



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 ARANJUEZ

CÓDIGO: EMM-07

NOVIEMBRE 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	24.0	17.5	11.7	4.9	1.2	815.0	88.0	73.7	50.0	0.0	1158.0	402.2	3.4
2	25.6	19.0	13.8	4.9	1.1	813.7	92.0	73.5	49.0	0.6	1151.0	503.5	4.2
3	22.6	18.1	15.4	4.0	0.9	814.2	90.0	79.2	64.0	0.2	773.0	294.4	2.4
4	24.4	18.1	13.4	5.4	1.1	814.4	96.0	75.8	52.0	15.2	1121.0	476.7	3.9
5	24.6	18.0	13.3	4.5	1.2	813.9	96.0	78.9	52.0	1.6	1121.0	543.2	4.3
6	22.3	17.4	14.1	4.0	1.0	814.5	95.0	81.1	59.0	0.8	1222.0	338.2	2.8
7	22.8	17.1	14.0	5.8	1.1	814.7	96.0	82.4	62.0	21.4	1079.0	378.7	3.0
8	18.3	16.1	15.1	2.2	0.2	816.1	97.0	93.0	82.0	20.2	258.0	135.5	1.0
9	22.2	17.2	13.8	4.0	0.5	815.7	98.0	85.1	60.0	2.6	770.0	336.2	2.5
10	21.8	17.2	14.6	4.5	0.7	815.0	97.0	87.4	68.0	18.0	1229.0	345.2	2.6
11	18.6	16.1	14.4	2.2	0.4	816.1	98.0	90.6	79.0	2.8	501.0	156.1	1.1
12	16.7	15.2	14.1	4.0	0.4	817.6	98.0	95.9	88.0	28.4	346.0	107.1	0.7
13	20.0	16.2	12.9	3.1	0.8	816.8	98.0	87.0	70.0	0.8	1032.0	308.6	2.3
14	24.0	17.8	12.6	5.4	1.1	814.9	92.0	77.3	56.0	0.0	1081.0	499.2	3.9
15	22.9	16.9	13.4	5.8	1.2	814.4	93.0	81.6	61.0	0.0	1093.0	395.9	2.9
16	21.4	16.4	13.3	4.5	0.6	815.3	96.0	86.3	65.0	1.8	1114.0	292.4	2.2
17	21.8	16.6	12.8	3.1	0.8	815.2	97.0	85.8	65.0	16.0	1071.0	393.4	3.0
18	21.9	16.2	14.1	5.4	0.7	816.2	98.0	88.7	65.0	36.0	1111.0	401.9	2.8
19	23.8	17.1	12.4	3.6	0.8	816.3	98.0	81.9	51.0	11.0	1264.0	508.3	3.9
20	20.0	16.2	14.3	2.7	0.4	816.2	97.0	90.7	69.0	16.0	1179.0	232.2	1.7
21	22.9	16.9	12.4	4.5	0.9	816.2	98.0	84.0	59.0	10.0	1086.0	464.0	3.5
22	20.7	16.0	13.7	3.6	1.0	816.7	98.0	90.0	69.0	45.8	1243.0	352.8	2.3
23	23.7	16.9	12.6	4.5	1.2	816.9	95.0	82.2	55.0	0.2	1072.0	410.7	3.1
24	19.2	15.8	13.6	3.1	0.7	818.0	97.0	91.2	79.0	29.8	626.0	200.0	1.4
25	21.6	16.7	11.9	3.6	1.1	816.4	93.0	80.7	60.0	0.0	1160.0	377.4	2.8
26	21.8	16.4	12.8	3.1	1.3	815.2	90.0	80.5	62.0	0.4	976.0	300.1	2.4
27	23.5	16.1	13.2	9.4	1.3	814.2	96.0	83.0	55.0	16.0	1081.0	387.6	3.0
28	21.9	16.4	13.1	4.5	0.9	814.8	97.0	84.5	66.0	35.0	879.0	346.5	2.6
29	20.0	15.6	14.4	5.4	0.5	816.4	97.0	92.6	74.0	14.8	1336.0	197.1	1.3
30	22.1	16.8	14.0	4.0	0.7	815.5	96.0	87.4	67.0	8.8	1211.0	351.9	2.6
31													
Mensual	25.6	16.8	11.7	9.4	0.9	815.5	98.0	84.4	49.0	354.2	1336.0	347.9	79.4

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-07

NOVIEMBRE 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	0%	1%	0%	1%	3%	13%	2%	1%	11%	28%	13%	7%	7%	4%	7%	2%
2	1%	1%	1%	1%	1%	8%	6%	1%	1%	15%	28%	8%	10%	12%	4%	3%
3	0%	2%	13%	2%	0%	14%	7%	1%	6%	9%	20%	5%	6%	6%	7%	2%
4	0%	0%	3%	6%	1%	4%	2%	1%	10%	26%	19%	5%	3%	12%	4%	2%
5	1%	1%	1%	3%	3%	18%	3%	0%	3%	19%	10%	8%	8%	14%	8%	1%
6	0%	5%	8%	1%	2%	9%	3%	1%	3%	23%	19%	3%	12%	9%	1%	1%
7	1%	4%	3%	9%	9%	8%	1%	2%	4%	16%	20%	3%	5%	6%	8%	0%
8	0%	0%	10%	0%	3%	0%	15%	2%	1%	0%	5%	11%	0%	6%	44%	3%
9	0%	0%	0%	0%	0%	24%	0%	1%	3%	16%	17%	11%	7%	10%	10%	1%
10	3%	0%	3%	0%	0%	15%	0%	0%	3%	13%	16%	8%	10%	17%	10%	1%
11	3%	0%	1%	19%	3%	4%	2%	0%	0%	6%	11%	6%	11%	17%	16%	1%
12	0%	0%	0%	0%	0%	0%	0%	1%	1%	8%	6%	15%	15%	10%	32%	11%
13	0%	5%	3%	4%	14%	8%	1%	0%	2%	20%	19%	8%	4%	6%	5%	1%
14	0%	1%	3%	3%	3%	6%	3%	0%	1%	19%	14%	9%	8%	15%	13%	2%
15	0%	2%	15%	10%	10%	9%	3%	1%	2%	6%	12%	4%	6%	12%	6%	1%
16	0%	8%	3%	1%	1%	8%	19%	1%	3%	10%	22%	8%	3%	8%	3%	0%
17	1%	1%	3%	4%	6%	1%	8%	6%	4%	8%	14%	6%	9%	15%	14%	0%
18	0%	0%	2%	13%	3%	11%	8%	0%	2%	9%	5%	9%	10%	20%	7%	1%
19	0%	0%	1%	4%	6%	3%	7%	0%	6%	22%	22%	9%	6%	9%	4%	1%
20	1%	0%	8%	1%	1%	31%	13%	0%	1%	2%	16%	6%	7%	10%	3%	1%
21	0%	0%	0%	1%	2%	16%	1%	0%	3%	22%	24%	7%	7%	10%	6%	1%
22	0%	2%	1%	4%	3%	7%	1%	1%	1%	17%	10%	5%	8%	22%	17%	1%
23	1%	1%	8%	3%	3%	8%	3%	3%	2%	15%	10%	13%	6%	14%	6%	3%
24	0%	0%	0%	3%	1%	4%	7%	0%	1%	13%	11%	10%	15%	16%	17%	1%
25	0%	1%	1%	8%	3%	3%	1%	1%	3%	26%	19%	8%	8%	13%	6%	1%
26	1%	0%	10%	8%	15%	19%	5%	0%	5%	6%	7%	8%	8%	5%	3%	1%
27	0%	2%	6%	10%	19%	10%	6%	0%	1%	10%	10%	7%	3%	7%	4%	3%
28	1%	0%	1%	2%	3%	15%	1%	0%	2%	8%	33%	12%	3%	9%	7%	4%
29	12%	0%	0%	0%	22%	0%	0%	0%	1%	1%	6%	3%	7%	6%	24%	19%
30	3%	2%	3%	13%	3%	3%	1%	1%	1%	11%	24%	10%	7%	5%	10%	6%
31																
Mensual	1%	1%	4%	5%	5%	9%	4%	1%	3%	13%	15%	8%	7%	11%	10%	2%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SO	SSO	ONO	NO	ESE	OSO	O	E	ENE	SE	NE	S	NNO	NNE	N	SSE
F. R.	15%	13%	11%	10%	9%	8%	7%	5%	5%	4%	4%	3%	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%	2%	12%	15%	25%	40%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	2%	3%	19%	15%	22%	24%	8%	1%	0%	0%	1%	3%	0%	0%	0%	1%
3	0%	3%	21%	17%	22%	19%	9%	1%	5%	1%	0%	1%	1%	2%	0%	0%
4	0%	2%	16%	16%	24%	23%	12%	0%	3%	0%	0%	0%	0%	1%	3%	0%
5	0%	6%	18%	17%	21%	26%	7%	2%	0%	0%	1%	0%	0%	0%	0%	2%
6	0%	2%	15%	24%	18%	31%	2%	0%	0%	7%	0%	0%	0%	0%	0%	1%
7	0%	2%	8%	12%	33%	39%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8	0%	0%	0%	6%	55%	0%	11%	0%	0%	0%	0%	0%	0%	22%	6%	0%
9	0%	0%	5%	13%	13%	22%	35%	0%	0%	11%	0%	0%	0%	0%	0%	0%
10	0%	1%	12%	24%	22%	19%	1%	0%	0%	0%	0%	0%	0%	0%	0%	22%
11	0%	1%	14%	10%	14%	20%	1%	0%	0%	1%	5%	0%	0%	1%	8%	26%
12	0%	0%	10%	24%	1%	1%	22%	0%	0%	3%	6%	5%	8%	14%	1%	3%
13	0%	1%	7%	35%	28%	16%	2%	0%	0%	0%	3%	1%	2%	1%	5%	0%
14	0%	1%	11%	16%	27%	30%	6%	0%	0%	0%	7%	0%	2%	0%	0%	0%
15	1%	0%	13%	9%	27%	32%	3%	0%	0%	0%	0%	0%	0%	0%	15%	0%
16	0%	0%	12%	6%	8%	9%	38%	1%	9%	2%	1%	4%	0%	7%	4%	0%
17	0%	1%	12%	19%	17%	10%	24%	0%	1%	1%	3%	0%	1%	2%	8%	0%
18	0%	1%	6%	54%	4%	9%	23%	0%	0%	0%	0%	0%	0%	3%	0%	0%
19	1%	5%	6%	16%	12%	44%	2%	1%	2%	1%	8%	0%	3%	0%	0%	0%
20	5%	0%	0%	35%	3%	10%	5%	8%	0%	11%	0%	0%	0%	10%	12%	1%
21	0%	0%	15%	13%	23%	31%	3%	4%	0%	1%	0%	0%	3%	6%	1%	1%
22	0%	1%	3%	8%	65%	17%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
23	0%	1%	11%	16%	37%	28%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	0%	1%	29%	13%	13%	21%	6%	0%	8%	1%	1%	0%	0%	3%	0%	4%
25	0%	1%	9%	10%	34%	35%	7%	0%	0%	0%	0%	3%	0%	0%	0%	0%
26	0%	1%	9%	15%	33%	33%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%
27	0%	3%	13%	19%	29%	28%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%
28	1%	2%	8%	15%	22%	22%	3%	2%	21%	1%	1%	0%	1%	2%	0%	0%
29	0%	0%	9%	10%	50%	9%	20%	0%	0%	0%	0%	0%	0%	0%	0%	2%
30	1%	0%	1%	23%	8%	2%	31%	6%	0%	0%	2%	0%	6%	0%	3%	18%
31																
Mensual	0%	1%	11%	18%	24%	22%	11%	1%	2%	1%	1%	1%	1%	2%	2%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	NE	SE	NNO	ONO	NO	S	NNE	SSO	SO	SSE	O	OSO	N
F. R.	24%	22%	18%	11%	11%	3%	2%	2%	2%	1%	1%	1%	1%	1%	1%	0%

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