

**Indo-Swiss Capacity building programme in Himalayan Glaciology
Glacier Contribution to the downstream flow**

Exercise (RJT)

Winter and Annual Mass Balance and glacier contribution to catchment runoff

Elevation Band	Area m²	Mean Winter Mass Balance m w.e.	Mean Annual Mass Balance (m w.e.)	band wise winter MB
<5400	347	0.32	-1.1	111.1488
5400-5420	2345	0.32	-1.3	750.48
5420-5440	8733	0.50	-1.4	4366.27
5440-5460	14004	0.60	-1.4	8402.37
5460-5480	25630	0.59	-0.98	14993.77815
5480-5500	32167	0.60	-0.88	19300.152
5500-5520	39989	0.57	-0.7	22833.70758
5520-5540	54372	0.69	-0.57	37679.49108
5540-5560	83270	0.60	-0.5	49962.24
5560-5580	75694	0.57	-0.4	43448.35026
5580-5600	65489	0.56	-0.1	36870.40271
5600-5620	45526	0.57	0	26040.9578
5620-5640	40195	0.58	0.06	23393.69952
5640-5660	30755	0.60	0.07	18299.106
5660-5680	32410	0.60	0.08	19446.024
>5680	69168	0.59	0.08	40809.2675
				366707.4454

a. Calculate Winter mass Balance(Bw)

C. Calculate summer Balance (Bs)

b. Calculate Net mass Balance (Ba)

d. Calculate glacier mass turn over

e. Calculate percentage glacier contribution in catchment discharge (Catchment discharge)

f. Calculate the percentage of glacier degraded derived runoff component in the catchment

band wise Mean annual balance

-382.074		
-3048.825		
-12225.556		
-19605.53		
-25117.7822		
-28306.8896		
-27992.286		
-30991.7892		
-41635.2		
-30277.596		
-6548.917		
0		
2411.7216		
2152.836		
2592.8032		
5533.46		
-213441.6242		-580149
	summer balance	0.00

= 8 MCM)

nt discharge