



# 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

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	20.6	15.6	12.7	3.1	0.6	793.9	100.0	97.5	86.0	21.6	1090.0	171.5	1.3
2	24.9	16.3	12.5	3.1	0.7	794.1	100.0	93.2	64.0	2.3	1258.0	392.0	2.5
3	25.5	17.2	13.2	3.6	0.5	794.3	100.0	90.7	59.0	4.3	1284.0	386.7	2.8
4	18.3	14.7	12.6	3.6	0.6	794.8	100.0	100.0	99.0	4.1	366.0	181.7	1.0
5	27.7	18.0	12.8	4.5	0.7	793.6	100.0	84.2	50.0	0.0	1263.0	544.5	3.8
6	26.1	17.5	12.7	4.0	0.8	793.3	100.0	89.4	56.0	18.0	1252.0	518.2	3.6
7	27.2	18.2	13.0	3.6	0.7	793.1	100.0	89.7	53.0	1.3	1256.0	451.1	3.3
8	20.1	15.4	13.6	5.4	0.6	793.6	100.0	99.9	97.0	8.9	723.0	186.9	1.3
9	22.4	15.9	13.5	3.1	0.8	793.6	100.0	97.7	76.0	3.8	954.0	241.5	1.5
10	20.9	15.9	13.1	4.9	0.7	794.4	100.0	96.5	72.0	18.5	938.0	241.7	1.5
11	22.7	16.0	13.2	3.6	0.6	794.4	100.0	94.3	72.0	14.2	1106.0	308.8	2.0
12	23.1	15.3	12.5	4.5	0.6	795.1	100.0	96.9	69.0	21.8	826.0	326.4	1.8
13	25.8	17.2	11.9	4.5	1.0	793.8	100.0	87.3	54.0	0.8	1060.0	607.3	4.3
14	26.1	15.6	12.2	5.8	1.0	793.8	100.0	91.6	58.0	31.5	1338.0	466.9	2.6
15	22.1	15.4	12.0	3.6	0.7	794.2	100.0	93.7	66.0	28.2	685.0	306.4	2.0
16	23.1	14.6	11.6	3.6	0.7	794.4	100.0	97.3	72.0	31.0	1149.0	291.2	2.0
17	21.4	13.8	12.3	3.1	0.4	794.6	100.0	99.7	89.0	30.0	1393.0	236.9	1.5
18	19.1	13.7	11.2	3.6	0.5	795.2	100.0	99.1	87.0	13.0	631.0	270.8	1.5
19	25.4	15.4	10.0	4.5	1.1	796.0	100.0	81.9	36.0	0.5	1227.0	507.3	3.6
20	22.8	15.7	11.7	3.1	0.6	796.2	92.0	69.6	42.0	0.0	1044.0	318.3	2.8
21	25.4	15.7	11.9	3.6	0.7	795.1	100.0	82.9	43.0	0.8	1320.0	489.8	3.3
22	24.6	16.5	12.2	4.0	1.0	793.8	100.0	78.7	50.0	0.0	1225.0	435.3	3.6
23	26.2	17.0	11.3	4.0	0.7	793.8	100.0	83.1	51.0	9.9	1277.0	449.8	3.3
24	26.2	17.1	13.5	3.1	0.6	794.2	100.0	89.8	49.0	0.3	1188.0	436.0	3.1
25	25.8	17.1	12.8	3.1	0.6	793.5	100.0	90.0	55.0	6.4	1295.0	421.8	3.1
26	22.6	16.8	13.0	3.1	0.6	792.0	100.0	92.2	68.0	1.0	1073.0	345.7	2.5
27	26.3	18.1	12.4	4.0	0.7	791.5	100.0	84.6	56.0	0.5	1143.0	509.2	3.6
28	19.0	15.5	13.6	2.7	0.4	792.6	100.0	99.5	88.0	15.5	530.0	189.3	1.3
29	19.6	14.6	13.3	2.7	0.4	793.3	100.0	98.6	83.0	10.4	544.0	154.0	0.8
30	15.8	13.7	11.6	4.0	0.7	793.7	100.0	100.0	100.0	19.6	330.0	124.4	0.8
31	24.0	15.5	11.1	3.1	1.3	793.2	100.0	89.3	66.0	0.3	1190.0	461.2	3.3
<b>Mensual</b>	<b>27.7</b>	<b>16.0</b>	<b>10.0</b>	<b>5.8</b>	<b>0.7</b>	<b>794.0</b>	<b>100.0</b>	<b>91.6</b>	<b>36.0</b>	<b>318.3</b>	<b>1393.0</b>	<b>354.0</b>	<b>75.2</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-02

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

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	OSO	ONO	O	NNO	E	SSO	SO	N	S	ESE	ENE	SE	NE	NNE	SSE
F. R.	12%	10%	10%	9%	9%	7%	7%	7%	6%	6%	3%	3%	3%	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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**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%	14%	8%	36%	22%	6%	4%	0%	0%	2%	0%	0%	8%	0%	0%
2	0%	0%	1%	9%	33%	10%	3%	0%	3%	8%	1%	6%	8%	6%	13%	0%
3	0%	0%	15%	31%	18%	6%	1%	1%	2%	10%	6%	6%	1%	1%	3%	0%
4	21%	3%	3%	4%	37%	6%	0%	0%	0%	13%	7%	0%	0%	3%	0%	3%
5	0%	1%	1%	18%	46%	20%	4%	1%	7%	0%	0%	2%	0%	0%	0%	0%
6	2%	1%	9%	13%	15%	14%	13%	9%	5%	1%	5%	6%	1%	3%	0%	3%
7	4%	6%	3%	16%	17%	10%	5%	10%	0%	6%	0%	7%	5%	4%	4%	1%
8	3%	4%	1%	5%	17%	9%	15%	2%	3%	6%	1%	10%	8%	3%	3%	8%
9	13%	1%	5%	14%	48%	10%	0%	3%	4%	1%	0%	1%	1%	0%	0%	0%
10	11%	13%	13%	7%	20%	14%	0%	13%	8%	0%	0%	0%	1%	0%	0%	1%
11	1%	0%	1%	7%	53%	13%	1%	0%	1%	5%	3%	9%	2%	1%	2%	0%
12	0%	0%	2%	4%	19%	29%	17%	4%	2%	8%	3%	3%	0%	3%	1%	3%
13	6%	3%	4%	11%	23%	15%	4%	1%	1%	8%	8%	3%	2%	0%	4%	6%
14	5%	1%	2%	15%	33%	13%	6%	3%	1%	3%	0%	0%	9%	2%	5%	1%
15	0%	0%	2%	10%	33%	13%	6%	5%	17%	1%	4%	3%	1%	2%	1%	1%
16	6%	3%	2%	4%	26%	8%	3%	0%	1%	2%	6%	15%	7%	6%	7%	4%
17	15%	4%	1%	10%	41%	5%	6%	0%	1%	14%	2%	1%	1%	0%	0%	0%
18	0%	0%	1%	2%	6%	20%	9%	1%	13%	7%	5%	10%	20%	3%	0%	2%
19	0%	1%	3%	15%	57%	13%	6%	2%	3%	1%	0%	0%	0%	0%	0%	0%
20	3%	9%	1%	6%	33%	15%	10%	4%	1%	0%	0%	10%	9%	0%	0%	0%
21	0%	0%	3%	10%	67%	10%	4%	1%	1%	1%	0%	0%	1%	0%	1%	1%
22	0%	1%	2%	12%	56%	22%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%
23	0%	1%	1%	16%	53%	19%	7%	0%	0%	3%	0%	0%	0%	0%	0%	0%
24	5%	0%	1%	10%	17%	1%	10%	10%	0%	0%	0%	0%	3%	14%	25%	3%
25	6%	3%	7%	3%	4%	3%	3%	0%	8%	8%	3%	2%	0%	9%	27%	13%
26	10%	0%	1%	5%	24%	9%	9%	1%	3%	6%	15%	1%	1%	1%	12%	1%
27	1%	1%	0%	12%	60%	15%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%
28	13%	5%	5%	11%	7%	2%	3%	0%	3%	13%	19%	15%	1%	0%	2%	1%
29	0%	0%	1%	1%	37%	9%	2%	1%	8%	10%	2%	28%	1%	0%	0%	0%
30	0%	8%	8%	14%	35%	6%	22%	0%	1%	5%	0%	0%	0%	0%	0%	0%
31	0%	0%	0%	3%	76%	20%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mensual	4%	2%	4%	10%	34%	12%	6%	2%	3%	4%	3%	4%	3%	2%	4%	2%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	SE	OSO	SSO	N	NE	NO	S	SO	O	SSE	ONO	NNE	NNO
F. R.	34%	12%	10%	6%	4%	4%	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%

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