



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

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 ²)		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	19.0	15.2	12.5	4.5	0.7	801.6	100.0	93.4	78.0	13.2	1231.0	243.2	1.5
2	20.3	15.7	12.3	4.9	0.7	801.7	100.0	93.4	75.0	1.5	997.0	306.9	2.0
3	20.9	16.1	13.1	4.9	0.7	802.0	100.0	90.2	69.0	4.3	1058.0	345.0	2.5
4	17.6	14.7	12.1	3.1	0.5	802.4	100.0	94.3	83.0	2.5	559.0	230.0	1.5
5	23.4	16.4	12.5	5.8	0.8	801.4	97.0	84.5	53.0	0.0	1225.0	488.4	3.6
6	22.3	16.5	12.6	5.8	0.7	801.2	100.0	86.7	63.0	39.9	1033.0	490.0	3.6
7	23.3	17.0	12.5	5.8	0.5	801.0	100.0	90.4	60.0	0.3	1170.0	447.0	3.0
8	18.7	15.4	13.6	4.5	0.4	801.4	100.0	96.2	78.0	3.8	760.0	207.5	1.5
9	20.2	16.0	13.6	3.6	0.1	801.3	100.0	91.5	71.0	1.3	732.0	249.8	1.5
10	18.9	15.4	12.8	4.0	0.3	802.0	100.0	93.3	74.0	12.5	1024.0	264.4	2.0
11	19.9	15.5	12.6	4.5	0.4	802.1	100.0	92.3	74.0	6.6	886.0	332.8	1.8
12	18.9	14.8	12.7	4.9	0.7	802.8	100.0	96.0	78.0	16.0	817.0	301.1	1.8
13	20.5	15.9	12.1	5.4	0.8	801.6	100.0	87.1	66.0	2.0	971.0	519.4	3.8
14	21.8	14.9	11.6	6.7	0.5	801.7	100.0	91.3	66.0	20.3	1172.0	548.9	3.1
15	18.9	14.8	11.9	4.9	0.5	802.0	100.0	92.5	74.0	32.0	636.0	315.7	2.3
16	18.4	14.4	11.7	5.8	0.8	802.2	100.0	94.3	76.0	15.0	1199.0	301.5	2.0
17	17.8	13.7	12.4	4.9	0.7	802.3	100.0	98.5	80.0	28.7	1206.0	233.9	1.5
18	16.3	13.3	11.6	4.0	0.5	802.8	100.0	99.9	97.0	7.1	664.0	250.8	1.5
19	20.0	14.4	10.8	5.8	0.7	803.8	100.0	82.1	41.0	0.5	1144.0	410.4	2.8
20	18.6	14.5	11.4	4.0	0.5	804.0	94.0	71.9	44.0	0.0	791.0	277.0	2.3
21	20.4	14.8	11.6	5.8	0.7	803.1	96.0	78.9	44.0	0.0	1141.0	444.2	3.3
22	20.0	15.1	12.3	4.5	0.6	801.8	94.0	79.4	58.0	0.0	1013.0	355.6	3.1
23	20.4	15.6	10.8	4.0	0.3	801.6	92.0	81.9	66.0	0.0	999.0	331.4	2.3
24	20.8	16.2	13.4	5.4	0.7	802.1	100.0	85.6	60.0	0.8	993.0	388.0	2.8
25	19.4	15.8	12.3	5.4	0.6	801.3	100.0	89.6	67.0	9.9	1090.0	303.5	2.3
26	19.7	15.7	11.6	4.5	0.7	799.8	100.0	89.9	71.0	0.8	965.0	338.1	2.3
27	21.2	16.3	12.0	4.9	0.8	799.3	96.0	86.3	68.0	0.0	1109.0	358.9	2.8
28	17.9	15.5	14.0	4.0	0.4	800.3	100.0	95.2	79.0	9.4	597.0	199.9	1.3
29	17.1	14.5	13.3	4.0	0.3	801.0	100.0	98.6	86.0	11.7	942.0	180.8	1.0
30	15.9	13.9	11.8	3.1	0.2	801.3	100.0	99.2	93.0	18.8	526.0	152.8	0.8
31	18.2	14.0	10.6	5.8	1.1	800.9	100.0	91.2	78.0	1.8	1082.0	359.0	2.5
Mensual	23.4	15.2	10.6	6.7	0.6	801.7	100.0	90.2	41.0	260.6	1231.0	328.3	70.1

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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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	28%	2%	2%	15%	0%	0%	11%	5%	0%	1%	1%	2%	0%	1%	6%	26%
2	24%	0%	1%	2%	1%	5%	10%	0%	0%	1%	5%	8%	6%	5%	9%	24%
3	13%	1%	1%	2%	9%	4%	2%	0%	1%	0%	3%	5%	7%	9%	16%	28%
4	29%	1%	0%	0%	0%	0%	8%	7%	0%	0%	2%	3%	4%	6%	10%	30%
5	10%	0%	0%	1%	3%	10%	6%	1%	1%	6%	6%	8%	6%	3%	9%	30%
6	4%	0%	1%	5%	6%	2%	1%	3%	2%	4%	5%	3%	7%	9%	17%	31%
7	8%	0%	0%	2%	0%	12%	8%	1%	1%	3%	2%	6%	6%	2%	13%	35%
8	28%	3%	0%	1%	1%	1%	1%	6%	1%	1%	1%	1%	7%	5%	15%	28%
9	15%	3%	10%	3%	2%	6%	2%	4%	2%	2%	8%	3%	3%	3%	8%	26%
10	10%	0%	1%	21%	1%	9%	3%	9%	2%	0%	4%	10%	0%	1%	3%	26%
11	17%	3%	2%	1%	3%	8%	11%	0%	0%	3%	2%	9%	2%	1%	10%	27%
12	19%	0%	1%	0%	1%	3%	10%	2%	1%	3%	3%	4%	2%	5%	5%	42%
13	8%	0%	1%	1%	3%	8%	10%	1%	1%	1%	2%	1%	2%	3%	16%	42%
14	9%	0%	3%	1%	6%	8%	9%	1%	1%	1%	5%	4%	5%	5%	16%	26%
15	7%	0%	0%	0%	0%	11%	3%	0%	0%	0%	2%	6%	8%	3%	16%	45%
16	25%	0%	0%	1%	0%	22%	3%	0%	0%	0%	1%	0%	0%	0%	12%	35%
17	27%	1%	0%	0%	0%	13%	0%	8%	2%	4%	0%	0%	2%	1%	6%	37%
18	18%	0%	1%	0%	0%	0%	0%	6%	0%	1%	4%	2%	0%	3%	8%	58%
19	15%	0%	0%	0%	0%	0%	3%	18%	1%	1%	5%	5%	5%	6%	11%	31%
20	15%	0%	0%	0%	1%	3%	12%	13%	1%	3%	3%	0%	3%	2%	9%	34%
21	9%	0%	0%	0%	3%	6%	17%	2%	3%	2%	6%	7%	6%	6%	10%	24%
22	9%	2%	0%	1%	6%	8%	10%	6%	3%	2%	6%	4%	4%	7%	10%	20%
23	14%	2%	0%	1%	2%	6%	18%	9%	0%	1%	6%	3%	4%	8%	8%	19%
24	15%	2%	0%	0%	3%	8%	1%	0%	1%	1%	1%	1%	3%	6%	21%	38%
25	15%	1%	1%	1%	5%	4%	7%	0%	1%	0%	13%	7%	1%	4%	11%	30%
26	15%	0%	1%	3%	4%	4%	15%	1%	4%	0%	0%	3%	1%	1%	10%	37%
27	10%	0%	0%	3%	1%	11%	8%	6%	5%	0%	2%	5%	2%	6%	9%	31%
28	13%	0%	0%	1%	0%	1%	6%	4%	7%	17%	6%	4%	0%	1%	14%	26%
29	10%	0%	0%	0%	6%	18%	16%	19%	0%	0%	0%	3%	3%	1%	7%	17%
30	4%	1%	7%	3%	11%	1%	4%	8%	0%	0%	9%	3%	8%	4%	11%	24%
31	14%	0%	1%	3%	3%	8%	8%	15%	1%	3%	0%	1%	1%	0%	8%	36%
Mensual	15%	1%	1%	2%	3%	7%	7%	5%	1%	2%	4%	4%	3%	4%	11%	31%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NNO	N	NO	SE	ESE	SSE	OSO	ONO	SO	O	E	ENE	SSO	S	NE	NNE
F. R.	31%	15%	11%	7%	7%	5%	4%	4%	4%	3%	3%	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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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%	3%	14%	39%	38%	3%	1%	0%	0%	2%	0%	0%	0%	0%
2	36%	0%	0%	1%	14%	20%	14%	1%	1%	0%	0%	0%	0%	0%	11%	1%
3	0%	0%	4%	7%	19%	40%	22%	6%	1%	0%	0%	0%	0%	0%	0%	0%
4	2%	1%	0%	3%	22%	58%	13%	1%	0%	0%	0%	0%	0%	0%	0%	0%
5	2%	0%	0%	2%	10%	33%	43%	4%	1%	3%	0%	0%	0%	0%	0%	1%
6	2%	1%	1%	15%	28%	22%	19%	1%	4%	1%	0%	1%	0%	0%	0%	3%
7	2%	0%	2%	12%	16%	20%	26%	5%	2%	0%	0%	0%	3%	1%	1%	10%
8	8%	12%	1%	8%	6%	29%	13%	1%	1%	2%	0%	1%	2%	1%	6%	6%
9	0%	9%	0%	15%	15%	28%	27%	0%	0%	0%	0%	6%	0%	0%	0%	0%
10	3%	7%	0%	29%	13%	22%	20%	1%	0%	0%	1%	0%	1%	0%	1%	1%
11	1%	0%	0%	2%	10%	43%	20%	0%	0%	0%	0%	1%	3%	13%	4%	3%
12	9%	0%	1%	1%	12%	50%	6%	0%	1%	0%	0%	0%	1%	0%	1%	18%
13	3%	1%	3%	9%	8%	19%	21%	1%	1%	5%	11%	0%	2%	2%	6%	9%
14	0%	0%	0%	8%	27%	37%	17%	6%	1%	0%	0%	0%	3%	0%	2%	0%
15	5%	1%	1%	1%	2%	28%	28%	0%	0%	0%	13%	4%	3%	0%	10%	3%
16	19%	0%	0%	3%	17%	5%	19%	1%	0%	0%	0%	1%	1%	0%	8%	26%
17	26%	0%	1%	0%	7%	5%	19%	1%	0%	0%	0%	3%	0%	0%	7%	31%
18	17%	0%	0%	0%	3%	6%	15%	10%	5%	1%	1%	2%	3%	0%	18%	19%
19	0%	0%	1%	6%	24%	17%	26%	4%	17%	6%	0%	0%	0%	0%	0%	0%
20	8%	3%	6%	3%	11%	22%	26%	17%	1%	0%	1%	0%	0%	0%	0%	2%
21	0%	0%	0%	4%	17%	30%	38%	2%	0%	9%	0%	0%	0%	0%	0%	0%
22	0%	0%	4%	16%	26%	27%	19%	3%	1%	4%	0%	0%	0%	0%	0%	0%
23	0%	0%	0%	8%	13%	28%	46%	6%	0%	0%	0%	0%	0%	0%	0%	0%
24	2%	4%	0%	17%	11%	15%	8%	0%	0%	8%	0%	7%	3%	1%	18%	7%
25	4%	0%	1%	1%	19%	15%	6%	1%	0%	4%	0%	0%	0%	0%	6%	43%
26	0%	1%	1%	2%	28%	44%	19%	3%	1%	0%	0%	0%	0%	1%	0%	0%
27	0%	0%	4%	8%	17%	34%	33%	3%	0%	0%	0%	0%	0%	0%	0%	0%
28	5%	23%	6%	0%	17%	20%	6%	3%	1%	0%	1%	4%	0%	0%	7%	8%
29	0%	0%	0%	0%	5%	13%	67%	3%	0%	0%	1%	4%	0%	0%	8%	0%
30	0%	4%	1%	20%	31%	17%	13%	0%	0%	0%	0%	0%	0%	0%	0%	13%
31	0%	0%	0%	2%	15%	47%	31%	6%	0%	0%	0%	0%	0%	0%	0%	0%
Mensual	5%	2%	1%	7%	15%	27%	23%	3%	1%	1%	1%	1%	1%	1%	4%	7%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ESE	SE	E	ENE	NNO	N	NO	SSE	NNE	SSO	NE	S	OSO	SO	O	ONO
F. R.	27%	23%	15%	7%	7%	5%	4%	3%	2%	1%	1%	1%	1%	1%	1%	1%

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