

Table S1: Summary of the 50 Krishna-Godavari catchments considered in the present study. The discarded 10 basins that did not satisfy the runoff ratio criteria are highlighted in the table (see ##s).The table provides the following characteristics for each basin: station name, station latitude and longitude, catchment area (km²), Starting observation period of data, mean daily discharge at the outlet (<Qobs>),mean daily rainfall (<Rainfall>), mean daily potential evapotranspiration (<PET>) of the catchment, Runoff ratio, Nash–Sutcliffe efficiency of DB model (NSE_{DB}), and Nash–Sutcliffe efficiency of IDW(NSE_{IDW}) model.

Station name	Latitude (Deg. decimal)	Longitude (Deg. decimal)	Area (Sq.km)	Starting observation Period	<Qobs> (mm/day)	<Rainfall> (mm/day)	<PET> (mm/day)	Runoff ratio	NSE _{DB}	NSE _{IDW}
Ambabal	19.28	81.79	1968	1/1/1994	1.19	3.85	4.89	0.31	0.96	0.78
Ashwi	19.55	74.6	2174	1/1/1973	0.36	1.48	5.04	0.24	-0.01	0.10
Bagalkot	16.22	75.73	8610	1/1/1967	0.92	2.3	4.69	0.40	0.56	0.42
Betmogra	18.7	77.54	2105	1/1/1998	0.26	2.33	5.18	0.11	0.60	0.62
Byladahalli	14.43	75.78	2300	1/1/2005	0.38	2.31	4.66	0.16	-0.28	-7.37
Chass	19.96	74.29	5230	1/1/1973	0.66	2.24	4.68	0.29	0.74	-35.67
Cherribeda	19.64	81.49	890	1/1/1997	2.1	3.65	4.9	0.58	0.87	0.54
Chindnar	19.08	81.3	17270	1/1/1972	1.34	3.85	4.77	0.35	0.94	-0.77
Cholachguda	15.88	75.72	9373	1/1/1983	0.27	2.21	4.62	0.12	0.82	-6.16
Dameracherla	16.74	79.67	11501	1/1/1969	0.25	2.19	5	0.11	-1.16	-8.22
Degloor	18.54	77.58	1900	1/1/1988	0.44	2.4	5.1	0.18	0.66	0.64
Gandlapet	18.82	78.44	1360	1/1/1987	0.32	2.72	5.02	0.12	0.72	0.38
Gokak Falls	16.19	74.79	2770	1/1/1972	2.03	3.8	4.52	0.53	0.66	0.35
Haralahalli	14.83	75.68	14582	1/1/1970	1.31	3.36	4.47	0.39	0.89	0.95
Honnali	14.24	75.66	7075	1/1/1981	2.7	4.72	4.4	0.57	0.98	0.72
Huwanur	16.17	76.03	11400	1/1/1968	0.4	1.95	4.6	0.21	0.90	-0.21
Injaram	17.83	81.38	19550	1/1/1967	1.46	3.7	4.52	0.39	0.87	0.59
Jagdapur	19.11	82.03	7380	1/1/1966	1.3	4.01	4.6	0.32	0.89	0.81
Karad	17.29	74.19	5462	1/1/1966	2.3	3.13	4.55	0.73	0.61	0.45
Keesara	16.71	80.32	9854	1/1/1966	0.52	2.82	4.86	0.18	0.76	0.67
Konta	17.8	81.38	19550	1/1/1966	2.03	3.8	4.53	0.53	0.72	0.83
Kosagumda	19.28	82.23	1635	1/1/1998	1.69	4.11	4.62	0.41	0.98	0.85
Kotta	18.78	82.52	1710	1/1/1970	1.94	3.08	4.52	0.63	0.50	0.74
Koyna	17.38	73.73	920	1/1/1973	3.97	5.42	4.41	0.73	-26.69	-14.47
Kuppelur	14.5	75.63	1850	1/1/1991	0.61	3.05	4.61	0.20	0.89	0.70
Lakkavali	13.7	75.56	2095	1/1/1973	0.71	4.53	4.33	0.16	-1.81	-21.06
Madhira	16.92	80.36	1850	1/1/1985	0.8	2.97	4.78	0.27	0.95	0.53
Malkhed	17.2	77.16	7650	1/1/1991	0.3	2.08	5.1	0.14	0.89	-1.15
Marol	14.94	75.62	4901	1/1/1970	1.11	3.09	4.6	0.36	0.96	0.93
Paleru Bridge	16.95	80.05	2928	1/1/1966	0.4	2.61	5	0.15	-0.47	-0.63
Purna	19.18	77.01	15000	1/1/1970	0.31	2.16	5.17	0.14	0.75	0.52
Saigaon	18.05	77.05	9960	1/1/1968	0.27	2.13	5.22	0.13	0.92	0.63

Sarati	17.91	75.01	7200	1/1/1966	0.48	2.15	4.71	0.22	0.80	-1.20
Shimoga	13.94	75.58	2831	1/1/1973	5.23	6.13	4.39	0.85	0.80	0.13
Somanpally	18.64	79.83	12691	1/1/1967	0.3	2.65	4.99	0.11	0.19	-5.27
Sonarpal	19.27	81.88	1478	1/1/1992	1.39	4.4	3.27	0.31	0.68	0.52
Talikot	16.48	76.28	2486	1/1/1996	0.32	1.93	4.88	0.17	0.79	0.42
Tumnar	19.01	81.24	1700	1/1/1992	2.05	4.09	4.55	0.50	0.77	0.56
Wadakbal	17.53	75.89	12092	1/1/1966	0.19	1.89	5.22	0.10	0.81	0.05
Zari	19.4	76.77	5550	1/1/1988	0.21	2.19	5.18	0.10	0.77	0.84
Bhatkheda	18.43	76.67	4650	6/9/1991	0.17	2.21	5.26	0.08	##	##
Gotur	16.22	74.52	1100	6/17/1980	3.19	2.84	4.58	1.12	##	##
Halia	16.79	79.34	3100	7/11/1984	0.16	3.75	4.89	0.04	##	##
Ghargaon	19.32	74.18	626	1/1/1992	3.23	2.32	4.68	1.39	##	##
Pochavaram	17.75	81.33	20967	12/1/1965	10.46	3.25	4.55	3.22	##	##
Sadalga	16.56	74.53	2322	6/24/1969	3.37	3.17	4.52	1.06	##	##
Samdoli	16.86	74.5	1948	1/1/1967	4.65	3.29	4.36	1.41	##	##
Terwad	16.68	74.58	2425	8/22/1979	5.48	4.72	4.52	1.16	##	##
Vandur	16.57	74.28	550	6/26/1979	5.02	3.54	4.59	1.42	##	##
Warunji	17.27	74.17	1890	1/1/1966	4.11	4.07	4.42	1.01	##	##