

### **MONTHLY PRECIPITATION SUMMARY**

<b>(1) 904</b>	<b>CHISAPANI GADHI</b>	<b>(1957-1994)</b>
<b>(2) 905</b>	<b>DAMAN</b>	<b>(1969-1994)</b>
<b>(3) 915</b>	<b>MARKHU GAUN</b>	<b>(1972-1994)</b>
<b>(4) 1004</b>	<b>NUWAKOT</b>	<b>(1956-1994)</b>
<b>(5) 1015</b>	<b>THANKOT</b>	<b>(1967-1994)</b>
<b>(6) 1038</b>	<b>DHUNIBESI</b>	<b>(1973-1994)</b>
<b>(7) 1107</b>	<b>SINDHULI GADHI</b>	<b>(1955-1990)</b>
<b>(8) 1115</b>	<b>NEPAL THOK</b>	<b>(1948-1990)</b>

## MONTHLY PRECIPITATION SUMMARY (mm)

NAME OF SITE : CHISAPANI GADHI	LATITUDE : 27° 33' N
STATION No. : 904	LONGITUDE : 85° 08' E
EST. DATE : MAY, 1956	ELEVATION : 1706m
DISTRICT : MAKWANPUR	ZONE : NARAYANI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM IN 24HRS.	DATE
1957	-	-	-	-	-	-	454	385	79	13	0	15			
1958	37	2	12	100	156	259	413	303	74	92	0	3	1450	83.3	31.Jul
1959	46	5	34	31	161	372	368	556	178	129	0	0	1878	90.8	22.Jul
1960	0	6	132	13	253	324	391	351	310	93	0	0	1873	80.8	21.May
1961	26	62	0	76	20	487	494	654	494	184	27	22	2546	76.4	28.Jul
1962	53	126	72	103	245	747	257	569	141	20	0	8	2341	233.0	28.Jun
1963	13	0	52	87	97	194	461	529	291	47	43	0	1815	65.0	20.Aug
1964	0	2	1	77	127	213	406	312	215	29	0	0	1382	49.0	17.Aug
1965	0	12	11	51	121	468	929	778	181	54	35	0	2640	300.0	7.Jul
1966	65	26	0	8	16	226	716	1019	190	30	3	5	2304	223.0	28.Aug
1967	0	0	64	201	28	380	837	411	168	6	0	0	2096	256.4	10.Jul
1968	60	11	64	52	102	492	538	487	105	276	0	0	2188	145.0	23.Jul
1969	14	2	37	30	117	154	444	476	265	22	1	0	1561	70.3	21.Aug
1970	30	32	32	75	101	415	1215	374	211	30	0	0	2514	280.2	16.Jul
1971	12	6	90	277	275	653	232	500	105	111	7	0	2268	134.3	11.Jun
1972	0	37	48	25	139	426	1107	241	378	91	18	0	2510	162.2	27.Jul
1973	53	47	70	30	172	757	360	363	552	303	13	0	2719	125.2	18.Jun
1974	16	8	22	107	151	260	694	828	749	33	6	15	2890	218.0	2.Sep
1975	34	17	7	77	142	404	1073	365	542	16	0	0	2676	210.0	28.Jul
1976	40	9	0	66	205	657	515	394	262	24	0	0	2173	162.0	10.Jun
1977	15	21	39	173	160	311	386	432	117	65	53	43	1814	77.0	20.Jun
1978	3	26	91	160	255	533	613	415	307	135	1	6	2544	173.0	16.Jul
1979	9	27	1	84	44	322	696	495	105	51	6	3	1841	198.9	19.Aug
1980	0	9	29	22	195	291	433	372	197	14	0	0	1564	84.1	11.May
1981	23	0	115	92	111	288	456	454	345	1	38	0	1921	154.0	29.Sep
1982	15	24	56	106	54	252	382	476	343	19	17	3	1745	133.0	27.Aug
1983	4	2	7	93	144	208	676	233	437	143	0	23	1970	131.5	17.Jul
1984	19	18	90	105	109	287	678	411	772	45	0	16	2551	228.3	17.Sep
1985	12	0	6	41	282	263	804	426	602	257	1	84	2778	131.0	5.Sep
1986	0	41	23	121	132	351	491	597	410	108	11	80	2364	157.0	27.Aug
1987	0	38	32	39	50	179	751	329	199	175	0	0	1793	126.0	24.Jul
1988	0	22	140	55	166	355	409	508	233	14	12	91	2004	106.8	8.Sep
1989	62	28	38	7	237	233	686	277	378	19	3	2	1971	84.0	6.Jul
1990	0	68	105	175	325	231	128	425	248	89	0	2	1796	137.0	27.Aug
1991	75	7	51	49	72	191	497	459	271	9	0	67	1747	106.0	7.Jul
1992	27	24	0	36	179	116	356	293	182	91	4	6	1313	58.0	15.May
1993	4	0	43	181	197	314	793	705	436	6	19	0	2698	295.0	20.Jul
1994	45	22	55	25	85	474	270	410	518	3	4	0	1909	96.4	10.Sep
<b>EXTREME</b>	75	126	140	277	325	757	1215	1019	772	303	53	91	2890	300.0	7.Jul'65

## MONTHLY PRECIPITATION SUMMRY (mm)

NAME OF SITE : DAMAN  
 STATION No. : 905  
 EST.DATE : Sep. 1965  
 DISTRICT : MAKWANPUR

LATITUDE : 27° 36' N  
 LONGITUDE : 85° 05' E  
 ELEVATION : 2314m  
 ZONE : NARAYANI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM IN 24HRS.	DATE
1969	0	0	35	47	172	259	303	380	222	9	2	0	1428	47.5	20.Aug
1970	14	25	12	111	116	284	382	167	121	23	6	0	1259	58.6	26.Jul
1971	9	7	38	224	184	583	191	349	67	61	4	0	1717	121.6	29.Jun
1972	2	69	26	20	80	362	958	161	304	83	20	0	2085	128.2	28.Jul
1973	73	47	47	39	189	618	266	281	599	248	19	0	2426	104.0	16.Jun
1974	0	27	41	54	163	185	503	655	601	70	0	8	2307	181.7	2.Sep
1975	36	21	11	64	202	284	848	304	370	19	0	0	2159	156.0	27.Jul
1976	53	10	0	67	218	533	536	296	212	4	0	0	1929	168.0	10.Jun
1977	4	20	35	196	186	230	272	316	114	54	46	56	1529	76.8	20.Jun
1978	0	36	80	180	189	271	828	340	238	150	0	0	2312	233.5	16.Jul
1979	0	39	2	148	53	230	655	467	132	37	18	75	1856	207.5	21.Aug
1980	1	14	45	11	142	434	-	-	165	40	0	4	-	-	-
1981	43	0	51	103	100	179	224	353	325	0	39	0	1417	120.5	29.Sep
1982	22	19	56	64	144	190	234	285	235	2	7	0	1258	59.0	6.Jul
1983	27	1	25	116	253	158	417	259	266	110	0	15	1647	110.5	17.Jul
1984	20	20	11	72	127	170	460	253	470	48	0	7	1658	90.5	16.Sep
1985	0	0	0	39	360	197	519	353	405	179	0	83	2135	96.5	5.Sep
1986	0	29	10	169	262	353	352	531	339	74	0	77	2196	151.0	27.Aug
1987	3	41	49	18	119	162	681	410	159	19	0	16	1676	124.5	20.Oct
1988	0	26	96	60	204	338	330	360	157	15	19	92	1695	61.5	8.Sep
1989	73	21	23	8	231	167	449	155	240	1	0	0	1367	76.0	6.Jul
1990	0	115	102	90	226	257	623	391	253	27	0	0	2084	100.8	14.Jul
1991	0	16	39	94	88	291	312	415	174	0	0	0	1428	69.0	28.Aug
1992	0	16	0	80	159	214	347	274	122	56	15	4	1286	55.0	24.Jul
1993	18	27	26	119	126	315	693	404	176	20	9	0	1932	373.2	20.Jul
1994	36	30	38	19	98	247	189	217	201	0	0	4	1079	74.5	26.Jun
EXTREME	73	115	102	224	360	618	958	655	601	248	46	92	2426	373.2	20.Jul.'93

## MONTHLY PRECIPITATION SUMMRY (mm)

NAME OF SITE	: MARKHU GAUN	LATITUDE	: 27° 37' N
STATION No.	: 915	LONGITUDE	: 85° 09' E
EST.DATE	: Dec. 1971	ELEVATION	: 2314m
DISTRICT	: MAKWANPUR	ZONE	: NARAYANI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM IN 24HRS.	DATE
1972	2	38	10	22	40	179	729	132	198	104	19	0	1473	90.0	28.Jul
1973	56	55	69	97	115	421	272	214	350	213	3	0	1865	76.0	24.Jul
1974	16	18	28	67	114	166	432	642	320	12	0	14	1829	152.0	29.Aug
1975	32	20	6	48	191	240	430	550	300	49	0	0	1866	132.0	28.Aug
1976	36	10	0	72	164	610	378	282	148	6	0	0	1706	151.0	10.Jun
1977	6	15	28	156	161	179	292	312	97	31	28	64	1369	63.0	20.Jun
1978	2	28	83	111	141	276	438	259	214	131	0	6	1689	108.0	16.Jul
1979	6	54	3	39	60	209	367	208	50	28	12	44	1080	52.0	21.Jul
1980	12	27	37	63	111	344	340	159	-	-	0	4	-	-	-
1981	27	0	53	100	90	84	102	174	386	0	12	0	1028	190.0	29.Sep
1982	16	39	26	59	75	133	100	381	256	5	19	6	1115	45.0	9.Aug
1983	0	2	37	117	146	134	420	187	257	129	0	33	1462	144.0	17.Jul
1984	26	19	14	74	73	169	372	255	442	38	0	16	1498	107.0	17.Sep
1985	16	0	1	37	245	117	436	276	479	222	0	99	1928	121.4	11.Oct
1986	0	32	3	117	193	375	339	289	293	43	4	70	1758	89.0	29.Jun
1987	0	51	23	36	62	91	634	264	107	218	0	17	1503	110.0	20.Oct
1988	0	25	93	23	103	222	317	289	127	13	5	127	1344	103.0	26.Dec
1989	78	15	23	0	248	157	334	110	155	3	18	0	1143	76.1	6.Jul
1990	0	63	93	92	124	154	412	325	170	18	0	3	1455	85.5	27.Aug
1991	23	16	70	25	66	185	169	306	122	0	0	33	1017	49.4	27.Aug
1992	14	8	0	49	152	145	240	174	111	63	26	1	983	40.2	20.Jul
1993	13	28	59	112	211	243	675	458	138	0	0	0	1937	385.6	20.Jul
1994	78	29	34	29	154	199	128	256	270	0	1	0	1176	75.5	16.Jan
EXTREME	78	63	93	156	248	610	729	642	479	222	28	127	1928	385.6	20.Jul.'93

## MONTHLY PRECIPITATION SUMMARY (mm)

NAME OF SITE : NUWAKOT  
 STATION No. : 1004  
 EST. DATE : May 1956  
 DISTRICT : MAKWANPUR

LATITUDE : 27° 55' N  
 LONGITUDE : 85° 10' E  
 ELEVATION : 1003m  
 ZONE : BAGMATI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM	DATE
														IN 24HRS.	
1956	-	-	-	-	-	464	409	422	239	98	15	5	-	-	-
1957	71	0	11	7	61	177	462	779	160	18	0	14	1760	95.3	29.Aug
1958	32	0	18	50	67	-	424	473	318	45	0	2	-	-	-
1959	32	0	20	33	70	267	500	459	323	139	0	0	1843	111.8	6.Sep
1960	0	106	95	8	106	179	447	496	195	19	0	0	1650	90.8	13.Feb
1961	21	25	37	10	30	220	487	624	363	149	0	20	1986	77.2	26.Aug
1962	54	63	35	100	136	469	432	528	289	11	0	0	2116	152.8	10.Jun
1963	-	-	28	76	86	464	366	457	187	16	0	0	-	-	-
1964	0	0	0	85	130	302	447	492	238	20	14	0	1727	80.2	28.Jun
1965	0	9	15	78	-	-	504	440	237	0	49	0	-	-	-
1966	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1967	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1968	25	2	50	12	16	182	321	217	241	124	0	0	1190	73.0	11.Sep
1969	8	0	31	21	60	157	350	413	361	28	2	0	1431	83.4	8.Aug
1970	24	24	16	33	113	295	567	649	204	28	0	0	1952	78.4	26.Jul
1971	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1972	16	26	61	22	76	233	468	417	272	93	20	0	1704	98.0	28.Jul
1973	24	38	51	17	190	448	325	421	400	99	13	0	2026	135.0	10.Jun
1974	24	9	41	45	71	319	452	490	529	55	0	29	2064	75.0	2.Jun
1975	30	12	12	37	130	368	602	393	470	19	2	0	2075	80.0	28.Jul
1976	29	5	0	50	68	432	416	538	197	5	0	0	1740	93.0	29.Jun
1977	4	0	18	142	159	305	480	574	198	69	24	54	2027	69.0	30.Jul
1978	0	29	91	8	104	448	674	782	269	132	3	2	2542	94.0	1.Aug
1979	2	9	0	22	28	241	716	257	155	114	32	26	1602	178.0	2.Jul
1980	0	43	25	16	37	420	529	562	65	36	0	0	1733	69.0	4.Aug
1981	44	6	54	161	110	287	463	600	235	2	24	0	1986	60.0	26.Jun
1982	14	20	52	92	23	259	512	695	172	22	16	2	1879	120.0	15.Jul
1983	34	31	58	99	74	249	469	663	290	156	0	43	2166	77.0	20.Jul
1984	12	4	9	70	89	214	482	349	526	16	0	6	1777	85.0	2.Sep
1985	10	4	0	85	81	175	691	381	248	167	0	55	1896	128.0	22.Jul
1986	0	19	22	71	113	546	763	468	364	121	5	56	2547	131.5	20.Jun
1987	2	29	11	78	30	337	692	484	276	142	17	17	2114	138.0	30.Jun
1988	0	11	27	26	97	322	551	401	227	0	0	-	-	-	-
1989	-	-	-	-	209	167	394	708	317	46	0	11	-	-	-
1990	0	47	65	59	140	173	404	553	130	131	13	6	1720	60.0	29.Jul
1991	2	25	31	71	237	173	409	-	-	-	-	-	-	-	-
1992	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1993	-	35	7	59	167	370	422	563	384	17	0	0	-	-	-
1994	31	45	45	12	166	166	458	616	362	2	25	1	1928	134.8	4.Sep
EXTREME	71	106	95	161	237	546	763	782	529	167	49	56	2547	178.0	2.Jul.79

## MONTHLY PRECIPITATION SUMMARY (mm)

NAME OF SITE : THANKOT  
 STATION No. : 1015  
 EST. DATE : Sep. 1966  
 DISTRICT : KATHMANDU

LATITUDE : 27° 41' N  
 LONGITUDE : 85° 12' E  
 ELEVATION : 1630m  
 ZONE : BAGMATI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM IN 24HRS.	DATE
1967	0	0	63	62	33	267	508	411							
1968						169	331	298	134	215	0	0			
1969	13	4	76	27	82	192	246	338	202	8	0	0	1189	46.2	12. Aug
1970	35	29	40	54	189	231	430	372	201	12	0	0	1593	92.0	18. May
1971	6	6	18	195	208	619	277	296	46	139	0	0	1810	127.0	12. Jun
1972	0	38	66	19	64	318	729	196	266	131	25	0	1852	135.0	28. Jul
1973	34	65	67	29	140	542	495	410	611	224	14	0	2631	112.0	13. Oct
1974	31	9	42	69	298	115	547	550	488	44	0	14	2207	132.0	2. May
1975	32	28	4	52	166	175	733	458	402	41	0	0	2091	100.0	28. Jul
1976	40	5	0	101	286	781	457	516	424	34	0	0	2644	106.0	2. Jun
1977	24	20	34	163	213	334	579	671	101	92	0	57	2288	61.0	10. Aug
1978	0	27	126	190	209	384	657	542	542	230	0	4	2911	135.0	16. Jul
1979	12	35	0	139	73	472	701	825	137	42	41	101	2578	132.0	24. Jul
1980	0	14	68	16	73	264	590	654	405	123	0	10	2217	84.0	9. Jun
1981	21	0	61	153	113	126	372	202	262	0	34	1	1345	100.0	29. Sep
1982	22	33	42	74	26	58	123	267	222	14	36	0	917	41.0	14. Sep
1983	30	6	24	76	138	94	486	288	340	43	0	40	1565	76.0	22. Sep
1984	19	21	21	52	104	293	693	255	454	31	0	8	1951	75.0	8. Sep
1985	9	0	0	60	166	180	587	680	623	253	0	81	2637	80.1	15. Sep
1986	0	59	16	105	180	488	637	478	422	60	0	56	2500	100.5	15. Sep
1987	5	69	51	41	51	149	967	482	193	216	0	32	2254	120.7	8. Jul
1988	7	10	78	7	97	104	485	647	433	24	20	112	2024	122.4	8. Sep
1989	77	25	24	6	277	235	509	422	431	25	0	0	2030	70.3	16. Jul
1990	0	48	83	105	171	219	622	596	213	56	0	1	2112	116.2	27. Aug
1991	30	23	71	134	88	215	221	549	256	0	1	33	1620	54.3	28. Aug
1992	10	24	1	7	114	126	363	530	265	135	15	5	1594	70.3	13. Oct
1993	29	50	60	124	166	195	593	597	184	0	0	-	-	111.2	20. Jul
1994	44	36	37	14	151	491	382	549	439	0	0	0	2143	61.2	3. Sep
EXTREME	77	69	126	195	298	781	967	825	623	253	41	112	2911	135.0	16. Jul '78

## MONTHLY PRECIPITATION SUMMARY (mm)

NAME OF SITE	: DHUNIBESI	LATITUDE	: 27° 43' N
STATION No.	: 1038	LONGITUDE	: 85° 11' E
EST. DATE	: Apr. 1971	ELEVATION	: 1706m
DISTRICT	: MAKWANPUR	ZONE	: NARAYANI

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM IN 24 HRS.	DATE
1973	23	40	53	40	82	266	316				0	0			
1974															
1975	24	15	5	40	158	167	525	307	306	31	0	0	1578	74.0	1.Jul
1976	22	4	0	51	251	469	399	449	250	79	0	0	1974	84.0	25.Aug
1977	10	8	23	97	177	202	470	384	99	15	9	62	1556	63.0	20.Jun
1978	3	18	61	59	185	372	423	495	250	142	0	3	2011	111.0	16.Jul
1979	2	19	2	24	66	242	377	380	117	37	15	85	1366	93.0	21.Aug
1980	0	22	24	17	128	418	389	172	149	30	0	1	1350	62.0	9.Jun
1981	5	2	32	63	32	68	342	292	275	0	31	0	1142	128.0	29.Sep
1982	14	26	39	45	44	121	265	450	103	2	20	4	1133	85.0	27.Aug
1983	13	5	32	71	276	130	411	316	301	143	0	16	1714	212.0	6.May
1984	16	10	16	42	167	189	358	166	320	19	0	5	1308	66.0	8.Jul
1985	6	0	0	70	172	293	663	315	387	179	0	46	2132	70.0	28.Jul
1986	0	20	8	72	109	363	383	300	324	130	49	0	1757	109.0	27.Jun
1987	2	48	42	25	53	144	450	267	135	138	0	0	1304	84.0	23.Jun
1988	0	11	47	36	208	214	492	417	203	13	9	69	1717	124.7	26.Aug
1989	42	0	1	2	116	183	359	153	153	15	0	0	1023	80.6	26.Jun
1990	0	6	48	73	96	175	676	377	202	22	0	0	1674	86.5	27.Aug
1991		12	45	96	76	185	175	421	177	0	0	24			
1992	4	6	0	36	97	143	254	417	203	95	14	2	1271	92.5	13.Sep
1993	12	8	64	76	132	167	412	377	121	1	2	0	1371	194.0	20.Jul
1994	35	24	19	7	104	386	275	364	326	0	6	0	1545	88.3	17.Jun
EXTREME	42	48	64	97	276	469	676	495	387	179	49	85	2132	212.0	6.May.'83

## MONTHLY PRECIPITATION SUMMARY (mm)

NAME OF SITE : SINDHULI GADHI  
 STATION No. : 1107  
 EST. DATE : Oct. 1971  
 DISTRICT : SINDHULI

LATITUDE : 27° 17' N  
 LONGITUDE : 85° 58' E  
 ELEVATION : 1364m  
 ZONE : JANAKPUR

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM IN 24HRS.	DATE
1955	-	-	-	-	-	-	652	414	174	47	0	0	-	-	-
1956	0	12	0	26	91	422	598	617	297	7	12	11	2093	66.0	4.Sep
1957	22	0	0	4	168	304	522	452	135	165	0	48	1820	132.1	6.Aug
1958	89	0	0	144	274	142	559	1006	333	125	0	5	2676	142.2	24.Aug
1959	107	0	51	234	212	341	321	395	297	145	94	0	2196	126.1	23.Aug
1960	0	0	83	0	384	357	553	537	526	42	0	0	2481	161.2	27.Aug
1961	0	32	112	38	139	679	210	633	247	279	0	40	2408	146.0	3.Jun
1962	215	43	127	104	222	880	377	624	394	12	0	0	2999	235.0	27.Jun
1963	2	0	26	98	180	630	424	408	216	143	85	0	2212	157.0	29.Jun
1964	0	0	0	192	89	241	907	457	388	105	0	0	2379	155.2	22.Aug
1965	0	0	52	47	39	257	655	1215	243	162	22	0	2690	306.0	7.Aug
1966	56	12	1	4	256	504	894	1151	258	5	0	0	3141	286.4	2.Jul
1967	0	0	94	114	86	366	955	360	157	0	54	0	2186	216.6	9.Jul
1968	78	0	29	41	0	650	497	550	87	39	0	0	1972	222.0	1.Jun
1969	2	3	56	90	115	405	407	505	248	64	0	0	1894	112.0	18.Aug
1970	22	50	16	46	164	360	1356	799	431	49	0	0	3295	291.2	14.Jul
1971	0	55	213	232	360	798	681	471	269	64	29	0	3172	202.0	11.Jun
1972	0	45	32	39	212	525	718	274	536	91	15	0	2487	90.0	29.Jul
1973	45	11	24	65	229	264	532	295	256	160	32	0	1913	185.0	18.Jul
1974	20	0	38	71	279	311	869	539	596	116	2	32	2873	206.0	2.Sep
1975	18	29	16	70	81	299	842	326	686	223	0	0	2590	150.0	4.Oct
1976	100	8	0	258	260	602	562	647	529	364	0	0	3330	242.0	22.Sep
1977	10	12	68	308	195	179	698	443	151	88	37	65	2254	66.0	30.Jul
1978	40	20	99	369	252	594	588	434	456	128	14	0	2994	130.0	23.Apr
1979	22	41	7	94	99	552	846	752	452	200	44	17	3126	165.0	20.Aug
1980	0	14	38	8	402	504	810	514	989	225	0	0	3504	300.0	9.Sep
1981	30	6	43	193	311	390	602	820	538	6	6	0	2945	302.0	29.Sep
1982	6	9	45	106	86	570	585	624	504	98	62	10	2705	135.0	17.Jun
1983	36	0	34	65	275	161	1210	347	590	186	0	15	2919	188.0	5.Jul
1984	31	8	16	61	306	603	948	628	1005	100	0	0	3706	342.0	16.Sep
1985	7	9	11	31	209	460	867	883	818	182	19	72	3568	208.0	24.Aug
1986	0	14	0	90	270	706	435	588	479	85	8	42	2717	178.0	30.Jun
1987	0	40	83	47	49	358	868	718	622	287	37	9	3114	172.0	19.Oct
1988	0	16	51	61	344	521	812	691	298	150	12	34	2989	110.0	24.Jul
1989	22	39	11	0	141	356	490	286	379	65	0	0	1788	89.5	20.Jun
1990	0	32	21	109	-	406	-	550	415	245	-	0	-	-	-
EXTREME	215	55	213	369	402	880	1356	1215	1005	364	94	72	3706	342.0	16.Sep.'84



## MONTHLY PRECIPITATION SUMMARY (mm)

NAME OF SITE : NEPAL THOK  
 STATION No. : 1115  
 EST. DATE : Oct. 1948  
 DISTRICT : SINDHULI

LATITUDE : 27° 27' N  
 LONGITUDE : 85° 49' E  
 ELEVATION : 757m  
 ZONE : JANAKPUR

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	MAXIMUM IN 24HRS.	DATE
1948	-	-	-	-	44	151	226	82	43	27	65	-	-	-	-
1949	0	34	-	134	93	133	187	142	104	57	0	-	-	-	-
1950	17	0	-	5	54	83	-	262	70	0	0	212	-	-	-
1951	6	0	-	28	47	24	-	270	17	0	0	0	-	-	-
1952	19	6	10	18	65	99	183	125	166	-	0	0	-	-	-
1953	0	0	71	52	48	89	317	82	137	0	0	0	796	40.0	2.Jul
1954	0	0	0	52	48	116	-	327	2	0	0	0	-	-	-
1955	0	0	0	95	9	27	147	214	62	0	0	0	554	114.3	7.Aug
1956	14	16	0	18	75	314	172	106	73	45	48	0	879	117.3	5.Jun
1957	52	0	11	19	6	41	88	188	19	31	0	9	464	55.9	6.Aug
1958	38	0	9	22	81	42	173	194	78	22	0	0	658	50.8	16.Jul
1959	36	0	52	0	58	280	1095	776	1002	719	0	0	4019	320.4	2.Jul
1960	0	0	79	100	140	277	222	290	781	631	0	0	2521	260.0	16.Sep
1961	0	50	46	121	371	183	259	298	79	47	0	4	1457	120.8	29.Apr
1962	86	61	26	94	82	133	100	273	49	1	0	60	966	83.0	27.Jan
1963	3	0	174	28	44	134	163	86	70	22	1	0	726	41.2	6.Mar
1964	0	0	0	122	55	60	207	130	98	2	0	0	674	70.0	3.Sep
1965	0	8	32	19	23	155	224	307	60	30	20	0	879	60.0	7.Jul
1966	8	3	0	24	26	163	284	16	215	0	0	0	740	65.0	2.Jul
1967	22	12	43	55	89	124	142	114	88	0	1	0	689	32.4	9.Jul
1968	27	14	9	14	18	86	272	94	34	306	0	0	873	125.0	5.Oct
1969	14	0	47	48	45	106	170	199	75	0	0	0	702	50.4	3.Jul
1970	10	29	16	58	156	205	570	264	112	0	0	0	1420	100.2	18.Jun
1971	0	29	23	98	68	562	134	216	9	45	19	0	1203	175.0	12.Jun
1972	0	16	59	30	60	138	342	50	242	0	0	0	937	99.0	27.Jul
1973	10	18	39	27	56	250	262	96	138	127	0	0	1023	118.0	16.Jul
1974	15	2	71	51	55	44	264	237	245	10	0	2	996	95.0	3.Sep
1975	24	10	0	63	90	170	412	91	33	0	0	0	893	80.0	27.Jul
1976	42	0	0	15	61	191	197	223	5	0	0	0	734	50.0	11.Aug
1977	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1978	10	0	51	88	126	157	314	50	162	0	0	0	958	94.0	16.Jul
1979	0	0	11	0	52	147	326	147	8	50	0	85	826	123.0	24.Jul
1980	12	10	13	6	104	167	137	83	104	12	0	0	648	80.0	9.Jul
1981	19	0	8	37	164	114	142	287	246	0	0	0	1017	215.0	30.Sep
1982	11	36	16	19	29	66	205	119	150	0	14	0	665	97.0	19.Jul
1983	25	0	16	107	109	39	248	122	73	116	0	13	868	64.0	4.Jul
1984	9	19	0	48	58	208	343	106	439	5	0	11	1246	136.0	17.Sep
1985	5	0	0	16	164	63	313	170	336	170	0	84	1321	99.0	17.Sep
1986	0	13	0	43	52	171	205	172	202	30	0	45	933	120.0	27.Aug
1987	0	23	31	64	5	122	551	141	121	234	0	10	1302	138.2	20.Oct
1988	0	10	59	17	88	132	213	227	71	9	0	70	896	72.0	3.May
1989	44	10	14	6	108	43	257	44	156	5	0	0	686	73.2	29.Jul
1990	0	36	17	29	132	64	305	287	93	75	0	0	1039	85.3	8.Jul
<b>EXTREME</b>	86	61	174	134	371	562	1095	776	1002	719	65	212	4019	320.4	2.Jul.'59

### MONTHLY DISCHARGES SUMMARY

(1) 446.8	BETRAWATI	(1971-1985)
(2) 447	BETRAWATI	(1969-1994)
(3) 448	TADIPUL BELKOT	(1969-1985)
(4) 465	MANAHARI	(1963-1990)
(5) 470	LOTHAR	(1964-1990)
(6) 565	LAMICHAUR	(1976-1978)
(7) 570	KULEKHANI	(1963-1977)
(8) 589	PANDHERA DOBHAN	(1981-1990)
(9) 590	KARMAIYA - MANGALPUR	(1965-1978)

NAME OF SITE            BETRAWATI  
 STATION No.            446.8  
 EST. DATE                24 APR. 1969  
 NAME OF RIVER         PHALANKHU KHOLA

LATITUDE 27° 58' 25" N  
 LONGITUDE 85° 11' 15" E  
 ELEVATION 630m  
 CA. AREA 162km<sup>2</sup>

### MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1971	2.9	2.3	2.5	14.3	8.5	126.0	83.6	98.5	168.0	54.8	8.7	4.2	168.0
1972	2.7	2.5	2.7	2.7	3.7	40.0	157.0	72.4	72.4	12.0	7.7	4.0	157.0
1973	2.9	3.0	2.7	2.5	5.8	79.6	39.0	71.0	42.3	45.6	7.3	3.3	79.6
1974	2.2	1.7	1.7	2.0	6.0	47.8	47.8	69.6	61.4	14.2	5.6	3.2	69.6
1975	2.9	2.5	1.9	2.6	2.8	33.7	48.4	49.7	52.3	28.0	8.0	3.9	52.3
1976	2.5	2.2	1.6	5.6	12.8	37.3	59.0	64.0	56.0	17.1	5.8	3.4	64.0
1977	2.8	2.3	4.4	4.4	6.5	19.2	70.4	65.0	44.8	22.4	8.8	5.9	70.4
1978	3.5	3.5	6.9	4.6	6.1	46.5	74.8	89.8	51.8	60.4	7.5	4.5	89.8
1979	2.4	3.4	1.2	1.7	3.1	32.7	74.2	67.0	46.6	24.2	6.6	7.3	74.2
1980	3.1	2.4	3.1	2.1	3.4	45.5	115.0	104.0	50.8	17.5	6.1	3.5	115.0
1981	2.4	2.0	2.3	5.1	9.5	33.5	105.0	76.6	37.9	13.8	5.4	3.1	105.0
1982	2.0	2.2	2.2	2.4	2.2	17.4	55.0	91.5	54.3	16.2	5.2	3.4	91.5
1983	2.8	1.9	2.1	2.6	7.3	13.7	66.5	82.8	88.5	26.0	7.5	3.9	88.5
1984	2.8	1.7	0.9	2.1	1.8	32.3	71.7	78.6	49.7	8.1	4.3	2.8	78.6
1985	2.5	1.8	1.5	1.4	2.8	28.5	90.0	78.6	75.8	56.6	11.4	5.7	90.0
<b>EXTREME</b>	3.5	3.5	6.9	14.3	12.8	126.0	157.0	104.0	168.0	60.4	11.4	7.3	168.0

### MINIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1971	2.2	1.8	1.6	1.6	3.0	5.9	21.1	39.6	20.4	8.3	4.2	2.7	1.6
1972	2.3	1.9	1.4	1.0	0.7	0.5	10.2	33.7	12.0	7.0	4.1	2.7	0.5
1973	2.6	2.4	1.9	1.8	1.9	2.1	17.6	17.1	18.8	7.7	3.4	2.0	1.8
1974	1.7	1.3	1.1	1.0	1.1	1.3	9.0	15.6	15.6	6.0	3.4	2.5	1.0
1975	2.2	1.9	1.7	1.5	1.5	1.9	11.3	11.3	18.2	8.3	3.9	2.5	1.5
1976	2.0	1.5	1.3	1.0	1.1	2.7	16.8	25.6	17.9	6.0	3.4	2.3	1.0
1977	2.2	1.7	1.4	1.8	2.5	3.3	21.0	44.0	16.7	7.9	4.6	3.3	1.4
1978	2.6	2.5	2.3	2.6	3.5	5.4	24.7	24.9	18.9	8.0	4.1	2.4	2.3
1979	1.6	1.3	0.7	0.2	0.1	1.6	11.7	25.6	9.7	7.0	4.3	2.8	0.1
1980	1.8	1.7	1.5	1.3	1.3	2.8	35.2	37.9	16.3	6.1	3.5	2.4	1.3
1981	2.1	1.8	1.4	1.6	2.0	3.3	17.5	29.4	13.1	5.2	3.3	2.0	1.4
1982	1.5	1.3	1.2	1.1	1.2	1.4	5.4	21.2	15.1	5.4	3.5	2.2	1.1
1983	1.7	1.5	1.2	1.1	1.5	1.7	10.2	27.7	19.1	8.1	3.7	2.5	1.1
1984	1.7	0.9	0.7	0.5	0.5	0.9	20.3	17.4	7.0	4.5	2.5	2.2	0.5
1985	1.8	1.4	1.0	0.8	0.8	1.4	9.9	27.7	23.6	11.7	5.4	4.2	0.8
<b>EXTREME</b>	1.5	0.9	0.7	0.2	0.1	0.5	5.4	11.3	7.0	4.5	2.5	2.0	0.1

NAME OF SITE            BETRAWATI  
 STATION No.            446.8  
 EST. DATE              24 APR. 1969  
 NAME OF RIVER        PHALANKHU KHOLA

LATITUDE 27° 58' 25" N  
 LONGITUDE 85° 11' 15" E  
 ELEVATION 630m  
 CA. AREA 162km<sup>2</sup>

### MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1971	2.4	1.9	1.8	3.6	4.5	44.5	49.3	59.8	39.6	18.6	6.2	3.4	19.6
1972	2.5	2.2	1.8	1.4	1.4	6.2	34.4	49.8	28.4	8.9	5.9	3.2	12.2
1973	2.7	2.6	2.1	2.1	2.5	18.9	25.8	35.1	28.4	16.2	5.1	2.6	12.0
1974	1.9	1.5	1.3	1.4	1.7	8.1	34.4	32.4	28.1	10.0	4.2	2.9	10.6
1975	2.3	2.1	1.8	1.8	1.8	8.5	23.5	20.8	33.5	16.2	5.5	3.2	10.1
1976	2.3	1.9	1.4	1.5	2.9	14.0	36.3	40.2	34.6	10.1	4.3	2.7	12.7
1977	2.5	2.0	1.6	2.8	3.7	8.2	37.2	55.0	32.0	13.8	6.0	3.9	14.1
1978	3.1	2.7	2.9	3.2	4.6	20.4	43.6	53.0	29.4	15.6	5.5	3.1	15.6
1979	2.0	1.7	1.0	0.5	1.2	9.9	32.8	39.8	20.9	10.0	5.3	3.9	10.7
1980	2.3	1.9	1.9	1.6	1.6	12.3	56.2	54.2	30.1	9.7	4.6	3.0	14.9
1981	2.2	1.9	1.7	2.3	3.5	11.2	42.4	50.3	24.4	8.2	4.2	2.5	12.9
1982	1.7	1.5	1.4	1.4	1.6	6.1	28.7	47.1	34.7	8.2	4.4	2.8	11.6
1983	2.0	1.6	1.4	1.4	2.8	3.6	29.7	56.9	53.4	15.1	5.1	3.1	14.7
1984	2.0	1.3	0.8	0.7	1.0	6.2	46.4	35.1	29.0	6.4	3.5	2.5	11.2
1985	2.1	1.7	1.2	0.9	1.2	5.9	42.8	45.2	40.0	19.2	7.9	4.7	14.4
AVERAGE	2.3	1.9	1.6	1.8	2.4	12.3	37.6	45.0	32.4	12.4	5.2	3.2	13.2

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE	DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE
510.0	4.07	10 SEP. 1971	1.63	0.51	9 APR. 1971
206.0	2.80	28 JUL. 1972	0.40	0.35	13 JUN. 1972
119.0	2.34	16 JUN. 1973	1.80	0.89	13 APR. 1973
95.8	2.21	2 SEP. 1974	1.00	0.98	27 APR. 1974
71.0	2.05	14 SEP. 1975	1.48	0.84	9 MAY. 1975
157.0	2.55	8 AUG. 1976	0.82	0.50	13 APR. 1976
77.4	2.02	8 JUL. 1977	1.40	0.58	25 MAR. 1977
187.0	2.65	11 AUG. 1978	2.32	0.63	11 MAR. 1978
139.0	2.04	22 JUL. 1979	0.12	0.05	12 MAY. 1979
510.0	3.95	29 JUL. 1980	1.19	0.23	1 MAY. 1980
225.0	2.55	31 JUL. 1981	1.44	0.44	29 MAR. 1981
133.0	2.00	13 AUG. 1982	1.11	0.27	15 APR. 1982
167.0	2.00	20 SEP. 1983	1.09	0.22	12 APR. 1983
167.0	2.00	17 JUL. 1984	0.43	0.13	23 MAY. 1984
211.0	2.25	4 JUL. 1985	0.75	0.18	20 MAY. 1985

NAME OF SITE            BETRAWATI  
 STATION No.            447  
 EST. DATE              1 APR. 1967  
 NAME OF RIVER        TRISULI

LATITUDE    27° 58' 08" N  
 LONGITUDE  85° 11' 10" E  
 ELEVATION   600m  
 CA. AREA    4110km<sup>2</sup>

**MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1967	57.0	39.0	37.0	62.8	110.0	218.0	650.0	650.0	433.0	194.0	81.2	56.8	650.0
1968	44.0	36.4	36.4	51.0	82.8	473.0	605.0	560.0	433.0	505.0	94.0	59.2	605.0
1969	44.0	40.4	38.8	55.6	108.0	239.0	605.0	570.0	455.0	222.0	82.8	54.4	605.0
1970	40.4	33.3	34.8	73.8	104.0	487.0	618.0	690.0	327.0	227.0	108.0	65.8	690.0
1971	50.0	40.0	40.0	68.2	116.0	576.0	588.0	726.0	470.0	203.0	112.0	64.6	726.0
1972	49.0	39.4	48.0	54.3	178.0	269.0	850.0	598.0	520.0	141.0	83.6	49.0	850.0
1973	40.2	42.0	46.2	106.0	133.0	1270.0	732.0	988.0	690.0	738.0	140.0	78.0	1270.0
1974	58.2	42.2	38.7	81.0	120.0	648.0	918.0	1170.0	738.0	258.0	110.0	69.0	1170.0
1975	54.8	50.4	47.1	84.0	148.0	690.0	714.0	814.0	706.0	304.0	181.0	82.0	814.0
1976	59.8	43.6	45.7	80.0	124.0	384.0	635.0	808.0	560.0	297.0	113.0	82.8	808.0
1977	52.2	51.4	58.0	77.6	155.0	432.0	772.0	820.0	505.0	262.0	125.0	73.8	820.0
1978	52.2	49.0	55.0	86.7	248.0	620.0	652.0	918.0	424.0	540.0	141.0	85.4	918.0
1979	59.0	52.2	45.8	82.8	123.0	404.0	1040.0	790.0	468.0	194.0	97.4	74.6	1040.0
1980	48.9	44.5	43.4	105.0	110.0	667.0	1030.0	1080.0	575.0	265.0	110.0	70.4	1080.0
1981	50.0	39.0	40.1	73.2	127.0	678.0	862.0	784.0	760.0	218.0	116.0	66.2	862.0
1982	46.7	45.6	74.6	80.8	129.0	364.0	662.0	838.0	667.0	167.0	93.8	60.8	838.0
1983	47.8	37.2	39.0	52.4	108.0	400.0	520.0	662.0	601.0	355.0	123.0	80.8	662.0
1984	51.2	35.4	37.2	44.5	221.0	382.0	808.0	820.0	748.0	188.0	81.0	61.4	820.0
1985	40.7	40.7	40.7	72.8	85.5	423.0	667.0	596.0	656.0	525.0	116.0	75.4	667.0
1986	60.2	57.8	57.8	82.5	93.0	832.0	922.0	856.0	970.0	247.0	123.0	81.0	970.0
1987	61.4	53.0	60.2	90.0	99.0	270.0	580.0	-	-	180.0	89.6	67.0	-
1988	55.0	53.0	54.0	62.0	190.0	324.0	655.0	758.0	548.0	148.0	86.0	69.2	758.0
1989	82.4	53.0	55.0	63.0	324.0	512.0	512.0	592.0	440.0	214.0	78.8	-	-
1990	-	41.6	45.6	67.0	152.0	552.0	1330.0	1200.0	737.0	266.0	99.0	59.0	-
1991	44.0	35.1	40.8	55.0	158.0	352.0	744.0	1050.0	-	-	-	51.0	-
1992	37.9	34.4	31.5	43.2	61.0	285.0	600.0	1360.0	630.0	229.0	86.0	50.0	1360.0
1993	37.2	32.5	29.5	72.8	116.0	320.0	832.0	1850.0	645.0	276.0	90.8	51.0	1850.0
EXTREME	82.4	57.8	74.6	106.0	324.0	1270.0	1330.0	1850.0	970.0	738.0	181.0	85.4	1850.0

NAME OF SITE            BETRAWATI  
 STATION No.            447  
 EST.DATE                1 APR. 1967  
 NAME OF RIVER         TRISULI

LATITUDE 27° 58' 08" N  
 LONGITUDE 85° 11' 10" E  
 ELEVATION 600m  
 CA. AREA 4110km<sup>2</sup>

**MINIMUM MONTHLY AND YEARLY DISCHARGES (m<sup>3</sup>/s)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1967	39.0	37.0	34.0	29.1	38.0	84.4	314.0	388.0	200.0	82.8	55.6	43.0	29.1
1968	34.0	29.8	29.1	30.5	53.2	72.4	358.0	342.0	182.0	94.0	60.4	44.0	29.1
1969	37.2	33.3	30.5	32.6	34.0	78.0	112.0	310.0	215.0	82.8	52.0	41.2	30.5
1970	34.0	30.5	28.4	28.4	46.0	59.2	212.0	330.0	253.0	112.0	65.8	51.1	28.4
1971	40.0	36.7	35.9	37.5	50.0	133.0	344.0	376.0	186.0	106.0	64.6	48.0	35.9
1972	38.6	35.4	35.4	38.6	43.0	116.0	170.0	318.0	151.0	73.1	49.0	38.4	35.4
1973	34.8	35.4	36.0	43.3	66.8	98.0	420.0	490.0	328.0	138.0	79.5	60.6	34.8
1974	43.3	36.1	33.7	35.3	55.9	104.0	227.0	416.0	258.0	110.0	70.5	53.7	33.7
1975	48.2	44.2	43.3	44.2	58.2	92.0	348.0	372.0	296.0	140.0	84.0	59.8	43.3
1976	43.6	38.8	37.9	36.1	58.5	142.0	241.0	368.0	235.0	117.0	82.8	53.0	36.1
1977	44.3	43.6	45.8	49.0	55.0	109.0	440.0	436.0	245.0	117.0	77.6	52.2	43.6
1978	42.9	40.8	42.9	42.9	85.4	170.0	376.0	364.0	225.0	141.0	82.8	59.0	40.8
1979	44.3	41.5	41.5	42.9	72.6	93.1	195.0	307.0	159.0	99.2	70.4	48.9	41.5
1980	41.2	38.1	36.3	42.3	62.0	99.2	405.0	247.0	261.0	110.0	71.8	48.9	36.3
1981	38.1	33.6	33.6	35.4	59.6	97.4	500.0	463.0	188.0	118.0	67.6	46.7	33.6
1982	40.1	37.2	44.5	67.6	69.0	133.0	167.0	477.0	167.0	92.0	62.0	46.7	37.2
1983	35.4	32.7	34.5	34.5	43.4	85.6	244.0	382.0	275.0	110.0	76.0	48.9	32.7
1984	33.6	31.8	31.8	30.9	33.6	196.0	409.0	347.0	199.0	82.5	61.4	40.7	30.9
1985	32.0	31.3	37.1	38.0	42.5	72.8	373.0	343.0	221.0	118.0	76.7	60.2	31.3
1986	52.0	50.9	50.9	52.0	63.8	81.0	432.0	436.0	247.0	125.0	79.5	59.0	50.9
1987	49.9	47.8	44.6	49.0	53.0	112.0	216.0	-	-	90.8	67.0	54.0	-
1988	48.0	45.6	47.2	55.0	61.0	94.8	256.0	400.0	158.0	87.2	83.0	54.0	45.6
1989	50.0	44.8	44.0	51.0	58.0	102.0	235.0	232.0	220.0	80.0	54.0	-	-
1990	-	35.1	33.7	33.7	50.0	158.0	472.0	488.0	273.0	102.0	60.0	42.4	-
1991	35.8	31.0	30.5	31.5	47.2	84.8	291.0	564.0	-	-	-	38.6	-
1992	31.5	26.5	26.5	27.0	35.1	54.0	146.0	456.0	210.0	86.0	49.0	36.5	26.5
1993	31.0	28.0	24.5	26.0	59.0	110.0	262.0	468.0	288.0	92.0	45.6	35.1	24.5
EXTREME	31.0	26.5	24.5	26.0	33.6	54.0	112.0	232.0	151.0	73.1	45.6	35.1	24.5

NAME OF SITE            **BETRAWATI**  
 STATION No.            **447**  
 EST. DATE              **1 APR. 1967**  
 NAME OF RIVER        **TRISULI**

LATITUDE 27° 58' 08" N  
 LONGITUDE 85° 11' 10" E  
 ELEVATION 600m  
 CA. AREA 4110km<sup>2</sup>

**MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1967	47.4	38.0	35.6	41.2	63.7	137.0	429.0	518.0	326.0	119.0	66.9	48.2	155.8
1968	37.9	32.1	31.0	38.7	64.9	220.0	486.0	479.0	281.0	170.0	75.8	51.0	164.0
1969	40.5	35.5	33.2	38.1	62.3	133.0	398.0	451.0	335.0	126.0	67.7	47.4	147.3
1970	36.7	31.9	29.9	40.5	65.3	162.0	468.0	512.0	290.0	152.0	83.6	57.9	160.8
1971	45.0	38.6	36.8	46.5	65.1	348.0	448.0	549.0	320.0	154.0	81.5	54.8	182.3
1972	42.9	37.3	38.9	42.9	101.0	163.0	431.0	473.0	283.0	106.0	62.5	43.0	152.0
1973	37.3	36.8	40.2	60.4	96.6	366.0	510.0	663.0	525.0	288.0	100.0	65.7	232.4
1974	50.8	39.7	36.2	53.8	82.2	200.0	546.0	640.0	396.0	186.0	86.4	60.6	198.1
1975	51.2	46.2	44.2	60.2	91.6	264.0	548.0	561.0	516.0	222.0	110.0	69.8	215.4
1976	49.3	41.9	40.3	46.6	85.2	207.0	367.0	487.0	372.0	165.0	99.4	65.5	168.9
1977	48.1	46.5	49.8	54.9	77.8	192.0	591.0	609.0	360.0	164.0	94.0	61.7	195.7
1978	46.6	44.1	45.4	57.4	151.0	335.0	520.0	625.0	332.0	215.0	108.0	70.1	212.5
1979	51.3	43.5	43.9	52.4	91.9	185.0	468.0	504.0	280.0	137.0	83.0	55.6	166.3
1980	43.5	40.2	40.8	59.4	91.9	276.0	663.0	678.0	390.0	162.0	91.2	58.9	216.2
1981	42.8	36.4	37.2	50.0	85.0	290.0	714.0	619.0	369.0	140.0	87.1	56.0	210.5
1982	43.2	39.8	56.0	74.6	81.4	212.0	407.0	596.0	393.0	120.0	77.5	54.1	179.6
1983	40.1	34.8	36.3	38.5	69.9	161.0	377.0	506.0	438.0	200.0	94.9	60.4	171.4
1984	46.6	33.4	34.2	34.5	107.0	298.0	619.0	517.0	417.0	117.0	69.5	48.9	195.2
1985	35.6	33.8	49.9	46.3	54.6	156.0	486.0	432.0	369.0	200.0	91.7	69.1	168.7
1986	55.1	54.5	53.9	64.6	77.1	319.0	694.0	595.0	454.0	169.0	96.4	67.9	225.0
1987	54.2	50.1	48.8	56.7	69.9	177.0	396.0	-	-	116.0	78.7	61.8	-
1988	52.2	48.5	49.3	59.7	86.3	178.0	488.0	566.0	260.0	109.0	71.8	58.8	169.0
1989	53.8	47.5	48.4	57.2	105.0	188.0	356.0	441.0	282.0	120.0	65.1	-	-
1990	-	37.1	36.1	47.9	91.2	315.0	815.0	650.0	452.0	167.0	77.1	49.1	-
1991	38.5	32.5	32.5	38.0	86.4	210.0	448.0	802.0	-	-	-	45.1	-
1992	35.4	29.1	28.6	34.6	43.1	122.0	325.0	709.0	410.0	140.0	66.5	41.8	165.4
1993	33.2	30.5	27.2	38.2	84.5	192.0	446.0	728.0	422.0	166.0	67.7	42.1	189.8
<b>AVERAGE</b>	<b>44.6</b>	<b>39.3</b>	<b>40.2</b>	<b>49.4</b>	<b>82.7</b>	<b>222.4</b>	<b>497.9</b>	<b>573.5</b>	<b>370.9</b>	<b>158.8</b>	<b>82.8</b>	<b>56.4</b>	<b>184.4</b>

NAME OF SITE            BETRAWATI  
 STATION No.            447  
 EST. DATE              1 APR. 1967  
 NAME OF RIVER        TRISULI

LATITUDE 27° 58' 08" N  
 LONGITUDE 85° 11' 10" E  
 ELEVATION 600m  
 CA. AREA 4110km<sup>2</sup>

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE (m <sup>3</sup> /s)	GAUGE HEIGHT (m)	DATE	DISCHARGE (m <sup>3</sup> /s)	GAUGE HEIGHT (m)	DATE
760	3.12	10 Jul. 1967	28.4	0.82	9 Apr. 1967
700	2.95	4 Oct. 1968	28.4	0.82	15 Mar. 1968
710	3.10	8 Aug. 1969	29.8	0.79	26 Mar. 1969
887	3.21	12 Aug. 1970	27.7	0.81	3 Apr. 1970
985	3.35	10 Aug. 1971	35.1	0.74	31 Mar. 1971
2020	4.67	7 Jul. 1972	34.6	0.82	3 Mar. 1972
2280	4.93	17 Jun. 1973	33.6	0.96	17 Feb. 1973
1440	3.89	5 Aug. 1974	33.7	0.76	22 Mar. 1974
1010	3.27	8 Jul. 1975	42.4	0.86	19 Mar. 1975
820	3.00	17 Jul. 1976	36.1	0.74	12 Apr. 1976
1060	3.34	27 Jul. 1977	42.2	0.65	8 Feb. 1977
1040	3.32	12 Aug. 1978	40.1	0.63	4 Feb. 1978
1060	3.34	24 Jul. 1979	40.8	0.64	2 Mar. 1979
1100	3.35	3 Aug. 1980	35.4	0.66	8 Mar. 1980
1050	3.27	22 Aug. 1981	31.8	0.62	21 Feb. 1981
991	3.19	28 Aug. 1982	36.3	0.67	21 Feb. 1982
868	2.98	19 Aug. 1983	30.9	0.61	10 Feb. 1983
1140	3.41	31 Jul. 1984	30.0	0.60	25 Apr. 1984
2000	-	04 Aug. 1985	30.5	-	15 Feb. 1985
1030	-	22 Jul. 1986	49.9	-	04 Mar. 1986
1060	-	11 Aug. 1987	43.6	-	10 Mar. 1987
856	-	01 Aug. 1988	45.6	-	25 Feb. 1988
600	-	08 Jun. 1989	43.2	-	14 Mar. 1989
1520	-	18 Jul. 1990	32.5	-	13 Mar. 1990
1520	-	20 Aug. 1991	26.5	-	27 Feb. 1991
2020	-	10 Aug. 1992	24.0	-	20 Mar. 1992



NAME OF SITE TADIPUL BELKOT  
 STATION No. 448  
 EST. DATE 14 JUN. 1968  
 NAME OF RIVER THADI KHOLA

LATITUDE 27° 51' 35" N  
 LONGITUDE 85° 08' 18" E  
 ELEVATION 475m  
 CA. AREA 653km<sup>2</sup>

**MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1969	10.9	5.8	6.4	8.2	10.9	47.2	195.0	206.0	147.0	61.6	25.0	11.8	206.0
1970	7.2	7.8	6.6	5.8	47.2	71.2	283.0	539.0	142.0	68.8	35.2	19.9	539.0
1971	12.2	8.2	10.0	37.0	30.1	212.0	307.0	275.0	128.0	105.0	42.0	18.3	307.0
1972	11.3	11.8	12.2	9.1	14.9	68.8	812.0	218.0	272.0	67.6	43.0	22.4	812.0
1973	13.6	19.9	28.4	13.6	46.0	556.0	400.0	351.0	265.0	112.0	42.0	21.7	556.0
1974	15.6	6.9	6.6	6.9	34.3	82.0	192.0	295.0	315.0	90.0	42.6	21.7	315.0
1975	18.9	15.3	7.4	13.1	21.0	139.0	234.0	327.0	323.0	116.0	30.6	17.0	327.0
1976	17.0	11.5	6.0	12.0	66.0	90.3	163.0	180.0	188.0	61.0	24.2	13.9	188.0
1977	9.5	8.6	9.5	11.1	14.7	54.4	274.0	233.0	101.0	65.5	26.2	24.2	274.0
1978	8.9	8.0	18.2	10.8	22.8	215.0	510.0	415.0	254.0	222.0	28.4	16.0	510.0
1979	9.8	12.2	5.5	8.9	6.3	57.9	238.0	357.0	257.0	43.0	22.9	22.3	357.0
1980	13.7	10.8	10.2	8.1	24.1	87.1	550.0	297.0	130.0	42.1	19.0	11.7	550.0
1981	9.5	7.5	5.9	19.0	19.5	92.2	224.0	309.0	110.0	36.7	20.0	11.7	309.0
1982	8.1	9.2	9.2	8.4	7.2	43.0	161.0	154.0	91.8	27.7	20.0	12.2	161.0
1983	10.3	7.1	9.1	10.0	16.6	40.3	318.0	217.0	249.0	93.9	34.9	21.1	318.0
1984	15.2	9.5	7.0	16.1	32.5	79.0	203.0	205.0	172.0	39.5	22.2	13.4	205.0
1985	11.3	8.9	5.8	5.3	13.0	66.4	186.0	305.0	419.0	132.0	36.9	22.8	419.0
EXTREME	18.9	19.9	28.4	37.0	66.0	556.0	812.0	415.0	419.0	222.0	43.0	24.2	812.0

**MINIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1969	5.8	3.8	3.2	2.5	1.5	1.6	17.0	61.6	65.2	25.8	11.8	6.9	1.5
1970	4.9	3.6	3.0	2.4	1.5	3.4	45.0	83.5	65.2	34.3	19.9	12.2	1.5
1971	8.2	6.4	5.2	5.8	8.2	15.6	76.0	94.0	56.8	37.0	19.0	11.3	5.2
1972	7.8	6.6	5.5	4.9	3.4	2.6	30.1	83.5	61.6	32.6	23.3	11.8	2.6
1973	8.2	5.2	5.5	4.0	4.9	5.5	47.2	70.0	80.5	39.0	19.0	10.0	4.0
1974	6.6	3.6	2.6	2.4	2.0	4.5	46.0	99.4	84.0	42.6	21.7	15.8	2.0
1975	11.1	7.9	4.2	4.0	4.0	4.4	58.0	68.2	76.7	31.5	17.6	11.5	4.0
1976	9.5	6.3	4.7	4.5	4.7	21.4	35.1	66.0	44.0	24.2	14.3	9.5	4.5
1977	7.5	5.3	4.0	5.7	6.8	7.8	36.0	87.4	38.0	20.3	11.8	8.0	4.0
1978	5.7	4.9	3.2	4.0	6.6	10.5	73.0	80.2	61.0	30.1	15.5	9.8	3.2
1979	7.1	5.7	3.6	3.7	3.2	2.8	16.1	68.5	27.3	22.3	15.2	12.5	2.8
1980	8.1	7.5	6.1	5.5	5.4	10.2	59.2	76.0	37.6	19.0	12.1	8.4	5.4
1981	7.0	4.3	3.4	4.3	5.4	6.1	32.5	71.5	34.0	16.6	11.7	8.1	3.4
1982	6.8	5.4	4.4	4.1	3.8	4.6	13.3	54.2	28.5	17.1	12.6	8.9	3.8
1983	6.6	5.3	4.4	4.4	5.8	6.0	27.0	46.3	70.0	36.7	19.0	13.7	4.4
1984	9.2	6.8	4.6	4.6	5.9	8.6	64.4	63.8	40.3	22.2	13.4	9.7	4.6
1985	7.6	5.8	3.8	3.8	4.0	5.3	35.2	65.0	80.6	35.2	15.7	10.0	3.8
EXTREME	4.9	3.6	2.6	2.4	1.5	1.6	13.3	46.3	27.3	16.6	11.7	6.9	1.5

NAME OF SITE TADIPUL BELKOT  
 STATION No. 448  
 EST. DATE 14 JUN. 1968  
 NAME OF RIVER THADI KHOLA

LATITUDE 27° 51' 35" N  
 LONGITUDE 85° 08' 18" E  
 ELEVATION 475m  
 CA. AREA 653km<sup>2</sup>

### MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1969	7.0	4.4	4.0	3.5	3.3	15.7	72.5	110.0	87.9	36.5	17.9	9.1	31.0
1970	6.1	4.7	3.9	3.2	3.7	31.0	114.0	161.0	84.5	47.9	27.9	15.9	42.0
1971	10.1	7.4	6.6	11.6	13.1	90.9	117.0	140.0	82.7	56.9	27.5	14.3	48.2
1972	9.4	8.6	7.3	6.7	6.1	20.6	111.0	118.0	120.0	45.6	30.7	16.3	41.7
1973	10.3	7.0	7.8	5.2	12.3	78.1	90.1	129.0	127.0	65.3	29.3	13.7	47.9
1974	8.8	5.3	3.6	3.8	5.7	24.9	93.7	163.0	139.0	61.6	30.5	18.8	46.6
1975	13.7	11.0	5.6	5.7	6.8	35.1	120.0	118.0	151.0	56.8	23.7	14.5	46.8
1976	10.9	8.4	5.2	6.2	17.4	46.4	77.2	109.0	95.0	37.2	19.2	11.5	37.0
1977	8.5	6.7	4.8	8.0	9.7	20.6	104.0	151.0	66.7	32.3	16.7	10.2	36.6
1978	7.4	5.6	5.4	5.8	11.4	59.3	171.0	200.0	90.7	53.8	22.0	12.5	53.7
1979	8.4	7.3	4.1	4.7	4.0	14.2	78.6	130.0	67.1	28.6	18.7	14.8	31.7
1980	10.5	8.3	7.3	6.1	7.7	38.3	120.0	157.0	66.5	27.5	15.2	9.9	39.5
1981	7.8	6.0	4.2	6.8	8.6	20.8	89.7	116.0	63.7	21.6	14.9	9.9	30.8
1982	7.5	7.1	5.5	5.5	4.7	16.0	71.4	88.6	57.1	21.4	15.6	10.3	25.9
1983	7.9	6.2	5.2	5.7	9.7	11.3	80.8	94.6	116.0	58.1	26.2	16.4	36.5
1984	12.1	8.5	5.5	6.1	12.3	30.9	104.0	103.0	98.1	27.6	17.1	11.6	36.4
1985	9.1	7.2	4.6	4.4	6.2	21.4	104.0	152.0	142.0	55.6	23.9	13.2	45.3
AVERAGE	9.5	7.4	5.5	6.2	9.0	35.3	102.2	131.3	98.8	43.3	22.1	13.2	40.3

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE	DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE
1700	4.97	22 AUG. 1968			
387	3.38	12 AUG. 1969	1.40	1.25	22 MAY. 1969
836	4.12	11 AUG. 1970	1.40	1.18	15 MAY. 1970
534	3.67	13 JUL. 1971	5.19	1.41	21 MAR. 1971
1500	4.80	28 JUL. 1972	2.51	1.28	12 JUN. 1972
1630	4.90	18 JUL. 1973	3.83	1.25	22 APR. 1973
460	3.53	9 AUG. 1974	1.91	1.23	28 MAY. 1974
670	3.90	6 SEP. 1975	3.80	1.17	2 MAY. 1975
226	2.93	1 SEP. 1976	4.53	1.43	20 APR. 1976
353	3.25	31 JUL. 1977	4.00	1.30	22 MAR. 1977
730	3.90	16 JUL. 1978	3.19	1.24	10 MAR. 1978
490	3.60	1 AUG. 1979	2.65	1.20	4 JUN. 1979
820	4.10	31 JUL. 1980	5.16	1.44	26 MAY. 1980
580	3.75	6 AUG. 1981	3.42	1.33	13 MAR. 1981
245	3.10	15 JUL. 1982	3.70	1.35	27 MAY. 1982
820	4.10	24 JUL. 1983	4.27	1.27	11 APR. 1983
293	3.22	31 JUL. 1984	4.59	1.41	26 APR. 1984
550	3.70	1 SEP. 1985	3.83	1.24	19 MAY. 1985
900	4.20	16 JUL. 1986	3.14	1.19	29 MAR. 1986

NAME OF SITE            MANAHARI  
 STATION No.            465  
 EST. DATE              13 JUN. 1963  
 NAME OF RIVER        MANAHARI

LATITUDE 27° 33' 00" N  
 LONGITUDE 84° 48' 10" E  
 ELEVATION 305m  
 CA. AREA 427km<sup>2</sup>

**MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1963	5.6	4.4	3.4	7.0	5.4	23.0	50.0	46.6	55.6	43.4	13.6	7.4	55.6
1964	5.5	4.3	3.4	3.7	7.9	11.5	81.3	51.0	43.5	23.5	11.6	7.5	81.3
1965	5.6	4.7	3.5	11.6	4.9	28.8	320.0	400.0	51.0	31.6	26.0	9.9	400.0
1966	8.2	7.4	5.1	3.7	6.4	20.8	87.6	463.0	120.0	27.0	13.8	9.8	463.0
1967	7.3	4.7	13.4	12.2	8.6	175.0	425.0	148.0	108.0	29.7	9.8	7.6	425.0
1968	15.0	7.2	7.2	7.9	8.3	29.0	180.0	223.0	66.8	78.0	16.5	9.4	223.0
1969	6.7	5.0	9.4	4.3	7.7	16.5	41.2	215.0	61.6	31.6	12.3	7.5	215.0
1970	5.5	5.5	26.0	18.0	9.5	39.6	494.0	64.0	54.4	17.5	9.2	7.9	494.0
1971	7.0	6.2	6.7	9.8	13.7	220.0	56.0	98.6	86.6	45.0	19.5	8.9	220.0
1972	5.9	4.9	4.2	3.6	4.9	35.6	168.0	117.0	83.0	23.9	16.2	9.8	168.0
1973	8.3	13.4	8.3	3.5	12.0	112.0	64.0	51.0	56.8	54.4	14.0	7.5	112.0
1974	6.0	4.2	5.5	6.5	12.5	61.6	108.0	522.0	662.0	74.7	14.2	8.8	662.0
1975	6.6	6.1	4.1	4.4	15.7	69.5	510.0	148.0	154.0	50.0	18.0	12.6	510.0
1976	8.6	5.7	3.4	18.0	68.0	134.0	226.0	112.0	91.1	33.0	13.0	8.2	226.0
1977	5.5	7.9	3.6	9.2	15.4	27.0	50.2	152.0	34.5	20.9	23.6	11.0	152.0
1978	6.4	8.9	18.7	17.4	9.4	57.2	244.0	72.4	66.7	56.8	51.3	9.5	244.0
1979	6.7	9.0	4.6	7.0	3.3	31.0	101.0	400.0	146.0	27.4	13.4	16.0	400.0
1980	6.1	6.1	5.2	8.6	16.0	47.4	46.1	54.5	77.0	14.0	8.7	6.9	77.0
1981	6.9	5.4	6.0	17.0	11.8	24.4	144.0	211.0	132.0	36.0	12.0	8.1	211.0
1982	5.2	4.9	5.5	3.4	10.6	10.6	84.4	52.0	313.0	43.2	21.6	11.8	313.0
1983	9.4	5.8	5.0	6.2	19.4	17.2	250.0	90.0	128.0	51.2	11.4	6.9	250.0
1984	6.9	3.8	3.2	4.4	5.4	21.6	116.0	64.0	343.0	28.0	10.1	5.6	343.0
1985	4.8	4.3	3.6	3.4	9.8	7.7	34.3	60.8	140.0	144.0	16.1	12.0	144.0
1986	8.1	17.2	7.8	70.4	72.0	132.0	98.0	430.0	301.0	41.2	13.0	6.0	430.0
1987	5.0	3.6	14.6	6.0	6.2	25.1	205.0	298.0	176.0	136.0	12.2	14.6	298.0
1988	11.4	8.4	28.6	8.7	17.9	14.6	43.4	46.7	106.0	16.2	16.2	10.6	106.0
1989	23.3	8.7	9.8	15.4	14.6	60.4	98.0	39.0	435.0	22.4	5.2	2.8	435.0
1990	1.7	1.8	2.5	1.8	5.5	50.0	113.0	261.0	98.0	64.7	17.0	7.6	261.0
<b>EXTREME</b>	23.3	17.2	28.6	70.4	72.0	220.0	510.0	522.0	662.0	144.0	51.3	16.0	662.0

NAME OF SITE            MANAHARI  
 STATION No.            465  
 EST.DATE                13 JUN. 1963  
 NAME OF RIVER         MANAHARI

LATITUDE 27° 33' 00" N  
 LONGITUDE 84° 48' 10" E  
 ELEVATION 305m  
 CA. AREA 427km<sup>2</sup>

**MINIMUM MONTHLY AND YEARLY DISCHARGES (m<sup>3</sup>/s)**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1963	4.3	3.5	3.0	2.8	1.9	1.8	5.9	18.2	16.2	12.2	7.2	5.5	1.8
1964	4.3	3.3	2.9	2.5	1.9	1.8	5.9	23.5	24.5	11.6	7.5	5.6	1.8
1965	4.3	3.7	3.0	2.6	1.8	1.8	10.6	21.0	26.6	15.4	9.9	6.9	1.8
1966	5.1	4.5	3.7	2.8	2.5	2.2	16.3	23.5	24.9	13.3	9.4	6.8	2.2
1967	4.7	3.4	3.1	2.5	1.6	1.3	7.3	28.5	29.7	10.4	7.3	5.8	1.3
1968	5.1	3.5	2.6	2.0	1.7	5.6	16.0	12.3	15.9	15.9	9.4	6.7	1.7
1969	4.7	3.4	3.1	2.6	2.2	3.9	6.7	17.1	32.4	12.8	7.5	5.5	2.2
1970	4.3	3.2	3.7	5.8	3.0	3.5	9.8	26.8	19.0	9.2	7.2	7.0	3.0
1971	6.5	5.8	5.3	3.0	4.3	5.3	28.6	40.0	25.5	14.0	9.8	5.7	3.0
1972	4.4	3.7	2.9	2.6	2.5	2.5	7.3	25.3	21.8	15.5	9.8	6.0	2.5
1973	4.5	3.5	3.0	2.3	2.8	3.0	24.2	22.4	23.0	14.5	7.5	5.0	2.3
1974	4.5	3.7	3.1	3.9	3.4	3.7	38.0	32.4	26.5	14.6	8.8	6.1	3.1
1975	4.9	4.0	3.5	3.2	3.2	3.1	12.8	31.0	47.4	18.0	12.6	6.6	3.1
1976	5.2	3.4	2.0	2.0	2.0	7.8	37.0	34.0	29.0	13.0	8.2	5.8	2.0
1977	4.3	3.3	2.8	3.6	3.3	3.3	15.4	28.0	20.0	12.0	7.7	6.0	2.8
1978	4.8	4.0	3.6	3.3	4.8	5.7	20.0	31.0	30.0	15.5	9.5	6.7	3.3
1979	5.3	4.6	3.3	3.1	2.5	2.3	9.0	36.0	28.6	13.4	9.4	6.1	2.3
1980	4.3	3.4	2.3	1.8	3.9	3.4	7.8	23.0	14.0	8.7	6.9	5.8	1.8
1981	5.6	4.8	4.4	4.6	4.6	3.4	8.4	23.0	23.0	12.0	8.1	5.2	3.4
1982	4.2	3.6	2.8	2.6	2.2	3.9	6.2	16.0	20.0	21.6	12.6	7.0	2.2
1983	5.4	4.6	4.2	3.0	4.2	1.2	12.6	35.8	51.2	11.4	6.9	5.0	1.2
1984	3.8	2.6	2.4	2.4	2.4	2.8	5.8	20.5	28.0	10.1	5.6	4.8	2.4
1985	4.3	3.5	3.3	3.3	3.3	4.1	6.1	16.1	37.2	17.2	8.7	6.6	3.3
1986	5.6	5.2	4.6	4.4	5.2	4.8	28.8	68.8	19.7	8.4	5.7	5.0	4.4
1987	3.4	3.0	3.1	3.1	3.4	3.3	13.0	96.0	68.8	6.8	7.0	11.4	3.0
1988	8.4	7.6	6.2	6.8	8.2	7.3	7.6	17.9	13.8	11.4	8.7	8.2	6.2
1989	8.2	7.9	7.9	8.2	9.8	14.6	17.0	18.8	9.0	5.2	2.8	1.7	1.7
1990	1.1	1.0	0.9	0.8	0.8	5.0	8.4	6.8	31.2	17.9	7.6	5.5	0.8
EXTREME	1.1	1.0	0.9	0.8	0.8	1.2	5.8	6.8	9.0	5.2	2.8	1.7	0.8

NAME OF SITE            MANAHARI  
 STATION No.            465  
 EST. DATE              13 JUN. 1963  
 NAME OF RIVER        MANAHARI

LATITUDE 27° 33' 00" N  
 LONGITUDE 84° 48' 10" E  
 ELEVATION 305m  
 CA. AREA 427km<sup>2</sup>

**MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1963	4.8	3.9	3.2	3.4	3.3	6.0	19.0	31.8	26.0	18.3	9.5	6.3	11.3
1964	4.7	3.8	3.1	2.9	3.9	5.1	24.8	33.8	30.6	16.2	9.5	6.5	12.1
1965	5.0	4.0	3.2	3.9	2.7	11.5	41.0	128.0	42.1	20.1	13.1	8.3	23.6
1966	6.0	5.2	4.2	3.2	3.2	5.8	27.0	89.3	45.3	18.6	11.8	7.8	18.9
1967	5.9	4.1	4.5	4.8	3.1	21.7	90.7	72.5	66.8	17.1	8.4	6.7	25.5
1968	6.3	4.4	3.6	2.7	3.5	13.2	35.8	49.2	29.9	32.9	12.3	7.9	16.8
1969	5.7	4.1	3.9	3.5	3.8	7.1	23.2	60.6	46.4	19.5	10.1	6.5	16.2
1970	5.0	3.9	11.5	11.7	4.5	12.2	56.2	47.0	41.0	11.4	8.1	7.3	18.3
1971	6.7	6.1	5.7	5.6	8.4	34.7	34.6	70.3	55.8	21.7	14.6	6.9	22.6
1972	5.3	4.4	3.4	2.8	2.7	6.7	55.8	52.5	34.9	19.3	12.2	7.3	17.3
1973	5.5	4.4	4.0	2.7	4.3	32.8	42.7	31.6	35.8	21.5	10.5	6.1	16.8
1974	4.7	4.0	3.7	4.4	5.5	17.8	55.1	77.4	92.5	26.5	11.2	7.2	25.8
1975	5.5	4.6	3.8	3.5	4.6	14.2	69.9	56.6	77.6	29.4	14.4	9.2	24.4
1976	6.1	4.6	2.7	3.6	8.8	39.8	71.2	48.7	49.0	19.1	10.3	6.9	22.6
1977	5.0	4.2	3.0	5.4	6.2	6.9	28.3	48.2	25.6	16.7	10.4	6.9	13.9
1978	5.5	4.6	4.5	5.4	6.4	20.2	62.4	49.0	39.1	24.7	13.4	8.3	20.3
1979	5.8	5.3	3.9	3.9	2.9	7.7	40.5	91.9	59.6	20.2	11.3	8.2	21.8
1980	5.4	4.2	3.7	2.4	8.6	12.0	23.7	32.9	19.7	11.1	7.7	6.2	11.5
1981	5.8	5.2	4.7	6.6	5.6	7.5	19.1	55.9	49.9	19.6	10.0	6.3	16.3
1982	4.7	4.2	3.5	2.8	3.8	7.3	26.5	29.2	52.0	31.9	16.3	9.1	15.9
1983	6.4	5.1	4.4	3.8	8.8	4.3	43.7	57.5	67.4	23.2	8.8	5.7	19.9
1984	4.7	3.1	2.7	2.9	3.4	7.7	26.5	34.4	71.5	14.5	7.4	5.1	15.3
1985	4.5	3.9	3.4	3.3	4.0	4.8	18.3	31.7	63.5	38.5	11.5	8.0	16.3
1986	6.3	6.0	5.0	38.8	57.7	36.4	50.9	105.0	64.2	19.0	7.3	5.5	33.5
1987	4.3	3.3	4.2	4.4	4.1	10.2	76.7	179.0	99.9	37.5	8.1	12.6	37.0
1988	10.0	7.8	7.9	7.9	11.4	10.6	14.2	23.6	22.8	13.9	11.4	8.8	12.5
1989	9.9	8.3	8.4	12.8	11.8	21.9	38.8	25.0	59.1	9.7	3.8	2.1	17.6
1990	1.4	1.2	1.1	0.9	2.1	10.4	52.7	38.0	54.7	38.4	11.0	6.5	18.2
<b>AVERAGE</b>	5.6	4.6	4.3	5.7	7.1	14.2	41.8	59.0	50.8	21.8	10.5	7.1	19.4

NAME OF SITE        MANAHARI  
 STATION No.        465  
 EST. DATE         13 JUN. 1963  
 NAME OF RIVER     MANAHARI

LATITUDE 27° 33' 00" N  
 LONGITUDE 84° 48' 10" E  
 ELEVATION 305m  
 CA. AREA 427km<sup>2</sup>

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE (m <sup>3</sup> /s)	GAUGE HEIGHT (m)	DATE	DISCHARGE (m <sup>3</sup> /s)	GAUGE HEIGHT (m)	DATE
59	1.74	13 Jul. 1963	1.79	0.58	31 Dec. 1963
118	1.95	20 Jul. 1964	1.81	0.36	11 Jun. 1964
800	3.50	7 Jul. 1965	1.80	0.28	14 Jun. 1965
1000	4.75	27 Aug. 1966	2.17	0.39	13 Jun. 1966
696	3.70	10 Jul. 1967	1.02	0.36	31 Dec. 1967
292	2.64	28 Aug. 1968	1.52	0.18	13 May. 1968
228	2.42	15 Aug. 1969	2.22	0.70	24 May. 1969
1450	5.60	16 Jul. 1970	2.80	0.59	15 May. 1970
1050	4.70	13 Jun. 1971	2.96	0.58	15 Apr. 1971
262	2.41	28 Jul. 1972	2.46	0.18	13 Jun. 1972
256	2.52	24 Jun. 1973	2.00	0.80	20 Apr. 1973
850	4.20	2 Sep. 1974	3.11	0.73	22 Mar. 1974
910	4.35	28 Jul. 1975	3.24	0.32	1 May. 1975
335	2.70	2 Jul. 1976	2.00	0.68	30 May. 1976
180	1.95	16 Aug. 1977	2.80	0.42	26 Mar. 1977
360	2.80	16 Jul. 1978	3.32	0.53	12 Apr. 1978
970	4.50	21 Aug. 1979	2.30	0.44	7 Jun. 1979
97	1.51	1 Sep. 1980	1.75	0.67	18 Apr. 1980
310	2.70	20 Aug. 1981	3.40	0.56	17 Jun. 1981
610	3.60	19 Sep. 1982	2.24	0.72	13 May. 1982
280	2.60	17 Jul. 1983	1.20	1.00	22 Jun. 1983
1440	5.58	17 Sep. 1984	2.40	0.92	21 May. 1984
280	2.60	5 Sep. 1985	3.27	0.37	14 May. 1985
700	-	27 Aug. 1986	4.40	-	2 Apr. 1986
310	-	8 Jul. 1987	2.95	-	23 Feb. 1987
168	-	8 Sep. 1988	6.20	-	15 Mar. 1988
460	-	8 Sep. 1989	1.66	-	31 Dec. 1989
301	-	27 Aug. 1990	0.70	-	6 Apr. 1990

NAME OF SITE	LOTHAR	LATITUDE	27° 35' 40" N
STATION No.	470	LONGITUDE	84° 43' 00" E
EST. DATE	30 NOV. 1963	ELEVATION	336m
NAME OF RIVER	LOTHAR KHOLA	CA. AREA	169km <sup>2</sup>

**MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1964	3.1	2.1	1.3	1.3	2.8	5.3	35.1	41.5	49.0	13.4	4.0	3.0	49.0
1965	2.3	2.1	1.8	1.8	1.7	28.3	134.0	206.0	200.0	87.0	25.1	3.4	206.0
1966	3.0	2.3	1.5	1.1	1.3	24.2	112.0	226.0	49.8	29.0	4.8	3.8	226.0
1967	2.2	1.8	2.8	2.6	4.8	42.6	184.0	134.0	153.0	17.8	4.3	2.6	184.0
1968	4.3	1.8	2.2	2.7	3.3	27.6	73.4	213.0	21.0	34.5	6.6	3.1	213.0
1969	2.2	1.6	1.9	3.6	4.5	4.9	21.0	290.0	30.7	13.6	4.8	2.8	290.0
1970	-	-	-	-	-	-	-	-	-	-	-	-	-
1971	2.1	1.8	1.8	5.2	15.9	241.0	61.0	56.5	54.2	30.0	8.3	3.0	241.0
1972	2.6	3.5	2.8	3.3	4.1	35.0	184.0	80.8	115.0	8.5	3.3	2.3	184.0
1973	4.2	2.3	1.8	2.0	6.1	89.0	45.2	33.2	59.2	44.4	15.0	3.3	89.0
1974	3.0	2.8	2.8	3.2	11.0	24.6	35.6	252.0	178.0	20.8	3.9	2.7	252.0
1975	2.4	3.4	2.9	6.4	6.8	100.0	358.0	215.0	295.0	44.0	5.3	3.4	358.0
1976	3.8	2.0	1.7	2.6	23.0	17.4	131.0	69.5	94.0	15.5	5.2	2.8	131.0
1977	2.0	1.8	1.4	10.3	13.4	19.5	69.5	258.0	33.9	8.3	4.8	4.8	258.0
1978	2.7	2.7	3.9	11.4	9.9	148.0	354.0	78.0	94.0	23.8	5.2	2.5	354.0
1979	1.9	1.3	1.3	2.0	1.3	10.0	82.0	182.0	57.8	8.8	7.5	5.3	182.0
1980	2.6	2.4	2.6	2.2	6.0	12.9	18.0	42.0	25.2	13.1	4.5	3.5	42.0
1981	3.1	2.3	8.4	3.9	5.4	14.3	104.0	127.0	174.0	10.1	4.1	2.5	174.0
1982	1.9	1.7	3.0	2.5	1.9	4.8	51.6	81.8	147.0	9.6	3.2	2.9	147.0
1983	3.3	3.1	2.3	7.0	7.0	9.0	170.0	44.7	18.6	13.9	5.0	3.0	170.0
1984	3.5	2.8	2.5	2.4	3.0	12.3	57.6	50.4	212.0	35.0	3.2	1.4	212.0
1985	1.8	1.4	2.3	5.0	17.0	10.5	102.0	146.0	234.0	204.0	10.0	3.0	234.0
1986	-	-	-	-	-	-	-	190.0	130.0	31.0	5.5	3.3	-
1987	1.8	1.4	1.6	2.1	1.3	2.0	110.0	47.0	26.0	6.8	2.4	2.1	110.0
1988	1.4	1.4	10.0	1.8	1.8	2.6	30.3	29.6	21.4	9.9	3.3	3.3	30.3
1989	3.6	1.5	2.3	1.4	6.0	6.8	123.0	26.0	206.0	16.0	8.0	5.5	206.0
1990	3.1	2.4	7.6	6.0	-	20.8	57.0	180.0	69.6	26.8	7.2	5.0	-
<b>EXTREME</b>	<b>4.3</b>	<b>3.5</b>	<b>10.0</b>	<b>11.4</b>	<b>23.0</b>	<b>241.0</b>	<b>358.0</b>	<b>290.0</b>	<b>295.0</b>	<b>204.0</b>	<b>25.1</b>	<b>5.5</b>	<b>358.0</b>

NAME OF SITE            **LOTHAR**  
 STATION No.            **470**  
 EST. DATE              **30 NOV. 1963**  
 NAME OF RIVER        **LOTHAR KHOLA**

LATITUDE    **27° 35' 40" N**  
 LONGITUDE   **84° 43' 00" E**  
 ELEVATION   **336m**  
 CA. AREA     **169km<sup>2</sup>**

**MINIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1964	1.6	1.3	1.0	0.9	0.9	0.6	2.7	16.1	14.2	3.0	3.0	2.3	0.6
1965	2.1	1.5	0.8	0.8	0.7	0.6	3.9	7.8	9.8	5.1	3.6	2.4	0.6
1966	1.8	1.5	1.0	0.7	0.7	2.0	5.9	8.0	16.1	4.8	2.8	2.2	0.7
1967	1.9	1.5	0.9	0.8	0.8	0.8	3.8	14.7	7.2	4.3	2.7	1.8	0.8
1968	1.5	1.3	1.4	0.7	0.7	1.0	6.0	14.9	14.3	6.6	3.1	2.2	0.7
1969	1.6	1.3	1.3	1.3	1.4	1.5	2.2	7.5	14.0	4.8	2.8	1.9	1.3
1970	-	-	-	-	-	-	-	-	-	-	-	-	-
1971	1.7	1.4	1.3	0.7	0.8	1.2	14.6	7.5	5.4	3.3	3.0	2.6	0.7
1972	2.3	2.4	2.1	2.4	2.2	1.9	1.7	13.8	8.5	3.0	2.3	1.9	1.7
1973	1.8	1.5	1.3	1.2	1.3	1.3	12.0	11.0	11.5	6.1	3.3	2.7	1.2
1974	2.6	2.5	2.3	2.2	1.7	1.8	2.9	6.3	5.9	3.6	2.7	1.7	1.7
1975	1.6	1.4	1.4	0.9	0.9	0.8	2.9	9.6	16.0	5.5	3.4	2.5	0.8
1976	1.9	1.7	1.4	1.3	1.1	0.3	13.6	12.6	12.6	5.2	3.0	1.8	0.3
1977	1.7	1.2	1.1	1.3	2.0	1.8	11.8	12.3	7.8	3.6	3.3	2.6	1.1
1978	2.1	1.8	1.4	1.0	2.4	3.4	8.5	21.4	16.6	4.3	2.3	1.9	1.0
1979	1.0	0.9	0.8	1.0	0.9	0.9	2.5	6.8	5.3	3.2	3.0	2.5	0.8
1980	2.0	1.9	1.3	1.1	1.3	1.6	2.5	6.5	7.0	4.3	3.5	2.5	1.1
1981	2.3	1.8	1.7	1.8	1.9	1.6	6.3	19.0	10.5	4.3	2.7	2.0	1.6
1982	1.8	1.4	1.2	1.0	0.8	1.2	1.8	9.3	8.4	2.9	2.7	2.7	0.8
1983	2.4	2.0	1.1	1.0	1.9	2.0	3.5	8.1	10.1	5.4	3.0	2.4	1.0
1984	2.4	2.0	1.3	1.1	1.0	1.8	5.4	8.4	8.2	2.9	1.4	1.2	1.0
1985	1.0	1.0	1.0	1.0	1.4	0.6	6.2	17.6	19.5	11.0	2.2	1.8	0.6
1986	-	-	-	-	-	-	-	14.2	22.0	3.3	2.7	2.2	-
1987	1.4	1.3	1.1	1.0	0.9	0.9	2.7	6.8	3.5	1.8	1.8	1.6	0.9
1988	1.0	0.9	0.9	0.7	0.8	1.0	2.2	11.0	6.8	3.4	2.4	1.9	0.7
1989	1.5	1.4	1.4	0.5	0.7	2.1	2.4	6.0	4.8	6.0	4.8	3.1	0.5
1990	1.9	1.8	2.2	1.7	-	3.1	5.8	3.8	2.2	6.0	2.5	3.5	-
EXTREME	1.0	0.9	0.8	0.5	0.7	0.3	1.7	3.8	2.2	1.8	1.4	1.2	0.3



NAME OF SITE	LOTHAR	LATITUDE	27° 35' 40" N
STATION No.	470	LONGITUDE	84° 43' 00" E
EST. DATE	30 NOV. 1963	ELEVATION	336m
NAME OF RIVER	LOTHAR KHOLA	CA. AREA	169km <sup>2</sup>

**MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1964	1.9	1.5	1.1	1.0	1.6	2.4	18.5	20.7	19.8	7.7	3.5	2.5	6.9
1965	2.2	1.9	1.0	1.0	0.9	4.0	25.5	61.2	30.6	11.8	6.0	3.0	12.4
1966	2.1	1.7	1.2	0.9	0.9	3.8	21.8	46.9	27.4	8.3	3.7	2.5	10.1
1967	2.0	1.7	1.3	1.0	1.2	8.8	35.9	28.6	35.5	9.0	3.3	2.1	10.9
1968	1.8	1.4	1.6	1.1	1.0	6.1	17.3	38.6	17.1	13.3	4.4	2.5	8.8
1969	1.9	1.4	1.4	1.5	1.8	2.5	7.4	35.6	18.6	7.8	3.7	2.3	7.2
1970	1.7	1.4	1.3	1.1	1.2	4.6	29.0	25.8	6.6	5.8	3.0	2.1	7.0
1971	1.8	1.5	1.4	1.2	1.4	24.9	29.7	18.3	16.9	5.8	3.8	2.8	9.1
1972	2.4	2.7	2.3	2.7	2.7	4.5	32.1	27.2	27.1	4.7	2.6	2.1	9.4
1973	2.0	1.7	1.5	1.3	1.7	15.3	18.5	16.6	21.5	14.4	5.0	3.0	8.5
1974	2.6	2.6	2.4	2.4	2.6	3.8	11.4	26.6	29.1	10.1	3.4	2.3	8.3
1975	1.7	1.6	1.8	1.5	1.4	8.5	55.1	87.4	92.3	11.6	4.0	2.9	22.5
1976	2.3	1.8	1.5	1.5	2.8	3.0	38.3	25.0	23.7	8.6	3.8	2.3	9.5
1977	1.8	1.5	1.2	2.4	3.7	6.4	22.6	27.8	10.8	5.1	3.6	3.0	7.5
1978	2.4	2.1	1.9	2.3	4.4	11.5	42.6	46.5	26.5	9.9	3.3	2.1	12.9
1979	1.2	1.0	1.0	1.3	1.0	2.7	25.7	37.7	14.8	5.5	3.7	2.9	8.2
1980	2.3	2.0	1.7	1.4	1.8	6.2	6.7	15.3	12.2	6.5	3.9	2.9	5.2
1981	2.6	2.1	2.2	2.2	2.5	3.4	16.0	35.3	28.2	6.1	3.4	2.2	8.8
1982	1.9	1.6	1.4	1.3	1.1	2.7	10.3	21.3	20.9	4.7	2.9	2.7	6.1
1983	2.8	2.6	2.0	2.0	3.7	3.4	21.8	12.5	13.9	7.7	3.8	2.5	6.6
1984	2.5	2.5	1.9	1.4	1.5	5.1	15.1	14.5	33.8	12.8	2.2	1.2	7.9
1985	1.1	1.2	1.2	1.4	3.6	4.2	24.0	49.4	71.0	32.6	4.4	2.2	16.4
1986	-	-	-	-	-	-	-	35.8	52.0	14.1	3.5	2.6	-
1987	1.6	1.3	1.3	1.1	1.0	1.3	22.8	19.9	8.2	2.6	2.1	1.8	5.4
1988	1.2	1.0	1.3	0.9	1.1	1.6	11.6	16.0	12.5	5.0	2.7	2.1	4.7
1989	2.0	1.5	1.5	1.0	1.9	3.1	10.9	14.2	47.7	10.7	5.6	3.9	8.7
1990	2.6	2.1	2.9	2.4	-	7.4	25.4	34.3	28.2	15.5	5.8	4.1	-
AVERAGE	-	-	-	-	-	-	-	31.1	27.7	9.5	3.7	2.5	-

NAME OF SITE            **LOTHAR**  
 STATION No.            470  
 EST. DATE              30 NOV. 1963  
 NAME OF RIVER        **LOTHAR KHOLA**

LATITUDE 27° 35' 40" N  
 LONGITUDE 84° 43' 00" E  
 ELEVATION 336m  
 CA. AREA 169km<sup>2</sup>

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT (m)	DATE	DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT (m)	DATE
87	3.30	9 Sep. 1964	0.56	1.20	13 Jun. 1964
254	5.50	7 Aug. 1965	0.56	1.18	14 Jun. 1965
387	5.25	27 Aug. 1966	0.70	-	20 May. 1966
332	5.00	18 Aug. 1967	0.80	1.06	31 Dec. 1967
381	5.21	27 Aug. 1968	0.71	0.92	13 May. 1968
417	4.45	25 Aug. 1969	1.25	0.97	4 Apr. 1969
191	3.30	15 Jul. 1970	0.78	0.80	2 Jun. 1970
464	5.40	13 Jun. 1971	0.58	2.10	16 Jun. 1971
291	4.44	24 Jul. 1972	1.59	2.05	15 Jul. 1972
162	3.70	17 Jun. 1973	1.22	1.87	22 Apr. 1973
626	6.30	30 Aug. 1974	1.68	1.94	1 Jun. 1974
450	5.40	28 Jul. 1975	0.82	2.87	13 Jun. 1975
390	5.05	2 Jul. 1976	0.30	2.88	23 Jun. 1976
340	5.10	16 Aug. 1977	1.12	2.58	26 Mar. 1977
564	6.22	16 Jul. 1978	1.04	2.44	14 Apr. 1978
280	4.80	14 Aug. 1979	0.83	2.36	21 Mar. 1979
120	4.00	13 Aug. 1980	1.10	2.45	26 Apr. 1980
390	5.20	29 Sep. 1981	1.70	2.33	15 Mar. 1981
382	5.16	23 Aug. 1982	0.79	2.23	28 May. 1982
356	5.03	29 Jul. 1983	1.03	2.26	13 Apr. 1983
650	6.80	17 Sep. 1984	1.03	2.26	28 May. 1984
342	5.26	26 Aug. 1985	0.54	2.90	6 Jun. 1985
320	-	27 Aug. 1986	2.22	-	13 Dec. 1986
152	-	30 Jul. 1987	0.88	-	16 May. 1987
118	-	23 Jul. 1988	1.86	-	19 Dec. 1988
388	-	5 Sep. 1989	0.54	-	26 Apr. 1989
350	-	27 Aug. 1990	1.74	-	30 Apr. 1990

NAME OF SITE **LAMICHAUR**  
 STATION No. **565**  
 EST. DATE **17 JUL. 1975**  
 NAME OF RIVER **KULEKHANI KHOLA**

LATITUDE **27° 36' 13" N**  
 LONGITUDE **85° 09' 30" E**  
 ELEVATION **1514m**  
 CA. AREA **122km<sup>2</sup>**

### MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1976	2.5	1.4	1.1	1.7	2.9	29.5	20.3	20.6	12.7	2.8	1.6	1.4	29.5
1977	1.1	1.2	1.2	3.9	4.7	5.0	6.7	11.8	3.5	2.0	2.6	5.0	11.8
1978	1.2	1.2	2.4	4.1	4.9	8.9	42.6	14.8	17.3	25.5	4.3	2.0	42.6
EXTREME	2.5	1.4	2.4	4.1	4.9	29.5	42.6	20.6	17.3	25.5	4.3	5.0	42.6

### MINIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1976	1.4	1.1	0.9	0.9	1.0	1.8	2.9	3.1	2.9	1.7	1.3	1.1	0.9
1977	1.0	0.9	0.8	0.9	0.9	0.7	1.7	2.5	1.7	1.3	1.1	1.0	0.7
1978	0.9	0.8	0.8	0.8	0.9	1.4	3.5	4.5	3.8	3.5	2.0	1.6	0.8
EXTREME	0.9	0.8	0.8	0.8	0.9	0.7	1.7	2.5	1.7	1.3	1.1	1.0	0.7

### MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1976	1.5	1.3	1.0	1.1	1.5	6.8	7.0	5.7	4.7	2.1	1.4	1.2	2.9
1977	1.1	1.0	0.9	1.2	1.5	1.4	3.3	4.3	2.4	1.5	1.3	1.3	1.8
1978	1.0	0.9	1.0	1.4	1.7	4.4	9.0	8.0	6.1	5.9	3.0	1.7	3.7
AVERAGE	1.2	1.1	1.0	1.2	1.6	4.2	6.4	6.0	4.4	3.2	1.9	1.4	2.8

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE	DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE
136	3.73	10 JUN. 1976	0.88	1.29	30 MAY. 1976
38	2.50	17 AUG. 1977	0.72	1.25	14 JUN. 1977
97	3.31	16 JUL. 1978	0.76	1.26	11 MAY. 1978

NAME OF SITE **KULEKHANI**  
 STATION No. **570**  
 EST. DATE **1 DEC. 1962**  
 NAME OF RIVER **KULEKHANI KHOLA**

LATITUDE **27° 39' 40" N**  
 LONGITUDE **85° 17' 50" E**  
 ELEVATION **1480m**  
 CA. AREA **126km<sup>2</sup>**

**MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1963	1.6	1.2	2.4	2.0	6.9	1.9	22.2	21.9	23.0	8.1	2.5	1.9	23.0
1964	1.6	1.5	1.3	1.5	2.4	5.3	32.4	19.7	42.9	8.1	2.4	1.6	42.9
1965	1.4	1.4	1.6	5.1	1.8	29.8	139.0	67.4	9.4	4.4	6.6	2.0	139.0
1966	2.7	2.4	1.3	0.9	6.4	5.7	77.5	123.0	44.8	4.4	2.4	2.0	123.0
1967	1.2	1.1	2.4	3.3	1.8	46.5	126.0	26.0	7.6	4.2	2.6	1.8	126.0
1968	2.7	1.8	9.2	5.5	3.6	7.4	32.0	15.1	3.8	73.2	2.7	1.8	73.2
1969	1.7	1.0	1.9	8.3	1.8	3.6	9.2	22.0	7.1	2.7	1.3	0.9	22.0
1970	1.4	1.2	1.4	1.8	1.3	20.1	218.0	20.5	7.9	4.6	2.5	1.8	218.0
1971	1.2	1.1	1.1	7.7	3.1	173.0	12.0	19.7	9.9	30.8	2.4	2.0	173.0
1972	1.8	2.4	2.4	1.7	1.8	46.8	115.0	15.6	38.0	7.6	2.8	1.9	115.0
1973	2.6	2.9	9.8	3.7	2.1	68.4	16.5	18.3	52.4	46.8	10.0	4.4	68.4
1974	2.0	1.8	2.1	2.0	2.3	7.0	23.3	162.0	154.0	4.8	2.5	1.6	162.0
1975	1.7	1.5	1.0	1.6	5.0	14.3	108.0	42.4	47.2	8.5	3.0	1.9	108.0
1976	3.9	1.4	1.1	1.8	2.7	49.6	21.8	21.3	7.7	2.9	1.9	1.6	49.6
1977	1.4	1.4	1.3	2.4	3.1	6.9	6.0	7.2	3.2	2.1	2.0	4.2	7.2
EXTREME	3.9	2.9	9.8	8.3	6.9	173.0	218.0	162.0	154.0	73.2	10.0	4.4	218.0

**MINIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1963	1.1	1.0	0.9	0.8	0.8	0.8	1.0	5.1	3.7	2.4	1.9	1.6	0.8
1964	1.4	1.3	0.6	0.6	0.8	0.9	2.3	5.5	10.2	2.4	1.6	1.4	0.6
1965	1.3	1.2	1.1	1.2	1.3	1.2	3.2	6.4	3.8	2.7	2.0	1.5	1.1
1966	1.4	1.2	1.1	0.5	0.5	0.4	2.9	5.4	4.2	2.4	1.9	1.4	0.4
1967	1.0	0.8	0.5	0.5	0.3	0.2	1.6	3.3	4.4	2.7	1.9	1.5	0.2
1968	1.4	1.3	1.0	0.7	0.6	1.0	2.1	4.0	1.9	1.8	1.8	1.3	0.6
1969	1.0	0.8	0.7	0.4	0.4	0.5	0.8	2.6	2.7	1.3	0.9	0.8	0.4
1970	0.8	0.6	0.5	0.3	0.3	0.4	1.0	5.6	4.4	2.5	1.8	1.2	0.3
1971	1.1	1.1	1.1	1.1	1.7	1.7	2.7	2.8	2.7	2.4	2.0	1.8	1.1
1972	1.7	1.6	1.5	1.2	1.2	1.1	2.1	2.9	2.6	2.3	1.9	1.3	1.1
1973	1.2	1.0	1.0	0.8	1.0	0.9	3.7	5.2	5.2	4.6	3.2	1.8	0.8
1974	1.5	1.2	1.0	0.9	0.8	0.6	1.7	3.9	5.0	2.5	1.7	1.4	0.6
1975	1.2	1.0	0.8	0.7	0.7	0.5	2.3	5.4	5.8	3.0	1.9	1.4	0.5
1976	1.3	1.1	0.9	0.8	0.7	1.5	3.0	3.1	2.9	1.9	1.6	1.3	0.7
1977	1.3	1.2	0.9	1.1	1.1	0.8	1.9	2.3	1.9	1.6	1.5	1.4	0.8
EXTREME	0.8	0.6	0.5	0.3	0.3	0.2	0.8	2.3	1.9	1.3	0.9	0.8	0.2

NAME OF SITE                    KULEKHANI  
 STATION No.                    570  
 EST. DATE                      1 DEC. 1962  
 NAME OF RIVER                KULEKHANI KHOLA

LATITUDE 27° 39' 40" N  
 LONGITUDE 85° 17' 50" E  
 ELEVATION 1480m  
 CA. AREA 126km<sup>2</sup>

### MEAN MONTHLY AND YEARLY DISCHARGES (m<sup>3</sup>/s)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1963	1.2	1.1	1.1	1.2	1.7	1.1	6.6	7.6	5.8	3.5	2.2	1.8	2.9
1964	1.5	1.4	1.2	0.9	1.3	2.2	7.2	12.1	15.2	4.5	1.8	1.5	4.2
1965	1.3	1.3	1.2	1.8	1.5	3.7	17.2	18.4	5.7	3.2	2.9	1.8	5.0
1966	1.6	1.5	1.2	0.7	1.1	1.1	10.4	20.8	10.3	3.3	2.2	1.7	4.7
1967	1.1	0.9	0.9	1.0	0.7	4.5	11.8	6.9	5.7	3.4	2.3	1.7	3.4
1968	1.7	1.5	1.6	1.2	1.1	2.5	5.7	6.3	2.6	7.1	2.3	1.5	2.9
1969	1.2	0.9	0.9	0.9	1.0	0.9	3.1	6.9	4.2	1.9	1.1	0.8	2.0
1970	0.8	0.7	0.6	0.6	0.6	3.4	21.5	9.0	5.3	3.3	2.2	1.5	4.1
1971	1.2	1.1	1.1	2.0	2.1	21.6	5.2	7.7	4.3	3.8	2.2	1.9	4.5
1972	1.7	1.8	1.6	1.4	1.4	4.5	26.3	5.6	7.9	3.2	2.2	1.6	4.9
1973	1.4	1.2	1.6	1.0	1.3	10.2	7.3	8.0	9.5	9.5	5.1	2.7	4.9
1974	1.6	1.3	1.1	1.2	1.3	1.7	7.2	15.6	20.6	3.5	2.0	1.5	4.9
1975	1.3	1.2	0.9	0.8	1.1	2.1	14.8	11.0	11.7	4.7	2.4	1.7	4.5
1976	1.5	1.3	1.0	1.1	1.4	8.0	6.0	4.8	3.9	2.3	1.8	1.5	2.9
1977	1.3	1.2	1.1	1.4	1.6	1.6	3.2	3.5	2.3	1.8	1.6	1.6	1.8
AVERAGE	1.3	1.2	1.1	1.1	1.3	4.6	10.2	9.6	7.7	3.9	2.3	1.6	3.8

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE (m <sup>3</sup> /s)	GAUGE HEIGHT (m)	DATE	DISCHARGE (m <sup>3</sup> /s)	GAUGE HEIGHT (m)	DATE
40	1.60	29 SEP. 1963	0.73	0.90	14 MAY. 1963
148	2.71	15 JUL. 1964	0.20	0.44	8 APR. 1964
304	4.20	7 JUL. 1965	1.10	0.64	28 MAR. 1965
202	3.25	24 AUG. 1966	0.28	0.21	12 JUN. 1966
277	3.95	10 JUL. 1967	0.11	0.18	4 JUN. 1967
141	2.63	4 OCT. 1968	0.55	0.35	31 MAY. 1968
33	1.31	21 AUG. 1969	0.34	0.32	26 MAY. 1969
571	5.35	16 JUL. 1970	0.20	0.30	31 MAY. 1970
305	5.24	13 JUN. 1971	1.05	0.93	5 APR. 1971
251	4.56	24 JUL. 1972	1.08	0.95	12 JUN. 1972
100	2.67	17 JUN. 1973	0.75	0.87	22 APR. 1973
236	4.38	30 AUG. 1974	0.62	0.99	4 JUN. 1974
143	3.21	27 JUL. 1975	0.51	0.52	10 JUN. 1975
148	3.28	10 JUN. 1976	0.74	0.58	30 MAY. 1976
8.6	0.98	17 AUG. 1977	0.84	0.22	14 JUN. 1977

NAME OF SITE            PANDHERA DOBIAN  
 STATION No.            589  
 EST. DATE                28 JAN. 1979  
 NAME OF RIVER         BAGMATI RIVER

LATITUDE 27° 06' 20" N  
 LONGITUDE 85° 28' 30" E  
 ELEVATION 180m  
 CA. AREA 2700km<sup>2</sup>

**MAXIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1981	20.0	15.5	17.0	24.0	190.0	752.0	851.0	755.0	880.0	251.0	50.0	26.0	880.0
1982	22.3	29.0	24.5	32.0	20.8	459.0	2150.0	530.0	1050.0	92.0	41.0	26.0	2150.0
1983													
1984	33.2	18.4	11.4	20.4	114.0	526.0	1120.0	675.0	3470.0	186.0	38.4	25.3	3470.0
1985	22.8	16.2	19.0	12.4	73.6	398.0	1120.0	1620.0	1980.0	328.0	56.8	225.0	1980.0
1986	150.0	142.0	188.0	202.0	364.0	216.0	2640.0	1540.0	780.0	364.0	62.2	58.3	2640.0
1987						138.0	1750.0	2040.0	1380.0	2000.0	200.0	41.8	-
1988	26.2	20.6	50.5	62.2	218.0	256.0	1180.0	1740.0	1160.0	238.0	138.0	188.0	1740.0
1989	178.0	60.3	74.0	41.8	166.0	246.0	1430.0	535.0	1970.0	225.0	47.8	28.7	1970.0
1990	22.9	28.0	54.6	32.8	132.0	717.0	2790.0	4050.0	1620.0	238.0	50.6	23.5	4050.0
EXTREME	33.2	29.0	24.5	32.0	190.0	752.0	2150.0	1620.0	3470.0	328.0	56.8	225.0	3470.0

**MINIMUM MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )**

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1981	15.0	12.0	10.3	11.0	13.0	13.5	73.0	145.0	95.0	44.0	26.0	15.5	10.3
1982	13.5	10.5	10.2	10.5	6.25	9.0	66.0	160.0	97.0	34.0	26.0	18.6	6.3
1983	14.0	13.6	11.6	12.0	13.3	11.6	100.0	165.0	236.0	52.0	28.4	22.0	11.6
1984	13.6	8.8	7.44	6.72	15.4	17.5	199.0	151.0	198.0	39.8	25.6	19.3	6.7
1985	16.5	11.8	8.20	7.30	8.8	20.4	102.0	106.0	112.0	32.0	20.4	12.0	7.3
1986	10.9	84.0	47.6	19.8	5.76	31.5	116.0	146.0	184.0	58.3	23.0	17.6	5.8
1987						11.3	152.0	220.0	218.0	144.0	37.5	26.2	-
1988	18.3	13.4	11.3	8.4	12.0	23.8	182.0	298.0	192.0	128.0	88.0	70.0	8.4
1989	58.3	46.2	38.9	32.4	29.7	94.0	176.0	325.0	147.0	49.6	29.4	22.9	22.9
1990	19.3	17.7	18.2	16.7	24.1	40.8	111.0	226.0	170.0	51.6	24.1	10.3	10.3
EXTREME	13.5	8.8	7.4	6.7	6.3	9.0	66.0	106.0	95.0	32.0	20.4	12.0	6.3

NAME OF SITE  
STATION No.  
EST. DATE  
NAME OF RIVER

PANDHERA DOBIAN  
589  
28 JAN. 1979  
BAGMATI RIVER

LATITUDE 27° 06' 20" N  
LONGITUDE 85° 28' 30" E  
ELEVATION 180m  
CA. AREA 2700km<sup>2</sup>

### MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1979	19.0	18.7	11.9	12.1	11.8	51.2	451.0	550.0	266.0	86.2	23.1	18.0	128.0
1980	17.0	9.1	11.1	9.3	12.9	123.0	314.0	338.0	173.0	68.1	23.6	16.0	93.5
1981	16.2	13.4	11.2	14.5	27.3	64.8	280.0	364.0	251.0	82.6	34.3	20.4	99.1
1982	16.8	18.8	12.8	15.8	12.4	122.0	323.0	249.0	282.0	51.9	30.6	22.6	97.0
1983	14.6	14.0	12.1	13.4	39.1	31.5	493.0	365.0	367.0	141.0	39.5	24.6	131.0
1984	19.7	13.3	9.4	9.6	34.2	182.0	516.0	309.0	857.0	79.1	31.5	22.3	173.0
1985	20.0	13.9	10.1	8.3	21.2	112.0	407.0	373.0	395.0	123.0	29.0	27.4	129.0
1986	96.3	113.0	126.0	102.0	148.0	137.0	354.0	393.0	324.0	161.0	34.0	23.5	168.0
1987	-	-	-	-	-	33.8	460.0	463.0	389.0	260.0	84.3	31.9	-
1988	22.3	16.0	18.1	16.0	49.6	140.0	390.0	657.0	396.0	163.0	114.0	84.8	173.0
1989	81.0	52.1	44.7	35.0	73.8	161.0	489.0	416.0	382.0	92.3	36.1	25.4	158.0
1990	20.9	21.2	21.6	20.0	54.6	121.0	478.0	558.0	295.0	104.0	35.1	16.1	147.0
AVERAGE	17.6	14.4	11.2	11.9	22.7	98.0	398.0	364.0	370.0	90.4	30.2	21.6	122.0

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE	GAUGE HEIGHT	DATE	DISCHARGE	GAUGE HEIGHT	DATE
( m <sup>3</sup> /s )	( m )		( m <sup>3</sup> /s )	( m )	
4950	9.05	24 July, 1979	6.00	0.25	6 June, 1979
2000	6.55	19 Aug, 1980	8.55	2.07	19 Apr, 1980
6120	-	29 Sep, 1981	10.30	-	13 Mar, 1981
6500	9.20	19 July, 1982	6.25	-0.44	27 May, 1982
2260	5.50	23 July, 1983	11.60	-0.27	23 June, 1983
7600	11.80	17 Sep, 1984	6.72	0.27	21 Apr, 1984
2650	6.22	5 Sep, 1985	7.30	-0.79	20 Apr, 1985
5050	-	28 Aug, 1986	5.76	-	05 Jan, 1986
2700	-	10 Aug, 1987	-	-	-
2420	-	15 Aug, 1988	8.40	-	4 Mar, 1988
4800	-	05 Sep, 1989	32.4	-	20 Mar, 1989
6900	-	27 Aug, 1990	10.3	-	29 Dec, 1990

NAME OF SITE	KARMAIYA - MANGALPUR	LATITUDE	27° 06' 20" N
STATION No.	590	LONGITUDE	85° 28' 30" E
EST. DATE	21 JUN. 1964	ELEVATION	177m
NAME OF RIVER	BAGMATI RIVER	CA. AREA	2720km <sup>2</sup>

### MAXIMUM MONTHLY AND YEARLY DISCHARGES (m<sup>3</sup>/s)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1965	10.8	8.0	20.0	102.0	88.0	794.0	1390.0	1700.0	682.0	187.0	253.0	30.5	1700.0
1966	29.0	24.5	26.0	18.0	30.5	526.0	1280.0	1180.0	706.0	115.0	34.0	18.7	1280.0
1967	23.3	16.5	38.0	50.6	47.8	610.0	2420.0	824.0	714.0	310.0	42.2	28.1	2420.0
1968	24.2	19.6	61.0	29.2	50.8	522.0	2460.0	842.0	936.0	1800.0	442.0	38.0	2460.0
1969	10.8	16.5	25.3	18.0	19.0	1160	856.0	1720.0	1120.0	508.0	50.0	25.0	1720.0
1970	26.0	22.0	16.0	74.5	301.0	1030	2180.0	1600.0	1460.0	532.0	27.0	15.5	2180.0
1972	24.7	29.6	25.0	17.4	170.0	658.0	1950.0	1260.0	1890.0	119.0	62.0	32.9	1950.0
1973	24.0	26.4	57.2	20.4	51.4	755.0	1950.0	1040.0	1820.0	289.0	86.0	41.6	1950.0
1974	26.2	27.1	27.1	34.0	41.6	122.0	3050.0	3020.0	3260.0	187.0	98.0	48.8	3260.0
1977	18.8	18.8	16.6	60.8	37.0	237.0	623.0	1360.0	237.0	390.0	55.6	47.6	1360.0
1978	45.2	21.6	20.4	64.7	227.0	2710	5420.0	944.0	1490.0	917.0	124.0	70.0	5420.0
EXTREME	45.2	29.6	61.0	102.0	301.0	2710	5420.0	3020.0	3260.0	1800.0	442.0	70.0	5420.0

### MINIMUM MONTHLY AND YEARLY DISCHARGES (m<sup>3</sup>/s)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1965	6.5	6.9	8.0	9.0	6.9	5.6	140.0	187.0	83.5	19.3	30.5	19.0	5.6
1966	13.9	10.8	11.8	9.0	9.8	9.8	155.0	275.0	45.5	24.5	19.6	13.9	9.0
1967	13.9	12.0	10.8	10.4	9.4	9.0	52.0	330.0	182.0	42.2	28.1	15.8	9.0
1968	13.9	12.0	12.0	10.8	6.1	28.0	274.0	434.0	178.0	111.0	38.0	10.8	6.1
1969	8.6	7.5	10.9	9.0	8.2	8.0	196.0	317.0	240.0	50.0	25.0	17.5	7.5
1970	15.5	13.8	11.0	11.0	10.5	18.0	163.0	295.0	136.0	27.0	15.5	12.6	10.5
1972	18.1	12.5	11.3	11.0	10.5	10.5	57.5	130.0	98.0	41.0	33.8	22.2	10.5
1973	18.6	14.5	10.6	8.6	11.4	22.2	88.0	164.0	153.0	88.0	44.0	24.4	8.6
1974	18.4	15.4	13.0	13.0	14.8	16.6	122.0	462.0	175.0	94.0	50.1	32.0	13.0
1977	17.5	16.6	15.2	13.3	18.2	12.8	188.0	201.0	116.0	58.2	39.0	28.1	12.8
1978	22.0	15.9	13.5	13.2	38.4	46.8	297.0	262.0	269.0	127.0	66.0	32.6	13.2
EXTREME	6.5	6.9	8.0	8.6	6.1	5.6	52.0	130.0	45.5	19.0	15.5	10.8	5.6



NAME OF SITE	KARMAIYA - MANGALPUR	LATITUDE	27° 06' 20" N
STATION No.	590	LONGITUDE	85° 28' 30" E
EST. DATE	21 JUN. 1964	ELEVATION	177m
NAME OF RIVER	BAGMATI RIVER	CA. AREA	2720km <sup>2</sup>

### MEAN MONTHLY AND YEARLY DISCHARGES ( m<sup>3</sup>/s )

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR
1965	8.7	7.4	11.5	23.4	25.6	244	670.0	655.0	289.0	49.4	61.1	25.0	174.0
1966	18.4	14.1	14.8	11.6	17.7	59.2	489.0	562.0	295.0	36.5	27.4	15.6	131.0
1967	18.2	13.4	16.8	18.5	16.0	111.0	522.0	458.0	401.0	141.0	32.9	20.8	149.0
1968	16.8	13.9	17.4	14.5	20.2	202	631.0	514.0	350.0	417.0	79.9	20.3	193.0
1969	9.6	10.3	14.0	10.3	10.8	206.0	498.0	631.0	482.0	145.0	35.9	22.2	174.0
1970	17.9	16.2	12.8	17.7	37.5	243.0	635.0	602.0	283.0	112.0	19.6	13.8	169.0
1971	12.8	12.5	12.3	20.2	94.0	806.0	429.0	569.0	238.0	111.0	45.5	26.9	199.0
1972	21.1	17.5	13.3	12.6	19.1	88.4	542.0	234.0	317.0	62.5	42.0	26.2	117.0
1973	20.6	17.5	18.6	10.5	26.3	176.0	512.0	383.0	459.0	172.0	58.7	30.9	158.0
1974	21.8	17.7	15.0	16.0	22.4	57.6	639.0	895.0	762.0	124.0	63.5	40.6	225.0
1975	30.5	26.7	18.6	17.1	39.9	190.0	662.0	412.0	318.0	149.0	68.1	23.4	164.0
1976	12.5	12.8	10.4	11.3	30.0	412.0	242.0	371.0	118.0	68.2	54.1	30.2	115.0
1977	18.0	17.8	15.6	17.1	22.8	48.6	267.0	426.0	143.0	103.0	47.8	35.3	97.8
1978	25.6	17.7	15.9	26.6	73.9	319.0	858.0	416.0	375.0	274.0	90.7	46.9	213.0
1979	29.9	37.4	23.8	23.1	17.4	47.2	487.0	562.0	237.0	87.5	38.0	25.6	136.0
AVERAGE	18.8	16.9	15.4	16.7	31.6	214.0	539.0	513.0	338.0	137.0	51.0	26.9	161.0

### EXTREME DISCHARGES

MAXIMUM INSTANTANEOUS			MINIMUM INSTANTANEOUS		
DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE	DISCHARGE ( m <sup>3</sup> /s )	GAUGE HEIGHT ( m )	DATE
1780	5.15	9 Aug. 1965	4.90	0.58	10 June 1965
1380	4.40	12 July. 1966	9.00	0.60	3 Dec. 1966
2810	6.80	10 July. 1967	8.48	0.64	4 June 1967
2680	6.62	14 July. 1968	5.60	0.98	30 May 1968
2171	4.85	21 Aug. 1969	8.00	0.61	2 June 1969
2220	4.90	20 July. 1970	10.50	1.18	14 May 1970
1590	4.15	25 Aug. 1971	9.70	1.15	4 Apr. 1971
2880	4.70	28 July. 1972	10.50	1.00	12 June 1972
3240	4.90	25 July. 1973	8.56	0.78	21 Apr. 1973
3760	5.15	30 Aug. 1974	13.00	0.70	28 Apr. 1974
9000	7.00	5 Aug. 1975	11.80	0.87	23 Apr. 1975
1990	4.13	16 Aug. 1976	8.00	0.25	3 Apr. 1976
1580	3.80	11 Aug. 1977	13.30	0.81	26 Apr. 1977
7150	6.45	16 July. 1978	13.20	0.81	10 Apr. 1978
8650	6.90	21 Aug. 1979	14.00	1.05	11 June 1979

## MONTHLY CLIMATOLOGICAL SUMMARY

(1) 905	DAMAN	(1987-1990)
(2) 906	HETAUDA N.F.I	(1987-1990)
(3) 1022	GODAVARI	(1987-1990)
(4) 1038	DHUNIBESI	(1987-1990)
(5) 1107	SINDHULI GADHI	(1989-1990)
(6) 1121	KARMAIYA	(1987-1990)

## Climatological Summary of Damam

LOCATION : DAMAN  
 INDEX NO. : 0905  
 DISTRICT : MAKWANPUR

LAT. : 27° 36' N  
 LONG. : 85° 05' E  
 ELEV. : 2314 m. amsl

(1987)

Month	AIR TEMPERATURE °C							RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at					
	Max.	Min.	Daily	Max. Date	Min. Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	8:45	17:45
JAN	14.0	1.9	8.0	17.3 28	0.0 1	0	4	52	78	5.8	7.5		
FEB	14.8	3.6	9.3	17.0 19	-0.2 4	0	2	62	63	7.3	8.4		
MAR	15.5	5.5	10.5	19.6 30	3.0 2	0	0	65	82	9.3	10.3		
APR	20.1	9.1	14.6	24.4 8	7.0 25	0	0	62	64	11.4	11.2		
MAY	20.8	10.9	15.9	24.4 21	5.0 4	0	0	54	55	10.6	10.7		
JUN	21.9	14.5	18.2	23.8 14a	12.7 12a	0	0	80	80	16.9	16.9		
JUL	20.8	14.7	17.5	22.5 29	12.3 28	0	0	89	91	18.6	19.1		
AUG	21.1	14.2	17.7	23.2 21	13 17	0	0	90	90	17.7	17.7		
SEP	22.2	14	18.1	23.5 17	12.4 29	0	0	90	88	17.6	18.4		
OCT	19.9a	9.9a	14.5a	22.2 9a	7.0 29a	0	0	76	76	13.0	14.0		
NOV	17.9	4.6	11.3	21.5 9	2.0 25	0	0	61	79	9.7	11.2		
DEC	13.3a	2.8	8.1b	19.0 1b	-1.6 17	0	2	70	67	8.5	8.1		
YEAR	18.5	8.8	13.7	24.4 APR	-1.6 DEC	0	8	71	76	12.2	12.8		

(1988)

Month	AIR TEMPERATURE °C							RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at					
	Max.	Min.	Daily	Max. Date	Min. Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	8:45	17:45
JAN	12.7	1.4	7.0	16.0 1	0.0 18	0	2	74	73	8.2	7.6		
FEB	14.0	3.3	8.6	16.4 4	0.2 24	0	0	68	74	8.4	9.4		
MAR	15.9	4.8	10.3	18.6 6	3.0 20	0	0	69	71	8.8	9.5		
APR	19.9	9.7	14.6	24.0 6a	7.0 1	0	0	50	57	9.2	10.6		
MAY	20.6	11.8	15.2	23.8 10	9.0 5	0	0	72	72	14.4	14.1		
JUN	21.0	13.4	17.2	23.3 23	10.2 5	0	0	87	87	17.4	17.9		
JUL	20.9	14.6	17.5	22.4 1a	12.6 17a	0	0	89	88	18.3	19.1		
AUG	20.9	14.4	17.7	23.3 8	13.0 15	0	0	90	89	18.4	18.9		
SEP	21.7	13.6	17.7	24.3 15	11.3 16	0	0	85	85	17.3	18.1		
OCT	20.4	11.2	15.8	21.0 2	8.3 15	0	0	75	74	14.6	13.1		
NOV	16.6	5.2	10.9	19.6 13	2.5 27	0	0	76	75	11.4	10.5		
DEC	13.0	2.9	8.0	17.2 3a	0.0 26	0	1	70	80	8.4	9.5		
YEAR	18.1	8.8	13.5	24.3 SEP	0.0 JAN	0	3	75	77	12.9	13.2		

(1989)

Month	AIR TEMPERATURE °C							RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at					
	Max.	Min.	Daily	Max. Date	Min. Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	8:45	17:45
JAN	10.1	0.3	5.2	13.4 31h	-4.0 8	0	12	67	75	6.2	6.6		
FEB	12.5	2.8	7.7	15.5 2h	-0.3 19	0	6	60	53	6.6	6.0		
MAR	14.1	3.4	8.8	17.6 9i	-0.3 21	0	6	61	55	7.1	6.8		
APR	19.2	8.5	13.9	22.8 25f	4.0 11	0	0	44	50	7.9	8.6		
MAY	21.5	12.1	16.8	25.3 6b	8.0 14	0	0	79	78	15.8	15.4		
JUN	21.3	13.1	17.2	23.0 11a	11.0 3a	0	0	83	81	16.5	16.1		
JUL	21.1	14	17.5	24.2 23a	12.3 15	0	0	91	88	18.4	19.3		
AUG	21.1	13.4	17.3	23.3 27a	12.2 h	0	0	92	87	18.8	17.7		
SEP	20.2	12.9	16.5	23.0 10e	11.0 22	0	0	90	91	17.3	16.5		
OCT	21.0	9.8	15.4	22.6 10	5.0 30	0	0	72	87	13.9	16.0		
NOV	15.0	4.2	9.6	19.6 1a	1.0 29	0	0	71	85	9.4	10.5		
DEC	13.4	1.8	7.6	18.6 10	-0.2 28	0	9	60	69	6.6	7.8		
YEAR	17.6	8	12.8	25.3 MAY	-4.0 JAN	0	33	73	75	12.0	12.2		

(1990)

Month	AIR TEMPERATURE °C							RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at					
	Max.	Min.	Daily	Max. Date	Min. Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	8:45	17:45
JAN	13.7	3.2	8.5	16.3 25b	-1.1 10	0	8	52	57	6.4	7.2		
FEB	11.0	2.4	6.7	14.3 4d	0.1 24	0	0	77	73	7.7	7.5		
MAR	13.5	2.9	8.3	18 22a	0.8 5	0	0	72	73	8.6	8.6		
APR	18.4	7.9	13.2	21.8 25	2.4 4a	0	0	63	71	10.9	11.2		
MAY	19.7	10.8	15.3	22.5 16b	6.0 1	0	0	80	80	14.5	15.2		
JUN	21.9	14.0	18.0	23.6 17b	12.2 10	0	0	82	83	16.8	18.9		
JUL	21.2	14.0	17.6	23.5 2	8.4 9	0	0	91	89	18.0	18.4		
AUG	21.9	13.7	17.8	24.5 31e	12.8 24	0	0	85	85	17.9	18.7		
SEP	21.3	13.0	17.2	24.4 2	10.0 27	0	0	89	86	17.0	17.2		
OCT	19.6	8.4	14.0	22.0 7a	4.8 23	0	0	78	80	13.7	13.1		
NOV	17.9	5.6	11.8	20.5 16e	2.0 26	0	0	68	67	10.2	10.2		
DEC	14.1	2.4	8.3	16.3 17a	0.1 31a	0	0	62	65	7.8	7.9		
YEAR	17.9	8.2	13.0	24.5 AUG	-1.1 JAN	0	8	75	76	12.5	12.8		

**NOTICE**

1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995  
 2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10

## Climatological Summary of Hetauda N.F.I

LOCATION : HETAUDA N.F.I.  
 INDEX NO. : 0906  
 DISTRICT : MAKWANPUR

LAT. : 27° 25' N  
 LONG. : 85° 03' E  
 ELEV. : 474m. amsl

(1987)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8-45 NST	17-45 NST	8-45 NST	17-45 NST	
JAN	22.6	8.5	15.6	25.2 25.0	5.2 1 a	0	0	90	79	12.5	15.7	
FEB	25.5	10.6	18.0	28.9 25.0	7.4 3	0	0	79	65	13.8	15.9	
MAR	28.6	14.5	21.6	32.7 31.0	9.8 1	10	0	74	68	17.4	21.8	
APR	32.9	18.2	25.6	36.0 3.0	13.0 12	26	0	70	68	22.7	28.6	
MAY	33.9	20.4	27.2	38.5 24.0	15.4 4	24	0	59	51	21.7	21.6	
JUN	33.3	24.5	28.9	35.7 19 a	21.8 2 a	28	0	75	70	29.1	29.5	
JUL	30.1	24.2	27.2	33.0 18.0	22.2 25	19	0	87	88	30.1	31.1	
AUG	30.1	23.5	26.9	35.2 19.0	20.2 8	21	0	87	85	29.5	30.0	
SEP	30.7	23.3	27.0	32.4 17.0	20.8 10	24	0	85	86	29.6	31.2	
OCT	28.7	19.1	23.9	31.2 1.0	13.4 20	9	0	81	82	23.5	26.6	
NOV	27.3	13.1	20.2	29.0 8.6	10.2 12	0	0	81	82	18.7	21.4	
DEC	24.0	10.1	17.0	26.8 1.0	6.4 29	0	0	87	77	14.5	17.2	
YEAR	29.0	17.5	23.3	38.5 MAY	5.2 JAN	161	0	79	75	21.9	24.2	

(1988)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8-45 NST	17-45 NST	8-45 NST	17-45 NST	
JAN	22.7	8.3	15.5	23.7 2	4.2 9	0	0	88	73	12.6	14.5	
FEB	25.4	10.9	18.2	28 28	6.4 4	0	0	81	64	14	15.7	
MAR	28.3	14.2	21.3	32.7 26 a	9.8 3 a	7	0	67	54	15.2	15.9	
APR	32.7	18.3	25.5	37.2 6	12.2 11	25	0	65	64	21.4	24.7	
MAY	32.2	22	27.1	35.5 10	15.2 14	29	0	75	70	26.3	27.7	
JUN	31.0	23.4	27.2	33.8 4	19.6 5	23	0	79	76	28.1	29.4	
JUL	30.8	24.5	27.7	33.2 17	22.5 2	24	0	85	85	30.3	30.8	
AUG	30.3	23.9	27.1	33.2 3	22.0 29	21	0	87	88	30	30.4	
SEP	31	23.2	27.1	33 20	20.2 16	24	0	83	82	28.7	29.6	
OCT	29.9	19	24.5	32.0 2	15 30	18	0	78	82	23.9	26.4	
NOV	27.5	11.6	19.5	29 2	8.6 26 b	0	0	69	66	15.5	17	
DEC	24.0	10.4	17.2	26.4 2 a	8.2 29	0	0	87	71	14.7	15.5	
YEAR	28.8	17.5	23.2	37.2 APR	4.2 JAN	171	0	79	73	21.7	23.1	

(1989)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8-45 NST	17-45 NST	8-45 NST	17-45 NST	
JAN	20.7	7.4	14.1	23.6 1	5.0 15 b	0	0	91	68	11.7	12.4	
FEB	23.5	7.8	15.7	30 28	4.6 16	1	0	75	54	11.5	11.5	
MAR	25.7	13.1	20.9	33 23	6 3	9	0	62	45	13.8	13.3	
APR	34.3	15.7	25.0	38 24	12.0 3	30	0	56	24	11.7	10.9	
MAY	33.8	21.5	27.7	40.2 7	14.8 9 a	28	0	63	56	22.7	21.2	
JUN	31.8	23.7	27.8	35.2 9	21.4 4	26	0	79	77	28.9	29.2	
JUL	29.8	23.7	26.8	34 22	21 30	19	0	85	85	29.3	30.3	
AUG	31.5	23.6	27.6	34 3	21.6 1	29	0	81	84	29.2	29.4	
SEP	30.0	22.9	26.5	33.4 10	21.2 29	17	0	86	85	28.5	29.1	
OCT	29.9	18.4	24.2	31.6 15	10.6 31	17	0	77	79	23.2	25.5	
NOV	25.7	11.6	18.7	28.2 1	9.0 8	0	0	80	76	16.1	18	
DEC	22.5	7.5	15.2	25 1	4.4 31	0	0	86	73	12.5	13.9	
YEAR	28.5	16.4	22.5	40.2 MAY	4.4 DEC	175	0	75	67	19.9	20.4	

(1990)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8-45 NST	17-45 NST	8-45 NST	17-45 NST	
JAN	23.6	8.3	16	26.6 21	4 4	0	0	91	71	12.9	15	
FEB	23.2	10.1	16.7	26.8 9	7.2 2	0	0	82	67	13.6	14.3	
MAR	27.1	13.2	20.2	32.2 20	8.2 5	7	0	67	62	15	17.2	
APR	31.5	17.4	24.5	34.5 16	12 2	23	0	65	61	19.8	22.4	
MAY	31.9	21.3	26.6	34.8 30	16.6 21	27	0	77	75	26.8	29.1	
JUN	33	24.3	28.7	35.5 8	19.6 7	30	0	84	86	32.7	35.8	
JUL	30.8	24.4	27.6	33 2	23 20	24	0	88	88	31.3	32.6	
AUG	31.9	24	28	34.6 20	22.2 28	27	0	83	87	30.1	32.5	
SEP	30.7	23.1	26.9	34 1	20.4 25	26	0	85	89	29.3	31.7	
OCT	29.1	17.4	23.3	31.0 7 a	11.2 28	10	0	83	91	24	27.5	
NOV	28.4	12.8	20.6	30.6 11	8.6 30	6	0	78	78	18.1	21	
DEC	24.4	8.9	16.7	26 2	6.8 25	0	0	89	82	14.5	18.2	
YEAR	28.8	17.1	23.0	35.5 JUN	4 JAN	180	0	81	78	22.4	24.8	

**NOTICE**

1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990. DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995  
 2) MISSING NUMBER OF DAYS: a=1; b=2, c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10

**METEOROLOGICAL SUMMERY AT GODAVARI IN 1987**

LOCATION : GODAVARI  
 INDEX NO. : 1022  
 DISTRICT : LALITPUR

LATITUDE : 27° 35' N  
 LONGITUDE : 85° 24' E  
 ELEVATION : 1400 m. amsl

Month	AIR TEMPERATURE °C				RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm			
	Mean		Absolute extreme		Observed at		Observed at				Number of rainy days	Number of rainy days		
	Max.	Min.	Max. & Min. & Date	Min. & Date	8:45 NST	17:45 NST	8:45 NST	17:45 NST				≥ 1.0	1.0 to 9.9	10.0 to 24.9
JAN	14.3	3.9	16.3 24 20.5 25	0.4 1 a 1.5 4	81	6.9	6.9	3	2/12	2	2	0	0	0
FEB	16.7	5.9	11.3	0	80	7.7	7.7	75	31/4	6	3	2	1	0
MAR	19.5	8.2	13.9	0	84	10.1	10.1	61	20/21	8	6	2	0	0
APR	24.0	12.1	18.0	0	71	11.3	11.3	56	24/23	7	6	1	0	0
MAY	26.0	13.4	19.7	0	65	14.5	14.5	38	13/1	9	8	1	0	0
JUN	26.2	15.0	20.6	0	80	21.1	21.1	199	79/9	13	9	2	1	1
JUL	24.1	15.7	19.9	0	92	23.0	23.0	801	84/26	28	6	13	3	6
AUG	24.2	15.2	19.7	0	90	22.3	22.3	430	86/10	23	14	4	3	2
SEP	23.8	15.8	19.8	0	92	20.4	20.4	182	46/6	15	10	4	1	0
OCT	21.3	12.2	16.8	0	90	13.8	13.8	201	172/20	3	1	0	1	0
NOV	18.3	7.3	12.8	0	79	9.1	9.1	0	0/0	0	0	0	0	0
DEC	15.8	4.4	10.1	0	79	7.5	7.5	16	15/13	1	0	1	0	0
YEAR	21.2	10.8	16.0	0	82	14.0	14.0	2061	172/OCT	115	65	30	10	9

NOTICE 1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995  
 2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10

METEOROLOGICAL SUMMERY AT GODAVARI IN 1988

LOCATION : GODAVARI  
 INDEX NO. : 1022  
 DISTRICT : LALITPUR

LATITUDE : 27° 35' N  
 LONGITUDE : 85° 24' E  
 ELEVATION : 1400 m. amsl

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm					
	Mean		Absolute extreme		Number of days		Observed at		Observed at				Number of rainy days					
	Max.	Min.	Max. & Min. & Date	Max. & Min. & Date	≥30°	Min. <50°	8:45 NST	17:45 NST	8:45 NST	17:45 NST			≥ 1.0	1.0 to 9.9	10.0 to 24.9	25.0 to 49.9	50.0 to 99.9	≥ 100
			Date	Date			NST	NST	NST	NST								
JAN	14.7	4.1	9.4	17.8	0.0	0	1	84	7.7		3	2/14	2	2	0	0	0	0
FEB	17.2	5.7	11.5	23	26	0	0	82	8.3		25	16/24	4	3	1	0	0	0
MAR	20.3	8.0	14.2	28	17	0	0	81	9.7		81	29/20	7	4	2	1	0	0
APR	25.1	11.4	18.3	26	3	0	0	72	11.9		69	23/18	7	4	3	0	0	0
MAY	25.4	15.4	20.4	29.2	7	0	0	85	17.2		125	22/4	16	11	5	0	0	0
JUN	25.2	17.8	21.5	11	4	0	0	91	20.4		280	49/13	22	14	5	3	0	0
JUL	24.8	19.1	22.0	27.4	14.5	0	0	95	22.0		465	58/6	27	13	6	7	1	0
AUG	24.1	18.6	21.4	30	5	0	0	95	21.3		524	53/11	25	10	5	7	3	0
SEP	24.4	17.4	20.9	26.5	14.3	0	0	94	19.6		254	54/8	15	9	2	3	1	0
OCT	22.8	12.8	17.8	14	16	0	0	85	14.1		15	14/6	2	1	1	0	0	0
NOV	18.8	7.4	13.1	26.5	10.4	0	0	81	9.8		31	25/5	2	1	1	0	0	0
DEC	15.5	5.7	10.6	4	29	0	0	86	8.5		102	64/26	3	1	0	1	1	0
YEAR	21.5	11.9	16.7	29.5	0	0	1	86	14.2		1974	64/DEC	132	73	31	22	6	0

NOTICE 1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995

2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10

### METEOROLOGICAL SUMMARY AT GODAVARI IN 1989

LOCATION : GODAVARI  
 INDEX NO. : 1022  
 DISTRICT : LALITPUR

LATITUDE : 27° 35' N  
 LONGITUDE : 85° 24' E  
 ELEVATION : 1400 m. amsl

Month	AIR TEMPERATURE °C										RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm					
	Mean			Absolute extreme			Number of days		Observed at		Observed at		≥ 1.0	1.0 to 10.0			10.0 to 25.0		≥ 50.0			
	Max.	Min.	Daily	Max.	Min.	Date	≥ 30°	Max.	Min.	8:45 NST	17:45 NST	8:45 NST		17:45 NST			to	to				
							50°															
JAN	12.7	3.0	7.9	16.2	-0.7	16/2	0	3		86		6.9		0	0	0	0	0				
FEB	16.5	3.5	10.0	31	12 c	31	0	2		71		6.2		2	0	0	0	0				
MAR	20.8	8.8	14.8	28	20	28	0	0		76		9.0		4	2	0	0	0				
APR	25.9	11.9	18.9	26.4	5.5	26/4	0	0		63		9.8		1	0	0	0	0				
MAY	26.0	16.0	21.0	24	15 c	24	6	0		77		15.9		12	6	3	0	0				
JUN	25.6	17.8	21.7	29.2	8.8	29/2	0	0		87		20.1		17	11	5	1	0				
JUL	24.5	18.4	21.5	24	5 a	24	0	0		89		22.1		22	7	5	9	1				
AUG	24.5	18.2	21.4	28.4	16.8	28/4	0	0		94		20.7		23	14	5	3	1				
SEP	23.5	17.5	20.5	27	3	27	0	0		95		19.7		21	9	7	5	0				
OCT	22.3	13.1	17.7	26.9	15.5	26/9	0	0		88		13.9		7	5	2	0	0				
NOV	17.6	7.4	12.5	9	30 a	9	0	0		83		9.0		0	0	0	0	0				
DEC	14.7	4.0	9.4	20.4	4.0	20/4	0	0		78		6.6		0	0	0	0	0				
YEAR	21.2	11.6	16.4	31.6	-0.7	31/6	6	5		82		13.3		1603	68 / AUG	57	29	21	2			

NOTICE

1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995

2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10

### METEOROLOGICAL SUMMARY AT GODAVARI IN 1990

LOCATION : GODAVARI  
 INDEX NO. : 1022  
 DISTRICT : LALITPUR

LATITUDE : 27° 35' N  
 LONGITUDE : 85° 24' E  
 ELEVATION : 1400 m. amsl

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %			VAPOUR PRESSURE mb			PRECIPITATION mm			
	Max.	Min.	Daily	Absolute extreme		Number of days	Observed at			Maximum in 24 hrs & Date	Total	Number of rainy days				
				Max. & Date	Min. & Date		8:45 NST	17:45 NST	8:45 NST			17:45 NST	1.0 to 1.0	10.0 to 10.0	25.0 to 25.0	50.0 to 50.0
JAN	16.4	5.5	11.0	20.8	1.8	0	85	8.0	8.0	0/0	0	0	0	0	0	0
FEB	14.9	5.4	10.1	30 a	6 e	a	d	7.8	7.8	24/14	60	8	2	0	0	0
MAR	18.2	7.3	12.8	18.7	3.5	0	81	8.8	8.8	12/24	61	6	3	0	0	0
APR	23.4	11.1	17.3	1	21	0	81	11.8	11.8	22/26	69	7	2	0	0	0
MAY	24.3	15.1	19.7	23.4	4 a	0	85	16.9	16.9	33/20	149	13	2	2	0	0
JUN	26.6	18.6	22.6	27.4	10.5	0	88	20.9	20.9	44/28	242	11	5	3	0	0
JUL	24.0	18.9	21.5	17	1	0	93	21.9	21.9	91/8	659	12	5	5	4	0
AUG	24.7	18.6	21.7	26.2	17.8	0	94	21.1	21.1	110/13	577	14	4	5	1	2
SEP	23.7	17.5	20.6	9	2	0	92	20.2	20.2	58/25	245	5	5	2	1	0
OCT	21.1	12.7	16.9	27.2	16.0	0	81	15.4	15.4	9/1	25	4	0	0	0	0
NOV	19.5	8.8	14.2	7 a	29 a	a	a	9.4	9.4	0/0	0	0	0	0	0	0
DEC	15.8	5.5	10.7	22.5	6.8	0	76	7.6	7.6	1/31	1	1	0	0	0	0
YEAR	21.1	12.1	16.6	15 a	30 b	0	80	14.2	14.2	110/AUG	2087	81	28	17	6	2

NOTICE 1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995  
 2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10



## Climatological Summary of Dhumbesi

LOCATION : DHUNIBESI  
 INDEX NO. : 1038  
 DISTRICT : DHADING

LAT. : 27° 43' N  
 LONG. : 85° 11' E  
 ELEV. : 1085 m. amsl

(1987)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Min. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	
JAN	17.7	7.7	12.7	20.0 15	4.0 2	0	0	81	77	10.5	12.8	
FEB	20.9	9.7	15.3	25.3 26 a	5.5 3	0	0	70	75	11.5	15.4	
MAR	24.4	13	18.7	28.2 31 e	7.0 2	0	0	78	75	16.7	21.2	
APR	29.9	18.2	24.1	32.9 6.0	14.6 12	19	0	75	79	21.6	28.1	
MAY	31.7	19.5	25.6	36.1 28.0	12.3 4	23	0	71	81	22.6	31.2	
JUN	31.2	21.7	26.5	34.0 14 b	15.9 2	23	0	84	50	27.7	31.3	
JUL	29.8	21.3	25.6	32.2 16	19 4	19	0	84	84	26.6	29.6	
AUG	29.5	20.8	25.2	31.1 5	19 2	13	0	57	52	27	28.2	
SEP	28.9	20.8	24.8	31.0 5 c	19 9	7	0	56	52	26.6	30	
OCT	26.3	16.5	21.4	29.3 6 b	13.9 28	0	0	80	83	20.4	26.6	
NOV	22.8	12.3	17.5	25.0 10	11.0 2	0	0	79	79	15.8	19.2	
DEC	19.2	9.7	14.5	21.5 5	9 11	0	0	73	74	13.4	13.6	
YEAR	26.0	15.9	21.0	36.1 MAY	4 JAN	104	0	79	79	20.1	23.9	

(1988)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Min. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	
JAN	19.0	9.0	14.0	20.1 23	7.0 15	0	0	73	73	12.8	13	
FEB	20.9	10.5	15.6	23.1 10	9 4	0	0	74	63	13.1	12.7	
MAR	25.2	13.1	19.2	29.5 26	9.5 20	0	0	70	60	14.4	15.3	
APR	30.4	15.7	23.6	34.0 6	12.7 1	18	0	56	48	15.5	15.9	
MAY	30.5	19.2	24.9	34 11 a	16.0 4	19	0	71	64	21.4	22.6	
JUN	30.1	21.2	25.7	32.6 22	17 1	20	0	82	72	25.3	25.3	
JUL	29.5	21.8	25.7	32.1 1	20.2 2	17	0	87	82	27.3	27.6	
AUG	28.8	21.6	25.2	32.4 3	20.0 26	11	0	59	84	27.6	27.4	
SEP	28.8	20.7	24.8	30.6 13 a	17 8	10	0	55	53	25.8	26	
OCT	28.2	18.4	23.3	30.2 6	14.6 31	4	0	76	77	21.6	23	
NOV	22.7	12.4	17.5	25.2 13	10.5 27	0	0	66	67	13.3	14	
DEC	19.6	10.4	15.0	23.2 4 a	7.2 27	0	0	76	76	12.6	13.1	
YEAR	26.1	16.2	21.2	34.0 APR	7.0 JAN	99	0	76	71	19.2	19.7	

(1989)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Min. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	
JAN	15.5	7.8	12.2	21 31 a	6.0 12	0	0	78	75	10.9	11.6	
FEB	20.1	8.2	14.2	25.5 28 a	3 20	0	0	63	58	9.7	10.0	
MAR	25.3	12.8	19.0	31.5 26	10 15	1	0	59	51	12.3	11.9	
APR	31.0	15.5	23.3	33.5 18	12.5 4	23	0	43	55	12.4	19	
MAY	30.8	19.4	25.1	37 6 b	17.0 12	15	0	73	64	23.5	21.7	
JUN	30.4	21.5	26	33.5 10	19.5 1	19	0	61	74	25.7	25.4	
JUL	29.6	21.4	25.5	32.5 23	19 29	19	0	87	81	26.7	26.7	
AUG	29.8	21.4	25.6	31.5 5	18 1	18	0	89	82	25.8	26.9	
SEP	29.2	20.6	24.9	31.5 1	18.5 25	12	0	55	76	25.4	24.7	
OCT	26.7	17.3	22.0	29.2 6 a	13.0 22	0	0	84	80	21.7	23.9	
NOV	21.3	11.8	16.5	23.8 6 a	8.4 28	0	0	79	50	14.6	17.8	
DEC	18.3	8.7	13.5	20 2 p	7.7 14 p	0	0	76	79	11.2	14.3	
YEAR	25.7	15.5	20.6	37 MAY	3.0 FEB	107	0	75	71	18.3	19.5	

(1990)

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %				VAPOUR PRESSURE mb	
	Mean			Absolute extreme		Number of Days		Observed at				
	Max.	Min.	Daily	Max. & Min. & Date	Min. & Date	Max. ≥ 30°	Min. ≤ 0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST	
JAN	20.6	10.9	15.8	23.5 30 m	7.0 15 m	0	0	60	75	13.2	14.4	
FEB	19.7	9.8	14.8	23.5 1	8.0 26	0	0	60	73	12.2	12.9	
MAR	22.8	11.7	17.3	27.5 21 a	8.1 1	0	0	75	72	14.4	17.1	
APR	28.6	15.6	22.1	32.5 24	10.0 2	14	0	71	71	17.5	21.8	
MAY	30.4	17.6	24.0	36.6 1 q	14.8 1 q	8	0	75	81	21.3	26	
JUN												
JUL	29.1	22.2	25.7	32.5 31 o	21.0 17 o	5	0	68	66	27.1	27.4	
AUG	30.0	21.4	25.7	32.0 20	20.0 3	20	0	68	83	27.2	28.1	
SEP	28.9	20.4	24.7	32.5 1	18.1 26	5	0	55	64	25.2	26.2	
OCT	25.9	16.7	21.3	30.2 7	14.0 25	1	0	76	76	19.4	21	
NOV	23.0	11.1	17.0	25.5 11	8.0 20	0	0	60	74	15.6	17.5	
DEC	18.7	8.9	13.5	20.4 14	7.5 17	0	0	76	71	12.2	12.7	
YEAR												

**NOTICE**

1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995

2) MISSING NUMBER OF DAYS: a=1; b=2; c=3, d=4; e=5, f=6; g=7, h=8; i=9; j=10; k=11; l=12, m=13; n=14; o=15, p=16; q=17, r=18; s=19; t=20, u=21; v=22; w=23, x=24

### METEOROLOGICAL SUMMERY AT SINDHULI GADHI IN 1989

LOCATION : SINDHULI GADHI  
 INDEX NO. : 1107  
 DISTRICT : SINDHULI

LATITUDE : 27° 17' N  
 LONGITUDE : 85° 58' E  
 ELEVATION : 1463 m. amsl

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %			VAPOUR PRESSURE, mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm					
	Mean		Absolute extreme		Number of days		Observed at		Observed at		Number of rainy days			≥ 1.0	10.0 to 24.9	25.0 to 49.9	50.0 to 99.9	≥ 100	
	Max.	Min.	Max.	Min.	Max.	Min.	8:45 NST	17:45 NST	8:45 NST	17:45 NST									
	Min.	Daily	Date	Date	≥30°	50°	NST	NST	NST	NST									
JAN												22	17/9	2	1	0	0	0	
FEB												39	21/21	3	1	2	0	0	
MAR	28.3	8.5	18.4	32.5	4.0	9	0	85	78	19.8	23.5	11	11/15	1	0	1	0	0	
APR	33.2	8.3	20.8	37.5	1	26	0	78	79	26.8	35.0	0	0/0	0	0	0	0	0	
MAY	32.7	6.9	19.8	39.1	10.0	24	0	82	82	29.2	32.4	141	39/26	8	4	1	3	0	
JUN	31.1	15.3	23.2	34.0	7.0	7	0	89	93	32.2	33.4	356	90/20	13	4	4	3	2	
JUL	29.8	22.4	26.1	32.0	13.0	9	0	93	95	32.0	31.7	490	82/13	16	3	5	5	3	
AUG	30.6	23.2	26.9	33.0	21.0	27	0	88	92	31.6	31.7	286	49/20	21	10	7	4	0	
SEP	29	22.2	25.6	32.0	20.0	14	0	91	92	28.9	29.5	379	52/24	23	10	7	5	1	
OCT	30.1	19.4	24.8	32.0	14.1	20	0	84	82	24.7	27.0	65	28/13	8	6	1	1	0	
NOV	27.2	13.1	20.2	31.1	10.0	10	0	88	89	17.4	23.3	0	0/0	0	0	0	0	0	
DEC	22.8	9.2	16.0	25.0	6.0	0	0	85	87	12.7	16.4	0	0/0	0	0	0	0	0	
YEAR												1788	90/JUN	95	39	29	21	6	0

NOTICE 1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995  
 2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10; k=11; l=12; m=13; n=14; o=15; p=16; q=17; r=18; s=19; t=20; u=21; v=22; w=23; x=24; y=25; z=26

**METEOROLOGICAL SUMMERY AT SINDHULI GADHI IN 1990**

LOCATION : SINDHULI GADHI  
 INDEX NO. : 1107  
 DISTRICT : SINDHULI

LATITUDE : 27° 17' N  
 LONGITUDE : 85° 58' E  
 ELEVATION : 1463 m. AMSL

Month	AIR TEMPERATURE °C				RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm						
	Mean		Absolute extreme		Observed at		Observed at				Number of rainy days	1.0 to 9.9		10.0 to 24.9		25.0 to 50.0	
	Max.	Min.	Max.	Min.	8:45 NST	17:45 NST	8:45 NST	17:45 NST				≥ 1.0	to 9.9	to 24.9	to 49.9	to 99.9	≥ 100
JAN	23.4 <sup>a</sup>	9.8	27.4	5.0	88	89	13.1	17.4	0	0/0	0	0	0	0	0		
FEB	23.2	12.2	27.0	10.0	84	78	13.5	16.1	32	11/11	5	4	1	0	0		
MAR	26.5	15.0	31.2	11.0	77	71	16.2	18.5	21	15/24	2	1	1	0	0		
APR	30.1	18.4	34.2	14.2	75	71	22.9	23.7	109	41/18	6	2	2	2	0		
MAY	30.8	21.1	35.0	19.2	80	83	26.9	29.3									
JUN	31.6	23.5	33.2	21.0	86	87	32.5	33.3	406	131/26	20	7	9	3	0		
JUL	30.1	23.6	32.0	23.0	91	91	31.4	32.9									
AUG	31.1	23.4	34.0	22.0	89	91	31.4	32.7	550	136/27	18	6	5	3	3		
SEP	30.4	22.2	33.3	20.6	87	87	28.7	30.1	415	80/25	23	11	7	2	3		
OCT	29.4	17.7	33	13	84	87	22.6	26.3	245	64/2	12	6	2	2	2		
NOV	28.0	13.3	31.0	10.0	81	86	17.9	18.9									
DEC	24.8	10.3	29.0	8.2	84	88	13.1	17.7	0	0/0	0	0	0	0	0		
YEAR	28.3	17.6	35.0	5.0	84	84	22.5	24.8									

1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995

2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10; k=11; l=12; m=13; n=14; o=15; p=16; q=17; r=18; s=19; t=20; u=21; v=22; w=23; x=24; y=25; z=26

METEOROLOGICAL SUMMARY AT KARMAIYA IN 1987

LOCATION : KARMAIYA  
 INDEX NO. : 1121  
 DISTRICT : SARLAHI

LATITUDE : 27° 07' N  
 LONGITUDE : 85° 28' E  
 ELEVATION : 131 m. amsl

Month	AIR TEMPERATURE °C					RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm						
	Mean		Absolute extreme		Number of days		Observed at		8:45 NST			17:45 NST	Number of rainy days					
	Max.	Min.	Max.	Min.	Max.	Min.	8:45 NST	17:45 NST					≥ 1.0	1.0 to 9.9	10.0 to 24.9	25.0 to 49.9	50.0 to 99.9	≥ 100
	Date	Date	Date	Date	≥ 30°	50"												
JAN	22.9	12.2	26.6	7.0	0	0	83	71	13.2	15.8	0	0/0	0	0	0	0	0	
FEB	27.4	15.0	31.0 32.0	23.0 12.5	4	4	74	48	14.8	14.8	5	5/28	5	1	0	0	0	
MAR	31.1	17.7	26 35.2	4 13.0	24	0	66	41	16.9	15.2	27	16/14	27	2	1	0	0	
APR	35.4	22.0	27 38.0	2 20.0	30	0	53	41	19.2	18.8	22	8/23	22	6	0	0	0	
MAY	36.8	23.0	8 41.0	12.0 19.4	28	0	53	45	22.7	22.3	45	22/1	45	7	1	0	0	
JUN	35.9	26.5	17 40.0	5 24.0	29	0	69	59	31.3	29.3	78	29/23	78	5	2	1	0	
JUL	32	25.7	13.0 34.5	8 23.5	30	0	86	82	32.9	32.7	753	183/24	753	21	8	7	2	
AUG	32.4	25.7	18 37.0	3.0 23.0	25	0	83	80	32.5	33.3	703	140/11	703	17	5	5	2	
SEP	32.5	25.7	20 34.8	14 23.0	28	0	84	79	31.9	33.2	233	99/2	233	14	9	2	1	
OCT	30.2	22.8	17 33.2	29.0 19.0	19	0	83	81	28.2	28.8	88	22/10	88	9	5	4	0	
NOV	28.8	18.2	1 31.0	21 15.0	6	0	85	82	21.4	22.3	0	0/0	0	0	0	0	0	
DEC	25.6	14.3	12 28.0	30 12.0	0	0	82	76	15.6	18	4	4/12	4	1	1	0	0	
YEAR	30.9	20.7	41.0 MAY	7.0 JAN	223	0	75	65	23.4	23.7	1958	183/JUL	1958	84	45	22	7	5

NOTICE 1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995  
 2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10; k=11; l=12; m=13; n=14; o=15; p=16; q=17; r=18; s=19; t=20; u=21; v=22; w=23; x=24; y=25; z=26

### METEOROLOGICAL SUMMARY AT KARMAIYA IN 1988

LOCATION : KARMAIYA  
 INDEX NO. : 1121  
 DISTRICT : SARLAHI

LATITUDE : 27° 07' N  
 LONGITUDE : 85° 28' E  
 ELEVATION : 131 m. amsl

Month	AIR TEMPERATURE °C										RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm							
	Mean		Absolute extreme		Number of days		Observed at		8:45 NST	17:45 NST	8:45 NST	17:45 NST	≥ 1.0	1.0 to 10.0			10.0 to 25.0	25.0 to 50.0	≥ 1.0	1.0 to 9.9	9.9 to 24.9	24.9 to 49.9	49.9 to 99.9	≥ 100
	Max.	Min.	Max.	Min.	≥ 30°	Max.	Min.	8:45 NST																
	24.3	12.7	25.8	9.5	0	0	0	83	72	14.1	15.9	0	0/0	0			0	0	0	0	0	0	0	0
FEB	26.4	14.8	29.2	11.0	0	0	75	61	15.1	17	22	11/29	22	2	1	0	0	0	0	0	0	0		
MAR	30.1	17.2	35.5	13.4	17	0	63	51	16.5	17.7	54	32/19	54	0	2	1	0	0	0	0	0	0		
APR	34.6	20.7	39.8	16.0	28	0	58	50	20.3	22.1	118	45/18	118	5	3	1	0	0	0	0	0	0		
MAY	34.6	24.0	37.8	20.0	31	0	69	59	27.3	28.1	90	24/3	90	6	4	0	0	0	0	0	0	0		
JUN	33.6	25.4	37.5	21.0	27	0	78	71	30.5	32.5	131	34/13	131	7	4	1	0	0	0	0	0	0		
JUL	32.4	26.0	35.5	23.8	27	0	83	80	32.5	33	105	101/31	105	1	0	0	0	0	0	0	0	0		
AUG	31.9	25.6	36.0	24.0	24	0	86	84	32.0	33.2	724	121/7	724	4	5	5	4	2	0	0	0	0		
SEP	33.0	25.2	35.5	22.2	30	0	85	79	31.2	32.6	293	80/6	293	6	4	1	2	0	0	0	0	0		
OCT	32.7	22.6	34.5	20.0	21	0	80	74	27.0	28.6	30	29/6	30	1	0	1	0	0	0	0	0	0		
NOV	30.7	18.8	32.0	18.0	5	0	73	70	19.2	21	0	0/0	0	0	0	0	0	0	0	0	0	0		
DEC	25.0	13.9	27.0	12.5	0	0	80	75	15.1	17.2	14	10/27	14	1	1	0	0	0	0	0	0	0		
YEAR	30.8	20.6	39.8	9.5	210	0	76	69	23.4	24.9	1580	121/AUG	1580	33	24	10	6	3	0	0	0	0		

NOTICE

1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995

2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10; k=11; l=12; m=13; n=14; o=15; p=16; q=17; r=18; s=19; t=20; u=21; v=22; w=23; x=24; y=25; z=26

### METEOROLOGICAL SUMMARY AT KARMAIYA IN 1989

LOCATION : KARMAIYA  
 INDEX NO. : 1121  
 DISTRICT : SARLAHI

LATITUDE : 27° 07' N  
 LONGITUDE : 85° 28' E  
 ELEVATION : 131 m. amsl

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm							
	Mean		Absolute extreme		Number of days		Observed at		Observed at				Number of rainy days							
	Max.	Min.	Max.	Min.	Max.	Min.	8:45 NST	17:45 NST	8:45 NST	17:45 NST			1.0	10.0	25.0	50.0	1.0	10.0	25.0	50.0
	Min.	Daily	Date	Date	≥30"	50"	NST	NST	NST	NST			to	to	to	to	to	to	to	to
JAN	21.7		26		0		84	78	13.4	16										
FEB	24.5		30.2		2		68	51	11.5	12.4										
MAR	30.1		33		22		60	44	15.1	15.4	15	6/15	4	4	0	0	0	0		
APR	36.0		40.5		30		42	28	14.8	13.7	0	0/0	0	0	0	0	0	0		
MAY	35.6		40.5		30		62	57	25.2	26	208	92/20	8	2	3	2	1	0		
JUN	34.8	26.6	38.0	25.5	29	0	74	69	31.2	30.9	149	41/28	11	6	3	2	0	0		
JUL	32.1	25.2	36	22	24	0	84	83	31.8	33	589	112/30	25	12	5	4	3	1		
AUG	33.9	25.2	37	22.5	19	0	82	79	32.2	32.1	178	51/30	9	4	1	3	1	0		
SEP	32.1	24.5	36.0	22.0	25	0	84	84	31.1	31.8	442	72/5	22	8	7	5	2	0		
OCT	32.0	21.8	34.5	18	24	0	82	78	25.7	26.6	6	4/2	2	2	0	0	0	0		
NOV	28.0	16.3	30	14.0	2	0	79	74	17.8	19.5	0	0/28	0	0	0	0	0	0		
DEC	23.6	11.6	27	5.0	0	0	79	75	13.1	15.2	14	10/27	2	1	1	0	0	0		
YEAR	30.4		40.5		207		73	67	21.9	22.7										

NOTICE 1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995  
 2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10; k=11; l=12; m=13; n=14; o=15; p=16; q=17; r=18; s=19; t=20; u=21; v=22; w=23; x=24; y=25; z=26

### METEOROLOGICAL SUMMERY AT KARMAIYA IN 1990

LOCATION : KARMAIYA  
 INDEX NO. : 1121  
 DISTRICT : SARLAHI

LATITUDE : 27° 07' N  
 LONGITUDE : 85° 28' E  
 ELEVATION : 131 m. amsl

Month	AIR TEMPERATURE °C						RELATIVE HUMIDITY %		VAPOUR PRESSURE mb		Total	Maximum in 24 hrs & Date	PRECIPITATION mm						
	Mean		Absolute extreme		Number of days		Observed at		Observed at				Number of rainy days						
	Max.	Min.	Max.	Min.	≥30°	≤0°	8:45 NST	17:45 NST	8:45 NST	17:45 NST			≥ 1.0	1.0 to 9.9	10.0 to 24.9	25.0 to 49.9	50.0 to 99.9	≥ 100	
	Min.	Daily	Date	Date	Date	Date	NST	NST	NST	NST			0	0	0	0	0	0	
JAN	23.5	11.0	17.3	27.5	5.0	0	0	89	77	13.9	16.6	0	0/0	0	0	0	0	0	0
FEB	24.7	13.9	19.3	27.5	10.5	0	0	79	64	14.7	15.7	17	15/14	2	1	1	0	0	0
MAR	29.5	16.7	23.1	35.2	10.0	12	0	64	43	15.9	14.9	7	3/12	3	3	0	0	0	0
APR	33.9	20.7	27.3	38.2	16.4	28	0	56	43	19.9	18.2	98	45/25	6	3	0	2	0	0
MAY	33.8	24.5	29.2	37.5	18.0	30	0	66	61	26.2	27.4	132	54/18	11	7	2	1	1	0
JUN	34.8	26.2	30.5	37.5	22.5	30	0	76	70	32.4	33.2	289	108/23	10	3	2	3	1	1
JUL	32.3	25.8	29.1	39.5	24.0	29	0	83	81	32.4	32.9	401	104/18	12	4	3	2	1	2
AUG	33.5	25.9	29.7	36.5	24.5	31	0	80	78	32.5	33.9	321	123/27	9	2	2	4	0	1
SEP	31.5	25.3	28.4	35.5	23.5	22	0	83	81	30.9	32.3	213	81/25	8	5	0	1	2	0
OCT	30.5	18.9	24.7	33.5	16.4	22	0	83	78	24.0	25.9	138	63/12	4	1	0	2	1	0
NOV	29.6	17.5	23.6	32.5	13.5	19	0	78	74	18.0	20.2	0	0/0	0	0	0	0	0	0
DEC	25.4	13.6	19.5	28.0	11.5	0	0	83	76	14.2	16.7	0	0/0	0	0	0	0	0	0
YEAR	30.2	20.0	25.1	39.5	5.0	223	0	77	69	22.9	24	1615	123/AUG	65	29	11	15	6	4

NOTICE 1) SOURCE: CLIMATOLOGICAL RECORDS OF NEPAL 1987-1990, DEPARTMENT OF HYDROLOGY AND METEOROLOGY, JUNE 1995

2) MISSING NUMBER OF DAYS: a=1; b=2; c=3; d=4; e=5; f=6; g=7; h=8; i=9; j=10; k=11; l=12; m=13; n=14; o=15; p=16; q=17; r=18; s=19; t=20; u=21; v=22; w=23; x=24; y=25; z=26

***MATERIAL FOR SEMINAR  
OF DISASTER PREVENTION AND COMMUNITY DEVELOPMENT***



# JICA to study disaster-prone areas

By a Post Reporter

KATHMANDU, May 13 - Many people might have forgotten the worst disaster caused by floods and landslides in July 1993 but the painful memory of the days still haunts the people living in the area every year when rainy season begins.

Realising the need for a long term strategy for disaster prevention, HMG requested the Japanese government for technical assistance for the study on the disaster prevention for severely affected areas.

JICA, a Japanese INGO has undertaken a responsibility to study the causes of disaster and to formulate a pilot project to apply the findings in other disaster-prone areas.

The fourteen months-long study began in January this year and has been extensively concentrated on two districts. JICA organised a seminar on Disaster Prevention and Community Development here today to share the experience of the recently completed first phase study of all concerned before starting the second phase of study.

Addressing the seminar JICA's Hidetomi Oi said it is a reality here in Nepal that every effort of development made by individual families, communities and government isn't successful due to disasters recurrently taking place at various parts of the country. "I would ask local people to recognise that disaster prevention and preparedness should be within their responsibility and therefore should be implemented with their own

initiatives." In the day long seminar, Chairman of District Development Council, Makawanpur presented the report of reconstruction of various schools and roads damaged by flood and landslide in 1993.

M Watanabe, Representative, JICA, Nepal said the project has been conducting its study in three areas of Makawanpur district and one in Sindhuli.

JICA study team leader Terai, a recipient of Gorkha Daskhin Bahu for making architectural design of Kulaykhani hydro-electricity project said that the objectives of the study are to investigate about 15 areas and to select 5 severely affected areas hit by the storm of July 1993 and form disaster prevention plans in the upper Basin of Bagmati, East Rapti and Trisuli rivers. "The study

aims at finding out appropriate technologies in Nepal with maximum economic viability along with the transfer of relevant planning and designing technologies to the Nepali counterpart in the course of study."

Presenting his paper on field report on the 1993 natural disaster in Nepal, Dr. Akihiko Yoshida, member, JICA Advisory Committee said the major cause of the 1993 disaster was the overcutting of fuelwoods from the mountain area. Explaining the additional source of energy to replace the firewood, he said, "Replacement fuel may be obtained without cutting trees. Methane gas may be obtained from waste products, such as leftover rice, raw sewage and dry grasses. The facilities to produce methane gas are easily built."

## Troops destroy Tiger's arms

## Education regulations amended

KATHMANDU, May 13

to do so.

to take the consent of the school

# DISASTER PREVENTION AND COMMUNITY DEVELOPMENT PROGRAM

- 10:00 - 10:05 M. Watanabe (Representative, JICA Nepal)
- 10:05 - 10:20 H. Oi (Chairman, JICA Advisory Committee)  
 *Introduction of JICA Disaster Prevention Study*
- 10:20 - 11:00 Video Film for 1993 Disaster (DPTC)
- 11:00 - 11:15 Makwanpur DDC  
 *Report for the damages to the communities in Makwanpur District due to 1993 disaster.*
- 11:15 - 11:30 Department of Road  
 *Report on the damages to Prithivi and Tribhuvan Highways due to 1993 disaster.*
- 11:30 - 11:45 Department of Soil Conservation  
 *Policies and Organization of Department of Soil Conservation.*
- 11:45 - 12:00 Questions and Answers
- 12:00 - 13:00 Lunch Break at Hotel Narayani hosted by JICA
- 13:00 - 14:00 JICA Study Team  
 *Objectives, Basic Approach and Work Progress of the JICA Disaster Prevention Study.*
- 14:00 - 14:20 Mr. Madhusudan Poudel (Director, DPTC)  
 *Introduction of the activities of DPTC*
- 14:20 - 14:40 Mr. William Burger (UNDP)  
 *Introduction of Upgrading Disaster Management Project.*
- 14:40 - 15:00 Mr. Gerold Muller (Project Co-manager, BWP)  
 *Introduction of Phedigaon Flood Relief Program*
- 15:00 - 15:20 T. Hirozumi (Member, JICA Study Team)  
 *Inter-relation between soil conservation and Erosion / Sediment Control Engineering*
- 15:20 - 15:40 Tea Break
- 15:40 - 16:00 Lutheran World Service  
 *Introduction of community based disaster prevention activities*
- 16:00 - 16:20 Mr. Kalayan R. Pandey ( Programme Advisor, UNDP)  
 *Introduction of participatory District Development Project*
- 16:20 - 16:40 M. Watanabe (Member, JICA Advisory Committee)  
 *Approach to Participatory Disaster Prevention Project*
- 16:40 - 17:00 A. Yoshida (Member, JICA Advisory Committee)  
 *Community development approach concerning to the ecological issues,*
- 17:00 Mr. M. P. Wagley (Director General, DOSC)  
 *Closing Ceremony*

18:30 - 20:30

Dinner Party at Everest Hotel hosted by JICA Advisory Committee

**INVITATION LIST FOR SEMINAR FOR TRANSFER TECHNOLOGY (DRAFT)**  
(Work Shop on May 13, 1996)

Sr.No.	Name	Position	Tel.No.
<b>JAPAN INTERNATIONAL COOPERATION AGENCY (JICA), NEPAL</b>			
✓1	Mr. Masao Watanabe	Representative (2)	
✓2	Mr. Takashi Kato	Deputy Representative	
✓3	Mr. Eiichiro Cho	Project Officer	
✓4	Mr. Koji Yamada	Project Officer	
✓5	Mr. I. Nagamae	JICA, Expert	
✓6	Mr. Masaru Tsuzuku	JICA Expert	
✓7	Dr. Tomomi Yamada	JICA Expert	
✓8	Mr. Hisao Ando	JICA Expert A.	
✓9	Mr. Kimio Takahashi	JICA Expert, DOR	211377 (O), 221195 (R)
✓10	Mr. Shingo Kitaura	Community Development and Forest Watershed Conservation Project	
✓11	Ms. Yumiko Tanaka	"	
✓12	Mr. Hironobu Shiwachi	Expert Energy Dev. Co-operation	
✓13	Mr. Kadota		
<b>EMBASSY OF JAPAN, DURBAR MARG, KATHMANDU</b>			
✓14	Mr. Tomio Sato	Second Secretary	226061, 225813, 228614
<b>DISASTER PREVENTION TECHNICAL CENTER (DPTC), PULCHOWK, LALITPUR</b>			
✓15	Mr. Ryosaku Sugimoto	Chief Advisor	535407, 535502 (O)
✓16	Mr. Shigechika Miyajima	JICA Expert	535407(O), 527325(R)
✓17	Mr. Shuji Tokumaru	JICA, Coordinator	535503(O), 526501(R)
✓18	Mr. Takeshi Wakai	JICA Expert	535407 (O)
✓19	Mr. Ichiro Kitahara	JICA Expert	535503 (O)
✓20	Mr. Madhusudan Poudel	Director (2)	535502, 535503, 535407(O)
✓21	Mr. Tek Bahadur Thapa	Asst. Soil Conservation Officer	535502, 535503, 535407(O)
	All Technical Staffs and Trainee		
<b>DEPARTMENT OF SOIL CONSERVATION, BABARMAHAL, KATHMANDU</b>			
✓22	Mr. Mohan P. Wagley	Director General	220828, 220857
✓23	Mr. Rudra Sapkota	Socio-Economist (2)	"
✓24	Mr. B.D. Shrestha	Divisional Geologist	"
✓25	Mr. Rabin Bogati	Planning Officer	"
✓26	Mr. Bhawani P. Kharel	Monitoring Officer	"
✓27	Mr. Shashindra Singh	Extension Officer	"
✓28	Ms. Sanu Maiya Shrestha	Asst. Planning Officer	"
✓29	Ms. Samyunkta Rajbhandari	Ecologist	"
✓30	Mr. Upendra Sapkota	Divisional Chemist	"
✓31	Mr. Kiran Dongol	Forestry Hydrologist	"
✓32	Mr. Krishna P. Aryal	Section Officer	"
✓33	Mr. Bharat Pudasaini	Watershed Planning Officer	"
✓34	Mr. Gerold Mueller	Co-Manager A. (2)	232994(Bagmati Watershed Pjt)
✓35	Mr. Madhukar Upadhyaya	Manager	233814(Bagmati Watershed Pjt)
✓37	Mr. R.N. Bhartarai	District Soil Conservation Officer	Kulekhani Watershed Management
✓38	Mr. Subhadra Jha	Divisional Chief	
✓39	Mr. G. P. Pant	Account Officer	
✓40	Mr. R. K. Chaudhary	A.	
✓41	Mr. T.P. Kattel	Seconded to the position	
✓42	Mr. P. Bajracharya		

Sr.No.	Name	Position	Tel.No.
<b>MINISTRY OF FOREST AND SOIL CONSERVATION, BABARMAHAL, KATHMANDU</b>			
✓ 43	Mr. Harihar Sigdel	Planning Officer, Planning Division	223862
✓ 44	Mr. Amrit L. Joshi	Chief Planning Officer	
✓ 45	Mr. S. Bhattarai		
✓ 46	Mr. D.P. Parajuli	Chief M/E A.	
✓ 47	Mr. K. M. Stapit	Central Forest Director	
<b>WATER AND ENERGY COMMISSION SECRETARIATE, SINGH DURBAR, KATHMANDU</b>			
✓ 48	Mr. Vijaya Kumar Saraf	Divisional Engineer (Mech.)	227699
<b>NEPAL ELECTRICITY AUTHORITY, DURBAR MARG, KATHMANDU</b>			
✓ 49	Mr. Govinda K.C.	Director In-charge, Engg. Directorate A.	225592(O), 233607(Fax)
✓ 50	Mr. Devi Bahadur Thapa	Director, Survey Department A.	212133(O)
✓ 51	Mr. R.P. Hada	Assistant Manager, KDPP-II	233210, 225592(O)
<b>MINISTRY OF FINANCE, KATHMANDU</b>			
✓ 52	Mr. Ananda Ram Regmi	Section Officer	220821
✓ 53	Mr. Hari P. Regmi	Under Secretary	
<b>MINISTRY OF POPULATION AND ENVIRONMENT</b>			
✓ 54	Mr. S.N. Upadhyay	Secretary	
<b>NATIONAL PLANNING COMMISSION</b>			
✓ 55	Mrs. Janaki Amatya	Under Secretary	
<b>NEPAL ELECTRICITY DEVELOPMENT CENTRE</b>			
56	Mr. S. P. Rimal	Sr. Divisional Engineer (X)	
<b>DEPARTMENT OF IRRIGATION, PANIPOKHARI, KATHMANDU</b>			
✓ 57	Mr. Y. L. Baidhya	Director General	413733
✓ 58	Mr. Prajwal P. Pradhan	Sr. Divisional Engineer	411912, Ext.19
<b>MINISTRY OF HOME, SINGH DURBAR, KATHMANDU</b>			
✓ 59	Mr. Sushil J.B. Rana	Under Secretary, Disaster Relief Section	226137(O), 535014(R)
<b>DEPARTMENT OF HYDROLOGY METHOLOGY</b>			
✓ 60	Mr. Kiran Shanker	Director General	
<b>DEPARTMENT OF ROADS, BABARMAHAL, KATHMANDU</b>			
✓ 61	Mr. Mohan Bahadur Karkee	Director General (2)	221675
✓ 62	Mr. Suresh Kumar Regmi	Deputy Director General	220996
✓ 63	Mr. Keshav P. Pokharel	Deputy Director General	217912
✓ 64	Mr. J.H. Howell	Bio-Engineering Advisor	231981
✓ 65	Mr. I.S. Dhakal	Manager, Geo-environmental Unit	231981
<b>DISTRICT DEVELOPMENT COMMITTEE, MAKWANPUR</b>			
✓ 66	Mr. Bir Bahadur Lama	Chairman A. (2)	057-20950 by Fax.
<b>UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP), UN BUILDING, PULCHOWK</b>			
✓ 67	Mr. William Berger	Disaster Management Coordinator (1)	523936 A.
✓ 68	Mr. Coxall Long	Representative	"
✓ 69	Mr. K.R. Pandey	Program Advisor, Participatory Dev.Pjt. (2)	523770
<b>INTERNATIONAL LABOUR ORGANIZATION, KATHMANDU</b>			
✓ 70	Mr. HSS Fonseka	Team Leader, Flood Damage Project	414550

Sr.No.	Name	Position	Tel.No.
<b>ICIMOD, PULCHOWM LALITPUR</b>			
✓71	Mr. Egnart Pelinck	Director General	525313
✓72	Dr. Tank Ya	Expert, Mountain Farming Systems Division	"
✓73	Dr. S. R. Chalise	Water Resource Specialist	"
<b>GTZ, PULCHOWK, LALITPUR</b>			
✓74	Mr. Goeshing	Team Leader, Livestock Project A.	525478
<b>USAID, RAVI BHAWAN, KALIMATI, KATHMANDU</b>			
✓75	Mr. Mathew Friedman	Technical Advisor	270144
✓76	Mr. Puru Pokharel	Programme Officer	"
<b>NEPAL RED CROSS SOCIETY, TAHACHAL, KATHMANDU</b>			
✓77	Mr. B.N. Khanal	Director, Community Development	270650
✓78	Mr. Karuna P. Shrestha	Deputy Director, Disaster Management	"
✓79	Mr. Akasran Pradhan	Senior Training Officer	"
<b>USC/CANADA, BALUWATAR, KATHMANDU</b>			
✓80	Mr. S.R. Shrestha	Country Representative	414170
<b>PLAN INTERNATIONAL, SANEP, LALITPUR</b>			
✓81	Dr. Sumitra Manandhar	Director	535580
✓82	Mr. Bikash Pradhan	Program Manager	"
<b>ACTION AID, LAZIMPAT, KATHMANDU</b>			
✓83	Mr. Ramesh Singh	Country Representative	410929
<b>OXFAM, SANEP, LALITPUR</b>			
✓84	Ms. Nancy Smith	Country Representative	523197, 527230
<b>SPACE, PATAN</b>			
✓85	Mr. Ganesh Blakta	Coordinator	523744
<b>LUTHERN WORLD SERVICE, PULCHOWK, LALITPUR</b>			
✓86	Mr. Todd Stowall	Coordinator, Disaster Project	527212
✓87	Mr. Thakur Shrestha	Training Officer, Disaster Project	"
✓88	Ms. Shanta Shrestha	Deputy Representative	"
<b>UNITED MISSION TO NEPAL, THAPATHALI, KATHMANDU</b>			
✓89	Ms. Norma Kehrberg	Director, Education	228118
✓90	Mr. Murari Pokharel	Liaison Officer A.	"
<b>GREEN ENERGY MISSION, ANAM NAGAR, KATHMANDU</b>			
✓91	Dr. Gyan Lal Shrestha	Executive Director	"
<b>SHAPLA NEER, SANEP, LALITPUR</b>			
✓92	Mr. Eiichi Sazamatsu		526329
<b>INHURED, PULCHOWK, LALITPUR</b>			
✓93	Mr. Gopal Sivakoti	Program Director A.	523805
<b>SCF/JAPAN, BALUWATAR, KATHMANDU</b>			
✓94	Ms. Miho Wada	Resident Representative	421319



## FOR A SUCCESS IN DISASTER PREVENTION AND PREPAREDNESS IN NEPAL

13 May 1996  
Hidetomi Oi, JICA

### Why the study was proposed?

The memory of the disaster of July 1993 may be still fresh in many people of Nepal. As many as 500,000 people were affected by floods/landslides and nearly 1,400 people lost their lives. Houses, roads, bridges, schools, agricultural lands... were damaged extensively. A number of organizations took part in relief operations and rehabilitation works to help people in affected areas.

While busily involved in relief operations and rehabilitation works, people came to think that something should be done so that such a tragedy would never happen again in future. Meetings, seminars, symposiums, conferences were then held repeatedly by NGOs, academic groups as well as by the government at the national level. Discussions were held seriously and enthusiastically. As a result a number of suggestions and recommendations were made.

It seemed that all were "determined" to make every efforts in their respective field to learn lessons from this disaster and "to turn the misfortune into a blessing". No one doubted that there would be a good progress for disaster prevention/preparedness in the country.

But saying is easy and doing is difficult. In spite of many efforts of various organizations, little progress was made. Many people in affected areas were still suffering from hardships. They were in fear of disaster which might occur at any time in rainy season, perhaps more frequently due to devastation of mountain slopes and rivers.

This study emerged from such situation. After negotiations between the two governments of Nepal and Japan the study began at the beginning of this year for fourteen months till February next year. Details of the study will be explained by my colleagues later.

### Some argument

When this study was proposed an argument was made as follows:

What are the chances of other areas in Nepal receiving such disasters? What needs to be done to protect other areas which are more fragile or have a higher population density? Is not this a drop in a bucket in view of the tremendous needs in all over the country?

The answer was that the most effective and practical might be to concentrate efforts on areas affected by disaster rather than doing small things at a number

of places. Without experiencing disaster, disaster mitigation can not be given a high priority: people, community, government may not be interested in no matter how susceptible a particular area is. By covering areas one by one when affected by disaster, the whole country will become less hazardous in the long run. "Disaster prevention through disasters" might be the best tactics. We should not be in haste. "Rome was not built in a day."

#### Disaster mitigation for development

It is nearly three years since the disaster. Relief operations were completed, and rehabilitation programmes planned by various organizations are also coming to an end. Post disaster programmes are often planned and carried out in haste. It is a high time now to contemplate how to make the country well prepared for disasters in order to attain the sustainable development of the country.

You may be aware that the United Nations designated the 1990s as the International Decade for Natural Disaster Reduction (IDNDR). In the background of this was the recognition that "in developing countries, disasters frequently damage the fragile economic infrastructure and greatly hamper the process for the social and economic development". It is a reality here in Nepal that every efforts for development made by individual families, communities and government are not successful due to disasters recurrently taking place at various parts of the country.

In conclusion I would ask:

local people to recognize that disaster prevention and preparedness should be within their responsibility and therefore should be implemented with the initiative of themselves. With this recognition in the background, participation of local people in this study should be encouraged.

governments, local and national, to place a due priority on disaster prevention and preparedness which is a key to the social and economic development. For a success; coordination among concerned agencies and between governments and local people are essential.

NGOs and other donors to provide the affected people with whatever assistance they can do. Experience shows that people are greatly encouraged by help from outside, how small it may be.

Donors, especially foreign donors, should consider the importance of assistance in rehabilitation phase and further for disaster prevention and preparedness. In view of the hardships the affected people would have to endure for a long period after disaster, assistance in these phases is considered to be really "humanitarian" no less than that in the phase of emergency relief immediately after the disaster. The enthusiasm shown in emergency assistance should continue to rehabilitation and disaster prevention and preparedness phases.