



# 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 ARANJUEZ

CÓDIGO: EMM-07

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 <sup>2</sup> )		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	22.2	16.9	12.3	5.4	1.2	814.2	94.0	79.8	62.0	0.0	1271.0	395.4	3.2
2	22.8	16.5	13.6	4.5	1.4	813.4	93.0	81.4	62.0	11.4	1137.0	303.3	2.6
3	23.0	17.0	14.0	3.1	0.9	814.4	94.0	83.5	64.0	2.2	1243.0	317.4	2.4
4	23.9	17.7	12.2	4.5	1.1	815.4	92.0	78.2	56.0	0.0	1179.0	414.3	3.4
5	25.8	19.2	14.8	4.5	1.1	814.9	95.0	72.9	44.0	3.4	1176.0	477.0	4.1
6	25.8	18.9	13.6	4.5	1.4	814.5	80.0	64.9	38.0	0.0	1158.0	472.2	4.0
7	26.1	19.0	14.2	4.5	1.2	815.0	84.0	68.5	39.0	0.0	1157.0	412.2	3.9
8	25.3	18.9	13.8	5.4	1.6	815.2	83.0	65.2	41.0	0.0	1137.0	564.0	4.9
9	24.1	18.2	14.4	3.1	0.9	815.4	84.0	70.9	44.0	0.0	981.0	245.3	2.3
10	25.4	18.9	13.4	4.5	1.4	814.3	86.0	68.9	42.0	0.0	1259.0	514.6	4.5
11	23.9	18.0	13.8	4.5	1.1	814.5	83.0	72.6	48.0	0.0	1097.0	298.9	2.7
12	20.4	17.1	15.3	2.7	0.5	815.0	94.0	83.2	60.0	0.4	756.0	183.8	1.4
13	23.6	17.4	13.4	4.0	1.0	814.9	89.0	78.5	47.0	0.4	1020.0	340.5	2.9
14	22.7	17.7	14.1	4.9	0.8	814.1	95.0	78.6	53.0	1.2	1093.0	290.8	2.5
15	21.6	17.4	15.4	3.1	0.4	814.6	97.0	87.6	64.0	22.2	1002.0	218.9	1.9
16	22.9	17.4	14.6	3.6	1.0	816.2	97.0	82.1	53.0	2.0	814.0	314.7	2.4
17	24.0	17.0	13.7	4.5	1.2	816.4	89.0	78.7	50.0	2.8	925.0	305.0	2.6
18	24.4	17.9	14.3	5.8	1.3	815.2	96.0	77.9	48.0	14.2	1202.0	517.6	4.3
19	23.3	17.8	13.6	4.9	1.1	814.8	95.0	77.2	50.0	2.0	1223.0	465.1	3.8
20	20.8	16.5	13.6	3.1	0.6	815.8	95.0	85.5	69.0	4.6	1243.0	225.3	1.7
21	21.4	16.4	12.4	3.1	1.0	816.9	94.0	83.7	65.0	1.6	1183.0	311.8	2.4
22	23.4	17.8	13.6	4.5	0.8	816.1	92.0	78.5	55.0	0.0	1139.0	341.8	2.8
23	22.7	17.0	14.8	4.9	0.8	815.6	96.0	85.6	62.0	34.8	1246.0	262.0	2.0
24	21.5	16.4	13.6	2.7	0.7	817.4	96.0	85.1	62.0	2.2	900.0	284.7	2.1
25	23.5	17.8	12.6	4.5	1.1	816.9	91.0	76.4	53.0	0.0	1311.0	418.1	3.5
26	24.8	17.8	13.6	4.0	1.4	817.0	86.0	74.2	43.0	0.6	1220.0	404.4	3.6
27	24.3	18.3	13.4	3.6	1.1	816.2	89.0	74.7	50.0	0.0	1338.0	390.3	3.3
28	22.6	17.3	14.8	4.5	0.8	815.7	98.0	85.1	59.0	11.8	1227.0	411.4	3.0
29	24.4	18.0	14.2	5.4	1.3	815.5	93.0	76.8	52.0	0.2	1339.0	410.0	3.6
30	25.7	18.8	13.4	4.9	1.5	814.4	80.0	67.3	35.0	0.0	1121.0	578.7	5.0
31	25.3	19.4	15.1	3.1	1.0	814.1	88.0	68.3	41.0	0.0	1230.0	396.7	3.4
<b>Mensual</b>	<b>26.1</b>	<b>17.8</b>	<b>12.2</b>	<b>5.8</b>	<b>1.1</b>	<b>815.3</b>	<b>98.0</b>	<b>77.2</b>	<b>35.0</b>	<b>118.0</b>	<b>1339.0</b>	<b>370.5</b>	<b>96.0</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-07

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

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SO	SSO	ONO	ESE	O	NO	NE	OSO	E	ENE	S	SE	NNO	NNE	N	SSE
F. R.	15%	14%	13%	9%	8%	8%	7%	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.



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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	1%	2%	17%	22%	28%	24%	5%	0%	1%	0%	0%	0%	0%	0%	0%	0%
2	2%	6%	12%	17%	30%	28%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	0%	2%	18%	13%	22%	34%	10%	1%	0%	0%	0%	0%	0%	0%	0%	0%
4	1%	3%	12%	15%	26%	36%	6%	1%	0%	0%	1%	0%	0%	0%	0%	0%
5	2%	7%	21%	13%	18%	17%	9%	0%	1%	1%	3%	3%	0%	0%	3%	2%
6	3%	8%	15%	16%	28%	22%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%
7	1%	1%	24%	19%	22%	17%	8%	1%	0%	0%	0%	6%	0%	0%	0%	0%
8	1%	5%	12%	15%	23%	39%	3%	0%	0%	0%	0%	3%	0%	0%	0%	0%
9	1%	3%	17%	13%	24%	29%	6%	2%	0%	0%	0%	1%	3%	1%	0%	1%
10	2%	3%	14%	12%	28%	31%	6%	0%	0%	5%	0%	0%	0%	0%	0%	1%
11	3%	5%	13%	18%	21%	31%	3%	1%	0%	0%	5%	0%	0%	0%	0%	1%
12	0%	9%	8%	9%	10%	30%	26%	3%	1%	0%	4%	0%	0%	0%	0%	0%
13	1%	2%	8%	12%	33%	28%	17%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14	2%	3%	23%	13%	9%	20%	8%	3%	2%	8%	0%	3%	0%	5%	1%	1%
15	0%	9%	11%	15%	10%	5%	0%	0%	0%	0%	0%	2%	1%	6%	1%	41%
16	0%	3%	13%	17%	34%	24%	2%	0%	0%	1%	7%	0%	0%	0%	0%	0%
17	1%	1%	13%	19%	24%	33%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%
18	0%	5%	18%	15%	13%	29%	10%	0%	1%	1%	0%	1%	0%	7%	0%	1%
19	1%	1%	18%	8%	10%	10%	18%	3%	0%	9%	2%	1%	1%	3%	15%	1%
20	1%	2%	22%	23%	24%	25%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%
21	0%	1%	15%	13%	28%	33%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%
22	0%	12%	15%	13%	21%	23%	9%	0%	0%	0%	0%	0%	7%	0%	0%	0%
23	1%	2%	19%	23%	15%	17%	2%	1%	0%	5%	1%	0%	1%	11%	1%	0%
24	1%	3%	19%	23%	18%	23%	4%	0%	0%	3%	3%	0%	0%	2%	1%	0%
25	0%	6%	17%	14%	26%	25%	7%	0%	0%	0%	0%	0%	0%	5%	0%	0%
26	1%	2%	15%	13%	28%	34%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	0%	4%	13%	16%	19%	29%	6%	0%	1%	0%	2%	8%	0%	1%	1%	0%
28	1%	20%	22%	8%	9%	20%	2%	0%	0%	1%	1%	1%	2%	3%	10%	1%
29	1%	9%	10%	16%	28%	29%	4%	1%	0%	1%	0%	0%	0%	0%	0%	0%
30	2%	2%	9%	13%	31%	33%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%
31	1%	3%	14%	19%	28%	24%	9%	0%	0%	0%	0%	0%	0%	3%	0%	0%
Mensual	1%	5%	15%	15%	22%	26%	7%	1%	0%	1%	1%	1%	0%	2%	1%	2%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ESE	E	NE	ENE	SE	NNE	NNO	ONO	SSO	NO	SO	N	OSO	SSE	O	S
F. R.	26%	22%	15%	15%	7%	5%	2%	2%	1%	1%	1%	1%	1%	1%	0%	0%

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