INDIA METEOROLOGICAL DEPARTMENT
(MINISTRY OF EARTH SCIENCES)
SOUTHWEST MONSOON-2015
END OF SEASON REPORT
For the state of
RAJASTHAN

HIGHLIGHTS

- **For the country as a whole, the rainfall for the season (June-September) was 86% of its long period average (LPA). However, for North West India this figure came out to 83% and 109% for the state of Rajasthan.**
- **Seasonal rainfall was 90% of its LPA over East Rajasthan and 145% of its LPA over West Rajasthan.**
- **Southwest monsoon current advanced over the Andaman Sea 4 days earlier than its normal data of 20th May and set in over Kerala on its normal date of 5th June. The southwest monsoon set over North Western parts of the state on 24th June, about 9 days later than its normal date. It progressed further and covered the entire state by 26th June, about 2o days ahead of its normal date of 15th July.**
- **The withdrawal of monsoon from West Rajasthan commenced on 4th September compared to its normal date of 1st September. On 29th September southwest monsoon further withdrawal from entire State.**
- **Monthly rainfall over the state was 164% of LPA in June, 167% of LPA in July, 62% of LPA in August and 43% of LPA in September.**
- **Out of 33 districts, 12 districts received excess rainfall during the season; 11 districts were normal and 10 district was deficit.**
- **On micro level ,Out of 245 tehsils , 65 tehsils received excess seasonal rainfall ; 83 tehsils were normal ; 88 tehsils were deficit and 9 tehsils received scanty rainfall.**
- **About 81% area of the state received excess or normal rainfall during the whole season.**
- **The monsoon season rainfall distribution over the state was not uniform. West Rajasthan received good rainfall as compared to East Rajasthan. Many districts in the north-east part of the state recorded deficient rainfall. While considering the temporal scale, the first half of the season very good rainfall received as compare to the second half.**

1. ONSET OF SOUTHWEST MONSOON – 2015

This year, the arrival of southwest monsoon current over the south Bay of Bengal and south Andaman Sea 2 days before normal dated of 20th May. With the strengthening of cross equatorial flow over the Arabian Sea, the rainfall activity over Kerala increased and the monsoon set over Kerala on 5th June 4 days later then its normal dates of 1st June.

The formation of couple of intense low pressure systems one each in Arabian Sea (Deep Depression) and in Bay of Bengal (Depression) towards the end of third week help rapid advance o monsoon resulting covering entire country by 26th June 2015.

This year, the arrival of southwest monsoon current over southern part of Rajasthan occurred on 24th June 9 days later then its normal dates of 15th June. However because of the formation of intense low pressure system over Arabian Sea helped rapid advance of monsoon resulting monsoon cover entire country by 26th June, about 20 days ahead of its normal onset. Fig.1 shows the isochrones of advance of monsoon 2015.

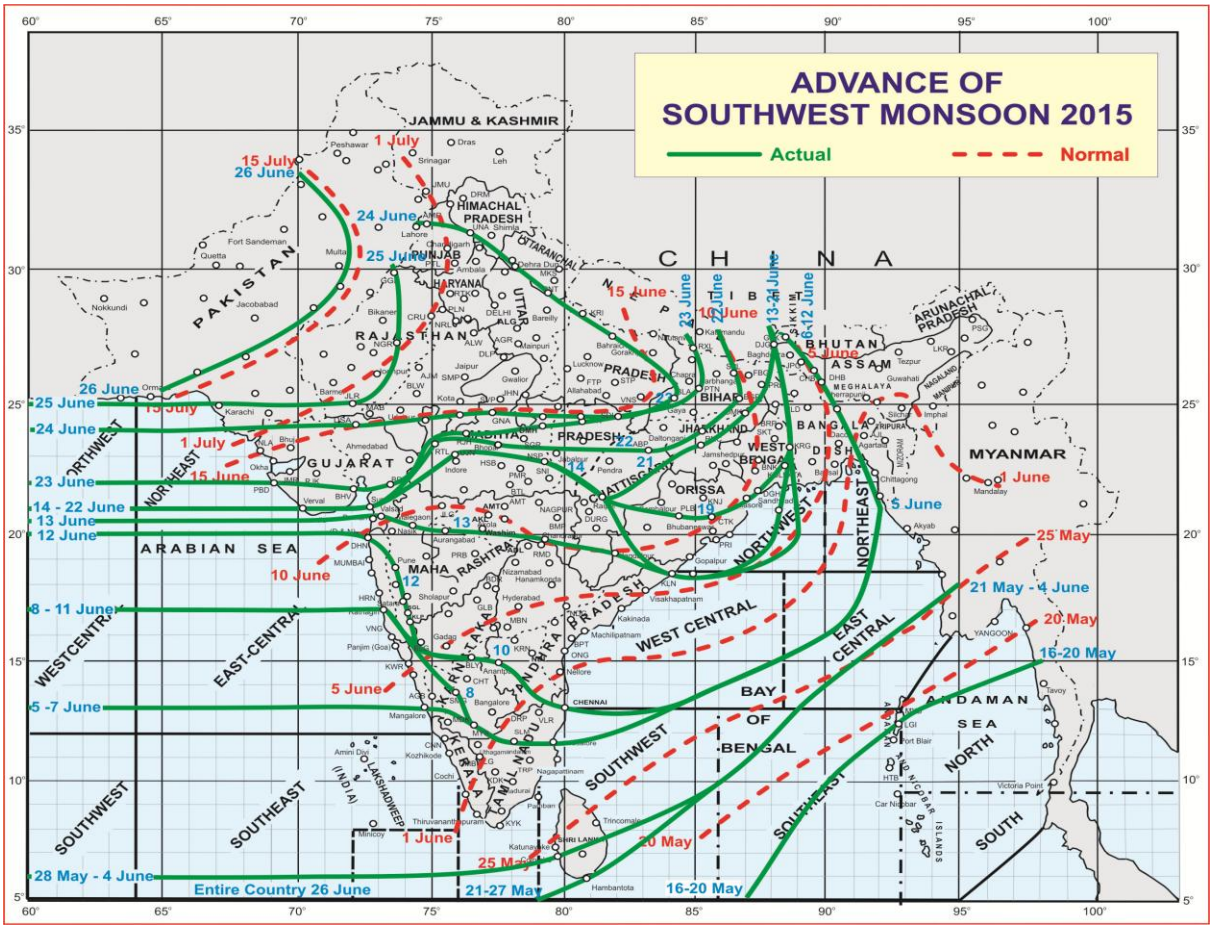


Fig.1 Progress of Southwest Monsoon – 2015

2. CHIEF SYNOPTIC FEATURES:

During the season, 11 low pressure systems (LPS) (low pressure areas and stronger systems) were formed. Out of these, 8 further intensified into Depression and more against a normal of 4-6 Depressions during the season. Two of which intensified into cyclonic storm 'Ashobaa' (7– 12 June) & 'Kemon' (26 July– 2 Aug.), over Arabian Sea and Bay of Bengal respectively and the three as Deep Depressions with two over land (27- 30 July & 16-19 Sept.) and one over Arabian Sea (22– 24 June). The three Depressions of which two formed as land Depression over Jharkhand and neighborhood (10 – 12 July) and over east Madhya Pradesh and adjoining Chhattisgarh (4 Aug.). The remaining formed over Bay of Bengal (20 – 21 June). Of 3 low pressure areas, one intensified as well marked low pressure area. Fig.2 shows the tracks of the monsoon depressions and Cyclonic Storms formed during the season.

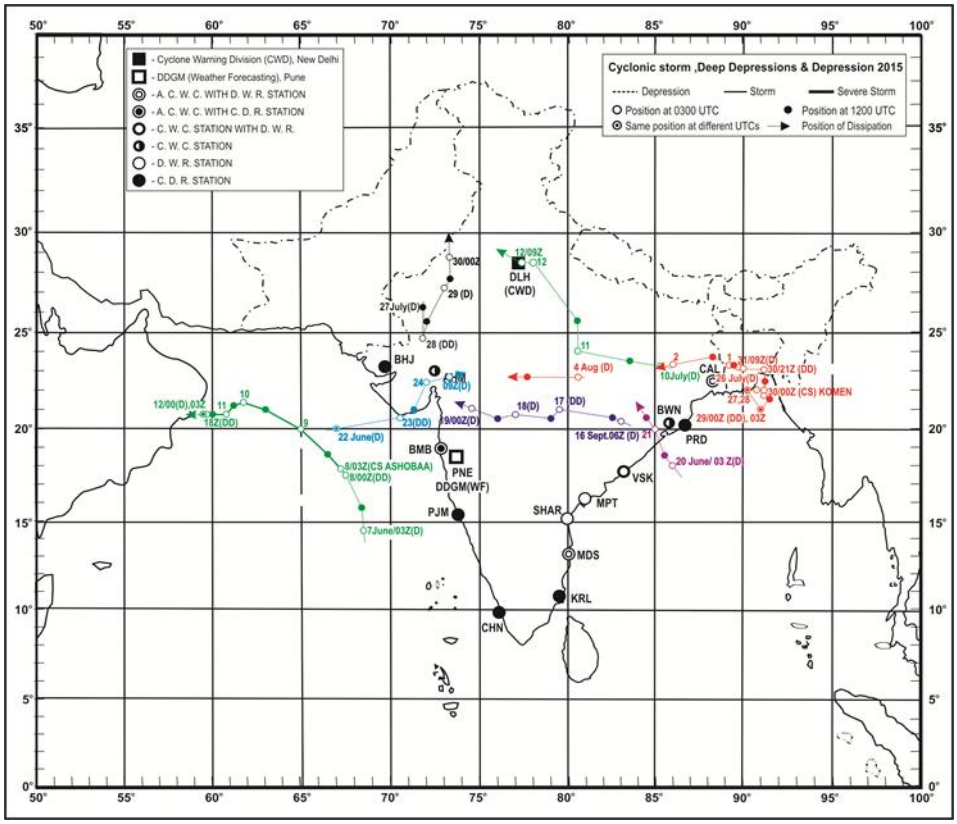


Fig.2 Track of the monsoon depressions and Cyclonic Storms formed during the season.

The setting of Southwest Monsoon over Kerala on 5th June was associated with strengthening and eastward movement of Madden Julian Oscillation (MJO) through the Indian Ocean. This also helped the intensification of the onset vortex over the east central Arabian Sea into Cyclonic Storm 'Ashobaa' (7 – 12 June).

The northeastward movement of the deep depression formed over Arabian Sea (22– 24 June) towards Gujarat gave widespread to fairly widespread rainfall over Konkan & Goa and Madhya Maharashtra and scattered to isolated rainfall over Gujarat region and Saurashtra & Kutch with isolated extremely heavy rainfall for couple of days. The presence of perturbations in the form of trough and cyclonic vortex in mid latitude westerlies caused active monsoon conditions over extreme north and western Himalayan region. Consequently, the southwest monsoon advanced further and covered major parts of central India, northern plains and western Himalayan region by 24th June and the entire country by 26 June. Thereafter, the rainfall activity reduced substantially over the major parts of south peninsular and central India, in the wake of unfavourable phase of MJO, which moved eastward into the western Pacific region.

The subsequent MJO activity in the western Pacific directed the significant part of cross equatorial flow towards the Typhoons developed over west Pacific Ocean, leading to weak monsoon circulation pattern, very well reflected by the presence of an anomalous anticyclone at 850 hPa level over central India and the western part of axis of monsoon trough laying close to foothills of the Himalayas. This caused subdued rainfall activity over major parts of central and Peninsular India during the first week of July. With the formation of a low pressure area over north Bay of Bengal on 8th July and its movement in northwest direction along the axis of monsoon trough plus abundant moisture present in the lower levels over the Indo- Gangetic plains aided its rapid intensification into a Land Depression over Jharkhand and neighbourhood on 10th July. In addition, the presence of cyclonic circulation extending upto mid tropospheric levels over southwest Uttar Pradesh and adjoining areas and couple of western disturbances as a cyclonic circulation led to increase in rainfall activity all along the Indo- Gangetic plains and northwest India during the second week of July.

The third & fourth week of July witnessed rapid movement of number of disturbances in mid latitude westerlies, in the form of cyclonic vortex and, the active monsoon trough caused active to vigorous monsoon conditions over central India and western Himalayan region. Further the strengthening of cross equatorial flow in the lower troposphere led to enhanced rainfall along the west coast, however the rainfall activity over peninsular India remained subdued. Towards the end of the July, two intense low pressure systems (Deep Depressions) formed along the axis of monsoon trough at the both ends, one over northeast Bay of Bengal and the other, over southwest Rajasthan. As the monsoon trough lacked the characteristic southwards tilt with height, the rainfall associated with the Deep Depression over Rajasthan was confined to the core area surrounding the system. The Deep Depression over Bay of Bengal intensified further into a cyclonic storm ‘Komen’. As it moved in northwestwards direction, it gave heavy to very heavy rainfall with extremely heavy rainfall at isolated

places over the eastern and central parts of the country. Its subsequent movement over inland after weakening caused vigorous to active monsoon conditions along the track.

The strengthening of winds at lower levels and circulation features during the first week of August led to formation of a low pressure area (11 – 15 Aug.) over west central and adjoining northwest Bay of Bengal off north Andhra Pradesh- south Odisha coasts. This revived the active monsoon conditions over major parts of the country and gave heavy to very heavy rainfall at isolated places over eastern, northern and central parts of India. Thereafter, the weakening of low pressure area and subsequent shifting of monsoon trough more northwards at the foot hills of Himalayas, led to weak monsoon flow pattern thereby keeping the rainfall activity confined to the east and northeast India during the second week. The formation of the well marked low pressure area (26 – 30 Aug.) over the same area caused scattered to fairly widespread rainfall with heavy to very heavy at isolated places over parts of eastern and northern parts of east coast.

The first week of September, witnessed the reduced rainfall activity mainly over northwestern parts of India thereby indicating favorable conditions for withdrawal of SW monsoon from West Rajasthan. The change in circulation pattern in the lower tropospheric levels led to withdrawal of monsoon from western parts of Rajasthan on 4th September. However, the presence of trough in lower tropospheric westerlies, east- west shear zone and couple of cyclonic vortex between lower and mid tropospheric levels revived the rainfall activity over parts of south Peninsular India. The low pressure area formed over west central & adjoining northwest Bay of Bengal on 12th Sept. intensified as Depression over south Odisha and neighbourhood on 16th and into Deep Depression over Vidarbha and adjoining south Chhattisgarh on 17th resulting strengthening of the monsoon activity over northern parts of peninsular India thereby delayed the further withdrawal.

3 FLOOD SITUATIONS

Incessant rainfall associated with the monsoon low pressure systems and trough and cyclonic vortex in mid latitude westerlies caused active monsoon conditions in the North and Western Himalayan region often caused flood situations over Rajathan state during the season.

During the 2015 southwest monsoon season, over Rajasthan very heavy rainfall (>12.5 cm in 24 hours)/ extremely heavy rainfall (>25 cm in 24 hours) events were reported at many stations. The station wise list extremely heavy rainfall events are tabulated in Table.1

Date	Station	District	Rinfall in cm
27/7/2015	Gudamalani	Barmer	33
27/7/2015	Raniwada	Jalore	32
27/7/2015	Jaswantpura	Jalore	29
28/7/2015	Mounntabu	Sirohi	33,
28/7/2015	Mounntabu	Sirohi	32
29/7/2015	Kotda	Udaipur	30

Table1 List of stations, which reported extremely heavy rainfall (> 25 cm in 24 hours) during monsoon season.

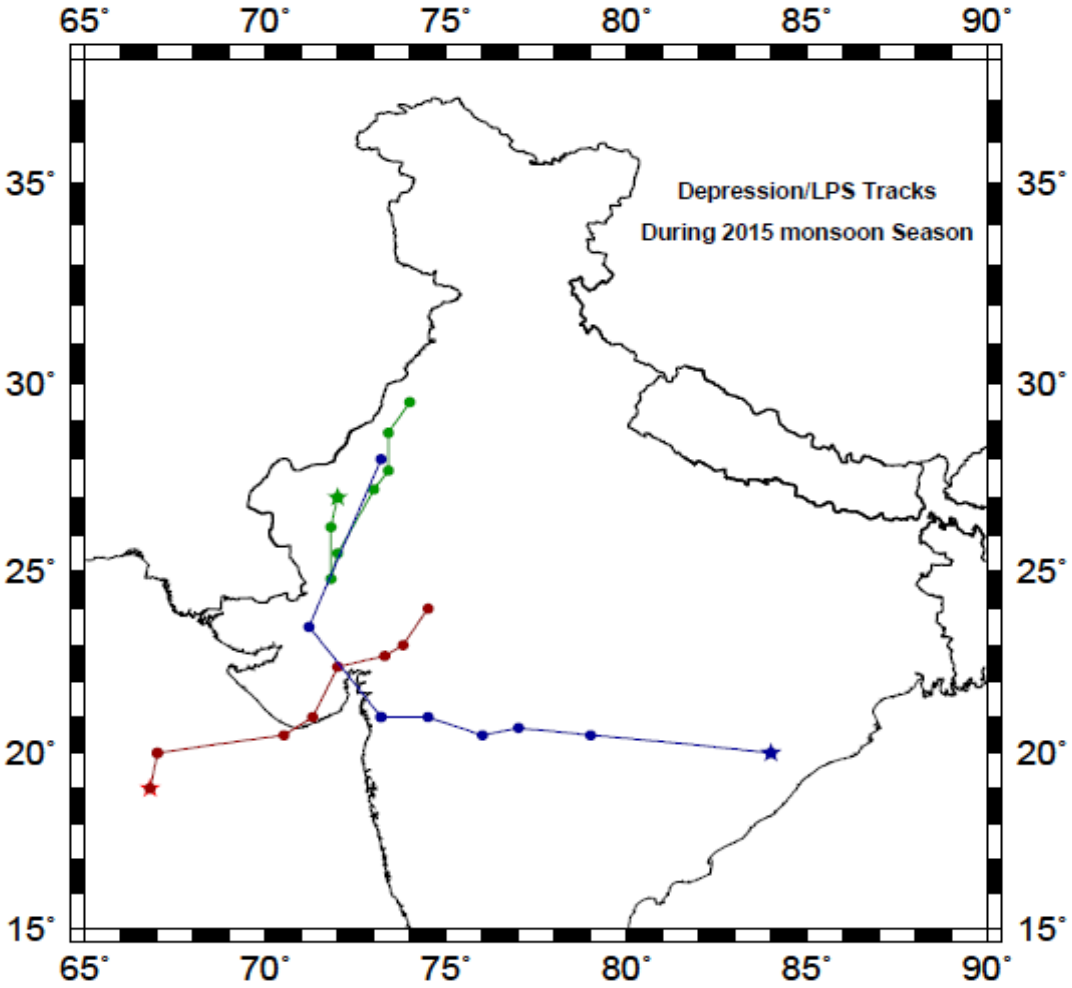


Fig.3 Tracks of Depression/Low Pressure Systems formed during 2015 monsoon season, which were associated with the heavy rainfall events over Rajasthan. Track in red colour indicate Deep Depression (22-24 June), green colour Land depression (27-30 July) and Deep depression (16-19th September) in blue colour.

Heavy rainfall occurred on 25th June 2015 associated with passage of the Depression formed over the Arabian Sea and presence of perturbations in the trough and cyclonic vortex in mid latitude westerlies caused active monsoon situation over East Rajasthan. Another heavy rainfall event happed during 25th to 30th July 2015. Another heavy rainfall event occurred on 16th August 2015, after the subdued rainfall activity over the entire state. In the end of the season another heavy rainfall event observed associated with the passage of low pressure system. The tracks of the Depression and Low pressure systems which caused heavy rainfall over Rajasthan is shown in Figure 3. In figure different

colors is used for indicate deferent systems (Deep Depression (22-24 June) in red, Land depression (27-30 July) in green and Deep depression (16-19th September) in blue colour respectively). The depression formed in Arabian Sea during 22-24 June 2015, which helps for the onset of monsoon over south Rajasthan. The trough and cyclonic vortex in mid latitude westerlies interact with the low pressure system caused active monsoon condition over east Rajasthan. The low pressure system formed over West Rajasthan on 26th intensified into depression on 27th July 2015. This land deep depression (27-30th July) mostly lie over the west Rajasthan and resulted heavy rainfall and flooding over the region. The figure 4 shows rainfall contribution (in percentage) associated with Depression formed during 27-30 July 2015 to the monsoon Seasonal Rainfall. It can be seen from the figure that most part of the west and south east Rajasthan received about 50% of the seasonal rainfall during those days. The Deep depression formed during the end of the season (16 to 19th September 2015) also cause flooding in west Rajasthan.

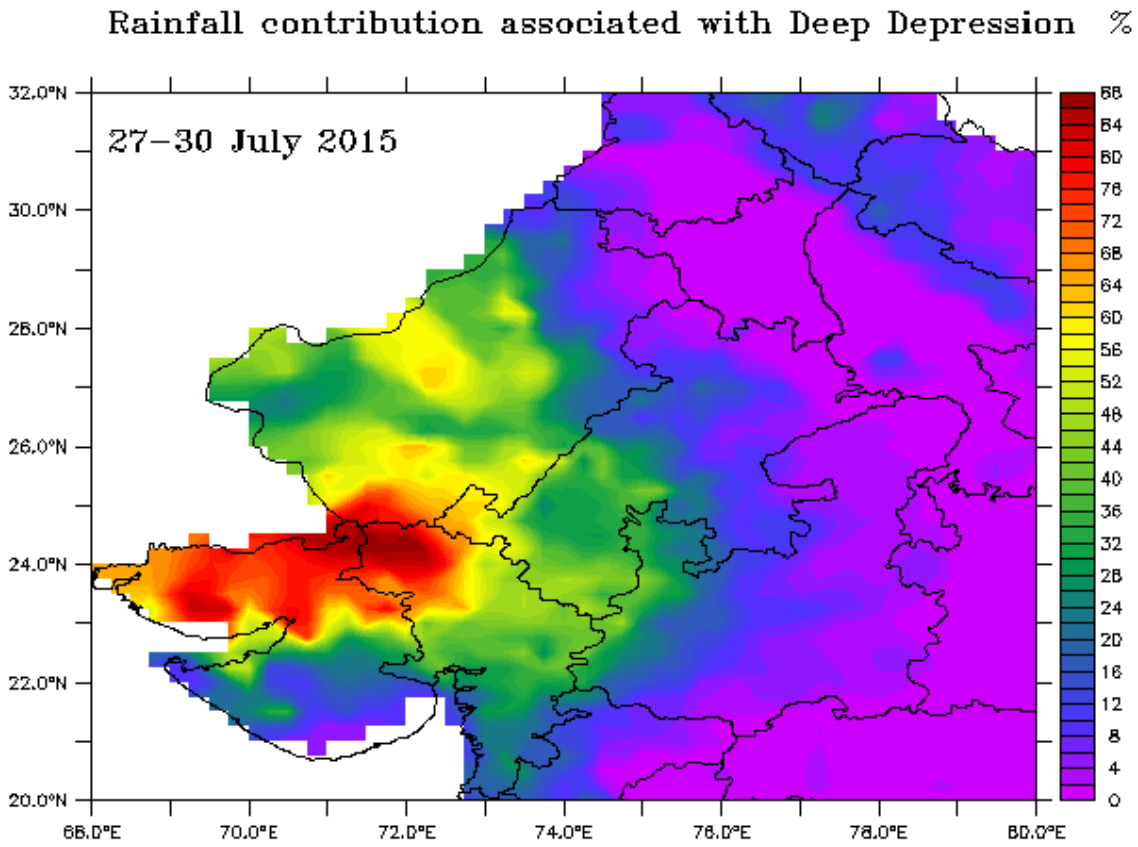


Fig.4 Rainfall contribution associated with Depression formed during 27-30 July 2015 monsoon season.

4 WITHDRAWAL OF SOUTHWEST MONSOON

The rainfall activity over the northwestern parts of Rajasthan remained subdued since last week of August. A change over in the lower tropospheric circulation pattern over the region from cyclonic to anti cyclonic resulted in the withdrawal of southwest monsoon from the northwestern parts of Rajasthan on 4th September. Monsoon withdrew from some more parts of Rajasthan and some parts of Punjab and Haryana on 9th September. On 29th September, monsoon withdrew from remaining parts of Rajasthan state. Fig.5 shows the isochrones of withdrawal of monsoon 2015.

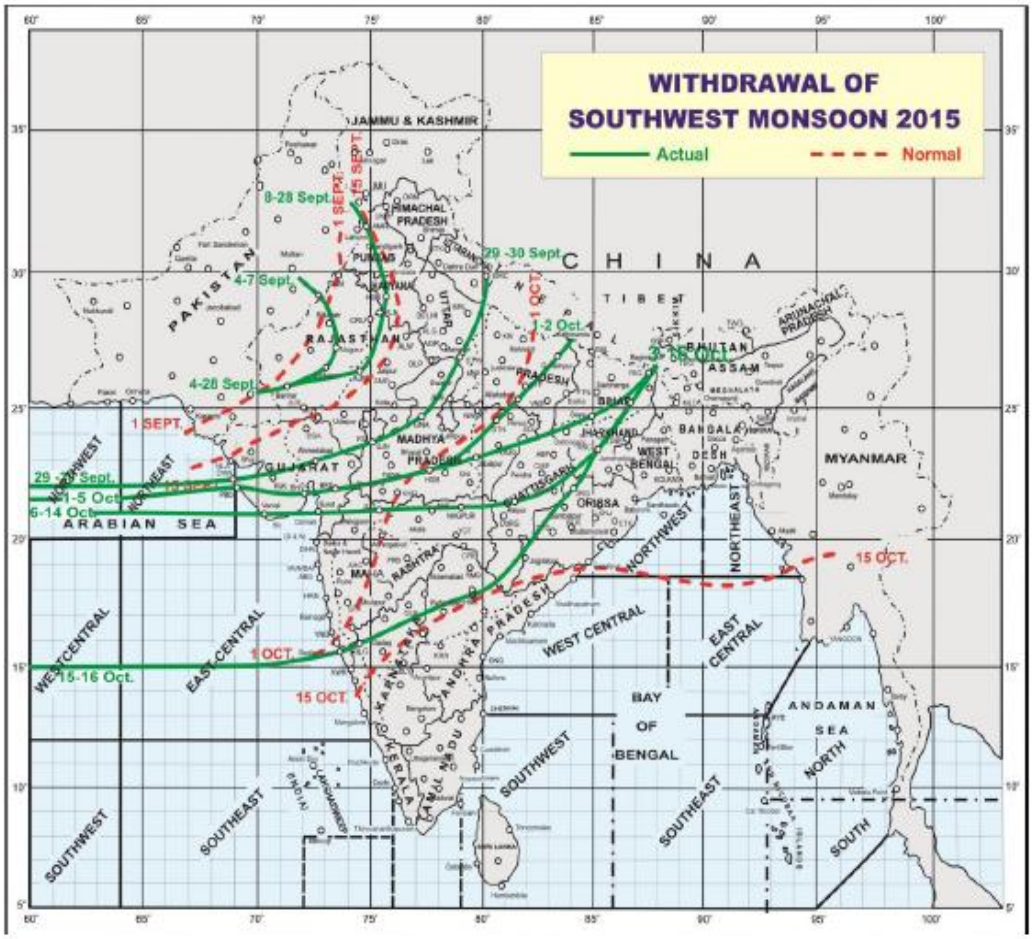


Fig. 5 Isochrones of withdrawal of southwest monsoon – 2015

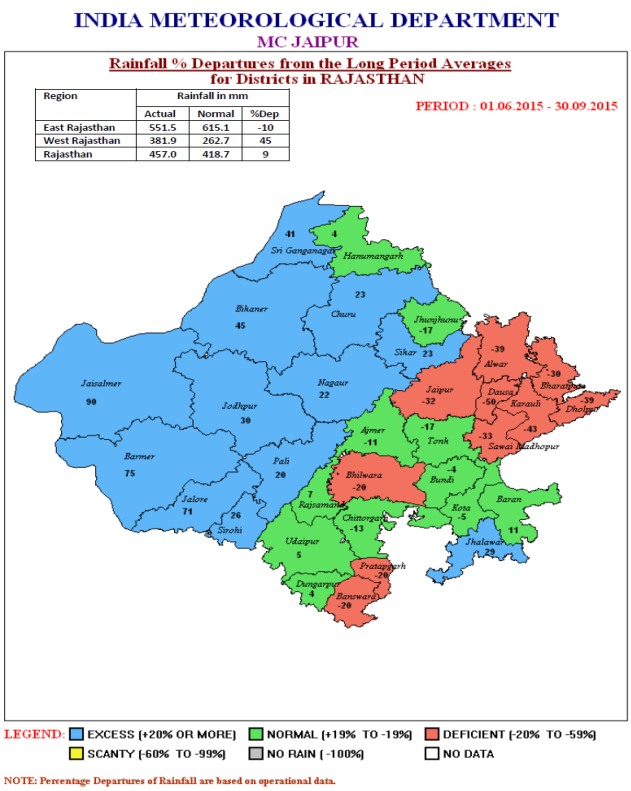


Fig.6 District Wise Seasonal Rainfall Distribution Over Rajasthan (June to September)

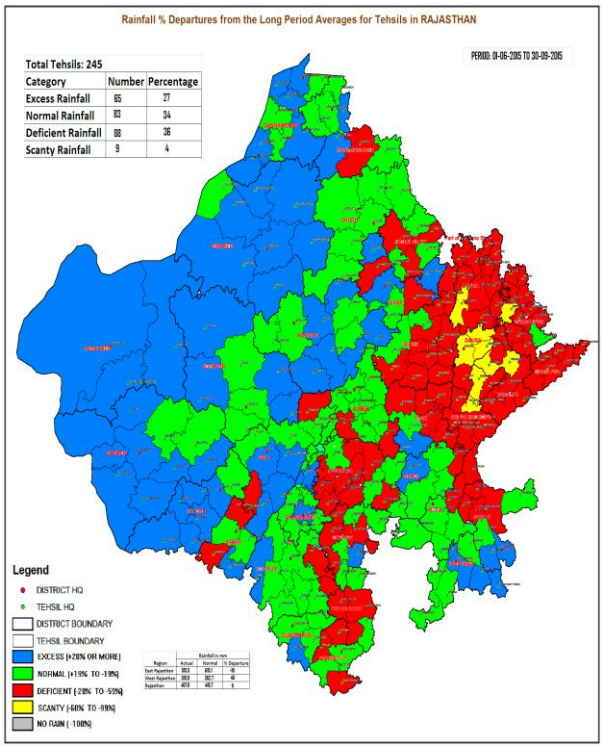


Fig.7. Tehsil wise rainfall distribution over Rajasthan during monsoon 2015 season.

5 RAINFALL DISTRIBUTION

5.1 Seasonal and Monthly Rainfall Distribution

The rainfall during monsoon season (June to September) for the State as a whole and its two meteorological sub divisions are as follows:

Region / Area	Actual mm	Long period average LPA mm	Departure from normal %
Rajasthan	**457.0**	**418.7**	**+9**
East Rajasthan	**551.5**	**615.1**	**-10**
West Rajasthan	**381.9**	**262.7**	**+45**

The seasonal rainfall over Rajasthan was 109% of its LPA, East Rajasthan 90% of its LPA and West Rajasthan 145 % of its LPA. The rainfall distribution was not uniform over the State. Out of 33 districts, 12 districts received excess rainfall during the season and 11 districts were normal and 10 districts were deficit rainfall category. The special distribution of rainfall is shown

in Figure 6. It can be seen that most of the districts in west Rajasthan receive excess rainfall except two districts Hanumangarh and Jhunjhunu are received normal rainfall. The rainfall deficiencies were severe in districts located in the north eastern part of Rajasthan. A more micro distribution shows (figure 7) that out of 245 Tehsils in the State, 68(28%) tehsils witnessed excess; 83(34%) normal; 88(36%) deficit and only 9 (4%) scanty rainfalls.

Monthly distribution over the state and its two meteorological subdivisions is given below.

RAJASTHAN:-

MONTH	Actual rainfall (mm.)	Normal rainfall (mm.)	% dep. from normal
June	72.3	44.1	64
July	262.3	156.8	67
August	93.9	150.9	-38
September	28.8	66.9	-57

EAST RAJASTHAN:-

MONTH	Actual rainfall (mm.)	Normal rainfall (mm.)	% dep. from normal
June	96.3	62.2	55
July	297.3	225.0	32
August	138.2	228.4	-40
September	20	99.5	-80

WEST RAJASTHAN:-

MONTH	Actual rainfall (mm.)	Normal rainfall (mm.)	% dep. from normal
June	53.2	29.8	79
July	234.6	102.6	129
August	58.8	89.3	-34
September	35.7	41.1	-13

From the above tables it is observed that first half of the season June (64%) and July (67%) the monthly rainfall over the state during was excess. In the second half of the season witnessed rainfall deficiency of the order of -38%, -57% respectively for August and September months (in terms of % departure from LPA). The excess amount of rainfall (in terms of % departure from LPA) was more over West Rajasthan as compare to East Rajasthan during throughout the monsoon season. While during August and September, the trend reversed and the monthly rainfall deficiency also was more in east Rajasthan as compare to West Rajasthan. During June and July the corresponding figures were 55% and 32% over east Rajasthan and 79% and 129% over the west. The rainfall deficiency during August (-40% and -34%) over East and West Rajasthan respectively and in the month of September rainfall deficiency over East and West Rajasthan respectively was -80% and -13%.

DISTRICTWISE SEASONAL RAINFALL DISTRIBUTION

Sr. No.	State/Districts	Monsoon rainfall in mm (June-September) Year- 2015		
		Actual(mm)	Normal(mm)	%Dep
	Rajasthan	457.0	418.7	9
		MET. SUBDIVISIONS		
	EAST RAJASTHAN			
1	AJMER	383.6	429.6	-11
2	ALWAR	339.1	555.3	-39
3	BANSWARA	665.5	831.8	-20
4	BARAN	878.4	792.2	11
5	BHARATPUR	393.1	557.6	-30
6	BHILWARA	467.1	580.9	-20
7	BUNDI	629.0	655.9	-4
8	CHITTORGARH	618.7	709.7	-13
9	DAUSA	308.6	612.1	-50
10	DHOLPUR	395.6	650.0	-39
11	DUNGARPUR	664.4	637.8	4
12	JAIPUR	354.6	524.6	-32
13	JHALAWAR	1102.0	855.1	29
14	JHUNJHUNU	341.2	410.0	-17
15	KARAULI	365.2	637.4	-43
16	KOTA	706.8	746.3	-5
17	PRATAPGARH	678.5	845.8	-20
18	RAJSAMAND	542.6	506.0	7
19	SAWAI MADHOPUR	441.7	664.0	-33
20	SIKAR	495.9	402.5	23
21	SIROHI	1095.3	868.6	26
22	TONK	468.3	566.0	-17
23	UDAIPUR	622.7	591.3	5
	East Rajasthan	551.5	615.1	-10
	WEST RAJASTHAN			
24	BARMER	427.1	243.4	75
25	BIKANER	332.0	228.7	45
26	CHURU	386.0	313.7	23
27	HANUMANGARH	261.9	252.5	4
28	JAISALMER	301.5	158.4	90
29	JALORE	673.9	394.2	71
30	JODHPUR	356.6	274.5	30
31	NAGAUR	426.4	348.5	22
32	PALI	534.0	446.7	20
33	SRI GANGANAGAR	283.8	201.4	41
	West Rajasthan	381.9	262.7	45

Table 2. Districts wise rainfall during 2015 monsoon season.

The cumulative seasonal rainfall for the State as a whole was 109% of its LPA and it was 90% and 145% of LPA over East and West Rajasthan respectively. Out of 33 districts, the seasonal rainfall was excess in 12 districts and normal in 11 districts . 10 districts was fall under deficit category. Dausa district got the least rainfall (-50%) and Jaisalmer the highest rainfall (90%) of LPA. The seasonal rainfall for various districts of Rajasthan is given in table 2.

5.2 Weekly Rainfall Distribution

Weekly rainfall distribution over the two Meteorological sub divisions of the state is shown in the following charts (Figure 8 to 11).

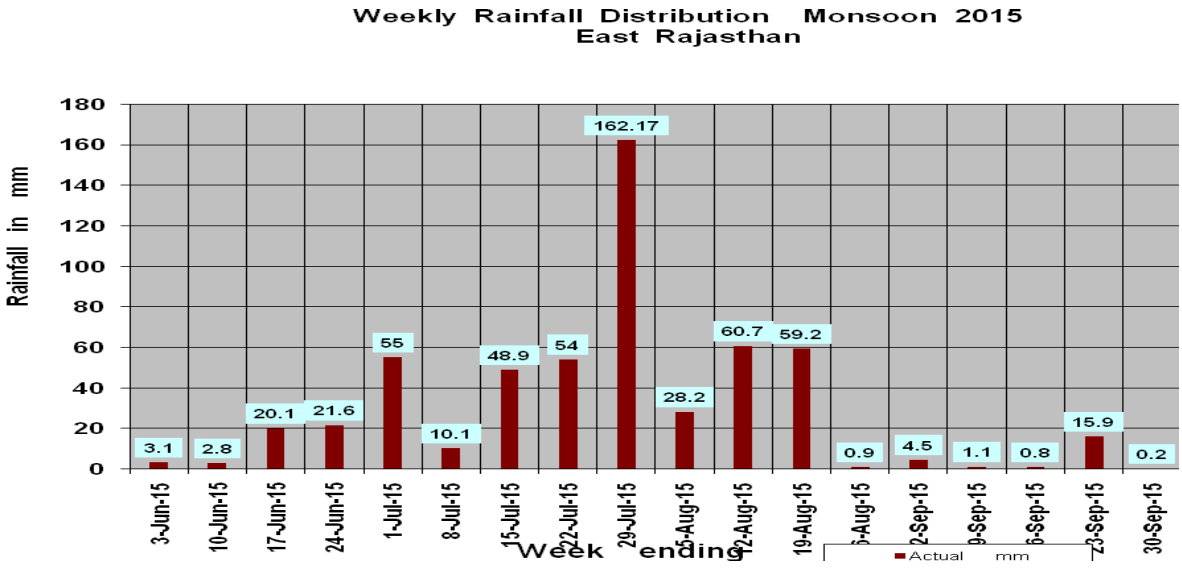


Fig.8 Weekly rainfall distribution over East Rajasthan Monsoon 2015

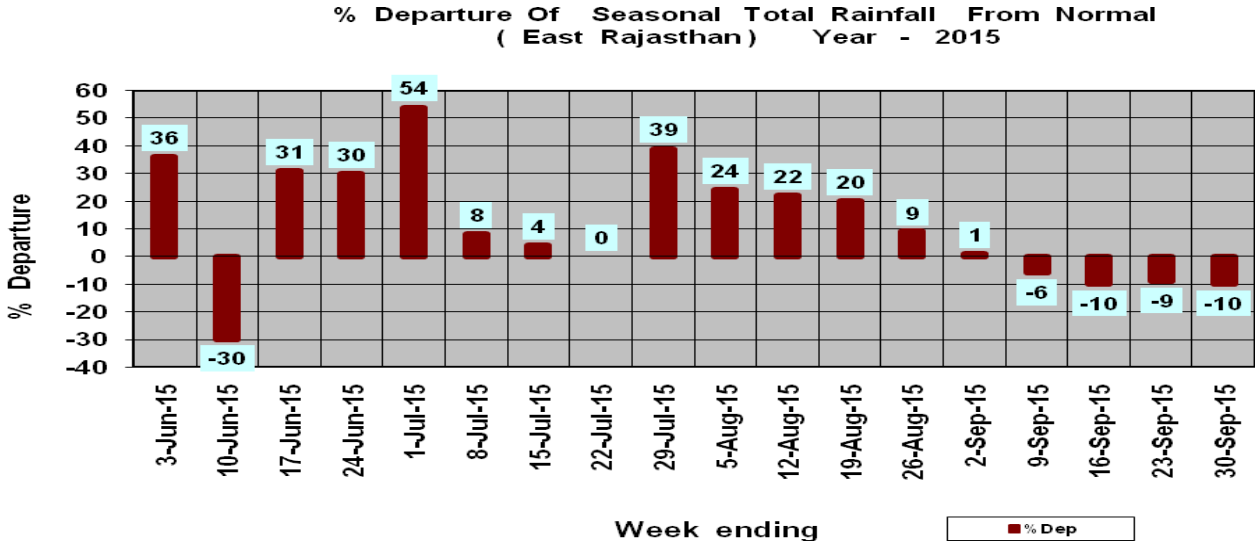


Fig. 9 Cummulative weekly rainfall distribution over Eest Rajasthan Monsoon 2015

A significant rainfall (162.7 mm) received during the week 29th July 2015 because of the passage of land deep depression formed over Rajasthan as shown in Figure 3. After week ending August 19th remaining period practically , on Weekly bases the rainfall over East Rajasthan was insignificant except week ending 23rd September.

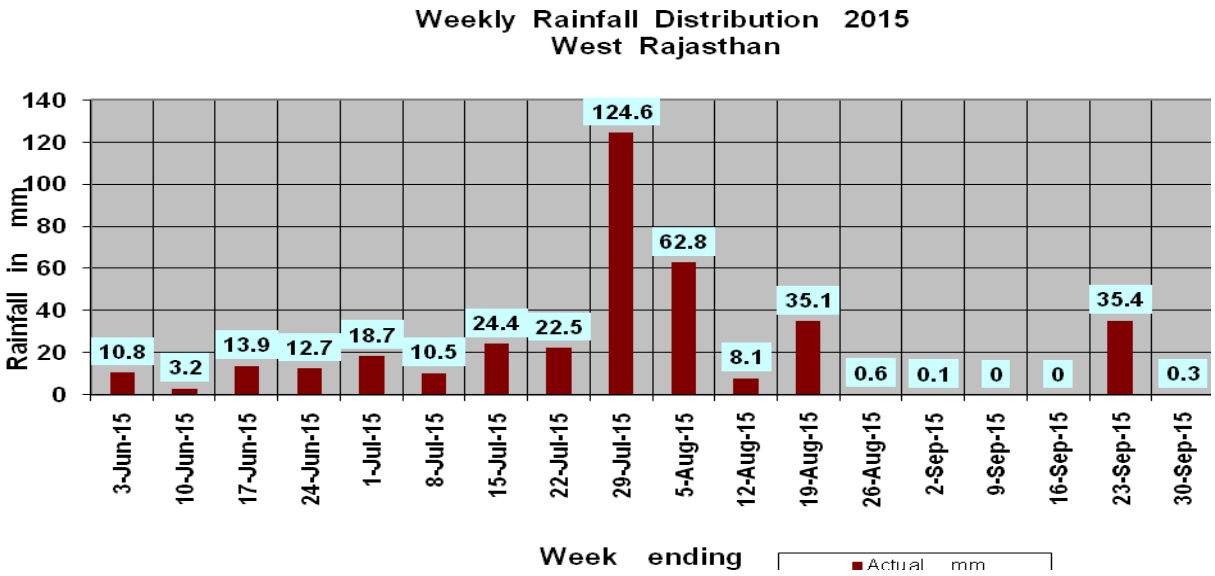


Fig.10 Weekly rainfall over West Rajasthan Monsoon 2015

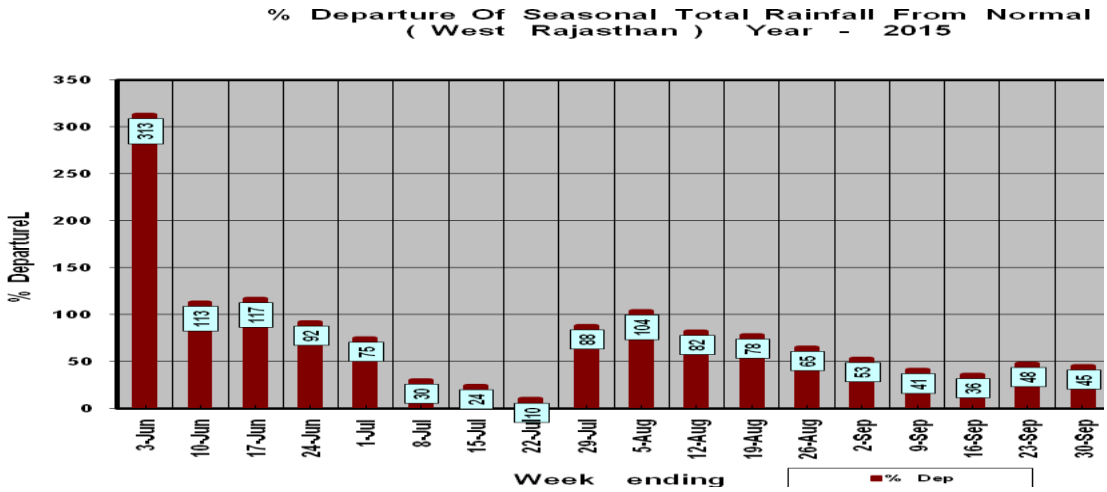


Fig.11 Cumulative weekly rainfall over West Rajasthan Monsoon 2015

Practically, on weekly bases the rainfall was insignificant (less than 15 mm) during most of the weeks except seven weeks during the entire season. It can be noted that week ending 29th July 2015 received 129mm of rainfall similar to east Rajasthan. The west Rajasthan also not received any significant amount of rainfall except week ending 23rd September 2015. With a revival of monsoon, 23rd September also associated with the passage of low pressure system which caused good rainfall activities over Western parts of the state.

5.3 District Wise Monthly Seasonal and Daily Rainfall Distribution

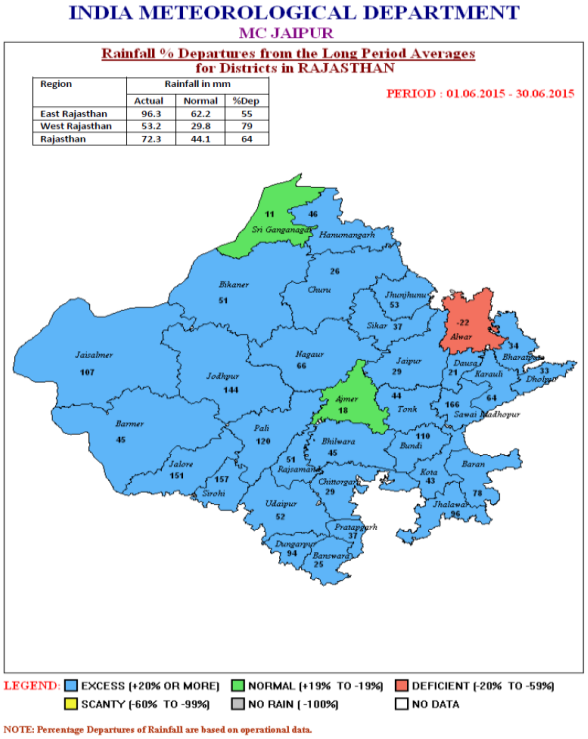


Fig. 12 District Wise Montly Rainfall Distribution Over Rajasthan - June

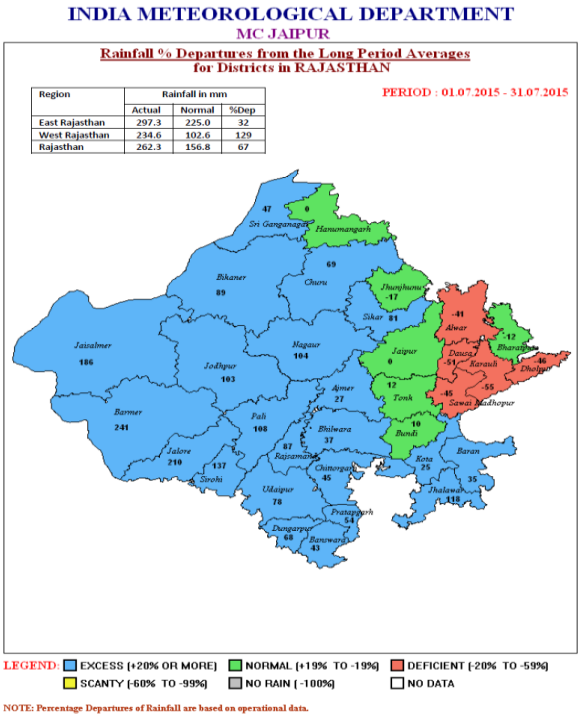


Fig.13 District Wise Montly Rainfall Distribution Over Rajasthan - July

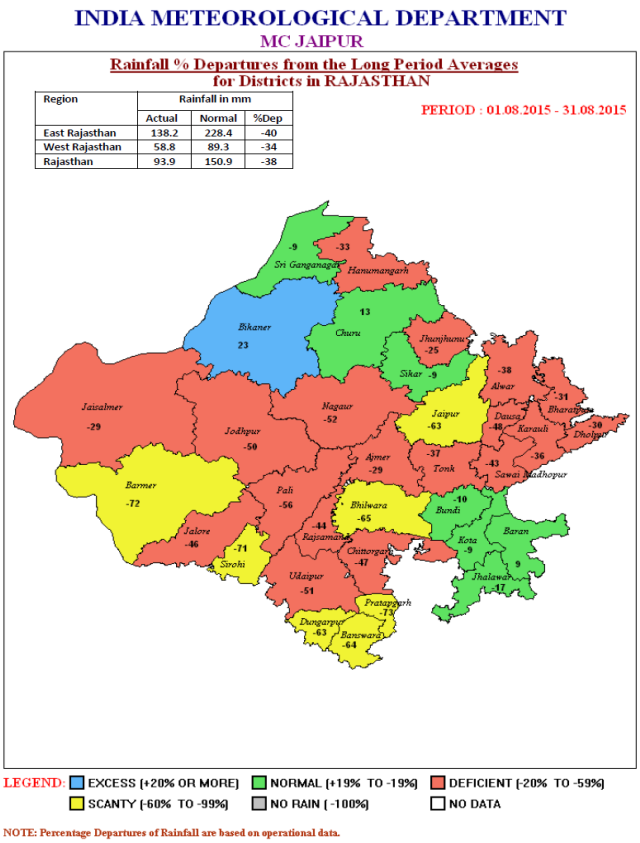


Fig.14 District Wise Montly Rainfall Distribution over Rajasthan - August

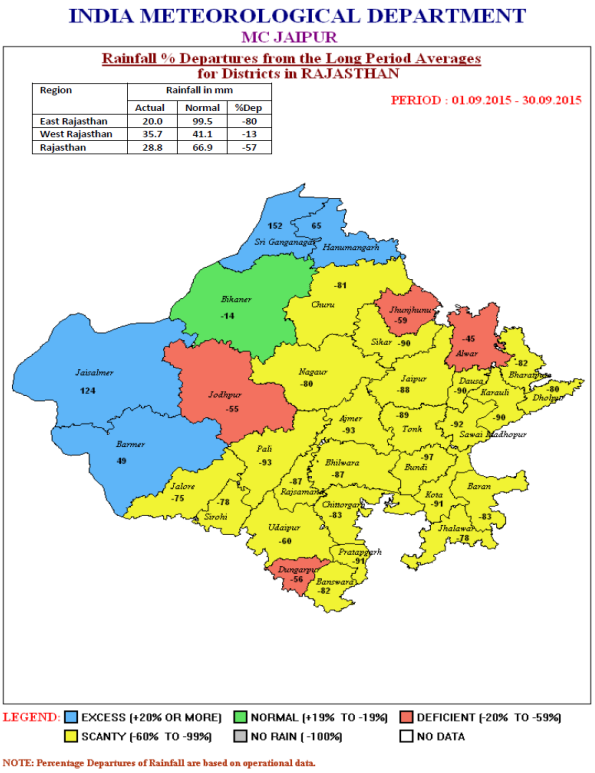


Fig. 15 District Wise Montly Rainfall Distribution Over Rajasthan - September

Durining June 2015 out of 33 districts , 30 districts received excess rainfall, 2 districts normal and 1 districts deficit; During July , 24 districts of excess, 4 districts of normal and 5 districts were deficient, during August one districts excess, 7 districts normal and 18 district deficit and 7 scanty. In September 4 districts excess, one districts normal and 4 districts deficit and 24 scanty.

During the 2015 monsoon season only one subdivision received excess rainfall was west Rajasthan as shown in Figure 16.

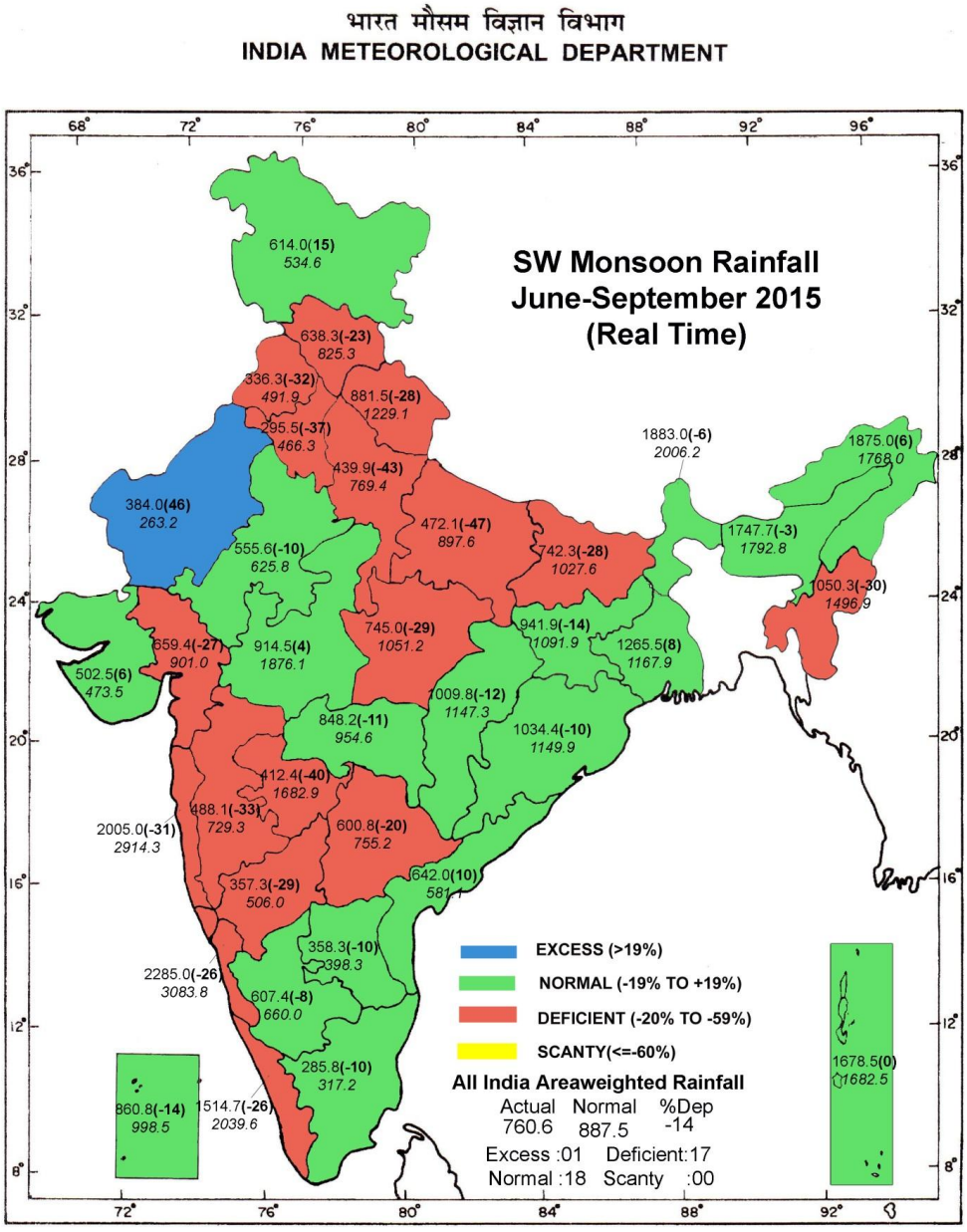


Fig.16 Subdivision Wise Seasonal Rainfall Distribution Over India (June- September 2015)

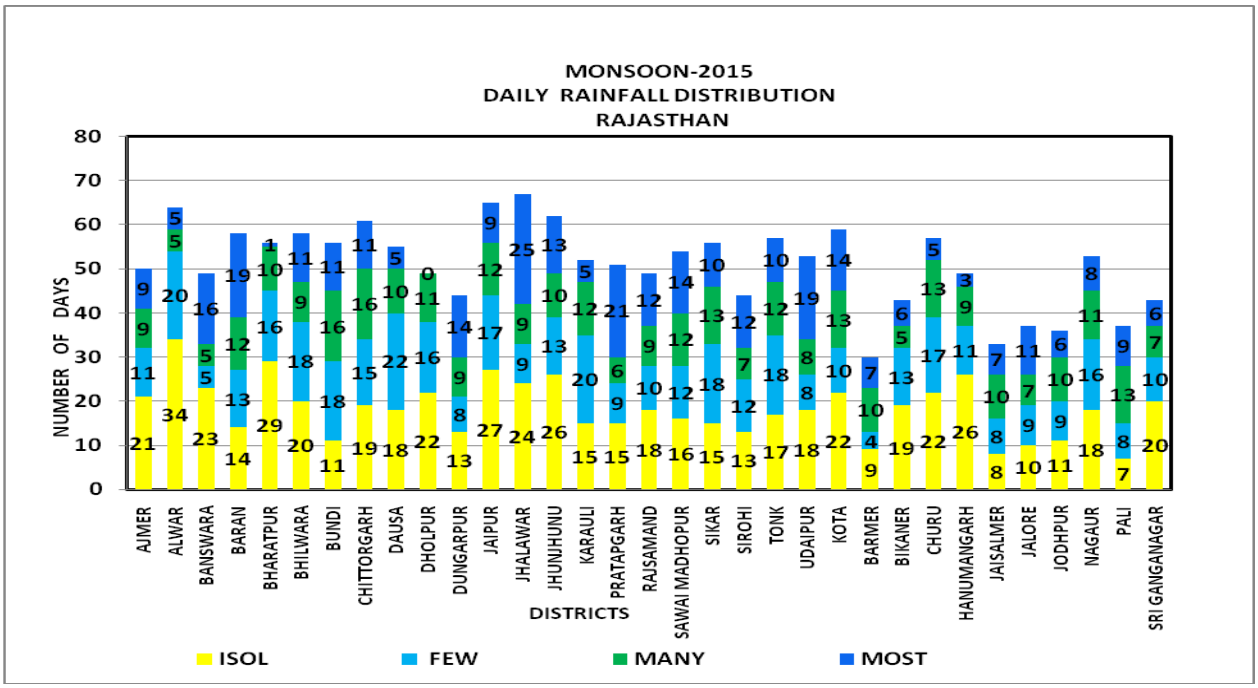


Fig. 17 District Wise Daily Spatial Rainfall Distribution

Fairly wide spread to widely spread rainfall occurred on 30 days (minimum) to 67 days (maximum) over different districts in Rajasthan during the whole monsoon season . Jhalawar district got wide spread rainfall on 67 days(highest) during the whole season.

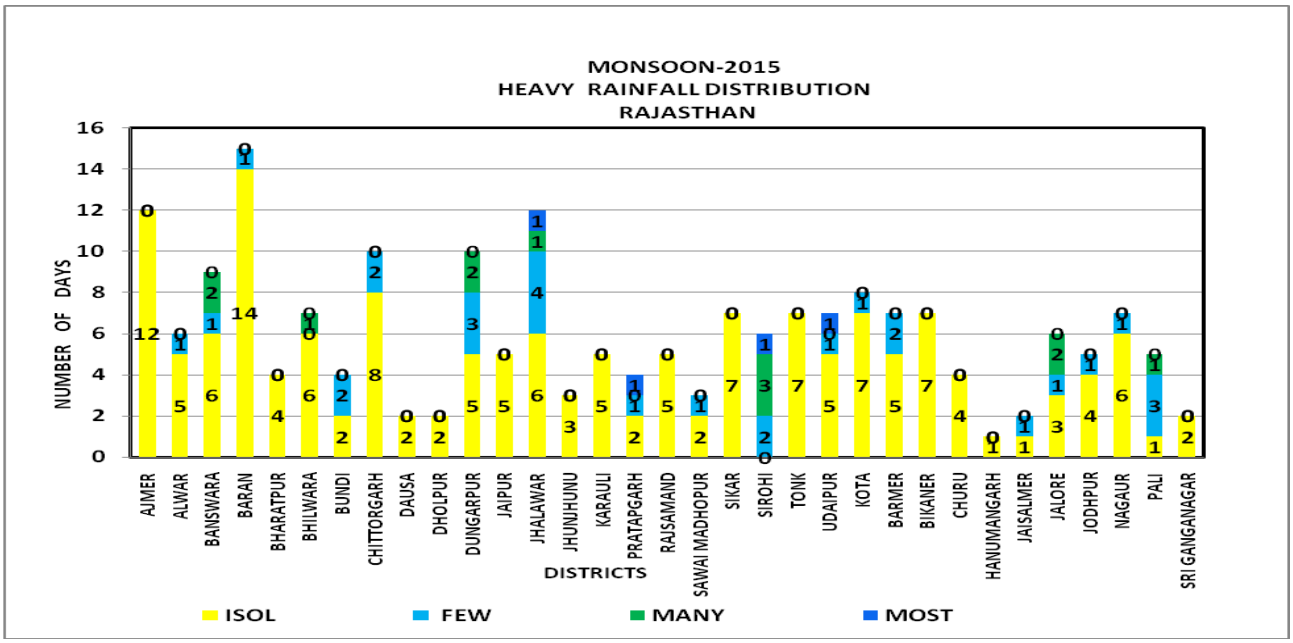


Fig. 18 District wise Daily Heavy Rainfall Distribution

Heavy to very heavy rainfall occurred at isolated to most places in all districts of the state on a few days. The districts namely Jhalawar, Prathapgarh, Udaipur, and Sirohi received heavy rainfall on more number of days at most places during the whole season. Banswara,Bhilwara, Dungrapur, Jalwar, Sirohi, Jalore and Pali districts experienced heavy rainfall at many places on 1 to 3 days during the season.

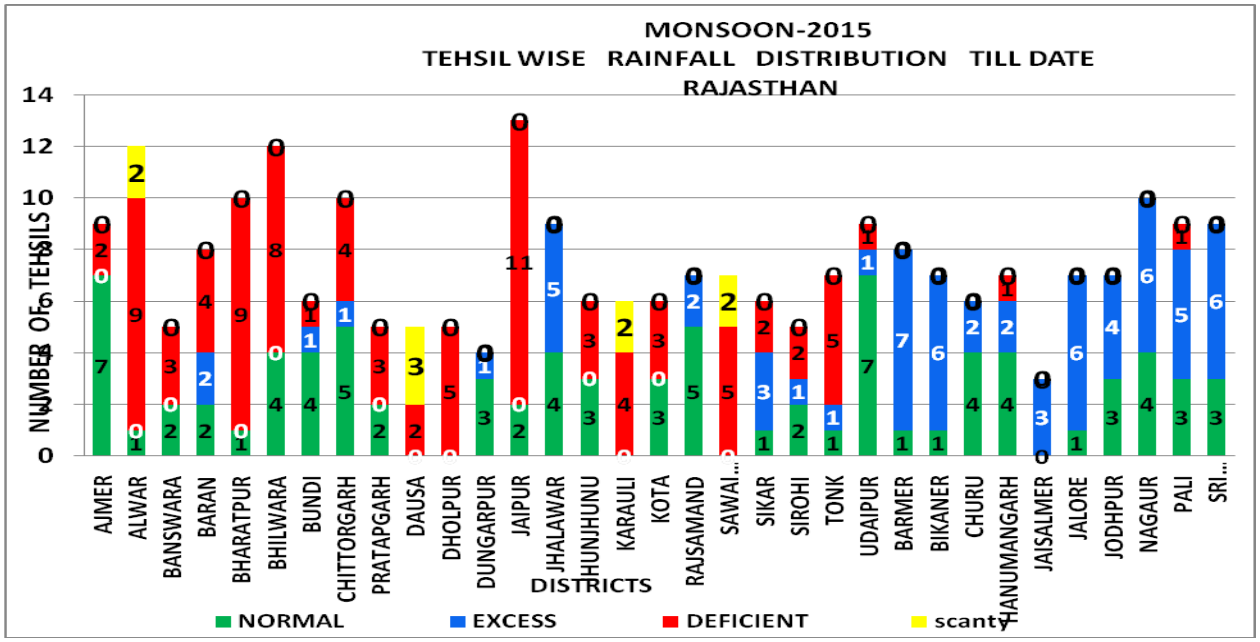
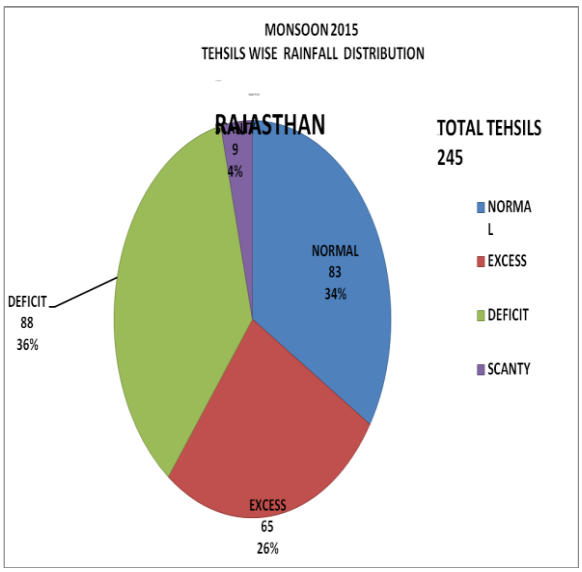


Fig. 19 District wise Tehsil Level Seasonal Rainfall Distribution

There were 65 tehsils received excess and 83 tehsil have normal rainfall diring the season. The deficient rainfall received over 88 tehisl and scanty over 9 tehsils. The worst effected districts during this season were Dausa , Dholpur, Karauli, Swaimadhepur, Jaipur, Bhilwara and Bhartpur. Out of 5 tehsils in Dausa district , 3 tehsils got scanty and 2 got deficit rainfall . In



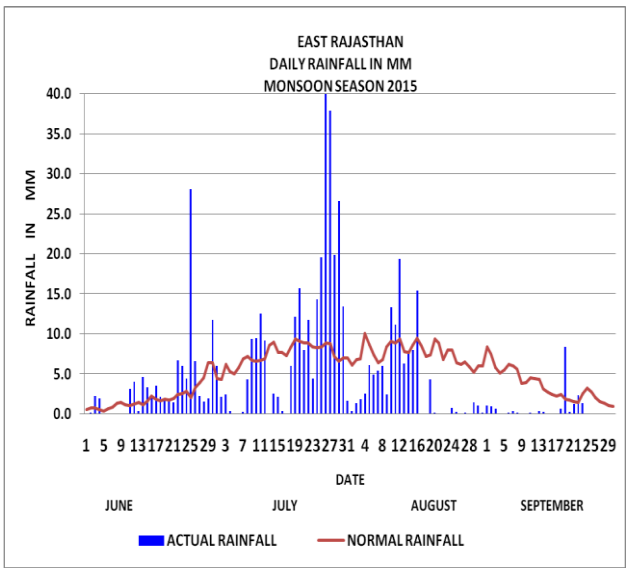


Fig.20 Tehsil wise Seasonal Rainfall Distribution

Fig.21 Daily Average Rainfall Distribution Over East Rajasthan (JJAS 2015)

Dholpur district , all the 5 tehsils received deficient rainfall and in Jaipur district 13 tehsils out of 11 reported deficit rainfall, Karuli also out of 6 tehsil, 4 deficienat and 2 sacanty. And Sawaimadhopur, 5 deficient and 2 scanty rainfall recorded. The daily rainfall timeseries is shown in figure 21 to 23 for Rajasthan state, West Rajathan and East Rajathan respectively. The intensity of distribution of rainfall (in terms of number of stations reported rainfall) for east and west Rajasthan is shown in figure 24 and 25. The district wise weekly rainfall is shown in figure 26.

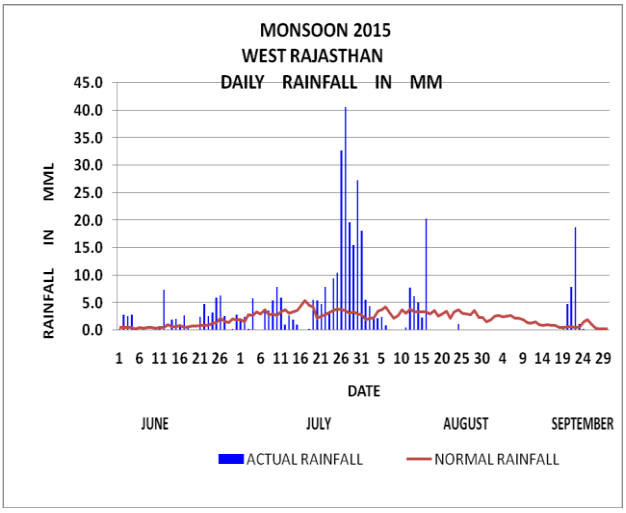


Fig. 22 Daily Average Rainfall Distribution Over West Rajasthan (Monsoon Season 2015)

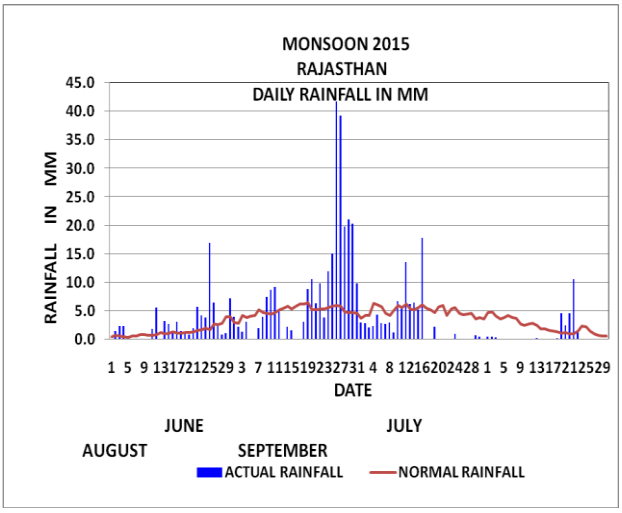


Fig. 23Daily Average Rainfall Distribution over Rajasthan (Monsoon Season 2015)

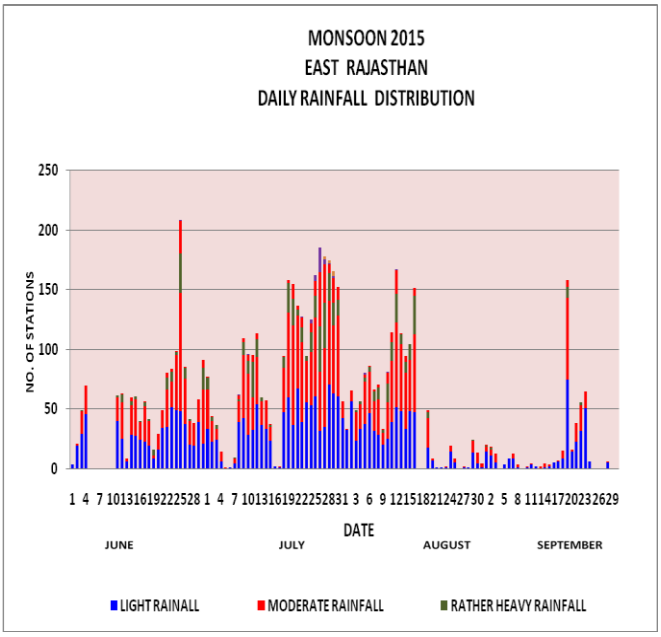


Fig.24 Daily Rainfall Intensity Distribution Over East Rajasthan (Monsoon Season 2015)

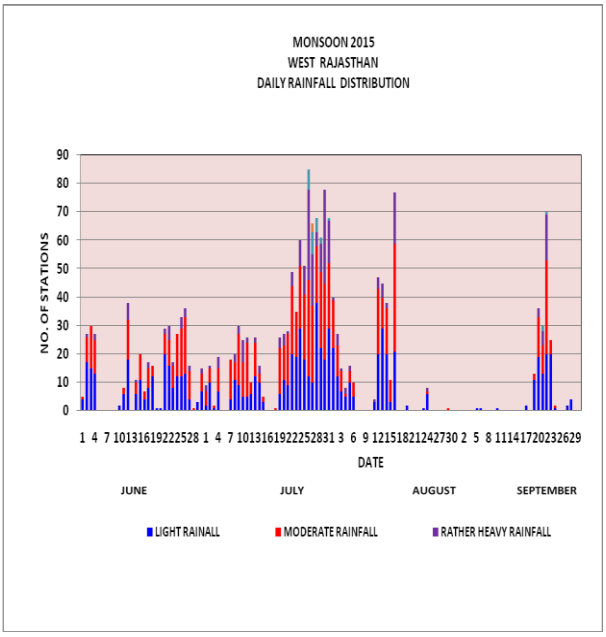


Fig.25 Daily Rainfall Intensity Distribution over West Rajasthan (Monsoon Season 2015)

6 LONG RANGE FORECAST OF MONSOON – 2015

The southwest monsoon rainfall for (June to September) over northwest India was predicted deficient (85%) of LPA with a model error of ±8%. The actual rainfall for this broad region and the State (part of NW India) were 83% of LPA. Thus The actual season rainfall of northwest India is 2% of LPA less than the forecast. However the Rajasthan state received normal rainfall and only one subdivision which received excess rainfall was west Rajasthan during 2015 monsoon season.

7 PERFORMANCE OF MONSOON 2015 0VER RAJASTHAN

The monsoon rainfall had been satisfactory on both temporal and spatial scale over the whole state from Agriculture and Hydrology point of view. The rainfall distribution wise MONSOON 2015 WAS NOT BATTER THAN THE PREVIOUS YEAR MONSOON.

DISTRICTWISE WEEKLY RAINFALL IN MM MONSOON - 2015

S.NO.	DISTRICTS	3-Jun	10-Jun	17-Jun	24-Jun	1-Jul	8-Jul	15-Jul	22-Jul	29-Jul	5-Aug	12-Aug	19-Aug	26-Aug	2-Sep	9-Sep	16-Sep	23-Sep	30-Sep
	EAST RAJASTHAN																		
1	AJMER	4	15.4	15.4	10.1	23.2	1.3	15.4	73.4	100.9	29.1	69.3	36.8	0	0	0.1	0.2	3.8	0
2	ALWAR	1.8	2.4	2.4	6.4	28.8	30.6	60	9.8	8.2	13.5	75.6	38.2	5.2	2.1	0	0	53.9	1.4
3	BANSWARA	0	19.4	19.4	44.9	58	0.3	0	78.6	314.6	31.1	38.2	52.1	1.9	0.5	0	4.1	21.6	0
4	BARAN	0	27.6	27.6	38.9	74.8	1.5	83.9	104.8	197.3	20	93.6	194.1	0	33.3	2.1	0	6.6	0
5	BHARATPUR	0.5	18.2	18.2	1.9	33.4	47.4	76.2	30.6	7.5	16.2	30.2	99.7	12.7	0	0	0	18.5	0
6	BHILWARA	2.2	24.3	24.3	24.9	37.8	0.3	25.1	41.1	202.9	19.3	27.7	47	0	1.4	1.1	2	7.4	0
7	BUNDI	4.8	44.7	44.7	11.8	69.3	10.2	68.2	67.3	136	11.8	118.5	82.6	0	0	0.5	0.7	2.2	0
8	CHITTORGARH	5	29.5	29.5	22.8	30	0	32.1	105	215.5	12.8	64.3	73.7	0	7.6	1.5	0	13	0
9	DAUSA	0	5.6	5.6	2.4	64.1	17.6	29.8	28.8	29	13.8	77.1	21.8	7.8	1	0	0	9.8	0
10	DHOLPUR	0.7	7	7	2.7	59.7	19.5	67.2	16.5	10.3	3	70.9	110	0.2	2.7	0	8.3	14.7	0
11	DUNGARPUR	0.6	17.3	17.3	66.1	64.2	0	0	62.2	287.9	36.2	34	46.5	0	1.4	0	0.8	45.9	0
12	JAIPUR	5.7	6.5	6.5	6.2	62.9	13.8	69.2	46.7	52.1	22.4	35.5	24.9	0	0	0.1	0	8.4	0.3
13	JHALAWAR	0.3	54.1	54.1	38.7	72.2	0	136.3	118.5	368.8	73.1	80.5	104.8	0.1	40	8.5	0	5.9	0
14	JHUNJHUNU	5.9	8.9	8.9	2.9	60.3	37.1	50.6	20	6.5	26.1	32.4	59	0	0	0	0	23.4	1.4
15	KARAULI	0	5.8	5.8	1	83.8	6.7	39	22.8	22.6	14	96.3	61	0	2.5	0	0	9.6	0
16	KOTA	0.8	33.5	33.5	12.5	55.6	1.1	84.4	80.5	175.1	10.6	140.8	95.3	0	7.6	7.2	0	1.7	0
17	PRATAPGARH	0	27.8	27.8	76.6	43	0.8	0	55.4	360	32.2	23.5	42.2	1.4	4.6	0	4.4	5.6	0
18	RAJSAMAND	2.1	28.3	28.3	55	8.4	0.1	35.7	38.3	209	47	49.2	49.3	0	0.4	1	1.9	7.6	0
19	SAWAI MADHOPUR	0	28.3	28.3	7.3	141.4	23.5	18.5	26.7	35.3	25.2	79.5	48.4	0	0.3	0.8	0	6.7	0
20	SIKAR	6.3	12.9	12.9	4.7	49.7	29.3	142.6	38.3	55.7	60.7	22.4	64.3	0	0	0	0	5.1	0
21	SIROHI	0	14.3	14.3	52.6	101.1	3	4	38.5	655	87.6	12.1	76.6	0	0	2.7	0	30.1	0
22	TONK	3	11.8	11.8	5.6	86.7	4.5	63.2	52	96.1	14.2	79.9	41.6	0	0.8	2.2	0	6.6	0.1
23	UDAIPUR	5.1	25.4	25.4	38	32.4	0.2	1.6	55.3	280.6	32.3	43.4	54.7	0	0	0	2	40.6	0
	WEST RAJASTHAN																		
24	BARMER	6	1.2	1.2	10.5	13.8	0	13.1	11.5	241.5	36.3	0.1	24.2	0	0	0.1	0	60.6	0
25	BIKANER	4.3	16.4	16.4	7	18.6	2	19.9	15.7	64.3	84.9	14.3	46.8	0	0	0	0	33.6	0.3
26	CHURU	1	13.3	13.3	0.4	29.5	54.9	65.8	37.4	29	62.9	19.6	58.1	0	1	0	0	8.4	0.7
27	HANUMANGARH	3.6	25.4	25.4	9.6	7.4	44.3	15.1	15	18.1	48.4	0.3	8	10.3	0	0	0	52.4	2.8
28	JAISALMER	3.7	1.7	1.7	12.2	9.1	1.2	12.7	16.1	72.2	70.4	0	37.7	0	0	0	0	51.1	0
29	JALORE	0	10.6	10.6	30.8	35.3	0	0.9	18.9	420.3	59.7	9.2	60.8	0.8	0	0	0	16.6	0
30	JODHPUR	0.5	31.1	31.1	20	11.3	0	29.3	21.7	116.3	56.9	3.9	41.1	0	0	0	0	19.3	0
31	NAGAUR	2.2	21.8	21.8	8.5	48.8	29.1	55.6	51.7	74.4	68.7	17.4	36.5	0	0	0	0.2	9.3	0
32	PALI	0.9	29.3	29.3	32.8	20.6	0	24.1	43	242.7	58.9	22.9	45	0.1	0	0.2	0	4.8	0
33	SRI GANGANAGAR	8.8	8.3	8.3	3.4	7.7	26.2	26.5	12.6	33.1	68.2	0.8	7.6	0.6	0	0	0	79.3	0.7

LESS 10 | 10--20 | 20--50 | 50--100 | GREATER THAN 100

Fig. 26 District Wise Weekly Rainfall Distribution over Rajasthan (Monsoon Season)

Compiled By:-

Shri. O. P. Sreejith , Scientist D, Director
Shri. Mukesh Chouhan, S. A
Shri. Alok Kulshrestha, S. A
Shri. S. K. Songara, AM I