



UNIVERSIDAD NACIONAL DE COLOMBIA SEDE MANIZALES

OBSERVATORIOS AMBIENTALES PARA EL DESARROLLO URBANO SOTENIBLE EN MANIZALES

RED DE ESTACIONES HIDROMETEOROLÓGICAS PARA PREVENCIÓN DE DESASTRES DE MANIZALES



ESTACIÓN METEOROLÓGICA POSGRADOS

CÓDIGO: EMM-02

JUNIO DE 2011

RESUMEN DIARIO Y MENSUAL DE VARIABLES METEOROLÓGICAS

Variables Día	Temperatura del Aire (°C)			V.V. (m/s)		P.B. (HPa)	Humedad Relativa (%)			LI. (mm)	Radiación Solar (W/m ²)		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	18.6	15.8	14.6	2.2	0.2	794.2	100.0	99.0	92.0	30.2	522.0	174.0	1.0
2	17.4	15.0	13.4	3.6	0.5	795.0	100.0	99.9	97.0	47.8	335.0	150.9	1.0
3	20.9	15.6	12.8	3.1	0.4	795.1	100.0	97.4	81.0	7.4	522.0	246.2	1.5
4	21.7	15.7	13.3	3.1	0.6	795.2	100.0	96.3	77.0	15.8	574.0	230.5	1.5
5	24.9	17.4	12.9	4.0	0.9	794.9	100.0	88.5	64.0	0.0	1152.0	392.0	2.8
6	25.1	17.5	14.4	2.7	0.4	795.0	100.0	91.2	62.0	2.5	1137.0	287.5	2.3
7	23.7	16.8	13.8	3.1	0.5	795.1	100.0	93.7	64.0	6.1	929.0	320.4	2.0
8	26.2	18.4	13.2	3.1	1.0	794.7	100.0	84.1	52.0	0.0	1068.0	410.2	3.3
9	26.9	19.1	14.0	3.6	0.9	794.5	100.0	83.6	56.0	0.0	1206.0	442.7	3.3
10	28.9	19.6	14.7	3.1	0.9	793.7	99.0	82.7	50.0	0.0	1185.0	449.1	3.8
11	28.6	20.0	14.4	4.0	0.7	792.7	100.0	78.1	45.0	0.0	915.0	466.3	3.8
12	28.1	20.1	15.2	4.0	0.9	792.1	99.0	79.1	44.0	0.0	1223.0	481.0	3.8
13	27.4	19.9	14.5	4.0	1.0	792.7	100.0	80.2	48.0	0.5	1216.0	410.1	3.3
14	24.5	17.6	13.9	3.1	0.9	793.1	99.0	88.3	60.0	0.5	1082.0	230.9	1.8
15	26.7	18.3	13.3	4.0	1.0	793.2	96.0	81.9	56.0	0.0	1141.0	341.5	2.6
16	23.2	17.1	13.6	2.7	0.6	793.8	100.0	89.4	66.0	0.0	702.0	249.5	2.0
17	23.6	17.2	14.2	3.1	0.4	794.3	100.0	90.7	67.0	0.0	992.0	253.4	1.8
18	23.8	17.3	13.6	2.7	0.6	795.0	100.0	89.8	64.0	0.0	1044.0	263.0	1.8
19	22.6	16.6	13.4	3.1	0.6	794.6	100.0	90.8	70.0	0.3	486.0	180.9	1.3
20	25.0	16.6	12.7	3.1	1.0	793.8	99.0	88.8	63.0	2.5	1062.0	301.6	2.3
21	28.6	18.5	11.7	5.8	1.1	793.4	97.0	79.5	46.0	0.3	1286.0	506.1	3.8
22	25.2	18.2	13.8	3.1	0.9	793.8	100.0	86.5	60.0	11.9	1227.0	338.3	2.6
23	23.7	16.4	14.6	3.1	0.4	793.9	100.0	95.8	68.0	1.5	1309.0	249.8	1.5
24	20.7	16.4	13.6	3.1	0.5	793.2	100.0	93.9	76.0	3.8	723.0	212.7	1.5
25	18.3	14.9	13.3	3.1	0.6	794.1	100.0	97.6	87.0	3.3	567.0	153.4	1.0
26	24.6	17.6	13.4	3.6	0.5	793.9	100.0	87.2	63.0	0.3	1322.0	406.8	3.1
27	24.1	17.1	13.6	4.0	0.7	794.0	100.0	88.3	61.0	0.3	1141.0	297.2	2.3
28	27.4	18.4	12.6	3.6	1.2	793.4	97.0	79.8	48.0	0.0	1157.0	498.8	3.6
29	24.2	16.9	13.4	3.6	1.0	793.3	98.0	88.5	67.0	1.0	856.0	234.6	1.8
30	22.6	15.7	13.1	3.6	0.8	793.2	100.0	92.9	71.0	3.8	1086.0	231.1	1.3
Mensual	28.9	17.4	11.7	5.8	0.7	794.0	100.0	88.8	44.0	139.7	1322.0	313.7	69.4

Convenciones: V.V.: Velocidad del Viento P.B.: Presión Barométrica LI.: Lluvia diaria ET.: Evapotranspiración. Nota: Datos resaltados en rojo están incompletos.



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JORNADA DIURNA - DIRECCIÓN DEL VIENTO SEGÚN LA ROSA DE LOS VIENTOS (Frecuencia relativa)

Día	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	2%	1%	1%	1%	5%	1%	8%	5%	16%	5%	8%	6%	8%	9%	15%	9%
2	12%	8%	3%	1%	1%	3%	2%	1%	1%	5%	8%	13%	8%	8%	15%	10%
3	8%	1%	1%	3%	11%	1%	1%	0%	1%	6%	5%	5%	3%	14%	20%	19%
4	6%	3%	8%	10%	4%	4%	2%	1%	6%	10%	3%	7%	10%	6%	9%	12%
5	18%	3%	1%	2%	13%	1%	0%	1%	0%	3%	2%	7%	4%	12%	13%	21%
6	13%	2%	0%	1%	2%	3%	1%	3%	10%	6%	6%	3%	6%	12%	22%	11%
7	10%	3%	1%	1%	0%	0%	1%	1%	1%	3%	10%	16%	14%	10%	19%	8%
8	6%	3%	1%	3%	13%	3%	2%	1%	1%	6%	6%	13%	9%	11%	13%	8%
9	7%	1%	1%	0%	6%	2%	1%	0%	6%	7%	9%	10%	12%	14%	11%	13%
10	8%	3%	2%	1%	2%	7%	5%	3%	3%	4%	6%	12%	6%	7%	17%	12%
11	8%	2%	1%	6%	6%	3%	1%	1%	8%	9%	9%	9%	7%	6%	13%	10%
12	8%	4%	1%	1%	4%	5%	10%	2%	5%	6%	5%	9%	7%	9%	9%	15%
13	15%	5%	3%	5%	2%	2%	3%	3%	4%	6%	4%	8%	8%	8%	11%	11%
14	6%	1%	1%	1%	7%	1%	1%	1%	3%	3%	6%	13%	18%	9%	17%	12%
15	6%	1%	0%	1%	8%	3%	1%	3%	6%	12%	5%	9%	7%	7%	17%	11%
16	8%	1%	2%	1%	17%	1%	1%	2%	3%	5%	4%	9%	3%	6%	25%	10%
17	4%	0%	0%	5%	6%	1%	1%	0%	9%	13%	10%	17%	6%	8%	11%	10%
18	7%	3%	0%	0%	12%	1%	1%	1%	2%	8%	4%	5%	8%	10%	22%	15%
19	10%	3%	7%	6%	11%	6%	5%	10%	7%	8%	2%	3%	4%	4%	10%	6%
20	10%	2%	3%	5%	16%	3%	1%	9%	6%	3%	4%	8%	6%	7%	8%	9%
21	10%	3%	4%	1%	8%	2%	1%	2%	5%	5%	2%	13%	13%	10%	12%	8%
22	8%	3%	1%	1%	7%	2%	2%	3%	6%	6%	7%	8%	10%	11%	13%	11%
23	7%	3%	2%	0%	4%	1%	1%	1%	3%	10%	5%	5%	6%	11%	23%	17%
24	10%	3%	4%	5%	13%	6%	1%	3%	4%	1%	1%	6%	7%	11%	13%	13%
25	8%	6%	11%	3%	8%	5%	1%	2%	6%	4%	4%	6%	9%	7%	9%	10%
26	6%	3%	1%	6%	6%	4%	1%	2%	8%	6%	7%	11%	11%	6%	10%	13%
27	17%	1%	1%	0%	1%	1%	0%	1%	1%	2%	2%	6%	11%	19%	20%	16%
28	10%	4%	1%	2%	14%	1%	2%	2%	4%	4%	8%	10%	8%	10%	10%	9%
29	6%	3%	6%	6%	13%	8%	6%	7%	3%	5%	5%	7%	6%	6%	12%	3%
30	6%	3%	3%	5%	17%	4%	8%	3%	2%	8%	4%	6%	3%	8%	10%	10%
Mensual	9%	3%	2%	3%	8%	3%	2%	3%	5%	6%	5%	9%	8%	9%	14%	11%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	NNO	ONO	OSO	N	O	E	SSO	SO	S	ESE	NNE	ENE	SSE	NE	SE
F. R.	14%	11%	9%	9%	9%	8%	8%	6%	5%	5%	3%	3%	3%	3%	2%	2%

Convenciones: R. V.: Rosa de los Vientos F. R.: Frecuencia Relativa. Nota: Datos resaltados en rojo están incompletos.



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JORNADA NOCTURNA - DIRECCIÓN DEL VIENTO SEGÚN LA ROSA DE LOS VIENTOS (Frecuencia relativa)

DIA	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	1%	2%	2%	1%	0%	2%	10%	1%	15%	22%	14%	14%	5%	4%	7%	1%
2	8%	1%	5%	5%	10%	6%	9%	2%	5%	26%	9%	10%	1%	1%	1%	1%
3	3%	2%	3%	6%	28%	15%	4%	0%	1%	10%	1%	8%	5%	3%	10%	1%
4	2%	14%	13%	20%	25%	18%	3%	0%	3%	0%	0%	0%	0%	0%	1%	0%
5	3%	4%	9%	11%	36%	10%	9%	1%	2%	0%	1%	1%	1%	3%	3%	5%
6	8%	1%	5%	7%	7%	4%	8%	0%	19%	15%	6%	3%	1%	9%	3%	3%
7	4%	0%	9%	7%	21%	8%	6%	0%	5%	3%	10%	3%	0%	9%	7%	8%
8	0%	1%	0%	12%	64%	10%	3%	0%	1%	0%	0%	3%	5%	0%	1%	0%
9	3%	0%	6%	14%	42%	24%	3%	1%	0%	1%	0%	2%	0%	0%	3%	1%
10	7%	5%	5%	9%	30%	12%	6%	0%	0%	3%	0%	1%	3%	6%	11%	3%
11	8%	1%	1%	10%	31%	14%	4%	0%	7%	4%	1%	2%	3%	8%	5%	2%
12	6%	1%	6%	7%	40%	17%	10%	3%	0%	1%	0%	0%	3%	1%	1%	4%
13	2%	3%	9%	17%	40%	13%	3%	1%	0%	1%	1%	2%	1%	1%	2%	3%
14	0%	1%	13%	14%	54%	7%	1%	5%	0%	0%	0%	1%	3%	0%	1%	0%
15	1%	0%	0%	9%	54%	15%	3%	7%	2%	3%	1%	0%	0%	0%	2%	1%
16	2%	1%	1%	12%	34%	21%	8%	0%	1%	4%	3%	7%	3%	0%	2%	1%
17	0%	1%	9%	13%	35%	17%	3%	0%	8%	10%	1%	0%	0%	0%	2%	1%
18	1%	4%	5%	13%	31%	8%	6%	1%	10%	1%	2%	1%	3%	3%	6%	4%
19	0%	3%	14%	16%	50%	12%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%
20	0%	0%	5%	13%	57%	17%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%
21	0%	1%	1%	7%	53%	24%	8%	1%	0%	0%	0%	2%	2%	1%	1%	0%
22	3%	5%	9%	8%	41%	9%	9%	2%	2%	2%	2%	3%	1%	1%	1%	1%
23	0%	1%	5%	19%	27%	13%	0%	0%	16%	0%	0%	0%	10%	0%	9%	0%
24	4%	5%	17%	19%	42%	3%	6%	1%	0%	2%	0%	0%	0%	0%	0%	0%
25	8%	10%	8%	13%	33%	6%	1%	0%	9%	3%	5%	1%	1%	0%	1%	1%
26	1%	1%	17%	10%	35%	8%	9%	7%	0%	0%	0%	2%	1%	2%	6%	2%
27	3%	1%	7%	3%	35%	14%	4%	0%	0%	3%	1%	1%	3%	3%	14%	8%
28	1%	1%	0%	5%	61%	24%	6%	1%	0%	0%	1%	0%	0%	1%	0%	0%
29	0%	0%	3%	10%	66%	17%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	3%	1%	4%	12%	45%	18%	6%	2%	1%	0%	2%	3%	0%	1%	0%	3%
Mensual	3%	2%	6%	11%	38%	13%	5%	1%	4%	4%	2%	2%	2%	2%	3%	2%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	NE	SE	SSO	S	NO	N	NNE	OSO	SO	O	ONO	NNO	SSE
F. R.	38%	13%	11%	6%	5%	4%	4%	3%	3%	2%	2%	2%	2%	2%	2%	1%

Convenciones: R. V.: Rosa de los Vientos F. R.: Frecuencia Relativa. Nota: Datos resaltados en rojo están incompletos.