



# 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

OCTUBRE 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 <sup>2</sup> )		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	20.5	16.7	15.4	4.0	0.9	804.6	96.0	90.0	79.0	8.8	1245.0	158.8	1.2
2	22.0	17.2	14.9	4.0	1.0	805.6	94.0	85.5	71.0	0.2	1304.0	332.5	2.6
3	21.8	17.3	14.8	4.0	0.8	805.5	97.0	88.1	70.0	8.6	1202.0	304.8	2.5
4	17.9	15.6	14.4	3.1	0.8	806.7	98.0	93.3	83.0	17.0	346.0	153.7	1.1
5	23.6	18.0	14.5	5.4	1.1	805.3	90.0	81.3	57.0	0.0	1222.0	495.6	3.9
6	23.1	17.7	14.2	4.5	1.1	804.0	97.0	85.4	57.0	12.4	1204.0	393.3	3.0
7	23.6	18.5	15.0	4.0	1.2	803.5	96.0	84.4	61.0	1.8	1245.0	402.6	3.2
8	18.0	16.2	14.6	4.5	1.1	804.5	97.0	92.6	85.0	9.0	543.0	139.8	1.0
9	20.1	17.1	14.9	3.6	0.9	805.1	96.0	87.2	77.0	0.4	1092.0	236.8	1.9
10	19.4	16.4	14.3	4.9	0.9	806.1	97.0	91.0	79.0	35.6	719.0	208.2	1.5
11	20.2	16.4	14.6	3.6	0.9	806.2	97.0	91.1	80.0	50.6	680.0	208.0	1.5
12	19.9	15.5	14.0	3.6	1.0	807.7	97.0	92.4	78.0	22.2	733.0	233.7	1.5
13	22.3	17.1	13.2	4.9	1.5	806.0	97.0	83.1	62.0	0.8	1123.0	484.5	3.8
14	21.2	15.7	13.8	5.4	1.3	805.4	97.0	89.7	72.0	39.0	1239.0	275.1	2.1
15	19.3	15.8	13.8	4.9	1.1	806.8	97.0	88.8	78.0	27.6	686.0	279.5	2.0
16	19.7	15.2	13.3	5.4	0.9	807.2	97.0	91.4	77.0	42.2	976.0	243.7	1.8
17	16.4	14.1	13.3	4.0	0.7	808.1	98.0	95.8	90.0	27.4	728.0	154.8	0.9
18	17.2	14.1	12.6	3.1	0.7	809.4	98.0	94.7	85.0	6.8	707.0	207.8	1.4
19	20.7	16.0	12.7	4.9	1.3	809.9	88.0	75.7	57.0	0.8	1123.0	430.0	3.4
20	19.4	16.2	14.3	4.5	1.2	809.3	81.0	67.6	49.0	0.0	621.0	259.0	2.4
21	21.2	16.2	13.7	4.0	0.8	807.9	86.0	75.2	49.0	0.0	1160.0	395.1	3.1
22	22.2	16.8	13.2	4.9	1.2	806.3	97.0	75.1	44.0	0.0	1081.0	445.4	3.7
23	22.5	17.3	14.1	5.8	1.0	805.2	95.0	78.8	63.0	25.4	1116.0	434.4	3.4
24	21.9	17.1	14.8	4.0	0.7	805.5	96.0	86.1	58.0	0.0	1078.0	413.4	3.1
25	21.3	16.8	14.0	4.9	0.9	804.8	97.0	88.2	67.0	13.4	1315.0	409.7	3.1
26	20.3	17.0	14.4	4.5	0.9	803.0	97.0	88.6	75.0	1.8	935.0	286.3	2.1
27	22.8	18.0	14.8	4.0	1.2	801.8	95.0	83.8	65.0	3.6	1155.0	440.5	3.4
28	18.2	16.0	14.3	3.1	0.5	803.4	98.0	94.3	84.0	44.6	413.0	140.1	0.9
29	17.6	15.4	14.2	3.6	0.8	805.5	98.0	93.3	86.0	12.6	1197.0	151.9	1.1
30	15.7	14.7	13.8	4.5	0.8	806.5	98.0	93.7	85.0	19.8	311.0	102.4	0.7
31	19.6	16.2	13.3	4.5	1.8	806.0	91.0	83.5	74.0	0.0	1220.0	347.2	2.7
<b>Mensual</b>	<b>23.6</b>	<b>16.4</b>	<b>12.6</b>	<b>5.8</b>	<b>1.0</b>	<b>805.9</b>	<b>98.0</b>	<b>86.8</b>	<b>44.0</b>	<b>432.4</b>	<b>1315.0</b>	<b>295.8</b>	<b>69.7</b>

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

OCTUBRE 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	6%	1%	0%	0%	4%	6%	3%	3%	13%	7%	10%	2%	13%	14%	16%	3%
2	5%	1%	10%	1%	1%	0%	0%	1%	1%	2%	1%	7%	22%	22%	12%	14%
3	2%	0%	0%	0%	0%	0%	0%	0%	0%	10%	3%	9%	10%	31%	17%	9%
4	1%	9%	0%	0%	0%	0%	0%	3%	2%	1%	1%	3%	9%	40%	28%	3%
5	5%	4%	0%	0%	0%	0%	1%	11%	4%	8%	2%	10%	15%	18%	13%	9%
6	11%	3%	2%	2%	3%	1%	1%	3%	3%	1%	3%	4%	15%	16%	18%	12%
7	5%	1%	1%	0%	1%	1%	13%	1%	1%	2%	3%	3%	15%	28%	16%	10%
8	1%	0%	3%	0%	1%	8%	4%	3%	2%	4%	1%	2%	6%	38%	16%	10%
9	1%	3%	0%	0%	6%	16%	1%	1%	1%	3%	4%	17%	11%	17%	11%	7%
10	1%	0%	0%	0%	3%	1%	0%	16%	0%	3%	7%	1%	14%	26%	22%	6%
11	3%	2%	3%	0%	2%	2%	6%	6%	6%	3%	1%	0%	8%	33%	16%	8%
12	5%	0%	0%	0%	0%	2%	0%	2%	3%	4%	3%	3%	15%	32%	22%	7%
13	7%	3%	2%	0%	1%	3%	6%	6%	1%	3%	3%	3%	19%	19%	11%	13%
14	8%	5%	0%	0%	1%	3%	1%	6%	4%	3%	8%	6%	6%	17%	21%	10%
15	0%	0%	0%	0%	0%	1%	10%	0%	0%	5%	1%	5%	19%	34%	24%	2%
16	0%	1%	0%	0%	0%	2%	20%	6%	1%	3%	2%	3%	14%	36%	8%	3%
17	0%	0%	1%	0%	1%	0%	1%	3%	2%	3%	15%	12%	13%	24%	17%	8%
18	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	18%	42%	31%	6%
19	5%	0%	0%	0%	0%	0%	1%	1%	1%	0%	3%	13%	28%	26%	20%	3%
20	1%	1%	0%	0%	0%	0%	8%	7%	3%	1%	0%	1%	15%	55%	8%	2%
21	3%	0%	1%	0%	0%	0%	5%	10%	1%	8%	6%	10%	10%	17%	20%	9%
22	6%	2%	0%	1%	0%	2%	3%	5%	9%	6%	4%	10%	15%	24%	8%	5%
23	5%	1%	0%	1%	1%	1%	17%	11%	1%	3%	2%	8%	6%	26%	10%	8%
24	10%	1%	0%	0%	1%	2%	0%	0%	0%	0%	3%	8%	19%	31%	17%	7%
25	3%	1%	0%	0%	0%	0%	1%	1%	6%	0%	3%	5%	27%	23%	19%	10%
26	1%	0%	0%	0%	0%	0%	7%	1%	2%	0%	2%	6%	32%	38%	9%	3%
27	6%	1%	2%	0%	0%	1%	12%	11%	1%	5%	4%	6%	21%	15%	11%	6%
28	0%	0%	0%	6%	0%	4%	0%	10%	1%	2%	4%	1%	19%	26%	23%	3%
29	0%	0%	0%	0%	6%	14%	6%	2%	6%	1%	0%	9%	17%	24%	14%	1%
30	10%	8%	4%	5%	10%	3%	1%	0%	5%	3%	3%	1%	5%	13%	24%	5%
31	1%	1%	0%	0%	0%	2%	8%	9%	4%	4%	5%	10%	19%	22%	11%	4%
Mensual	4%	2%	1%	0%	1%	2%	5%	5%	3%	3%	3%	6%	15%	27%	17%	7%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ONO	NO	O	NNO	OSO	SE	SSE	N	SO	SSO	S	ESE	NNE	E	NE	ENE
F. R.	27%	17%	15%	7%	6%	5%	5%	4%	3%	3%	3%	2%	2%	1%	1%	0%

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



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OCTUBRE 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	1%	0%	0%	1%	5%	3%	19%	15%	3%	21%	2%	0%	14%	0%	0%	15%
2	0%	6%	3%	1%	0%	6%	28%	13%	6%	3%	4%	19%	0%	6%	0%	6%
3	6%	1%	1%	3%	1%	3%	23%	20%	2%	5%	6%	1%	3%	10%	8%	6%
4	1%	2%	1%	1%	1%	8%	41%	13%	6%	8%	0%	11%	0%	1%	6%	1%
5	13%	0%	0%	1%	4%	11%	20%	13%	38%	0%	0%	0%	0%	1%	0%	0%
6	19%	2%	9%	3%	6%	4%	4%	9%	18%	4%	3%	3%	1%	2%	6%	6%
7	1%	0%	5%	3%	3%	8%	19%	11%	2%	7%	1%	15%	1%	8%	7%	10%
8	0%	6%	2%	8%	6%	11%	15%	15%	3%	5%	2%	0%	6%	6%	13%	2%
9	0%	0%	0%	0%	1%	22%	10%	11%	10%	19%	1%	12%	10%	0%	3%	0%
10	3%	5%	3%	6%	17%	6%	17%	27%	1%	1%	0%	0%	4%	1%	8%	1%
11	0%	1%	0%	1%	1%	13%	36%	22%	3%	1%	1%	3%	1%	7%	9%	1%
12	0%	0%	1%	2%	10%	12%	10%	13%	15%	7%	7%	7%	0%	7%	10%	0%
13	9%	5%	1%	3%	8%	13%	21%	8%	6%	3%	3%	4%	6%	3%	5%	1%
14	0%	1%	0%	10%	6%	18%	13%	13%	5%	3%	1%	22%	0%	6%	1%	1%
15	6%	2%	1%	1%	3%	19%	13%	23%	5%	3%	4%	6%	1%	2%	7%	3%
16	6%	1%	0%	5%	2%	8%	15%	10%	3%	3%	2%	10%	10%	4%	8%	11%
17	0%	0%	0%	1%	5%	8%	13%	14%	2%	27%	6%	18%	0%	6%	0%	0%
18	0%	0%	1%	2%	1%	7%	6%	3%	15%	10%	13%	3%	13%	21%	4%	1%
19	0%	4%	1%	4%	12%	21%	24%	22%	3%	1%	1%	3%	0%	1%	4%	0%
20	1%	3%	1%	1%	22%	2%	24%	25%	5%	6%	0%	0%	0%	10%	0%	0%
21	0%	0%	0%	0%	0%	0%	38%	12%	1%	15%	6%	1%	1%	0%	26%	0%
22	22%	2%	1%	1%	2%	12%	17%	19%	13%	0%	5%	0%	0%	1%	3%	2%
23	13%	0%	0%	0%	6%	6%	40%	28%	3%	0%	0%	0%	3%	0%	0%	1%
24	40%	0%	0%	0%	0%	1%	3%	1%	0%	0%	0%	1%	24%	1%	9%	19%
25	64%	2%	1%	0%	1%	3%	7%	6%	1%	0%	0%	4%	3%	1%	2%	5%
26	12%	3%	1%	3%	3%	0%	13%	28%	1%	3%	2%	1%	14%	13%	1%	1%
27	0%	0%	0%	0%	0%	0%	19%	31%	12%	13%	3%	0%	17%	4%	1%	1%
28	4%	3%	0%	3%	6%	1%	0%	1%	3%	3%	3%	16%	1%	31%	21%	3%
29	0%	0%	0%	0%	0%	4%	15%	22%	9%	4%	40%	1%	4%	0%	0%	0%
30	0%	0%	35%	1%	0%	22%	24%	8%	1%	0%	0%	8%	0%	0%	1%	0%
31	0%	0%	0%	0%	0%	10%	53%	35%	1%	0%	0%	0%	0%	0%	0%	0%
Mensual	7%	2%	2%	2%	4%	9%	19%	16%	6%	6%	4%	6%	4%	5%	5%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SE	SSE	ESE	N	S	SSO	OSO	NO	ONO	O	E	SO	NNO	NE	ENE	NNE
F. R.	19%	16%	9%	7%	6%	6%	6%	5%	5%	4%	4%	4%	3%	2%	2%	2%

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