



# 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 LA PALMA

CÓDIGO: EMM-09

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	23.0	18.8	14.9	3.1	0.3	813.6	98.0	90.0	76.0	0.0	1230.0	519.2	3.6
2	22.9	18.9	16.5	6.3	0.6	812.5	96.0	87.1	73.0	11.4	1239.0	311.8	2.5
3	23.4	19.0	16.8	3.1	0.2	812.7	96.0	87.6	78.0	0.2	1246.0	307.0	2.3
4	24.3	19.7	15.1	2.7	0.2	812.6	96.0	86.7	66.0	0.0	1201.0	443.5	3.5
5	27.3	21.4	16.9	4.5	0.7	812.3	98.0	76.6	48.0	3.4	1230.0	597.6	4.8
6	26.5	21.5	16.9	2.7	0.2	811.5	84.0	70.6	48.0	0.0	1253.0	484.1	4.1
7	26.2	21.2	17.2	2.2	0.2	812.4	92.0	75.6	52.0	0.0	1206.0	448.0	3.7
8	26.2	21.0	16.9	2.7	0.3	812.6	85.0	72.0	52.0	0.0	1165.0	497.5	4.1
9	24.7	20.2	17.1	1.8	0.2	812.6	92.0	81.0	57.0	0.0	1125.0	302.8	2.5
10	26.8	20.7	16.2	3.1	0.2	811.7	96.0	80.2	53.0	0.0	1299.0	446.2	3.7
11	24.4	19.9	16.8	2.2	0.2	811.7	91.0	83.0	65.0	0.0	1331.0	325.8	2.7
12	20.8	18.2	16.7	2.2	0.1	812.8	97.0	93.6	77.0	2.0	744.0	213.7	1.6
13	23.7	18.9	15.9	1.8	0.1	812.5	97.0	90.5	73.0	1.0	1276.0	337.4	2.5
14	23.2	19.1	16.5	2.2	0.2	811.6	98.0	90.5	72.0	9.2	1151.0	291.0	2.2
15	21.9	17.8	15.7	2.2	0.1	812.8	98.0	94.8	78.0	3.2	1169.0	189.5	1.4
16	22.9	18.6	15.9	2.7	0.1	813.8	97.0	90.7	71.0	2.2	991.0	336.6	2.5
17	24.6	19.5	16.7	5.4	0.4	813.5	96.0	85.4	64.0	0.0	1116.0	360.8	2.8
18	25.0	19.3	15.3	4.0	0.5	812.7	98.0	89.1	58.0	13.6	1215.0	543.1	4.0
19	24.0	18.5	15.2	4.0	0.3	812.8	98.0	90.5	68.0	7.8	1317.0	461.6	3.4
20	20.3	17.6	15.4	1.8	0.1	814.0	98.0	96.7	93.0	4.8	659.0	199.5	1.4
21	20.8	18.0	15.1	2.7	0.2	814.5	98.0	93.2	82.0	0.4	1085.0	329.0	2.3
22	23.7	19.1	15.9	1.8	0.1	813.7	97.0	90.0	69.0	0.2	1271.0	342.2	2.6
23	23.9	18.4	16.3	4.9	0.5	813.4	98.0	93.0	75.0	33.8	1352.0	360.2	2.6
24	22.0	17.6	15.3	2.7	0.2	815.2	98.0	94.5	75.0	2.0	1083.0	278.8	2.0
25	23.9	19.5	16.1	1.8	0.1	814.5	97.0	85.8	62.0	0.0	1294.0	390.2	3.1
26	23.7	19.7	16.9	2.2	0.3	814.4	97.0	84.8	69.0	12.2	977.0	372.6	2.9
27	25.6	20.0	16.3	2.7	0.3	813.6	97.0	86.3	66.0	1.0	1278.0	372.1	2.9
28	23.8	18.6	15.6	2.7	0.2	813.8	98.0	91.0	75.0	7.0	1238.0	377.6	2.8
29	25.2	19.8	16.5	1.8	0.2	813.0	97.0	84.6	63.0	0.0	1139.0	361.8	2.9
30	26.9	21.1	16.5	2.2	0.3	811.5	90.0	77.4	53.0	0.0	1220.0	586.3	4.7
31	26.6	21.4	17.4	2.7	0.2	811.5	94.0	76.6	53.0	0.0	1304.0	420.4	3.4
<b>Mensual</b>	<b>27.3</b>	<b>19.5</b>	<b>14.9</b>	<b>6.3</b>	<b>0.3</b>	<b>813.0</b>	<b>98.0</b>	<b>86.1</b>	<b>48.0</b>	<b>115.4</b>	<b>1352.0</b>	<b>380.9</b>	<b>91.6</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-09

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

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	OSO	O	SO	N	NNO	NO	ONO	S	SSE	SSO	SE	NNE	E	ESE	ENE	NE
F. R.	15%	9%	9%	9%	9%	7%	7%	7%	7%	5%	5%	3%	2%	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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CÓDIGO: EMM-09

**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	0%	0%	0%	0%	0%	0%	0%	63%	0%	0%	9%	28%	0%	0%	0%	0%
2	0%	0%	0%	0%	11%	10%	1%	40%	25%	3%	8%	2%	0%	0%	0%	0%
3	0%	0%	0%	0%	0%	3%	5%	34%	8%	10%	7%	33%	0%	0%	0%	0%
4	0%	0%	0%	0%	0%	23%	0%	15%	13%	6%	1%	0%	0%	1%	41%	0%
5	0%	0%	0%	0%	0%	1%	6%	33%	21%	16%	10%	2%	10%	0%	0%	1%
6	0%	8%	0%	0%	0%	0%	0%	41%	9%	0%	0%	0%	41%	0%	1%	0%
7	0%	0%	0%	0%	0%	0%	1%	11%	14%	0%	1%	41%	33%	0%	0%	0%
8	0%	0%	0%	0%	0%	0%	8%	12%	6%	4%	0%	70%	0%	0%	0%	0%
9	0%	0%	0%	0%	0%	0%	0%	27%	16%	7%	0%	15%	5%	6%	25%	0%
10	0%	0%	0%	0%	0%	0%	0%	0%	17%	0%	76%	7%	0%	0%	0%	0%
11	0%	0%	0%	0%	0%	2%	0%	33%	15%	1%	35%	6%	8%	0%	0%	0%
12	0%	22%	13%	8%	0%	0%	0%	0%	29%	0%	15%	13%	0%	0%	0%	1%
13	0%	0%	0%	0%	0%	0%	7%	0%	93%	0%	0%	0%	0%	0%	0%	0%
14	0%	0%	0%	0%	0%	0%	0%	0%	18%	22%	13%	7%	39%	0%	0%	1%
15	0%	0%	0%	42%	0%	0%	9%	19%	15%	1%	3%	2%	6%	0%	1%	2%
16	0%	0%	0%	0%	0%	0%	0%	24%	64%	0%	13%	0%	0%	0%	0%	0%
17	0%	0%	0%	0%	0%	0%	2%	36%	60%	0%	1%	1%	0%	0%	0%	0%
18	3%	1%	2%	1%	3%	10%	11%	23%	8%	1%	22%	8%	3%	2%	3%	0%
19	3%	1%	10%	7%	51%	3%	3%	1%	0%	1%	3%	9%	0%	6%	1%	1%
20	0%	0%	0%	42%	50%	0%	0%	0%	1%	0%	1%	1%	6%	0%	0%	0%
21	0%	0%	0%	0%	11%	1%	2%	34%	1%	0%	50%	0%	0%	0%	0%	0%
22	0%	0%	0%	0%	0%	0%	0%	2%	5%	19%	28%	36%	0%	8%	0%	1%
23	0%	0%	0%	0%	0%	3%	11%	17%	10%	1%	1%	52%	1%	1%	1%	2%
24	0%	0%	0%	0%	0%	0%	0%	1%	8%	37%	10%	6%	0%	38%	1%	0%
25	0%	0%	0%	1%	32%	15%	1%	0%	15%	7%	26%	4%	0%	0%	0%	0%
26	0%	0%	0%	0%	0%	0%	1%	41%	33%	11%	1%	13%	0%	0%	0%	0%
27	0%	0%	0%	0%	0%	0%	1%	28%	10%	41%	5%	8%	1%	3%	0%	3%
28	0%	0%	0%	0%	0%	31%	8%	22%	16%	3%	8%	9%	0%	0%	1%	3%
29	0%	0%	0%	0%	0%	0%	1%	58%	3%	2%	16%	19%	1%	0%	0%	0%
30	2%	0%	0%	0%	0%	0%	3%	64%	10%	1%	0%	0%	0%	18%	0%	1%
31	17%	0%	0%	0%	0%	0%	13%	44%	6%	1%	10%	0%	0%	0%	8%	0%
Mensual	1%	1%	1%	3%	5%	3%	3%	23%	18%	6%	12%	13%	5%	3%	3%	0%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SSE	S	OSO	SO	SSO	E	O	ESE	ENE	SE	NO	ONO	NNE	N	NE	NNO
F. R.	23%	18%	13%	12%	6%	5%	5%	3%	3%	3%	3%	3%	1%	1%	1%	0%

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