



# 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 ENEA

CÓDIGO: EMM-04

JUNIO 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	17.1	15.7	14.9	4.9	0.6	801.9	100.0	99.3	94.0	14.0	562.0	169.1	1.3
2	17.7	15.2	13.8	4.0	0.4	802.7	100.0	97.8	84.0	40.6	984.0	222.1	1.5
3	19.4	15.6	13.2	3.1	0.4	802.8	100.0	94.0	72.0	7.6	557.0	274.9	1.8
4	19.6	15.4	13.2	4.5	0.4	803.0	100.0	94.8	80.0	7.9	719.0	302.9	1.8
5	22.4	16.8	12.7	3.6	0.5	802.7	100.0	87.4	68.0	0.0	1083.0	403.2	3.0
6	22.2	16.8	14.2	4.9	0.6	802.9	100.0	89.8	61.0	0.3	1138.0	351.8	2.5
7	20.3	16.3	13.2	4.9	0.9	802.9	100.0	91.8	72.0	0.3	1052.0	356.5	2.5
8	22.4	17.2	12.6	6.7	0.8	802.6	95.0	84.0	61.0	0.0	1149.0	487.4	4.1
9	22.8	17.6	13.3	5.4	0.5	802.5	93.0	82.3	60.0	0.0	1133.0	403.8	3.3
10	23.8	18.1	13.9	7.2	0.6	801.6	93.0	81.3	56.0	0.0	1179.0	426.6	3.3
11	23.9	17.9	13.6	4.9	0.7	800.5	93.0	77.9	51.0	0.0	865.0	433.8	3.8
12	23.8	18.4	14.1	5.4	0.9	800.0	91.0	76.9	52.0	0.0	1108.0	463.7	3.8
13	23.6	18.5	13.6	6.3	1.0	800.6	95.0	80.6	54.0	0.3	1122.0	516.7	4.3
14	20.4	16.8	13.0	4.0	0.4	800.9	96.0	87.8	67.0	2.0	1023.0	259.5	2.0
15	21.8	16.6	12.6	4.5	0.6	800.9	93.0	82.0	68.0	0.3	1088.0	390.7	3.0
16	20.3	16.0	12.7	4.0	0.6	801.4	96.0	87.3	70.0	0.0	784.0	229.3	2.0
17	20.9	16.4	13.9	4.9	0.5	801.9	98.0	89.6	69.0	0.0	823.0	250.2	1.8
18	20.7	16.5	13.2	4.5	0.7	802.7	97.0	89.2	70.0	0.0	902.0	301.7	2.3
19	19.0	16.0	13.2	4.0	0.3	802.2	98.0	90.4	73.0	0.3	712.0	233.3	1.8
20	21.0	15.5	12.3	4.9	0.6	801.5	99.0	89.4	69.0	3.3	1133.0	335.8	2.5
21	22.5	16.6	11.0	5.4	1.0	801.2	95.0	80.6	56.0	0.3	1044.0	452.2	3.6
22	22.2	17.1	12.8	4.5	0.9	801.7	100.0	84.4	65.0	3.3	1173.0	430.0	3.3
23	20.5	16.1	14.4	4.0	0.6	801.6	100.0	93.6	71.0	1.5	1020.0	288.9	1.8
24	19.7	16.3	13.6	4.5	0.4	801.0	100.0	90.4	75.0	1.5	722.0	265.4	2.0
25	16.9	15.0	13.7	3.1	0.5	801.8	100.0	96.3	87.0	3.8	601.0	173.3	1.0
26	20.6	16.5	13.6	5.8	0.9	801.7	100.0	89.5	65.0	0.0	1204.0	407.8	3.3
27	20.7	16.3	12.7	4.5	0.5	801.9	100.0	88.1	63.0	0.8	1148.0	322.1	2.3
28	22.2	16.4	11.5	6.7	1.1	801.3	92.0	80.2	58.0	0.0	1139.0	462.5	3.8
29	20.2	15.6	12.0	6.3	0.9	801.0	98.0	86.0	71.0	7.1	882.0	300.7	2.3
30	19.3	14.9	12.6	4.5	0.9	801.0	100.0	90.6	74.0	5.6	1066.0	299.5	2.0
<b>Mensual</b>	<b>23.9</b>	<b>16.5</b>	<b>11.0</b>	<b>7.2</b>	<b>0.7</b>	<b>801.7</b>	<b>100.0</b>	<b>87.8</b>	<b>51.0</b>	<b>100.6</b>	<b>1204.0</b>	<b>340.5</b>	<b>78.0</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-04

JUNIO 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	23%	5%	1%	1%	9%	2%	0%	10%	3%	4%	6%	1%	2%	0%	9%	24%
2	12%	0%	0%	1%	1%	3%	5%	3%	1%	6%	5%	1%	5%	3%	22%	33%
3	13%	0%	0%	0%	0%	1%	19%	0%	0%	0%	1%	2%	4%	6%	13%	42%
4	8%	1%	0%	1%	3%	15%	8%	1%	8%	0%	1%	1%	0%	7%	12%	33%
5	15%	0%	0%	0%	1%	3%	14%	0%	0%	0%	1%	7%	7%	10%	11%	30%
6	23%	0%	0%	3%	1%	9%	1%	1%	2%	0%	1%	3%	3%	3%	17%	31%
7	28%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	3%	4%	10%	53%
8	28%	0%	0%	0%	1%	6%	11%	1%	3%	1%	0%	0%	1%	3%	6%	39%
9	15%	3%	1%	3%	1%	1%	1%	3%	5%	0%	5%	5%	4%	9%	12%	31%
10	24%	0%	0%	1%	1%	2%	5%	3%	2%	3%	8%	8%	5%	5%	7%	26%
11	19%	0%	0%	1%	1%	4%	8%	6%	3%	2%	2%	4%	3%	1%	11%	35%
12	16%	1%	1%	1%	2%	4%	3%	6%	4%	1%	2%	8%	3%	8%	11%	28%
13	25%	2%	2%	0%	0%	0%	0%	0%	3%	3%	4%	6%	5%	3%	10%	35%
14	19%	0%	0%	0%	1%	1%	1%	3%	8%	4%	3%	4%	5%	7%	17%	26%
15	23%	1%	0%	1%	3%	1%	4%	1%	2%	3%	4%	7%	6%	6%	10%	29%
16	39%	2%	1%	0%	1%	5%	6%	5%	1%	5%	0%	2%	0%	1%	8%	24%
17	38%	1%	1%	1%	1%	3%	5%	6%	3%	3%	0%	1%	3%	5%	5%	26%
18	35%	1%	1%	1%	1%	2%	8%	2%	0%	0%	0%	0%	2%	3%	8%	37%
19	16%	0%	1%	0%	0%	0%	2%	1%	9%	9%	10%	8%	12%	11%	9%	13%
20	24%	6%	0%	1%	2%	5%	2%	3%	6%	8%	6%	6%	2%	4%	3%	21%
21	18%	0%	0%	0%	1%	5%	7%	1%	1%	0%	1%	1%	6%	3%	17%	38%
22	17%	0%	0%	1%	2%	5%	8%	1%	2%	1%	4%	6%	3%	6%	12%	33%
23	30%	1%	0%	1%	1%	14%	1%	0%	0%	1%	1%	1%	1%	1%	10%	38%
24	7%	2%	2%	9%	3%	7%	6%	1%	6%	3%	2%	1%	7%	5%	19%	21%
25	27%	1%	1%	3%	1%	5%	14%	3%	1%	1%	0%	3%	2%	9%	5%	24%
26	28%	3%	0%	1%	0%	0%	8%	5%	1%	0%	0%	3%	2%	1%	6%	41%
27	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	18%	3%	7%	17%	38%
28	17%	0%	1%	1%	1%	6%	8%	4%	1%	3%	6%	1%	5%	2%	15%	29%
29	17%	1%	3%	3%	9%	8%	12%	1%	3%	1%	2%	3%	4%	1%	8%	24%
30	14%	3%	2%	6%	2%	8%	19%	4%	2%	1%	1%	0%	3%	1%	6%	27%
Mensual	21%	1%	1%	1%	2%	4%	6%	2%	3%	2%	3%	4%	4%	5%	11%	31%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NNO	N	NO	SE	ONO	ESE	OSO	O	S	SO	SSE	SSO	E	ENE	NNE	NE
F. R.	31%	21%	11%	6%	5%	4%	4%	4%	3%	3%	2%	2%	2%	1%	1%	1%

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



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JUNIO DE 2011

### JORNADA NOCTURNA - DIRECCIÓN DEL VIENTO SEGÚN LA ROSA DE LOS VIENTOS (Frecuencia relativa)

DIA	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	15%	1%	3%	10%	28%	5%	1%	0%	10%	8%	2%	7%	0%	0%	2%	8%
2	8%	2%	0%	6%	5%	4%	14%	6%	3%	1%	1%	1%	4%	1%	40%	3%
3	0%	6%	3%	2%	19%	41%	6%	3%	1%	0%	0%	1%	1%	0%	11%	6%
4	4%	1%	1%	6%	28%	24%	24%	6%	6%	1%	0%	0%	0%	0%	0%	0%
5	4%	0%	2%	8%	18%	12%	33%	10%	0%	1%	3%	1%	0%	4%	1%	3%
6	1%	1%	1%	4%	16%	40%	17%	1%	2%	1%	1%	1%	1%	3%	9%	0%
7	10%	8%	3%	3%	7%	22%	26%	5%	0%	0%	0%	0%	0%	0%	15%	0%
8	3%	0%	2%	8%	8%	31%	35%	7%	1%	0%	0%	0%	0%	0%	0%	6%
9	0%	0%	0%	6%	8%	26%	23%	10%	4%	8%	8%	3%	3%	1%	0%	1%
10	6%	0%	1%	5%	3%	24%	14%	14%	13%	2%	1%	5%	5%	1%	1%	5%
11	0%	0%	0%	1%	1%	6%	19%	35%	22%	10%	5%	1%	0%	0%	0%	0%
12	9%	0%	0%	1%	7%	19%	17%	16%	19%	3%	3%	1%	1%	0%	1%	3%
13	1%	0%	0%	1%	2%	6%	10%	16%	17%	18%	15%	7%	2%	1%	2%	2%
14	0%	0%	0%	0%	3%	8%	15%	10%	25%	10%	5%	13%	7%	1%	1%	1%
15	0%	1%	1%	0%	10%	15%	19%	10%	22%	17%	4%	1%	0%	0%	0%	0%
16	6%	0%	1%	2%	8%	16%	28%	15%	9%	9%	7%	1%	0%	0%	0%	0%
17	3%	0%	0%	2%	6%	12%	19%	24%	11%	10%	2%	2%	2%	0%	3%	3%
18	16%	0%	1%	4%	11%	18%	22%	6%	2%	8%	4%	0%	7%	0%	1%	0%
19	0%	0%	0%	0%	1%	0%	8%	25%	26%	22%	9%	1%	5%	1%	1%	0%
20	1%	1%	0%	5%	3%	8%	21%	10%	23%	23%	4%	0%	0%	0%	0%	0%
21	0%	0%	1%	2%	12%	26%	35%	15%	1%	1%	1%	0%	0%	7%	0%	0%
22	6%	0%	1%	4%	10%	15%	40%	8%	2%	0%	1%	1%	3%	2%	3%	3%
23	0%	1%	2%	4%	6%	25%	28%	17%	7%	0%	0%	0%	0%	0%	10%	0%
24	0%	1%	8%	10%	8%	45%	28%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25	8%	8%	0%	1%	16%	31%	8%	1%	0%	0%	1%	4%	1%	6%	0%	14%
26	6%	1%	0%	3%	6%	55%	14%	1%	7%	0%	0%	1%	0%	6%	0%	1%
27	9%	0%	1%	3%	3%	13%	33%	11%	2%	1%	0%	0%	1%	1%	8%	14%
28	0%	0%	0%	0%	6%	22%	47%	19%	3%	2%	0%	0%	0%	0%	0%	0%
29	0%	1%	0%	6%	15%	40%	30%	5%	3%	1%	0%	0%	0%	0%	0%	0%
30	1%	0%	2%	12%	12%	21%	29%	9%	5%	0%	1%	1%	0%	0%	0%	8%
Mensual	4%	1%	1%	4%	10%	21%	22%	10%	8%	5%	3%	2%	1%	1%	4%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SE	ESE	SSE	E	S	SSO	N	ENE	NO	SO	NNO	OSO	O	ONO	NE	NNE
F. R.	22%	21%	10%	10%	8%	5%	4%	4%	4%	3%	3%	2%	1%	1%	1%	1%

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