



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 EL CARMEN

CÓDIGO: EMM-06

AGOSTO 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	24.9	17.7	12.3	4.0	0.6	793.3	95.0	75.9	51.0	0.0	1285.0	447.5	3.6
2	24.7	16.8	13.6	6.3	0.8	792.8	88.0	76.5	54.0	5.6	1175.0	315.1	2.8
3	25.2	17.3	14.0	3.1	0.5	792.9	89.0	77.0	53.0	0.5	1205.0	360.2	2.8
4	25.4	18.4	12.4	4.0	0.5	793.0	88.0	72.6	49.0	0.0	1068.0	384.1	3.6
5	27.7	19.7	14.4	4.9	0.9	793.7	93.0	66.4	39.0	13.2	1214.0	535.7	4.6
6	28.0	20.0	14.1	4.5	0.6	793.4	73.0	56.3	33.0	0.0	1149.0	475.9	4.1
7	27.1	19.4	14.4	4.0	0.6	793.9	82.0	63.5	33.0	0.0	1054.0	372.5	3.6
8	26.6	19.9	14.1	5.8	0.8	794.0	78.0	58.5	38.0	0.0	1037.0	560.4	5.1
9	26.6	18.7	14.6	3.1	0.3	793.8	80.0	66.9	38.0	0.0	1023.0	295.1	2.5
10	27.5	19.4	13.6	4.9	0.8	793.1	85.0	66.6	34.0	0.0	1146.0	486.9	4.3
11	24.5	18.1	14.2	3.1	0.5	792.9	83.0	70.8	43.0	0.0	967.0	260.7	2.3
12	21.2	16.6	14.5	2.2	0.3	793.0	94.0	83.2	57.0	1.3	709.0	195.2	1.5
13	27.1	17.8	13.2	2.7	0.4	792.7	89.0	75.2	42.0	0.5	1114.0	296.0	2.5
14	26.2	17.9	13.6	4.0	0.5	792.3	93.0	76.2	48.0	0.8	1167.0	317.5	2.8
15	22.5	16.5	14.4	3.1	0.5	793.6	95.0	84.9	60.0	6.6	1138.0	210.0	1.5
16	24.4	17.3	14.6	3.1	0.5	794.0	89.0	78.8	50.0	3.0	765.0	302.6	2.3
17	26.0	17.3	13.8	4.9	0.5	793.7	87.0	74.8	46.0	0.8	915.0	326.0	2.8
18	26.6	18.4	13.0	4.9	1.2	793.3	94.0	73.5	42.0	11.9	1211.0	542.1	4.6
19	23.5	17.5	13.2	4.5	1.0	792.9	93.0	76.1	49.0	5.6	1218.0	430.7	3.6
20	20.7	15.9	13.2	2.2	0.2	793.3	92.0	85.6	69.0	22.9	983.0	187.9	1.3
21	22.3	16.5	12.3	3.1	0.3	793.6	92.0	80.8	61.0	0.8	1070.0	283.7	2.3
22	24.8	17.8	13.1	3.6	0.5	793.6	90.0	76.4	51.0	0.0	1088.0	355.3	3.0
23	23.9	16.6	13.7	3.6	0.8	793.4	94.0	83.9	59.0	36.1	1240.0	283.3	2.0
24	22.8	16.2	12.8	3.6	0.4	793.9	94.0	82.2	59.0	2.0	777.0	300.7	2.0
25	25.4	18.1	12.8	4.0	0.6	794.3	92.0	72.7	50.0	0.5	1245.0	451.3	3.8
26	26.1	18.4	13.9	3.6	0.6	794.9	84.0	68.3	39.0	0.8	952.0	377.2	3.3
27	26.6	18.7	13.4	4.0	0.7	794.1	91.0	71.7	44.0	2.0	1222.0	380.0	3.3
28	23.7	17.2	13.5	4.5	0.6	793.8	95.0	80.2	60.0	29.5	1255.0	384.1	3.0
29	25.1	18.2	14.1	3.6	0.5	793.5	92.0	73.7	49.0	0.0	1226.0	363.0	3.1
30	27.1	19.9	13.9	4.0	0.7	793.1	77.0	61.2	35.0	0.0	1160.0	604.8	5.1
31	27.9	19.9	14.9	3.6	0.6	793.5	86.0	63.0	36.0	0.0	1169.0	422.5	3.6
Mensual	28.0	18.0	12.3	6.3	0.6	793.5	95.0	73.3	33.0	144.2	1285.0	371.2	96.6

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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CÓDIGO: EMM-06

AGOSTO DE 2011

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	8%	0%	0%	1%	0%	3%	4%	0%	1%	13%	26%	11%	20%	11%	3%	0%
2	0%	0%	0%	8%	18%	11%	5%	0%	1%	3%	4%	8%	15%	19%	7%	1%
3	0%	0%	0%	0%	3%	8%	6%	1%	9%	6%	5%	4%	14%	15%	27%	1%
4	6%	9%	4%	12%	2%	0%	0%	0%	4%	10%	5%	3%	13%	17%	10%	4%
5	0%	0%	0%	10%	6%	3%	1%	5%	2%	5%	17%	21%	13%	12%	4%	1%
6	4%	2%	8%	3%	1%	7%	1%	2%	4%	2%	4%	10%	20%	18%	7%	5%
7	5%	2%	5%	1%	6%	0%	0%	0%	1%	17%	4%	8%	20%	17%	7%	7%
8	1%	0%	0%	0%	1%	2%	0%	3%	0%	6%	19%	25%	25%	10%	4%	3%
9	0%	1%	1%	0%	13%	3%	1%	2%	2%	14%	15%	16%	14%	11%	6%	3%
10	0%	0%	0%	10%	1%	1%	0%	1%	0%	0%	7%	19%	21%	31%	9%	1%
11	2%	6%	11%	0%	0%	1%	0%	0%	1%	0%	12%	9%	12%	31%	10%	6%
12	0%	18%	1%	0%	0%	1%	0%	0%	0%	1%	13%	27%	18%	17%	2%	1%
13	0%	0%	1%	2%	6%	22%	2%	8%	3%	6%	15%	8%	10%	8%	8%	1%
14	0%	0%	0%	0%	0%	5%	7%	3%	3%	5%	7%	27%	18%	17%	6%	2%
15	0%	0%	0%	0%	0%	0%	2%	0%	3%	2%	20%	45%	14%	10%	2%	1%
16	3%	4%	1%	8%	3%	3%	5%	8%	5%	3%	3%	12%	13%	16%	10%	3%
17	8%	0%	0%	2%	12%	13%	12%	1%	1%	2%	10%	10%	16%	8%	5%	0%
18	1%	0%	2%	6%	7%	1%	5%	2%	3%	3%	10%	26%	13%	12%	8%	1%
19	0%	0%	0%	0%	0%	10%	1%	0%	1%	2%	15%	19%	19%	26%	5%	2%
20	1%	0%	0%	0%	9%	4%	0%	10%	2%	5%	9%	8%	14%	28%	6%	4%
21	0%	16%	1%	8%	6%	3%	2%	0%	3%	4%	14%	18%	8%	7%	8%	1%
22	20%	1%	0%	0%	0%	1%	6%	0%	0%	2%	10%	20%	13%	16%	8%	2%
23	1%	3%	5%	6%	8%	1%	1%	0%	16%	1%	0%	18%	11%	18%	10%	1%
24	5%	1%	6%	27%	1%	0%	0%	0%	1%	1%	4%	27%	10%	10%	7%	0%
25	0%	0%	0%	0%	22%	1%	3%	1%	1%	3%	3%	15%	13%	24%	13%	1%
26	3%	3%	3%	7%	6%	8%	2%	0%	6%	1%	1%	13%	16%	18%	9%	5%
27	1%	0%	0%	22%	0%	0%	0%	1%	1%	4%	10%	19%	16%	19%	5%	1%
28	0%	5%	0%	9%	1%	1%	0%	1%	13%	1%	4%	16%	15%	19%	7%	8%
29	1%	7%	0%	0%	0%	0%	0%	0%	1%	1%	6%	28%	23%	22%	9%	3%
30	1%	0%	0%	0%	0%	18%	0%	0%	1%	0%	3%	26%	24%	17%	8%	1%
31	2%	1%	13%	2%	0%	1%	1%	0%	0%	3%	10%	17%	19%	15%	14%	1%
Mensual	2%	3%	2%	5%	4%	4%	2%	2%	3%	4%	9%	17%	16%	17%	8%	2%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	OSO	ONO	O	SO	NO	ENE	ESE	E	SSO	S	NNE	N	NNO	SE	NE	SSE
F. R.	17%	17%	16%	9%	8%	5%	4%	4%	4%	3%	3%	2%	2%	2%	2%	2%

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



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AGOSTO DE 2011

JORNADA NOCTURNA - 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	9%	2%	5%	23%	17%	4%	0%	0%	0%	0%	0%	28%	12%	0%	0%	0%
2	0%	0%	0%	14%	57%	17%	5%	3%	0%	2%	0%	0%	0%	1%	1%	1%
3	1%	0%	10%	3%	34%	10%	22%	0%	0%	0%	0%	0%	0%	2%	18%	0%
4	10%	1%	1%	14%	22%	5%	8%	1%	0%	0%	0%	0%	0%	0%	0%	39%
5	2%	1%	0%	15%	13%	27%	5%	6%	0%	0%	6%	17%	1%	1%	0%	7%
6	0%	3%	8%	13%	33%	26%	5%	1%	0%	1%	6%	0%	0%	3%	1%	0%
7	2%	10%	4%	17%	28%	13%	7%	0%	0%	0%	7%	0%	10%	3%	0%	0%
8	6%	0%	0%	1%	25%	14%	6%	3%	11%	1%	19%	1%	14%	0%	0%	0%
9	8%	0%	0%	0%	33%	11%	1%	3%	0%	6%	27%	0%	0%	1%	6%	6%
10	0%	0%	0%	0%	29%	6%	40%	0%	0%	0%	0%	0%	0%	25%	0%	0%
11	17%	13%	0%	5%	18%	24%	10%	0%	0%	0%	5%	1%	5%	0%	0%	2%
12	8%	6%	1%	11%	34%	3%	6%	0%	0%	0%	5%	2%	13%	2%	1%	8%
13	0%	0%	0%	1%	4%	60%	1%	2%	0%	1%	3%	0%	27%	0%	0%	0%
14	0%	21%	0%	14%	0%	0%	0%	0%	6%	1%	2%	16%	2%	33%	5%	0%
15	0%	0%	0%	0%	2%	11%	1%	0%	0%	6%	25%	44%	1%	3%	6%	0%
16	3%	0%	0%	0%	31%	0%	22%	0%	1%	1%	0%	15%	0%	27%	1%	0%
17	0%	0%	0%	5%	40%	33%	5%	18%	0%	0%	0%	0%	0%	0%	0%	0%
18	6%	6%	10%	11%	8%	11%	16%	0%	1%	0%	0%	1%	3%	17%	3%	8%
19	4%	27%	10%	4%	5%	17%	5%	0%	0%	0%	0%	0%	0%	9%	13%	6%
20	0%	50%	19%	1%	30%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
21	0%	18%	6%	18%	44%	7%	0%	1%	6%	0%	0%	0%	0%	0%	0%	0%
22	31%	3%	3%	13%	1%	1%	0%	0%	0%	0%	0%	0%	1%	11%	1%	35%
23	2%	3%	6%	3%	10%	18%	2%	1%	6%	4%	3%	11%	2%	11%	3%	15%
24	17%	35%	1%	0%	33%	0%	0%	0%	0%	0%	1%	1%	7%	1%	0%	4%
25	0%	9%	1%	3%	28%	6%	1%	13%	0%	0%	0%	0%	0%	40%	0%	0%
26	0%	0%	0%	51%	36%	6%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	5%	3%	1%	28%	10%	11%	1%	1%	8%	1%	2%	15%	12%	1%	1%	0%
28	9%	4%	1%	2%	23%	20%	8%	2%	0%	15%	3%	5%	3%	2%	1%	2%
29	1%	0%	0%	24%	28%	5%	3%	4%	1%	0%	0%	0%	17%	5%	11%	0%
30	0%	0%	0%	3%	62%	7%	8%	6%	0%	0%	0%	15%	0%	0%	0%	0%
31	1%	16%	1%	22%	50%	4%	2%	3%	0%	0%	0%	0%	0%	0%	0%	0%
Mensual	5%	8%	3%	10%	25%	12%	6%	2%	1%	1%	4%	5%	4%	6%	2%	4%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	NNE	ONO	SE	OSO	N	NNO	O	SO	NE	NO	SSE	S	SSO
F. R.	25%	12%	10%	8%	6%	6%	5%	5%	4%	4%	4%	3%	2%	2%	1%	1%

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