



# ***Below Normal 2009 Monsoon Rainfall over Pakistan***

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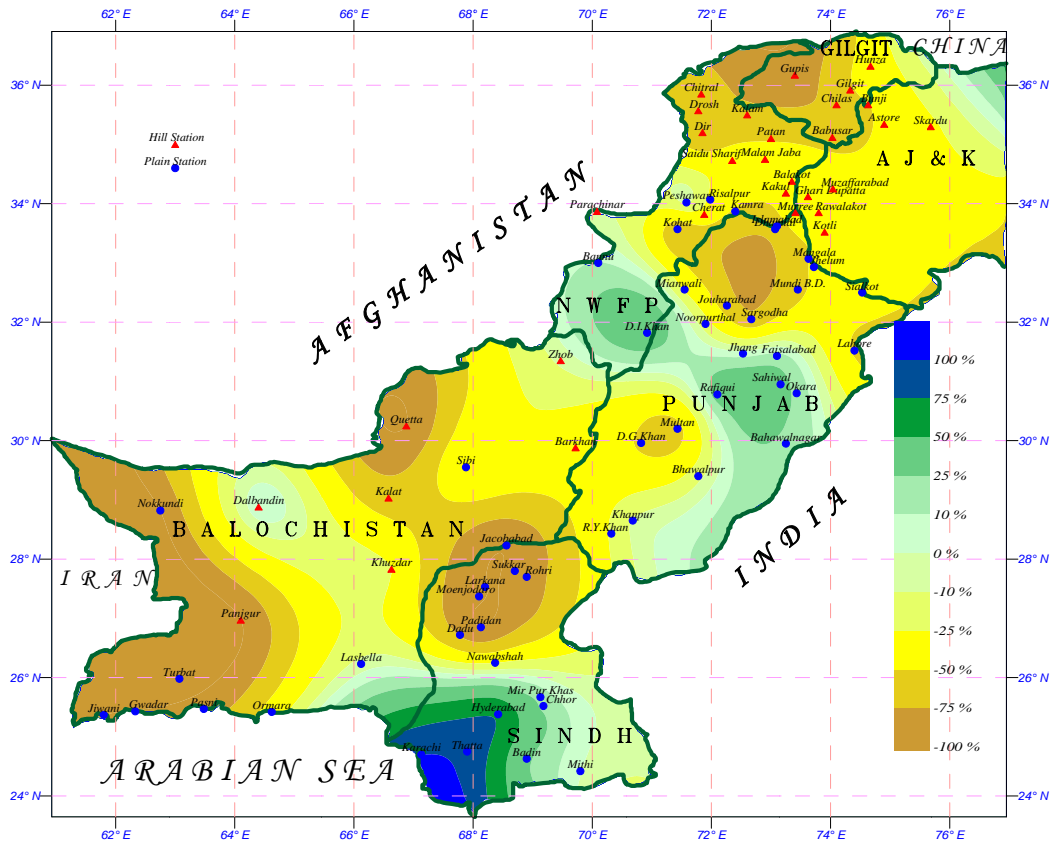
Below normal rainfall was recorded during the current whole monsoon season through out the country except some parts of province of Sindh where it registered normal rainfall. The percentage departure from normal rainfall map showed (Fig.1) a considerable deficit of rainfall in this season.

The percentage departure from normal rainfall distribution chart (Fig.2) depicts that the country had received below normal rainfall. A substantial poor amounts of rain was recorded over the whole country. On all Pakistan basis the country experienced 26 % below normal rainfall in the monsoon 2009 season (Tab.1). The highest amount of seasonal rainfall received at Murree (843 mm), Balakot (756 mm) & Sialkot (718 mm) but still all were well below than normal values (Tab.2). Karachi & Hyderabad (South Western Sindh) are the areas with exceptionally above normal rainfall with the percentage departure of 99% & 71 % respectively. The remaining parts of the country are the most affected by huge deficits in rainfall. Figure.3-5 further illustrate the monthly distribution of country's rainfall during the season.

In Pakistan the monsoon period is taken from July to September. The current monsoon rain deficit of 26 per cent is third lowest in the last ten years of period. The previous two lowest rainfall were in 2002 & 2004, when the shortfall were recorded as 54 & 38 respectively.

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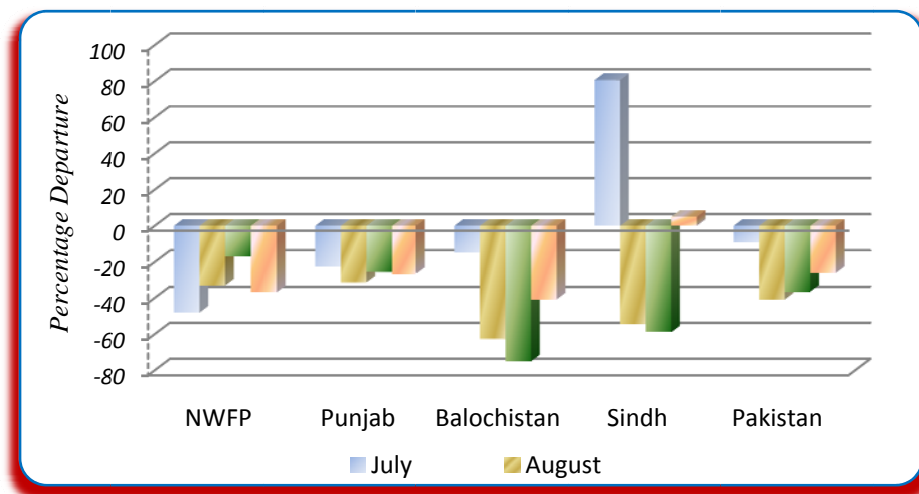
Source : <http://www.met.gov.pk/cdpc/monsoon2009ver.pdf>



**Fig.1: Spatial distribution of Seasonal Percentage Departure from Normal rainfall**

**Tab.1: Distribution of Percentage Departure Rainfall during the season.**

Month/Region	NWFP	Punjab	Balochistan	Sindh	Pakistan
July	-48.1	-22.6	-14.5	80.6	-9.3
August	-33.1	-31.4	-62.6	-54.5	-40.9
September	-16.9	-25.7	-75.0	-59.0	-36.5
JUL-SEP	-36.9	-26.5	-40.8	5.0	-26.0



**Fig.2: Distribution of rainfall during the monsoon 2009 season.**

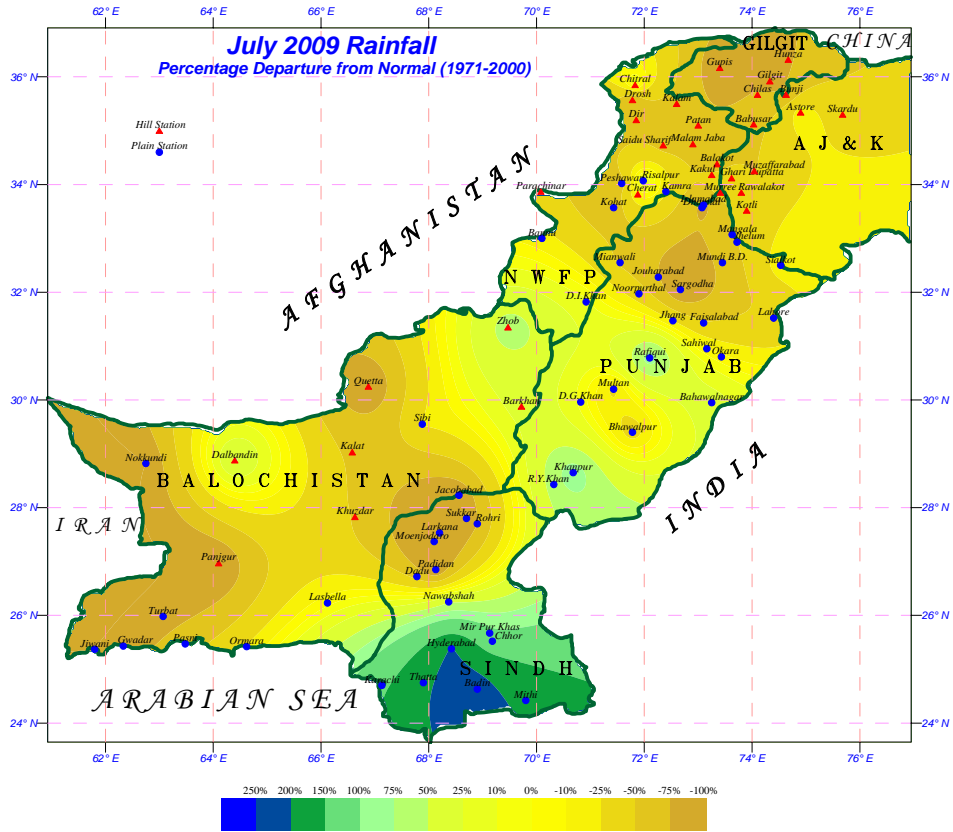
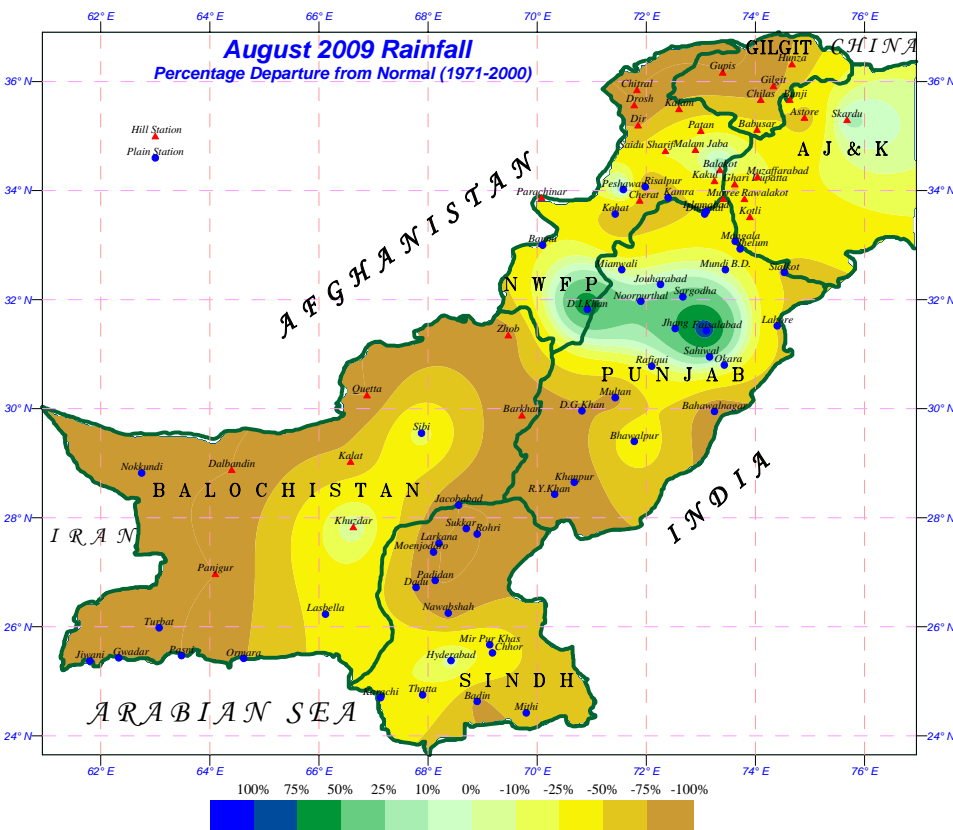
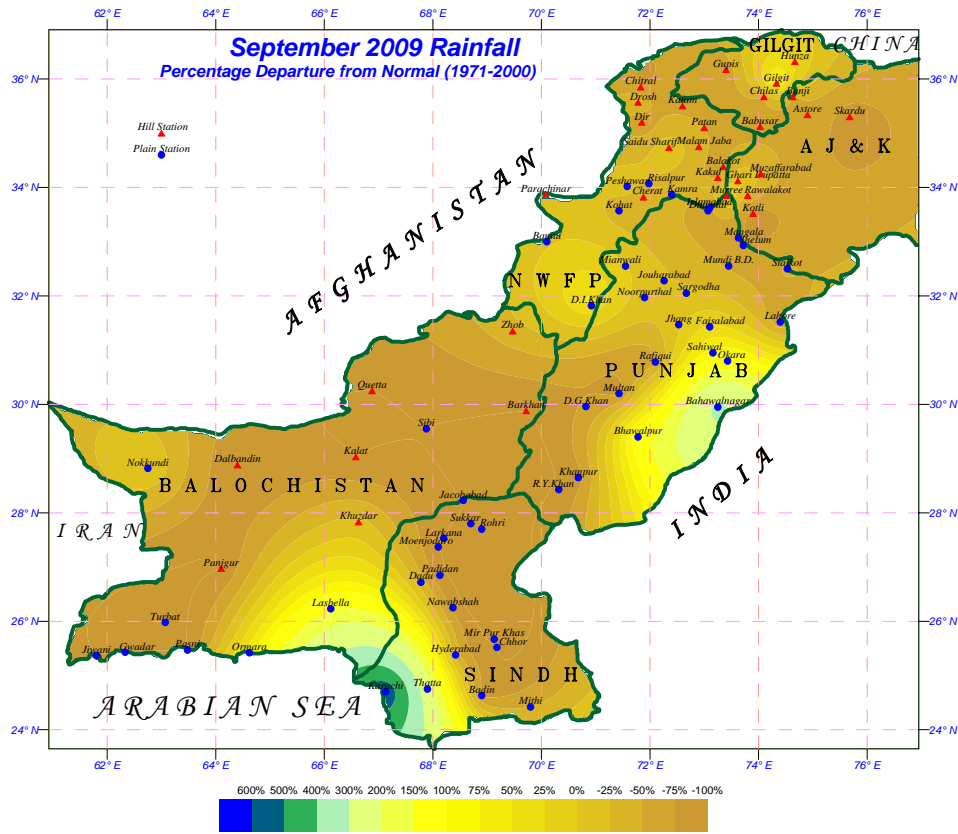


Fig.3: Spatial distribution of July 2009 rainfall



**Fig.4: Spatial distribution of August 2009 rainfall**



**Fig.5: Spatial distribution of September 2009 rainfall**

**Tab.2 : List of the stations received maximum amount of rainfall but still far below than normal**

S.N.	Station	Monthly Rainfall (mm)			Monsoon 2009 Rainfall (mm)		
		Jul2009	Aug2009	Sep2009	Actual	Normal	%Dep
1	Jhelum	130.0	164.3	22.0	316.3	589.4	-46.3
2	Kakul	152.5	177.8	49.0	379.3	634.4	-40.2
3	Kotli	175.4	198.6	9.0	383.0	675.5	-43.3
4	Garhi Dupatta	187.8	104.6	111.0	403.4	605.7	-33.4
5	Muzaffarabad	175.2	177.6	77.0	429.8	694.9	-38.1
6	Sialkot	260.4	148.7	49.0	458.1	718.3	-36.2
7	Balakot	121.0	349.0	48.0	518.0	756.3	-31.5
8	Murree	208.2	193.1	174.0	575.3	842.7	-31.7