



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

SEPTIEMBRE 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 ²)		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	23.0	17.4	12.8	5.8	0.7	802.3	93.0	70.0	41.0	0.0	905.0	480.8	3.8
2	22.2	16.1	11.2	5.8	0.6	802.5	89.0	73.4	47.0	0.0	1139.0	383.9	3.0
3	20.2	15.2	11.6	3.6	0.6	802.7	92.0	83.1	67.0	0.0	1032.0	287.6	2.3
4	21.4	15.2	10.8	4.9	0.7	802.3	92.0	80.9	60.0	0.0	743.0	264.0	2.3
5	22.9	16.2	10.7	6.3	1.2	801.9	92.0	74.9	46.0	0.0	1157.0	443.4	3.5
6	21.4	16.0	12.1	4.5	1.0	801.8	91.0	81.0	58.0	0.0	1000.0	290.8	2.5
7	20.3	15.7	12.8	3.6	0.6	802.1	97.0	86.8	68.0	0.5	1207.0	260.8	1.8
8	19.7	14.6	12.6	4.5	0.7	803.2	100.0	92.9	76.0	11.4	1073.0	297.9	2.0
9	21.0	14.8	12.2	6.3	0.4	802.4	100.0	90.7	65.0	20.3	903.0	293.4	1.8
10	22.8	15.9	11.6	4.5	0.2	802.0	100.0	88.4	66.0	3.0	1078.0	567.2	3.8
11	20.6	15.6	12.6	4.0	0.4	803.2	100.0	90.5	69.0	3.1	1207.0	326.9	2.3
12	20.9	16.1	12.9	3.1	0.2	803.6	99.0	84.8	61.0	0.8	1089.0	216.2	1.5
13	23.8	17.1	13.1	4.9	0.8	802.9	89.0	74.3	48.0	0.0	1320.0	454.4	4.1
14	22.9	16.3	12.1	5.4	0.8	801.7	90.0	81.9	57.0	0.0	1148.0	386.7	3.0
15	22.3	16.7	12.6	4.0	0.6	802.0	91.0	77.5	54.0	0.0	1074.0	312.1	2.5
16	19.5	15.7	13.4	4.0	0.6	802.2	97.0	87.9	73.0	1.8	981.0	256.0	2.0
17	19.8	15.6	12.6	4.5	0.5	801.9	99.0	89.6	70.0	3.1	1299.0	300.0	2.0
18	18.6	15.1	13.6	4.5	0.5	802.9	100.0	95.6	78.0	13.5	1086.0	289.7	1.8
19	21.0	15.6	12.5	3.6	0.3	802.0	100.0	91.8	69.0	4.6	672.0	273.6	1.8
20	21.0	15.6	12.2	3.1	0.5	802.1	100.0	89.3	62.0	4.6	1186.0	270.0	2.0
21	21.6	16.8	11.8	4.0	0.7	802.0	94.0	81.1	63.0	0.0	1235.0	416.3	3.3
22	20.9	16.7	13.8	5.8	0.8	802.2	98.0	88.8	74.0	2.0	1092.0	375.9	2.5
23	22.8	16.2	13.4	5.4	0.7	802.5	100.0	89.6	65.0	20.6	1160.0	367.8	2.8
24	20.8	15.3	12.3	4.9	0.0	801.5	99.0	92.5	71.0	4.1	1111.0	284.3	1.8
25	18.2	15.4	12.2	1.3	0.0	801.6	99.0	91.8	75.0	5.8	794.0	200.9	1.3
26	21.1	16.3	12.8	4.0	0.5	802.5	99.0	89.0	66.0	1.0	1219.0	313.1	2.5
27	22.6	16.8	11.8	5.8	1.2	802.6	92.0	77.7	58.0	0.0	1103.0	498.8	4.1
28	22.2	16.8	12.8	4.9	0.8	802.1	92.0	80.3	60.0	0.0	1095.0	333.9	2.8
29	21.2	15.9	12.1	4.9	0.5	801.1	99.0	85.6	63.0	0.8	984.0	271.7	2.0
30	22.4	16.6	11.7	4.9	0.8	801.0	95.0	82.7	59.0	0.0	1062.0	374.8	3.0
Mensual	23.8	16.0	10.7	6.3	0.6	802.2	100.0	84.8	41.0	100.8	1320.0	336.4	76.2

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

SEPTIEMBRE 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%	0%	0%	0%	2%	3%	4%	3%	3%	1%	3%	3%	15%	10%	13%	27%
2	23%	2%	4%	1%	1%	7%	4%	8%	1%	1%	6%	4%	6%	8%	5%	19%
3	36%	3%	1%	0%	8%	9%	6%	1%	1%	0%	1%	1%	6%	10%	3%	15%
4	34%	1%	0%	0%	1%	4%	8%	1%	3%	5%	3%	2%	8%	9%	4%	17%
5	26%	1%	0%	0%	1%	2%	3%	1%	1%	1%	5%	4%	10%	6%	8%	31%
6	54%	3%	1%	1%	2%	4%	6%	3%	2%	1%	0%	3%	2%	1%	3%	13%
7	34%	1%	1%	1%	1%	2%	6%	3%	6%	6%	7%	4%	13%	3%	6%	6%
8	38%	1%	2%	2%	3%	4%	3%	6%	8%	4%	3%	2%	3%	1%	3%	14%
9	17%	0%	0%	3%	7%	9%	3%	10%	14%	6%	0%	1%	0%	1%	3%	25%
10	9%	0%	0%	5%	3%	9%	8%	1%	3%	2%	5%	6%	7%	7%	11%	23%
11	14%	3%	1%	0%	0%	10%	3%	1%	1%	0%	6%	6%	4%	3%	15%	33%
12	4%	5%	1%	3%	6%	3%	14%	12%	8%	8%	7%	6%	1%	2%	7%	12%
13	20%	1%	0%	1%	3%	3%	13%	3%	0%	2%	2%	5%	4%	5%	8%	30%
14	15%	1%	2%	0%	1%	4%	7%	4%	1%	8%	12%	15%	3%	4%	6%	19%
15	17%	0%	1%	1%	2%	3%	3%	5%	1%	1%	6%	5%	8%	5%	17%	23%
16	14%	5%	1%	3%	3%	10%	3%	2%	0%	0%	0%	19%	3%	1%	3%	31%
17	13%	0%	3%	1%	10%	15%	6%	6%	6%	9%	6%	3%	2%	0%	3%	15%
18	12%	3%	2%	3%	18%	6%	3%	6%	1%	2%	1%	1%	5%	1%	6%	31%
19	4%	0%	0%	3%	6%	14%	31%	3%	2%	1%	1%	0%	1%	3%	9%	23%
20	15%	0%	0%	0%	8%	8%	1%	2%	3%	7%	18%	6%	7%	3%	6%	16%
21	13%	0%	0%	0%	1%	10%	4%	1%	0%	1%	1%	3%	3%	9%	15%	40%
22	8%	0%	0%	0%	1%	0%	14%	10%	2%	3%	5%	5%	3%	2%	17%	30%
23	10%	1%	1%	3%	10%	13%	4%	3%	1%	0%	3%	2%	3%	3%	13%	30%
24	10%	0%	0%	1%	6%	8%	15%	1%	3%	0%	10%	5%	0%	1%	13%	27%
25	15%	1%	0%	5%	11%	10%	10%	6%	1%	1%	4%	3%	1%	3%	13%	17%
26	13%	0%	7%	0%	0%	5%	1%	4%	1%	9%	10%	7%	5%	3%	11%	24%
27	10%	0%	0%	1%	1%	2%	13%	3%	1%	3%	7%	6%	1%	2%	10%	42%
28	19%	0%	0%	0%	2%	6%	10%	1%	1%	2%	6%	3%	5%	3%	21%	19%
29	10%	1%	1%	6%	3%	6%	10%	3%	4%	12%	12%	2%	3%	5%	3%	18%
30	15%	0%	0%	0%	0%	3%	4%	11%	1%	2%	6%	14%	8%	2%	6%	28%
Mensual	18%	1%	1%	1%	4%	6%	7%	4%	3%	3%	5%	5%	5%	4%	9%	23%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NNO	N	NO	SE	ESE	SO	OSO	O	SSE	E	ONO	SSO	S	ENE	NNE	NE
F. R.	23%	18%	9%	7%	6%	5%	5%	5%	4%	4%	4%	3%	3%	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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SEPTIEMBRE 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	0%	0%	1%	6%	8%	28%	22%	20%	5%	6%	3%	1%	0%	0%	0%	0%
2	4%	0%	1%	1%	10%	33%	31%	8%	6%	3%	1%	1%	1%	0%	1%	1%
3	8%	0%	0%	2%	13%	27%	27%	9%	8%	1%	0%	0%	0%	0%	0%	6%
4	5%	0%	0%	1%	3%	16%	22%	13%	10%	14%	13%	3%	0%	1%	0%	0%
5	2%	0%	0%	0%	10%	17%	40%	9%	3%	8%	7%	1%	1%	0%	0%	1%
6	1%	0%	0%	3%	8%	33%	44%	6%	1%	2%	1%	1%	0%	0%	0%	0%
7	1%	0%	1%	3%	13%	31%	24%	4%	6%	5%	3%	2%	1%	0%	1%	5%
8	0%	0%	0%	2%	15%	20%	19%	13%	10%	7%	13%	0%	0%	0%	0%	0%
9	1%	0%	3%	6%	7%	9%	9%	19%	12%	14%	13%	6%	0%	1%	0%	0%
10	2%	2%	3%	6%	18%	27%	24%	3%	5%	0%	0%	1%	1%	1%	2%	6%
11	1%	1%	0%	13%	16%	33%	19%	9%	1%	0%	3%	1%	0%	1%	3%	1%
12	0%	0%	5%	8%	13%	32%	27%	12%	3%	0%	0%	0%	0%	0%	0%	0%
13	0%	0%	0%	6%	15%	29%	38%	10%	1%	0%	1%	0%	0%	0%	0%	0%
14	0%	0%	1%	6%	14%	20%	25%	18%	5%	9%	3%	0%	0%	0%	0%	0%
15	0%	1%	1%	8%	16%	33%	36%	6%	0%	0%	0%	0%	0%	0%	0%	0%
16	0%	0%	0%	8%	16%	29%	38%	3%	1%	0%	0%	4%	0%	0%	0%	0%
17	0%	0%	3%	7%	20%	29%	31%	4%	1%	5%	0%	0%	0%	0%	0%	0%
18	19%	1%	3%	2%	40%	4%	7%	1%	13%	3%	0%	1%	0%	0%	6%	1%
19	15%	0%	0%	1%	31%	35%	15%	1%	0%	0%	0%	0%	0%	0%	0%	2%
20	0%	0%	0%	6%	37%	22%	19%	13%	4%	0%	0%	0%	0%	0%	0%	0%
21	4%	0%	0%	3%	11%	38%	23%	8%	1%	0%	0%	0%	0%	0%	0%	13%
22	0%	0%	0%	3%	15%	33%	32%	6%	2%	0%	2%	7%	0%	0%	0%	0%
23	0%	2%	1%	6%	21%	22%	33%	12%	3%	1%	0%	0%	0%	0%	0%	0%
24	0%	1%	1%	9%	19%	35%	28%	7%	1%	0%	0%	0%	0%	0%	0%	0%
25	0%	0%	2%	3%	19%	33%	33%	4%	4%	0%	0%	0%	0%	0%	0%	0%
26	0%	1%	2%	8%	27%	29%	19%	8%	3%	0%	0%	0%	0%	0%	3%	0%
27	0%	0%	0%	8%	15%	26%	28%	17%	3%	0%	1%	0%	0%	0%	1%	0%
28	0%	0%	1%	6%	18%	35%	25%	13%	2%	1%	0%	0%	0%	0%	0%	0%
29	0%	1%	3%	1%	12%	41%	25%	8%	2%	0%	3%	1%	0%	0%	0%	3%
30	0%	1%	2%	3%	14%	34%	32%	6%	1%	1%	0%	6%	0%	0%	0%	0%
Mensual	2%	0%	1%	5%	16%	28%	27%	9%	4%	3%	2%	1%	0%	0%	1%	1%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ESE	SE	E	SSE	ENE	S	SSO	SO	N	NNO	OSO	NE	NO	NNE	O	ONO
F. R.	28%	27%	16%	9%	5%	4%	3%	2%	2%	1%	1%	1%	1%	0%	0%	0%

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