



# 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

NOVIEMBRE 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	27.4	17.5	11.8	4.0	1.0	793.0	100.0	82.9	52.0	0.0	1197.0	423.2	3.3
2	27.8	18.9	13.6	4.0	0.9	793.2	100.0	83.8	54.0	0.5	1237.0	508.9	3.8
3	23.9	17.5	14.5	4.0	0.7	793.6	100.0	89.6	68.0	0.0	767.0	314.0	2.5
4	27.2	18.0	12.7	5.8	0.9	793.4	100.0	84.1	55.0	16.5	1104.0	446.9	3.3
5	28.2	17.5	12.4	4.5	1.2	793.0	100.0	88.8	53.0	1.3	1186.0	494.5	3.8
6	24.3	17.0	13.9	3.1	0.8	793.4	100.0	91.0	65.0	0.3	1195.0	307.9	2.0
7	25.0	16.6	13.2	6.7	1.0	793.2	100.0	90.3	64.0	34.6	1144.0	457.0	2.8
8	16.9	14.7	13.4	1.8	0.2	793.8	100.0	100.0	100.0	20.3	311.0	154.1	0.8
9	22.7	16.2	12.5	2.7	0.4	793.7	100.0	94.8	68.0	2.5	697.0	285.5	2.0
10	22.5	16.1	13.2	4.0	0.7	793.6	100.0	96.6	78.0	16.8	1334.0	355.8	2.3
11	17.6	14.7	13.1	2.2	0.4	793.7	100.0	99.8	97.0	6.6	420.0	138.4	0.8
12	15.6	13.7	12.6	3.6	0.3	794.4	100.0	100.0	100.0	36.9	223.0	87.9	0.5
13	23.4	15.4	11.7	3.1	0.5	793.9	100.0	97.5	71.0	1.3	1317.0	348.1	2.5
14	27.1	17.6	12.1	4.0	0.8	793.2	100.0	86.0	53.0	0.0	1128.0	524.6	3.8
15	24.8	16.7	12.7	4.0	1.0	793.0	100.0	88.5	61.0	0.5	1118.0	430.7	2.8
16	24.2	15.6	12.3	3.6	0.6	793.1	100.0	93.8	64.0	3.1	1118.0	302.6	2.3
17	24.8	16.1	11.7	4.9	0.7	793.1	100.0	91.9	63.0	18.8	1094.0	478.5	3.1
18	24.1	15.6	12.7	3.6	0.6	793.9	100.0	94.9	65.0	39.2	1146.0	483.5	3.1
19	26.4	16.7	11.3	4.0	0.7	794.0	100.0	89.5	52.0	20.1	1141.0	521.4	3.8
20	19.7	14.8	12.9	2.7	0.2	794.0	100.0	100.0	97.0	10.9	743.0	199.4	1.3
21	25.4	16.5	11.4	4.9	0.6	793.8	100.0	92.4	59.0	12.0	1186.0	491.0	3.3
22	24.8	15.3	12.7	4.9	0.7	794.3	100.0	97.4	67.0	33.6	1325.0	421.9	2.3
23	26.4	16.3	11.9	3.6	0.7	794.5	100.0	91.5	52.0	2.5	1114.0	369.0	2.5
24	18.4	14.5	12.6	3.1	0.7	795.2	100.0	100.0	100.0	23.1	368.0	175.9	1.0
25	23.7	16.4	11.4	3.1	1.0	793.9	100.0	89.0	61.0	0.0	1130.0	361.7	2.5
26	22.4	16.0	12.4	3.1	1.0	793.2	100.0	92.0	68.0	0.8	1038.0	287.0	2.0
27	26.0	15.8	12.4	4.5	1.0	792.2	100.0	92.5	58.0	15.5	1191.0	434.5	2.8
28	22.6	16.1	12.4	3.6	0.7	792.6	100.0	90.8	69.0	56.0	928.0	372.3	2.6
29	21.2	14.4	13.1	4.9	0.3	793.7	100.0	99.9	95.0	16.0	1125.0	217.8	1.3
30	24.4	16.1	12.9	3.1	0.6	793.4	100.0	93.5	67.0	23.9	1300.0	442.6	2.5
31													
<b>Mensual</b>	<b>28.2</b>	<b>16.2</b>	<b>11.3</b>	<b>6.7</b>	<b>0.7</b>	<b>793.6</b>	<b>100.0</b>	<b>92.8</b>	<b>52.0</b>	<b>413.5</b>	<b>1334.0</b>	<b>361.2</b>	<b>73.4</b>

Convenciones: V.V.: Velocidad del Viento P.B.: Presión Barométrica LI.: Lluvia diaria ET.: Evapotranspiración. Nota: Datos resaltados en rojo están incompletos.



**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

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

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	ONO	OSO	O	NNO	E	N	SSO	SO	S	ESE	SE	SSE	NE	ENE	NNE
F. R.	13%	11%	10%	9%	8%	7%	7%	6%	6%	5%	4%	3%	3%	3%	3%	3%

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



# 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

NOVIEMBRE 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%	1%	8%	65%	20%	3%	0%	0%	0%	0%	0%	0%	3%	0%	0%
2	1%	0%	4%	6%	51%	21%	2%	0%	1%	5%	3%	1%	3%	1%	0%	0%
3	1%	3%	3%	6%	47%	15%	13%	0%	3%	0%	0%	3%	1%	3%	2%	0%
4	3%	1%	3%	7%	34%	22%	9%	3%	8%	3%	0%	0%	2%	3%	0%	0%
5	1%	3%	6%	11%	46%	10%	15%	5%	1%	0%	0%	0%	0%	0%	1%	1%
6	0%	0%	0%	8%	58%	21%	12%	0%	0%	0%	1%	1%	0%	0%	0%	0%
7	0%	0%	11%	12%	49%	17%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8	1%	0%	13%	2%	38%	8%	0%	0%	0%	9%	1%	3%	2%	2%	20%	1%
9	0%	0%	0%	14%	30%	30%	6%	1%	0%	1%	10%	0%	0%	8%	0%	0%
10	0%	1%	1%	6%	26%	6%	3%	6%	19%	13%	21%	0%	0%	0%	0%	0%
11	0%	11%	1%	4%	39%	15%	1%	0%	2%	4%	3%	6%	1%	9%	0%	3%
12	0%	0%	1%	17%	9%	10%	0%	1%	3%	11%	18%	4%	24%	1%	0%	0%
13	2%	3%	13%	10%	37%	6%	9%	0%	0%	0%	7%	3%	1%	1%	1%	7%
14	3%	1%	3%	3%	62%	20%	0%	0%	0%	0%	1%	1%	6%	0%	0%	0%
15	9%	6%	7%	13%	35%	10%	0%	3%	1%	0%	1%	1%	9%	1%	4%	0%
16	2%	4%	6%	8%	27%	19%	1%	6%	1%	3%	1%	2%	6%	3%	8%	2%
17	3%	1%	2%	4%	35%	24%	13%	6%	4%	2%	2%	0%	2%	0%	1%	1%
18	15%	12%	1%	1%	41%	6%	7%	1%	1%	0%	4%	4%	0%	1%	4%	1%
19	1%	6%	4%	4%	28%	8%	31%	0%	3%	3%	5%	3%	0%	2%	1%	1%
20	3%	13%	1%	0%	0%	11%	1%	18%	2%	8%	6%	5%	8%	8%	13%	3%
21	0%	8%	1%	5%	39%	17%	2%	1%	0%	1%	1%	2%	6%	17%	0%	0%
22	1%	0%	1%	4%	64%	15%	1%	1%	2%	9%	0%	0%	0%	0%	1%	0%
23	0%	0%	1%	8%	59%	31%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	5%	6%	8%	13%	40%	6%	0%	0%	0%	0%	7%	1%	0%	13%	2%	1%
25	0%	0%	0%	3%	63%	26%	1%	1%	0%	0%	0%	0%	0%	6%	0%	1%
26	0%	0%	0%	12%	58%	25%	4%	0%	1%	0%	0%	0%	0%	0%	0%	0%
27	0%	0%	3%	10%	53%	32%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%
28	3%	3%	8%	17%	31%	26%	7%	0%	2%	0%	1%	0%	0%	0%	4%	0%
29	0%	0%	1%	19%	39%	0%	10%	22%	9%	0%	0%	0%	0%	0%	0%	0%
30	11%	3%	4%	3%	56%	3%	6%	1%	0%	0%	0%	0%	1%	3%	1%	6%
31																
Mensual	2%	3%	4%	8%	42%	16%	6%	3%	2%	2%	3%	1%	2%	3%	2%	1%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	SE	NE	SO	ONO	NNE	SSE	O	SSO	N	NO	S	OSO	NNO
F. R.	42%	16%	8%	6%	4%	3%	3%	3%	3%	2%	2%	2%	2%	2%	1%	1%

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