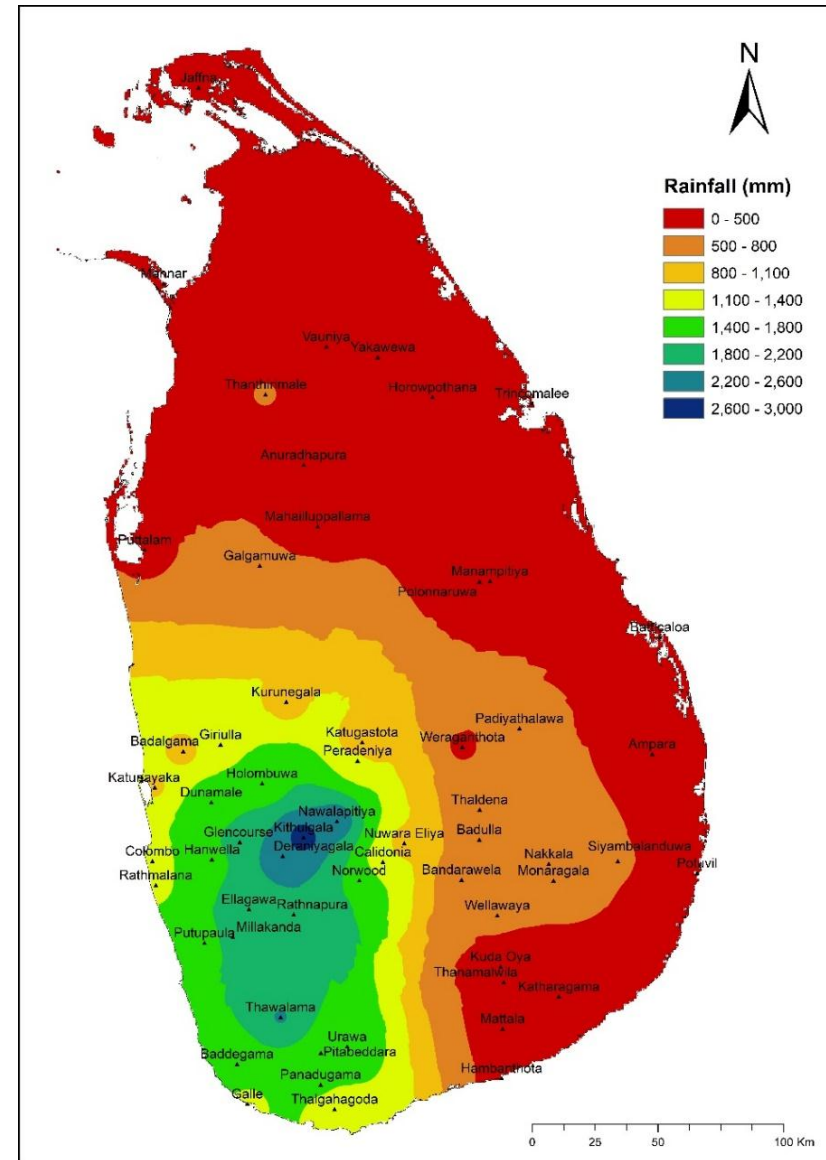


Fig. 70: SWM Rainfall Distribution – Long Term Average

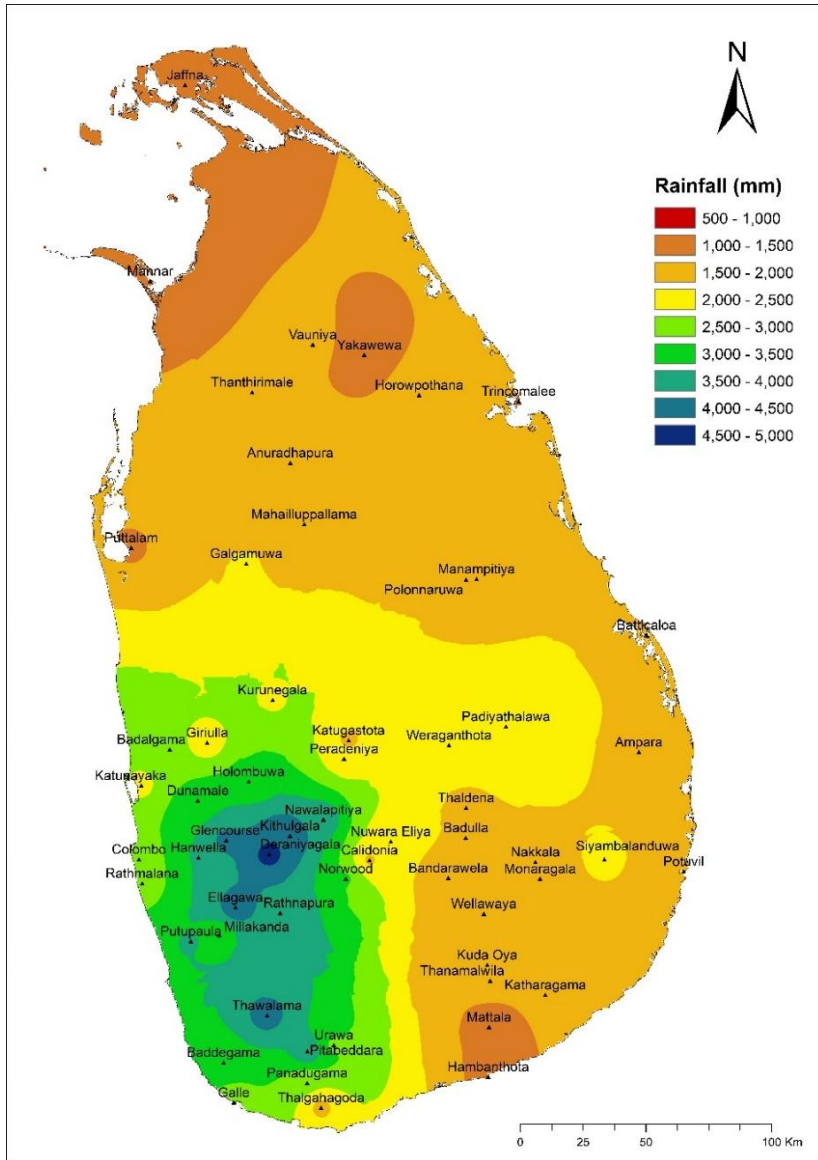


Fig. 71: Annual Rainfall Distribution – Current year 2019/20

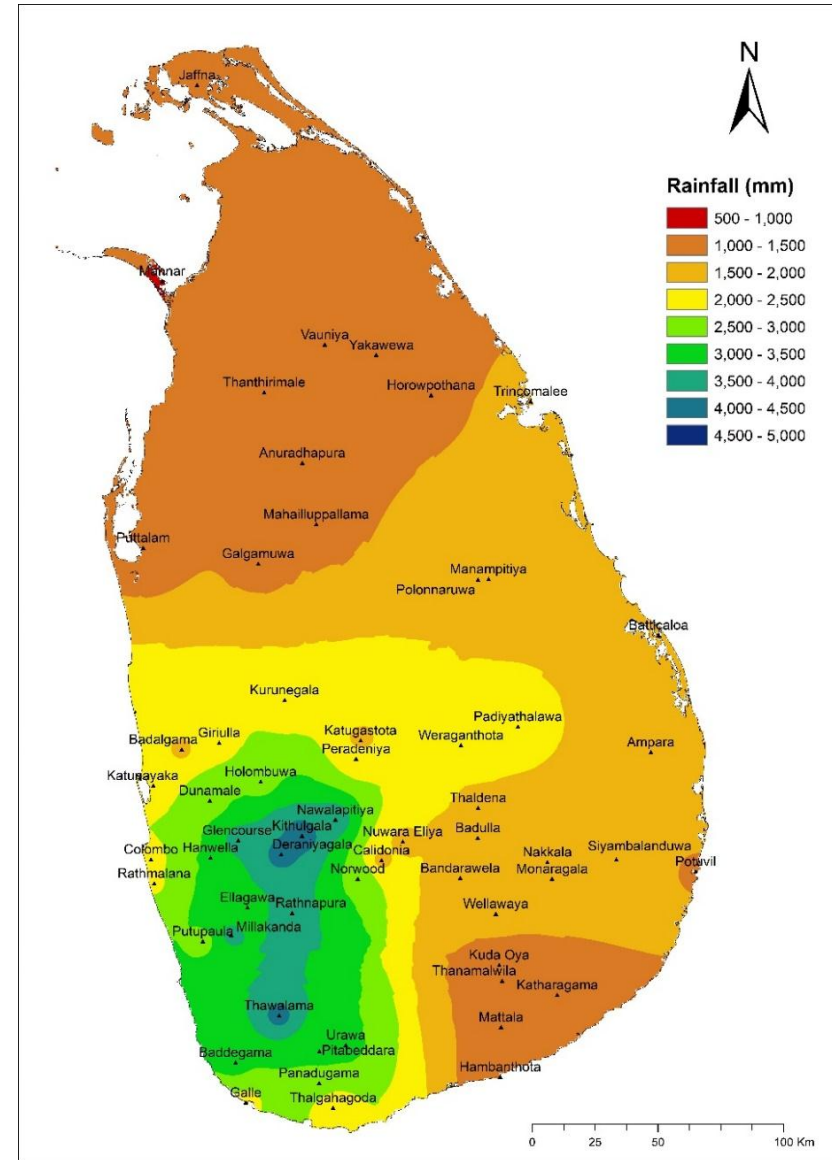


Fig. 72: Annual Rainfall Distribution – Long Term Average

3.3 Rainfall Intensities

Maximum Depth of Rainfall at 34 stations maintained by Hydrology & Disaster Management Division of the Irrigation Department is given in Table 5.

Table 5: Rainfall Intensities in mm - 2019/20

No	Station	Duration in Hours								
		1	3	6	12	24	48	72	96	120
1	Ampara	38	71	71	76	102	156	201	246	295
2	Badalgama	80	182	267	342	350	380	384	387	524
3	Baddegama	49	96	134	170	172	176	179	193	222
4	Calidoniya	38	51	83	87	112	160	163	182	188
5	Deraniyagala	91	196	232	232	235	236	269	291	327
6	Dunamale	75	143	146	235	266	273	274	283	418
7	Ellagawa	91	117	139	194	206	257	257	285	385
8	Galgamuwa	54	91	109	172	209	210	253	261	299
9	Giriulla	42	72	98	155	160	162	234	254	265
10	Glencourse	89	107	108	155	174	194	227	315	334
11	Hanwella	66	138	159	187	197	274	290	328	347
12	Holombuwa	59	118	156	164	172	176	205	253	261
13	Horowpathana	66	68	68	105	144	242	263	299	353
14	Kithulgala	71	119	159	179	184	219	268	378	391
15	Kudaoya	56	76	76	76	91	136	142	142	156
16	Manampitiya	113	136	136	136	154	220	262	278	293
17	Millakanda	52	88	155	168	181	207	215	215	280
18	Nakkala	39	75	79	79	79	82	88	105	128
19	Nawalapitiya	63	113	116	116	156	204	215	244	250
20	Norwood	40	69	77	120	132	200	227	327	330
21	Padiyathalawa	87	101	101	101	110	148	179	200	245
22	Panadugama	95	107	107	116	126	180	188	195	234
23	Peradeniya	49	75	97	112	112	129	138	168	198
24	Pitabeddara	84	113	113	113	130	165	180	215	250
25	Putupaula	93	136	201	229	248	278	281	310	361
26	Rathnapura	95	126	146	154	157	165	207	309	318
27	RidibendiElla	68	105	105	105	162	168	174	223	236
28	Siyambalanduwa	79	83	83	83	139	144	185	192	219
29	Taldena	81	83	84	84	102	143	190	205	207
30	Thanamalwila	61	151	153	160	160	174	195	232	244
31	Thawalama	66	99	108	109	139	167	172	229	262
32	Urawa	68	97	99	99	114	166	172	224	272
33	Wellawaya	68	117	117	117	144	170	194	194	194
34	Weraganthota	50	79	120	168	219	301	359	405	424

3.4 Evaporation and Evapotranspiration

Pan Evaporation data which is collected from Irrigation Department, Department of Meteorology, Rubber Research Institute (Agalawathatha) and Sugar factories (Pelwatta, Sewanagala) were summarized in Table 6. Also Table 7 to Table 12 show monthly Evapotranspiration (ETo) calculated by Hydrology & Disaster Management Division using weather data obtained from Institutes mentioned above.

Out of 31 locations, **Kanthale** shows the highest Evaporation (1616mm) in 2019/20 water year while **Pelwatta** shows the highest (2105mm) in long term average for past 30 years. **Bandarawela** has recorded the minimum Evaporation (773mm) in current water year while **Agalawaththa** shows the minimum in long term average (864mm). When considering the available 6 locations, the maximum Evapotranspiration is shown in **Pelwatta** (1492mm) while the minimum is in **Padiyathalawa** (1205mm).

Table 6: Monthly Pan Evaporation

Upper line: Current year 2019/20
 Lower line: Long term average from 1989/90
 Units: mm
 Coordinate System: SLD99

No	Name of Station	Period (yrs)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total		
															NEM	SWM	Annual
1	Agalawaththa (131239, 148382)	22	68	61	55	107	111	115	108	85	83	80	102	63	517	523	1040
			67	62	65	71	80	94	78	70	68	71	71	68	440	425	864
2	Ampara (299221, 232191)	13	97	90	93	89	88	123	139	112	115	112	133	107	580	717	1298
			99	76	62	72	89	126	131	137	137	144	142	123	524	815	1339
3	Badalgama (112639, 233302)	13	92	96	95	127	146	137	120	100	86	95	108	87	692	597	1289
			87	73	77	98	108	111	98	87	79	91	96	88	554	539	1093
4	Bandarawela * (223022, 181152)	37	32	38	43	80	65	89	77	63	78	64	79	65	348	426	773
			71	57	51	64	79	96	80	88	99	101	102	86	417	555	972
5	Bombuwela * (116865, 151350)	34	66	79	71	97	99	116	101	93	88	87	86	84	528	538	1066
			87	82	79	86	93	109	99	92	88	91	97	91	536	558	1094
6	Colombo * (99239, 188984)	41	89	101	94	128	133	141	139	106	109	97	144	86	687	681	1368
			94	88	95	113	114	127	118	108	100	106	115	107	631	654	1285
7	Dunamale (123789, 212906)	35	76	75	63	84	113	121	102	73	78	67	84	62	532	466	998
			67	63	63	75	88	97	86	70	64	67	68	74	453	428	881
8	Galgamuwa (143043, 307296)	19	96	85	62	96	116	163	137	118	116	111	126	95	617	703	1320
			97	76	71	84	95	128	109	115	112	127	130	113	551	707	1258
9	Gannoruwa * (181038, 227598)	28	68	85	86	133	137	136	-1	-1	-1	-1	-1	-1	644	-1	-1
			81	73	86	104	108	114	85	97	84	82	81	89	567	518	1085
10	Girandurukotte * (234033, 244195)	37	65	-1	-1	83	92	113	132	118	104	101	123	102	-1	680	-1
			108	78	70	75	91	120	115	129	146	155	158	136	542	841	1383
11	Horowpathana (211775, 374422)	06	81	76	64	79	91	114	117	105	139	121	142	127	506	751	1257
			115	73	71	76	82	111	123	130	154	172	160	141	527	880	1407
12	Huruluwewa (194058, 335361)	04	107	100	85	96	106	142	151	156	164	143	171	146	636	932	1568
			133	116	86	103	94	136	150	148	163	185	182	169	669	996	1665

'-1':- Missing Data, '*':- Data from Department of Meteorology

Table 6: Monthly Pan Evaporation

Upper line: Current year 2019/20
 Lower line: Long term average from 1989/90
 Units: mm
 Coordinate System: SLD99

No	Name of Station	Period (yrs)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total		
															NEM	SWM	Annual
13	Kanthale (223247, 350789)	30	127	91	74	97	118	140	139	137	161	167	193	172	647	969	1616
			122	82	78	87	97	127	125	144	173	174	168	158	593	942	1535
14	Kurunegala * (153453, 251947)	26	69	83	75	118	142	152	136	93	101	101	110	73	640	614	1253
			80	71	79	98	109	128	95	98	87	95	101	94	565	570	1135
15	Mahalluppallama * (165647, 323823)	38	83	77	74	95	114	149	120	109	119	106	133	105	592	691	1283
			101	74	71	85	101	140	119	129	130	148	152	139	572	816	1388
16	Monaragala * (260607, 177864)	11	51	56	57	80	84	107	78	70	86	76	99	75	436	484	920
			88	56	61	84	80	98	88	96	114	113	122	111	467	643	1110
17	Padaviya (199323, 401750)	02	107	103	69	95	118	131	141	149	174	138	176	165	623	944	1567
			164	85	87	122	103	134	162	189	194	196	177	153	694	1071	1765
18	Padiyathalawa (246363, 242362)	25	106	98	76	92	106	153	131	128	140	117	171	148	631	835	1466
			117	87	72	79	90	126	124	133	153	165	161	145	571	881	1452
19	Palugasdamana (227374, 305048)	29	82	63	66	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
			121	69	65	78	93	130	132	155	171	185	179	161	557	983	1539
20	Panadugama (168082, 104113)	04	73	86	79	117	112	119	93	95	92	81	91	81	585	532	1118
			93	71	84	89	97	98	90	78	81	99	97	90	532	534	1066
21	Parakrama Samudraya (223669, 303817)	03	75	79	61	88	95	128	137	141	167	149	158	152	524	905	1429
			127	83	75	83	87	117	130	142	181	185	189	152	573	979	1551
22	Pelwatta (238529, 134713)	36	81	91	81	119	125	143	113	121	138	123	147	120	640	761	1400
			163	124	142	164	165	178	155	180	203	209	219	204	936	1169	2105
23	Puttalam * (96190, 313975)	26	101	101	84	108	127	150	140	131	145	139	152	125	671	831	1502
			118	82	79	96	112	148	132	147	143	154	160	146	634	882	1516
24	Rathnapura * (158902, 164574)	33	42	67	99	115	143	142	92	82	84	66	95	72	608	489	1098
			78	76	73	86	99	114	94	86	81	81	84	81	526	507	1033

'-1':- Missing Data, '*':- Data from Department of Meteorology

Table 6: Monthly Pan Evaporation

Upper line: Current year 2019/20
 Lower line: Long term average from 1989/90
 Units: mm
 Coordinate System: SLD99

No	Name of Station	Period (yrs)	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total		
															NEM	SWM	Annual
25	Seetha Eliya * (203126, 192206)	40	47	-1	-1	84	81	94	95	59	70	69	59	42	-1	393	-1
			60	56	54	74	91	111	85	82	67	69	67	64	445	435	881
26	Rideebandi Ela (143736, 280620)	02	87	94	80	108	141	174	141	103	106	106	117	83	685	656	1341
			103	92	87	111	124	151	134	123	105	121	115	115	668	713	1381
27	Senanayaka Samudraya (285618, 224134)	26	125	119	86	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
			115	91	85	96	97	120	120	131	153	159	158	145	604	866	1470
28	Sewanagala (214769, 131690)	25	77	87	83	123	143	162	120	104	137	125	142	94	675	722	1397
			122	99	92	112	119	145	121	132	138	167	164	136	691	858	1548
29	Siyambalanduwa (285535, 189464)	04	68	66	66	91	86	120	111	99	104	102	112	104	497	631	1128
			99	73	106	90	82	103	97	100	106	110	111	100	553	624	1177
30	Thanamalwila (240086, 141162)	06	55	59	57	100	117	145	98	92	128	99	136	117	532	670	1202
			113	76	83	99	103	117	104	100	124	153	151	136	592	767	1359
31	Vavuniya * (170104, 393496)	22	75	62	62	82	95	131	123	110	118	95	119	101	507	666	1174
			88	53	56	69	81	112	103	117	135	140	135	128	458	758	1216

'-1':- Missing Data, '*':- Data from Department of Meteorology

Table 7: Potential Evapotranspiration (ETo) - Pelwaththa

Co-ordinate : 6° 41' N, 81° 12' E
 Altitude : 152 m

Month	Temp. Avg. °C	Humidity Avg. %	Sunshine hrs	Wind Speed km/day	Eo mm	ETo mm
Oct	27.5	77.8	4.0	34.0	127	96
Nov	27.0	78.4	5.6	42.8	132	99
Dec	27.0	78.9	5.2	73.1	126	97
Jan	27.3	66.5	8.6	108.3	167	129
Feb	25.9	65.3	8.3	131.2	175	130
Mar	28.8	57.1	9.0	66.7	197	150
Apr	28.5	66.7	7.6	41.5	179	134
May	29.4	70.0	6.2	64.8	167	129
Jun	28.3	66.1	7.6	83.8	176	135
Jul	29.0	66.0	6.7	68.1	171	131
Aug	29.2	60.2	7.2	82.2	182	141
Sep	28.0	64.1	4.7	104.2	154	122
Annual Total (2019/20)	28.0	68.1	6.7	75.1	1954	1492

Table 8: Potential Evapotranspiration (ETo) - Padiyathalawa

Co-ordinate : 7° 23' N, 81° 11' E
 Altitude : 119 m

Month	Temp. Avg. °C	Humidity Avg. %	Sunshine hrs	Wind Speed km/day	Eo mm	ETo mm
Oct	23.8	93.9	3.8	25.1	113	87
Nov	22.5	92.8	4.1	19.0	104	77
Dec	22.2	94.4	2.9	17.7	87	67
Jan	22.7	91.5	6.1	23.4	118	89
Feb	21.1	88.5	6.8	29.3	130	92
Mar	24.2	83.6	7.9	68.2	166	123
Apr	24.9	85.3	7.4	41.4	163	122
May	26.3	86.9	6.0	30.6	149	114
Jun	25.0	81.9	6.4	40.5	147	110
Jul	25.2	84.7	5.4	33.2	138	105
Aug	25.4	81.5	6.7	53.8	157	119
Sep	24.1	82.7	5.0	53.2	135	101
Annual Total (2019/20)	24.0	87.3	5.7	36.3	1606	1205

Table 9: Potential Evapotranspiration (ETo) - Sewanagala

Co-ordinate : 6° 54' N, 81° 32' E
 Altitude : 94 m

Month	Temp. Avg. °C	Humidity Avg. %	Sunshine hrs	Wind Speed km/day	Eo mm	ETo mm
Oct	26.9	83.9	3.9	46.2	125	95
Nov	26.5	81.7	5.8	52.7	133	100
Dec	26.7	78.9	4.7	58.8	118	89
Jan	27.1	72.1	7.9	72.5	155	117
Feb	26.1	66.1	8.5	90.3	172	129
Mar	29.3	64.2	8.5	79.6	195	150
Apr	28.5	73.2	7.5	56.8	180	136
May	29.0	77.7	5.5	65.4	156	120
Jun	28.4	66.2	7.6	102.2	180	140
Jul	28.9	70.2	5.3	87.3	158	123
Aug	28.9	64.6	7.1	96.2	180	141
Sep	27.2	73.0	4.3	81.1	140	108
Annual Total (2019/20)	27.8	72.7	6.4	74.1	1891	1447

Table 10: Potential Evapotranspiration (ETo) - Agalawaththa

Co-ordinate : 6° 32' N, 80° 09' E
 Altitude : 65 m

Month	Temp. Avg. °C	Humidity Avg. %	Sunshine hrs	Wind Speed km/day	Eo mm	ETo mm
Oct	26.7	84.4	3.2	29.2	115	88
Nov	26.5	79.3	5.6	23.4	129	96
Dec	27.2	80.5	4.4	24.0	114	86
Jan	27.8	73.2	7.0	25.6	144	107
Feb	28.2	72.6	7.0	20.9	146	105
Mar	28.8	72.1	7.2	18.3	170	128
Apr	28.6	80.4	6.1	11.5	157	118
May	28.4	82.7	4.1	10.8	131	100
Jun	26.9	81.9	3.5	12.8	121	91
Jul	27.6	81.7	3.4	24.2	124	95
Aug	27.4	83.5	5.1	16.7	142	108
Sep	25.7	84.7	3.0	6.0	114	86
Annual Total (2019/20)	27.5	79.8	5.0	18.6	1608	1206

Table 11: Potential Evapotranspiration (ETo) - Dunamale

Co-ordinate : 7° 06' N, 80° 04' E
 Altitude : 20 m

Month	Temp. Avg. °C	Humidity Avg. %	Sunshine hrs	Wind Speed km/day	Eo mm	ETo mm
Oct	26.7	92.0	4.0	15.3	121	94
Nov	26.8	92.3	5.2	15.2	124	92
Dec	26.9	90.0	4.1	12.2	108	83
Jan	28.1	86.0	6.6	19.3	139	106
Feb	30.2	83.1	6.8	25.6	229	187
Mar	29.5	83.0	7.4	29.1	175	134
Apr	28.3	88.4	6.3	25.3	161	123
May	28.5	89.0	3.7	24.9	128	99
Jun	26.8	88.4	4.8	25.2	134	102
Jul	27.4	93.9	4.5	23.4	132	103
Aug	27.5	92.5	3.5	28.2	124	96
Sep	25.6	96.3	4.9	24.9	132	101
Annual Total (2019/20)	27.7	89.6	5.2	22.4	1708	1320

Table 12: Potential Evapotranspiration (ETo) - Galgamuwa

Co-ordinate : 8° 00' N, 80° 15' E
 Altitude : 76 m

Month	Temp. Avg. °C	Humidity Avg. %	Sunshine hrs	Wind Speed km/day	Eo mm	ETo mm
Oct	26.7	99.2	4.6	40.8	126	97
Nov	26.5	96.2	5.5	44.0	124	93
Dec	25.9	98.2	4.0	48.1	103	79
Jan	25.3	95.7	7.2	69.8	136	100
Feb	25.3	90.6	8.1	93.7	159	116
Mar	28.6	83.9	8.3	83.7	185	140
Apr	28.4	89.6	8.2	54.0	180	136
May	27.5	91.8	5.8	63.9	150	114
Jun	27.7	90.1	4.5	77.1	130	98
Jul	28.1	89.8	8.0	70.6	175	132
Aug	27.9	88.7	6.4	87.9	160	121
Sep	28.3	91.6	4.9	79.0	138	105
Annual Total (2019/20)	27.2	92.1	6.3	67.7	1765	1329

3.5 Stream Flow Data

River flow data and catchment rainfalls are summarized at 30 river gauging stations out of 40 main gauging stations maintained by the Hydrology and Disaster Management Division (Table 13).

As given in the table, the highest Annual Runoff in the current year (8776 MCM) and long-term average (6023 MCM) are shown at Kalu Ganga at **Putupaula**. The minimum Annual Runoff in the current year (64 MCM) and long-term average (46 MCM) are shown at Mee Oya at **Galgamuwa**.

The recorded highest peak discharge in the current year is 1912 Cumecs. However, the highest flow rate has been recorded historically at Manampitiya station in the year 1957 as 18,889 Cumecs, before the beginning of Mahaweli Development Project. The minimum peak discharge in the current year is recorded as 103 Cumecs. As per the long term records, the minimum peak flow rate has been recorded (before the current year) at Dunamale Station at Attanagalu Oya as 118 Cumecs.

Table 13: Stream Flow data - 2019/20

Upper line: Runoff in MCM
Lower line: Catchment Rainfall in mm

Name of station & River Basin	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Annul Runoff & Annual Catchment Rainfall 2019/20	Long-term Average of Annual Runoff & Catchment Rainfall up to 2018/19		Observed Maximum Peak Discharge for 2019/20 & Observed Maximum Peak Discharge up to 2018/19		
														Value	Yrs	Cumecs	Time	Date
1 Badalgama (Maha Oya)	441.1	256.2	243.4	108.5	75.6	64.6	113.6	227.9	143.8	122.4	140.0	270.0	2207.1	1263.3	54	985.75	5:00pm	16.05.2020
	591	328	166	22	1	35	265	356	211	160	142	495	2772	2386		1988.78	9:00am	22.05.2018
2 Baddegama (Gin Ganga)	340.8	210.6	168.3	98.0	98.5	103.9	115.5	251.0	122.5	143.2	133.5	307.6	2093.4	2121.7	13	231.24	3:00pm	22.09.2020
	574	387	230	66	45	145	343	613	244	318	212	746	3923	3814		691.92	11:00am	28.05.2017
3 Calidonia (Agra Oya)	46.5	29.3	35.3	11.0	6.5	5.5	6.1	21.6	8.6	8.6	28.7	25.3	233.2	211.4	35	143.12	11:00pm	30.11.2019
	315	201	173	5	5	23	180	401	117	115	271	244	2050	1995		178.48	3:00pm	12.06.2014
4 Deraniyagala (Kelani Ganga)	98.8	58.1	35.8	12.4	4.1	3.5	6.4	82.6	61.6	51.1	53.0	92.5	559.8	599.5	63	242.19	6:00pm	18.09.2020
	721	548	189	63	3	137	406	976	728	486	409	1146	5812	5078		2313.00	9:00am	31.05.1985
5 Dunamale (Attanagalu Oya)	91.0	42.8	41.3	10.4	3.5	1.3	10.2	20.5	12.5	11.0	9.5	74.4	328.3	217.7	14	103.08	12:00nn	22.10.2019
	599	519	208	84	0	78	299	363	190	227	121	743	3430	3352		117.87	2:00am	26.05.2018
6 Ellagawa (Kalu Ganga)	635.1	294.0	221.1	61.4	28.1	27.1	60.8	502.5	191.1	167.9	176.5	468.3	2833.9	3314.3	62	592.37	8:00pm	20.05.2020
	659	399	248	68	36	126	328	572	285	302	220	671	3912	3708		2620.00	4:00am	19.05.2003
7 Galgamuwa (Mee Oya)	16.3	7.0	27.0	2.9	1.2	0.9	2.0	2.9	1.3	0.9	0.7	0.9	63.9	45.8	30	105.47	2:00pm	20.12.2019
	689	152	379	9	1	33	227	211	48	86	55	201	2091	1298		159.25	1:00pm	19.11.2006
8 Giriulla (Maha Oya)	219.8	62.1	62.2	7.3	4.5	3.6	12.6	77.2	14.4	9.4	17.9	71.3	562.2	1017.8	19	915.49	11:00am	16.05.2020
	620	330	168	22	2	35	271	374	216	170	151	466	2825	2671		1690.50	4:00pm	26.12.2014
9 Glencourse (Kelani Ganga)	789.0	451.4	296.9	120.7	47.9	37.0	117.9	468.4	324.5	272.6	290.8	589.2	3806.4	3899.8	71	1057.28	1:00am	22.10.2019
	664	501	196	52	7	121	372	635	363	323	262	740	4234	3633		3500.00	10:00am	04.06.1989
10 Hanwella (Kelani Ganga)	834.6	442.2	302.8	103.0	58.9	57.9	110.3	401.6	265.5	207.3	220.1	600.4	3604.7	4229.0	35	956.83	7:00am	22.10.2019
	644	512	198	54	9	125	369	583	344	301	237	743	4119	3722		2745.58	8:00am	05.06.1989

Table 13: Stream Flow data - 2019/20

Upper line: Runoff in MCM
Lower line: Catchment Rainfall in mm

Name of station & River Basin	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Annul Runoff & Annual Catchment Rainfall 2019/20	Long-term Average of Annual Runoff & Catchment Rainfall up to 2018/19		Observed Maximum Peak Discharge for 2019/20 & Observed Maximum Peak Discharge up to 2018/19		
														Value	Yrs	Cumecs	Time	Date
11 Holombuwa (Kelani Ganga)	59.4	31.1	13.5	1.9	0.4	0.2	5.8	36.7	10.2	6.6	9.5	26.8	202.2	255.0	55	439.34	7:00am	16.05.2020
	614	443	144	32	1	120	447	526	221	186	147	567	3448	3118		644.47	7:00am	03.06.1989
12 Horowpothana (Yan Oya)	3.6	13.3	111.3	6.4	4.5	3.5	2.4	7.4	3.3	2.9	2.4	2.3	163.2	170.6	58	269.11	10:00am	06.12.2019
	282	275	570	47	33	0	59	168	62	95	31	32	1654	1436		5663.32	4:00pm	26.12.1957
13 Kataragama (Menik Ganga)	17.4	25.1	53.5	15.7	12.4	12.1	12.1	12.5	10.9	11.0	10.1	10.8	203.5	217.4	74	108.41	10:00am	21.12.2019
	388	337	373	61	24	21	121	124	45	109	70	100	1774	1544		1365.00	1:00pm	25.12.1957
14 Kitulagala (Kelani Ganga)	224.0	126.9	98.3	69.9	43.4	33.6	23.8	91.3	107.7	77.5	122.1	150.0	1168.5	1150.8	71	286.88	11:00am	19.05.2020
	578	317	193	21	4	71	295	651	389	306	392	627	3842	3432		2157.00	5:15pm	30.05.1989
15 Kuda Oya (Kirindi Oya)	21.1	29.1	37.9	4.8	2.0	1.8	4.8	4.3	1.7	1.7	0.9	0.4	110.5	114.9	52	236.25	7:00pm	20.12.2019
	469	324	315	55	14	17	245	130	46	51	39	41	1745	1479		728.58	12:00am	23.11.2012
16 Manampitiya (Mahaweli Ganga)	90.3	159.0	1188.7	313.0	101.9	62.5	70.1	81.7	53.6	55.9	36.2	16.1	2229.1	2994.4	10	1911.81	4:00am	21.12.2019
	414	306	595	124	65	244	253	584	229	254	328	382	3777	2366		18859.00	11:00am	26.12.1957
17 Millakanda (Kalu Ganga)	482.0	282.6	211.5	56.3	17.7	15.9	112.9	375.6	169.3	186.7	144.7	425.2	2480.3	2167.5	29	404.01	7:00pm	28.05.2020
	769	578	270	205	37	160	421	653	411	419	227	746	4895	4305		1233.16	2:00am	27.05.2017
18 Nakkala (Kumbukkan Oya)	41.5	41.9	137.2	40.7	20.0	14.2	17.8	25.2	13.5	16.6	11.4	21.7	401.9	227.6	3	622.74	6:00pm	20.12.2019
	346	325	495	105	65	6	109	199	81	45	66	131	1971	1652		324.46	8:00pm	12.05.2018
19 Norwood (Kelani Ganga)	38.1	23.9	21.3	8.8	4.9	4.1	8.0	24.3	10.6	9.8	18.5	20.4	192.5	137.2	34	220.79	12:00pm	30.11.2019
	510	374	232	10	19	36	273	401	142	156	259	342	2752	2534		180.98	6:00pm	13.05.2013
20 Padiyathalawa (Maduru Oya)	10.4	17.1	98.7	10.9	2.6	0.7	0.2	4.6	0.4	0.6	0.3	0.6	146.8	144.6	35	424.98	6:00am	20.12.2019
	340	336	563	145	270	2	63	288	105	150	68	132	2460	2116		972.30	9:00am	26.12.2014

Table 13: Stream Flow data - 2019/20

Upper line: Runoff in MCM
Lower line: Catchment Rainfall in mm

Name of station & River Basin	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	Annul Runoff & Annual Catchment Rainfall 2019/20	Long-term Average of Annual Runoff & Catchment Rainfall up to 2018/19		Observed Maximum Peak Discharge for 2019/20 & Observed Maximum Peak Discharge up to 2018/19		
														Value	Yrs	Cumecs	Time	Date
21 Peradeniya (Mahaweli Ganga)	407.8 528	207.7 259	216.0 194	97.7 34	72.1 28	27.6 31	45.6 220	143.0 462	147.4 282	141.0 224	350.1 341	271.4 412	2127.5 3015	1815.5 2922	71	430.49 5097.71	5:00pm 2:30am	19.05.2020 15.08.1947
22 Pitabeddara (Nilwala Ganga)	144.5 640	96.6 411	57.4 227	17.9 67	7.1 19	7.3 86	21.6 238	73.7 571	26.3 162	23.7 223	30.2 177	52.1 539	558.4 3361	507.0 2932	39	239.47 1559.58	5:00pm 4:00am	19.05.2020 26.05.2017
23 Putupaula (Kalu Ganga)	1366.4 676	881.5 454	678.5 255	412.3 116	403.0 36	463.5 129	536.7 364	1056.4 572	663.2 327	641.0 336	563.7 214	1109.8 707	8776.0 4186	6023.4 3219	74	837.64 2829.00	7:00am 9:30am	23.10.2019 16.08.1947
24 Ratnapura (Kalu Ganga)	172.9 680	88.8 440	72.7 279	25.2 51	17.0 39	18.7 141	27.8 322	159.7 514	53.4 257	54.1 311	59.1 223	130.6 606	879.9 3863	992.5 3152	13	402.87 814.10	4:00pm 12:00nn	19.05.2020 31.05.1989
25 Siyambalanduwa (Heda Oya)	8.1 324	34.1 431	86.4 470	18.3 93	6.8 25	3.9 6	1.9 114	8.2 207	3.9 63	3.5 92	3.0 81	1.6 101	179.8 2006	123.4 1709	28	413.26 889.27	11:00pm 4:00pm	20.12.2019 12.01.2007
26 Thanamalwila (Kirindi Oya)	51.6 487	69.3 329	108.1 336	19.3 52	4.9 13	1.4 17	12.0 233	10.8 130	1.8 42	2.0 53	0.2 40	0.4 48	281.6 1781	254.0 1609	32	369.91 824.70	9:00pm 3:00am	20.12.2019 24.11.2012
27 Thanthirimale (Malwathu Oya)	46.6 312	34.3 247	534.2 360	29.2 19	18.9 20	9.6 14	11.2 110	33.8 179	10.7 63	18.3 131	7.0 29	5.3 43	759.1 1527	351.1 1340	30	602.32 6512.81	1:00am 4:00pm	07.12.2019 26.12.1957
28 Thawalama (Gin Ganga)	164.5 602	108.8 420	85.4 272	25.0 64	10.2 49	13.6 154	47.5 393	170.6 808	75.3 282	68.8 325	70.7 222	128.7 666	969.1 4255	1046.8 4027	39	393.34 1339.07	7:00pm 5:00am	19.05.2020 18.05.2003
29 Urawa (Nilwala Ganga)	24.4 691	15.8 354	9.8 233	3.9 63	1.8 12	1.5 82	4.2 304	8.2 424	3.6 107	3.0 147	3.3 127	5.6 357	85.0 2900	80.9 3116	19	64.18 196.88	9:00pm 1:00am	14.10.2019 26.05.2017
30 Wellawaya (Kirindi Oya)	27.3 543	33.4 352	54.7 399	18.1 44	8.9 11	3.1 18	7.5 176	7.7 122	1.7 33	4.1 45	1.2 45	1.4 64	169.0 1853	122.0 2032	31	253.22 634.50	3:00pm 8:00pm	20.12.2019 21.10.2012

3.6 Runoff - Rainfall Ratio

The percentage of runoff to the annual volume of catchment rainfall at 28 river gauging stations are given in Table 14.

Table 14: Runoff Rainfall Ratios - 2019/20

No	Name of River Basin	Station	Annual Rainfall (mm)	Annual Runoff (mm)	Runoff / Rainfall ratio (%)	Long term average of Runoff/Rainfall ratio(%)
1	Kelani Ganga	Norwood	2752	1993	72	50
2	Kelani Ganga	Kithulgala	3843	3051	79	82
3	Kelani Ganga	Deraniyagala	5812	3059	53	68
4	Kelani Ganga	Holombuwa	3448	1282	37	54
5	Kelani Ganga	Glencourse	4234	2780	66	69
6	Kelani Ganga	Hanwella	4119	2034	49	61
7	Kalu Ganga	Rathnapura	3863	1459	38	48
8	Kalu Ganga	Ellagawa	3912	2034	52	64
9	Kalu Ganga	Millakanda	4895	3179	65	66
10	Kalu Ganga	Putupaula	4187	3378	81	62
11	Gin Ganga	Thawalama	4255	2571	60	69
12	Gin Ganga	Baddegama	3923	2795	71	74
13	Nilwala Ganga	Urawa	2900	1441	50	45
14	Nilwala Ganga	Pitabeddara	3361	1893	56	59
15	Kirindi Oya	Wellawaya	1853	982	53	37
16	Kirindi Oya	Thanamalwila	1781	376	21	20
17	Menik Ganga	Katharagama	1774	258	15	18
18	Heda Oya	Siyambalanduwa	2006	609	30	23
19	Kumbukkan Oya	Nakkala	1971	1361	69	58
20	Maduru Oya	Padiyathalawa	2460	922	37	41
21	Mahaweli Ganga	Peradeniya	3015	1839	61	46
22	Mahaweli Ganga	Manampitiya	3777	301	8	28
23	Yan Oya	Horowpothana	1654	227	14	18
24	Malwathu Oya	Thanthirimale	1527	358	23	12
25	Mee Oya	Galgamuwa	2091	214	10	6
26	Maha Oya	Giriulla	2825	487	17	33
27	Maha Oya	Badalgama	2772	1623	59	39
28	Aththanagalu Oya	Dunamale	3430	2149	63	42

3.7 Monthly Discharges in Major Rivers

Monthly flow variation in major rivers at selected locations are given in Table 15 and Fig. 73 to Fig. 81 as follows. As shown in the figures, Monthly distribution in current water year is almost close to long-term average at given stations. All the figures show high flows in the month of October while Manampitiya shows high flows in December.

Table 15: Monthly Flow in Major Rivers

Upper line: Current year 2019/20

Lower line: Long term average

Units: MCM

Station	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Kelani Ganga at Glencourse	789.0	451.4	296.9	120.7	47.9	37.0	117.9	468.4	324.5	272.6	290.8	589.2	3806.4
	531.7	454.9	236.9	133.5	101.4	130.5	239.3	432.4	508.0	403.6	336.8	390.8	3899.8
Kalu Ganga at Rathnapura	172.9	88.8	72.7	25.2	17.0	18.7	27.8	159.7	53.4	54.1	59.1	130.6	879.9
	114.1	127.1	72.8	33.8	28.6	35.7	69.8	132.9	131.3	77.3	72.1	97.2	992.5
Kalu Ganga at Ellagawa	635.1	294.0	221.1	61.4	28.1	27.1	60.8	502.5	191.1	167.9	176.5	468.3	2833.9
	438.7	404.9	214.2	110.1	80.1	106.5	221.7	426.7	447.1	296.4	244.1	323.7	3314.3
Kalu Ganga at Putupaula	1366.4	881.5	678.5	412.3	403.0	463.5	536.7	1056.4	663.2	641.0	563.7	1109.8	8776.0
	789.8	708.1	442.8	265.6	202.8	260.1	409.8	740.0	765.1	501.8	408.7	530.6	6023.4
Gin Ganga at Thawalama	164.5	108.8	85.4	25.0	10.2	13.6	47.5	170.6	75.3	68.8	70.7	128.7	969.1
	122.8	129.4	91.8	51.5	38.1	47.7	83.6	125.7	117.3	77.9	67.8	93.3	1046.8
Gin Ganga at Baddegama	340.8	210.6	168.3	98.0	98.5	103.9	115.5	251.0	122.5	143.2	133.5	307.6	2093.4
	258.0	260.3	202.8	102.1	98.1	119.4	167.8	251.8	205.5	128.2	125.6	202.1	2121.7
Nilwala Ganga at Pitabeddara	144.5	96.6	57.4	17.9	7.1	7.3	21.6	73.7	26.3	23.7	30.2	52.1	558.4
	54.8	74.5	57.2	32.2	23.3	24.3	38.5	57.9	50.3	30.7	25.7	37.5	507.0
Mahaweli Ganga at Peradeniya	407.8	207.7	216.0	97.7	72.1	27.6	45.6	143.0	147.4	141.0	350.1	271.4	2127.5
	222.5	218.9	155.6	86.2	55.0	47.3	76.2	131.9	211.0	221.6	209.3	180.0	1815.5
Mahaweli Ganga at Manampitiya	90.3	159.0	1188.7	313.0	101.9	62.5	70.1	81.7	53.6	55.9	36.2	16.1	2229.1
	165.5	398.9	911.2	573.8	348.8	167.0	106.3	118.8	48.0	55.8	52.1	48.1	2994.4

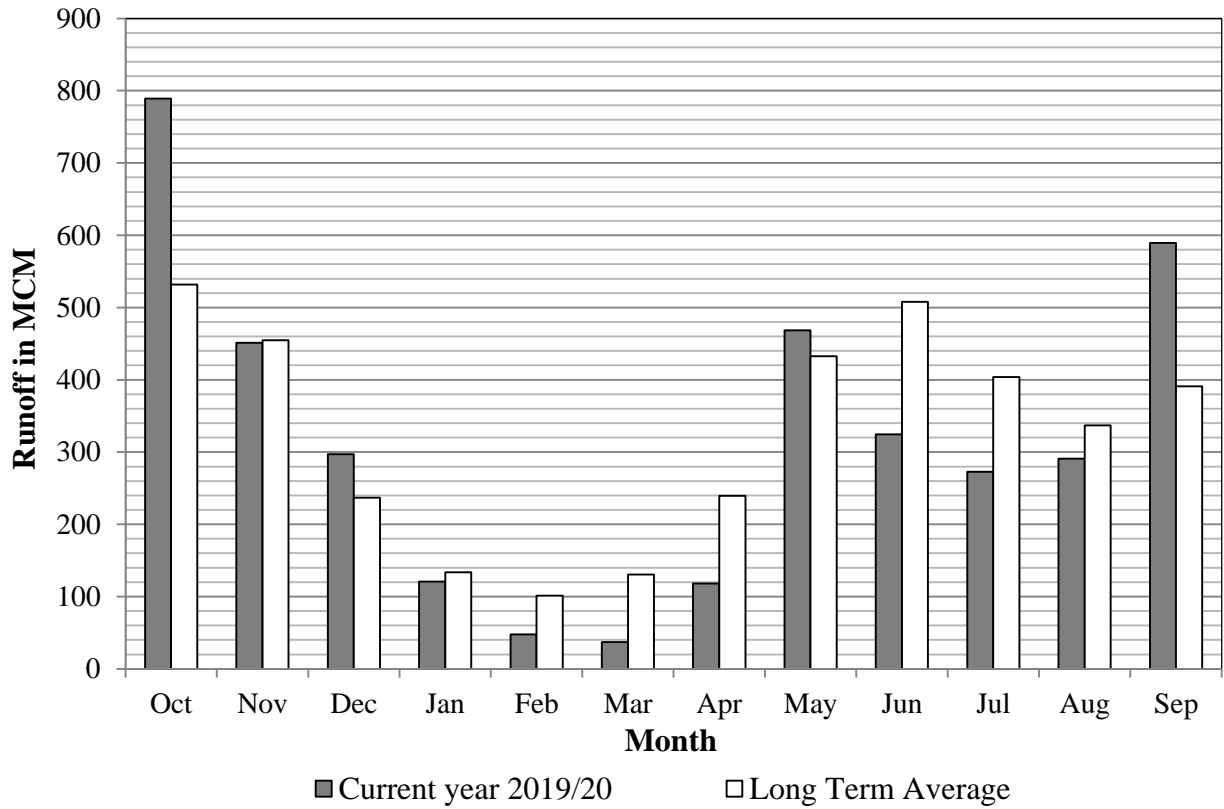


Fig. 73: Monthly Discharge in Kelani Ganga at Glencorse

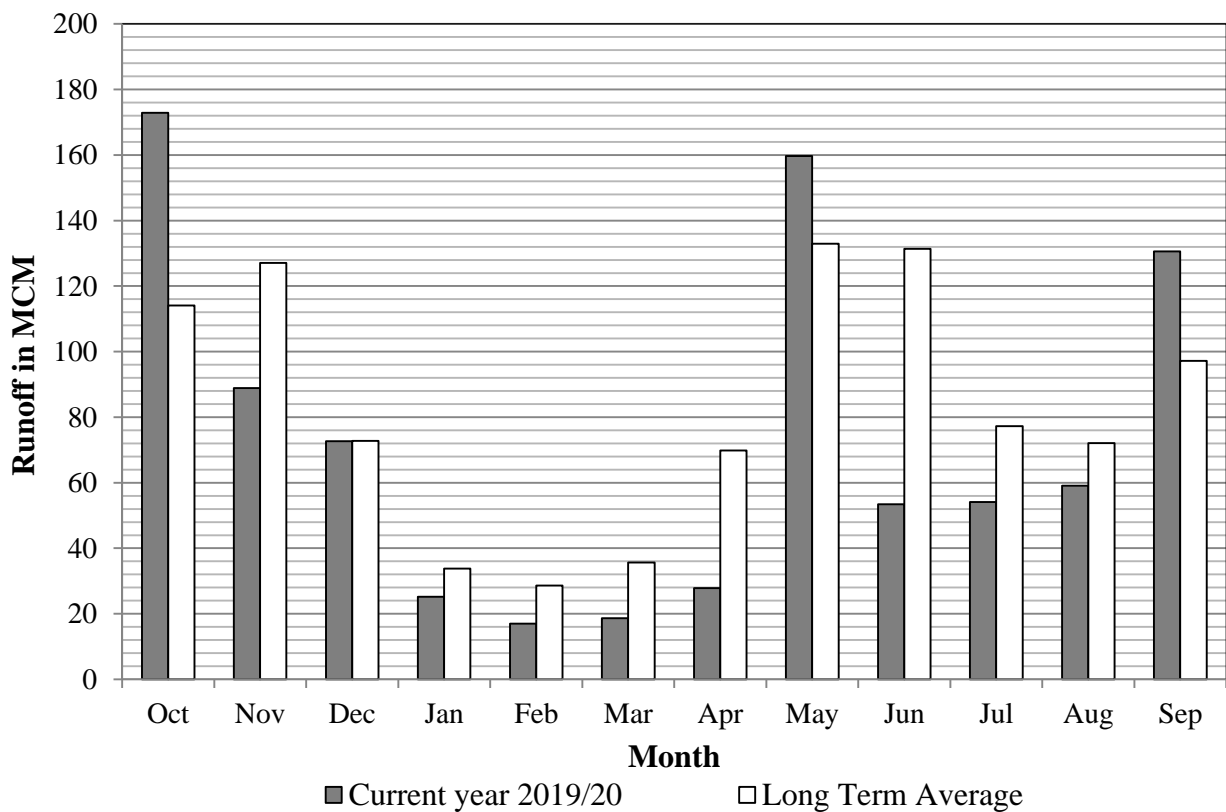


Fig. 74: Monthly Discharge in Kalu Ganga at Rathnapura

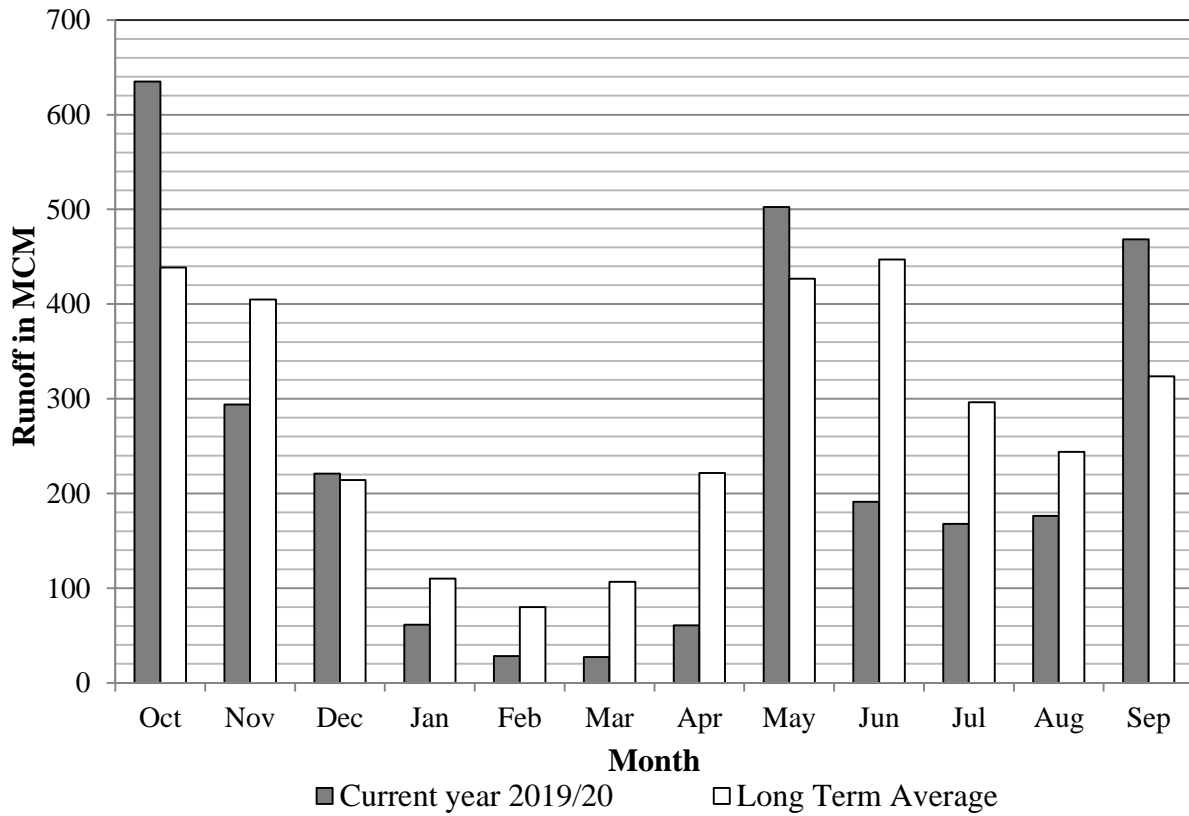


Fig. 75: Monthly Discharge in Kalu Ganga at Ellagawa

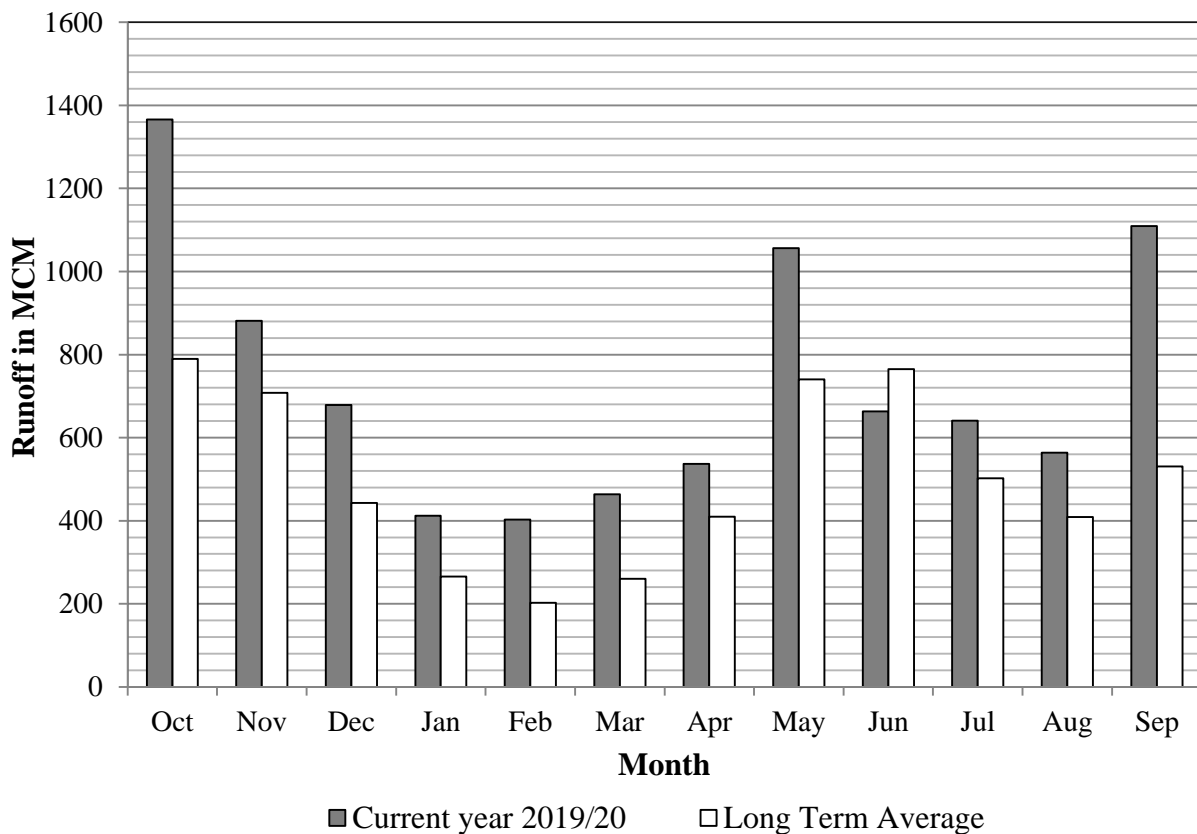


Fig. 76: Monthly Discharge in Kalu Ganga at Putupaula

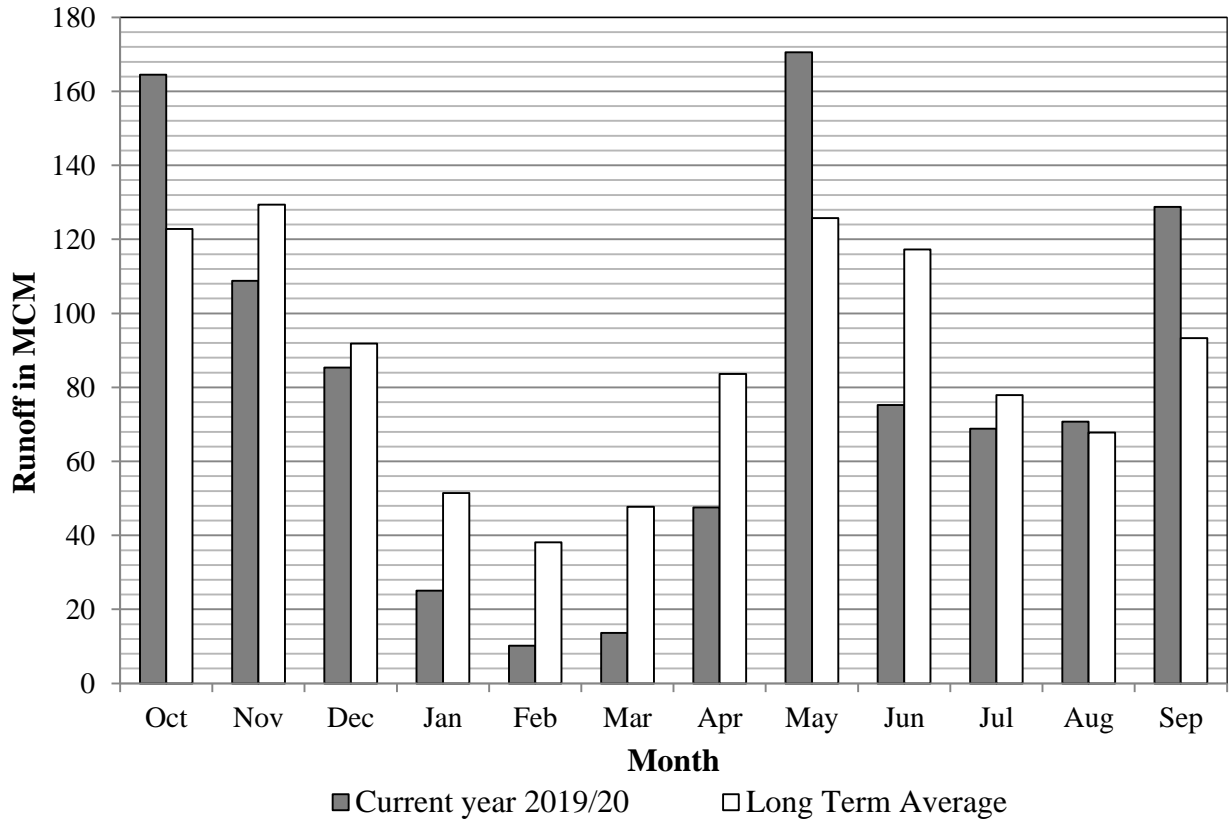


Fig. 77: Monthly Discharge in Gin Ganga at Thawalama

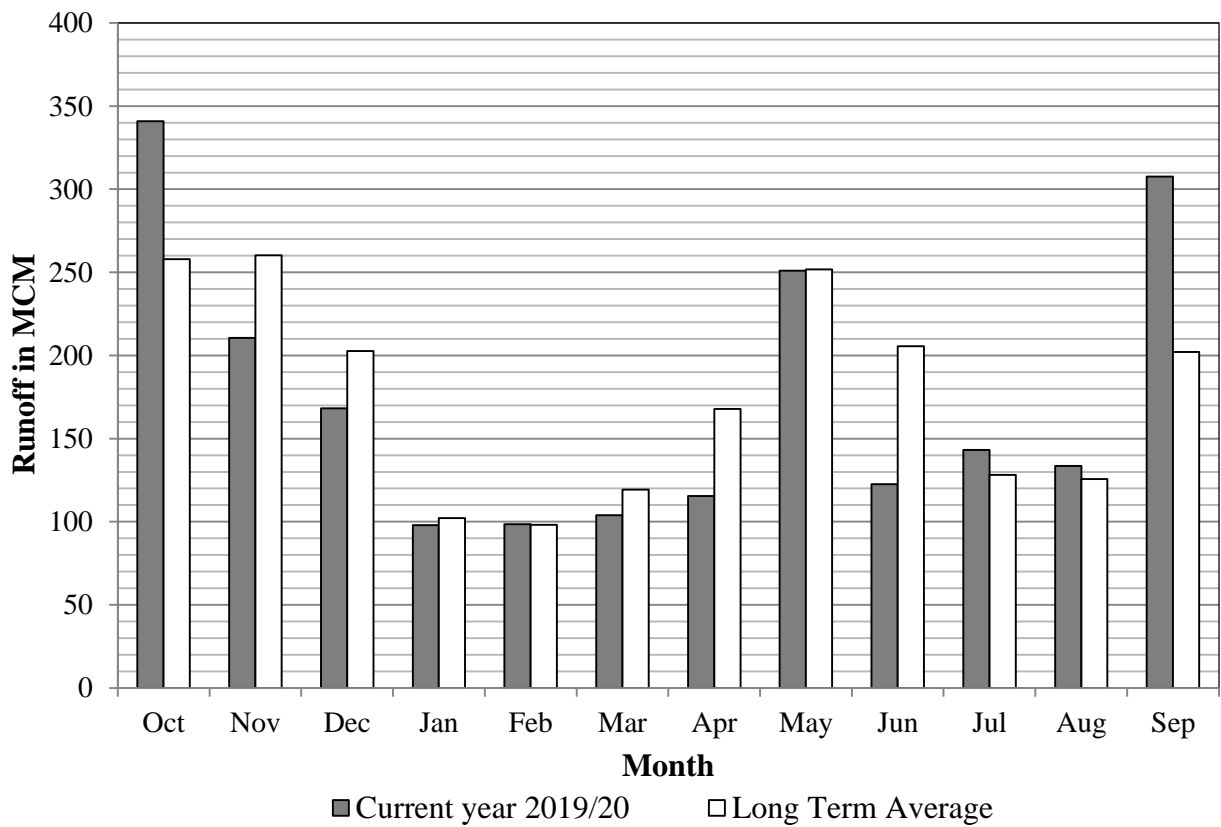


Fig. 78: Monthly Discharge in Gin Ganga at Baddegama

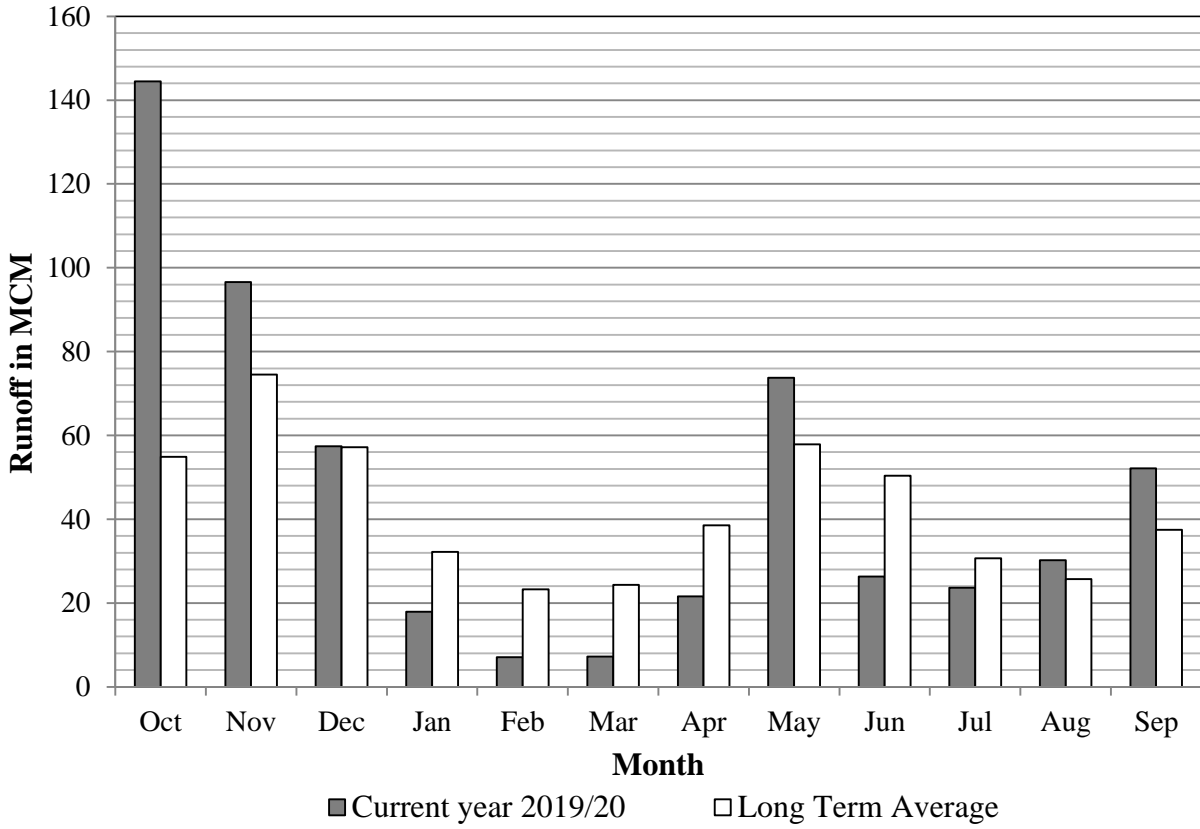


Fig. 79: Monthly Discharge in Nilwala Ganga at Pitabeddara

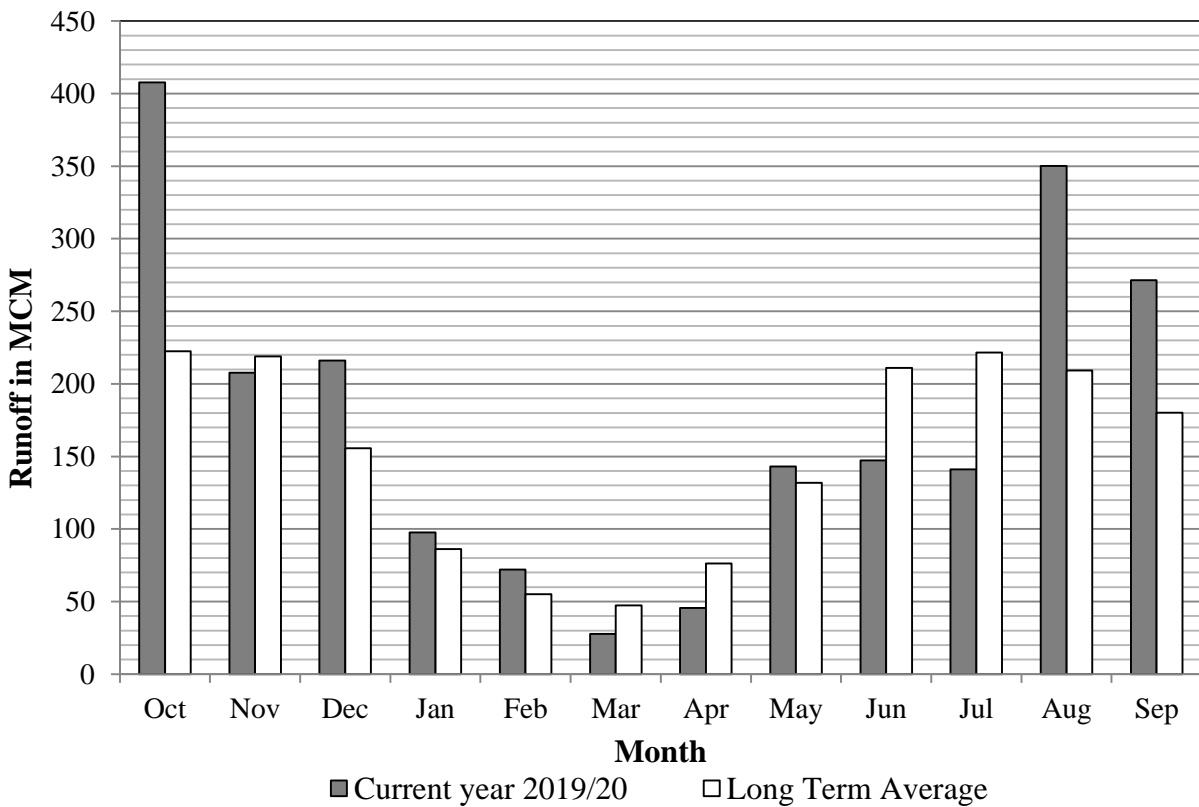


Fig. 80: Monthly Discharge in Mahaweli Ganga at Peradeniya

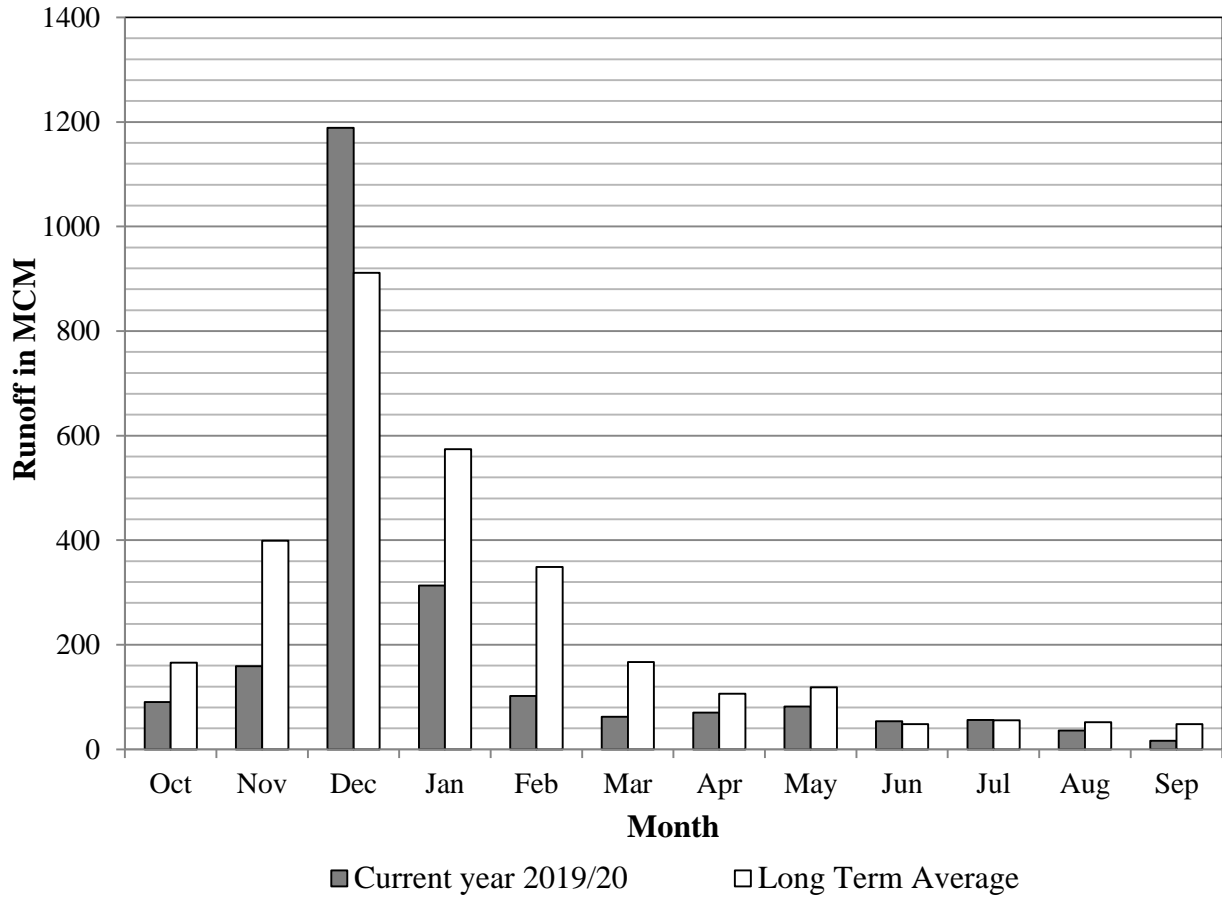


Fig. 81: Monthly Discharge in Mahaweli Ganga at Manampitiya

3.8 Flood Overview – 2019/20

There is a high probability of flooding in river basins in Wet Zone of the country, during the South-West monsoon and during the second inter monsoon periods. In other words May, June, October and November months are critical for floods in those areas. Deduru oya, Maha oya, Attanagalu oya, Kelani, Kalu, Gin and Nilwala can be identified as most vulnerable river basins for floods in the said months.

The details of floods occurred during the water year 2019/20 are summarized in the Table 16 given below. In addition, flood hydrographs at Hydrological stations maintained by Irrigation Department are given by Fig. 82 to Fig. 87.

Table 16: Details of Maximum Flood Events Occurred During 2019/20

River	Hydrometric Station	Date of Flood Peak	Observed Maximum Gauge Height (m)	Observed Maximum Discharge (m ³ /s)	Flood Volume (MCM)	Catchment Rainfall (mm)	Runoff Rainfall Ratio of the flood (%)	Inundated DS Divisions	Return Period (yr)
Kalu Ganga	Ratnapura	19.05.2020	8.67	402.9	80	285	47	Ratnapura Elapatha Kiriella Kuruvita	5
	Millakanda	28.05.2020	7.20	404.0	252	527	61	Ayagama Bulathsinhala Dodangoda Horana Millaniya Palindanuwara Kaluthara	3
Gin Ganga	Thawalama	19.05.2020	6.67	393.3	25	176	38	Neluwa Thawalama	2
Attanagalu Oya	Dunamale	22.10.2019	5.25	103.8	52	458	74	Gampaha Aththanagalla Minuvangoda Ja Ela	2
Maha Oya	Badalgama	16.05.2020	6.75	985.8	90	203	33	Pannala Divulapitiya Dankotuwa Katana	3
	Giriulla	16.05.2020	7.03	915.5	63	199	26	Pannala Mirigama Divulapitiya	3

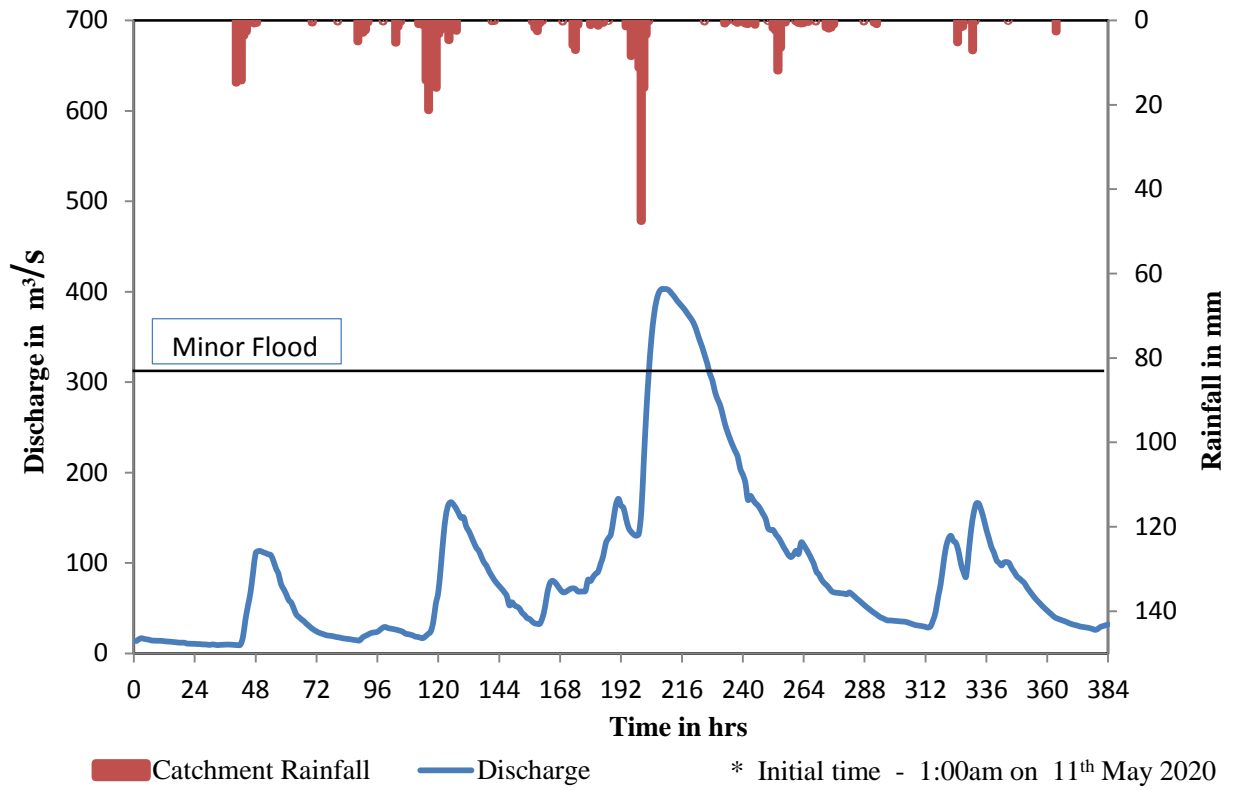


Fig. 82: Maximum flood during 2019/20 - Kalu Ganga at Rathnapura

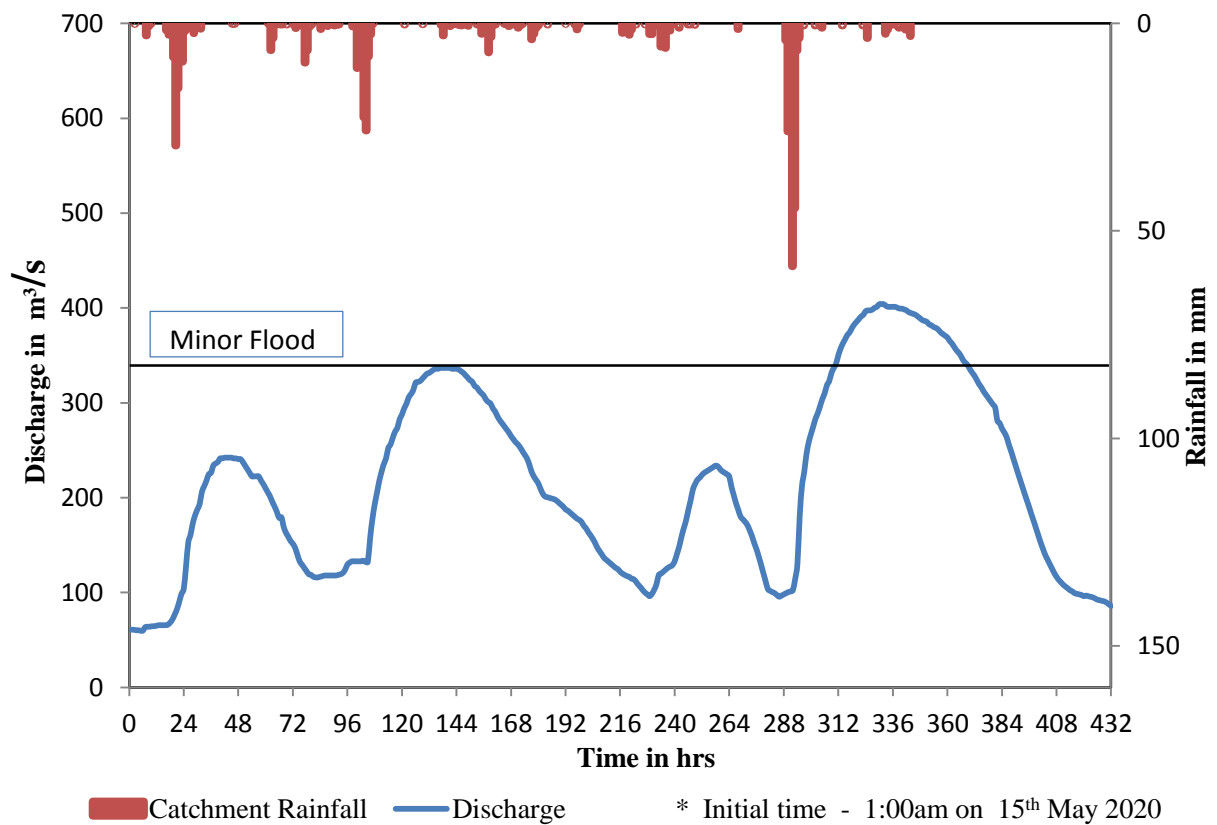


Fig. 83: Maximum flood during 2019/20 - Kuda Ganga at Millakanda

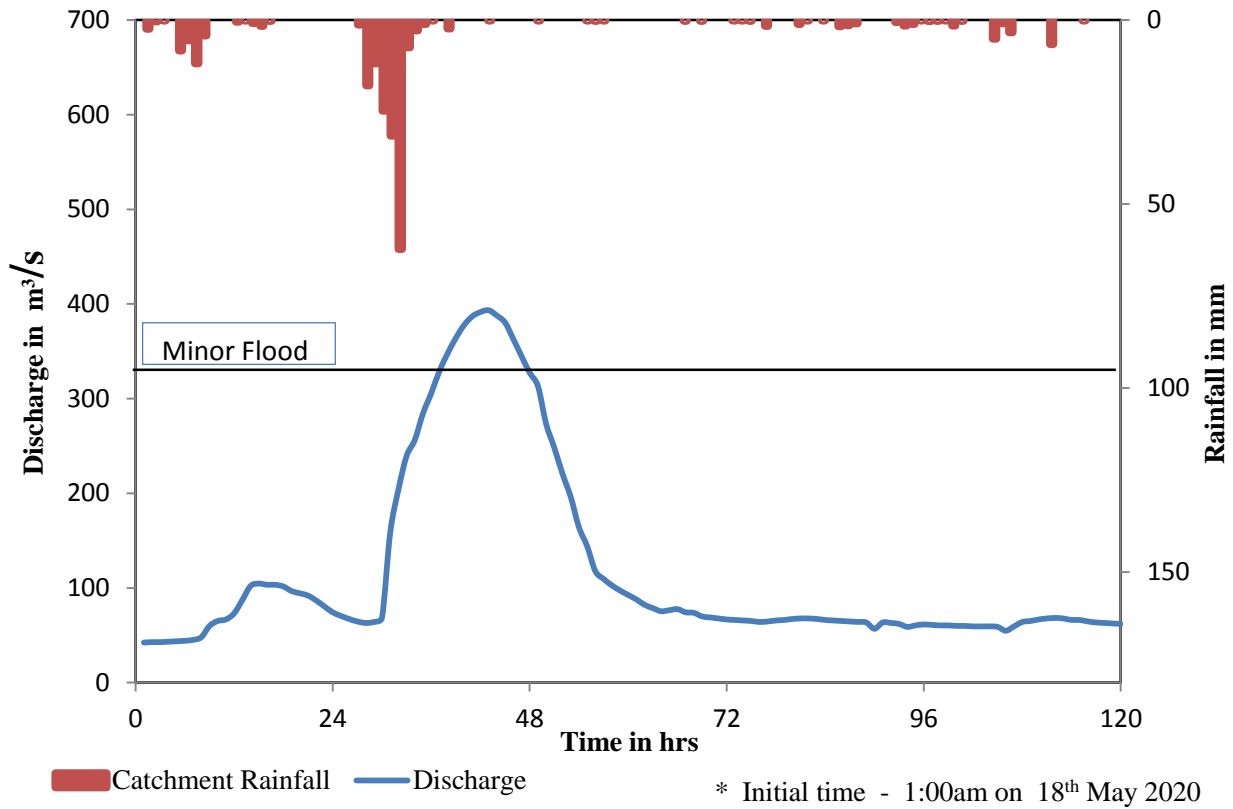


Fig. 84: Maximum flood during 2019/20 - Gin Ganga at Thawalama

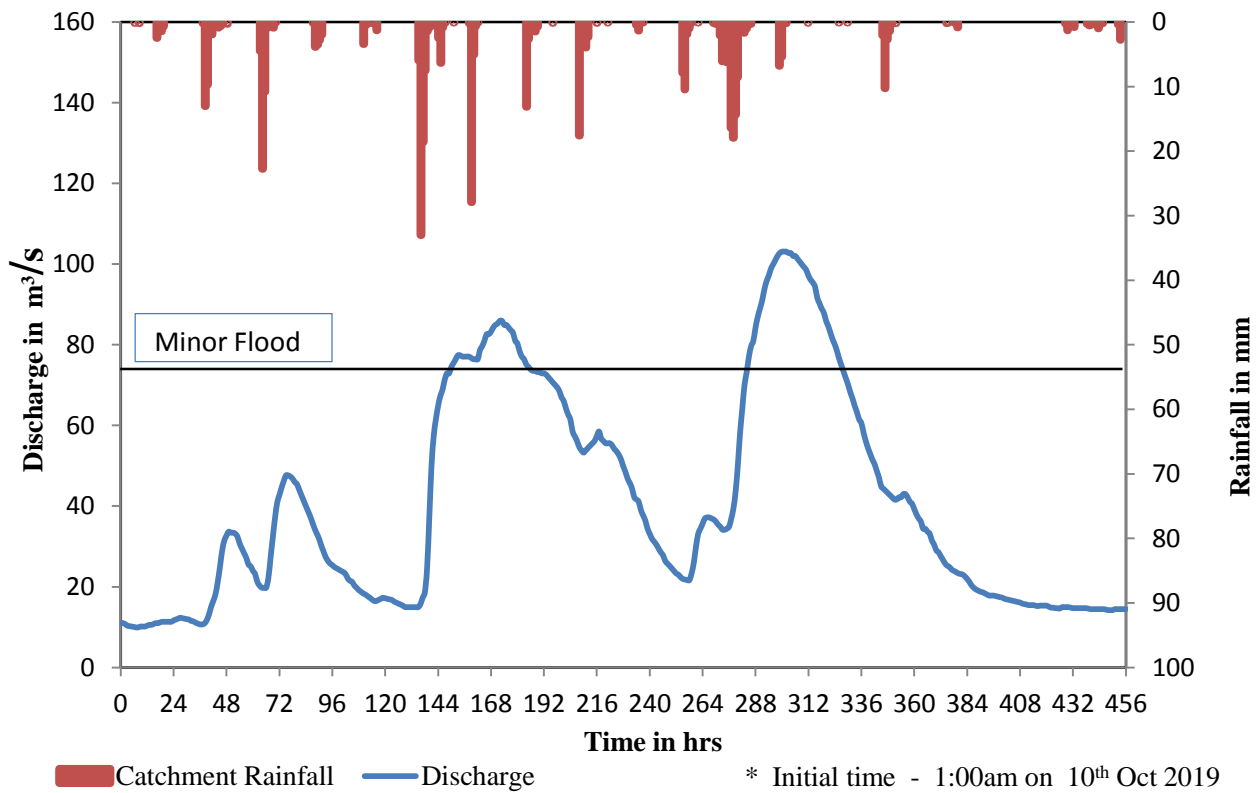


Fig. 85: Maximum flood during 2019/20 - Attanagalu Oya at Dunamale

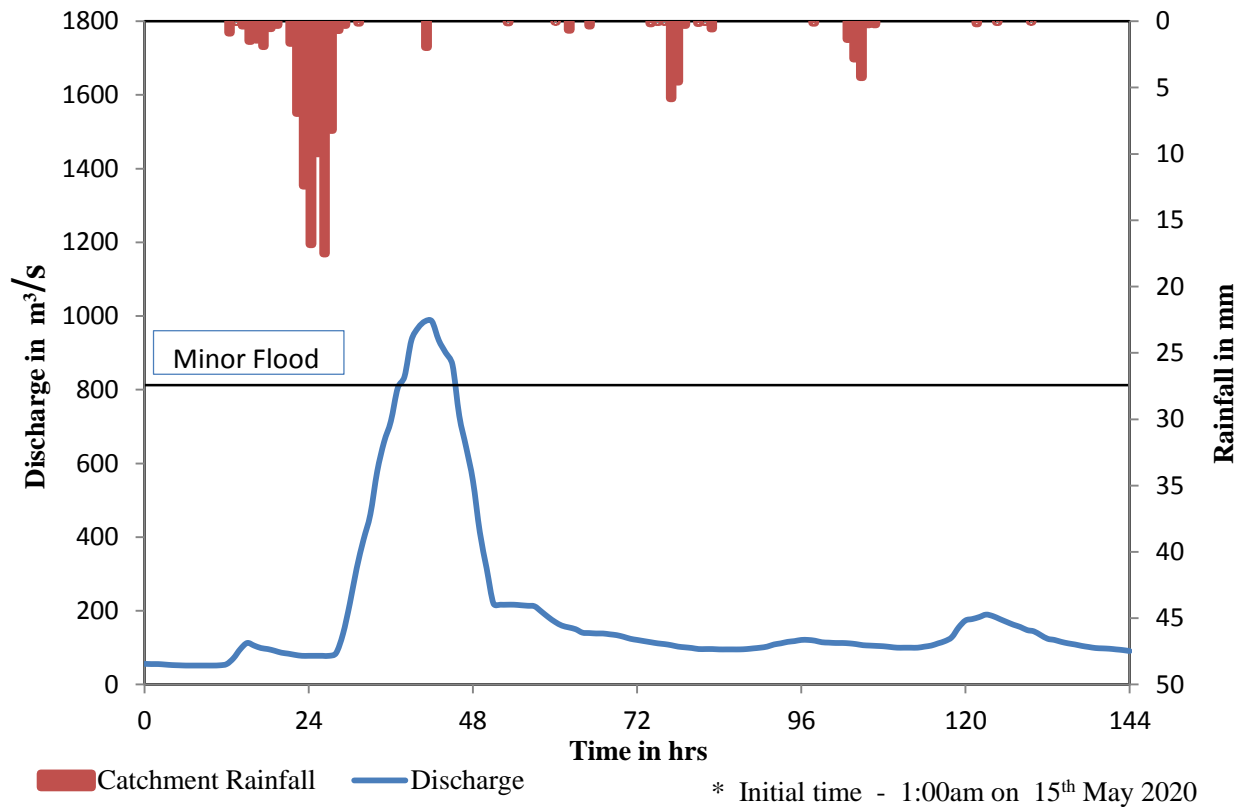


Fig. 86: Maximum flood during 2019/20 - Maha Oya at Badalgama

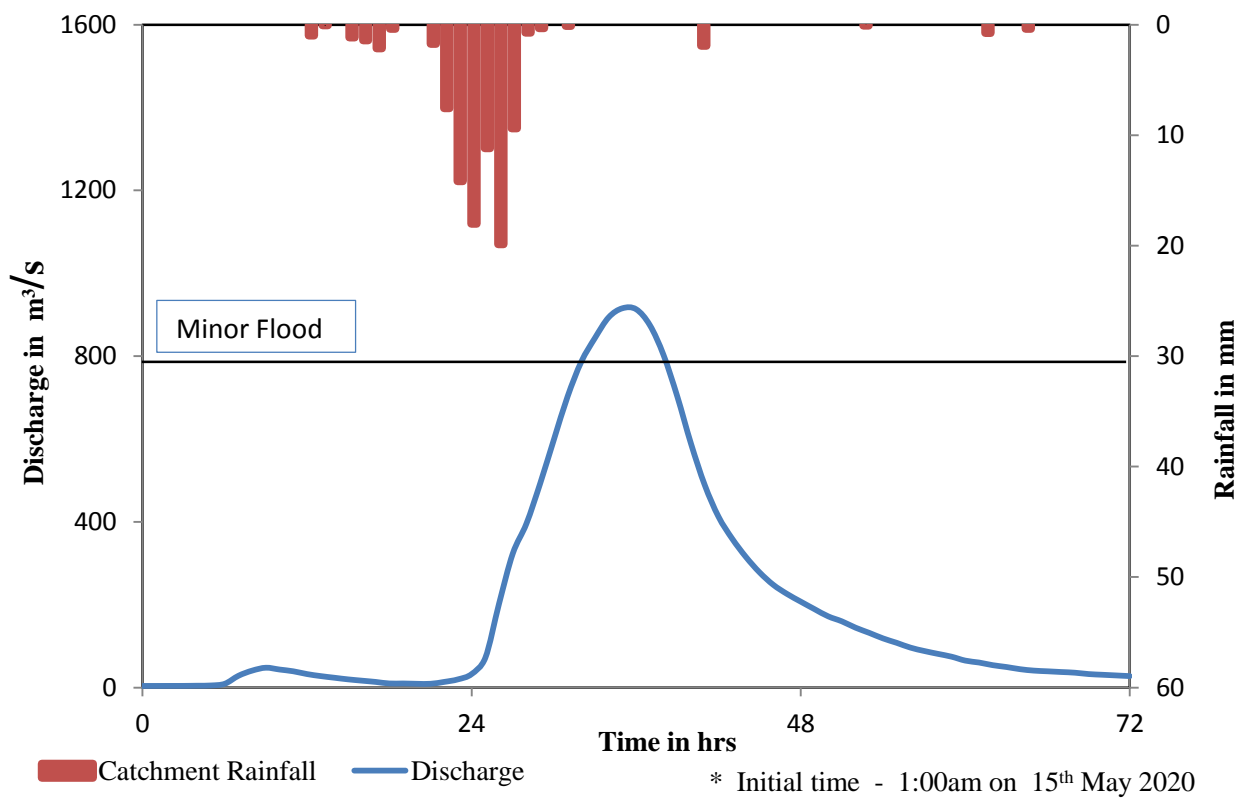


Fig. 87: Maximum flood during 2019/20 - Maha Oya at Giriulla