



Pakistan's Monthly Climate Summary JUNE, 2021

Overview

- National rainfall for the month of June 2021 was slightly above normal (19%).
- Deficiency of monthly rainfall over AJ&K (-23.4%), KP (-17.9 %), and GB (-37.7 %) were observed.
- The Punjab (55.7 %) and Sindh (90.1%) regions have recorded excessively above normal rainfall while Balochistan (-8.2%) recorded close to normal rainfall.
- The national mean monthly temperature was 0.12 °C lower than average.
- The mean maximum temperature at country-level was 0.37 °C lower than average.
- The mean minimum temperature was 24.68 °C, being 0.20 °C warmer than average.
- The country hottest days were as 1st & 9th June at Turbat & Risalpur with 49.0 °C temperature.
- The Indian Ocean Dipole (IOD) was below the negative IOD threshold.
- El Nino-Southern Oscillation (ENSO) continued to be neutral in June 2021.
- The Madden-Julian Oscillation (MJO) was weak or indiscernible in June 2021.

National weather extremes during JUNE 2021

Hottest day	49.0 °C	at Turbat (Balochistan) on the 1 st & at Risalpur (KP) on the 9 th
Coldest day	13.0 °C	at Hunza (GB) on the 17 th
Coldest night	4.0 °C	at Babusar (KP) on the 22 nd
Warmest night	33.5 °C	at Nokkundi (Balochistan) on the 11 th , 12 th & 14 th
Wettest day	60.0 mm	at Bhakkar (Punjab) on the 21 st
Wettest month	138.6 mm	at Noorkhan Airbase (Punjab)

Synoptic Summary

With the start of the month, the heat (or seasonal) low, a typical pre-monsoon synoptic feature, started developing and organizing over North Balochistan and adjoining Sindh. Whereas, a trough was also found located over Khyber Pakhtunkhwa (KP) and adjoining areas, which turned into a trough-low see-saw pattern for most of the following days. The seasonal low invariably persisted over the same area with same orientation till 11th June and then from 12th June it stretched its trough towards southeast. This extended seasonal low caused inflow of moist currents from the North Arabian Sea converging over northeast Punjab which caused first widespread pre-

monsoon rain-wind/thunderstorm accompanied with some severe dust-storms over planes of the country for about a week.

In addition to aforementioned seasonal low, another low emerged over eastern Sindh on 14th June. These two synoptic features triggered moist currents' inflow from the North Arabian Sea in Sindh which produced some good rains first in upper Sindh and later in southeast Sindh (Tharparker district) from 16th to 19th June. On 24th June, under the influence of mid-tropospheric westerly winds the trough over KP & GB accentuated into a well-marked low over there which persisted almost till the end of the month over there and produced a reasonably good rainy spell in north of the country. On the other hand, seasonal/heat-low persisted as semi-permanent synoptic feature over southern Pakistan through to the end of June

June, 2021 area-weighted rainfall

	Rank (of 61)	Normal (mm)	Average (mm)	Departure (percent)	Comment
Pakistan	43	18.6	22.1	19.1	19th highest (record 88.1 mm in 2007)
Azad Jammu & Kashmir	23	48.6	37.3	-23.4	---
Balochistan	44	9.1	8.3	-8.2	18th highest (record 114.1 mm in 2007)
Gilgit-Baltistan	26	11.6	7.2	-37.7	---
Khyber-Pakhtunkhwa	26	39.7	32.6	-17.9	---
Punjab	49	29.4	45.8	55.7	13th highest (record 93.5 mm in 2007)
Sindh	46	10.2	19.4	90.1	16th highest (record 51.5 mm in 1964)

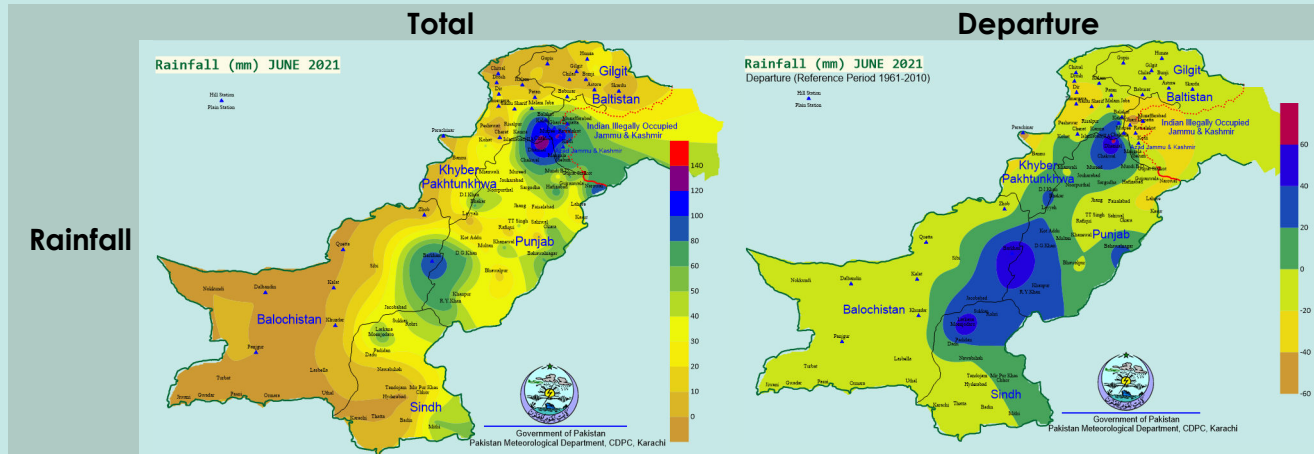
Rank ranges from 1 (lowest) to 61 (highest).

Rainfall – Above normal rainfall over country

During June 2021, although no major rainfall had occurred but still some persistent intermittent rainfall was observed throughout the e month. The significant spells of the month were on 1-6 June, 12-21 June and 26-28 June. In Pakistan, the month of June normally doesn't get significant rains. On average, The month of June has rainfall contribution of the order of 33% and 6% to the seasonal (AMJ) and annual rainfall respectively. June 2021 National rainfall was 22.1 mm against its normal rain of 18.6 mm being 19% above normal.

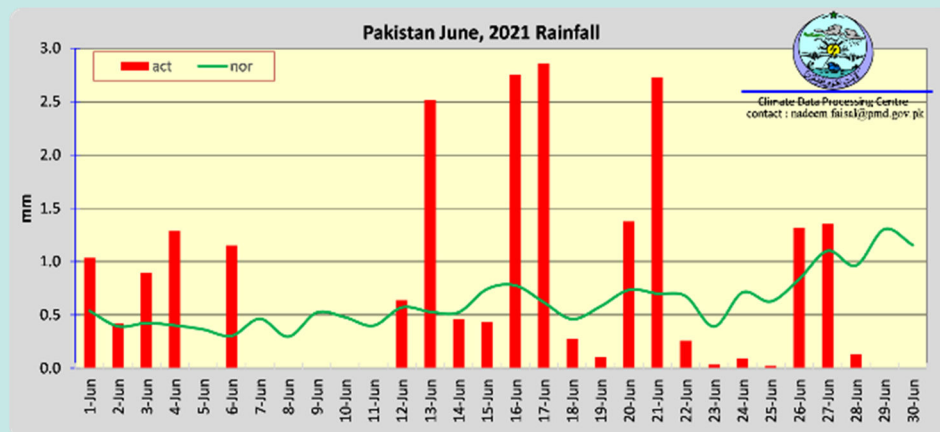
On regional scale, deficiency in monthly rainfall were observed over AJ&K (-23.4%), KP (-17.9 %), and GB (-37.7 %). The Punjab (55.7 %) and Sindh (90.1%) regions have recorded excessively above normal rainfall, where as Balochistan (-8.2%) recorded close to normal rainfall. The wettest day of the month in country was 21st June, when Bhakkar (Punjab) recorded 60 mm of rain and Noorkhan air-base (Punjab) was the wettest place recorded 138.6 mm of total rainfall during the month. The other chief amounts of month's rainfall were: Rawalakot (128.8 mm), Kakul (123 mm), Islamabad (122.7mm) and Murree (112mm).

JUNE 2021 rainfall maps



Temperatures

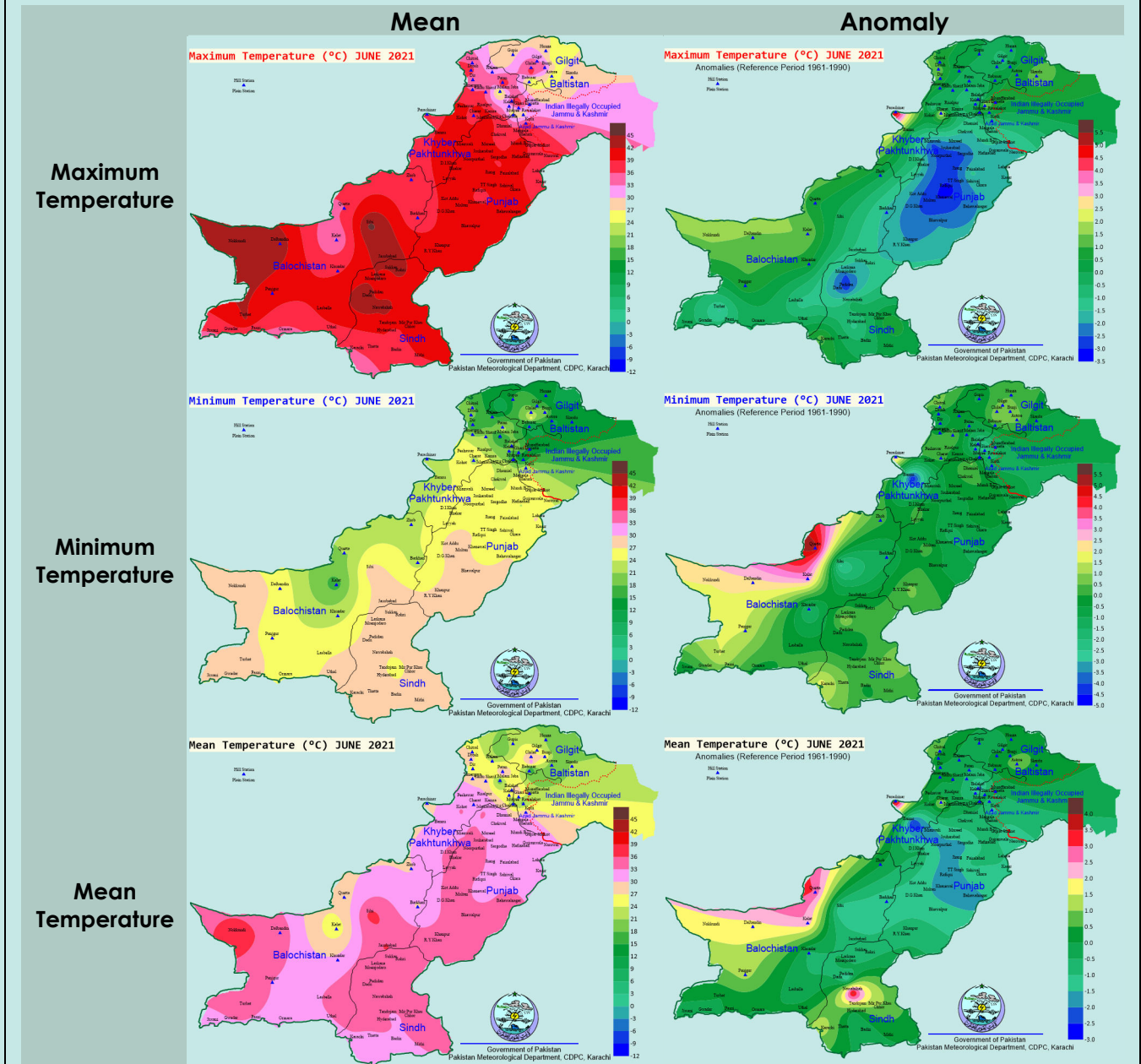
The national mean monthly temperature of June 2021 for Pakistan as a whole was 31.68 °C, being 0.12 °C lower than monthly-average. The mean maximum (day) temperature at country-level was 38.48 °C, being 0.37 °C lower than average of 36.33 °C. The night (minimum) temperature was 24.88 °C, being 0.20 °C warmer than country-average of 24.68 °C. On regional basis, AJK (-0.31 °C), KP (-0.25 °C) and Punjab (-1.23 °C) provinces recorded lower than normal monthly mean temperatures. Balochistan (+0.27 °C), GB (+0.19 °C) and Sindh (+0.03 °C) recorded warmer than normal monthly temperature. The mean temperature anomalies of June were ± 1 °C over most parts of the country except central parts of Sindh and western parts of Balochistan where it was plus 3-4 °C.



Mean Maximum temperatures' anomalies were ± 1 °C over most parts of the country, importantly being of relatively higher order around -3 °C and more prominent over major area of Punjab GB and parts of Sindh. The mean minimum

temperature anomalies for the month were ± 2 °C over most parts of country with anomalies over Western Balochistan regions being much higher than remaining parts of country. The hottest day of the month were at Turbat (Balochistan) and Risalpur (KP) when it recorded 49.0 °C temperature on 1st and 9th June respectively. The coldest temperature of 4.0 °C of the month was recorded at Babusar (KP) on 22nd June 2021.

JUNE 2021 Temperature maps



JUNE 2021 Monthly Averages & Normals

Station	Pressure (mb)		Temperature (°C)			Vapour (mb)	Precipitation	
	Station Level	Sea Level	Mean	Maximum	Minimum	Pressure	Total (mm)	Days
Drosh	845.6	1417.8	29.2	37.3	20.0	9.8	1.2	1
	846.7	1427.6	27.6	35.8	20.8	9.6	19.7	4.9
Peshawar	963.0	998.4	33.0	40.9	24.9	23.3	0.0	0
	956.5	995.4	32.8	40.2	25.4	20.0	12.1	4
Parachinar	822.2	1430.9	27.4	35.9	21.1	22.7	0.0	0
	821.8	1428.6	24.5	30.7	16.9	11.2	49.3	8.8
Rawalpindi	944.7	999.5	31.1	37.5	24.4	18.5	138.6	5
	942.0	996.7	30.9	38.4	23.5	19.1	70.1	8.2
Sargodha	975.9	995.7	33.7	40.2	26.9	25.5	28.1	6
	977.0	995.7	34.2	41.6	26.8	22.9	33.4	6
Jhelum	972.7	998.3	32.8	39.7	25.8	24.9	69.8	7
	971.0	996.4	32.9	40.2	25.7	21.5	57.1	7.7
Sialkot	971.1	999.0	31.6	38.3	24.7	23.4	48.3	5
	969.2	996.8	32.1	39.2	25.0	21.7	73.0	7.7
Zhob	851.6	1421.2	30.0	37.0	23.0	12.5	3.0	1
	850.0	1406.8	30.0	36.9	22.8	12.2	14.7	2.5
D.I.Khan	978.8	997.6	33.7	40.8	27.0	27.3	45.0	3
	976.9	995.7	33.3	41.1	26.3	23.6	22.2	3
Lahore	975.7	999.2	33.4	38.7	27.6	23.5	17.4	3
	973.1	996.4	33.6	39.9	27.2	22.9	51.3	6.1
Quetta	836.3	1444.7	28.8	35.8	21.1	6.2	0.0	0
	834.3	1424.2	27.1	35.4	16.8	10.8	1.5	0.9
Multan	984.8	999.0	34.1	39.5	28.9	26.4	27.1	2
	982.5	995.8	35.2	42.2	28.6	23.7	15.1	2.4
Barkhan	882.5	1428.3	29.0	36.3	23.0	18.5	101.0	10
	881.4	1421.8	30.9	37.7	24.4	15.4	43.0	3.6
Nokkundi	923.2	994.1	37.1	44.3	29.4	5.3	0.0	0
	924.1	995.0	35.7	42.9	27.5	11.8	0.0	0
Dalbandin	907.6	1437.9	36.3	43.6	26.1	8.4	0.0	0
	907.0	1431.3	34.8	41.3	22.4	8.5	0.6	0.2
Jacobabad	991.6	997.7	36.6	43.3	29.2	27.4	38.0	2
	989.6	995.4	37.0	44.5	29.5	24.5	3.0	0.4
Khanpur	988.3	998.0	33.7	40.6	27.9	30.6	35.4	3
	986.2	995.9	35.2	42.7	27.0	24.9	3.4	0.8
Panjgur	895.2	1442.1	32.8	40.3	25.5	13.6	0.0	0
	896.5	1438.9	32.5	39.5	24.2	9.1	4.0	0.2
Khuzdar	869.5	1432.7	30.7	38.6	22.9	6.7	1.8	1
	866.5	1411.0	31.5	38.1	24.3	6.0	12.6	1.3
Nawabshah	994.8	998.0	35.1	43.0	27.3	28.7	6.0	1
	993.2	997.0	35.4	43.7	27.6	29.9	2.8	0.3
Jiwani	994.7	1001.0	30.6	34.0	26.6	33.1	0.0	0
	992.9	999.2	30.6	34.3	26.9	32.4	0.9	0.1
Pasni	1000.5	1001.0	31.0	34.6	27.3	35.3	0.0	0
	998.3	999.0	30.6	35.2	26.8	32.1	0.4	0
Hyderabad	994.9	999.7	33.0	39.0	28.4	29.7	0.0	0
	993.9	997.9	33.3	40.2	28.0	29.3	6.3	0.7
Chhor	999.4	1000.1	33.9	40.5	28.0	32.1	26.6	2
	997.3	997.9	33.3	40.3	26.9	29.1	18.4	1.2
Karachi	998.5	1001.1	32.2	36.0	29.6	33.0	0.0	0
	997.0	999.5	31.1	35.2	28.1	31.8	6.7	0.9

Note: The first row against each station contains the actual values while second row for normal values.

June 2021 extreme values

STATION	Mean Temperature (°C)				Temperature (°C)				Highest (mm & knots)			
	Highest	Date	Lowest	Date	Highest	Date	Lowest	Date	Rain	Date	Wind Speed	Date
Drosh	33.0	10	24.1	27	42.0	10	14.0	28	1.2	28	16	30
Peshawar	36.9	9	29.5	17	48.0	9	21.0	21	0.0	0	10	16
Parachinar	31.3	17*	23.4	29	38.5	20	18.0	1*	0.0	0	9	16
Rawalpindi	36.8	9	24.5	16	44.5	9	17.0	13	39.7	3	26	10
Sargodha	38.5	9	28.3	1*	46.3	8	22.3	21	8.2	26	12	3*
Jhelum	37.4	30	25.0	3	46.0	30	20.3	4	30.0	3	16	24
Sialkot	37.4	9	25.8	3	44.0	9*	21.6	1	14.0	26	10	24*
Zhob	34.9	10	24.5	17	43.0	10	16.5	18	3.0	6	20	11
D.I.Khan	37.8	8*	27.0	20	47.0	30	22.0	16	28.0	16	18	13
Lahore	37.9	8*	27.5	3	43.2	8	21.6	13	9.0	13	14	3
Quetta	32.6	10	26.4	17	39.5	9*	18.0	1*	0.0	0	30	15
Multan	37.8	29	26.8	15	44.1	29	22.8	16	26.1	16	20	13
Barkhan	34.8	9	23.9	26	42.5	10	17.5	6	35.0	13	4	1*
Nokkundi	41.4	11	33.1	17	48.5	8*	26.0	18	0.0	0	20	15*
Dalbandin	40.6	10	32.8	19	47.5	9*	20.0	20	0.0	0	12	15*
Jacobabad	38.9	9	29.9	17	46.5	9*	22.0	17	36.0	17	18	26
Khanpur	36.0	11	28.0	17	43.8	29	22.8	4	20.0	17	20	15
Panjgur	37.0	14	29.9	27	44.0	10*	24.0	1*	0.0	0	18	15
Khuzdar	33.9	9	26.8	5	43.0	9*	19.5	19	1.0	28	10	15
Nawabshah	36.5	9	32.4	17	45.5	9	21.0	6	6.0	6	20	15
Jiwani	33.3	1	29.3	28	37.5	1	25.0	3*	0.0	0	12	3*
Pasni	31.9	4*	29.9	29	37.0	16	26.0	1	0.0	0	14	28
Hyderabad	33.8	16	32.1	18	42.0	28	27.0	6*	0.0	0	28	30
Chhor	35.1	28	30.1	19	42.5	28*	25.0	20	22.0	20	16	8*
Karachi	33.0	18	31.4	75	37.5	28	28.5	6	0.0	0	20	9

* means value occurred multiple times

Note

Monthly Climate Summary is produced by Pakistan Meteorological Department, Climate Data Processing Centre, Karachi to provide the main features of weather events occurred in the country during the month. The summary contains detailed data information of 25 climate stations of Pakistan. The extremes & analysis is based on 110 numbers of stations. The information in the summary is based on real time data and/or electronic reports, therefore, the above results can be considered only preliminary. Climate Summaries are usually published in the first week of each month. Long term average for rainfall is for 1961-2010 (50 years) while normal period for temperature is 1961-1990 (30 years).

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