

SERVICIO NACIONAL DE RIEGO Y AVENAMIENTO

EVAPOTRANSPIRACION POTENCIAL MENSUAL (ETP)

(AÑOS HIDROLOGICOS 1971 - 1979)

<p> AÑO HIDROLOGICO </p>	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	ENE.	FEB.	MAR.	ABR.	TOTAL
1971	167.1	131.2	150.0	148.2	122.1	123.9	130.3	137.3	153.7	124.9	188.4	201.1	1778.2
1972	171.2	133.6	157.7	157.7	149.0	147.8	134.7	144.5	161.5	164.7	197.5	196.3	1916.0
1973	167.0	141.4	136.9	153.4	133.1	109.8	123.4	136.1	155.9	156.7	191.1	190.1	1794.9
1974	166.5	149.7	160.0	157.7	121.4	130.3	140.5	137.9	148.4	152.9	199.7	200.6	1865.6
1975	175.8	134.4	151.8	136.7	116.9	126.4	103.9	138.2	154.6	169.1	199.3	176.4	1783.5
1976	177.6	146.7	153.4	170.2	144.5	141.4	142.6	150.4	165.6	171.5	203.5	199.9	1967.3
1977	160.9	125.9	173.5	153.2	142.1	147.8	141.8	153.0	157.9	156.6	178.8	188.9	1980.4
1978	154.3	117.1	141.1	134.0	129.4	129.6	138.5	137.9	160.3	166.1	197.5	167.6	1773.4
1979	171.2	123.5	150.7	155.8	132.5	123.9	133.2	137.6	149.5	170.5	203.5	194.0	1845.9
<p> PROMEDIO 1971-1979 </p>	168.0	133.7	152.8	151.9	132.3	131.2	132.1	141.4	156.4	159.2	195.5	190.5	1845.0
<p> PROMEDIO 1972-1978 </p>	167.6	135.9	153.5	151.8	134.5	133.3	132.2	142.6	157.7	162.5	195.3	192.0	1858.9

INSTITUTO METEOROLOGICO NACIONAL

VALORES PROMEDIOS DE TEMPERATURA MAXIMA, MINIMA Y MEDIA MENSUAL

076-008	TABDGA. BTE												LAT. 10 21	LONG. 85 09	ALT 40 mts
ANO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	ANUAL		
1971	31.10	32.20	32.70	33.30	33.00	30.90	31.60	31.80	30.30	30.80	31.40	31.90	31.80		
	20.90	20.50	22.60	21.90	22.20	20.80	21.20	21.10	22.90	22.00	20.70	19.90	21.30		
	26.50	26.80	27.90	27.90	27.50	25.90	26.80	26.40	26.80	27.80	27.80	27.10	27.10		
1972	31.80	32.70	34.30	34.90	34.16	31.90	32.90	33.10	32.80	32.40	32.10	31.70	32.90		
	20.40	20.80	20.30	21.70	23.40	22.90	23.50	22.80	22.40	22.40	22.20	22.20	22.10		
	26.60	26.70	27.20	28.30	27.20	26.40	27.70	27.20	26.60	26.40	26.40	27.10	27.00		
1973	33.00	33.50	36.00	36.30	34.30	32.30	31.70	31.30	31.20	30.10	31.50	31.30	32.70		
	21.30	22.90	22.00	23.70	23.90	23.10	23.00	21.70	22.00	22.80	23.20	20.60	22.50		
	27.30	28.00	29.30	29.40	28.10	26.30	26.40	25.30	25.20	25.40	26.50	25.90	26.90		
1974	32.60	33.00	35.00	34.90	33.30	31.90	31.50	32.30	30.60	30.60	31.00	31.20	32.30		
	21.30	21.30	21.00	23.00	20.60	19.50	20.90	22.30	21.40	21.70	21.70	20.60	21.30		
	27.30	27.30	28.50	29.30	26.80	26.20	26.70	26.60	25.10	25.50	26.20	26.00	26.80		
1975	32.20	32.90	34.70	34.10	34.60	32.50	31.50	31.10	31.10	30.90	30.10	30.30	32.20		
	21.10	19.40	21.60	21.60	21.60	22.20	21.80	21.50	22.00	21.70	22.20	21.00	21.60		
	27.00	26.80	28.50	28.50	26.80	25.50	26.70	26.40	26.40	26.30	26.10	26.10	26.80		
1976	31.20	31.90	33.80	34.90	33.50	32.40	32.40	33.10	32.70	31.90	32.10	32.40	32.70		
	21.00	22.00	21.40	22.80	23.00	22.00	23.50	22.20	22.40	21.60	22.10	22.50	22.20		
	25.60	25.30	28.00	28.60	27.90	25.40	27.70	26.80	27.00	25.50	26.30	27.10	26.90		
1977	31.70	33.20	34.40	35.20	34.20	32.00	32.70	32.80	31.20	32.00	31.70	32.40	32.80		
	21.10	22.10	23.80	23.80	22.40	22.90	23.80	22.10	22.10	22.40	21.90	21.20	22.50		
	26.20	28.10	29.10	29.20	28.70	27.50	28.60	25.20	27.10	27.50	26.40	26.40	27.50		
1978	32.70	33.20	34.60	35.20	33.40	31.70	31.90	32.20	31.50	31.20	31.80	32.00	32.60		
	20.90	---	22.90	23.20	23.70	22.60	22.20	23.50	22.50	23.10	23.80	21.70	(22.70)		
	26.20	28.90	27.30	29.90	28.14	28.20	26.30	25.30	25.50	25.60	26.80	26.30	27.10		
1979	32.70	33.30	34.70	34.30	33.10	31.40	32.20	32.30	30.80	31.20	31.20	31.40	32.40		
	20.30	24.00	22.60	24.10	22.60	23.00	22.70	23.00	22.70	22.70	22.10	21.30	22.60		
	26.80	28.20	28.70	28.60	27.40	26.80	26.60	27.00	26.00	26.20	26.20	26.30	27.10		
1980	32.40	33.10	34.80	35.40	33.90	32.40	32.30	32.00	31.70	31.90	31.20	26.40	32.60		
	19.90	20.80	22.20	23.00	23.60	23.60	23.00	22.40	22.80	22.60	22.60	22.30	22.40		
	26.70	27.40	29.00	29.60	27.90	27.50	26.60	26.90	26.30	26.40	26.30	26.40	27.30		
1981	30.80	33.20	34.40	34.50	32.40	30.80	31.90	31.20	32.00	31.30	30.60	31.50	32.10		
	21.40	22.50	21.90	24.60	23.60	23.10	22.60	22.50	23.00	22.50	22.80	21.70	22.70		
	25.60	27.60	27.90	28.50	27.30	27.80	28.00	26.40	26.70	26.80	26.90	26.60	27.20		
1982	32.60	34.00	34.80	35.00	32.40	32.10	32.00	32.40	32.60	30.90	31.70	32.30	32.70		
	21.10	21.80	21.60	22.40	22.70	22.90	22.70	23.70	22.30	21.90	22.10	22.20	22.30		
	27.10	27.20	28.00	28.10	26.10	26.80	27.10	27.60	26.40	28.90	27.00	27.60	27.10		
1983	33.20	35.00	34.90	36.00	35.20	32.30	33.10	32.70	31.90	31.20	31.40	31.60			
	22.60	22.70	22.80	22.60	23.60	22.90	22.90	23.20	22.30	22.30	22.20	21.00			
	27.90	28.90	28.90	29.30	29.40	27.60	28.00	28.00	27.10	26.80	26.80	26.30			
1984	30.90	33.30	---	34.40	33.90	32.70	31.70	31.30	30.80	31.30	31.60	31.10			
	20.90	21.60	---	21.90	22.00	21.90	22.50	22.80	21.80	22.50	21.60	23.10			
	25.90	27.50	28.40	28.20	28.00	27.30	27.10	27.10	25.40	26.90	26.10	27.20			
MEDIA DE TODA LA SERIE	32.10	33.20	34.50	34.90	33.70	31.90	32.10	32.10	31.50	31.30	31.30	31.60			
	21.00	21.70	22.10	23.10	22.80	22.40	20.90	22.50	22.30	22.20	22.30	21.50			
	26.60	28.30	28.40	28.90	27.70	26.80	27.20	26.60	26.30	26.40	26.40	26.60			

SERVICIO NACIONAL DE RIEGO Y AVENIMIENTO

HACIENDA TEMPISQUE

ELEVACION 22 msnmm

PRECIPITACION EN mm

COORDENADAS 364.9 - 275.8

PROMEDIOS MENSUALES

ARO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	TOTAL
1954	0.0	0.0	0.0	3.0	537.0	377.7	182.9	131.3	487.2	558.8	13.7	1.0	2292.6
1955	2.8	0.0	0.0	1.3	96.5	329.2	473.5	391.9	496.1	697.0	112.3	115.1	2725.7
1956	5.3	7.6	0.0	0.0	289.8	296.4	122.9	140.5	409.7	423.7	235.2	0.0	1931.1
1957	0.0	0.0	10.7	15.7	376.9	75.9	185.2	41.9	421.1	324.6	9.1	0.0	1461.1
1958	0.0	0.0	0.0	0.3	322.6	345.7	134.6	119.6	361.4	181.4	87.4	4.8	1559.9
1959	0.0	0.0	0.0	0.0	138.2	210.6	116.6	158.0	320.5	628.4	44.5	0.0	1616.8
1960	0.0	60.2	0.0	6.9	166.1	360.2	172.5	224.8	232.4	612.1	75.4	0.0	1910.6
1961	0.0	12.7	50.3	0.0	165.1	251.5	340.1	60.5	294.1	311.2	351.8	8.9	1846.2
1962	0.0	0.0	0.0	0.0	212.6	510.0	148.1	192.3	427.7	317.0	59.7	4.3	1871.7
1963	0.0	16.3	3.6	40.1	43.7	248.9	237.7	168.4	280.2	156.7	156.2	0.0	1351.8
1964	0.0	0.0	0.0	28.2	41.9	258.1	464.1	228.3	253.5	339.3	18.3	13.5	1645.2
1965	0.0	0.0	0.0	0.0	140.0	242.8	23.6	124.7	425.9	312.4	44.7	1.0	1313.1
1966	0.0	0.0	0.0	14.7	164.8	356.4	261.6	199.4	277.6	357.9	17.8	0.0	1650.2
1967	0.0	0.0	0.0	38.6	58.7	173.7	110.7	195.3	299.2	233.4	55.4	30.5	1495.5
1968	0.0	2.5	0.0	0.0	470.7	527.8	68.8	189.7	377.7	301.2	86.6	0.0	2025.0
1969	3.0	0.0	0.0	59.8	133.5	237.1	191.5	363.9	395.9	845.4	42.4	9.0	2281.5
1970	4.0	0.0	11.0	33.2	225.0	300.0	275.2	267.2	280.0	434.7	155.7	5.0	1991.0
1971	0.0	0.0	0.0	27.0	221.0	273.0	157.5	349.5	574.8	388.0	62.5	0.0	2081.3
1972	0.0	0.0	0.0	32.0	307.0	228.0	138.0	171.5	200.0	53.2	67.0	16.0	1212.7
1973	0.0	0.0	0.0	85.5	154.0	278.8	126.0	526.5	587.5	706.5	65.0	0.0	2529.8
1974	0.0	0.0	0.0	0.0	278.5	451.5	103.0	252.5	522.0	235.5	0.7	1.0	1844.7
1975	0.0	0.0	0.0	18.0	223.0	87.4	102.5	212.5	632.0	394.5	320.8	6.0	1996.7
1976	0.0	0.0	0.0	13.5	153.0	254.5	159.5	56.5	143.4	271.6	100.0	0.0	1152.0
1977	0.0	0.0	0.0	0.5	224.0	79.5	46.3	164.6	258.0	213.5	165.5	6.0	1157.9
1978	6.5	0.0	0.0	180	425.0	127.7	192.0	222.5	274.0	324.0	67.5	59.5	1716.7
1979	0.0	0.0	0.0	98.5	214.0	467.5	101.5	277.0	537.0	428.0	100.2	40.5	2327.0
1980	1.5	0.0	20.0	9.0	163.3	131.3	159.7	291.0	265.0	241.5	244.0	0.0	1526.3
1981	0.0	0.0	3.0	50.0	447.1	539.8	185.0	323.0	362.1	365.8	96.2	18.3	2390.3
1982	4.4	0.0	0.0	8.2	670.1	278.1	238.0	105.5	295.4	282.3	6.2	0.0	1579.0
1983	0.0	3.0	7.2	1.0	36.9	269.3	180.2	221.0	262.7	210.8	ND	ND	1011.9
1984	0.0	0.0	0.0	14.9	135.7	256.6	263.8	189.1	378.0	152.1	97.4	1.6	1509.2
1985	0.0	0.0	0.0	37.5	183.1	198.6	158.0	211.4	297.5	302.5	13.3	2.3	1404.2
1986	0.0	0.0	0.0	0.0	113.3	72.6	48.9	93.8	102.5	222.5	2.4	10.2	666.2
1987	0.0	0.0	0.0	0.0	109.1	62.5	35.2	63.5	94.2	105.3	15.0	0.0	484.8

CAUDALES PROMEDIO MENSUALES

ESTACION GUARDIA

RIO TEMPISQUE

(caudal en cm^3/seg)

AÑO	ENE.	FEB.	MAR.	ABR.	MAY.	JUN.	JUL.	AGO.	SET.	OCT.	NOV.	DIC.	TOTAL
1954	28.77	20.96	12.47	10.51	23.49	81.35	46.71	29.33	67.83	133.30	37.62	30.16	522.50
1955	21.07	19.38	13.87	10.63	9.87	51.59	55.36	63.03	154.08	98.15	104.06	32.85	633.94
1956	22.89	17.30	15.68	10.88	18.03	28.61	24.36	22.01	28.51	53.72	115.78	32.04	389.81
1957	25.44	14.53	10.78	9.33	17.46	15.14	20.09	16.97	27.24	35.78	20.35	22.00	235.11
1958	13.27	10.37	8.77	7.69	11.37	29.48	19.48	16.86	21.01	19.78	18.69	18.86	195.63
1959	14.89	10.40	8.79	8.99	6.73	20.26	11.55	14.29	115.16	146.31	19.48	18.44	395.29
1960	15.94	11.71	8.99	8.42	10.61	74.58	14.67	34.14	47.99	249.88	103.27	40.19	620.39
1961	23.24	14.10	10.75	7.43	9.84	15.92	17.85	17.74	55.53	33.97	119.90	17.00	343.27
1962	15.56	11.74	8.08	6.88	9.61	25.08	21.47	22.10	24.10	36.76	20.14	17.31	218.83
1963	13.65	11.68	9.87	7.68	8.91	14.97	16.56	14.54	20.30	21.15	53.38	22.16	214.85
1964	13.41	10.55	7.80	6.55	7.58	23.25	28.13	28.99	36.26	64.68	31.51	14.80	273.51
1965	13.44	10.58	8.39	6.40	6.70	9.29	14.70	11.97	21.25	28.38	17.40	14.73	163.23
1966	14.42	12.72	8.98	7.32	11.14	36.16	27.89	22.07	25.58	69.52	30.11	22.41	288.32
1967	18.51	16.42	12.89	11.23	14.61	21.59	17.65	23.01	31.01	35.58	29.48	21.75	253.73
1968	17.50	12.44	7.12	6.60	25.13	111.62	25.91	19.31	37.27	56.91	39.00	21.37	380.18
1969	12.75	11.22	9.68	10.59	8.78	24.83	15.18	41.61	63.59	327.02	53.54	29.20	607.99
1970	17.15	15.97	14.54	11.96	10.00	28.61	36.40	31.10	26.58	55.72	53.38	18.86	320.27
1971	17.15	19.38	10.00	7.82	9.40	24.05	22.47	42.62	174.08	73.42	20.14	21.36	441.89
1972	16.75	12.34	8.76	6.82	11.37	24.33	21.82	14.74	47.09	133.30	21.40	14.80	333.52
1973	15.75	12.91	10.06	9.10	7.70	24.80	11.82	73.42	178.09	98.15	21.43	21.36	484.59
1974	14.75	11.32	10.24	6.70	18.20	22.80	17.65	32.10	162.06	35.58	14.28	20.00	365.68
1975	14.44	12.29	10.02	6.07	9.60	15.42	17.63	26.17	188.25	64.68	92.28	21.46	478.30
1976	14.92	12.44	10.24	8.22	7.80	23.50	21.47	17.42	44.62	35.58	18.24	18.86	233.31
1977	15.20	12.78	10.28	9.02	9.70	15.24	14.70	14.74	36.26	30.20	53.28	14.90	236.30
1978	15.24	13.15	9.42	9.44	22.60	18.72	15.18	34.14	25.58	35.78	21.86	21.20	242.31
1979	14.25	12.24	9.54	9.53	9.65	22.91	12.82	26.17	173.02	53.72	18.24	24.75	386.84
1980	16.28	14.42	10.06	9.72	10.65	18.82	21.47	31.10	35.60	35.67	115.78	14.25	333.82
1981	15.21	12.02	9.49	9.64	25.00	113.00	44.00	60.00	91.00	52.00	54.00	26.00	511.36
1982	19.00	14.00	11.00	9.00	103.60	84.50	30.30	23.20	25.50	41.60	18.20	12.90	392.80
1983	15.10	10.30	8.40	7.20	5.86	11.50	11.60	10.50	16.10	31.90	19.60	11.90	159.96
1984	10.70	9.42	6.84	5.39	6.47	12.00	29.50	23.70	105.00	58.40	26.00	17.70	311.12
1985	14.30	11.60	9.01	6.92	12.50	18.60	21.47	30.46	25.50	57.10	117.37	17.70	342.53
1986	14.30	11.60	9.10	6.92	9.01	15.24	14.70	20.10	43.20	41.70	10.27	14.10	210.24
1987	15.60	11.49	8.97	7.51	8.01	13.24	13.90	18.30	39.60	36.80	9.32	16.50	199.24