



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 HOSPITAL DE CALDAS

CÓDIGO: EMM-10

JULIO 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	20.1	15.8	13.3	8.0	1.1	795.1	99.0	90.3	77.0	3.2	1234.0	354.9	2.7
2	18.2	15.8	13.9	4.9	0.7	795.0	95.0	88.0	78.0	6.0	835.0	204.4	1.6
3	21.2	16.8	13.4	4.5	1.0	794.3	94.0	85.4	67.0	0.0	1274.0	400.3	3.0
4	19.1	16.6	14.6	4.9	1.0	793.9	98.0	87.5	77.0	1.0	1364.0	277.1	2.1
5	20.4	17.1	13.9	5.4	0.6	794.2	93.0	84.7	70.0	0.0	1120.0	312.1	2.4
6	18.1	15.7	14.1	4.5	0.6	794.8	98.0	91.4	82.0	15.0	772.0	202.1	1.5
7	21.2	17.0	12.9	4.9	0.8	795.2	92.0	79.1	61.0	0.2	1204.0	410.1	3.3
8	21.1	17.6	14.4	4.5	0.9	792.7	95.0	81.6	63.0	0.0	1165.0	437.4	3.6
9	20.3	17.5	14.5	3.1	1.0	792.7	92.0	83.2	71.0	0.0	1141.0	278.2	2.3
10	20.9	17.4	14.9	4.9	0.8	793.0	94.0	85.2	68.0	0.6	1120.0	277.8	2.3
11	20.9	17.4	15.0	4.5	0.9	794.4	97.0	84.4	64.0	0.0	1162.0	281.8	2.3
12	18.4	16.0	14.7	3.6	0.5	795.6	98.0	90.0	74.0	6.4	673.0	206.3	1.8
13	15.9	14.4	13.2	2.7	0.4	796.9	99.0	96.4	89.0	7.0	605.0	130.9	0.9
14	17.8	14.7	13.0	3.6	0.4	797.7	99.0	92.1	72.0	17.4	844.0	240.5	1.7
15	17.4	14.4	12.0	2.7	0.5	798.3	99.0	93.4	82.0	30.2	1280.0	230.9	1.6
16	19.9	16.0	13.2	4.5	0.6	796.5	98.0	89.9	73.0	0.8	1281.0	359.7	2.6
17	19.5	16.3	14.0	4.5	0.7	795.4	98.0	91.0	74.0	1.8	1287.0	293.6	2.1
18	20.2	16.4	14.1	5.8	0.6	795.6	99.0	89.0	68.0	2.4	1324.0	401.1	3.0
19	20.3	17.1	14.2	4.5	0.7	794.9	96.0	85.1	71.0	0.6	1223.0	388.5	2.9
20	20.8	17.6	15.2	5.4	0.6	794.2	92.0	80.8	58.0	0.2	1269.0	289.7	2.3
21	21.7	17.6	14.4	6.7	1.0	793.5	90.0	78.7	54.0	0.0	1093.0	430.3	3.5
22	21.7	17.9	15.1	4.5	1.0	793.0	92.0	80.4	62.0	0.0	1236.0	359.4	3.0
23	20.9	17.9	16.2	4.5	0.8	793.5	94.0	81.8	66.0	0.4	1051.0	269.9	2.3
24	20.7	17.7	15.3	4.9	1.3	794.1	90.0	75.4	60.0	0.0	1127.0	322.6	2.8
25	21.4	18.0	15.1	4.9	1.0	793.0	89.0	76.0	62.0	1.0	1169.0	341.0	2.9
26	20.7	17.4	15.4	4.5	0.5	792.4	94.0	83.9	74.0	0.0	1188.0	282.9	2.2
27	20.0	17.0	14.9	4.9	0.6	793.2	92.0	84.2	70.0	0.0	1081.0	238.2	2.0
28	18.6	15.7	13.7	4.5	0.6	794.2	99.0	91.6	75.0	24.8	872.0	207.7	1.5
29	15.8	13.8	12.7	4.0	0.6	796.5	99.0	96.0	88.0	31.2	902.0	198.5	1.4
30	17.1	14.5	12.2	4.9	0.7	797.2	98.0	93.7	84.0	13.2	564.0	272.3	1.9
31	18.0	15.4	13.0	4.5	0.5	796.4	97.0	89.6	77.0	0.0	1039.0	318.4	2.4
Mensual	21.7	16.5	12.0	8.0	0.7	794.8	99.0	86.4	54.0	163.4	1364.0	297.4	71.4

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-10

JULIO 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	1%	1%	1%	0%	5%	7%	5%	0%	0%	1%	11%	18%	10%	19%	11%	9%
2	10%	13%	10%	0%	0%	0%	1%	0%	2%	4%	15%	22%	13%	5%	3%	3%
3	2%	0%	0%	5%	6%	1%	0%	0%	0%	2%	19%	19%	17%	16%	4%	9%
4	6%	1%	8%	5%	6%	8%	6%	1%	0%	4%	4%	13%	11%	14%	6%	8%
5	3%	1%	2%	2%	8%	1%	0%	0%	1%	5%	17%	17%	15%	17%	9%	1%
6	1%	1%	3%	3%	4%	3%	8%	3%	5%	4%	13%	22%	7%	6%	8%	10%
7	3%	0%	0%	0%	22%	1%	0%	1%	2%	9%	8%	16%	7%	11%	8%	11%
8	1%	9%	9%	0%	0%	2%	1%	0%	2%	6%	22%	30%	11%	5%	2%	0%
9	1%	0%	0%	3%	3%	3%	3%	0%	0%	3%	19%	14%	18%	26%	6%	2%
10	4%	3%	1%	8%	1%	11%	0%	0%	1%	1%	8%	10%	16%	26%	6%	5%
11	1%	0%	0%	0%	0%	17%	1%	0%	0%	1%	5%	8%	8%	24%	26%	12%
12	1%	0%	0%	8%	5%	7%	1%	5%	1%	7%	15%	15%	17%	17%	1%	1%
13	3%	0%	0%	0%	1%	0%	1%	8%	15%	3%	9%	17%	12%	6%	18%	8%
14	2%	1%	0%	2%	0%	14%	3%	7%	3%	10%	13%	17%	17%	12%	1%	0%
15	7%	11%	6%	0%	0%	0%	0%	4%	0%	3%	19%	21%	8%	10%	3%	8%
16	1%	1%	10%	0%	4%	4%	0%	0%	8%	5%	11%	15%	16%	17%	6%	3%
17	3%	8%	2%	6%	1%	0%	0%	0%	0%	8%	9%	7%	15%	16%	15%	9%
18	0%	0%	8%	1%	6%	0%	1%	1%	1%	3%	18%	32%	14%	12%	4%	0%
19	14%	0%	0%	0%	0%	1%	2%	0%	0%	6%	16%	21%	21%	14%	5%	1%
20	0%	1%	0%	0%	3%	16%	3%	1%	3%	10%	8%	15%	21%	12%	6%	3%
21	3%	1%	13%	2%	0%	0%	1%	1%	1%	6%	16%	25%	9%	14%	2%	8%
22	0%	11%	9%	3%	0%	0%	0%	0%	0%	3%	4%	21%	23%	18%	6%	2%
23	3%	2%	0%	0%	1%	1%	2%	3%	1%	17%	17%	21%	9%	6%	6%	10%
24	6%	2%	0%	1%	15%	11%	1%	0%	1%	2%	6%	6%	12%	13%	9%	15%
25	1%	1%	0%	1%	3%	8%	6%	1%	3%	4%	15%	16%	15%	17%	6%	3%
26	0%	0%	0%	0%	3%	3%	0%	1%	1%	0%	17%	21%	22%	21%	9%	1%
27	2%	3%	11%	5%	5%	8%	2%	10%	1%	1%	5%	8%	15%	13%	4%	9%
28	0%	1%	1%	0%	6%	6%	4%	4%	3%	9%	21%	14%	17%	10%	4%	1%
29	0%	0%	0%	0%	0%	0%	8%	1%	5%	10%	21%	36%	14%	5%	1%	0%
30	0%	0%	0%	0%	9%	19%	4%	0%	1%	4%	19%	27%	12%	4%	1%	0%
31	9%	1%	0%	0%	8%	7%	2%	2%	1%	2%	24%	19%	5%	9%	6%	6%
Mensual	3%	2%	3%	2%	4%	5%	2%	2%	2%	5%	14%	18%	14%	13%	6%	5%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	OSO	O	SO	ONO	NO	ESE	SSO	NNO	E	NE	N	NNE	SE	S	SSE	ENE
F. R.	18%	14%	14%	13%	6%	5%	5%	5%	4%	3%	3%	2%	2%	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)

DÍA	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	10%	1%	0%	0%	11%	37%	11%	3%	0%	1%	12%	14%	0%	0%	0%	0%
2	0%	0%	0%	6%	10%	53%	15%	13%	0%	0%	0%	0%	1%	2%	0%	0%
3	0%	0%	0%	6%	42%	13%	7%	1%	0%	0%	3%	8%	5%	15%	0%	0%
4	8%	0%	8%	6%	26%	18%	10%	1%	0%	0%	8%	1%	2%	8%	1%	3%
5	0%	0%	2%	6%	21%	35%	24%	6%	2%	2%	0%	0%	0%	0%	2%	0%
6	15%	4%	8%	2%	24%	10%	1%	6%	1%	0%	0%	13%	6%	4%	3%	3%
7	0%	0%	6%	3%	26%	42%	9%	6%	0%	0%	0%	0%	6%	2%	0%	0%
8	0%	0%	0%	3%	24%	54%	10%	0%	0%	0%	0%	9%	0%	0%	0%	0%
9	3%	1%	3%	0%	31%	28%	8%	3%	0%	0%	0%	11%	1%	4%	3%	4%
10	4%	0%	4%	3%	27%	33%	12%	6%	0%	0%	0%	10%	0%	0%	0%	0%
11	7%	25%	5%	1%	12%	13%	7%	0%	0%	0%	2%	4%	2%	14%	2%	6%
12	4%	1%	0%	0%	1%	3%	4%	3%	14%	7%	14%	19%	18%	8%	1%	3%
13	0%	26%	2%	0%	3%	1%	10%	0%	18%	1%	13%	17%	8%	1%	0%	0%
14	1%	0%	1%	0%	5%	17%	11%	7%	1%	1%	21%	24%	9%	1%	0%	0%
15	6%	1%	1%	0%	0%	0%	0%	8%	7%	5%	11%	44%	6%	8%	1%	1%
16	0%	0%	0%	1%	42%	15%	8%	30%	3%	0%	0%	0%	0%	0%	0%	0%
17	1%	0%	1%	3%	25%	14%	5%	1%	1%	4%	3%	15%	24%	2%	0%	0%
18	0%	0%	0%	2%	13%	24%	6%	2%	8%	25%	1%	16%	1%	1%	1%	0%
19	0%	0%	4%	1%	13%	28%	17%	6%	1%	0%	3%	16%	9%	0%	0%	0%
20	0%	0%	3%	14%	24%	35%	15%	9%	0%	1%	0%	0%	0%	0%	0%	0%
21	0%	0%	0%	2%	27%	42%	15%	6%	0%	0%	0%	0%	0%	4%	4%	0%
22	1%	1%	3%	8%	19%	43%	13%	1%	0%	0%	0%	0%	1%	7%	3%	0%
23	0%	1%	3%	1%	29%	25%	26%	1%	1%	13%	0%	0%	0%	0%	0%	0%
24	0%	1%	3%	17%	38%	33%	5%	3%	0%	0%	0%	0%	0%	0%	0%	0%
25	0%	0%	6%	12%	26%	38%	10%	3%	0%	0%	0%	0%	4%	1%	0%	0%
26	0%	0%	0%	0%	16%	56%	10%	1%	0%	0%	0%	1%	12%	6%	0%	0%
27	3%	0%	13%	2%	23%	36%	8%	1%	0%	0%	0%	4%	0%	0%	6%	3%
28	0%	0%	0%	0%	6%	3%	16%	1%	1%	21%	17%	31%	2%	0%	1%	0%
29	0%	0%	0%	0%	5%	12%	28%	3%	4%	16%	12%	16%	3%	1%	0%	0%
30	7%	5%	7%	2%	17%	21%	15%	0%	0%	0%	0%	1%	19%	7%	0%	0%
31	17%	0%	0%	7%	5%	42%	0%	0%	0%	0%	0%	16%	3%	4%	6%	1%
Mensual	3%	2%	3%	3%	19%	27%	11%	4%	2%	3%	4%	9%	4%	3%	1%	1%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ESE	E	SE	OSO	O	SSE	SO	ENE	ONO	SSO	N	NE	NNE	S	NO	NNO
F. R.	27%	19%	11%	9%	4%	4%	4%	3%	3%	3%	3%	3%	2%	2%	1%	1%

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