



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 EMAS

CÓDIGO: EMM-01

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	24.4	19.0	14.9	2.7	0.9	803.1	94.0	72.4	42.0	0.0	965.0	442.3	3.7
2	23.9	17.9	13.5	2.7	0.8	804.2	96.0	78.2	43.0	0.0	1211.0	376.0	3.0
3	21.4	16.7	14.3	2.7	0.6	805.1	97.0	89.4	71.0	1.2	937.0	209.0	1.5
4	21.4	16.9	13.3	2.7	0.6	804.8	98.0	86.7	62.0	1.6	1238.0	242.0	1.8
5	24.6	18.1	13.1	4.5	0.8	803.7	98.0	79.9	49.0	0.2	1243.0	441.6	3.6
6	22.8	18.1	14.2	4.5	0.8	803.2	97.0	83.8	59.0	0.0	1257.0	321.4	2.5
7	22.4	17.9	15.4	4.0	0.5	803.6	96.0	87.9	64.0	1.4	1051.0	241.3	1.9
8	19.6	16.6	14.7	4.5	0.5	805.5	100.0	93.7	78.0	28.8	728.0	190.6	1.3
9	23.1	17.2	13.8	5.4	0.6	805.1	97.0	87.8	63.0	12.8	963.0	352.3	2.6
10	24.2	17.7	13.9	6.3	0.8	803.6	99.0	88.2	64.0	24.2	1294.0	533.3	3.8
11	21.0	17.3	14.3	3.1	0.5	805.3	99.0	91.4	74.0	1.6	1216.0	310.1	2.3
12	22.5	18.0	15.9	2.2	0.4	805.7	99.0	88.4	59.0	8.2	1197.0	282.4	2.0
13	24.8	18.8	14.8	3.6	0.7	804.3	95.0	77.9	41.0	0.0	1264.0	431.6	3.5
14	24.3	18.6	14.3	4.0	0.7	802.7	96.0	84.0	63.0	0.0	1197.0	402.7	2.9
15	24.1	18.7	15.0	2.7	0.6	803.0	97.0	82.3	54.0	0.0	1148.0	301.1	2.4
16	20.7	17.6	15.8	2.2	0.4	803.8	99.0	92.1	80.0	8.2	946.0	203.1	1.5
17	21.2	17.5	15.0	2.2	0.3	803.8	99.0	92.7	75.0	13.2	1155.0	213.2	1.6
18	19.9	16.9	15.5	2.7	0.3	805.2	100.0	94.9	75.0	27.4	1385.0	222.6	1.5
19	21.8	17.7	14.3	2.2	0.3	804.1	99.0	91.8	65.0	0.6	1232.0	274.4	2.0
20	21.7	17.6	15.2	2.7	0.4	803.8	100.0	91.7	61.0	7.0	1308.0	269.4	2.0
21	23.5	18.7	14.7	2.2	0.4	803.3	98.0	86.8	62.0	0.0	1239.0	359.6	2.7
22	22.9	18.7	16.1	3.6	0.4	802.7	99.0	89.0	61.0	1.6	1083.0	304.5	2.2
23	24.1	18.4	15.4	4.0	0.6	802.9	98.0	89.3	65.0	4.6	1255.0	344.0	2.5
24	21.7	17.5	15.0	3.6	0.7	802.9	99.0	92.3	78.0	3.4	1132.0	209.9	1.6
25	19.6	17.4	15.2	2.2	0.3	803.6	98.0	93.5	75.0	5.2	803.0	186.1	1.3
26	22.4	18.1	15.1	2.7	0.5	804.1	97.0	89.2	64.0	8.2	1072.0	257.3	2.0
27	25.2	18.8	14.2	4.0	0.9	804.1	98.0	79.7	49.0	0.2	1197.0	545.7	4.3
28	22.8	18.5	15.5	2.7	0.8	803.0	95.0	85.7	66.0	0.0	970.0	253.2	2.0
29	22.3	17.9	14.7	3.1	0.5	802.4	97.0	88.1	70.0	3.8	1027.0	252.8	1.9
30	23.3	18.5	13.8	2.7	0.6	802.1	97.0	85.8	61.0	2.0	1215.0	374.8	2.8
Mensual	25.2	17.9	13.1	6.3	0.6	803.8	100.0	87.2	41.0	165.4	1385.0	311.6	70.6

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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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	2%	3%	3%	18%	2%	0%	0%	1%	1%	1%	2%	3%	6%	22%	29%	7%
2	1%	3%	15%	3%	0%	0%	0%	1%	1%	2%	8%	9%	11%	10%	29%	6%
3	0%	1%	19%	19%	0%	0%	1%	0%	5%	7%	7%	4%	4%	17%	16%	1%
4	0%	3%	2%	28%	1%	1%	1%	0%	0%	1%	6%	3%	19%	2%	29%	1%
5	2%	1%	1%	19%	0%	0%	4%	1%	3%	19%	10%	9%	5%	12%	11%	3%
6	1%	2%	10%	9%	0%	1%	1%	3%	6%	13%	10%	4%	16%	11%	12%	2%
7	3%	1%	13%	4%	9%	5%	8%	4%	6%	9%	17%	7%	3%	6%	3%	1%
8	1%	1%	2%	1%	4%	4%	1%	8%	5%	9%	28%	6%	4%	8%	13%	5%
9	0%	0%	3%	32%	1%	0%	0%	5%	28%	9%	13%	3%	1%	3%	1%	1%
10	4%	2%	1%	13%	2%	4%	0%	6%	4%	13%	10%	3%	3%	10%	17%	6%
11	1%	0%	3%	0%	0%	0%	0%	21%	2%	10%	15%	4%	15%	13%	15%	1%
12	1%	1%	3%	30%	1%	2%	0%	0%	5%	8%	6%	4%	2%	19%	17%	1%
13	0%	1%	6%	10%	16%	3%	1%	1%	4%	8%	7%	7%	6%	6%	15%	9%
14	1%	0%	13%	3%	6%	11%	3%	2%	9%	18%	8%	3%	1%	6%	9%	6%
15	12%	5%	3%	15%	1%	2%	1%	0%	0%	9%	8%	3%	8%	9%	22%	2%
16	0%	1%	2%	45%	1%	3%	1%	0%	1%	7%	6%	7%	8%	10%	7%	0%
17	0%	26%	1%	18%	10%	6%	0%	0%	1%	6%	4%	3%	1%	3%	22%	1%
18	1%	1%	0%	2%	6%	2%	0%	24%	8%	15%	23%	3%	2%	3%	8%	3%
19	0%	0%	0%	23%	5%	3%	6%	3%	6%	21%	12%	1%	3%	4%	11%	2%
20	0%	0%	1%	0%	0%	0%	0%	0%	0%	13%	12%	6%	1%	37%	28%	3%
21	4%	3%	1%	16%	0%	0%	0%	0%	1%	16%	5%	3%	3%	7%	36%	5%
22	0%	1%	0%	10%	6%	4%	1%	17%	3%	8%	12%	0%	2%	7%	18%	12%
23	2%	0%	0%	7%	6%	5%	0%	3%	5%	9%	10%	3%	5%	1%	8%	3%
24	5%	1%	2%	6%	19%	9%	2%	2%	3%	14%	4%	13%	1%	7%	8%	6%
25	0%	0%	0%	15%	5%	23%	23%	1%	1%	3%	1%	13%	1%	3%	10%	3%
26	3%	0%	4%	4%	19%	0%	0%	1%	10%	15%	14%	7%	1%	6%	13%	3%
27	1%	3%	1%	10%	0%	8%	0%	1%	3%	19%	20%	8%	3%	6%	17%	2%
28	0%	0%	19%	17%	0%	0%	0%	0%	3%	19%	8%	1%	5%	13%	14%	0%
29	1%	0%	5%	7%	5%	25%	3%	1%	6%	6%	8%	13%	3%	2%	14%	1%
30	0%	1%	15%	4%	1%	0%	0%	6%	2%	9%	7%	3%	18%	7%	15%	13%
Mensual	2%	2%	5%	13%	4%	4%	2%	4%	4%	11%	10%	5%	5%	9%	16%	4%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	ENE	SSO	SO	ONO	O	OSO	NE	S	E	ESE	SSE	NNO	NNE	SE	N
F. R.	16%	13%	11%	10%	9%	5%	5%	5%	4%	4%	4%	4%	4%	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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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%	1%	59%	38%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	0%	1%	55%	44%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	0%	0%	33%	65%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	0%	1%	27%	68%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
5	0%	0%	55%	42%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	1%	0%	39%	58%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7	0%	1%	40%	26%	1%	10%	14%	5%	0%	0%	0%	0%	0%	3%	0%	0%
8	0%	0%	3%	17%	15%	10%	4%	6%	5%	3%	25%	4%	8%	0%	0%	0%
9	2%	0%	28%	39%	13%	10%	6%	1%	1%	1%	0%	0%	0%	0%	0%	0%
10	0%	0%	29%	23%	11%	17%	6%	1%	0%	4%	4%	1%	0%	0%	0%	3%
11	0%	3%	22%	48%	7%	11%	1%	3%	0%	0%	0%	0%	4%	1%	0%	0%
12	0%	0%	9%	73%	11%	2%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%
13	0%	0%	43%	46%	8%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14	3%	1%	63%	26%	4%	1%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%
15	0%	0%	21%	49%	17%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
16	0%	0%	8%	66%	2%	0%	24%	0%	0%	0%	0%	0%	0%	0%	0%	0%
17	17%	2%	1%	67%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
18	2%	0%	13%	7%	13%	10%	1%	31%	1%	0%	17%	2%	0%	0%	4%	0%
19	0%	0%	26%	18%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	15%	3%
20	0%	0%	31%	22%	6%	0%	0%	0%	0%	1%	0%	1%	0%	38%	1%	0%
21	9%	1%	33%	50%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%	3%	2%
22	0%	0%	11%	26%	10%	1%	3%	33%	2%	1%	8%	2%	1%	1%	0%	0%
23	0%	5%	26%	41%	13%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	0%	0%	31%	47%	19%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25	0%	0%	7%	79%	4%	1%	7%	2%	0%	0%	0%	0%	0%	0%	0%	0%
26	0%	0%	24%	67%	6%	3%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
27	0%	1%	57%	42%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
28	0%	0%	28%	65%	3%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
29	0%	0%	17%	60%	6%	1%	0%	0%	10%	2%	4%	0%	0%	0%	0%	0%
30	0%	1%	21%	67%	6%	2%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%
Mensual	1%	1%	29%	46%	8%	4%	2%	3%	1%	0%	2%	0%	1%	1%	1%	0%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ENE	NE	E	ESE	SSE	SE	SO	ONO	N	NO	S	O	NNE	SSO	OSO	NNO
F. R.	46%	29%	8%	4%	3%	2%	2%	1%	1%	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.