



Pakistan's Monsoon (JAS) 2016 Rainfall Progress

CDPC / Pakistan Meteorological Department

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Highlights:

Monsoon Season 2016

- During past monsoon season 2016, rainfall over the country was moderately **above** normal (+25%).
- For the month of September, the country rainfall was **close** to its normal value.
- August rainfall was largely in **excess** across much of the country.
- In July, the country experiences slightly **deficient** rainfall.

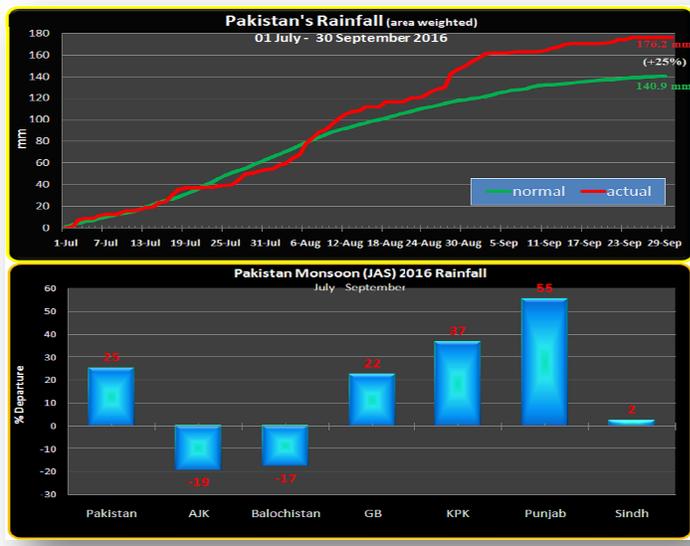


Fig-1: Rainfall cumulative (top) & distribution (bottom)

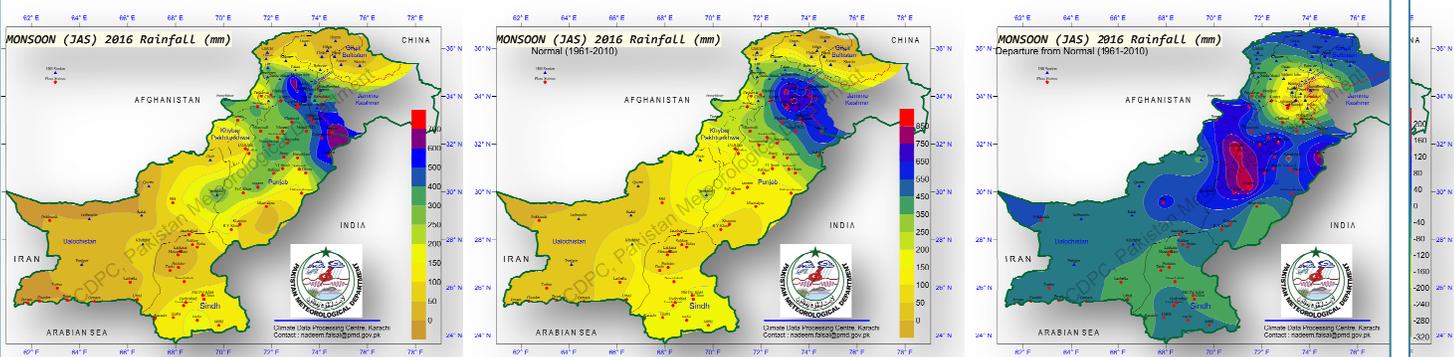


Fig-2: Spatial Distribution of Monsoon season 2016 rainfall (actual, normal & departure)

September 2016

In the month of September, the rainfall over the country was close to normal (+7%). On regional scale, the monthly rainfall was above normal over Punjab, KPK & GB where close to normal over Balochistan and below normal over Sindh & AJK.

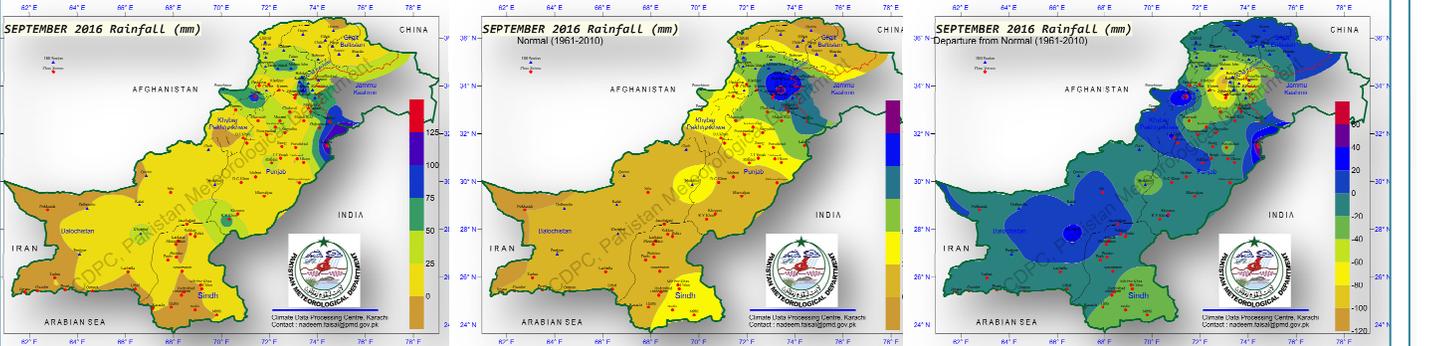


Fig-3: Spatial Distribution of September 2016 rainfall (actual, normal & departure)

Wettest stations of the month				
SN	Stations	September 2016 Rainfall (mm)		
		actual	normal	departure
1	Lahore	127.9	60.1	67.8
2	Murree	114.2	144.6	-30.4
3	Kohat	97.4	45.2	52.2
4	Kakul	78.0	101.6	-23.6
5	Jhelum	64.8	73.8	-9.0
6	Rahim Yar Khan	64.0	---	---
7	Malam Jabba	63.0	---	---
8	Kotli	62.9	92.3	-29.4
9	Parachinar	61.8	58.8	3.0
10	Layyah	61.0	---	---

September 2016 Rainfall (area weighted)			
Region	actaul	normal	departure
	mm	mm	%
Pakistan	22.9	21.4	7.4
AJK	30.1	50.2	-40.0
Balochistan	6.7	6.2	7.8
GB	15.1	10.4	44.5
KPK	67.9	51.2	32.5
Punjab	48.1	34.6	39.0
Sindh	1.4	19.9	-92.9

Fig-4: September 2016 wettest stations (left) & monthly rainfall distribution (right)

August 2016

During the month of August 2016, rainfall over the country as whole was largely above normal (+76). On regional scale, the rainfall amounts was generally in excess across much of the country except Balochistan and AJK where it was close to normal and below normal respectively.

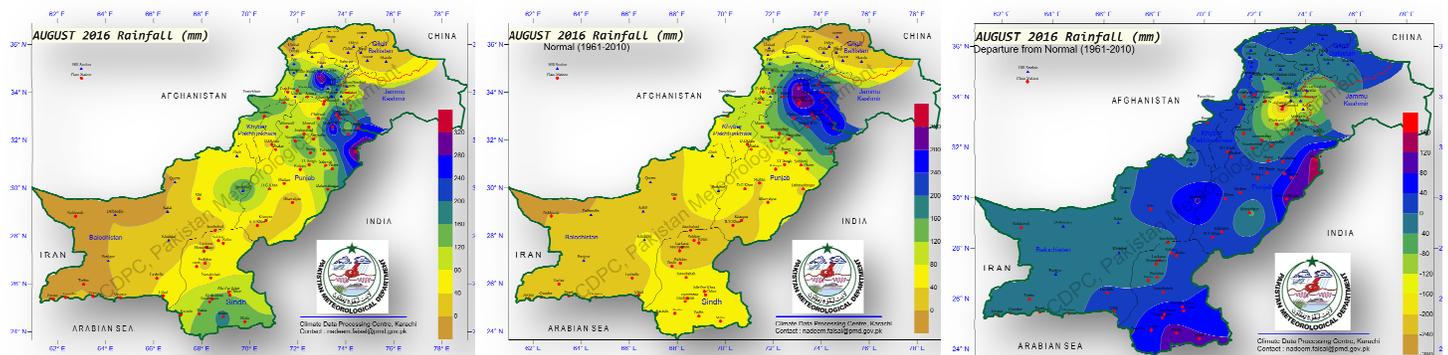


Fig-2: Spatial Distribution of August 2016 rainfall (actual, normal & departure)

Wettest stations of the month				
SN	Stations	August 2016 Rainfall (mm)		
		actual	normal	departure
1	Malam Jabba	341.0	---	---
2	Lahore city	316.8	168.9	147.9
3	Mandi-Bahu-Din	291.1	---	---
4	Islamabad ZP	265.3	334.7	-69.4
5	Lahore AP	264.2	174.2	90.0
6	Sialkot Cantt	262.0	273.5	-11.5
7	Mangla	256.6	---	---
8	Balakot	250.5	268.4	-17.9
9	Kasur	227.4	---	---
10	Garhi Dopatta	201.8	233.3	-31.5

August 2016 Rainfall (area weighted)			
Region	Actual	Normal	Departure
	mm	mm	%
Pakistan	98.9	56.2	76
AJK	97.1	114.1	-15
Balochistan	2.4	23.8	6
GB	20.9	17.1	23
KPK	183.4	117.6	56
Punjab	192.7	93.3	107
Sindh	133.7	53.6	149

Fig-6: August 2016 wettest stations (left) & monthly rainfall distribution (right)

July 2016

During the month of July 2016, rainfall over the country as whole was slightly below to its normal value (-14%). On regional scale, the rainfall amounts had shown a mixed pattern with above normal over Punjab & KPK and close to normal over GB whereas slightly below normal over AJK but largely deficient over Balochistan & Sindh. Coastal areas of Balochistan and

eastern parts of Sindh received no or very little rainfall in the whole month as depicted by figure-2. Figure-3 further illustrates the distribution & extreme rainfall of the month.

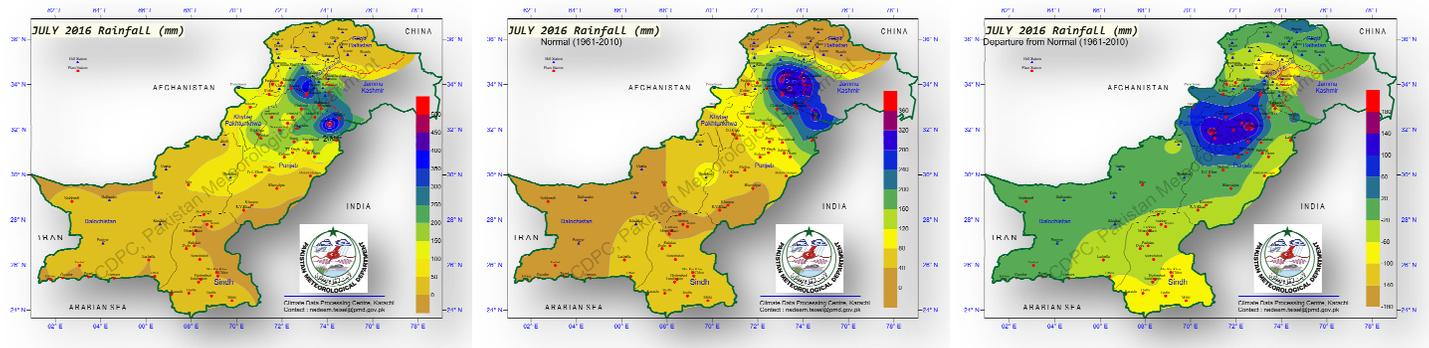


Fig-7: Spatial Distribution of July 2016 rainfall (actual, normal & departure)

Wettest stations of the month					July 2016 Rainfall (area weighted)			
SN	Stations	July 2016 Rainfall (mm)			Region	Actual mm	Normal mm	Departure %
		actual	normal	departure				
1	Gujranwala Cantt	501.3	---	---	Pakistan	54.3	63.3	-14
2	Islamabad AP	358.4	285.8	72.6	AJK	110.6	129.9	-15
3	Kakul	347.5	252.8	94.7	Balochistan	0.4	17.6	-41
4	Islamabad HQ	341.9	354.3	-12.4	GB	14.8	14.0	6
5	Sialkot AP	341.5	---	---	KPK	146.1	121.7	20
6	Sialkot Cantt	332.8	294.9	37.9	Punjab	119.2	104.0	15
7	Kotli	305.2	277.6	27.6	Sindh	1.6	60.2	-97
8	Murree	302.5	336.8	-34.3				
9	Kamra	294.8	---	---				

Fig-8: July 2016 wettest stations (left) & monthly rainfall distribution (right)

NOTE : Some of the above calculations are provisional and based on real time values.