Bengaluru Urban

Rainfall:

During **2020**, **Bengaluru Urban** district as a whole recorded an actual rainfall of **1082 mm** as against its normal value of **846 mm** with percentage departure from normal being (+)**28%** and the district is classified under **Excess** category. Among the taluks, **3** taluks recorded **Excess** rainfall and **2** Taluks recorded **Normal** rainfall.

The talukwise percentage departure of rainfall from Normal was **(+)15%** in **Anekal, (+)14%** in **Bengaluru North, (+)43%** in **Bengaluru South, (+)25%** in **Bengaluru East, (+)35%** in **Yelahanka** taluks**.**

DISTRICT / TALUK / HOBLI – ANNUAL RAINFALL PATTERN -2020

Note: weighted average rainfall is computed using Thiessen Polygon method. The long period normal rainfall data is available for Taluk headquarters stations. The normal rainfall for other stations is estimated through interpolations.

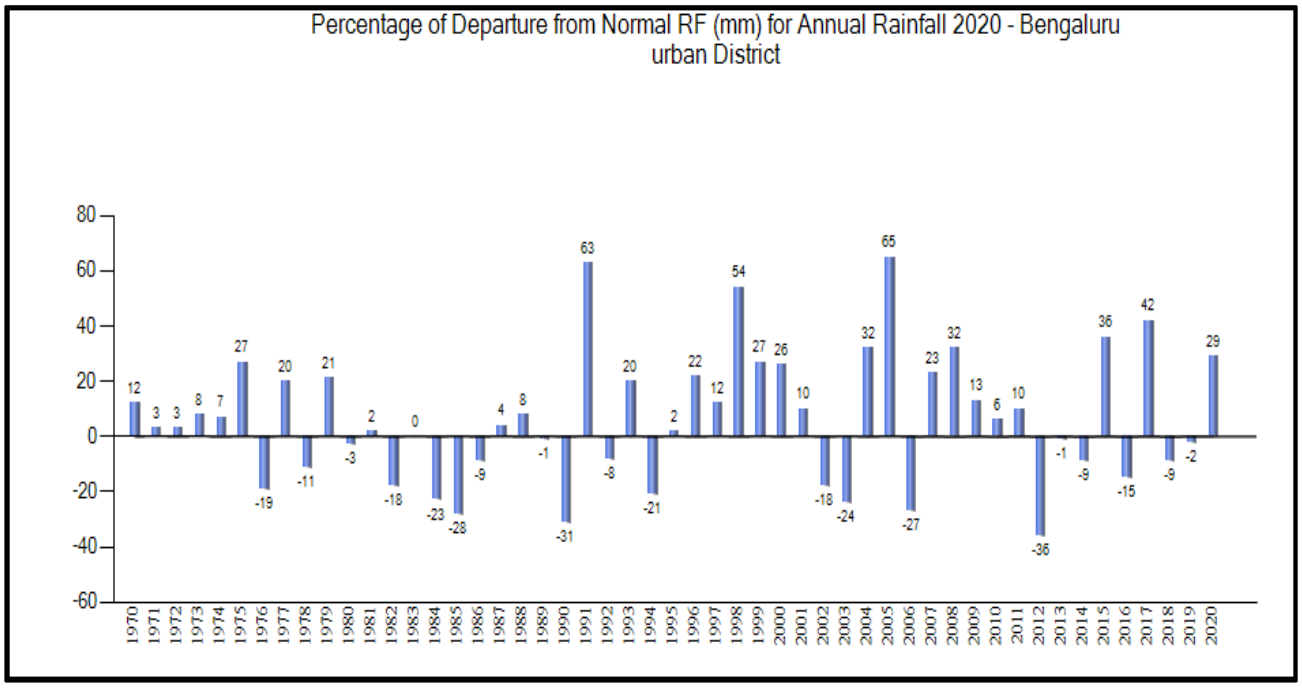
Large Excess (LE) : (+60% and above), Excess (E) : (+20 to +59%), Normal (N): (+19% to -19%) , Deficient (D): (-20 to -59%), Large Deficit (LD) : (-60 or less %), NR: No Rainfall (-100 %)

District/Taluk/Hobli	Annual Rainfall Pattern (1st Jan to 31st Dec 2020)		
	Normal (mm)	Actual (mm)	%Dep (mm)
BENGALURU URBAN	**846**	**1082**	**28**
Anekal	**902**	**1040**	**15**
Anekal_1	902	960	6
Attibele_1	824	879	7
Jigani_1	845	1169	38
Sarjapura_1	748	928	24
Anekal_2	881	1000	14
Jigani_2	865	1222	41
Attibele_2	857	1110	30
Sarjapura_1	855	1121	31
Sarjapura_3	814	911	12
Bengaluru North	**1004**	**1146**	**14**
Bengaluru North_1	1004	1125	12
Dasanapura_1	896	1069	19
Yashavantapura_1	819	1241	52
Bengaluru North_2	854	1150	35
Yashavantapura_2	866	1281	48
Dasanapura_2	872	1088	25
Dasanapura_3	900	1073	19
Bengaluru South	**820**	**1169**	**43**
Beguru_3	820	1157	41
Kengeri_1	905	1277	41

District/Taluk/Hobli	Annual Rainfall Pattern (1st Jan to 31st Dec 2020)		
	Normal (mm)	Actual (mm)	%Dep (mm)
Tavarekere_1	734	1050	43
Uttarahalli_4	905	1400	55
Uttarahalli_1	886	1304	47
Uttarahalli_2	872	1138	30
Uttarahalli_3	863	1145	33
Uttarahalli_5	941	1282	36
Beguru_1	912	1040	14
Beguru_2	875	1149	31
Kengeri_2	878	1129	29
Kengeri_3	860	1154	34
Kengeri_4	852	1419	67
Tavarekere_2	961	1178	23
Tavarekere_3	871	1034	19
Bengaluru East	**815**	**1019**	**25**
Mahadevpura_1	815	1063	30
Bidarahalli_2	828	1058	28
Varturu_1	818	935	14
K R Pura_2	855	1032	21
K R Pura_3	827	974	18
Varturu_2	881	1007	14
Bidarahalli_1	821	1060	29
Mahadevapura_2	882	969	10
Marathahalli	891	995	12
Bidharahalli_3	799	1048	31
Yelahanka	**752**	**1017**	**35**
Yelahanka_1	752	1080	44
Yelahanka_2	785	1101	40
Yelahanka_3	801	1164	45
Jala_1	760	1015	34
Jala_2	763	1049	37
Jala_3	781	950	22
Hesarughatta_1	746	1066	43
Hesarughatta_2	781	907	16

ANNUAL RAINFALL TIME SERIES GRAPH

The below Graph depicts percentage departure of **Annual rainfall** from normal in the **Bengaluru Urban** District, compared with the corresponding season since 1970.



The amount of annual rainfall recorded during **2020** is **more** when compared to the corresponding period of last **2** years.

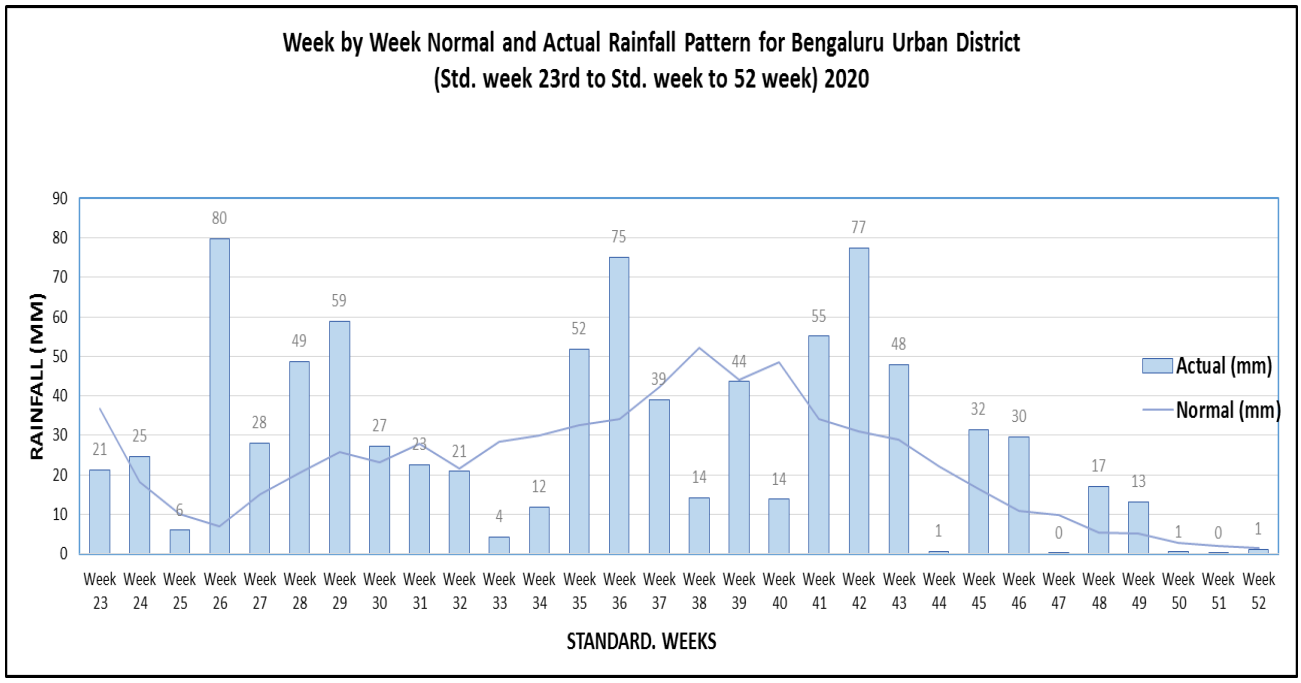
Hobli-wise Rainfall Category based on rainfall pattern is given below:

District/Taluk	Total No. of Hoblies	Large Excess	Excess	Normal	Deficit	Large Deficit	No Rainfall
BENGALURU URBAN	**49**	**1**	**34**	**14**	**0**	**0**	**0**
Anekal	9	0	5	4	0	0	0
Bengaluru North	7	0	5	2	0	0	0
Bengaluru South	15	1	12	2	0	0	0
Bengaluru East	10	0	5	5	0	0	0
Yelahanka	8	0	7	1	0	0	0

Hobli wise rainfall indicates Out of **49** hoblis in the district rainfall was **Large Excess** in **1** hobli, **Excess** in **34** Hoblis and **Normal** in **14** Hoblis.

Weekly rainfall Pattern During 2020

Weekly rainfall pattern during 2020 indicates **Normal to Large excess** rainfall during the standard weeks of **24, 26, 27, 28, 29, 30, 31, 32, 35, 36, 37, 39, 41, 42, 43, 45, 46, 48, 49, 52** and the remaining week's rainfall was **Deficiet** to **Large Deficiet** and dry spells prevailed.

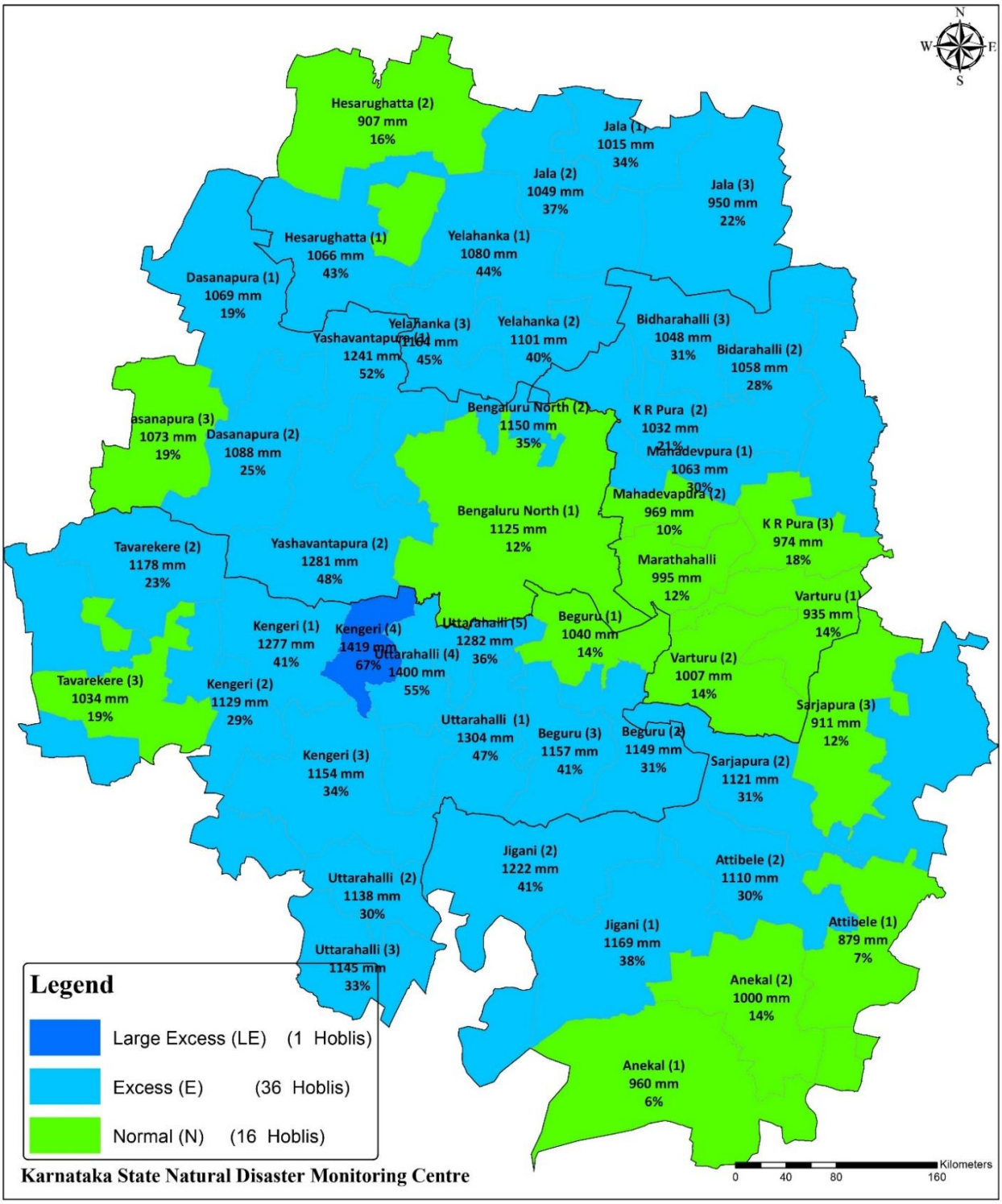


KARNATAKA

Hobliwise Annual Rainfall Pattern 2020

(1st January - 31st December)

BENGALURU URBAN DISTRICT



Karnataka State Natural Disaster Monitoring Centre

Large Excess(LE) : (+60% and above) Excess (E) : (+20 to +59%) Normal (N) : (+19% to -19%)
Deficient (D): (-20 to -59%) Large Deficit (LD) : (-60 or less %) NR : No Rainfall (-100 %)

Seasonal Rainfall pattern during 2020:

Pre-Monsoon Season:

During **Pre-Monsoon** season, the district as a whole recorded actual rainfall of **215 mm**, which is **38% more** than the weighted average normal of **156 mm** and being classified under **Excess** category.

In **Bengaluru Urban** district, rainfall during **Pre-Monsoon** was **Large Excess** in **Bengaluru East** taluk, **Excess** in **Bengaluru South, Yelahanka** and **Bengaluru North** taluks, **Normal** in **Anekal** taluk.

DISTRICT / TALUK / HOBLI – PRE-MONSOON RAINFALL PATTERN -2020

Note: weighted average rainfall is computed using Thiessen Polygon method. The long period normal rainfall data is available for Taluk headquarters stations. The normal rainfall for other stations is estimated through interpolations.

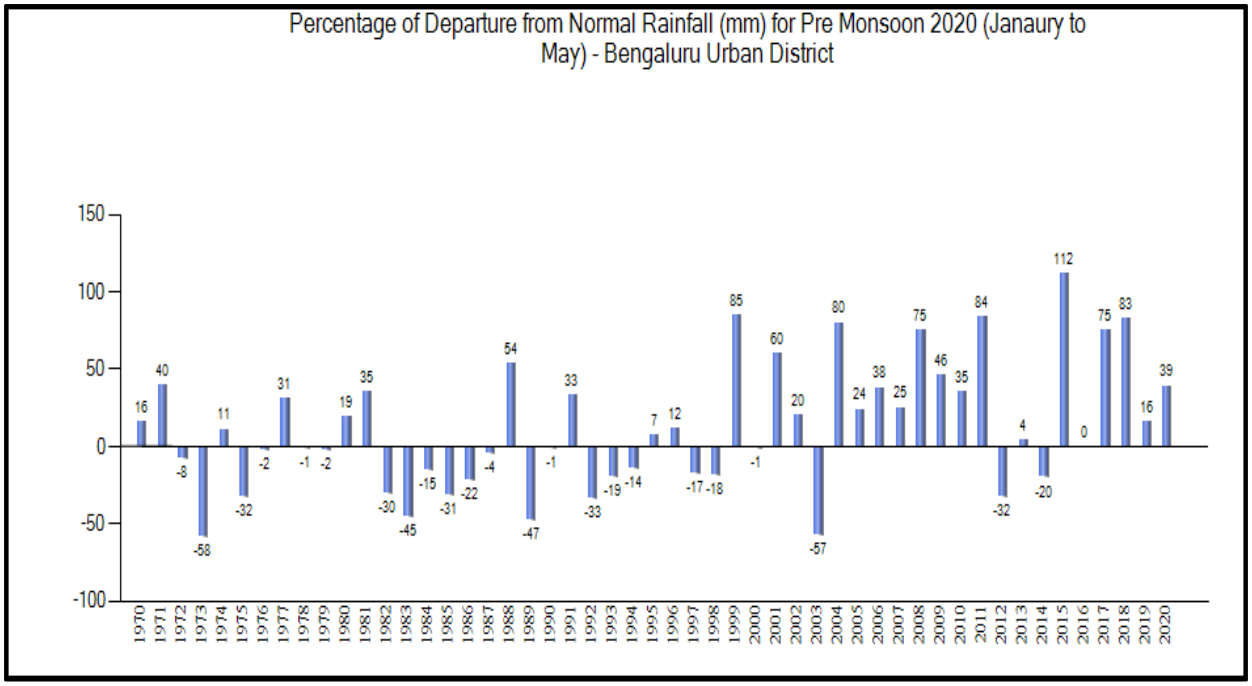
Large Excess (LE) : (+60% and above), Excess (E) : (+20 to +59%), Normal (N): (+19% to -19%) , Deficient (D): (-20 to -59%), Large Deficit (LD) : (-60 or less %), NR: No Rainfall (-100 %)

District/Taluk/Hobli	Pre-Monsoon Rainfall (1st Jan to 31st May 2020)		
	Normal (mm)	Actual (mm)	%Dep
BENGALURU URBAN	**156**	**215**	**38**
Anekal	**180**	**209**	**16**
Anekal_1	180	210	17
Attibele_1	154	181	17
Jigani_1	159	255	60
Sarjapura_1	129	178	38
Anekal_2	172	227	32
Jigani_2	164	210	28
Attibele_2	161	204	27
Sarjapura_1	155	232	49
Sarjapura_3	142	171	20
Bengaluru North	**183**	**230**	**26**
Bengaluru North_1	183	233	27
Dasanapura_1	177	198	12
Yashavantapura_1	155	270	74
Bengaluru North_2	159	225	42
Yashavantapura_2	163	277	69
Dasanapura_2	167	199	19
Dasanapura_3	167	192	15
Bengaluru South	**159**	**223**	**41**
Beguru_3	159	226	42
Kengeri_1	169	224	33
Tavarekere_1	153	188	23
Uttarahalli_4	170	317	86
Uttarahalli_1	168	249	48
Uttarahalli_2	166	223	34

District/Taluk/Hobli	Pre-Monsoon Rainfall (1st Jan to 31st May 2020)		
	Normal (mm)	Actual (mm)	%Dep
Uttarahalli_3	165	183	11
Uttarahalli_5	175	291	67
Beguru_1	171	239	39
Beguru_2	162	235	45
Kengeri_2	164	211	29
Kengeri_3	164	242	48
Kengeri_4	162	300	85
Tavarekere_2	168	178	6
Tavarekere_3	165	186	13
Bengaluru East	**119**	**220**	**85**
Mahadevpura_1	119	217	83
Bidarahalli_2	140	232	66
Varturu_1	133	192	44
K R Pura_2	152	221	45
K R Pura_3	133	190	43
Varturu_2	160	229	43
Bidarahalli_1	127	245	92
Mahadevapura_2	159	171	8
Marathahalli	162	202	24
Bidharahalli_3	143	255	78
Yelahanka	**147**	**199**	**36**
Yelahanka_1	147	218	49
Yelahanka_2	150	272	82
Yelahanka_3	152	256	68
Jala_1	125	178	43
Jala_2	129	219	70
Jala_3	134	196	47
Hesarughatta_1	142	183	29
Hesarughatta_2	143	156	9
Varturu_2	160	229	43
Bidarahalli_1	127	245	92
Mahadevapura_2	159	171	8
Marathahalli	162	202	24
Bidharahalli_3	143	255	78

PRE-MONSOON RAINFALL TIME SERIES GRAPH

The below Graph depicts percentage departure of **Pre-Monsoon** rainfall from normal in the **Bengaluru Urban** District, compared with the corresponding season since 1970.



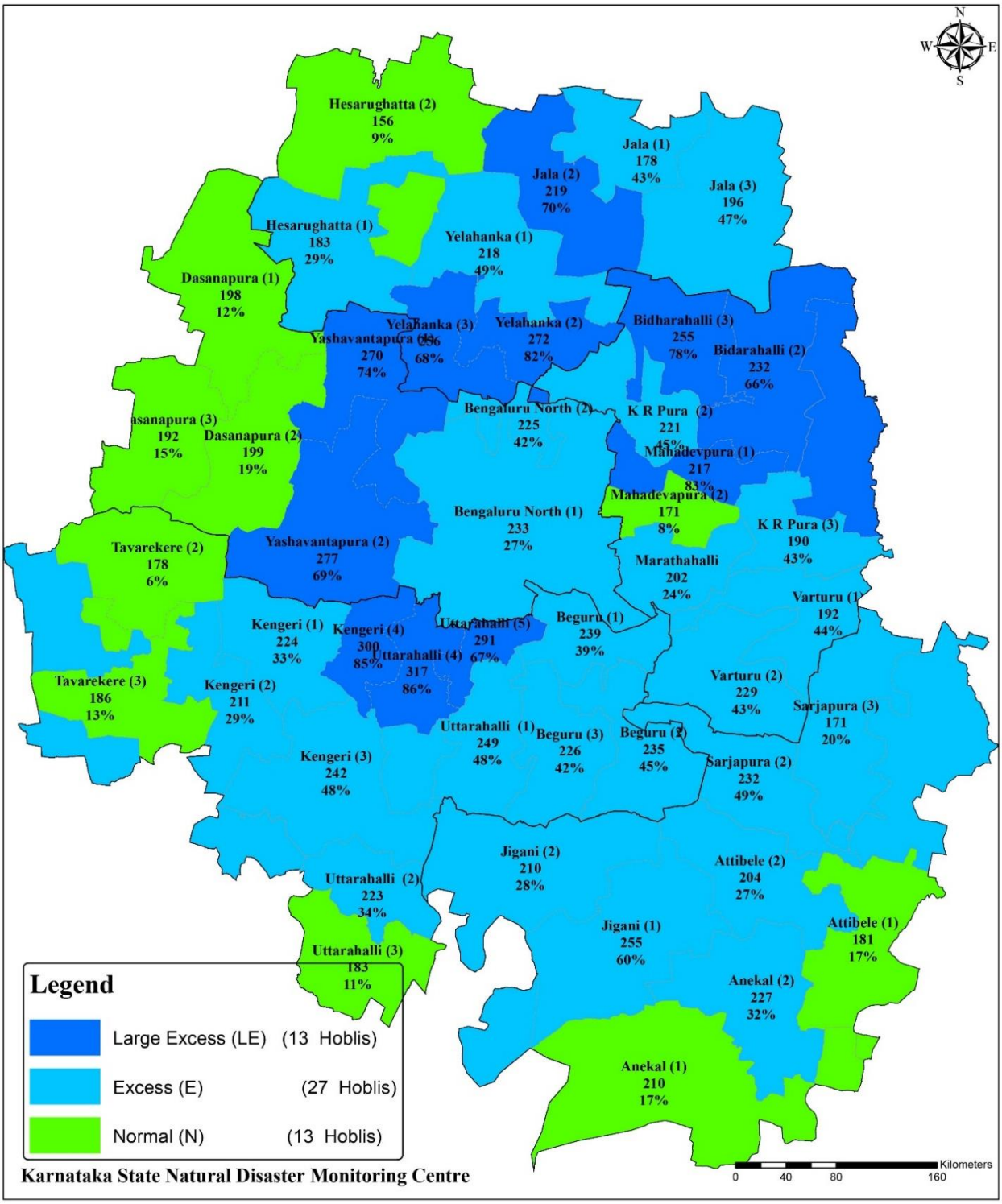
The amount of rainfall recorded during **Pre-Monsoon-2020** is **more** when compared to the corresponding period of last year.

KARNATAKA

Hobliwise Rainfall Pattern Pre-monsoon 2020

(1st January - 31st May)

BENGALURU URBAN DISTRICT



Large Excess(LE) : (+60% and above) **Excess (E) : (+20 to +59%)** **Normal (N) : (+19% to -19%)**
Deficient (D): (-20 to -59%) **Large Deficit (LD) : (-60 or less %)** **NR : No Rainfall (-100 %)**

South-West Season:

During **South-West monsoon** season the district as a whole recorded actual rainfall of **579 mm**, which is **23% more** than the normal of **471 mm** and being classified under **Excess** category.

In **Bengaluru Urban** district, rainfall during **South-West monsoon** was **Excess** in **Bengaluru South** and **Yelahanka** taluks, **Normal** in **Bengaluru North, Bengaluru East** and **Anekal** taluks.

DISTRICT / TALUK / HOBLI – SOUTH-WEST MONSOON RAINFALL PATTERN -2020

Note: weighted average rainfall is computed using Thiessen Polygon method. The long period normal rainfall data is available for Taluk headquarters stations. The normal rainfall for other stations is estimated through interpolations.

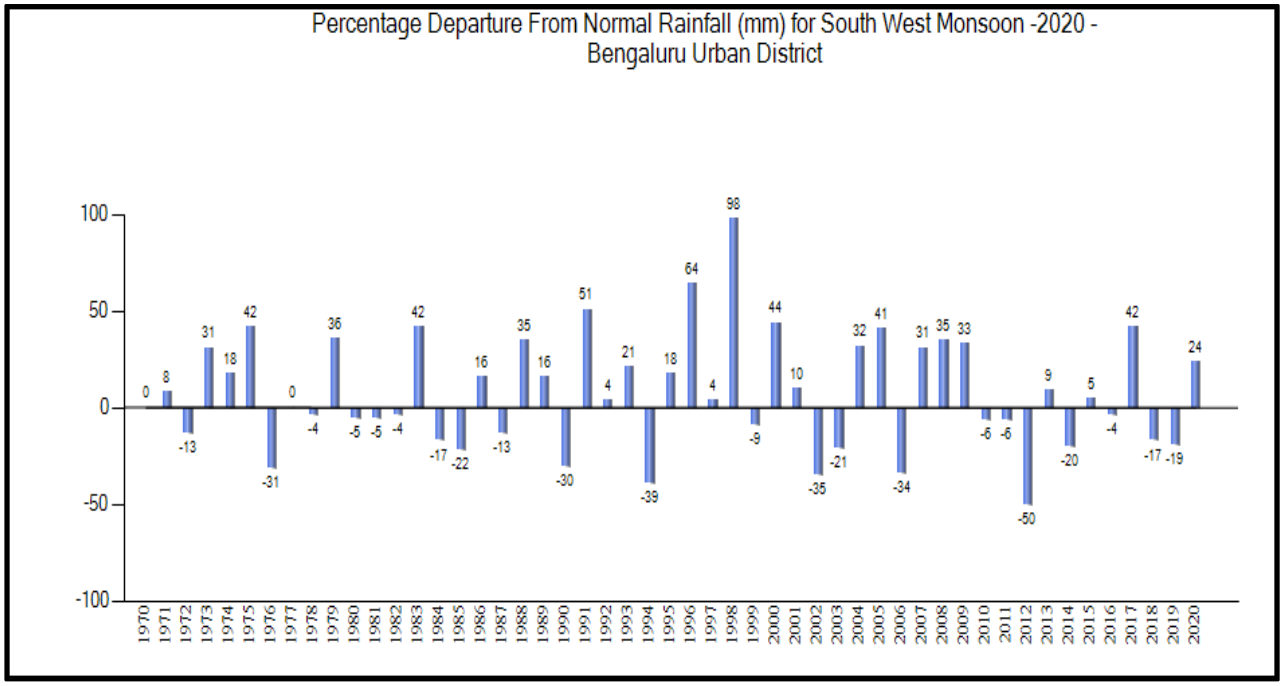
Large Excess (LE) : (+60% and above), Excess (E) : (+20 to +59%), Normal (N): (+19% to -19%) , Deficient (D): (-20 to -59%), Large Deficit (LD) : (-60 or less %), NR: No Rainfall (-100 %)

District/Taluk/Hobli	Southwest Monsoon Rainfall (1st June to 30th Sept 2020)		
	Normal (mm)	Actual (mm)	%Dep
BENGALURU URBAN	**471**	**579**	**23**
Anekal	**477**	**508**	**6**
Anekal_1	477	433	-9
Attibele_1	445	397	-11
Jigani_1	464	548	18
Sarjapura_1	411	514	25
Anekal_2	472	439	-7
Jigani_2	482	613	27
Attibele_2	469	550	17
Sarjapura_1	474	564	19
Sarjapura_3	453	511	13
Bengaluru North	**574**	**634**	**10**
Bengaluru North_1	574	608	6
Dasanapura_1	490	659	34
Yashavantapura_1	451	700	55
Bengaluru North_2	472	675	43
Yashavantapura_2	493	675	37
Dasanapura_2	488	599	23
Dasanapura_3	511	563	10
Bengaluru South	**478**	**607**	**27**
Beguru_3	478	586	23
Kengeri_1	505	688	36
Tavarekere_1	417	564	35
Uttarahalli_4	514	633	23
Uttarahalli_1	499	643	29
Uttarahalli_2	495	609	23
Uttarahalli_3	478	631	32

District/Taluk/Hobli	Southwest Monsoon Rainfall (1st June to 30th Sept 2020)		
	Normal (mm)	Actual (mm)	%Dep
Uttarahalli_5	531	612	15
Beguru_1	503	490	-3
Beguru_2	484	570	18
Kengeri_2	503	660	31
Kengeri_3	491	597	22
Kengeri_4	492	676	37
Tavarekere_2	553	558	1
Tavarekere_3	496	602	21
Bengaluru East	**479**	**544**	**14**
Mahadevpura_1	479	592	24
Bidarahalli_2	458	571	25
Varturu_1	465	512	10
K R Pura_2	475	595	25
K R Pura_3	472	529	12
Varturu_2	490	504	3
Bidarahalli_1	469	542	15
Mahadevapura_2	491	504	3
Marathahalli	495	503	2
Bidharahalli_3	436	580	33
Yelahanka	**397**	**612**	**54**
Yelahanka_1	397	648	63
Yelahanka_2	423	612	45
Yelahanka_3	435	664	53
Jala_1	427	592	38
Jala_2	426	616	45
Jala_3	434	526	21
Hesarughatta_1	416	691	66
Hesarughatta_2	430	597	39

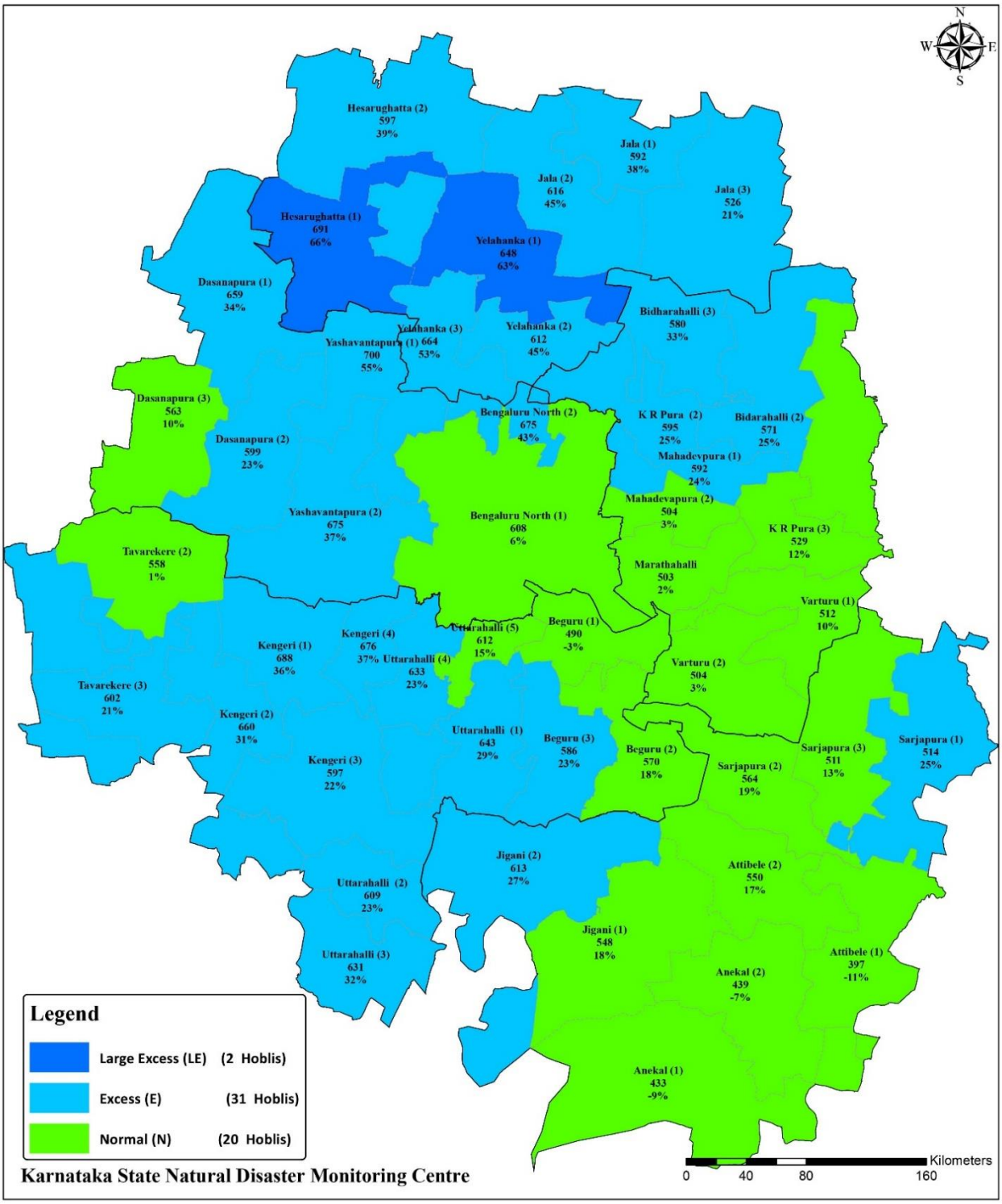
SOUTH-WEST MONSOON RAINFALL TIME SERIES GRAPH

The below Graph depicts percentage departure of **South-West Monsoon** rainfall from normal in the **Bengaluru Urban** District, compared with the corresponding season since 1970.



The amount of rainfall recorded during **South-West monsoon-2020** is the **more** when compared to the corresponding period of last **2** years.

K A R N A T A K A
Hobliwise Rainfall Pattern
South West Monsoon 2020
BENGALURU URBAN DISTRICT



Karnataka State Natural Disaster Monitoring Centre

Large Excess(LE) : (+60% and above) Excess (E) : (+20 to +59%) Normal (N) : (+19% to -19%)
Deficient (D): (-20 to -59%) Large Deficit (LD) : (-60 or less %) NR : No Rainfall (-100 %)

North-East Season:

During **North-East monsoon** season the district as a whole recorded actual rainfall of **289 mm**, which is **32% more** than the normal of **219 mm** and being classified under **Excess** category.

In **Bengaluru Urban** district rainfall during **North-East monsoon** was **Large Excess** in **Bengaluru South** taluk, **Excess** in **Anekal** taluk**, Normal** in **Bengaluru North, Bengaluru East** and **Yelahanka** taluks**.**

DISTRICT / TALUK / HOBLI – NORTH-EAST MONSOON RAINFALL PATTERN -2020

Note: weighted average rainfall is computed using Thiessen Polygon method. The long period normal rainfall data is available for Taluk headquarters stations. The normal rainfall for other stations is estimated through interpolations.

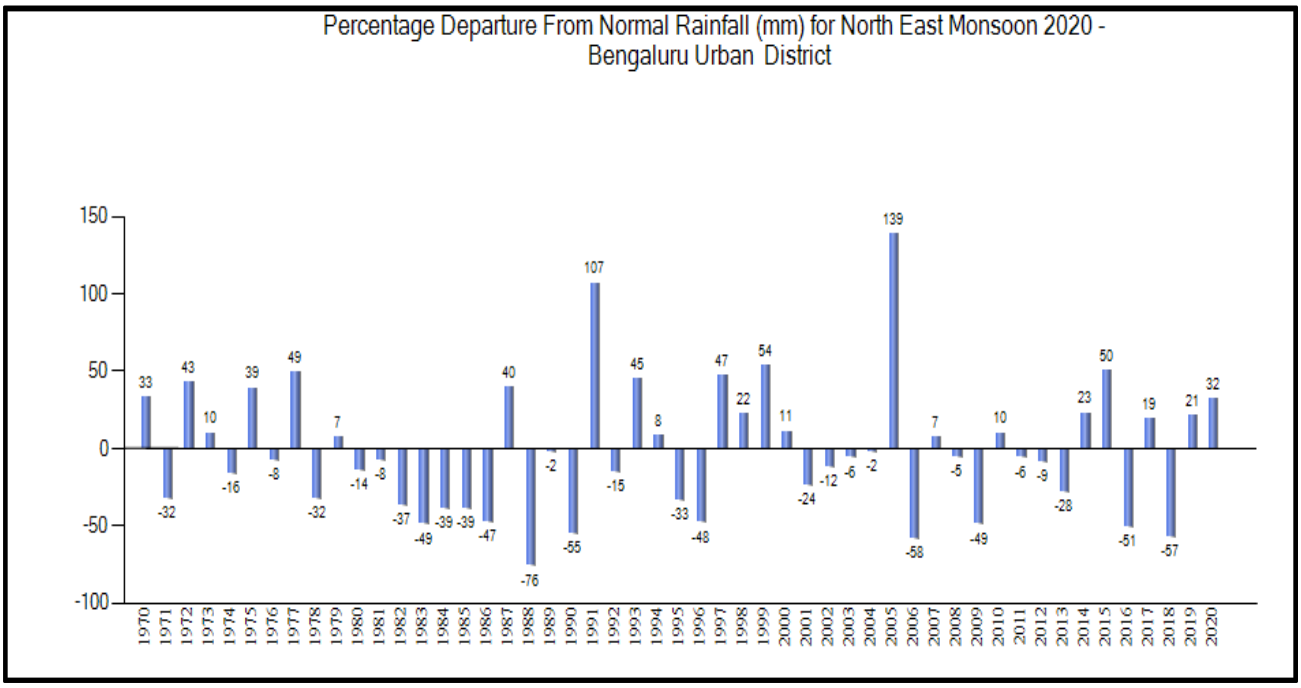
Large Excess (LE) : (+60% and above), Excess (E) : (+20 to +59%), Normal (N): (+19% to -19%) , Deficient (D): (-20 to -59%), Large Deficit (LD) : (-60 or less %), NR: No Rainfall (-100 %)

District/Taluk/Hobli	North East Monsoon Rainfall (1st Oct to 31st Dec 2020)		
	Normal (mm)	Actual (mm)	%Dep
BENGALURU URBAN	**219**	**289**	**32**
Anekal	**244**	**323**	**32**
Anekal_1	244	316	29
Attibele_1	224	302	35
Jigani_1	222	367	66
Sarjapura_1	208	236	13
Anekal_2	237	334	41
Jigani_2	220	400	82
Attibele_2	227	356	57
Sarjapura_1	226	325	44
Sarjapura_3	219	230	5
Bengaluru North	**248**	**282**	**14**
Bengaluru North_1	248	284	15
Dasanapura_1	228	212	-7
Yashavantapura_1	213	272	28
Bengaluru North_2	223	249	12
Yashavantapura_2	209	330	58
Dasanapura_2	217	289	33
Dasanapura_3	222	318	43
Bengaluru South	**183**	**339**	**85**
Beguru_3	183	345	89
Kengeri_1	232	366	58
Tavarekere_1	164	298	81
Uttarahalli_4	220	450	105
Uttarahalli_1	219	412	88
Uttarahalli_2	210	305	45
Uttarahalli_3	219	331	51

District/Taluk/Hobli	North East Monsoon Rainfall (1st Oct to 31st Dec 2020)		
	Normal (mm)	Actual (mm)	%Dep
Uttarahalli_5	235	378	61
Beguru_1	238	311	31
Beguru_2	229	345	51
Kengeri_2	211	259	23
Kengeri_3	205	314	54
Kengeri_4	197	443	125
Tavarekere_2	240	442	84
Tavarekere_3	210	246	17
Bengaluru East	**217**	**254**	**18**
Mahadevpura_1	217	254	17
Bidarahalli_2	231	255	11
Varturu_1	219	230	5
K R Pura_2	228	217	-5
K R Pura_3	223	255	15
Varturu_2	231	275	19
Bidarahalli_1	224	273	22
Mahadevapura_2	233	294	27
Marathahalli	234	290	24
Bidharahalli_3	219	213	-3
Yelahanka	**208**	**205**	**-1**
Yelahanka_1	208	214	3
Yelahanka_2	213	217	2
Yelahanka_3	214	243	14
Jala_1	208	246	18
Jala_2	208	214	3
Jala_3	214	228	7
Hesarughatta_1	188	193	2
Hesarughatta_2	208	154	-26

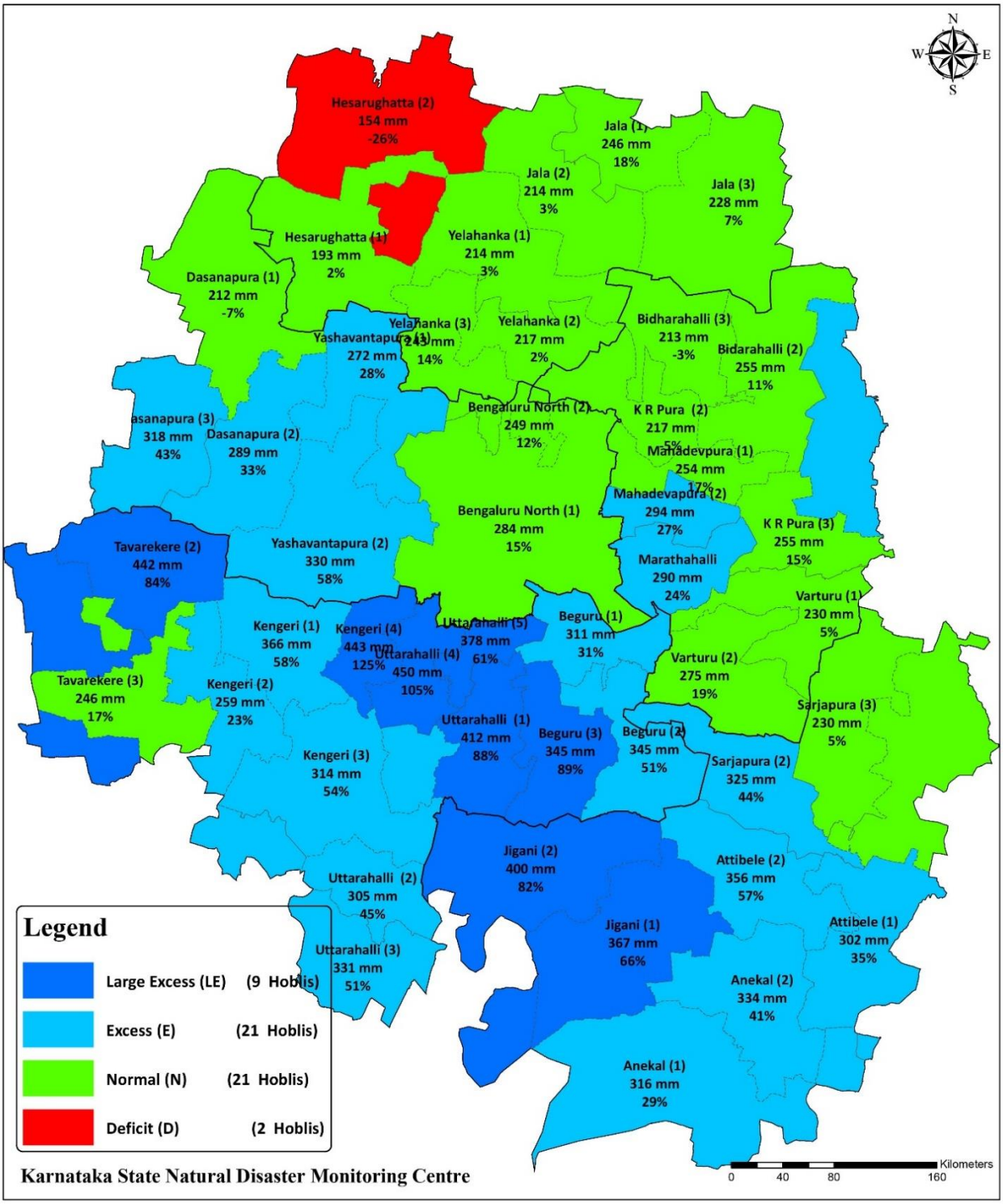
NORTH-EAST MONSOON RAINFALL TIME SERIES GRAPH

The below Graph depicts percentage departure of **North-East Monsoon** rainfall from normal in the **Bengaluru Urban** District, compared with the corresponding season since 1970.



The amount of rainfall recorded during **North-East monsoon-2020** is **more** when compared to the corresponding period of last **4** years.

KARNATAKA
Hobliwise Rainfall - North East Monsoon 2020
(1st October - 31st December)
BENGALURU URBAN DISTRICT



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Deficient (D): (-20 to -59%) Large Deficit (LD) : (-60 or less %) NR : No Rainfall (-100 %)

Agricultural Situation:

The normal and actual coverage of individual as well as the total crops in **Bengaluru Urban** district is presented in the table given below. The table provides annual normal sown area, season wise actual area covered during **2020** for all the crops and compared with the crop wise area sown for **2019**.

(Area in hectares)

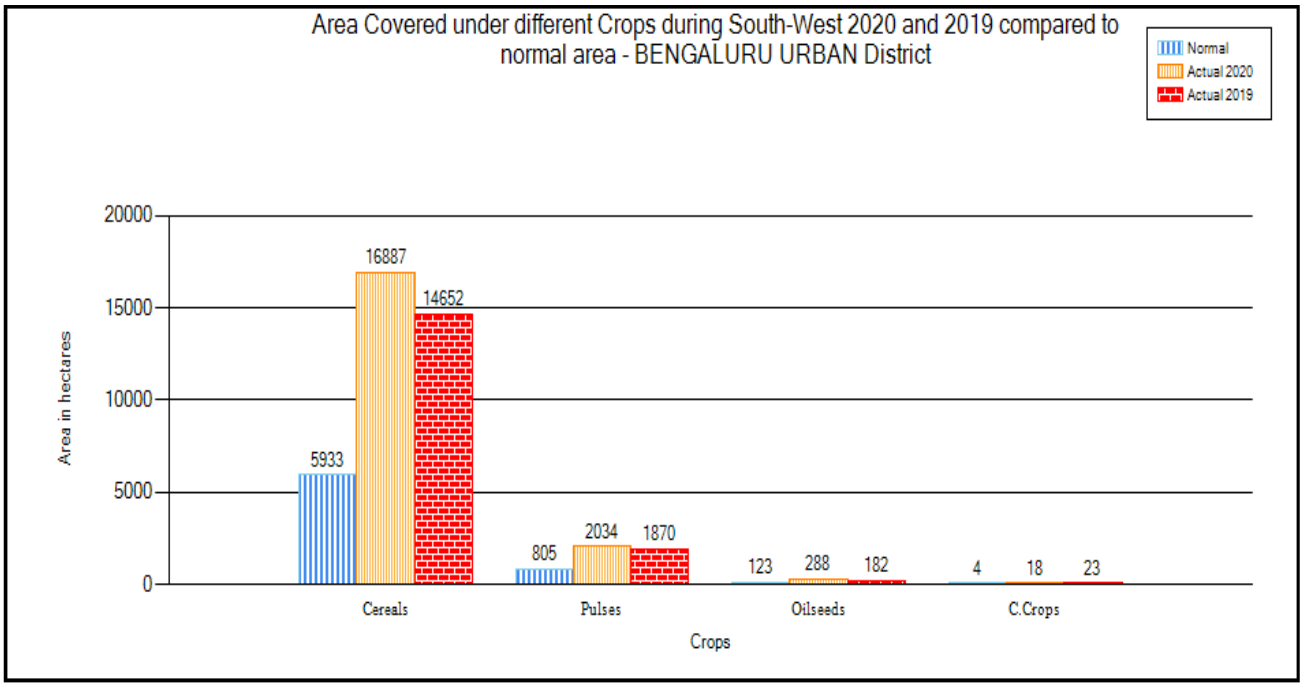
Crops	Annual Normal (Kharif+ Rabi+ Summer)	2020					2019	
		Kharif 2020	Rabi 2020	Summer 2021	Total Area (Col.3+ 4+5)	Col.6 as % of Col.2	Total Area sown (K+R+S)	Col.8 as % of Col.2
1	2	3	4	5	6	7	8	9
CEREALS								
Rice	119	173	0	37	210	176	215	181
Jowar	1	0	0	0	0	0	0	0
Ragi	5426	15289	24	27	15340	283	13831	255
Maize	376	1212	24	52	1288	343	545	145
Minor Millets	11	49	0	0	49	445	61	555
Total Cereals	**5933**	**16723**	**48**	**116**	**16887**	**285**	**14652**	**247**
PULSES								
Tur	296	535	0	0	535	181	444	150
Bengalgram	2	0	0	0	0	0	0	0
Horsegram	128	43	274	0	317	248	220	172
Blackgram	2	2	0	0	2	100	7	350
Greengram	6	21	0	0	21	350	19	317
Cowpea & Others	118	229	0	0	229	194	161	136
Avare	352	908	0	11	919	261	1013	288
Total Pulses	**805**	**1738**	**274**	**22**	**2034**	**253**	**1870**	**232**
Total Foodgrains	**6738**	**18461**	**322**	**138**	**18921**	**281**	**16522**	**245**
OILSEEDS								
Groundnut	47	120	0	0	120	255	91	194
Sesamum	14	81	0	0	81	579	15	107
Sunflower	2	2	0	0	2	100	0	0
Castor	21	45	0	0	45	214	22	105
Niger	28	11	0	0	11	39	13	46
Mustard	26	29	0	0	29	112	41	158
Total Oilseeds	**123**	**288**	**0**	**0**	**288**	**234**	**182**	**148**
CASHCROPS								
Sugarcane	4	18	0	0	18	450	23	575
Total Cashcrops	**4**	**18**	**0**	**0**	**18**	**450**	**23**	**575**
Grand Total	**6866**	**18767**	**322**	**138**	**19227**	**280**	**16727**	**244**

During 2020, the area under **Cereals** was **285% (247%)** of the normal. The area covered as percentage of normal under **Total Cereals** crops are: **Rice - 176%; Ragi – 283; Maize – 343; Minor Millets – 445** of the normal. The area covered under **cereals** during 2020 is **more** than the corresponding figure of the previous year.

In case of **Pulses**, the area sown was **253% (232%)** of the normal. The area covered as percentage of normal under **Pulses** crops are: **Tur - 181%; Horsegram - 248%; Blackgram-100%; Greengram – 350 %; Cowpea & Others - 194%; Avare-261%** of the normal. The area covered under **Pulses** during 2020 is **more** than the corresponding figure of the previous year.

In case of **Oilseeds**, the area sown was **234% (148%)** of the normal. The area covered as percentage of normal under **Oilseeds** crops are: **Groundnut - 255%; Sesamum - 579%; Sunflower-100%, Castor – 214 %, Niger - 39%, Mustard-112%** of the normal. The area covered under **Oilseeds** during 2020 is **more** than the corresponding figure of the previous year.

In case of **CashCrops**, the area sown was **450% (575%)** of the normal. The area covered as percentage of normal under **CashCrops** crops are: **Sugarcane – 450%** of the normal. The area covered under **CashCrops** during 2020 is **less** than the corresponding figure of the previous year.



GROUND WATER LEVELS:

Mean groundwater level for the period **November 2010 to November 2019,** was compared with the groundwater level in **November 2020**. It is seen that out of the **21** stations compared, **7** stations accounting for **34%** showed a **fall** in water level during **November 2020** as compared to preceding decadal mean and remaining **14** well or **66%** shows a **rise.**

No. of Wells	No. of Wells/Percentage showing Fluctuation													
	Rise (mm)						Total	Fall (mm)						Total
	0 to 2	%	2 to 4	%	>4	%		0 to-2	%	-2 to -4	%	<-4	%	
21	13	62	1	5	0	0	**14**	5	24	2	10	0	0	**7**

Status of Minor Irrigation Tanks as on 31.12.2020:

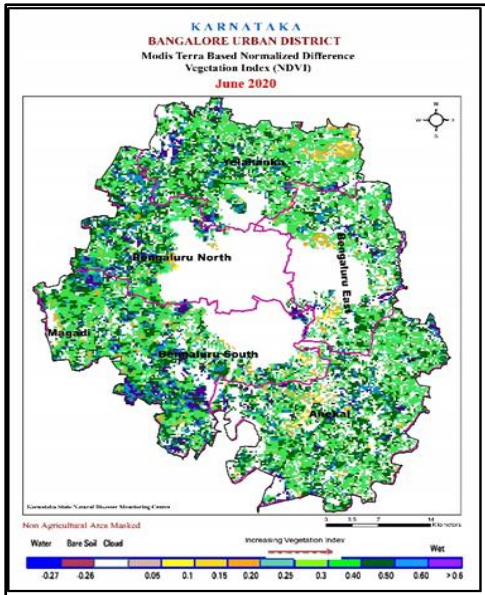
Total No Of Tanks	No. OF TANKS FILLED UP TO THE LEVEL OF				
	Not filled	30%	31-50%	51-99%	100%
46	**1 (2%)**	**10 (22%)**	**8 (17%)**	**9 (20%)**	**18 (39%)**

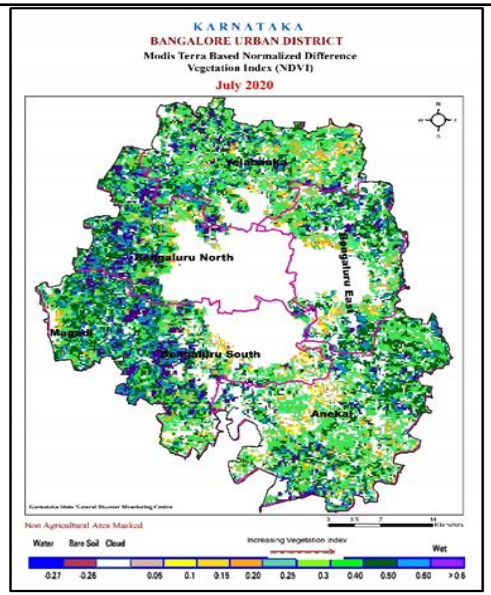
(The figs in bracket percentage of total Minor Irrigation tanks)

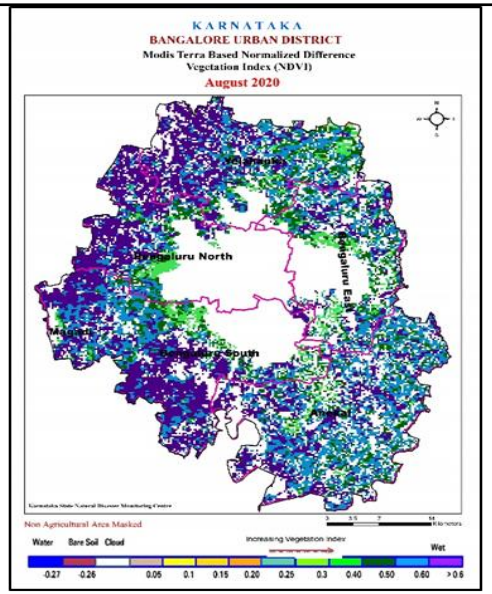
SATELLITE BASED CROP CONDITION ASSESSMENT – JUNE TO DECEMBER 2020 – BENGALURU URBAN DISTRICT

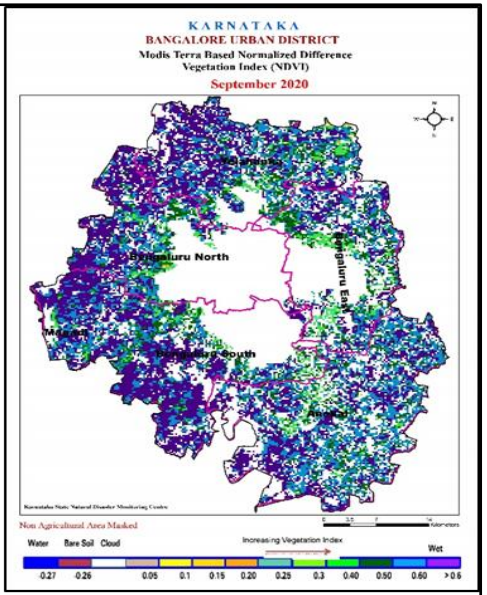
Taluk Level NDVI/NDWI Values for the months June 2020 to December 2020 derived from MODIS TERRA 250m Satellite Data

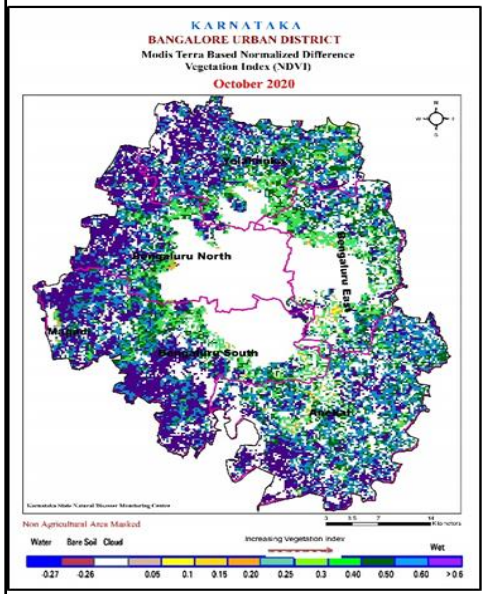
Sl. No.	DISTRICT	TALUK	June 2020		July 2020		August 2020		September 2020		October 2020		November 2020		December 2020	
			NDVI	NDWI	NDVI	NDWI	NDVI	NDWI	NDVI	NDWI	NDVI	NDWI	NDVI	NDWI	NDVI	NDWI
1	Bengaluru Urban	Anekal	0.254	0.217	0.264	0.242	0.367	0.237	0.376	0.233	0.426	0.300	0.336	0.273	0.306	0.229
2	Bengaluru Urban	Bengaluru North	0.188	0.148	0.218	0.183	0.266	0.185	0.260	0.178	0.298	0.207	0.228	0.176	0.192	0.127
3	Bengaluru Urban	Bengaluru South	0.258	0.220	0.280	0.275	0.376	0.262	0.383	0.257	0.429	0.303	0.331	0.265	0.287	0.198
4	Bengaluru Urban	Bengaluru East	0.177	0.162	0.213	0.173	0.254	0.185	0.258	0.165	0.275	0.180	0.206	0.172	0.189	0.145
5	Bengaluru Urban	Yelahanka	0.262	0.218	0.281	0.240	0.399	0.273	0.409	0.277	0.445	0.306	0.334	0.267	0.282	0.199

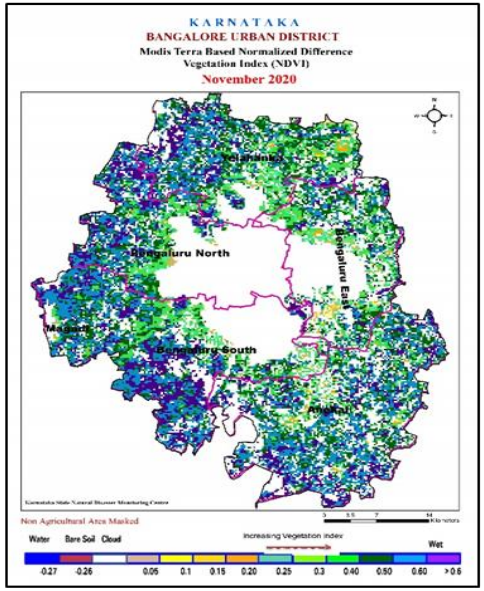


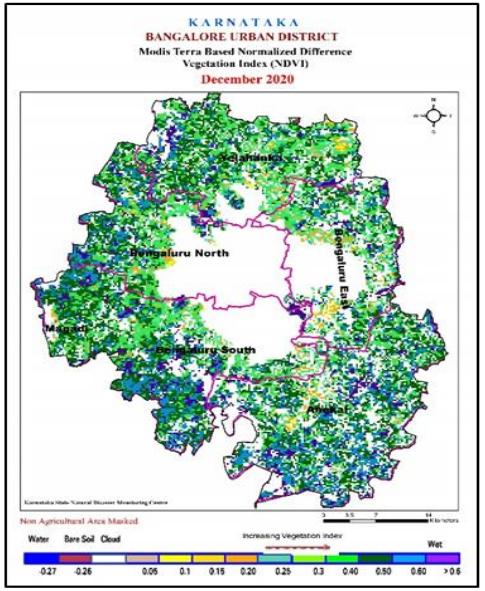






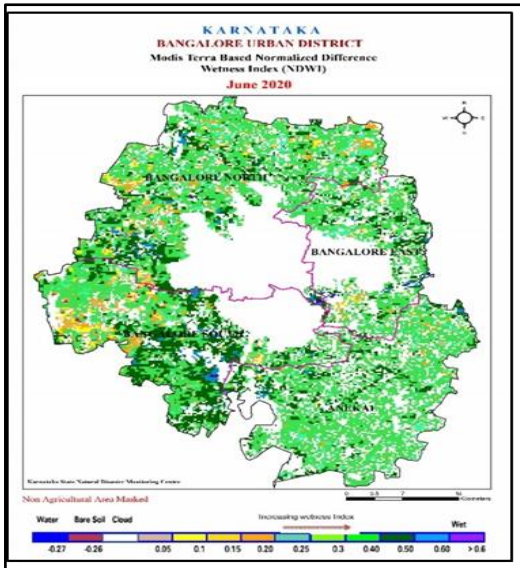


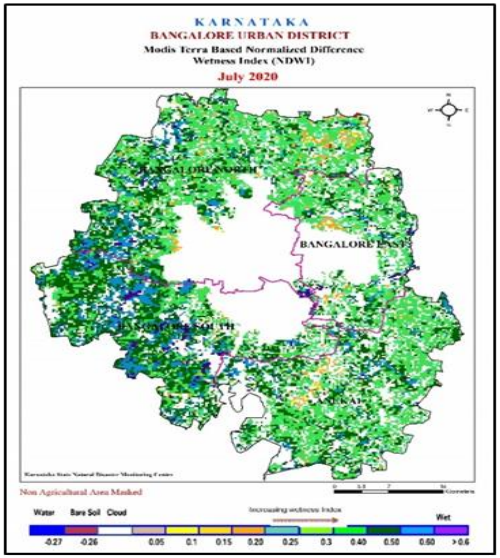


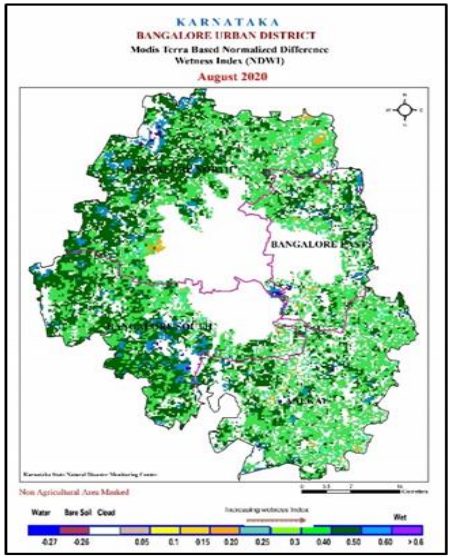


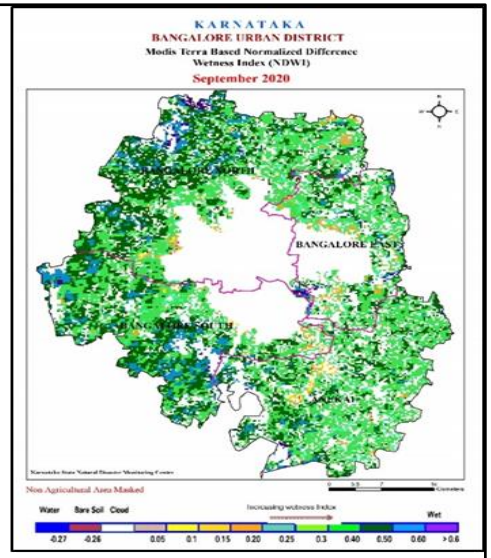
Shortwave Infrared (SWIR) band is sensitive to moisture available in soil as well as in crop canopy. In the beginning of the cropping season , soil background is dominant hence SWIR is sensitive to soil moisture in the top 1-2 cm. As the crop growth progresses ,SWIR becomes sensitive to leaf moisture content. SWIR band provides only surface wetness information.

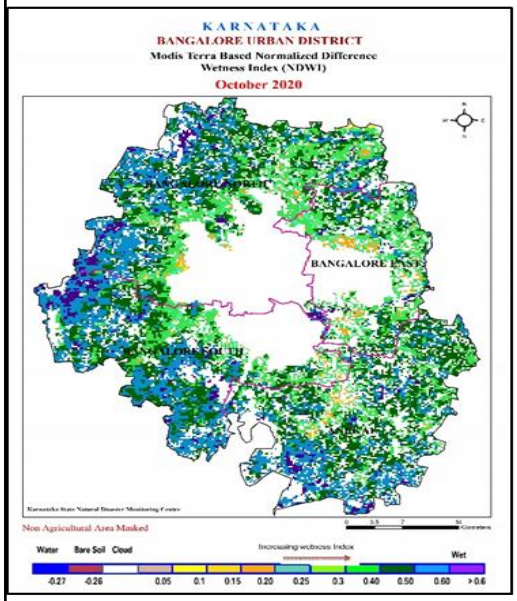
Normalised Difference Wetness Index (NDWI) is derived using the formula (NIR – SWIR) / (NIR + SWIR), where NIR and SWIR are the reflected radiation in Near-Infrared and shortwave Infrared channels. Various colours in the NDWI image- Yellow through Green to Purple - indicate increasing Surface wetness. The legend of colour bars and the Wetness index values are provided along with the image.

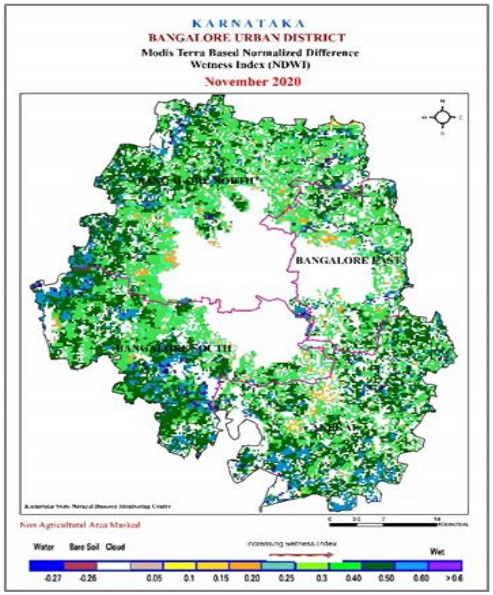


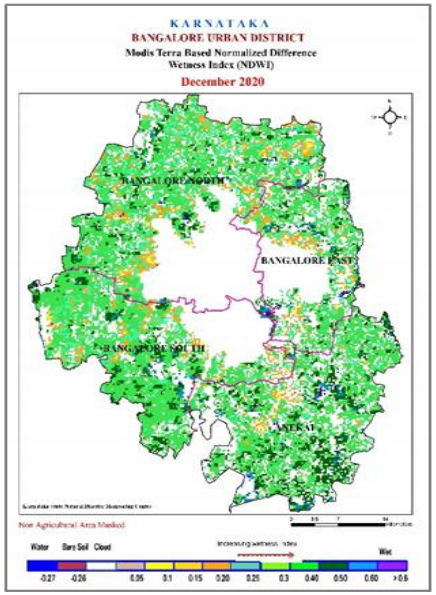












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Conclusion:

- Bengaluru Urban district recorded **Excess** rainfall during 2020.
- Rainfall was **Excess** during **Pre-Monsoon, South-West monsoon** and **North-East monsoon.**
- During 2020, **19227 ha.**was sown which constitutes **280%** of the normal area.
- Status of minor irrigation tanks indicate that out of **46 M.I** tanks, as many as **< 30%** storage in **1** tank, **30%** storage in **10** tanks, **31% to 50%** storage in **8** tanks, **above 50%** storage in **27** tanks.

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