



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 ALCÁZARES

CÓDIGO: EMM-13

MAYO 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	22.8	17.8	15.8	7.2	1.3	802.1	94.0	86.8	71.0	11.8	1123.0	276.1	2.3
2	24.5	18.7	15.8	4.5	1.4	802.4	94.0	84.0	65.0	0.8	1301.0	352.9	3.0
3	18.3	17.1	16.1	4.5	0.9	803.0	97.0	90.7	81.0	3.0	162.0	79.5	0.7
4	22.1	18.4	16.2	3.6	0.9	804.3	91.0	83.2	73.0	1.2	1352.0	343.1	2.7
5	22.5	18.9	16.2	4.9	1.1	803.0	93.0	85.2	75.0	0.0	812.0	342.2	2.7
6	23.8	19.4	16.4	3.6	1.0	803.0	93.0	83.2	65.0	0.6	1021.0	367.6	3.1
7	22.7	19.1	16.7	3.1	0.7	802.7	96.0	87.5	74.0	0.0	995.0	218.7	1.8
8	21.4	18.5	16.6	3.6	0.9	802.5	94.0	86.8	74.0	2.4	905.0	197.1	1.7
9	20.2	17.7	16.1	4.0	0.9	802.9	98.0	91.4	81.0	3.4	1102.0	185.6	1.5
10	23.3	19.1	16.4	4.5	1.5	802.0	91.0	81.5	67.0	6.6	939.0	334.8	2.8
11	18.7	17.6	16.7	3.6	1.0	802.9	97.0	90.1	80.0	11.4	420.0	120.8	1.0
12	21.6	17.6	15.7	4.5	1.4	804.9	95.0	87.2	79.0	13.2	1020.0	224.3	1.8
13	19.7	16.3	14.7	5.8	1.3	805.2	97.0	92.5	82.0	62.0	1176.0	230.7	1.6
14	17.9	15.7	14.0	5.4	1.3	806.8	97.0	90.9	83.0	6.6	376.0	157.7	1.2
15	20.2	16.4	13.9	4.0	1.1	806.7	97.0	88.6	76.0	0.0	836.0	343.6	2.6
16	21.4	17.4	14.1	3.6	0.9	805.8	97.0	89.9	81.0	2.4	946.0	291.5	2.3
17	22.8	17.7	14.7	4.9	1.3	805.7	97.0	85.3	66.0	0.4	1051.0	407.9	3.3
18	23.1	17.3	15.1	6.3	1.3	806.2	93.0	84.0	65.0	4.6	1123.0	384.0	3.3
19	19.1	16.4	15.3	3.1	0.7	807.3	93.0	88.4	82.0	3.8	710.0	177.6	1.3
20	21.1	17.1	14.7	3.6	0.6	806.3	95.0	87.2	72.0	0.4	1102.0	205.3	1.8
21	19.1	16.3	14.4	3.6	0.5	805.7	98.0	93.3	81.0	17.8	761.0	186.1	1.4
22	18.6	16.1	14.7	4.0	0.9	807.2	97.0	93.3	86.0	15.2	1058.0	167.8	1.2
23	22.9	17.5	14.0	3.1	0.6	806.3	97.0	88.0	70.0	0.2	1220.0	269.7	2.1
24	21.5	17.7	14.9	3.6	0.8	805.4	97.0	88.5	73.0	3.2	1165.0	287.9	2.3
25	20.9	16.9	14.7	5.8	0.6	806.2	98.0	91.8	79.0	5.6	896.0	235.4	1.7
26	19.7	17.1	15.7	5.4	1.6	806.0	95.0	85.4	74.0	6.4	902.0	169.5	1.6
27	22.6	18.1	15.0	4.5	1.5	805.2	90.0	79.0	62.0	1.0	1313.0	308.9	2.7
28	19.6	17.2	15.4	2.7	0.5	803.8	95.0	91.4	82.0	5.4	543.0	176.8	1.3
29	21.2	17.3	15.2	4.5	1.4	803.4	94.0	86.9	73.0	2.8	928.0	228.2	1.9
30	23.6	18.5	15.7	3.6	0.9	803.3	92.0	85.2	69.0	3.2	1320.0	297.1	2.3
31	20.8	17.8	16.3	3.1	0.5	803.5	98.0	90.0	75.0	8.2	919.0	187.7	1.4
Mensual	24.5	17.6	13.9	7.2	1.0	804.6	98.0	87.7	62.0	203.6	1352.0	250.2	62.4

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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CÓDIGO: EMM-13

MAYO 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	3%	1%	1%	1%	1%	8%	4%	6%	8%	1%	4%	3%	15%	22%	13%	8%
2	3%	2%	1%	1%	8%	8%	6%	2%	1%	0%	1%	8%	10%	23%	16%	10%
3	2%	1%	10%	0%	3%	5%	8%	1%	3%	7%	9%	0%	15%	20%	8%	9%
4	1%	0%	0%	0%	0%	0%	0%	17%	6%	9%	6%	4%	14%	19%	13%	10%
5	1%	1%	0%	2%	0%	0%	2%	6%	2%	2%	8%	2%	22%	33%	15%	3%
6	3%	1%	1%	0%	1%	1%	5%	2%	1%	3%	1%	2%	18%	31%	24%	8%
7	1%	0%	0%	0%	0%	0%	4%	0%	0%	1%	3%	4%	15%	49%	22%	2%
8	6%	6%	0%	1%	3%	0%	1%	7%	4%	2%	2%	5%	10%	27%	19%	8%
9	1%	4%	0%	0%	0%	1%	6%	10%	6%	3%	0%	3%	10%	35%	17%	3%
10	5%	2%	1%	1%	6%	3%	10%	4%	0%	1%	2%	6%	17%	23%	10%	8%
11	9%	6%	1%	8%	3%	1%	1%	4%	1%	1%	4%	1%	5%	34%	13%	8%
12	1%	0%	1%	0%	1%	5%	8%	13%	3%	3%	3%	5%	7%	31%	15%	6%
13	2%	1%	0%	0%	1%	0%	16%	12%	6%	3%	6%	2%	10%	16%	14%	13%
14	0%	0%	3%	3%	2%	2%	6%	3%	3%	3%	9%	1%	10%	44%	8%	1%
15	6%	0%	3%	15%	2%	2%	5%	3%	3%	0%	3%	0%	15%	35%	6%	1%
16	9%	0%	0%	12%	0%	0%	1%	2%	1%	1%	1%	6%	15%	26%	19%	6%
17	6%	3%	0%	1%	0%	1%	1%	3%	3%	3%	6%	12%	10%	25%	17%	10%
18	4%	1%	1%	1%	3%	3%	8%	5%	9%	3%	4%	8%	19%	18%	10%	5%
19	6%	0%	0%	0%	0%	0%	2%	10%	3%	6%	17%	3%	8%	26%	8%	13%
20	8%	2%	1%	1%	8%	3%	0%	10%	6%	1%	1%	2%	21%	21%	9%	6%
21	2%	2%	2%	1%	6%	2%	4%	11%	2%	3%	7%	1%	8%	25%	17%	6%
22	1%	2%	2%	1%	1%	1%	3%	6%	6%	8%	9%	6%	8%	22%	15%	10%
23	8%	2%	2%	1%	2%	10%	1%	0%	0%	0%	6%	6%	17%	24%	13%	8%
24	2%	1%	1%	0%	0%	3%	3%	6%	6%	2%	4%	6%	17%	22%	18%	8%
25	1%	0%	0%	1%	0%	0%	1%	1%	1%	1%	4%	12%	15%	35%	21%	8%
26	4%	0%	1%	3%	10%	13%	6%	3%	8%	2%	6%	3%	16%	14%	10%	2%
27	1%	2%	4%	7%	12%	7%	3%	1%	1%	0%	0%	6%	10%	22%	13%	12%
28	2%	0%	0%	0%	0%	0%	0%	8%	11%	0%	3%	6%	6%	31%	27%	6%
29	2%	1%	1%	0%	2%	3%	6%	10%	6%	8%	8%	2%	12%	22%	10%	7%
30	6%	3%	0%	0%	1%	5%	3%	1%	3%	0%	3%	3%	10%	38%	10%	11%
31	4%	0%	2%	0%	0%	1%	2%	0%	0%	0%	3%	1%	21%	19%	38%	8%
Mensual	4%	1%	1%	2%	2%	3%	4%	5%	4%	2%	5%	4%	13%	27%	15%	7%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ONO	NO	O	NNO	SSE	SO	OSO	SE	S	N	ESE	SSO	E	ENE	NNE	NE
F. R.	27%	15%	13%	7%	5%	5%	4%	4%	4%	4%	3%	2%	2%	2%	1%	1%

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



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MAYO 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	0%	0%	8%	2%	8%	18%	24%	19%	5%	6%	0%	0%	2%	6%	1%	1%
2	1%	0%	0%	0%	1%	16%	38%	25%	6%	3%	0%	0%	0%	1%	10%	0%
3	0%	0%	0%	0%	8%	26%	39%	23%	4%	0%	0%	0%	0%	0%	0%	0%
4	0%	0%	0%	3%	0%	8%	21%	51%	5%	2%	9%	1%	0%	1%	0%	0%
5	0%	0%	3%	4%	10%	7%	22%	13%	20%	13%	0%	0%	3%	1%	3%	0%
6	0%	0%	0%	0%	0%	1%	31%	25%	2%	12%	1%	0%	4%	24%	0%	0%
7	3%	0%	0%	0%	1%	1%	16%	10%	22%	2%	3%	3%	0%	2%	29%	8%
8	7%	0%	0%	2%	3%	1%	15%	31%	13%	1%	0%	0%	1%	0%	7%	19%
9	0%	6%	1%	2%	9%	7%	15%	18%	6%	1%	0%	0%	0%	0%	24%	11%
10	0%	0%	1%	6%	1%	13%	48%	24%	4%	3%	0%	0%	0%	0%	0%	0%
11	0%	0%	0%	6%	1%	9%	24%	35%	6%	15%	3%	0%	0%	0%	0%	0%
12	2%	1%	1%	1%	7%	14%	33%	26%	8%	3%	1%	1%	0%	1%	1%	1%
13	0%	0%	0%	0%	1%	9%	25%	21%	23%	9%	4%	3%	2%	0%	1%	1%
14	0%	0%	1%	4%	5%	25%	47%	17%	1%	0%	0%	0%	0%	0%	0%	0%
15	0%	0%	0%	0%	0%	15%	49%	36%	0%	1%	0%	0%	0%	0%	0%	0%
16	4%	0%	0%	0%	0%	1%	35%	14%	2%	1%	5%	6%	9%	4%	14%	5%
17	0%	0%	0%	0%	0%	1%	21%	23%	9%	13%	8%	1%	3%	20%	1%	0%
18	7%	0%	0%	0%	1%	8%	28%	27%	8%	14%	1%	1%	1%	0%	1%	3%
19	0%	0%	0%	19%	13%	3%	25%	26%	1%	1%	0%	4%	0%	7%	0%	0%
20	0%	0%	0%	0%	3%	3%	40%	46%	9%	0%	0%	0%	0%	0%	0%	0%
21	6%	6%	0%	0%	1%	8%	16%	4%	6%	3%	1%	0%	3%	42%	1%	3%
22	0%	1%	0%	1%	7%	9%	24%	32%	0%	1%	11%	12%	0%	3%	0%	0%
23	0%	0%	0%	0%	0%	1%	11%	33%	15%	8%	8%	10%	7%	6%	0%	0%
24	1%	1%	3%	8%	2%	12%	4%	10%	3%	26%	1%	0%	1%	10%	18%	1%
25	6%	6%	15%	4%	4%	6%	4%	13%	2%	3%	0%	13%	0%	1%	4%	17%
26	0%	0%	0%	0%	1%	14%	47%	17%	14%	0%	5%	3%	0%	0%	0%	0%
27	0%	0%	0%	17%	9%	7%	40%	26%	1%	0%	0%	0%	0%	0%	0%	0%
28	0%	0%	0%	25%	2%	0%	9%	31%	4%	11%	1%	6%	7%	0%	4%	0%
29	0%	0%	0%	0%	3%	7%	43%	29%	10%	8%	0%	0%	0%	0%	0%	0%
30	3%	0%	0%	0%	1%	4%	44%	19%	6%	8%	1%	0%	1%	6%	0%	7%
31	3%	3%	0%	0%	0%	1%	14%	22%	3%	2%	1%	1%	5%	26%	15%	3%
Mensual	1%	1%	1%	3%	3%	8%	27%	24%	7%	5%	2%	2%	2%	5%	4%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SE	SSE	ESE	S	SSO	ONO	NO	ENE	E	NNO	OSO	SO	O	N	NE	NNE
F. R.	27%	24%	8%	7%	5%	5%	4%	3%	3%	3%	2%	2%	2%	1%	1%	1%

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